



Full wwPDB X-ray Structure Validation Report ⓘ

May 16, 2020 – 07:36 am BST

PDB ID : 6BOH
Title : Antibiotic blasticidin S and E. coli release factor 1 (containing deletion 302-304) bound to the 70S ribosome
Authors : Svidritskiy, E.; Korostelev, A.A.
Deposited on : 2017-11-20
Resolution : 3.40 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 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 : 2.11
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

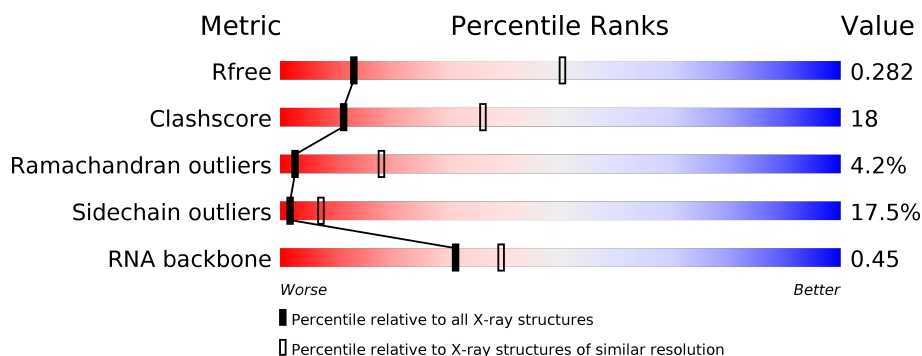
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.40 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.



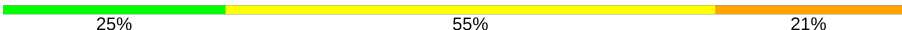

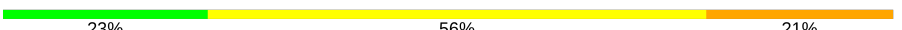
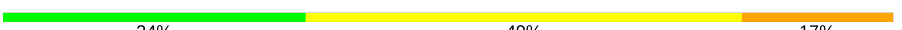





















Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1026 (3.48-3.32)
Clashscore	141614	1055 (3.48-3.32)
Ramachandran outliers	138981	1038 (3.48-3.32)
Sidechain outliers	138945	1038 (3.48-3.32)
RNA backbone	3102	1006 (3.84-2.96)

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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	1507	<div> <div>34%</div> <div>50%</div> <div>15%</div> </div>
1	FB	1507	<div> <div>35%</div> <div>50%</div> <div>14%</div> <div>.</div> </div>
2	B	2880	<div> <div>34%</div> <div>45%</div> <div>19%</div> <div>.</div> </div>
2	GB	2880	<div> <div>37%</div> <div>43%</div> <div>18%</div> <div>.</div> </div>
3	C	120	<div> <div>40%</div> <div>50%</div> <div>10%</div> </div>
3	HB	120	<div> <div>40%</div> <div>51%</div> <div>8%</div> <div>.</div> </div>



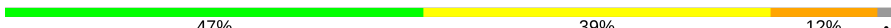

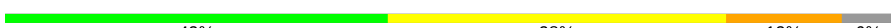
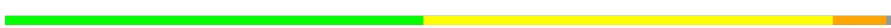



















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Mol	Chain	Length	Quality of chain
4	D	77	
4	IA	77	
4	IB	77	
4	NC	77	
5	E	275	
5	JB	275	
6	F	206	
6	KB	206	
7	G	205	
7	LB	205	
8	H	182	
8	MB	182	
9	I	180	
9	NB	180	
10	J	148	
10	OB	148	
11	K	140	
11	PB	140	
12	L	122	
12	QB	122	
13	M	150	
13	RB	150	
14	N	141	
14	SB	141	
15	O	118	




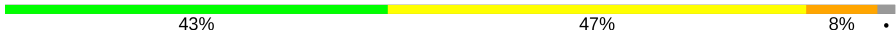





















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Mol	Chain	Length	Quality of chain
15	TB	118	
16	P	112	
16	UB	112	
17	Q	146	
17	VB	146	
18	R	118	
18	WB	118	
19	S	101	
19	XB	101	
20	T	113	
20	YB	113	
21	U	96	
21	ZB	96	
22	AC	110	
22	V	110	
23	BC	206	
23	W	206	
24	CC	85	
24	X	85	
25	DC	98	
25	Y	98	
26	EC	72	
26	Z	72	
27	AA	60	
27	FC	60	

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Mol	Chain	Length	Quality of chain
28	BA	71	
28	GC	71	
29	CA	60	
29	HC	60	
30	DA	54	
30	IC	54	
31	EA	49	
31	JC	49	
32	FA	65	
32	KC	65	
33	GA	37	
33	LC	37	
34	HA	27	
34	MC	27	
35	JA	365	
35	KA	365	
35	OC	365	
35	PC	365	
36	LA	256	
36	QC	256	
37	MA	239	
37	RC	239	
38	NA	209	
38	SC	209	
39	OA	162	

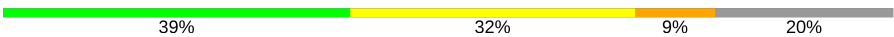
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Mol	Chain	Length	Quality of chain
39	TC	162	
40	PA	101	
40	UC	101	
41	QA	156	
41	VC	156	
42	RA	138	
42	WC	138	
43	SA	128	
43	XC	128	
44	TA	105	
44	YC	105	
45	UA	129	
45	ZC	129	
46	AD	132	
46	VA	132	
47	BD	126	
47	WA	126	
48	CD	61	
48	XA	61	
49	DD	89	
49	YA	89	
50	ED	88	
50	ZA	88	
51	AB	105	
51	FD	105	

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Mol	Chain	Length	Quality of chain
52	BB	88	
52	GD	88	
53	CB	93	
53	HD	93	
54	DB	106	
54	ID	106	
55	EB	27	
55	JD	27	

2 Entry composition [i](#)

There are 58 unique types of molecules in this entry. The entry contains 298186 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 ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1507	Total	C	N	O	P	0	0	0
			32394	14424	5998	10465	1507			
1	FB	1507	Total	C	N	O	P	0	0	0
			32394	14424	5998	10465	1507			

- Molecule 2 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	2880	Total	C	N	O	P	0	0	0
			62031	27612	11589	19950	2880			
2	GB	2880	Total	C	N	O	P	0	0	0
			62031	27612	11589	19950	2880			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	154A	C	UNK	conflict	GB 46197919
GB	154A	C	UNK	conflict	GB 46197919

- Molecule 3 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	120	Total	C	N	O	P	0	0	0
			2576	1146	476	834	120			
3	HB	120	Total	C	N	O	P	0	0	0
			2576	1146	476	834	120			

- Molecule 4 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
4	D	77	Total	C	N	O	P	S	0	0	0
			1642	734	297	534	76	1			

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Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
4	IA	77	Total	C	N	O	P	S	0	0	0
			1642	734	297	534	76	1			
4	IB	77	Total	C	N	O	P	S	0	0	0
			1642	734	297	534	76	1			
4	NC	77	Total	C	N	O	P	S	0	0	0
			1642	734	297	534	76	1			

- Molecule 5 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			
5	JB	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			

- Molecule 6 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	204	Total	C	N	O	S	0	0	0
			1563	988	299	270	6			
6	KB	204	Total	C	N	O	S	0	0	0
			1563	988	299	270	6			

- Molecule 7 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	202	Total	C	N	O	S	0	0	0
			1586	1011	297	275	3			
7	LB	202	Total	C	N	O	S	0	0	0
			1586	1011	297	275	3			

- Molecule 8 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	181	Total	C	N	O	S	0	0	0
			1471	940	267	260	4			
8	MB	181	Total	C	N	O	S	0	0	0
			1471	940	267	260	4			

- Molecule 9 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	174	Total	C	N	O	S	0	0	0
			1330	845	248	236	1			
9	NB	174	Total	C	N	O	S	0	0	0
			1330	845	248	236	1			

- Molecule 10 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	146	Total	C	N	O	S	0	0	0
			1137	727	201	208	1			
10	OB	146	Total	C	N	O	S	0	0	0
			1137	727	201	208	1			

- Molecule 11 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	140	Total	C	N	O	S	0	0	0
			1121	722	208	187	4			
11	PB	140	Total	C	N	O	S	0	0	0
			1121	722	208	187	4			

- Molecule 12 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	122	Total	C	N	O	S	0	0	0
			932	587	171	170	4			
12	QB	122	Total	C	N	O	S	0	0	0
			932	587	171	170	4			

- Molecule 13 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			
13	RB	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			

- Molecule 14 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	141	Total	C	N	O	S	0	0	0
			1121	715	212	187	7			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	SB	141	Total	C	N	O	S	0	0	0
			1121	715	212	187	7			

- Molecule 15 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
15	TB	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 16 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	110	Total	C	N	O	S	0	0	0
			877	553	175	149				
16	UB	110	Total	C	N	O	S	0	0	0
			877	553	175	149				

- Molecule 17 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	137	Total	C	N	O	S	0	0	0
			1143	713	234	195	1			
17	VB	137	Total	C	N	O	S	0	0	0
			1143	713	234	195	1			

- Molecule 18 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	R	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			
18	WB	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 19 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
19	XB	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 20 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	112	Total	C	N	O	S	0	0	0
			890	560	175	153	2			
20	YB	112	Total	C	N	O	S	0	0	0
			890	560	175	153	2			

- Molecule 21 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	U	95	Total	C	N	O	S	0	0	0
			750	488	135	126	1			
21	ZB	95	Total	C	N	O	S	0	0	0
			750	488	135	126	1			

- Molecule 22 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	V	107	Total	C	N	O	S	0	0	0
			814	523	154	131	6			
22	AC	107	Total	C	N	O	S	0	0	0
			814	523	154	131	6			

- Molecule 23 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	W	189	Total	C	N	O	S	0	0	0
			1495	953	266	273	3			
23	BC	189	Total	C	N	O	S	0	0	0
			1495	953	266	273	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	X	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			
24	CC	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
X	11	ARG	LYS	conflict	UNP Q72HR3

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Chain	Residue	Modelled	Actual	Comment	Reference
CC	11	ARG	LYS	conflict	UNP Q72HR3

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Y	97	Total	C	N	O	S	0	0	0
			761	478	151	131	1			
25	DC	97	Total	C	N	O	S	0	0	0
			761	478	151	131	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	70	Total	C	N	O	S	0	0	0
			592	368	119	103	2			
26	EC	70	Total	C	N	O	S	0	0	0
			592	368	119	103	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	AA	60	Total	C	N	O	S	0	0	0
			477	303	91	82	1			
27	FC	60	Total	C	N	O	S	0	0	0
			477	303	91	82	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	BA	69	Total	C	N	O	S	0	0	0
			552	349	99	99	5			
28	GC	69	Total	C	N	O	S	0	0	0
			552	349	99	99	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	CA	59	Total	C	N	O	S	0	0	0
			460	290	90	75	5			
29	HC	59	Total	C	N	O	S	0	0	0
			460	290	90	75	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	DA	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			
30	IC	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	EA	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			
31	JC	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	FA	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
32	KC	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	GA	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
33	LC	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 34 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	HA	11	Total	C	N	O	P	0	0	0
			220	98	44	67	11			
34	MC	11	Total	C	N	O	P	0	0	0
			220	98	44	67	11			

- Molecule 35 is a protein called Peptide chain release factor 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	JA	110	Total 850	C 525	N 157	O 164	S 4	0	0	0
35	KA	55	Total 455	C 281	N 83	O 89	S 2	0	0	0
35	OC	110	Total 850	C 525	N 157	O 164	S 4	0	0	0
35	PC	55	Total 455	C 281	N 83	O 89	S 2	0	0	0

There are 44 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
JA	?	-	ASP	deletion	UNP B7MKB3
JA	?	-	ARG	deletion	UNP B7MKB3
JA	?	-	SER	deletion	UNP B7MKB3
JA	358	LEU	-	expression tag	UNP B7MKB3
JA	359	GLU	-	expression tag	UNP B7MKB3
JA	360	HIS	-	expression tag	UNP B7MKB3
JA	361	HIS	-	expression tag	UNP B7MKB3
JA	362	HIS	-	expression tag	UNP B7MKB3
JA	363	HIS	-	expression tag	UNP B7MKB3
JA	364	HIS	-	expression tag	UNP B7MKB3
JA	365	HIS	-	expression tag	UNP B7MKB3
KA	?	-	ASP	deletion	UNP B7MKB3
KA	?	-	ARG	deletion	UNP B7MKB3
KA	?	-	SER	deletion	UNP B7MKB3
KA	361	LEU	-	expression tag	UNP B7MKB3
KA	362	GLU	-	expression tag	UNP B7MKB3
KA	363	HIS	-	expression tag	UNP B7MKB3
KA	364	HIS	-	expression tag	UNP B7MKB3
KA	365	HIS	-	expression tag	UNP B7MKB3
KA	366	HIS	-	expression tag	UNP B7MKB3
KA	367	HIS	-	expression tag	UNP B7MKB3
KA	368	HIS	-	expression tag	UNP B7MKB3
OC	?	-	ASP	deletion	UNP B7MKB3
OC	?	-	ARG	deletion	UNP B7MKB3
OC	?	-	SER	deletion	UNP B7MKB3
OC	358	LEU	-	expression tag	UNP B7MKB3
OC	359	GLU	-	expression tag	UNP B7MKB3
OC	360	HIS	-	expression tag	UNP B7MKB3
OC	361	HIS	-	expression tag	UNP B7MKB3
OC	362	HIS	-	expression tag	UNP B7MKB3
OC	363	HIS	-	expression tag	UNP B7MKB3

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Chain	Residue	Modelled	Actual	Comment	Reference
OC	364	HIS	-	expression tag	UNP B7MKB3
OC	365	HIS	-	expression tag	UNP B7MKB3
PC	?	-	ASP	deletion	UNP B7MKB3
PC	?	-	ARG	deletion	UNP B7MKB3
PC	?	-	SER	deletion	UNP B7MKB3
PC	361	LEU	-	expression tag	UNP B7MKB3
PC	362	GLU	-	expression tag	UNP B7MKB3
PC	363	HIS	-	expression tag	UNP B7MKB3
PC	364	HIS	-	expression tag	UNP B7MKB3
PC	365	HIS	-	expression tag	UNP B7MKB3
PC	366	HIS	-	expression tag	UNP B7MKB3
PC	367	HIS	-	expression tag	UNP B7MKB3
PC	368	HIS	-	expression tag	UNP B7MKB3

- Molecule 36 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	LA	234	Total	C	N	O	S	0	0	0
			1900	1213	341	341	5			
36	QC	234	Total	C	N	O	S	0	0	0
			1900	1213	341	341	5			

- Molecule 37 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	MA	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			
37	RC	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			

- Molecule 38 is a protein called 50S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	NA	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			
38	SC	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 39 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	OA	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			
39	TC	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			

- Molecule 40 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	PA	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
40	UC	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 41 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	QA	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
41	VC	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 42 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	RA	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
42	WC	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 43 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	SA	127	Total	C	N	O		0	0	0
			1011	639	198	174				
43	XC	127	Total	C	N	O		0	0	0
			1011	639	198	174				

- Molecule 44 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	TA	98	Total	C	N	O	S	0	0	0
			794	499	156	138	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	YC	98	Total	C	N	O	S	0	0	0
			794	499	156	138	1			

- Molecule 45 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	UA	116	Total	C	N	O	S	0	0	0
			864	537	164	160	3			
45	ZC	116	Total	C	N	O	S	0	0	0
			864	537	164	160	3			

- Molecule 46 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	VA	122	Total	C	N	O	S	0	0	0
			958	604	193	159	2			
46	AD	122	Total	C	N	O	S	0	0	0
			958	604	193	159	2			

- Molecule 47 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	WA	117	Total	C	N	O	S	0	0	0
			933	577	192	162	2			
47	BD	117	Total	C	N	O	S	0	0	0
			933	577	192	162	2			

- Molecule 48 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	XA	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
48	CD	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 49 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	YA	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
49	DD	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 50 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	ZA	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			
50	ED	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			

- Molecule 51 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	AB	99	Total	C	N	O	S	0	0	0
			823	528	152	141	2			
51	FD	99	Total	C	N	O	S	0	0	0
			823	528	152	141	2			

- Molecule 52 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
52	BB	70	Total	C	N	O	0	0	0
			574	367	112	95			
52	GD	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 53 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	CB	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			
53	HD	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			

- Molecule 54 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	DB	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			
54	ID	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			

- Molecule 55 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
55	EB	24	Total	C	N	O	0	0	0
			208	128	50	30			
55	JD	24	Total	C	N	O	0	0	0
			208	128	50	30			

- Molecule 56 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	MC	3	Total	Mg	0	0
			3	3		
56	NC	10	Total	Mg	0	0
			10	10		
56	QA	1	Total	Mg	0	0
			1	1		
56	K	4	Total	Mg	0	0
			4	4		
56	JC	1	Total	Mg	0	0
			1	1		
56	LB	4	Total	Mg	0	0
			4	4		
56	B	433	Total	Mg	0	0
			433	433		
56	YA	3	Total	Mg	0	0
			3	3		
56	RC	2	Total	Mg	0	0
			2	2		
56	UA	1	Total	Mg	0	0
			1	1		
56	AC	1	Total	Mg	0	0
			1	1		
56	HA	3	Total	Mg	0	0
			3	3		
56	ZC	1	Total	Mg	0	0
			1	1		
56	OA	4	Total	Mg	0	0
			4	4		
56	PA	3	Total	Mg	0	0
			3	3		
56	SC	4	Total	Mg	0	0
			4	4		
56	DC	1	Total	Mg	0	0
			1	1		
56	S	1	Total	Mg	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	CA	1	Total 1	Mg 1	0	0
56	BB	1	Total 1	Mg 1	0	0
56	J	1	Total 1	Mg 1	0	0
56	ZB	2	Total 2	Mg 2	0	0
56	CC	1	Total 1	Mg 1	0	0
56	E	6	Total 6	Mg 6	0	0
56	VC	1	Total 1	Mg 1	0	0
56	IA	9	Total 9	Mg 9	0	0
56	V	2	Total 2	Mg 2	0	0
56	FB	194	Total 194	Mg 194	0	0
56	IB	2	Total 2	Mg 2	0	0
56	AA	1	Total 1	Mg 1	0	0
56	IC	1	Total 1	Mg 1	0	0
56	SB	2	Total 2	Mg 2	0	0
56	GB	402	Total 402	Mg 402	0	0
56	R	1	Total 1	Mg 1	0	0
56	HB	20	Total 20	Mg 20	0	0
56	VB	3	Total 3	Mg 3	0	0
56	AB	2	Total 2	Mg 2	0	0
56	BC	1	Total 1	Mg 1	0	0
56	M	3	Total 3	Mg 3	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	FA	1	Total 1	Mg 1	0	0
56	GC	1	Total 1	Mg 1	0	0
56	PB	2	Total 2	Mg 2	0	0
56	D	5	Total 5	Mg 5	0	0
56	DD	1	Total 1	Mg 1	0	0
56	MA	6	Total 6	Mg 6	0	0
56	NA	2	Total 2	Mg 2	0	0
56	UC	3	Total 3	Mg 3	0	0
56	XB	2	Total 2	Mg 2	0	0
56	JA	1	Total 1	Mg 1	0	0
56	TB	1	Total 1	Mg 1	0	0
56	VA	2	Total 2	Mg 2	0	0
56	A	183	Total 183	Mg 183	0	0
56	Z	1	Total 1	Mg 1	0	0
56	KC	1	Total 1	Mg 1	0	0
56	SA	1	Total 1	Mg 1	0	0
56	U	1	Total 1	Mg 1	0	0
56	QB	2	Total 2	Mg 2	0	0
56	L	3	Total 3	Mg 3	0	0
56	EA	1	Total 1	Mg 1	0	0
56	LA	1	Total 1	Mg 1	0	0

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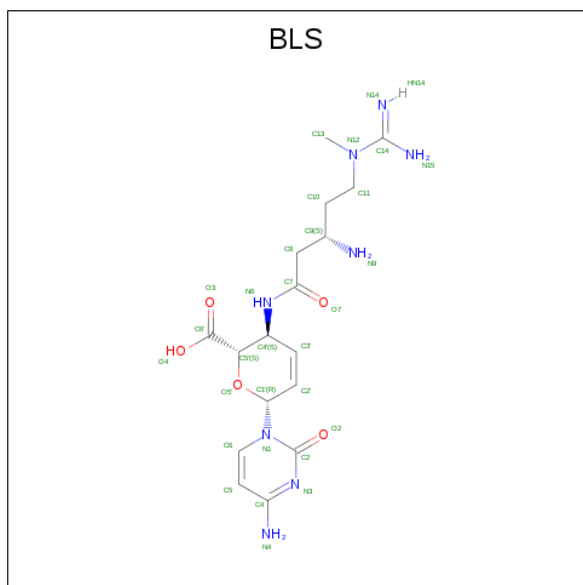
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	OC	1	Total 1	Mg 1	0	0
56	PC	1	Total 1	Mg 1	0	0
56	G	2	Total 2	Mg 2	0	0
56	ED	1	Total 1	Mg 1	0	0
56	Q	1	Total 1	Mg 1	0	0
56	NB	1	Total 1	Mg 1	0	0
56	UB	4	Total 4	Mg 4	0	0
56	WC	1	Total 1	Mg 1	0	0
56	H	2	Total 2	Mg 2	0	0
56	JB	5	Total 5	Mg 5	0	0
56	TC	3	Total 3	Mg 3	0	0
56	C	22	Total 22	Mg 22	0	0
56	QC	3	Total 3	Mg 3	0	0
56	KB	2	Total 2	Mg 2	0	0
56	CB	1	Total 1	Mg 1	0	0
56	BD	1	Total 1	Mg 1	0	0
56	T	2	Total 2	Mg 2	0	0
56	HD	1	Total 1	Mg 1	0	0
56	AD	4	Total 4	Mg 4	0	0
56	O	2	Total 2	Mg 2	0	0
56	Y	3	Total 3	Mg 3	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	OB	1	Total	Mg	0	0
			1	1		
56	F	4	Total	Mg	0	0
			4	4		
56	RB	3	Total	Mg	0	0
			3	3		

- Molecule 57 is BLASTICIDIN S (three-letter code: BLS) (formula: $C_{17}H_{26}N_8O_5$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
57	B	1	Total	C	N	O	0	0
			30	17	8	5		
57	GB	1	Total	C	N	O	0	0
			30	17	8	5		

- Molecule 58 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	BA	1	Total	Zn	0	0
			1	1		
58	CA	1	Total	Zn	0	0
			1	1		
58	AC	1	Total	Zn	0	0
			1	1		
58	V	1	Total	Zn	0	0
			1	1		

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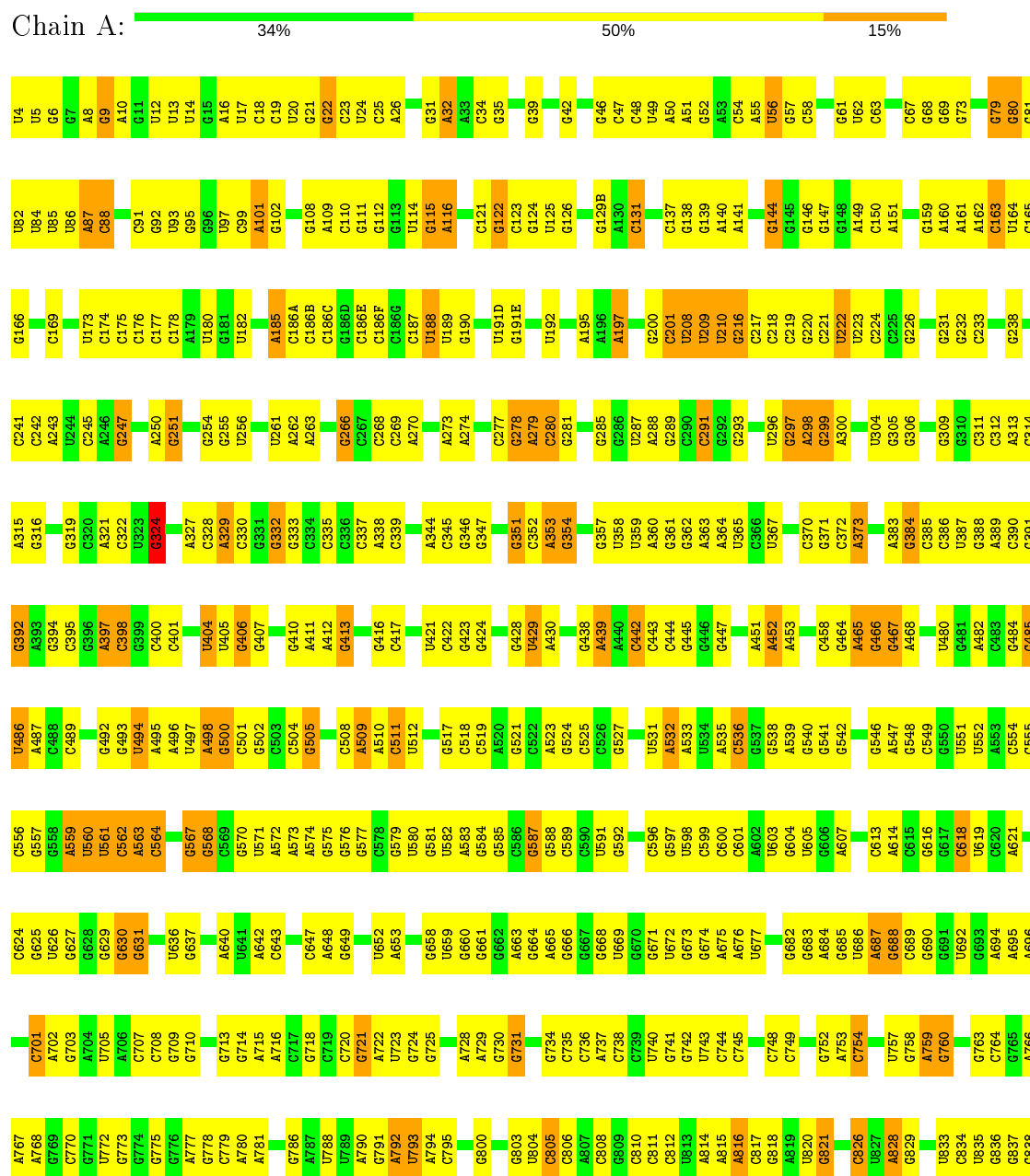
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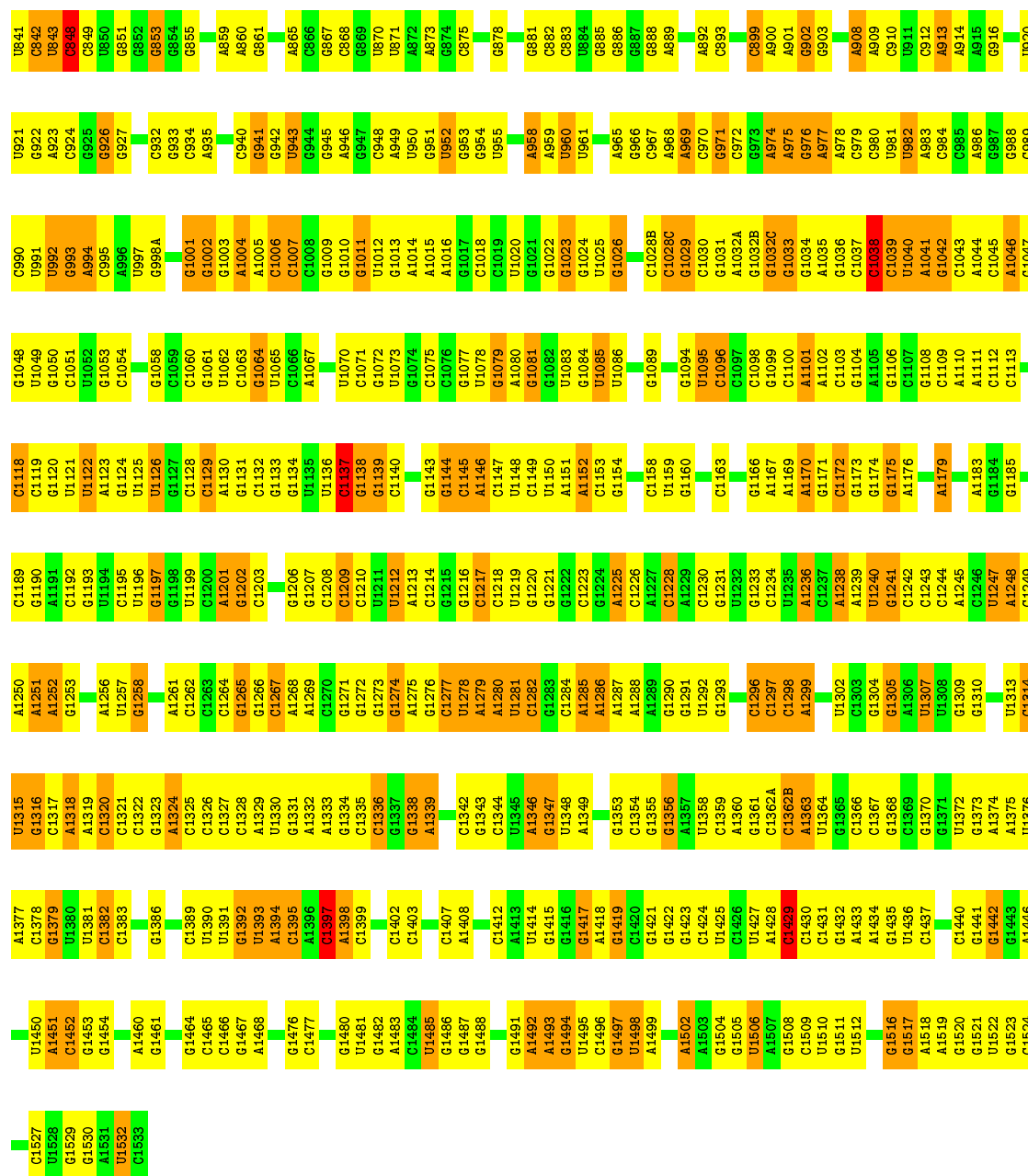
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	GA	1	Total 1	Zn 1	0	0
58	IC	1	Total 1	Zn 1	0	0
58	DA	1	Total 1	Zn 1	0	0
58	GC	1	Total 1	Zn 1	0	0
58	HC	1	Total 1	Zn 1	0	0
58	LC	1	Total 1	Zn 1	0	0

3 Residue-property plots

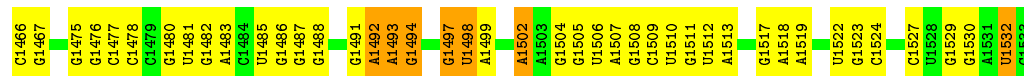
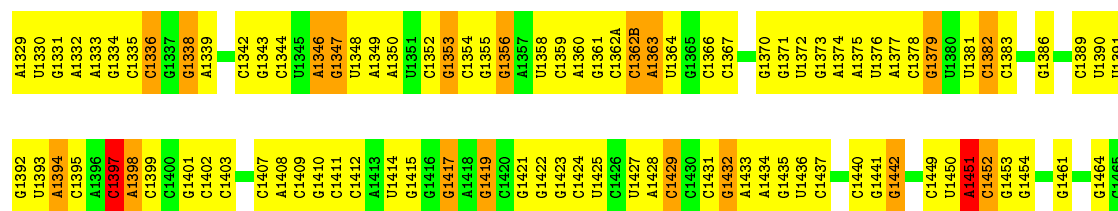
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according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

• Molecule 1: 16S ribosomal RNA



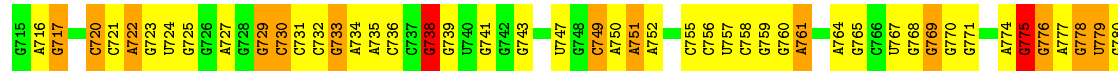
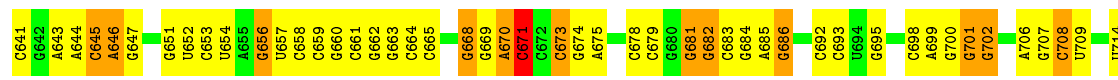
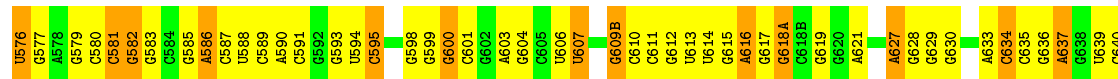
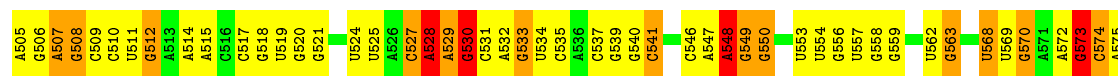
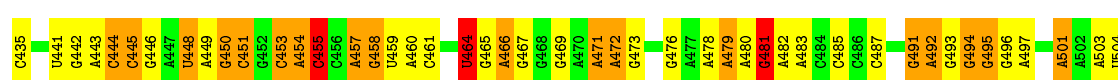
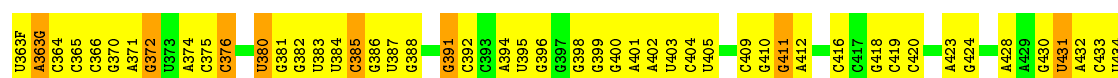
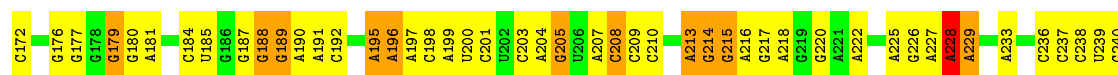
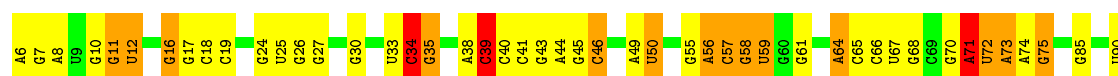


WORLDWIDE
PDB
PROTEIN DATA BANK



• Molecule 2: 23S ribosomal RNA

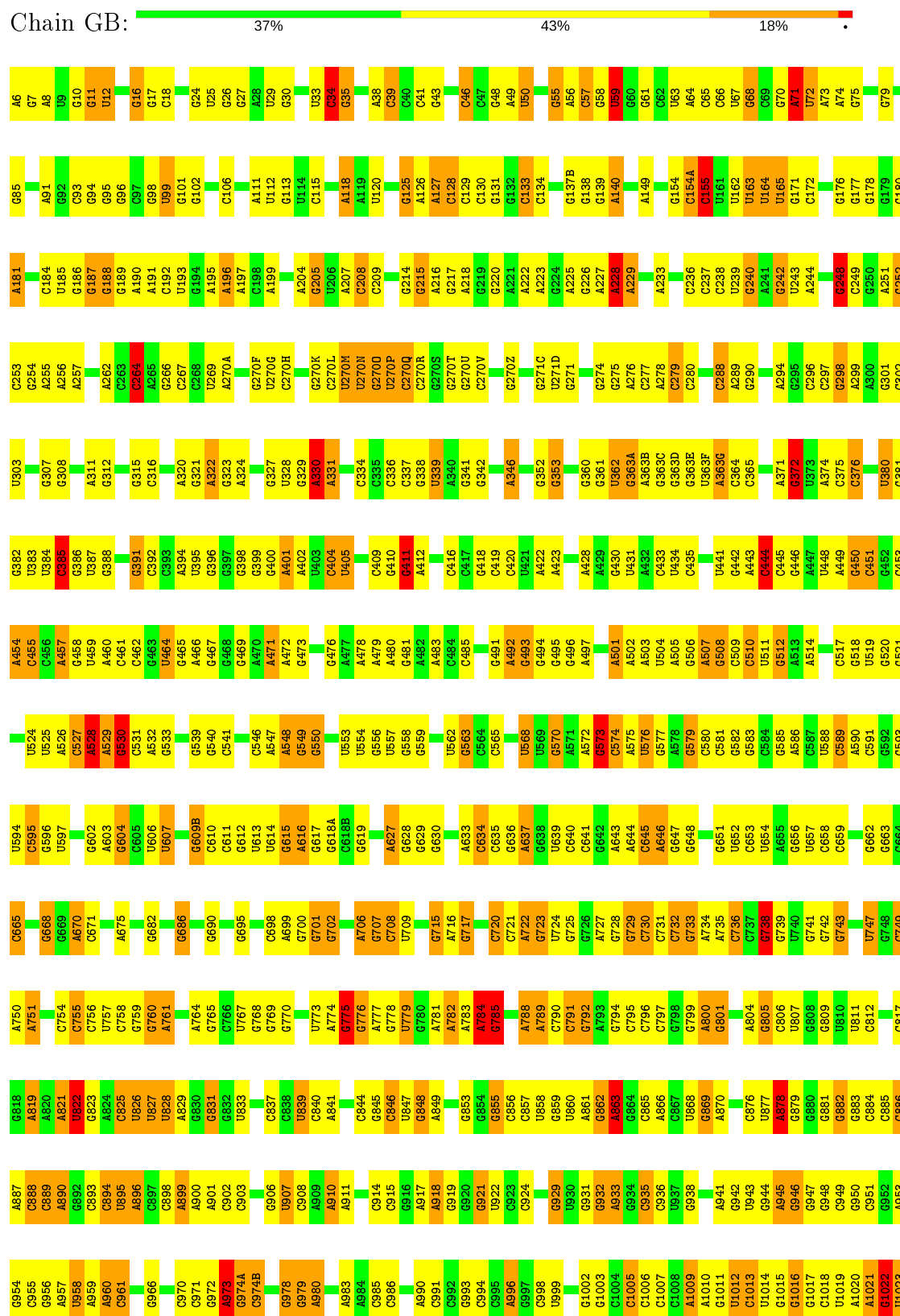
Chain B: 34% 45% 19%



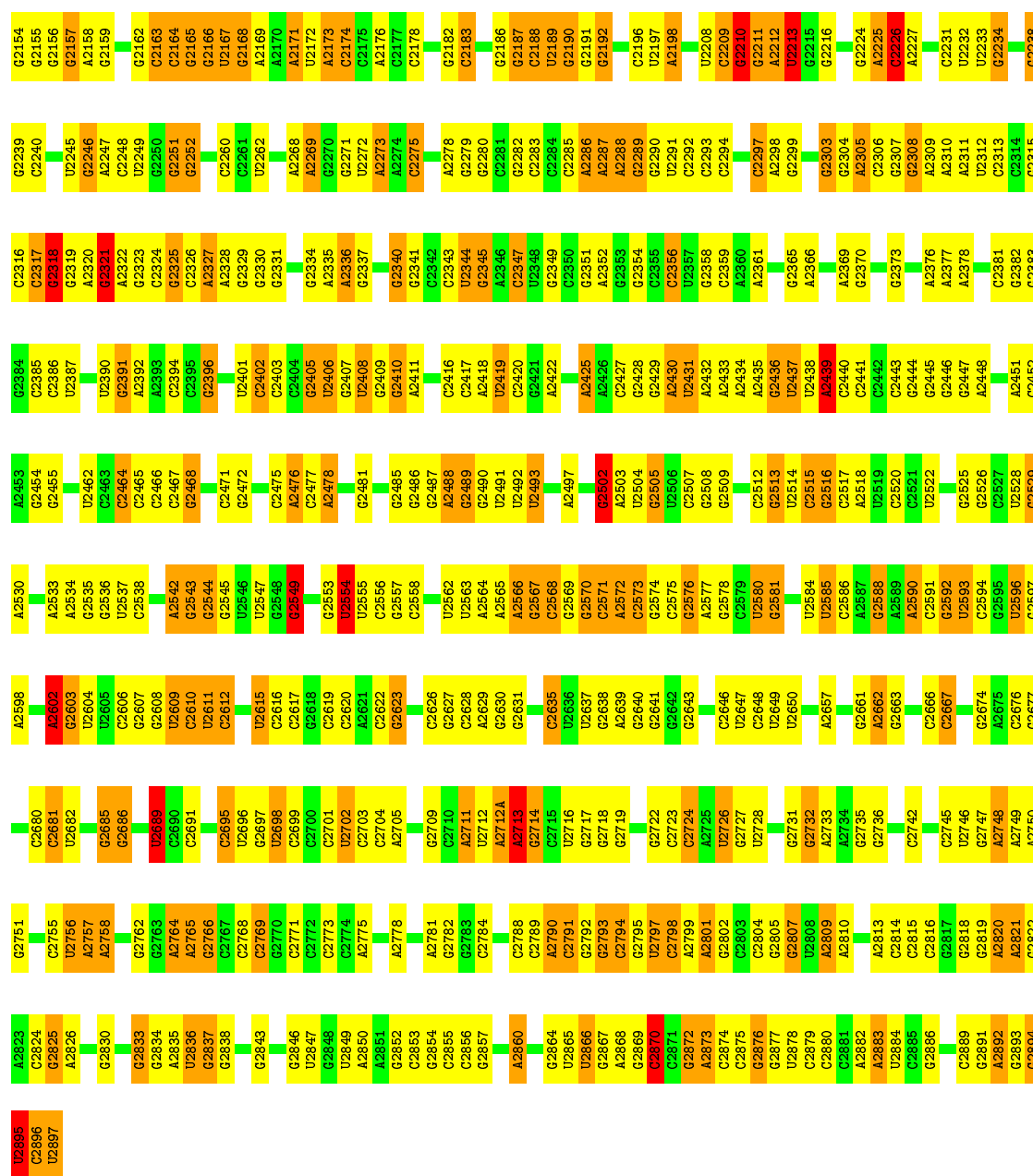
A1783	A1784	A1785	A1786	A1787	A1788	A1789	A1790	A1791	A1792	A1793	A1796	A1797	A1798	A1799	A1800	A1801	A1802	A1803	A1804	A1805	A1806	A1807	G1811	G1814	A1815	A1816	A1817	A1818	A1819	A1820	A1821	G1822	G1823	G1824	G1825	G1826	G1827	A1828	A1829	G1830	G1831	G1832	G1833	G1834	A1835	A1836	G1837	G1838	A1839	A1840	A1841	G1842	G1843	G1844	A1845	A1846	A1847	A1848	
C1685	C1686	G1687	U1688	A1689	U1692	U1693	C1694	G1697	A1698	G1699	A1700	A1701	U1709	C1710	U1716	G1717	U1727	G1728	A1729	U1730	G1731	A1732	G1733	C1734	C1742	G1743	A1740	G1746	G1747	G1753	C1754	A1755	G1756	U1757	G1758	A1759	A1760	C1761	A1762	G1763	G1764	G1769	G1770	C1771	G1772	A1773	C1774	U1775	G1776	G1779	A1780								
A1610	C1611	C1612	G1613	A1614	C1615	A1616	C1617	A1618	U1621	G1622	C1625	G1626	G1627	G1628	C1630B	A1631	G1633	A1634	G1635	G1636	A1637	C1638	G1639	C1640	A1641	G1642	G1643	A1640	G1647	C1648	A1654	C1657	C1658	G1659	U1660	G1661	A1664	A1665	G1666	A1669	C1670	U1671	C1672	U1673	G1674	C1675	C1676	U1680	G1681	C1684									
G1540	U1541	G1542	A1543	C1544	C1550	C1551	G1552	A1553	A1554	G1555	C1556	C1557	A1558	G1559	G1560	G1561	A1566	A1567	A1568	A1569	A1570	A1571	A1572	U1576	C1577	U1578	A1579	A1580	G1581	C1582	A1583	C1585	A1586	A1587	C1588	G1589	U1590	G1591	C1592	G1593	G1594	G1595	A1596	A1597	C1598	C1599	U1602	A1603	G1604	C1605	G1606	C1607	A1608	A1609	A1610				
A1467	C1467	U1468	A1471	A1472	A1477	G1478	G1479	G1483	G1484	G1485	A1490	G1491	A1412	G1492	G1493	G1494	A1495	A1496	U1497	C1498	G1499	G1500	U1503	C1504	C1505	G1506	A1507	A1508	A1509	A1510	A1511	G1512	C1515	U1516	G1517	C1518	G1519	U1520	G1521	G1524	G1525	G1526	G1527	A1528	A1529	C1530	C1531	C1532	C1533	G1534	U1535	A1536	C1537	G1539	G1539				
A1395	U1396	U1397	G1400	G1401	C1402	C1403	C1404	U1405	A1406	C1407	C1408	C1411	A1412	G1413	G1414	G1415	G1416	C1417	A1419	G1423	G1424	G1425	G1426	A1427	G1428	G1429	C1430	U1431	C1432	U1433	A1434	C1437	U1438	A1439	G1440	G1441	G1442	A1444B	C1445	C1446	G1447	G1448	A1449B	G1449	C1450	C1451	A1453	U1454	G1455	C1458	G1459	A1460							
C1327	G1328	U1329	A1331	A1332	C1333	C1334	U1335	A1336	G1339	U1340	U1341	A1342	G1343	G1344	G1345	G1346	G1347	G1348	C1351	U1352	A1353	A1354	G1355	G1356	U1357	G1358	A1359	A1360	G1364	A1365	A1366	A1367	G1368	G1371	U1372	A1373	G1374	C1375	C1376	G1377	A1378	A1379	G1381	G1382	C1383	A1384	C1385	C1386	C1387	G1388	G1389	U1394							
A1253	A1254	U1255	G1256	C1257	G1258	G1259	U1263	G1264	A1265	G1266	U1267	A1268	A1269	C1270	G1271	G1272	A1273	A1274	A1275	A1278	A1286	A1287	U1288	C1289	C1290	C1291	U1292	C1293	C1297	C1298	G1299	U1300	A1301	A1302	C1303	C1304	A1308	G1309	G1310	U1312	U1313	C1314	G1315	U1316	A1317	C1320	A1321	A1322	U1323	G1324	G1325	U1326							
C1179	C1180	A1181	A1182	G1183	G1184	C1185	G1186	U1188	A1189	G1190	G1191	C1200	C1201	G1202	G1203	A1204	U1205	G1206	C1207	A1210	U1211	G1212	A1213	A1214	G1215	G1216	C1217	G1218	G1219	A1220	C1221	G1221A	C1222	A1226	G1227	G1231	G1232	C1233	U1234	G1235	U1240	A1241	A1242	G1243	U1244	G1245	A1246	G1247	U1248	G1250	C1251	G1252							
G1110	A1111	G1112	U1113	G1114	G1115	C1116	G1117	U1118	C1119	G1122	A1126	A1127	U1128	A1129	U1130	A1131	A1132	U1133	G1136	G1137	G1138	G1139	C1140	U1141	C1142	A1143B	A1143	C1146	C1147	U1149	G1150	G1151	C1152	G1153	G1154	A1155	C1158	C1161	G1162	G1166	U1167	G1168	G1169	G1170	G1171	A1173	U1174	U1175	G1176	C1177	A1178	U1179	A1179						
A1050	G1051	C1052	A1054	G1055	G1056	A1057	U1058	G1059	U1060	U1061	G1062	G1063	U1064	U1065	U1066	A1067	G1068	A1069	C1070	C1071	C1072	C1073	A1073	C1074	C1075	C1076	A1077	U1078	C1079	C1080	U1081	U1082	U1083	A1084	A1085	A1086	G1087	A1088	G1089	U1090	G1091	C1092	G1093	U1094	A1095	U1096	U1097	A1098	C1099	C1100	U1101	C1102	A1103	G1104	U1105	G1106	G1107	U1108	C1109
G0979	A0980	A0983	C0986	A0990	C0991	C0992	G0993	C0994	C0995	U0996	A0997	C0998	U0999	G1002	C1003	C1004	C1005	C1006	C1007	C1008	A1009	A1010	U1011	U1012	C1013	U1014	G1015	G1016	U1019	A1020	C1021	G1022	U1023	G1024	G1025	U1026	A1027	A1028	A1032	U1033	C0965	C0966	C0967	G0968	U0969	C0970	C0971	G1043	G1044	A1045	A1046	G1047	A1048	C1049					
A781	A782	A783	G784	G785	G786	U787	A788	A789	C790	C791	G792	G793	G794	C795	G796	C797	G798	G799	A800	A801	A802	C803	A804	G805	C806	U807	G808	G809	U810	U811	C812	U813	C816	C817	G818	A819	A820	A821	U822	G823	A824	C825	U826	U827	C828	A829	G830	G831	G832	U833	C834	A835	A901	G836	C837	C838	U839	C840	A841
C844	G845	G846	U847	G848	A849	C850	U851	G852	G853	G854	G855	C856	C857	U858	G859	U860	A861	G862	A863	G864	C865	A866	C867	U868	G869	A870	U871	U872	U877	A878	G879	G880	G881	G882	G883	C884	C885	C886	A887	C888	C889	A890	G892	C894	A895	A896	C897	C898	A899	A900	C901	G902	C903	G906	U907				
A910	A911	C914	C915	G916	A917	A918	G919	G920	G921	U922	C923	C924	C925	A926	G928	G929	U930	G931	A932	A933	C935	C936	U937	G938	A941	G942	U943	G944	A945	G946	C947	A953	G954	C955	G956	A957	U958	A959	A960	C961	C965	C966	C967	G968	U969	C970	C971	G1043	G1044	A1045	A1046	G1047	A1048	C1049					



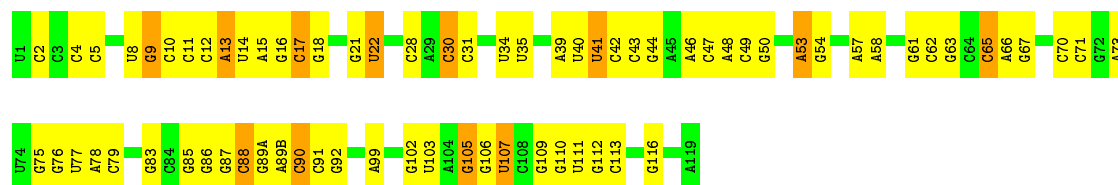
• Molecule 2: 23S ribosomal RNA





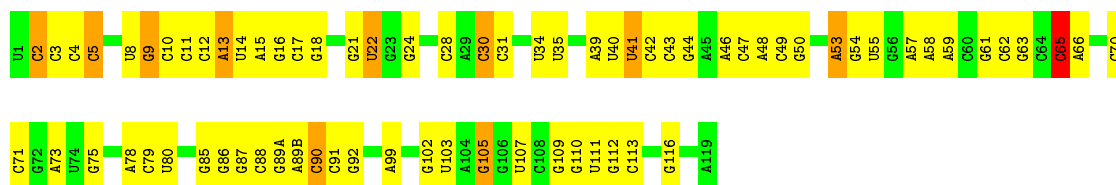


• Molecule 3: 5S ribosomal RNA

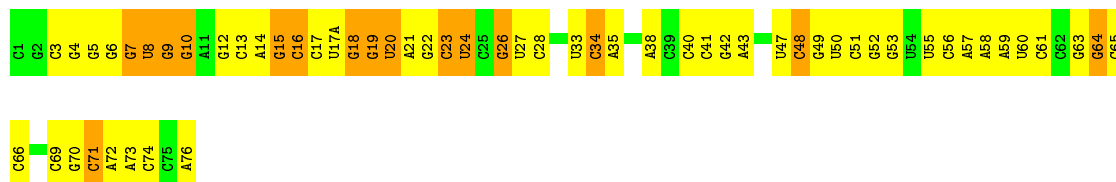


• Molecule 3: 5S ribosomal RNA

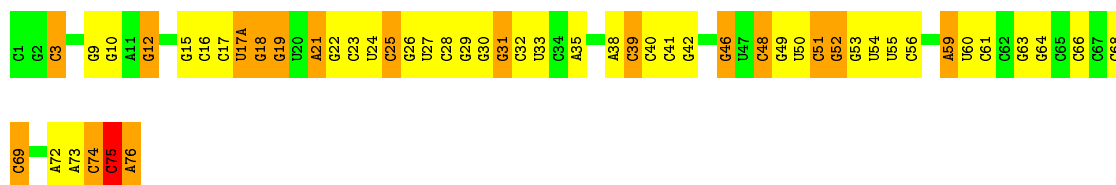




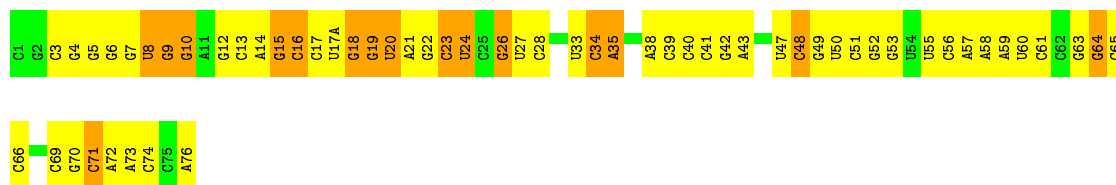
- Molecule 4: tRNA



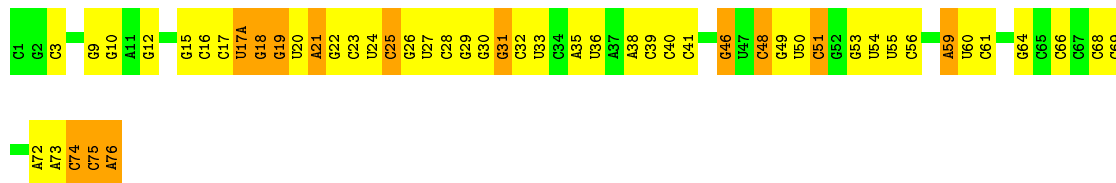
- Molecule 4: tRNA



- Molecule 4: tRNA

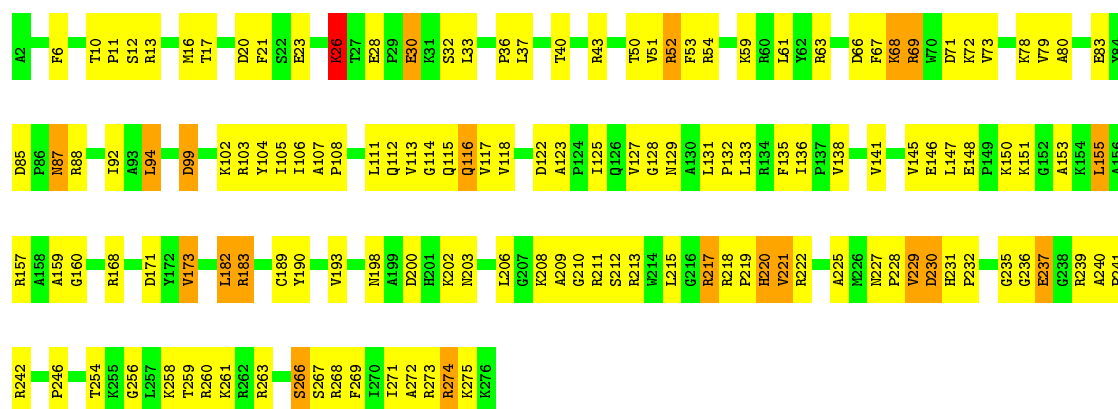


- Molecule 4: tRNA



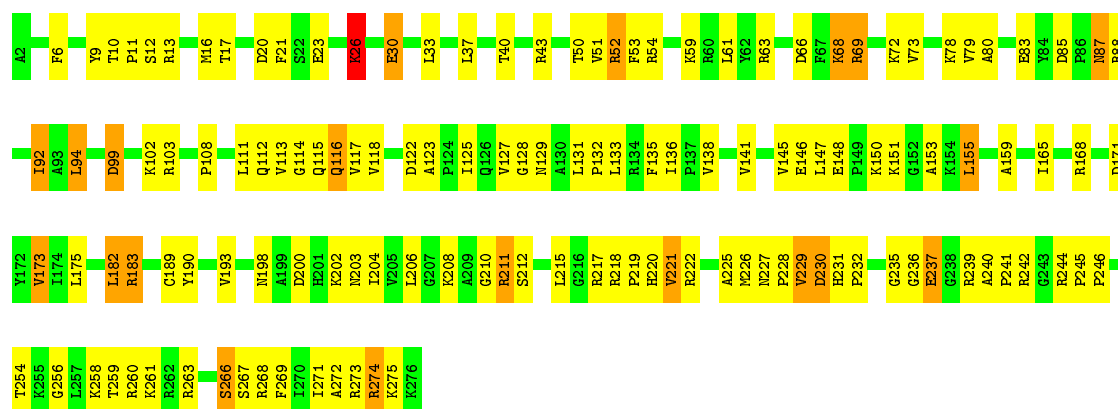
- Molecule 5: 50S ribosomal protein L2





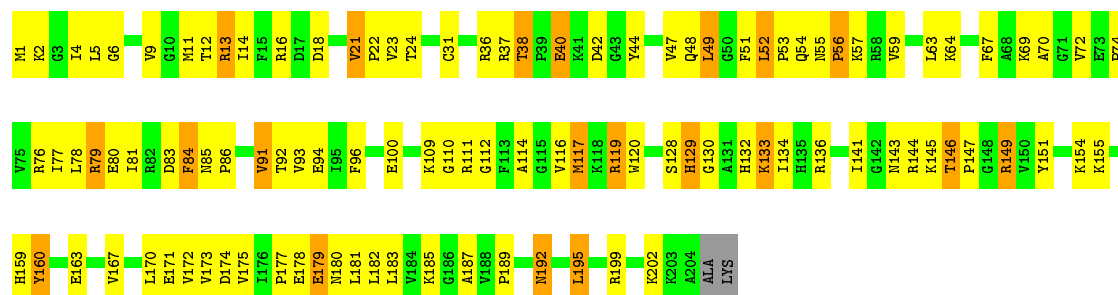
• Molecule 5: 50S ribosomal protein L2

Chain JB: 51% 41% 7%



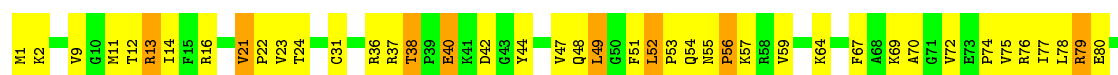
• Molecule 6: 50S ribosomal protein L3

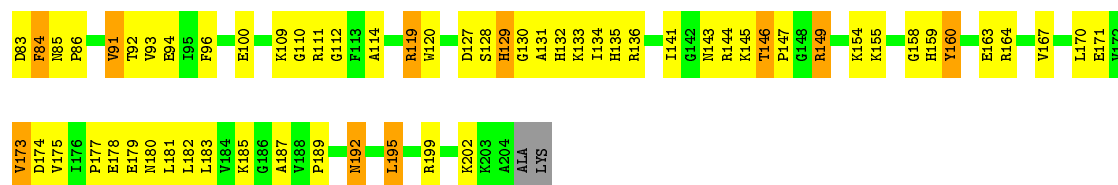
Chain F: 47% 42% 10%



• Molecule 6: 50S ribosomal protein L3

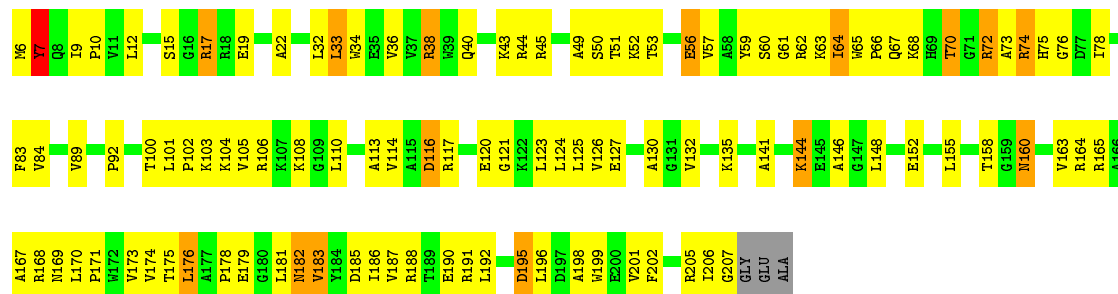
Chain KB: 49% 41% 9%





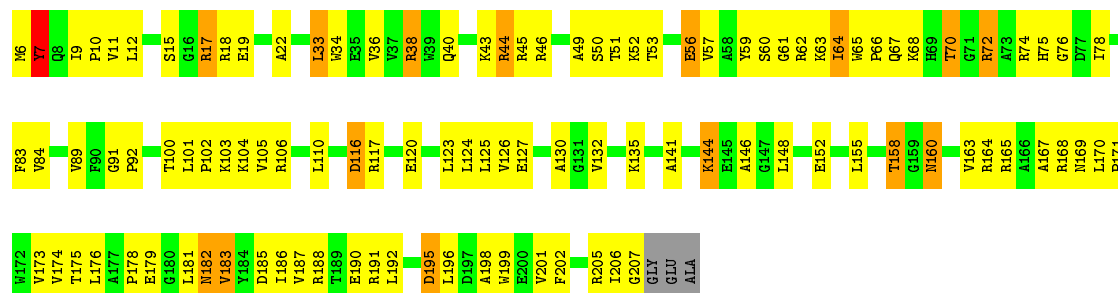
• Molecule 7: 50S ribosomal protein L4

Chain G: 45% 46% 7% .



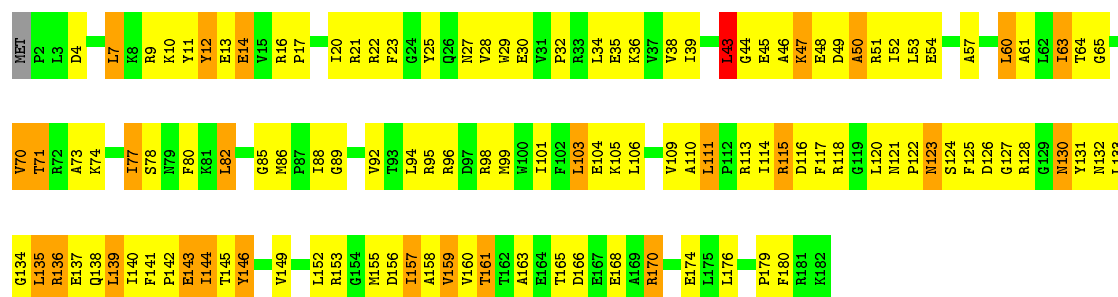
• Molecule 7: 50S ribosomal protein L4

Chain LB: 46% 45% 7% .



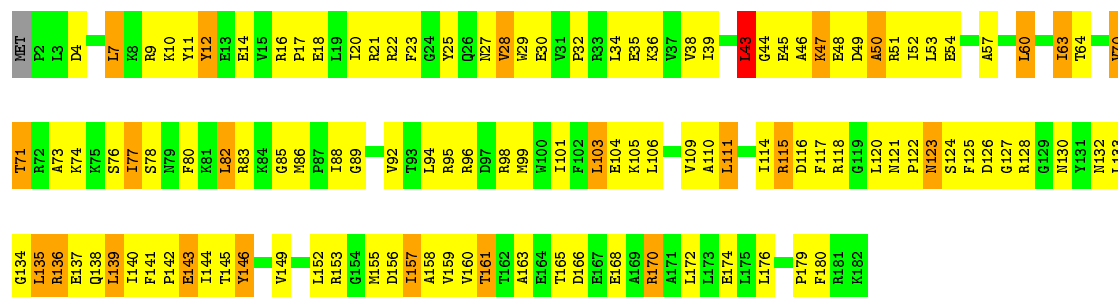
• Molecule 8: 50S ribosomal protein L5

Chain H: 34% 51% 14% ..



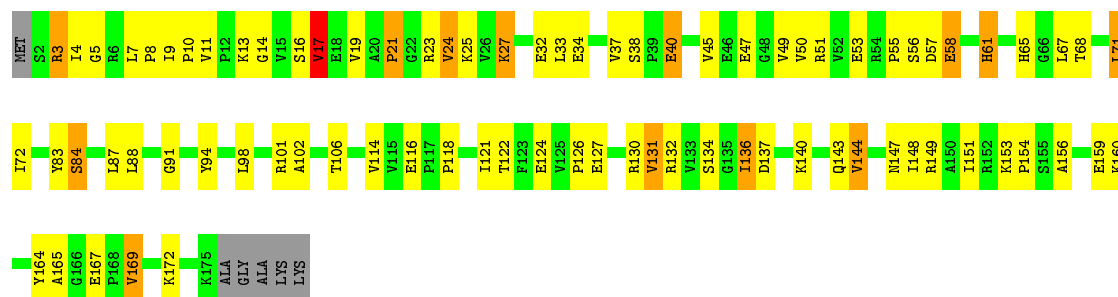
• Molecule 8: 50S ribosomal protein L5

Chain MB: 34% 52% 13% ..



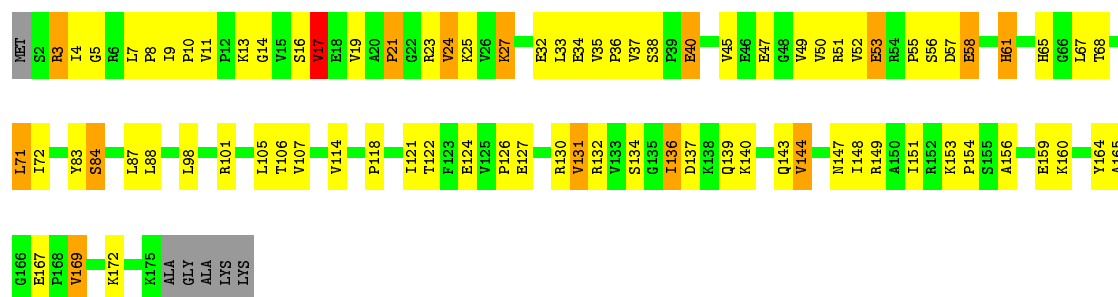
- Molecule 9: 50S ribosomal protein L6

Chain I: 52% 37% 7% ..



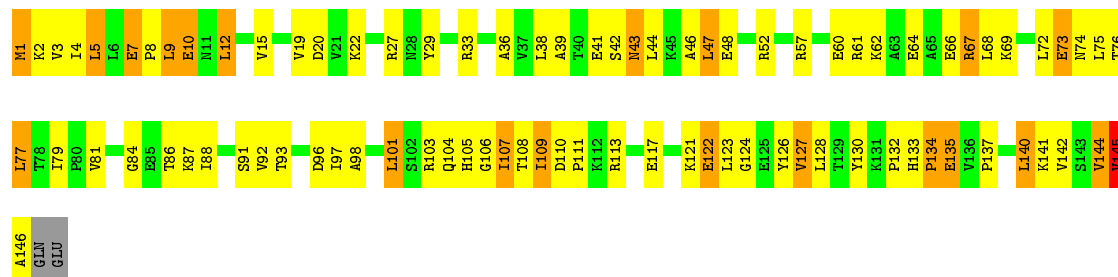
- Molecule 9: 50S ribosomal protein L6

Chain NB: 51% 38% 8% ..



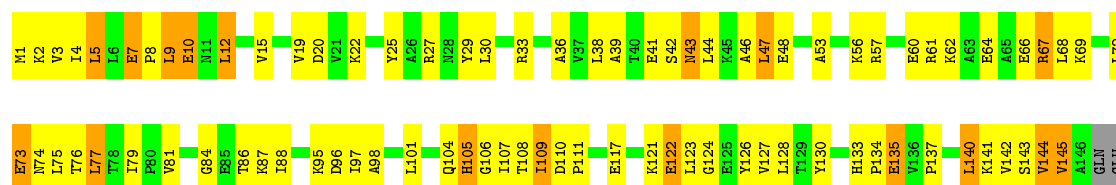
- Molecule 10: 50S ribosomal protein L9

Chain J: 41% 44% 14% ..



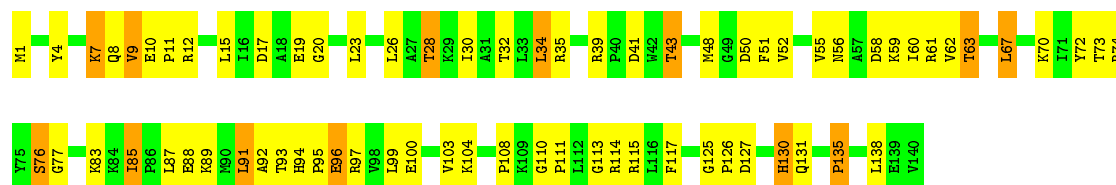
- Molecule 10: 50S ribosomal protein L9

Chain OB: 



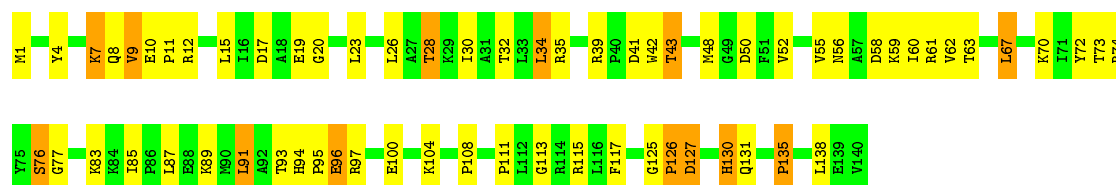
- Molecule 11: 50S ribosomal protein L13

Chain K: 



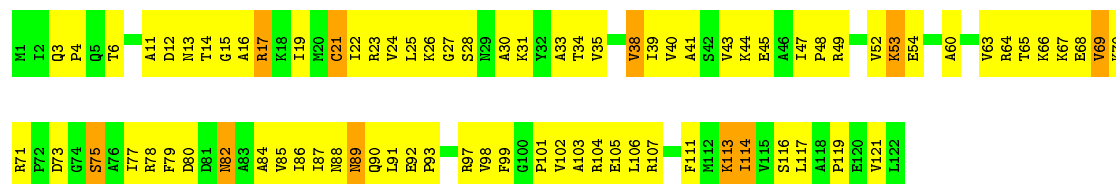
- Molecule 11: 50S ribosomal protein L13

Chain PB: 




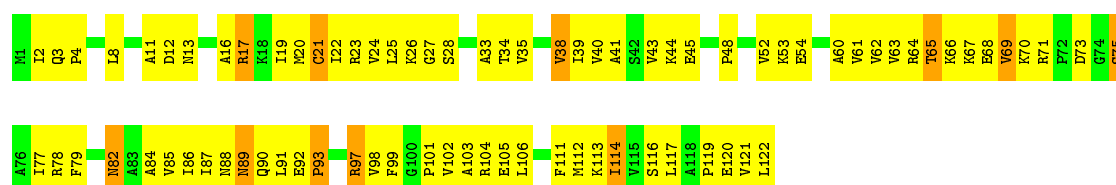
- Molecule 12: 50S ribosomal protein L14

Chain L: 

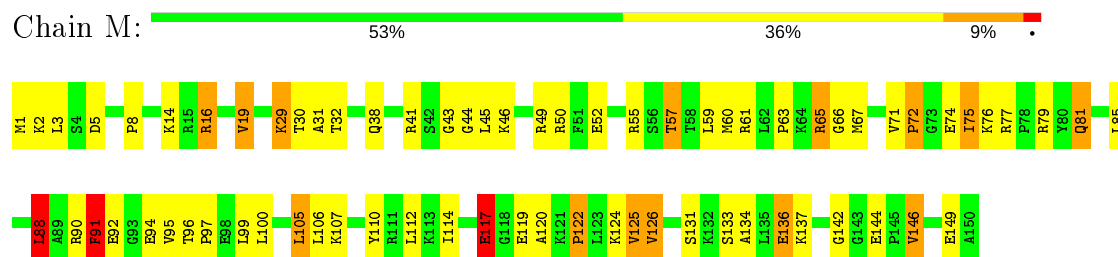


- Molecule 12: 50S ribosomal protein L14

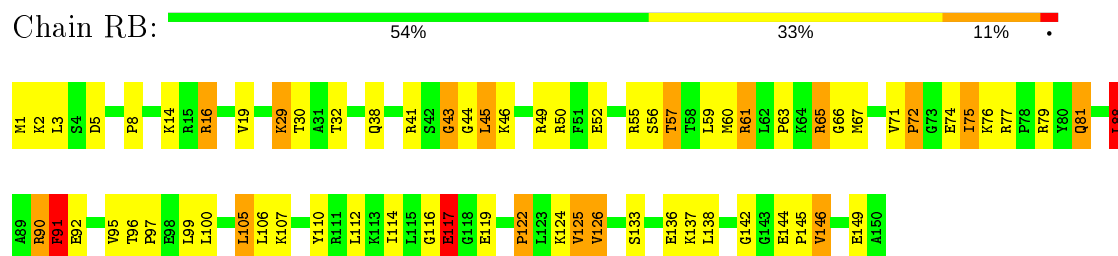
Chain QB: 



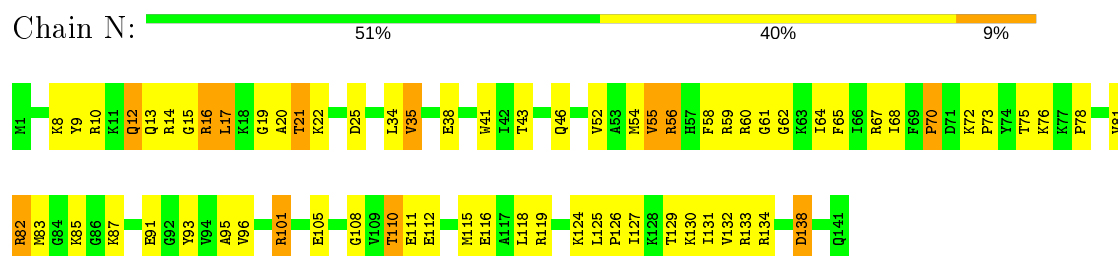
- Molecule 13: 50S ribosomal protein L15



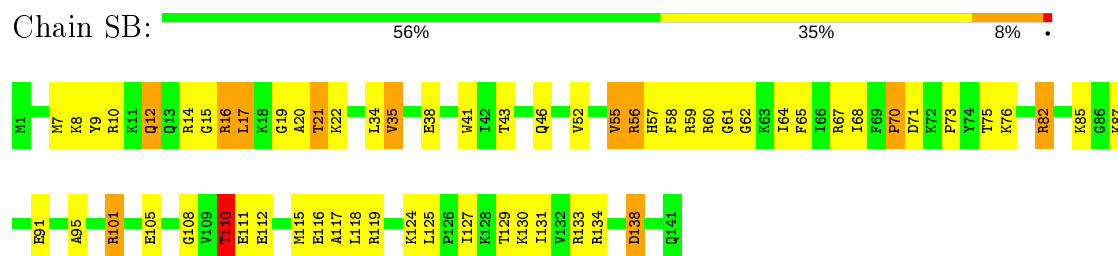
- Molecule 13: 50S ribosomal protein L15



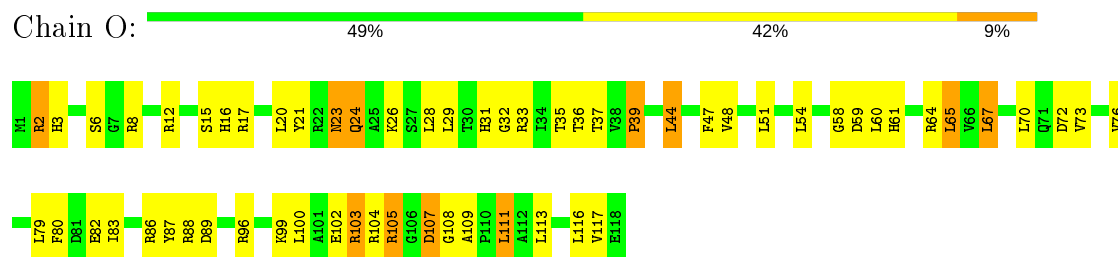
- Molecule 14: 50S ribosomal protein L16



- Molecule 14: 50S ribosomal protein L16

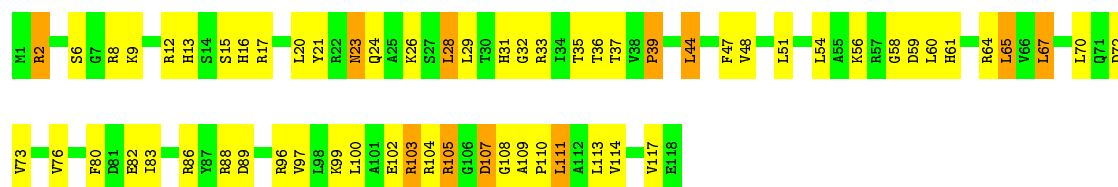


- Molecule 15: 50S ribosomal protein L17



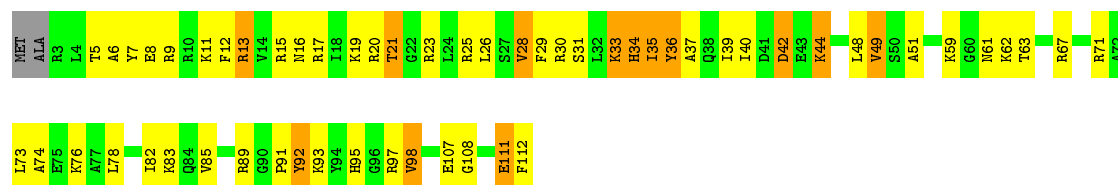
- Molecule 15: 50S ribosomal protein L17

Chain TB: 



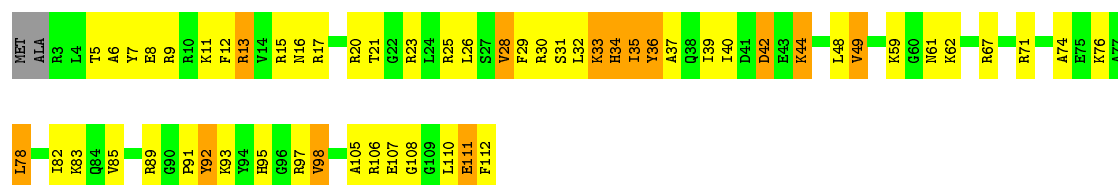
- Molecule 16: 50S ribosomal protein L18

Chain P: 



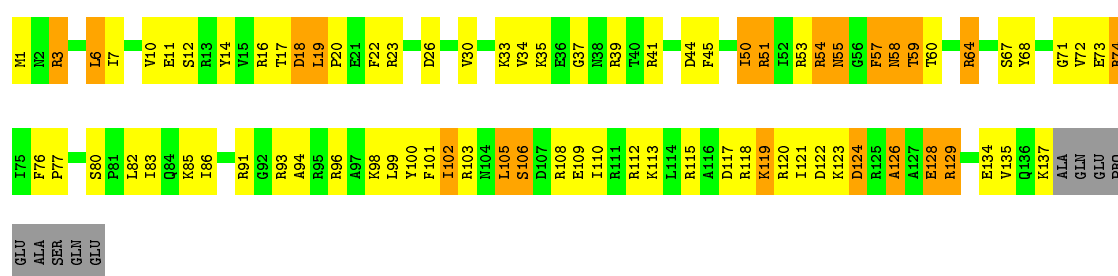
- Molecule 16: 50S ribosomal protein L18

Chain UB: 



- Molecule 17: 50S ribosomal protein L19

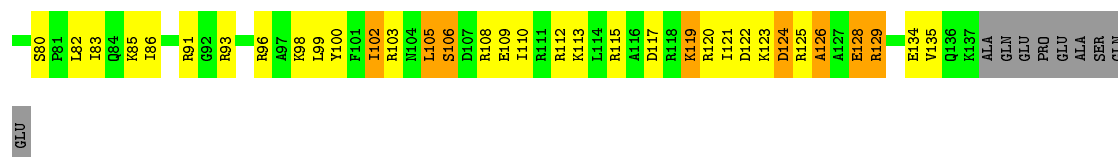
Chain Q: 



- Molecule 17: 50S ribosomal protein L19

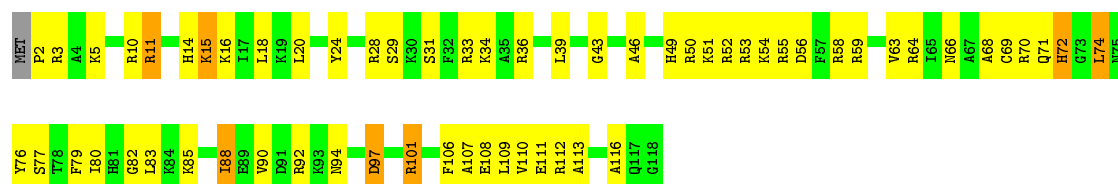
Chain VB: 





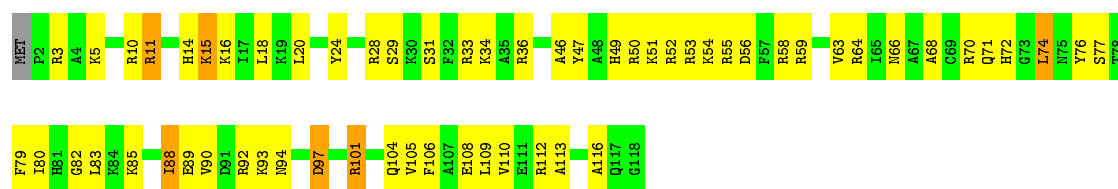
- Molecule 18: 50S ribosomal protein L20

Chain R: 47% 46% 6%



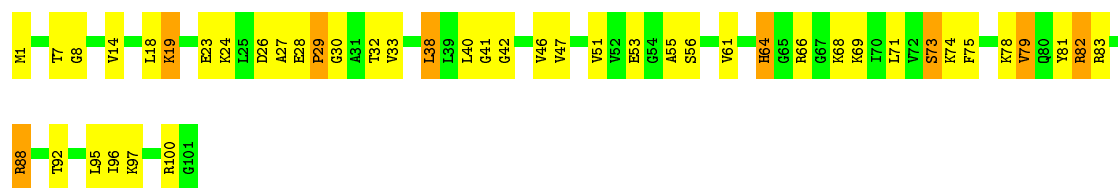
- Molecule 18: 50S ribosomal protein L20

Chain WB: 48% 46% 5%



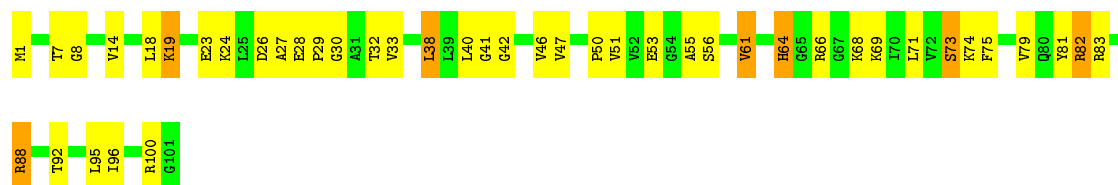
- Molecule 19: 50S ribosomal protein L21

Chain S: 55% 37% 8%



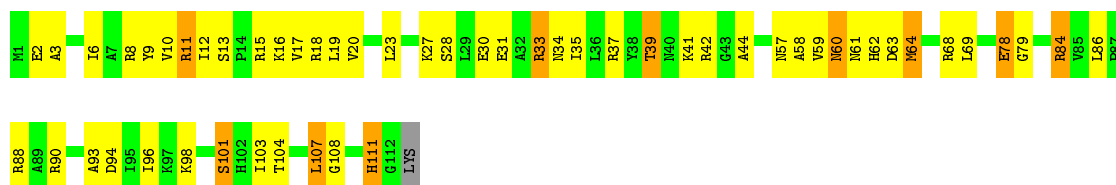
- Molecule 19: 50S ribosomal protein L21

Chain XB: 56% 37% 7%



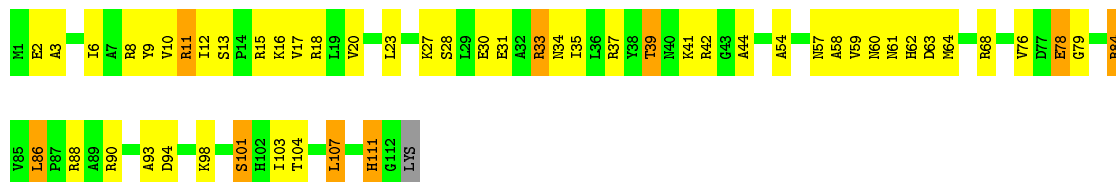
- Molecule 20: 50S ribosomal protein L22

Chain T: 51% 39% 9%



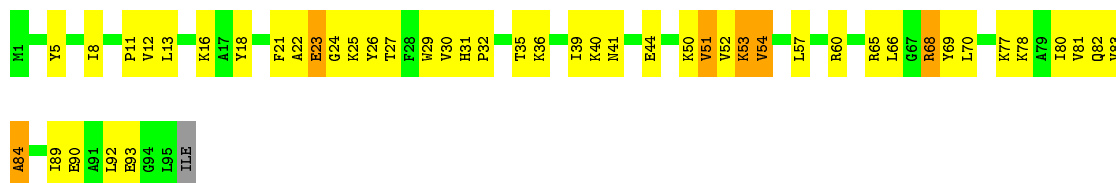
- Molecule 20: 50S ribosomal protein L22

Chain YB: 53% 38% 8% .



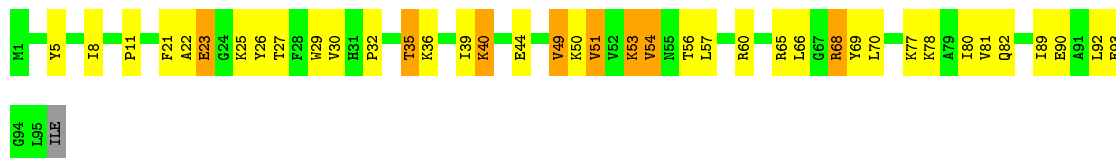
- Molecule 21: 50S ribosomal protein L23

Chain U: 50% 43% 6% .



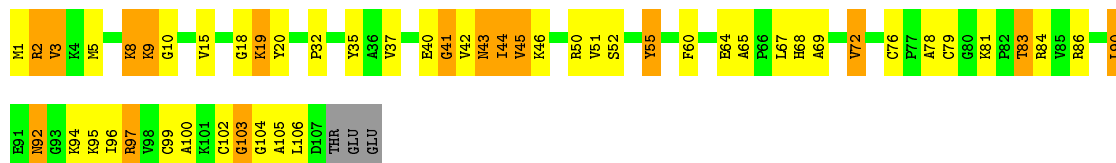
- Molecule 21: 50S ribosomal protein L23

Chain ZB: 58% 32% 8% .



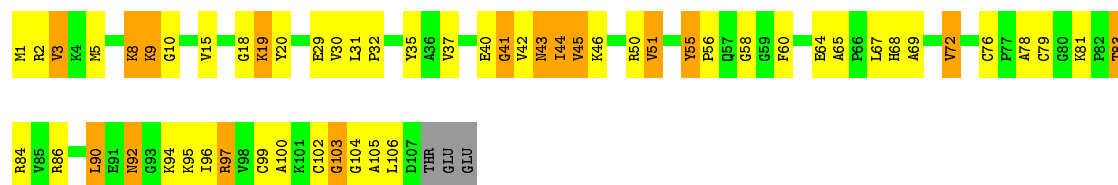
- Molecule 22: 50S ribosomal protein L24

Chain V: 50% 33% 15% .

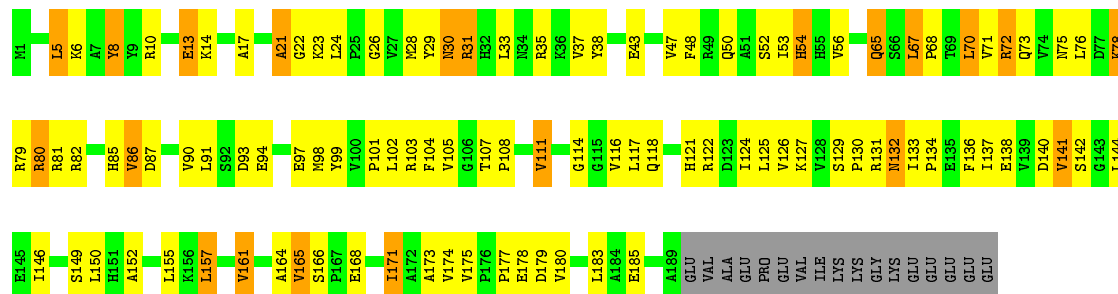


- Molecule 22: 50S ribosomal protein L24

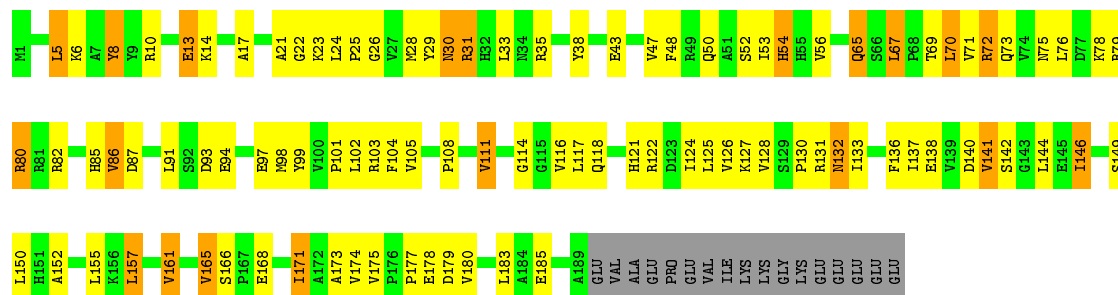
Chain AC: 46% 36% 15% .



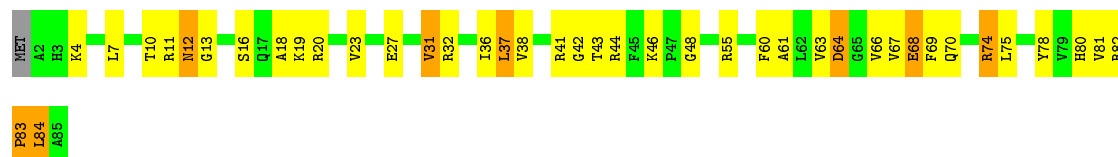
- Molecule 23: 50S ribosomal protein L25



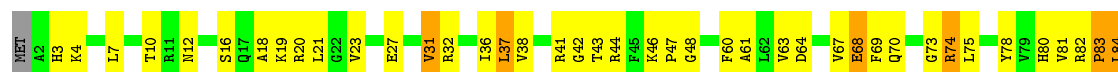
- Molecule 23: 50S ribosomal protein L25



- Molecule 24: 50S ribosomal protein L27

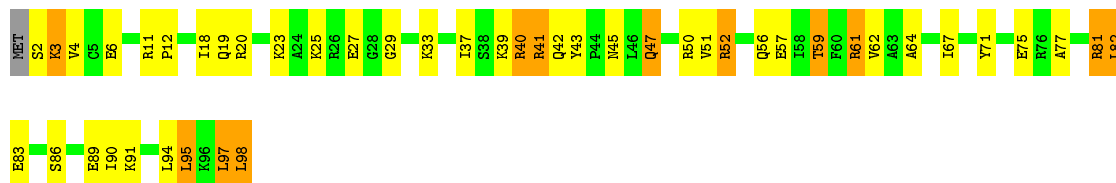


- Molecule 24: 50S ribosomal protein L27

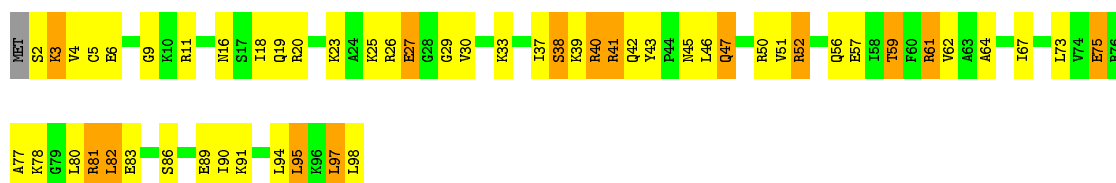


A85

- Molecule 25: 50S ribosomal protein L28

Chain Y:  52% 35% 12%

- Molecule 25: 50S ribosomal protein L28

Chain DC:  44% 41% 14%

- Molecule 26: 50S ribosomal protein L29

Chain Z:  51% 35% 11%

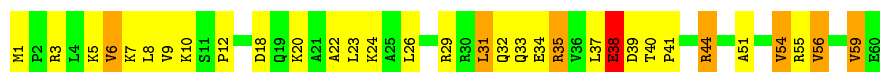
- Molecule 26: 50S ribosomal protein L29

Chain EC:  53% 33% 11%

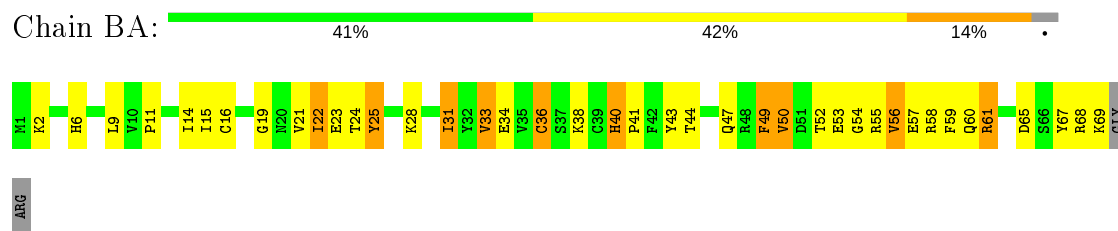
- Molecule 27: 50S ribosomal protein L30

Chain AA:  43% 42% 13%

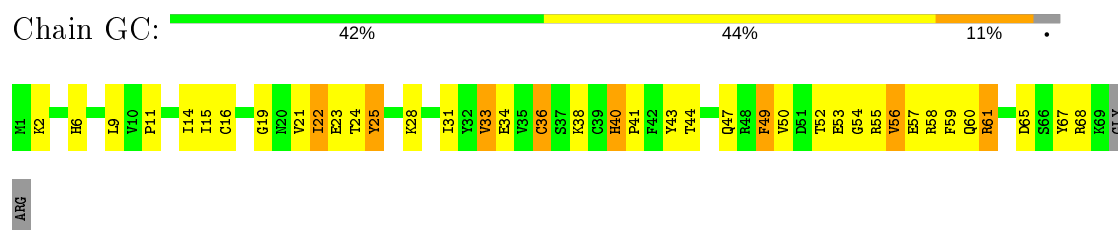
- Molecule 27: 50S ribosomal protein L30

Chain FC:  47% 40% 12%

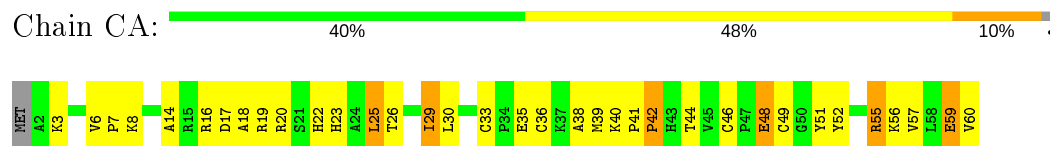
• Molecule 28: 50S ribosomal protein L31



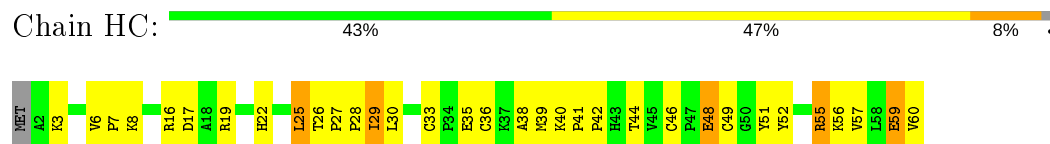
• Molecule 28: 50S ribosomal protein L31



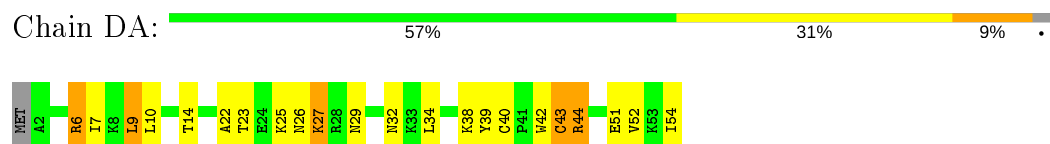
• Molecule 29: 50S ribosomal protein L32



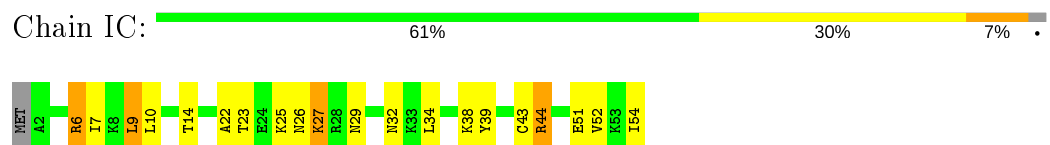
• Molecule 29: 50S ribosomal protein L32



• Molecule 30: 50S ribosomal protein L33

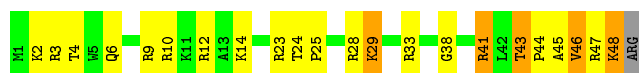


• Molecule 30: 50S ribosomal protein L33



• Molecule 31: 50S ribosomal protein L34





- Molecule 31: 50S ribosomal protein L34



- Molecule 32: 50S ribosomal protein L35



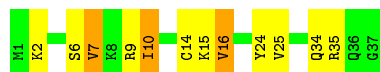
- Molecule 32: 50S ribosomal protein L35



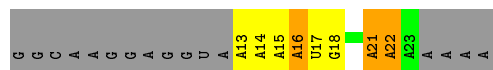
- Molecule 33: 50S ribosomal protein L36



- Molecule 33: 50S ribosomal protein L36

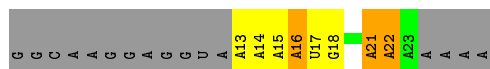


- Molecule 34: mRNA

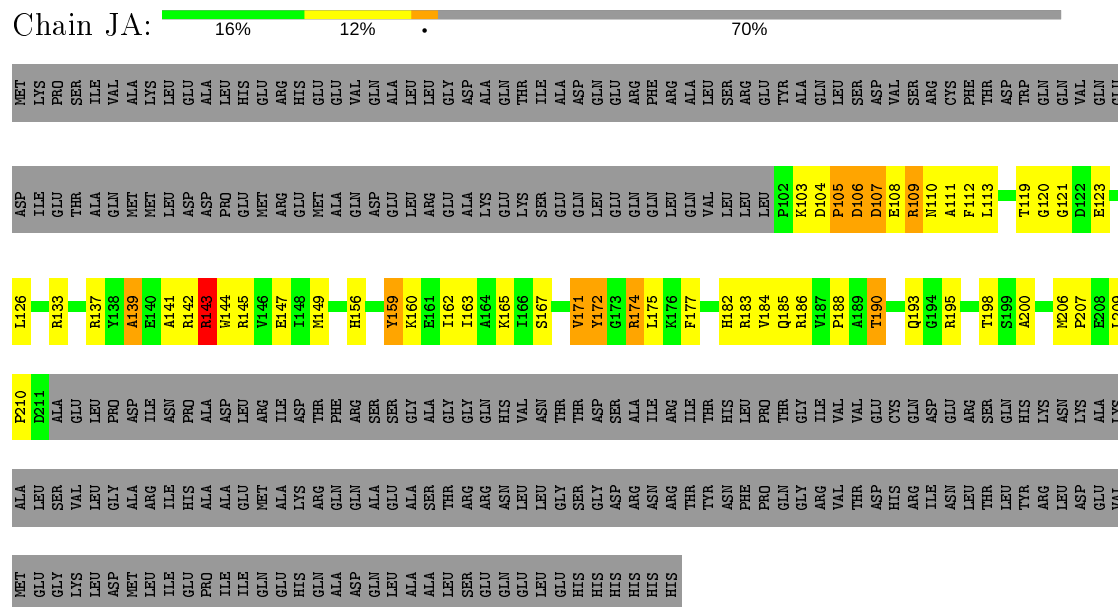


- Molecule 34: mRNA

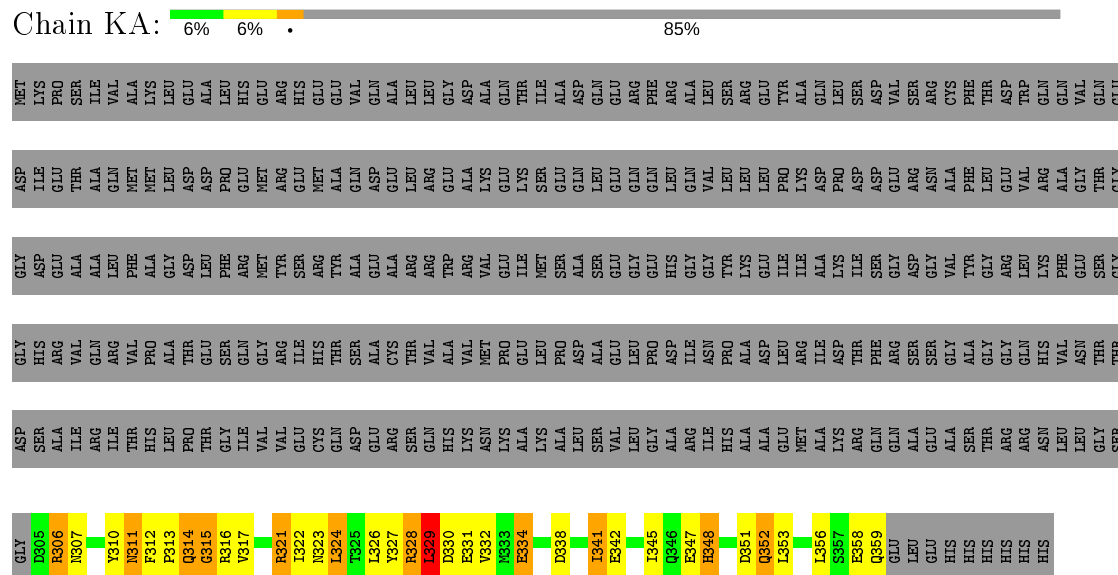




- Molecule 35: Peptide chain release factor 1

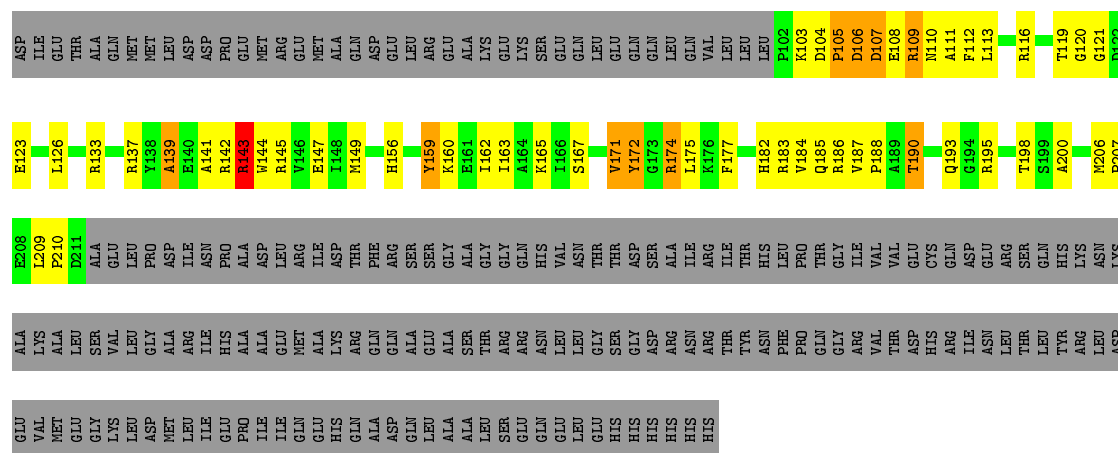


- Molecule 35: Peptide chain release factor 1



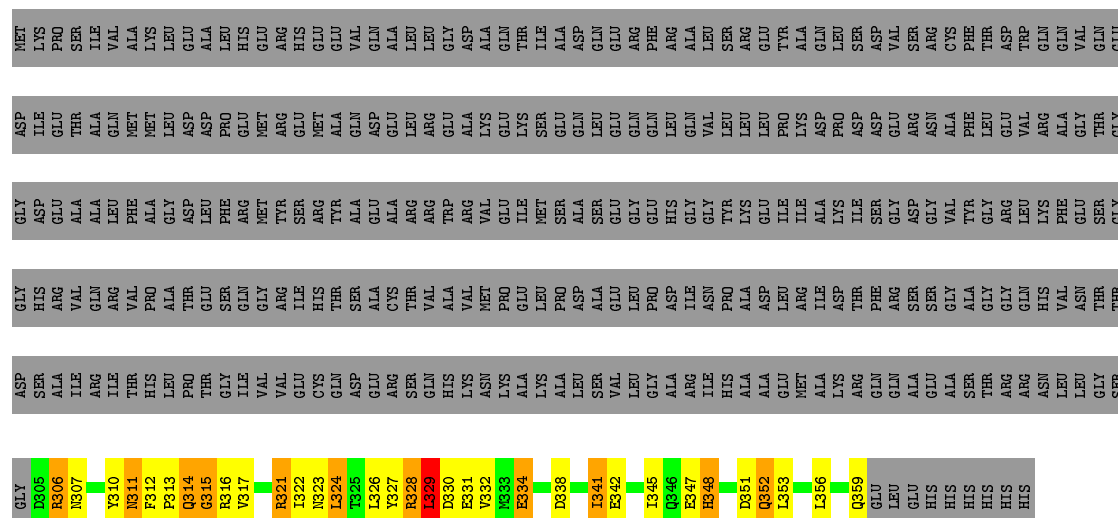
- Molecule 35: Peptide chain release factor 1





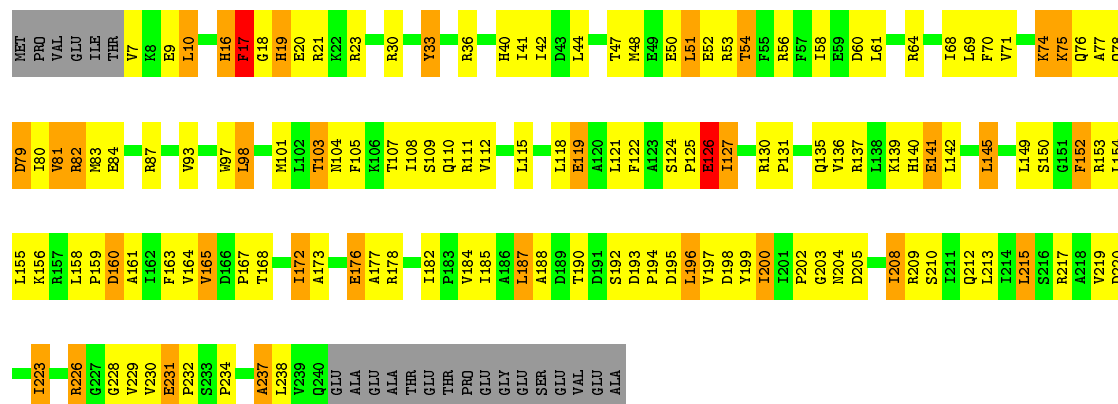
• Molecule 35: Peptide chain release factor 1

Chain PC:  85%



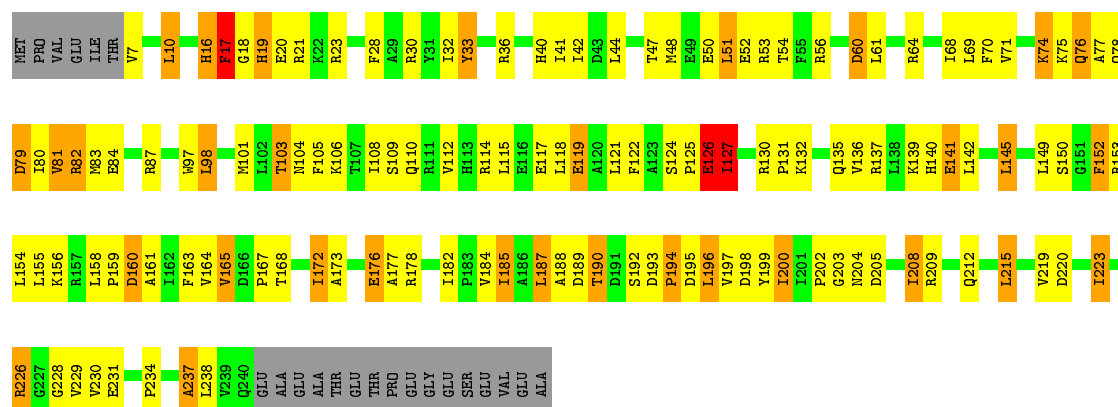
• Molecule 36: 30S ribosomal protein S2

Chain LA:  38% 40% 12% 9%



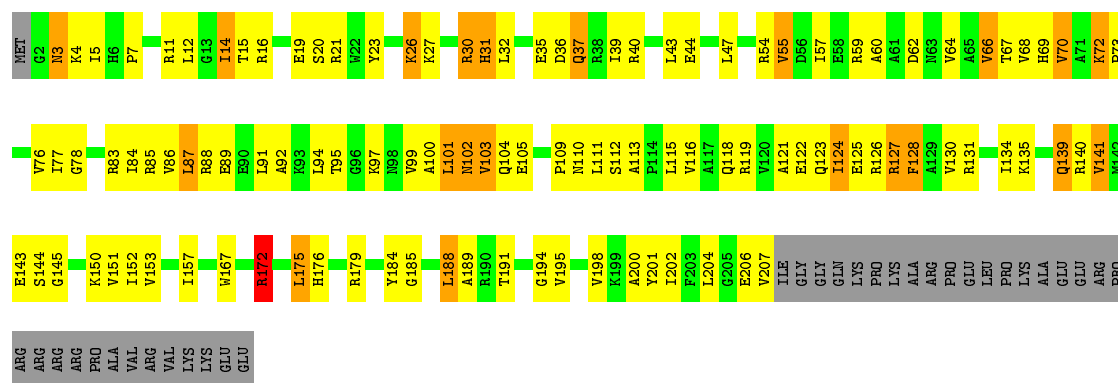
• Molecule 36: 30S ribosomal protein S2

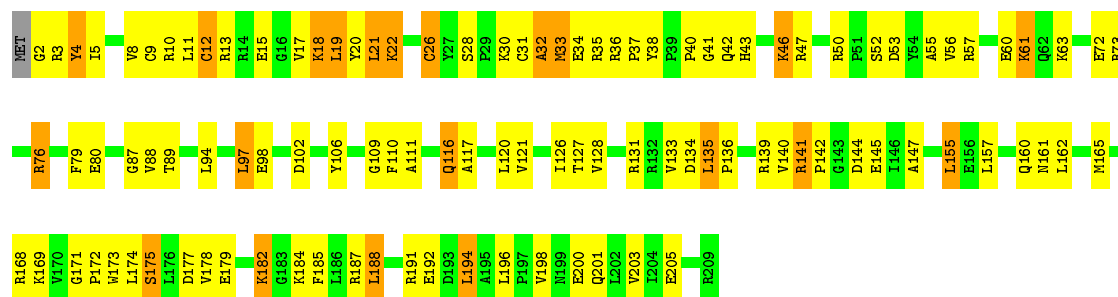
Chain QC: 



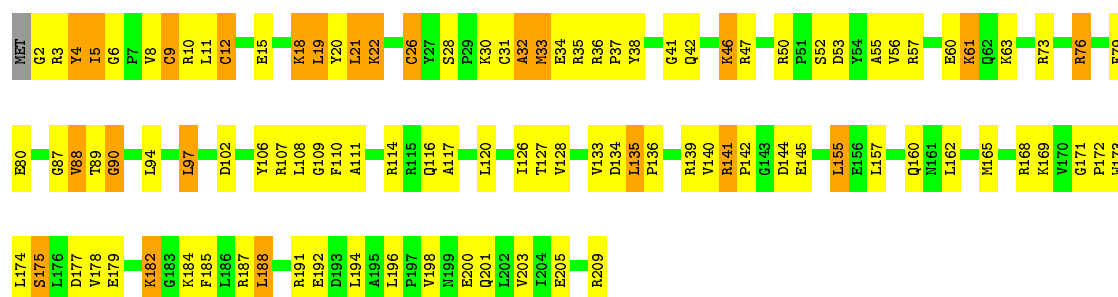
- Molecule 37: 30S ribosomal protein S3

Chain MA: 

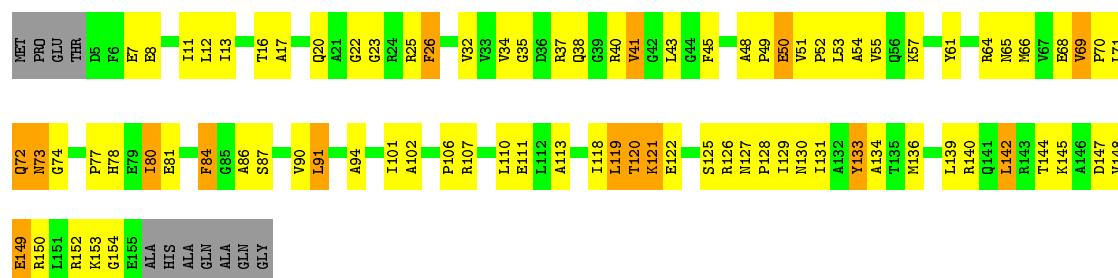




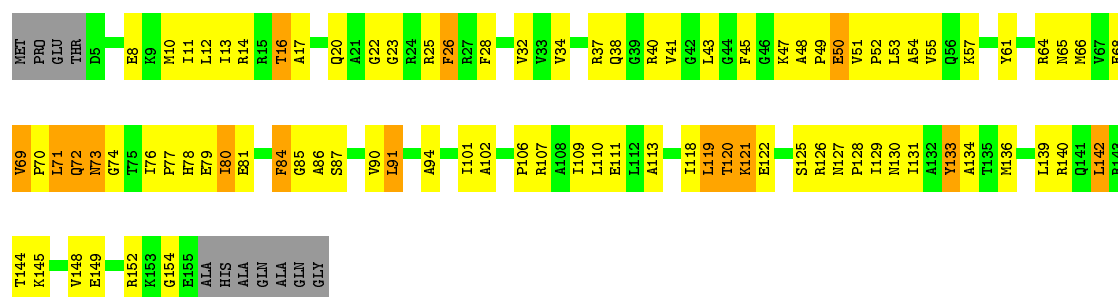
• Molecule 38: 50S ribosomal protein S4



• Molecule 39: 30S ribosomal protein S5

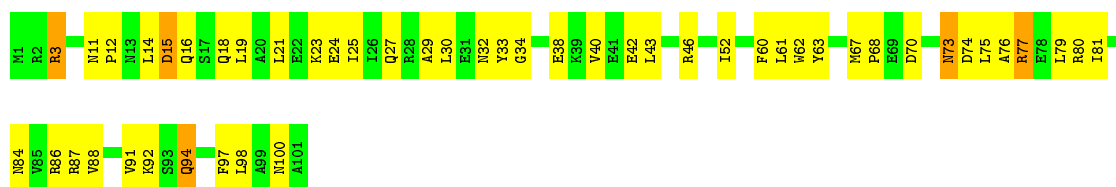


• Molecule 39: 30S ribosomal protein S5



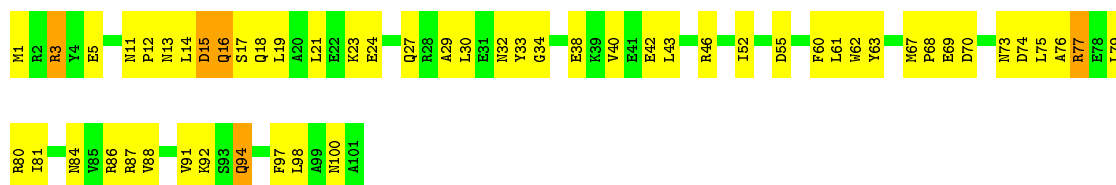
• Molecule 40: 30S ribosomal protein S6

Chain PA: 



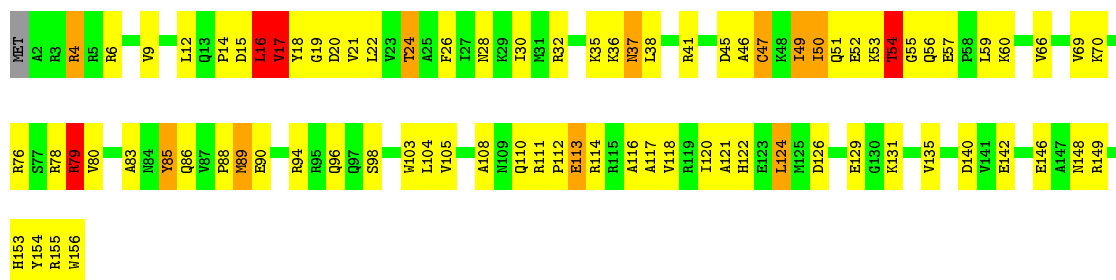
- Molecule 40: 30S ribosomal protein S6

Chain UC: 



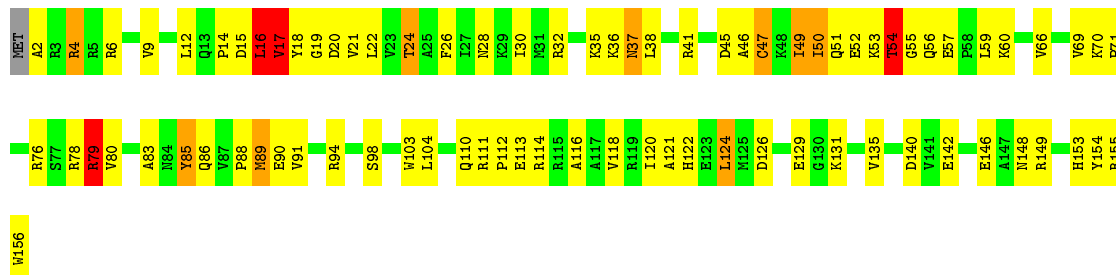
- Molecule 41: 30S ribosomal protein S7

Chain QA: 



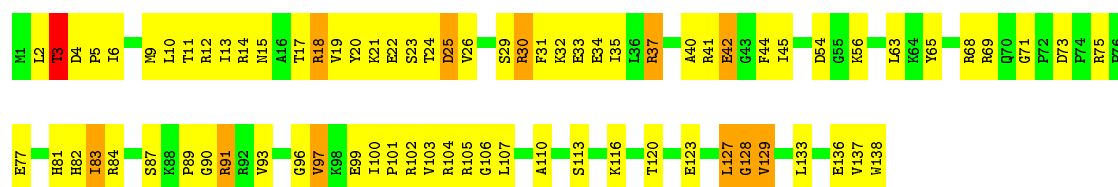
- Molecule 41: 30S ribosomal protein S7

Chain VC: 

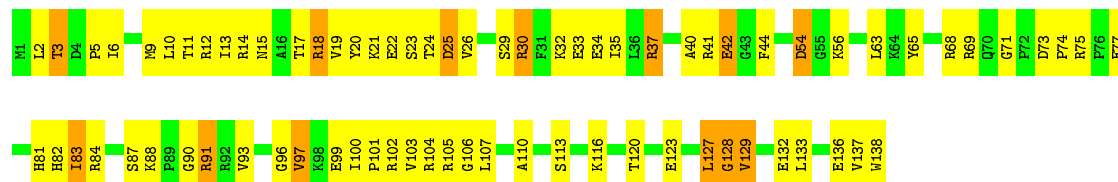


- Molecule 42: 30S ribosomal protein S8

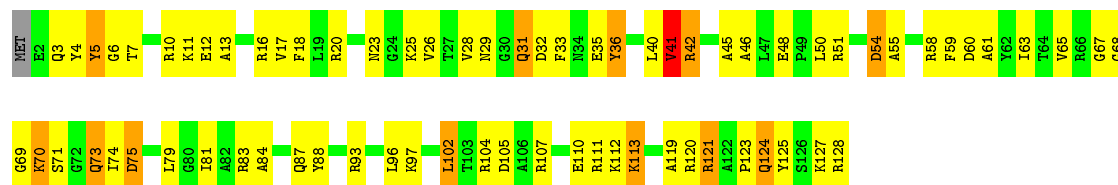
Chain RA: 



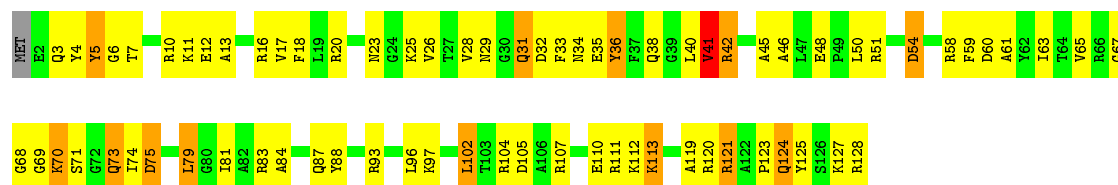
• Molecule 42: 30S ribosomal protein S8



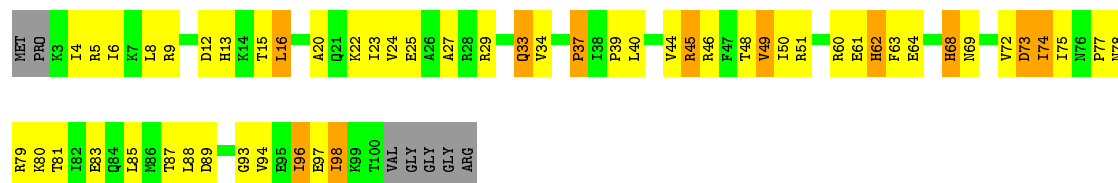
• Molecule 43: 30S ribosomal protein S9



• Molecule 43: 30S ribosomal protein S9

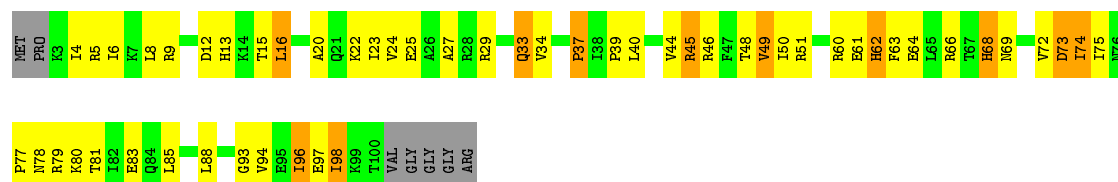


• Molecule 44: 30S ribosomal protein S10

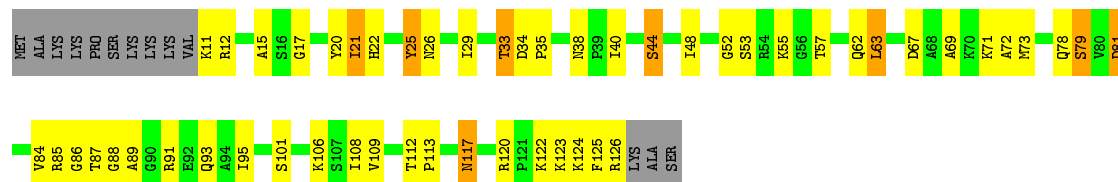


• Molecule 44: 30S ribosomal protein S10





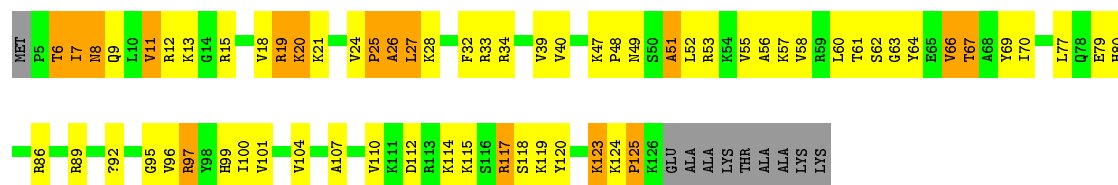
- Molecule 45: 30S ribosomal protein S11



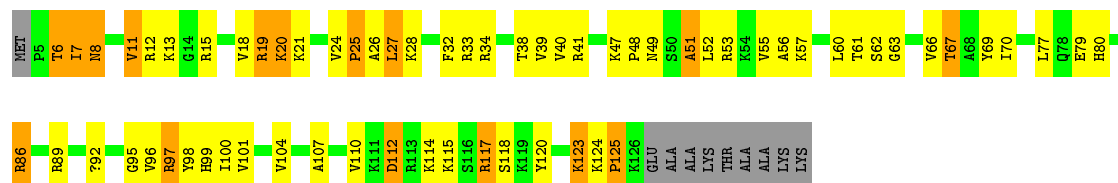
- Molecule 45: 30S ribosomal protein S11



- Molecule 46: 30S ribosomal protein S12

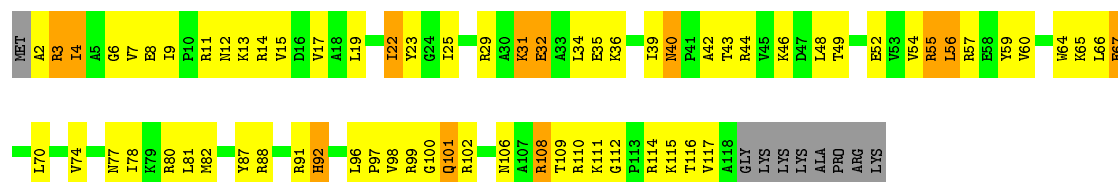


- Molecule 46: 30S ribosomal protein S12



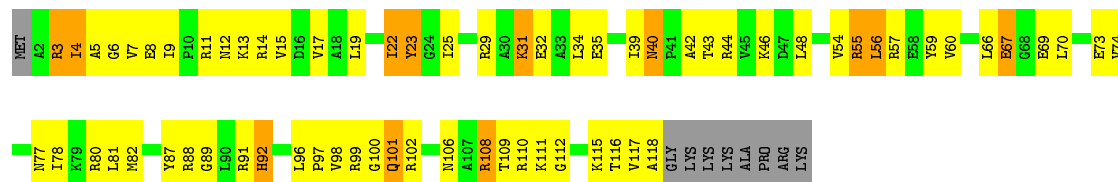
- Molecule 47: 30S ribosomal protein S13





- Molecule 47: 30S ribosomal protein S13

Chain BD: 39% 44% 10% 7%



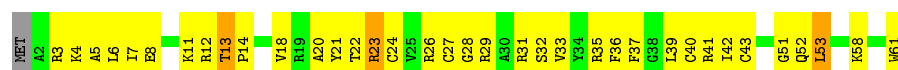
- Molecule 48: 30S ribosomal protein S14 type Z

Chain XA: 39% 54% 5%



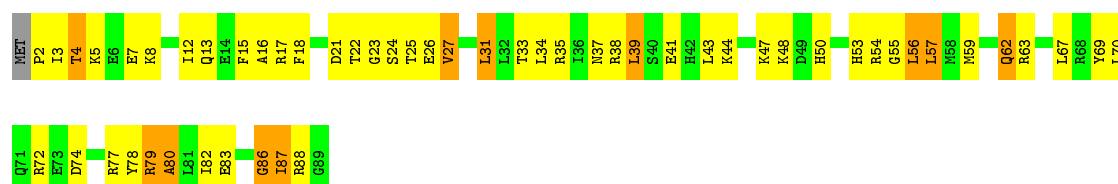
- Molecule 48: 30S ribosomal protein S14 type Z

Chain CD: 39% 54% 5%



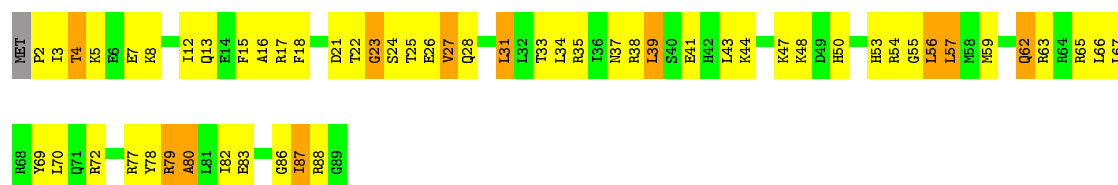
- Molecule 49: 30S ribosomal protein S15

Chain YA: 38% 48% 12%

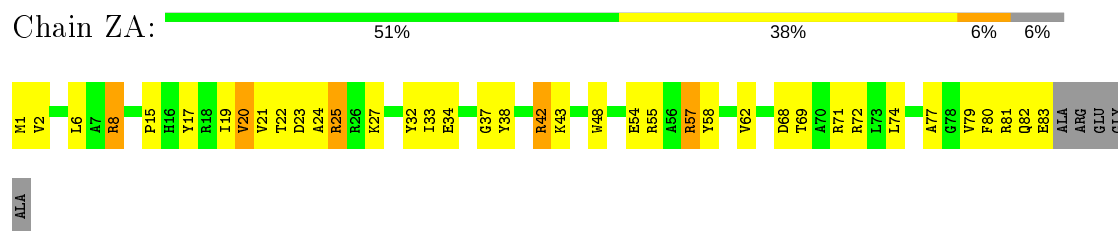


- Molecule 49: 30S ribosomal protein S15

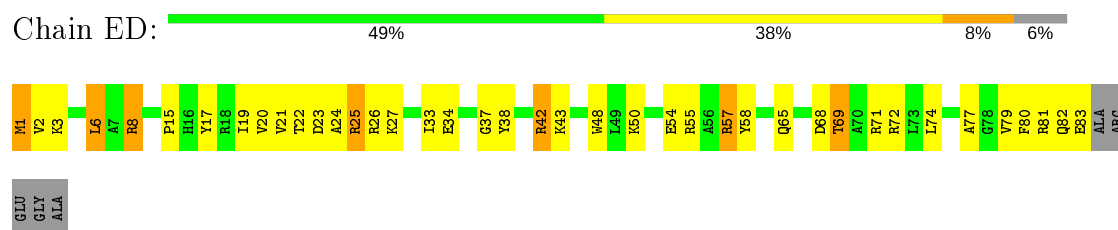
Chain DD: 36% 51% 12%



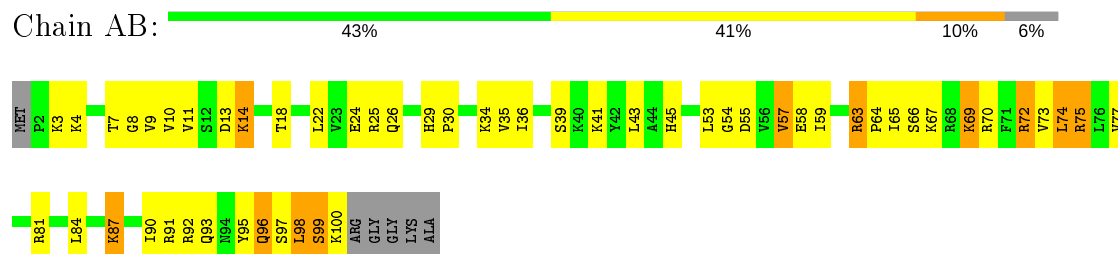
- Molecule 50: 30S ribosomal protein S16



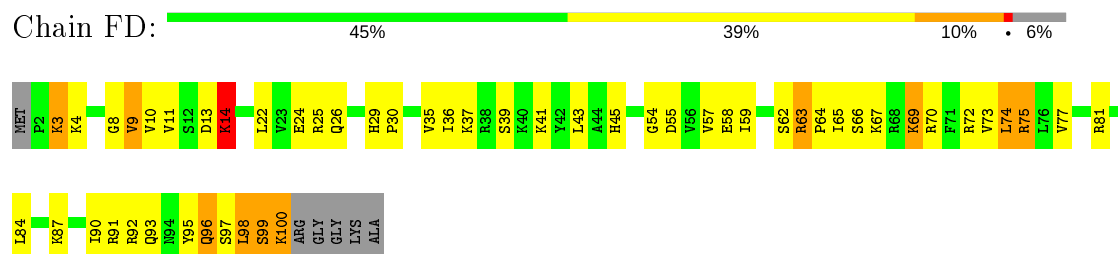
- Molecule 50: 30S ribosomal protein S16



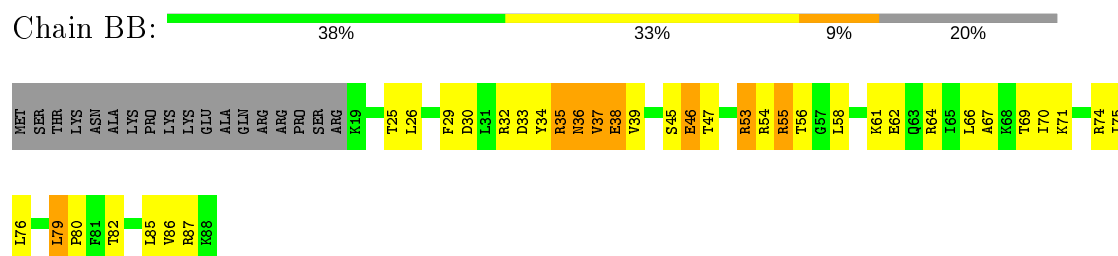
- Molecule 51: 30S ribosomal protein S17



- Molecule 51: 30S ribosomal protein S17



- Molecule 52: 30S ribosomal protein S18

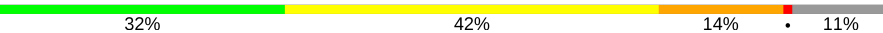


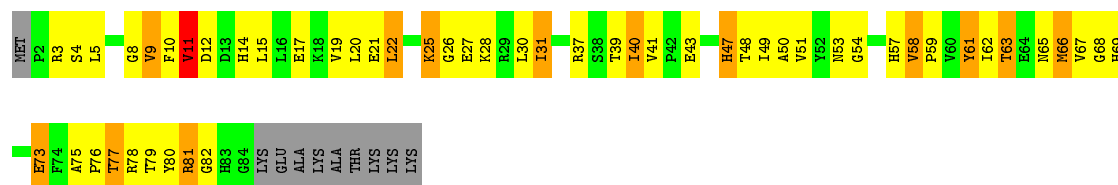
- Molecule 52: 30S ribosomal protein S18

Chain GD: 



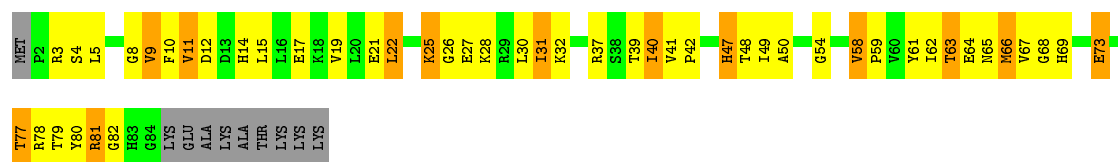
- Molecule 53: 30S ribosomal protein S19

Chain CB: 



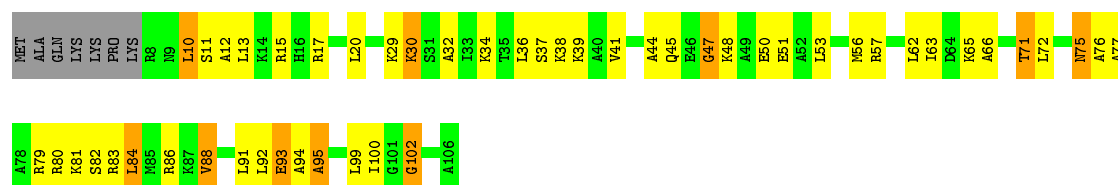
- Molecule 53: 30S ribosomal protein S19

Chain HD: 



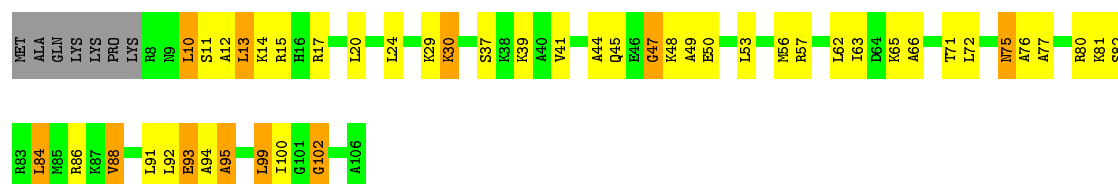
- Molecule 54: 30S ribosomal protein S20

Chain DB: 

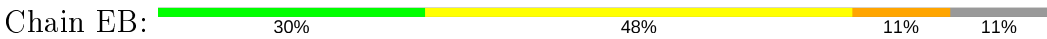


- Molecule 54: 30S ribosomal protein S20

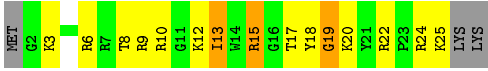
Chain ID: 



- Molecule 55: 30S ribosomal protein Thx



● Molecule 55: 30S ribosomal protein Thx



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	209.86 Å 450.69 Å 615.88 Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.40 69.13 – 3.40	Depositor EDS
% Data completeness (in resolution range)	99.9 (50.00-3.40) 100.0 (69.13-3.40)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.22 (at 3.41 Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	(Not available) , (Not available) 0.243 , 0.282	Depositor DCC
R_{free} test set	7928 reflections (1.00%)	wwPDB-VP
Wilson B-factor (Å ²)	120.8	Xtriage
Anisotropy	0.263	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.26 , 82.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.37$, $\langle L^2 \rangle = 0.20$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	298186	wwPDB-VP
Average B, all atoms (Å ²)	137.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.58% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: 5MU, ZN, M2G, OMG, 2MU, 0TD, MG, BLS, 2MA, 2MG, 5MC, UR3, MA6, 4OC, 4SU, 7MG, PSU

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	A	0.60	1/35961 (0.0%)	1.09	67/56125 (0.1%)
1	FB	0.59	1/35961 (0.0%)	1.09	73/56125 (0.1%)
2	B	0.94	58/69214 (0.1%)	1.41	808/108048 (0.7%)
2	GB	0.83	32/69214 (0.0%)	1.33	620/108048 (0.6%)
3	C	0.56	0/2881	1.05	3/4494 (0.1%)
3	HB	0.51	0/2881	1.02	2/4494 (0.0%)
4	D	0.40	0/1744	0.90	0/2719
4	IA	0.60	0/1744	1.06	4/2719 (0.1%)
4	IB	0.37	0/1744	0.90	0/2719
4	NC	0.50	0/1744	1.00	0/2719
5	E	0.80	4/2195 (0.2%)	0.80	1/2955 (0.0%)
5	JB	0.63	2/2195 (0.1%)	0.73	1/2955 (0.0%)
6	F	0.52	0/1596	0.69	1/2153 (0.0%)
6	KB	0.57	0/1596	0.70	1/2153 (0.0%)
7	G	0.61	0/1621	0.69	0/2194
7	LB	0.51	0/1621	0.65	0/2194
8	H	0.36	0/1496	0.57	0/2013
8	MB	0.33	0/1496	0.57	0/2013
9	I	0.43	0/1356	0.59	0/1834
9	NB	0.34	0/1356	0.55	0/1834
10	J	0.46	0/1152	0.62	0/1559
10	OB	0.42	0/1152	0.61	0/1559
11	K	0.49	0/1148	0.62	0/1547
11	PB	0.44	0/1148	0.59	0/1547
12	L	0.59	0/942	0.66	0/1268
12	QB	0.65	0/942	0.68	0/1268
13	M	0.54	0/1162	0.69	0/1544
13	RB	0.47	0/1162	0.65	0/1544
14	N	0.51	0/1142	0.62	0/1525
14	SB	0.49	0/1142	0.60	0/1525
15	O	0.51	0/982	0.63	0/1312

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
15	TB	0.53	0/982	0.64	0/1312
16	P	0.42	0/887	0.56	0/1180
16	UB	0.40	0/887	0.56	0/1180
17	Q	0.48	0/1157	0.57	0/1544
17	VB	0.54	0/1157	0.59	0/1544
18	R	0.55	0/982	0.60	0/1306
18	WB	0.49	0/982	0.60	0/1306
19	S	0.49	0/790	0.65	0/1057
19	XB	0.44	0/790	0.61	0/1057
20	T	0.65	0/901	0.69	0/1209
20	YB	0.60	0/901	0.68	0/1209
21	U	0.71	0/764	0.68	0/1025
21	ZB	0.60	0/764	0.61	0/1025
22	AC	0.50	0/827	0.61	0/1103
22	V	0.58	0/827	0.64	0/1103
23	BC	0.40	0/1527	0.58	0/2073
23	W	0.44	0/1527	0.60	0/2073
24	CC	0.50	0/671	0.62	0/892
24	X	0.52	0/671	0.63	0/892
25	DC	0.57	0/768	0.69	0/1021
25	Y	0.63	0/768	0.68	0/1021
26	EC	0.50	0/594	0.64	0/785
26	Z	0.61	0/594	0.71	0/785
27	AA	0.50	0/482	0.63	0/646
27	FC	0.44	0/482	0.59	0/646
28	BA	0.39	0/565	0.53	0/761
28	GC	0.35	0/565	0.52	0/761
29	CA	0.54	0/474	0.66	0/640
29	HC	0.54	0/474	0.64	0/640
30	DA	0.34	0/460	0.51	0/613
30	IC	0.33	0/460	0.51	0/613
31	EA	0.77	0/426	0.76	0/561
31	JC	0.65	0/426	0.72	0/561
32	FA	0.60	0/525	0.64	0/691
32	KC	0.53	0/525	0.62	0/691
33	GA	0.41	0/310	0.58	0/407
33	LC	0.45	0/310	0.60	0/407
34	HA	0.72	0/247	0.92	0/382
34	MC	0.72	0/247	0.91	0/382
35	JA	0.37	0/867	0.51	0/1165
35	KA	0.39	0/461	0.56	0/622
35	OC	0.34	0/867	0.51	0/1165
35	PC	0.36	0/461	0.56	0/622

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
36	LA	0.39	0/1935	0.57	0/2609
36	QC	0.35	0/1935	0.55	0/2609
37	MA	0.37	0/1636	0.54	0/2205
37	RC	0.36	0/1636	0.54	0/2205
38	NA	0.47	1/1733 (0.1%)	0.59	1/2318 (0.0%)
38	SC	0.53	1/1733 (0.1%)	0.62	1/2318 (0.0%)
39	OA	0.45	0/1171	0.62	0/1576
39	TC	0.44	0/1171	0.61	0/1576
40	PA	0.51	0/856	0.62	0/1154
40	UC	0.43	0/856	0.60	0/1154
41	QA	0.36	0/1276	0.51	0/1709
41	VC	0.34	0/1276	0.50	0/1709
42	RA	0.37	0/1136	0.57	0/1527
42	WC	0.38	0/1136	0.56	0/1527
43	SA	0.34	0/1029	0.54	0/1378
43	XC	0.32	0/1029	0.53	1/1378 (0.1%)
44	TA	0.36	0/807	0.56	0/1085
44	YC	0.34	0/807	0.57	0/1085
45	UA	0.48	0/879	0.64	0/1187
45	ZC	0.41	0/879	0.59	0/1187
46	AD	0.52	0/963	0.62	0/1287
46	VA	0.50	0/963	0.61	0/1287
47	BD	0.33	0/943	0.51	0/1265
47	WA	0.36	0/943	0.52	0/1265
48	CD	0.35	0/501	0.48	0/664
48	XA	0.37	0/501	0.52	0/664
49	DD	0.42	0/745	0.55	0/992
49	YA	0.49	0/745	0.58	0/992
50	ED	0.40	0/716	0.59	0/963
50	ZA	0.34	0/716	0.56	0/963
51	AB	0.47	0/836	0.57	0/1117
51	FD	0.48	0/836	0.58	0/1117
52	BB	0.46	0/579	0.54	0/768
52	GD	0.41	0/579	0.52	0/768
53	CB	0.32	0/680	0.50	0/915
53	HD	0.30	0/680	0.51	0/915
54	DB	0.36	0/764	0.53	0/1006
54	ID	0.40	0/764	0.54	0/1006
55	EB	0.31	0/212	0.48	0/277
55	JD	0.31	0/212	0.46	0/277
All	All	0.71	100/320836 (0.0%)	1.12	1584/479388 (0.3%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if

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

Mol	Chain	#Chirality outliers	#Planarity outliers
21	U	0	1

All (100) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	E	237	GLU	CG-CD	10.38	1.67	1.51
5	E	237	GLU	CB-CG	8.22	1.67	1.52
38	SC	12	CYS	CB-SG	8.17	1.96	1.82
38	NA	12	CYS	CB-SG	7.71	1.95	1.82
2	GB	1780	A	N9-C4	-7.60	1.33	1.37
2	B	576	U	C2-N3	7.58	1.43	1.37
2	B	1599	C	N1-C6	-7.08	1.32	1.37
2	B	734	A	N9-C4	-7.04	1.33	1.37
2	B	2593	U	C4-O4	7.03	1.29	1.23
5	JB	237	GLU	CB-CG	6.84	1.65	1.52
2	GB	1972	A	N9-C4	-6.81	1.33	1.37
2	B	727	A	N7-C5	-6.80	1.35	1.39
2	B	751	A	N3-C4	-6.78	1.30	1.34
2	B	795	C	N1-C6	-6.78	1.33	1.37
2	B	71	A	N9-C4	-6.65	1.33	1.37
2	B	2593	U	C2-N3	6.58	1.42	1.37
2	GB	960	A	N9-C4	-6.57	1.33	1.37
2	GB	576	U	N3-C4	6.56	1.44	1.38
5	JB	237	GLU	CG-CD	6.50	1.61	1.51
2	GB	2593	U	C2-N3	6.46	1.42	1.37
2	GB	2028	U	C2-N3	6.43	1.42	1.37
2	GB	1382	G	C6-O6	6.37	1.29	1.24
5	E	237	GLU	CD-OE2	6.30	1.32	1.25
2	B	1963	U	N1-C2	6.25	1.44	1.38
2	B	784	A	C6-N1	-6.21	1.31	1.35
2	GB	2542	A	N9-C4	-6.19	1.34	1.37
2	B	1762	A	N9-C4	6.16	1.41	1.37
2	B	459	U	C2-N3	-6.13	1.33	1.37
2	B	733	G	N7-C5	6.13	1.43	1.39
2	GB	2060	A	N9-C4	-6.12	1.34	1.37
2	GB	2590	A	N9-C4	-6.09	1.34	1.37
2	GB	576	U	C2-N3	6.09	1.42	1.37
2	B	1599	C	N3-C4	-6.08	1.29	1.33
2	B	1802	A	N9-C4	-6.08	1.34	1.37
2	B	802	A	N3-C4	-5.98	1.31	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	GB	1762	A	C5-C6	5.95	1.46	1.41
2	B	1382	G	C6-O6	5.94	1.29	1.24
2	B	1802	A	N3-C4	-5.91	1.31	1.34
2	B	775	G	C6-N1	-5.88	1.35	1.39
2	B	1612	C	N1-C6	-5.86	1.33	1.37
2	B	2032	G	N9-C8	5.86	1.42	1.37
2	B	1783	A	N9-C4	-5.85	1.34	1.37
2	B	1938	A	N9-C4	-5.83	1.34	1.37
2	B	2602	A	N9-C4	5.80	1.41	1.37
2	B	2060	A	N9-C4	-5.79	1.34	1.37
2	B	751	A	N9-C4	-5.77	1.34	1.37
2	B	2602	A	N3-C4	5.75	1.38	1.34
2	B	201	C	N1-C6	-5.74	1.33	1.37
2	B	1783	A	N3-C4	-5.70	1.31	1.34
2	B	1793	C	N3-C4	-5.67	1.29	1.33
2	B	2590	A	N9-C4	-5.65	1.34	1.37
2	GB	576	U	C4-O4	5.65	1.28	1.23
1	A	1468	A	N9-C4	-5.59	1.34	1.37
2	B	751	A	C6-N1	-5.58	1.31	1.35
2	B	1571	A	N9-C4	-5.57	1.34	1.37
2	GB	1275	A	N9-C4	-5.51	1.34	1.37
2	B	1377	G	N7-C5	-5.50	1.35	1.39
2	B	1829	A	N9-C4	-5.46	1.34	1.37
2	B	1814	G	N3-C4	-5.45	1.31	1.35
1	FB	1451	A	N9-C4	5.43	1.41	1.37
2	B	472	A	N7-C5	-5.42	1.36	1.39
2	GB	1142(B)	A	N9-C4	-5.40	1.34	1.37
2	B	1807	G	N7-C5	-5.40	1.36	1.39
2	GB	1671	U	C4-O4	5.38	1.27	1.23
2	B	34	C	N1-C6	5.38	1.40	1.37
2	GB	795	C	N3-C4	-5.38	1.30	1.33
2	B	73	A	N3-C4	-5.37	1.31	1.34
2	GB	1026	U	N1-C2	5.37	1.43	1.38
2	GB	2602	A	N9-C4	5.36	1.41	1.37
2	B	515	A	N3-C4	-5.35	1.31	1.34
2	B	960	A	N9-C4	-5.35	1.34	1.37
2	GB	2249	U	C4-O4	5.35	1.27	1.23
2	B	1790	C	N3-C4	-5.33	1.30	1.33
2	GB	2593	U	C4-O4	5.33	1.27	1.23
2	GB	34	C	N1-C6	5.30	1.40	1.37
2	GB	2451	A	N9-C4	-5.28	1.34	1.37
2	GB	2580	U	C4-O4	5.28	1.27	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	576	U	N3-C4	5.26	1.43	1.38
2	B	448	U	N1-C2	-5.23	1.33	1.38
2	B	2781	A	N9-C4	-5.23	1.34	1.37
2	B	693	C	N3-C4	-5.22	1.30	1.33
2	B	2610	C	C2-O2	5.20	1.29	1.24
2	B	771	G	C2-N3	-5.19	1.28	1.32
2	B	1847	A	N9-C4	5.18	1.41	1.37
2	GB	2602	A	C6-N1	5.17	1.39	1.35
2	B	1602	U	C4-O4	5.17	1.27	1.23
2	B	471	A	N3-C4	-5.15	1.31	1.34
2	B	706	A	N9-C4	-5.14	1.34	1.37
2	B	1375	C	N3-C4	-5.12	1.30	1.33
2	B	1972	A	N9-C4	-5.11	1.34	1.37
2	GB	2602	A	C5-C4	5.08	1.42	1.38
5	E	28	GLU	CG-CD	5.08	1.59	1.51
2	GB	1271	G	N9-C8	-5.08	1.34	1.37
2	GB	2602	A	N3-C4	5.05	1.37	1.34
2	B	1762	A	N3-C4	5.04	1.37	1.34
2	GB	761	A	N9-C4	-5.04	1.34	1.37
2	B	466	A	N3-C4	-5.03	1.31	1.34
2	GB	1620	G	C5-C6	-5.03	1.37	1.42
2	GB	1671	U	C2-N3	5.01	1.41	1.37
2	GB	1762	A	C6-N6	5.00	1.38	1.33

All (1584) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	298	G	N1-C6-O6	16.25	129.65	119.90
2	B	2593	U	N3-C4-C5	-15.20	105.48	114.60
2	B	2593	U	C6-N1-C2	-14.08	112.55	121.00
2	GB	2593	U	N3-C4-C5	-13.88	106.27	114.60
2	B	2032	G	C4-C5-N7	13.65	116.26	110.80
2	B	576	U	N3-C4-O4	13.61	128.93	119.40
2	B	1352	U	O5'-P-OP2	-13.56	93.50	105.70
2	B	1382	G	C5-C6-N1	-13.35	104.82	111.50
2	B	450	G	C5-C6-N1	-13.32	104.84	111.50
2	B	2032	G	C5-N7-C8	-13.30	97.65	104.30
2	B	1647	G	O5'-P-OP1	-12.79	94.19	105.70
2	GB	298	G	N1-C6-O6	12.71	127.53	119.90
2	B	298	G	C6-C5-N7	-12.33	123.00	130.40
2	B	2576	G	O5'-P-OP2	-11.89	95.00	105.70
2	GB	2593	U	C6-N1-C2	-11.60	114.04	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2593	U	N3-C4-O4	11.44	127.41	119.40
2	GB	298	G	C4-C5-N7	11.22	115.29	110.80
2	B	1828	G	C5-C6-N1	-11.20	105.90	111.50
2	B	1602	U	N3-C4-C5	-11.19	107.89	114.60
2	GB	1790	C	C5-C4-N4	11.12	127.98	120.20
2	B	298	G	C4-C5-N7	11.01	115.20	110.80
2	GB	298	G	C6-C5-N7	-10.94	123.83	130.40
2	B	1671	U	N3-C4-O4	10.81	126.97	119.40
2	B	298	G	C5-C6-O6	-10.77	122.14	128.60
2	B	298	G	C5-N7-C8	-10.73	98.94	104.30
2	GB	298	G	C5-N7-C8	-10.71	98.94	104.30
2	B	1790	C	C5-C4-N4	10.68	127.67	120.20
2	B	1382	G	N3-C2-N2	-10.65	112.44	119.90
2	GB	1382	G	C5-C6-N1	-10.61	106.20	111.50
2	GB	2249	U	N3-C4-C5	-10.58	108.25	114.60
2	B	570	G	C5-C6-N1	-10.52	106.24	111.50
2	B	1382	G	C2-N3-C4	-10.41	106.69	111.90
2	GB	1352	U	O5'-P-OP2	-10.38	96.36	105.70
2	GB	1671	U	N3-C4-O4	10.24	126.57	119.40
2	GB	576	U	N3-C4-O4	10.23	126.56	119.40
2	B	751	A	O5'-P-OP2	-10.22	96.50	105.70
2	B	784	A	N1-C6-N6	-10.22	112.47	118.60
2	B	568	U	N3-C4-C5	-10.19	108.49	114.60
2	B	2032	G	N3-C4-C5	10.19	133.69	128.60
2	B	943	U	O5'-P-OP1	-10.13	96.58	105.70
2	GB	2576	G	O5'-P-OP2	-10.08	96.62	105.70
2	B	2028	U	N3-C4-C5	-10.07	108.56	114.60
2	B	2593	U	N1-C2-O2	-10.06	115.76	122.80
2	GB	298	G	N7-C8-N9	10.02	118.11	113.10
2	B	1828	G	C4-C5-N7	-9.99	106.80	110.80
1	A	754	C	N1-C2-O2	9.81	124.78	118.90
2	B	2593	U	N1-C2-N3	9.79	120.78	114.90
2	GB	2592	G	O5'-P-OP2	-9.79	96.89	105.70
2	B	2028	U	N3-C4-O4	9.71	126.20	119.40
2	B	298	G	N7-C8-N9	9.64	117.92	113.10
2	B	2593	U	C4-C5-C6	9.60	125.46	119.70
2	GB	2061	G	N1-C6-O6	9.59	125.65	119.90
2	B	2032	G	N1-C6-O6	9.57	125.64	119.90
2	GB	1671	U	N3-C4-C5	-9.49	108.91	114.60
2	B	576	U	C5-C6-N1	9.47	127.44	122.70
1	A	754	C	C2-N1-C1'	9.42	129.16	118.80
2	B	2592	G	O5'-P-OP2	-9.37	97.27	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2685	G	C5-C6-N1	-9.31	106.85	111.50
2	B	530	G	N1-C6-O6	-9.29	114.33	119.90
2	GB	570	G	C5-C6-N1	-9.14	106.93	111.50
2	GB	801	G	N1-C6-O6	-9.08	114.45	119.90
1	FB	1397	C	C6-N1-C2	-9.06	116.68	120.30
1	A	1397	C	C6-N1-C2	-9.05	116.68	120.30
2	GB	1790	C	N3-C4-N4	-9.04	111.67	118.00
1	FB	754	C	C2-N1-C1'	9.04	128.74	118.80
2	B	2419	U	N3-C4-C5	-9.00	109.20	114.60
2	GB	1789	A	O5'-P-OP1	-9.00	97.60	105.70
2	GB	945	A	N1-C6-N6	8.98	123.99	118.60
2	B	945	A	N1-C6-N6	8.92	123.95	118.60
2	GB	1790	C	N3-C2-O2	-8.90	115.67	121.90
2	GB	298	G	C5-C6-O6	-8.87	123.28	128.60
2	GB	2610	C	C6-N1-C2	8.88	123.85	120.30
2	B	1578	U	N3-C2-O2	-8.86	116.00	122.20
2	B	1790	C	N3-C4-N4	-8.86	111.80	118.00
1	FB	754	C	N1-C2-O2	8.80	124.18	118.90
2	B	2249	U	N3-C4-C5	-8.78	109.33	114.60
2	GB	450	G	C5-C6-N1	-8.77	107.11	111.50
2	B	1773	A	C8-N9-C4	-8.77	102.29	105.80
2	B	787	U	O5'-P-OP2	-8.73	97.84	105.70
2	B	1829	A	O5'-P-OP1	-8.71	97.86	105.70
2	GB	1828	G	C5-C6-N1	-8.70	107.15	111.50
2	GB	775	G	O5'-P-OP2	-8.70	97.87	105.70
2	B	450	G	C4-C5-C6	8.67	124.00	118.80
1	A	775	G	N1-C6-O6	8.65	125.09	119.90
2	GB	2593	U	N3-C4-O4	8.59	125.41	119.40
2	GB	1828	G	C5-C6-O6	8.55	133.73	128.60
2	GB	2028	U	N3-C4-C5	-8.54	109.48	114.60
2	GB	751	A	O5'-P-OP2	-8.53	98.02	105.70
2	B	1671	U	N3-C4-C5	-8.53	109.48	114.60
2	B	1828	G	N9-C4-C5	8.52	108.81	105.40
2	GB	576	U	C5-C6-N1	8.51	126.95	122.70
2	B	576	U	C6-N1-C2	-8.49	115.91	121.00
2	B	1647	G	O5'-P-OP2	8.49	120.88	110.70
2	B	2061	G	OP2-P-O3'	8.48	123.86	105.20
2	B	1304	C	C6-N1-C2	8.47	123.69	120.30
2	B	2032	G	N7-C8-N9	8.47	117.34	113.10
2	GB	2419	U	C6-N1-C2	-8.46	115.92	121.00
2	B	1790	C	N3-C2-O2	-8.42	116.01	121.90
2	GB	197	A	O5'-P-OP2	-8.37	98.17	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1602	U	C4-C5-C6	8.35	124.71	119.70
2	B	576	U	C5-C4-O4	-8.33	120.90	125.90
2	B	678	C	N3-C4-C5	8.32	125.23	121.90
1	FB	242	C	C6-N1-C2	8.32	123.63	120.30
2	B	1142(B)	A	C2-N3-C4	-8.31	106.45	110.60
2	B	1471	A	C8-N9-C4	-8.28	102.49	105.80
2	GB	527	C	C2-N1-C1'	8.27	127.90	118.80
2	GB	784	A	N1-C6-N6	-8.26	113.65	118.60
2	B	848	G	O5'-P-OP2	-8.24	98.28	105.70
2	B	527	C	C2-N1-C1'	8.22	127.85	118.80
2	GB	1602	U	N3-C4-C5	-8.22	109.67	114.60
2	B	791	C	N3-C4-C5	8.21	125.19	121.90
2	B	1382	G	N1-C2-N3	8.20	128.82	123.90
1	A	754	C	C6-N1-C2	-8.18	117.03	120.30
2	GB	2685	G	C5-C6-N1	-8.18	107.41	111.50
2	B	459	U	N3-C2-O2	-8.16	116.49	122.20
2	B	2505	G	C5-C6-O6	8.15	133.49	128.60
2	B	138	G	N1-C6-O6	8.13	124.78	119.90
2	B	795	C	C5-C6-N1	-8.12	116.94	121.00
2	B	2419	U	C6-N1-C2	-8.11	116.13	121.00
2	GB	1828	G	N9-C4-C5	8.09	108.64	105.40
2	B	585	G	OP2-P-O3'	8.08	122.98	105.20
2	B	701	G	C5-C6-O6	-8.04	123.78	128.60
2	B	2061	G	N1-C6-O6	8.04	124.72	119.90
2	B	2032	G	C5-C6-O6	-8.02	123.79	128.60
2	GB	2032	G	C5-N7-C8	-8.02	100.29	104.30
2	B	795	C	C4-C5-C6	8.02	121.41	117.40
2	GB	695	G	N1-C6-O6	8.02	124.71	119.90
2	GB	568	U	N3-C4-C5	-8.02	109.79	114.60
2	GB	1632	A	N1-C6-N6	8.02	123.41	118.60
2	B	1828	G	C5-C6-O6	8.00	133.40	128.60
2	GB	1828	G	C4-C5-N7	-7.97	107.61	110.80
2	GB	943	U	O5'-P-OP1	-7.95	98.54	105.70
2	B	2685	G	N3-C2-N2	-7.95	114.33	119.90
2	B	1790	C	N1-C2-N3	7.95	124.77	119.20
2	B	979	G	N1-C6-O6	7.94	124.67	119.90
2	GB	1471	A	C8-N9-C4	-7.94	102.62	105.80
2	GB	2061	G	OP2-P-O3'	7.94	122.66	105.20
2	GB	1667	G	C5-C6-O6	7.93	133.36	128.60
2	B	1814	G	C4-C5-N7	-7.93	107.63	110.80
1	A	754	C	C5-C6-N1	7.89	124.94	121.00
2	GB	2028	U	N3-C4-O4	7.88	124.92	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	788	A	O5'-P-OP1	-7.87	98.62	105.70
2	B	1940	U	N3-C4-C5	-7.84	109.89	114.60
2	B	771	G	N3-C2-N2	-7.83	114.42	119.90
2	B	2435	A	C8-N9-C4	-7.83	102.67	105.80
2	GB	1790	C	C6-N1-C1'	7.83	130.19	120.80
2	B	1780	A	C8-N9-C4	7.80	108.92	105.80
2	GB	2447	G	C8-N9-C4	7.79	109.52	106.40
2	GB	1664	A	C8-N9-C4	-7.78	102.69	105.80
2	B	2610	C	N1-C2-O2	7.78	123.57	118.90
2	GB	2685	G	N3-C2-N2	-7.76	114.47	119.90
2	B	1602	U	C6-N1-C2	-7.75	116.35	121.00
2	GB	2249	U	C6-N1-C2	-7.74	116.36	121.00
2	B	11	G	C8-N9-C4	-7.74	103.31	106.40
1	A	1397	C	C5-C6-N1	7.73	124.86	121.00
2	GB	1814	G	C5-C6-N1	-7.72	107.64	111.50
2	GB	510	C	O5'-P-OP2	-7.71	98.76	105.70
2	B	298	G	C2-N3-C4	-7.70	108.05	111.90
2	GB	2028	U	C6-N1-C2	-7.70	116.38	121.00
2	GB	791	C	C6-N1-C2	7.68	123.37	120.30
1	FB	775	G	N1-C6-O6	7.67	124.50	119.90
1	FB	1397	C	C5-C6-N1	7.66	124.83	121.00
2	B	72	U	O5'-P-OP2	-7.65	98.81	105.70
2	GB	1327	C	N1-C2-O2	-7.65	114.31	118.90
2	GB	2408	U	C5-C6-N1	7.65	126.52	122.70
2	B	804	A	OP1-P-O3'	7.65	122.02	105.20
2	GB	195	A	C5-N7-C8	-7.64	100.08	103.90
2	B	2402	C	C6-N1-C2	-7.64	117.24	120.30
2	GB	695	G	C5-C6-N1	-7.64	107.68	111.50
2	B	528	A	C2-N3-C4	-7.63	106.78	110.60
2	B	2297	C	O5'-P-OP1	-7.61	98.86	105.70
2	B	1790	C	O4'-C1'-N1	7.60	114.28	108.20
2	B	1026	U	N1-C2-O2	7.59	128.11	122.80
2	B	187	G	C5-C6-O6	-7.58	124.05	128.60
2	B	56	A	C2-N3-C4	-7.57	106.81	110.60
2	B	775	G	N1-C6-O6	-7.56	115.37	119.90
1	A	1397	C	O4'-C1'-N1	7.54	114.24	108.20
2	GB	785	G	O5'-P-OP1	-7.54	98.91	105.70
2	B	1352	U	O5'-P-OP1	7.53	119.74	110.70
2	B	459	U	N1-C2-O2	7.52	128.07	122.80
2	GB	527	C	C6-N1-C1'	-7.51	111.79	120.80
2	GB	1790	C	N1-C2-N3	7.49	124.45	119.20
2	GB	1647	G	O5'-P-OP1	-7.49	98.96	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2317	C	N1-C2-O2	7.49	123.39	118.90
2	GB	2505	G	C5-C6-O6	7.45	133.07	128.60
2	B	1632	A	N1-C6-N6	7.43	123.06	118.60
2	GB	2061	G	C6-C5-N7	-7.42	125.95	130.40
2	GB	2032	G	C4-C5-N7	7.41	113.77	110.80
2	B	2249	U	C6-N1-C2	-7.40	116.56	121.00
2	B	1827	C	C6-N1-C2	-7.39	117.34	120.30
2	B	576	U	N3-C4-C5	-7.39	110.17	114.60
2	GB	929	G	N1-C6-O6	7.37	124.32	119.90
2	GB	209	C	N3-C4-C5	7.35	124.84	121.90
2	GB	2593	U	C4-C5-C6	7.35	124.11	119.70
2	B	809	G	N3-C4-C5	-7.35	124.93	128.60
2	B	2509	G	N1-C6-O6	7.35	124.31	119.90
2	B	729	G	C5-C6-O6	-7.34	124.20	128.60
2	GB	1790	C	C4-C5-C6	7.32	121.06	117.40
2	GB	1966	A	N1-C6-N6	-7.32	114.21	118.60
2	GB	1667	G	N9-C4-C5	7.32	108.33	105.40
2	B	801	G	N1-C6-O6	-7.32	115.51	119.90
2	GB	576	U	C6-N1-C2	-7.32	116.61	121.00
2	B	729	G	C4-C5-N7	7.31	113.72	110.80
2	B	1327	C	N1-C2-O2	-7.30	114.52	118.90
2	B	1790	C	C6-N1-C2	-7.29	117.38	120.30
2	B	1332	G	O5'-P-OP2	-7.29	99.14	105.70
2	GB	298	G	C8-N9-C4	-7.28	103.49	106.40
2	GB	945	A	C5-C6-N6	-7.28	117.88	123.70
2	B	2610	C	C6-N1-C2	7.27	123.21	120.30
2	GB	1026	U	C2-N1-C1'	7.27	126.42	117.70
2	B	1382	G	N3-C4-N9	-7.26	121.65	126.00
2	GB	2593	U	N1-C2-O2	-7.26	117.72	122.80
2	B	1841	U	N3-C4-C5	-7.25	110.25	114.60
2	GB	530	G	N1-C6-O6	-7.25	115.55	119.90
2	GB	140	A	N7-C8-N9	7.24	117.42	113.80
2	GB	1026	U	N1-C2-O2	7.24	127.87	122.80
2	B	1821	A	C8-N9-C4	7.23	108.69	105.80
2	B	1333	C	N3-C4-C5	7.20	124.78	121.90
2	B	1632	A	C4-C5-N7	7.20	114.30	110.70
2	B	2058	A	C8-N9-C4	-7.20	102.92	105.80
2	B	731	C	C6-N1-C2	7.19	123.18	120.30
2	B	2685	G	N3-C4-N9	-7.18	121.69	126.00
2	B	1936	A	N1-C6-N6	7.18	122.91	118.60
2	B	510	C	O5'-P-OP2	-7.18	99.24	105.70
2	GB	2317	C	N1-C2-O2	7.17	123.20	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	681	G	C8-N9-C4	7.16	109.27	106.40
2	GB	129	C	C6-N1-C2	7.16	123.16	120.30
2	B	450	G	C4-C5-N7	-7.16	107.94	110.80
2	B	1364	G	C8-N9-C4	-7.16	103.54	106.40
2	GB	228	A	N1-C6-N6	7.15	122.89	118.60
2	B	277	C	N1-C2-O2	7.14	123.18	118.90
2	B	2028	U	C6-N1-C2	-7.14	116.72	121.00
2	GB	1790	C	O4'-C1'-N1	7.12	113.90	108.20
2	B	2505	G	N9-C4-C5	7.12	108.25	105.40
2	GB	741	G	O5'-P-OP2	-7.11	99.30	105.70
2	B	2447	G	N1-C6-O6	7.11	124.16	119.90
2	B	2036	C	C6-N1-C2	-7.10	117.46	120.30
1	FB	351	G	OP2-P-O3'	7.10	120.81	105.20
2	B	2544	G	N1-C6-O6	7.09	124.15	119.90
2	B	1814	G	C5-C6-N1	-7.08	107.96	111.50
1	A	242	C	C6-N1-C2	7.08	123.13	120.30
2	B	2508	G	C5-C6-N1	-7.08	107.96	111.50
2	B	778	G	N1-C6-O6	7.07	124.14	119.90
38	SC	12	CYS	CA-CB-SG	7.07	126.72	114.00
1	A	770	C	C6-N1-C2	7.06	123.12	120.30
2	B	2602	A	OP1-P-O3'	7.05	120.72	105.20
2	GB	527	C	N1-C2-O2	7.05	123.13	118.90
2	B	471	A	N1-C2-N3	7.04	132.82	129.30
1	FB	1397	C	O4'-C1'-N1	7.04	113.83	108.20
2	GB	2447	G	N1-C6-O6	7.03	124.12	119.90
2	GB	2685	G	N9-C4-C5	7.03	108.21	105.40
2	B	1661	G	C5-C6-O6	-7.02	124.39	128.60
2	B	783	A	O5'-P-OP1	-7.01	99.39	105.70
2	B	1333	C	C4-C5-C6	-7.01	113.89	117.40
2	B	1823	G	C5-C6-N1	-7.01	107.99	111.50
2	GB	2581	G	C8-N9-C4	-7.00	103.60	106.40
2	GB	72	U	O5'-P-OP2	-7.00	99.40	105.70
2	B	240	G	C4-C5-N7	-6.99	108.00	110.80
2	B	1635	G	OP2-P-O3'	6.99	120.58	105.20
2	GB	1537	C	C6-N1-C2	-6.99	117.50	120.30
2	B	527	C	C6-N1-C1'	-6.98	112.43	120.80
2	B	1984	G	C6-C5-N7	-6.96	126.23	130.40
2	GB	2059	A	C8-N9-C4	6.95	108.58	105.80
2	GB	2419	U	N3-C4-C5	-6.95	110.43	114.60
2	B	277	C	C2-N1-C1'	6.94	126.44	118.80
2	B	816	C	C6-N1-C2	-6.94	117.52	120.30
2	GB	2610	C	N1-C2-O2	6.94	123.06	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1382	G	N1-C6-O6	6.94	124.06	119.90
2	GB	568	U	C6-N1-C2	-6.93	116.84	121.00
2	B	210	C	C6-N1-C2	6.93	123.07	120.30
2	B	945	A	C4-C5-N7	6.93	114.17	110.70
1	FB	770	C	C6-N1-C2	6.93	123.07	120.30
2	B	2210	G	O4'-C1'-N9	6.92	113.74	108.20
2	B	1026	U	C2-N1-C1'	6.91	125.99	117.70
2	B	701	G	N1-C6-O6	6.91	124.05	119.90
2	GB	277	C	C2-N1-C1'	6.89	126.38	118.80
2	GB	2685	G	N3-C4-N9	-6.89	121.86	126.00
2	GB	330	A	C2-N3-C4	-6.89	107.16	110.60
2	GB	1781	C	C6-N1-C2	6.89	123.06	120.30
2	B	2505	G	C8-N9-C4	-6.88	103.65	106.40
2	B	251	A	N1-C6-N6	-6.87	114.48	118.60
2	B	1984	G	C4-N9-C1'	6.87	135.43	126.50
2	B	450	G	C5-C6-O6	6.87	132.72	128.60
2	B	1814	G	C5-C6-O6	6.87	132.72	128.60
2	GB	527	C	C5-C6-N1	6.86	124.43	121.00
2	B	327	G	O5'-P-OP2	-6.86	99.53	105.70
2	GB	1971	A	C8-N9-C4	6.86	108.54	105.80
2	B	945	A	C6-C5-N7	-6.86	127.50	132.30
1	A	754	C	N3-C2-O2	-6.86	117.10	121.90
2	GB	512	G	O4'-C1'-N9	6.86	113.69	108.20
2	GB	1428	C	C6-N1-C2	6.86	123.04	120.30
2	GB	1756	G	N1-C6-O6	6.85	124.01	119.90
2	B	527	C	N1-C2-O2	6.84	123.01	118.90
2	B	2576	G	OP1-P-O3'	6.84	120.26	105.20
2	GB	2593	U	C5-C6-N1	6.84	126.12	122.70
1	FB	121	C	C6-N1-C2	6.84	123.04	120.30
2	B	1343	G	N3-C4-C5	-6.84	125.18	128.60
2	GB	1650	G	N1-C6-O6	6.83	124.00	119.90
2	B	2071	A	O5'-P-OP2	-6.83	99.56	105.70
2	GB	1043	C	N3-C2-O2	-6.83	117.12	121.90
2	B	2895	U	C5-C6-N1	6.82	126.11	122.70
2	GB	2509	G	N1-C6-O6	6.82	123.99	119.90
2	GB	1333	C	N3-C4-C5	6.81	124.62	121.90
2	B	2548	G	N1-C6-O6	-6.81	115.81	119.90
2	B	189	G	C8-N9-C4	6.80	109.12	106.40
2	B	1830	C	N3-C4-C5	6.80	124.62	121.90
2	B	1790	C	C6-N1-C1'	6.79	128.95	120.80
2	B	1537	C	C5-C6-N1	6.79	124.39	121.00
2	B	733	G	N1-C6-O6	-6.79	115.83	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	385	C	N1-C2-O2	6.78	122.97	118.90
2	B	2593	U	C5-C6-N1	6.78	126.09	122.70
2	B	1823	G	C2-N3-C4	-6.78	108.51	111.90
2	B	2556	C	N1-C2-O2	6.78	122.97	118.90
2	B	944	G	N3-C2-N2	-6.77	115.16	119.90
2	GB	2554	U	O5'-P-OP1	-6.77	99.61	105.70
2	B	1773	A	N7-C8-N9	6.76	117.18	113.80
2	B	568	U	C5-C4-O4	6.75	129.95	125.90
2	GB	1788	C	OP1-P-O3'	6.75	120.05	105.20
2	B	792	G	C5-C6-O6	6.75	132.65	128.60
2	GB	2616	C	C6-N1-C2	6.75	123.00	120.30
2	B	2449	U	N3-C4-O4	6.75	124.12	119.40
1	A	788	U	N3-C2-O2	-6.74	117.48	122.20
2	GB	34	C	C5-C6-N1	6.74	124.37	121.00
2	GB	979	G	N1-C6-O6	6.74	123.94	119.90
2	B	568	U	C4-C5-C6	6.74	123.74	119.70
2	B	784	A	C5-C6-N6	6.74	129.09	123.70
2	B	2554	U	O5'-P-OP1	-6.74	99.64	105.70
2	B	187	G	N1-C6-O6	6.74	123.94	119.90
2	B	277	C	O4'-C1'-N1	-6.73	102.81	108.20
2	B	1202	C	N3-C4-C5	-6.73	119.21	121.90
2	B	1790	C	C4-C5-C6	6.73	120.76	117.40
2	GB	1697	G	N1-C6-O6	6.72	123.93	119.90
2	B	471	A	O5'-P-OP1	6.72	118.77	110.70
2	GB	568	U	N1-C2-O2	-6.72	118.10	122.80
2	GB	1187	G	C5-C6-N1	-6.71	108.14	111.50
2	B	787	U	O5'-P-OP1	6.71	118.75	110.70
2	B	197	A	OP2-P-O3'	6.71	119.96	105.20
2	GB	2685	G	C4-C5-N7	-6.71	108.12	110.80
2	B	1841	U	N3-C4-O4	6.70	124.09	119.40
2	B	138	G	C4-C5-N7	6.69	113.47	110.80
2	B	568	U	C6-N1-C2	-6.69	116.99	121.00
2	B	1187	G	C5-C6-N1	-6.68	108.16	111.50
2	GB	401	A	N1-C6-N6	-6.68	114.59	118.60
2	B	2028	U	C4-C5-C6	6.68	123.71	119.70
2	B	2430	A	C8-N9-C4	-6.68	103.13	105.80
1	A	324	G	C4-N9-C1'	-6.67	117.83	126.50
2	B	1814	G	N9-C4-C5	6.67	108.07	105.40
2	GB	665	C	C6-N1-C2	6.67	122.97	120.30
1	A	557	G	N3-C4-C5	-6.67	125.27	128.60
2	B	1605	C	N1-C2-O2	-6.67	114.90	118.90
2	B	2318	G	N1-C6-O6	6.66	123.90	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	298	G	C2-N3-C4	-6.66	108.57	111.90
1	FB	22	G	N1-C6-O6	6.66	123.90	119.90
2	B	59	U	N3-C2-O2	-6.66	117.54	122.20
2	B	809	G	OP1-P-O3'	6.65	119.83	105.20
2	GB	450	G	C4-C5-C6	6.65	122.79	118.80
2	B	1680	U	N3-C4-C5	-6.62	110.63	114.60
2	B	2435	A	N7-C8-N9	6.62	117.11	113.80
2	GB	1984	G	C4-N9-C1'	6.62	135.10	126.50
2	B	2598	A	O5'-P-OP2	-6.62	99.75	105.70
2	GB	1774	C	C6-N1-C2	6.62	122.95	120.30
2	GB	2570	G	C5-C6-N1	-6.62	108.19	111.50
2	B	1647	G	N3-C4-N9	-6.61	122.03	126.00
2	B	2689	U	C2-N1-C1'	6.61	125.63	117.70
2	GB	2576	G	C4-C5-N7	6.61	113.44	110.80
2	B	2465	C	C6-N1-C2	-6.59	117.66	120.30
2	GB	760	G	C6-C5-N7	-6.59	126.44	130.40
2	B	1451	C	C6-N1-C2	6.59	122.94	120.30
2	GB	1984	G	C8-N9-C1'	-6.59	118.43	127.00
2	B	2209	C	C6-N1-C2	6.59	122.94	120.30
2	GB	974(A)	G	N1-C6-O6	6.59	123.85	119.90
2	B	1602	U	N1-C2-N3	6.59	118.85	114.90
2	GB	2681	C	C5-C6-N1	-6.59	117.71	121.00
2	B	679	C	N3-C4-C5	6.58	124.53	121.90
1	FB	754	C	C5-C6-N1	6.58	124.29	121.00
2	B	298	G	C5-C6-N1	-6.58	108.21	111.50
2	B	1247	A	O5'-P-OP2	-6.57	99.78	105.70
2	B	776	G	C5-C6-N1	-6.57	108.21	111.50
2	GB	1635	G	OP2-P-O3'	6.57	119.65	105.20
2	GB	2580	U	N3-C4-C5	-6.57	110.66	114.60
2	B	11	G	N7-C8-N9	6.57	116.38	113.10
2	GB	1790	C	C6-N1-C2	-6.56	117.67	120.30
2	B	1471	A	N7-C8-N9	6.56	117.08	113.80
1	FB	848	C	C6-N1-C2	-6.56	117.68	120.30
2	GB	1382	G	N1-C6-O6	6.56	123.83	119.90
2	B	262	A	N1-C6-N6	6.55	122.53	118.60
2	B	2570	G	C5-C6-N1	-6.55	108.22	111.50
2	B	1606	G	N3-C4-C5	-6.55	125.33	128.60
2	B	2609	U	C5-C6-N1	-6.55	119.42	122.70
2	GB	2210	G	O4'-C1'-N9	6.55	113.44	108.20
2	B	2430	A	C4-N9-C1'	6.54	138.08	126.30
2	B	945	A	C5-C6-N6	-6.54	118.47	123.70
2	B	2575	C	C6-N1-C2	-6.54	117.68	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	570	G	C4-C5-N7	-6.54	108.19	110.80
2	B	878	A	O4'-C1'-N9	6.54	113.43	108.20
1	FB	1452	C	C6-N1-C2	-6.53	117.69	120.30
2	GB	2447	G	OP1-P-O3'	6.53	119.56	105.20
2	B	16	G	C5-C6-N1	-6.52	108.24	111.50
2	B	573	G	C4-N9-C1'	6.52	134.98	126.50
2	B	1043	C	N3-C2-O2	-6.52	117.34	121.90
2	B	140	A	N7-C8-N9	6.52	117.06	113.80
2	B	240	G	C5-C6-O6	6.51	132.51	128.60
2	GB	2575	C	C6-N1-C2	-6.51	117.69	120.30
2	B	2070	G	N1-C2-N3	6.50	127.80	123.90
1	A	1393	U	C6-N1-C2	-6.49	117.11	121.00
2	B	1821	A	C2-N3-C4	-6.49	107.36	110.60
2	GB	2610	C	N1-C2-N3	-6.49	114.66	119.20
2	GB	2895	U	C2-N1-C1'	6.48	125.48	117.70
2	B	1664	A	C8-N9-C4	-6.48	103.21	105.80
2	B	2061	G	C6-C5-N7	-6.48	126.51	130.40
2	GB	2598	A	O5'-P-OP1	6.47	118.47	110.70
2	B	2497	A	C4-C5-C6	-6.47	113.77	117.00
2	GB	1319	G	C5-C6-O6	-6.47	124.72	128.60
2	B	2050	C	N1-C2-O2	-6.46	115.02	118.90
1	FB	324	G	C8-N9-C1'	6.46	135.40	127.00
2	B	1626	G	N9-C4-C5	6.46	107.98	105.40
2	B	1780	A	N9-C4-C5	-6.46	103.22	105.80
2	GB	1828	G	N3-C4-N9	-6.46	122.13	126.00
2	B	510	C	C6-N1-C2	6.45	122.88	120.30
2	B	918	A	N1-C6-N6	6.45	122.47	118.60
2	B	943	U	N3-C4-C5	-6.45	110.73	114.60
2	B	576	U	N1-C2-O2	-6.45	118.29	122.80
2	B	128	C	C6-N1-C2	6.44	122.88	120.30
2	B	1828	G	N3-C2-N2	-6.44	115.39	119.90
2	GB	1191	G	O5'-P-OP2	-6.44	99.91	105.70
2	B	786	C	O5'-P-OP2	-6.43	99.91	105.70
2	B	2612	C	N1-C2-O2	6.43	122.76	118.90
2	GB	277	C	O4'-C1'-N1	-6.43	103.05	108.20
2	GB	2689	U	C2-N1-C1'	6.43	125.42	117.70
1	A	324	G	C8-N9-C1'	6.43	135.36	127.00
2	GB	1304	C	C6-N1-C2	6.43	122.87	120.30
2	B	187	G	C4-C5-N7	6.42	113.37	110.80
2	GB	2452	C	O5'-P-OP2	-6.42	99.92	105.70
2	B	1675	C	OP2-P-O3'	6.42	119.32	105.20
2	GB	277	C	N1-C2-O2	6.42	122.75	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	821	A	N1-C6-N6	-6.42	114.75	118.60
2	B	1404	C	N1-C2-O2	6.41	122.75	118.90
2	B	2245	U	N3-C4-C5	-6.41	110.75	114.60
2	B	2447	G	C5-C6-O6	-6.41	124.75	128.60
2	GB	2593	U	N1-C2-N3	6.41	118.75	114.90
1	FB	251	G	N1-C6-O6	6.40	123.74	119.90
2	B	1256	G	C8-N9-C1'	-6.40	118.69	127.00
2	B	265	A	C5-C6-N1	-6.39	114.50	117.70
2	B	1537	C	C6-N1-C2	-6.39	117.74	120.30
2	GB	2391	G	C5-C6-N1	6.39	114.70	111.50
1	FB	1028(B)	C	C6-N1-C2	-6.39	117.74	120.30
2	B	34	C	N1-C2-O2	6.39	122.73	118.90
2	GB	2597	G	O5'-P-OP1	6.39	118.36	110.70
2	GB	2028	U	N1-C2-O2	-6.38	118.33	122.80
1	A	1393	U	N3-C4-C5	-6.38	110.77	114.60
2	B	970	C	C6-N1-C2	6.38	122.85	120.30
2	GB	878	A	O4'-C1'-N9	6.38	113.30	108.20
2	GB	11	G	C8-N9-C4	-6.37	103.85	106.40
2	B	570	G	C5-C6-O6	6.37	132.42	128.60
2	GB	2447	G	O5'-P-OP1	-6.37	99.97	105.70
2	GB	2002	G	C4-C5-N7	6.37	113.35	110.80
2	B	2241	A	C2-N3-C4	-6.36	107.42	110.60
1	FB	557	G	N3-C4-C5	-6.36	125.42	128.60
2	GB	451	C	C6-N1-C2	6.34	122.84	120.30
2	GB	707	G	C5-C6-N1	-6.34	108.33	111.50
2	B	741	G	C8-N9-C4	-6.34	103.86	106.40
2	GB	462	C	C6-N1-C2	6.34	122.83	120.30
2	GB	755	C	N1-C2-O2	-6.34	115.10	118.90
2	GB	734	A	C2-N3-C4	-6.33	107.43	110.60
38	NA	12	CYS	CA-CB-SG	6.33	125.40	114.00
2	GB	2895	U	C5-C6-N1	6.33	125.86	122.70
2	GB	2602	A	OP1-P-O3'	6.33	119.12	105.20
2	GB	1667	G	C4-C5-N7	-6.33	108.27	110.80
2	B	2318	G	C6-C5-N7	-6.32	126.61	130.40
2	GB	1129	A	C8-N9-C4	6.32	108.33	105.80
2	B	330	A	C2-N3-C4	-6.32	107.44	110.60
2	B	707	G	C5-C6-N1	-6.32	108.34	111.50
2	GB	761	A	C4-C5-C6	-6.32	113.84	117.00
2	B	862	G	C8-N9-C4	-6.32	103.87	106.40
2	B	1535	U	C2-N1-C1'	6.32	125.28	117.70
2	GB	1936	A	C4-C5-N7	6.32	113.86	110.70
2	GB	1814	G	C4-C5-N7	-6.31	108.28	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1326	U	OP2-P-O3'	6.31	119.08	105.20
2	B	1348	G	N1-C6-O6	6.31	123.69	119.90
2	B	1633	G	N1-C6-O6	6.31	123.69	119.90
2	B	2242	G	N9-C4-C5	6.31	107.92	105.40
2	GB	747	U	C6-N1-C2	6.30	124.78	121.00
2	GB	1966	A	N9-C4-C5	6.30	108.32	105.80
2	GB	2439	A	O4'-C1'-N9	-6.30	103.16	108.20
2	B	1992	G	C2-N3-C4	6.30	115.05	111.90
2	B	59	U	N3-C4-C5	-6.30	110.82	114.60
2	GB	570	G	C8-N9-C4	-6.30	103.88	106.40
2	GB	918	A	N1-C6-N6	6.30	122.38	118.60
2	B	2010	G	C6-C5-N7	-6.29	126.63	130.40
2	GB	2847	U	C6-N1-C2	-6.29	117.23	121.00
2	B	2052	G	N1-C6-O6	6.28	123.67	119.90
2	B	2010	G	N1-C6-O6	6.28	123.67	119.90
2	B	788	A	C8-N9-C4	6.28	108.31	105.80
2	GB	1926	U	C5-C6-N1	-6.28	119.56	122.70
2	B	837	C	C6-N1-C2	-6.28	117.79	120.30
2	B	2070	G	C2-N3-C4	-6.28	108.76	111.90
1	FB	22	G	C5-C6-N1	-6.27	108.36	111.50
2	GB	1626	G	C8-N9-C4	-6.27	103.89	106.40
2	B	195	A	C5-N7-C8	-6.27	100.77	103.90
2	B	1786	A	C8-N9-C4	6.27	108.31	105.80
2	B	179	G	N1-C6-O6	6.26	123.66	119.90
2	B	391	G	N1-C6-O6	6.26	123.66	119.90
1	FB	754	C	C6-N1-C1'	-6.26	113.29	120.80
2	GB	264	C	N1-C2-O2	6.25	122.65	118.90
2	GB	1304	C	N3-C4-C5	6.24	124.40	121.90
2	GB	1535	U	C2-N1-C1'	6.24	125.19	117.70
2	B	2394	C	N1-C2-O2	6.23	122.64	118.90
2	B	58	G	C5-C6-N1	-6.23	108.39	111.50
2	B	2036	C	C5-C6-N1	6.23	124.11	121.00
2	B	761	A	N3-C4-C5	6.23	131.16	126.80
2	GB	2590	A	C8-N9-C4	6.22	108.29	105.80
2	B	1661	G	N1-C6-O6	6.22	123.63	119.90
1	FB	1038	C	C5-C6-N1	6.21	124.11	121.00
2	GB	809	G	OP1-P-O3'	6.21	118.86	105.20
2	GB	1667	G	N1-C6-O6	-6.21	116.18	119.90
2	B	1769	G	C5-C6-N1	-6.20	108.40	111.50
2	B	2598	A	O5'-P-OP1	6.20	118.14	110.70
2	B	1612	C	O5'-P-OP2	-6.20	100.12	105.70
2	GB	1187	G	N1-C6-O6	6.20	123.62	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	450	G	C2-N3-C4	-6.20	108.80	111.90
2	B	2002	G	C4-C5-N7	6.19	113.28	110.80
2	GB	568	U	C6-N1-C1'	6.19	129.87	121.20
2	B	189	G	N9-C4-C5	-6.19	102.92	105.40
2	B	1343	G	C8-N9-C4	-6.19	103.92	106.40
2	GB	732	C	N3-C4-C5	-6.19	119.42	121.90
2	B	707	G	N1-C6-O6	6.18	123.61	119.90
2	GB	570	G	C4-C5-C6	6.18	122.51	118.80
2	B	1535	U	C5-C6-N1	6.17	125.79	122.70
2	B	179	G	C5-C6-N1	-6.17	108.41	111.50
2	B	298	G	C8-N9-C4	-6.17	103.93	106.40
2	GB	1790	C	C2-N1-C1'	-6.17	112.02	118.80
1	FB	775	G	C6-C5-N7	-6.16	126.70	130.40
2	GB	653	C	N1-C2-O2	6.15	122.59	118.90
2	B	450	G	C4-N9-C1'	6.15	134.50	126.50
2	B	1428	C	C6-N1-C2	6.15	122.76	120.30
2	B	2895	U	C2-N1-C1'	6.15	125.08	117.70
1	A	1028(B)	C	C6-N1-C2	-6.15	117.84	120.30
2	GB	252	G	O5'-P-OP2	-6.14	100.17	105.70
2	B	1632	A	C5-N7-C8	-6.14	100.83	103.90
2	GB	750	A	C8-N9-C4	-6.14	103.34	105.80
2	GB	2447	G	N9-C4-C5	-6.14	102.94	105.40
2	B	2210	G	C6-C5-N7	6.14	134.08	130.40
2	B	1521	G	N3-C4-C5	-6.13	125.53	128.60
2	B	1835	G	C8-N9-C4	-6.13	103.95	106.40
1	FB	46	G	C5-C6-N1	-6.13	108.43	111.50
2	GB	1628	G	N1-C6-O6	6.13	123.58	119.90
2	B	1992	G	N3-C4-C5	-6.13	125.53	128.60
2	B	138	G	C5-C6-O6	-6.12	124.93	128.60
2	GB	228	A	C4-C5-N7	6.12	113.76	110.70
2	GB	1348	G	N1-C6-O6	6.12	123.57	119.90
2	B	34	C	C5-C6-N1	6.12	124.06	121.00
2	B	568	U	C6-N1-C1'	6.12	129.77	121.20
2	B	2242	G	C8-N9-C4	-6.12	103.95	106.40
2	GB	743	G	C2-N3-C4	-6.12	108.84	111.90
2	B	277	C	C6-N1-C1'	-6.12	113.46	120.80
2	B	2500	U	N3-C2-O2	-6.12	117.92	122.20
2	GB	1326	U	OP2-P-O3'	6.12	118.66	105.20
2	GB	2609	U	C5-C6-N1	-6.12	119.64	122.70
2	B	749	C	C6-N1-C2	6.12	122.75	120.30
1	FB	324	G	N3-C4-N9	-6.12	122.33	126.00
2	GB	2062	A	C8-N9-C4	6.12	108.25	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1304	C	C2-N1-C1'	-6.11	112.07	118.80
2	B	767	U	C5-C4-O4	6.11	129.57	125.90
2	GB	2088	G	N1-C2-N3	6.11	127.57	123.90
2	GB	2612	C	OP1-P-OP2	-6.11	110.44	119.60
2	B	733	G	C5-N7-C8	-6.11	101.25	104.30
2	GB	1665	A	O5'-P-OP1	-6.11	100.20	105.70
2	B	101	G	C2-N3-C4	6.10	114.95	111.90
2	GB	795	C	C5-C6-N1	-6.09	117.95	121.00
2	B	791	C	C2-N1-C1'	-6.09	112.10	118.80
2	GB	573	G	C4-N9-C1'	6.09	134.41	126.50
2	B	1785	A	O5'-P-OP2	-6.08	100.22	105.70
2	B	1843	C	N3-C4-C5	6.08	124.33	121.90
2	B	749	C	N1-C2-O2	6.08	122.55	118.90
2	B	448	U	N1-C2-O2	-6.08	118.55	122.80
2	GB	2249	U	N3-C4-O4	6.08	123.65	119.40
2	B	2550	G	C8-N9-C4	-6.07	103.97	106.40
2	GB	1951	U	N3-C4-C5	-6.07	110.96	114.60
2	B	1982	C	N3-C4-C5	6.07	124.33	121.90
2	B	1626	G	C8-N9-C4	-6.06	103.97	106.40
2	B	2032	G	N3-C4-N9	-6.06	122.36	126.00
1	A	1417	G	C5-C6-N1	-6.05	108.47	111.50
2	B	576	U	C2-N1-C1'	6.05	124.97	117.70
1	A	792	A	N1-C6-N6	6.05	122.23	118.60
2	B	104	U	N1-C2-O2	-6.05	118.56	122.80
2	B	729	G	N1-C6-O6	6.05	123.53	119.90
2	B	775	G	O5'-P-OP2	-6.05	100.26	105.70
2	GB	2593	U	C2-N3-C4	6.05	130.63	127.00
1	FB	816	A	C2-N3-C4	-6.05	107.58	110.60
2	B	2685	G	N9-C4-C5	6.03	107.81	105.40
2	GB	2544	G	N1-C6-O6	6.03	123.52	119.90
2	GB	2709	G	C8-N9-C4	6.03	108.81	106.40
2	B	1576	U	C6-N1-C2	-6.03	117.38	121.00
2	GB	1310	G	C6-C5-N7	-6.02	126.79	130.40
2	B	240	G	C5-C6-N1	-6.02	108.49	111.50
2	B	1688	U	C5-C4-O4	6.02	129.51	125.90
2	B	1628	G	N1-C6-O6	6.02	123.51	119.90
2	GB	71	A	C5-C6-N1	-6.02	114.69	117.70
2	GB	585	G	OP2-P-O3'	6.02	118.44	105.20
2	B	2430	A	N7-C8-N9	6.01	116.81	113.80
2	GB	1348	G	C5-C6-O6	-6.01	124.99	128.60
1	A	587	G	N1-C6-O6	6.01	123.51	119.90
2	B	761	A	C4-C5-C6	-6.01	114.00	117.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2074	U	C5-C6-N1	6.01	125.70	122.70
2	GB	837	C	C6-N1-C2	-6.01	117.90	120.30
2	B	130	C	C6-N1-C2	6.00	122.70	120.30
1	FB	754	C	N3-C2-O2	-6.00	117.70	121.90
1	FB	324	G	C4-N9-C1'	-6.00	118.70	126.50
1	FB	1354	C	C6-N1-C2	-6.00	117.90	120.30
2	B	1603	A	C8-N9-C4	-5.99	103.40	105.80
2	GB	801	G	N9-C4-C5	5.99	107.80	105.40
2	GB	2612	C	N1-C2-N3	-5.99	115.01	119.20
2	GB	450	G	C8-N9-C4	-5.99	104.00	106.40
2	B	788	A	N7-C8-N9	-5.99	110.81	113.80
2	GB	2317	C	N3-C2-O2	-5.99	117.71	121.90
2	GB	2556	C	N1-C2-O2	5.99	122.49	118.90
2	GB	2686	G	C4-N9-C1'	5.99	134.28	126.50
2	GB	1779	U	OP1-P-OP2	5.99	128.58	119.60
1	FB	754	C	C6-N1-C2	-5.98	117.91	120.30
1	A	687	A	P-O3'-C3'	5.98	126.87	119.70
2	GB	129	C	C5-C6-N1	-5.98	118.01	121.00
2	B	197	A	OP1-P-O3'	-5.98	92.05	105.20
2	GB	739	G	O5'-P-OP2	-5.97	100.33	105.70
2	B	581	C	C5-C4-N4	-5.97	116.02	120.20
2	B	570	G	N9-C4-C5	5.96	107.78	105.40
2	GB	1026	U	C6-N1-C1'	-5.96	112.86	121.20
2	GB	2573	C	C6-N1-C2	5.96	122.68	120.30
2	B	1671	U	C6-N1-C2	-5.95	117.43	121.00
2	GB	695	G	C6-C5-N7	-5.95	126.83	130.40
2	GB	195	A	C4-C5-N7	5.95	113.67	110.70
2	B	2580	U	N3-C4-C5	-5.95	111.03	114.60
2	GB	1999	C	C5-C6-N1	-5.95	118.03	121.00
2	GB	2505	G	C5-C6-N1	-5.95	108.53	111.50
2	B	1975	G	C5-C6-O6	-5.94	125.03	128.60
2	B	2224	G	N1-C6-O6	5.94	123.46	119.90
2	GB	262	A	N1-C6-N6	5.94	122.16	118.60
2	GB	140	A	C5-N7-C8	-5.93	100.93	103.90
2	B	1756	G	C5-C6-N1	-5.93	108.53	111.50
2	GB	966	G	O5'-P-OP2	-5.93	100.36	105.70
2	GB	1379	A	N9-C4-C5	-5.93	103.43	105.80
2	GB	707	G	C2-N3-C4	-5.93	108.94	111.90
2	GB	530	G	C5-C6-O6	5.92	132.15	128.60
2	GB	576	U	C5-C4-O4	-5.92	122.35	125.90
2	GB	155	C	C2-N1-C1'	5.92	125.31	118.80
2	B	1898	U	C5-C4-O4	5.92	129.45	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	2430	A	C4-N9-C1'	5.92	136.95	126.30
1	A	362	G	C8-N9-C4	-5.91	104.03	106.40
2	GB	1842	G	C8-N9-C4	5.91	108.77	106.40
2	GB	2580	U	C5-C4-O4	5.91	129.45	125.90
2	GB	330	A	N1-C2-N3	5.91	132.26	129.30
2	GB	801	G	C5-C6-O6	5.91	132.15	128.60
2	GB	2433	A	C8-N9-C4	-5.91	103.44	105.80
2	B	112	U	C6-N1-C2	-5.91	117.46	121.00
2	GB	1773	A	OP1-P-O3'	5.90	118.19	105.20
2	B	242	G	C4-N9-C1'	-5.90	118.83	126.50
2	GB	391	G	C8-N9-C1'	-5.90	119.33	127.00
2	GB	749	C	C6-N1-C2	5.90	122.66	120.30
2	GB	2695	C	C6-N1-C2	5.90	122.66	120.30
2	B	2580	U	C6-N1-C2	-5.90	117.46	121.00
2	B	527	C	C5-C6-N1	5.89	123.95	121.00
2	B	2544	G	C6-C5-N7	-5.89	126.86	130.40
2	GB	2072	G	N1-C6-O6	5.89	123.44	119.90
2	B	1602	U	N1-C2-O2	-5.89	118.67	122.80
2	GB	34	C	N1-C2-O2	5.89	122.44	118.90
2	B	1828	G	N3-C4-N9	-5.89	122.47	126.00
2	GB	1187	G	N7-C8-N9	5.89	116.05	113.10
2	B	653	C	C6-N1-C2	-5.89	117.94	120.30
2	B	2074	U	C6-N1-C2	-5.89	117.47	121.00
2	B	2408	U	C5-C6-N1	5.89	125.64	122.70
2	GB	383	U	C5-C6-N1	-5.89	119.76	122.70
2	GB	970	C	C6-N1-C2	5.89	122.66	120.30
1	A	1219	U	C5-C6-N1	5.89	125.64	122.70
2	B	795	C	C2-N3-C4	-5.89	116.96	119.90
2	GB	576	U	C2-N1-C1'	5.88	124.76	117.70
2	B	453	C	O5'-P-OP2	-5.88	100.41	105.70
2	GB	1606	G	N3-C4-N9	5.88	129.53	126.00
2	GB	1671	U	C6-N1-C2	-5.88	117.47	121.00
2	GB	804	A	OP1-P-O3'	5.87	118.12	105.20
2	GB	2408	U	N3-C4-O4	5.87	123.51	119.40
2	GB	2681	C	C4-C5-C6	5.87	120.34	117.40
2	B	1959	G	C8-N9-C4	-5.87	104.05	106.40
2	GB	770	G	C4-C5-N7	5.87	113.15	110.80
2	B	2258	C	C6-N1-C2	-5.87	117.95	120.30
2	GB	1769	G	C6-C5-N7	-5.87	126.88	130.40
2	B	570	G	C8-N9-C4	-5.87	104.05	106.40
2	B	2592	G	C8-N9-C4	-5.87	104.05	106.40
2	GB	825	C	OP1-P-O3'	5.87	118.10	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	209	C	N3-C4-C5	5.86	124.25	121.90
2	GB	576	U	N3-C4-C5	-5.86	111.08	114.60
2	B	1634	A	C8-N9-C4	5.86	108.14	105.80
2	B	2686	G	C8-N9-C1'	-5.86	119.39	127.00
2	B	1026	U	C6-N1-C1'	-5.86	113.00	121.20
2	B	1776	G	C4-C5-N7	5.86	113.14	110.80
2	GB	1765	C	C6-N1-C2	5.86	122.64	120.30
2	B	2502	G	N3-C4-N9	5.85	129.51	126.00
1	A	754	C	C6-N1-C1'	-5.85	113.78	120.80
2	B	795	C	N1-C2-N3	5.85	123.29	119.20
2	GB	1298	C	N3-C4-C5	5.85	124.24	121.90
2	B	1938	A	C5-N7-C8	-5.84	100.98	103.90
2	GB	1602	U	C4-C5-C6	5.84	123.20	119.70
1	A	775	G	C6-C5-N7	-5.84	126.90	130.40
2	B	2639	A	C2-N3-C4	-5.84	107.68	110.60
2	B	1043	C	N1-C2-O2	5.84	122.40	118.90
2	GB	2053	G	C4-C5-N7	5.84	113.13	110.80
2	B	2610	C	N1-C2-N3	-5.83	115.12	119.20
2	GB	2069	G	N1-C6-O6	5.83	123.40	119.90
2	B	692	C	C5-C4-N4	-5.83	116.12	120.20
2	B	1621	U	OP2-P-O3'	5.83	118.03	105.20
2	B	1606	G	N3-C4-N9	5.83	129.50	126.00
2	GB	848	G	O5'-P-OP2	-5.83	100.45	105.70
2	B	734	A	C2-N3-C4	-5.83	107.69	110.60
1	A	723	U	O4'-C1'-N1	5.83	112.86	108.20
2	B	2447	G	OP1-P-O3'	5.83	118.02	105.20
2	GB	761	A	C5-N7-C8	-5.83	100.99	103.90
1	A	848	C	C6-N1-C2	-5.82	117.97	120.30
2	B	1756	G	N1-C6-O6	5.82	123.39	119.90
2	GB	2556	C	N3-C2-O2	-5.82	117.83	121.90
2	B	458	G	OP2-P-O3'	5.82	118.01	105.20
2	B	1573	G	C8-N9-C4	5.82	108.73	106.40
2	B	1647	G	N3-C4-C5	5.82	131.51	128.60
2	GB	1620	G	C6-C5-N7	-5.81	126.91	130.40
2	B	783	A	C6-C5-N7	-5.81	128.23	132.30
2	B	2226	C	N1-C2-O2	5.81	122.39	118.90
2	GB	1298	C	O5'-P-OP1	-5.81	100.47	105.70
2	GB	2837	G	N1-C6-O6	5.81	123.39	119.90
2	B	464	U	N3-C4-C5	-5.81	111.12	114.60
2	B	979	G	C6-C5-N7	-5.80	126.92	130.40
2	B	2035	G	N1-C6-O6	-5.80	116.42	119.90
2	B	25	U	C6-N1-C2	-5.80	117.52	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	679	C	C6-N1-C2	5.80	122.62	120.30
1	FB	174	C	C6-N1-C2	5.80	122.62	120.30
2	B	2686	G	C4-N9-C1'	5.80	134.04	126.50
4	IA	69	C	C6-N1-C2	-5.80	117.98	120.30
2	GB	1632	A	C5-C6-N6	-5.80	119.06	123.70
2	B	155	C	C2-N1-C1'	5.79	125.17	118.80
2	GB	2515	C	N1-C2-O2	-5.79	115.42	118.90
2	GB	1983	C	C2-N3-C4	-5.79	117.01	119.90
2	GB	863	A	N1-C6-N6	-5.79	115.13	118.60
2	GB	1697	G	C4-C5-N7	5.79	113.11	110.80
2	GB	795	C	C2-N3-C4	-5.78	117.01	119.90
2	B	1647	G	C5-C6-N1	-5.78	108.61	111.50
2	B	1343	G	C4-N9-C1'	5.78	134.01	126.50
2	B	1033	U	N1-C2-O2	5.78	126.84	122.80
2	B	1632	A	C5-C6-N6	-5.77	119.08	123.70
2	B	203	C	C6-N1-C2	5.77	122.61	120.30
2	B	1256	G	N9-C4-C5	-5.77	103.09	105.40
1	A	1038	C	C5-C6-N1	5.77	123.88	121.00
2	B	945	A	C5-N7-C8	-5.77	101.02	103.90
2	B	2365	G	N3-C4-N9	5.77	129.46	126.00
2	GB	1578	U	N3-C2-O2	-5.77	118.16	122.20
2	B	1376	C	C5-C6-N1	5.77	123.88	121.00
2	B	2188	C	C6-N1-C2	-5.76	118.00	120.30
2	GB	733	G	C5-N7-C8	-5.76	101.42	104.30
2	GB	479	A	O4'-C1'-N9	5.76	112.81	108.20
2	B	2316	C	C6-N1-C2	-5.76	118.00	120.30
2	B	1632	A	N9-C4-C5	-5.75	103.50	105.80
2	GB	1612	C	N1-C2-O2	-5.75	115.45	118.90
2	GB	1828	G	N3-C2-N2	-5.75	115.87	119.90
2	B	582	G	N1-C6-O6	-5.75	116.45	119.90
2	GB	1849	G	N1-C6-O6	5.75	123.35	119.90
5	E	182	LEU	CA-CB-CG	-5.75	102.08	115.30
2	GB	1404	C	N3-C2-O2	-5.75	117.88	121.90
2	GB	2588	G	N3-C2-N2	-5.75	115.88	119.90
2	GB	1398	C	N1-C2-O2	-5.74	115.45	118.90
2	GB	2188	C	C6-N1-C2	-5.74	118.00	120.30
2	GB	1304	C	C2-N1-C1'	-5.74	112.49	118.80
2	B	528	A	N1-C6-N6	5.74	122.04	118.60
2	GB	1567	A	N9-C4-C5	5.74	108.09	105.80
2	GB	2598	A	O5'-P-OP2	-5.74	100.54	105.70
2	GB	189	G	C8-N9-C4	5.73	108.69	106.40
2	B	1647	G	O4'-C1'-N9	-5.73	103.61	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	729	G	C5-C6-O6	-5.73	125.16	128.60
2	GB	1382	G	C2-N3-C4	-5.73	109.03	111.90
2	B	2210	G	N1-C6-O6	-5.73	116.46	119.90
2	GB	2722	G	C8-N9-C1'	-5.73	119.55	127.00
1	A	945	G	N1-C6-O6	5.73	123.34	119.90
2	GB	573	G	N3-C4-C5	-5.72	125.74	128.60
2	GB	2830	G	N1-C6-O6	5.72	123.33	119.90
2	B	1187	G	N7-C8-N9	5.72	115.96	113.10
2	B	1333	C	C5-C6-N1	5.72	123.86	121.00
2	B	548	A	C8-N9-C4	-5.72	103.51	105.80
2	B	1415	U	C5-C4-O4	5.72	129.33	125.90
2	GB	2245	U	N3-C4-C5	-5.72	111.17	114.60
2	B	568	U	N1-C2-O2	-5.71	118.80	122.80
3	C	17	C	C6-N1-C2	5.71	122.59	120.30
2	GB	2446	G	C4-C5-N7	-5.71	108.52	110.80
1	A	722	A	C2-N3-C4	-5.70	107.75	110.60
2	B	1274	A	C8-N9-C4	5.70	108.08	105.80
2	GB	2062	A	O5'-P-OP1	-5.70	100.57	105.70
2	B	1936	A	C6-C5-N7	-5.70	128.31	132.30
2	B	2794	C	C5-C6-N1	5.70	123.85	121.00
2	GB	2061	G	C4-C5-N7	5.70	113.08	110.80
1	FB	111	G	N3-C4-N9	-5.70	122.58	126.00
2	B	1671	U	C5-C6-N1	5.69	125.55	122.70
2	B	1769	G	C6-C5-N7	-5.69	126.98	130.40
1	FB	22	G	C6-C5-N7	-5.69	126.98	130.40
2	GB	1187	G	C6-C5-N7	-5.69	126.98	130.40
1	FB	723	U	O4'-C1'-N1	5.69	112.75	108.20
2	GB	563	G	C6-C5-N7	-5.69	126.99	130.40
2	B	431	U	N3-C4-O4	5.69	123.38	119.40
2	GB	1664	A	N7-C8-N9	5.69	116.64	113.80
2	GB	698	C	C5-C6-N1	-5.68	118.16	121.00
2	B	16	G	C2-N3-C4	-5.68	109.06	111.90
2	B	343	C	C6-N1-C2	5.68	122.57	120.30
2	GB	761	A	N3-C4-C5	5.68	130.78	126.80
2	GB	1961	C	C6-N1-C2	5.68	122.57	120.30
1	FB	557	G	N3-C4-N9	5.68	129.41	126.00
1	FB	687	A	P-O3'-C3'	5.68	126.52	119.70
2	GB	2573	C	N3-C4-C5	5.68	124.17	121.90
2	B	512	G	O4'-C1'-N9	5.68	112.74	108.20
2	GB	1471	A	N7-C8-N9	5.68	116.64	113.80
2	B	261	G	N3-C4-C5	5.67	131.44	128.60
2	GB	2088	G	C5-C6-N1	-5.67	108.66	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	732	C	C6-N1-C2	-5.67	118.03	120.30
2	GB	2061	G	C5-C6-N1	-5.67	108.67	111.50
2	B	1544	C	N1-C2-O2	5.67	122.30	118.90
2	GB	1756	G	C5-C6-N1	-5.67	108.67	111.50
2	B	838	C	N1-C2-O2	5.67	122.30	118.90
2	GB	1621	U	OP2-P-O3'	5.67	117.67	105.20
1	A	1354	C	C6-N1-C2	-5.66	118.04	120.30
2	B	451	C	C6-N1-C2	5.66	122.56	120.30
2	B	1904	G	N1-C6-O6	-5.66	116.50	119.90
2	B	570	G	C4-C5-C6	5.66	122.19	118.80
2	GB	277	C	C6-N1-C1'	-5.66	114.01	120.80
2	GB	731	C	C6-N1-C2	5.65	122.56	120.30
2	B	391	G	C8-N9-C1'	-5.65	119.65	127.00
2	B	1788	C	OP1-P-O3'	5.65	117.64	105.20
2	GB	527	C	O4'-C1'-N1	5.65	112.72	108.20
2	GB	1983	C	N3-C4-C5	5.65	124.16	121.90
2	GB	2775	A	N1-C6-N6	5.65	121.99	118.60
2	B	1792	G	C8-N9-C4	-5.65	104.14	106.40
2	GB	189	G	N9-C4-C5	-5.65	103.14	105.40
2	GB	806	C	C4-C5-C6	-5.65	114.58	117.40
2	GB	2088	G	C2-N3-C4	-5.65	109.08	111.90
2	B	1382	G	C4-C5-N7	-5.65	108.54	110.80
2	B	770	G	C4-C5-N7	5.64	113.06	110.80
2	B	2052	G	C6-C5-N7	-5.64	127.01	130.40
1	A	913	A	P-O3'-C3'	5.64	126.47	119.70
2	B	482	A	C8-N9-C4	5.64	108.06	105.80
2	B	2451	A	C2-N3-C4	-5.64	107.78	110.60
2	GB	1602	U	C6-N1-C2	-5.64	117.62	121.00
2	B	471	A	C2-N3-C4	-5.64	107.78	110.60
2	GB	11	G	N7-C8-N9	5.64	115.92	113.10
2	GB	563	G	N1-C6-O6	5.64	123.28	119.90
2	GB	1022	G	N3-C4-N9	-5.63	122.62	126.00
2	GB	1348	G	C4-C5-N7	5.63	113.05	110.80
2	GB	1253	A	C5-N7-C8	-5.63	101.08	103.90
2	B	57	C	C6-N1-C2	5.63	122.55	120.30
2	B	751	A	N9-C4-C5	5.63	108.05	105.80
2	B	1187	G	C4-N9-C1'	5.63	133.82	126.50
1	FB	299	G	C4-C5-N7	-5.63	108.55	110.80
2	B	2771	C	C6-N1-C2	5.62	122.55	120.30
2	GB	2002	G	C5-C6-O6	-5.62	125.22	128.60
2	GB	2069	G	OP2-P-O3'	5.62	117.58	105.20
2	B	1256	G	N3-C4-N9	5.62	129.37	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	979	G	C4-C5-N7	5.62	113.05	110.80
2	GB	2553	G	C5-C6-O6	-5.62	125.23	128.60
2	B	961	C	C6-N1-C2	-5.62	118.05	120.30
2	B	1371	G	N1-C6-O6	5.62	123.27	119.90
2	B	1814	G	C4-C5-C6	5.62	122.17	118.80
2	GB	653	C	N3-C2-O2	-5.62	117.97	121.90
2	GB	2576	G	OP1-P-O3'	5.62	117.57	105.20
2	B	2053	G	C5-N7-C8	-5.62	101.49	104.30
2	B	806	C	C4-C5-C6	-5.62	114.59	117.40
2	B	817	C	C6-N1-C2	-5.62	118.05	120.30
2	B	2416	C	C6-N1-C2	-5.62	118.05	120.30
2	B	2022	U	C6-N1-C2	5.62	124.37	121.00
2	GB	1142(B)	A	C2-N3-C4	-5.62	107.79	110.60
2	B	2316	C	C5-C6-N1	5.62	123.81	121.00
2	GB	2505	G	C4-C5-N7	-5.61	108.55	110.80
2	B	1158	C	C6-N1-C2	5.61	122.55	120.30
2	B	1405	U	O5'-P-OP2	-5.61	100.65	105.70
2	GB	57	C	C6-N1-C2	5.61	122.55	120.30
6	F	195	LEU	CA-CB-CG	5.61	128.20	115.30
2	GB	527	C	C4-C5-C6	-5.61	114.60	117.40
2	GB	2576	G	C5-N7-C8	-5.61	101.50	104.30
1	A	324	G	C6-C5-N7	5.61	133.76	130.40
2	GB	863	A	C5-C6-N1	5.61	120.50	117.70
2	GB	973	A	N1-C6-N6	-5.61	115.24	118.60
2	GB	2686	G	C8-N9-C1'	-5.61	119.71	127.00
1	A	1018	C	C6-N1-C2	-5.60	118.06	120.30
2	GB	1828	G	C8-N9-C4	-5.60	104.16	106.40
2	B	1166	C	C6-N1-C2	-5.60	118.06	120.30
2	B	2508	G	N1-C6-O6	5.60	123.26	119.90
2	B	1773	A	N1-C2-N3	5.60	132.10	129.30
2	B	944	G	O4'-C1'-N9	5.59	112.68	108.20
2	GB	242	G	C4-N9-C1'	-5.59	119.23	126.50
2	GB	1537	C	C5-C6-N1	5.59	123.80	121.00
1	FB	587	G	C6-C5-N7	-5.59	127.05	130.40
2	GB	528	A	C2-N3-C4	-5.59	107.80	110.60
2	GB	1651	G	C2-N3-C4	-5.59	109.10	111.90
2	GB	2002	G	N1-C6-O6	5.59	123.25	119.90
2	GB	596	G	C5-C6-N1	-5.59	108.70	111.50
1	FB	1158	C	N1-C2-O2	5.59	122.25	118.90
2	GB	228	A	C5-N7-C8	-5.59	101.11	103.90
2	GB	570	G	C4-C5-N7	-5.59	108.57	110.80
2	GB	2571	C	C6-N1-C2	5.59	122.53	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1774	C	N3-C4-C5	5.58	124.13	121.90
2	GB	527	C	C5-C4-N4	-5.58	116.29	120.20
2	B	945	A	N9-C4-C5	-5.58	103.57	105.80
2	B	2052	G	C4-C5-N7	5.58	113.03	110.80
2	GB	1532	C	C6-N1-C2	-5.58	118.07	120.30
2	B	2433	A	C8-N9-C4	-5.58	103.57	105.80
2	B	1356	G	C5-C6-N1	-5.58	108.71	111.50
2	B	1602	U	N3-C4-O4	5.58	123.30	119.40
2	B	2722	G	N1-C6-O6	5.58	123.25	119.90
2	GB	739	G	OP2-P-O3'	5.58	117.47	105.20
2	GB	1338	G	C8-N9-C4	-5.58	104.17	106.40
1	A	1485	U	C5-C6-N1	-5.57	119.91	122.70
2	B	1593	G	C8-N9-C4	5.57	108.63	106.40
2	GB	568	U	N1-C2-N3	5.57	118.24	114.90
1	A	351	G	OP2-P-O3'	5.57	117.45	105.20
2	GB	1300	U	O5'-P-OP1	-5.57	100.69	105.70
2	GB	2086	U	C5-C4-O4	5.57	129.24	125.90
2	B	783	A	C5-N7-C8	-5.57	101.11	103.90
2	B	1576	U	N3-C2-O2	-5.57	118.30	122.20
2	B	528	A	OP1-P-O3'	5.57	117.45	105.20
2	B	1020	A	C8-N9-C4	5.57	108.03	105.80
2	B	2603	G	C2-N3-C4	-5.57	109.12	111.90
2	GB	450	G	C4-N9-C1'	5.57	133.74	126.50
2	GB	1632	A	C4-C5-N7	5.57	113.48	110.70
2	B	1521	G	N3-C4-N9	5.57	129.34	126.00
2	B	1821	A	N9-C4-C5	-5.57	103.57	105.80
1	FB	587	G	N1-C6-O6	5.57	123.24	119.90
2	GB	1829	A	O5'-P-OP1	-5.56	100.70	105.70
2	GB	2643	G	C4-C5-N7	5.56	113.02	110.80
2	B	2052	G	O5'-P-OP1	-5.56	100.70	105.70
2	B	1803	A	C8-N9-C4	5.56	108.02	105.80
2	B	459	U	C2-N1-C1'	5.55	124.36	117.70
2	B	1216	G	O5'-P-OP1	-5.55	100.70	105.70
2	B	1664	A	N7-C8-N9	5.55	116.58	113.80
2	B	1256	G	C5-C6-O6	-5.55	125.27	128.60
2	GB	2028	U	C5-C6-N1	5.55	125.47	122.70
2	B	2609	U	C2-N3-C4	-5.55	123.67	127.00
2	GB	59	U	C6-N1-C2	-5.55	117.67	121.00
2	B	1769	G	O5'-P-OP2	-5.54	100.71	105.70
1	A	557	G	N3-C4-N9	5.54	129.33	126.00
2	B	1838	C	C6-N1-C2	5.54	122.52	120.30
2	B	2408	U	N3-C4-O4	5.54	123.28	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	2612	C	C6-N1-C2	5.54	122.52	120.30
2	B	995	C	C6-N1-C2	5.54	122.52	120.30
1	FB	111	G	C5-C6-N1	-5.54	108.73	111.50
2	B	2261	C	O5'-P-OP2	-5.54	100.71	105.70
2	GB	1626	G	N9-C4-C5	5.54	107.62	105.40
2	B	2502	G	C5-C6-O6	-5.54	125.28	128.60
2	GB	806	C	C5-C6-N1	5.54	123.77	121.00
1	A	1452	C	C6-N1-C2	-5.54	118.08	120.30
2	B	733	G	C4-C5-C6	-5.54	115.48	118.80
2	B	1607	C	C6-N1-C2	5.54	122.52	120.30
2	GB	597	U	C5-C4-O4	5.54	129.22	125.90
2	GB	715	G	C8-N9-C4	-5.54	104.19	106.40
2	GB	1657	C	OP1-P-O3'	5.53	117.37	105.20
2	B	568	U	N1-C2-N3	5.53	118.22	114.90
1	A	725	G	C8-N9-C4	-5.53	104.19	106.40
2	B	1187	G	C4-C5-C6	5.53	122.12	118.80
1	A	548	G	C8-N9-C4	-5.52	104.19	106.40
2	B	1256	G	C4-N9-C1'	5.52	133.68	126.50
3	HB	5	C	C6-N1-C2	-5.52	118.09	120.30
2	GB	2249	U	C2-N3-C4	5.52	130.31	127.00
2	B	1614	A	C8-N9-C4	-5.52	103.59	105.80
2	B	2374	C	C6-N1-C2	5.52	122.51	120.30
2	GB	16	G	C5-C6-N1	-5.51	108.74	111.50
2	GB	2553	G	C4-C5-N7	5.51	113.00	110.80
2	GB	2686	G	N3-C4-N9	5.51	129.31	126.00
2	B	1311	G	C5-C6-O6	5.51	131.91	128.60
2	B	1828	G	C4-C5-C6	5.51	122.11	118.80
2	GB	1309	G	C6-C5-N7	-5.51	127.09	130.40
2	B	783	A	N7-C8-N9	5.51	116.55	113.80
2	GB	1955	U	C5-C4-O4	5.51	129.20	125.90
2	B	2505	G	C4-C5-N7	-5.50	108.60	110.80
2	B	530	G	C5-C6-O6	5.50	131.90	128.60
2	B	1597	A	O5'-P-OP2	-5.50	100.75	105.70
2	GB	1257	C	N3-C4-C5	5.50	124.10	121.90
2	GB	1675	C	OP2-P-O3'	5.50	117.31	105.20
2	B	59	U	C6-N1-C2	-5.50	117.70	121.00
2	B	790	C	N3-C2-O2	-5.50	118.05	121.90
2	B	1673	U	C5-C6-N1	-5.50	119.95	122.70
2	B	1900	A	N1-C6-N6	-5.50	115.30	118.60
2	GB	1779	U	O4'-C1'-N1	5.50	112.60	108.20
2	GB	1820	U	C5-C6-N1	-5.50	119.95	122.70
2	GB	2058	A	N9-C4-C5	5.50	108.00	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2406	U	O5'-P-OP2	-5.50	100.75	105.70
1	FB	311	C	C6-N1-C2	-5.50	118.10	120.30
2	GB	1666	G	C4-N9-C1'	-5.49	119.36	126.50
1	FB	324	G	N3-C4-C5	5.49	131.35	128.60
2	GB	1521	G	N3-C4-N9	5.49	129.29	126.00
2	B	1615	C	N1-C2-O2	-5.49	115.61	118.90
2	B	2010	G	N7-C8-N9	5.49	115.84	113.10
1	FB	250	A	N1-C6-N6	-5.49	115.31	118.60
2	B	862	G	N3-C4-C5	-5.49	125.86	128.60
2	B	731	C	N3-C2-O2	5.49	125.74	121.90
2	GB	2365	G	N3-C4-N9	5.49	129.29	126.00
2	GB	2505	G	N9-C4-C5	5.49	107.59	105.40
2	GB	163	U	C2-N1-C1'	5.48	124.28	117.70
2	GB	2058	A	OP2-P-O3'	5.48	117.26	105.20
2	GB	2686	G	C6-C5-N7	-5.48	127.11	130.40
2	B	1375	C	OP2-P-O3'	5.48	117.26	105.20
2	B	1773	A	C4-C5-C6	5.48	119.74	117.00
2	B	1789	A	O5'-P-OP1	-5.48	100.77	105.70
2	GB	411	G	C6-C5-N7	-5.48	127.11	130.40
2	B	39	C	C5-C6-N1	5.48	123.74	121.00
2	B	391	G	C6-C5-N7	-5.48	127.11	130.40
2	B	798	G	C5-C6-O6	-5.48	125.31	128.60
2	GB	767	U	C5-C4-O4	5.48	129.19	125.90
2	B	1382	G	C4-C5-C6	5.47	122.08	118.80
2	GB	1043	C	N1-C2-O2	5.47	122.19	118.90
2	B	1936	A	C4-C5-N7	5.47	113.44	110.70
2	B	2689	U	N1-C2-O2	5.47	126.63	122.80
2	GB	2035	G	N7-C8-N9	-5.47	110.36	113.10
2	GB	130	C	C6-N1-C2	5.47	122.49	120.30
2	GB	1903	G	N3-C4-N9	-5.47	122.72	126.00
6	KB	195	LEU	CA-CB-CG	5.47	127.87	115.30
2	B	727	A	C4-C5-C6	5.46	119.73	117.00
2	GB	195	A	N7-C8-N9	5.46	116.53	113.80
2	B	2689	U	N3-C2-O2	-5.46	118.38	122.20
2	B	2833	G	C8-N9-C4	-5.46	104.22	106.40
2	B	1253	A	C5-N7-C8	-5.46	101.17	103.90
2	B	1573	G	N7-C8-N9	-5.46	110.37	113.10
1	FB	1397	C	C2-N1-C1'	5.46	124.80	118.80
2	B	2067	G	N1-C2-N3	5.45	127.17	123.90
2	GB	337	C	C6-N1-C2	5.45	122.48	120.30
2	B	1900	A	O5'-P-OP2	-5.45	100.79	105.70
2	B	1617	C	N3-C4-N4	-5.45	114.19	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1773	A	C6-C5-N7	-5.45	128.48	132.30
2	B	1984	G	C8-N9-C1'	-5.45	119.92	127.00
2	B	2600	A	N1-C2-N3	5.45	132.03	129.30
2	B	780	G	N7-C8-N9	5.45	115.82	113.10
2	GB	1933	G	N1-C6-O6	5.45	123.17	119.90
2	B	1903	G	N3-C4-C5	5.45	131.32	128.60
2	GB	1936	A	N1-C6-N6	5.45	121.87	118.60
2	B	1200	C	C6-N1-C2	-5.44	118.12	120.30
2	B	1602	U	OP1-P-O3'	5.44	117.17	105.20
2	B	1618	A	C5-C6-N1	5.44	120.42	117.70
2	GB	2209	C	N3-C4-C5	5.44	124.08	121.90
2	B	2837	G	N1-C6-O6	5.44	123.16	119.90
2	B	1256	G	C4-C5-N7	5.44	112.98	110.80
2	B	1823	G	C6-C5-N7	-5.44	127.14	130.40
2	GB	1926	U	C5-C4-O4	5.44	129.16	125.90
2	GB	2009	G	N1-C6-O6	5.44	123.16	119.90
2	B	1612	C	C6-N1-C2	5.44	122.47	120.30
2	GB	1981	A	C5-N7-C8	-5.44	101.18	103.90
2	GB	2722	G	N1-C6-O6	5.44	123.16	119.90
2	B	1329	U	C6-N1-C2	5.43	124.26	121.00
2	GB	34	C	C6-N1-C2	-5.43	118.13	120.30
2	GB	1343	G	C4-N9-C1'	5.43	133.56	126.50
1	FB	1397	C	N3-C4-C5	-5.43	119.73	121.90
1	A	557	G	C4-N9-C1'	5.43	133.56	126.50
2	B	678	C	N3-C4-N4	-5.43	114.20	118.00
2	B	739	G	O5'-P-OP2	-5.43	100.81	105.70
2	B	806	C	C5-C6-N1	5.43	123.72	121.00
2	B	1384	A	N1-C6-N6	-5.43	115.34	118.60
2	GB	1382	G	N3-C4-N9	-5.43	122.74	126.00
2	B	1255	U	C2-N1-C1'	-5.42	111.19	117.70
2	GB	1774	C	N3-C4-C5	5.42	124.07	121.90
2	B	727	A	C6-C5-N7	-5.42	128.50	132.30
2	GB	791	C	C2-N1-C1'	-5.42	112.83	118.80
2	GB	974(A)	G	N7-C8-N9	5.42	115.81	113.10
1	A	848	C	C5-C6-N1	5.42	123.71	121.00
2	B	2500	U	O4'-C1'-N1	5.42	112.54	108.20
1	FB	201	C	C6-N1-C2	-5.42	118.13	120.30
2	B	707	G	C2-N3-C4	-5.42	109.19	111.90
2	B	791	C	C6-N1-C2	5.42	122.47	120.30
2	B	1498	C	C6-N1-C2	-5.42	118.13	120.30
2	B	1595	G	C8-N9-C4	-5.42	104.23	106.40
2	B	2502	G	C4-C5-N7	5.42	112.97	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	1841	U	N3-C4-C5	-5.42	111.35	114.60
2	B	739	G	OP2-P-O3'	5.42	117.11	105.20
2	GB	1382	G	N3-C2-N2	-5.42	116.11	119.90
2	B	1202	C	N1-C2-O2	-5.41	115.65	118.90
2	B	2592	G	N7-C8-N9	5.41	115.81	113.10
2	GB	573	G	OP2-P-O3'	5.41	117.11	105.20
2	GB	1256	G	C4-N9-C1'	5.41	133.54	126.50
2	B	809	G	N3-C4-N9	5.41	129.25	126.00
2	B	944	G	N1-C2-N3	5.41	127.15	123.90
4	IA	75	C	N3-C4-C5	-5.41	119.73	121.90
2	GB	493	G	N3-C4-N9	-5.41	122.75	126.00
2	GB	707	G	N1-C6-O6	5.41	123.15	119.90
2	GB	2059	A	N7-C8-N9	-5.41	111.09	113.80
2	B	1961	C	N3-C4-C5	5.41	124.06	121.90
2	B	1757	U	N3-C4-C5	5.41	117.84	114.60
2	GB	240	G	C4-C5-N7	-5.41	108.64	110.80
2	GB	698	C	C6-N1-C2	5.40	122.46	120.30
2	B	1352	U	C5-C6-N1	-5.40	120.00	122.70
2	B	1793	C	N1-C2-N3	5.40	122.98	119.20
2	B	2592	G	N3-C4-C5	-5.40	125.90	128.60
2	GB	25	U	N1-C2-N3	5.40	118.14	114.90
2	GB	2581	G	N7-C8-N9	5.40	115.80	113.10
2	GB	945	A	C6-C5-N7	-5.40	128.52	132.30
2	GB	1751	C	C6-N1-C2	5.40	122.46	120.30
1	A	1158	C	N3-C2-O2	-5.40	118.12	121.90
2	B	1142	C	C5-C6-N1	5.40	123.70	121.00
2	GB	1785	A	N1-C6-N6	5.40	121.84	118.60
2	GB	1272	A	O4'-C1'-N9	5.39	112.52	108.20
2	GB	2059	A	C5-C6-N6	-5.39	119.39	123.70
1	A	1419	G	C5-C6-N1	-5.39	108.80	111.50
2	B	1578	U	N1-C2-N3	5.39	118.14	114.90
2	B	1187	G	N1-C6-O6	5.39	123.13	119.90
2	B	1671	U	C2-N1-C1'	5.39	124.17	117.70
2	B	1999	C	C5-C6-N1	-5.39	118.31	121.00
1	FB	121	C	N1-C2-O2	5.39	122.13	118.90
2	B	786	C	OP1-P-O3'	5.38	117.05	105.20
2	B	1769	G	N1-C2-N3	5.38	127.13	123.90
2	GB	2713	A	OP2-P-O3'	5.38	117.05	105.20
2	B	1769	G	C4-C5-C6	5.38	122.03	118.80
2	GB	1379	A	N1-C2-N3	-5.38	126.61	129.30
2	GB	459	U	C2-N1-C1'	5.38	124.15	117.70
2	B	1353	A	C6-N1-C2	-5.38	115.38	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	812	C	N1-C2-O2	5.37	122.12	118.90
2	B	2011	U	N3-C2-O2	5.37	125.96	122.20
4	IA	39	C	N1-C2-O2	-5.37	115.68	118.90
2	B	1219	G	C8-N9-C4	5.37	108.55	106.40
2	B	1595	G	N9-C4-C5	5.37	107.55	105.40
1	FB	485	G	N3-C4-N9	-5.37	122.78	126.00
2	B	929	G	N1-C6-O6	5.37	123.12	119.90
2	GB	1762	A	C5-C6-N6	5.37	128.00	123.70
2	B	1258	C	N3-C4-C5	5.37	124.05	121.90
1	FB	231	G	C5-C6-N1	-5.37	108.81	111.50
2	GB	71	A	C2-N3-C4	-5.37	107.92	110.60
2	GB	974(A)	G	C8-N9-C4	-5.37	104.25	106.40
2	B	450	G	N1-C2-N3	5.37	127.12	123.90
2	GB	945	A	N9-C4-C5	-5.37	103.65	105.80
2	B	792	G	N1-C6-O6	-5.36	116.68	119.90
2	B	1259	G	N3-C2-N2	-5.36	116.15	119.90
2	B	1627	G	N1-C6-O6	5.36	123.12	119.90
2	B	1984	G	C4-C5-C6	5.36	122.02	118.80
2	B	2553	G	N3-C4-N9	5.36	129.22	126.00
2	B	2580	U	C5-C4-O4	5.36	129.12	125.90
2	GB	2588	G	C2-N3-C4	-5.36	109.22	111.90
2	B	1595	G	N3-C2-N2	-5.36	116.15	119.90
1	FB	557	G	C4-N9-C1'	5.36	133.47	126.50
2	GB	1961	C	C5-C6-N1	-5.36	118.32	121.00
2	GB	2011	U	N3-C2-O2	5.36	125.95	122.20
2	B	304	G	C5-C6-N1	-5.36	108.82	111.50
2	B	1694	C	N3-C4-C5	5.36	124.04	121.90
2	GB	974(A)	G	C5-C6-O6	-5.36	125.39	128.60
1	FB	806	C	C6-N1-C2	5.35	122.44	120.30
1	FB	1158	C	N3-C2-O2	-5.35	118.15	121.90
2	B	208	C	C6-N1-C2	5.35	122.44	120.30
2	B	2491	U	C6-N1-C2	5.35	124.21	121.00
2	B	2433	A	O5'-P-OP1	-5.35	100.89	105.70
1	FB	1449	C	C6-N1-C2	-5.35	118.16	120.30
2	GB	1647	G	O5'-P-OP2	5.35	117.12	110.70
2	B	1567	A	N1-C6-N6	-5.35	115.39	118.60
1	A	1158	C	C2-N1-C1'	5.34	124.68	118.80
2	GB	68	G	C5-C6-N1	-5.34	108.83	111.50
2	GB	935	C	C6-N1-C2	5.34	122.44	120.30
1	A	754	C	C2-N3-C4	5.34	122.57	119.90
2	B	810	U	C5-C6-N1	-5.34	120.03	122.70
2	B	750	A	C8-N9-C4	-5.33	103.67	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	791	C	N3-C4-N4	-5.33	114.27	118.00
2	GB	1617	C	C2-N1-C1'	-5.33	112.93	118.80
2	B	1849	G	N1-C6-O6	5.33	123.10	119.90
1	FB	285	G	C8-N9-C4	5.33	108.53	106.40
2	GB	589	C	O5'-P-OP2	-5.33	100.90	105.70
2	GB	2032	G	N7-C8-N9	5.33	115.77	113.10
2	B	2072	G	C6-C5-N7	-5.33	127.20	130.40
2	GB	727	A	C4-C5-C6	5.33	119.67	117.00
2	GB	1471	A	C4-C5-C6	5.33	119.67	117.00
2	GB	1779	U	O5'-P-OP1	-5.33	100.90	105.70
2	B	90	U	N3-C2-O2	-5.33	118.47	122.20
2	B	2022	U	N1-C2-O2	5.33	126.53	122.80
2	GB	2896	C	C6-N1-C2	-5.33	118.17	120.30
2	GB	1521	G	N3-C4-C5	-5.33	125.94	128.60
2	B	494	G	C5-C6-O6	-5.33	125.41	128.60
1	A	56	U	C5-C6-N1	5.32	125.36	122.70
2	B	1256	G	C6-C5-N7	-5.32	127.21	130.40
1	FB	301	G	N1-C6-O6	5.32	123.09	119.90
2	GB	25	U	N3-C2-O2	-5.32	118.47	122.20
2	GB	1814	G	C4-C5-C6	5.32	121.99	118.80
2	B	790	C	N1-C2-O2	5.32	122.09	118.90
2	GB	187	G	C5-C6-O6	-5.32	125.41	128.60
2	GB	1264	G	OP2-P-O3'	5.32	116.91	105.20
2	GB	2050	C	N1-C2-O2	-5.32	115.71	118.90
2	GB	2365	G	N3-C4-C5	-5.32	125.94	128.60
2	B	1022	G	N9-C4-C5	5.32	107.53	105.40
3	C	107	U	O4'-C1'-N1	5.32	112.45	108.20
2	GB	773	U	N1-C2-O2	-5.32	119.08	122.80
2	GB	1610	A	C2-N3-C4	5.32	113.26	110.60
2	B	163	U	C2-N1-C1'	5.32	124.08	117.70
2	GB	2838	G	C8-N9-C4	-5.32	104.27	106.40
2	B	16	G	N1-C2-N3	5.31	127.09	123.90
2	GB	568	U	C5-C4-O4	5.31	129.09	125.90
2	B	495	G	C6-C5-N7	-5.31	127.21	130.40
1	FB	111	G	N3-C4-C5	5.31	131.25	128.60
1	A	1397	C	C2-N1-C1'	5.31	124.64	118.80
2	GB	767	U	C2-N1-C1'	-5.31	111.33	117.70
2	GB	1351	C	OP2-P-O3'	5.31	116.88	105.20
2	B	757	U	C5-C4-O4	5.31	129.08	125.90
2	GB	1633	G	N1-C6-O6	5.31	123.08	119.90
2	GB	34	C	C2-N3-C4	5.31	122.55	119.90
2	B	1310	G	N1-C2-N3	5.30	127.08	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1849	G	N3-C4-C5	5.30	131.25	128.60
2	B	1924	C	C6-N1-C2	-5.30	118.18	120.30
2	B	586	A	N1-C6-N6	5.30	121.78	118.60
2	B	2092	U	N3-C2-O2	-5.30	118.49	122.20
2	B	264	C	N1-C2-O2	5.30	122.08	118.90
2	B	673	C	N3-C2-O2	-5.30	118.19	121.90
2	B	1250	G	N1-C6-O6	5.30	123.08	119.90
2	GB	471	A	O5'-P-OP1	5.30	117.06	110.70
2	B	1982	C	C5-C4-N4	-5.30	116.49	120.20
2	B	2057	A	C2-N3-C4	-5.30	107.95	110.60
2	B	1992	G	P-O3'-C3'	5.30	126.06	119.70
2	GB	1903	G	N3-C4-C5	5.30	131.25	128.60
2	B	743	G	C2-N3-C4	-5.30	109.25	111.90
4	IA	52	G	N3-C4-N9	5.30	129.18	126.00
2	B	1819	A	N1-C6-N6	5.29	121.78	118.60
2	GB	2419	U	C5-C6-N1	5.29	125.35	122.70
2	B	1688	U	C2-N1-C1'	-5.29	111.35	117.70
3	C	88	C	C6-N1-C2	-5.29	118.18	120.30
2	B	1774	C	C6-N1-C2	5.29	122.42	120.30
1	FB	1432	G	N1-C6-O6	5.29	123.07	119.90
2	GB	1602	U	N1-C2-N3	5.29	118.07	114.90
1	FB	362	G	C8-N9-C4	-5.29	104.29	106.40
2	GB	248	G	N1-C6-O6	5.29	123.07	119.90
2	GB	701	G	N1-C6-O6	5.29	123.07	119.90
2	GB	1997	G	C8-N9-C4	5.29	108.51	106.40
2	B	242	G	N3-C4-C5	5.28	131.24	128.60
2	B	785	G	O5'-P-OP1	-5.28	100.94	105.70
2	B	1187	G	C6-C5-N7	-5.28	127.23	130.40
2	GB	187	G	N9-C4-C5	-5.28	103.29	105.40
2	GB	570	G	N9-C4-C5	5.28	107.51	105.40
2	B	684	G	N9-C4-C5	5.28	107.51	105.40
2	B	155	C	N1-C2-O2	5.28	122.07	118.90
2	B	2052	G	C5-C6-O6	-5.28	125.43	128.60
2	GB	579	G	C2-N3-C4	5.28	114.54	111.90
2	B	1021	A	N7-C8-N9	5.28	116.44	113.80
2	B	2318	G	C5-C6-O6	-5.28	125.43	128.60
2	B	165	U	N3-C2-O2	-5.28	118.51	122.20
2	B	383	U	C5-C6-N1	-5.28	120.06	122.70
2	B	2422	A	C8-N9-C4	5.28	107.91	105.80
2	B	2595	G	N3-C2-N2	-5.28	116.21	119.90
2	GB	2325	G	C8-N9-C4	-5.27	104.29	106.40
2	B	261	G	C2-N3-C4	-5.27	109.27	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	974(A)	G	N1-C6-O6	5.27	123.06	119.90
2	B	695	G	C5-C6-N1	-5.27	108.87	111.50
2	GB	2226	C	N3-C2-O2	-5.26	118.21	121.90
2	B	445	C	OP2-P-O3'	5.26	116.77	105.20
2	B	1272	A	O4'-C1'-N9	5.26	112.41	108.20
2	GB	757	U	N3-C2-O2	-5.26	118.52	122.20
2	GB	757	U	N1-C2-N3	5.26	118.06	114.90
2	GB	2714	G	O5'-P-OP2	5.26	117.01	110.70
2	B	265	A	C2-N3-C4	-5.26	107.97	110.60
2	B	2600	A	N9-C4-C5	5.26	107.90	105.80
2	GB	1022	G	N3-C2-N2	-5.26	116.22	119.90
2	GB	1951	U	C6-N1-C2	-5.25	117.85	121.00
2	B	2051	A	N1-C2-N3	5.25	131.93	129.30
2	GB	653	C	C6-N1-C2	-5.25	118.20	120.30
2	GB	2437	U	N3-C4-C5	-5.25	111.45	114.60
2	B	751	A	N1-C6-N6	-5.25	115.45	118.60
1	FB	858	G	C4-N9-C1'	5.25	133.32	126.50
2	B	1021	A	C5-N7-C8	-5.25	101.28	103.90
2	B	1906	G	N1-C6-O6	5.25	123.05	119.90
2	B	2002	G	C5-C6-O6	-5.25	125.45	128.60
2	B	2242	G	C4-C5-N7	-5.25	108.70	110.80
2	GB	1769	G	O5'-P-OP2	-5.25	100.98	105.70
2	B	391	G	C5-C6-N1	-5.25	108.88	111.50
2	GB	264	C	N3-C2-O2	-5.25	118.23	121.90
2	GB	1940	U	N3-C4-C5	-5.25	111.45	114.60
2	GB	2213	U	N3-C2-O2	-5.25	118.53	122.20
2	GB	2794	C	C5-C6-N1	5.25	123.62	121.00
1	A	1137	C	C6-N1-C2	-5.25	118.20	120.30
5	JB	182	LEU	CA-CB-CG	-5.25	103.24	115.30
2	GB	197	A	OP2-P-O3'	5.24	116.74	105.20
2	GB	242	G	C8-N9-C1'	5.24	133.82	127.00
2	GB	1823	G	N1-C6-O6	5.24	123.05	119.90
2	B	1022	G	N3-C2-N2	-5.24	116.23	119.90
2	GB	2435	A	C8-N9-C4	-5.24	103.70	105.80
2	B	1508	A	C8-N9-C4	-5.24	103.70	105.80
2	GB	1256	G	C8-N9-C1'	-5.24	120.19	127.00
2	GB	2213	U	C2-N1-C1'	5.24	123.99	117.70
2	GB	1535	U	N1-C2-O2	5.24	126.47	122.80
2	GB	929	G	C5-C6-N1	-5.24	108.88	111.50
1	A	972	C	C6-N1-C2	-5.24	118.21	120.30
2	B	187	G	C6-C5-N7	-5.24	127.26	130.40
1	FB	326	G	C5-C6-N1	-5.23	108.88	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	115	C	O5'-P-OP1	-5.23	100.99	105.70
2	GB	784	A	C5-C6-N6	5.23	127.89	123.70
2	GB	839	U	C5-C4-O4	5.23	129.04	125.90
2	B	1817	G	OP2-P-O3'	5.23	116.71	105.20
2	GB	736	C	C6-N1-C2	5.23	122.39	120.30
2	GB	2722	G	C4-N9-C1'	5.23	133.30	126.50
2	B	2715	C	N3-C4-C5	5.23	123.99	121.90
1	FB	1419	G	C5-C6-N1	-5.23	108.89	111.50
2	B	1841	U	C6-N1-C2	-5.23	117.86	121.00
2	GB	1965	C	C2-N1-C1'	-5.23	113.05	118.80
2	B	1382	G	N3-C4-C5	5.23	131.21	128.60
2	B	965	C	N3-C4-C5	-5.22	119.81	121.90
2	B	2274	A	N3-C4-C5	5.22	130.46	126.80
2	B	2433	A	N1-C6-N6	5.22	121.73	118.60
2	B	1568	G	N3-C4-N9	-5.22	122.87	126.00
2	B	2686	G	C6-C5-N7	-5.22	127.27	130.40
2	GB	2502	G	C6-C5-N7	-5.22	127.27	130.40
2	GB	979	G	C5-N7-C8	-5.22	101.69	104.30
2	B	2058	A	N9-C4-C5	5.21	107.89	105.80
1	FB	1478	C	C6-N1-C2	5.21	122.39	120.30
2	GB	1343	G	N3-C4-C5	-5.21	125.99	128.60
2	B	450	G	N3-C2-N2	-5.21	116.25	119.90
2	B	479	A	O4'-C1'-N9	5.21	112.37	108.20
2	B	685	A	O5'-P-OP1	-5.21	101.01	105.70
1	FB	58	C	C6-N1-C2	-5.21	118.22	120.30
2	GB	528	A	P-O3'-C3'	5.21	125.95	119.70
2	GB	1661	G	N3-C4-C5	5.21	131.21	128.60
2	GB	2010	G	N1-C6-O6	5.21	123.03	119.90
2	GB	2213	U	N1-C2-O2	5.21	126.45	122.80
2	GB	2447	G	C5-C6-O6	-5.21	125.47	128.60
2	B	116	C	C6-N1-C2	-5.21	118.22	120.30
2	GB	822	U	O4'-C1'-N1	5.21	112.37	108.20
1	FB	773	G	N1-C6-O6	5.21	123.02	119.90
1	A	1393	U	N3-C4-O4	5.20	123.04	119.40
2	B	1937	A	C8-N9-C4	5.20	107.88	105.80
2	GB	25	U	C6-N1-C2	-5.20	117.88	121.00
2	B	1772	G	C4-N9-C1'	-5.20	119.74	126.50
2	B	2571	C	C6-N1-C2	5.20	122.38	120.30
2	B	1613	G	OP1-P-O3'	5.20	116.64	105.20
1	FB	370	C	C6-N1-C2	5.20	122.38	120.30
1	A	111	G	N3-C4-N9	-5.20	122.88	126.00
2	B	2595	G	N7-C8-N9	-5.20	110.50	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	391	G	C5-C6-N1	-5.20	108.90	111.50
2	B	813	U	C5-C4-O4	5.19	129.02	125.90
1	A	1397	C	N3-C4-C5	-5.19	119.82	121.90
2	B	1371	G	C5-C6-N1	-5.19	108.90	111.50
2	B	1688	U	C6-N1-C1'	5.19	128.47	121.20
2	B	2082	A	C8-N9-C4	5.19	107.88	105.80
2	B	2499	C	C5-C4-N4	-5.19	116.57	120.20
1	FB	1417	G	C5-C6-N1	-5.19	108.90	111.50
2	GB	127	A	C8-N9-C4	5.19	107.88	105.80
2	GB	240	G	C5-C6-N1	-5.19	108.90	111.50
2	GB	1388	G	C8-N9-C4	5.19	108.48	106.40
2	B	2365	G	N3-C4-C5	-5.19	126.00	128.60
2	GB	944	G	N1-C6-O6	5.19	123.01	119.90
2	GB	1780	A	C8-N9-C4	5.19	107.88	105.80
2	B	861	A	OP2-P-O3'	5.19	116.61	105.20
2	B	1535	U	N1-C2-O2	5.19	126.43	122.80
2	B	144	C	C6-N1-C2	5.19	122.38	120.30
2	B	1622	G	N1-C6-O6	5.19	123.01	119.90
2	B	1697	G	C4-C5-N7	5.19	112.88	110.80
2	B	2249	U	C5-C6-N1	5.19	125.29	122.70
2	GB	1309	G	N1-C6-O6	5.19	123.01	119.90
2	GB	1632	A	C5-N7-C8	-5.19	101.31	103.90
2	B	1828	G	C8-N9-C4	-5.18	104.33	106.40
2	GB	228	A	C6-C5-N7	-5.18	128.67	132.30
2	GB	2870	C	C2-N1-C1'	5.18	124.50	118.80
2	B	228	A	N1-C6-N6	5.18	121.71	118.60
2	B	1984	G	N7-C8-N9	5.18	115.69	113.10
2	B	1597	A	N1-C6-N6	-5.18	115.49	118.60
2	GB	1957	C	N1-C2-O2	-5.18	115.79	118.90
2	GB	2029	G	C8-N9-C4	-5.18	104.33	106.40
2	GB	2522	U	C5-C6-N1	-5.18	120.11	122.70
2	GB	2549	G	OP1-P-O3'	5.18	116.60	105.20
2	GB	528	A	C5-C6-N1	-5.18	115.11	117.70
2	GB	2588	G	C5-C6-N1	-5.18	108.91	111.50
1	FB	775	G	N9-C4-C5	-5.18	103.33	105.40
2	B	1573	G	C4-N9-C1'	-5.17	119.77	126.50
2	B	945	A	OP2-P-O3'	5.17	116.58	105.20
2	B	2069	G	OP2-P-O3'	5.17	116.58	105.20
2	GB	2240	C	OP2-P-O3'	5.17	116.58	105.20
2	B	2213	U	N1-C2-O2	5.17	126.42	122.80
2	B	2499	C	C2-N1-C1'	5.17	124.49	118.80
2	GB	1772	G	C4-N9-C1'	-5.17	119.78	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	1154	G	N9-C4-C5	-5.17	103.33	105.40
2	B	455	C	N1-C2-O2	5.17	122.00	118.90
2	B	527	C	O4'-C1'-N1	5.17	112.33	108.20
2	B	1983	C	C5-C6-N1	-5.17	118.42	121.00
2	GB	2860	A	C8-N9-C4	5.17	107.87	105.80
2	B	778	G	C6-C5-N7	-5.17	127.30	130.40
2	GB	738	G	O4'-C1'-N9	-5.17	104.07	108.20
2	B	248	G	C2-N3-C4	-5.16	109.32	111.90
2	B	2595	G	C8-N9-C4	5.16	108.47	106.40
2	GB	776	G	C5-C6-N1	-5.16	108.92	111.50
2	B	1376	C	N3-C2-O2	5.16	125.51	121.90
2	B	2611	U	C6-N1-C2	-5.16	117.90	121.00
2	B	2265	U	N3-C2-O2	-5.16	118.59	122.20
2	GB	2321	G	C8-N9-C4	-5.16	104.34	106.40
1	A	1209	C	N1-C2-O2	5.16	122.00	118.90
1	FB	258	G	N1-C6-O6	5.16	123.00	119.90
2	GB	948	G	O5'-P-OP1	5.16	116.89	110.70
2	B	563	G	N1-C6-O6	5.16	122.99	119.90
2	B	2210	G	C4-C5-N7	-5.16	108.74	110.80
2	GB	1567	A	N1-C2-N3	5.16	131.88	129.30
2	B	693	C	C2-N3-C4	-5.15	117.32	119.90
2	B	1763	G	C8-N9-C4	5.15	108.46	106.40
2	B	2259	G	C4-C5-N7	5.15	112.86	110.80
2	GB	155	C	C6-N1-C2	-5.15	118.24	120.30
2	GB	734	A	C5-C6-N1	-5.15	115.12	117.70
2	B	669	G	O5'-P-OP2	-5.15	101.06	105.70
2	B	1838	C	N1-C2-N3	-5.15	115.59	119.20
2	B	2233	U	N1-C2-N3	5.15	117.99	114.90
2	GB	1602	U	N1-C2-O2	-5.15	119.20	122.80
2	B	653	C	N1-C2-O2	5.15	121.99	118.90
2	B	1403	C	O5'-P-OP2	-5.15	101.07	105.70
2	B	1891	G	C5-C6-N1	-5.15	108.93	111.50
2	GB	1204	A	N1-C6-N6	5.15	121.69	118.60
2	GB	2447	G	OP2-P-O3'	-5.15	93.88	105.20
2	B	2607	G	C6-C5-N7	-5.15	127.31	130.40
2	B	1673	U	C6-N1-C2	5.14	124.09	121.00
2	B	1902	C	N1-C2-O2	5.14	121.99	118.90
2	B	1934	C	O5'-P-OP2	-5.14	101.07	105.70
2	B	2683	C	N3-C4-C5	-5.14	119.84	121.90
2	GB	1849	G	N3-C4-C5	5.14	131.17	128.60
2	B	450	G	C8-N9-C1'	-5.14	120.31	127.00
2	B	573	G	C8-N9-C1'	-5.14	120.31	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	391	G	C4-N9-C1'	5.14	133.18	126.50
2	GB	2065	C	C5-C4-N4	-5.14	116.60	120.20
1	A	362	G	N7-C8-N9	5.14	115.67	113.10
2	B	683	C	C6-N1-C2	5.14	122.36	120.30
2	B	1969	A	N1-C6-N6	-5.14	115.52	118.60
2	GB	444	C	C6-N1-C2	5.14	122.36	120.30
2	GB	1790	C	O5'-P-OP2	5.14	116.87	110.70
2	GB	1404	C	N1-C2-O2	5.14	121.98	118.90
2	GB	372	G	N7-C8-N9	-5.13	110.53	113.10
2	GB	2249	U	C5-C6-N1	5.13	125.27	122.70
2	B	528	A	C5-C6-N1	-5.13	115.13	117.70
2	B	809	G	C4-N9-C1'	5.13	133.17	126.50
2	GB	1279	G	C5-C6-O6	5.13	131.68	128.60
2	B	1379	A	C8-N9-C4	5.13	107.85	105.80
1	FB	484	G	C4-N9-C1'	-5.13	119.84	126.50
1	FB	848	C	C5-C6-N1	5.13	123.56	121.00
2	GB	1187	G	C4-N9-C1'	5.12	133.16	126.50
1	A	1429	C	N3-C2-O2	-5.12	118.32	121.90
2	GB	1661	G	C8-N9-C4	5.12	108.45	106.40
2	B	2061	G	C4-C5-N7	5.12	112.85	110.80
2	B	330	A	N1-C2-N3	5.12	131.86	129.30
2	B	1381	G	C4-N9-C1'	5.12	133.15	126.50
2	GB	165	U	N3-C2-O2	-5.12	118.62	122.20
2	GB	573	G	C8-N9-C1'	-5.12	120.35	127.00
1	A	299	G	C5-C6-N1	-5.11	108.94	111.50
2	B	1673	U	N3-C4-C5	5.11	117.67	114.60
2	B	1793	C	C6-N1-C2	-5.11	118.25	120.30
2	GB	1790	C	O5'-P-OP1	-5.11	101.10	105.70
1	A	725	G	N7-C8-N9	5.11	115.66	113.10
2	B	1666	G	C4-N9-C1'	-5.11	119.85	126.50
2	B	459	U	O5'-P-OP2	-5.11	101.10	105.70
2	GB	1451	C	C6-N1-C2	5.11	122.34	120.30
2	GB	2488	A	N1-C6-N6	5.11	121.67	118.60
2	B	2249	U	N3-C4-O4	5.11	122.98	119.40
2	GB	1984	G	N3-C4-N9	5.11	129.06	126.00
2	B	1026	U	N1-C2-N3	-5.11	111.83	114.90
2	B	2870	C	C2-N1-C1'	5.11	124.42	118.80
2	GB	128	C	C6-N1-C2	5.11	122.34	120.30
2	GB	2431	U	N1-C2-N3	5.11	117.97	114.90
2	GB	193	U	C4-C5-C6	5.11	122.76	119.70
2	B	464	U	O5'-P-OP2	-5.10	101.11	105.70
2	B	2603	G	C6-C5-N7	-5.10	127.34	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	721	G	N1-C6-O6	5.10	122.96	119.90
2	B	1576	U	N1-C2-N3	5.10	117.96	114.90
2	GB	208	C	C6-N1-C2	5.10	122.34	120.30
2	GB	1620	G	C4-C5-N7	5.10	112.84	110.80
2	B	2068	U	C5-C6-N1	-5.10	120.15	122.70
2	GB	942	G	OP2-P-O3'	5.10	116.42	105.20
2	GB	2032	G	C5-C6-O6	-5.10	125.54	128.60
1	A	805	C	C4-C5-C6	-5.10	114.85	117.40
2	B	698	C	C6-N1-C2	5.10	122.34	120.30
2	B	1840	G	N1-C6-O6	5.10	122.96	119.90
2	B	2069	G	C4-C5-C6	5.10	121.86	118.80
2	B	2755	C	C5-C6-N1	5.10	123.55	121.00
2	B	1561	G	N1-C2-N2	5.09	120.78	116.20
2	B	2581	G	C5-C6-O6	5.09	131.66	128.60
2	GB	862	G	C8-N9-C4	-5.09	104.36	106.40
2	GB	1647	G	O4'-C1'-N9	-5.09	104.12	108.20
2	GB	1937	A	C8-N9-C4	5.09	107.84	105.80
2	B	481	G	O5'-P-OP2	-5.09	101.12	105.70
2	GB	1844	C	N3-C4-C5	5.09	123.94	121.90
2	B	1204	A	N1-C6-N6	5.09	121.66	118.60
2	B	1360	A	C8-N9-C4	5.09	107.84	105.80
2	GB	2326	C	C6-N1-C2	-5.09	118.26	120.30
2	B	464	U	N1-C2-N3	5.09	117.95	114.90
2	B	1314	C	OP2-P-O3'	5.09	116.40	105.20
2	B	2072	G	C8-N9-C4	-5.09	104.36	106.40
2	B	2267	A	C8-N9-C4	-5.09	103.76	105.80
2	B	1021	A	C8-N9-C4	-5.09	103.77	105.80
2	B	165	U	C2-N1-C1'	5.09	123.81	117.70
2	B	968	G	C5-C6-N1	-5.09	108.96	111.50
2	GB	579	G	C8-N9-C4	-5.09	104.36	106.40
2	GB	1979	C	C6-N1-C2	-5.09	118.27	120.30
2	GB	2318	G	N1-C6-O6	5.09	122.95	119.90
2	GB	2410	G	N1-C6-O6	5.09	122.95	119.90
2	GB	2866	U	C6-N1-C2	-5.09	117.95	121.00
2	B	785	G	O5'-P-OP2	5.08	116.80	110.70
2	GB	1033	U	N1-C2-O2	5.08	126.36	122.80
1	FB	281	G	N1-C6-O6	5.08	122.95	119.90
2	GB	706	A	C2-N3-C4	-5.08	108.06	110.60
2	GB	1697	G	C6-C5-N7	-5.08	127.35	130.40
2	GB	1891	G	C4-C5-C6	5.08	121.85	118.80
2	B	1982	C	C6-N1-C2	5.08	122.33	120.30
2	B	2685	G	C4-C5-N7	-5.08	108.77	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2686	G	N3-C4-N9	5.08	129.05	126.00
2	B	132	G	N1-C6-O6	5.08	122.95	119.90
2	B	731	C	N1-C2-N3	-5.08	115.64	119.20
2	B	2056	G	C5-N7-C8	-5.08	101.76	104.30
2	GB	1671	U	C5-C6-N1	5.08	125.24	122.70
2	B	242	G	C8-N9-C1'	5.08	133.60	127.00
2	B	784	A	N9-C4-C5	5.08	107.83	105.80
2	GB	2491	U	C6-N1-C2	5.08	124.05	121.00
2	B	738	G	O4'-C1'-N9	-5.07	104.14	108.20
2	B	1263	U	C5-C6-N1	-5.07	120.16	122.70
2	GB	1376	C	C5-C4-N4	-5.07	116.65	120.20
2	GB	1790	C	C5-C6-N1	-5.07	118.46	121.00
2	B	872	A	N1-C6-N6	-5.07	115.56	118.60
2	GB	2866	U	C2-N1-C1'	5.07	123.78	117.70
1	FB	82	U	C5-C6-N1	5.07	125.23	122.70
2	B	2010	G	C8-N9-C4	-5.07	104.37	106.40
2	B	665	C	C6-N1-C2	5.06	122.33	120.30
2	B	213	A	C8-N9-C4	5.06	107.83	105.80
1	A	1516	G	N1-C6-O6	-5.06	116.86	119.90
2	B	138	G	C5-N7-C8	-5.06	101.77	104.30
2	B	1353	A	OP2-P-O3'	5.06	116.33	105.20
2	GB	760	G	N1-C6-O6	5.06	122.94	119.90
2	GB	1154	G	N3-C4-N9	5.06	129.03	126.00
1	A	1075	C	C6-N1-C2	5.06	122.32	120.30
2	B	262	A	C5-C6-N6	-5.06	119.66	123.70
2	B	533	G	C4-N9-C1'	5.06	133.07	126.50
2	B	671	C	C5-C6-N1	-5.05	118.47	121.00
2	B	1763	G	N3-C4-C5	5.05	131.13	128.60
2	B	1779	U	OP1-P-O3'	5.05	116.32	105.20
2	GB	29	U	N3-C2-O2	-5.05	118.66	122.20
2	GB	1685	C	C6-N1-C2	5.05	122.32	120.30
2	GB	2087	G	N1-C6-O6	5.05	122.93	119.90
2	B	2501	C	OP2-P-O3'	5.05	116.31	105.20
2	GB	2516	G	C8-N9-C4	5.05	108.42	106.40
2	B	1578	U	C6-N1-C2	-5.05	117.97	121.00
1	A	800	G	OP2-P-O3'	5.05	116.30	105.20
2	B	1830	C	C5-C4-N4	-5.05	116.67	120.20
2	B	2775	A	N1-C6-N6	5.05	121.63	118.60
2	B	778	G	C5-C6-N1	-5.04	108.98	111.50
2	GB	140	A	N1-C6-N6	5.04	121.63	118.60
1	A	899	C	C6-N1-C2	5.04	122.32	120.30
2	GB	1967	C	C6-N1-C2	5.04	122.32	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	750	A	N7-C8-N9	5.04	116.32	113.80
2	GB	2303	G	C5-C6-N1	-5.04	108.98	111.50
2	B	75	G	C8-N9-C4	-5.04	104.39	106.40
2	B	163	U	C5-C6-N1	5.04	125.22	122.70
2	B	563	G	C4-C5-N7	5.04	112.81	110.80
2	GB	1379	A	C8-N9-C4	5.04	107.82	105.80
2	GB	1678	G	C8-N9-C4	-5.04	104.39	106.40
2	B	1823	G	C4-C5-C6	5.04	121.82	118.80
2	GB	2249	U	C4-C5-C6	5.04	122.72	119.70
43	XC	79	LEU	CA-CB-CG	5.04	126.88	115.30
2	B	487	C	C5-C4-N4	-5.03	116.68	120.20
2	B	845	G	C4-C5-N7	5.03	112.81	110.80
2	GB	1256	G	C4-C5-N7	5.03	112.81	110.80
2	B	491	G	N3-C2-N2	-5.03	116.38	119.90
2	GB	933	A	O4'-C1'-N9	5.03	112.22	108.20
2	GB	2698	U	N3-C4-C5	-5.03	111.58	114.60
2	B	600	G	C8-N9-C4	5.03	108.41	106.40
2	GB	2318	G	C6-C5-N7	-5.03	127.38	130.40
2	B	391	G	O4'-C1'-N9	-5.03	104.18	108.20
2	B	776	G	O4'-C1'-N9	-5.03	104.18	108.20
2	GB	1999	C	C6-N1-C2	5.03	122.31	120.30
2	B	1187	G	C8-N9-C4	-5.03	104.39	106.40
2	GB	1356	G	C5-C6-N1	-5.03	108.99	111.50
2	B	751	A	C5-C6-N6	5.02	127.72	123.70
2	GB	55	G	N3-C2-N2	-5.02	116.38	119.90
2	B	780	G	C8-N9-C4	-5.02	104.39	106.40
2	B	2276	G	N1-C6-O6	5.02	122.91	119.90
2	B	2317	C	N3-C2-O2	-5.02	118.38	121.90
2	B	541	C	C6-N1-C2	-5.02	118.29	120.30
1	A	1392	G	C6-C5-N7	-5.02	127.39	130.40
2	B	200	U	C5-C4-O4	5.02	128.91	125.90
2	B	333	G	C4-N9-C1'	5.02	133.02	126.50
2	B	2430	A	C8-N9-C1'	-5.02	118.67	127.70
2	GB	528	A	N1-C6-N6	5.02	121.61	118.60
3	HB	65	C	N1-C2-O2	5.02	121.91	118.90
2	GB	181	A	N1-C6-N6	-5.01	115.59	118.60
2	GB	784	A	O4'-C1'-N9	5.01	112.21	108.20
2	GB	2509	G	C5-C6-O6	-5.01	125.59	128.60
2	B	1320	C	N3-C4-N4	5.01	121.51	118.00
2	B	1617	C	C2-N1-C1'	-5.01	113.29	118.80
2	B	2614	A	C5-C6-N1	5.01	120.21	117.70
2	B	731	C	C4-C5-C6	-5.01	114.89	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	FB	1432	G	C5-C6-N1	-5.01	109.00	111.50
2	GB	728	G	N9-C4-C5	-5.01	103.40	105.40
2	GB	1632	A	N9-C4-C5	-5.01	103.80	105.80
2	GB	2053	G	C5-C6-O6	-5.01	125.59	128.60
2	GB	974(A)	G	C6-C5-N7	-5.01	127.39	130.40
2	B	673	C	N1-C2-O2	5.01	121.90	118.90
2	B	2274	A	C6-N1-C2	5.01	121.60	118.60
2	GB	949	C	C6-N1-C2	-5.01	118.30	120.30
2	B	1957	C	C6-N1-C2	5.00	122.30	120.30
2	GB	1559	G	N3-C4-C5	5.00	131.10	128.60
2	B	534	U	C5-C4-O4	5.00	128.90	125.90
2	B	1351	C	OP2-P-O3'	5.00	116.20	105.20
2	B	1355	G	C8-N9-C4	-5.00	104.40	106.40
2	GB	2497	A	C4-C5-C6	-5.00	114.50	117.00
2	GB	2643	G	N9-C4-C5	-5.00	103.40	105.40

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
21	U	84	ALA	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32394	0	16367	824	0
1	FB	32394	0	16367	817	0
2	B	62031	0	31273	1297	0
2	GB	62031	0	31275	1270	1
3	C	2576	0	1305	62	0
3	HB	2576	0	1305	63	0
4	D	1642	0	841	47	0
4	IA	1642	0	841	44	0
4	IB	1642	0	841	46	0
4	NC	1642	0	841	41	0
5	E	2145	0	2234	111	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	JB	2145	0	2234	105	0
6	F	1563	0	1629	90	0
6	KB	1563	0	1629	88	0
7	G	1586	0	1632	110	0
7	LB	1586	0	1632	105	0
8	H	1471	0	1526	90	0
8	MB	1471	0	1526	86	1
9	I	1330	0	1407	63	0
9	NB	1330	0	1407	58	0
10	J	1137	0	1225	56	0
10	OB	1137	0	1225	55	0
11	K	1121	0	1195	57	0
11	PB	1121	0	1195	54	0
12	L	932	0	994	75	0
12	QB	932	0	994	72	0
13	M	1145	0	1228	56	0
13	RB	1145	0	1228	47	0
14	N	1121	0	1179	64	0
14	SB	1121	0	1179	59	0
15	O	968	0	1033	33	0
15	TB	968	0	1033	38	0
16	P	877	0	938	48	0
16	UB	877	0	938	48	0
17	Q	1143	0	1211	81	0
17	VB	1143	0	1211	67	0
18	R	964	0	1022	61	0
18	WB	964	0	1022	55	0
19	S	779	0	852	28	0
19	XB	779	0	852	25	0
20	T	890	0	951	37	0
20	YB	890	0	951	40	0
21	U	750	0	814	40	0
21	ZB	750	0	814	37	0
22	AC	814	0	907	40	0
22	V	814	0	907	40	0
23	BC	1495	0	1521	80	0
23	W	1495	0	1521	90	0
24	CC	662	0	688	40	0
24	X	662	0	688	38	0
25	DC	761	0	837	52	0
25	Y	761	0	837	46	0
26	EC	592	0	654	32	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	Z	592	0	654	33	0
27	AA	477	0	529	27	0
27	FC	477	0	529	25	0
28	BA	552	0	537	31	0
28	GC	552	0	537	30	0
29	CA	460	0	481	32	0
29	HC	460	0	482	30	0
30	DA	453	0	477	15	0
30	IC	453	0	477	13	0
31	EA	418	0	467	24	0
31	JC	418	0	467	30	0
32	FA	517	0	582	31	0
32	KC	517	0	582	28	0
33	GA	307	0	337	11	0
33	LC	307	0	337	9	0
34	HA	220	0	108	10	0
34	MC	220	0	108	10	0
35	JA	850	0	816	38	0
35	KA	455	0	444	24	0
35	OC	850	0	816	38	0
35	PC	455	0	444	26	0
36	LA	1900	0	1951	101	0
36	QC	1900	0	1951	96	0
37	MA	1612	0	1677	91	0
37	RC	1612	0	1677	80	0
38	NA	1703	0	1767	94	0
38	SC	1703	0	1767	91	0
39	OA	1155	0	1213	64	0
39	TC	1155	0	1213	75	0
40	PA	843	0	857	35	0
40	UC	843	0	857	37	0
41	QA	1257	0	1296	62	0
41	VC	1257	0	1296	61	0
42	RA	1116	0	1177	61	0
42	WC	1116	0	1177	61	0
43	SA	1011	0	1043	61	0
43	XC	1011	0	1043	59	0
44	TA	794	0	840	37	0
44	YC	794	0	840	38	0
45	UA	864	0	881	39	0
45	ZC	864	0	881	45	0
46	AD	958	0	1047	54	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	VA	958	0	1047	55	0
47	BD	933	0	992	62	0
47	WA	933	0	992	64	0
48	CD	492	0	533	37	0
48	XA	492	0	533	39	0
49	DD	734	0	771	41	0
49	YA	734	0	771	37	0
50	ED	700	0	720	33	0
50	ZA	700	0	720	28	0
51	AB	823	0	893	40	0
51	FD	823	0	893	40	0
52	BB	574	0	644	32	0
52	GD	574	0	644	31	0
53	CB	665	0	686	43	0
53	HD	665	0	686	43	0
54	DB	762	0	859	43	0
54	ID	762	0	859	41	0
55	EB	208	0	221	16	0
55	JD	208	0	221	16	0
56	A	183	0	0	0	0
56	AA	1	0	0	0	0
56	AB	2	0	0	0	0
56	AC	1	0	0	0	0
56	AD	4	0	0	0	0
56	B	433	0	0	0	0
56	BB	1	0	0	0	0
56	BC	1	0	0	0	0
56	BD	1	0	0	0	0
56	C	22	0	0	0	0
56	CA	1	0	0	0	0
56	CB	1	0	0	0	0
56	CC	1	0	0	0	0
56	D	5	0	0	0	0
56	DC	1	0	0	0	0
56	DD	1	0	0	0	0
56	E	6	0	0	0	0
56	EA	1	0	0	0	0
56	ED	1	0	0	0	0
56	F	4	0	0	0	0
56	FA	1	0	0	0	0
56	FB	194	0	0	0	0
56	G	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	GB	402	0	0	0	0
56	GC	1	0	0	0	0
56	H	2	0	0	0	0
56	HA	3	0	0	0	0
56	HB	20	0	0	0	0
56	HD	1	0	0	0	0
56	IA	9	0	0	0	0
56	IB	2	0	0	0	0
56	IC	1	0	0	0	0
56	J	1	0	0	0	0
56	JA	1	0	0	0	0
56	JB	5	0	0	0	0
56	JC	1	0	0	0	0
56	K	4	0	0	0	0
56	KB	2	0	0	0	0
56	KC	1	0	0	0	0
56	L	3	0	0	0	0
56	LA	1	0	0	0	0
56	LB	4	0	0	0	0
56	M	3	0	0	0	0
56	MA	6	0	0	0	0
56	MC	3	0	0	0	0
56	NA	2	0	0	0	0
56	NB	1	0	0	0	0
56	NC	10	0	0	0	0
56	O	2	0	0	0	0
56	OA	4	0	0	0	0
56	OB	1	0	0	0	0
56	OC	1	0	0	0	0
56	PA	3	0	0	0	0
56	PB	2	0	0	0	0
56	PC	1	0	0	0	0
56	Q	1	0	0	0	0
56	QA	1	0	0	0	0
56	QB	2	0	0	0	0
56	QC	3	0	0	0	0
56	R	1	0	0	0	0
56	RB	3	0	0	0	0
56	RC	2	0	0	0	0
56	S	1	0	0	0	0
56	SA	1	0	0	0	0
56	SB	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	SC	4	0	0	0	0
56	T	2	0	0	0	0
56	TB	1	0	0	0	0
56	TC	3	0	0	0	0
56	U	1	0	0	0	0
56	UA	1	0	0	0	0
56	UB	4	0	0	0	0
56	UC	3	0	0	0	0
56	V	2	0	0	0	0
56	VA	2	0	0	0	0
56	VB	3	0	0	0	0
56	VC	1	0	0	0	0
56	WC	1	0	0	0	0
56	XB	2	0	0	0	0
56	Y	3	0	0	0	0
56	YA	3	0	0	0	0
56	Z	1	0	0	0	0
56	ZB	2	0	0	0	0
56	ZC	1	0	0	0	0
57	B	30	0	24	4	0
57	GB	30	0	24	7	0
58	AC	1	0	0	0	0
58	BA	1	0	0	0	0
58	CA	1	0	0	0	0
58	DA	1	0	0	0	0
58	GA	1	0	0	0	0
58	GC	1	0	0	0	0
58	HC	1	0	0	0	0
58	IC	1	0	0	0	0
58	LC	1	0	0	0	0
58	V	1	0	0	0	0
All	All	298186	0	202351	8489	1

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 18.

All (8489) 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)
38:SC:18:LYS:NZ	38:SC:26:CYS:SG	2.02	1.33
38:SC:18:LYS:NZ	38:SC:31:CYS:SG	2.07	1.27

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:NA:18:LYS:NZ	38:NA:26:CYS:SG	2.09	1.26
3:C:90:C:OP2	14:N:16:ARG:NH1	1.77	1.18
1:FB:9:G:OP2	39:TC:121:LYS:NZ	1.76	1.16
1:A:9:G:OP2	39:OA:121:LYS:NZ	1.79	1.15
2:GB:321:G:OP2	7:LB:135:LYS:NZ	1.81	1.14
38:NA:18:LYS:NZ	38:NA:31:CYS:SG	2.21	1.14
25:Y:47:GLN:HA	25:Y:47:GLN:HE21	1.15	1.12
38:NA:12:CYS:SG	38:NA:18:LYS:NZ	2.22	1.12
3:HB:90:C:OP2	14:SB:16:ARG:NH1	1.82	1.11
5:E:43:ARG:HH11	5:E:43:ARG:HG3	1.16	1.11
2:GB:606:U:OP2	7:LB:104:LYS:NZ	1.84	1.10
2:B:2313:C:OP2	8:H:74:LYS:NZ	1.85	1.09
26:EC:56:GLN:HA	26:EC:59:ARG:HH12	1.19	1.07
45:UA:120:ARG:HH12	45:UA:126:ARG:NH1	1.52	1.07
25:DC:47:GLN:HE21	25:DC:47:GLN:HA	1.17	1.06
34:HA:22:A:OP2	35:JA:195:ARG:NH1	1.89	1.06
7:G:72:ARG:HH11	7:G:72:ARG:HG3	1.19	1.05
2:GB:2313:C:OP2	8:MB:74:LYS:NZ	1.89	1.05
5:JB:43:ARG:HG3	5:JB:43:ARG:HH11	1.21	1.04
7:LB:72:ARG:HH11	7:LB:72:ARG:HG3	1.18	1.03
26:Z:56:GLN:HA	26:Z:59:ARG:HH12	1.23	1.01
38:SC:12:CYS:SG	38:SC:18:LYS:NZ	2.33	1.01
2:B:321:G:OP2	7:G:135:LYS:NZ	1.93	1.00
7:LB:64:ILE:HD11	7:LB:75:HIS:HB2	1.43	0.99
7:G:64:ILE:HD11	7:G:75:HIS:HB2	1.44	0.98
45:ZC:120:ARG:HH12	45:ZC:126:ARG:NH1	1.61	0.97
9:I:3:ARG:HH11	9:I:3:ARG:HB2	1.26	0.97
2:GB:819:A:OP2	2:GB:1187:G:N2	1.97	0.96
29:CA:16:ARG:NH1	29:CA:17:ASP:OD1	1.97	0.96
23:BC:8:TYR:HE2	23:BC:23:LYS:HZ3	1.10	0.96
43:XC:36:TYR:HE1	43:XC:70:LYS:HZ1	1.15	0.95
25:Y:3:LYS:HD3	25:Y:61:ARG:HH12	1.32	0.95
2:B:606:U:OP2	7:G:104:LYS:NZ	1.99	0.95
2:GB:2347:C:OP1	30:IC:38:LYS:NZ	1.98	0.95
43:SA:110:GLU:OE1	43:SA:113:LYS:NZ	2.01	0.94
2:B:1359:A:N1	2:B:1372:U:N3	2.15	0.94
1:FB:1309:G:OP2	47:BD:99:ARG:NE	2.01	0.94
2:GB:1359:A:N1	2:GB:1372:U:N3	2.16	0.94
43:XC:110:GLU:OE1	43:XC:113:LYS:NZ	2.00	0.94
1:A:974:A:OP2	48:XA:29:ARG:NH2	1.99	0.93
37:MA:35:GLU:OE1	37:MA:97:LYS:NZ	2.02	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2378:A:H4'	16:P:23:ARG:HH11	1.33	0.93
1:FB:974:A:OP2	48:CD:29:ARG:NH2	2.00	0.92
29:HC:16:ARG:NH1	29:HC:17:ASP:OD1	2.02	0.92
23:W:8:TYR:HE2	23:W:23:LYS:HZ3	1.02	0.92
2:B:2285:C:OP2	30:DA:6:ARG:NH1	2.03	0.92
16:P:13:ARG:HH11	16:P:13:ARG:HG2	1.34	0.92
36:QC:121:LEU:HB3	36:QC:127:ILE:HG12	1.50	0.92
36:LA:121:LEU:HB3	36:LA:127:ILE:HG12	1.50	0.92
9:NB:3:ARG:HB2	9:NB:3:ARG:HH11	1.34	0.91
1:A:411:A:OP1	38:NA:30:LYS:NZ	2.02	0.91
2:GB:1566:A:OP1	5:JB:211:ARG:NH1	2.03	0.91
6:KB:36:ARG:NH1	6:KB:85:ASN:OD1	2.04	0.91
2:B:2347:C:OP1	30:DA:38:LYS:NZ	2.03	0.91
18:WB:11:ARG:HH11	18:WB:11:ARG:HG3	1.35	0.91
1:A:509:A:H5'	38:NA:55:ALA:HB2	1.51	0.91
2:GB:1952:A:OP1	12:QB:44:LYS:NZ	2.03	0.91
2:B:154:G:H3'	2:B:154(A):C:H4'	1.53	0.91
12:QB:66:LYS:HB2	12:QB:82:ASN:HD21	1.36	0.91
16:UB:13:ARG:HG2	16:UB:13:ARG:HH11	1.36	0.91
7:LB:165:ARG:HH11	7:LB:165:ARG:HG3	1.33	0.90
28:GC:58:ARG:HH21	47:BD:80:ARG:HH12	1.15	0.90
2:B:1952:A:OP1	12:L:44:LYS:NZ	2.02	0.90
1:FB:1240:U:H4'	1:FB:1241:G:OP2	1.69	0.90
1:FB:504:C:H41	46:AD:115:LYS:HZ1	1.19	0.90
2:GB:154:G:H3'	2:GB:154(A):C:H4'	1.53	0.90
18:R:11:ARG:HG3	18:R:11:ARG:HH11	1.37	0.90
2:B:819:A:OP2	2:B:1187:G:N2	2.05	0.90
43:SA:36:TYR:HE1	43:SA:70:LYS:HZ2	1.12	0.90
1:A:1309:G:OP2	47:WA:99:ARG:NE	2.03	0.90
10:J:104:GLN:O	10:J:105:HIS:ND1	2.05	0.89
2:B:993:G:OP1	18:R:50:ARG:NH2	2.06	0.89
9:I:3:ARG:NH1	9:I:3:ARG:HB2	1.88	0.89
1:A:1240:U:H4'	1:A:1241:G:OP2	1.68	0.89
4:IA:33:U:OP2	43:SA:128:ARG:NH2	2.03	0.89
2:GB:2378:A:H4'	16:UB:23:ARG:HH11	1.36	0.89
2:GB:847:U:O4	2:GB:933:A:N6	2.06	0.89
2:B:1566:A:OP1	5:E:211:ARG:NH1	2.05	0.89
12:QB:71:ARG:HH12	12:QB:104:ARG:HB3	1.35	0.89
2:B:847:U:O4	2:B:933:A:N6	2.06	0.88
24:X:18:ALA:HB3	24:X:20:ARG:NH1	1.89	0.88
2:B:2164:C:OP2	2:B:2165:G:N2	2.07	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DC:3:LYS:HD3	25:DC:61:ARG:HH12	1.37	0.87
1:FB:1304:G:N2	1:FB:1332:A:OP2	2.06	0.87
40:UC:94:GLN:HG3	52:GD:32:ARG:HH11	1.38	0.87
2:GB:2285:C:OP2	30:IC:6:ARG:NH1	2.06	0.87
40:PA:94:GLN:HG3	52:BB:32:ARG:HH11	1.39	0.87
1:FB:1240:U:O2'	41:VC:32:ARG:NH1	2.08	0.86
12:L:66:LYS:HB2	12:L:82:ASN:HD21	1.38	0.86
1:A:1304:G:N2	1:A:1332:A:OP2	2.05	0.86
24:CC:18:ALA:HB3	24:CC:20:ARG:NH1	1.89	0.86
4:NC:33:U:OP2	43:XC:128:ARG:NH2	2.07	0.86
37:RC:35:GLU:OE1	37:RC:97:LYS:NZ	2.07	0.86
15:TB:103:ARG:NH1	15:TB:108:GLY:O	2.08	0.86
3:C:10:C:O2	3:C:110:G:N2	2.08	0.86
1:A:1240:U:O2'	41:QA:32:ARG:NH1	2.08	0.86
2:B:1264:G:OP1	29:CA:19:ARG:NH2	2.08	0.85
1:A:177:C:OP1	54:DB:65:LYS:NZ	2.09	0.85
2:GB:430:G:H5''	2:GB:431:U:OP2	1.75	0.85
1:FB:177:C:OP1	54:ID:65:LYS:NZ	2.08	0.85
23:BC:98:MET:HE1	23:BC:133:ILE:HG23	1.59	0.85
2:B:7:G:N2	2:B:2897:U:O4	2.09	0.85
7:G:165:ARG:HH11	7:G:165:ARG:HG3	1.40	0.85
9:I:149:ARG:NH1	9:I:167:GLU:OE2	2.10	0.85
6:F:36:ARG:NH1	6:F:85:ASN:OD1	2.10	0.85
1:FB:1077:G:N2	1:FB:1080:A:OP2	2.09	0.84
2:GB:1264:G:OP1	29:HC:19:ARG:NH2	2.10	0.84
2:B:1920:4OC:HM23	2:B:1921:G:H5'	1.56	0.84
2:GB:1093:G:N2	2:GB:1097:U:OP2	2.09	0.84
5:JB:43:ARG:HG3	5:JB:43:ARG:NH1	1.86	0.84
9:NB:11:VAL:HG21	9:NB:50:VAL:HG23	1.59	0.84
1:FB:1256:A:OP1	37:RC:26:LYS:NZ	2.09	0.84
1:FB:993:G:H2'	1:FB:995:C:H41	1.41	0.84
2:GB:1434:A:H61	2:GB:1558:A:H62	1.26	0.84
11:PB:70:LYS:HZ3	11:PB:72:TYR:HE1	1.23	0.84
9:NB:149:ARG:NH1	9:NB:167:GLU:OE2	2.11	0.84
1:A:1077:G:N2	1:A:1080:A:OP2	2.11	0.84
45:ZC:108:ILE:HD12	52:GD:87:ARG:HH11	1.42	0.84
3:C:105:G:H5'	23:W:31:ARG:HB3	1.59	0.84
47:WA:14:ARG:HG2	47:WA:44:ARG:NH1	1.92	0.84
2:GB:1169:G:H1	2:GB:1180:C:H42	1.25	0.84
25:DC:47:GLN:NE2	25:DC:47:GLN:HA	1.93	0.84
1:FB:1086:U:H3	1:FB:1099:G:H22	1.25	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:NB:3:ARG:NH1	9:NB:3:ARG:HB2	1.92	0.83
44:YC:50:ILE:HA	44:YC:60:ARG:HB3	1.61	0.83
1:A:971:G:N2	1:A:1363:A:OP2	2.10	0.83
2:GB:2164:C:OP2	2:GB:2165:G:N2	2.11	0.83
43:XC:112:LYS:NZ	43:XC:113:LYS:O	2.10	0.83
52:BB:56:THR:HB	52:BB:58:LEU:HD23	1.60	0.83
52:GD:56:THR:HB	52:GD:58:LEU:HD23	1.59	0.83
12:L:71:ARG:HH12	12:L:104:ARG:HB3	1.41	0.83
1:A:316:G:OP2	1:A:351:G:O2'	1.97	0.83
1:A:993:G:H2'	1:A:995:C:H41	1.41	0.83
2:B:1169:G:H1	2:B:1180:C:H42	1.26	0.83
1:FB:186(C):C:H42	1:FB:191(E):G:H1	1.27	0.83
54:DB:57:ARG:NH1	54:DB:102:GLY:HA3	1.94	0.83
3:HB:105:G:H5'	23:BC:31:ARG:HB3	1.60	0.83
54:ID:57:ARG:NH1	54:ID:102:GLY:HA3	1.92	0.83
26:EC:56:GLN:HA	26:EC:59:ARG:NH1	1.92	0.83
11:PB:43:THR:HG23	18:WB:64:ARG:HH11	1.44	0.83
2:GB:2728:U:H5'	12:QB:70:LYS:HZ1	1.43	0.83
1:FB:504:C:H41	46:AD:115:LYS:NZ	1.77	0.82
10:OB:104:GLN:HG2	10:OB:105:HIS:CE1	2.14	0.82
1:A:345:C:H3'	17:Q:41:ARG:HH12	1.41	0.82
1:A:504:C:H41	46:VA:115:LYS:HZ1	1.24	0.82
2:GB:7:G:N2	2:GB:2897:U:O4	2.12	0.82
1:A:1086:U:H3	1:A:1099:G:H22	1.24	0.82
5:E:20:ASP:OD2	5:E:21:PHE:N	2.13	0.82
2:B:1434:A:H61	2:B:1558:A:H62	1.26	0.82
6:KB:47:VAL:HG11	6:KB:86:PRO:HD2	1.62	0.82
44:TA:50:ILE:HA	44:TA:60:ARG:HB3	1.61	0.82
2:B:1022:G:H22	2:B:1142(B):A:H2	1.27	0.82
3:C:12:C:N3	24:X:74:ARG:NH2	2.28	0.82
5:JB:217:ARG:HG2	5:JB:217:ARG:HH11	1.44	0.82
3:C:31:C:O2	3:C:53:A:N6	2.12	0.82
2:GB:662:G:OP1	13:RB:16:ARG:NH1	2.12	0.82
17:VB:64:ARG:HH12	17:VB:103:ARG:HG2	1.42	0.82
1:FB:971:G:N2	1:FB:1363:A:OP2	2.12	0.82
1:FB:689:C:HO2'	1:FB:705:U:HO2'	1.24	0.82
43:SA:112:LYS:NZ	43:SA:113:LYS:O	2.12	0.82
1:A:652:U:O4	1:A:752:G:O2'	1.99	0.81
1:FB:652:U:O4	1:FB:752:G:O2'	1.99	0.81
5:E:217:ARG:HH11	5:E:217:ARG:HG2	1.43	0.81
11:K:43:THR:HG23	18:R:64:ARG:HH11	1.43	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:VB:64:ARG:HH11	17:VB:64:ARG:HG3	1.43	0.81
14:N:85:LYS:HG2	24:X:7:LEU:HB3	1.61	0.81
2:B:2260:C:O2	2:B:2280:G:N2	2.10	0.81
34:HA:21:A:H62	35:JA:198:THR:HG1	1.26	0.81
11:K:70:LYS:HZ3	11:K:72:TYR:HE1	1.27	0.81
4:D:74:C:H4'	25:Y:23:LYS:HB2	1.62	0.81
3:HB:31:C:O2	3:HB:53:A:N6	2.14	0.81
41:QA:79:ARG:HD2	41:QA:80:VAL:H	1.45	0.81
5:E:85:ASP:OD2	5:E:88:ARG:NH1	2.14	0.81
2:GB:993:G:OP1	18:WB:50:ARG:NH2	2.12	0.81
37:RC:91:LEU:HD23	37:RC:99:VAL:HB	1.63	0.81
47:BD:14:ARG:HG2	47:BD:44:ARG:NH1	1.95	0.80
1:A:1309:G:H22	1:A:1329:A:H1'	1.45	0.80
36:LA:178:ARG:NH1	36:LA:196:LEU:O	2.14	0.80
23:W:98:MET:HE1	23:W:133:ILE:HG23	1.64	0.80
24:X:37:LEU:HD21	24:X:61:ALA:HB2	1.63	0.80
2:GB:1920:4OC:HM23	2:GB:1921:G:H5'	1.63	0.80
28:GC:58:ARG:HD2	53:HD:67:VAL:HB	1.63	0.80
2:GB:308:G:O2'	22:AC:19:LYS:NZ	2.15	0.80
38:NA:175:SER:HB3	38:NA:184:LYS:HB3	1.62	0.80
10:J:104:GLN:C	10:J:105:HIS:HD1	1.84	0.80
1:A:563:A:O2'	1:A:564:C:OP2	1.99	0.80
2:B:1093:G:N2	2:B:1097:U:OP2	2.14	0.80
6:F:47:VAL:HG11	6:F:86:PRO:HD2	1.65	0.80
1:FB:1309:G:H22	1:FB:1329:A:H1'	1.47	0.80
36:LA:84:GLU:HB3	36:LA:219:VAL:HG11	1.63	0.80
1:FB:1338:G:H21	4:NC:41:C:H1'	1.47	0.80
41:VC:79:ARG:HD2	41:VC:80:VAL:H	1.46	0.80
2:B:2210:G:H3'	2:B:2211:G:C8	2.16	0.79
28:BA:33:VAL:O	47:WA:57:ARG:NH1	2.15	0.79
9:I:11:VAL:HG21	9:I:50:VAL:HG23	1.62	0.79
1:FB:902:G:H2'	1:FB:903:G:H8	1.47	0.79
3:HB:10:C:O2	3:HB:110:G:N2	2.14	0.79
5:JB:85:ASP:OD2	5:JB:88:ARG:NH1	2.15	0.79
45:UA:108:ILE:HD12	52:BB:87:ARG:HH11	1.45	0.79
6:KB:44:TYR:OH	6:KB:80:GLU:OE2	1.98	0.79
1:FB:563:A:O2'	1:FB:564:C:OP2	1.98	0.79
1:A:533:A:O2'	1:A:535:A:OP2	1.99	0.79
1:FB:147:G:H1	1:FB:175:C:H42	1.30	0.79
48:XA:27:CYS:SG	48:XA:28:GLY:N	2.54	0.79
44:YC:48:THR:HA	44:YC:62:HIS:HB3	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:147:G:H1	1:A:175:C:H42	1.29	0.79
2:B:2810:A:N6	2:B:2891:G:O2'	2.14	0.79
1:A:1256:A:OP1	37:MA:26:LYS:NZ	2.16	0.79
2:GB:1798:U:H5'	5:JB:259:THR:HG22	1.64	0.79
17:Q:64:ARG:HG3	17:Q:64:ARG:HH11	1.45	0.79
11:K:70:LYS:NZ	11:K:72:TYR:HE1	1.81	0.79
1:A:1110:A:H5''	1:A:1111:A:OP2	1.83	0.78
2:B:430:G:H5''	2:B:431:U:OP2	1.83	0.78
37:MA:91:LEU:HD23	37:MA:99:VAL:HB	1.64	0.78
43:XC:97:LYS:NZ	43:XC:102:LEU:O	2.16	0.78
2:GB:2210:G:H3'	2:GB:2211:G:C8	2.18	0.78
4:IB:8:4SU:S4	4:IB:14:A:N7	2.56	0.78
1:A:1264:C:H2'	1:A:1265:G:H8	1.47	0.78
2:GB:184:C:H2'	2:GB:185:U:H6	1.47	0.78
2:GB:2305:A:H5''	8:MB:134:GLY:HA3	1.65	0.78
36:QC:74:LYS:HZ2	36:QC:74:LYS:HB3	1.49	0.78
3:C:15:A:H3'	3:C:16:G:H8	1.47	0.78
4:IA:9:G:O2'	4:IA:10:G:N7	2.16	0.78
16:P:85:VAL:HB	16:P:112:PHE:HB3	1.66	0.78
26:Z:56:GLN:HA	26:Z:59:ARG:NH1	1.97	0.78
2:GB:1022:G:H22	2:GB:1142(B):A:H2	1.26	0.78
16:P:42:ASP:N	16:P:42:ASP:OD2	2.16	0.78
38:SC:57:ARG:HH12	39:TC:107:ARG:NH1	1.81	0.78
5:E:133:LEU:HA	5:E:136:ILE:HD12	1.66	0.78
9:NB:126:PRO:HG2	9:NB:130:ARG:HH12	1.49	0.78
1:FB:512:U:OP1	38:SC:46:LYS:NZ	2.16	0.78
39:TC:50:GLU:OE2	39:TC:51:VAL:N	2.15	0.78
25:Y:47:GLN:NE2	25:Y:47:GLN:HA	1.96	0.78
1:A:949:A:H1'	1:A:1364:U:H3	1.49	0.78
2:GB:184:C:H2'	2:GB:185:U:C6	2.19	0.78
36:QC:84:GLU:HB3	36:QC:219:VAL:HG11	1.64	0.78
2:B:978:G:H5''	2:B:979:G:OP2	1.84	0.78
2:GB:2260:C:O2	2:GB:2280:G:N2	2.14	0.78
1:A:186(C):C:H42	1:A:191(E):G:H1	1.29	0.78
2:B:190:A:OP2	25:Y:39:LYS:NZ	2.17	0.78
2:B:270(P):U:O2	10:J:52:ARG:NH1	2.17	0.78
4:NC:9:G:O2'	4:NC:10:G:N7	2.16	0.78
16:UB:42:ASP:N	16:UB:42:ASP:OD2	2.16	0.78
1:FB:1124:G:N7	1:FB:1145:C:O2'	2.15	0.78
2:GB:2168:G:N2	2:GB:2171:A:OP2	2.17	0.78
17:Q:108:ARG:HG2	17:Q:112:ARG:HH12	1.49	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:64:ARG:HH12	17:Q:103:ARG:HG2	1.47	0.78
1:FB:509:A:H5'	38:SC:55:ALA:HB2	1.66	0.78
23:W:72:ARG:HA	23:W:72:ARG:HH11	1.47	0.78
14:SB:82:ARG:HE	24:CC:4:LYS:HG3	1.50	0.77
2:GB:296:C:O3'	22:AC:95:LYS:NZ	2.17	0.77
7:G:182:ASN:ND2	7:G:185:ASP:OD2	2.16	0.77
14:SB:85:LYS:HG2	24:CC:7:LEU:HB3	1.67	0.77
1:FB:1264:C:H2'	1:FB:1265:G:H8	1.49	0.77
10:J:104:GLN:HG2	10:J:105:HIS:CE1	2.18	0.77
1:A:1022:G:H2'	1:A:1023:G:H4'	1.66	0.77
38:NA:141:ARG:NH1	38:NA:141:ARG:HB2	2.00	0.77
1:A:1047:G:H1	1:A:1210:C:H42	1.33	0.77
2:B:308:G:O2'	22:V:19:LYS:NZ	2.16	0.77
9:NB:164:TYR:HB2	9:NB:167:GLU:HB2	1.65	0.77
15:O:103:ARG:NH1	15:O:108:GLY:O	2.17	0.77
44:TA:48:THR:HA	44:TA:62:HIS:HB3	1.64	0.77
2:B:662:G:OP1	13:M:16:ARG:NH1	2.18	0.77
1:A:1124:G:N7	1:A:1145:C:O2'	2.18	0.77
51:AB:66:SER:O	51:AB:70:ARG:NH1	2.17	0.77
3:C:28:C:OP1	16:P:36:TYR:OH	2.02	0.77
36:QC:68:ILE:HG12	36:QC:161:ALA:HB3	1.66	0.77
47:WA:14:ARG:HG2	47:WA:44:ARG:HH11	1.49	0.77
1:A:1279:A:O2'	1:A:1281:U:OP2	2.01	0.76
2:GB:1728:G:H5'	2:GB:1729:A:OP2	1.85	0.76
34:MC:13:A:H2'	34:MC:14:A:H4'	1.66	0.76
17:VB:108:ARG:HG2	17:VB:112:ARG:HH12	1.48	0.76
2:B:1045:A:H5''	2:B:1046:A:H5'	1.66	0.76
2:B:2168:G:N2	2:B:2171:A:OP2	2.17	0.76
1:FB:316:G:OP2	1:FB:351:G:O2'	2.02	0.76
34:HA:13:A:H2'	34:HA:14:A:H4'	1.65	0.76
1:A:345:C:H3'	17:Q:41:ARG:NH1	1.99	0.76
36:QC:178:ARG:NH1	36:QC:196:LEU:O	2.17	0.76
38:SC:141:ARG:HB2	38:SC:141:ARG:NH1	2.00	0.76
2:GB:519:U:H2'	2:GB:520:G:H8	1.49	0.76
8:MB:143:GLU:HG3	28:GC:28:LYS:HB2	1.68	0.76
7:LB:72:ARG:NH1	7:LB:72:ARG:HG3	1.97	0.76
36:QC:165:VAL:HA	36:QC:187:LEU:HD23	1.67	0.76
2:B:55:G:H2'	2:B:56:A:H8	1.50	0.76
3:HB:12:C:N3	24:CC:74:ARG:NH2	2.29	0.76
12:QB:45:GLU:HA	12:QB:54:GLU:OE2	1.85	0.76
1:A:902:G:H2'	1:A:903:G:H8	1.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:519:U:H2'	2:B:520:G:H8	1.48	0.76
5:E:230:ASP:N	5:E:230:ASP:OD1	2.12	0.76
6:F:44:TYR:OH	6:F:80:GLU:OE2	2.04	0.76
1:FB:1047:G:H1	1:FB:1210:C:H42	1.32	0.76
38:SC:175:SER:HB3	38:SC:184:LYS:HB3	1.66	0.76
16:UB:85:VAL:HB	16:UB:112:PHE:HB3	1.68	0.76
2:B:885:C:H3'	2:B:886:C:H4'	1.67	0.76
20:T:13:SER:HB3	20:T:16:LYS:HD2	1.68	0.76
2:B:2846:G:OP2	17:Q:54:ARG:HG3	1.86	0.76
2:B:507:A:O2'	2:B:508:G:OP2	2.03	0.76
1:FB:984:C:H42	1:FB:1221:G:H1	1.31	0.76
14:N:82:ARG:HE	24:X:4:LYS:HG3	1.49	0.76
1:A:1373:G:H5''	41:QA:36:LYS:NZ	2.01	0.75
2:B:506:G:H4'	2:B:507:A:H5'	1.68	0.75
1:A:677:U:H3	1:A:713:G:H22	1.34	0.75
2:B:1471:A:OP2	2:B:1521:G:N2	2.19	0.75
1:FB:658:G:OP1	49:DD:8:LYS:NZ	2.19	0.75
2:GB:2810:A:N6	2:GB:2891:G:O2'	2.18	0.75
39:TC:121:LYS:NZ	39:TC:122:GLU:H	1.83	0.75
27:AA:35:ARG:NH1	27:AA:35:ARG:HB3	2.01	0.75
1:A:421:U:O4	37:MA:127:ARG:NH1	2.20	0.75
1:FB:1022:G:H2'	1:FB:1023:G:H4'	1.67	0.75
1:FB:467:G:H2'	1:FB:468:A:H8	1.50	0.75
3:HB:15:A:H3'	3:HB:16:G:H8	1.49	0.75
5:JB:148:GLU:HB2	5:JB:151:LYS:HD2	1.68	0.75
36:QC:127:ILE:HD12	36:QC:135:GLN:HG3	1.68	0.75
5:JB:133:LEU:HA	5:JB:136:ILE:HD12	1.67	0.75
36:LA:127:ILE:HD12	36:LA:135:GLN:HG3	1.69	0.75
36:LA:155:LEU:HD21	36:LA:159:PRO:HD3	1.69	0.75
3:C:91:C:H2'	3:C:92:G:H8	1.52	0.75
3:HB:21:G:H1	3:HB:62:C:H42	1.34	0.75
3:HB:86:G:N2	3:HB:90:C:O2	2.16	0.75
11:PB:70:LYS:NZ	11:PB:72:TYR:HE1	1.84	0.75
1:FB:1279:A:O2'	1:FB:1281:U:OP2	2.03	0.75
18:WB:58:ARG:HG3	18:WB:58:ARG:HH11	1.49	0.75
9:I:164:TYR:HB2	9:I:167:GLU:HB2	1.67	0.75
27:AA:35:ARG:HH11	27:AA:35:ARG:HB3	1.52	0.74
2:B:1992:G:O2'	2:B:1993:U:OP2	2.04	0.74
24:CC:37:LEU:HD21	24:CC:61:ALA:HB2	1.68	0.74
10:OB:74:ASN:O	10:OB:141:LYS:NZ	2.19	0.74
27:FC:35:ARG:HB3	27:FC:35:ARG:NH1	2.03	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:143:GLU:HG3	28:BA:28:LYS:HB2	1.70	0.74
6:KB:183:LEU:HD21	17:VB:10:VAL:HG11	1.70	0.74
2:GB:1936:A:OP2	2:GB:1962:5MC:N4	2.19	0.74
2:GB:55:G:H2'	2:GB:56:A:H8	1.52	0.74
12:L:75:SER:OG	17:Q:74:ARG:NH1	2.19	0.74
18:R:58:ARG:HH11	18:R:58:ARG:HG3	1.52	0.74
1:FB:1381:U:H1'	41:VC:79:ARG:HE	1.52	0.74
43:XC:6:GLY:H	43:XC:84:ALA:HB2	1.53	0.74
1:A:658:G:OP1	49:YA:8:LYS:NZ	2.20	0.74
1:A:1166:G:H2'	1:A:1169:A:OP2	1.87	0.74
47:BD:91:ARG:HB3	47:BD:91:ARG:HH11	1.53	0.74
1:FB:979:C:H42	48:CD:18:VAL:HB	1.52	0.74
1:FB:1058:G:H1	1:FB:1199:U:H3	1.35	0.74
2:B:2304:G:H4'	8:H:133:LEU:HA	1.69	0.74
3:HB:11:C:H3'	3:HB:12:C:H6	1.52	0.74
49:YA:63:ARG:NH1	49:YA:87:ILE:HD13	2.02	0.74
1:A:984:C:H42	1:A:1221:G:H1	1.35	0.74
41:QA:54:THR:HG22	41:QA:56:GLN:HE22	1.52	0.74
12:QB:75:SER:OG	17:VB:74:ARG:NH1	2.21	0.74
28:GC:58:ARG:HH21	47:BD:80:ARG:NH1	1.84	0.74
1:FB:1110:A:H5''	1:FB:1111:A:OP2	1.88	0.74
2:GB:796:C:H2'	2:GB:797:C:C6	2.22	0.74
28:GC:59:PHE:HE2	53:HD:64:GLU:HG3	1.51	0.74
6:KB:171:GLU:HB3	6:KB:185:LYS:HB3	1.68	0.74
2:B:296:C:O3'	22:V:95:LYS:NZ	2.19	0.74
1:A:467:G:H2'	1:A:468:A:H8	1.53	0.74
6:F:171:GLU:HB3	6:F:185:LYS:HB3	1.68	0.74
2:GB:507:A:O2'	2:GB:508:G:OP2	2.05	0.74
4:D:8:4SU:S4	4:D:14:A:N7	2.60	0.74
1:FB:790:A:OP1	4:NC:38:A:O2'	2.05	0.74
2:GB:270(M):U:O2'	2:GB:270(O):G:N2	2.21	0.74
9:I:87:LEU:HB2	9:I:131:VAL:HG23	1.68	0.74
22:AC:102:CYS:SG	22:AC:103:GLY:N	2.60	0.74
52:BB:53:ARG:NH1	52:BB:58:LEU:O	2.18	0.74
2:GB:2728:U:H5'	12:QB:70:LYS:NZ	2.03	0.74
39:OA:78:HIS:HD1	42:RA:104:ARG:HD2	1.53	0.74
41:VC:9:VAL:HG23	41:VC:94:ARG:HH21	1.53	0.74
1:A:1137:C:OP2	1:A:1138:G:N2	2.20	0.74
28:BA:69:LYS:NZ	53:CB:43:GLU:OE2	2.20	0.74
1:FB:949:A:H1'	1:FB:1364:U:H3	1.52	0.74
36:LA:68:ILE:HG12	36:LA:161:ALA:HB3	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:BC:72:ARG:HH11	23:BC:72:ARG:HA	1.52	0.73
3:C:21:G:H1	3:C:62:C:H42	1.36	0.73
2:GB:190:A:OP2	25:DC:39:LYS:NZ	2.21	0.73
35:JA:139:ALA:HA	35:JA:144:TRP:HB2	1.70	0.73
11:K:91:LEU:HA	11:K:95:PRO:HA	1.70	0.73
42:RA:81:HIS:HB2	42:RA:138:TRP:HD1	1.53	0.73
3:C:86:G:N2	3:C:90:C:O2	2.17	0.73
5:E:147:LEU:HD13	5:E:155:LEU:HD21	1.68	0.73
2:GB:1059:G:N2	2:GB:1080:C:O2	2.22	0.73
9:NB:87:LEU:HB2	9:NB:131:VAL:HG23	1.68	0.73
39:TC:37:ARG:HH12	39:TC:111:GLU:HG2	1.53	0.73
23:W:117:LEU:HA	23:W:174:VAL:HA	1.69	0.73
1:A:1323:G:N2	1:A:1361:G:O2'	2.21	0.73
1:A:1375:A:OP1	41:QA:28:ASN:ND2	2.21	0.73
27:FC:51:ALA:HA	27:FC:54:VAL:HG12	1.70	0.73
36:LA:74:LYS:HB3	36:LA:74:LYS:NZ	2.03	0.73
9:NB:126:PRO:HB2	9:NB:130:ARG:HH22	1.53	0.73
43:SA:97:LYS:NZ	43:SA:102:LEU:O	2.20	0.73
47:WA:91:ARG:HH11	47:WA:91:ARG:HB3	1.53	0.73
52:BB:66:LEU:O	52:BB:69:THR:OG1	2.06	0.73
6:F:183:LEU:HD21	17:Q:10:VAL:HG11	1.69	0.73
52:GD:79:LEU:HD13	52:GD:80:PRO:HD2	1.68	0.73
2:B:2305:A:H5''	8:H:134:GLY:HA3	1.71	0.73
10:J:133:HIS:CE1	10:J:135:GLU:HB3	2.23	0.73
36:QC:209:ARG:NH1	36:QC:237:ALA:O	2.20	0.73
36:QC:74:LYS:NZ	36:QC:74:LYS:HB3	2.03	0.73
43:SA:17:VAL:HG11	43:SA:81:ILE:HG12	1.69	0.73
1:FB:1323:G:N2	1:FB:1361:G:O2'	2.21	0.73
51:FD:66:SER:O	51:FD:70:ARG:NH1	2.21	0.73
5:JB:274:ARG:HH11	5:JB:274:ARG:CG	2.01	0.73
14:SB:60:ARG:HH12	23:BC:177:PRO:HG2	1.53	0.73
5:JB:20:ASP:OD2	5:JB:21:PHE:N	2.21	0.73
8:MB:63:ILE:HD13	8:MB:143:GLU:HB2	1.70	0.73
2:B:2405:G:O2'	2:B:2406:U:OP2	2.05	0.73
2:B:466:A:O3'	31:EA:33:ARG:NH2	2.21	0.73
1:FB:1129:C:O2'	1:FB:1139:G:N7	2.19	0.73
1:FB:677:U:H3	1:FB:713:G:H22	1.37	0.73
2:GB:1226:A:OP1	18:WB:16:LYS:NZ	2.22	0.73
39:OA:50:GLU:OE2	39:OA:51:VAL:N	2.20	0.73
2:B:1059:G:N2	2:B:1080:C:O2	2.22	0.73
41:QA:9:VAL:HG23	41:QA:94:ARG:HH21	1.54	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:27:GLU:HG3	24:X:68:GLU:HA	1.70	0.73
2:B:270(M):U:O2'	2:B:270(O):G:N2	2.20	0.73
52:BB:79:LEU:HD13	52:BB:80:PRO:HD2	1.69	0.73
47:BD:14:ARG:HG2	47:BD:44:ARG:HH11	1.53	0.73
1:FB:1166:G:H2'	1:FB:1169:A:OP2	1.89	0.73
2:GB:1869:G:N2	2:GB:1872:A:OP2	2.19	0.73
1:FB:718:G:H5'	45:ZC:117:ASN:HB2	1.71	0.73
2:GB:2055:C:OP1	29:HC:8:LYS:NZ	2.22	0.72
2:GB:2502:G:H5'	2:GB:2503:2MA:H5''	1.70	0.72
3:HB:91:C:H2'	3:HB:92:G:H8	1.53	0.72
36:LA:209:ARG:NH1	36:LA:237:ALA:O	2.21	0.72
14:N:60:ARG:HH12	23:W:177:PRO:HG2	1.54	0.72
43:XC:17:VAL:HG11	43:XC:81:ILE:HG12	1.71	0.72
2:GB:2736:G:N2	2:GB:2768:C:O2	2.19	0.72
18:R:11:ARG:CG	18:R:11:ARG:HH11	2.01	0.72
42:WC:81:HIS:HB2	42:WC:138:TRP:HD1	1.54	0.72
25:Y:4:VAL:HG12	25:Y:11:ARG:HB3	1.69	0.72
1:A:1058:G:H1	1:A:1199:U:H3	1.36	0.72
22:AC:15:VAL:HG21	22:AC:42:VAL:HG11	1.71	0.72
10:J:4:ILE:HD12	10:J:47:LEU:HD13	1.72	0.72
22:V:83:THR:OG1	22:V:84:ARG:N	2.21	0.72
19:XB:69:LYS:HB2	19:XB:88:ARG:HD2	1.70	0.72
2:B:1869:G:N2	2:B:1872:A:OP2	2.18	0.72
3:C:11:C:H3'	3:C:12:C:H6	1.52	0.72
36:LA:223:ILE:HA	36:LA:226:ARG:HB2	1.71	0.72
2:B:1067:A:H5'	2:B:1068:G:H21	1.55	0.72
2:B:1728:G:H5'	2:B:1729:A:OP2	1.89	0.72
2:GB:2093:G:H1	2:GB:2196:C:H42	1.37	0.72
2:GB:885:C:H3'	2:GB:886:C:H4'	1.69	0.72
12:L:19:ILE:HG22	12:L:43:VAL:HA	1.71	0.72
35:PC:328:ARG:NH1	35:PC:331:GLU:HB2	2.04	0.72
42:RA:96:GLY:N	42:RA:99:GLU:OE2	2.22	0.72
2:B:2502:G:H5'	2:B:2503:2MA:H5''	1.70	0.72
1:FB:1373:G:H5''	41:VC:36:LYS:NZ	2.04	0.72
9:I:126:PRO:HG2	9:I:130:ARG:HH12	1.53	0.72
37:MA:77:ILE:HA	37:MA:84:ILE:HB	1.71	0.72
2:B:184:C:H2'	2:B:185:U:C6	2.25	0.72
31:EA:47:ARG:HH11	31:EA:47:ARG:HB3	1.55	0.72
1:A:1327:C:OP1	55:EB:20:LYS:HB3	1.89	0.72
28:GC:59:PHE:HA	28:GC:61:ARG:HH11	1.55	0.72
37:RC:111:LEU:HD11	37:RC:145:GLY:HA3	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:XC:93:ARG:HH12	43:XC:97:LYS:HD3	1.54	0.72
2:B:2327:A:H2'	2:B:2328:A:C8	2.24	0.72
29:CA:56:LYS:NZ	29:CA:59:GLU:HA	2.04	0.72
28:BA:58:ARG:NH1	53:CB:68:GLY:HA3	2.04	0.72
1:FB:35:G:H1	1:FB:549:C:H42	1.37	0.72
35:JA:105:PRO:O	35:JA:109:ARG:NH1	2.22	0.72
2:GB:466:A:O3'	31:JC:33:ARG:NH2	2.22	0.72
36:QC:223:ILE:HA	36:QC:226:ARG:HB2	1.72	0.72
29:CA:56:LYS:HZ1	29:CA:59:GLU:HA	1.54	0.72
48:CD:27:CYS:SG	48:CD:28:GLY:N	2.63	0.72
2:GB:2130:U:H5'	2:GB:2131:G:OP2	1.90	0.72
36:LA:165:VAL:HA	36:LA:187:LEU:HD23	1.70	0.72
39:OA:37:ARG:HH12	39:OA:111:GLU:HG2	1.54	0.72
10:OB:133:HIS:CE1	10:OB:135:GLU:HB3	2.24	0.72
22:V:102:CYS:SG	22:V:103:GLY:N	2.62	0.72
2:B:1754:C:N3	2:B:2716:U:O2'	2.23	0.72
2:B:1798:U:H5'	5:E:259:THR:HG22	1.70	0.72
2:GB:1045:A:H5''	2:GB:1046:A:H5'	1.71	0.72
9:I:45:VAL:HG13	9:I:50:VAL:HG22	1.72	0.72
12:L:45:GLU:HA	12:L:54:GLU:OE2	1.90	0.72
16:P:20:ARG:NH1	24:X:48:GLY:O	2.23	0.72
36:QC:155:LEU:HD21	36:QC:159:PRO:HD3	1.70	0.72
43:SA:6:GLY:H	43:SA:84:ALA:HB2	1.54	0.72
2:GB:1914:C:H5''	35:OC:116:ARG:NH1	2.05	0.71
2:GB:978:G:H5''	2:GB:979:G:OP2	1.90	0.71
12:L:71:ARG:HH21	12:L:77:ILE:HG21	1.55	0.71
39:TC:78:HIS:HD1	42:WC:104:ARG:HD2	1.55	0.71
18:WB:11:ARG:CG	18:WB:11:ARG:HH11	2.01	0.71
28:BA:59:PHE:HA	28:BA:61:ARG:HH11	1.55	0.71
49:DD:63:ARG:NH1	49:DD:87:ILE:HD13	2.05	0.71
20:YB:23:LEU:HD11	29:HC:25:LEU:HD22	1.72	0.71
2:B:955:C:OP2	14:N:14:ARG:HG3	1.90	0.71
39:OA:121:LYS:NZ	39:OA:122:GLU:H	1.87	0.71
1:A:1381:U:H1'	41:QA:79:ARG:HE	1.53	0.71
19:S:69:LYS:HB2	19:S:88:ARG:HD2	1.70	0.71
43:XC:67:GLY:O	43:XC:73:GLN:NE2	2.23	0.71
20:YB:13:SER:HB3	20:YB:16:LYS:HD2	1.72	0.71
2:B:503:A:H4'	2:B:504:U:H5''	1.73	0.71
2:B:572:A:H5''	2:B:573:G:OP2	1.91	0.71
50:ED:8:ARG:HH12	50:ED:15:PRO:HG3	1.55	0.71
2:GB:1316:U:H2'	2:GB:1317:A:C8	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2299:G:H1	2:GB:2317:C:H42	1.37	0.71
52:GD:53:ARG:NH1	52:GD:58:LEU:O	2.21	0.71
35:KA:328:ARG:NH1	35:KA:331:GLU:HB2	2.05	0.71
9:NB:58:GLU:OE2	9:NB:61:HIS:HB2	1.91	0.71
2:GB:1052:C:N4	2:GB:1107:G:O6	2.23	0.71
2:GB:506:G:H4'	2:GB:507:A:H5'	1.71	0.71
53:HD:40:ILE:HD11	53:HD:69:HIS:HB2	1.73	0.71
2:B:2728:U:H5'	12:L:70:LYS:NZ	2.06	0.71
43:SA:79:LEU:HD11	43:SA:104:ARG:HA	1.72	0.71
45:UA:120:ARG:HH11	45:UA:120:ARG:HG2	1.56	0.71
1:A:504:C:H41	46:VA:115:LYS:NZ	1.87	0.71
27:FC:35:ARG:HB3	27:FC:35:ARG:HH11	1.56	0.71
2:GB:2846:G:OP2	17:VB:54:ARG:HG3	1.90	0.71
8:H:63:ILE:HD13	8:H:143:GLU:HB2	1.69	0.71
2:GB:2304:G:H4'	8:MB:133:LEU:HA	1.70	0.71
1:A:976:G:N2	1:A:1362(B):C:OP2	2.19	0.71
23:BC:117:LEU:HA	23:BC:174:VAL:HA	1.71	0.71
24:CC:68:GLU:HG3	24:CC:82:ARG:HH22	1.54	0.71
1:FB:1137:C:OP2	1:FB:1138:G:N2	2.23	0.71
37:RC:77:ILE:HA	37:RC:84:ILE:HB	1.71	0.71
43:SA:93:ARG:HH12	43:SA:97:LYS:HD3	1.56	0.71
43:XC:79:LEU:HD11	43:XC:104:ARG:HA	1.71	0.71
2:B:1226:A:OP1	18:R:16:LYS:NZ	2.24	0.71
2:B:184:C:H2'	2:B:185:U:H6	1.56	0.71
10:OB:104:GLN:HG2	10:OB:105:HIS:HE1	1.56	0.71
7:LB:188:ARG:HA	13:RB:3:LEU:HD11	1.72	0.71
2:GB:2849:U:O4	17:VB:23:ARG:NH2	2.22	0.71
6:F:37:ARG:HA	6:F:42:ASP:OD2	1.90	0.71
36:QC:18:GLY:HA2	36:QC:42:ILE:H	1.54	0.71
38:SC:26:CYS:HA	38:SC:31:CYS:HB2	1.72	0.71
2:GB:1815:A:OP2	5:JB:54:ARG:NH2	2.23	0.71
51:FD:8:GLY:HA3	51:FD:22:LEU:O	1.91	0.71
9:NB:45:VAL:HG13	9:NB:50:VAL:HG22	1.73	0.71
2:B:451:C:H4'	7:G:52:LYS:NZ	2.06	0.70
1:FB:1003:G:H2'	1:FB:1004:A:H4'	1.71	0.70
1:FB:661:G:H1	1:FB:744:C:H42	1.39	0.70
7:LB:182:ASN:ND2	7:LB:185:ASP:OD2	2.18	0.70
2:B:38:A:H2'	2:B:39:C:C6	2.26	0.70
1:FB:533:A:O2'	1:FB:535:A:OP2	2.08	0.70
31:JC:47:ARG:HH11	31:JC:47:ARG:HB3	1.56	0.70
5:E:148:GLU:HB2	5:E:151:LYS:HD2	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:EC:41:ILE:O	26:EC:43:GLN:N	2.23	0.70
6:F:56:PRO:HG2	6:F:57:LYS:NZ	2.05	0.70
1:FB:1326:C:OP1	55:JD:12:LYS:NZ	2.25	0.70
2:GB:1067:A:H5'	2:GB:1068:G:H21	1.54	0.70
16:UB:20:ARG:NH1	24:CC:48:GLY:O	2.25	0.70
49:YA:87:ILE:HG22	49:YA:88:ARG:H	1.55	0.70
49:DD:87:ILE:HG22	49:DD:88:ARG:H	1.56	0.70
2:B:1815:A:OP2	5:E:54:ARG:NH2	2.24	0.70
8:H:111:LEU:HD22	8:H:117:PHE:HE1	1.56	0.70
8:MB:7:LEU:HD23	8:MB:104:GLU:HG3	1.72	0.70
1:A:1003:G:H2'	1:A:1004:A:H4'	1.72	0.70
1:A:1106:G:H5''	37:MA:172:ARG:HG2	1.74	0.70
1:A:661:G:H1	1:A:744:C:H42	1.39	0.70
2:B:1062:G:OP1	2:B:1070:A:O2'	2.10	0.70
2:B:455:C:N3	2:B:472:A:H2'	2.07	0.70
1:FB:1253:G:H1	1:FB:1284:C:H42	1.39	0.70
1:FB:1422:G:H5''	12:QB:48:PRO:HB3	1.74	0.70
22:V:15:VAL:HG21	22:V:42:VAL:HG11	1.73	0.70
1:A:144:G:H1	1:A:178:C:H42	1.39	0.70
27:AA:51:ALA:HA	27:AA:54:VAL:HG12	1.72	0.70
32:FA:4:MET:HE2	32:FA:63:PRO:HG3	1.72	0.70
55:JD:18:TYR:HB2	55:JD:22:ARG:HB3	1.73	0.70
1:FB:1106:G:H5''	37:RC:172:ARG:HG2	1.74	0.70
2:GB:2405:G:O2'	2:GB:2406:U:OP2	2.08	0.70
1:A:442:C:H42	1:A:492:G:H1	1.38	0.70
2:B:1052:C:N4	2:B:1107:G:O6	2.24	0.70
6:F:31:CYS:HB2	6:F:91:VAL:HG23	1.72	0.70
2:GB:817:C:O2'	2:GB:839:U:OP1	2.08	0.70
22:V:86:ARG:NH1	22:V:100:ALA:O	2.18	0.70
41:VC:54:THR:HG22	41:VC:56:GLN:HE22	1.56	0.70
42:WC:29:SER:O	42:WC:33:GLU:N	2.25	0.70
45:ZC:120:ARG:HH11	45:ZC:120:ARG:HG2	1.56	0.70
2:GB:2361:A:P	32:KC:26:LYS:HZ2	2.14	0.70
35:OC:105:PRO:O	35:OC:109:ARG:NH1	2.24	0.70
1:A:1132:C:H2'	1:A:1133:G:H8	1.56	0.70
1:A:35:G:H1	1:A:549:C:H42	1.40	0.70
2:B:1485:G:N2	2:B:1504:C:O2	2.19	0.70
1:FB:200:G:N2	1:FB:201:C:O2'	2.25	0.70
29:HC:56:LYS:HZ1	29:HC:59:GLU:HA	1.57	0.70
37:MA:20:SER:OG	37:MA:40:ARG:NH2	2.24	0.70
10:OB:4:ILE:HD12	10:OB:47:LEU:HD13	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:OC:139:ALA:HA	35:OC:144:TRP:HB2	1.73	0.70
2:B:2028:U:H2'	2:B:2029:G:C8	2.27	0.69
2:B:330:A:HO2'	2:B:331:A:H8	1.37	0.69
28:BA:2:LYS:HB2	28:BA:6:HIS:HE2	1.56	0.69
2:B:1814:G:OP1	5:E:40:THR:HG21	1.91	0.69
3:HB:11:C:H3'	3:HB:12:C:C6	2.27	0.69
53:HD:31:ILE:H	53:HD:49:ILE:HG13	1.57	0.69
11:K:83:LYS:NZ	11:K:83:LYS:HB2	2.07	0.69
1:A:1422:G:H5''	12:L:48:PRO:HB3	1.73	0.69
7:G:188:ARG:HA	13:M:3:LEU:HD11	1.72	0.69
1:FB:946:A:O2'	1:FB:1333:A:N3	2.23	0.69
27:FC:39:ASP:O	27:FC:44:ARG:NH2	2.23	0.69
2:GB:455:C:N3	2:GB:472:A:H2'	2.07	0.69
2:B:205:G:H1	25:Y:39:LYS:HZ1	1.39	0.69
2:B:547:A:H2'	2:B:548:A:C8	2.28	0.69
2:GB:1485:G:N2	2:GB:1504:C:O2	2.20	0.69
12:L:34:THR:OG1	12:L:35:VAL:N	2.26	0.69
38:NA:177:ASP:HB3	38:NA:182:LYS:HG3	1.72	0.69
11:K:43:THR:HG23	18:R:64:ARG:NH1	2.06	0.69
37:RC:20:SER:OG	37:RC:40:ARG:NH2	2.24	0.69
43:SA:67:GLY:O	43:SA:73:GLN:NE2	2.26	0.69
21:U:26:TYR:HE2	21:U:89:ILE:H	1.38	0.69
1:A:1145:C:H4'	1:A:1146:A:H8	1.57	0.69
1:A:1149:C:O2'	1:A:1280:A:N1	2.25	0.69
2:B:46:C:O2	2:B:179:G:N2	2.20	0.69
2:B:71:A:H5''	2:B:73:A:C8	2.27	0.69
4:D:33:U:H3'	4:D:34:C:H5''	1.74	0.69
2:GB:16:G:H2'	2:GB:17:G:H8	1.57	0.69
42:RA:69:ARG:NH1	42:RA:73:ASP:O	2.26	0.69
2:B:2299:G:H1	2:B:2317:C:H42	1.39	0.69
4:D:28:C:H42	4:D:42:G:H1	1.38	0.69
5:E:274:ARG:CG	5:E:274:ARG:HH11	2.05	0.69
9:I:126:PRO:HB2	9:I:130:ARG:HH22	1.56	0.69
4:IB:74:C:H4'	25:DC:23:LYS:HB2	1.75	0.69
35:KA:315:GLY:HA2	35:KA:329:LEU:HD22	1.73	0.69
35:OC:106:ASP:HA	35:OC:109:ARG:NH1	2.08	0.69
36:QC:115:LEU:HB2	36:QC:145:LEU:HD22	1.74	0.69
2:GB:955:C:OP2	14:SB:14:ARG:HG3	1.92	0.69
45:UA:120:ARG:NH1	45:UA:126:ARG:NH1	2.35	0.69
9:I:58:GLU:OE2	9:I:61:HIS:HB2	1.93	0.69
2:B:2728:U:H5'	12:L:70:LYS:HZ1	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:NA:3:ARG:HH21	38:NA:4:TYR:HB3	1.57	0.69
3:HB:28:C:OP1	16:UB:36:TYR:OH	2.10	0.69
16:UB:25:ARG:NH1	16:UB:42:ASP:OD1	2.26	0.69
22:AC:83:THR:OG1	22:AC:84:ARG:N	2.23	0.69
2:B:2130:U:H5'	2:B:2131:G:OP2	1.91	0.69
2:B:2148:G:N2	2:B:2149:G:O6	2.26	0.69
53:CB:31:ILE:H	53:CB:49:ILE:HG13	1.58	0.69
2:GB:1153:C:OP1	18:WB:92:ARG:NH2	2.25	0.69
2:GB:503:A:H4'	2:GB:504:U:H5''	1.75	0.69
8:H:7:LEU:HD23	8:H:104:GLU:HG3	1.75	0.69
2:B:55:G:H2'	2:B:56:A:C8	2.27	0.69
3:C:57:A:OP2	3:C:58:A:OP2	2.11	0.69
1:FB:976:G:N2	1:FB:1362(B):C:OP2	2.20	0.69
2:GB:1054:A:H3'	2:GB:1055:G:H8	1.58	0.69
2:GB:2028:U:H2'	2:GB:2029:G:C8	2.28	0.69
6:KB:37:ARG:HA	6:KB:42:ASP:OD2	1.92	0.69
2:GB:907:U:H4'	14:SB:101:ARG:HH22	1.57	0.69
2:B:1054:A:H3'	2:B:1055:G:H8	1.58	0.69
4:IB:28:C:H42	4:IB:42:G:H1	1.41	0.69
16:P:30:ARG:NH1	16:P:97:ARG:NH1	2.41	0.69
47:BD:4:ILE:HD13	47:BD:57:ARG:HG2	1.75	0.69
24:CC:27:GLU:HG3	24:CC:68:GLU:HA	1.74	0.69
1:FB:144:G:H1	1:FB:178:C:H42	1.40	0.69
2:GB:547:A:H2'	2:GB:548:A:C8	2.27	0.69
36:LA:74:LYS:HB3	36:LA:74:LYS:HZ2	1.56	0.69
12:QB:13:ASN:ND2	12:QB:97:ARG:HG3	2.07	0.69
2:B:2577:A:H5''	2:B:2578:G:H5'	1.74	0.69
5:E:43:ARG:HG3	5:E:43:ARG:NH1	1.85	0.69
2:GB:2821:A:OP2	2:GB:2822:G:OP2	2.11	0.69
10:OB:104:GLN:C	10:OB:105:HIS:ND1	2.46	0.69
36:QC:178:ARG:NH1	36:QC:184:VAL:HG21	2.07	0.69
1:A:54:C:H42	1:A:357:G:H1	1.39	0.68
1:A:892:A:H2'	1:A:893:C:C6	2.28	0.68
27:AA:39:ASP:O	27:AA:44:ARG:NH2	2.27	0.68
2:B:1500:G:O3'	5:E:102:LYS:NZ	2.26	0.68
23:BC:52:SER:OG	23:BC:53:ILE:N	2.27	0.68
38:SC:177:ASP:HB3	38:SC:182:LYS:HG3	1.74	0.68
17:VB:102:ILE:HA	17:VB:105:LEU:HD23	1.75	0.68
27:AA:44:ARG:HH11	27:AA:44:ARG:HB2	1.58	0.68
2:B:2055:C:OP1	29:CA:8:LYS:NZ	2.25	0.68
2:GB:1754:C:N3	2:GB:2716:U:O2'	2.25	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2557:G:H2'	2:GB:2558:C:H6	1.59	0.68
28:GC:2:LYS:HB2	28:GC:6:HIS:HE2	1.57	0.68
29:HC:30:LEU:HD13	29:HC:39:MET:HB3	1.74	0.68
1:A:430:A:OP2	38:NA:8:VAL:HG12	1.93	0.68
10:OB:104:GLN:O	10:OB:105:HIS:ND1	2.25	0.68
35:PC:315:GLY:HA2	35:PC:329:LEU:HD22	1.75	0.68
39:TC:121:LYS:HZ2	39:TC:122:GLU:H	1.42	0.68
1:FB:1492:A:H5'	46:AD:47:LYS:HD2	1.75	0.68
37:RC:12:LEU:HD11	48:CD:51:GLY:HA2	1.75	0.68
6:F:37:ARG:HH11	6:F:42:ASP:HB3	1.57	0.68
1:FB:442:C:H42	1:FB:492:G:H1	1.42	0.68
2:GB:1322:A:O3'	20:YB:84:ARG:NH1	2.25	0.68
2:GB:2148:G:N2	2:GB:2149:G:O6	2.26	0.68
5:JB:147:LEU:HD13	5:JB:155:LEU:HD21	1.74	0.68
37:MA:12:LEU:HD11	48:XA:51:GLY:HA2	1.76	0.68
11:PB:91:LEU:HA	11:PB:95:PRO:HA	1.74	0.68
39:TC:20:GLN:HG3	39:TC:22:GLY:H	1.58	0.68
24:X:68:GLU:HG3	24:X:82:ARG:HH22	1.57	0.68
2:B:1728:G:H8	2:B:1732:A:H62	1.41	0.68
2:B:2316:C:H1'	8:H:128:ARG:HD2	1.74	0.68
2:B:2471:C:N4	2:B:2476:A:O2'	2.25	0.68
55:EB:18:TYR:HB2	55:EB:22:ARG:HB3	1.75	0.68
26:EC:42:GLY:O	26:EC:44:LEU:N	2.26	0.68
36:LA:115:LEU:HB2	36:LA:145:LEU:HD22	1.75	0.68
8:MB:11:TYR:OH	8:MB:32:PRO:O	2.11	0.68
2:B:2849:U:O4	17:Q:23:ARG:NH2	2.26	0.68
1:A:1035:A:H2'	1:A:1036:G:C8	2.29	0.68
2:B:458:G:O2'	2:B:469:G:O6	2.08	0.68
47:BD:15:VAL:HG11	47:BD:48:LEU:HD13	1.76	0.68
2:GB:1471:A:OP2	2:GB:1521:G:N2	2.27	0.68
36:LA:178:ARG:NH1	36:LA:184:VAL:HG21	2.09	0.68
3:C:28:C:OP2	16:P:33:LYS:HG3	1.94	0.68
14:SB:108:GLY:HA3	23:BC:116:VAL:HG11	1.75	0.68
21:U:68:ARG:NH1	21:U:69:TYR:OH	2.26	0.68
1:A:966:M2G:HM13	1:A:967:5MC:H1'	1.74	0.68
2:B:1153:C:OP1	18:R:92:ARG:NH2	2.24	0.68
2:GB:2792:G:H2'	2:GB:2793:G:H8	1.58	0.68
1:A:1129:C:O2'	1:A:1139:G:N7	2.21	0.68
1:A:1143:G:H2'	1:A:1144:G:C8	2.29	0.68
1:A:1253:G:H1	1:A:1284:C:H42	1.39	0.68
3:C:11:C:H3'	3:C:12:C:C6	2.28	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:54:C:H42	1:FB:357:G:H1	1.42	0.68
1:FB:837:G:H1	1:FB:849:C:H42	1.42	0.68
2:GB:1062:G:OP1	2:GB:1070:A:O2'	2.12	0.68
35:JA:200:ALA:HB1	35:KA:306:ARG:HH11	1.59	0.68
35:OC:123:GLU:HA	35:OC:126:LEU:HB2	1.76	0.68
12:QB:19:ILE:HG22	12:QB:43:VAL:HA	1.74	0.68
1:FB:523:A:N6	46:AD:53:ARG:HH11	1.91	0.68
1:FB:1145:C:H4'	1:FB:1146:A:H8	1.58	0.68
2:GB:2316:C:H1'	8:MB:128:ARG:HD2	1.76	0.68
36:LA:18:GLY:HA2	36:LA:42:ILE:H	1.58	0.68
35:OC:183:ARG:NH1	35:PC:306:ARG:HG3	2.09	0.68
25:Y:3:LYS:HD3	25:Y:61:ARG:NH1	2.05	0.68
1:A:1239:A:H62	1:A:1299:A:N6	1.92	0.68
2:B:881:G:H22	2:B:895:U:H3	1.40	0.68
5:E:217:ARG:HH11	5:E:217:ARG:CG	2.06	0.68
1:FB:1035:A:H2'	1:FB:1036:G:C8	2.28	0.68
2:GB:185:U:H4'	2:GB:218:A:H4'	1.76	0.68
2:GB:881:G:H22	2:GB:895:U:H3	1.40	0.68
36:LA:23:ARG:HB2	36:LA:23:ARG:NH1	2.08	0.68
8:MB:111:LEU:HD22	8:MB:117:PHE:HE1	1.59	0.68
36:QC:97:TRP:HH2	36:QC:176:GLU:HG3	1.58	0.68
38:SC:3:ARG:HH21	38:SC:4:TYR:HB3	1.59	0.68
25:Y:23:LYS:HB3	25:Y:29:GLY:HA3	1.74	0.68
26:Z:41:ILE:O	26:Z:43:GLN:N	2.26	0.68
2:B:1019:U:H3	2:B:1142(B):A:H62	1.42	0.68
2:GB:1019:U:H3	2:GB:1142(B):A:H62	1.40	0.68
14:SB:85:LYS:NZ	24:CC:4:LYS:HE2	2.08	0.68
44:TA:33:GLN:HG2	44:TA:75:ILE:HG22	1.76	0.68
1:FB:1375:A:OP1	41:VC:28:ASN:ND2	2.27	0.68
25:DC:23:LYS:HB3	25:DC:29:GLY:HA3	1.75	0.67
2:GB:140:A:H8	2:GB:1408:C:HO2'	1.42	0.67
2:GB:644:A:H4'	2:GB:645:C:H5	1.59	0.67
4:IB:33:U:H3'	4:IB:34:C:H5"	1.77	0.67
2:B:2563:U:H4'	12:L:28:SER:HA	1.76	0.67
37:MA:92:ALA:HA	37:MA:95:THR:HB	1.76	0.67
14:N:76:LYS:HB3	14:N:91:GLU:HG3	1.75	0.67
36:QC:97:TRP:CH2	36:QC:176:GLU:HG3	2.30	0.67
2:B:1316:U:H2'	2:B:1317:A:C8	2.29	0.67
2:B:136:G:N1	2:B:143:C:N3	2.38	0.67
2:B:136:G:N2	2:B:143:C:O2	2.17	0.67
2:B:16:G:H2'	2:B:17:G:H8	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:CB:40:ILE:HD11	53:CB:69:HIS:HB2	1.76	0.67
13:M:63:PRO:HG2	32:FA:25:MET:HB2	1.77	0.67
2:GB:2676:C:O2	2:GB:2732:G:N2	2.27	0.67
2:GB:572:A:H5''	2:GB:573:G:OP2	1.94	0.67
10:J:3:VAL:HG12	10:J:38:LEU:HA	1.76	0.67
37:RC:92:ALA:HA	37:RC:95:THR:HB	1.76	0.67
2:B:2093:G:H1	2:B:2196:C:H42	1.41	0.67
2:B:557:U:H2'	2:B:558:G:H8	1.60	0.67
1:FB:1132:C:H2'	1:FB:1133:G:H8	1.58	0.67
3:HB:49:C:H2'	3:HB:50:G:C8	2.29	0.67
37:MA:40:ARG:HE	37:MA:55:VAL:HB	1.58	0.67
38:NA:109:GLY:HA3	38:NA:165:MET:HG3	1.76	0.67
12:QB:71:ARG:HH21	12:QB:77:ILE:HG21	1.59	0.67
2:B:1028:A:N3	2:B:2486:G:O2'	2.24	0.67
2:B:530:G:N1	2:B:2022:U:OP1	2.27	0.67
1:FB:1239:A:H62	1:FB:1299:A:N6	1.91	0.67
33:LC:9:ARG:HD3	33:LC:14:CYS:HB2	1.75	0.67
45:ZC:17:GLY:HA2	45:ZC:35:PRO:HG3	1.77	0.67
2:B:244:A:H4'	13:M:74:GLU:HG2	1.74	0.67
2:B:796:C:H2'	2:B:797:C:C6	2.29	0.67
1:FB:126:G:OP1	1:FB:605:U:O2'	2.13	0.67
1:FB:1376:U:H2'	1:FB:1377:A:C8	2.30	0.67
1:FB:767:A:O2'	1:FB:1524:C:O2	2.11	0.67
1:FB:297:G:H5''	1:FB:298:A:OP2	1.94	0.67
1:FB:299:G:H2'	1:FB:300:A:C8	2.29	0.67
6:KB:37:ARG:HH11	6:KB:42:ASP:HB3	1.58	0.67
11:PB:83:LYS:NZ	11:PB:83:LYS:HB2	2.10	0.67
42:RA:9:MET:HB2	42:RA:26:VAL:HG21	1.76	0.67
44:TA:22:LYS:HZ1	44:TA:85:LEU:HD23	1.59	0.67
2:B:185:U:H4'	2:B:218:A:H4'	1.76	0.67
2:B:2711:A:OP2	2:B:2712(A):A:OP2	2.12	0.67
1:FB:709:G:H2'	1:FB:710:G:H8	1.58	0.67
2:GB:244:A:H4'	13:RB:74:GLU:HG2	1.75	0.67
54:ID:63:ILE:HG21	54:ID:81:LYS:HG3	1.76	0.67
10:J:62:LYS:HE2	10:J:135:GLU:OE2	1.94	0.67
37:MA:188:LEU:HD13	37:MA:188:LEU:H	1.60	0.67
35:PC:328:ARG:O	35:PC:330:ASP:N	2.27	0.67
37:RC:66:VAL:HG23	37:RC:101:LEU:HB2	1.75	0.67
8:MB:27:ASN:HB3	8:MB:30:GLU:HG3	1.77	0.67
8:MB:44:GLY:HA2	8:MB:88:ILE:HG22	1.75	0.67
1:A:1143:G:H2'	1:A:1144:G:H8	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2792:G:H2'	2:B:2793:G:H8	1.59	0.67
1:FB:447:G:H1'	1:FB:487:A:H61	1.59	0.67
2:GB:2471:C:N4	2:GB:2476:A:O2'	2.27	0.67
12:L:13:ASN:ND2	12:L:97:ARG:HG3	2.10	0.67
10:OB:43:ASN:HA	10:OB:46:ALA:HB3	1.76	0.67
1:A:1338:G:H21	4:IA:41:C:H1'	1.60	0.67
2:B:1047:G:H2'	2:B:1110:G:H1	1.59	0.67
23:BC:97:GLU:HG2	23:BC:127:LYS:HG3	1.76	0.67
2:GB:2514:U:H3	2:GB:2570:G:H1	1.42	0.67
13:M:57:THR:HG23	13:M:60:MET:HB2	1.76	0.67
1:A:1496:C:O3'	2:B:1920:4OC:HM21	1.94	0.67
1:A:523:A:N6	46:VA:53:ARG:HH11	1.93	0.67
27:AA:44:ARG:NH1	27:AA:44:ARG:HB2	2.09	0.67
2:B:271(C):G:H4'	2:B:271(D):U:H5'	1.76	0.67
2:B:644:A:H4'	2:B:645:C:H5	1.60	0.67
2:GB:2091:U:H1'	25:DC:47:GLN:OE1	1.95	0.67
1:FB:1279:A:OP2	44:YC:9:ARG:NH2	2.27	0.67
2:GB:2291:U:H2'	2:GB:2292:C:C6	2.30	0.67
6:KB:31:CYS:HB2	6:KB:91:VAL:HG23	1.77	0.67
45:ZC:26:ASN:O	45:ZC:26:ASN:ND2	2.28	0.67
1:A:1440:C:H42	1:A:1461:G:H1	1.43	0.66
1:FB:1391:U:H2'	1:FB:1392:G:C8	2.29	0.66
33:GA:9:ARG:HD3	33:GA:14:CYS:HB2	1.77	0.66
2:GB:453:C:O2	2:GB:457:A:O2'	2.12	0.66
35:JA:123:GLU:HA	35:JA:126:LEU:HB2	1.77	0.66
37:MA:111:LEU:HD11	37:MA:145:GLY:HA3	1.77	0.66
2:B:958:U:OP2	14:N:14:ARG:NH2	2.28	0.66
12:QB:35:VAL:HG11	12:QB:103:ALA:HB3	1.77	0.66
38:SC:109:GLY:HA3	38:SC:165:MET:HG3	1.75	0.66
46:VA:89:ARG:HH12	46:VA:95:GLY:H	1.43	0.66
2:B:2210:G:H3'	2:B:2211:G:N7	2.10	0.66
2:B:453:C:O2	2:B:457:A:O2'	2.13	0.66
54:DB:63:ILE:HG21	54:DB:81:LYS:HG3	1.76	0.66
2:GB:1689:A:H62	2:GB:1698:A:H2	1.43	0.66
8:H:44:GLY:HA2	8:H:88:ILE:HG22	1.76	0.66
35:JA:106:ASP:HA	35:JA:109:ARG:NH1	2.10	0.66
2:B:907:U:H4'	14:N:101:ARG:HH22	1.59	0.66
36:QC:101:MET:HA	36:QC:108:ILE:HG13	1.76	0.66
36:QC:23:ARG:HB2	36:QC:23:ARG:NH1	2.10	0.66
2:B:205:G:H1	25:Y:39:LYS:NZ	1.93	0.66
44:YC:22:LYS:HZ1	44:YC:85:LEU:HD23	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1716:U:H3	2:GB:1743:G:H1	1.43	0.66
2:GB:2210:G:H3'	2:GB:2211:G:N7	2.10	0.66
7:LB:144:LYS:HZ3	7:LB:144:LYS:HB2	1.60	0.66
1:A:54:C:N3	1:A:357:G:N2	2.44	0.66
1:A:902:G:H2'	1:A:903:G:C8	2.30	0.66
2:B:2736:G:N2	2:B:2768:C:O2	2.19	0.66
35:OC:200:ALA:HB1	35:PC:306:ARG:HH11	1.59	0.66
40:PA:80:ARG:HE	40:PA:88:VAL:HB	1.60	0.66
37:RC:188:LEU:H	37:RC:188:LEU:HD13	1.60	0.66
37:RC:40:ARG:HE	37:RC:55:VAL:HB	1.61	0.66
42:WC:96:GLY:N	42:WC:99:GLU:OE2	2.27	0.66
2:B:2676:C:O2	2:B:2732:G:N2	2.28	0.66
5:E:85:ASP:OD1	5:E:87:ASN:ND2	2.29	0.66
6:KB:56:PRO:HG2	6:KB:57:LYS:NZ	2.10	0.66
8:MB:7:LEU:HA	8:MB:10:LYS:HB3	1.77	0.66
39:OA:20:GLN:HG3	39:OA:22:GLY:H	1.60	0.66
16:UB:13:ARG:HH11	16:UB:13:ARG:CG	2.06	0.66
23:W:140:ASP:OD2	23:W:141:VAL:N	2.29	0.66
1:FB:1147:C:O2'	43:XC:5:TYR:OH	2.12	0.66
2:B:467:G:P	31:EA:33:ARG:HH21	2.19	0.66
29:CA:16:ARG:HH11	29:CA:16:ARG:HG2	1.59	0.66
25:DC:3:LYS:HD3	25:DC:61:ARG:NH1	2.08	0.66
49:DD:8:LYS:HE2	49:DD:31:LEU:HD11	1.78	0.66
1:FB:542:G:H5'	38:SC:41:GLY:HA3	1.77	0.66
1:FB:642:A:N3	42:WC:113:SER:OG	2.29	0.66
53:CB:48:THR:HB	53:CB:61:TYR:HA	1.78	0.66
1:FB:55:A:N7	1:FB:56:U:N3	2.44	0.66
2:GB:1992:G:O2'	2:GB:1993:U:OP2	2.09	0.66
38:NA:26:CYS:HA	38:NA:31:CYS:HB2	1.77	0.66
11:PB:7:LYS:HA	11:PB:7:LYS:NZ	2.11	0.66
17:Q:64:ARG:NH1	17:Q:64:ARG:HG3	2.10	0.66
1:A:1279:A:OP2	44:TA:9:ARG:NH2	2.28	0.66
40:UC:80:ARG:HE	40:UC:88:VAL:HB	1.60	0.66
26:Z:42:GLY:O	26:Z:44:LEU:N	2.28	0.66
51:AB:41:LYS:HE3	51:AB:92:ARG:HH21	1.60	0.66
55:EB:10:ARG:HA	55:EB:13:ILE:HB	1.78	0.66
2:GB:228:A:O2'	2:GB:229:A:OP2	2.12	0.66
1:A:546:G:N1	38:NA:2:GLY:O	2.28	0.66
2:B:298:G:H8	2:B:298:G:O5'	1.78	0.66
3:C:49:C:H2'	3:C:50:G:C8	2.31	0.66
2:GB:2143:C:O2	2:GB:2148:G:N2	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:GD:58:LEU:HD12	52:GD:62:GLU:HB3	1.77	0.66
36:LA:97:TRP:HH2	36:LA:176:GLU:HG3	1.61	0.66
2:GB:322:A:OP2	7:LB:169:ASN:HB2	1.95	0.66
10:OB:3:VAL:HG12	10:OB:38:LEU:HA	1.77	0.66
20:T:23:LEU:HD11	29:CA:25:LEU:HD22	1.78	0.66
23:W:52:SER:OG	23:W:53:ILE:N	2.26	0.66
2:GB:1728:G:H8	2:GB:1732:A:H62	1.42	0.66
10:J:74:ASN:O	10:J:141:LYS:NZ	2.28	0.66
16:P:25:ARG:NH1	16:P:42:ASP:OD1	2.29	0.66
36:QC:103:THR:O	36:QC:105:PHE:N	2.29	0.66
42:WC:13:ILE:O	42:WC:17:THR:OG1	2.14	0.66
50:ZA:8:ARG:HH12	50:ZA:15:PRO:HG3	1.60	0.66
2:B:1689:A:H62	2:B:1698:A:H2	1.45	0.65
3:C:31:C:H4'	8:H:29:TRP:CH2	2.31	0.65
1:FB:629:G:H2'	1:FB:630:G:O4'	1.96	0.65
2:GB:1047:G:H2'	2:GB:1110:G:H1	1.61	0.65
8:H:7:LEU:HA	8:H:10:LYS:HB3	1.78	0.65
3:HB:57:A:OP2	3:HB:58:A:OP2	2.14	0.65
29:HC:16:ARG:HG2	29:HC:16:ARG:HH11	1.61	0.65
29:HC:41:PRO:O	29:HC:44:THR:OG1	2.11	0.65
29:HC:56:LYS:NZ	29:HC:59:GLU:HA	2.10	0.65
35:JA:113:LEU:HD13	35:JA:175:LEU:HD11	1.77	0.65
12:L:35:VAL:HG11	12:L:103:ALA:HB3	1.77	0.65
38:SC:57:ARG:NH2	38:SC:205:GLU:OE1	2.29	0.65
2:B:1322:A:O3'	20:T:84:ARG:NH1	2.29	0.65
2:B:1936:A:OP2	2:B:1962:5MC:N4	2.28	0.65
1:FB:539:A:H2'	1:FB:540:G:C8	2.31	0.65
4:IA:17:C:H5"	4:IA:17(A):U:OP2	1.96	0.65
55:JD:10:ARG:HA	55:JD:13:ILE:HB	1.78	0.65
35:PC:328:ARG:HH12	35:PC:331:GLU:HB2	1.61	0.65
17:VB:91:ARG:HD2	17:VB:124:ASP:OD2	1.97	0.65
1:A:767:A:O2'	1:A:1524:C:O2	2.12	0.65
1:A:982:U:H5"	48:XA:6:LEU:HD13	1.78	0.65
2:B:2143:C:O2	2:B:2148:G:N2	2.29	0.65
2:B:2771:C:H5"	6:F:202:LYS:NZ	2.12	0.65
1:FB:1223:C:OP2	53:HD:78:ARG:NH2	2.28	0.65
11:K:7:LYS:NZ	11:K:7:LYS:HA	2.11	0.65
11:PB:23:LEU:HA	11:PB:60:ILE:HD11	1.77	0.65
45:UA:17:GLY:HA2	45:UA:35:PRO:HG3	1.78	0.65
47:WA:4:ILE:HD13	47:WA:57:ARG:HG2	1.77	0.65
44:YC:33:GLN:HG2	44:YC:75:ILE:HG22	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:949:A:H1'	1:A:1364:U:N3	2.11	0.65
2:B:1998:G:HO2'	2:B:2724:C:HO2'	1.42	0.65
2:B:2821:A:OP2	2:B:2822:G:OP2	2.15	0.65
2:B:595:C:H42	2:B:662:G:H1	1.43	0.65
1:FB:624:C:H2'	1:FB:625:G:H8	1.62	0.65
2:GB:34:C:O2'	2:GB:35:G:OP1	2.13	0.65
2:GB:376:C:H42	2:GB:398:G:H1	1.43	0.65
14:N:85:LYS:NZ	24:X:4:LYS:HE2	2.11	0.65
16:P:13:ARG:CG	16:P:13:ARG:HH11	2.06	0.65
1:A:112:G:OP2	50:ZA:27:LYS:HE3	1.95	0.65
1:A:539:A:H2'	1:A:540:G:C8	2.31	0.65
1:A:718:G:H5'	45:UA:117:ASN:HB2	1.79	0.65
2:B:307:G:H21	2:B:330:A:N6	1.94	0.65
25:DC:82:LEU:N	25:DC:83:GLU:OE1	2.29	0.65
15:O:12:ARG:O	15:O:17:ARG:NH1	2.30	0.65
39:TC:8:GLU:HG2	39:TC:34:VAL:HG12	1.77	0.65
41:VC:20:ASP:OD2	41:VC:21:VAL:N	2.29	0.65
23:W:108:PRO:HG3	23:W:141:VAL:HG22	1.79	0.65
11:PB:43:THR:HG23	18:WB:64:ARG:NH1	2.10	0.65
1:A:674:G:H2'	1:A:675:A:H8	1.60	0.65
2:B:34:C:O2'	2:B:35:G:OP1	2.13	0.65
1:FB:1440:C:H42	1:FB:1461:G:H1	1.45	0.65
2:GB:2164:C:H41	2:GB:2166:G:H21	1.45	0.65
2:GB:2680:C:H1'	6:KB:187:ALA:HB1	1.79	0.65
51:AB:95:TYR:HA	51:AB:98:LEU:HD12	1.78	0.65
2:GB:574:C:N3	6:KB:145:LYS:NZ	2.44	0.65
8:MB:132:ASN:HB3	8:MB:158:ALA:HA	1.78	0.65
4:NC:74:C:H3'	4:NC:75:C:H5'	1.78	0.65
13:RB:57:THR:HG23	13:RB:60:MET:HB2	1.78	0.65
23:W:8:TYR:HE2	23:W:23:LYS:NZ	1.88	0.65
42:WC:69:ARG:NH1	42:WC:73:ASP:O	2.29	0.65
52:BB:58:LEU:HD12	52:BB:62:GLU:HB3	1.78	0.65
1:FB:630:G:H3'	1:FB:631:G:H8	1.61	0.65
39:OA:121:LYS:HZ3	39:OA:122:GLU:H	1.42	0.65
35:OC:113:LEU:HD13	35:OC:175:LEU:HD11	1.79	0.65
34:MC:22:A:OP2	35:OC:195:ARG:NH1	2.29	0.65
40:UC:100:ASN:ND2	52:GD:26:LEU:O	2.30	0.65
17:VB:64:ARG:NH1	17:VB:64:ARG:HG3	2.07	0.65
1:A:345:C:OP2	17:Q:39:ARG:NH1	2.30	0.65
2:B:1506:C:H2'	2:B:1508:A:H8	1.62	0.65
2:B:646:A:H2'	2:B:647:G:O4'	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:127:VAL:HA	5:E:193:VAL:HG13	1.79	0.65
1:FB:966:M2G:HM13	1:FB:967:5MC:H1'	1.77	0.65
2:GB:530:G:N1	2:GB:2022:U:OP1	2.29	0.65
2:GB:55:G:H2'	2:GB:56:A:C8	2.30	0.65
3:C:103:U:HO2'	23:W:29:TYR:HH	1.43	0.65
2:B:2213:U:H5'	25:Y:57:GLU:OE2	1.97	0.65
21:ZB:57:LEU:HD11	21:ZB:78:LYS:HE2	1.79	0.65
1:A:200:G:N2	1:A:201:C:O2'	2.29	0.65
1:A:299:G:H2'	1:A:300:A:C8	2.32	0.65
2:B:2805:G:N1	2:B:2891:G:OP2	2.30	0.65
23:BC:99:TYR:CZ	23:BC:125:LEU:HB2	2.32	0.65
1:FB:902:G:H2'	1:FB:903:G:C8	2.30	0.65
35:JA:183:ARG:NH1	35:KA:306:ARG:HG3	2.12	0.65
5:JB:217:ARG:CG	5:JB:217:ARG:HH11	2.09	0.65
11:K:23:LEU:HA	11:K:60:ILE:HD11	1.78	0.65
36:LA:97:TRP:CH2	36:LA:176:GLU:HG3	2.31	0.65
2:B:1441:G:H2'	2:B:1442:G:C8	2.32	0.64
2:B:2378:A:H4'	16:P:23:ARG:NH1	2.09	0.64
2:GB:2711:A:OP2	2:GB:2712(A):A:OP2	2.14	0.64
4:IA:74:C:H3'	4:IA:75:C:H5'	1.78	0.64
39:OA:72:GLN:O	39:OA:73:ASN:ND2	2.30	0.64
36:QC:33:TYR:HB3	36:QC:41:ILE:HB	1.79	0.64
37:RC:139:GLN:NE2	37:RC:143:GLU:OE2	2.23	0.64
37:RC:70:VAL:HG21	37:RC:76:VAL:HG21	1.79	0.64
37:RC:95:THR:HG22	37:RC:97:LYS:H	1.62	0.64
1:A:532:A:N6	1:A:1206:G:O2'	2.30	0.64
51:AB:59:ILE:HG22	51:AB:73:VAL:HA	1.79	0.64
51:AB:8:GLY:HA3	51:AB:22:LEU:O	1.95	0.64
23:BC:79:ARG:HD2	23:BC:80:ARG:NH1	2.13	0.64
25:DC:18:ILE:HG12	25:DC:37:ILE:HG12	1.79	0.64
50:ED:21:VAL:HB	50:ED:33:ILE:HB	1.80	0.64
2:GB:2797:U:H3'	2:GB:2798:C:H4'	1.79	0.64
14:N:108:GLY:HA3	23:W:116:VAL:HG11	1.78	0.64
39:OA:8:GLU:HG2	39:OA:34:VAL:HG12	1.77	0.64
17:Q:102:ILE:HA	17:Q:105:LEU:HD23	1.79	0.64
45:UA:120:ARG:HH12	45:UA:126:ARG:HH11	1.44	0.64
3:HB:28:C:OP2	16:UB:33:LYS:HG3	1.97	0.64
1:FB:1298:C:H5	41:VC:114:ARG:HH11	1.46	0.64
1:A:1376:U:H2'	1:A:1377:A:C8	2.32	0.64
1:A:1492:A:H5'	46:VA:47:LYS:HD2	1.79	0.64
2:B:1432:C:H2'	2:B:1433:U:O4'	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2514:U:H3	2:B:2570:G:H1	1.45	0.64
4:D:49:G:O6	4:D:65:C:N4	2.30	0.64
53:HD:48:THR:HB	53:HD:61:TYR:HA	1.78	0.64
55:JD:12:LYS:HZ2	55:JD:19:GLY:H	1.44	0.64
12:QB:71:ARG:NH1	12:QB:104:ARG:HB3	2.11	0.64
45:UA:26:ASN:ND2	45:UA:26:ASN:O	2.30	0.64
23:W:99:TYR:CZ	23:W:125:LEU:HB2	2.32	0.64
1:A:1129:C:H5''	43:SA:16:ARG:HH22	1.62	0.64
48:CD:4:LYS:NZ	48:CD:7:ILE:HG13	2.13	0.64
2:GB:2557:G:H2'	2:GB:2558:C:C6	2.31	0.64
2:GB:384:U:H2'	2:GB:385:C:H6	1.62	0.64
2:GB:2771:C:H5''	6:KB:202:LYS:NZ	2.12	0.64
2:GB:958:U:OP2	14:SB:14:ARG:NH2	2.31	0.64
22:V:41:GLY:N	22:V:64:GLU:OE2	2.30	0.64
1:A:837:G:H1	1:A:849:C:H42	1.44	0.64
2:B:2557:G:H2'	2:B:2558:C:H6	1.62	0.64
1:FB:630:G:H3'	1:FB:631:G:C8	2.33	0.64
9:I:7:LEU:HD12	9:I:8:PRO:HD2	1.79	0.64
36:LA:101:MET:HA	36:LA:108:ILE:HG13	1.79	0.64
39:OA:77:PRO:HG2	39:OA:78:HIS:HD2	1.63	0.64
40:PA:100:ASN:ND2	52:BB:26:LEU:O	2.31	0.64
43:SA:83:ARG:HG2	43:SA:102:LEU:HD11	1.80	0.64
21:ZB:53:LYS:H	21:ZB:82:GLN:HB3	1.62	0.64
2:B:1849:G:H2'	2:B:1850:G:H8	1.62	0.64
2:GB:1388:G:H2'	2:GB:1389:G:H8	1.63	0.64
52:GD:66:LEU:O	52:GD:69:THR:OG1	2.14	0.64
10:J:79:ILE:O	10:J:144:VAL:HA	1.98	0.64
23:W:97:GLU:HG2	23:W:127:LYS:HG3	1.79	0.64
1:A:888:G:H2'	1:A:889:A:C8	2.33	0.64
2:B:1089:G:O2'	2:B:1090:U:OP2	2.13	0.64
1:FB:1149:C:O2'	1:FB:1280:A:N1	2.27	0.64
2:GB:71:A:H5''	2:GB:73:A:C8	2.31	0.64
13:RB:63:PRO:HG2	32:KC:25:MET:HB2	1.80	0.64
38:NA:57:ARG:HH12	39:OA:107:ARG:NH1	1.94	0.64
16:P:74:ALA:HB1	16:P:108:GLY:HA3	1.79	0.64
44:YC:16:LEU:HD23	44:YC:68:HIS:HD2	1.61	0.64
45:ZC:21:ILE:HD11	45:ZC:84:VAL:HG22	1.79	0.64
1:A:624:C:H2'	1:A:625:G:H8	1.62	0.64
2:B:2797:U:H3'	2:B:2798:C:H4'	1.80	0.64
2:B:2857:G:N2	2:B:2860:A:OP2	2.29	0.64
2:B:59:U:H3	2:B:68:G:H1	1.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BB:36:ASN:HB3	52:BB:39:VAL:HB	1.80	0.64
26:EC:68:ARG:HG2	26:EC:68:ARG:HH11	1.63	0.64
1:FB:17:U:H2'	1:FB:18:C:C6	2.33	0.64
1:FB:940:C:O2	1:FB:1343:G:N2	2.17	0.64
4:IB:9:G:H3'	4:IB:10:G:H5''	1.80	0.64
35:JA:200:ALA:HB1	35:KA:306:ARG:NH1	2.13	0.64
36:LA:103:THR:O	36:LA:105:PHE:N	2.29	0.64
9:NB:9:ILE:HD11	9:NB:72:ILE:HG13	1.79	0.64
10:OB:62:LYS:HE2	10:OB:135:GLU:OE2	1.98	0.64
41:QA:14:PRO:HB3	41:QA:19:GLY:HA2	1.80	0.64
1:A:1251:A:H4'	43:SA:12:GLU:OE2	1.98	0.64
1:A:1033:G:H2'	1:A:1034:G:H8	1.63	0.64
1:A:1223:C:OP2	53:CB:78:ARG:NH2	2.31	0.64
1:A:297:G:H5''	1:A:298:A:OP2	1.98	0.64
2:B:2291:U:H2'	2:B:2292:C:C6	2.33	0.64
1:FB:1271:G:H2'	1:FB:1272:G:C8	2.33	0.64
1:FB:1338:G:H5'	1:FB:1339:A:OP2	1.98	0.64
1:FB:467:G:H2'	1:FB:468:A:C8	2.32	0.64
2:GB:1432:C:H2'	2:GB:1433:U:O4'	1.96	0.64
2:GB:271(C):G:H4'	2:GB:271(D):U:H5'	1.78	0.64
39:TC:77:PRO:HG2	39:TC:78:HIS:HD2	1.63	0.64
41:VC:14:PRO:HB3	41:VC:19:GLY:HA2	1.80	0.64
25:Y:18:ILE:HG12	25:Y:37:ILE:HG12	1.79	0.64
21:ZB:26:TYR:HE2	21:ZB:89:ILE:H	1.44	0.64
1:A:946:A:O2'	1:A:1333:A:N3	2.26	0.64
1:A:17:U:H2'	1:A:18:C:C6	2.33	0.64
1:A:630:G:H3'	1:A:631:G:H8	1.63	0.64
2:B:1066:U:OP1	2:B:1069:A:N6	2.31	0.64
25:DC:81:ARG:HB2	25:DC:81:ARG:HH11	1.63	0.64
2:GB:59:U:H3	2:GB:68:G:H1	1.45	0.64
52:GD:36:ASN:HB3	52:GD:39:VAL:HB	1.80	0.64
4:IA:39:C:H2'	4:IA:40:C:H6	1.63	0.64
8:MB:64:THR:HB	8:MB:94:LEU:HD21	1.78	0.64
35:OC:200:ALA:HB1	35:PC:306:ARG:NH1	2.12	0.64
20:T:8:ARG:HB3	20:T:9:TYR:HD2	1.62	0.64
43:XC:5:TYR:HB2	43:XC:18:PHE:HA	1.80	0.64
1:A:1258:G:H1	1:A:1277:C:H42	1.46	0.63
50:ED:42:ARG:HH11	50:ED:42:ARG:HB2	1.64	0.63
1:FB:949:A:H1'	1:FB:1364:U:N3	2.13	0.63
1:A:1271:G:H2'	1:A:1272:G:C8	2.34	0.63
1:A:304:U:H2'	1:A:305:G:C8	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:753:A:OP1	49:YA:69:TYR:OH	2.15	0.63
51:AB:65:ILE:HB	51:AB:69:LYS:HB3	1.79	0.63
46:AD:69:TYR:HB3	46:AD:99:HIS:HD2	1.63	0.63
1:FB:1143:G:H2'	1:FB:1144:G:C8	2.32	0.63
2:GB:595:C:H42	2:GB:662:G:H1	1.45	0.63
8:H:132:ASN:HB3	8:H:158:ALA:HA	1.79	0.63
8:H:36:LYS:HE2	8:H:160:VAL:HG11	1.78	0.63
4:IB:49:G:O6	4:IB:65:C:N4	2.31	0.63
35:KA:352:GLN:HG3	35:KA:353:LEU:HD12	1.80	0.63
16:P:48:LEU:HD12	16:P:82:ILE:HD11	1.79	0.63
41:QA:20:ASP:OD2	41:QA:21:VAL:N	2.32	0.63
42:RA:32:LYS:HA	42:RA:35:ILE:HD12	1.80	0.63
1:FB:1123:A:O2'	44:YC:37:PRO:O	2.13	0.63
1:A:55:A:N7	1:A:56:U:N3	2.46	0.63
46:AD:89:ARG:HH12	46:AD:95:GLY:H	1.47	0.63
2:B:1043:C:N4	2:B:1112:G:H1	1.95	0.63
1:FB:584:G:H5'	51:FD:91:ARG:HH21	1.62	0.63
7:G:72:ARG:HH11	7:G:72:ARG:CG	2.05	0.63
2:GB:2378:A:H4'	16:UB:23:ARG:NH1	2.12	0.63
6:KB:114:ALA:N	6:KB:158:GLY:O	2.19	0.63
36:LA:105:PHE:O	36:LA:109:SER:N	2.30	0.63
7:LB:12:LEU:HB2	7:LB:126:VAL:HG12	1.79	0.63
41:VC:49:ILE:HA	41:VC:52:GLU:HB2	1.80	0.63
7:LB:185:ASP:OD1	7:LB:188:ARG:NH2	2.30	0.63
14:N:52:VAL:HG13	23:W:183:LEU:HD11	1.80	0.63
24:X:18:ALA:HB3	24:X:20:ARG:HH12	1.63	0.63
26:Z:47:ASN:O	26:Z:49:LYS:N	2.31	0.63
1:A:186(E):C:H2'	1:A:186(F):C:C6	2.33	0.63
1:A:629:G:H2'	1:A:630:G:O4'	1.97	0.63
52:BB:45:SER:HG	52:BB:47:THR:HG1	1.42	0.63
29:CA:41:PRO:O	29:CA:44:THR:OG1	2.12	0.63
30:DA:25:LYS:NZ	30:DA:51:GLU:OE1	2.26	0.63
51:FD:41:LYS:HE3	51:FD:92:ARG:HH21	1.64	0.63
2:GB:577:G:O2'	2:GB:1254:A:OP1	2.15	0.63
28:GC:61:ARG:HH22	53:HD:42:PRO:HG2	1.63	0.63
30:IC:25:LYS:NZ	30:IC:51:GLU:OE1	2.28	0.63
36:LA:112:VAL:HG13	36:LA:153:ARG:HA	1.78	0.63
39:OA:101:ILE:HD11	39:OA:119:LEU:HD23	1.79	0.63
2:GB:2563:U:H4'	12:QB:28:SER:HA	1.80	0.63
43:SA:10:ARG:HG2	43:SA:11:LYS:HG3	1.80	0.63
26:Z:68:ARG:HH11	26:Z:68:ARG:HG2	1.62	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1137:C:OP2	1:A:1137:C:H4'	1.97	0.63
1:A:696:A:N3	1:A:786:G:O2'	2.25	0.63
1:A:974:A:H4'	1:A:975:A:H5'	1.81	0.63
22:AC:41:GLY:N	22:AC:64:GLU:OE2	2.32	0.63
2:B:519:U:H2'	2:B:520:G:C8	2.33	0.63
2:B:607:U:OP1	7:G:103:LYS:N	2.24	0.63
24:CC:23:VAL:HA	24:CC:38:VAL:HG22	1.79	0.63
2:GB:1043:C:N4	2:GB:1112:G:H1	1.95	0.63
2:GB:2327:A:H2'	2:GB:2328:A:C8	2.34	0.63
2:GB:2789:C:N3	2:GB:2894:G:N2	2.46	0.63
7:LB:181:LEU:HD11	7:LB:186:ILE:HD11	1.80	0.63
10:OB:8:PRO:HB3	10:OB:15:VAL:H	1.63	0.63
17:Q:16:ARG:HG3	17:Q:19:LEU:HD11	1.80	0.63
18:R:50:ARG:O	18:R:54:LYS:NZ	2.28	0.63
47:WA:87:TYR:CE2	47:WA:91:ARG:HD2	2.34	0.63
51:AB:29:HIS:HB2	51:AB:36:ILE:HD11	1.81	0.63
2:B:1889:A:H2'	2:B:1890:A:C8	2.34	0.63
1:FB:1251:A:H4'	43:XC:12:GLU:OE2	1.99	0.63
51:FD:95:TYR:HA	51:FD:98:LEU:HD12	1.78	0.63
2:GB:252:G:P	13:RB:50:ARG:HH12	2.22	0.63
2:GB:646:A:H2'	2:GB:647:G:O4'	1.98	0.63
8:H:27:ASN:HB3	8:H:30:GLU:HG3	1.79	0.63
40:PA:3:ARG:HH11	40:PA:3:ARG:HB2	1.64	0.63
35:PC:352:GLN:HG3	35:PC:353:LEU:HD12	1.81	0.63
17:Q:120:ARG:HA	17:Q:123:LYS:HB2	1.80	0.63
41:QA:49:ILE:HA	41:QA:52:GLU:HB2	1.80	0.63
16:UB:31:SER:O	16:UB:97:ARG:NH2	2.29	0.63
49:YA:8:LYS:HE2	49:YA:31:LEU:HD11	1.79	0.63
1:A:1041:A:H3'	1:A:1042:G:C8	2.33	0.63
1:A:467:G:H2'	1:A:468:A:C8	2.33	0.63
46:AD:86:ARG:HG3	46:AD:101:VAL:HG22	1.80	0.63
46:AD:97:ARG:HH11	46:AD:97:ARG:HB2	1.64	0.63
2:B:2308:G:O2'	2:B:2310:A:N7	2.31	0.63
47:BD:31:LYS:NZ	47:BD:35:GLU:OE1	2.32	0.63
51:FD:59:ILE:HG22	51:FD:73:VAL:HA	1.79	0.63
2:GB:2641:G:OP1	11:PB:74:ARG:NE	2.32	0.63
9:I:9:ILE:HD11	9:I:72:ILE:HG13	1.79	0.63
1:A:1147:C:O2'	43:SA:5:TYR:OH	2.15	0.63
18:WB:112:ARG:HH12	19:XB:47:VAL:HB	1.63	0.63
1:A:1029:G:H1'	1:A:1032(C):G:H22	1.63	0.63
51:AB:66:SER:HB3	51:AB:69:LYS:HB2	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1478:G:O2'	2:B:1558:A:N1	2.32	0.63
2:B:289:A:H2'	2:B:290:G:O4'	1.99	0.63
1:FB:1033:G:H2'	1:FB:1034:G:H8	1.62	0.63
1:FB:1041:A:H3'	1:FB:1042:G:C8	2.34	0.63
1:FB:186(E):C:H2'	1:FB:186(F):C:C6	2.34	0.63
1:FB:674:G:OP1	40:UC:87:ARG:NH2	2.28	0.63
37:MA:70:VAL:HG21	37:MA:76:VAL:HG21	1.81	0.63
9:NB:126:PRO:CG	9:NB:130:ARG:HH12	2.11	0.63
1:A:1415:G:H1	1:A:1485:U:H3	1.46	0.62
1:A:737:A:H2'	1:A:738:C:C6	2.34	0.62
2:B:2343:C:O2'	2:B:2373:G:O2'	2.16	0.62
2:B:307:G:H21	2:B:330:A:H62	1.46	0.62
50:ED:42:ARG:NH1	50:ED:42:ARG:HB2	2.13	0.62
1:FB:532:A:N6	1:FB:1206:G:O2'	2.32	0.62
1:FB:674:G:H2'	1:FB:675:A:H8	1.62	0.62
1:FB:892:A:H2'	1:FB:893:C:C6	2.34	0.62
2:GB:1066:U:OP1	2:GB:1069:A:N6	2.31	0.62
10:J:43:ASN:HA	10:J:46:ALA:HB3	1.79	0.62
5:JB:230:ASP:N	5:JB:230:ASP:OD1	2.28	0.62
35:JA:174:ARG:HG3	35:KA:341:ILE:HG21	1.79	0.62
9:NB:10:PRO:HA	9:NB:49:VAL:HG12	1.81	0.62
39:OA:48:ALA:HB3	39:OA:54:ALA:HB2	1.81	0.62
2:B:2251:OMG:H8	2:B:2251:OMG:O5'	1.82	0.62
1:FB:983:A:H5'	1:FB:984:C:OP2	1.98	0.62
2:GB:1089:G:O2'	2:GB:1090:U:OP2	2.15	0.62
2:GB:1616:A:H4'	2:GB:1617:C:OP2	1.98	0.62
2:GB:1814:G:OP1	5:JB:40:THR:HG21	2.00	0.62
13:M:95:VAL:HB	13:M:125:VAL:HG12	1.80	0.62
34:MC:21:A:H62	35:OC:198:THR:HG1	1.45	0.62
38:NA:57:ARG:NH2	38:NA:205:GLU:OE1	2.33	0.62
1:A:1264:C:H2'	1:A:1265:G:C8	2.34	0.62
1:A:54:C:N4	1:A:357:G:H1	1.97	0.62
1:A:989:C:H42	1:A:1217:C:H42	1.46	0.62
2:B:1441:G:H2'	2:B:1442:G:H8	1.64	0.62
2:B:2789:C:N3	2:B:2894:G:N2	2.47	0.62
49:DD:39:LEU:HD12	49:DD:56:LEU:HB2	1.81	0.62
1:FB:1258:G:H1	1:FB:1277:C:H42	1.47	0.62
1:FB:974:A:H4'	1:FB:975:A:H5'	1.81	0.62
35:KA:328:ARG:O	35:KA:330:ASP:N	2.31	0.62
6:KB:23:VAL:HG11	6:KB:183:LEU:HB3	1.80	0.62
38:SC:191:ARG:NH2	38:SC:200:GLU:OE1	2.28	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:UC:3:ARG:HH11	40:UC:3:ARG:HB2	1.64	0.62
47:WA:15:VAL:HG11	47:WA:48:LEU:HD13	1.79	0.62
43:XC:50:LEU:O	43:XC:54:ASP:N	2.32	0.62
45:ZC:15:ALA:O	45:ZC:78:GLN:N	2.31	0.62
1:A:126:G:OP1	1:A:605:U:O2'	2.16	0.62
1:A:709:G:H2'	1:A:710:G:H8	1.64	0.62
2:B:898:C:H2'	2:B:899:A:O4'	1.99	0.62
1:FB:1029:G:H1'	1:FB:1032(C):G:H22	1.65	0.62
1:FB:1475:G:H4'	2:GB:1689:A:H4'	1.81	0.62
51:FD:65:ILE:HB	51:FD:69:LYS:HB3	1.82	0.62
1:FB:254:G:O3'	51:FD:69:LYS:NZ	2.32	0.62
2:GB:289:A:H2'	2:GB:290:G:O4'	2.00	0.62
2:GB:307:G:H21	2:GB:330:A:N6	1.97	0.62
2:B:2358:G:H22	13:M:55:ARG:HH12	1.48	0.62
16:P:31:SER:O	16:P:97:ARG:NH2	2.31	0.62
45:UA:123:LYS:O	45:UA:125:PHE:N	2.31	0.62
42:WC:9:MET:HB2	42:WC:26:VAL:HG21	1.81	0.62
2:B:2090:G:N2	25:Y:45:ASN:OD1	2.27	0.62
25:Y:59:THR:O	25:Y:91:LYS:NZ	2.26	0.62
45:ZC:123:LYS:O	45:ZC:125:PHE:N	2.31	0.62
22:AC:86:ARG:NH1	22:AC:100:ALA:O	2.23	0.62
2:B:1716:U:H3	2:B:1743:G:H1	1.46	0.62
2:B:274:G:H1'	2:B:363(A):G:N2	2.15	0.62
4:D:9:G:H3'	4:D:10:G:H5''	1.82	0.62
1:FB:1130:A:H2'	1:FB:1131:G:H8	1.63	0.62
2:GB:2308:G:O2'	2:GB:2310:A:N7	2.31	0.62
37:MA:101:LEU:HD21	37:MA:103:VAL:HG13	1.81	0.62
17:Q:60:THR:HG22	17:Q:77:PRO:HA	1.80	0.62
36:QC:112:VAL:HG13	36:QC:153:ARG:HA	1.80	0.62
19:XB:66:ARG:HD2	19:XB:88:ARG:HG3	1.80	0.62
1:FB:1129:C:H5''	43:XC:16:ARG:HH22	1.62	0.62
25:Y:82:LEU:N	25:Y:83:GLU:OE1	2.31	0.62
2:B:1048:A:N1	2:B:1112:G:O2'	2.27	0.62
2:B:919:G:N2	2:B:2269:A:OP2	2.33	0.62
37:MA:112:SER:HB3	37:MA:115:LEU:HD12	1.81	0.62
36:QC:77:ALA:HA	36:QC:80:ILE:HD13	1.82	0.62
1:A:1347:G:N7	43:SA:10:ARG:NH2	2.48	0.62
16:UB:74:ALA:HB1	16:UB:108:GLY:HA3	1.80	0.62
40:UC:5:GLU:OE1	52:GD:34:TYR:OH	2.12	0.62
43:XC:26:VAL:HB	43:XC:33:PHE:HD2	1.64	0.62
25:Y:81:ARG:HH11	25:Y:81:ARG:HB2	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1225:A:H2'	1:A:1225:A:N3	2.15	0.62
1:A:983:A:H5'	1:A:984:C:OP2	1.99	0.62
49:DD:3:ILE:HG21	49:DD:34:LEU:HD21	1.81	0.62
1:FB:808:C:OP2	49:DD:48:LYS:HD3	2.00	0.62
27:FC:44:ARG:NH1	27:FC:44:ARG:HB2	2.15	0.62
2:B:322:A:OP2	7:G:169:ASN:HB2	1.99	0.62
2:GB:1448:G:H2'	2:GB:1449(B):A:C8	2.35	0.62
2:GB:363(B):A:H2'	2:GB:363(C):G:C8	2.34	0.62
2:GB:38:A:H2'	2:GB:39:C:C6	2.34	0.62
2:GB:95:G:H4'	26:EC:46:GLN:HA	1.81	0.62
32:KC:4:MET:HE2	32:KC:63:PRO:HG3	1.81	0.62
32:KC:55:ALA:HA	32:KC:58:ILE:HG12	1.82	0.62
13:M:124:LYS:HE2	13:M:144:GLU:HG2	1.81	0.62
41:QA:15:ASP:OD2	41:QA:17:VAL:HG23	2.00	0.62
36:QC:20:GLU:OE1	36:QC:23:ARG:NH2	2.26	0.62
27:AA:6:VAL:HG13	27:AA:56:VAL:HG13	1.81	0.62
2:B:1292:U:H2'	2:B:1293:C:C6	2.35	0.62
2:B:1790:C:H5''	2:B:1791:A:OP1	1.99	0.62
2:GB:607:U:OP1	7:LB:103:LYS:N	2.25	0.62
52:GD:55:ARG:NH1	52:GD:55:ARG:HB3	2.14	0.62
10:J:8:PRO:HB3	10:J:15:VAL:H	1.65	0.62
37:MA:139:GLN:NE2	37:MA:143:GLU:OE2	2.26	0.62
8:MB:36:LYS:HE2	8:MB:160:VAL:HG11	1.81	0.62
35:PC:348:HIS:HA	35:PC:351:ASP:HB2	1.81	0.62
17:Q:128:GLU:OE2	17:Q:129:ARG:N	2.33	0.62
19:S:75:PHE:HE1	19:S:82:ARG:NH1	1.97	0.62
42:WC:23:SER:OG	42:WC:24:THR:N	2.33	0.62
25:Y:86:SER:HB3	25:Y:89:GLU:HG3	1.82	0.62
2:B:485:C:H42	2:B:495:G:H1	1.47	0.62
2:B:848:G:H2'	2:B:849:A:C8	2.35	0.62
2:B:2361:A:P	32:FA:26:LYS:HZ2	2.23	0.62
52:GD:55:ARG:HH11	52:GD:55:ARG:HB3	1.65	0.62
38:NA:188:LEU:HD13	38:NA:188:LEU:H	1.63	0.62
16:P:83:LYS:HB2	16:P:111:GLU:OE2	1.99	0.62
36:QC:105:PHE:O	36:QC:109:SER:N	2.29	0.62
36:QC:153:ARG:HG3	36:QC:154:LEU:HD12	1.82	0.62
39:OA:148:VAL:HG21	42:RA:107:LEU:HD22	1.82	0.62
46:VA:40:VAL:HG13	46:VA:56:ALA:HB2	1.82	0.62
43:XC:83:ARG:HG2	43:XC:102:LEU:HD11	1.82	0.62
43:XC:10:ARG:HG2	43:XC:11:LYS:HG3	1.80	0.62
1:A:447:G:H1'	1:A:487:A:H61	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:979:C:H42	48:XA:18:VAL:HB	1.63	0.62
2:B:2557:G:H2'	2:B:2558:C:C6	2.34	0.62
5:E:80:ALA:HB3	5:E:94:LEU:HB3	1.82	0.62
1:FB:1435:G:H1	1:FB:1466:C:H42	1.47	0.62
2:GB:2577:A:H5''	2:GB:2578:G:H5'	1.81	0.62
2:GB:898:C:H2'	2:GB:899:A:O4'	2.00	0.62
5:JB:80:ALA:HB3	5:JB:94:LEU:HB3	1.82	0.62
6:KB:120:TRP:CD1	6:KB:155:LYS:HB3	2.35	0.62
9:NB:127:GLU:HB2	9:NB:130:ARG:HB2	1.81	0.62
45:UA:87:THR:HG22	45:UA:91:ARG:NH1	2.15	0.62
2:B:1092:C:N4	2:B:1099:G:H1	1.97	0.61
2:B:207:A:H2'	2:B:208:C:O4'	2.00	0.61
23:BC:140:ASP:OD2	23:BC:141:VAL:N	2.33	0.61
2:B:1007:C:H5''	11:K:35:ARG:NH1	2.13	0.61
1:A:1298:C:H5	41:QA:114:ARG:HH11	1.48	0.61
42:RA:96:GLY:H	42:RA:99:GLU:HB2	1.65	0.61
2:GB:2358:G:H22	13:RB:55:ARG:HH12	1.48	0.61
43:SA:50:LEU:O	43:SA:54:ASP:N	2.33	0.61
39:TC:101:ILE:HD11	39:TC:119:LEU:HD23	1.81	0.61
17:VB:120:ARG:HA	17:VB:123:LYS:HB2	1.82	0.61
17:VB:60:THR:HG22	17:VB:77:PRO:HA	1.82	0.61
1:A:1046:A:H5'	1:A:1047:G:OP2	2.01	0.61
1:A:630:G:H3'	1:A:631:G:C8	2.35	0.61
2:B:376:C:H42	2:B:398:G:H1	1.48	0.61
25:DC:59:THR:O	25:DC:91:LYS:NZ	2.31	0.61
5:E:108:PRO:HD2	5:E:111:LEU:HD22	1.82	0.61
31:EA:2:LYS:HG3	31:EA:6:GLN:HE21	1.64	0.61
1:FB:888:G:H2'	1:FB:889:A:C8	2.35	0.61
2:GB:39:C:O2	7:LB:46:ARG:NH2	2.28	0.61
2:GB:549:G:H5''	2:GB:550:G:OP2	2.00	0.61
11:K:20:GLY:HA2	11:K:61:ARG:HG3	1.82	0.61
37:MA:83:ARG:HA	37:MA:86:VAL:HG22	1.81	0.61
42:RA:29:SER:O	42:RA:33:GLU:N	2.32	0.61
37:RC:83:ARG:HA	37:RC:86:VAL:HG22	1.82	0.61
1:A:1130:A:H2'	1:A:1131:G:H8	1.63	0.61
2:B:363(B):A:H2'	2:B:363(C):G:C8	2.35	0.61
2:GB:1205:U:C5	7:LB:171:PRO:HA	2.35	0.61
2:GB:1506:C:H2'	2:GB:1508:A:H8	1.64	0.61
2:GB:2857:G:N2	2:GB:2860:A:OP2	2.31	0.61
35:KA:328:ARG:HH12	35:KA:331:GLU:HB2	1.65	0.61
7:LB:165:ARG:HG3	7:LB:165:ARG:NH1	2.07	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LB:170:LEU:HD12	7:LB:171:PRO:HD2	1.82	0.61
44:TA:16:LEU:HD23	44:TA:68:HIS:HD2	1.66	0.61
19:XB:8:GLY:HA3	19:XB:23:GLU:HB2	1.83	0.61
1:A:959:A:N1	1:A:1221:G:O2'	2.30	0.61
2:B:1257:C:H4'	7:G:83:PHE:CE1	2.36	0.61
12:L:60:ALA:HA	12:L:87:ILE:HG13	1.80	0.61
45:UA:81:ASP:OD2	45:UA:106:LYS:HB2	2.00	0.61
22:V:37:VAL:HG21	22:V:72:VAL:HG21	1.81	0.61
22:V:46:LYS:HB3	22:V:60:PHE:HD1	1.64	0.61
46:VA:69:TYR:HB3	46:VA:99:HIS:HD2	1.65	0.61
1:A:1226:C:H4'	53:CB:80:TYR:CZ	2.35	0.61
1:A:291:C:H42	1:A:309:G:H1	1.48	0.61
2:B:1205:U:C5	7:G:171:PRO:HA	2.36	0.61
2:B:252:G:P	13:M:50:ARG:HH12	2.23	0.61
1:FB:1143:G:H2'	1:FB:1144:G:H8	1.62	0.61
1:FB:735:C:H2'	1:FB:736:C:C6	2.35	0.61
2:GB:2622:C:O2'	2:GB:2824:C:N4	2.32	0.61
2:GB:2711:A:H5''	2:GB:2712:U:H5''	1.81	0.61
7:LB:152:GLU:OE2	7:LB:191:ARG:NH1	2.32	0.61
2:GB:444:C:H4'	7:LB:49:ALA:HB2	1.82	0.61
37:MA:66:VAL:HG23	37:MA:101:LEU:HB2	1.81	0.61
1:A:542:G:H5'	38:NA:41:GLY:HA3	1.83	0.61
2:B:2756:U:H1'	2:B:2757:A:H5''	1.82	0.61
1:FB:624:C:H2'	1:FB:625:G:C8	2.35	0.61
2:GB:1426:G:O2'	2:GB:1572:A:N6	2.32	0.61
2:GB:1803:A:O2'	5:JB:259:THR:HG21	2.01	0.61
3:HB:31:C:H4'	8:MB:29:TRP:CH2	2.36	0.61
11:PB:17:ASP:OD1	11:PB:56:ASN:HB2	2.01	0.61
43:SA:5:TYR:HB2	43:SA:18:PHE:HA	1.82	0.61
45:ZC:81:ASP:OD2	45:ZC:106:LYS:HB2	2.00	0.61
2:B:548:A:H2'	2:B:549:G:O4'	2.00	0.61
2:B:95:G:H4'	26:Z:46:GLN:HA	1.82	0.61
1:FB:1175:G:H2'	1:FB:1176:A:H8	1.66	0.61
1:FB:1175:G:H2'	1:FB:1176:A:C8	2.35	0.61
1:FB:975:A:O2'	48:CD:32:SER:HA	1.99	0.61
51:FD:29:HIS:HB2	51:FD:36:ILE:HD11	1.82	0.61
2:GB:2142:C:N4	2:GB:2148:G:H22	1.98	0.61
2:GB:2213:U:H5'	25:DC:57:GLU:OE2	2.01	0.61
1:A:339:C:OP2	12:L:97:ARG:NH1	2.33	0.61
2:B:1011:G:OP2	18:R:66:ASN:ND2	2.32	0.61
1:FB:1377:A:OP2	41:VC:94:ARG:NH1	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:YA:3:ILE:HG21	49:YA:34:LEU:HD21	1.81	0.61
1:A:624:C:H2'	1:A:625:G:C8	2.36	0.61
24:CC:18:ALA:HB3	24:CC:20:ARG:HH12	1.63	0.61
31:EA:41:ARG:NH1	31:EA:41:ARG:HB2	2.16	0.61
6:F:120:TRP:CD1	6:F:155:LYS:HB3	2.35	0.61
37:MA:73:PRO:HA	37:MA:76:VAL:HG23	1.83	0.61
14:N:116:GLU:OE2	14:N:119:ARG:NE	2.33	0.61
22:V:86:ARG:HH12	22:V:100:ALA:C	2.03	0.61
42:WC:32:LYS:HA	42:WC:35:ILE:HD12	1.83	0.61
45:ZC:87:THR:HG22	45:ZC:91:ARG:NH1	2.16	0.61
1:A:642:A:N3	42:RA:113:SER:OG	2.32	0.61
1:A:745:C:H1'	1:A:836:G:O2'	2.01	0.61
54:DB:50:GLU:HA	54:DB:53:LEU:HD12	1.81	0.61
25:DC:86:SER:HB3	25:DC:89:GLU:HG3	1.81	0.61
51:FD:96:GLN:O	51:FD:98:LEU:N	2.32	0.61
2:GB:775:G:C5	2:GB:794:G:C8	2.89	0.61
4:IB:41:C:O2'	41:VC:140:ASP:OD1	2.19	0.61
34:HA:21:A:N6	35:JA:198:THR:OG1	2.17	0.61
36:LA:87:ARG:NH2	36:LA:220:ASP:OD2	2.33	0.61
38:NA:141:ARG:HH11	38:NA:141:ARG:HB2	1.65	0.61
17:Q:30:VAL:HG22	17:Q:86:ILE:HD12	1.81	0.61
13:RB:124:LYS:HE2	13:RB:144:GLU:HG2	1.81	0.61
24:X:41:ARG:HG3	24:X:41:ARG:HH11	1.63	0.61
2:B:2135:A:H2'	2:B:2136:C:H2'	1.82	0.61
2:B:775:G:C5	2:B:794:G:C8	2.89	0.61
23:BC:48:PHE:HE1	23:BC:71:VAL:HG21	1.64	0.61
7:G:181:LEU:HD11	7:G:186:ILE:HD11	1.82	0.61
2:GB:1441:G:H2'	2:GB:1442:G:C8	2.36	0.61
2:GB:519:U:H2'	2:GB:520:G:C8	2.35	0.61
2:GB:557:U:H2'	2:GB:558:G:H8	1.64	0.61
11:K:17:ASP:OD1	11:K:56:ASN:HB2	2.01	0.61
17:Q:54:ARG:HB3	17:Q:54:ARG:NH1	2.16	0.61
41:QA:46:ALA:HB1	41:QA:121:ALA:HB2	1.81	0.61
21:U:65:ARG:HB2	21:U:70:LEU:HG	1.83	0.61
14:N:61:GLY:HA2	23:W:177:PRO:HB2	1.81	0.61
1:A:512:U:OP1	38:NA:46:LYS:NZ	2.31	0.60
2:B:2622:C:O2'	2:B:2824:C:N4	2.32	0.60
44:YC:45:ARG:HD3	48:CD:36:PHE:HE1	1.65	0.60
1:FB:982:U:H5''	48:CD:6:LEU:HD13	1.82	0.60
2:GB:1826:G:H5''	2:GB:1827:C:OP2	2.01	0.60
8:H:139:LEU:HD22	8:H:149:VAL:HG11	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:HB:103:U:HO2'	23:BC:29:TYR:HH	1.45	0.60
7:LB:63:LYS:NZ	7:LB:75:HIS:O	2.27	0.60
4:NC:39:C:H2'	4:NC:40:C:H6	1.65	0.60
17:Q:64:ARG:HD2	17:Q:102:ILE:HD11	1.82	0.60
37:RC:73:PRO:HA	37:RC:76:VAL:HG23	1.83	0.60
45:UA:48:ILE:HG21	45:UA:63:LEU:HB3	1.83	0.60
18:WB:83:LEU:HD12	18:WB:113:ALA:HB2	1.83	0.60
2:GB:1011:G:OP2	18:WB:66:ASN:ND2	2.33	0.60
1:A:1399:C:O2	1:A:1502:A:N6	2.34	0.60
2:B:228:A:O2'	2:B:229:A:OP2	2.12	0.60
1:FB:1329:A:H5'	47:BD:29:ARG:HH11	1.66	0.60
1:FB:146:G:H2'	1:FB:147:G:H8	1.65	0.60
1:FB:216:G:H2'	1:FB:217:C:C6	2.35	0.60
1:FB:291:C:H42	1:FB:309:G:H1	1.48	0.60
2:GB:2321:G:H5'	2:GB:2322:A:OP2	2.01	0.60
8:H:11:TYR:OH	8:H:32:PRO:O	2.18	0.60
41:QA:146:GLU:HA	41:QA:149:ARG:HB2	1.83	0.60
13:RB:95:VAL:HB	13:RB:125:VAL:HG12	1.82	0.60
1:A:1372:U:H5''	43:SA:71:SER:HB2	1.83	0.60
16:UB:44:LYS:NZ	16:UB:44:LYS:HB2	2.16	0.60
1:A:1175:G:H2'	1:A:1176:A:C8	2.36	0.60
46:AD:40:VAL:HG13	46:AD:56:ALA:HB2	1.84	0.60
2:B:1448:G:H2'	2:B:1449(B):A:C8	2.35	0.60
2:B:2593:U:H2'	2:B:2594:C:C6	2.36	0.60
29:CA:30:LEU:HD13	29:CA:39:MET:HB3	1.81	0.60
1:FB:1137:C:OP2	1:FB:1137:C:H4'	2.00	0.60
51:FD:66:SER:OG	51:FD:67:LYS:N	2.34	0.60
2:GB:274:G:H1'	2:GB:363(A):G:N2	2.15	0.60
2:GB:635:C:O2'	2:GB:639:U:OP1	2.20	0.60
5:JB:69:ARG:NH2	5:JB:128:GLY:O	2.34	0.60
12:L:82:ASN:HD22	12:L:82:ASN:N	1.97	0.60
38:NA:18:LYS:HE3	38:NA:20:TYR:H	1.66	0.60
18:R:83:LEU:HD12	18:R:113:ALA:HB2	1.83	0.60
2:B:1104:C:H2'	2:B:1105:U:H6	1.65	0.60
2:B:549:G:H5''	2:B:550:G:OP2	2.01	0.60
1:FB:1225:A:N3	1:FB:1225:A:H2'	2.14	0.60
1:FB:1359:C:O2'	1:FB:1362(A):C:N4	2.33	0.60
38:NA:12:CYS:HG	38:NA:18:LYS:NZ	1.98	0.60
12:QB:21:CYS:HB2	12:QB:39:ILE:HD12	1.83	0.60
12:QB:73:ASP:HB2	17:VB:82:LEU:HD13	1.84	0.60
2:B:2091:U:H1'	25:Y:47:GLN:OE1	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2792:G:H2'	2:B:2793:G:C8	2.35	0.60
23:BC:6:LYS:H	23:BC:6:LYS:HD2	1.66	0.60
49:DD:33:THR:O	49:DD:37:ASN:ND2	2.25	0.60
2:B:2635:C:H5''	6:F:78:LEU:HB3	1.83	0.60
1:FB:1226:C:H4'	53:HD:80:TYR:CZ	2.36	0.60
1:FB:1359:C:OP1	48:CD:22:THR:OG1	2.13	0.60
1:FB:1399:C:O2	1:FB:1502:A:N6	2.34	0.60
1:FB:745:C:H1'	1:FB:836:G:O2'	2.01	0.60
7:G:78:ILE:HA	7:G:83:PHE:CE2	2.37	0.60
2:B:1257:C:H4'	7:G:83:PHE:CD1	2.35	0.60
2:GB:2792:G:H2'	2:GB:2793:G:C8	2.36	0.60
54:ID:93:GLU:O	54:ID:95:ALA:N	2.33	0.60
17:VB:16:ARG:HG3	17:VB:19:LEU:HD11	1.82	0.60
41:VC:46:ALA:HB1	41:VC:121:ALA:HB2	1.82	0.60
48:XA:4:LYS:NZ	48:XA:7:ILE:HG13	2.17	0.60
2:B:1388:G:H2'	2:B:1389:G:H8	1.66	0.60
2:B:1433:U:O2	2:B:1561:G:N1	2.34	0.60
2:B:2142:C:N4	2:B:2148:G:H22	2.00	0.60
2:B:2711:A:H5''	2:B:2712:U:H5''	1.83	0.60
31:EA:47:ARG:NH1	31:EA:47:ARG:HB3	2.16	0.60
8:H:135:LEU:HD23	8:H:155:MET:HG3	1.84	0.60
14:N:43:THR:N	14:N:46:GLN:OE1	2.28	0.60
38:SC:141:ARG:HB2	38:SC:141:ARG:HH11	1.65	0.60
2:B:2394:C:N3	4:D:76:A:O2'	2.28	0.60
2:B:529:A:H62	2:B:2041:U:H3	1.49	0.60
2:B:881:G:N2	2:B:895:U:H3	2.00	0.60
52:BB:55:ARG:HB3	52:BB:55:ARG:NH1	2.17	0.60
23:BC:26:GLY:HA2	23:BC:85:HIS:CD2	2.37	0.60
6:F:21:VAL:HG22	6:F:23:VAL:HG23	1.83	0.60
1:FB:1013:G:N2	1:FB:1016:A:OP2	2.35	0.60
1:FB:112:G:OP2	50:ED:27:LYS:HE3	2.00	0.60
7:G:165:ARG:NH1	7:G:165:ARG:HG3	2.13	0.60
2:GB:755:C:H2'	2:GB:756:C:C6	2.37	0.60
45:ZC:108:ILE:HD12	52:GD:87:ARG:NH1	2.15	0.60
12:L:64:ARG:HD3	12:L:79:PHE:CD1	2.36	0.60
37:MA:86:VAL:HA	37:MA:89:GLU:HB3	1.84	0.60
38:SC:31:CYS:O	38:SC:33:MET:N	2.34	0.60
45:UA:22:HIS:HB3	45:UA:29:ILE:HB	1.83	0.60
17:VB:54:ARG:HB3	17:VB:54:ARG:NH1	2.17	0.60
41:VC:146:GLU:HA	41:VC:149:ARG:HB2	1.82	0.60
1:FB:826:C:O2	42:WC:15:ASN:ND2	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:114:U:H2'	1:A:115:G:C8	2.36	0.60
2:B:1451:C:H42	2:B:1459:G:H1	1.47	0.60
2:B:2023:G:H5'	2:B:2617:C:H4'	1.84	0.60
2:GB:1292:U:H2'	2:GB:1293:C:C6	2.36	0.60
2:GB:1379:A:H4'	2:GB:1380:G:OP2	2.01	0.60
2:GB:2543:G:H2'	2:GB:2544:G:C8	2.36	0.60
35:JA:112:PHE:HB2	35:JA:206:MET:HB2	1.83	0.60
11:K:59:LYS:NZ	11:K:125:GLY:HA2	2.17	0.60
2:GB:797:C:OP2	7:LB:62:ARG:HG3	2.02	0.60
37:RC:112:SER:HB3	37:RC:115:LEU:HD12	1.84	0.60
14:SB:61:GLY:HA2	23:BC:177:PRO:HB2	1.83	0.60
45:UA:15:ALA:O	45:UA:78:GLN:N	2.31	0.60
50:ZA:21:VAL:HB	50:ZA:33:ILE:HB	1.84	0.60
1:A:1175:G:H2'	1:A:1176:A:H8	1.66	0.60
2:B:1093:G:H2'	2:B:1093:G:N3	2.16	0.60
2:B:2565:A:H5''	2:B:2566:A:OP2	2.01	0.60
2:B:900:A:H2'	2:B:901:A:C8	2.36	0.60
47:BD:87:TYR:CE2	47:BD:91:ARG:HD2	2.37	0.60
5:E:61:LEU:O	5:E:63:ARG:NH1	2.35	0.60
6:F:119:ARG:HG2	6:F:120:TRP:CE2	2.37	0.60
1:FB:114:U:H2'	1:FB:115:G:C8	2.36	0.60
2:GB:1067:A:H5'	2:GB:1068:G:N2	2.17	0.60
2:GB:1092:C:N4	2:GB:1099:G:H1	1.99	0.60
2:GB:1104:C:H2'	2:GB:1105:U:H6	1.66	0.60
2:GB:2023:G:H5'	2:GB:2617:C:H4'	1.83	0.60
2:GB:270(A):A:OP2	2:GB:270(Z):G:N2	2.32	0.60
8:H:101:ILE:O	8:H:105:LYS:NZ	2.24	0.60
9:I:136:ILE:HD12	9:I:137:ASP:H	1.67	0.60
6:KB:21:VAL:HG22	6:KB:23:VAL:HG23	1.84	0.60
36:LA:33:TYR:HB3	36:LA:41:ILE:HB	1.83	0.60
16:UB:11:LYS:HD3	16:UB:15:ARG:NH1	2.16	0.60
49:YA:39:LEU:HD12	49:YA:56:LEU:HB2	1.83	0.60
45:ZC:48:ILE:HG21	45:ZC:63:LEU:HB3	1.84	0.60
1:A:269:C:H2'	1:A:270:A:C8	2.37	0.60
2:B:2131:G:OP2	2:B:2132:U:O2'	2.14	0.60
2:B:2133:G:O2'	2:B:2157:G:N2	2.34	0.60
1:FB:696:A:N3	1:FB:786:G:O2'	2.28	0.60
31:JC:10:ARG:HH11	31:JC:14:LYS:HE3	1.67	0.60
38:NA:18:LYS:HB3	38:NA:20:TYR:CE2	2.37	0.60
12:QB:82:ASN:HD22	12:QB:82:ASN:N	1.97	0.60
18:R:10:ARG:HG2	18:R:14:HIS:CD2	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:TC:72:GLN:O	39:TC:73:ASN:ND2	2.35	0.60
46:VA:97:ARG:HB2	46:VA:97:ARG:HH11	1.66	0.60
1:A:1359:C:O2'	1:A:1362(A):C:N4	2.34	0.59
2:B:2771:C:H5''	6:F:202:LYS:HZ3	1.67	0.59
1:FB:1125:U:O2'	1:FB:1126:U:H5''	2.01	0.59
27:FC:44:ARG:HH11	27:FC:44:ARG:HB2	1.66	0.59
51:FD:66:SER:HB3	51:FD:69:LYS:HB2	1.84	0.59
2:GB:1187:G:H8	2:GB:1187:G:O5'	1.84	0.59
2:GB:1889:A:H2'	2:GB:1890:A:C8	2.37	0.59
2:GB:735:A:H5''	2:GB:736:C:OP2	2.03	0.59
3:HB:22:U:H3	3:HB:61:G:H1	1.50	0.59
31:JC:41:ARG:NH1	31:JC:41:ARG:HB2	2.16	0.59
6:KB:119:ARG:HG2	6:KB:120:TRP:CE2	2.36	0.59
35:OC:174:ARG:HG3	35:PC:341:ILE:HG21	1.82	0.59
17:Q:91:ARG:HD2	17:Q:124:ASP:OD2	2.01	0.59
41:QA:85:TYR:HD2	41:QA:154:TYR:HE2	1.50	0.59
38:SC:18:LYS:HE3	38:SC:20:TYR:H	1.65	0.59
23:W:48:PHE:HE1	23:W:71:VAL:HG21	1.66	0.59
1:A:803:G:H2'	1:A:804:U:O4'	2.03	0.59
1:A:960:U:H2'	1:A:1225:A:H62	1.66	0.59
2:B:2321:G:H5'	2:B:2322:A:OP2	2.02	0.59
2:B:579:G:H2'	2:B:580:C:C6	2.37	0.59
2:B:708:C:H5''	2:B:709:U:OP2	2.03	0.59
1:FB:1296:C:H5''	1:FB:1297:C:OP2	2.01	0.59
1:FB:1347:G:N2	1:FB:1374:A:O5'	2.35	0.59
1:FB:960:U:H2'	1:FB:1225:A:H62	1.66	0.59
2:GB:1340:U:H4'	2:GB:1341:U:OP2	2.02	0.59
21:U:57:LEU:HD11	21:U:78:LYS:HE2	1.84	0.59
45:UA:21:ILE:HD11	45:UA:84:VAL:HG22	1.84	0.59
2:B:1364:G:OP1	25:Y:2:SER:HA	2.02	0.59
1:A:1435:G:H1	1:A:1466:C:H42	1.50	0.59
1:A:674:G:OP1	40:PA:87:ARG:NH2	2.33	0.59
1:A:9:G:H5'	39:OA:122:GLU:OE2	2.02	0.59
2:B:570:G:H2'	2:B:2030:A:C5	2.37	0.59
48:CD:4:LYS:HZ2	48:CD:7:ILE:HG13	1.67	0.59
54:DB:56:MET:HG3	54:DB:88:VAL:HG21	1.83	0.59
5:E:6:PHE:CE1	5:E:13:ARG:NH1	2.71	0.59
1:FB:555:C:H2'	1:FB:556:C:H6	1.67	0.59
7:G:72:ARG:NH1	7:G:72:ARG:HG3	2.01	0.59
2:GB:140:A:H8	2:GB:1408:C:O2'	1.84	0.59
2:GB:2133:G:O2'	2:GB:2157:G:N2	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2657:A:O3'	9:NB:160:LYS:NZ	2.34	0.59
2:GB:573:G:O2'	2:GB:574:C:H3'	2.03	0.59
9:I:10:PRO:HA	9:I:49:VAL:HG12	1.84	0.59
35:JA:184:VAL:HG23	35:KA:310:TYR:HB2	1.83	0.59
32:KC:50:LEU:HB3	32:KC:55:ALA:HB2	1.84	0.59
37:MA:185:GLY:O	37:MA:200:ALA:N	2.35	0.59
10:OB:7:GLU:OE2	10:OB:8:PRO:HD2	2.02	0.59
12:QB:34:THR:OG1	12:QB:35:VAL:N	2.35	0.59
12:QB:60:ALA:HA	12:QB:87:ILE:HG13	1.84	0.59
46:VA:86:ARG:HG3	46:VA:101:VAL:HG22	1.84	0.59
1:A:1329:A:H5'	47:WA:29:ARG:HH11	1.65	0.59
21:ZB:68:ARG:NH1	21:ZB:69:TYR:OH	2.35	0.59
1:A:112:G:H1	1:A:315:A:H61	1.49	0.59
1:A:1296:C:H5''	1:A:1297:C:OP2	2.01	0.59
1:A:1319:A:OP2	53:CB:3:ARG:HD3	2.03	0.59
2:B:2164:C:H41	2:B:2166:G:H21	1.49	0.59
1:FB:112:G:H1	1:FB:315:A:H61	1.51	0.59
7:G:170:LEU:HD12	7:G:171:PRO:HD2	1.84	0.59
7:G:50:SER:HA	7:G:92:PRO:O	2.03	0.59
2:GB:2685:G:H5'	12:QB:68:GLU:OE2	2.01	0.59
2:GB:2698:U:H2'	2:GB:2699:C:C6	2.36	0.59
2:GB:2756:U:H1'	2:GB:2757:A:H5''	1.83	0.59
2:GB:630:G:N2	2:GB:633:A:OP2	2.34	0.59
8:H:125:PHE:HB3	8:H:166:ASP:OD1	2.02	0.59
8:H:64:THR:HB	8:H:94:LEU:HD21	1.84	0.59
54:ID:56:MET:HG3	54:ID:88:VAL:HG21	1.84	0.59
10:J:27:ARG:HG2	25:Y:71:TYR:CZ	2.37	0.59
5:JB:218:ARG:HB3	5:JB:219:PRO:HD2	1.84	0.59
2:GB:2771:C:H5''	6:KB:202:LYS:HZ3	1.66	0.59
42:RA:84:ARG:HD3	42:RA:136:GLU:OE2	2.01	0.59
1:FB:1079:G:O3'	39:TC:14:ARG:NH2	2.35	0.59
1:FB:598:U:H2'	1:FB:599:C:C6	2.37	0.59
1:FB:989:C:H42	1:FB:1217:C:H42	1.49	0.59
2:GB:2439:A:H2'	57:GB:9001:BLS:N15	2.18	0.59
2:GB:2805:G:N1	2:GB:2891:G:OP2	2.36	0.59
2:GB:2820:A:OP2	15:TB:2:ARG:NH2	2.34	0.59
2:GB:2849:U:H4'	2:GB:2868:A:C2	2.37	0.59
2:GB:298:G:O5'	2:GB:298:G:H8	1.85	0.59
2:GB:467:G:P	31:JC:33:ARG:HH21	2.25	0.59
2:GB:2635:C:H5''	6:KB:78:LEU:HB3	1.83	0.59
2:GB:2349:G:OP2	32:KC:42:ARG:HD3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:63:VAL:HG11	12:L:85:VAL:HG23	1.84	0.59
37:MA:135:LYS:HB3	37:MA:135:LYS:NZ	2.18	0.59
9:NB:136:ILE:HD12	9:NB:137:ASP:H	1.66	0.59
4:NC:17:C:H5''	4:NC:17(A):U:OP2	2.01	0.59
14:SB:112:GLU:HA	14:SB:115:MET:HB2	1.83	0.59
14:SB:52:VAL:HG13	23:BC:183:LEU:HD11	1.82	0.59
15:TB:48:VAL:O	15:TB:51:LEU:N	2.35	0.59
46:VA:40:VAL:HG11	46:VA:77:LEU:O	2.03	0.59
23:W:80:ARG:HB3	23:W:82:ARG:NH1	2.16	0.59
47:WA:54:VAL:HA	47:WA:57:ARG:HG3	1.84	0.59
49:YA:33:THR:O	49:YA:37:ASN:ND2	2.26	0.59
21:ZB:35:THR:OG1	21:ZB:36:LYS:N	2.32	0.59
1:A:1012:U:H2'	1:A:1013:G:C8	2.38	0.59
1:A:1338:G:H5'	1:A:1339:A:OP2	2.03	0.59
1:A:1342:C:H2'	1:A:1343:G:C8	2.37	0.59
2:B:1472:A:N6	2:B:1521:G:H1'	2.18	0.59
2:B:781:A:C8	5:E:219:PRO:HG3	2.36	0.59
2:GB:1093:G:N3	2:GB:1093:G:H2'	2.16	0.59
2:GB:270(G):U:H2'	2:GB:270(H):C:C6	2.37	0.59
3:HB:75:G:O2'	23:BC:10:ARG:NH2	2.30	0.59
9:I:127:GLU:HB2	9:I:130:ARG:HB2	1.83	0.59
31:JC:41:ARG:HH11	31:JC:41:ARG:HB2	1.68	0.59
11:K:26:LEU:HG	11:K:30:ILE:HD11	1.83	0.59
35:KA:348:HIS:HA	35:KA:351:ASP:HB2	1.83	0.59
38:NA:201:GLN:NE2	38:NA:205:GLU:OE2	2.36	0.59
10:OB:77:LEU:HB3	10:OB:142:VAL:HG12	1.84	0.59
12:QB:98:VAL:HG12	12:QB:117:LEU:HB3	1.85	0.59
17:VB:128:GLU:OE2	17:VB:129:ARG:N	2.36	0.59
41:VC:47:CYS:HA	41:VC:50:ILE:HB	1.84	0.59
23:W:79:ARG:HD2	23:W:80:ARG:NH1	2.18	0.59
1:FB:1372:U:H5''	43:XC:71:SER:HB2	1.84	0.59
1:A:32:A:OP2	1:A:398:C:O2'	2.21	0.59
1:A:619:U:C2	38:NA:135:LEU:HD21	2.38	0.59
1:A:940:C:O2	1:A:1343:G:N2	2.18	0.59
22:AC:46:LYS:HB3	22:AC:60:PHE:HD1	1.66	0.59
2:B:2233:U:H2'	2:B:2234:G:C8	2.37	0.59
23:BC:108:PRO:HG3	23:BC:141:VAL:HG22	1.84	0.59
2:B:517:C:OP1	29:CA:16:ARG:NH2	2.36	0.59
1:FB:923:A:H61	1:FB:1393:U:H3	1.51	0.59
1:FB:1498:UR3:OP2	34:MC:16:A:O2'	2.21	0.59
7:G:12:LEU:HB2	7:G:126:VAL:HG12	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:444:C:H4'	7:G:49:ALA:HB2	1.83	0.59
2:B:797:C:OP2	7:G:62:ARG:HG3	2.02	0.59
2:GB:2287:A:H62	2:GB:2344:U:H3	1.50	0.59
2:GB:485:C:H42	2:GB:495:G:H1	1.49	0.59
2:GB:828:U:H4'	2:GB:831:G:N1	2.18	0.59
35:OC:106:ASP:HA	35:OC:109:ARG:HH11	1.66	0.59
19:S:69:LYS:H	19:S:88:ARG:NH1	2.00	0.59
22:V:52:SER:OG	22:V:55:TYR:N	2.24	0.59
1:A:555:C:H2'	1:A:556:C:H6	1.67	0.59
2:B:1067:A:H5'	2:B:1068:G:N2	2.17	0.59
2:B:1359:A:H2'	2:B:1360:A:H5'	1.84	0.59
23:BC:80:ARG:HG2	23:BC:82:ARG:HH22	1.68	0.59
29:CA:29:ILE:O	29:CA:30:LEU:HD23	2.02	0.59
2:GB:207:A:H2'	2:GB:208:C:O4'	2.02	0.59
2:GB:2854:G:H2'	2:GB:2855:C:C6	2.37	0.59
2:GB:853:G:H1	2:GB:924:C:H42	1.51	0.59
2:GB:686:G:O6	31:JC:12:ARG:NH1	2.36	0.59
35:OC:107:ASP:OD2	35:OC:107:ASP:N	2.35	0.59
37:RC:86:VAL:HA	37:RC:89:GLU:HB3	1.84	0.59
16:UB:48:LEU:HD12	16:UB:82:ILE:HD11	1.84	0.59
40:UC:43:LEU:HB2	40:UC:60:PHE:HB2	1.84	0.59
1:A:1048:G:OP1	48:XA:4:LYS:HB2	2.02	0.59
1:A:1125:U:O2'	1:A:1126:U:H5''	2.03	0.59
1:A:1377:A:OP2	41:QA:94:ARG:NH1	2.35	0.59
1:A:405:U:O4	38:NA:3:ARG:HB2	2.02	0.59
2:B:1340:U:H4'	2:B:1341:U:OP2	2.03	0.59
2:B:2298:A:H62	2:B:2318:G:H8	1.51	0.59
2:B:2535:G:H2'	2:B:2536:G:H8	1.68	0.59
54:DB:75:ASN:N	54:DB:75:ASN:OD1	2.35	0.59
2:GB:1849:G:H2'	2:GB:1850:G:H8	1.68	0.59
2:GB:570:G:H2'	2:GB:2030:A:C5	2.38	0.59
31:JC:47:ARG:NH1	31:JC:47:ARG:HB3	2.17	0.59
9:NB:88:LEU:HD12	9:NB:165:ALA:HA	1.84	0.59
37:RC:185:GLY:O	37:RC:200:ALA:N	2.35	0.59
38:SC:18:LYS:HB3	38:SC:20:TYR:CE2	2.38	0.59
1:A:790:A:OP1	4:IA:38:A:O2'	2.21	0.59
2:B:2641:G:OP1	11:K:74:ARG:NE	2.35	0.59
2:B:557:U:H2'	2:B:558:G:C8	2.37	0.59
2:B:581:C:H2'	2:B:582:G:C8	2.38	0.59
3:C:14:U:O3'	3:C:107:U:O2'	2.20	0.59
6:F:114:ALA:HB2	6:F:160:TYR:HB2	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:23:VAL:HG11	6:F:183:LEU:HD23	1.84	0.59
1:FB:501:C:H2'	1:FB:502:G:H8	1.68	0.59
51:FD:29:HIS:CD2	51:FD:30:PRO:HD2	2.38	0.59
2:GB:307:G:H21	2:GB:330:A:H62	1.50	0.59
2:GB:517:C:O2'	20:YB:18:ARG:NH2	2.36	0.59
2:GB:848:G:H2'	2:GB:849:A:C8	2.38	0.59
2:GB:881:G:N2	2:GB:895:U:H3	2.00	0.59
8:MB:125:PHE:HB3	8:MB:166:ASP:OD1	2.02	0.59
42:RA:23:SER:OG	42:RA:24:THR:N	2.36	0.59
4:IA:33:U:P	43:SA:128:ARG:HH22	2.25	0.59
4:NC:33:U:P	43:XC:128:ARG:HH22	2.26	0.59
1:A:511:C:N3	1:A:541:G:N2	2.51	0.58
1:A:888:G:H2'	1:A:889:A:H8	1.68	0.58
2:B:2336:A:H3'	2:B:2337:G:H8	1.68	0.58
2:B:2784:C:O2	6:F:37:ARG:NH2	2.36	0.58
2:GB:1451:C:H42	2:GB:1459:G:H1	1.51	0.58
31:JC:29:LYS:O	31:JC:33:ARG:HG3	2.03	0.58
11:K:70:LYS:NZ	11:K:72:TYR:CE1	2.63	0.58
35:KA:311:ASN:ND2	35:KA:314:GLN:OE1	2.36	0.58
6:KB:114:ALA:HB2	6:KB:160:TYR:HB2	1.84	0.58
2:GB:1257:C:H4'	7:LB:83:PHE:CD1	2.38	0.58
37:MA:131:ARG:NH1	37:MA:135:LYS:HD2	2.18	0.58
36:QC:87:ARG:NH2	36:QC:220:ASP:OD2	2.36	0.58
40:UC:76:ALA:HB1	40:UC:80:ARG:NH1	2.17	0.58
17:VB:64:ARG:HD2	17:VB:102:ILE:HD11	1.84	0.58
27:AA:7:LYS:HB2	27:AA:34:GLU:HG2	1.85	0.58
2:B:577:G:O2'	2:B:1254:A:OP1	2.20	0.58
2:B:1357:U:H2'	2:B:1358:G:O4'	2.04	0.58
2:B:1789:A:OP1	5:E:221:VAL:HA	2.03	0.58
2:B:2674:G:H5''	12:L:26:LYS:HE2	1.85	0.58
1:FB:1402:4OC:H2'	1:FB:1403:C:O4'	2.02	0.58
1:FB:1415:G:H1	1:FB:1485:U:H3	1.49	0.58
54:ID:30:LYS:NZ	54:ID:30:LYS:HB2	2.18	0.58
10:OB:122:GLU:HB2	10:OB:126:TYR:OH	2.02	0.58
12:QB:3:GLN:HB2	12:QB:4:PRO:HD2	1.85	0.58
39:TC:136:MET:HA	39:TC:139:LEU:HD12	1.84	0.58
16:UB:83:LYS:HB2	16:UB:111:GLU:OE2	2.03	0.58
1:A:1245:A:H61	1:A:1292:U:H3	1.51	0.58
2:B:2854:G:H2'	2:B:2855:C:C6	2.38	0.58
2:B:384:U:H2'	2:B:385:C:H6	1.68	0.58
5:E:26:LYS:HD3	5:E:83:GLU:OE2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:296:U:H2'	1:FB:297:G:C8	2.38	0.58
1:FB:304:U:H2'	1:FB:305:G:C8	2.38	0.58
33:GA:24:TYR:HA	33:GA:35:ARG:HA	1.85	0.58
12:L:98:VAL:HG12	12:L:117:LEU:HB3	1.86	0.58
36:LA:80:ILE:HG22	36:LA:215:LEU:HD12	1.84	0.58
8:MB:139:LEU:HD22	8:MB:149:VAL:HG11	1.84	0.58
38:NA:191:ARG:NH2	38:NA:200:GLU:OE1	2.31	0.58
40:PA:19:LEU:O	40:PA:23:LYS:N	2.30	0.58
13:RB:100:LEU:HD22	13:RB:105:LEU:HD13	1.84	0.58
2:GB:1153:C:H5'	18:WB:76:TYR:HE2	1.67	0.58
24:X:23:VAL:HA	24:X:38:VAL:HG22	1.83	0.58
1:A:1402:4OC:H2'	1:A:1403:C:O4'	2.03	0.58
2:B:2815:C:H5'	29:CA:29:ILE:HG13	1.85	0.58
3:C:91:C:H2'	3:C:92:G:C8	2.38	0.58
1:FB:1228:C:OP2	47:BD:111:LYS:HD3	2.02	0.58
2:GB:1268:A:H2'	2:GB:1269:A:O4'	2.03	0.58
9:I:65:HIS:O	9:I:68:THR:OG1	2.21	0.58
5:JB:66:ASP:HA	5:JB:68:LYS:NZ	2.18	0.58
7:LB:9:ILE:HD12	7:LB:125:LEU:HD13	1.84	0.58
10:OB:79:ILE:O	10:OB:144:VAL:HA	2.03	0.58
11:PB:20:GLY:HA2	11:PB:61:ARG:HG3	1.85	0.58
35:OC:184:VAL:HG23	35:PC:310:TYR:HB2	1.85	0.58
12:L:73:ASP:HB2	17:Q:82:LEU:HD13	1.86	0.58
1:A:1239:A:O2'	41:QA:114:ARG:O	2.22	0.58
47:WA:31:LYS:HZ1	47:WA:34:LEU:HD12	1.68	0.58
19:XB:69:LYS:H	19:XB:88:ARG:HH11	1.50	0.58
25:Y:50:ARG:HG2	25:Y:59:THR:HB	1.85	0.58
1:A:254:G:O3'	51:AB:69:LYS:NZ	2.35	0.58
1:A:932:C:H2'	1:A:933:G:C8	2.38	0.58
2:B:2115:G:C5	2:B:2117:A:H2'	2.38	0.58
2:B:735:A:H5"	2:B:736:C:OP2	2.04	0.58
2:GB:2262:U:C5	24:CC:16:SER:HB3	2.39	0.58
49:DD:69:TYR:HA	49:DD:72:ARG:HB3	1.84	0.58
1:FB:1394:A:OP1	1:FB:1394:A:H8	1.86	0.58
27:FC:7:LYS:HB2	27:FC:34:GLU:HG2	1.84	0.58
2:GB:1074:G:H1	2:GB:1095:A:H4'	1.69	0.58
2:GB:2864:G:H2'	2:GB:2865:U:O4'	2.03	0.58
3:HB:18:G:H1	3:HB:65:C:H42	1.51	0.58
10:J:104:GLN:C	10:J:105:HIS:ND1	2.50	0.58
38:NA:31:CYS:O	38:NA:33:MET:N	2.35	0.58
35:OC:112:PHE:HB2	35:OC:206:MET:HB2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1007:C:H5''	11:PB:35:ARG:NH1	2.18	0.58
37:RC:47:LEU:HD22	37:RC:68:VAL:HG11	1.84	0.58
39:TC:48:ALA:HB3	39:TC:54:ALA:HB2	1.85	0.58
1:A:1013:G:N2	1:A:1016:A:OP2	2.36	0.58
1:A:584:G:H5'	51:AB:91:ARG:HH21	1.67	0.58
22:AC:86:ARG:HH12	22:AC:100:ALA:C	2.06	0.58
2:B:581:C:H2'	2:B:582:G:H8	1.67	0.58
2:B:582:G:H2'	2:B:583:G:C8	2.38	0.58
1:FB:1239:A:O2'	41:VC:114:ARG:O	2.21	0.58
2:GB:1028:A:N3	2:GB:2486:G:O2'	2.29	0.58
2:GB:1478:G:O2'	2:GB:1558:A:N1	2.37	0.58
2:GB:2135:A:H2'	2:GB:2136:C:H2'	1.84	0.58
2:GB:2809:A:OP2	2:GB:2891:G:N2	2.35	0.58
8:H:25:TYR:OH	8:H:168:GLU:OE1	2.09	0.58
3:HB:14:U:O3'	3:HB:107:U:O2'	2.20	0.58
3:HB:91:C:H2'	3:HB:92:G:C8	2.38	0.58
10:J:77:LEU:HB3	10:J:142:VAL:HG12	1.86	0.58
5:JB:61:LEU:O	5:JB:63:ARG:NH1	2.36	0.58
5:JB:85:ASP:OD1	5:JB:87:ASN:ND2	2.36	0.58
12:QB:102:VAL:HG22	12:QB:121:VAL:HG22	1.86	0.58
20:T:6:ILE:HG12	20:T:104:THR:HG23	1.86	0.58
16:UB:30:ARG:NH1	16:UB:97:ARG:NH1	2.51	0.58
1:FB:1347:G:N7	43:XC:10:ARG:NH2	2.50	0.58
1:A:20:U:H2'	1:A:21:G:O4'	2.03	0.58
1:A:216:G:H2'	1:A:217:C:C6	2.39	0.58
27:AA:5:LYS:HD2	27:AA:34:GLU:OE2	2.03	0.58
51:AB:90:ILE:HA	51:AB:93:GLN:HG2	1.84	0.58
2:B:2695:C:H2'	2:B:2696:U:C6	2.39	0.58
57:B:9001:BLS:H101	57:B:9001:BLS:H151	1.69	0.58
1:FB:447:G:H2'	1:FB:485:G:N2	2.18	0.58
2:GB:1686:C:H2'	2:GB:1687:G:O4'	2.03	0.58
2:GB:154:G:H1	2:GB:172:C:H42	1.52	0.58
2:GB:2122:U:H2'	2:GB:2123:G:H8	1.68	0.58
2:GB:2695:C:H2'	2:GB:2696:U:C6	2.39	0.58
2:GB:628:G:H5''	32:KC:18:ALA:HB2	1.84	0.58
2:GB:2784:C:O2	6:KB:37:ARG:NH2	2.37	0.58
8:MB:44:GLY:O	8:MB:47:LYS:HG3	2.03	0.58
45:UA:108:ILE:HD12	52:BB:87:ARG:NH1	2.17	0.58
22:V:35:TYR:CD2	22:V:69:ALA:HB3	2.38	0.58
42:WC:84:ARG:HD3	42:WC:136:GLU:OE2	2.03	0.58
2:GB:1266:G:O5'	20:YB:15:ARG:NH2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:384:G:H2'	1:A:385:C:C6	2.38	0.58
2:B:140:A:H8	2:B:1408:C:HO2'	1.49	0.58
2:B:1973:G:H2'	2:B:1974:C:C6	2.39	0.58
2:B:2096:U:H2'	2:B:2097:C:C6	2.38	0.58
2:B:2833:G:H4'	2:B:2834:G:OP2	2.04	0.58
54:DB:30:LYS:HB2	54:DB:30:LYS:NZ	2.19	0.58
50:ED:22:THR:HA	50:ED:33:ILE:HG12	1.85	0.58
2:B:2680:C:H1'	6:F:187:ALA:HB1	1.84	0.58
1:FB:1201:A:H1'	1:FB:1202:G:OP2	2.03	0.58
1:FB:20:U:H2'	1:FB:21:G:O4'	2.03	0.58
1:FB:54:C:N4	1:FB:357:G:H1	2.00	0.58
1:FB:555:C:H2'	1:FB:556:C:C6	2.39	0.58
27:FC:41:PRO:HA	27:FC:44:ARG:HH12	1.69	0.58
51:FD:90:ILE:HA	51:FD:93:GLN:HG2	1.85	0.58
2:B:1246:A:OP1	7:G:38:ARG:NH2	2.37	0.58
2:GB:451:C:H4'	7:LB:52:LYS:NZ	2.19	0.58
17:Q:35:LYS:NZ	17:Q:37:GLY:O	2.24	0.58
21:U:53:LYS:H	21:U:82:GLN:HB3	1.69	0.58
41:VC:85:TYR:HD2	41:VC:154:TYR:HE2	1.51	0.58
18:WB:112:ARG:NH1	19:XB:47:VAL:HB	2.19	0.58
20:YB:8:ARG:HB3	20:YB:9:TYR:HD2	1.68	0.58
1:FB:1150:U:O2'	44:YC:39:PRO:O	2.20	0.58
21:ZB:27:THR:HG23	21:ZB:80:ILE:HG12	1.85	0.58
1:A:287:U:H2'	1:A:288:A:H8	1.69	0.58
2:B:1290:C:H2'	2:B:1291:C:C6	2.38	0.58
2:B:2188:C:H2'	2:B:2189:U:H4'	1.86	0.58
23:BC:80:ARG:HB3	23:BC:82:ARG:NH1	2.19	0.58
3:C:18:G:H1	3:C:65:C:H42	1.52	0.58
54:DB:66:ALA:HB1	54:DB:71:THR:HB	1.84	0.58
25:DC:4:VAL:HG12	25:DC:11:ARG:HB3	1.86	0.58
49:DD:41:GLU:OE2	49:DD:44:LYS:HD2	2.04	0.58
1:A:1305:G:H8	55:EB:5:ASP:HA	1.69	0.58
32:FA:50:LEU:HB3	32:FA:55:ALA:HB2	1.85	0.58
54:ID:50:GLU:HA	54:ID:53:LEU:HD12	1.84	0.58
6:KB:93:VAL:HG21	6:KB:180:ASN:HA	1.86	0.58
36:LA:163:PHE:HA	36:LA:185:ILE:O	2.04	0.58
7:LB:127:GLU:HB3	7:LB:196:LEU:HD12	1.85	0.58
37:RC:40:ARG:HA	37:RC:43:LEU:HB2	1.86	0.58
18:R:112:ARG:HH12	19:S:47:VAL:HB	1.69	0.58
2:GB:994:C:H3'	18:WB:54:LYS:HE3	1.85	0.58
50:ZA:42:ARG:NH1	50:ZA:42:ARG:HB2	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:975:A:O2'	48:XA:32:SER:HA	2.04	0.58
2:B:2315:G:H2'	2:B:2316:C:C6	2.38	0.58
2:B:2287:A:H62	2:B:2344:U:H3	1.51	0.58
2:B:279:C:H6	2:B:279:C:OP2	1.86	0.58
3:C:22:U:H3	3:C:61:G:H1	1.50	0.58
5:E:69:ARG:NH2	5:E:128:GLY:O	2.36	0.58
1:FB:1046:A:H5'	1:FB:1047:G:OP2	2.03	0.58
1:FB:370:C:N3	1:FB:392:G:C2	2.71	0.58
1:FB:9:G:H5'	39:TC:122:GLU:OE2	2.04	0.58
2:GB:1820:U:H4'	2:GB:1821:A:OP2	2.04	0.58
10:J:9:LEU:HD13	10:J:10:GLU:O	2.04	0.58
5:JB:127:VAL:HA	5:JB:193:VAL:HG13	1.85	0.58
8:MB:25:TYR:OH	8:MB:168:GLU:OE1	2.12	0.58
38:NA:31:CYS:O	38:NA:34:GLU:N	2.30	0.58
17:VB:93:ARG:NH1	17:VB:93:ARG:HB3	2.18	0.58
23:W:72:ARG:HA	23:W:72:ARG:NH1	2.18	0.58
19:XB:69:LYS:H	19:XB:88:ARG:NH1	2.02	0.58
49:YA:78:TYR:O	49:YA:80:ALA:N	2.36	0.58
50:ZA:22:THR:HA	50:ZA:33:ILE:HG12	1.85	0.58
1:A:1512:U:H3	1:A:1523:G:H1	1.49	0.57
2:B:639:U:H2'	2:B:640:C:C6	2.39	0.57
51:FD:99:SER:OG	51:FD:100:LYS:N	2.37	0.57
2:GB:1472:A:N6	2:GB:1521:G:H1'	2.19	0.57
2:GB:2096:U:H2'	2:GB:2097:C:C6	2.39	0.57
2:GB:2303:G:H22	2:GB:2313:C:N4	2.02	0.57
2:GB:372:G:H22	2:GB:400:G:H2'	1.68	0.57
2:GB:974(B):C:OP2	2:GB:974(B):C:H4'	2.04	0.57
2:GB:2815:C:H5'	29:HC:29:ILE:HG13	1.84	0.57
8:MB:121:ASN:O	8:MB:124:SER:OG	2.21	0.57
8:MB:135:LEU:HD23	8:MB:155:MET:HG3	1.86	0.57
37:RC:27:LYS:O	37:RC:31:HIS:NE2	2.37	0.57
43:SA:28:VAL:HA	43:SA:63:ILE:HB	1.86	0.57
38:SC:26:CYS:SG	38:SC:31:CYS:SG	3.02	0.57
1:A:555:C:H2'	1:A:556:C:C6	2.39	0.57
2:B:1922:G:H2'	2:B:1923:U:O4'	2.05	0.57
54:DB:93:GLU:O	54:DB:95:ALA:N	2.34	0.57
2:GB:1364:G:OP1	25:DC:2:SER:HA	2.04	0.57
1:FB:1269:A:H5'	55:JD:19:GLY:HA2	1.84	0.57
1:FB:296:U:H2'	1:FB:297:G:H8	1.69	0.57
1:FB:546:G:N1	38:SC:2:GLY:O	2.37	0.57
2:GB:1043:C:H41	2:GB:1112:G:H1	1.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:723:G:H2'	2:GB:724:U:O4'	2.04	0.57
52:GD:35:ARG:O	52:GD:37:VAL:N	2.37	0.57
5:JB:108:PRO:HD2	5:JB:111:LEU:HD22	1.85	0.57
11:K:26:LEU:O	11:K:30:ILE:HG13	2.03	0.57
41:QA:47:CYS:HA	41:QA:50:ILE:HB	1.86	0.57
19:S:8:GLY:HA3	19:S:23:GLU:HB2	1.85	0.57
20:YB:11:ARG:NH1	20:YB:98:LYS:HB3	2.19	0.57
1:A:1252:A:H61	1:A:1285:A:H61	1.51	0.57
1:A:735:C:H2'	1:A:736:C:C6	2.39	0.57
27:AA:9:VAL:HG11	27:AA:55:ARG:NH2	2.19	0.57
46:AD:40:VAL:HG11	46:AD:77:LEU:O	2.05	0.57
2:B:1434:A:H61	2:B:1558:A:N6	2.00	0.57
2:B:853:G:H1	2:B:924:C:H42	1.53	0.57
31:EA:10:ARG:HH11	31:EA:14:LYS:HE3	1.69	0.57
13:M:49:ARG:HB2	32:FA:61:LEU:HD21	1.87	0.57
1:FB:410:G:C6	1:FB:429:U:H1'	2.38	0.57
2:GB:548:A:H2'	2:GB:549:G:O4'	2.04	0.57
4:IB:15:G:H5'	4:IB:16:C:H5''	1.86	0.57
54:ID:82:SER:O	54:ID:86:ARG:HG3	2.04	0.57
31:JC:2:LYS:HG3	31:JC:6:GLN:HE21	1.69	0.57
36:LA:153:ARG:HG3	36:LA:154:LEU:HD12	1.86	0.57
36:LA:36:ARG:HB3	36:LA:41:ILE:HD11	1.87	0.57
7:LB:78:ILE:HA	7:LB:83:PHE:CE2	2.39	0.57
37:MA:7:PRO:HG2	37:MA:184:TYR:HB2	1.85	0.57
8:MB:114:ILE:HG12	8:MB:117:PHE:HD1	1.69	0.57
11:PB:70:LYS:NZ	11:PB:72:TYR:CE1	2.66	0.57
17:Q:122:ASP:O	17:Q:126:ALA:N	2.37	0.57
37:RC:131:ARG:NH1	37:RC:135:LYS:HD2	2.18	0.57
19:S:69:LYS:H	19:S:88:ARG:HH11	1.49	0.57
2:GB:911:A:H2'	14:SB:9:TYR:OH	2.05	0.57
1:FB:411:A:OP1	38:SC:30:LYS:NZ	2.35	0.57
38:SC:33:MET:SD	38:SC:37:PRO:HA	2.44	0.57
21:U:35:THR:OG1	21:U:36:LYS:N	2.36	0.57
1:A:296:U:H2'	1:A:297:G:C8	2.38	0.57
1:A:371:G:O2'	1:A:373:A:N7	2.35	0.57
47:BD:91:ARG:HB3	47:BD:91:ARG:NH1	2.20	0.57
24:CC:63:VAL:HG21	24:CC:83:PRO:HG3	1.85	0.57
2:GB:205:G:H1	25:DC:39:LYS:NZ	2.02	0.57
1:FB:1338:G:H3'	1:FB:1339:A:C8	2.39	0.57
2:GB:2712:U:O2'	2:GB:2712(A):A:H5''	2.04	0.57
2:GB:662:G:H2'	2:GB:663:G:H8	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:JA:107:ASP:N	35:JA:107:ASP:OD2	2.37	0.57
12:L:102:VAL:HG22	12:L:121:VAL:HG22	1.85	0.57
36:LA:53:ARG:HH12	36:LA:199:TYR:HA	1.70	0.57
13:RB:49:ARG:HH12	32:KC:4:MET:HE3	1.68	0.57
23:W:26:GLY:HA2	23:W:85:HIS:CD2	2.38	0.57
43:XC:29:ASN:N	43:XC:63:ILE:O	2.32	0.57
1:A:1347:G:N2	1:A:1374:A:O5'	2.37	0.57
1:A:737:A:H2'	1:A:738:C:H6	1.69	0.57
27:AA:41:PRO:HA	27:AA:44:ARG:HH12	1.69	0.57
2:B:1869:G:N2	2:B:1871:A:H3'	2.19	0.57
2:B:1914:C:H3'	2:B:1915:5MU:H71	1.86	0.57
2:B:372:G:H22	2:B:400:G:H2'	1.68	0.57
3:C:53:A:H2'	3:C:54:G:H8	1.69	0.57
25:DC:83:GLU:N	25:DC:83:GLU:OE1	2.37	0.57
6:F:54:GLN:OE1	6:F:55:ASN:N	2.36	0.57
1:FB:1245:A:H61	1:FB:1292:U:H3	1.50	0.57
1:FB:371:G:O2'	1:FB:373:A:N7	2.36	0.57
2:GB:1290:C:H2'	2:GB:1291:C:C6	2.39	0.57
3:HB:88:C:H2'	3:HB:89(A):G:O4'	2.04	0.57
9:I:88:LEU:HD12	9:I:165:ALA:HA	1.85	0.57
12:L:68:GLU:HB3	12:L:78:ARG:HB3	1.85	0.57
36:LA:61:LEU:HD21	36:LA:160:ASP:HB2	1.85	0.57
14:N:55:VAL:HG23	14:N:64:ILE:HD12	1.86	0.57
37:RC:7:PRO:HG2	37:RC:184:TYR:HB2	1.86	0.57
39:TC:148:VAL:HG21	42:WC:107:LEU:HD22	1.85	0.57
23:W:125:LEU:HB3	23:W:165:VAL:HG22	1.86	0.57
1:A:1391:U:H2'	1:A:1392:G:C8	2.39	0.57
1:A:222:U:H2'	1:A:223:U:C6	2.40	0.57
1:A:708:C:H2'	1:A:709:G:H8	1.69	0.57
1:A:811:C:H4'	1:A:900:A:H62	1.70	0.57
2:B:1093:G:H22	2:B:1096:A:H5''	1.69	0.57
2:B:858:U:O2	2:B:2268:A:H2'	2.04	0.57
2:B:2864:G:H2'	2:B:2865:U:O4'	2.05	0.57
2:B:635:C:O2'	2:B:639:U:OP1	2.21	0.57
1:FB:384:G:H2'	1:FB:385:C:C6	2.39	0.57
2:GB:1323:U:OP1	20:YB:84:ARG:HD2	2.04	0.57
2:GB:2315:G:H2'	2:GB:2316:C:C6	2.39	0.57
2:GB:2336:A:H3'	2:GB:2337:G:H8	1.69	0.57
2:GB:556:G:H2'	2:GB:557:U:C6	2.40	0.57
9:I:126:PRO:CG	9:I:130:ARG:HH12	2.16	0.57
7:LB:183:VAL:O	7:LB:187:VAL:HG23	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:MA:95:THR:HG22	37:MA:97:LYS:H	1.70	0.57
14:N:38:GLU:HG3	14:N:127:ILE:HB	1.85	0.57
9:NB:16:SER:HB3	9:NB:27:LYS:H	1.70	0.57
4:NC:18:G:O2'	4:NC:19:G:O5'	2.20	0.57
40:PA:76:ALA:HB1	40:PA:80:ARG:NH1	2.20	0.57
42:RA:25:ASP:N	42:RA:25:ASP:OD1	2.38	0.57
16:UB:26:LEU:HG	16:UB:39:ILE:HG12	1.87	0.57
41:VC:15:ASP:OD2	41:VC:17:VAL:HG23	2.03	0.57
25:Y:47:GLN:CA	25:Y:47:GLN:HE21	2.02	0.57
28:BA:59:PHE:HA	28:BA:61:ARG:NH1	2.20	0.57
52:BB:66:LEU:HG	52:BB:70:ILE:HD11	1.85	0.57
7:G:183:VAL:O	7:G:187:VAL:HG23	2.05	0.57
7:G:185:ASP:OD1	7:G:188:ARG:NH2	2.37	0.57
29:HC:40:LYS:NZ	29:HC:44:THR:O	2.23	0.57
9:I:16:SER:OG	9:I:17:VAL:N	2.38	0.57
36:LA:47:THR:HG23	36:LA:202:PRO:HD2	1.87	0.57
36:LA:56:ARG:HB3	36:LA:56:ARG:NH1	2.20	0.57
2:GB:321:G:P	7:LB:135:LYS:NZ	2.76	0.57
7:LB:144:LYS:NZ	7:LB:144:LYS:HB2	2.18	0.57
33:LC:9:ARG:HE	33:LC:16:VAL:HG13	1.69	0.57
37:MA:40:ARG:HA	37:MA:43:LEU:HB2	1.86	0.57
8:MB:126:ASP:OD2	8:MB:127:GLY:N	2.35	0.57
40:PA:15:ASP:OD2	40:PA:18:GLN:HB2	2.04	0.57
11:PB:35:ARG:HH11	11:PB:35:ARG:HG2	1.68	0.57
11:PB:58:ASP:N	11:PB:58:ASP:OD1	2.37	0.57
17:Q:93:ARG:NH1	17:Q:93:ARG:HB3	2.20	0.57
37:RC:101:LEU:HD21	37:RC:103:VAL:HG13	1.86	0.57
14:SB:38:GLU:HG3	14:SB:127:ILE:HB	1.87	0.57
14:SB:16:ARG:HH11	14:SB:16:ARG:HB2	1.68	0.57
1:A:948:C:OP2	47:WA:106:ASN:HB3	2.04	0.57
47:WA:31:LYS:NZ	47:WA:35:GLU:OE1	2.34	0.57
1:A:587:G:N2	1:A:754:C:OP2	2.35	0.57
1:A:881:G:P	46:VA:12:ARG:HH22	2.27	0.57
52:BB:35:ARG:O	52:BB:37:VAL:N	2.38	0.57
1:FB:708:C:H2'	1:FB:709:G:H8	1.70	0.57
2:GB:1500:G:O3'	5:JB:102:LYS:NZ	2.38	0.57
2:GB:1511:A:C8	2:GB:1512:G:C8	2.93	0.57
3:C:41:U:N3	8:H:70:VAL:O	2.38	0.57
13:M:100:LEU:HD22	13:M:105:LEU:HD13	1.85	0.57
36:QC:193:ASP:OD2	36:QC:196:LEU:HB2	2.04	0.57
14:SB:116:GLU:OE2	14:SB:119:ARG:NE	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:6:LYS:HD2	23:W:6:LYS:H	1.70	0.57
18:WB:10:ARG:HG2	18:WB:14:HIS:CD2	2.40	0.57
26:Z:48:HIS:O	26:Z:52:ASP:HB2	2.04	0.57
50:ZA:42:ARG:HH11	50:ZA:42:ARG:HB2	1.70	0.57
21:ZB:44:GLU:HG3	21:ZB:51:VAL:HG22	1.87	0.57
1:A:146:G:H2'	1:A:147:G:H8	1.69	0.57
1:A:251:G:N1	1:A:266:G:O6	2.38	0.57
2:B:1074:G:H1	2:B:1095:A:H4'	1.70	0.57
2:B:2210:G:H8	2:B:2211:G:N7	2.03	0.57
2:B:26:G:O2'	2:B:514:A:N6	2.36	0.57
2:B:556:G:H2'	2:B:557:U:C6	2.40	0.57
1:FB:811:C:H4'	1:FB:900:A:H62	1.69	0.57
8:H:121:ASN:O	8:H:124:SER:OG	2.23	0.57
54:ID:66:ALA:HB1	54:ID:71:THR:HB	1.87	0.57
5:JB:228:PRO:HD3	5:JB:235:GLY:N	2.20	0.57
11:K:94:HIS:HB3	11:K:97:ARG:HG3	1.87	0.57
14:N:16:ARG:HB2	14:N:16:ARG:HH11	1.69	0.57
9:NB:7:LEU:HD12	9:NB:8:PRO:HD2	1.86	0.57
14:SB:82:ARG:NE	24:CC:4:LYS:HG3	2.18	0.57
38:SC:201:GLN:NE2	38:SC:205:GLU:OE2	2.38	0.57
15:TB:12:ARG:O	15:TB:17:ARG:NH1	2.38	0.57
42:WC:96:GLY:H	42:WC:99:GLU:HB2	1.69	0.57
1:A:995:C:H4'	48:XA:8:GLU:OE2	2.05	0.57
2:B:2685:G:H5'	12:L:68:GLU:OE2	2.05	0.57
2:B:2698:U:H2'	2:B:2699:C:C6	2.40	0.57
6:F:23:VAL:HG11	6:F:183:LEU:HB3	1.86	0.57
2:GB:2164:C:H41	2:GB:2166:G:N2	2.02	0.57
8:H:139:LEU:HB3	8:H:149:VAL:HG21	1.87	0.57
5:JB:274:ARG:HH11	5:JB:274:ARG:HG3	1.69	0.57
13:RB:49:ARG:HB2	32:KC:61:LEU:HD21	1.87	0.57
33:LC:24:TYR:HA	33:LC:35:ARG:HA	1.86	0.57
1:A:512:U:O4'	38:NA:43:HIS:HE1	1.88	0.57
43:SA:26:VAL:HB	43:SA:33:PHE:HD2	1.69	0.57
21:U:68:ARG:NH1	21:U:69:TYR:CZ	2.73	0.57
45:UA:109:VAL:HG12	52:BB:86:VAL:HG22	1.87	0.57
41:VC:35:LYS:NZ	41:VC:38:LEU:HD22	2.19	0.57
47:WA:91:ARG:NH1	47:WA:91:ARG:HB3	2.20	0.57
4:IB:39:C:H4'	45:ZC:54:ARG:HE	1.69	0.57
2:B:2139:C:H5	2:B:2153:G:H21	1.53	0.56
2:B:2262:U:OP2	24:X:16:SER:HB2	2.05	0.56
2:B:2697:G:H2'	2:B:2698:U:O4'	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:783:A:H4'	2:B:2588:G:H4'	1.87	0.56
4:D:15:G:H5'	4:D:16:C:H5''	1.86	0.56
4:D:19:G:O2'	4:D:20:U:OP1	2.19	0.56
4:D:41:C:O2'	41:QA:140:ASP:OD1	2.22	0.56
5:E:66:ASP:HA	5:E:68:LYS:NZ	2.20	0.56
26:EC:16:LEU:O	26:EC:67:LYS:NZ	2.26	0.56
1:FB:1264:C:H2'	1:FB:1265:G:C8	2.36	0.56
1:FB:1252:A:H61	1:FB:1285:A:H61	1.52	0.56
1:FB:940:C:H2'	1:FB:941:G:C8	2.40	0.56
27:FC:3:ARG:HG2	27:FC:38:GLU:OE2	2.05	0.56
36:LA:118:LEU:HB3	36:LA:142:LEU:HD12	1.87	0.56
18:R:46:ALA:O	18:R:49:HIS:N	2.38	0.56
23:W:6:LYS:NZ	23:W:43:GLU:OE2	2.22	0.56
1:A:296:U:H2'	1:A:297:G:H8	1.71	0.56
1:A:598:U:H2'	1:A:599:C:C6	2.40	0.56
1:A:757:U:H2'	1:A:758:G:O4'	2.05	0.56
2:B:1187:G:O5'	2:B:1187:G:H8	1.88	0.56
2:B:270(G):U:H2'	2:B:270(H):C:C6	2.40	0.56
2:B:49:A:H4'	2:B:50:U:H5''	1.86	0.56
2:GB:609(B):G:H2'	2:GB:610:C:C6	2.39	0.56
2:GB:919:G:N2	2:GB:2269:A:OP2	2.38	0.56
9:I:16:SER:HB3	9:I:27:LYS:H	1.69	0.56
6:KB:96:PHE:HA	6:KB:100:GLU:OE2	2.05	0.56
6:KB:111:ARG:HB2	6:KB:160:TYR:HB3	1.86	0.56
7:LB:50:SER:HA	7:LB:92:PRO:O	2.05	0.56
12:QB:119:PRO:HB2	17:VB:68:TYR:CE2	2.40	0.56
12:QB:68:GLU:HB3	12:QB:78:ARG:HB3	1.86	0.56
36:QC:36:ARG:HB3	36:QC:41:ILE:HD11	1.87	0.56
36:QC:47:THR:HG23	36:QC:202:PRO:HD2	1.87	0.56
38:SC:31:CYS:O	38:SC:34:GLU:N	2.28	0.56
1:A:663:A:H5''	52:BB:61:LYS:HE3	1.87	0.56
1:A:808:C:OP2	49:YA:48:LYS:HD3	2.05	0.56
2:B:1511:A:C8	2:B:1512:G:C8	2.93	0.56
2:B:1709:U:H2'	2:B:1710:C:C6	2.41	0.56
2:B:828:U:H4'	2:B:831:G:N1	2.20	0.56
52:BB:67:ALA:HA	52:BB:70:ILE:HD12	1.87	0.56
3:C:88:C:H2'	3:C:89(A):G:O4'	2.06	0.56
54:DB:86:ARG:HG2	54:DB:86:ARG:HH11	1.71	0.56
50:ED:43:LYS:HG2	50:ED:48:TRP:CD2	2.41	0.56
1:FB:1040:U:H5'	1:FB:1041:A:OP2	2.05	0.56
1:FB:146:G:H2'	1:FB:147:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:161:A:N1	1:FB:347:G:O2'	2.34	0.56
1:FB:977:A:O2'	1:FB:981:U:N3	2.37	0.56
2:GB:1441:G:H2'	2:GB:1442:G:H8	1.69	0.56
2:GB:363(G):A:OP2	2:GB:363(G):A:H8	1.89	0.56
2:GB:900:A:H2'	2:GB:901:A:C8	2.40	0.56
4:IA:51:C:O2'	4:IA:64:G:N2	2.37	0.56
6:KB:23:VAL:HG11	6:KB:183:LEU:HD23	1.88	0.56
37:MA:57:ILE:HD12	37:MA:66:VAL:HG12	1.87	0.56
10:OB:29:TYR:O	10:OB:33:ARG:HD2	2.06	0.56
45:UA:86:GLY:H	45:UA:112:THR:HG23	1.70	0.56
25:Y:83:GLU:N	25:Y:83:GLU:OE1	2.38	0.56
51:AB:29:HIS:CD2	51:AB:30:PRO:HD2	2.41	0.56
2:B:2405:G:HO2'	2:B:2406:U:P	2.27	0.56
2:B:34:C:HO2'	2:B:35:G:P	2.28	0.56
1:A:1014:A:H5'	53:CB:14:HIS:CE1	2.41	0.56
5:E:218:ARG:HB3	5:E:219:PRO:HD2	1.87	0.56
1:FB:222:U:H2'	1:FB:223:U:C6	2.40	0.56
1:FB:888:G:H2'	1:FB:889:A:H8	1.70	0.56
2:GB:2565:A:H5''	2:GB:2566:A:OP2	2.05	0.56
52:GD:59:SER:N	52:GD:62:GLU:OE2	2.28	0.56
10:J:5:LEU:HA	10:J:36:ALA:HA	1.86	0.56
35:JA:106:ASP:HA	35:JA:109:ARG:HH11	1.69	0.56
5:JB:6:PHE:CE1	5:JB:13:ARG:NH1	2.73	0.56
36:LA:193:ASP:OD2	36:LA:196:LEU:HB2	2.05	0.56
36:LA:77:ALA:HA	36:LA:80:ILE:HD13	1.85	0.56
37:MA:47:LEU:HD22	37:MA:68:VAL:HG11	1.87	0.56
14:N:112:GLU:HA	14:N:115:MET:HB2	1.85	0.56
39:OA:52:PRO:HG2	39:OA:53:LEU:HD12	1.87	0.56
35:PC:311:ASN:ND2	35:PC:314:GLN:OE1	2.38	0.56
36:QC:163:PHE:HA	36:QC:185:ILE:O	2.05	0.56
40:UC:19:LEU:O	40:UC:23:LYS:N	2.28	0.56
41:VC:15:ASP:OD2	41:VC:18:TYR:N	2.32	0.56
3:C:75:G:O2'	23:W:10:ARG:NH2	2.34	0.56
21:ZB:65:ARG:HB2	21:ZB:70:LEU:HG	1.86	0.56
1:A:1338:G:H3'	1:A:1339:A:C8	2.39	0.56
1:A:940:C:H2'	1:A:941:G:C8	2.40	0.56
2:B:2122:U:H2'	2:B:2123:G:H8	1.70	0.56
2:B:2211:G:H3'	2:B:2212:A:H5''	1.86	0.56
2:B:568:U:O4	2:B:973:A:OP2	2.24	0.56
1:FB:737:A:H2'	1:FB:738:C:C6	2.40	0.56
1:FB:811:C:H4'	1:FB:900:A:N6	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2021:C:H4'	2:GB:2022:U:OP2	2.04	0.56
2:GB:270(Q):C:H2'	2:GB:270(R):C:C6	2.40	0.56
9:I:137:ASP:HB3	9:I:140:LYS:HB3	1.87	0.56
39:OA:145:LYS:HA	39:OA:148:VAL:HB	1.87	0.56
16:P:44:LYS:NZ	16:P:44:LYS:HB2	2.20	0.56
18:R:58:ARG:HH11	18:R:58:ARG:CG	2.19	0.56
1:A:1417:G:N2	1:A:1482:G:H2'	2.20	0.56
22:AC:102:CYS:SG	22:AC:104:GLY:N	2.77	0.56
2:B:1104:C:H2'	2:B:1105:U:C6	2.40	0.56
3:C:5:C:OP1	3:C:61:G:O2'	2.24	0.56
1:FB:1342:C:H2'	1:FB:1343:G:C8	2.40	0.56
2:GB:1002:G:H2'	2:GB:1003:G:O4'	2.05	0.56
2:GB:2188:C:H2'	2:GB:2189:U:H4'	1.88	0.56
2:GB:2275:C:H5'	2:GB:2275:C:H6	1.71	0.56
2:GB:321:G:C2	2:GB:341:G:H4'	2.40	0.56
28:GC:54:GLY:O	28:GC:56:VAL:N	2.38	0.56
8:H:106:LEU:HA	8:H:110:ALA:HB3	1.87	0.56
54:ID:75:ASN:OD1	54:ID:75:ASN:N	2.37	0.56
36:LA:20:GLU:OE1	36:LA:23:ARG:NH2	2.26	0.56
38:NA:3:ARG:HE	38:NA:4:TYR:HB3	1.71	0.56
12:QB:64:ARG:HD3	12:QB:79:PHE:CD1	2.40	0.56
42:RA:11:THR:OG1	42:RA:14:ARG:NH1	2.32	0.56
22:V:67:LEU:HD23	22:V:72:VAL:HG23	1.86	0.56
1:A:1201:A:H1'	1:A:1202:G:OP2	2.06	0.56
2:B:1616:A:H4'	2:B:1617:C:OP2	2.05	0.56
2:B:401:A:H2'	2:B:402:A:C8	2.40	0.56
49:DD:78:TYR:O	49:DD:80:ALA:N	2.38	0.56
1:FB:981:U:H5'	48:CD:21:TYR:CZ	2.41	0.56
2:GB:1329:U:H5''	2:GB:1330:C:H5	1.71	0.56
2:GB:1558:A:H1'	2:GB:1559:G:H5''	1.87	0.56
2:GB:2115:G:C5	2:GB:2117:A:H2'	2.40	0.56
8:MB:139:LEU:HB3	8:MB:149:VAL:HG21	1.88	0.56
8:MB:46:ALA:HA	8:MB:50:ALA:HB3	1.88	0.56
9:NB:65:HIS:O	9:NB:68:THR:OG1	2.23	0.56
2:B:1153:C:H5'	18:R:76:TYR:HE2	1.69	0.56
1:A:692:U:O4	45:UA:53:SER:N	2.38	0.56
40:UC:75:LEU:O	40:UC:79:LEU:HG	2.06	0.56
14:N:82:ARG:NE	24:X:4:LYS:HG3	2.20	0.56
19:XB:55:ALA:HA	19:XB:100:ARG:O	2.06	0.56
1:A:1207:2MG:HM23	1:A:1208:C:H1'	1.87	0.56
1:A:721:G:OP2	52:BB:53:ARG:HB2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2115:G:H4'	2:B:2167:U:N3	2.21	0.56
2:GB:528:A:O2'	2:GB:529:A:H5'	2.05	0.56
2:GB:716:A:C2	2:GB:717:G:H1'	2.40	0.56
30:IC:6:ARG:NH1	30:IC:26:ASN:HB2	2.20	0.56
21:U:27:THR:HG23	21:U:80:ILE:HG12	1.86	0.56
17:VB:30:VAL:HG22	17:VB:86:ILE:HD12	1.87	0.56
23:W:80:ARG:HG2	23:W:82:ARG:HH22	1.71	0.56
1:A:1228:C:OP1	47:WA:115:LYS:N	2.38	0.56
2:B:264:C:O2'	2:B:428:A:N1	2.38	0.56
2:B:589:C:H2'	2:B:590:A:C8	2.40	0.56
2:B:668:G:N7	2:B:670:A:C8	2.74	0.56
23:BC:108:PRO:HA	23:BC:142:SER:HA	1.87	0.56
29:CA:55:ARG:HH21	29:CA:57:VAL:HG22	1.70	0.56
49:DD:26:GLU:HG3	49:DD:77:ARG:HH21	1.71	0.56
26:EC:59:ARG:HB2	26:EC:59:ARG:HH11	1.71	0.56
1:FB:721:G:OP2	52:GD:53:ARG:HB2	2.06	0.56
5:JB:72:LYS:HG2	5:JB:103:ARG:NH1	2.20	0.56
5:JB:183:ARG:HH11	5:JB:183:ARG:CG	2.19	0.56
36:LA:56:ARG:HB3	36:LA:56:ARG:HH11	1.70	0.56
16:P:11:LYS:HD3	16:P:15:ARG:NH1	2.20	0.56
40:PA:12:PRO:HD2	40:PA:86:ARG:NH1	2.20	0.56
41:QA:120:ILE:HG22	41:QA:124:LEU:HD12	1.87	0.56
36:QC:61:LEU:HD21	36:QC:160:ASP:HB2	1.86	0.56
17:VB:105:LEU:HB3	17:VB:110:ILE:HG12	1.88	0.56
44:YC:22:LYS:NZ	44:YC:85:LEU:HD23	2.21	0.56
1:A:1121:U:H3	1:A:1152:A:H61	1.54	0.56
1:A:410:G:C6	1:A:429:U:H1'	2.40	0.56
1:A:501:C:H2'	1:A:502:G:H8	1.70	0.56
2:B:1591:G:H2'	2:B:1592:C:C6	2.41	0.56
2:B:2262:U:C5	24:X:16:SER:HB3	2.40	0.56
2:B:2791:C:OP1	2:B:2892:A:N6	2.39	0.56
2:B:392:C:H5''	2:B:409:C:H5''	1.86	0.56
23:BC:144:LEU:HD21	23:BC:149:SER:HA	1.88	0.56
47:BD:54:VAL:HA	47:BD:57:ARG:HG3	1.88	0.56
1:FB:1207:2MG:HM23	1:FB:1208:C:H1'	1.87	0.56
1:FB:587:G:N2	1:FB:754:C:OP2	2.37	0.56
1:FB:803:G:H2'	1:FB:804:U:O4'	2.04	0.56
7:G:127:GLU:HB3	7:G:196:LEU:HD12	1.88	0.56
7:G:125:LEU:HD21	7:G:199:TRP:CG	2.41	0.56
2:GB:2712:U:H1'	2:GB:2712(A):A:C8	2.41	0.56
2:GB:589:C:H2'	2:GB:590:A:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:GC:59:PHE:HA	28:GC:61:ARG:NH1	2.19	0.56
4:IB:71:C:H2'	4:IB:72:A:H8	1.71	0.56
6:KB:14:ILE:HG13	6:KB:21:VAL:HG13	1.88	0.56
16:P:28:VAL:HG21	16:P:98:VAL:HG12	1.88	0.56
41:QA:35:LYS:NZ	41:QA:38:LEU:HD22	2.21	0.56
12:QB:71:ARG:HH12	12:QB:104:ARG:CB	2.14	0.56
19:S:55:ALA:HA	19:S:100:ARG:O	2.05	0.56
25:Y:64:ALA:HA	25:Y:67:ILE:HG13	1.87	0.56
1:A:773:G:H1	1:A:806:C:H42	1.54	0.56
1:A:841:U:H3'	1:A:842:C:H5''	1.86	0.56
2:B:2543:G:H2'	2:B:2544:G:C8	2.41	0.56
28:BA:15:ILE:HG12	28:BA:21:VAL:HG13	1.88	0.56
28:BA:40:HIS:HB3	28:BA:43:TYR:HB2	1.87	0.56
1:FB:948:C:OP2	47:BD:106:ASN:HB3	2.05	0.56
1:FB:269:C:H2'	1:FB:270:A:C8	2.40	0.56
2:GB:1248:G:C5	18:WB:3:ARG:HB2	2.41	0.56
2:GB:1922:G:H2'	2:GB:1923:U:O4'	2.05	0.56
2:GB:2197:U:O2'	2:GB:2198:A:OP2	2.19	0.56
6:KB:54:GLN:OE1	6:KB:55:ASN:N	2.39	0.56
14:N:21:THR:OG1	14:N:22:LYS:N	2.40	0.56
36:QC:80:ILE:HG22	36:QC:215:LEU:HD12	1.88	0.56
38:SC:3:ARG:HE	38:SC:4:TYR:HB3	1.71	0.56
46:VA:6:THR:OG1	46:VA:8:ASN:N	2.38	0.56
1:A:1243:C:OP1	55:EB:10:ARG:HG3	2.06	0.55
1:A:452:A:O2'	1:A:453:A:H8	1.89	0.55
1:A:539:A:H2'	1:A:540:G:H8	1.70	0.55
2:B:2607:G:H2'	2:B:2608:G:O4'	2.06	0.55
2:B:2855:C:H2'	2:B:2856:C:H6	1.71	0.55
2:B:528:A:O2'	2:B:529:A:H5'	2.05	0.55
2:B:868:U:N3	2:B:869:G:N7	2.54	0.55
52:BB:55:ARG:HB3	52:BB:55:ARG:HH11	1.71	0.55
5:E:52:ARG:HB2	5:E:53:PHE:CD2	2.41	0.55
7:G:9:ILE:HD12	7:G:125:LEU:HD13	1.87	0.55
2:GB:1340:U:H3'	21:ZB:57:LEU:HD22	1.88	0.55
2:GB:1973:G:H2'	2:GB:1974:C:C6	2.41	0.55
3:HB:103:U:O3'	23:BC:72:ARG:HD2	2.06	0.55
1:FB:102:G:OP1	54:ID:17:ARG:NH2	2.39	0.55
36:LA:187:LEU:HD12	36:LA:203:GLY:HA3	1.88	0.55
7:LB:155:LEU:HA	7:LB:174:VAL:HG23	1.87	0.55
37:MA:27:LYS:O	37:MA:31:HIS:NE2	2.39	0.55
12:QB:87:ILE:HG22	12:QB:93:PRO:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:SA:29:ASN:N	43:SA:63:ILE:O	2.30	0.55
39:TC:51:VAL:O	39:TC:55:VAL:N	2.31	0.55
40:UC:11:ASN:HB3	40:UC:14:LEU:HD11	1.88	0.55
41:VC:120:ILE:HG22	41:VC:124:LEU:HD12	1.87	0.55
1:A:1394:A:H4'	1:A:1395:C:OP2	2.05	0.55
2:B:2689:U:OP2	2:B:2719:G:N2	2.34	0.55
2:GB:715:G:C2	49:DD:56:LEU:HD21	2.41	0.55
50:ED:21:VAL:O	50:ED:33:ILE:N	2.38	0.55
1:FB:1022:G:C6	1:FB:1023:G:H1'	2.41	0.55
1:FB:841:U:H3'	1:FB:842:C:H5''	1.88	0.55
1:FB:932:C:H2'	1:FB:933:G:C8	2.40	0.55
7:G:152:GLU:OE2	7:G:191:ARG:NH1	2.38	0.55
2:GB:2298:A:H62	2:GB:2318:G:H8	1.51	0.55
31:JC:41:ARG:HD3	31:JC:45:ALA:HB2	1.88	0.55
37:MA:113:ALA:HB2	37:MA:202:ILE:HG13	1.89	0.55
8:MB:106:LEU:HA	8:MB:110:ALA:HB3	1.86	0.55
38:SC:188:LEU:H	38:SC:188:LEU:HD13	1.71	0.55
40:UC:21:LEU:O	40:UC:24:GLU:HB3	2.05	0.55
49:YA:8:LYS:NZ	49:YA:31:LEU:HD21	2.21	0.55
21:ZB:35:THR:O	21:ZB:39:ILE:HG13	2.07	0.55
1:A:1304:G:OP2	55:EB:5:ASP:OD2	2.23	0.55
2:B:1558:A:H1'	2:B:1559:G:H5''	1.88	0.55
2:B:2577:A:H5'	29:CA:3:LYS:HE3	1.89	0.55
5:E:274:ARG:HH11	5:E:274:ARG:HG3	1.70	0.55
31:EA:41:ARG:HH11	31:EA:41:ARG:HB2	1.69	0.55
2:GB:1048:A:N1	2:GB:1112:G:O2'	2.27	0.55
2:GB:1401:G:HO2'	2:GB:1524:G:HO2'	1.54	0.55
2:GB:223:A:O2'	2:GB:420:C:O2'	2.23	0.55
2:GB:34:C:HO2'	2:GB:35:G:P	2.30	0.55
8:H:115:ARG:HH12	47:WA:2:ALA:HA	1.71	0.55
32:KC:17:THR:OG1	32:KC:21:LYS:HB2	2.05	0.55
8:MB:123:ASN:N	8:MB:123:ASN:OD1	2.37	0.55
1:A:407:G:H4'	38:NA:116:GLN:HA	1.89	0.55
39:OA:41:VAL:HG22	39:OA:113:ALA:HA	1.89	0.55
40:PA:29:ALA:HA	40:PA:32:ASN:ND2	2.22	0.55
14:SB:76:LYS:HB3	14:SB:91:GLU:HG3	1.86	0.55
16:UB:49:VAL:HG21	16:UB:76:LYS:HG2	1.88	0.55
44:TA:50:ILE:HG13	48:XA:41:ARG:NH1	2.20	0.55
19:XB:75:PHE:HE1	19:XB:82:ARG:NH1	2.03	0.55
1:A:731:G:OP1	1:A:766:A:H1'	2.06	0.55
51:AB:99:SER:OG	51:AB:100:LYS:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1083:U:H2'	2:B:1085:A:H5''	1.87	0.55
2:B:1418:G:H8	2:B:1418:G:O5'	1.90	0.55
2:B:1983:C:H4'	2:B:2606:C:H4'	1.88	0.55
54:DB:37:SER:HB3	54:DB:84:LEU:HD11	1.89	0.55
5:E:17:THR:O	5:E:211:ARG:NH2	2.40	0.55
2:GB:1709:U:H2'	2:GB:1710:C:C6	2.41	0.55
2:GB:2232:U:OP2	25:DC:40:ARG:NH2	2.32	0.55
2:GB:2593:U:H2'	2:GB:2594:C:C6	2.41	0.55
2:GB:2867:G:OP2	17:VB:119:LYS:NZ	2.31	0.55
53:HD:8:GLY:O	53:HD:10:PHE:N	2.40	0.55
11:K:58:ASP:N	11:K:58:ASP:OD1	2.38	0.55
12:L:71:ARG:NH1	12:L:104:ARG:HB3	2.18	0.55
36:LA:187:LEU:HG	36:LA:205:ASP:HB3	1.89	0.55
35:OC:109:ARG:HG3	35:OC:110:ASN:H	1.72	0.55
17:Q:117:ASP:O	17:Q:121:ILE:HG12	2.07	0.55
36:QC:56:ARG:HB3	36:QC:56:ARG:NH1	2.20	0.55
38:SC:18:LYS:HZ3	38:SC:26:CYS:HG	1.52	0.55
39:TC:41:VAL:HG22	39:TC:113:ALA:HA	1.88	0.55
1:A:562:C:H1'	46:VA:15:ARG:HB3	1.88	0.55
43:XC:28:VAL:HA	43:XC:63:ILE:HB	1.88	0.55
1:A:1070:U:H2'	1:A:1071:C:H6	1.71	0.55
2:B:1332:G:HO2'	2:B:1609:A:H2	1.53	0.55
2:B:2064:C:H2'	2:B:2065:C:C6	2.42	0.55
25:DC:52:ARG:HH21	25:DC:57:GLU:HG3	1.72	0.55
31:EA:29:LYS:O	31:EA:33:ARG:HG3	2.06	0.55
6:F:93:VAL:HG21	6:F:180:ASN:HA	1.87	0.55
1:FB:1012:U:H2'	1:FB:1013:G:C8	2.41	0.55
1:FB:781:A:H4'	1:FB:1522:U:O2'	2.06	0.55
1:FB:731:G:OP1	1:FB:766:A:H1'	2.07	0.55
1:FB:924:C:H42	1:FB:1392:G:H1	1.54	0.55
2:GB:1101:U:H2'	2:GB:1102:C:O4'	2.07	0.55
2:GB:557:U:H2'	2:GB:558:G:C8	2.40	0.55
2:GB:627:A:O4'	2:GB:637:A:N6	2.39	0.55
11:PB:127:ASP:N	11:PB:127:ASP:OD1	2.38	0.55
36:QC:187:LEU:HG	36:QC:205:ASP:HB3	1.89	0.55
36:QC:56:ARG:HB3	36:QC:56:ARG:HH11	1.71	0.55
37:RC:134:ILE:HG23	37:RC:151:VAL:HG13	1.88	0.55
38:SC:57:ARG:HH12	39:TC:107:ARG:HH12	1.54	0.55
17:VB:108:ARG:HG2	17:VB:112:ARG:NH1	2.21	0.55
1:A:165:C:H2'	1:A:166:G:H8	1.71	0.55
2:B:1248:G:C5	18:R:3:ARG:HB2	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1406:U:H2'	2:B:1407:C:C6	2.41	0.55
2:B:2275:C:H6	2:B:2275:C:H5'	1.72	0.55
2:B:270(Q):C:H2'	2:B:270(R):C:C6	2.41	0.55
2:GB:2090:G:N2	25:DC:45:ASN:OD1	2.30	0.55
1:A:1244:C:OP2	55:EB:9:ARG:NH1	2.38	0.55
1:FB:741:G:H5'	49:DD:39:LEU:HD21	1.87	0.55
7:G:10:PRO:HA	7:G:17:ARG:HH12	1.71	0.55
33:GA:9:ARG:HE	33:GA:16:VAL:HG13	1.69	0.55
10:J:7:GLU:OE2	10:J:8:PRO:HD2	2.06	0.55
37:MA:125:GLU:HA	37:MA:191:THR:HG22	1.89	0.55
17:Q:134:GLU:HG2	17:Q:135:VAL:H	1.72	0.55
18:R:106:PHE:HA	18:R:109:LEU:HD12	1.89	0.55
42:RA:13:ILE:O	42:RA:17:THR:OG1	2.21	0.55
18:WB:50:ARG:O	18:WB:54:LYS:NZ	2.36	0.55
24:X:36:ILE:HD13	24:X:60:PHE:HB3	1.87	0.55
48:XA:61:TRP:CD1	48:XA:61:TRP:OXT	2.59	0.55
45:ZC:22:HIS:HB3	45:ZC:29:ILE:HB	1.87	0.55
2:B:101:G:H1'	26:Z:7:ARG:HH12	1.71	0.55
2:B:1292:U:H2'	2:B:1293:C:H6	1.72	0.55
2:B:2781:A:H5''	2:B:2782:G:H5'	1.87	0.55
3:C:43:C:O2	8:H:95:ARG:NE	2.28	0.55
53:CB:8:GLY:O	53:CB:10:PHE:N	2.39	0.55
24:CC:68:GLU:HG3	24:CC:82:ARG:NH2	2.22	0.55
27:FC:9:VAL:HG11	27:FC:55:ARG:NH2	2.22	0.55
2:GB:2439:A:OP1	57:GB:9001:BLS:H101	2.07	0.55
2:GB:994:C:O2'	2:GB:996:A:OP1	2.19	0.55
28:GC:15:ILE:HG12	28:GC:21:VAL:HG13	1.87	0.55
29:HC:29:ILE:O	29:HC:30:LEU:HD23	2.06	0.55
4:IA:23:C:H2'	4:IA:24:U:H6	1.71	0.55
11:K:96:GLU:OE2	11:K:96:GLU:N	2.39	0.55
12:L:3:GLN:HB2	12:L:4:PRO:HD2	1.89	0.55
2:B:911:A:H2'	14:N:9:TYR:OH	2.07	0.55
2:B:2820:A:OP2	15:O:2:ARG:NH2	2.40	0.55
42:WC:23:SER:HA	42:WC:63:LEU:HD23	1.89	0.55
49:YA:44:LYS:O	49:YA:47:LYS:NZ	2.40	0.55
1:A:1022:G:C6	1:A:1023:G:H1'	2.42	0.55
1:A:1247:U:H5''	1:A:1248:A:OP2	2.06	0.55
1:A:669:U:OP1	49:YA:48:LYS:NZ	2.23	0.55
1:FB:881:G:P	46:AD:12:ARG:HH22	2.30	0.55
2:B:1686:C:H2'	2:B:1687:G:O4'	2.06	0.55
2:B:2849:U:H4'	2:B:2868:A:C2	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:EC:47:ASN:O	26:EC:49:LYS:N	2.40	0.55
1:FB:1121:U:H3	1:FB:1152:A:H61	1.53	0.55
1:FB:1346:A:N1	1:FB:1374:A:H5''	2.22	0.55
2:GB:2251:OMG:O5'	2:GB:2251:OMG:H8	1.90	0.55
2:GB:2262:U:OP2	24:CC:16:SER:HB2	2.06	0.55
2:GB:858:U:O2	2:GB:2268:A:H2'	2.07	0.55
2:GB:2343:C:O2'	2:GB:2373:G:O2'	2.23	0.55
2:GB:2515:C:O2	2:GB:2570:G:C2	2.60	0.55
2:GB:363(C):G:H2'	2:GB:363(D):G:H8	1.71	0.55
2:GB:401:A:H2'	2:GB:402:A:C8	2.41	0.55
2:GB:639:U:H2'	2:GB:640:C:C6	2.42	0.55
32:KC:7:HIS:HD2	32:KC:61:LEU:HD13	1.72	0.55
11:PB:59:LYS:NZ	11:PB:125:GLY:HA2	2.22	0.55
11:PB:94:HIS:HB3	11:PB:97:ARG:HG3	1.88	0.55
36:QC:105:PHE:HA	36:QC:108:ILE:HB	1.89	0.55
2:B:1248:G:C2	18:R:3:ARG:HD2	2.42	0.55
42:RA:19:VAL:HG23	42:RA:21:LYS:HG2	1.88	0.55
1:A:1150:U:O2'	44:TA:39:PRO:O	2.21	0.55
40:UC:15:ASP:OD2	40:UC:18:GLN:HB2	2.06	0.55
1:A:1038:C:H2'	1:A:1039:C:O4'	2.07	0.55
1:A:1394:A:OP1	1:A:1394:A:H8	1.89	0.55
2:B:1002:G:H2'	2:B:1003:G:O4'	2.07	0.55
2:B:2167:U:O2'	2:B:2168:G:O4'	2.20	0.55
2:B:483:A:H4'	22:V:50:ARG:HA	1.88	0.55
1:FB:1346:A:H5''	43:XC:120:ARG:HH12	1.72	0.55
1:FB:35:G:H1	1:FB:549:C:N4	2.04	0.55
1:FB:757:U:H2'	1:FB:758:G:O4'	2.06	0.55
2:GB:380:U:H2'	2:GB:381:G:H8	1.71	0.55
2:GB:548:A:H4'	19:XB:19:LYS:NZ	2.21	0.55
29:HC:51:TYR:HA	29:HC:56:LYS:HA	1.88	0.55
10:J:67:ARG:HD2	10:J:68:LEU:HG	1.87	0.55
40:PA:21:LEU:O	40:PA:24:GLU:HB3	2.07	0.55
12:QB:13:ASN:HD21	12:QB:97:ARG:H	1.54	0.55
42:RA:23:SER:HA	42:RA:63:LEU:HD23	1.89	0.55
45:ZC:120:ARG:HH12	45:ZC:126:ARG:HH11	1.53	0.55
1:A:370:C:N3	1:A:392:G:C2	2.74	0.55
1:A:689:C:O2'	1:A:705:U:O2'	2.20	0.55
2:B:1268:A:H2'	2:B:1269:A:O4'	2.06	0.55
2:B:270(A):A:OP2	2:B:270(Z):G:N2	2.36	0.55
2:B:360:G:H2'	2:B:361:G:O4'	2.07	0.55
29:CA:16:ARG:NH1	29:CA:16:ARG:HG2	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:CD:37:PHE:HE1	48:CD:53:LEU:HD11	1.72	0.55
25:DC:47:GLN:HE21	25:DC:47:GLN:CA	2.03	0.55
1:FB:424:G:H8	1:FB:424:G:OP2	1.90	0.55
1:FB:562:C:H1'	46:AD:15:ARG:HB3	1.89	0.55
2:GB:1093:G:H22	2:GB:1096:A:H5''	1.71	0.55
2:GB:1688:U:O2	2:GB:1700:A:H5'	2.07	0.55
2:GB:2167:U:O2'	2:GB:2168:G:O4'	2.18	0.55
2:GB:2390:U:OP2	32:KC:35:GLN:NE2	2.34	0.55
2:GB:888:C:H5''	2:GB:889:C:OP2	2.06	0.55
36:LA:71:VAL:N	36:LA:163:PHE:O	2.40	0.55
1:A:8:A:N6	38:NA:205:GLU:O	2.40	0.55
37:RC:135:LYS:NZ	37:RC:135:LYS:HB3	2.22	0.55
2:B:1161:C:O2'	19:S:8:GLY:HA2	2.07	0.55
14:SB:56:ARG:O	14:SB:59:ARG:HG3	2.07	0.55
1:A:1123:A:O2'	44:TA:37:PRO:O	2.18	0.55
2:GB:2846:G:P	17:VB:54:ARG:HG3	2.47	0.55
49:YA:5:LYS:HE2	49:YA:5:LYS:HA	1.87	0.55
1:A:952:U:H2'	1:A:953:G:H8	1.72	0.54
2:B:244:A:C2	2:B:255:A:C4	2.95	0.54
2:B:2661:G:H2'	2:B:2662:A:C8	2.43	0.54
2:B:609(B):G:H2'	2:B:610:C:C6	2.42	0.54
57:B:9001:BLS:H2'	4:IA:76:A:N3	2.22	0.54
6:F:37:ARG:HH11	6:F:42:ASP:CB	2.20	0.54
1:FB:406:G:H2'	1:FB:407:G:H8	1.71	0.54
2:GB:1614:A:N1	20:YB:93:ALA:HB2	2.21	0.54
2:GB:2131:G:OP2	2:GB:2132:U:O2'	2.15	0.54
2:GB:861:A:H2'	2:GB:862:G:O4'	2.07	0.54
57:GB:9001:BLS:H101	57:GB:9001:BLS:H151	1.71	0.54
9:I:68:THR:O	9:I:72:ILE:HG12	2.07	0.54
54:ID:37:SER:HB3	54:ID:84:LEU:HD21	1.88	0.54
36:LA:105:PHE:HA	36:LA:108:ILE:HB	1.88	0.54
36:LA:30:ARG:NH2	36:LA:195:ASP:OD1	2.41	0.54
3:HB:41:U:N3	8:MB:70:VAL:O	2.40	0.54
11:PB:26:LEU:O	11:PB:30:ILE:HG13	2.06	0.54
18:R:28:ARG:HA	18:R:34:LYS:HB3	1.88	0.54
2:B:297:C:P	22:V:95:LYS:HZ2	2.29	0.54
17:VB:54:ARG:HA	17:VB:59:THR:HB	1.89	0.54
2:B:2712:U:H1'	2:B:2712(A):A:C8	2.42	0.54
1:FB:820:U:O2'	1:FB:821:G:OP1	2.25	0.54
2:GB:1580:A:H5'	2:GB:1581:G:OP2	2.08	0.54
2:GB:1790:C:H2'	2:GB:1791:A:C5	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2791:C:OP1	2:GB:2892:A:N6	2.40	0.54
35:JA:109:ARG:HG3	35:JA:110:ASN:H	1.72	0.54
31:JC:9:ARG:HE	31:JC:47:ARG:HB2	1.72	0.54
11:K:4:TYR:HB2	18:R:101:ARG:NH1	2.23	0.54
7:LB:34:TRP:CH2	13:RB:8:PRO:HB3	2.42	0.54
2:GB:1246:A:OP1	7:LB:38:ARG:NH2	2.40	0.54
1:A:498:A:HO2'	38:NA:2:GLY:N	2.06	0.54
39:TC:129:ILE:O	39:TC:133:TYR:HB2	2.07	0.54
21:U:32:PRO:HA	21:U:77:LYS:HB2	1.88	0.54
23:W:118:GLN:N	23:W:173:ALA:O	2.41	0.54
14:N:85:LYS:HZ3	24:X:4:LYS:HE2	1.72	0.54
50:ZA:21:VAL:O	50:ZA:33:ILE:N	2.39	0.54
1:A:1366:C:O2'	44:TA:60:ARG:NH2	2.40	0.54
1:A:222:U:H6	1:A:222:U:OP2	1.91	0.54
1:A:580:U:H2'	1:A:581:G:O4'	2.07	0.54
2:B:1043:C:H41	2:B:1112:G:H1	1.54	0.54
2:B:1063:G:N2	2:B:1088:A:N7	2.55	0.54
2:B:1297:C:HO2'	2:B:1302:A:N6	2.06	0.54
2:B:1583:A:H5''	2:B:1585:C:OP1	2.08	0.54
2:B:2164:C:H41	2:B:2166:G:N2	2.06	0.54
54:DB:82:SER:O	54:DB:86:ARG:HG3	2.06	0.54
25:DC:50:ARG:HG2	25:DC:59:THR:HB	1.88	0.54
1:FB:1121:U:H2'	1:FB:1122:U:C6	2.42	0.54
1:FB:287:U:H2'	1:FB:288:A:H8	1.73	0.54
1:FB:575:G:O2'	1:FB:821:G:H5''	2.08	0.54
2:GB:1015:G:H2'	2:GB:1016:G:C8	2.42	0.54
2:GB:2262:U:H5	24:CC:16:SER:HB3	1.72	0.54
1:FB:663:A:H5''	52:GD:61:LYS:HE3	1.89	0.54
52:GD:67:ALA:HA	52:GD:70:ILE:HD12	1.90	0.54
6:KB:51:PHE:HD2	6:KB:77:ILE:HD12	1.73	0.54
4:NC:51:C:O2'	4:NC:64:G:N2	2.41	0.54
39:TC:37:ARG:HH12	39:TC:111:GLU:CG	2.19	0.54
17:VB:122:ASP:O	17:VB:126:ALA:N	2.41	0.54
24:X:41:ARG:NH1	24:X:41:ARG:HG3	2.20	0.54
50:ZA:6:LEU:HG	50:ZA:17:TYR:HB3	1.88	0.54
1:A:159:G:O2'	1:A:161:A:N7	2.32	0.54
1:A:546:G:P	38:NA:72:GLU:HB3	2.47	0.54
2:B:1329:U:H5''	2:B:1330:C:H5	1.71	0.54
2:B:1580:A:H5'	2:B:1581:G:OP2	2.08	0.54
2:B:2716:U:H2'	2:B:2717:G:H8	1.73	0.54
2:B:433:C:H2'	2:B:434:U:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:CB:19:VAL:HA	53:CB:22:LEU:HB2	1.88	0.54
2:B:2361:A:O5'	32:FA:27:THR:OG1	2.24	0.54
2:B:2349:G:OP2	32:FA:42:ARG:HD3	2.07	0.54
7:G:144:LYS:HZ3	7:G:144:LYS:HB2	1.71	0.54
2:GB:1515:C:H2'	2:GB:1516:U:C6	2.43	0.54
2:GB:2351:G:HO2'	2:GB:2352:A:H8	1.56	0.54
2:GB:360:G:H2'	2:GB:361:G:O4'	2.08	0.54
8:H:46:ALA:HA	8:H:50:ALA:HB3	1.89	0.54
54:ID:30:LYS:HB2	54:ID:30:LYS:HZ2	1.72	0.54
2:B:2846:G:P	17:Q:54:ARG:HG3	2.47	0.54
42:RA:21:LYS:O	42:RA:65:TYR:OH	2.18	0.54
37:RC:150:LYS:HB3	37:RC:201:TYR:HB2	1.88	0.54
19:S:14:VAL:HB	19:S:96:ILE:HG13	1.89	0.54
16:UB:83:LYS:O	16:UB:85:VAL:HG23	2.08	0.54
40:UC:74:ASP:O	40:UC:77:ARG:HB3	2.06	0.54
46:VA:8:ASN:HA	46:VA:11:VAL:HG23	1.90	0.54
47:WA:6:GLY:HA3	47:WA:67:GLU:HG2	1.90	0.54
42:WC:81:HIS:HD2	42:WC:104:ARG:HH22	1.55	0.54
2:B:2581:G:C6	2:B:2610:C:N3	2.75	0.54
54:DB:37:SER:HB3	54:DB:84:LEU:HD21	1.88	0.54
5:E:183:ARG:HH11	5:E:183:ARG:CG	2.20	0.54
31:EA:9:ARG:HE	31:EA:47:ARG:HB2	1.71	0.54
6:F:174:ASP:O	6:F:183:LEU:N	2.40	0.54
32:FA:55:ALA:HA	32:FA:58:ILE:HG12	1.88	0.54
1:FB:1089:G:H1	1:FB:1096:C:H42	1.56	0.54
1:FB:498:A:H4'	1:FB:500:G:OP1	2.07	0.54
2:GB:223:A:HO2'	2:GB:420:C:HO2'	1.56	0.54
35:JA:159:TYR:HB2	35:JA:162:ILE:HG12	1.89	0.54
5:JB:133:LEU:HB2	5:JB:173:VAL:HG21	1.88	0.54
37:MA:122:GLU:HA	37:MA:125:GLU:HB2	1.88	0.54
37:MA:134:ILE:HG23	37:MA:151:VAL:HG13	1.90	0.54
14:N:65:PHE:HB2	14:N:105:GLU:HB2	1.90	0.54
16:P:26:LEU:HG	16:P:39:ILE:HG12	1.89	0.54
36:QC:30:ARG:NH2	36:QC:195:ASP:OD1	2.41	0.54
40:UC:12:PRO:HD2	40:UC:86:ARG:NH1	2.23	0.54
2:B:1820:U:H4'	2:B:1821:A:OP2	2.07	0.54
2:B:2788:C:O2'	2:B:2809:A:N3	2.41	0.54
4:D:73:A:O2'	25:Y:23:LYS:NZ	2.26	0.54
1:A:1243:C:H5''	55:EB:8:THR:HG21	1.89	0.54
26:EC:17:SER:H	26:EC:20:GLU:CD	2.11	0.54
1:FB:673:G:H2'	1:FB:674:G:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:451:C:H4'	7:G:52:LYS:HZ1	1.73	0.54
2:GB:1083:U:H2'	2:GB:1085:A:H5''	1.89	0.54
2:GB:1914:C:H3'	2:GB:1915:5MU:H71	1.90	0.54
2:GB:612:G:N2	2:GB:616:A:O2'	2.40	0.54
2:GB:733:G:N7	2:GB:761:A:N7	2.55	0.54
52:GD:66:LEU:HG	52:GD:70:ILE:HD11	1.88	0.54
8:H:114:ILE:HG12	8:H:117:PHE:HD1	1.72	0.54
29:HC:55:ARG:HH21	29:HC:57:VAL:HG22	1.73	0.54
10:J:122:GLU:HB2	10:J:126:TYR:OH	2.08	0.54
5:JB:182:LEU:HB2	5:JB:272:ALA:HB3	1.89	0.54
36:LA:177:ALA:HB1	36:LA:182:ILE:HB	1.89	0.54
36:LA:19:HIS:CG	36:LA:20:GLU:HG2	2.42	0.54
38:NA:140:VAL:HG13	38:NA:144:ASP:OD2	2.08	0.54
10:OB:5:LEU:HA	10:OB:36:ALA:HA	1.89	0.54
36:QC:118:LEU:HB3	36:QC:142:LEU:HD12	1.88	0.54
43:SA:26:VAL:HA	43:SA:61:ALA:HB3	1.89	0.54
20:T:11:ARG:NH1	20:T:98:LYS:HB3	2.21	0.54
22:V:43:ASN:O	22:V:65:ALA:N	2.29	0.54
17:VB:117:ASP:O	17:VB:121:ILE:HG12	2.07	0.54
24:X:63:VAL:HG21	24:X:83:PRO:HG3	1.90	0.54
1:A:1296:C:H3'	1:A:1297:C:C6	2.43	0.54
1:A:191(D):U:H2'	1:A:191(E):G:C8	2.42	0.54
2:B:1014:U:H2'	2:B:1015:G:C8	2.41	0.54
2:B:2701:C:H3'	2:B:2702:U:H5''	1.90	0.54
23:BC:132:ASN:N	23:BC:132:ASN:OD1	2.38	0.54
47:BD:91:ARG:HH12	47:BD:96:LEU:C	2.11	0.54
10:OB:27:ARG:HD3	25:DC:67:ILE:HG21	1.90	0.54
27:FC:6:VAL:HG13	27:FC:56:VAL:HG13	1.90	0.54
2:GB:2405:G:HO2'	2:GB:2406:U:P	2.30	0.54
28:GC:40:HIS:HB3	28:GC:43:TYR:HB2	1.89	0.54
3:HB:4:C:H42	3:HB:116:G:H1	1.56	0.54
29:HC:16:ARG:HG2	29:HC:16:ARG:NH1	2.23	0.54
24:X:11:ARG:NH1	4:IA:63:G:O3'	2.38	0.54
11:K:30:ILE:HG22	11:K:34:LEU:HD22	1.89	0.54
38:NA:117:ALA:HA	38:NA:120:LEU:HD12	1.89	0.54
35:OC:186:ARG:HA	35:PC:313:PRO:CD	2.38	0.54
43:XC:110:GLU:OE2	43:XC:119:ALA:HB1	2.07	0.54
1:A:1071:C:H5''	39:OA:49:PRO:HG2	1.90	0.54
1:A:1314:C:OP2	53:CB:4:SER:OG	2.24	0.54
1:A:763:G:H2'	1:A:764:C:C6	2.42	0.54
46:AD:114:LYS:HA	46:AD:117:ARG:HD2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:AD:25:PRO:O	46:AD:27:LEU:N	2.40	0.54
2:B:1167:U:H2'	2:B:1168:G:C8	2.43	0.54
2:B:1411:C:H2'	2:B:1412:A:C8	2.43	0.54
2:B:783:A:H2'	2:B:783:A:N3	2.23	0.54
2:GB:205:G:H1	25:DC:39:LYS:HZ3	1.54	0.54
1:FB:1314:C:OP2	53:HD:4:SER:OG	2.23	0.54
1:FB:743:U:H2'	1:FB:744:C:C6	2.43	0.54
7:G:65:TRP:HD1	7:G:70:THR:HG21	1.71	0.54
2:GB:1104:C:H2'	2:GB:1105:U:C6	2.42	0.54
2:GB:1403:C:H4'	2:GB:1471:A:H1'	1.90	0.54
2:GB:2115:G:H5''	2:GB:2116:G:OP2	2.08	0.54
2:GB:2577:A:H5'	29:HC:3:LYS:HE3	1.89	0.54
2:GB:2882:A:P	15:TB:96:ARG:HH21	2.31	0.54
2:GB:49:A:H4'	2:GB:50:U:H5''	1.89	0.54
2:GB:96:G:H4'	26:EC:48:HIS:CD2	2.42	0.54
4:IA:53:G:H22	4:IA:61:C:N4	2.06	0.54
11:K:127:ASP:OD1	11:K:127:ASP:N	2.40	0.54
2:B:833:U:O2	13:M:55:ARG:NH2	2.40	0.54
16:P:71:ARG:HD3	16:P:107:GLU:OE2	2.08	0.54
18:R:112:ARG:NH1	19:S:47:VAL:HB	2.22	0.54
16:UB:28:VAL:HG21	16:UB:98:VAL:HG12	1.90	0.54
24:X:68:GLU:HG3	24:X:82:ARG:NH2	2.22	0.54
49:YA:26:GLU:HG3	49:YA:77:ARG:HH21	1.73	0.54
1:FB:692:U:O4	45:ZC:53:SER:N	2.41	0.54
1:A:1228:C:OP2	47:WA:111:LYS:HD3	2.08	0.54
1:A:923:A:H61	1:A:1393:U:H3	1.53	0.54
22:AC:18:GLY:C	22:AC:20:TYR:H	2.11	0.54
2:B:1101:U:H2'	2:B:1102:C:O4'	2.07	0.54
2:B:1335:U:H2'	2:B:1336:A:H8	1.73	0.54
2:B:2533:A:H2'	2:B:2534:A:O4'	2.07	0.54
47:BD:6:GLY:HA3	47:BD:67:GLU:HG2	1.90	0.54
5:E:118:VAL:N	5:E:129:ASN:OD1	2.40	0.54
26:EC:48:HIS:O	26:EC:52:ASP:HB2	2.08	0.54
1:FB:165:C:H2'	1:FB:166:G:H8	1.71	0.54
7:G:155:LEU:HA	7:G:174:VAL:HG23	1.89	0.54
2:GB:1188:U:O2'	2:GB:1189:A:H5'	2.08	0.54
2:GB:2210:G:H8	2:GB:2211:G:N7	2.06	0.54
9:I:56:SER:OG	9:I:57:ASP:N	2.40	0.54
34:HA:21:A:N6	35:JA:198:THR:HG1	2.00	0.54
13:M:126:VAL:HA	13:M:146:VAL:O	2.06	0.54
4:NC:53:G:H22	4:NC:61:C:N4	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:25:ARG:NH2	16:P:40:ILE:HD12	2.23	0.54
12:QB:13:ASN:HD21	12:QB:97:ARG:HG3	1.72	0.54
39:TC:81:GLU:HB3	39:TC:90:VAL:HG13	1.90	0.54
46:VA:47:LYS:HG2	46:VA:48:PRO:HA	1.89	0.54
44:YC:49:VAL:HG23	48:CD:41:ARG:HB2	1.90	0.54
45:ZC:120:ARG:NH1	45:ZC:126:ARG:NH1	2.45	0.54
1:A:1111:A:H2'	1:A:1112:C:C6	2.43	0.54
1:A:941:G:N2	1:A:942:G:H1'	2.23	0.54
1:A:975:A:H5''	1:A:975:A:H8	1.73	0.54
22:AC:43:ASN:O	22:AC:65:ALA:N	2.26	0.54
2:B:1826:G:H5''	2:B:1827:C:OP2	2.07	0.54
2:B:2390:U:OP2	32:FA:35:GLN:NE2	2.31	0.54
2:B:2742:C:H42	2:B:2762:G:H1	1.53	0.54
2:B:755:C:H2'	2:B:756:C:C6	2.43	0.54
2:GB:1418:G:H8	2:GB:1418:G:O5'	1.90	0.54
2:GB:2418:A:H2'	2:GB:2419:U:O4'	2.08	0.54
2:GB:2805:G:H2'	2:GB:2807:G:H5''	1.90	0.54
5:JB:26:LYS:HD3	5:JB:83:GLU:OE2	2.08	0.54
7:LB:10:PRO:HA	7:LB:17:ARG:HH12	1.72	0.54
39:OA:87:SER:HB3	39:OA:131:ILE:HD13	1.89	0.54
19:S:66:ARG:HD2	19:S:88:ARG:HG3	1.89	0.54
18:WB:53:ARG:HA	18:WB:56:ASP:OD2	2.07	0.54
22:AC:35:TYR:CD2	22:AC:69:ALA:HB3	2.42	0.53
48:CD:8:GLU:HA	48:CD:11:LYS:HD2	1.90	0.53
54:DB:56:MET:SD	54:DB:88:VAL:HG11	2.48	0.53
1:FB:1041:A:H3'	1:FB:1042:G:H8	1.73	0.53
1:FB:1111:A:H2'	1:FB:1112:C:C6	2.42	0.53
1:FB:140:A:H2'	1:FB:141:A:C8	2.43	0.53
1:FB:312:C:H2'	1:FB:313:A:C8	2.43	0.53
2:GB:1434:A:H61	2:GB:1558:A:N6	2.01	0.53
2:GB:1869:G:N2	2:GB:1871:A:H3'	2.23	0.53
2:GB:191:A:H2'	2:GB:192:C:C6	2.43	0.53
2:GB:2115:G:H4'	2:GB:2167:U:N3	2.23	0.53
2:GB:392:C:H5''	2:GB:409:C:H5''	1.90	0.53
1:FB:1014:A:H5'	53:HD:14:HIS:CE1	2.42	0.53
55:JD:12:LYS:HB3	55:JD:18:TYR:HA	1.90	0.53
6:KB:128:SER:OG	6:KB:129:HIS:N	2.40	0.53
6:KB:178:GLU:N	6:KB:178:GLU:OE2	2.36	0.53
7:LB:202:PHE:CE1	7:LB:206:ILE:HD11	2.43	0.53
10:OB:69:LYS:O	10:OB:73:GLU:HB2	2.08	0.53
11:PB:26:LEU:HG	11:PB:30:ILE:HD11	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:108:ARG:HG2	17:Q:112:ARG:NH1	2.21	0.53
2:GB:2674:G:H5''	12:QB:26:LYS:HE2	1.89	0.53
12:QB:66:LYS:HB2	12:QB:82:ASN:ND2	2.15	0.53
38:SC:8:VAL:HA	38:SC:11:LEU:HD13	1.90	0.53
44:TA:22:LYS:NZ	44:TA:85:LEU:HD23	2.23	0.53
22:V:79:CYS:SG	22:V:81:LYS:HB2	2.49	0.53
3:C:103:U:O3'	23:W:72:ARG:HD2	2.08	0.53
21:ZB:60:ARG:CZ	31:JC:47:ARG:HH22	2.21	0.53
45:ZC:109:VAL:HG12	52:GD:86:VAL:HG22	1.89	0.53
1:A:1248:A:H4'	1:A:1248:A:OP1	2.07	0.53
1:A:335:C:O2'	1:A:1433:A:N3	2.35	0.53
1:A:406:G:H2'	1:A:407:G:H8	1.72	0.53
1:A:741:G:H5'	49:YA:39:LEU:HD21	1.89	0.53
46:AD:8:ASN:HA	46:AD:11:VAL:HG23	1.91	0.53
46:AD:6:THR:OG1	46:AD:8:ASN:N	2.39	0.53
2:B:279:C:H2'	2:B:280:C:C6	2.43	0.53
2:B:64:A:C5	21:U:66:LEU:HD13	2.43	0.53
2:B:675:A:OP1	7:G:63:LYS:HD2	2.07	0.53
28:BA:54:GLY:O	28:BA:56:VAL:N	2.42	0.53
47:BD:31:LYS:HZ1	47:BD:34:LEU:HD12	1.73	0.53
24:CC:41:ARG:HG3	24:CC:41:ARG:HH11	1.73	0.53
4:D:71:C:H2'	4:D:72:A:H8	1.73	0.53
25:DC:64:ALA:HA	25:DC:67:ILE:HG13	1.90	0.53
49:DD:5:LYS:HA	49:DD:5:LYS:HE2	1.89	0.53
1:FB:1038:C:H2'	1:FB:1039:C:O4'	2.08	0.53
1:FB:1098:C:H2'	1:FB:1099:G:O4'	2.09	0.53
1:FB:1319:A:OP2	53:HD:3:ARG:HD3	2.07	0.53
1:FB:1512:U:H3	1:FB:1523:G:H1	1.54	0.53
1:FB:773:G:H1	1:FB:806:C:H42	1.55	0.53
7:G:202:PHE:CE1	7:G:206:ILE:HD11	2.43	0.53
2:GB:1357:U:H2'	2:GB:1358:G:O4'	2.09	0.53
2:GB:2211:G:H3'	2:GB:2212:A:H5''	1.89	0.53
2:GB:2247:A:H2'	2:GB:2248:C:H6	1.74	0.53
2:GB:833:U:H1'	13:RB:55:ARG:HH21	1.72	0.53
1:A:1072:G:H21	36:LA:107:THR:HG21	1.72	0.53
8:MB:101:ILE:O	8:MB:105:LYS:NZ	2.28	0.53
41:VC:49:ILE:HG22	41:VC:53:LYS:HG3	1.90	0.53
44:YC:50:ILE:HG13	48:CD:41:ARG:NH1	2.23	0.53
2:GB:483:A:H4'	22:AC:50:ARG:HA	1.89	0.53
2:B:1175:U:H1'	2:B:1176:G:N2	2.24	0.53
2:B:1932:A:H2'	2:B:1933:G:O4'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:589:C:H2'	2:B:590:A:H8	1.73	0.53
2:B:702:G:H1	2:B:730:C:H42	1.55	0.53
23:BC:72:ARG:NH1	23:BC:72:ARG:HA	2.22	0.53
24:CC:36:ILE:HD13	24:CC:60:PHE:HB3	1.89	0.53
1:FB:1175:G:H8	1:FB:1175:G:OP2	1.90	0.53
1:FB:451:A:N6	1:FB:480:U:H2'	2.23	0.53
12:L:21:CYS:HB2	12:L:39:ILE:HD12	1.90	0.53
11:PB:35:ARG:NH1	11:PB:35:ARG:HG2	2.21	0.53
12:QB:111:PHE:O	12:QB:114:ILE:HG12	2.08	0.53
43:SA:4:TYR:HB2	43:SA:88:TYR:HD1	1.72	0.53
38:SC:94:LEU:HD11	38:SC:200:GLU:HG3	1.90	0.53
44:TA:51:ARG:HG3	44:TA:60:ARG:HA	1.90	0.53
45:UA:120:ARG:NH1	45:UA:120:ARG:HG2	2.23	0.53
48:XA:37:PHE:HE1	48:XA:53:LEU:HD11	1.73	0.53
49:YA:69:TYR:HA	49:YA:72:ARG:HB3	1.89	0.53
1:A:1070:U:H2'	1:A:1071:C:C6	2.44	0.53
1:A:1328:C:H2'	1:A:1329:A:O4'	2.09	0.53
1:A:1346:A:N1	1:A:1374:A:H5''	2.22	0.53
1:A:447:G:H2'	1:A:485:G:N2	2.22	0.53
1:FB:1309:G:O3'	47:BD:77:ASN:ND2	2.41	0.53
6:F:179:GLU:HA	6:F:179:GLU:OE2	2.07	0.53
1:FB:1296:C:H3'	1:FB:1297:C:C6	2.43	0.53
1:FB:1532:U:OP2	1:FB:1532:U:H6	1.91	0.53
1:FB:189:U:O4	51:FD:62:SER:OG	2.22	0.53
1:FB:56:U:H2'	1:FB:57:G:C8	2.43	0.53
1:FB:689:C:H2'	1:FB:690:G:O4'	2.09	0.53
2:GB:2377:A:H2'	2:GB:2378:A:C8	2.43	0.53
2:GB:11:G:H22	2:GB:2628:C:P	2.30	0.53
2:GB:2855:C:H2'	2:GB:2856:C:H6	1.73	0.53
9:I:67:LEU:O	9:I:71:LEU:HB2	2.08	0.53
4:IA:16:C:OP1	4:IA:17:C:N4	2.41	0.53
2:GB:764:A:H5''	5:JB:210:GLY:HA3	1.89	0.53
9:NB:68:THR:O	9:NB:72:ILE:HG12	2.09	0.53
39:OA:81:GLU:HB3	39:OA:90:VAL:HG13	1.90	0.53
36:QC:19:HIS:CG	36:QC:20:GLU:HG2	2.43	0.53
21:U:60:ARG:CZ	31:EA:47:ARG:HH22	2.22	0.53
18:WB:49:HIS:HA	18:WB:52:ARG:HB3	1.90	0.53
1:A:1532:U:OP2	1:A:1532:U:H6	1.91	0.53
1:A:588:G:H2'	1:A:589:C:C6	2.42	0.53
1:A:958:A:H5''	1:A:959:A:OP2	2.07	0.53
2:B:1803:A:O2'	5:E:259:THR:HG21	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1814:G:H4'	5:E:51:VAL:HG21	1.91	0.53
2:B:363(C):G:H2'	2:B:363(D):G:H8	1.74	0.53
2:B:888:C:H5''	2:B:889:C:OP2	2.09	0.53
28:BA:41:PRO:HB3	28:BA:47:GLN:HG2	1.91	0.53
1:FB:1062:U:H2'	1:FB:1063:C:C6	2.44	0.53
1:FB:1240:U:OP2	41:VC:116:ALA:N	2.42	0.53
1:FB:1247:U:H5''	1:FB:1248:A:OP2	2.09	0.53
7:G:65:TRP:CD1	7:G:70:THR:HG21	2.44	0.53
2:GB:1367:A:N7	2:GB:1368:G:H1'	2.24	0.53
2:GB:372:G:N2	2:GB:400:G:H2'	2.24	0.53
2:GB:517:C:OP1	29:HC:16:ARG:NH2	2.42	0.53
2:GB:881:G:H1	2:GB:895:U:H3	1.56	0.53
10:OB:2:LYS:HG2	10:OB:20:ASP:HB2	1.89	0.53
10:OB:67:ARG:HD2	10:OB:68:LEU:HG	1.88	0.53
2:B:1266:G:O5'	20:T:15:ARG:NH2	2.41	0.53
20:T:59:VAL:HG13	20:T:60:ASN:H	1.73	0.53
15:TB:100:LEU:HD11	15:TB:113:LEU:HB3	1.91	0.53
12:QB:119:PRO:HB2	17:VB:68:TYR:CD2	2.43	0.53
23:W:108:PRO:HA	23:W:142:SER:HA	1.90	0.53
1:A:981:U:H5'	48:XA:21:TYR:CZ	2.44	0.53
43:XC:4:TYR:HB2	43:XC:88:TYR:HD1	1.73	0.53
1:A:1431:C:H2'	1:A:1432:G:O4'	2.09	0.53
1:A:660:G:H1	1:A:745:C:H42	1.57	0.53
22:AC:18:GLY:O	22:AC:20:TYR:N	2.41	0.53
2:B:226:G:H1'	2:B:227:A:C8	2.43	0.53
37:RC:37:GLN:NE2	48:CD:52:GLN:OE1	2.41	0.53
2:GB:1074:G:N2	2:GB:1095:A:O2'	2.40	0.53
35:JA:186:ARG:HA	35:KA:313:PRO:CD	2.39	0.53
12:L:89:ASN:HB2	12:L:90:GLN:HE22	1.72	0.53
12:QB:101:PRO:HD3	17:VB:67:SER:O	2.09	0.53
36:QC:44:LEU:H	36:QC:44:LEU:HD12	1.73	0.53
21:U:35:THR:O	21:U:39:ILE:HG13	2.09	0.53
48:XA:8:GLU:HA	48:XA:11:LYS:HD2	1.89	0.53
1:A:1041:A:H3'	1:A:1042:G:H8	1.73	0.53
1:A:161:A:N1	1:A:347:G:O2'	2.34	0.53
1:A:870:U:H4'	1:A:871:U:H5''	1.91	0.53
1:A:977:A:H2'	1:A:978:A:H5''	1.91	0.53
2:B:1210:A:C8	2:B:1212:G:C2	2.96	0.53
2:B:154:G:H1	2:B:172:C:H42	1.56	0.53
2:B:2021:C:H4'	2:B:2022:U:OP2	2.09	0.53
2:B:2163:C:H5'	2:B:2164:C:H5''	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2317:C:H2'	2:B:2318:G:H5'	1.90	0.53
2:B:2712:U:O2'	2:B:2712(A):A:H5''	2.09	0.53
29:CA:51:TYR:HA	29:CA:56:LYS:HA	1.90	0.53
24:CC:46:LYS:HD3	24:CC:78:TYR:CZ	2.43	0.53
5:E:260:ARG:NH2	5:E:266:SER:OG	2.42	0.53
1:FB:187:C:H2'	1:FB:188:U:O4'	2.09	0.53
1:FB:958:A:H5''	1:FB:959:A:OP2	2.09	0.53
1:FB:975:A:H5''	1:FB:975:A:H8	1.74	0.53
2:GB:1388:G:H2'	2:GB:1389:G:C8	2.44	0.53
2:GB:1491:G:H2'	2:GB:1492:G:H8	1.73	0.53
2:GB:1591:G:H2'	2:GB:1592:C:C6	2.44	0.53
2:GB:921:G:H5''	2:GB:922:U:OP2	2.08	0.53
52:GD:54:ARG:HB3	52:GD:54:ARG:CZ	2.38	0.53
8:H:16:ARG:O	8:H:20:ILE:HG13	2.09	0.53
4:IA:18:G:O2'	4:IA:19:G:O5'	2.21	0.53
5:JB:118:VAL:N	5:JB:129:ASN:OD1	2.40	0.53
2:GB:1568:G:P	5:JB:63:ARG:HH22	2.31	0.53
8:MB:34:LEU:HD23	8:MB:161:THR:HB	1.91	0.53
9:NB:118:PRO:HD2	9:NB:121:ILE:HD12	1.90	0.53
40:PA:75:LEU:O	40:PA:79:LEU:HG	2.08	0.53
37:RC:122:GLU:HA	37:RC:125:GLU:HB2	1.90	0.53
39:TC:145:LYS:HA	39:TC:148:VAL:HB	1.91	0.53
21:U:44:GLU:HG3	21:U:51:VAL:HG22	1.91	0.53
42:WC:5:PRO:HG2	42:WC:6:ILE:HD12	1.90	0.53
50:ZA:43:LYS:HG2	50:ZA:48:TRP:CD2	2.43	0.53
1:A:280:C:N3	51:AB:39:SER:OG	2.34	0.53
1:A:312:C:H2'	1:A:313:A:C8	2.43	0.53
22:AC:8:LYS:HZ1	22:AC:97:ARG:HD3	1.74	0.53
2:B:1693:U:OP2	2:B:1694:C:H5	1.91	0.53
2:B:2051:A:H4'	6:F:141:ILE:HG12	1.91	0.53
3:C:43:C:O2'	8:H:95:ARG:HB3	2.09	0.53
5:E:159:ALA:HB1	5:E:198:ASN:O	2.09	0.53
50:ED:6:LEU:HG	50:ED:17:TYR:HB3	1.91	0.53
1:FB:1089:G:H1	1:FB:1096:C:N4	2.06	0.53
1:FB:222:U:OP2	1:FB:222:U:H6	1.91	0.53
1:FB:56:U:H2'	1:FB:57:G:H8	1.74	0.53
27:FC:39:ASP:OD1	27:FC:44:ARG:NH2	2.41	0.53
2:GB:1411:C:H2'	2:GB:1412:A:C8	2.44	0.53
2:GB:2378:A:O2'	16:UB:21:THR:HG21	2.08	0.53
2:GB:2535:G:H2'	2:GB:2536:G:H8	1.74	0.53
2:GB:1983:C:H4'	2:GB:2606:C:H4'	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:751:A:H5'	20:YB:90:ARG:HA	1.90	0.53
8:H:123:ASN:OD1	8:H:123:ASN:N	2.37	0.53
35:JA:145:ARG:H	35:JA:167:SER:HB2	1.72	0.53
15:O:100:LEU:HD11	15:O:113:LEU:HB3	1.91	0.53
16:P:30:ARG:NH1	16:P:97:ARG:HH11	2.07	0.53
18:R:11:ARG:CG	18:R:11:ARG:NH1	2.69	0.53
38:SC:36:ARG:HB3	38:SC:38:TYR:CZ	2.44	0.53
20:T:10:VAL:HG12	20:T:12:ILE:HG22	1.91	0.53
20:T:30:GLU:OE2	20:T:33:ARG:HD3	2.08	0.53
39:TC:52:PRO:HG2	39:TC:53:LEU:HD12	1.91	0.53
1:A:1062:U:H2'	1:A:1063:C:C6	2.44	0.53
1:A:140:A:H2'	1:A:141:A:C8	2.44	0.53
1:A:567:G:C2	1:A:568:G:H1'	2.44	0.53
1:A:56:U:H2'	1:A:57:G:C8	2.43	0.53
1:A:626:U:H2'	1:A:627:G:C8	2.44	0.53
1:A:811:C:H4'	1:A:900:A:N6	2.24	0.53
2:B:1340:U:OP2	21:U:78:LYS:NZ	2.42	0.53
2:B:2224:G:H4'	2:B:2226:C:C2	2.43	0.53
2:B:574:C:N3	6:F:145:LYS:NZ	2.55	0.53
2:B:71:A:OP1	2:B:112:U:O2'	2.14	0.53
2:B:2251:OMG:HN21	57:B:9001:BLS:C2	2.21	0.53
23:BC:80:ARG:CG	23:BC:82:ARG:HH12	2.22	0.53
30:DA:6:ARG:NH1	30:DA:26:ASN:HB2	2.22	0.53
5:E:79:VAL:HG12	5:E:113:VAL:HA	1.91	0.53
32:FA:26:LYS:HB2	32:FA:44:LYS:O	2.08	0.53
1:FB:1305:G:N2	1:FB:1331:G:H1'	2.24	0.53
1:FB:116:A:H61	1:FB:313:A:H1'	1.74	0.53
1:FB:337:C:H2'	1:FB:338:A:C8	2.44	0.53
1:FB:567:G:C2	1:FB:568:G:H1'	2.44	0.53
1:FB:619:U:C2	38:SC:135:LEU:HD21	2.44	0.53
1:FB:709:G:H2'	1:FB:710:G:C8	2.40	0.53
2:GB:2697:G:H2'	2:GB:2698:U:O4'	2.08	0.53
2:GB:2836:U:H2'	2:GB:2837:G:C8	2.43	0.53
36:LA:71:VAL:HB	36:LA:164:VAL:HG22	1.90	0.53
14:N:56:ARG:O	14:N:59:ARG:HG3	2.09	0.53
7:LB:120:GLU:OE1	13:RB:1:MET:N	2.41	0.53
43:SA:42:ARG:NH1	43:SA:75:ASP:OD2	2.41	0.53
2:GB:908:C:O2'	14:SB:71:ASP:OD2	2.21	0.53
1:FB:1077:G:H1	39:TC:47:LYS:HZ3	1.55	0.53
23:W:130:PRO:HD2	23:W:131:ARG:HH11	1.74	0.53
23:W:132:ASN:N	23:W:132:ASN:OD1	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1128:C:N4	1:A:1129:C:H41	2.07	0.53
51:AB:96:GLN:O	51:AB:98:LEU:N	2.38	0.53
2:B:1403:C:H4'	2:B:1471:A:H1'	1.91	0.53
2:B:2115:G:H5''	2:B:2116:G:OP2	2.09	0.53
2:B:2418:A:H2'	2:B:2419:U:O4'	2.09	0.53
2:B:861:A:H2'	2:B:862:G:O4'	2.09	0.53
2:GB:1063:G:N2	2:GB:1088:A:N7	2.57	0.53
2:GB:2788:C:O2'	2:GB:2809:A:N3	2.42	0.53
4:IB:19:G:O2'	4:IB:20:U:OP1	2.22	0.53
9:NB:148:ILE:HA	9:NB:151:ILE:HG13	1.92	0.53
40:PA:33:TYR:HD2	40:PA:75:LEU:HA	1.73	0.53
12:QB:87:ILE:HD13	12:QB:91:LEU:HA	1.91	0.53
36:QC:209:ARG:HA	36:QC:237:ALA:HB1	1.91	0.53
37:RC:113:ALA:HB2	37:RC:202:ILE:HG13	1.91	0.53
38:SC:117:ALA:HA	38:SC:120:LEU:HD12	1.90	0.53
38:SC:12:CYS:SG	38:SC:31:CYS:SG	3.07	0.53
38:SC:61:LYS:HB2	38:SC:203:VAL:HG13	1.91	0.53
17:VB:51:ARG:HG3	17:VB:98:LYS:HE3	1.90	0.53
1:A:1216:G:H5''	48:XA:5:ALA:HB2	1.91	0.53
49:YA:41:GLU:OE2	49:YA:44:LYS:HD2	2.09	0.53
1:A:1175:G:H8	1:A:1175:G:OP2	1.92	0.52
1:A:781:A:H4'	1:A:1522:U:O2'	2.10	0.52
1:A:324:G:N1	1:A:327:A:OP2	2.41	0.52
22:AC:37:VAL:HG21	22:AC:72:VAL:HG21	1.91	0.52
2:B:1742:C:H5'	2:B:1743:G:OP2	2.09	0.52
2:B:2262:U:H5	24:X:16:SER:HB3	1.75	0.52
2:B:733:G:N7	2:B:761:A:N7	2.57	0.52
4:D:5:G:O2'	4:D:6:G:OP2	2.26	0.52
31:EA:41:ARG:HD3	31:EA:45:ALA:HB2	1.91	0.52
55:EB:12:LYS:HB3	55:EB:18:TYR:HA	1.91	0.52
1:FB:1130:A:H2'	1:FB:1131:G:C8	2.43	0.52
1:FB:1268:A:N3	1:FB:1326:C:O2'	2.43	0.52
1:FB:1394:A:H4'	1:FB:1395:C:OP2	2.09	0.52
2:GB:1288:U:C2	2:GB:1327:C:O2	2.62	0.52
2:GB:180:G:N2	2:GB:215:G:O6	2.42	0.52
2:GB:2661:G:H2'	2:GB:2662:A:C8	2.44	0.52
53:HD:19:VAL:HA	53:HD:22:LEU:HB2	1.90	0.52
11:K:83:LYS:HB2	11:K:83:LYS:HZ2	1.73	0.52
36:LA:44:LEU:H	36:LA:44:LEU:HD12	1.74	0.52
8:MB:4:ASP:OD2	8:MB:9:ARG:HD2	2.09	0.52
4:NC:53:G:H22	4:NC:61:C:H42	1.55	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:60:LEU:HD21	15:O:64:ARG:NH1	2.24	0.52
40:PA:43:LEU:HB2	40:PA:60:PHE:HB2	1.90	0.52
1:A:1346:A:H5'	43:SA:120:ARG:HH12	1.73	0.52
38:SC:32:ALA:O	38:SC:36:ARG:N	2.38	0.52
18:WB:31:SER:HB3	18:WB:34:LYS:HB2	1.91	0.52
1:FB:708:C:P	45:ZC:85:ARG:HH22	2.31	0.52
2:B:1009:A:OP2	2:B:1010:A:OP2	2.27	0.52
2:B:2602:A:H4'	2:B:2603:G:OP1	2.07	0.52
2:B:881:G:H1	2:B:895:U:H3	1.57	0.52
52:BB:54:ARG:HB3	52:BB:54:ARG:CZ	2.39	0.52
23:BC:125:LEU:HB3	23:BC:165:VAL:HG22	1.90	0.52
1:FB:501:C:H2'	1:FB:502:G:C8	2.44	0.52
2:GB:1014:U:H2'	2:GB:1015:G:C8	2.44	0.52
2:GB:1550:C:OP1	2:GB:1727:U:O2'	2.27	0.52
2:GB:868:U:N3	2:GB:869:G:N7	2.57	0.52
6:KB:114:ALA:CB	6:KB:160:TYR:HB2	2.38	0.52
6:KB:147:PRO:HB2	6:KB:149:ARG:HG3	1.91	0.52
2:GB:2361:A:P	32:KC:26:LYS:NZ	2.82	0.52
4:NC:23:C:H2'	4:NC:24:U:H6	1.74	0.52
4:NC:27:U:H2'	4:NC:28:C:C6	2.44	0.52
11:PB:4:TYR:HB2	18:WB:101:ARG:NH1	2.24	0.52
14:SB:134:ARG:NH1	23:BC:122:ARG:NE	2.57	0.52
23:W:144:LEU:HD21	23:W:149:SER:HA	1.91	0.52
42:WC:25:ASP:OD1	42:WC:25:ASP:N	2.41	0.52
19:XB:14:VAL:HB	19:XB:96:ILE:HG13	1.91	0.52
1:A:1309:G:O3'	47:WA:77:ASN:ND2	2.41	0.52
2:B:1042:G:C6	2:B:1043:C:N4	2.77	0.52
2:B:1379:A:H4'	2:B:1380:G:OP2	2.10	0.52
2:B:1614:A:N1	20:T:93:ALA:HB2	2.24	0.52
2:B:1688:U:O2	2:B:1700:A:H5'	2.09	0.52
2:B:2630:G:H1'	2:B:2894:G:H1'	1.92	0.52
2:B:2657:A:O3'	9:I:160:LYS:NZ	2.42	0.52
2:B:723:G:H2'	2:B:724:U:O4'	2.09	0.52
48:CD:24:CYS:HB3	48:CD:28:GLY:H	1.73	0.52
1:FB:1292:U:H2'	1:FB:1293:G:C8	2.44	0.52
1:FB:1427:U:H2'	1:FB:1428:A:C8	2.45	0.52
1:FB:517:G:H8	1:FB:517:G:OP2	1.92	0.52
1:FB:574:A:HO2'	1:FB:882:C:HO2'	1.58	0.52
1:FB:660:G:H1	1:FB:745:C:H42	1.57	0.52
2:GB:1175:U:H1'	2:GB:1176:G:N2	2.25	0.52
2:GB:2107:C:O2	2:GB:2182:G:N2	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:264:C:O2'	2:GB:428:A:N1	2.40	0.52
2:GB:708:C:H5''	2:GB:709:U:OP2	2.09	0.52
8:H:60:LEU:O	8:H:64:THR:OG1	2.15	0.52
38:NA:61:LYS:HB2	38:NA:203:VAL:HG13	1.91	0.52
38:NA:33:MET:SD	38:NA:37:PRO:HA	2.48	0.52
38:NA:8:VAL:O	38:NA:10:ARG:N	2.41	0.52
9:NB:56:SER:OG	9:NB:57:ASP:N	2.42	0.52
15:O:21:TYR:HB3	15:O:47:PHE:CD2	2.45	0.52
35:OC:159:TYR:HB2	35:OC:162:ILE:HG12	1.92	0.52
17:Q:54:ARG:HA	17:Q:59:THR:HB	1.92	0.52
41:VC:35:LYS:HG2	41:VC:38:LEU:HB2	1.91	0.52
44:TA:49:VAL:HG23	48:XA:41:ARG:HB2	1.91	0.52
49:YA:18:PHE:CE2	49:YA:21:ASP:HB2	2.44	0.52
44:YC:46:ARG:HG3	44:YC:64:GLU:HB3	1.90	0.52
1:A:1040:U:H5'	1:A:1041:A:OP2	2.09	0.52
2:B:1592:C:H2'	2:B:1593:G:H8	1.72	0.52
2:B:2735:G:H1	2:B:2769:C:H42	1.56	0.52
2:B:627:A:O4'	2:B:637:A:N6	2.41	0.52
30:DA:9:LEU:HA	30:DA:54:ILE:HB	1.91	0.52
54:DB:86:ARG:HG2	54:DB:86:ARG:NH1	2.23	0.52
1:FB:452:A:O2'	1:FB:453:A:H8	1.92	0.52
1:FB:763:G:H2'	1:FB:764:C:C6	2.44	0.52
2:GB:1328:G:H2'	2:GB:1330:C:C5	2.44	0.52
2:GB:1359:A:H2'	2:GB:1360:A:H5'	1.91	0.52
2:GB:2533:A:H2'	2:GB:2534:A:O4'	2.10	0.52
2:GB:2764:A:H5'	2:GB:2765:A:OP2	2.10	0.52
2:GB:2869:G:H2'	2:GB:2870:C:O4'	2.10	0.52
2:GB:320:A:H4'	2:GB:322:A:N7	2.24	0.52
2:GB:657:U:H2'	2:GB:658:C:C6	2.45	0.52
7:LB:10:PRO:CB	7:LB:17:ARG:HH12	2.22	0.52
37:MA:150:LYS:HE2	37:MA:152:ILE:HD11	1.90	0.52
39:OA:136:MET:HA	39:OA:139:LEU:HD12	1.90	0.52
10:OB:75:LEU:HD13	10:OB:105:HIS:HE2	1.73	0.52
6:F:14:ILE:HB	17:Q:14:TYR:CE1	2.44	0.52
43:SA:70:LYS:O	43:SA:74:ILE:N	2.39	0.52
14:SB:55:VAL:HG23	14:SB:64:ILE:HD12	1.90	0.52
2:GB:1161:C:O2'	19:XB:8:GLY:HA2	2.10	0.52
1:A:1239:A:H5'	1:A:1241:G:H1'	1.91	0.52
1:A:1414:U:H3	1:A:1486:G:H1	1.57	0.52
2:B:1870:C:H2'	2:B:1871:A:O4'	2.10	0.52
2:B:2805:G:H2'	2:B:2807:G:H5''	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:114:ALA:CB	6:F:160:TYR:HB2	2.39	0.52
1:FB:1070:U:H2'	1:FB:1071:C:H6	1.74	0.52
1:FB:1298:C:C5	41:VC:114:ARG:NH1	2.77	0.52
1:FB:54:C:N3	1:FB:357:G:N2	2.52	0.52
1:FB:867:G:OP2	1:FB:867:G:H8	1.93	0.52
2:B:2443:C:OP1	7:G:68:LYS:HD3	2.08	0.52
2:GB:2110:G:H4'	2:GB:2111:C:OP2	2.08	0.52
2:GB:2742:C:H42	2:GB:2762:G:H1	1.56	0.52
3:HB:111:U:H2'	3:HB:112:G:C8	2.44	0.52
4:IA:53:G:H22	4:IA:61:C:H42	1.56	0.52
10:J:2:LYS:HG2	10:J:20:ASP:HB2	1.92	0.52
6:KB:37:ARG:HH11	6:KB:42:ASP:CB	2.22	0.52
7:LB:164:ARG:HB3	7:LB:175:THR:HB	1.91	0.52
7:LB:195:ASP:HB3	7:LB:198:ALA:H	1.73	0.52
37:MA:150:LYS:HB3	37:MA:201:TYR:HB2	1.90	0.52
39:OA:37:ARG:HH12	39:OA:111:GLU:CG	2.21	0.52
10:OB:38:LEU:O	10:OB:43:ASN:ND2	2.43	0.52
16:P:83:LYS:O	16:P:85:VAL:HG23	2.09	0.52
40:PA:67:MET:HE1	40:PA:75:LEU:HD13	1.91	0.52
40:PA:74:ASP:O	40:PA:77:ARG:HB3	2.09	0.52
11:PB:96:GLU:N	11:PB:96:GLU:OE2	2.43	0.52
35:OC:186:ARG:HA	35:PC:313:PRO:HD2	1.91	0.52
46:VA:114:LYS:HA	46:VA:117:ARG:HD2	1.92	0.52
47:WA:108:ARG:NH1	47:WA:112:GLY:O	2.42	0.52
1:A:1268:A:N3	1:A:1326:C:O2'	2.42	0.52
1:A:56:U:H2'	1:A:57:G:H8	1.74	0.52
1:A:587:G:O5'	1:A:587:G:H8	1.92	0.52
2:B:2111:C:N4	2:B:2145:C:O2'	2.42	0.52
2:B:2809:A:OP2	2:B:2891:G:N2	2.42	0.52
2:B:600:G:H5'	7:G:32:LEU:HD13	1.91	0.52
1:A:102:G:OP1	54:DB:17:ARG:NH2	2.42	0.52
6:F:56:PRO:HG2	6:F:57:LYS:HZ2	1.73	0.52
1:FB:1510:U:H2'	1:FB:1511:G:C8	2.45	0.52
2:GB:1292:U:H2'	2:GB:1293:C:H6	1.74	0.52
2:GB:2376:A:H2'	2:GB:2377:A:O4'	2.10	0.52
8:H:122:PRO:HB3	8:H:170:ARG:HH21	1.74	0.52
12:L:87:ILE:HG22	12:L:93:PRO:HA	1.92	0.52
39:OA:37:ARG:HH12	39:OA:111:GLU:HB3	1.75	0.52
39:OA:17:ALA:HB2	39:OA:26:PHE:HD1	1.74	0.52
41:QA:49:ILE:HG22	41:QA:53:LYS:HG3	1.91	0.52
13:RB:107:LYS:HB2	13:RB:110:TYR:CD2	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:TC:37:ARG:HH12	39:TC:111:GLU:HB3	1.75	0.52
47:WA:31:LYS:NZ	47:WA:31:LYS:HA	2.25	0.52
1:A:1292:U:H2'	1:A:1293:G:C8	2.45	0.52
1:A:146:G:H2'	1:A:147:G:C8	2.43	0.52
46:AD:117:ARG:NH2	46:AD:123:LYS:O	2.38	0.52
2:B:106:C:H1'	22:V:1:MET:HG2	1.92	0.52
2:B:662:G:H2'	2:B:663:G:H8	1.75	0.52
2:B:1568:G:P	5:E:63:ARG:HH22	2.32	0.52
1:FB:524:G:H2'	1:FB:525:C:C6	2.44	0.52
1:FB:539:A:H2'	1:FB:540:G:H8	1.70	0.52
1:FB:671:G:O2'	40:UC:80:ARG:NH2	2.41	0.52
2:GB:1538:G:H2'	2:GB:1539:G:H8	1.74	0.52
2:GB:528:A:C2	2:GB:2043:C:H4'	2.45	0.52
2:GB:2139:C:H5	2:GB:2153:G:H21	1.55	0.52
2:GB:270(A):A:OP2	2:GB:270(Z):G:N1	2.42	0.52
9:I:148:ILE:HA	9:I:151:ILE:HG13	1.92	0.52
11:K:12:ARG:HB3	11:K:50:ASP:OD1	2.10	0.52
12:L:119:PRO:HB2	17:Q:68:TYR:CE2	2.45	0.52
7:LB:36:VAL:HG11	7:LB:183:VAL:HG11	1.90	0.52
2:GB:1257:C:H4'	7:LB:83:PHE:CE1	2.44	0.52
12:QB:63:VAL:HG11	12:QB:85:VAL:HG23	1.91	0.52
37:RC:64:VAL:HG22	37:RC:66:VAL:HG13	1.92	0.52
44:TA:8:LEU:HD23	44:TA:96:ILE:HG23	1.91	0.52
1:A:1095:U:P	1:A:1108:G:H1	2.33	0.52
1:A:1305:G:N2	1:A:1331:G:H1'	2.24	0.52
1:A:116:A:H61	1:A:313:A:H1'	1.75	0.52
1:A:743:U:H2'	1:A:744:C:C6	2.45	0.52
1:A:954:G:H2'	1:A:955:U:O4'	2.10	0.52
1:A:997:U:H3'	1:A:998(A):G:H8	1.75	0.52
2:B:1045:A:H5''	2:B:1046:A:C5'	2.38	0.52
2:B:140:A:H8	2:B:1408:C:O2'	1.93	0.52
2:B:2110:G:H4'	2:B:2111:C:OP2	2.07	0.52
2:B:2345:G:OP2	30:DA:38:LYS:HD3	2.10	0.52
2:B:372:G:N2	2:B:400:G:H2'	2.24	0.52
2:B:588:U:H2'	2:B:589:C:C6	2.44	0.52
2:B:630:G:N2	2:B:633:A:OP2	2.38	0.52
2:B:716:A:C2	2:B:717:G:H1'	2.45	0.52
2:B:833:U:H1'	13:M:55:ARG:HH21	1.73	0.52
23:BC:56:VAL:HA	23:BC:70:LEU:HD23	1.92	0.52
5:E:133:LEU:HB2	5:E:173:VAL:HG21	1.92	0.52
50:ED:57:ARG:NH2	50:ED:79:VAL:O	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:96:PHE:HA	6:F:100:GLU:OE2	2.10	0.52
1:FB:1414:U:H3	1:FB:1486:G:H1	1.57	0.52
1:FB:394:G:H2'	1:FB:395:C:C6	2.45	0.52
7:G:64:ILE:HD12	7:G:65:TRP:H	1.74	0.52
2:GB:1167:U:H2'	2:GB:1168:G:C8	2.44	0.52
2:GB:1406:U:H2'	2:GB:1407:C:C6	2.45	0.52
2:GB:2407:G:N2	2:GB:2408:U:H1'	2.24	0.52
8:H:115:ARG:O	8:H:136:ARG:NH2	2.40	0.52
36:LA:79:ASP:HA	36:LA:82:ARG:HB3	1.92	0.52
8:MB:122:PRO:HB3	8:MB:170:ARG:HH21	1.74	0.52
8:MB:165:THR:HB	8:MB:168:GLU:OE2	2.09	0.52
42:RA:12:ARG:HD3	42:RA:25:ASP:O	2.09	0.52
37:RC:11:ARG:HA	37:RC:14:ILE:HB	1.92	0.52
43:SA:110:GLU:OE2	43:SA:119:ALA:HB1	2.09	0.52
41:VC:20:ASP:OD2	41:VC:22:LEU:HD23	2.10	0.52
25:Y:52:ARG:HH21	25:Y:57:GLU:HG3	1.75	0.52
44:YC:8:LEU:HD23	44:YC:96:ILE:HG23	1.90	0.52
26:Z:59:ARG:HH11	26:Z:59:ARG:HB2	1.74	0.52
1:A:1292:U:H2'	1:A:1293:G:H8	1.75	0.52
1:A:865:A:H5'	1:A:1078:U:C5	2.45	0.52
2:B:1323:U:OP1	20:T:84:ARG:HD2	2.10	0.52
2:B:1753:G:C8	17:Q:113:LYS:NZ	2.78	0.52
2:B:363(G):A:H8	2:B:363(G):A:OP2	1.93	0.52
8:H:118:ARG:HH12	28:BA:41:PRO:HB2	1.75	0.52
47:BD:96:LEU:O	47:BD:110:ARG:NH2	2.42	0.52
1:FB:1284:C:H3'	1:FB:1285:A:H8	1.74	0.52
7:G:144:LYS:NZ	7:G:144:LYS:HB2	2.25	0.52
2:GB:2037:G:H2'	2:GB:2038:G:C8	2.45	0.52
2:GB:2369:A:H2'	2:GB:2370:G:C8	2.45	0.52
2:GB:2489:G:O6	2:GB:2490:G:N1	2.43	0.52
2:GB:529:A:H62	2:GB:2041:U:H3	1.56	0.52
2:GB:637:A:OP2	13:RB:116:GLY:N	2.36	0.52
2:GB:805:G:OP2	13:RB:41:ARG:HG3	2.10	0.52
5:JB:274:ARG:HH11	5:JB:274:ARG:HG2	1.75	0.52
35:KA:307:ASN:HA	35:KA:321:ARG:HH12	1.75	0.52
6:KB:56:PRO:HG2	6:KB:57:LYS:HZ2	1.75	0.52
6:KB:59:VAL:HG11	6:KB:64:LYS:HD3	1.92	0.52
7:LB:125:LEU:HD21	7:LB:199:TRP:CG	2.45	0.52
9:NB:137:ASP:HB3	9:NB:140:LYS:HB3	1.92	0.52
9:NB:16:SER:OG	9:NB:17:VAL:N	2.43	0.52
40:PA:11:ASN:HB3	40:PA:14:LEU:HD11	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:SC:139:ARG:HH11	38:SC:139:ARG:HG3	1.74	0.52
39:TC:102:ALA:HB2	39:TC:120:THR:HG21	1.92	0.52
22:V:102:CYS:SG	22:V:104:GLY:N	2.83	0.52
48:XA:27:CYS:HB3	48:XA:43:CYS:SG	2.50	0.52
1:A:600:C:H2'	1:A:601:C:C6	2.45	0.52
1:A:575:G:O2'	1:A:821:G:H5''	2.10	0.52
2:B:11:G:H22	2:B:2628:C:P	2.33	0.52
2:B:1414:G:H1	2:B:1588:C:H42	1.57	0.52
2:B:1733:G:H2'	2:B:1734:C:O4'	2.10	0.52
2:B:528:A:C2	2:B:2043:C:H4'	2.44	0.52
54:DB:57:ARG:HH11	54:DB:102:GLY:HA3	1.75	0.52
2:B:686:G:O6	31:EA:12:ARG:NH1	2.43	0.52
1:FB:1239:A:H5'	1:FB:1241:G:H1'	1.92	0.52
1:FB:191(D):U:H2'	1:FB:191(E):G:C8	2.44	0.52
2:GB:2233:U:H2'	2:GB:2234:G:C8	2.46	0.52
53:HD:28:LYS:NZ	53:HD:30:LEU:HD11	2.25	0.52
4:IB:4:G:H1	4:IB:69:C:H42	1.57	0.52
5:JB:17:THR:O	5:JB:211:ARG:NH2	2.43	0.52
6:KB:143:ASN:HD22	6:KB:147:PRO:HD3	1.74	0.52
12:L:111:PHE:O	12:L:114:ILE:HG12	2.09	0.52
36:LA:61:LEU:HA	36:LA:64:ARG:HG2	1.91	0.52
7:LB:167:ALA:HB1	7:LB:173:VAL:HG11	1.92	0.52
7:LB:53:THR:H	7:LB:56:GLU:HG3	1.75	0.52
13:M:107:LYS:HB2	13:M:110:TYR:CD2	2.45	0.52
35:PC:311:ASN:O	35:PC:315:GLY:N	2.43	0.52
36:QC:61:LEU:HA	36:QC:64:ARG:HG2	1.91	0.52
37:RC:69:HIS:HA	37:RC:104:GLN:HB2	1.92	0.52
46:VA:89:ARG:HH12	46:VA:95:GLY:N	2.06	0.52
6:KB:14:ILE:HB	17:VB:14:TYR:CE1	2.45	0.52
18:WB:106:PHE:HA	18:WB:109:LEU:HD12	1.91	0.52
1:A:1130:A:H2'	1:A:1131:G:C8	2.43	0.51
1:A:424:G:OP2	1:A:424:G:H8	1.92	0.51
1:A:948:C:H42	1:A:1233:G:H1	1.58	0.51
2:B:1074:G:N2	2:B:1095:A:O2'	2.42	0.51
2:B:1218:C:H42	2:B:1231:G:H1	1.57	0.51
2:B:1515:C:H2'	2:B:1516:U:C6	2.45	0.51
2:B:612:G:N2	2:B:616:A:O2'	2.42	0.51
4:D:19:G:HO2'	4:D:20:U:P	2.33	0.51
54:DB:10:LEU:HD12	54:DB:11:SER:H	1.74	0.51
32:FA:6:THR:HG22	32:FA:62:LEU:HA	1.91	0.51
1:FB:1292:U:H2'	1:FB:1293:G:H8	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:885:G:H1	1:FB:912:C:H42	1.59	0.51
1:FB:932:C:H5''	41:VC:4:ARG:CZ	2.40	0.51
1:FB:977:A:H2'	1:FB:978:A:H5''	1.92	0.51
7:G:36:VAL:HG11	7:G:183:VAL:HG11	1.91	0.51
7:G:64:ILE:HD13	7:G:65:TRP:CE3	2.45	0.51
2:GB:1449(B):A:H2	2:GB:1530:G:H1'	1.74	0.51
2:GB:1598:C:H2'	2:GB:1599:C:H6	1.75	0.51
2:GB:2163:C:H5'	2:GB:2164:C:H5''	1.92	0.51
2:GB:2602:A:H4'	2:GB:2603:G:OP1	2.09	0.51
2:GB:64:A:C5	21:ZB:66:LEU:HD13	2.45	0.51
32:KC:6:THR:HG22	32:KC:62:LEU:HA	1.93	0.51
36:LA:209:ARG:HA	36:LA:237:ALA:HB1	1.92	0.51
8:MB:39:ILE:HB	8:MB:92:VAL:HG13	1.91	0.51
14:N:34:LEU:HD11	14:N:129:THR:HB	1.91	0.51
41:QA:120:ILE:O	41:QA:124:LEU:HB2	2.11	0.51
36:QC:79:ASP:HA	36:QC:82:ARG:HB3	1.92	0.51
42:RA:5:PRO:HG2	42:RA:6:ILE:HD12	1.92	0.51
38:SC:140:VAL:HG13	38:SC:144:ASP:OD2	2.10	0.51
41:VC:12:LEU:HB2	41:VC:21:VAL:HG13	1.92	0.51
20:YB:10:VAL:HG12	20:YB:12:ILE:HG22	1.91	0.51
1:A:1121:U:H2'	1:A:1122:U:C6	2.45	0.51
2:B:1131:G:HO2'	2:B:1132:A:H8	1.59	0.51
2:B:2303:G:H22	2:B:2313:C:N4	2.07	0.51
2:B:2376:A:H2'	2:B:2377:A:O4'	2.10	0.51
2:B:906:G:O3'	14:N:67:ARG:NH2	2.42	0.51
2:B:994:C:O2'	2:B:996:A:OP1	2.17	0.51
3:C:111:U:H2'	3:C:112:G:C8	2.45	0.51
7:G:201:VAL:O	7:G:205:ARG:N	2.43	0.51
2:GB:226:G:H1'	2:GB:227:A:C8	2.44	0.51
2:GB:910:A:H62	14:SB:12:GLN:HA	1.75	0.51
29:HC:6:VAL:HG13	29:HC:7:PRO:HD2	1.91	0.51
10:J:97:ILE:HD12	10:J:142:VAL:HG11	1.92	0.51
31:JC:12:ARG:HD3	31:JC:46:VAL:HG13	1.92	0.51
2:GB:2361:A:O5'	32:KC:27:THR:OG1	2.28	0.51
7:LB:9:ILE:HG21	7:LB:123:LEU:HD23	1.92	0.51
7:G:120:GLU:OE1	13:M:1:MET:N	2.42	0.51
38:NA:94:LEU:HD11	38:NA:200:GLU:HG3	1.92	0.51
15:O:8:ARG:NH1	15:O:39:PRO:HA	2.25	0.51
10:OB:9:LEU:HD13	10:OB:10:GLU:O	2.10	0.51
43:SA:84:ALA:O	43:SA:88:TYR:HB3	2.10	0.51
1:A:1179:A:H5'	43:SA:97:LYS:HE2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:SC:110:PHE:N	38:SC:110:PHE:CD2	2.77	0.51
44:TA:46:ARG:HG3	44:TA:64:GLU:HB3	1.92	0.51
39:TC:125:SER:OG	39:TC:126:ARG:N	2.43	0.51
21:U:8:ILE:O	26:Z:36:ARG:NH2	2.43	0.51
17:VB:74:ARG:HG2	17:VB:76:PHE:CZ	2.45	0.51
47:WA:31:LYS:HA	47:WA:31:LYS:HZ3	1.75	0.51
18:WB:28:ARG:HA	18:WB:34:LYS:HB3	1.92	0.51
1:A:1517:G:H1'	2:B:1919:A:O3'	2.10	0.51
2:B:1639:U:H4'	2:B:2699:C:H4'	1.91	0.51
2:B:2336:A:H3'	2:B:2337:G:C8	2.45	0.51
2:B:628:G:H5''	32:FA:18:ALA:HB2	1.93	0.51
2:B:721:C:H2'	2:B:722:A:H8	1.75	0.51
2:B:751:A:H5'	20:T:90:ARG:HA	1.92	0.51
2:B:2361:A:P	32:FA:26:LYS:NZ	2.83	0.51
1:FB:1179:A:H5'	43:XC:97:LYS:HE2	1.92	0.51
1:FB:147:G:H1	1:FB:175:C:N4	2.05	0.51
1:FB:952:U:H2'	1:FB:953:G:H8	1.76	0.51
7:G:123:LEU:HD12	7:G:124:LEU:H	1.75	0.51
7:G:165:ARG:O	7:G:168:ARG:HB2	2.09	0.51
2:GB:140:A:C8	2:GB:1408:C:O2'	2.59	0.51
2:GB:1998:G:O2'	2:GB:2724:C:O2'	2.27	0.51
28:GC:21:VAL:O	28:GC:23:GLU:N	2.43	0.51
54:ID:56:MET:SD	54:ID:88:VAL:HG11	2.51	0.51
10:J:29:TYR:O	10:J:33:ARG:HD2	2.10	0.51
6:KB:38:THR:HB	6:KB:40:GLU:HG2	1.92	0.51
36:LA:118:LEU:HD13	36:LA:142:LEU:HB2	1.92	0.51
43:SA:36:TYR:HE2	43:SA:65:VAL:HG11	1.75	0.51
14:SB:21:THR:OG1	14:SB:22:LYS:N	2.44	0.51
17:VB:64:ARG:NH1	17:VB:103:ARG:HG2	2.18	0.51
43:XC:70:LYS:O	43:XC:74:ILE:N	2.40	0.51
43:XC:70:LYS:O	43:XC:73:GLN:HG2	2.11	0.51
21:ZB:11:PRO:HB3	21:ZB:92:LEU:HD11	1.92	0.51
2:B:2012:G:OP2	20:T:16:LYS:NZ	2.43	0.51
2:B:321:G:C2	2:B:341:G:H4'	2.46	0.51
2:B:274:G:H1'	2:B:363(A):G:H22	1.76	0.51
3:C:4:C:H42	3:C:116:G:H1	1.57	0.51
1:A:1318:A:H4'	53:CB:10:PHE:CE2	2.45	0.51
1:FB:511:C:N3	1:FB:541:G:N2	2.58	0.51
1:FB:767:A:H2'	1:FB:768:A:O4'	2.10	0.51
7:G:146:ALA:O	7:G:148:LEU:HG	2.10	0.51
4:IA:27:U:H2'	4:IA:28:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:IB:35:A:H61	34:MC:13:A:H62	1.59	0.51
30:IC:9:LEU:HA	30:IC:54:ILE:HB	1.92	0.51
36:LA:69:LEU:O	36:LA:163:PHE:N	2.43	0.51
9:NB:38:SER:OG	9:NB:40:GLU:OE1	2.25	0.51
11:PB:12:ARG:HB3	11:PB:50:ASP:OD1	2.11	0.51
35:PC:307:ASN:HA	35:PC:321:ARG:HH12	1.75	0.51
36:QC:53:ARG:HH12	36:QC:199:TYR:HA	1.74	0.51
2:B:994:C:H3'	18:R:54:LYS:HE3	1.92	0.51
23:W:80:ARG:CG	23:W:82:ARG:HH12	2.24	0.51
43:XC:84:ALA:O	43:XC:88:TYR:HB3	2.10	0.51
1:A:1013:G:O2'	1:A:1015:A:N7	2.39	0.51
1:A:287:U:H2'	1:A:288:A:C8	2.45	0.51
1:A:517:G:OP2	1:A:517:G:H8	1.93	0.51
1:A:804:U:H5''	1:A:805:C:OP2	2.10	0.51
2:B:1506:C:H2'	2:B:1508:A:C8	2.45	0.51
2:B:974(B):C:H4'	2:B:974(B):C:OP2	2.10	0.51
6:F:14:ILE:HG13	6:F:21:VAL:HG13	1.92	0.51
1:FB:600:C:H2'	1:FB:601:C:C6	2.46	0.51
1:FB:669:U:OP1	49:DD:48:LYS:NZ	2.27	0.51
1:FB:954:G:H2'	1:FB:955:U:O4'	2.10	0.51
2:GB:1494:A:H2'	2:GB:1495:A:C8	2.46	0.51
2:GB:1991:U:H2'	2:GB:1992:G:H5''	1.92	0.51
2:GB:2324:C:O2'	2:GB:2337:G:H5'	2.09	0.51
2:GB:2758:A:C4	9:NB:67:LEU:HD21	2.46	0.51
2:GB:2821:A:OP1	6:KB:110:GLY:N	2.43	0.51
2:GB:539:G:H2'	2:GB:540:G:C8	2.45	0.51
2:GB:699:A:H2'	2:GB:700:G:O4'	2.11	0.51
2:GB:6:A:H2'	2:GB:7:G:O4'	2.11	0.51
53:HD:40:ILE:HD12	53:HD:66:MET:HB3	1.90	0.51
1:FB:1321:C:H1'	53:HD:77:THR:HG21	1.93	0.51
41:QA:35:LYS:HG2	41:QA:38:LEU:HB2	1.92	0.51
36:QC:145:LEU:HD23	36:QC:149:LEU:HD23	1.93	0.51
18:R:53:ARG:HA	18:R:56:ASP:OD2	2.10	0.51
37:RC:57:ILE:HD12	37:RC:66:VAL:HG12	1.92	0.51
20:T:27:LYS:HD3	20:T:31:GLU:OE2	2.11	0.51
45:UA:34:ASP:OD1	45:UA:38:ASN:HB2	2.11	0.51
22:V:8:LYS:HZ1	22:V:97:ARG:HD3	1.75	0.51
1:A:1098:C:H2'	1:A:1099:G:O4'	2.10	0.51
1:A:668:G:H1	1:A:738:C:H42	1.59	0.51
1:A:688:G:H2'	1:A:689:C:C6	2.46	0.51
1:FB:504:C:N4	46:AD:115:LYS:NZ	2.54	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1479:G:H5''	2:B:1560:G:H4'	1.92	0.51
2:B:270(F):G:H1	2:B:270(V):C:H42	1.56	0.51
2:B:2016:U:O2	29:CA:7:PRO:HG2	2.10	0.51
53:CB:40:ILE:HD12	53:CB:66:MET:HB3	1.92	0.51
49:DD:8:LYS:NZ	49:DD:31:LEU:HD21	2.24	0.51
5:E:52:ARG:CZ	5:E:53:PHE:HE2	2.24	0.51
1:FB:1262:C:OP2	55:JD:25:LYS:HD2	2.11	0.51
1:FB:1318:A:H4'	53:HD:10:PHE:CE2	2.46	0.51
1:FB:791:G:N2	1:FB:1497:G:O3'	2.43	0.51
7:G:9:ILE:HG21	7:G:123:LEU:HD23	1.93	0.51
2:GB:1789:A:H2'	2:GB:1790:C:O4'	2.11	0.51
2:GB:2016:U:H6	2:GB:2016:U:O5'	1.94	0.51
2:GB:2286:A:OP1	30:IC:29:ASN:ND2	2.44	0.51
2:GB:637:A:C8	13:RB:117:GLU:HG3	2.46	0.51
2:GB:733:G:O6	2:GB:761:A:C8	2.64	0.51
28:GC:16:CYS:SG	28:GC:33:VAL:HB	2.50	0.51
30:IC:9:LEU:HD21	30:IC:25:LYS:HB3	1.93	0.51
11:PB:12:ARG:HD3	11:PB:50:ASP:OD2	2.11	0.51
36:QC:71:VAL:HB	36:QC:164:VAL:HG22	1.92	0.51
21:U:60:ARG:NH1	31:EA:47:ARG:HH22	2.08	0.51
40:UC:3:ARG:HH11	40:UC:3:ARG:CB	2.22	0.51
17:VB:35:LYS:NZ	17:VB:37:GLY:O	2.28	0.51
23:W:105:VAL:HG11	23:W:138:GLU:HG2	1.93	0.51
18:WB:58:ARG:HH11	18:WB:58:ARG:CG	2.18	0.51
42:WC:19:VAL:HG23	42:WC:21:LYS:HG2	1.92	0.51
1:A:1421:G:C2	1:A:1480:G:C2	2.99	0.51
1:A:337:C:H2'	1:A:338:A:C8	2.46	0.51
1:A:618:C:H5'	1:A:619:U:H5''	1.93	0.51
1:A:659:U:OP1	49:YA:5:LYS:NZ	2.44	0.51
1:A:574:A:N3	1:A:883:C:H1'	2.26	0.51
1:A:974:A:H8	1:A:974:A:OP1	1.93	0.51
46:AD:124:LYS:HG3	46:AD:125:PRO:HD2	1.92	0.51
2:B:1113:U:H2'	2:B:1114:G:C8	2.46	0.51
2:B:1594:G:H2'	2:B:1595:G:O4'	2.11	0.51
2:B:735:A:H3'	2:B:736:C:H6	1.76	0.51
2:B:918:A:C5	2:B:919:G:H1'	2.46	0.51
2:B:96:G:H4'	26:Z:48:HIS:CD2	2.46	0.51
49:DD:18:PHE:CE2	49:DD:21:ASP:HB2	2.44	0.51
1:FB:1230:C:H2'	1:FB:1231:G:H8	1.74	0.51
1:FB:1271:G:H2'	1:FB:1272:G:H8	1.74	0.51
1:FB:1289:A:N1	1:FB:1371:G:O2'	2.37	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:551:U:H2'	1:FB:552:U:C6	2.46	0.51
1:FB:977:A:O2'	1:FB:979:C:OP2	2.25	0.51
1:FB:997:U:H3'	1:FB:998(A):G:H8	1.76	0.51
7:G:164:ARG:HB3	7:G:175:THR:HB	1.92	0.51
2:GB:1009:A:OP2	2:GB:1010:A:OP2	2.29	0.51
2:GB:1316:U:H2'	2:GB:1317:A:H8	1.74	0.51
8:H:34:LEU:HD23	8:H:161:THR:HB	1.93	0.51
5:JB:79:VAL:HG12	5:JB:113:VAL:HA	1.93	0.51
36:LA:145:LEU:HD23	36:LA:149:LEU:HD23	1.93	0.51
8:MB:118:ARG:HH12	28:GC:41:PRO:HB2	1.76	0.51
57:GB:9001:BLS:H2'	4:NC:76:A:N3	2.26	0.51
41:QA:126:ASP:HB3	41:QA:131:LYS:O	2.11	0.51
12:QB:17:ARG:HE	12:QB:17:ARG:HA	1.76	0.51
36:QC:187:LEU:HD12	36:QC:203:GLY:HA3	1.92	0.51
38:SC:28:SER:OG	38:SC:30:LYS:HB2	2.11	0.51
41:VC:120:ILE:O	41:VC:124:LEU:HB2	2.10	0.51
43:XC:42:ARG:NH1	43:XC:75:ASP:OD2	2.42	0.51
1:A:1510:U:H2'	1:A:1511:G:C8	2.46	0.51
1:A:312:C:H2'	1:A:313:A:H8	1.74	0.51
46:AD:47:LYS:HG2	46:AD:48:PRO:HA	1.93	0.51
2:B:1328:G:H2'	2:B:1330:C:C5	2.46	0.51
2:B:1449(B):A:H2	2:B:1530:G:H1'	1.75	0.51
2:B:1789:A:H2'	2:B:1790:C:O4'	2.11	0.51
2:B:2099:U:H2'	2:B:2100:G:H8	1.75	0.51
2:B:2317:C:H2'	2:B:2318:G:C5'	2.40	0.51
2:B:366:C:OP2	2:B:403:U:O2'	2.28	0.51
2:B:507:A:HO2'	2:B:508:G:P	2.31	0.51
31:EA:47:ARG:HA	31:EA:48:LYS:NZ	2.26	0.51
1:FB:444:C:H2'	1:FB:445:G:C8	2.46	0.51
2:GB:2766:G:N3	2:GB:2766:G:H2'	2.26	0.51
28:GC:41:PRO:HB3	28:GC:47:GLN:HG2	1.93	0.51
55:JD:12:LYS:NZ	55:JD:19:GLY:H	2.09	0.51
7:LB:206:ILE:HG22	7:LB:207:GLY:H	1.76	0.51
37:MA:179:ARG:HG2	37:MA:206:GLU:HB3	1.92	0.51
10:OB:109:ILE:HB	10:OB:130:TYR:CZ	2.46	0.51
1:FB:8:A:C5	38:SC:209:ARG:HG3	2.46	0.51
39:TC:87:SER:HB3	39:TC:131:ILE:HD13	1.92	0.51
39:TC:57:LYS:HE3	39:TC:61:TYR:CE2	2.46	0.51
21:U:5:TYR:CE1	26:Z:30:ARG:HG3	2.46	0.51
40:UC:46:ARG:HB2	40:UC:60:PHE:CE1	2.46	0.51
40:UC:61:LEU:HD23	40:UC:63:TYR:HE2	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:WA:110:ARG:HA	47:WA:110:ARG:HH11	1.76	0.51
44:YC:51:ARG:HG3	44:YC:60:ARG:HA	1.93	0.51
1:A:1080:A:H5''	1:A:1081:G:OP2	2.10	0.51
1:A:298:A:H2'	1:A:299:G:O4'	2.11	0.51
27:AA:44:ARG:CB	27:AA:44:ARG:HH11	2.23	0.51
2:B:1278:A:OP1	15:O:36:THR:HG23	2.11	0.51
2:B:2396:G:H5'	25:Y:25:LYS:HE2	1.93	0.51
2:B:2766:G:N3	2:B:2766:G:H2'	2.26	0.51
2:B:434:U:H1'	2:B:435:C:H5	1.75	0.51
2:B:539:G:H2'	2:B:540:G:C8	2.46	0.51
2:B:637:A:C8	13:M:117:GLU:HG3	2.46	0.51
1:FB:1298:C:H5	41:VC:114:ARG:NH1	2.07	0.51
1:FB:582:U:C2	1:FB:760:G:C6	2.99	0.51
2:GB:244:A:C2	2:GB:255:A:C4	2.99	0.51
10:J:66:GLU:OE2	10:J:69:LYS:HG2	2.11	0.51
35:KA:342:GLU:OE2	35:KA:345:ILE:HD11	2.10	0.51
6:KB:2:LYS:HA	6:KB:84:PHE:CD1	2.46	0.51
16:P:49:VAL:HG21	16:P:76:LYS:HG2	1.92	0.51
13:RB:126:VAL:HA	13:RB:146:VAL:O	2.11	0.51
37:RC:72:LYS:HE3	37:RC:73:PRO:HD2	1.93	0.51
40:UC:15:ASP:CG	40:UC:18:GLN:HB2	2.30	0.51
40:UC:33:TYR:HD2	40:UC:75:LEU:HA	1.75	0.51
41:VC:69:VAL:HG12	41:VC:103:TRP:HE3	1.75	0.51
1:A:1272:G:C2	1:A:1273:G:H1'	2.46	0.51
1:A:1348:U:C2	1:A:1349:A:C8	2.99	0.51
1:A:1423:G:OP1	12:L:49:ARG:NH2	2.41	0.51
1:A:498:A:H4'	1:A:500:G:OP1	2.09	0.51
1:A:559:A:H4'	1:A:560:U:H5''	1.92	0.51
2:B:1991:U:H2'	2:B:1992:G:H5''	1.94	0.51
2:B:2099:U:H2'	2:B:2100:G:C8	2.46	0.51
2:B:2192:G:OP2	2:B:2192:G:C8	2.64	0.51
28:BA:11:PRO:HA	28:BA:25:TYR:HA	1.93	0.51
1:FB:1328:C:H2'	1:FB:1329:A:O4'	2.11	0.51
1:FB:1493:A:N3	35:OC:119:THR:HG23	2.26	0.51
1:FB:210:U:O2'	1:FB:216:G:OP2	2.24	0.51
1:FB:251:G:N1	1:FB:266:G:O6	2.43	0.51
7:G:78:ILE:HA	7:G:83:PHE:CD2	2.46	0.51
2:GB:991:C:OP2	2:GB:1186:G:H5'	2.11	0.51
2:GB:2394:C:N3	4:IB:76:A:O2'	2.41	0.51
2:GB:2833:G:H4'	2:GB:2834:G:OP2	2.11	0.51
29:HC:52:TYR:HB3	29:HC:57:VAL:HG21	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2757:A:N1	9:I:67:LEU:HD22	2.26	0.51
5:JB:183:ARG:HH11	5:JB:183:ARG:HG2	1.76	0.51
5:JB:202:LYS:HG3	5:JB:203:ASN:OD1	2.11	0.51
5:JB:206:LEU:HD22	5:JB:211:ARG:HG2	1.93	0.51
31:JC:47:ARG:HA	31:JC:48:LYS:HZ3	1.76	0.51
35:KA:311:ASN:O	35:KA:315:GLY:N	2.44	0.51
15:O:54:LEU:HD21	15:O:65:LEU:HB3	1.93	0.51
39:OA:17:ALA:HA	39:OA:26:PHE:HA	1.92	0.51
10:OB:39:ALA:HB1	10:OB:44:LEU:HD13	1.91	0.51
14:SB:17:LEU:HD21	14:SB:41:TRP:HE1	1.75	0.51
16:UB:71:ARG:HD3	16:UB:107:GLU:OE2	2.11	0.51
17:VB:134:GLU:HG2	17:VB:135:VAL:H	1.74	0.51
47:WA:96:LEU:O	47:WA:110:ARG:NH2	2.43	0.51
42:WC:12:ARG:HD3	42:WC:25:ASP:O	2.11	0.51
43:XC:26:VAL:HA	43:XC:61:ALA:HB3	1.93	0.51
43:XC:93:ARG:HH12	43:XC:97:LYS:CD	2.23	0.51
43:XC:93:ARG:NH1	43:XC:97:LYS:HD3	2.25	0.51
20:YB:88:ARG:HG3	20:YB:94:ASP:OD2	2.11	0.51
26:Z:17:SER:H	26:Z:20:GLU:CD	2.14	0.51
1:A:394:G:H2'	1:A:395:C:C6	2.46	0.50
1:A:554:C:H2'	1:A:555:C:C6	2.46	0.50
2:B:1288:U:C2	2:B:1327:C:O2	2.65	0.50
2:B:1405:U:H2'	2:B:1406:U:C6	2.46	0.50
2:B:2377:A:H2'	2:B:2378:A:C8	2.46	0.50
4:D:41:C:H2'	4:D:42:G:H8	1.76	0.50
25:DC:40:ARG:HD3	25:DC:40:ARG:C	2.32	0.50
25:DC:82:LEU:HD12	25:DC:83:GLU:OE2	2.11	0.50
1:FB:1010:G:N2	1:FB:1020:U:H1'	2.26	0.50
1:FB:287:U:H2'	1:FB:288:A:C8	2.46	0.50
1:FB:967:5MC:H2'	1:FB:968:A:N7	2.26	0.50
1:FB:238:G:P	51:FD:25:ARG:HH22	2.34	0.50
2:GB:1491:G:H2'	2:GB:1492:G:C8	2.46	0.50
2:GB:1742:C:H5'	2:GB:1743:G:OP2	2.10	0.50
2:GB:2099:U:H2'	2:GB:2100:G:H8	1.76	0.50
2:GB:2111:C:N4	2:GB:2145:C:O2'	2.44	0.50
2:GB:2093:G:C6	2:GB:2225:A:C8	2.98	0.50
2:GB:2781:A:H5''	2:GB:2782:G:H5'	1.93	0.50
2:GB:26:G:C6	2:GB:27:G:N1	2.79	0.50
2:GB:579:G:H2'	2:GB:580:C:C6	2.47	0.50
35:JA:186:ARG:HA	35:KA:313:PRO:HD2	1.92	0.50
38:SC:87:GLY:O	38:SC:89:THR:N	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:TC:139:LEU:O	39:TC:142:LEU:HB2	2.11	0.50
3:HB:50:G:OP2	16:UB:62:LYS:HE3	2.11	0.50
43:XC:127:LYS:HG3	43:XC:128:ARG:HG3	1.93	0.50
1:A:1284:C:H3'	1:A:1285:A:H8	1.76	0.50
1:A:1321:C:H1'	53:CB:77:THR:HG21	1.92	0.50
1:A:977:A:O2'	1:A:981:U:N3	2.43	0.50
2:GB:106:C:H1'	22:AC:1:MET:HG2	1.92	0.50
14:SB:134:ARG:HH11	23:BC:122:ARG:NE	2.09	0.50
1:FB:186(A):C:H2'	1:FB:186(B):C:C6	2.45	0.50
1:FB:312:C:H2'	1:FB:313:A:H8	1.75	0.50
1:FB:781:A:O2'	1:FB:1522:U:O2	2.30	0.50
2:GB:1785:A:O2'	2:GB:1786:A:H2'	2.11	0.50
2:GB:2189:U:H2'	2:GB:2190:G:N7	2.26	0.50
2:GB:458:G:O2'	2:GB:469:G:O6	2.22	0.50
9:I:124:GLU:HB3	9:I:132:ARG:HB3	1.93	0.50
4:IB:41:C:H2'	4:IB:42:G:H8	1.76	0.50
54:ID:86:ARG:HG2	54:ID:86:ARG:HH11	1.77	0.50
5:JB:132:PRO:HD3	5:JB:190:TYR:CZ	2.46	0.50
11:K:58:ASP:OD1	11:K:125:GLY:N	2.44	0.50
8:MB:73:ALA:HB3	8:MB:85:GLY:H	1.76	0.50
14:N:35:VAL:HG23	14:N:130:LYS:O	2.12	0.50
38:NA:36:ARG:HB3	38:NA:38:TYR:CZ	2.46	0.50
17:Q:23:ARG:HB2	17:Q:120:ARG:HH12	1.76	0.50
36:QC:103:THR:HG23	36:QC:176:GLU:OE1	2.11	0.50
20:YB:30:GLU:OE2	20:YB:33:ARG:HD3	2.10	0.50
46:AD:28:LYS:HB2	46:AD:33:ARG:HH21	1.76	0.50
2:B:1063:G:N2	2:B:1076:C:O2'	2.44	0.50
2:B:191:A:H2'	2:B:192:C:C6	2.47	0.50
2:B:279:C:C6	2:B:279:C:OP2	2.64	0.50
4:D:58:A:H61	4:D:60:U:H2'	1.77	0.50
54:DB:47:GLY:HA2	54:DB:48:LYS:C	2.31	0.50
1:FB:1010:G:H2'	1:FB:1011:G:H8	1.75	0.50
1:FB:1453:G:H4'	1:FB:1454:G:OP2	2.12	0.50
1:FB:223:U:H2'	1:FB:224:C:H6	1.76	0.50
1:FB:584:G:H2'	1:FB:585:G:H8	1.75	0.50
2:GB:1689:A:N6	2:GB:1698:A:H2	2.09	0.50
2:GB:2336:A:H3'	2:GB:2337:G:C8	2.46	0.50
2:GB:2790:A:H2'	2:GB:2791:C:H5'	1.94	0.50
2:GB:363(E):G:H2'	2:GB:363(F):U:O4'	2.11	0.50
2:GB:848:G:C4	2:GB:933:A:H8	2.29	0.50
2:GB:2590:A:O3'	5:JB:239:ARG:NH2	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:JB:267:SER:C	5:JB:269:PHE:H	2.15	0.50
35:KA:312:PHE:HB3	35:KA:313:PRO:HD3	1.93	0.50
2:GB:2053:G:OP1	6:KB:144:ARG:HG3	2.11	0.50
14:N:134:ARG:NH1	23:W:122:ARG:NE	2.58	0.50
14:N:75:THR:HG21	14:N:87:LYS:NZ	2.25	0.50
39:OA:57:LYS:HE3	39:OA:61:TYR:CE2	2.45	0.50
37:RC:40:ARG:HA	37:RC:43:LEU:HD12	1.92	0.50
43:SA:127:LYS:HG3	43:SA:128:ARG:HG3	1.94	0.50
14:SB:85:LYS:HZ1	24:CC:4:LYS:HE2	1.74	0.50
45:UA:123:LYS:C	45:UA:125:PHE:H	2.14	0.50
46:VA:25:PRO:O	46:VA:27:LEU:N	2.44	0.50
47:WA:3:ARG:HB2	47:WA:8:GLU:HG3	1.92	0.50
47:WA:92:HIS:CG	47:WA:98:VAL:HG21	2.46	0.50
2:B:2432:A:C4	25:Y:33:LYS:HG3	2.46	0.50
45:ZC:120:ARG:NH1	45:ZC:120:ARG:HG2	2.23	0.50
1:A:1230:C:H2'	1:A:1231:G:H8	1.76	0.50
1:A:1360:A:OP1	1:A:1360:A:H8	1.95	0.50
1:A:187:C:H2'	1:A:188:U:O4'	2.11	0.50
22:AC:86:ARG:NH1	22:AC:100:ALA:HA	2.26	0.50
2:B:1341:U:OP1	2:B:1397:U:N3	2.42	0.50
2:B:1526:G:H2'	2:B:1527:G:O4'	2.12	0.50
2:B:1785:A:O2'	2:B:1786:A:H2'	2.12	0.50
2:B:2107:C:O2	2:B:2182:G:N2	2.40	0.50
2:B:2526:G:H1	2:B:2537:U:H3	1.59	0.50
2:B:270(T):G:H2'	2:B:270(U):G:H8	1.76	0.50
2:B:26:G:C6	2:B:27:G:N1	2.79	0.50
2:B:6:A:H2'	2:B:7:G:O4'	2.10	0.50
52:BB:38:GLU:H	52:BB:38:GLU:CD	2.15	0.50
47:BD:34:LEU:HD22	47:BD:40:ASN:O	2.11	0.50
48:CD:27:CYS:HB3	48:CD:43:CYS:SG	2.51	0.50
6:F:111:ARG:HB2	6:F:160:TYR:HB3	1.93	0.50
1:FB:122:G:H2'	1:FB:123:C:O4'	2.11	0.50
1:FB:1248:A:H4'	1:FB:1248:A:OP1	2.10	0.50
1:FB:1266:G:N2	1:FB:1269:A:OP2	2.44	0.50
1:FB:554:C:H2'	1:FB:555:C:C6	2.46	0.50
1:FB:941:G:N2	1:FB:942:G:H1'	2.27	0.50
7:G:158:THR:O	7:G:178:PRO:HD3	2.11	0.50
2:GB:101:G:H1'	26:EC:7:ARG:HH12	1.75	0.50
2:GB:1414:G:H1	2:GB:1588:C:H42	1.59	0.50
2:GB:251:A:C5	2:GB:252:G:H1'	2.47	0.50
2:GB:760:G:H2'	2:GB:761:A:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:910:A:C6	2:GB:911:A:C6	2.99	0.50
3:HB:43:C:OP1	28:GC:6:HIS:NE2	2.44	0.50
10:J:109:ILE:HB	10:J:130:TYR:CZ	2.47	0.50
2:GB:1567:A:O2'	5:JB:63:ARG:NH2	2.45	0.50
8:MB:109:VAL:HG21	28:GC:14:ILE:HG21	1.93	0.50
14:N:38:GLU:OE2	14:N:127:ILE:HA	2.11	0.50
38:NA:8:VAL:HA	38:NA:11:LEU:HD13	1.93	0.50
1:A:1240:U:OP2	41:QA:116:ALA:N	2.43	0.50
37:RC:179:ARG:HG2	37:RC:206:GLU:HB3	1.94	0.50
2:GB:863:A:OP2	14:SB:22:LYS:NZ	2.44	0.50
17:VB:50:ILE:H	17:VB:50:ILE:HD13	1.77	0.50
1:A:404:U:H2'	1:A:405:U:H6	1.76	0.50
51:AB:66:SER:OG	51:AB:67:LYS:N	2.42	0.50
2:B:2488:A:H8	2:B:2488:A:O5'	1.95	0.50
2:B:594:U:H3	2:B:663:G:H1	1.59	0.50
6:F:13:ARG:NH1	6:F:13:ARG:HG2	2.25	0.50
6:F:143:ASN:HD22	6:F:147:PRO:HD3	1.77	0.50
1:FB:1071:C:H5''	39:TC:49:PRO:HG2	1.94	0.50
1:FB:1417:G:N2	1:FB:1482:G:H2'	2.27	0.50
1:FB:892:A:O2'	1:FB:1415:G:H4'	2.12	0.50
2:GB:236:C:H2'	2:GB:237:C:C6	2.46	0.50
2:GB:279:C:H2'	2:GB:280:C:C6	2.47	0.50
2:GB:2809:A:OP2	2:GB:2891:G:N1	2.44	0.50
3:HB:39:A:O2'	3:HB:46:A:N1	2.44	0.50
38:NA:8:VAL:HG22	38:NA:21:LEU:HD13	1.92	0.50
39:OA:125:SER:OG	39:OA:126:ARG:N	2.44	0.50
17:Q:51:ARG:HG3	17:Q:98:LYS:HE3	1.92	0.50
13:RB:29:LYS:HG2	13:RB:30:THR:HG23	1.92	0.50
2:GB:2485:G:H5''	14:SB:46:GLN:HE21	1.75	0.50
44:TA:51:ARG:NH2	44:TA:61:GLU:HB3	2.25	0.50
1:A:1171:G:H2'	1:A:1172:C:H6	1.76	0.50
1:A:122:G:H2'	1:A:123:C:O4'	2.11	0.50
1:A:924:C:H42	1:A:1392:G:H1	1.60	0.50
2:B:1367:A:N7	2:B:1368:G:H1'	2.27	0.50
2:B:1382:G:H8	2:B:1382:G:O5'	1.94	0.50
2:B:1538:G:H2'	2:B:1539:G:H8	1.76	0.50
2:B:155:C:H41	2:B:171:G:H1	1.59	0.50
2:B:2748:A:H2'	2:B:2749:A:C8	2.47	0.50
2:B:2896:C:H2'	2:B:2897:U:H5	1.76	0.50
2:B:517:C:O2'	20:T:18:ARG:NH2	2.45	0.50
28:BA:16:CYS:SG	28:BA:33:VAL:HB	2.51	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:43:C:OP1	28:BA:6:HIS:NE2	2.45	0.50
4:D:4:G:H1	4:D:69:C:H42	1.58	0.50
2:B:1971:A:C5	5:E:241:PRO:HG3	2.47	0.50
21:U:60:ARG:NH1	31:EA:47:ARG:NH2	2.59	0.50
1:FB:1236:A:O2'	1:FB:1304:G:H4'	2.11	0.50
1:FB:1327:C:OP1	55:JD:20:LYS:HB3	2.12	0.50
1:FB:974:A:H8	1:FB:974:A:OP1	1.93	0.50
2:GB:1861:G:H2'	2:GB:1862:G:H8	1.76	0.50
2:GB:2896:C:H2'	2:GB:2897:U:H5	1.76	0.50
2:GB:721:C:H2'	2:GB:722:A:H8	1.75	0.50
8:H:165:THR:HB	8:H:168:GLU:OE2	2.12	0.50
8:H:39:ILE:HB	8:H:92:VAL:HG13	1.92	0.50
8:H:71:THR:OG1	8:H:89:GLY:HA3	2.12	0.50
11:K:76:SER:OG	11:K:77:GLY:N	2.40	0.50
12:L:87:ILE:HD13	12:L:91:LEU:HA	1.94	0.50
7:LB:160:ASN:OD1	7:LB:163:VAL:HB	2.12	0.50
8:MB:115:ARG:O	8:MB:136:ARG:NH2	2.41	0.50
39:OA:51:VAL:O	39:OA:55:VAL:N	2.32	0.50
38:SC:192:GLU:H	38:SC:192:GLU:CD	2.15	0.50
26:Z:68:ARG:NH1	26:Z:68:ARG:HG2	2.27	0.50
1:A:1328:C:OP1	55:EB:21:TYR:OH	2.30	0.50
1:A:673:G:H2'	1:A:674:G:C8	2.46	0.50
1:A:689:C:H2'	1:A:690:G:O4'	2.11	0.50
1:A:969:A:N6	43:SA:128:ARG:O	2.44	0.50
1:A:278:G:N2	51:AB:95:TYR:HB3	2.26	0.50
22:AC:46:LYS:HB3	22:AC:60:PHE:CD1	2.47	0.50
2:B:2189:U:H2'	2:B:2190:G:N7	2.27	0.50
2:B:2790:A:H2'	2:B:2791:C:H5'	1.94	0.50
2:B:299:A:N1	2:B:322:A:O2'	2.39	0.50
23:BC:126:VAL:HG21	23:BC:161:VAL:HG12	1.94	0.50
29:CA:52:TYR:HB3	29:CA:57:VAL:HG21	1.94	0.50
30:DA:9:LEU:HD21	30:DA:25:LYS:HB3	1.93	0.50
49:DD:8:LYS:O	49:DD:12:ILE:HG13	2.12	0.50
50:ED:19:ILE:N	50:ED:37:GLY:O	2.45	0.50
7:G:64:ILE:HD12	7:G:65:TRP:N	2.27	0.50
2:GB:1693:U:OP2	2:GB:1694:C:H5	1.95	0.50
2:GB:2272:U:H5''	2:GB:2273:A:OP1	2.11	0.50
2:GB:433:C:H2'	2:GB:434:U:C6	2.46	0.50
2:GB:71:A:OP2	2:GB:71:A:H3'	2.11	0.50
2:GB:783:A:H4'	2:GB:2588:G:H4'	1.93	0.50
9:I:118:PRO:HD2	9:I:121:ILE:HD12	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:156:ALA:O	9:I:172:LYS:HB3	2.11	0.50
10:J:75:LEU:HD13	10:J:105:HIS:NE2	2.27	0.50
10:J:133:HIS:HE1	10:J:135:GLU:HB3	1.76	0.50
10:J:124:GLY:N	10:J:144:VAL:HG23	2.26	0.50
31:JC:9:ARG:HH21	31:JC:47:ARG:HD3	1.76	0.50
12:L:116:SER:OG	12:L:117:LEU:N	2.45	0.50
12:L:68:GLU:CD	12:L:68:GLU:H	2.14	0.50
37:MA:152:ILE:HG23	37:MA:167:TRP:HB3	1.94	0.50
8:MB:16:ARG:O	8:MB:20:ILE:HG13	2.12	0.50
38:NA:87:GLY:O	38:NA:89:THR:N	2.45	0.50
9:NB:16:SER:HB2	9:NB:27:LYS:HG2	1.93	0.50
40:PA:15:ASP:CG	40:PA:18:GLN:HB2	2.31	0.50
41:QA:20:ASP:OD2	41:QA:22:LEU:HD23	2.10	0.50
1:A:826:C:O2	42:RA:15:ASN:ND2	2.45	0.50
42:RA:20:TYR:HA	42:RA:65:TYR:CE1	2.47	0.50
39:TC:94:ALA:HB2	39:TC:119:LEU:HG	1.94	0.50
16:UB:28:VAL:HG23	16:UB:37:ALA:HB2	1.94	0.50
40:UC:27:GLN:HA	40:UC:30:LEU:HD12	1.92	0.50
42:WC:11:THR:OG1	42:WC:14:ARG:NH1	2.38	0.50
1:A:14:U:O2'	1:A:16:A:N7	2.33	0.50
1:A:223:U:H2'	1:A:224:C:H6	1.76	0.50
2:B:1047:G:H2'	2:B:1110:G:N1	2.27	0.50
2:B:2623:G:H4'	2:B:2825:G:H8	1.77	0.50
2:B:2836:U:H2'	2:B:2837:G:C8	2.46	0.50
2:B:288:C:H42	2:B:353:G:H1	1.60	0.50
2:B:514:A:N3	2:B:581:C:O2'	2.40	0.50
2:B:573:G:O2'	2:B:574:C:H3'	2.11	0.50
2:GB:387:U:OP2	25:DC:20:ARG:NH1	2.45	0.50
5:E:267:SER:C	5:E:269:PHE:H	2.15	0.50
2:B:1805:U:O2	5:E:50:THR:HB	2.12	0.50
1:FB:1095:U:P	1:FB:1108:G:H1	2.35	0.50
1:FB:255:G:OP1	51:FD:69:LYS:NZ	2.43	0.50
1:FB:397:A:H5'	1:FB:398:C:OP1	2.12	0.50
1:FB:580:U:H2'	1:FB:581:G:O4'	2.12	0.50
2:GB:1007:C:OP1	11:PB:35:ARG:NH1	2.42	0.50
2:GB:1291:C:H2'	2:GB:1292:U:C6	2.47	0.50
2:GB:1550:C:H2'	2:GB:1551:C:H6	1.77	0.50
2:GB:1863:G:C6	2:GB:1864:U:C4	3.00	0.50
2:GB:2745:C:C4	2:GB:2746:U:C4	3.00	0.50
2:GB:312:G:H5'	2:GB:331:A:O2'	2.12	0.50
2:GB:445:C:O2'	2:GB:446:G:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:634:C:H2'	2:GB:635:C:C6	2.47	0.50
8:H:113:ARG:NH1	47:WA:2:ALA:O	2.45	0.50
8:H:44:GLY:O	8:H:47:LYS:HG3	2.12	0.50
8:H:73:ALA:HA	8:H:88:ILE:HD11	1.93	0.50
3:HB:53:A:H2'	3:HB:54:G:H8	1.76	0.50
29:HC:35:GLU:HG3	29:HC:51:TYR:CB	2.42	0.50
2:GB:2571:C:O2'	6:KB:146:THR:O	2.28	0.50
13:M:49:ARG:HH12	32:FA:4:MET:HE3	1.76	0.50
37:MA:30:ARG:HG2	48:XA:36:PHE:O	2.11	0.50
11:PB:76:SER:OG	11:PB:77:GLY:N	2.45	0.50
20:YB:6:ILE:HG12	20:YB:104:THR:HG23	1.94	0.50
50:ZA:82:GLN:O	50:ZA:83:GLU:HB2	2.12	0.50
1:A:1037:C:O2'	1:A:1038:C:H5'	2.12	0.50
1:A:1428:A:H2'	1:A:1429:C:O4'	2.12	0.50
1:A:35:G:H1	1:A:549:C:N4	2.07	0.50
1:A:370:C:H2'	1:A:371:G:C8	2.47	0.50
22:AC:79:CYS:SG	22:AC:81:LYS:HB2	2.52	0.50
2:B:1155:A:O3'	18:R:55:ARG:NH1	2.45	0.50
2:B:1973:G:H2'	2:B:1974:C:H6	1.76	0.50
2:B:807:U:OP2	13:M:41:ARG:NH2	2.44	0.50
8:H:109:VAL:HG21	28:BA:14:ILE:HG21	1.93	0.50
47:BD:39:ILE:HD11	47:BD:55:ARG:NH1	2.27	0.50
1:A:1305:G:C8	55:EB:5:ASP:HA	2.46	0.50
1:FB:1145:C:OP2	1:FB:1145:C:H6	1.95	0.50
1:FB:1381:U:C2'	1:FB:1382:C:H5'	2.42	0.50
1:FB:335:C:O2'	1:FB:1433:A:N3	2.39	0.50
1:FB:201:C:O2	1:FB:216:G:N1	2.44	0.50
1:FB:626:U:H2'	1:FB:627:G:C8	2.47	0.50
2:GB:155:C:H41	2:GB:171:G:H1	1.60	0.50
2:GB:2098:U:H2'	2:GB:2099:U:O4'	2.12	0.50
2:GB:2099:U:H2'	2:GB:2100:G:C8	2.47	0.50
2:GB:2317:C:H2'	2:GB:2318:G:H5'	1.92	0.50
2:GB:885:C:O2'	2:GB:890:A:N6	2.45	0.50
8:H:120:LEU:HB2	8:H:179:PRO:O	2.11	0.50
8:H:9:ARG:O	8:H:12:TYR:HB2	2.12	0.50
2:GB:675:A:H4'	7:LB:67:GLN:OE1	2.12	0.50
37:MA:40:ARG:HA	37:MA:43:LEU:HD12	1.94	0.50
40:PA:3:ARG:HH11	40:PA:3:ARG:CB	2.24	0.50
37:RC:3:ASN:HD21	37:RC:4:LYS:HZ2	1.58	0.50
43:SA:93:ARG:HH12	43:SA:97:LYS:CD	2.24	0.50
14:SB:35:VAL:HG23	14:SB:130:LYS:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:WB:24:TYR:O	18:WB:29:SER:HB3	2.11	0.50
43:XC:3:GLN:OE1	43:XC:20:ARG:NH2	2.41	0.50
20:YB:59:VAL:HG13	20:YB:60:ASN:H	1.77	0.50
44:YC:79:ARG:O	44:YC:83:GLU:HB2	2.12	0.50
1:A:1271:G:H2'	1:A:1272:G:H8	1.75	0.49
1:A:421:U:C4	37:MA:127:ARG:NH1	2.80	0.49
1:A:708:C:H2'	1:A:709:G:C8	2.47	0.49
1:A:767:A:H2'	1:A:768:A:O4'	2.12	0.49
2:B:729:G:H2'	2:B:1775:U:H1'	1.93	0.49
23:BC:108:PRO:HB2	23:BC:111:VAL:HG23	1.94	0.49
3:C:75:G:N2	23:W:87:ASP:OD2	2.45	0.49
54:DB:37:SER:O	54:DB:41:VAL:HG13	2.12	0.49
1:FB:587:G:O5'	1:FB:587:G:H8	1.94	0.49
7:G:63:LYS:NZ	7:G:75:HIS:O	2.33	0.49
2:GB:1057:A:H8	2:GB:1086:A:H62	1.60	0.49
2:GB:1657:C:H4'	6:KB:133:LYS:HB2	1.94	0.49
2:GB:1786:A:H1'	2:GB:1938:A:N6	2.27	0.49
3:HB:89(A):G:C6	3:HB:89(B):A:C6	3.00	0.49
4:IB:58:A:H61	4:IB:60:U:H2'	1.76	0.49
37:MA:64:VAL:HG22	37:MA:66:VAL:HG13	1.94	0.49
37:MA:69:HIS:HA	37:MA:104:GLN:HB2	1.93	0.49
8:MB:73:ALA:HA	8:MB:88:ILE:HD11	1.93	0.49
38:NA:28:SER:OG	38:NA:30:LYS:HB2	2.12	0.49
38:NA:94:LEU:HA	38:NA:97:LEU:HB2	1.94	0.49
10:OB:72:LEU:HB3	10:OB:140:LEU:HD23	1.93	0.49
40:PA:27:GLN:HA	40:PA:30:LEU:HB2	1.93	0.49
35:PC:312:PHE:HB3	35:PC:313:PRO:HD3	1.93	0.49
36:QC:177:ALA:HB1	36:QC:182:ILE:HB	1.92	0.49
14:SB:116:GLU:OE2	14:SB:119:ARG:NH2	2.44	0.49
15:TB:99:LYS:HB2	15:TB:99:LYS:NZ	2.27	0.49
21:U:36:LYS:HG2	21:U:54:VAL:HB	1.94	0.49
23:W:185:GLU:N	23:W:185:GLU:OE1	2.40	0.49
47:WA:39:ILE:HD11	47:WA:55:ARG:HH12	1.77	0.49
25:Y:52:ARG:HA	25:Y:56:GLN:O	2.13	0.49
49:YA:55:GLY:O	49:YA:59:MET:HG3	2.12	0.49
20:YB:27:LYS:HD3	20:YB:31:GLU:OE2	2.11	0.49
1:A:1010:G:N2	1:A:1020:U:H1'	2.26	0.49
1:A:1110:A:H3'	1:A:1111:A:C8	2.47	0.49
1:A:1298:C:C5	41:QA:114:ARG:NH1	2.80	0.49
1:A:1316:G:O6	53:CB:3:ARG:NH1	2.45	0.49
1:A:139:G:H2'	1:A:140:A:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:291:C:N4	1:A:309:G:H1	2.10	0.49
1:A:524:G:H2'	1:A:525:C:C6	2.48	0.49
1:A:709:G:H2'	1:A:710:G:C8	2.45	0.49
1:A:867:G:OP2	1:A:867:G:H8	1.93	0.49
2:B:1115:G:H2'	2:B:1116:C:C6	2.47	0.49
2:B:2689:U:P	2:B:2719:G:H22	2.35	0.49
2:B:501:A:OP1	22:V:19:LYS:NZ	2.44	0.49
2:B:95:G:HO2'	26:Z:48:HIS:HD1	1.59	0.49
23:BC:30:ASN:ND2	23:BC:31:ARG:HG2	2.27	0.49
23:BC:6:LYS:NZ	23:BC:43:GLU:OE2	2.23	0.49
55:EB:12:LYS:NZ	55:EB:19:GLY:H	2.10	0.49
26:EC:63:VAL:HG12	26:EC:67:LYS:HG3	1.94	0.49
1:FB:370:C:H2'	1:FB:371:G:C8	2.46	0.49
2:GB:1479:G:H5''	2:GB:1560:G:H4'	1.94	0.49
2:GB:2224:G:H4'	2:GB:2226:C:C2	2.47	0.49
2:GB:675:A:OP1	7:LB:63:LYS:HD2	2.12	0.49
8:H:135:LEU:C	8:H:136:ARG:HG3	2.31	0.49
28:GC:58:ARG:NH1	53:HD:68:GLY:HA3	2.27	0.49
7:LB:53:THR:N	7:LB:56:GLU:HG3	2.27	0.49
9:NB:159:GLU:OE2	9:NB:169:VAL:HG11	2.12	0.49
39:OA:94:ALA:HB2	39:OA:119:LEU:HG	1.94	0.49
47:WA:39:ILE:HD11	47:WA:55:ARG:NH1	2.27	0.49
20:YB:2:GLU:HB2	20:YB:107:LEU:O	2.11	0.49
1:A:1381:U:H1'	41:QA:79:ARG:NE	2.25	0.49
1:A:186(A):C:H2'	1:A:186(B):C:C6	2.47	0.49
1:A:952:U:H2'	1:A:953:G:C8	2.48	0.49
1:A:991:U:H4'	1:A:992:U:H5''	1.94	0.49
46:AD:89:ARG:HH12	46:AD:95:GLY:N	2.10	0.49
2:B:1040:C:H2'	2:B:1041:C:C6	2.47	0.49
2:GB:1506:C:H2'	2:GB:1508:A:C8	2.47	0.49
2:GB:2018:G:C6	2:GB:2019:A:C6	3.00	0.49
2:GB:2630:G:H1'	2:GB:2894:G:H1'	1.95	0.49
2:GB:46:C:OP2	2:GB:215:G:H2'	2.11	0.49
8:H:77:ILE:HB	8:H:80:PHE:HB2	1.94	0.49
3:HB:43:C:O2'	8:MB:95:ARG:HB3	2.11	0.49
2:GB:1971:A:H1'	5:JB:240:ALA:O	2.12	0.49
9:NB:124:GLU:HB3	9:NB:132:ARG:HB3	1.93	0.49
15:O:48:VAL:O	15:O:51:LEU:N	2.45	0.49
2:B:2882:A:P	15:O:96:ARG:HH21	2.36	0.49
39:OA:148:VAL:O	39:OA:152:ARG:HG2	2.12	0.49
35:PC:316:ARG:HA	35:PC:327:TYR:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:TC:84:PHE:HB2	39:TC:134:ALA:HB2	1.95	0.49
1:A:238:G:P	51:AB:25:ARG:HH22	2.35	0.49
46:AD:86:ARG:HH21	46:AD:99:HIS:HD1	1.60	0.49
2:B:1015:G:H2'	2:B:1016:G:C8	2.47	0.49
2:B:1689:A:N6	2:B:1698:A:H2	2.10	0.49
2:B:274:G:H2'	2:B:275:G:O4'	2.13	0.49
2:B:2869:G:H2'	2:B:2870:C:O4'	2.13	0.49
3:C:39:A:O2'	3:C:46:A:N1	2.45	0.49
29:CA:6:VAL:HG13	29:CA:7:PRO:HD2	1.94	0.49
37:RC:30:ARG:HG2	48:CD:36:PHE:O	2.12	0.49
2:GB:2396:G:H5'	25:DC:25:LYS:HE2	1.94	0.49
1:FB:1037:C:O2'	1:FB:1038:C:H5'	2.12	0.49
1:FB:1128:C:N4	1:FB:1129:C:H41	2.10	0.49
1:FB:1360:A:OP1	1:FB:1360:A:H8	1.94	0.49
7:G:206:ILE:HG22	7:G:207:GLY:H	1.78	0.49
2:GB:1019:U:H3	2:GB:1142(B):A:N6	2.07	0.49
2:GB:1449(B):A:C2	2:GB:1530:G:H1'	2.48	0.49
2:GB:1790:C:H5''	2:GB:1791:A:OP1	2.12	0.49
3:HB:75:G:N2	23:BC:87:ASP:OD2	2.44	0.49
4:IA:48:C:O2'	4:IA:59:A:O2'	2.29	0.49
54:ID:29:LYS:HE2	54:ID:65:LYS:HB3	1.94	0.49
11:K:89:LYS:NZ	11:K:93:THR:HG21	2.28	0.49
12:L:22:ILE:HG13	12:L:40:VAL:HG12	1.94	0.49
36:LA:178:ARG:NH2	36:LA:198:ASP:OD1	2.45	0.49
7:LB:123:LEU:HD12	7:LB:124:LEU:H	1.77	0.49
7:LB:201:VAL:O	7:LB:205:ARG:N	2.45	0.49
39:OA:102:ALA:HB3	39:OA:107:ARG:HB2	1.95	0.49
39:OA:106:PRO:O	39:OA:110:LEU:HG	2.12	0.49
40:PA:61:LEU:HD23	40:PA:63:TYR:HE2	1.76	0.49
11:PB:89:LYS:NZ	11:PB:93:THR:HG21	2.27	0.49
17:Q:124:ASP:O	17:Q:128:GLU:HB3	2.11	0.49
2:GB:2562:U:H1'	12:QB:23:ARG:HE	1.77	0.49
18:R:94:ASN:HA	18:R:97:ASP:HB3	1.94	0.49
37:RC:152:ILE:HG23	37:RC:167:TRP:HB3	1.94	0.49
15:TB:104:ARG:HD2	15:TB:109:ALA:HB3	1.94	0.49
45:UA:33:THR:OG1	45:UA:34:ASP:O	2.24	0.49
40:UC:29:ALA:HA	40:UC:32:ASN:ND2	2.27	0.49
23:W:111:VAL:O	23:W:114:GLY:N	2.45	0.49
24:X:64:ASP:N	24:X:64:ASP:OD2	2.45	0.49
49:YA:3:ILE:HD11	49:YA:38:ARG:HD2	1.94	0.49
45:ZC:123:LYS:C	45:ZC:125:PHE:H	2.16	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1381:U:C2'	1:A:1382:C:H5'	2.43	0.49
1:A:501:C:H2'	1:A:502:G:C8	2.47	0.49
1:A:674:G:H2'	1:A:675:A:C8	2.45	0.49
2:B:1190:G:H2'	2:B:1191:G:H8	1.78	0.49
2:B:1786:A:H1'	2:B:1938:A:N6	2.27	0.49
2:B:2153:G:H2'	2:B:2154:G:H8	1.78	0.49
2:B:2361:A:OP1	32:FA:26:LYS:NZ	2.43	0.49
2:B:2515:C:O2	2:B:2570:G:C2	2.66	0.49
2:B:496:G:C2	2:B:497:A:H1'	2.47	0.49
2:B:657:U:H2'	2:B:658:C:C6	2.48	0.49
3:C:70:C:H2'	3:C:71:C:C6	2.47	0.49
3:C:78:A:C2	3:C:99:A:C4	3.01	0.49
4:D:42:G:N2	4:D:43:A:N3	2.60	0.49
25:DC:52:ARG:HA	25:DC:56:GLN:O	2.12	0.49
5:E:53:PHE:HE1	5:E:221:VAL:HG13	1.77	0.49
50:ED:82:GLN:O	50:ED:83:GLU:HB2	2.13	0.49
1:FB:1171:G:H2'	1:FB:1172:C:H6	1.78	0.49
1:FB:1290:G:H2'	1:FB:1291:G:C8	2.47	0.49
1:FB:160:A:H1'	1:FB:344:A:N7	2.27	0.49
7:G:195:ASP:HB3	7:G:198:ALA:H	1.77	0.49
2:GB:2488:A:O5'	2:GB:2488:A:H8	1.95	0.49
2:GB:288:C:H42	2:GB:353:G:H1	1.59	0.49
7:LB:146:ALA:O	7:LB:148:LEU:HG	2.12	0.49
37:MA:3:ASN:HD21	37:MA:4:LYS:HZ2	1.60	0.49
8:MB:23:PHE:CZ	8:MB:168:GLU:HA	2.47	0.49
38:NA:12:CYS:SG	38:NA:31:CYS:SG	3.11	0.49
39:OA:129:ILE:O	39:OA:133:TYR:HB2	2.13	0.49
41:QA:12:LEU:HB2	41:QA:21:VAL:HG13	1.93	0.49
42:RA:22:GLU:O	42:RA:63:LEU:HB2	2.12	0.49
37:RC:150:LYS:HE2	37:RC:152:ILE:HD11	1.93	0.49
14:SB:34:LEU:HD11	14:SB:129:THR:HB	1.94	0.49
2:B:336:C:O2'	22:V:35:TYR:OH	2.29	0.49
47:WA:110:ARG:NH1	47:WA:110:ARG:HB3	2.28	0.49
49:YA:8:LYS:HZ3	49:YA:31:LEU:HD21	1.77	0.49
21:ZB:5:TYR:CE1	26:EC:30:ARG:HG3	2.47	0.49
1:A:131:C:O2	1:A:231:G:N2	2.38	0.49
1:A:1511:G:H8	1:A:1511:G:O5'	1.96	0.49
1:A:397:A:H5'	1:A:398:C:OP1	2.13	0.49
2:B:1049:C:H2'	2:B:1050:A:H8	1.76	0.49
2:B:1582:C:H2'	2:B:1583:A:H8	1.78	0.49
2:B:236:C:H2'	2:B:237:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2821:A:OP1	6:F:110:GLY:N	2.44	0.49
2:B:764:A:H5''	5:E:210:GLY:HA3	1.94	0.49
5:E:206:LEU:HD22	5:E:211:ARG:HG2	1.94	0.49
55:EB:12:LYS:HZ2	55:EB:19:GLY:H	1.61	0.49
32:FA:7:HIS:HD2	32:FA:61:LEU:HD13	1.76	0.49
1:FB:444:C:H2'	1:FB:445:G:H8	1.78	0.49
1:FB:708:C:H2'	1:FB:709:G:C8	2.48	0.49
1:FB:836:G:C6	1:FB:851:G:C6	3.01	0.49
1:FB:948:C:H42	1:FB:1233:G:H1	1.60	0.49
2:GB:1042:G:C6	2:GB:1043:C:N4	2.81	0.49
2:GB:1063:G:N2	2:GB:1076:C:O2'	2.46	0.49
2:GB:1190:G:H2'	2:GB:1191:G:H8	1.77	0.49
2:GB:1332:G:HO2'	2:GB:1609:A:H2	1.61	0.49
2:GB:1759:A:H1'	2:GB:2711:A:C2	2.48	0.49
2:GB:1800:C:OP2	5:JB:183:ARG:NH2	2.38	0.49
2:GB:330:A:H2	2:GB:1210:A:HO2'	1.59	0.49
2:GB:364:C:OP2	2:GB:365:C:OP2	2.30	0.49
2:GB:469:G:O6	31:JC:39:ARG:NH1	2.46	0.49
2:GB:514:A:N3	2:GB:581:C:O2'	2.40	0.49
11:K:35:ARG:HH11	11:K:35:ARG:HG2	1.77	0.49
35:KA:324:LEU:HD12	35:KA:326:LEU:HB2	1.95	0.49
36:QC:118:LEU:HD13	36:QC:142:LEU:HB2	1.95	0.49
18:R:31:SER:HB3	18:R:34:LYS:HB2	1.95	0.49
2:GB:2406:U:C4	13:RB:72:PRO:HD2	2.48	0.49
20:T:20:VAL:HA	20:T:23:LEU:HD12	1.94	0.49
42:RA:91:ARG:HG3	46:VA:7:ILE:HG13	1.93	0.49
41:VC:41:ARG:O	41:VC:45:ASP:HB2	2.12	0.49
23:W:14:LYS:HB2	23:W:17:ALA:HB3	1.94	0.49
44:YC:51:ARG:NH2	44:YC:61:GLU:HB3	2.28	0.49
21:ZB:32:PRO:HA	21:ZB:77:LYS:HB2	1.93	0.49
1:A:1006:C:H2'	1:A:1007:C:C5	2.48	0.49
1:A:1089:G:H1	1:A:1096:C:H42	1.61	0.49
1:A:219:C:H2'	1:A:220:G:O4'	2.13	0.49
1:A:551:U:H2'	1:A:552:U:C6	2.47	0.49
1:A:613:C:H2'	1:A:614:A:C8	2.48	0.49
1:A:715:A:H2'	1:A:716:A:C8	2.47	0.49
22:AC:67:LEU:HD23	22:AC:72:VAL:HG23	1.93	0.49
2:B:1060:U:H4'	2:B:1061:U:O5'	2.12	0.49
2:B:364:C:OP2	2:B:365:C:OP2	2.31	0.49
2:B:768:G:C4	2:B:769:G:C8	3.00	0.49
2:B:910:A:C6	2:B:911:A:C6	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BA:21:VAL:O	28:BA:23:GLU:N	2.45	0.49
1:FB:1321:C:H4'	47:BD:87:TYR:CE2	2.47	0.49
5:E:116:GLN:HG2	5:E:117:VAL:N	2.28	0.49
1:FB:1070:U:H2'	1:FB:1071:C:C6	2.47	0.49
1:FB:1145:C:H4'	1:FB:1146:A:C8	2.44	0.49
1:FB:163:C:H2'	1:FB:164:U:O4'	2.13	0.49
1:FB:26:A:H8	1:FB:26:A:OP2	1.95	0.49
2:B:675:A:H4'	7:G:67:GLN:OE1	2.13	0.49
2:GB:1587:A:H2'	2:GB:1588:C:C6	2.48	0.49
2:GB:2156:G:H8	2:GB:2156:G:OP2	1.94	0.49
2:GB:256:A:H2'	2:GB:257:A:C8	2.48	0.49
2:GB:576:U:OP1	2:GB:2503:2MA:OP1	2.30	0.49
4:IB:42:G:N2	4:IB:43:A:N3	2.60	0.49
13:M:75:ILE:HD12	13:M:75:ILE:H	1.78	0.49
8:MB:96:ARG:O	8:MB:98:ARG:N	2.42	0.49
43:SA:25:LYS:HD3	43:SA:60:ASP:OD2	2.12	0.49
43:SA:28:VAL:HG22	43:SA:63:ILE:HD12	1.94	0.49
20:T:2:GLU:HB2	20:T:107:LEU:O	2.13	0.49
25:Y:47:GLN:N	25:Y:62:VAL:O	2.41	0.49
20:YB:86:LEU:HG	20:YB:88:ARG:HD3	1.94	0.49
1:A:1089:G:H1	1:A:1096:C:N4	2.10	0.49
1:A:1373:G:H5''	41:QA:36:LYS:HZ1	1.75	0.49
1:A:1453:G:H4'	1:A:1454:G:OP2	2.12	0.49
1:A:201:C:O2	1:A:216:G:N1	2.45	0.49
1:A:12:U:H3	1:A:22:G:H1	1.61	0.49
1:A:589:C:OP1	42:RA:5:PRO:HG3	2.13	0.49
2:B:1039:G:C6	2:B:1040:C:C4	3.01	0.49
2:B:1587:A:H2'	2:B:1588:C:C6	2.48	0.49
2:B:1928:A:H5''	2:B:1929:G:OP2	2.12	0.49
2:B:2208:U:H4'	5:E:151:LYS:HG2	1.94	0.49
2:B:2324:C:O2'	2:B:2337:G:H5'	2.13	0.49
2:B:2875:C:H2'	2:B:2876:G:O4'	2.12	0.49
2:B:391:G:C6	2:B:411:G:N2	2.81	0.49
2:B:524:U:H4'	2:B:554:U:H4'	1.95	0.49
2:B:637:A:OP1	13:M:133:SER:OG	2.31	0.49
2:B:644:A:H4'	2:B:645:C:C5	2.46	0.49
2:B:921:G:H5''	2:B:922:U:OP2	2.11	0.49
23:BC:14:LYS:HB2	23:BC:17:ALA:HB3	1.92	0.49
23:BC:28:MET:HG3	23:BC:35:ARG:HB3	1.94	0.49
31:EA:43:THR:HG23	31:EA:44:PRO:O	2.12	0.49
1:FB:1190:G:P	37:RC:5:ILE:HB	2.53	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1272:G:C2	1:FB:1273:G:H1'	2.48	0.49
1:FB:730:G:C5	1:FB:731:G:H1'	2.48	0.49
1:FB:953:G:H5'	1:FB:965:A:H61	1.78	0.49
2:GB:1060:U:H4'	2:GB:1061:U:O5'	2.12	0.49
2:GB:1113:U:H2'	2:GB:1114:G:C8	2.47	0.49
2:GB:1594:G:H2'	2:GB:1595:G:O4'	2.12	0.49
2:GB:1923:U:H2'	2:GB:1924:C:C6	2.48	0.49
2:GB:2317:C:H2'	2:GB:2318:G:C5'	2.43	0.49
2:GB:270(T):G:H5''	25:DC:97:LEU:HD21	1.95	0.49
2:GB:274:G:H2'	2:GB:275:G:O4'	2.12	0.49
2:GB:568:U:O2'	2:GB:570:G:N7	2.32	0.49
3:HB:112:G:H2'	3:HB:113:C:C6	2.48	0.49
4:IA:54:5MU:H73	4:IA:55:PSU:O2	2.12	0.49
10:J:69:LYS:O	10:J:73:GLU:HB2	2.13	0.49
5:JB:258:LYS:HE2	5:JB:273:ARG:CZ	2.42	0.49
11:K:30:ILE:O	11:K:34:LEU:HD22	2.12	0.49
35:KA:316:ARG:HA	35:KA:327:TYR:HB2	1.95	0.49
2:GB:1657:C:O3'	6:KB:133:LYS:HB3	2.13	0.49
12:L:13:ASN:HD21	12:L:97:ARG:H	1.58	0.49
7:LB:65:TRP:CH2	7:LB:72:ARG:NH1	2.80	0.49
8:MB:71:THR:OG1	8:MB:89:GLY:HA3	2.13	0.49
38:NA:142:PRO:HA	38:NA:185:PHE:HD2	1.78	0.49
38:NA:32:ALA:O	38:NA:36:ARG:N	2.41	0.49
38:NA:57:ARG:HH12	39:OA:107:ARG:HH12	1.60	0.49
9:NB:156:ALA:O	9:NB:172:LYS:HB3	2.13	0.49
4:NC:15:G:H2'	4:NC:59:A:N1	2.27	0.49
40:PA:27:GLN:HA	40:PA:30:LEU:HD12	1.94	0.49
12:L:119:PRO:HB2	17:Q:68:TYR:CD2	2.48	0.49
22:V:18:GLY:C	22:V:20:TYR:H	2.16	0.49
49:YA:63:ARG:HH12	49:YA:87:ILE:HD13	1.75	0.49
1:A:683:G:H2'	1:A:684:A:O4'	2.13	0.49
1:A:820:U:O2'	1:A:821:G:OP1	2.30	0.49
2:B:1821:A:O5'	2:B:1821:A:H8	1.96	0.49
2:B:2037:G:H2'	2:B:2038:G:C8	2.47	0.49
2:B:2098:U:H2'	2:B:2099:U:O4'	2.13	0.49
2:B:2351:G:O6	32:FA:39:LYS:HG3	2.13	0.49
2:B:634:C:H2'	2:B:635:C:C6	2.48	0.49
3:C:85:G:C2	3:C:86:G:C8	3.00	0.49
53:CB:62:ILE:HA	53:CB:66:MET:SD	2.52	0.49
6:F:38:THR:HB	6:F:40:GLU:HG2	1.93	0.49
6:F:54:GLN:HB2	6:F:76:ARG:HG3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:216:G:H2'	1:FB:217:C:H6	1.77	0.49
1:FB:574:A:N3	1:FB:883:C:H1'	2.27	0.49
51:FD:67:LYS:C	51:FD:70:ARG:HH12	2.16	0.49
2:GB:176:G:O2'	2:GB:177:G:H5'	2.13	0.49
2:GB:2529:G:H5''	2:GB:2530:A:H5''	1.95	0.49
2:GB:2607:G:H2'	2:GB:2608:G:O4'	2.13	0.49
2:GB:2757:A:N1	9:NB:67:LEU:HD22	2.27	0.49
2:GB:581:C:H2'	2:GB:582:G:C8	2.47	0.49
2:GB:588:U:H2'	2:GB:589:C:C6	2.47	0.49
2:GB:593:G:C6	2:GB:594:U:C4	3.01	0.49
2:GB:998:C:H2'	2:GB:999:U:O4'	2.13	0.49
3:HB:78:A:C2	3:HB:99:A:C4	3.01	0.49
4:IA:15:G:H2'	4:IA:59:A:N1	2.27	0.49
54:ID:47:GLY:HA2	54:ID:48:LYS:C	2.33	0.49
6:KB:192:ASN:OD1	6:KB:192:ASN:N	2.44	0.49
36:LA:16:HIS:CE1	36:LA:204:ASN:HB2	2.48	0.49
7:LB:10:PRO:CA	7:LB:17:ARG:HH12	2.26	0.49
14:N:110:THR:HG22	14:N:111:GLU:H	1.78	0.49
10:OB:133:HIS:HE1	10:OB:135:GLU:HB3	1.75	0.49
35:OC:149:MET:HB2	35:OC:163:ILE:HG23	1.95	0.49
41:QA:41:ARG:O	41:QA:45:ASP:HB2	2.12	0.49
18:R:24:TYR:O	18:R:29:SER:HB3	2.12	0.49
22:V:18:GLY:O	22:V:20:TYR:N	2.45	0.49
42:WC:73:ASP:OD1	42:WC:75:ARG:HG3	2.12	0.49
48:XA:13:THR:HG23	48:XA:20:ALA:HB2	1.94	0.49
20:YB:12:ILE:O	20:YB:101:SER:OG	2.30	0.49
22:AC:99:CYS:SG	22:AC:100:ALA:N	2.85	0.49
2:B:1028:A:H8	2:B:1028:A:O5'	1.96	0.49
2:B:1946:U:H2'	2:B:1947:C:C6	2.48	0.49
2:B:2086:U:H2'	2:B:2087:G:C8	2.48	0.49
2:B:2567:G:H2'	2:B:2568:C:C6	2.48	0.49
2:B:2876:G:OP1	17:Q:3:ARG:NH2	2.45	0.49
23:BC:105:VAL:HG11	23:BC:138:GLU:HG2	1.95	0.49
2:B:2571:C:O2'	6:F:146:THR:O	2.31	0.49
1:FB:1099:G:C6	1:FB:1100:C:C2	3.01	0.49
1:FB:554:C:H2'	1:FB:555:C:H6	1.77	0.49
1:FB:860:A:H2'	1:FB:861:G:O4'	2.13	0.49
1:FB:942:G:H21	43:XC:124:GLN:HE21	1.60	0.49
2:GB:1803:A:H2	2:GB:1822:G:N3	2.11	0.49
2:GB:2516:G:C4	2:GB:2569:G:N2	2.81	0.49
2:GB:395:U:H1'	2:GB:396:G:N7	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:458:G:H5''	31:JC:38:GLY:O	2.11	0.49
2:GB:501:A:OP1	22:AC:19:LYS:NZ	2.45	0.49
2:GB:524:U:H4'	2:GB:554:U:H4'	1.94	0.49
2:GB:855:G:H5''	2:GB:856:C:OP2	2.13	0.49
54:ID:37:SER:HB3	54:ID:84:LEU:HD11	1.95	0.49
2:B:2562:U:H1'	12:L:23:ARG:HE	1.77	0.49
7:LB:7:TYR:O	7:LB:22:ALA:HB3	2.13	0.49
2:GB:2478:A:OP2	33:LC:2:LYS:HE2	2.13	0.49
2:B:2850:A:H2	15:O:61:HIS:CG	2.31	0.49
12:QB:120:GLU:OE2	12:QB:122:LEU:HD21	2.13	0.49
40:UC:27:GLN:HA	40:UC:30:LEU:HB2	1.94	0.49
22:V:46:LYS:HB3	22:V:60:PHE:CD1	2.45	0.49
14:N:134:ARG:HH11	23:W:122:ARG:NE	2.10	0.49
23:W:56:VAL:HA	23:W:70:LEU:HD23	1.94	0.49
42:WC:30:ARG:HA	42:WC:33:GLU:HB3	1.95	0.49
48:XA:61:TRP:CG	48:XA:61:TRP:OXT	2.66	0.49
20:YB:34:ASN:HA	20:YB:37:ARG:HB2	1.95	0.49
1:A:1010:G:H2'	1:A:1011:G:H8	1.78	0.48
1:A:1382:C:H2'	1:A:1383:C:H6	1.78	0.48
1:A:1483:A:H1'	2:B:1948:G:H1'	1.95	0.48
2:B:1451:C:N4	2:B:1459:G:H1	2.11	0.48
2:B:586:A:H5'	7:G:89:VAL:HG21	1.95	0.48
2:B:70:G:H5''	2:B:112:U:O2	2.13	0.48
2:B:979:G:H3'	2:B:980:A:C5'	2.43	0.48
47:BD:31:LYS:NZ	47:BD:31:LYS:HA	2.27	0.48
1:A:1220:G:N2	53:CB:54:GLY:O	2.46	0.48
54:DB:76:ALA:O	54:DB:80:ARG:HB2	2.13	0.48
5:E:228:PRO:HD3	5:E:235:GLY:N	2.28	0.48
1:FB:588:G:H2'	1:FB:589:C:C6	2.47	0.48
7:G:53:THR:N	7:G:56:GLU:HG3	2.28	0.48
2:GB:1557:C:OP2	2:GB:1558:A:H2'	2.12	0.48
2:GB:279:C:OP2	2:GB:279:C:H6	1.94	0.48
2:GB:507:A:HO2'	2:GB:508:G:P	2.33	0.48
8:H:96:ARG:O	8:H:99:MET:HB3	2.13	0.48
11:K:10:GLU:OE2	11:K:11:PRO:HD2	2.13	0.48
6:KB:134:ILE:O	6:KB:136:ARG:N	2.46	0.48
37:MA:11:ARG:HA	37:MA:14:ILE:HB	1.94	0.48
8:MB:114:ILE:HG22	8:MB:140:ILE:HG21	1.95	0.48
11:PB:96:GLU:O	11:PB:100:GLU:HG3	2.13	0.48
36:QC:195:ASP:O	42:WC:68:ARG:NH2	2.46	0.48
37:RC:112:SER:O	37:RC:116:VAL:HG23	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RC:125:GLU:HA	37:RC:191:THR:HG22	1.95	0.48
41:QA:37:ASN:HA	43:SA:41:VAL:HG13	1.94	0.48
43:SA:70:LYS:O	43:SA:73:GLN:HG2	2.13	0.48
43:SA:93:ARG:NH1	43:SA:97:LYS:HD3	2.26	0.48
14:SB:43:THR:N	14:SB:46:GLN:OE1	2.35	0.48
38:SC:8:VAL:HG22	38:SC:21:LEU:HD13	1.93	0.48
22:V:86:ARG:NH1	22:V:100:ALA:HA	2.28	0.48
46:VA:110:VAL:HG23	46:VA:120:TYR:HB3	1.94	0.48
46:VA:124:LYS:HG3	46:VA:125:PRO:HD2	1.95	0.48
46:VA:28:LYS:HB2	46:VA:33:ARG:HH21	1.78	0.48
17:VB:39:ARG:HH12	17:VB:41:ARG:HD3	1.78	0.48
45:ZC:25:TYR:CD1	45:ZC:88:GLY:HA2	2.48	0.48
1:A:1063:C:H5''	1:A:1064:G:OP2	2.13	0.48
1:A:1251:A:OP2	43:SA:67:GLY:HA2	2.13	0.48
1:A:1290:G:H2'	1:A:1291:G:C8	2.48	0.48
1:A:1236:A:O2'	1:A:1304:G:H4'	2.13	0.48
1:A:989:C:H42	1:A:1217:C:N4	2.10	0.48
2:B:1491:G:H2'	2:B:1492:G:H8	1.77	0.48
2:B:1669:A:H4'	2:B:2549:G:H4'	1.95	0.48
2:B:548:A:H4'	19:S:19:LYS:NZ	2.28	0.48
23:BC:131:ARG:HD2	23:BC:131:ARG:H	1.78	0.48
23:BC:8:TYR:HD2	23:BC:38:TYR:HH	1.61	0.48
3:C:112:G:H2'	3:C:113:C:C6	2.48	0.48
5:E:145:VAL:HG12	5:E:146:GLU:O	2.13	0.48
1:FB:1275:A:H8	1:FB:1275:A:P	2.35	0.48
1:FB:1442:G:H2'	1:FB:1442:G:N3	2.28	0.48
1:FB:197:A:N6	1:FB:221:C:H5'	2.29	0.48
1:FB:337:C:H2'	1:FB:338:A:H8	1.77	0.48
1:FB:509:A:OP2	1:FB:510:A:OP2	2.31	0.48
2:GB:10:G:H4'	2:GB:2801:A:C2	2.48	0.48
2:GB:274:G:H1'	2:GB:363(A):G:H22	1.78	0.48
2:GB:662:G:H2'	2:GB:663:G:C8	2.47	0.48
2:GB:1993:U:H5''	6:KB:128:SER:HB3	1.95	0.48
37:MA:39:ILE:HD12	37:MA:59:ARG:HH22	1.78	0.48
8:MB:135:LEU:C	8:MB:136:ARG:HG3	2.33	0.48
8:MB:39:ILE:HG13	8:MB:157:ILE:HG22	1.94	0.48
39:OA:37:ARG:NH1	39:OA:111:GLU:HB3	2.27	0.48
11:PB:30:ILE:HG22	11:PB:34:LEU:HD22	1.95	0.48
42:RA:101:PRO:HG2	42:RA:133:LEU:HD11	1.95	0.48
37:RC:36:ASP:OD2	37:RC:59:ARG:NH2	2.43	0.48
15:TB:104:ARG:HB3	15:TB:107:ASP:OD1	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:VC:126:ASP:HB3	41:VC:131:LYS:O	2.13	0.48
14:N:64:ILE:HG13	23:W:178:GLU:HG3	1.95	0.48
19:XB:73:SER:OG	19:XB:74:LYS:N	2.46	0.48
26:Z:39:ALA:HB2	26:Z:44:LEU:HD23	1.96	0.48
1:A:1054:C:OP2	1:A:1197:G:OP2	2.31	0.48
1:A:160:A:H1'	1:A:344:A:N7	2.28	0.48
1:A:250:A:H4'	1:A:251:G:O5'	2.12	0.48
1:A:953:G:H5'	1:A:965:A:H61	1.78	0.48
1:A:984:C:N3	1:A:1221:G:N2	2.40	0.48
2:B:1268:A:C2	2:B:2013:A:C4	3.02	0.48
2:B:2156:G:H8	2:B:2156:G:OP2	1.96	0.48
2:B:2716:U:H2'	2:B:2717:G:C8	2.48	0.48
54:DB:10:LEU:CD1	54:DB:11:SER:H	2.26	0.48
6:F:11:MET:HB3	6:F:24:THR:HA	1.93	0.48
1:FB:35:G:O2'	46:AD:118:SER:O	2.31	0.48
1:FB:668:G:H1	1:FB:738:C:H42	1.61	0.48
1:FB:870:U:H4'	1:FB:871:U:H5''	1.93	0.48
2:GB:1592:C:H2'	2:GB:1593:G:H8	1.77	0.48
2:GB:2563:U:O2	2:GB:2565:A:H8	1.96	0.48
8:H:114:ILE:HG22	8:H:140:ILE:HG21	1.95	0.48
8:H:4:ASP:OD2	8:H:9:ARG:HD2	2.13	0.48
3:HB:111:U:H2'	3:HB:112:G:H8	1.78	0.48
9:I:16:SER:HB3	9:I:27:LYS:N	2.28	0.48
1:FB:1353:G:OP1	55:JD:10:ARG:NH2	2.46	0.48
8:MB:139:LEU:HD23	8:MB:139:LEU:H	1.78	0.48
8:MB:77:ILE:HB	8:MB:80:PHE:HB2	1.94	0.48
36:QC:16:HIS:CE1	36:QC:204:ASN:HB2	2.47	0.48
42:RA:34:GLU:O	42:RA:37:ARG:HG3	2.13	0.48
38:SC:53:ASP:O	38:SC:57:ARG:HD3	2.13	0.48
15:TB:60:LEU:HD21	15:TB:64:ARG:NH1	2.27	0.48
46:VA:86:ARG:HH21	46:VA:99:HIS:HD1	1.60	0.48
19:XB:14:VAL:HG12	19:XB:18:LEU:HD23	1.94	0.48
45:ZC:86:GLY:H	45:ZC:112:THR:HG23	1.77	0.48
1:A:1146:A:H2'	1:A:1147:C:O4'	2.13	0.48
1:A:327:A:C4	1:A:329:A:C8	3.02	0.48
2:B:1341:U:O4	21:U:16:LYS:NZ	2.37	0.48
2:B:1598:C:H2'	2:B:1599:C:H6	1.78	0.48
2:B:1657:C:H2'	2:B:1658:C:C6	2.48	0.48
2:B:1899:G:H2'	2:B:1899:G:N3	2.28	0.48
2:B:2602:A:H5''	4:IA:75:C:P	2.53	0.48
2:B:511:U:C5	2:B:512:G:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:885:C:O2'	2:B:890:A:N6	2.46	0.48
24:CC:41:ARG:HG3	24:CC:41:ARG:NH1	2.29	0.48
49:DD:55:GLY:O	49:DD:59:MET:HG3	2.14	0.48
1:FB:1015:A:H2'	1:FB:1016:A:C8	2.48	0.48
1:FB:1220:G:N2	53:HD:54:GLY:O	2.46	0.48
1:FB:1249:C:H1'	43:XC:69:GLY:O	2.13	0.48
1:FB:1378:C:H5	1:FB:1379:G:C8	2.31	0.48
2:GB:1047:G:H2'	2:GB:1110:G:N1	2.28	0.48
2:GB:1359:A:C2	2:GB:1372:U:O4	2.66	0.48
2:GB:380:U:H2'	2:GB:381:G:C8	2.47	0.48
2:GB:376:C:N4	2:GB:398:G:H1	2.11	0.48
2:GB:434:U:H1'	2:GB:435:C:H5	1.78	0.48
2:GB:755:C:H2'	2:GB:756:C:H6	1.78	0.48
35:JA:185:GLN:HG3	35:JA:198:THR:HG23	1.95	0.48
5:JB:260:ARG:NH2	5:JB:266:SER:OG	2.46	0.48
11:K:7:LYS:HA	11:K:7:LYS:HZ2	1.77	0.48
2:GB:618(A):G:H5'	7:LB:205:ARG:NH1	2.29	0.48
37:MA:40:ARG:HG2	37:MA:55:VAL:HG11	1.95	0.48
1:A:1190:G:P	37:MA:5:ILE:HB	2.53	0.48
14:N:116:GLU:OE2	14:N:119:ARG:NH2	2.47	0.48
10:OB:97:ILE:HD12	10:OB:142:VAL:HG11	1.95	0.48
11:PB:9:VAL:HG11	11:PB:39:ARG:NH2	2.28	0.48
35:PC:324:LEU:HD12	35:PC:326:LEU:HB2	1.95	0.48
41:QA:69:VAL:HG12	41:QA:103:TRP:HE3	1.78	0.48
12:QB:2:ILE:HD12	12:QB:8:LEU:HD21	1.95	0.48
14:SB:38:GLU:OE2	14:SB:127:ILE:HA	2.13	0.48
38:SC:142:PRO:HA	38:SC:185:PHE:HD2	1.78	0.48
46:VA:77:LEU:HD21	46:VA:107:ALA:HB2	1.95	0.48
42:WC:20:TYR:HA	42:WC:65:TYR:CE1	2.48	0.48
43:XC:25:LYS:HD3	43:XC:60:ASP:OD2	2.14	0.48
25:Y:77:ALA:HB2	25:Y:94:LEU:HD21	1.95	0.48
20:YB:78:GLU:HG3	20:YB:79:GLY:N	2.26	0.48
1:A:293:G:H8	1:A:293:G:OP2	1.95	0.48
1:A:451:A:N6	1:A:480:U:H2'	2.29	0.48
2:B:1019:U:H2'	2:B:1020:A:C8	2.49	0.48
2:B:2351:G:HO2'	2:B:2352:A:H8	1.60	0.48
2:B:2529:G:H5''	2:B:2530:A:H5''	1.96	0.48
2:B:2748:A:H2'	2:B:2749:A:H8	1.79	0.48
2:B:395:U:H1'	2:B:396:G:N7	2.28	0.48
2:B:647:G:O5'	2:B:647:G:H8	1.96	0.48
1:A:958:A:N6	53:CB:77:THR:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:132:PRO:HD2	5:E:135:PHE:HD2	1.78	0.48
26:EC:17:SER:N	26:EC:20:GLU:OE2	2.46	0.48
1:FB:278:G:N2	51:FD:95:TYR:HB3	2.28	0.48
1:FB:961:U:OP2	1:FB:1223:C:O4'	2.31	0.48
1:FB:984:C:N3	1:FB:1221:G:N2	2.39	0.48
7:G:102:PRO:O	7:G:106:ARG:HG3	2.14	0.48
2:GB:1314:C:OP1	2:GB:1315:C:OP2	2.31	0.48
2:GB:2852:G:H2'	2:GB:2853:C:C6	2.48	0.48
2:GB:2876:G:OP1	17:VB:3:ARG:NH2	2.46	0.48
2:GB:79:G:O2'	2:GB:346:A:N3	2.36	0.48
8:H:126:ASP:OD2	8:H:127:GLY:N	2.40	0.48
54:ID:57:ARG:HH11	54:ID:102:GLY:HA3	1.74	0.48
54:ID:86:ARG:NH1	54:ID:86:ARG:HG2	2.27	0.48
1:FB:1325:C:OP1	55:JD:15:ARG:HD3	2.13	0.48
36:LA:80:ILE:O	36:LA:84:GLU:HG2	2.13	0.48
7:LB:52:LYS:HA	7:LB:56:GLU:OE1	2.14	0.48
39:OA:102:ALA:HB2	39:OA:120:THR:HG21	1.94	0.48
18:R:49:HIS:HA	18:R:52:ARG:HB3	1.96	0.48
44:TA:79:ARG:O	44:TA:83:GLU:HB2	2.14	0.48
15:TB:26:LYS:HE3	15:TB:70:LEU:O	2.12	0.48
16:UB:12:PHE:HB3	16:UB:16:ASN:HD21	1.78	0.48
43:XC:36:TYR:HE2	43:XC:65:VAL:HG11	1.79	0.48
20:YB:20:VAL:HA	20:YB:23:LEU:HD12	1.95	0.48
1:A:1072:G:N2	36:LA:107:THR:HG21	2.29	0.48
1:A:1278:U:H5''	1:A:1279:A:O4'	2.14	0.48
1:A:1252:A:H61	1:A:1285:A:N6	2.12	0.48
1:A:1331:G:O6	55:EB:7:ARG:NH2	2.47	0.48
1:A:102:G:O2'	1:A:151:A:N3	2.41	0.48
1:A:837:G:C2	1:A:838:G:C8	3.02	0.48
2:B:1426:G:O2'	2:B:1572:A:N6	2.43	0.48
2:B:1590:U:H2'	2:B:1591:G:C8	2.48	0.48
2:B:2623:G:H4'	2:B:2825:G:C8	2.49	0.48
2:B:662:G:H2'	2:B:663:G:C8	2.49	0.48
5:E:183:ARG:HH11	5:E:183:ARG:HG2	1.78	0.48
2:B:1657:C:O3'	6:F:133:LYS:HB3	2.14	0.48
6:F:13:ARG:HH11	6:F:13:ARG:HG2	1.79	0.48
1:FB:1063:C:H5''	1:FB:1064:G:OP2	2.14	0.48
1:FB:1175:G:C8	1:FB:1175:G:OP2	2.66	0.48
1:FB:1275:A:OP2	1:FB:1275:A:C8	2.66	0.48
1:FB:1493:A:HO2'	1:FB:1494:G:P	2.37	0.48
1:FB:613:C:H2'	1:FB:614:A:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:64:ILE:HG13	7:G:76:GLY:O	2.14	0.48
2:GB:1382:G:O5'	2:GB:1382:G:H8	1.96	0.48
2:GB:1586:A:H3'	2:GB:1587:A:H8	1.78	0.48
2:GB:48:G:N1	2:GB:177:G:OP2	2.44	0.48
2:GB:2116:G:O2'	2:GB:2117:A:N3	2.44	0.48
8:H:63:ILE:HG23	8:H:64:THR:HG23	1.96	0.48
6:KB:12:THR:HB	17:VB:58:ASN:HD21	1.79	0.48
32:KC:52:LYS:HB3	32:KC:53:PRO:HD3	1.95	0.48
12:L:13:ASN:HD21	12:L:97:ARG:HG3	1.75	0.48
1:A:875:C:O2'	42:RA:14:ARG:HD2	2.13	0.48
2:GB:637:A:H8	13:RB:117:GLU:HG3	1.78	0.48
13:RB:3:LEU:H	13:RB:3:LEU:HD12	1.78	0.48
44:TA:51:ARG:HG2	44:TA:61:GLU:HG2	1.95	0.48
17:VB:23:ARG:HB2	17:VB:120:ARG:HH12	1.78	0.48
47:WA:91:ARG:HH12	47:WA:96:LEU:C	2.16	0.48
1:A:163:C:H2'	1:A:164:U:O4'	2.14	0.48
1:A:406:G:H2'	1:A:407:G:C8	2.48	0.48
46:AD:110:VAL:HG23	46:AD:120:TYR:HB3	1.96	0.48
2:B:1188:U:O2'	2:B:1189:A:H5'	2.13	0.48
2:B:140:A:C8	2:B:1408:C:O2'	2.64	0.48
2:B:1448:G:H1'	2:B:1528:A:N1	2.29	0.48
2:B:2369:A:H2'	2:B:2370:G:C8	2.49	0.48
2:B:330:A:O2'	2:B:331:A:C8	2.66	0.48
2:B:929:G:O5'	2:B:929:G:H8	1.96	0.48
24:CC:63:VAL:O	24:CC:81:VAL:HG11	2.14	0.48
5:E:208:LYS:HG3	5:E:211:ARG:H	1.79	0.48
1:FB:1146:A:H2'	1:FB:1147:C:O4'	2.14	0.48
1:FB:1251:A:H2'	1:FB:1252:A:O4'	2.14	0.48
1:FB:991:U:H4'	1:FB:992:U:H5''	1.96	0.48
2:GB:1583:A:H5''	2:GB:1585:C:OP1	2.14	0.48
2:GB:2086:U:H2'	2:GB:2087:G:C8	2.48	0.48
2:GB:2153:G:H2'	2:GB:2154:G:H8	1.79	0.48
2:GB:2591:C:H2'	2:GB:2592:G:C8	2.49	0.48
2:GB:2641:G:P	11:PB:74:ARG:HH21	2.37	0.48
2:GB:637:A:OP1	13:RB:133:SER:OG	2.32	0.48
9:I:13:LYS:HA	9:I:14:GLY:HA2	1.53	0.48
4:IB:64:G:H2'	4:IB:65:C:C6	2.47	0.48
55:JD:9:ARG:HG3	55:JD:10:ARG:HG2	1.96	0.48
40:PA:61:LEU:HD23	40:PA:63:TYR:CE2	2.48	0.48
15:TB:21:TYR:HB3	15:TB:47:PHE:CD2	2.49	0.48
39:TC:20:GLN:HG3	39:TC:23:GLY:H	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:TC:37:ARG:NH1	39:TC:111:GLU:HB3	2.28	0.48
1:A:1378:C:H5	1:A:1379:G:C8	2.32	0.48
2:B:1206:G:C6	2:B:1207:C:C4	3.01	0.48
2:B:1388:G:H2'	2:B:1389:G:C8	2.48	0.48
2:B:1996:C:H4'	2:B:1997:G:H5'	1.95	0.48
2:B:2272:U:H5''	2:B:2273:A:OP1	2.14	0.48
2:B:2647:U:H2'	2:B:2648:C:C6	2.48	0.48
2:B:593:G:C6	2:B:594:U:C4	3.02	0.48
2:B:768:G:C5	2:B:769:G:N7	2.82	0.48
2:B:885:C:C3'	2:B:886:C:H4'	2.39	0.48
52:BB:30:ASP:OD2	52:BB:33:ASP:N	2.46	0.48
23:BC:103:ARG:HG3	23:BC:136:PHE:HB3	1.96	0.48
48:CD:13:THR:HG23	48:CD:20:ALA:HB2	1.96	0.48
54:DB:10:LEU:HD12	54:DB:12:ALA:H	1.78	0.48
32:FA:6:THR:HG23	32:FA:63:PRO:HD2	1.95	0.48
1:FB:1348:U:C2	1:FB:1349:A:C8	3.01	0.48
1:FB:922:G:O2'	1:FB:1398:A:N1	2.41	0.48
1:FB:1431:C:H2'	1:FB:1432:G:O4'	2.13	0.48
1:FB:1437:C:H42	1:FB:1464:G:H1	1.61	0.48
1:FB:241:C:H42	1:FB:285:G:H1	1.62	0.48
1:FB:406:G:H2'	1:FB:407:G:C8	2.48	0.48
1:FB:688:G:H2'	1:FB:689:C:C6	2.49	0.48
1:FB:750:G:N3	49:DD:23:GLY:HA3	2.29	0.48
1:FB:753:A:H5'	1:FB:754:C:C6	2.49	0.48
2:GB:1061:U:OP2	2:GB:1062:G:OP2	2.32	0.48
2:GB:1071:G:H1'	2:GB:1089:G:C8	2.49	0.48
2:GB:1111:A:H4'	2:GB:1112:G:OP1	2.13	0.48
2:GB:1932:A:H2'	2:GB:1933:G:O4'	2.13	0.48
2:GB:2279:G:N2	2:GB:2280:G:H1'	2.29	0.48
2:GB:2330:G:H2'	2:GB:2331:G:O4'	2.14	0.48
2:GB:242:G:O2'	2:GB:254:G:O6	2.20	0.48
2:GB:2875:C:H2'	2:GB:2876:G:O4'	2.14	0.48
2:GB:2809:A:OP2	2:GB:2891:G:C2	2.67	0.48
2:GB:589:C:H2'	2:GB:590:A:H8	1.77	0.48
2:GB:747:U:O2	2:GB:2014:A:H1'	2.12	0.48
10:J:9:LEU:HD22	10:J:10:GLU:OE2	2.13	0.48
6:KB:93:VAL:HG11	6:KB:181:LEU:O	2.14	0.48
36:LA:47:THR:HG22	36:LA:51:LEU:HD23	1.96	0.48
7:LB:64:ILE:HG13	7:LB:76:GLY:O	2.14	0.48
4:NC:54:5MU:H73	4:NC:55:PSU:O2	2.14	0.48
15:O:105:ARG:CG	15:O:105:ARG:HH11	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:OB:66:GLU:OE2	10:OB:69:LYS:HG2	2.14	0.48
16:P:28:VAL:HG23	16:P:37:ALA:HB2	1.96	0.48
17:Q:55:ASN:H	17:Q:59:THR:HB	1.79	0.48
37:RC:87:LEU:HD11	37:RC:101:LEU:HD13	1.96	0.48
39:TC:102:ALA:HB3	39:TC:107:ARG:HB2	1.96	0.48
41:VC:16:LEU:HG	43:XC:42:ARG:HA	1.96	0.48
23:W:103:ARG:HB2	23:W:138:GLU:HA	1.95	0.48
48:XA:24:CYS:SG	48:XA:25:VAL:N	2.87	0.48
1:A:1241:G:H5''	1:A:1242:C:OP2	2.14	0.48
1:A:967:5MC:H4'	43:SA:125:TYR:OH	2.14	0.48
27:AA:35:ARG:CB	27:AA:35:ARG:HH11	2.26	0.48
22:AC:76:CYS:SG	22:AC:78:ALA:HB3	2.54	0.48
2:B:1542:G:OP2	2:B:1543:A:O2'	2.14	0.48
2:B:2378:A:O2'	16:P:21:THR:HG21	2.13	0.48
2:B:242:G:O2'	2:B:254:G:O6	2.24	0.48
2:B:2591:C:H2'	2:B:2592:G:C8	2.49	0.48
2:B:363(E):G:H2'	2:B:363(F):U:O4'	2.13	0.48
2:B:492:A:H2'	2:B:493:G:O4'	2.14	0.48
2:B:27:G:C4	2:B:512:G:N2	2.82	0.48
2:B:67:U:H2'	2:B:68:G:H8	1.79	0.48
2:B:959:A:N6	2:B:960:A:N1	2.62	0.48
3:C:102:G:H21	23:W:73:GLN:HE22	1.60	0.48
3:C:102:G:H21	23:W:73:GLN:NE2	2.11	0.48
2:GB:2262:U:OP2	24:CC:19:LYS:HE3	2.14	0.48
26:EC:35:LEU:HB3	26:EC:50:ILE:HG12	1.94	0.48
1:FB:1132:C:H2'	1:FB:1133:G:C8	2.46	0.48
1:FB:1250:A:H5'	1:FB:1251:A:OP2	2.14	0.48
1:FB:1316:G:O6	53:HD:3:ARG:NH1	2.47	0.48
1:FB:1401:G:OP1	34:MC:18:G:O2'	2.29	0.48
1:FB:87:A:H5''	1:FB:88:C:C2	2.49	0.48
51:FD:14:LYS:N	51:FD:14:LYS:HE3	2.29	0.48
2:GB:1006:C:C2	2:GB:1138:G:N2	2.82	0.48
2:GB:1899:G:H2'	2:GB:1899:G:N3	2.29	0.48
2:GB:302:C:H2'	2:GB:303:U:H6	1.78	0.48
2:GB:644:A:H4'	2:GB:645:C:C5	2.44	0.48
28:GC:25:TYR:N	28:GC:25:TYR:CD2	2.82	0.48
34:HA:14:A:H3'	34:HA:15:A:H8	1.79	0.48
9:I:55:PRO:HG2	9:I:61:HIS:NE2	2.29	0.48
37:MA:111:LEU:HB3	37:MA:204:LEU:HD21	1.96	0.48
37:MA:109:PRO:HB2	37:MA:119:ARG:HH12	1.79	0.48
35:OC:119:THR:HG22	35:OC:120:GLY:H	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:OC:145:ARG:H	35:OC:167:SER:HB2	1.79	0.48
41:QA:90:GLU:HA	41:QA:90:GLU:OE2	2.14	0.48
36:QC:80:ILE:O	36:QC:84:GLU:HG2	2.14	0.48
38:SC:196:LEU:HD12	38:SC:196:LEU:HA	1.75	0.48
23:W:8:TYR:HD2	23:W:38:TYR:CZ	2.32	0.48
42:WC:91:ARG:HG3	46:AD:7:ILE:HG13	1.96	0.48
44:YC:49:VAL:CG2	48:CD:41:ARG:HB2	2.44	0.48
50:ZA:19:ILE:N	50:ZA:37:GLY:O	2.47	0.48
1:A:1238:A:O5'	1:A:1336:C:N4	2.31	0.48
1:A:1299:A:H2'	1:A:1299:A:N3	2.29	0.48
1:A:1327:C:H2'	1:A:1328:C:C6	2.49	0.48
1:A:1348:U:H2'	1:A:1349:A:H8	1.78	0.48
1:A:197:A:N6	1:A:221:C:H5'	2.29	0.48
1:A:201:C:H3'	1:A:208:U:H5''	1.96	0.48
1:A:688:G:H2'	1:A:689:C:H6	1.78	0.48
46:AD:39:VAL:HG12	46:AD:57:LYS:CB	2.43	0.48
2:B:2291:U:OP1	2:B:2380:C:O2'	2.29	0.48
2:B:252:G:OP1	13:M:50:ARG:NH1	2.46	0.48
2:B:2686:G:H5'	2:B:2687:U:OP2	2.14	0.48
2:B:2852:G:H2'	2:B:2853:C:C6	2.48	0.48
2:B:380:U:H2'	2:B:381:G:H8	1.78	0.48
2:B:960:A:H5''	2:B:961:C:OP2	2.14	0.48
28:BA:25:TYR:CD2	28:BA:25:TYR:N	2.82	0.48
23:BC:94:GLU:O	23:BC:130:PRO:HD3	2.13	0.48
23:BC:152:ALA:HB3	23:BC:166:SER:O	2.13	0.48
47:BD:39:ILE:HD11	47:BD:55:ARG:HH12	1.78	0.48
1:FB:1004:A:H61	1:FB:1026:G:H5''	1.79	0.48
1:FB:674:G:H2'	1:FB:675:A:C8	2.47	0.48
1:FB:816:A:OP2	1:FB:1527:C:H4'	2.13	0.48
1:FB:837:G:C2	1:FB:838:G:C8	3.02	0.48
2:GB:1024:G:C6	2:GB:1025:G:C6	3.02	0.48
2:GB:1394:U:C4	2:GB:1395:A:C6	3.02	0.48
2:GB:1657:C:H2'	2:GB:1658:C:C6	2.48	0.48
2:GB:1870:C:H2'	2:GB:1871:A:O4'	2.14	0.48
2:GB:2581:G:C6	2:GB:2610:C:N3	2.82	0.48
8:H:139:LEU:HD23	8:H:139:LEU:H	1.79	0.48
28:GC:59:PHE:CE2	53:HD:64:GLU:HG3	2.40	0.48
12:L:101:PRO:HD3	17:Q:67:SER:O	2.12	0.48
8:MB:174:GLU:HA	8:MB:180:PHE:HE2	1.78	0.48
8:MB:9:ARG:O	8:MB:12:TYR:HB2	2.14	0.48
15:O:36:THR:HG22	15:O:37:THR:N	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:196:A:OP2	13:RB:46:LYS:NZ	2.47	0.48
37:RC:40:ARG:HG2	37:RC:55:VAL:HG11	1.94	0.48
14:SB:67:ARG:HD2	14:SB:105:GLU:OE2	2.13	0.48
38:SC:3:ARG:NH2	38:SC:4:TYR:HB3	2.25	0.48
15:TB:54:LEU:HD21	15:TB:65:LEU:HB3	1.96	0.48
38:SC:57:ARG:NH1	39:TC:107:ARG:NH1	2.56	0.48
39:TC:37:ARG:HH12	39:TC:111:GLU:CB	2.27	0.48
17:VB:124:ASP:O	17:VB:128:GLU:HB3	2.13	0.48
47:WA:70:LEU:O	47:WA:74:VAL:HG23	2.13	0.48
42:WC:22:GLU:O	42:WC:63:LEU:HB2	2.13	0.48
1:A:1145:C:OP2	1:A:1145:C:H6	1.96	0.47
1:A:642:A:H2'	1:A:643:C:C6	2.49	0.47
46:AD:39:VAL:HG12	46:AD:57:LYS:HB3	1.95	0.47
2:B:1322:A:C5	2:B:1323:U:C5	3.02	0.47
2:B:2036:C:H6	2:B:2036:C:H5'	1.79	0.47
2:B:2114:A:H2'	2:B:2115:G:H5'	1.96	0.47
2:B:2247:A:H2'	2:B:2248:C:H6	1.78	0.47
2:B:67:U:H2'	2:B:68:G:C8	2.49	0.47
2:B:71:A:OP2	2:B:71:A:H3'	2.14	0.47
2:B:760:G:H2'	2:B:761:A:O4'	2.13	0.47
2:B:857:C:N4	2:B:858:U:O4	2.47	0.47
47:BD:92:HIS:CG	47:BD:98:VAL:HG21	2.49	0.47
2:GB:2432:A:C4	25:DC:33:LYS:HG3	2.48	0.47
25:DC:47:GLN:N	25:DC:62:VAL:O	2.41	0.47
5:E:33:LEU:HD13	5:E:104:TYR:CE2	2.49	0.47
21:ZB:8:ILE:O	26:EC:36:ARG:NH2	2.47	0.47
1:FB:1080:A:H5''	1:FB:1081:G:OP2	2.14	0.47
1:FB:735:C:H2'	1:FB:736:C:H6	1.79	0.47
1:FB:753:A:OP1	49:DD:69:TYR:OH	2.22	0.47
7:G:196:LEU:HA	7:G:196:LEU:HD23	1.66	0.47
7:G:64:ILE:HD13	7:G:65:TRP:CD2	2.49	0.47
2:GB:1049:C:H2'	2:GB:1050:A:H8	1.78	0.47
2:GB:1472:A:H61	2:GB:1521:G:H1'	1.77	0.47
2:GB:1846:G:H5''	2:GB:1847:A:OP2	2.14	0.47
2:GB:1946:U:H2'	2:GB:1947:C:C6	2.49	0.47
2:GB:581:C:H2'	2:GB:582:G:H8	1.79	0.47
2:GB:735:A:H3'	2:GB:736:C:H6	1.78	0.47
2:GB:929:G:H8	2:GB:929:G:O5'	1.97	0.47
52:GD:30:ASP:OD2	52:GD:33:ASP:N	2.46	0.47
8:H:96:ARG:O	8:H:98:ARG:N	2.42	0.47
9:I:25:LYS:HE2	9:I:34:GLU:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:KB:54:GLN:HB2	6:KB:76:ARG:HG3	1.95	0.47
36:LA:195:ASP:O	42:RA:68:ARG:NH2	2.47	0.47
8:MB:120:LEU:HB2	8:MB:179:PRO:O	2.14	0.47
1:A:619:U:C4	38:NA:135:LEU:HD11	2.49	0.47
9:NB:27:LYS:HA	9:NB:32:GLU:HA	1.96	0.47
15:O:104:ARG:HD2	15:O:109:ALA:HB3	1.96	0.47
39:OA:86:ALA:HB3	39:OA:130:ASN:ND2	2.28	0.47
10:OB:86:THR:O	10:OB:123:LEU:HB2	2.14	0.47
11:PB:12:ARG:HH22	11:PB:138:LEU:HD11	1.78	0.47
36:QC:173:ALA:HA	36:QC:176:GLU:HB2	1.95	0.47
42:RA:81:HIS:HD2	42:RA:104:ARG:HH22	1.61	0.47
38:SC:35:ARG:O	38:SC:37:PRO:HD3	2.14	0.47
20:T:17:VAL:HG11	20:T:103:ILE:HD13	1.94	0.47
39:TC:13:ILE:HG21	39:TC:51:VAL:HG13	1.96	0.47
2:B:64:A:C4	21:U:66:LEU:HD13	2.49	0.47
16:UB:25:ARG:NH2	16:UB:40:ILE:HD12	2.29	0.47
40:UC:13:ASN:OD1	40:UC:55:ASP:OD1	2.32	0.47
40:UC:67:MET:HE2	40:UC:75:LEU:HD13	1.95	0.47
42:WC:81:HIS:CD2	42:WC:104:ARG:HH22	2.32	0.47
1:A:1015:A:H2'	1:A:1016:A:C8	2.49	0.47
1:A:1437:C:H42	1:A:1464:G:H1	1.62	0.47
1:A:401:C:O2'	1:A:621:A:N3	2.44	0.47
1:A:740:U:OP2	49:YA:2:PRO:HG3	2.15	0.47
22:AC:90:LEU:HB3	22:AC:92:ASN:OD1	2.13	0.47
2:B:1627:G:C2	2:B:1628:G:C8	3.02	0.47
2:B:1692:U:O2'	2:B:1693:U:H2'	2.14	0.47
2:B:1790:C:H2'	2:B:1791:A:C5	2.50	0.47
2:B:699:A:H2'	2:B:700:G:O4'	2.13	0.47
2:B:817:C:O2'	2:B:839:U:OP1	2.20	0.47
14:SB:64:ILE:HG13	23:BC:178:GLU:HG3	1.96	0.47
1:FB:950:U:OP2	47:BD:102:ARG:HG3	2.14	0.47
5:E:118:VAL:HG13	5:E:123:ALA:HB1	1.95	0.47
50:ED:43:LYS:HG2	50:ED:48:TRP:CE3	2.49	0.47
1:FB:1228:C:OP1	47:BD:115:LYS:N	2.42	0.47
1:FB:959:A:N1	1:FB:1221:G:O2'	2.32	0.47
2:GB:1939:5MU:OP1	2:GB:2604:U:O2'	2.28	0.47
2:GB:2135:A:N6	2:GB:2155:G:O6	2.48	0.47
2:GB:2127:G:H1'	2:GB:2173:A:H2	1.79	0.47
2:GB:243:U:OP1	32:KC:6:THR:OG1	2.21	0.47
2:GB:478:A:C6	2:GB:480:A:C6	3.02	0.47
2:GB:70:G:H5''	2:GB:112:U:O2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:111:LEU:HD23	8:H:111:LEU:HA	1.76	0.47
54:ID:10:LEU:HD12	54:ID:11:SER:H	1.79	0.47
10:J:69:LYS:HD2	10:J:73:GLU:OE1	2.14	0.47
11:K:12:ARG:HD3	11:K:50:ASP:OD2	2.14	0.47
6:KB:16:ARG:NH1	6:KB:171:GLU:OE2	2.46	0.47
38:NA:3:ARG:NH2	38:NA:4:TYR:HB3	2.25	0.47
9:NB:67:LEU:O	9:NB:71:LEU:HB2	2.15	0.47
15:O:26:LYS:HE3	15:O:70:LEU:O	2.14	0.47
36:QC:48:MET:HA	36:QC:51:LEU:HB2	1.96	0.47
13:RB:122:PRO:HB3	13:RB:142:GLY:O	2.14	0.47
20:T:39:THR:HG22	20:T:44:ALA:HB2	1.96	0.47
40:UC:3:ARG:HH11	40:UC:3:ARG:CG	2.27	0.47
40:UC:94:GLN:HG3	52:GD:32:ARG:HD3	1.95	0.47
46:VA:39:VAL:HG12	46:VA:57:LYS:CB	2.44	0.47
41:VC:37:ASN:HA	43:XC:41:VAL:HG13	1.95	0.47
25:Y:86:SER:O	25:Y:90:ILE:HG13	2.14	0.47
1:FB:1366:C:O2'	44:YC:60:ARG:NH2	2.47	0.47
1:A:1274:G:C8	1:A:1274:G:OP2	2.67	0.47
1:A:23:C:H5	1:A:561:U:O4	1.97	0.47
1:A:791:G:N2	1:A:1497:G:O3'	2.48	0.47
57:B:9001:BLS:H2'	4:IA:76:A:C4	2.49	0.47
52:BB:70:ILE:H	52:BB:70:ILE:HG13	1.54	0.47
2:B:1567:A:O2'	5:E:63:ARG:NH2	2.46	0.47
1:FB:219:C:H2'	1:FB:220:G:O4'	2.14	0.47
2:GB:1115:G:H2'	2:GB:1116:C:C6	2.49	0.47
2:GB:1538:G:H2'	2:GB:1539:G:C8	2.49	0.47
2:GB:1814:G:H4'	5:JB:51:VAL:HG21	1.95	0.47
2:GB:2816:C:O2	2:GB:2883:A:O2'	2.27	0.47
54:ID:76:ALA:O	54:ID:80:ARG:HB2	2.14	0.47
2:GB:1490:A:O2'	5:JB:99:ASP:OD1	2.26	0.47
8:MB:32:PRO:HB2	8:MB:172:LEU:HD13	1.97	0.47
9:NB:19:VAL:HG12	9:NB:21:PRO:HD3	1.96	0.47
11:PB:30:ILE:HG23	11:PB:52:VAL:HG11	1.97	0.47
2:GB:833:U:O2	13:RB:55:ARG:NH2	2.45	0.47
37:RC:109:PRO:HB2	37:RC:119:ARG:HH12	1.79	0.47
44:TA:51:ARG:CZ	44:TA:61:GLU:HB3	2.45	0.47
2:GB:1278:A:OP1	15:TB:36:THR:HG23	2.14	0.47
41:VC:86:GLN:HB2	41:VC:148:ASN:HD22	1.78	0.47
1:FB:969:A:N6	43:XC:128:ARG:O	2.47	0.47
44:YC:40:LEU:HD23	44:YC:69:ASN:HB2	1.95	0.47
1:A:1103:C:H5'	36:LA:98:LEU:HD12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:210:U:O2'	1:A:216:G:OP2	2.29	0.47
1:A:730:G:C5	1:A:731:G:H1'	2.49	0.47
1:A:943:U:OP2	1:A:943:U:H6	1.97	0.47
51:AB:10:VAL:HG23	51:AB:55:ASP:O	2.14	0.47
2:B:1297:C:O2'	2:B:1302:A:N6	2.47	0.47
2:B:1494:A:H2'	2:B:1495:A:C8	2.49	0.47
2:B:1586:A:H3'	2:B:1587:A:H8	1.80	0.47
2:B:2211:G:H2'	2:B:2212:A:C2	2.50	0.47
2:B:2287:A:N6	2:B:2344:U:H3	2.11	0.47
2:B:729:G:OP1	5:E:10:THR:OG1	2.21	0.47
47:BD:70:LEU:O	47:BD:74:VAL:HG23	2.14	0.47
4:D:64:G:H2'	4:D:65:C:C6	2.49	0.47
54:DB:29:LYS:HE2	54:DB:65:LYS:HB3	1.97	0.47
49:DD:44:LYS:O	49:DD:47:LYS:NZ	2.48	0.47
31:EA:12:ARG:HD3	31:EA:46:VAL:HG13	1.97	0.47
1:FB:1299:A:H2'	1:FB:1299:A:N3	2.30	0.47
1:FB:920:U:H2'	1:FB:921:U:C6	2.48	0.47
1:FB:976:G:O5'	1:FB:1358:U:O2'	2.32	0.47
2:GB:1322:A:C5	2:GB:1323:U:C5	3.02	0.47
2:GB:1789:A:OP1	5:JB:221:VAL:HA	2.14	0.47
2:GB:2728:U:P	12:QB:70:LYS:HZ3	2.37	0.47
2:GB:2748:A:H2'	2:GB:2749:A:C8	2.48	0.47
8:H:174:GLU:HA	8:H:180:PHE:HE2	1.80	0.47
4:IA:25:C:H2'	4:IA:26:G:O4'	2.15	0.47
10:J:9:LEU:O	10:J:12:LEU:HB3	2.15	0.47
5:JB:182:LEU:HA	5:JB:182:LEU:HD23	1.77	0.47
36:LA:103:THR:HG23	36:LA:176:GLU:OE1	2.13	0.47
9:NB:13:LYS:HA	9:NB:14:GLY:HA2	1.53	0.47
4:NC:25:C:H2'	4:NC:26:G:O4'	2.15	0.47
15:O:88:ARG:NH1	15:O:89:ASP:OD1	2.47	0.47
3:C:48:A:H4'	16:P:95:HIS:HD2	1.79	0.47
11:PB:58:ASP:OD1	11:PB:125:GLY:N	2.47	0.47
43:SA:3:GLN:OE1	43:SA:20:ARG:NH2	2.45	0.47
38:SC:94:LEU:HA	38:SC:97:LEU:HB2	1.97	0.47
44:TA:79:ARG:HG2	44:TA:83:GLU:OE2	2.15	0.47
18:WB:104:GLN:NE2	18:WB:105:VAL:HG23	2.29	0.47
1:FB:778:G:O2'	45:ZC:120:ARG:O	2.30	0.47
45:ZC:67:ASP:OD2	45:ZC:71:LYS:HE3	2.14	0.47
1:A:1321:C:H4'	47:WA:87:TYR:CE2	2.49	0.47
1:A:1442:G:H2'	1:A:1442:G:N3	2.29	0.47
1:A:209:U:H4'	1:A:216:G:C2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:554:C:H2'	1:A:555:C:H6	1.79	0.47
1:A:779:C:H2'	1:A:780:A:O4'	2.15	0.47
1:A:976:G:O5'	1:A:1358:U:O2'	2.30	0.47
2:B:1024:G:C6	2:B:1025:G:C6	3.02	0.47
2:B:1057:A:H8	2:B:1086:A:H62	1.61	0.47
2:B:1394:U:C4	2:B:1395:A:C6	3.02	0.47
2:B:2227:A:O3'	5:E:261:LYS:NZ	2.40	0.47
2:B:338:G:C2'	2:B:339:U:H5'	2.45	0.47
2:B:877:U:H2'	2:B:878:A:H5''	1.96	0.47
28:BA:57:GLU:HA	28:BA:58:ARG:HA	1.54	0.47
23:BC:5:LEU:HB3	23:BC:47:VAL:HG21	1.96	0.47
47:BD:108:ARG:NH1	47:BD:112:GLY:O	2.47	0.47
4:D:18:G:O6	4:D:56:C:N4	2.48	0.47
5:E:78:LYS:HE3	5:E:114:GLY:HA2	1.94	0.47
6:F:134:ILE:O	6:F:136:ARG:N	2.47	0.47
32:FA:17:THR:OG1	32:FA:21:LYS:HB2	2.14	0.47
1:FB:1274:G:OP2	1:FB:1274:G:H8	1.97	0.47
1:FB:131:C:O2	1:FB:231:G:N2	2.39	0.47
1:FB:404:U:H2'	1:FB:405:U:C6	2.50	0.47
1:FB:584:G:H2'	1:FB:585:G:C8	2.49	0.47
1:FB:715:A:H2'	1:FB:716:A:C8	2.49	0.47
7:G:52:LYS:HA	7:G:56:GLU:OE1	2.15	0.47
33:GA:2:LYS:HB2	33:GA:34:GLN:HG2	1.97	0.47
2:GB:1380:G:O2'	2:GB:1569:A:N6	2.47	0.47
2:GB:1526:G:H2'	2:GB:1527:G:O4'	2.15	0.47
2:GB:2287:A:N6	2:GB:2344:U:H3	2.12	0.47
28:GC:11:PRO:HA	28:GC:25:TYR:HA	1.97	0.47
29:HC:49:CYS:SG	29:HC:51:TYR:HB2	2.55	0.47
34:HA:18:G:C6	4:IA:35:A:N1	2.82	0.47
4:IA:48:C:HO2'	4:IA:59:A:HO2'	1.61	0.47
30:IC:39:TYR:OH	30:IC:44:ARG:HG3	2.14	0.47
5:JB:43:ARG:CG	5:JB:43:ARG:HH11	2.07	0.47
7:LB:165:ARG:O	7:LB:168:ARG:HB2	2.13	0.47
14:N:70:PRO:HA	14:N:95:ALA:HB2	1.97	0.47
38:NA:110:PHE:CD2	38:NA:110:PHE:N	2.82	0.47
38:NA:139:ARG:HG3	38:NA:139:ARG:HH11	1.78	0.47
9:NB:16:SER:HB3	9:NB:27:LYS:N	2.29	0.47
10:OB:98:ALA:HA	10:OB:109:ILE:HD11	1.97	0.47
35:PC:342:GLU:OE2	35:PC:345:ILE:HD11	2.14	0.47
41:QA:89:MET:HB3	41:QA:90:GLU:H	1.52	0.47
12:QB:69:VAL:HG11	12:QB:105:GLU:OE2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:QC:193:ASP:HB3	36:QC:196:LEU:HD12	1.96	0.47
13:RB:43:GLY:O	13:RB:45:LEU:N	2.44	0.47
37:RC:30:ARG:NH1	37:RC:30:ARG:HB3	2.30	0.47
38:SC:102:ASP:OD2	38:SC:136:PRO:HB3	2.14	0.47
20:T:34:ASN:HA	20:T:37:ARG:HB2	1.97	0.47
39:TC:106:PRO:O	39:TC:110:LEU:HG	2.15	0.47
39:TC:17:ALA:HB2	39:TC:26:PHE:HD1	1.78	0.47
16:UB:89:ARG:NH1	16:UB:92:TYR:O	2.48	0.47
23:W:108:PRO:HB2	23:W:111:VAL:HG23	1.97	0.47
23:W:30:ASN:ND2	23:W:31:ARG:HG2	2.29	0.47
47:WA:34:LEU:HD22	47:WA:40:ASN:O	2.14	0.47
1:A:1220:G:H2'	1:A:1221:G:O4'	2.14	0.47
1:A:1430:C:H2'	1:A:1431:C:H6	1.80	0.47
1:A:241:C:H42	1:A:285:G:H1	1.60	0.47
1:A:344:A:H4'	1:A:345:C:OP2	2.15	0.47
1:A:967:5MC:H2'	1:A:968:A:N7	2.29	0.47
2:B:1354:A:C8	2:B:1355:G:C8	3.03	0.47
2:B:137(B):G:H1'	21:U:41:ASN:ND2	2.29	0.47
2:B:2197:U:O2'	2:B:2198:A:OP2	2.28	0.47
2:B:251:A:C5	2:B:252:G:H1'	2.50	0.47
2:B:253:C:H2'	2:B:254:G:O4'	2.15	0.47
2:B:454:A:H4'	2:B:455:C:OP2	2.13	0.47
2:B:998:C:H2'	2:B:999:U:O4'	2.15	0.47
47:BD:55:ARG:NH1	47:BD:56:LEU:HD13	2.30	0.47
25:DC:77:ALA:HB2	25:DC:94:LEU:HD21	1.97	0.47
1:FB:986:A:H1'	1:FB:1220:G:N2	2.29	0.47
1:FB:1220:G:H2'	1:FB:1221:G:O4'	2.15	0.47
7:G:10:PRO:CA	7:G:17:ARG:HH12	2.27	0.47
7:G:53:THR:HG23	7:G:56:GLU:OE1	2.14	0.47
2:GB:1039:G:C6	2:GB:1040:C:C4	3.02	0.47
1:FB:1493:A:C5	2:GB:1913:A:C6	3.03	0.47
2:GB:2036:C:H5'	2:GB:2036:C:H6	1.80	0.47
2:GB:2290:G:H2'	2:GB:2291:U:O4'	2.13	0.47
2:GB:2356:C:O3'	24:CC:20:ARG:HD3	2.15	0.47
2:GB:2836:U:H2'	2:GB:2837:G:H8	1.80	0.47
2:GB:363(B):A:H2'	2:GB:363(C):G:H8	1.77	0.47
2:GB:609(B):G:H2'	2:GB:610:C:H6	1.78	0.47
2:GB:7:G:H2'	2:GB:8:A:O4'	2.14	0.47
9:I:3:ARG:NH2	9:I:5:GLY:H	2.12	0.47
4:IB:18:G:O6	4:IB:56:C:N4	2.47	0.47
4:IB:73:A:O2'	25:DC:23:LYS:NZ	2.36	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:ID:10:LEU:CD1	54:ID:11:SER:H	2.27	0.47
10:J:113:ARG:HD3	10:J:132:PRO:HA	1.97	0.47
35:JA:149:MET:HB2	35:JA:163:ILE:HG23	1.95	0.47
12:L:25:LEU:HB2	12:L:38:VAL:HG23	1.96	0.47
37:MA:30:ARG:NH1	37:MA:30:ARG:HB3	2.30	0.47
10:OB:124:GLY:N	10:OB:144:VAL:HG23	2.29	0.47
16:P:7:TYR:CZ	16:P:91:PRO:HG2	2.50	0.47
11:PB:9:VAL:HG11	11:PB:39:ARG:HH22	1.79	0.47
41:QA:16:LEU:HG	43:SA:42:ARG:HA	1.97	0.47
38:SC:8:VAL:O	38:SC:10:ARG:N	2.41	0.47
38:SC:128:VAL:HA	38:SC:145:GLU:O	2.14	0.47
1:A:337:C:H2'	1:A:338:A:H8	1.78	0.47
46:AD:70:ILE:HG12	46:AD:100:ILE:HD12	1.96	0.47
2:B:1071:G:H1'	2:B:1089:G:C8	2.50	0.47
2:B:1657:C:H4'	6:F:133:LYS:HB2	1.96	0.47
2:B:2133:G:O2'	2:B:2134:A:OP2	2.27	0.47
2:B:387:U:OP2	25:Y:20:ARG:NH1	2.47	0.47
52:BB:71:LYS:HA	52:BB:74:ARG:HD2	1.96	0.47
23:BC:8:TYR:HD2	23:BC:38:TYR:CZ	2.33	0.47
3:C:34:U:H6	3:C:34:U:O5'	1.97	0.47
49:DD:3:ILE:HD11	49:DD:38:ARG:HD2	1.95	0.47
2:B:458:G:H5''	31:EA:38:GLY:O	2.15	0.47
1:FB:1251:A:OP2	43:XC:67:GLY:HA2	2.13	0.47
1:FB:877:C:OP1	42:WC:88:LYS:NZ	2.46	0.47
2:GB:2231:C:OP1	25:DC:42:GLN:HA	2.13	0.47
2:GB:2508:G:O2'	2:GB:2554:U:O2'	2.32	0.47
3:HB:5:C:OP1	3:HB:61:G:O2'	2.24	0.47
5:JB:61:LEU:HA	5:JB:61:LEU:HD12	1.64	0.47
1:FB:1285:A:H5''	55:JD:25:LYS:NZ	2.30	0.47
4:NC:31:G:H5''	4:NC:32:5MC:OP2	2.14	0.47
42:RA:31:PHE:O	42:RA:35:ILE:HG13	2.14	0.47
37:RC:88:ARG:HA	37:RC:91:LEU:HB2	1.96	0.47
16:UB:13:ARG:NH1	16:UB:13:ARG:CG	2.73	0.47
22:V:76:CYS:SG	22:V:78:ALA:HB3	2.54	0.47
18:WB:94:ASN:HA	18:WB:97:ASP:HB3	1.95	0.47
1:A:416:G:H2'	1:A:417:C:O4'	2.15	0.47
1:A:584:G:H2'	1:A:585:G:H8	1.79	0.47
1:A:816:A:OP2	1:A:1527:C:H4'	2.14	0.47
27:AA:7:LYS:HE3	27:AA:32:GLN:O	2.15	0.47
51:AB:26:GLN:HA	51:AB:36:ILE:O	2.14	0.47
2:B:1291:C:H2'	2:B:1292:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2564:A:OP1	2:B:2648:C:H4'	2.15	0.47
2:B:2685:G:N2	2:B:2724:C:N3	2.53	0.47
4:D:13:C:H2'	4:D:14:A:H8	1.79	0.47
6:F:178:GLU:OE2	6:F:178:GLU:N	2.42	0.47
1:FB:1373:G:H5''	41:VC:36:LYS:HZ1	1.78	0.47
1:FB:404:U:H2'	1:FB:405:U:H6	1.79	0.47
1:FB:736:C:H2'	1:FB:737:A:C8	2.50	0.47
51:FD:100:LYS:NZ	51:FD:100:LYS:HB2	2.29	0.47
2:GB:111:A:H5'	26:EC:69:ARG:HH22	1.79	0.47
2:GB:1218:C:OP2	18:WB:15:LYS:HE2	2.14	0.47
2:GB:1639:U:H4'	2:GB:2699:C:H4'	1.96	0.47
2:GB:1905:C:N4	2:GB:1930:G:C2	2.83	0.47
2:GB:570:G:H2'	2:GB:2030:A:C6	2.49	0.47
2:GB:2369:A:H2'	2:GB:2370:G:H8	1.80	0.47
2:GB:906:G:O3'	14:SB:67:ARG:NH2	2.47	0.47
10:J:72:LEU:HB3	10:J:140:LEU:HD23	1.97	0.47
2:B:1012:U:C4	11:K:28:THR:HG21	2.49	0.47
11:K:59:LYS:HZ2	11:K:125:GLY:HA2	1.78	0.47
7:LB:33:LEU:HD12	7:LB:33:LEU:HA	1.73	0.47
11:PB:108:PRO:O	11:PB:113:GLY:HA3	2.15	0.47
36:QC:71:VAL:N	36:QC:163:PHE:O	2.47	0.47
42:RA:87:SER:HB2	42:RA:93:VAL:HB	1.96	0.47
43:SA:4:TYR:HB2	43:SA:88:TYR:CD1	2.49	0.47
20:T:8:ARG:HB3	20:T:9:TYR:CD2	2.45	0.47
41:VC:66:VAL:O	41:VC:70:LYS:HB2	2.14	0.47
23:W:131:ARG:H	23:W:131:ARG:HD2	1.79	0.47
42:WC:103:VAL:HG21	42:WC:110:ALA:N	2.29	0.47
2:GB:24:G:O2'	20:YB:78:GLU:O	2.30	0.47
50:ZA:57:ARG:NH2	50:ZA:79:VAL:O	2.48	0.47
1:A:763:G:H2'	1:A:764:C:H6	1.80	0.47
22:AC:40:GLU:O	22:AC:42:VAL:N	2.48	0.47
2:B:1170:G:H1	2:B:1179:C:H42	1.62	0.47
2:B:127:A:H5''	2:B:128:C:O4'	2.14	0.47
2:B:1359:A:C2	2:B:1372:U:O4	2.67	0.47
2:B:1401:G:O2'	2:B:1524:G:O2'	2.31	0.47
2:B:1582:C:H2'	2:B:1583:A:C8	2.50	0.47
2:B:2232:U:OP2	25:Y:40:ARG:NH2	2.36	0.47
2:B:256:A:H2'	2:B:257:A:C8	2.49	0.47
2:B:2747:G:O6	2:B:2755:C:H5''	2.15	0.47
2:B:302:C:H2'	2:B:303:U:H6	1.78	0.47
2:B:259:G:O2'	2:B:621:A:O2'	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:111:U:H2'	3:C:112:G:H8	1.80	0.47
44:YC:45:ARG:HD3	48:CD:36:PHE:CE1	2.48	0.47
4:D:51:C:H42	4:D:64:G:N2	2.13	0.47
31:EA:9:ARG:HH21	31:EA:47:ARG:HD3	1.80	0.47
6:F:192:ASN:OD1	6:F:192:ASN:N	2.45	0.47
1:FB:1006:C:H2'	1:FB:1007:C:C5	2.50	0.47
1:FB:1267:C:N3	1:FB:1327:C:H4'	2.30	0.47
1:FB:1274:G:OP2	1:FB:1274:G:C8	2.67	0.47
1:FB:1397:C:O2'	1:FB:1398:A:P	2.72	0.47
1:FB:251:G:N2	1:FB:253:U:O4	2.48	0.47
1:FB:298:A:H2'	1:FB:299:G:O4'	2.15	0.47
1:FB:416:G:H2'	1:FB:417:C:O4'	2.15	0.47
27:FC:8:LEU:HG	27:FC:31:LEU:HD22	1.97	0.47
2:GB:1627:G:C2	2:GB:1628:G:C8	3.02	0.47
2:GB:2051:A:H4'	6:KB:141:ILE:HG12	1.97	0.47
2:GB:2584:U:H2'	2:GB:2585:U:H2'	1.97	0.47
2:GB:702:G:H1	2:GB:730:C:H42	1.62	0.47
4:IB:21:A:OP2	4:IB:59:A:N6	2.47	0.47
5:JB:145:VAL:HB	5:JB:155:LEU:HB2	1.96	0.47
5:JB:30:GLU:HB3	5:JB:33:LEU:HD12	1.97	0.47
6:KB:13:ARG:HG2	6:KB:13:ARG:NH1	2.29	0.47
12:L:17:ARG:HA	12:L:17:ARG:HE	1.80	0.47
36:LA:48:MET:HA	36:LA:51:LEU:HB2	1.95	0.47
7:LB:64:ILE:HD12	7:LB:65:TRP:H	1.80	0.47
14:N:17:LEU:HD21	14:N:41:TRP:HE1	1.78	0.47
38:NA:102:ASP:OD2	38:NA:136:PRO:HB3	2.14	0.47
2:GB:1012:U:C4	11:PB:28:THR:HG21	2.50	0.47
17:Q:105:LEU:HB3	17:Q:110:ILE:HG12	1.97	0.47
12:QB:35:VAL:HA	12:QB:62:VAL:HG12	1.97	0.47
19:S:73:SER:OG	19:S:74:LYS:N	2.45	0.47
15:TB:36:THR:HG22	15:TB:37:THR:N	2.29	0.47
47:WA:55:ARG:NH1	47:WA:56:LEU:HD13	2.30	0.47
26:Z:16:LEU:O	26:Z:67:LYS:NZ	2.31	0.47
21:ZB:57:LEU:HD12	21:ZB:78:LYS:HB2	1.95	0.47
1:A:1112:C:H5''	1:A:1113:C:OP2	2.15	0.47
1:A:1502:A:C8	1:A:1505:G:N2	2.83	0.47
1:A:1532:U:C6	1:A:1532:U:OP2	2.68	0.47
2:B:1491:G:N2	2:B:1500:G:H1'	2.30	0.47
2:B:1863:G:C6	2:B:1864:U:C4	3.02	0.47
2:B:2330:G:H2'	2:B:2331:G:O4'	2.15	0.47
2:B:2662:A:H2'	2:B:2663:G:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:724:U:H2'	2:B:725:G:O4'	2.14	0.47
2:B:2615:U:C2	29:CA:7:PRO:HA	2.50	0.47
2:B:1971:A:H1'	5:E:240:ALA:O	2.14	0.47
26:EC:3:LEU:HD11	26:EC:7:ARG:HH11	1.80	0.47
32:FA:26:LYS:HE3	32:FA:26:LYS:HB3	1.67	0.47
1:FB:1077:G:C2	1:FB:1081:G:C6	3.03	0.47
1:FB:139:G:H2'	1:FB:140:A:H8	1.80	0.47
1:FB:62:U:H2'	1:FB:63:C:C6	2.49	0.47
1:FB:642:A:H2'	1:FB:643:C:C6	2.49	0.47
1:FB:743:U:H2'	1:FB:744:C:H6	1.78	0.47
1:FB:967:5MC:H4'	43:XC:125:TYR:OH	2.15	0.47
27:FC:35:ARG:CB	27:FC:35:ARG:HH11	2.27	0.47
2:GB:1155:A:O3'	18:WB:55:ARG:NH1	2.47	0.47
2:GB:1170:G:H1	2:GB:1179:C:H42	1.63	0.47
2:GB:1491:G:N2	2:GB:1500:G:H1'	2.30	0.47
2:GB:1677:A:C6	2:GB:1678:G:C5	3.03	0.47
2:GB:2026:C:H42	2:GB:2037:G:H1	1.63	0.47
2:GB:2127:G:H1'	2:GB:2173:A:C2	2.50	0.47
2:GB:270(F):G:C6	2:GB:270(G):U:C4	3.03	0.47
2:GB:885:C:C3'	2:GB:886:C:H4'	2.42	0.47
4:IA:53:G:C5	4:IA:54:5MU:H72	2.50	0.47
4:IB:15:G:O6	4:IB:59:A:O2'	2.33	0.47
2:GB:1971:A:C5	5:JB:241:PRO:HG3	2.50	0.47
11:K:35:ARG:HG2	11:K:35:ARG:NH1	2.29	0.47
35:KA:331:GLU:HA	35:KA:334:GLU:HB3	1.97	0.47
6:KB:13:ARG:HG2	6:KB:13:ARG:HH11	1.80	0.47
6:KB:177:PRO:C	6:KB:179:GLU:H	2.18	0.47
36:LA:53:ARG:NH1	36:LA:199:TYR:HA	2.30	0.47
7:LB:19:GLU:OE2	7:LB:19:GLU:HA	2.14	0.47
7:LB:36:VAL:HG12	7:LB:40:GLN:OE1	2.15	0.47
8:MB:39:ILE:HG21	8:MB:60:LEU:HD21	1.96	0.47
8:MB:43:LEU:C	8:MB:45:GLU:H	2.19	0.47
8:MB:96:ARG:O	8:MB:99:MET:HB3	2.14	0.47
38:NA:120:LEU:HB3	38:NA:126:ILE:HD11	1.96	0.47
4:NC:16:C:OP1	4:NC:17:C:N4	2.46	0.47
15:O:111:LEU:HA	15:O:111:LEU:HD13	1.65	0.47
16:P:89:ARG:NH1	16:P:92:TYR:O	2.48	0.47
12:QB:89:ASN:HB2	12:QB:90:GLN:HE22	1.78	0.47
36:QC:167:PRO:HD3	36:QC:187:LEU:O	2.15	0.47
43:SA:123:PRO:O	43:SA:125:TYR:N	2.47	0.47
1:A:1249:C:H1'	43:SA:69:GLY:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:TB:105:ARG:CG	15:TB:105:ARG:HH11	2.27	0.47
48:XA:4:LYS:HZ2	48:XA:7:ILE:HG13	1.79	0.47
44:YC:79:ARG:HG2	44:YC:83:GLU:OE2	2.15	0.47
1:A:1004:A:H61	1:A:1026:G:H5''	1.80	0.47
1:A:1250:A:H5'	1:A:1251:A:OP2	2.14	0.47
1:A:192:U:H5'	54:DB:102:GLY:HA2	1.97	0.47
1:A:444:C:H2'	1:A:445:G:C8	2.50	0.47
1:A:814:A:N7	1:A:816:A:C4	2.83	0.47
51:AB:67:LYS:C	51:AB:70:ARG:HH12	2.19	0.47
51:AB:54:GLY:O	51:AB:81:ARG:HB2	2.15	0.47
2:B:1153:C:H2'	2:B:1154:G:O4'	2.15	0.47
2:B:1449(B):A:C2	2:B:1530:G:H1'	2.49	0.47
2:B:1553:A:N7	2:B:1555:G:C5	2.83	0.47
2:B:1796:U:H2'	2:B:1797:C:C6	2.50	0.47
2:B:2731:G:C6	2:B:2732:G:C6	3.03	0.47
2:B:478:A:C6	2:B:480:A:C6	3.04	0.47
2:B:57:C:H2'	2:B:58:G:O4'	2.15	0.47
2:B:783:A:O2'	2:B:785:G:OP1	2.26	0.47
2:B:861:A:N3	3:C:79:C:O2'	2.48	0.47
47:BD:55:ARG:HB3	47:BD:55:ARG:NH1	2.30	0.47
5:E:71:ASP:N	5:E:71:ASP:OD2	2.37	0.47
1:FB:1010:G:H2'	1:FB:1011:G:C8	2.48	0.47
1:FB:1280:A:H5''	44:YC:40:LEU:HD11	1.97	0.47
1:FB:32:A:OP2	1:FB:398:C:O2'	2.31	0.47
1:FB:344:A:H4'	1:FB:345:C:OP2	2.15	0.47
1:FB:540:G:H2'	1:FB:541:G:O4'	2.15	0.47
1:FB:943:U:OP2	1:FB:943:U:H6	1.98	0.47
27:FC:38:GLU:HB3	27:FC:39:ASP:H	1.50	0.47
7:G:34:TRP:CH2	13:M:8:PRO:HB3	2.50	0.47
2:GB:1003:G:O2'	2:GB:1010:A:N1	2.40	0.47
2:GB:1022:G:C6	2:GB:1140:C:C4	3.03	0.47
2:GB:1062:G:N2	2:GB:1063:G:N7	2.63	0.47
2:GB:1131:G:HO2'	2:GB:1132:A:H8	1.63	0.47
2:GB:2106:G:H1	2:GB:2183:C:H42	1.63	0.47
2:GB:496:G:C2	2:GB:497:A:H1'	2.50	0.47
2:GB:57:C:H2'	2:GB:58:G:O4'	2.14	0.47
9:I:102:ALA:HB2	9:I:116:GLU:OE2	2.15	0.47
2:GB:781:A:C8	5:JB:219:PRO:HG3	2.50	0.47
33:LC:25:VAL:HB	33:LC:34:GLN:HB2	1.96	0.47
2:B:637:A:H8	13:M:117:GLU:HG3	1.78	0.47
36:QC:197:VAL:HG11	36:QC:200:ILE:HG23	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RC:88:ARG:HG2	37:RC:99:VAL:HG23	1.96	0.47
37:RC:91:LEU:HB3	37:RC:99:VAL:HG11	1.96	0.47
38:SC:128:VAL:HG12	38:SC:133:VAL:HG21	1.97	0.47
45:UA:67:ASP:OD2	45:UA:71:LYS:HE3	2.15	0.47
40:UC:61:LEU:HD23	40:UC:63:TYR:CE2	2.50	0.47
22:V:3:VAL:HG21	22:V:32:PRO:O	2.14	0.47
22:V:90:LEU:HB3	22:V:92:ASN:OD1	2.15	0.47
24:X:63:VAL:O	24:X:81:VAL:HG11	2.15	0.47
1:FB:942:G:H21	43:XC:124:GLN:NE2	2.13	0.47
45:ZC:79:SER:HB2	45:ZC:106:LYS:NZ	2.30	0.47
1:A:1266:G:N2	1:A:1269:A:OP2	2.48	0.46
1:A:1275:A:C8	1:A:1275:A:OP2	2.69	0.46
1:A:1378:C:C5	1:A:1379:G:C8	3.04	0.46
1:A:201:C:H5'	1:A:208:U:OP2	2.15	0.46
1:A:509:A:OP2	1:A:510:A:OP2	2.32	0.46
1:A:575:G:OP1	1:A:575:G:H4'	2.15	0.46
2:B:1062:G:N2	2:B:1063:G:N7	2.63	0.46
2:B:1423:G:H2'	2:B:1424:G:H8	1.80	0.46
2:B:1433:U:O2	2:B:1561:G:C2	2.68	0.46
2:B:1999:C:O2	2:B:2687:U:O2'	2.31	0.46
2:B:2076:U:H5	2:B:2596:U:O2	1.98	0.46
2:B:2758:A:C4	9:I:67:LEU:HD21	2.50	0.46
2:B:576:U:OP1	2:B:2503:2MA:OP1	2.32	0.46
23:BC:70:LEU:HB2	23:BC:91:LEU:HD21	1.97	0.46
4:D:57:A:C2	4:D:58:A:H1'	2.49	0.46
30:DA:27:LYS:HB3	30:DA:27:LYS:HZ3	1.80	0.46
30:DA:39:TYR:OH	30:DA:44:ARG:HG3	2.15	0.46
1:FB:144:G:H1	1:FB:178:C:N4	2.11	0.46
1:FB:160:A:H2'	1:FB:161:A:O4'	2.15	0.46
1:FB:280:C:N3	51:FD:39:SER:OG	2.35	0.46
1:FB:67:C:H2'	1:FB:68:G:C8	2.51	0.46
1:FB:908:A:H2'	1:FB:909:A:C8	2.50	0.46
7:G:66:PRO:HG2	7:G:70:THR:HG23	1.97	0.46
2:GB:1733:G:H2'	2:GB:1734:C:O4'	2.15	0.46
2:GB:2476:A:H2	2:GB:2481:G:H1	1.64	0.46
2:GB:2804:C:H2'	2:GB:2805:G:O4'	2.15	0.46
53:HD:61:TYR:CE2	53:HD:63:THR:HG23	2.50	0.46
4:IB:48:C:H5'	4:IB:50:U:P	2.55	0.46
35:JA:184:VAL:HG22	35:JA:186:ARG:HG3	1.96	0.46
12:L:88:ASN:OD1	12:L:92:GLU:HB2	2.14	0.46
37:MA:87:LEU:HD11	37:MA:101:LEU:HD13	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:83:ILE:HG23	15:O:86:ARG:HH21	1.79	0.46
39:OA:13:ILE:HG21	39:OA:51:VAL:HG13	1.97	0.46
16:P:5:THR:HG23	16:P:8:GLU:OE2	2.15	0.46
41:QA:86:GLN:HB2	41:QA:148:ASN:HD22	1.80	0.46
2:B:2019:A:O4'	18:R:34:LYS:HE2	2.15	0.46
42:RA:103:VAL:HG21	42:RA:110:ALA:N	2.30	0.46
37:RC:7:PRO:HB3	37:RC:175:LEU:HD11	1.97	0.46
43:SA:45:ALA:HA	43:SA:48:GLU:HB2	1.97	0.46
43:XC:4:TYR:HB2	43:XC:88:TYR:CD1	2.50	0.46
25:Y:41:ARG:HD3	25:Y:43:TYR:CE1	2.50	0.46
1:FB:707:C:H4'	45:ZC:20:TYR:CD2	2.51	0.46
1:A:1099:G:C6	1:A:1100:C:C2	3.03	0.46
1:A:1275:A:H8	1:A:1275:A:P	2.37	0.46
1:A:570:G:C2	1:A:571:U:C4	3.03	0.46
1:A:603:U:H2'	1:A:604:G:C8	2.50	0.46
2:B:1019:U:H3	2:B:1142(B):A:N6	2.09	0.46
2:B:2189:U:H2'	2:B:2190:G:C8	2.51	0.46
2:B:2210:G:H8	2:B:2211:G:C5	2.34	0.46
2:B:2464:C:H42	2:B:2486:G:H1	1.62	0.46
2:B:2804:C:H2'	2:B:2805:G:O4'	2.16	0.46
2:B:2867:G:OP2	17:Q:119:LYS:NZ	2.36	0.46
2:B:370:G:C6	2:B:424:G:N7	2.83	0.46
2:B:7:G:H2'	2:B:8:A:O4'	2.14	0.46
23:BC:75:ASN:HB2	23:BC:85:HIS:HB3	1.97	0.46
1:FB:1323:G:H4'	1:FB:1362(B):C:C2	2.50	0.46
1:FB:1381:U:H1'	41:VC:79:ARG:NE	2.24	0.46
1:FB:538:G:H2'	1:FB:539:A:C8	2.50	0.46
2:B:1255:U:C5	7:G:73:ALA:HA	2.50	0.46
2:GB:2340:G:C2	2:GB:2341:G:C5	3.03	0.46
2:GB:2701:C:H3'	2:GB:2702:U:H5''	1.97	0.46
2:GB:2819:G:H2'	2:GB:2821:A:N7	2.30	0.46
2:GB:330:A:HO2'	2:GB:331:A:H8	1.62	0.46
2:GB:2251:OMG:HN21	57:GB:9001:BLS:C2	2.28	0.46
28:GC:57:GLU:HA	28:GC:58:ARG:HA	1.53	0.46
8:H:114:ILE:HA	8:H:140:ILE:HD13	1.97	0.46
8:H:57:ALA:HA	8:H:60:LEU:HB2	1.96	0.46
3:HB:34:U:O5'	3:HB:34:U:H6	1.99	0.46
31:JC:47:ARG:HA	31:JC:48:LYS:NZ	2.31	0.46
36:LA:149:LEU:HD12	36:LA:152:PHE:HB3	1.97	0.46
8:MB:57:ALA:HA	8:MB:60:LEU:HB2	1.97	0.46
2:B:2485:G:H5''	14:N:46:GLN:HE21	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:NA:128:VAL:HA	38:NA:145:GLU:O	2.15	0.46
41:QA:15:ASP:HA	41:QA:24:THR:HG23	1.98	0.46
36:QC:172:ILE:HD12	36:QC:172:ILE:H	1.80	0.46
37:RC:39:ILE:HD12	37:RC:59:ARG:HH22	1.79	0.46
38:SC:162:LEU:HD12	38:SC:178:VAL:HG22	1.96	0.46
15:TB:23:ASN:OD1	15:TB:23:ASN:N	2.49	0.46
15:TB:88:ARG:NH1	15:TB:89:ASP:OD1	2.48	0.46
2:GB:2292:C:OP2	16:UB:17:ARG:NH2	2.49	0.46
17:VB:125:ARG:O	17:VB:128:GLU:OE2	2.33	0.46
2:GB:1248:G:C2	18:WB:3:ARG:HD2	2.50	0.46
44:YC:50:ILE:HA	44:YC:60:ARG:CB	2.39	0.46
1:A:1171:G:H2'	1:A:1172:C:C6	2.50	0.46
1:A:144:G:H1	1:A:178:C:N4	2.11	0.46
1:A:759:A:C8	1:A:760:G:C8	3.04	0.46
2:B:1139:G:O2'	2:B:1143:A:N1	2.43	0.46
2:B:1400:G:H2'	2:B:1401:G:C8	2.50	0.46
2:B:2209:C:C2	2:B:2216:G:C2	3.03	0.46
2:B:2369:A:O2'	2:B:2370:G:H5'	2.16	0.46
2:B:2626:C:H2'	2:B:2627:G:C8	2.51	0.46
2:B:2755:C:O5'	2:B:2755:C:H6	1.98	0.46
2:B:747:U:O2	2:B:2014:A:H1'	2.16	0.46
23:BC:118:GLN:N	23:BC:173:ALA:O	2.46	0.46
29:CA:20:ARG:HA	29:CA:23:HIS:CE1	2.50	0.46
1:FB:401:C:O2'	1:FB:621:A:N3	2.45	0.46
2:GB:2133:G:O2'	2:GB:2134:A:OP2	2.28	0.46
2:GB:2716:U:H2'	2:GB:2717:G:H8	1.80	0.46
2:GB:2726:U:O2'	2:GB:2727:G:H8	1.99	0.46
2:GB:2677:G:N3	2:GB:2731:G:C2	2.83	0.46
2:GB:2755:C:H6	2:GB:2755:C:O5'	1.98	0.46
2:GB:451:C:H4'	7:LB:52:LYS:HZ2	1.81	0.46
2:GB:547:A:H2'	2:GB:548:A:H8	1.78	0.46
2:GB:582:G:H2'	2:GB:583:G:C8	2.50	0.46
2:GB:751:A:C6	2:GB:789:A:C5	3.03	0.46
8:H:114:ILE:HD12	8:H:136:ARG:NH1	2.30	0.46
53:HD:30:LEU:HD23	53:HD:48:THR:HG23	1.97	0.46
10:J:98:ALA:HA	10:J:109:ILE:HD11	1.96	0.46
2:GB:764:A:H5''	5:JB:210:GLY:CA	2.45	0.46
11:K:96:GLU:O	11:K:100:GLU:HG3	2.16	0.46
32:KC:26:LYS:HE3	32:KC:26:LYS:HB3	1.63	0.46
32:KC:6:THR:HG23	32:KC:63:PRO:HD2	1.96	0.46
36:LA:173:ALA:HA	36:LA:176:GLU:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:29:LYS:HG2	13:M:30:THR:HG23	1.96	0.46
40:PA:11:ASN:N	40:PA:84:ASN:O	2.49	0.46
11:PB:104:LYS:HB2	11:PB:117:PHE:CE1	2.51	0.46
11:PB:7:LYS:HA	11:PB:7:LYS:HZ2	1.79	0.46
11:PB:83:LYS:HB2	11:PB:83:LYS:HZ2	1.79	0.46
38:SC:19:LEU:HA	38:SC:19:LEU:HD12	1.68	0.46
20:T:57:ASN:O	20:T:61:ASN:HB2	2.16	0.46
18:WB:104:GLN:HE21	18:WB:105:VAL:HG23	1.80	0.46
2:GB:1162:G:O3'	19:XB:24:LYS:HE3	2.15	0.46
25:Y:40:ARG:C	25:Y:40:ARG:HD3	2.35	0.46
1:A:1132:C:H2'	1:A:1133:G:C8	2.43	0.46
1:A:404:U:H2'	1:A:405:U:C6	2.50	0.46
2:GB:297:C:P	22:AC:95:LYS:HZ2	2.37	0.46
2:B:1111:A:H4'	2:B:1112:G:OP1	2.16	0.46
2:B:1179:C:H2'	2:B:1180:C:C6	2.51	0.46
2:B:2106:G:H1	2:B:2183:C:H42	1.63	0.46
2:B:243:U:OP2	32:FA:8:LYS:NZ	2.33	0.46
23:BC:111:VAL:O	23:BC:114:GLY:N	2.48	0.46
23:BC:146:ILE:HG13	23:BC:146:ILE:H	1.33	0.46
53:CB:40:ILE:H	53:CB:40:ILE:HG12	1.48	0.46
4:D:13:C:H2'	4:D:14:A:C8	2.50	0.46
5:E:145:VAL:HB	5:E:155:LEU:HB2	1.96	0.46
5:E:206:LEU:HA	5:E:206:LEU:HD23	1.38	0.46
6:F:117:MET:HE2	6:F:117:MET:HB3	1.77	0.46
32:FA:52:LYS:HB3	32:FA:53:PRO:HD3	1.97	0.46
1:FB:201:C:H5'	1:FB:208:U:OP2	2.16	0.46
1:FB:255:G:H2'	1:FB:256:U:C6	2.51	0.46
1:FB:160:A:H1'	1:FB:344:A:C8	2.51	0.46
7:G:36:VAL:HG12	7:G:40:GLN:OE1	2.14	0.46
7:G:7:TYR:O	7:G:22:ALA:HB3	2.16	0.46
2:GB:1625:C:H2'	2:GB:1626:G:O4'	2.16	0.46
2:GB:2064:C:H2'	2:GB:2065:C:C6	2.50	0.46
2:GB:33:U:O2'	2:GB:446:G:N2	2.48	0.46
2:GB:594:U:H3	2:GB:663:G:H1	1.64	0.46
2:GB:783:A:N3	2:GB:783:A:H2'	2.30	0.46
29:HC:36:CYS:SG	29:HC:38:ALA:HB3	2.55	0.46
4:IA:31:G:H5"	4:IA:32:5MC:OP2	2.16	0.46
10:J:38:LEU:O	10:J:43:ASN:ND2	2.49	0.46
12:L:11:ALA:O	12:L:98:VAL:HA	2.16	0.46
36:LA:109:SER:OG	36:LA:110:GLN:N	2.48	0.46
37:MA:139:GLN:O	37:MA:141:VAL:N	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:MA:121:ALA:HB1	37:MA:189:ALA:HB2	1.97	0.46
34:MC:14:A:H3'	34:MC:15:A:H8	1.81	0.46
38:NA:61:LYS:HA	38:NA:203:VAL:HG22	1.98	0.46
39:OA:37:ARG:HH12	39:OA:111:GLU:CB	2.28	0.46
36:QC:167:PRO:HG3	36:QC:188:ALA:HB2	1.98	0.46
43:SA:13:ALA:HA	43:SA:67:GLY:HA3	1.98	0.46
16:UB:7:TYR:CZ	16:UB:91:PRO:HG2	2.51	0.46
49:YA:8:LYS:O	49:YA:12:ILE:HG13	2.15	0.46
44:YC:5:ARG:HG3	44:YC:73:ASP:HA	1.98	0.46
1:A:1010:G:H2'	1:A:1011:G:C8	2.50	0.46
1:A:1251:A:H2'	1:A:1252:A:O4'	2.16	0.46
1:A:1397:C:O2'	1:A:1398:A:P	2.74	0.46
1:A:836:G:C6	1:A:851:G:C6	3.03	0.46
1:A:975:A:H5''	1:A:975:A:C8	2.51	0.46
2:B:991:C:OP2	2:B:1186:G:H5'	2.14	0.46
2:B:1340:U:H3'	21:U:57:LEU:HD22	1.96	0.46
2:B:1538:G:H2'	2:B:1539:G:C8	2.51	0.46
2:B:1825:A:H2'	2:B:1826:G:C8	2.51	0.46
2:B:2290:G:H2'	2:B:2291:U:O4'	2.14	0.46
2:B:2262:U:H4'	2:B:2328:A:H2	1.80	0.46
2:B:2629:A:H1'	2:B:2895:U:O4	2.16	0.46
4:D:48:C:H5'	4:D:50:U:P	2.55	0.46
5:E:52:ARG:H	5:E:52:ARG:HG2	1.24	0.46
1:FB:779:C:H2'	1:FB:780:A:O4'	2.15	0.46
2:GB:1026:U:H4'	2:GB:1027:A:OP2	2.15	0.46
2:GB:1028:A:O5'	2:GB:1028:A:H8	1.99	0.46
2:GB:1171:G:H3'	2:GB:1173:G:C8	2.51	0.46
2:GB:1308:A:N6	2:GB:1309:G:C2	2.83	0.46
2:GB:579:G:O2'	2:GB:2019:A:OP1	2.25	0.46
2:GB:2167:U:H2'	2:GB:2168:G:C8	2.51	0.46
2:GB:491:G:C2	2:GB:492:A:H1'	2.51	0.46
2:GB:956:G:H2'	2:GB:957:A:H2'	1.98	0.46
52:GD:38:GLU:H	52:GD:38:GLU:CD	2.19	0.46
8:H:170:ARG:NH1	8:H:174:GLU:OE1	2.42	0.46
3:HB:102:G:H21	23:BC:73:GLN:HE22	1.63	0.46
2:GB:2016:U:O2	29:HC:7:PRO:HG2	2.14	0.46
5:JB:118:VAL:HG13	5:JB:123:ALA:HB1	1.97	0.46
12:L:71:ARG:HH12	12:L:104:ARG:CB	2.21	0.46
8:MB:63:ILE:HG23	8:MB:64:THR:HG23	1.97	0.46
10:OB:57:ARG:HA	10:OB:60:GLU:HB3	1.98	0.46
2:B:2292:C:OP2	16:P:17:ARG:NH2	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2685:G:H4'	12:QB:67:LYS:NZ	2.30	0.46
42:RA:54:ASP:O	42:RA:56:LYS:HG2	2.16	0.46
43:SA:55:ALA:HA	43:SA:58:ARG:HB3	1.97	0.46
38:SC:141:ARG:CZ	38:SC:141:ARG:HB2	2.46	0.46
40:UC:18:GLN:HA	40:UC:21:LEU:HG	1.97	0.46
22:V:41:GLY:O	22:V:44:ILE:HD11	2.16	0.46
17:VB:108:ARG:CG	17:VB:112:ARG:HH12	2.21	0.46
17:VB:26:ASP:OD1	17:VB:120:ARG:NH2	2.47	0.46
17:VB:80:SER:HB3	17:VB:83:ILE:HG12	1.97	0.46
17:VB:99:LEU:O	17:VB:102:ILE:HG23	2.16	0.46
3:C:75:G:H21	23:W:85:HIS:CE1	2.33	0.46
47:WA:31:LYS:O	47:WA:35:GLU:HB2	2.15	0.46
18:WB:58:ARG:NH1	18:WB:58:ARG:CG	2.78	0.46
42:WC:34:GLU:O	42:WC:37:ARG:HG3	2.15	0.46
1:A:1274:G:OP2	1:A:1274:G:H8	1.97	0.46
1:A:1342:C:H2'	1:A:1343:G:H8	1.80	0.46
1:A:160:A:H2'	1:A:161:A:O4'	2.16	0.46
1:A:360:A:H2'	1:A:361:G:C8	2.50	0.46
1:A:584:G:H2'	1:A:585:G:C8	2.50	0.46
1:A:67:C:H2'	1:A:68:G:C8	2.51	0.46
1:A:790:A:C6	1:A:791:G:C6	3.03	0.46
27:AA:38:GLU:HB3	27:AA:39:ASP:H	1.47	0.46
27:AA:8:LEU:HG	27:AA:31:LEU:HD22	1.98	0.46
2:B:1635:G:O2'	2:B:1636:C:H5'	2.15	0.46
2:B:2127:G:H1'	2:B:2173:A:H2	1.80	0.46
2:B:2677:G:N3	2:B:2731:G:C2	2.83	0.46
2:B:2735:G:H2'	2:B:2736:G:H8	1.81	0.46
2:B:380:U:H2'	2:B:381:G:C8	2.51	0.46
2:B:826:U:H2'	2:B:828:U:O4'	2.15	0.46
2:B:959:A:H62	14:N:83:MET:HE1	1.81	0.46
2:B:978:G:C2	2:B:986:C:C2	3.03	0.46
28:BA:41:PRO:HA	28:BA:47:GLN:HB2	1.97	0.46
29:CA:40:LYS:HD3	29:CA:46:CYS:HB2	1.97	0.46
54:DB:84:LEU:O	54:DB:88:VAL:HB	2.15	0.46
2:B:1490:A:O2'	5:E:99:ASP:OD1	2.31	0.46
1:FB:1202:G:H2'	1:FB:1203:C:O4'	2.16	0.46
1:FB:1241:G:H5''	1:FB:1242:C:OP2	2.16	0.46
1:FB:1421:G:C2	1:FB:1480:G:C2	3.04	0.46
1:FB:291:C:N4	1:FB:309:G:H1	2.12	0.46
1:FB:538:G:H2'	1:FB:539:A:H8	1.81	0.46
1:FB:559:A:H4'	1:FB:560:U:H5''	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:603:U:H2'	1:FB:604:G:C8	2.50	0.46
27:FC:5:LYS:HD2	27:FC:34:GLU:OE2	2.14	0.46
7:G:141:ALA:O	7:G:144:LYS:HB3	2.15	0.46
2:GB:1798:U:H5'	5:JB:259:THR:CG2	2.40	0.46
2:GB:2291:U:OP1	2:GB:2381:C:H5'	2.15	0.46
2:GB:2262:U:H4'	2:GB:2328:A:H2	1.80	0.46
2:GB:2352:A:C4	2:GB:2366:A:C2	3.04	0.46
2:GB:2567:G:H2'	2:GB:2568:C:C6	2.50	0.46
2:GB:2626:C:H2'	2:GB:2627:G:C8	2.51	0.46
2:GB:409:C:O2'	2:GB:410:G:H5'	2.16	0.46
2:GB:593:G:N2	2:GB:665:C:C2	2.84	0.46
2:GB:791:C:H4'	2:GB:792:G:OP1	2.16	0.46
8:H:35:GLU:HB2	8:H:160:VAL:O	2.15	0.46
29:HC:40:LYS:HD3	29:HC:46:CYS:HB2	1.98	0.46
4:IB:39:C:H4'	45:ZC:54:ARG:NE	2.30	0.46
10:J:1:MET:N	10:J:1:MET:SD	2.85	0.46
5:JB:228:PRO:HD3	5:JB:235:GLY:CA	2.45	0.46
2:GB:788:A:N3	31:JC:4:THR:HG23	2.29	0.46
2:B:2639:A:O3'	11:K:97:ARG:NH2	2.48	0.46
2:B:196:A:OP2	13:M:46:LYS:NZ	2.48	0.46
8:MB:137:GLU:HG2	8:MB:152:LEU:HD11	1.97	0.46
8:MB:25:TYR:CZ	8:MB:32:PRO:HD3	2.51	0.46
35:OC:184:VAL:HG22	35:OC:186:ARG:HG3	1.97	0.46
11:PB:30:ILE:O	11:PB:34:LEU:HD22	2.15	0.46
41:QA:111:ARG:NH1	41:QA:122:HIS:HB3	2.31	0.46
41:QA:15:ASP:C	41:QA:17:VAL:H	2.19	0.46
36:QC:101:MET:HG2	36:QC:152:PHE:HE1	1.80	0.46
43:SA:31:GLN:HA	43:SA:35:GLU:OE1	2.15	0.46
14:SB:65:PHE:HB2	14:SB:105:GLU:HB2	1.96	0.46
14:SB:110:THR:HG22	14:SB:111:GLU:H	1.81	0.46
44:TA:50:ILE:HA	44:TA:60:ARG:CB	2.40	0.46
23:W:126:VAL:HG21	23:W:161:VAL:HG12	1.97	0.46
19:XB:83:ARG:HG2	19:XB:83:ARG:HH11	1.80	0.46
1:A:955:U:P	35:JA:137:ARG:HH21	2.39	0.46
2:B:1557:C:H5''	2:B:1558:A:OP2	2.16	0.46
2:B:2231:C:OP1	25:Y:42:GLN:HA	2.15	0.46
2:B:2742:C:N4	2:B:2762:G:H1	2.14	0.46
2:B:460:A:H5''	2:B:461:C:OP2	2.15	0.46
14:SB:20:ALA:HB2	23:BC:79:ARG:HG3	1.98	0.46
25:DC:50:ARG:HH11	25:DC:50:ARG:HB3	1.81	0.46
5:E:13:ARG:HA	5:E:16:MET:HE3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:EC:68:ARG:NH1	26:EC:68:ARG:HG2	2.27	0.46
6:F:128:SER:OG	6:F:129:HIS:N	2.47	0.46
1:FB:1252:A:H61	1:FB:1285:A:N6	2.13	0.46
1:FB:619:U:N3	38:SC:135:LEU:HD11	2.31	0.46
2:GB:1341:U:OP1	2:GB:1397:U:N3	2.42	0.46
2:GB:1430:C:H2'	2:GB:1431:U:C6	2.50	0.46
2:GB:248:G:C4	2:GB:2431:U:H4'	2.51	0.46
2:GB:2472:G:H22	2:GB:2477:C:H5'	1.81	0.46
2:GB:338:G:C2'	2:GB:339:U:H5'	2.46	0.46
2:GB:857:C:N4	2:GB:858:U:O4	2.49	0.46
53:HD:21:GLU:OE1	53:HD:25:LYS:HD3	2.16	0.46
6:KB:174:ASP:O	6:KB:183:LEU:N	2.47	0.46
12:L:69:VAL:HG11	12:L:105:GLU:OE2	2.16	0.46
36:LA:137:ARG:O	36:LA:141:GLU:HB3	2.16	0.46
36:LA:178:ARG:HB3	42:RA:71:GLY:O	2.15	0.46
13:M:88:LEU:HA	13:M:91:PHE:CE2	2.50	0.46
8:MB:127:GLY:HA2	8:MB:166:ASP:HB2	1.96	0.46
38:NA:128:VAL:HG12	38:NA:133:VAL:HG21	1.98	0.46
9:NB:137:ASP:HB3	9:NB:140:LYS:HZ1	1.79	0.46
4:NC:32:5MC:HM53	4:NC:33:U:O4	2.16	0.46
4:NC:74:C:H3'	4:NC:75:C:C5'	2.45	0.46
36:QC:109:SER:OG	36:QC:110:GLN:N	2.48	0.46
36:QC:69:LEU:O	36:QC:163:PHE:N	2.48	0.46
36:QC:16:HIS:ND1	36:QC:204:ASN:HB2	2.31	0.46
38:SC:157:LEU:HA	38:SC:160:GLN:OE1	2.16	0.46
45:UA:69:ALA:HA	45:UA:72:ALA:HB3	1.98	0.46
46:VA:51:ALA:HB3	46:VA:53:ARG:HH21	1.80	0.46
23:W:75:ASN:HB2	23:W:85:HIS:HB3	1.98	0.46
23:W:94:GLU:O	23:W:130:PRO:HD3	2.16	0.46
47:WA:56:LEU:HD12	47:WA:56:LEU:HA	1.82	0.46
47:WA:88:ARG:HA	47:WA:98:VAL:HG13	1.98	0.46
19:XB:81:TYR:CE1	19:XB:83:ARG:NH1	2.83	0.46
43:XC:28:VAL:HG22	43:XC:63:ILE:HD12	1.97	0.46
50:ZA:25:ARG:HG2	50:ZA:25:ARG:H	1.61	0.46
1:A:1202:G:H2'	1:A:1203:C:O4'	2.16	0.46
1:A:1450:U:H4'	1:A:1451:A:N7	2.31	0.46
1:A:262:A:C6	1:A:263:A:C6	3.04	0.46
1:A:73:G:H1	1:A:97:U:H3	1.63	0.46
1:A:834:C:C4	1:A:835:U:C4	3.04	0.46
1:A:842:C:H4'	1:A:843:U:OP1	2.16	0.46
1:A:981:U:C4	1:A:982:U:N3	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:AB:14:LYS:HZ1	51:AB:53:LEU:HD11	1.81	0.46
2:B:1430:C:H2'	2:B:1431:U:C6	2.51	0.46
2:B:1472:A:H61	2:B:1521:G:H1'	1.79	0.46
2:B:2048:G:C6	2:B:2049:G:C5	3.04	0.46
2:B:2127:G:H1'	2:B:2173:A:C2	2.50	0.46
2:B:2570:G:C6	2:B:2571:C:C4	3.04	0.46
2:B:840:C:H2'	2:B:841:A:C8	2.51	0.46
25:DC:86:SER:O	25:DC:90:ILE:HG13	2.16	0.46
6:F:51:PHE:HD2	6:F:77:ILE:HD12	1.80	0.46
1:FB:1327:C:H2'	1:FB:1328:C:C6	2.50	0.46
1:FB:1355:G:H2'	1:FB:1356:G:C8	2.51	0.46
1:FB:1382:C:H2'	1:FB:1383:C:H6	1.81	0.46
1:FB:262:A:C6	1:FB:263:A:C6	3.04	0.46
1:FB:683:G:H2'	1:FB:684:A:O4'	2.16	0.46
1:FB:804:U:H5''	1:FB:805:C:OP2	2.15	0.46
1:FB:99:C:H2'	1:FB:101:A:O4'	2.15	0.46
2:GB:1520:U:H2'	2:GB:1521:G:O4'	2.16	0.46
2:GB:918:A:C5	2:GB:919:G:H1'	2.51	0.46
2:GB:93:C:H2'	2:GB:94:G:O4'	2.15	0.46
2:GB:971:C:H2'	2:GB:972:G:O4'	2.16	0.46
8:H:25:TYR:CZ	8:H:32:PRO:HD3	2.50	0.46
3:HB:43:C:O2	8:MB:95:ARG:NE	2.34	0.46
9:NB:130:ARG:NH1	9:NB:130:ARG:HB3	2.31	0.46
17:Q:26:ASP:OD1	17:Q:120:ARG:NH2	2.47	0.46
12:QB:22:ILE:HG13	12:QB:40:VAL:HG12	1.98	0.46
1:A:1280:A:H5''	44:TA:40:LEU:HD11	1.98	0.46
41:VC:15:ASP:C	41:VC:17:VAL:H	2.18	0.46
23:W:5:LEU:HB3	23:W:47:VAL:HG21	1.97	0.46
44:TA:63:PHE:CD1	48:XA:58:LYS:HA	2.50	0.46
19:XB:40:LEU:HD23	19:XB:41:GLY:N	2.30	0.46
20:YB:68:ARG:HD3	20:YB:111:HIS:HA	1.98	0.46
20:YB:8:ARG:HB3	20:YB:9:TYR:CD2	2.51	0.46
1:FB:676:A:H5''	45:ZC:113:PRO:HB2	1.97	0.46
1:A:1145:C:H4'	1:A:1146:A:C8	2.44	0.46
1:A:1324:A:H8	1:A:1324:A:OP2	1.99	0.46
1:A:582:U:C2	1:A:760:G:C6	3.04	0.46
2:B:1788:C:H2'	2:B:1789:A:O4'	2.16	0.46
2:B:376:C:N4	2:B:398:G:H1	2.14	0.46
2:B:708:C:H42	2:B:723:G:H1	1.64	0.46
4:D:26:G:H2'	4:D:27:U:H6	1.80	0.46
25:DC:41:ARG:HD3	25:DC:43:TYR:CE1	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:656:C:O2'	49:DD:28:GLN:OE1	2.17	0.46
5:E:72:LYS:HG2	5:E:103:ARG:NH1	2.31	0.46
2:B:1993:U:H5''	6:F:128:SER:HB3	1.96	0.46
1:FB:1532:U:OP2	1:FB:1532:U:C6	2.68	0.46
1:FB:430:A:OP2	38:SC:8:VAL:HG12	2.16	0.46
7:G:123:LEU:HD12	7:G:124:LEU:N	2.31	0.46
2:GB:1692:U:H2'	2:GB:1694:C:C5	2.51	0.46
2:GB:1779:U:OP2	2:GB:1784:A:N6	2.36	0.46
2:GB:2071:A:H2'	2:GB:2072:G:C8	2.51	0.46
2:GB:2189:U:H2'	2:GB:2190:G:C8	2.51	0.46
2:GB:239:U:H2'	2:GB:240:G:O4'	2.16	0.46
2:GB:2464:C:H42	2:GB:2486:G:H1	1.62	0.46
2:GB:270(F):G:H1	2:GB:270(V):C:H42	1.63	0.46
8:H:39:ILE:HG13	8:H:157:ILE:HG22	1.98	0.46
3:HB:85:G:C2	3:HB:86:G:C8	3.03	0.46
4:IB:51:C:H42	4:IB:64:G:N2	2.13	0.46
36:LA:16:HIS:ND1	36:LA:204:ASN:HB2	2.31	0.46
36:LA:197:VAL:HG11	36:LA:200:ILE:HG23	1.97	0.46
37:MA:35:GLU:CD	37:MA:97:LYS:NZ	2.69	0.46
38:NA:141:ARG:CZ	38:NA:141:ARG:HB2	2.45	0.46
22:V:40:GLU:O	22:V:42:VAL:N	2.49	0.46
49:YA:82:ILE:O	49:YA:86:GLY:N	2.48	0.46
20:YB:39:THR:HG22	20:YB:44:ALA:HB2	1.98	0.46
20:YB:11:ARG:HH11	20:YB:98:LYS:HB3	1.80	0.46
44:YC:63:PHE:CD1	48:CD:58:LYS:HA	2.51	0.46
1:A:1239:A:H62	1:A:1299:A:H61	1.61	0.46
1:A:1315:U:H3'	1:A:1316:G:C8	2.50	0.46
1:A:1373:G:H5''	41:QA:36:LYS:HZ3	1.80	0.46
1:A:160:A:H1'	1:A:344:A:C8	2.51	0.46
27:AA:3:ARG:HG2	27:AA:38:GLU:OE2	2.16	0.46
27:AA:39:ASP:OD1	27:AA:44:ARG:NH2	2.48	0.46
2:B:1038:C:H42	2:B:1117:G:H1	1.63	0.46
2:B:738:G:C2	2:B:759:G:C5	3.04	0.46
2:B:778:G:C6	2:B:779:U:C4	3.04	0.46
2:B:821:A:H2'	2:B:946:G:O4'	2.16	0.46
23:BC:111:VAL:HG22	23:BC:116:VAL:HA	1.98	0.46
3:C:89(A):G:H2'	3:C:89(B):A:C8	2.51	0.46
53:CB:28:LYS:NZ	53:CB:30:LEU:HD11	2.30	0.46
48:CD:61:TRP:OXT	48:CD:61:TRP:CD1	2.69	0.46
1:A:108:G:N1	54:DB:15:ARG:HG2	2.31	0.46
2:B:764:A:H5''	5:E:210:GLY:CA	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:177:PRO:C	6:F:179:GLU:H	2.19	0.46
1:FB:1084:G:C5	1:FB:1085:U:C4	3.05	0.46
1:FB:129(B):G:N2	1:FB:189:U:H5''	2.31	0.46
1:FB:737:A:H2'	1:FB:738:C:H6	1.79	0.46
7:G:167:ALA:HB1	7:G:173:VAL:HG11	1.98	0.46
2:GB:1384:A:N3	2:GB:1405:U:H1'	2.30	0.46
2:GB:1652:A:N7	2:GB:1653:G:C6	2.84	0.46
2:GB:729:G:H2'	2:GB:1775:U:H1'	1.97	0.46
2:GB:2030:A:H4'	2:GB:2031:A:H8	1.81	0.46
2:GB:2748:A:H2'	2:GB:2749:A:H8	1.81	0.46
2:GB:2747:G:O6	2:GB:2755:C:H5''	2.16	0.46
2:GB:2789:C:C2	2:GB:2894:G:N2	2.84	0.46
28:GC:33:VAL:HG11	28:GC:36:CYS:HB2	1.97	0.46
9:I:153:LYS:HG2	9:I:154:PRO:HD2	1.98	0.46
10:J:57:ARG:HA	10:J:60:GLU:HB3	1.98	0.46
5:JB:133:LEU:CB	5:JB:173:VAL:HG21	2.46	0.46
32:KC:26:LYS:HB2	32:KC:44:LYS:O	2.16	0.46
2:B:2685:G:H4'	12:L:67:LYS:NZ	2.31	0.46
36:LA:141:GLU:O	36:LA:145:LEU:HB2	2.16	0.46
7:LB:12:LEU:HA	7:LB:12:LEU:HD23	1.70	0.46
8:MB:82:LEU:HD13	8:MB:86:MET:HB2	1.98	0.46
14:N:111:GLU:OE2	14:N:133:ARG:NH2	2.49	0.46
1:A:546:G:C5	38:NA:3:ARG:O	2.69	0.46
4:NC:53:G:C5	4:NC:54:5MU:H72	2.51	0.46
10:OB:84:GLY:HA3	10:OB:87:LYS:O	2.16	0.46
12:QB:68:GLU:CD	12:QB:68:GLU:H	2.18	0.46
36:QC:141:GLU:O	36:QC:145:LEU:HB2	2.16	0.46
18:R:82:GLY:HA3	18:R:113:ALA:HB1	1.98	0.46
2:GB:2820:A:P	15:TB:2:ARG:HH22	2.39	0.46
23:W:99:TYR:CE1	23:W:125:LEU:HB2	2.51	0.46
1:A:1101:A:H4'	1:A:1102:A:O5'	2.17	0.45
1:A:1118:C:H2'	1:A:1119:C:C6	2.51	0.45
1:A:124:G:C5	1:A:125:U:C4	3.04	0.45
1:A:1366:C:H2'	1:A:1367:C:C6	2.51	0.45
1:A:1493:A:O2'	1:A:1494:G:O5'	2.33	0.45
1:A:613:C:H2'	1:A:614:A:H8	1.81	0.45
1:A:671:G:O2'	40:PA:80:ARG:NH2	2.48	0.45
1:A:841:U:H3'	1:A:842:C:C5'	2.47	0.45
1:A:920:U:H2'	1:A:921:U:C6	2.51	0.45
2:B:1026:U:H4'	2:B:1027:A:OP2	2.16	0.45
2:B:2008:C:H2'	2:B:2009:G:H8	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2407:G:N2	2:B:2408:U:H1'	2.31	0.45
2:B:445:C:O2'	2:B:446:G:H5'	2.16	0.45
2:B:553:U:O2'	2:B:554:U:H5'	2.17	0.45
3:C:13:A:O2'	3:C:15:A:H2'	2.16	0.45
24:CC:46:LYS:HA	24:CC:47:PRO:HD3	1.78	0.45
14:SB:85:LYS:HZ3	24:CC:4:LYS:HE2	1.79	0.45
1:FB:345:C:H5'	1:FB:346:G:C5	2.51	0.45
2:GB:1142(B):A:O2'	2:GB:1143:A:H3'	2.17	0.45
2:GB:1400:G:H2'	2:GB:1401:G:C8	2.51	0.45
2:GB:1511:A:H2'	2:GB:1512:G:H5'	1.98	0.45
2:GB:1590:U:H2'	2:GB:1591:G:C8	2.52	0.45
2:GB:1716:U:H2'	2:GB:1717:G:H8	1.80	0.45
2:GB:2075:U:H2'	2:GB:2238:G:N2	2.31	0.45
2:GB:2114:A:H2'	2:GB:2115:G:H5'	1.98	0.45
2:GB:2727:G:O3'	12:QB:70:LYS:NZ	2.45	0.45
2:GB:2735:G:H1	2:GB:2769:C:H42	1.64	0.45
2:GB:2789:C:H5''	2:GB:2790:A:OP1	2.15	0.45
2:GB:590:A:H2'	2:GB:591:C:O4'	2.16	0.45
2:GB:729:G:C5	5:JB:208:LYS:HB2	2.51	0.45
4:IB:26:G:H2'	4:IB:27:U:H6	1.82	0.45
6:KB:11:MET:HB3	6:KB:24:THR:HA	1.98	0.45
37:MA:112:SER:O	37:MA:116:VAL:HG23	2.16	0.45
37:MA:19:GLU:HA	37:MA:54:ARG:NH2	2.31	0.45
4:NC:53:G:H2'	4:NC:54:5MU:C6	2.51	0.45
35:OC:209:LEU:HD23	35:OC:210:PRO:HD2	1.99	0.45
41:QA:57:GLU:HB2	41:QA:60:LYS:HE3	1.98	0.45
37:RC:67:THR:HG22	37:RC:102:ASN:HB3	1.98	0.45
18:WB:88:ILE:HG22	18:WB:90:VAL:HG23	1.98	0.45
42:WC:101:PRO:HG2	42:WC:133:LEU:HD11	1.98	0.45
1:A:580:U:O2'	49:YA:57:LEU:HD12	2.16	0.45
1:A:961:U:OP2	1:A:1223:C:O4'	2.34	0.45
1:A:266:G:H3'	51:AB:67:LYS:HB2	1.97	0.45
2:B:1149:G:H2'	2:B:1150:C:C6	2.52	0.45
2:B:1897:G:H2'	2:B:1898:U:O4'	2.16	0.45
2:B:2152:G:H2'	2:B:2153:G:O4'	2.16	0.45
2:B:371:A:H5'	2:B:423:A:H2'	1.97	0.45
2:B:537:C:H2'	2:B:539:G:C8	2.51	0.45
2:B:547:A:H2'	2:B:548:A:H8	1.79	0.45
2:B:674:G:O2'	7:G:74:ARG:HD3	2.16	0.45
23:BC:130:PRO:HD2	23:BC:131:ARG:HH11	1.80	0.45
53:CB:12:ASP:O	53:CB:15:LEU:HB3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1313:U:OP1	53:CB:5:LEU:HB2	2.16	0.45
4:D:8:4SU:H3'	4:D:13:C:H41	1.81	0.45
2:B:2401:U:H4'	30:DA:42:TRP:CH2	2.51	0.45
5:E:146:GLU:HB2	5:E:189:CYS:HB3	1.97	0.45
1:FB:1171:G:H2'	1:FB:1172:C:C6	2.51	0.45
1:FB:1315:U:H3'	1:FB:1316:G:C8	2.51	0.45
1:FB:1349:A:H2'	1:FB:1349:A:N3	2.31	0.45
1:FB:1378:C:OP2	41:VC:2:ALA:HB3	2.16	0.45
1:FB:1428:A:H2'	1:FB:1429:C:O4'	2.16	0.45
1:FB:707:C:H2'	1:FB:708:C:C6	2.51	0.45
1:FB:881:G:H2'	1:FB:882:C:O4'	2.15	0.45
51:FD:95:TYR:O	51:FD:98:LEU:HB2	2.17	0.45
2:GB:2101:G:H2'	2:GB:2102:U:O4'	2.16	0.45
2:GB:2211:G:H2'	2:GB:2212:A:C2	2.51	0.45
2:GB:299:A:N1	2:GB:322:A:O2'	2.40	0.45
52:GD:54:ARG:HB3	52:GD:54:ARG:NH1	2.31	0.45
4:IB:57:A:C2	4:IB:58:A:H1'	2.51	0.45
36:LA:33:TYR:N	36:LA:41:ILE:O	2.42	0.45
7:LB:158:THR:O	7:LB:178:PRO:HD3	2.16	0.45
7:LB:78:ILE:HA	7:LB:83:PHE:CD2	2.51	0.45
14:N:124:LYS:O	14:N:125:LEU:HD23	2.16	0.45
38:NA:192:GLU:CD	38:NA:192:GLU:H	2.19	0.45
15:O:36:THR:HG22	15:O:37:THR:H	1.81	0.45
39:OA:53:LEU:H	39:OA:53:LEU:HD12	1.81	0.45
17:Q:108:ARG:CG	17:Q:112:ARG:HH12	2.22	0.45
17:Q:34:VAL:HG22	17:Q:41:ARG:HG3	1.97	0.45
41:QA:26:PHE:O	41:QA:30:ILE:HG12	2.16	0.45
41:QA:66:VAL:O	41:QA:70:LYS:HB2	2.16	0.45
42:RA:103:VAL:O	42:RA:106:GLY:N	2.48	0.45
42:RA:30:ARG:HA	42:RA:33:GLU:HB3	1.98	0.45
14:SB:124:LYS:O	14:SB:125:LEU:HD23	2.16	0.45
38:SC:60:GLU:HG3	38:SC:198:VAL:HG23	1.98	0.45
15:TB:36:THR:HG22	15:TB:37:THR:H	1.82	0.45
16:UB:74:ALA:O	16:UB:78:LEU:HB2	2.15	0.45
41:VC:90:GLU:OE2	41:VC:90:GLU:HA	2.15	0.45
41:VC:89:MET:HB3	41:VC:90:GLU:H	1.55	0.45
23:W:152:ALA:HB3	23:W:166:SER:O	2.16	0.45
18:WB:11:ARG:CG	18:WB:11:ARG:NH1	2.69	0.45
18:WB:46:ALA:O	18:WB:49:HIS:N	2.49	0.45
42:WC:18:ARG:HA	42:WC:18:ARG:HE	1.81	0.45
42:WC:44:PHE:CZ	42:WC:137:VAL:HG12	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:46:LYS:HD3	24:X:78:TYR:CZ	2.51	0.45
26:Z:35:LEU:HD12	26:Z:53:LEU:HD12	1.99	0.45
21:ZB:68:ARG:NH1	21:ZB:69:TYR:CZ	2.84	0.45
1:A:1084:G:C5	1:A:1085:U:C4	3.04	0.45
1:A:1267:C:N3	1:A:1327:C:H4'	2.30	0.45
1:A:1329:A:H5'	47:WA:29:ARG:HD2	1.97	0.45
1:A:112:G:H4'	1:A:389:A:H4'	1.99	0.45
46:AD:89:ARG:HD2	46:AD:96:VAL:O	2.17	0.45
2:B:144:C:H2'	2:B:145:G:H8	1.79	0.45
2:B:1680:U:N3	2:B:1764:G:OP2	2.25	0.45
2:B:17:G:H2'	2:B:18:C:C6	2.51	0.45
2:B:2057:A:H2'	2:B:2058:A:O4'	2.16	0.45
2:B:2472:G:H22	2:B:2477:C:H5'	1.80	0.45
2:B:2619:C:H4'	6:F:151:TYR:O	2.16	0.45
2:B:2726:U:O2'	2:B:2727:G:H8	1.99	0.45
2:B:302:C:H2'	2:B:303:U:C6	2.51	0.45
4:D:38:A:H8	4:D:38:A:O5'	2.00	0.45
4:D:63:G:H2'	4:D:64:G:O4'	2.16	0.45
50:ED:23:ASP:OD1	50:ED:24:ALA:N	2.48	0.45
1:FB:391:G:H5''	50:ED:8:ARG:HE	1.81	0.45
1:FB:1378:C:C5	1:FB:1379:G:C8	3.04	0.45
1:FB:977:A:C8	1:FB:1223:C:C4	3.05	0.45
2:GB:1057:A:O4'	2:GB:1086:A:N6	2.49	0.45
2:GB:1170:G:H2'	2:GB:1171:G:O4'	2.16	0.45
2:GB:1183:G:H2'	2:GB:1184:G:H8	1.81	0.45
2:GB:1359:A:N1	2:GB:1372:U:C4	2.85	0.45
2:GB:2013:A:H2	20:YB:88:ARG:HH22	1.64	0.45
2:GB:2537:U:H2'	2:GB:2538:C:C6	2.51	0.45
2:GB:2649:U:H2'	2:GB:2650:U:C6	2.52	0.45
8:H:43:LEU:C	8:H:45:GLU:H	2.18	0.45
9:I:84:SER:HB2	9:I:134:SER:HA	1.99	0.45
24:X:4:LYS:N	4:IA:74:C:H41	2.15	0.45
2:GB:643:A:H1'	30:IC:44:ARG:NH1	2.31	0.45
5:JB:132:PRO:HD2	5:JB:135:PHE:HD2	1.81	0.45
55:JD:18:TYR:HE2	55:JD:24:ARG:HA	1.82	0.45
39:OA:91:LEU:HD13	39:OA:91:LEU:HA	1.74	0.45
10:OB:133:HIS:HA	10:OB:134:PRO:HD3	1.81	0.45
16:P:12:PHE:HB3	16:P:16:ASN:HD21	1.80	0.45
43:SA:13:ALA:HB2	43:SA:68:GLY:HA3	1.99	0.45
2:B:24:G:O2'	20:T:78:GLU:O	2.29	0.45
1:A:527:7MG:HM71	46:VA:49:ASN:HD21	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:WB:68:ALA:O	18:WB:71:GLN:HB2	2.15	0.45
1:A:994:A:N3	48:XA:5:ALA:HA	2.31	0.45
26:Z:66:GLU:HB2	26:Z:69:ARG:HE	1.81	0.45
1:A:1381:U:O2'	41:QA:79:ARG:HG2	2.17	0.45
1:A:1441:G:O5'	1:A:1441:G:H8	1.99	0.45
1:A:860:A:H2'	1:A:861:G:O4'	2.17	0.45
2:B:1141:U:OP2	11:K:63:THR:OG1	2.29	0.45
2:B:2649:U:H2'	2:B:2650:U:C6	2.52	0.45
2:B:2681:C:OP2	6:F:109:LYS:NZ	2.39	0.45
2:B:635:C:H2'	2:B:636:G:O4'	2.17	0.45
2:B:645:C:H5''	2:B:646:A:OP2	2.16	0.45
28:BA:33:VAL:HG11	28:BA:36:CYS:HB2	1.97	0.45
47:BD:11:ARG:C	47:BD:13:LYS:H	2.19	0.45
3:C:48:A:H4'	16:P:95:HIS:CD2	2.51	0.45
4:D:48:C:H4'	4:D:49:G:H5''	1.98	0.45
6:F:59:VAL:HG11	6:F:64:LYS:HD3	1.97	0.45
1:FB:1054:C:OP2	1:FB:1197:G:OP2	2.35	0.45
1:FB:1329:A:H5'	47:BD:29:ARG:HD2	1.98	0.45
1:FB:1333:A:C2	1:FB:1334:G:H1'	2.51	0.45
2:GB:1080:C:OP2	2:GB:1080:C:H6	2.00	0.45
2:GB:1154:G:H8	2:GB:1154:G:O5'	2.00	0.45
2:GB:1210:A:C8	2:GB:1212:G:C2	3.05	0.45
2:GB:186:G:H2'	2:GB:187:G:H8	1.81	0.45
2:GB:1891:G:O5'	2:GB:1891:G:H8	1.99	0.45
2:GB:2408:U:H6	2:GB:2408:U:O5'	2.00	0.45
2:GB:301:G:C4	2:GB:302:C:C5	3.04	0.45
3:HB:13:A:O2'	3:HB:15:A:H2'	2.16	0.45
1:FB:958:A:N6	53:HD:77:THR:O	2.50	0.45
4:IA:49:G:H2'	4:IA:50:U:O4'	2.16	0.45
2:GB:1789:A:OP1	5:JB:222:ARG:HG3	2.17	0.45
36:LA:69:LEU:HD22	36:LA:159:PRO:HG3	1.98	0.45
8:MB:9:ARG:HA	8:MB:12:TYR:HB2	1.99	0.45
38:NA:110:PHE:O	38:NA:161:ASN:ND2	2.48	0.45
39:OA:20:GLN:HG3	39:OA:23:GLY:H	1.81	0.45
2:GB:2094:G:H5'	10:OB:25:TYR:CD1	2.51	0.45
10:OB:69:LYS:HD2	10:OB:73:GLU:OE1	2.16	0.45
3:C:50:G:OP2	16:P:62:LYS:HE3	2.16	0.45
37:RC:111:LEU:HB3	37:RC:204:LEU:HD21	1.99	0.45
1:A:942:G:H21	43:SA:124:GLN:HE21	1.65	0.45
38:SC:31:CYS:C	38:SC:33:MET:N	2.70	0.45
15:TB:9:LYS:O	15:TB:17:ARG:NH1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:TC:50:GLU:OE2	39:TC:51:VAL:HG23	2.15	0.45
39:TC:79:GLU:HA	39:TC:91:LEU:O	2.17	0.45
1:A:35:G:O2'	46:VA:118:SER:O	2.33	0.45
46:VA:89:ARG:HD2	46:VA:96:VAL:O	2.17	0.45
21:ZB:60:ARG:NH1	31:JC:47:ARG:NH2	2.65	0.45
1:A:1349:A:H2'	1:A:1349:A:N3	2.32	0.45
1:A:443:C:H2'	1:A:444:C:C6	2.52	0.45
1:A:648:A:H2'	1:A:649:G:O4'	2.17	0.45
22:AC:29:GLU:OE2	22:AC:31:LEU:HD21	2.17	0.45
2:B:1170:G:H1	2:B:1179:C:N4	2.15	0.45
2:B:1359:A:N1	2:B:1372:U:C4	2.84	0.45
2:B:1520:U:H2'	2:B:1521:G:O4'	2.16	0.45
2:B:164:U:H3'	2:B:165:U:O2	2.17	0.45
2:B:2135:A:N6	2:B:2155:G:O6	2.50	0.45
2:B:2512:C:H5''	2:B:2513:G:OP2	2.16	0.45
2:B:2865:U:C4	2:B:2866:U:C4	3.04	0.45
47:BD:55:ARG:HH11	47:BD:55:ARG:HB3	1.81	0.45
53:CB:30:LEU:HD23	53:CB:48:THR:HG23	1.98	0.45
54:DB:82:SER:C	54:DB:86:ARG:HG3	2.37	0.45
2:B:1815:A:P	5:E:54:ARG:HH22	2.40	0.45
2:B:2053:G:OP1	6:F:144:ARG:HG3	2.16	0.45
6:F:2:LYS:HA	6:F:84:PHE:CD1	2.51	0.45
1:FB:1166:G:O2'	1:FB:1169:A:N7	2.47	0.45
1:FB:1450:U:H4'	1:FB:1451:A:N7	2.32	0.45
1:FB:17:U:H2'	1:FB:18:C:H6	1.79	0.45
1:FB:736:C:H2'	1:FB:737:A:H8	1.81	0.45
1:FB:952:U:H2'	1:FB:953:G:C8	2.51	0.45
2:GB:1353:A:C8	2:GB:1377:G:N2	2.85	0.45
2:GB:2012:G:OP2	20:YB:16:LYS:NZ	2.48	0.45
2:GB:2662:A:H2'	2:GB:2663:G:O4'	2.16	0.45
2:GB:270(T):G:H2'	2:GB:270(U):G:H8	1.82	0.45
2:GB:2677:G:H1'	2:GB:2731:G:N2	2.31	0.45
2:GB:553:U:O2'	2:GB:554:U:H5'	2.17	0.45
4:IB:8:4SU:H3'	4:IB:13:C:H41	1.81	0.45
4:IB:13:C:H2'	4:IB:14:A:C8	2.51	0.45
4:IB:38:A:O5'	4:IB:38:A:H8	2.00	0.45
54:ID:80:ARG:O	54:ID:84:LEU:HB2	2.17	0.45
10:J:86:THR:O	10:J:123:LEU:HB2	2.15	0.45
6:KB:179:GLU:OE2	6:KB:179:GLU:HA	2.16	0.45
7:LB:116:ASP:OD2	13:RB:1:MET:HB3	2.16	0.45
37:MA:36:ASP:OD2	37:MA:59:ARG:NH2	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:MB:170:ARG:NH1	8:MB:174:GLU:OE1	2.40	0.45
38:NA:17:VAL:O	38:NA:19:LEU:HD13	2.17	0.45
4:NC:68:C:H2'	4:NC:69:C:O4'	2.16	0.45
15:O:59:ASP:OD2	15:O:61:HIS:HB3	2.16	0.45
36:QC:137:ARG:O	36:QC:141:GLU:HB3	2.17	0.45
13:RB:97:PRO:HD3	13:RB:126:VAL:O	2.16	0.45
37:RC:77:ILE:HG13	37:RC:78:GLY:N	2.31	0.45
45:UA:52:GLY:O	45:UA:55:LYS:HG2	2.16	0.45
17:VB:54:ARG:HB3	17:VB:54:ARG:HH11	1.80	0.45
48:XA:58:LYS:NZ	48:XA:58:LYS:HB3	2.32	0.45
26:Z:63:VAL:HG12	26:Z:67:LYS:HG3	1.99	0.45
50:ZA:22:THR:OG1	50:ZA:23:ASP:N	2.49	0.45
21:ZB:60:ARG:NH1	31:JC:47:ARG:HH22	2.13	0.45
1:A:1207:2MG:H2'	1:A:1208:C:C6	2.51	0.45
1:A:34:C:H2'	1:A:35:G:C8	2.52	0.45
1:A:62:U:H2'	1:A:63:C:C6	2.51	0.45
22:AC:3:VAL:HG21	22:AC:32:PRO:O	2.16	0.45
2:B:1142(B):A:O2'	2:B:1143:A:H3'	2.17	0.45
2:B:116:C:OP1	2:B:128:C:N4	2.46	0.45
2:B:1471:A:OP2	2:B:1521:G:C2	2.68	0.45
2:B:2340:G:C2	2:B:2341:G:C5	3.05	0.45
2:B:2646:C:OP2	2:B:2732:G:O2'	2.28	0.45
2:B:270(T):G:H2'	2:B:270(U):G:C8	2.51	0.45
2:B:2755:C:HO2'	2:B:2756:U:H6	1.62	0.45
2:B:2809:A:OP2	2:B:2891:G:N1	2.49	0.45
2:B:41:C:H2'	2:B:43:G:O4'	2.16	0.45
2:B:525:U:H5'	2:B:556:G:OP1	2.17	0.45
2:B:733:G:O6	2:B:761:A:C8	2.69	0.45
2:B:918:A:H8	2:B:918:A:O5'	1.99	0.45
47:BD:3:ARG:HB2	47:BD:8:GLU:HG3	1.98	0.45
53:CB:50:ALA:HB1	53:CB:58:VAL:N	2.32	0.45
50:ED:25:ARG:H	50:ED:25:ARG:HG2	1.65	0.45
50:ED:8:ARG:HH12	50:ED:15:PRO:CG	2.26	0.45
6:F:31:CYS:HB3	6:F:49:LEU:HB3	1.98	0.45
1:FB:363:A:OP1	46:AD:34:ARG:HG2	2.17	0.45
1:FB:527:7MG:HM71	46:AD:49:ASN:HD21	1.82	0.45
1:FB:790:A:C6	1:FB:791:G:C6	3.05	0.45
1:FB:837:G:H1	1:FB:849:C:N4	2.11	0.45
1:FB:967:5MC:H2'	1:FB:968:A:C8	2.52	0.45
27:FC:44:ARG:CB	27:FC:44:ARG:HH11	2.29	0.45
51:FD:54:GLY:O	51:FD:81:ARG:HB2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:158:THR:HA	7:G:195:ASP:HB2	1.99	0.45
2:GB:138:G:H22	2:GB:1596:A:P	2.40	0.45
2:GB:2152:G:H2'	2:GB:2153:G:O4'	2.16	0.45
2:GB:586:A:H5'	7:LB:89:VAL:HG21	1.98	0.45
2:GB:690:G:O2'	5:JB:43:ARG:NH2	2.50	0.45
8:H:152:LEU:HD22	8:H:153:ARG:H	1.82	0.45
4:IA:74:C:H3'	4:IA:75:C:C5'	2.44	0.45
54:ID:24:LEU:HA	54:ID:24:LEU:HD13	1.82	0.45
36:LA:149:LEU:O	36:LA:152:PHE:N	2.48	0.45
36:LA:167:PRO:HD3	36:LA:187:LEU:O	2.16	0.45
37:MA:91:LEU:HB3	37:MA:99:VAL:HG11	1.98	0.45
8:MB:121:ASN:HA	8:MB:122:PRO:HD3	1.76	0.45
1:A:407:G:O2'	38:NA:116:GLN:HB2	2.16	0.45
38:NA:162:LEU:HD12	38:NA:178:VAL:HG22	1.98	0.45
10:OB:57:ARG:O	10:OB:60:GLU:HB3	2.15	0.45
2:GB:2639:A:O3'	11:PB:97:ARG:NH2	2.50	0.45
17:Q:100:TYR:CD1	17:Q:103:ARG:NH1	2.85	0.45
19:S:14:VAL:HG12	19:S:18:LEU:HD23	1.98	0.45
38:SC:12:CYS:HG	38:SC:18:LYS:NZ	2.11	0.45
44:TA:16:LEU:HD13	44:TA:94:VAL:HG13	1.99	0.45
21:U:11:PRO:HB3	21:U:92:LEU:HD11	1.97	0.45
46:VA:51:ALA:HB3	46:VA:53:ARG:NH2	2.32	0.45
2:GB:2019:A:O4'	18:WB:34:LYS:HE2	2.17	0.45
21:ZB:5:TYR:CE2	26:EC:30:ARG:HB2	2.51	0.45
1:A:1028(C):C:H2'	1:A:1029:G:H5''	1.98	0.45
1:A:1333:A:C2	1:A:1334:G:H1'	2.51	0.45
46:AD:51:ALA:HB3	46:AD:53:ARG:NH2	2.32	0.45
2:B:1005:C:H5''	2:B:1006:C:OP2	2.17	0.45
2:B:1170:G:H2'	2:B:1171:G:O4'	2.16	0.45
2:B:1308:A:N6	2:B:1309:G:C2	2.85	0.45
2:B:133:C:H5''	2:B:134:C:OP2	2.16	0.45
2:B:1692:U:H2'	2:B:1694:C:C5	2.51	0.45
2:B:1820:U:C4	5:E:160:GLY:HA3	2.51	0.45
2:B:2016:U:H6	2:B:2016:U:O5'	1.99	0.45
2:B:2639:A:H3'	2:B:2640:G:H8	1.82	0.45
2:B:270(F):G:H1	2:B:270(V):C:N4	2.14	0.45
2:B:2818:G:HO2'	2:B:2836:U:HO2'	1.64	0.45
2:B:2854:G:H2'	2:B:2855:C:H6	1.81	0.45
2:B:520:G:H2'	2:B:521:G:H8	1.81	0.45
47:BD:110:ARG:HH11	47:BD:110:ARG:HA	1.81	0.45
47:BD:23:TYR:O	47:BD:70:LEU:HD23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:CB:21:GLU:OE1	53:CB:25:LYS:HD3	2.17	0.45
25:DC:27:GLU:H	25:DC:27:GLU:HG3	1.61	0.45
50:ED:55:ARG:O	50:ED:58:TYR:HB3	2.16	0.45
1:FB:1118:C:H1'	1:FB:1179:A:C4	2.52	0.45
1:FB:161:A:H2'	1:FB:162:A:C8	2.52	0.45
1:FB:34:C:H2'	1:FB:35:G:C8	2.52	0.45
1:FB:55:A:N7	1:FB:56:U:C2	2.85	0.45
1:FB:593:G:H1	1:FB:646:U:H3	1.63	0.45
1:FB:778:G:O5'	1:FB:778:G:H8	1.99	0.45
1:FB:834:C:C4	1:FB:835:U:C4	3.05	0.45
1:FB:841:U:H3'	1:FB:842:C:C5'	2.46	0.45
1:FB:975:A:H5''	1:FB:975:A:C8	2.52	0.45
2:GB:1040:C:H2'	2:GB:1041:C:C6	2.52	0.45
2:GB:127:A:H5''	2:GB:128:C:O4'	2.15	0.45
2:GB:1973:G:H2'	2:GB:1974:C:H6	1.81	0.45
2:GB:2564:A:OP1	2:GB:2648:C:H4'	2.17	0.45
2:GB:2731:G:C6	2:GB:2732:G:C6	3.04	0.45
2:GB:2748:A:C4	2:GB:2757:A:C6	3.05	0.45
2:GB:2784:C:H1'	6:KB:37:ARG:NH2	2.31	0.45
2:GB:41:C:H2'	2:GB:43:G:O4'	2.17	0.45
2:GB:754:C:H2'	2:GB:755:C:C6	2.51	0.45
2:GB:979:G:H3'	2:GB:980:A:C5'	2.46	0.45
9:I:137:ASP:HB3	9:I:140:LYS:HZ1	1.81	0.45
9:I:144:VAL:HA	9:I:147:ASN:HB2	1.99	0.45
4:IB:13:C:H2'	4:IB:14:A:H8	1.81	0.45
35:JA:119:THR:HG22	35:JA:120:GLY:H	1.82	0.45
11:K:12:ARG:HH22	11:K:138:LEU:HD11	1.82	0.45
36:LA:193:ASP:HB3	36:LA:196:LEU:HD12	1.99	0.45
36:LA:17:PHE:HB3	36:LA:44:LEU:HD11	1.99	0.45
13:M:122:PRO:HB3	13:M:142:GLY:O	2.16	0.45
16:P:83:LYS:HB2	16:P:111:GLU:CD	2.37	0.45
17:Q:39:ARG:HH12	17:Q:41:ARG:HD3	1.81	0.45
17:Q:99:LEU:O	17:Q:102:ILE:HG23	2.17	0.45
18:R:16:LYS:O	18:R:20:LEU:HG	2.17	0.45
39:OA:152:ARG:NH1	42:RA:42:GLU:O	2.49	0.45
42:RA:44:PHE:CZ	42:RA:137:VAL:HG12	2.52	0.45
44:TA:49:VAL:CG2	48:XA:41:ARG:HB2	2.47	0.45
21:U:21:PHE:HA	21:U:26:TYR:HE1	1.82	0.45
21:U:52:VAL:HG23	21:U:84:ALA:HB2	1.99	0.45
16:UB:44:LYS:HB2	16:UB:44:LYS:HZ3	1.80	0.45
41:VC:15:ASP:HA	41:VC:24:THR:HG23	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:VC:79:ARG:HA	41:VC:83:ALA:O	2.16	0.45
47:WA:80:ARG:HD2	53:CB:65:ASN:HB3	1.98	0.45
42:WC:63:LEU:HB3	42:WC:65:TYR:CE2	2.52	0.45
1:A:1103:C:H2'	1:A:1104:G:O4'	2.17	0.45
1:A:1110:A:H2'	1:A:1110:A:N3	2.32	0.45
1:A:17:U:H2'	1:A:18:C:H6	1.80	0.45
1:A:421:U:H3'	1:A:422:C:C6	2.52	0.45
1:A:413:G:H1'	1:A:428:G:H21	1.82	0.45
1:FB:523:A:H61	46:AD:92:0TD:CG	2.30	0.45
2:B:1022:G:C6	2:B:1140:C:C4	3.05	0.45
2:B:1716:U:H2'	2:B:1717:G:H8	1.82	0.45
2:B:180:G:N2	2:B:215:G:O6	2.50	0.45
2:B:2022:U:O2'	2:B:2617:C:H5'	2.17	0.45
2:B:882:G:OP2	2:B:882:G:H8	1.99	0.45
23:BC:99:TYR:CE1	23:BC:125:LEU:HB2	2.52	0.45
5:E:258:LYS:HE2	5:E:273:ARG:CZ	2.46	0.45
1:FB:1048:G:OP1	48:CD:4:LYS:HB2	2.17	0.45
1:FB:1124:G:O2'	1:FB:1125:U:OP2	2.31	0.45
1:FB:989:C:H42	1:FB:1217:C:N4	2.14	0.45
1:FB:1348:U:H2'	1:FB:1349:A:H8	1.81	0.45
1:FB:201:C:H3'	1:FB:208:U:H5''	1.98	0.45
1:FB:293:G:H8	1:FB:293:G:OP2	1.99	0.45
1:FB:73:G:H1	1:FB:97:U:H3	1.64	0.45
13:M:119:GLU:HB3	27:FC:1:MET:N	2.31	0.45
1:FB:266:G:H3'	51:FD:67:LYS:HB2	1.99	0.45
2:GB:2329:G:H2'	2:GB:2330:G:C8	2.52	0.45
2:GB:2631:G:N3	2:GB:2810:A:H2	2.15	0.45
2:GB:302:C:H2'	2:GB:303:U:C6	2.51	0.45
8:H:145:THR:OG1	8:H:146:TYR:N	2.48	0.45
53:HD:12:ASP:O	53:HD:15:LEU:HB3	2.16	0.45
1:FB:192:U:H5'	54:ID:102:GLY:HA2	1.99	0.45
54:ID:44:ALA:O	54:ID:91:LEU:HG	2.17	0.45
36:LA:60:ASP:O	36:LA:64:ARG:HG2	2.16	0.45
7:LB:202:PHE:CZ	7:LB:206:ILE:HD11	2.52	0.45
13:M:88:LEU:HA	13:M:91:PHE:HE2	1.82	0.45
37:MA:77:ILE:HG13	37:MA:78:GLY:N	2.32	0.45
39:OA:64:ARG:HH11	39:OA:64:ARG:HG3	1.80	0.45
39:OA:80:ILE:HD12	39:OA:91:LEU:HB2	1.98	0.45
36:QC:122:PHE:CZ	36:QC:139:LYS:HB2	2.52	0.45
37:RC:121:ALA:HB1	37:RC:189:ALA:HB2	1.97	0.45
1:A:1279:A:P	44:TA:9:ARG:HH22	2.39	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:778:G:O2'	45:UA:120:ARG:O	2.35	0.45
46:VA:89:ARG:NH1	46:VA:95:GLY:H	2.10	0.45
17:VB:22:PHE:HA	17:VB:91:ARG:NH2	2.32	0.45
24:X:12:ASN:HB2	24:X:13:GLY:H	1.56	0.45
50:ZA:55:ARG:O	50:ZA:58:TYR:HB3	2.17	0.45
1:A:363:A:OP1	46:VA:34:ARG:HG2	2.17	0.45
1:A:926:G:C6	1:A:1505:G:C6	3.05	0.45
2:GB:328:U:H4'	22:AC:68:HIS:CD2	2.51	0.45
2:B:1057:A:O4'	2:B:1086:A:N6	2.50	0.45
2:B:1491:G:H2'	2:B:1492:G:C8	2.51	0.45
2:B:2286:A:OP1	30:DA:29:ASN:ND2	2.50	0.45
2:B:2631:G:N3	2:B:2810:A:H2	2.15	0.45
2:B:2695:C:H2'	2:B:2696:U:H6	1.79	0.45
2:B:825:C:H42	2:B:832:G:H1	1.65	0.45
2:B:910:A:H62	14:N:12:GLN:HA	1.81	0.45
4:D:34:C:H6	4:D:34:C:O5'	2.00	0.45
50:ED:22:THR:OG1	50:ED:23:ASP:N	2.49	0.45
6:F:55:ASN:C	6:F:57:LYS:H	2.20	0.45
1:FB:1072:G:C2	1:FB:1073:U:C2	3.05	0.45
1:FB:1110:A:H3'	1:FB:1111:A:C8	2.51	0.45
1:FB:1133:G:H2'	1:FB:1134:G:O4'	2.17	0.45
1:FB:1389:C:H2'	1:FB:1390:U:O4'	2.17	0.45
13:M:119:GLU:HB3	27:FC:1:MET:H2	1.81	0.45
51:FD:58:GLU:OE2	51:FD:75:ARG:NH1	2.46	0.45
7:G:10:PRO:CB	7:G:17:ARG:HH12	2.29	0.45
2:GB:1118:C:H2'	2:GB:1119:C:C6	2.52	0.45
2:GB:2192:G:C8	2:GB:2192:G:OP2	2.70	0.45
57:GB:9001:BLS:H2'	4:NC:76:A:H1'	1.99	0.45
28:GC:53:GLU:OE2	28:GC:60:GLN:NE2	2.49	0.45
8:H:99:MET:O	8:H:103:LEU:HB2	2.17	0.45
6:KB:131:ALA:O	6:KB:133:LYS:N	2.49	0.45
32:KC:4:MET:O	32:KC:64:TYR:HE2	2.00	0.45
12:L:24:VAL:HG12	12:L:33:ALA:HB2	1.98	0.45
13:M:97:PRO:HD3	13:M:126:VAL:O	2.16	0.45
14:N:62:GLY:O	23:W:178:GLU:HG2	2.16	0.45
39:OA:84:PHE:HB2	39:OA:134:ALA:HB2	1.98	0.45
34:MC:21:A:N6	35:OC:198:THR:OG1	2.27	0.45
12:QB:24:VAL:HG12	12:QB:33:ALA:HB2	1.99	0.45
12:QB:25:LEU:HB2	12:QB:38:VAL:HG23	1.99	0.45
13:RB:96:THR:HA	13:RB:126:VAL:HG23	1.99	0.45
14:SB:62:GLY:O	23:BC:178:GLU:HG2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SB:85:LYS:HE2	24:CC:7:LEU:HD13	1.99	0.45
38:SC:8:VAL:HG13	38:SC:9:CYS:H	1.82	0.45
46:VA:70:ILE:HG12	46:VA:100:ILE:HD12	1.97	0.45
23:W:54:HIS:HB2	23:W:101:PRO:HD3	1.99	0.45
48:XA:24:CYS:HB3	48:XA:28:GLY:H	1.82	0.45
48:XA:40:CYS:SG	48:XA:43:CYS:SG	3.14	0.45
49:YA:4:THR:HG23	49:YA:7:GLU:CD	2.36	0.45
50:ZA:43:LYS:HG2	50:ZA:48:TRP:CE3	2.52	0.45
1:A:1435:G:H8	1:A:1435:G:O5'	2.00	0.45
1:A:279:A:H4'	1:A:280:C:H5''	1.99	0.45
1:A:438:G:O2'	1:A:494:U:O4	2.31	0.45
1:A:538:G:H2'	1:A:539:A:C8	2.51	0.45
1:A:892:A:H2'	1:A:893:C:H6	1.80	0.45
2:B:1128:A:N7	2:B:2489:G:O2'	2.49	0.45
2:B:2020:A:C5	2:B:2022:U:C5	3.05	0.45
2:B:2116:G:O2'	2:B:2117:A:N3	2.46	0.45
2:B:265:A:C8	2:B:266:G:H1'	2.52	0.45
2:B:71:A:H4'	2:B:72:U:H5''	1.99	0.45
2:B:797:C:P	7:G:62:ARG:HG3	2.56	0.45
1:FB:1007:C:N4	1:FB:1023:G:H21	2.14	0.45
1:FB:360:A:H2'	1:FB:361:G:C8	2.52	0.45
1:FB:386:C:C2'	1:FB:387:U:H5'	2.47	0.45
1:FB:570:G:C2	1:FB:571:U:C4	3.05	0.45
2:GB:1093:G:H22	2:GB:1096:A:C5'	2.30	0.45
2:GB:2615:U:C2	29:HC:7:PRO:HA	2.52	0.45
2:GB:2850:A:H2	15:TB:61:HIS:CG	2.35	0.45
2:GB:556:G:H2'	2:GB:557:U:H6	1.81	0.45
2:GB:953:A:H2'	2:GB:954:G:H8	1.81	0.45
52:GD:71:LYS:HA	52:GD:74:ARG:HD2	1.97	0.45
9:I:94:TYR:CZ	9:I:160:LYS:HD3	2.52	0.45
54:ID:10:LEU:HD12	54:ID:12:ALA:H	1.81	0.45
6:KB:31:CYS:HB3	6:KB:49:LEU:HB3	1.99	0.45
2:B:2406:U:C4	13:M:72:PRO:HD2	2.52	0.45
14:N:67:ARG:HD2	14:N:105:GLU:OE2	2.16	0.45
38:NA:171:GLY:HA2	38:NA:172:PRO:HD3	1.82	0.45
9:NB:35:VAL:HG12	9:NB:36:PRO:O	2.17	0.45
12:QB:17:ARG:HA	12:QB:17:ARG:NE	2.32	0.45
37:RC:122:GLU:HB3	37:RC:126:ARG:HH12	1.82	0.45
14:SB:16:ARG:NH1	14:SB:16:ARG:HB2	2.31	0.45
44:TA:40:LEU:HD23	44:TA:69:ASN:HB2	1.98	0.45
15:TB:24:GLN:HG2	15:TB:44:LEU:HG	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:92:LEU:HA	21:U:92:LEU:HD12	1.66	0.45
23:W:28:MET:HG3	23:W:35:ARG:HB3	1.99	0.45
45:ZC:38:ASN:HA	45:ZC:39:PRO:HD3	1.78	0.45
1:A:1007:C:N4	1:A:1023:G:H21	2.15	0.44
1:A:1175:G:OP2	1:A:1175:G:C8	2.69	0.44
1:A:1382:C:H2'	1:A:1383:C:C6	2.52	0.44
1:A:255:G:OP1	51:AB:69:LYS:NZ	2.49	0.44
1:A:389:A:C6	1:A:390:C:H1'	2.52	0.44
1:A:837:G:H1	1:A:849:C:N4	2.14	0.44
46:AD:61:THR:C	46:AD:63:GLY:H	2.21	0.44
2:B:1103:A:OP2	2:B:1104:C:H5	2.00	0.44
2:B:1680:U:O2	2:B:1763:G:H3'	2.17	0.44
2:B:195:A:H61	2:B:198:C:H3'	1.81	0.44
2:B:2173:A:H2'	2:B:2174:C:O4'	2.18	0.44
2:B:2329:G:H2'	2:B:2330:G:C8	2.52	0.44
2:B:243:U:OP1	32:FA:6:THR:OG1	2.20	0.44
2:B:2893:G:O5'	2:B:2893:G:H8	2.01	0.44
2:B:844:C:C5	2:B:845:G:C6	3.05	0.44
47:BD:4:ILE:HA	47:BD:5:ALA:HA	1.63	0.44
29:CA:49:CYS:SG	29:CA:51:TYR:HB2	2.57	0.44
6:F:79:ARG:HH11	6:F:79:ARG:CG	2.29	0.44
1:FB:1110:A:H2'	1:FB:1110:A:N3	2.33	0.44
1:FB:1171:G:O2'	1:FB:1172:C:H5'	2.17	0.44
1:FB:129(B):G:O6	1:FB:187:C:O2'	2.28	0.44
1:FB:1480:G:C6	1:FB:1481:U:N3	2.86	0.44
1:FB:327:A:C4	1:FB:329:A:C8	3.05	0.44
1:FB:741:G:H2'	1:FB:742:G:C8	2.53	0.44
2:GB:1382:G:O3'	2:GB:1573:G:N2	2.50	0.44
2:GB:1607:C:H5''	2:GB:1608:A:H5'	1.99	0.44
2:GB:165:U:H2'	2:GB:171:G:O4'	2.18	0.44
2:GB:581:C:OP2	18:WB:33:ARG:HD3	2.17	0.44
2:GB:645:C:H5''	2:GB:646:A:OP2	2.17	0.44
4:IB:63:G:H2'	4:IB:64:G:O4'	2.17	0.44
5:JB:112:GLN:O	5:JB:115:GLN:HB3	2.17	0.44
5:JB:146:GLU:HA	5:JB:153:ALA:HA	1.98	0.44
7:LB:65:TRP:CD1	7:LB:70:THR:HG21	2.52	0.44
13:M:96:THR:HA	13:M:126:VAL:HG23	1.98	0.44
38:NA:174:LEU:HD23	38:NA:185:PHE:HA	1.99	0.44
9:NB:84:SER:HB2	9:NB:134:SER:HA	1.99	0.44
39:OA:91:LEU:HD12	39:OA:118:ILE:HD11	1.98	0.44
18:R:72:HIS:CD2	18:R:110:VAL:HG21	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:59:ARG:O	18:R:63:VAL:HG23	2.16	0.44
37:RC:110:ASN:O	37:RC:141:VAL:HG22	2.17	0.44
19:S:1:MET:HA	19:S:42:GLY:HA3	1.99	0.44
20:T:62:HIS:O	20:T:64:MET:HG3	2.17	0.44
39:TC:53:LEU:HD12	39:TC:53:LEU:H	1.82	0.44
22:V:84:ARG:O	22:V:100:ALA:HB2	2.17	0.44
17:VB:106:SER:O	17:VB:110:ILE:HG13	2.16	0.44
17:VB:3:ARG:O	17:VB:7:ILE:HG12	2.18	0.44
1:FB:875:C:O2'	42:WC:14:ARG:HD2	2.17	0.44
43:XC:46:ALA:HB2	43:XC:74:ILE:HG23	1.99	0.44
21:ZB:36:LYS:HG2	21:ZB:54:VAL:HB	1.98	0.44
1:A:109:A:H5'	1:A:110:C:C5	2.53	0.44
1:A:1355:G:H2'	1:A:1356:G:C8	2.53	0.44
1:A:1407:5MC:H2'	1:A:1408:A:C8	2.52	0.44
1:A:504:C:C2	1:A:542:G:C2	3.05	0.44
1:A:881:G:N7	46:VA:9:GLN:NE2	2.57	0.44
1:A:977:A:C8	1:A:1223:C:C4	3.06	0.44
2:B:1171:G:H3'	2:B:1173:G:C8	2.52	0.44
2:B:1503:U:H2'	2:B:1504:C:C6	2.53	0.44
2:B:1625:C:H2'	2:B:1626:G:O4'	2.16	0.44
2:B:2306:C:H2'	2:B:2307:G:C8	2.52	0.44
2:B:2454:G:H2'	2:B:2455:G:H8	1.81	0.44
2:B:2727:G:O3'	12:L:70:LYS:NZ	2.50	0.44
2:B:451:C:H4'	7:G:52:LYS:HZ2	1.81	0.44
2:B:846:C:H6	2:B:846:C:O5'	2.00	0.44
2:B:93:C:H2'	2:B:94:G:O4'	2.17	0.44
1:A:664:G:P	52:BB:64:ARG:HH21	2.40	0.44
23:BC:185:GLU:OE1	23:BC:185:GLU:N	2.45	0.44
47:BD:69:GLU:O	47:BD:73:GLU:N	2.43	0.44
1:FB:1029:G:C1'	1:FB:1032(C):G:H1	2.31	0.44
1:FB:1118:C:H2'	1:FB:1119:C:C6	2.53	0.44
1:FB:1239:A:H62	1:FB:1299:A:H61	1.61	0.44
1:FB:1278:U:H5''	1:FB:1279:A:O4'	2.17	0.44
1:FB:209:U:H4'	1:FB:216:G:C2	2.51	0.44
1:FB:23:C:H5	1:FB:561:U:O4	2.00	0.44
1:FB:429:U:H3	1:FB:431:A:H62	1.65	0.44
1:FB:648:A:H2'	1:FB:649:G:O4'	2.18	0.44
1:FB:755:G:OP2	49:DD:65:ARG:HB3	2.17	0.44
51:FD:10:VAL:HG23	51:FD:55:ASP:O	2.18	0.44
2:GB:112:U:O4	2:GB:113:G:C2	2.70	0.44
2:GB:1342:A:C6	2:GB:1345:C:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1405:U:H2'	2:GB:1406:U:C6	2.52	0.44
2:GB:1675:C:O2	6:KB:129:HIS:HA	2.17	0.44
1:FB:718:G:O6	52:GD:74:ARG:NH1	2.50	0.44
3:HB:102:G:H21	23:BC:73:GLN:NE2	2.15	0.44
3:HB:89(A):G:H2'	3:HB:89(B):A:C8	2.52	0.44
4:IA:3:C:H6	4:IA:3:C:OP2	1.99	0.44
4:IA:68:C:H2'	4:IA:69:C:O4'	2.16	0.44
5:JB:78:LYS:HE3	5:JB:114:GLY:HA2	1.98	0.44
35:KA:322:ILE:HB	35:KA:324:LEU:H	1.82	0.44
7:LB:123:LEU:HD12	7:LB:124:LEU:N	2.32	0.44
7:LB:40:GLN:NE2	7:LB:182:ASN:OD1	2.50	0.44
13:M:3:LEU:HD12	13:M:3:LEU:H	1.82	0.44
37:MA:153:VAL:HG22	37:MA:198:VAL:HG22	1.99	0.44
38:NA:162:LEU:HD13	38:NA:162:LEU:HA	1.79	0.44
38:NA:187:ARG:HB2	38:NA:188:LEU:HD22	1.98	0.44
39:OA:149:GLU:O	39:OA:153:LYS:HG3	2.18	0.44
35:OC:143:ARG:HH21	35:OC:144:TRP:HE1	1.66	0.44
17:Q:80:SER:HB3	17:Q:83:ILE:HG12	1.99	0.44
12:QB:88:ASN:OD1	12:QB:92:GLU:HB2	2.17	0.44
37:RC:21:ARG:HD2	44:YC:12:ASP:OD2	2.18	0.44
4:IA:32:5MC:H3'	43:SA:128:ARG:NH2	2.32	0.44
38:SC:134:ASP:O	38:SC:136:PRO:HD3	2.18	0.44
22:V:35:TYR:CE2	22:V:69:ALA:HB3	2.53	0.44
41:VC:51:GLN:O	41:VC:55:GLY:HA2	2.17	0.44
47:WA:56:LEU:HD12	47:WA:59:TYR:CE2	2.53	0.44
43:XC:45:ALA:HA	43:XC:48:GLU:HB2	1.98	0.44
1:A:743:U:H2'	1:A:744:C:H6	1.81	0.44
27:AA:12:PRO:HB2	27:AA:20:LYS:HG2	1.99	0.44
2:B:1010:A:O3'	18:R:77:SER:OG	2.35	0.44
2:B:1252:G:C2	2:B:1253:A:C2	3.04	0.44
2:B:1274:A:N3	2:B:1297:C:H1'	2.33	0.44
2:B:1952:A:C6	2:B:1953:A:N1	2.85	0.44
2:B:2356:C:O3'	24:X:20:ARG:HD3	2.17	0.44
2:B:2467:C:H2'	2:B:2468:G:O4'	2.17	0.44
2:B:2476:A:H2	2:B:2481:G:H1	1.66	0.44
2:B:640:C:H2'	2:B:641:C:C6	2.52	0.44
49:DD:82:ILE:O	49:DD:86:GLY:N	2.50	0.44
26:EC:53:LEU:HD23	26:EC:53:LEU:HA	1.84	0.44
1:FB:1441:G:O5'	1:FB:1441:G:H8	2.00	0.44
1:FB:32:A:OP1	1:FB:398:C:H1'	2.17	0.44
1:FB:791:G:H22	1:FB:1498:UR3:P	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1176:G:C8	2:GB:1177:A:C8	3.05	0.44
2:GB:1635:G:O2'	2:GB:1636:C:H5'	2.16	0.44
2:GB:2312:U:OP1	8:MB:74:LYS:HB2	2.16	0.44
2:GB:10:G:H4'	2:GB:2801:A:N1	2.33	0.44
2:GB:8:A:H2	2:GB:2896:C:C2	2.35	0.44
2:GB:65:C:H2'	2:GB:66:C:C6	2.53	0.44
53:HD:65:ASN:O	53:HD:67:VAL:N	2.50	0.44
9:I:38:SER:OG	9:I:40:GLU:OE1	2.28	0.44
11:K:94:HIS:HA	11:K:95:PRO:HD2	1.79	0.44
6:KB:55:ASN:C	6:KB:57:LYS:H	2.20	0.44
7:LB:10:PRO:HB3	7:LB:17:ARG:HH12	1.81	0.44
33:LC:2:LYS:HB2	33:LC:34:GLN:HG2	1.99	0.44
37:MA:3:ASN:ND2	37:MA:4:LYS:HZ2	2.15	0.44
14:N:12:GLN:HG2	14:N:73:PRO:HD2	2.00	0.44
14:N:19:GLY:HA2	23:W:79:ARG:HH22	1.82	0.44
15:O:99:LYS:NZ	15:O:99:LYS:HB2	2.32	0.44
39:OA:90:VAL:O	39:OA:91:LEU:HD13	2.17	0.44
14:SB:111:GLU:OE2	14:SB:133:ARG:NH2	2.50	0.44
20:T:62:HIS:O	20:T:64:MET:N	2.50	0.44
15:TB:13:HIS:CE1	15:TB:16:HIS:HB2	2.53	0.44
39:TC:121:LYS:HZ2	39:TC:122:GLU:N	2.13	0.44
16:UB:30:ARG:NH1	16:UB:97:ARG:HH11	2.14	0.44
47:WA:11:ARG:C	47:WA:13:LYS:H	2.19	0.44
47:WA:31:LYS:HD2	47:WA:31:LYS:N	2.32	0.44
2:GB:1011:G:P	18:WB:77:SER:HG	2.40	0.44
36:QC:178:ARG:HB3	42:WC:71:GLY:O	2.16	0.44
20:YB:3:ALA:HB3	20:YB:58:ALA:HB2	1.98	0.44
44:YC:20:ALA:O	44:YC:24:VAL:HG23	2.18	0.44
1:A:1378:C:H5''	41:QA:6:ARG:HG3	1.99	0.44
1:A:429:U:OP1	38:NA:13:ARG:NH1	2.50	0.44
2:B:491:G:C2	2:B:492:A:H1'	2.53	0.44
3:C:17:C:H2'	3:C:18:G:O4'	2.17	0.44
29:CA:35:GLU:HG3	29:CA:51:TYR:CB	2.47	0.44
54:DB:72:LEU:HD13	54:DB:77:ALA:HA	2.00	0.44
5:E:182:LEU:HB2	5:E:272:ALA:HB3	2.00	0.44
5:E:53:PHE:CD1	5:E:220:HIS:HA	2.52	0.44
6:F:177:PRO:HD2	6:F:178:GLU:OE2	2.16	0.44
1:FB:1036:G:H3'	1:FB:1037:C:C6	2.53	0.44
1:FB:1153:C:H2'	1:FB:1154:G:O4'	2.18	0.44
1:FB:1275:A:H8	1:FB:1275:A:OP2	2.00	0.44
1:FB:1381:U:O2'	41:VC:79:ARG:HG2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1508:G:H2'	1:FB:1509:C:H6	1.83	0.44
1:FB:465:A:O2'	1:FB:466:G:H5'	2.16	0.44
1:FB:753:A:H5'	1:FB:754:C:C5	2.52	0.44
1:FB:991:U:C4	1:FB:1212:U:H1'	2.52	0.44
27:FC:8:LEU:HD13	27:FC:23:LEU:HD21	2.00	0.44
2:GB:1038:C:H42	2:GB:1117:G:H1	1.65	0.44
2:GB:1374:G:C6	2:GB:1375:C:C4	3.05	0.44
2:GB:1471:A:OP2	2:GB:1521:G:C2	2.70	0.44
2:GB:1582:C:H2'	2:GB:1583:A:H8	1.83	0.44
2:GB:1692:U:O2'	2:GB:1693:U:H2'	2.17	0.44
2:GB:2010:G:H5''	20:YB:42:ARG:HB2	2.00	0.44
2:GB:2016:U:C4	2:GB:2017:U:C4	3.05	0.44
2:GB:2149:G:H5'	2:GB:2150:U:OP2	2.18	0.44
2:GB:2402:C:C6	2:GB:2402:C:OP2	2.70	0.44
2:GB:947:G:N2	2:GB:971:C:C2	2.85	0.44
3:HB:17:C:H2'	3:HB:18:G:O4'	2.18	0.44
47:BD:87:TYR:HB3	53:HD:73:GLU:HG2	1.99	0.44
5:JB:208:LYS:HG3	5:JB:211:ARG:H	1.81	0.44
1:FB:1235:U:H5''	55:JD:3:LYS:HB2	2.00	0.44
36:LA:139:LYS:O	36:LA:142:LEU:HB3	2.17	0.44
7:LB:179:GLU:H	7:LB:179:GLU:CD	2.20	0.44
2:GB:2443:C:OP1	7:LB:68:LYS:HD3	2.17	0.44
17:Q:105:LEU:HD13	17:Q:105:LEU:HA	1.70	0.44
17:Q:50:ILE:H	17:Q:50:ILE:HD13	1.81	0.44
18:R:34:LYS:HD2	18:R:34:LYS:HA	1.71	0.44
42:RA:12:ARG:HH11	42:RA:26:VAL:HA	1.82	0.44
42:RA:73:ASP:OD1	42:RA:75:ARG:HG3	2.18	0.44
14:SB:70:PRO:HA	14:SB:95:ALA:HB2	2.00	0.44
20:T:12:ILE:HB	20:T:42:ARG:HH12	1.83	0.44
22:V:90:LEU:HA	22:V:90:LEU:HD13	1.77	0.44
46:VA:89:ARG:NH1	46:VA:95:GLY:N	2.65	0.44
23:W:103:ARG:HG3	23:W:136:PHE:HB3	1.99	0.44
23:W:21:ALA:O	23:W:23:LYS:N	2.50	0.44
14:N:85:LYS:HD3	24:X:7:LEU:HD22	1.99	0.44
49:YA:15:PHE:HB3	49:YA:27:VAL:HG22	2.00	0.44
26:Z:53:LEU:HA	26:Z:53:LEU:HD23	1.81	0.44
1:A:1104:G:O5'	36:LA:111:ARG:HD2	2.18	0.44
1:A:1133:G:H2'	1:A:1134:G:O4'	2.18	0.44
1:A:1172:C:H2'	1:A:1173:G:O4'	2.18	0.44
1:A:603:U:H2'	1:A:604:G:H8	1.83	0.44
1:A:676:A:H5''	45:UA:113:PRO:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:828:A:H2'	1:A:829:G:O4'	2.16	0.44
1:A:247:G:OP2	51:AB:100:LYS:N	2.51	0.44
2:B:1314:C:OP1	2:B:1315:C:OP2	2.36	0.44
2:B:1861:G:H2'	2:B:1862:G:H8	1.83	0.44
2:B:2080:G:H5''	25:Y:19:GLN:HG3	2.00	0.44
2:B:2141:G:H22	2:B:2150:U:H2'	1.83	0.44
2:B:2167:U:H2'	2:B:2168:G:C8	2.53	0.44
2:B:2445:G:OP1	7:G:74:ARG:NH2	2.50	0.44
2:B:2551:C:H2'	2:B:2552:2MU:C6	2.48	0.44
2:B:2819:G:H2'	2:B:2821:A:N7	2.31	0.44
2:B:398:G:H2'	2:B:399:G:C8	2.53	0.44
2:B:827:U:H1'	2:B:2246:G:O2'	2.18	0.44
53:CB:28:LYS:HZ1	53:CB:30:LEU:HD11	1.82	0.44
48:CD:31:ARG:HG2	48:CD:31:ARG:HH11	1.82	0.44
5:E:227:ASN:HB3	5:E:228:PRO:HD2	1.99	0.44
5:E:246:PRO:O	5:E:254:THR:HG22	2.17	0.44
5:E:267:SER:O	5:E:269:PHE:N	2.51	0.44
6:F:52:LEU:HA	6:F:53:PRO:HD3	1.86	0.44
1:FB:1101:A:H4'	1:FB:1102:A:O5'	2.18	0.44
1:FB:277:C:C2'	1:FB:278:G:H5'	2.47	0.44
1:FB:298:A:C6	1:FB:299:G:C2	3.06	0.44
1:FB:626:U:H5''	50:ED:38:TYR:CD2	2.53	0.44
1:FB:778:G:H2'	1:FB:779:C:O4'	2.18	0.44
1:FB:833:U:H3	1:FB:853:G:H1	1.65	0.44
7:G:40:GLN:NE2	7:G:182:ASN:OD1	2.49	0.44
2:GB:1103:A:OP2	2:GB:1104:C:H5	2.00	0.44
2:GB:1153:C:H2'	2:GB:1154:G:O4'	2.17	0.44
2:GB:1448:G:H1'	2:GB:1528:A:N1	2.32	0.44
2:GB:1669:A:H4'	2:GB:2549:G:H4'	1.99	0.44
2:GB:1825:A:H2'	2:GB:1826:G:C8	2.53	0.44
2:GB:2020:A:C5	2:GB:2022:U:C5	3.05	0.44
2:GB:2022:U:O2'	2:GB:2617:C:H5'	2.18	0.44
2:GB:2297:C:H42	2:GB:2321:G:H1	1.66	0.44
2:GB:2629:A:H1'	2:GB:2895:U:O4	2.17	0.44
2:GB:574:C:H1'	2:GB:2055:C:C6	2.52	0.44
2:GB:635:C:H2'	2:GB:636:G:O4'	2.18	0.44
2:GB:721:C:H2'	2:GB:722:A:C8	2.52	0.44
2:GB:882:G:H2'	2:GB:883:G:C8	2.52	0.44
2:GB:2345:G:OP2	30:IC:38:LYS:HD3	2.17	0.44
5:JB:165:ILE:HA	5:JB:175:LEU:HD23	2.00	0.44
2:GB:469:G:O6	31:JC:37:LYS:HE2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:321:G:P	7:LB:135:LYS:HZ3	2.31	0.44
7:LB:165:ARG:CG	7:LB:165:ARG:NH1	2.80	0.44
38:NA:53:ASP:O	38:NA:57:ARG:HD3	2.18	0.44
11:PB:10:GLU:OE2	11:PB:11:PRO:HD2	2.18	0.44
42:RA:4:ASP:HB2	42:RA:89:PRO:HG3	2.00	0.44
19:S:97:LYS:HD3	19:S:97:LYS:HA	1.84	0.44
43:SA:36:TYR:CE2	43:SA:65:VAL:HG11	2.53	0.44
38:SC:52:SER:O	38:SC:56:VAL:HG23	2.17	0.44
15:TB:83:ILE:HG23	15:TB:86:ARG:HH21	1.82	0.44
15:TB:8:ARG:NH1	15:TB:39:PRO:HA	2.33	0.44
45:UA:25:TYR:CD1	45:UA:88:GLY:HA2	2.51	0.44
23:W:8:TYR:HD2	23:W:38:TYR:HH	1.66	0.44
23:W:70:LEU:HB2	23:W:91:LEU:HD21	2.00	0.44
1:FB:826:C:H5'	42:WC:12:ARG:HH21	1.82	0.44
48:XA:53:LEU:HA	48:XA:53:LEU:HD22	1.72	0.44
43:XC:13:ALA:HB2	43:XC:68:GLY:HA3	1.99	0.44
44:YC:51:ARG:HG2	44:YC:61:GLU:HG2	1.99	0.44
44:YC:51:ARG:CZ	44:YC:61:GLU:HB3	2.48	0.44
1:A:1124:G:O2'	1:A:1125:U:OP2	2.29	0.44
1:A:1421:G:H8	1:A:1421:G:O5'	1.99	0.44
1:A:391:G:H5''	50:ZA:8:ARG:HE	1.83	0.44
1:A:596:C:OP2	1:A:597:G:OP2	2.35	0.44
1:A:692:U:H2'	1:A:694:A:OP2	2.17	0.44
46:AD:112:ASP:OD2	46:AD:112:ASP:N	2.50	0.44
2:B:155:C:OP2	2:B:155:C:H3'	2.18	0.44
2:B:1846:G:H5''	2:B:1847:A:OP2	2.17	0.44
2:B:2279:G:N2	2:B:2280:G:H1'	2.33	0.44
2:B:2883:A:C5'	2:B:2884:U:H5'	2.48	0.44
2:B:2789:C:C2	2:B:2894:G:N2	2.85	0.44
2:B:581:C:H6	2:B:581:C:O5'	2.00	0.44
2:B:902:C:H2'	2:B:903:C:C6	2.52	0.44
14:SB:19:GLY:HA2	23:BC:79:ARG:HH22	1.81	0.44
5:E:146:GLU:HA	5:E:153:ALA:HA	1.99	0.44
5:E:53:PHE:CE1	5:E:220:HIS:HA	2.53	0.44
55:EB:9:ARG:HG3	55:EB:10:ARG:HG2	1.99	0.44
1:FB:1028(C):C:H2'	1:FB:1029:G:H5''	1.99	0.44
1:FB:1112:C:H5''	1:FB:1113:C:OP2	2.18	0.44
1:FB:1237:C:H3'	1:FB:1336:C:N4	2.33	0.44
1:FB:1378:C:H5''	41:VC:6:ARG:HG3	2.00	0.44
1:FB:842:C:H4'	1:FB:843:U:OP1	2.17	0.44
2:GB:1335:U:H2'	2:GB:1336:A:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:137(B):G:H2'	2:GB:139:G:N7	2.32	0.44
2:GB:1965:C:H3'	2:GB:1966:A:H2'	1.99	0.44
2:GB:2141:G:H22	2:GB:2150:U:H2'	1.82	0.44
2:GB:2209:C:C2	2:GB:2216:G:C2	3.05	0.44
2:GB:2508:G:H1	2:GB:2580:U:H3	1.65	0.44
2:GB:2572:A:OP1	2:GB:2574:G:H4'	2.18	0.44
2:GB:2809:A:C6	2:GB:2892:A:H1'	2.53	0.44
2:GB:371:A:H5'	2:GB:423:A:H2'	1.99	0.44
2:GB:476:G:N2	2:GB:478:A:H2'	2.33	0.44
2:GB:784:A:C5	5:JB:229:VAL:HG21	2.52	0.44
2:GB:799:G:N1	2:GB:800:A:N6	2.65	0.44
2:GB:829:A:N7	2:GB:2247:A:O2'	2.41	0.44
2:GB:950:G:C6	2:GB:951:C:C4	3.05	0.44
2:GB:978:G:C2	2:GB:986:C:C2	3.05	0.44
29:HC:41:PRO:HA	29:HC:42:PRO:HD2	1.70	0.44
53:HD:22:LEU:HD22	53:HD:47:HIS:CD2	2.53	0.44
4:IB:34:C:H6	4:IB:34:C:O5'	2.00	0.44
4:IB:51:C:N4	4:IB:52:G:O6	2.51	0.44
31:JC:12:ARG:HG3	31:JC:12:ARG:NH1	2.31	0.44
36:LA:81:VAL:HA	36:LA:215:LEU:HD11	1.98	0.44
7:LB:59:TYR:HB3	7:LB:60:SER:H	1.49	0.44
37:MA:179:ARG:HG2	37:MA:207:VAL:H	1.83	0.44
9:NB:25:LYS:HE2	9:NB:34:GLU:HB2	1.99	0.44
12:QB:61:VAL:O	12:QB:84:ALA:HB1	2.17	0.44
42:RA:120:THR:H	42:RA:123:GLU:HB2	1.83	0.44
38:SC:120:LEU:HB3	38:SC:126:ILE:HD11	1.99	0.44
38:SC:76:ARG:O	38:SC:79:PHE:HB3	2.17	0.44
39:TC:140:ARG:HE	39:TC:140:ARG:HB2	1.66	0.44
39:TC:148:VAL:O	39:TC:152:ARG:HG2	2.18	0.44
21:U:13:LEU:HD12	21:U:18:TYR:OH	2.16	0.44
1:A:707:C:H4'	45:UA:20:TYR:CD2	2.52	0.44
17:VB:34:VAL:HG22	17:VB:41:ARG:HG3	1.99	0.44
42:WC:93:VAL:O	42:WC:132:GLU:HA	2.18	0.44
26:Z:9:GLN:NE2	26:Z:56:GLN:HG3	2.32	0.44
21:ZB:44:GLU:HG2	21:ZB:49:VAL:O	2.18	0.44
1:A:1418:A:H2	2:B:1948:G:N3	2.16	0.44
1:A:1494:G:C6	1:A:1495:U:C4	3.05	0.44
1:A:1496:C:H4'	2:B:1920:4OC:O2'	2.17	0.44
1:A:161:A:H2'	1:A:162:A:C8	2.53	0.44
1:A:197:A:H3'	1:A:197:A:OP2	2.18	0.44
1:A:714:G:H2'	1:A:715:A:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:753:A:H5'	1:A:754:C:C6	2.53	0.44
1:A:892:A:O2'	1:A:1415:G:H4'	2.18	0.44
46:AD:89:ARG:NH1	46:AD:95:GLY:H	2.15	0.44
2:B:10:G:H4'	2:B:2801:A:C2	2.52	0.44
2:B:1183:G:H2'	2:B:1184:G:H8	1.82	0.44
2:B:11:G:C2'	2:B:12:U:H5'	2.48	0.44
2:B:1632:A:H8	2:B:1632:A:O5'	2.00	0.44
2:B:2262:U:H4'	2:B:2328:A:C2	2.52	0.44
2:B:2358:G:C6	2:B:2359:C:C4	3.06	0.44
2:B:8:A:H2	2:B:2896:C:C2	2.36	0.44
2:B:320:A:H4'	2:B:322:A:N7	2.32	0.44
2:B:959:A:C6	2:B:960:A:N1	2.85	0.44
50:ED:71:ARG:HA	50:ED:74:LEU:HD12	1.99	0.44
6:F:93:VAL:HG11	6:F:181:LEU:O	2.18	0.44
1:FB:1207:2MG:H2'	1:FB:1208:C:C6	2.51	0.44
1:FB:1502:A:C8	1:FB:1505:G:N2	2.86	0.44
1:FB:979:C:H2'	1:FB:980:C:H5'	1.99	0.44
2:GB:1064:C:H5'	2:GB:1065:U:OP2	2.17	0.44
2:GB:1170:G:H1	2:GB:1179:C:N4	2.15	0.44
2:GB:1423:G:H2'	2:GB:1424:G:H8	1.81	0.44
2:GB:1684:C:H2'	2:GB:1685:C:C6	2.53	0.44
2:GB:1268:A:C2	2:GB:2013:A:C4	3.06	0.44
2:GB:2026:C:H2'	2:GB:2027:G:O4'	2.18	0.44
2:GB:2401:U:C2'	2:GB:2402:C:H5'	2.48	0.44
2:GB:2443:C:H2'	2:GB:2444:G:H8	1.83	0.44
2:GB:2639:A:H3'	2:GB:2640:G:H8	1.83	0.44
2:GB:2893:G:O5'	2:GB:2893:G:H8	2.00	0.44
2:GB:902:C:H2'	2:GB:903:C:C6	2.53	0.44
8:H:39:ILE:HG21	8:H:60:LEU:HD21	1.99	0.44
4:IB:48:C:H4'	4:IB:49:G:H5''	2.00	0.44
30:IC:23:THR:HA	32:KC:34:TRP:HD1	1.83	0.44
13:M:81:GLN:OE1	13:M:106:LEU:HA	2.18	0.44
37:MA:7:PRO:HB3	37:MA:175:LEU:HD11	1.99	0.44
16:P:34:HIS:N	16:P:34:HIS:ND1	2.66	0.44
41:QA:51:GLN:O	41:QA:55:GLY:HA2	2.18	0.44
12:QB:89:ASN:C	12:QB:91:LEU:H	2.22	0.44
36:QC:178:ARG:NH2	36:QC:198:ASP:OD1	2.51	0.44
36:QC:83:MET:HG2	36:QC:234:PRO:HB2	1.99	0.44
19:S:83:ARG:HG2	19:S:83:ARG:HH11	1.82	0.44
38:SC:18:LYS:HD2	38:SC:18:LYS:HA	1.90	0.44
44:TA:20:ALA:O	44:TA:24:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:QA:153:HIS:CD2	45:UA:57:THR:HB	2.52	0.44
16:UB:105:ALA:O	16:UB:110:LEU:HB2	2.18	0.44
16:UB:83:LYS:HB2	16:UB:111:GLU:CD	2.36	0.44
46:VA:19:ARG:O	46:VA:21:LYS:NZ	2.51	0.44
41:VC:111:ARG:NH1	41:VC:122:HIS:HB3	2.32	0.44
1:A:1109:C:H2'	1:A:1110:A:O4'	2.18	0.44
1:A:1324:A:OP2	1:A:1324:A:C8	2.71	0.44
1:A:1359:C:OP1	48:XA:22:THR:OG1	2.26	0.44
1:A:1427:U:H2'	1:A:1428:A:C8	2.52	0.44
1:A:19:C:H5''	39:OA:86:ALA:HB1	1.98	0.44
1:A:540:G:H2'	1:A:541:G:O4'	2.18	0.44
1:A:701:C:O2	1:A:703:G:N1	2.50	0.44
1:A:792:A:H4'	1:A:793:U:O5'	2.17	0.44
1:A:881:G:H2'	1:A:882:C:O4'	2.18	0.44
1:A:969:A:H2'	1:A:970:C:O4'	2.18	0.44
1:A:99:C:H2'	1:A:101:A:O4'	2.16	0.44
51:AB:14:LYS:HE3	51:AB:14:LYS:N	2.33	0.44
51:AB:7:THR:HG23	51:AB:57:VAL:C	2.38	0.44
2:B:511:U:H4'	2:B:1235:G:H4'	1.99	0.44
2:B:1203:G:N1	2:B:1241:A:OP2	2.45	0.44
2:B:1380:G:O2'	2:B:1569:A:N6	2.51	0.44
2:B:1684:C:H2'	2:B:1685:C:C6	2.53	0.44
2:B:2352:A:C4	2:B:2366:A:C2	3.06	0.44
2:B:2369:A:H2'	2:B:2370:G:H8	1.83	0.44
2:B:2059:A:H2'	2:B:2503:2MA:HM23	1.99	0.44
2:B:2537:U:H2'	2:B:2538:C:C6	2.53	0.44
2:B:10:G:H4'	2:B:2801:A:N1	2.33	0.44
2:B:590:A:H2'	2:B:591:C:O4'	2.17	0.44
2:B:609(B):G:H2'	2:B:610:C:H6	1.81	0.44
28:BA:50:VAL:HG11	47:WA:64:TRP:HA	1.98	0.44
4:D:15:G:O6	4:D:59:A:O2'	2.34	0.44
4:D:28:C:N4	4:D:42:G:H1	2.12	0.44
25:DC:82:LEU:H	25:DC:83:GLU:CD	2.20	0.44
55:EB:18:TYR:HE2	55:EB:24:ARG:HA	1.83	0.44
6:F:170:LEU:HD23	6:F:170:LEU:HA	1.79	0.44
1:FB:1284:C:H3'	1:FB:1285:A:C8	2.52	0.44
1:FB:1410:G:O2'	1:FB:1411:C:H5'	2.18	0.44
1:FB:468:A:H4'	50:ED:80:PHE:O	2.17	0.44
1:FB:636:U:H2'	1:FB:637:G:H8	1.82	0.44
2:GB:1010:A:O3'	18:WB:77:SER:OG	2.33	0.44
2:GB:1017:G:H2'	2:GB:1018:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:154:G:H1	2:GB:172:C:N4	2.15	0.44
2:GB:1996:C:H4'	2:GB:1997:G:H5'	1.99	0.44
2:GB:2262:U:H4'	2:GB:2328:A:C2	2.53	0.44
2:GB:2405:G:O2'	2:GB:2411:A:N6	2.50	0.44
2:GB:6:A:O2'	11:PB:130:HIS:HB3	2.18	0.44
2:GB:827:U:H1'	2:GB:2246:G:O2'	2.18	0.44
2:GB:960:A:H5''	2:GB:961:C:OP2	2.18	0.44
53:HD:50:ALA:HB1	53:HD:58:VAL:N	2.32	0.44
9:I:149:ARG:NH1	9:I:167:GLU:CD	2.71	0.44
4:IB:5:G:O2'	4:IB:6:G:OP2	2.25	0.44
2:B:1012:U:O4	11:K:28:THR:HG21	2.17	0.44
6:KB:177:PRO:HD2	6:KB:178:GLU:OE2	2.18	0.44
7:LB:40:GLN:O	7:LB:44:ARG:HD3	2.17	0.44
8:MB:145:THR:OG1	8:MB:146:TYR:N	2.50	0.44
9:NB:130:ARG:HB3	9:NB:130:ARG:HH11	1.83	0.44
15:O:24:GLN:HG2	15:O:44:LEU:HG	2.00	0.44
40:PA:33:TYR:HB2	40:PA:75:LEU:HD12	2.00	0.44
11:PB:19:GLU:HA	11:PB:59:LYS:O	2.17	0.44
17:Q:109:GLU:HG3	17:Q:112:ARG:NH2	2.33	0.44
12:QB:20:MET:SD	12:QB:44:LYS:HE2	2.58	0.44
36:QC:130:ARG:HA	36:QC:131:PRO:HD3	1.87	0.44
36:QC:149:LEU:O	36:QC:152:PHE:N	2.46	0.44
13:RB:52:GLU:HG3	13:RB:57:THR:HA	2.00	0.44
19:S:28:GLU:O	19:S:30:GLY:N	2.51	0.44
14:SB:57:HIS:HD2	14:SB:117:ALA:HB2	1.82	0.44
38:SC:12:CYS:HG	38:SC:18:LYS:HZ2	1.60	0.44
38:SC:60:GLU:O	38:SC:63:LYS:HB2	2.18	0.44
15:TB:58:GLY:HA2	15:TB:80:PHE:CD2	2.52	0.44
39:TC:139:LEU:HA	39:TC:142:LEU:CD2	2.47	0.44
2:B:328:U:H4'	22:V:68:HIS:CD2	2.52	0.44
23:W:155:LEU:HD21	23:W:171:ILE:HD12	1.99	0.44
47:WA:3:ARG:H	47:WA:8:GLU:HB2	1.83	0.44
20:YB:17:VAL:HG11	20:YB:103:ILE:HD13	1.99	0.44
20:YB:12:ILE:HB	20:YB:42:ARG:HH12	1.83	0.44
44:YC:25:GLU:O	44:YC:29:ARG:HG3	2.17	0.44
21:ZB:40:LYS:HG3	21:ZB:51:VAL:HG23	1.99	0.44
1:A:115:G:H4'	1:A:116:A:O5'	2.18	0.44
1:A:1346:A:H61	1:A:1374:A:H3'	1.83	0.44
1:A:1389:C:H2'	1:A:1390:U:O4'	2.18	0.44
1:A:445:G:H1	1:A:489:C:H42	1.66	0.44
1:A:741:G:H2'	1:A:742:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:967:5MC:H2'	1:A:968:A:C8	2.53	0.44
22:AC:30:VAL:HG22	22:AC:37:VAL:HG12	1.98	0.44
2:B:1080:C:OP2	2:B:1080:C:H6	2.01	0.44
2:B:1353:A:C8	2:B:1377:G:N2	2.86	0.44
2:B:1477:A:C6	2:B:1478:G:C5	3.05	0.44
2:B:2018:G:C6	2:B:2019:A:C6	3.06	0.44
2:B:2075:U:H2'	2:B:2238:G:N2	2.32	0.44
2:B:910:A:N6	2:B:911:A:N6	2.66	0.44
2:B:956:G:H2'	2:B:957:A:H2'	2.00	0.44
28:BA:2:LYS:O	28:BA:6:HIS:HD2	2.01	0.44
3:C:46:A:C5	3:C:47:C:C4	3.06	0.44
5:E:66:ASP:HA	5:E:68:LYS:HZ3	1.82	0.44
6:F:67:PHE:CD1	6:F:74:PRO:HA	2.53	0.44
1:FB:1409:C:H2'	1:FB:1410:G:H8	1.83	0.44
1:FB:190:G:N7	51:FD:63:ARG:NH2	2.66	0.44
1:FB:428:G:O4'	1:FB:430:A:C8	2.70	0.44
1:FB:688:G:H2'	1:FB:689:C:H6	1.82	0.44
1:FB:763:G:H2'	1:FB:764:C:H6	1.83	0.44
7:G:59:TYR:HB3	7:G:60:SER:H	1.48	0.44
2:GB:1021:A:H3'	2:GB:1021:A:H8	1.83	0.44
2:GB:2387:U:H4'	24:CC:41:ARG:NH2	2.33	0.44
2:GB:2409:G:O5'	2:GB:2409:G:H8	2.01	0.44
2:GB:2792:G:H8	2:GB:2893:G:H22	1.66	0.44
2:GB:539:G:H2'	2:GB:540:G:H8	1.81	0.44
2:GB:558:G:H2'	2:GB:559:G:H8	1.83	0.44
2:GB:71:A:H4'	2:GB:72:U:H5''	1.99	0.44
2:GB:774:A:O2'	2:GB:775:G:H5''	2.18	0.44
2:GB:568:U:O4	2:GB:973:A:OP2	2.36	0.44
8:H:9:ARG:HA	8:H:12:TYR:HB2	2.00	0.44
10:J:110:ASP:HA	10:J:111:PRO:HD3	1.86	0.44
35:JA:209:LEU:HD23	35:JA:210:PRO:HD2	2.00	0.44
5:JB:231:HIS:CG	5:JB:232:PRO:HD2	2.53	0.44
5:JB:30:GLU:CB	5:JB:33:LEU:HD12	2.48	0.44
2:B:1012:U:C5	11:K:28:THR:HG21	2.53	0.44
7:LB:155:LEU:HD23	7:LB:186:ILE:HG12	1.99	0.44
8:MB:35:GLU:HB2	8:MB:160:VAL:O	2.17	0.44
2:B:863:A:OP2	14:N:22:LYS:NZ	2.51	0.44
4:NC:48:C:O2'	4:NC:59:A:O2'	2.30	0.44
15:O:23:ASN:OD1	15:O:23:ASN:N	2.51	0.44
35:OC:185:GLN:HG3	35:OC:198:THR:HG23	2.00	0.44
40:PA:46:ARG:HB3	40:PA:46:ARG:HE	1.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:PC:331:GLU:HA	35:PC:334:GLU:HB3	2.00	0.44
17:Q:54:ARG:HB3	17:Q:54:ARG:HH11	1.81	0.44
1:A:932:C:H5''	41:QA:4:ARG:CZ	2.48	0.44
12:QB:13:ASN:HD21	12:QB:97:ARG:N	2.15	0.44
12:QB:22:ILE:HG12	12:QB:41:ALA:HA	1.99	0.44
36:QC:47:THR:HG22	36:QC:51:LEU:HD23	1.99	0.44
37:RC:19:GLU:HA	37:RC:54:ARG:NH2	2.33	0.44
19:S:27:ALA:O	19:S:64:HIS:NE2	2.51	0.44
1:A:1151:A:C2	44:TA:39:PRO:HG3	2.53	0.44
47:WA:55:ARG:NH1	47:WA:55:ARG:HB3	2.32	0.44
43:XC:123:PRO:O	43:XC:125:TYR:N	2.51	0.44
26:Z:9:GLN:HE22	26:Z:56:GLN:HG3	1.82	0.44
1:A:1329:A:O2'	1:A:1330:U:H5'	2.18	0.43
1:A:1435:G:H2'	1:A:1436:U:C6	2.53	0.43
1:A:313:A:H2'	1:A:314:C:C6	2.53	0.43
1:A:345:C:H3'	17:Q:41:ARG:CZ	2.47	0.43
1:A:523:A:H61	46:VA:92:0TD:CG	2.31	0.43
1:A:979:C:H2'	1:A:980:C:H5'	1.99	0.43
46:AD:51:ALA:HB3	46:AD:53:ARG:HH21	1.83	0.43
46:AD:79:GLU:O	46:AD:80:HIS:HB2	2.18	0.43
2:B:1186:G:H8	2:B:1186:G:O5'	2.01	0.43
2:B:819:A:P	2:B:1187:G:H22	2.38	0.43
2:B:1290:C:H2'	2:B:1291:C:H6	1.81	0.43
2:B:165:U:H2'	2:B:171:G:O4'	2.18	0.43
2:B:1923:U:H2'	2:B:1924:C:C6	2.53	0.43
1:A:1483:A:H2	2:B:1959:G:N3	2.16	0.43
2:B:2262:U:OP2	24:X:19:LYS:HE3	2.17	0.43
2:B:312:G:H5'	2:B:331:A:O2'	2.18	0.43
2:B:85:G:C5	2:B:98:G:C2	3.06	0.43
2:B:910:A:C5	14:N:13:GLN:HG3	2.53	0.43
28:BA:53:GLU:OE2	28:BA:60:GLN:NE2	2.49	0.43
3:C:89(A):G:C6	3:C:89(B):A:C6	3.06	0.43
29:CA:40:LYS:NZ	29:CA:44:THR:O	2.30	0.43
31:EA:6:GLN:HA	31:EA:6:GLN:OE1	2.17	0.43
6:F:16:ARG:NH1	6:F:171:GLU:OE2	2.51	0.43
1:FB:1172:C:H2'	1:FB:1173:G:O4'	2.17	0.43
1:FB:1319:A:H4'	1:FB:1320:C:OP1	2.18	0.43
1:FB:769:G:H4'	1:FB:1513:A:H4'	2.00	0.43
1:FB:391:G:H5''	50:ED:8:ARG:NE	2.33	0.43
1:FB:86:U:O2'	1:FB:87:A:O4'	2.29	0.43
7:G:65:TRP:CH2	7:G:72:ARG:NH1	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1023:U:OP2	2:GB:1025:G:O2'	2.35	0.43
2:GB:1179:C:H2'	2:GB:1180:C:C6	2.52	0.43
2:GB:2689:U:OP2	2:GB:2719:G:N2	2.46	0.43
2:GB:609(B):G:N2	2:GB:619:G:H1'	2.33	0.43
2:GB:2439:A:C5	57:GB:9001:BLS:H112	2.53	0.43
53:HD:27:GLU:HA	53:HD:28:LYS:HA	1.60	0.43
5:JB:53:PHE:HE1	5:JB:221:VAL:HG13	1.82	0.43
2:GB:782:A:H2	5:JB:230:ASP:OD2	2.01	0.43
7:LB:53:THR:HG23	7:LB:56:GLU:OE1	2.18	0.43
8:MB:99:MET:O	8:MB:103:LEU:HB2	2.18	0.43
2:GB:2602:A:H5''	4:NC:75:C:P	2.58	0.43
35:OC:182:HIS:HB3	35:PC:310:TYR:HE1	1.82	0.43
11:PB:15:LEU:HG	11:PB:135:PRO:HB2	2.00	0.43
17:Q:64:ARG:NH1	17:Q:103:ARG:HG2	2.25	0.43
36:QC:115:LEU:HG	36:QC:119:GLU:OE2	2.18	0.43
24:X:42:GLY:O	24:X:44:ARG:N	2.50	0.43
19:XB:64:HIS:HA	19:XB:92:THR:HA	2.00	0.43
44:YC:97:GLU:HG2	44:YC:98:ILE:H	1.82	0.43
21:ZB:21:PHE:HA	21:ZB:26:TYR:HE1	1.82	0.43
41:VC:153:HIS:CD2	45:ZC:57:THR:HB	2.53	0.43
1:A:46:G:O2'	1:A:365:U:H1'	2.18	0.43
1:A:444:C:H2'	1:A:445:G:H8	1.82	0.43
1:A:498:A:H1'	1:A:500:G:C8	2.53	0.43
1:A:728:A:C5	49:YA:54:ARG:HD2	2.52	0.43
22:AC:44:ILE:O	22:AC:45:VAL:HG13	2.18	0.43
2:B:1539:G:H2'	2:B:1540:G:O4'	2.18	0.43
2:B:2190:G:C2	2:B:2191:G:C4	3.06	0.43
2:B:2364:C:OP1	24:X:55:ARG:HD3	2.18	0.43
2:B:266:G:N1	2:B:267:C:C2	2.86	0.43
2:B:278:A:H2'	2:B:279:C:C6	2.53	0.43
2:B:2827:C:H2'	2:B:2828:C:C6	2.53	0.43
2:B:441:U:H2'	2:B:442:G:C8	2.53	0.43
2:B:460:A:H3'	2:B:461:C:H6	1.83	0.43
2:B:65:C:H2'	2:B:66:C:C6	2.53	0.43
2:B:885:C:C5	2:B:886:C:H1'	2.52	0.43
23:BC:103:ARG:HB2	23:BC:138:GLU:HA	1.99	0.43
53:CB:39:THR:HG23	53:CB:69:HIS:O	2.18	0.43
1:FB:995:C:H4'	48:CD:8:GLU:OE2	2.18	0.43
4:D:48:C:OP1	4:D:59:A:H5'	2.17	0.43
26:EC:66:GLU:HB2	26:EC:69:ARG:HE	1.83	0.43
1:FB:1216:G:O2'	1:FB:1217:C:H5'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1342:C:H2'	1:FB:1343:G:H8	1.84	0.43
1:FB:1366:C:H2'	1:FB:1367:C:C6	2.53	0.43
1:FB:12:U:H3	1:FB:22:G:H1	1.66	0.43
2:GB:1902:C:N3	2:GB:1903:G:H1'	2.33	0.43
2:GB:2227:A:O3'	5:JB:261:LYS:NZ	2.37	0.43
2:GB:2666:C:H3'	2:GB:2667:C:H6	1.82	0.43
2:GB:464:U:H2'	2:GB:465:G:O4'	2.17	0.43
2:GB:783:A:O2'	2:GB:785:G:OP1	2.25	0.43
2:GB:877:U:H2'	2:GB:878:A:H5''	1.99	0.43
28:GC:2:LYS:O	28:GC:6:HIS:HD2	2.01	0.43
8:H:21:ARG:HG3	8:H:22:ARG:N	2.33	0.43
9:I:130:ARG:HB3	9:I:130:ARG:NH1	2.33	0.43
9:I:159:GLU:OE2	9:I:169:VAL:HG11	2.18	0.43
4:IB:7:G:O2'	4:IB:49:G:O4'	2.34	0.43
35:JA:110:ASN:HA	35:JA:171:VAL:HG23	2.00	0.43
5:JB:246:PRO:O	5:JB:254:THR:HG22	2.18	0.43
5:JB:66:ASP:HA	5:JB:68:LYS:HZ2	1.82	0.43
2:GB:458:G:O2'	31:JC:39:ARG:HD3	2.18	0.43
31:JC:6:GLN:HA	31:JC:6:GLN:OE1	2.18	0.43
11:K:72:TYR:CZ	11:K:87:LEU:HD23	2.52	0.43
35:JA:182:HIS:HB3	35:KA:310:TYR:HE1	1.82	0.43
6:KB:48:GLN:HG2	6:KB:78:LEU:HG	2.00	0.43
13:M:46:LYS:HB3	13:M:46:LYS:HE2	1.80	0.43
13:M:88:LEU:HD23	13:M:91:PHE:HE2	1.83	0.43
37:MA:67:THR:HG22	37:MA:102:ASN:HB3	1.99	0.43
38:NA:157:LEU:HA	38:NA:160:GLN:OE1	2.18	0.43
38:NA:35:ARG:O	38:NA:37:PRO:HD3	2.18	0.43
9:NB:126:PRO:HB2	9:NB:130:ARG:NH2	2.27	0.43
9:NB:23:ARG:HB2	9:NB:34:GLU:OE2	2.18	0.43
17:Q:74:ARG:HG2	17:Q:76:PHE:CZ	2.53	0.43
12:QB:16:ALA:HB2	12:QB:52:VAL:HG21	1.99	0.43
18:R:68:ALA:O	18:R:71:GLN:HB2	2.18	0.43
38:SC:171:GLY:HA2	38:SC:172:PRO:HD3	1.78	0.43
44:TA:5:ARG:HG3	44:TA:73:ASP:HA	2.01	0.43
44:TA:97:GLU:HG2	44:TA:98:ILE:H	1.82	0.43
39:TC:127:ASN:HA	39:TC:128:PRO:HD2	1.85	0.43
40:UC:33:TYR:HB2	40:UC:75:LEU:HD12	2.01	0.43
46:VA:117:ARG:NH2	46:VA:123:LYS:O	2.37	0.43
17:VB:126:ALA:O	17:VB:129:ARG:HB3	2.17	0.43
42:WC:103:VAL:O	42:WC:106:GLY:N	2.51	0.43
1:A:1048:G:P	48:XA:4:LYS:HB2	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:17:SER:N	26:Z:20:GLU:OE2	2.47	0.43
1:A:129(B):G:N2	1:A:189:U:H5''	2.33	0.43
1:A:1508:G:H2'	1:A:1509:C:C6	2.53	0.43
1:A:922:G:C6	1:A:923:A:C6	3.06	0.43
2:B:111:A:H5'	26:Z:69:ARG:HH22	1.83	0.43
2:B:1275:A:C4	15:O:16:HIS:CE1	3.06	0.43
2:B:1557:C:OP2	2:B:1558:A:H2'	2.18	0.43
2:B:176:G:O2'	2:B:177:G:H5'	2.19	0.43
2:B:2186:G:C2'	2:B:2187:G:H5'	2.49	0.43
2:B:2301:C:H2'	2:B:2302:G:C8	2.53	0.43
2:B:2508:G:H1	2:B:2580:U:H3	1.64	0.43
2:B:657:U:H2'	2:B:658:C:H6	1.82	0.43
2:B:721:C:H2'	2:B:722:A:C8	2.52	0.43
47:BD:88:ARG:HA	47:BD:98:VAL:HG13	1.99	0.43
53:CB:61:TYR:CE2	53:CB:63:THR:HG23	2.53	0.43
53:CB:81:ARG:HB3	53:CB:82:GLY:H	1.74	0.43
5:E:53:PHE:HD1	5:E:219:PRO:O	2.01	0.43
30:DA:22:ALA:HB1	32:FA:34:TRP:HA	1.99	0.43
1:FB:128:G:H4'	51:FD:3:LYS:HB3	1.99	0.43
1:FB:1350:A:OP1	43:XC:121:ARG:NE	2.42	0.43
51:FD:58:GLU:CD	51:FD:75:ARG:HD2	2.38	0.43
7:G:12:LEU:HD23	7:G:12:LEU:HA	1.68	0.43
2:GB:133:C:H5''	2:GB:134:C:OP2	2.17	0.43
2:GB:2059:A:H2'	2:GB:2503:2MA:HM23	1.99	0.43
2:GB:2682:U:O2'	6:KB:13:ARG:HG3	2.19	0.43
2:GB:2889:C:H2'	2:GB:2891:G:O4'	2.18	0.43
2:GB:460:A:H3'	2:GB:461:C:H6	1.84	0.43
2:GB:935:C:H2'	2:GB:936:C:C6	2.54	0.43
8:H:127:GLY:HA2	8:H:166:ASP:HB2	1.99	0.43
47:BD:80:ARG:HD2	53:HD:65:ASN:HB3	1.98	0.43
4:IA:53:G:H2'	4:IA:54:5MU:C6	2.53	0.43
10:J:57:ARG:O	10:J:60:GLU:HB3	2.17	0.43
2:GB:782:A:O2'	5:JB:225:ALA:HB1	2.18	0.43
12:L:53:LYS:NZ	12:L:53:LYS:HB2	2.33	0.43
36:LA:172:ILE:HD12	36:LA:172:ILE:H	1.83	0.43
7:LB:64:ILE:HD12	7:LB:65:TRP:N	2.32	0.43
14:N:35:VAL:O	14:N:129:THR:HG22	2.18	0.43
14:N:78:PRO:HG2	14:N:81:VAL:HG21	2.00	0.43
9:NB:8:PRO:HB3	9:NB:51:ARG:HG3	2.00	0.43
35:OC:188:PRO:C	35:OC:190:THR:H	2.22	0.43
35:PC:322:ILE:HB	35:PC:324:LEU:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:11:GLU:OE2	17:Q:57:PHE:HD2	2.02	0.43
17:Q:64:ARG:HB2	17:Q:73:GLU:HG3	2.00	0.43
42:RA:20:TYR:CE2	42:RA:75:ARG:HD2	2.53	0.43
39:TC:69:VAL:HA	39:TC:70:PRO:HD2	1.87	0.43
45:UA:122:LYS:HB3	45:UA:122:LYS:HE2	1.82	0.43
46:VA:39:VAL:HG12	46:VA:57:LYS:HB3	2.01	0.43
23:W:102:LEU:HD11	23:W:124:ILE:HB	2.00	0.43
1:A:1049:U:OP1	48:XA:3:ARG:HG2	2.17	0.43
1:A:10:A:OP2	39:OA:126:ARG:HD3	2.19	0.43
1:A:986:A:H1'	1:A:1220:G:N2	2.33	0.43
1:A:298:A:C6	1:A:299:G:C2	3.06	0.43
1:A:4:U:H4'	1:A:5:U:OP2	2.19	0.43
1:A:707:C:H2'	1:A:708:C:C6	2.52	0.43
51:AB:18:THR:HG21	51:AB:43:LEU:HD13	1.99	0.43
22:AC:20:TYR:CD1	22:AC:42:VAL:HG13	2.53	0.43
2:B:1061:U:OP2	2:B:1062:G:OP2	2.36	0.43
2:B:1093:G:H22	2:B:1096:A:C5'	2.30	0.43
2:B:1540:G:H5''	2:B:1541:U:OP2	2.18	0.43
2:B:1952:A:N6	2:B:1953:A:N1	2.67	0.43
2:B:2009:G:OP1	20:T:41:LYS:HE2	2.18	0.43
2:B:2408:U:H6	2:B:2408:U:O5'	2.01	0.43
2:B:30:G:OP2	18:R:5:LYS:HE3	2.18	0.43
2:B:443:A:N7	7:G:45:ARG:HG2	2.34	0.43
2:B:540:G:H2'	2:B:541:C:C6	2.52	0.43
2:B:595:C:N4	2:B:662:G:H1	2.13	0.43
2:B:732:C:H2'	2:B:733:G:O4'	2.18	0.43
2:B:848:G:C4	2:B:933:A:H8	2.36	0.43
24:CC:74:ARG:HG3	24:CC:74:ARG:H	1.65	0.43
4:D:26:G:H2'	4:D:27:U:C6	2.53	0.43
32:FA:39:LYS:HA	32:FA:42:ARG:NH2	2.33	0.43
1:FB:1108:G:H5'	37:RC:176:HIS:ND1	2.33	0.43
1:FB:1129:C:H42	1:FB:1143:G:N2	2.16	0.43
1:FB:250:A:H4'	1:FB:251:G:O5'	2.18	0.43
1:FB:922:G:C6	1:FB:923:A:C6	3.06	0.43
2:B:618(A):G:H5'	7:G:205:ARG:NH1	2.33	0.43
2:GB:1045:A:H5''	2:GB:1046:A:C5'	2.44	0.43
2:GB:990:A:C6	2:GB:1186:G:H1'	2.54	0.43
2:GB:118:A:N3	2:GB:178:G:H1'	2.33	0.43
2:GB:1520:U:O4	2:GB:1521:G:C2	2.71	0.43
2:GB:154:G:N7	2:GB:154(A):C:O2'	2.51	0.43
2:GB:336:C:O2'	22:AC:35:TYR:OH	2.25	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:398:G:H2'	2:GB:399:G:C8	2.53	0.43
28:GC:41:PRO:HA	28:GC:47:GLN:HB2	2.01	0.43
52:GD:76:LEU:HB3	52:GD:78:LEU:HD12	2.00	0.43
4:IA:23:C:H2'	4:IA:24:U:C6	2.51	0.43
36:LA:167:PRO:HG3	36:LA:188:ALA:HB2	2.00	0.43
36:LA:231:GLU:HB2	36:LA:232:PRO:HD3	2.01	0.43
7:LB:66:PRO:HG2	7:LB:70:THR:HG23	2.00	0.43
38:NA:60:GLU:HG3	38:NA:198:VAL:HG23	1.99	0.43
2:GB:2547:U:O2	12:QB:23:ARG:NH2	2.51	0.43
18:R:90:VAL:HG22	19:S:38:LEU:HD22	2.01	0.43
1:A:587:G:H4'	42:RA:3:THR:HA	2.00	0.43
37:RC:35:GLU:CD	37:RC:97:LYS:NZ	2.72	0.43
14:SB:75:THR:HG21	14:SB:87:LYS:NZ	2.32	0.43
15:TB:59:ASP:OD2	15:TB:61:HIS:HB3	2.18	0.43
39:TC:121:LYS:HZ1	39:TC:122:GLU:H	1.62	0.43
39:TC:28:PHE:CD2	39:TC:50:GLU:HA	2.52	0.43
21:U:29:TRP:CZ3	21:U:78:LYS:HG3	2.54	0.43
16:UB:74:ALA:HA	16:UB:110:LEU:HD13	2.00	0.43
46:VA:26:ALA:HA	46:VA:64:TYR:CE2	2.54	0.43
46:VA:6:THR:OG1	46:VA:7:ILE:N	2.51	0.43
23:W:54:HIS:HB3	23:W:99:TYR:O	2.17	0.43
18:WB:79:PHE:HE1	18:WB:110:VAL:HA	1.83	0.43
42:WC:116:LYS:HG3	42:WC:129:VAL:HG11	2.00	0.43
42:WC:54:ASP:O	42:WC:56:LYS:HG2	2.19	0.43
19:XB:1:MET:HA	19:XB:42:GLY:HA3	2.01	0.43
1:A:1036:G:H3'	1:A:1037:C:C6	2.54	0.43
1:A:1039:C:H5''	1:A:1040:U:OP2	2.18	0.43
1:A:1440:C:N4	1:A:1461:G:H1	2.12	0.43
1:A:24:U:H2'	1:A:25:C:C6	2.53	0.43
1:A:942:G:H21	43:SA:124:GLN:NE2	2.17	0.43
27:AA:31:LEU:HD13	27:AA:32:GLN:N	2.34	0.43
46:AD:115:LYS:N	46:AD:117:ARG:HG2	2.33	0.43
46:AD:77:LEU:HD23	46:AD:77:LEU:HA	1.70	0.43
2:B:570:G:H2'	2:B:2030:A:C6	2.52	0.43
2:B:2745:C:C4	2:B:2746:U:C4	3.06	0.43
2:B:2789:C:H5''	2:B:2790:A:OP1	2.18	0.43
2:B:778:G:H8	2:B:778:G:O5'	2.01	0.43
53:CB:65:ASN:O	53:CB:67:VAL:N	2.51	0.43
30:DA:23:THR:HA	32:FA:34:TRP:HD1	1.84	0.43
1:FB:1195:C:C4	1:FB:1197:G:C8	3.06	0.43
1:FB:1324:A:H8	1:FB:1324:A:OP2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1346:A:H61	1:FB:1374:A:H3'	1.84	0.43
1:FB:232:G:H1'	1:FB:262:A:N1	2.33	0.43
7:G:116:ASP:OD2	13:M:1:MET:HB3	2.18	0.43
2:GB:1166:C:N4	2:GB:1167:U:O4	2.51	0.43
2:GB:1167:U:C2	2:GB:1183:G:N2	2.87	0.43
2:GB:1530:G:O6	2:GB:1542:G:N2	2.52	0.43
2:GB:1717:G:H1	2:GB:1742:C:H42	1.67	0.43
2:GB:2271:G:H2'	2:GB:2272:U:C6	2.54	0.43
2:GB:2322:A:H2'	2:GB:2323:G:O4'	2.18	0.43
2:GB:2351:G:O6	32:KC:39:LYS:HG3	2.18	0.43
2:GB:2735:G:H2'	2:GB:2736:G:H8	1.83	0.43
2:GB:826:U:H2'	2:GB:828:U:O4'	2.18	0.43
2:GB:885:C:C5	2:GB:886:C:H1'	2.53	0.43
2:GB:918:A:N3	3:HB:80:U:O2'	2.48	0.43
9:I:27:LYS:HA	9:I:32:GLU:HA	2.00	0.43
54:ID:13:LEU:H	54:ID:13:LEU:HG	1.55	0.43
1:FB:108:G:N1	54:ID:15:ARG:HG2	2.34	0.43
54:ID:84:LEU:O	54:ID:88:VAL:HB	2.19	0.43
5:JB:111:LEU:HA	5:JB:111:LEU:HD12	1.82	0.43
11:K:108:PRO:O	11:K:113:GLY:HA3	2.19	0.43
32:KC:61:LEU:C	32:KC:63:PRO:HD3	2.39	0.43
36:LA:93:VAL:HG21	36:LA:101:MET:HE1	2.01	0.43
36:LA:9:GLU:HG3	36:LA:217:ARG:NH2	2.33	0.43
7:LB:40:GLN:HA	7:LB:43:LYS:HG2	2.01	0.43
4:NC:74:C:H5''	4:NC:75:C:OP2	2.19	0.43
16:P:13:ARG:NH1	16:P:13:ARG:CG	2.73	0.43
17:Q:22:PHE:HA	17:Q:91:ARG:NH2	2.33	0.43
42:RA:107:LEU:HD23	42:RA:107:LEU:HA	1.82	0.43
43:SA:46:ALA:HB2	43:SA:74:ILE:HG23	2.00	0.43
2:GB:957:A:H5'	14:SB:76:LYS:HD3	2.01	0.43
38:SC:108:LEU:HD23	38:SC:108:LEU:HA	1.84	0.43
20:T:12:ILE:O	20:T:101:SER:OG	2.36	0.43
39:TC:17:ALA:HA	39:TC:26:PHE:HA	2.00	0.43
40:UC:11:ASN:N	40:UC:84:ASN:O	2.51	0.43
41:VC:69:VAL:HG22	41:VC:135:VAL:HG22	1.99	0.43
1:A:950:U:OP2	47:WA:102:ARG:HG3	2.18	0.43
47:WA:55:ARG:HH11	47:WA:55:ARG:HB3	1.83	0.43
43:XC:13:ALA:HA	43:XC:67:GLY:HA3	2.01	0.43
45:ZC:40:ILE:HA	45:ZC:40:ILE:HD13	1.89	0.43
1:A:1207:2MG:H2'	1:A:1208:C:H6	1.84	0.43
1:A:124:G:H4'	1:A:291:C:O2'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:778:G:O5'	1:A:778:G:H8	2.01	0.43
46:AD:27:LEU:HD22	46:AD:98:TYR:HE1	1.82	0.43
46:AD:6:THR:OG1	46:AD:7:ILE:N	2.51	0.43
2:B:1007:C:OP1	11:K:35:ARG:NH1	2.51	0.43
2:B:1006:C:C2	2:B:1138:G:N2	2.86	0.43
2:B:530:G:C6	2:B:2022:U:OP1	2.71	0.43
2:B:2297:C:H42	2:B:2321:G:H1	1.66	0.43
2:B:270(A):A:OP2	2:B:270(Z):G:N1	2.49	0.43
2:B:479:A:N3	2:B:481:G:H5''	2.33	0.43
53:CB:51:VAL:O	53:CB:57:HIS:HA	2.19	0.43
54:DB:30:LYS:HZ2	54:DB:30:LYS:HB2	1.83	0.43
13:M:49:ARG:CB	32:FA:61:LEU:HD21	2.49	0.43
1:FB:1268:A:H4'	55:JD:20:LYS:HB2	2.00	0.43
1:FB:353:A:H2'	1:FB:354:G:OP2	2.18	0.43
1:FB:443:C:H2'	1:FB:444:C:C6	2.53	0.43
1:FB:663:A:O3'	52:GD:64:ARG:NH2	2.49	0.43
1:FB:998(A):G:H22	1:FB:1043:C:N4	2.17	0.43
7:G:160:ASN:OD1	7:G:163:VAL:HB	2.19	0.43
2:GB:1553:A:N7	2:GB:1555:G:C5	2.87	0.43
2:GB:1796:U:H2'	2:GB:1797:C:C6	2.53	0.43
2:GB:1851:U:H2'	2:GB:1852:C:O4'	2.19	0.43
2:GB:330:A:O2'	2:GB:331:A:H8	2.01	0.43
2:GB:724:U:H2'	2:GB:725:G:O4'	2.18	0.43
2:GB:863:A:C8	14:SB:22:LYS:NZ	2.78	0.43
3:HB:70:C:H2'	3:HB:71:C:C6	2.54	0.43
9:I:23:ARG:HB2	9:I:34:GLU:OE2	2.19	0.43
4:IB:51:C:H2'	4:IB:52:G:C8	2.54	0.43
54:ID:82:SER:C	54:ID:86:ARG:HG3	2.39	0.43
10:J:39:ALA:HB1	10:J:44:LEU:HD13	1.99	0.43
11:K:9:VAL:HG11	11:K:39:ARG:NH2	2.33	0.43
7:LB:158:THR:HA	7:LB:195:ASP:HB2	2.00	0.43
13:M:81:GLN:HG3	13:M:110:TYR:CD2	2.54	0.43
37:MA:131:ARG:HH11	37:MA:135:LYS:HD2	1.83	0.43
37:MA:23:TYR:CZ	44:TA:9:ARG:HG3	2.54	0.43
8:MB:21:ARG:HG3	8:MB:22:ARG:N	2.32	0.43
10:OB:109:ILE:HB	10:OB:130:TYR:CE1	2.54	0.43
1:FB:1493:A:C4	35:OC:119:THR:HG23	2.53	0.43
35:PC:328:ARG:NH2	35:PC:331:GLU:O	2.52	0.43
13:RB:81:GLN:OE1	13:RB:106:LEU:HA	2.18	0.43
2:GB:2275:C:O2	14:SB:85:LYS:HG3	2.18	0.43
38:SC:36:ARG:HD2	38:SC:38:TYR:OH	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:68:ARG:HG2	20:T:68:ARG:HH11	1.83	0.43
39:TC:80:ILE:HD12	39:TC:91:LEU:HB2	2.00	0.43
21:U:24:GLY:O	21:U:83:VAL:HG22	2.18	0.43
45:UA:85:ARG:HA	45:UA:112:THR:OG1	2.19	0.43
17:VB:100:TYR:CD1	17:VB:103:ARG:NH1	2.86	0.43
23:W:70:LEU:HD22	23:W:70:LEU:HA	1.80	0.43
47:WA:101:GLN:HE21	47:WA:101:GLN:HB2	1.48	0.43
39:TC:152:ARG:NH1	42:WC:42:GLU:O	2.47	0.43
24:X:31:VAL:HG23	24:X:32:ARG:O	2.18	0.43
25:Y:95:LEU:HA	25:Y:95:LEU:HD13	1.76	0.43
49:YA:74:ASP:OD2	49:YA:77:ARG:HD3	2.18	0.43
2:GB:64:A:C4	21:ZB:66:LEU:HD13	2.54	0.43
1:A:428:G:O4'	1:A:430:A:C8	2.72	0.43
1:A:977:A:O2'	1:A:979:C:OP2	2.24	0.43
2:B:1021:A:H8	2:B:1021:A:H3'	1.84	0.43
2:B:1258:C:C2	2:B:1259:G:C8	3.07	0.43
2:B:141(B):C:H2'	2:B:142:G:O4'	2.19	0.43
2:B:1550:C:OP1	2:B:1727:U:O2'	2.32	0.43
2:B:1937:A:C8	2:B:1939:5MU:H2'	2.53	0.43
2:B:2070:G:H2'	2:B:2071:A:O4'	2.18	0.43
2:B:2783:G:H21	6:F:37:ARG:HH22	1.66	0.43
2:B:2813:A:H2'	2:B:2814:C:O4'	2.18	0.43
2:B:375:C:H42	2:B:399:G:H1	1.65	0.43
23:BC:25:PRO:O	23:BC:85:HIS:HA	2.18	0.43
23:BC:65:GLN:O	23:BC:67:LEU:HD22	2.19	0.43
47:BD:81:LEU:O	47:BD:89:GLY:HA3	2.19	0.43
4:D:51:C:H2'	4:D:52:G:C8	2.54	0.43
5:E:30:GLU:CB	5:E:33:LEU:HD12	2.49	0.43
6:F:12:THR:HB	17:Q:58:ASN:HD21	1.83	0.43
1:FB:277:C:O2'	1:FB:278:G:H5'	2.17	0.43
1:FB:741:G:H2'	1:FB:742:G:H8	1.84	0.43
7:G:114:VAL:HG21	7:G:202:PHE:CZ	2.53	0.43
2:GB:1270:C:H5''	2:GB:1271:G:O5'	2.19	0.43
2:GB:2035:G:H3'	2:GB:2036:C:H5'	2.01	0.43
2:GB:2129:C:H2'	2:GB:2130:U:H4'	2.01	0.43
2:GB:2512:C:H5''	2:GB:2513:G:OP2	2.18	0.43
2:GB:2526:G:H1	2:GB:2537:U:H3	1.67	0.43
2:GB:777:A:C2	2:GB:778:G:C4	3.07	0.43
8:H:73:ALA:HB3	8:H:85:GLY:H	1.84	0.43
8:H:82:LEU:HD13	8:H:86:MET:HB2	2.00	0.43
3:HB:30:C:OP2	16:UB:32:LEU:HD11	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:JC:12:ARG:HG3	31:JC:12:ARG:HH11	1.84	0.43
6:KB:70:ALA:HB3	6:KB:72:VAL:HG12	2.00	0.43
36:LA:121:LEU:HD21	36:LA:130:ARG:HH21	1.84	0.43
37:MA:15:THR:HG23	37:MA:207:VAL:HG11	2.00	0.43
8:MB:11:TYR:HB2	8:MB:176:LEU:HD21	2.00	0.43
8:MB:18:GLU:O	8:MB:21:ARG:HB3	2.18	0.43
14:N:73:PRO:HG3	14:N:93:TYR:HE1	1.82	0.43
9:NB:52:VAL:C	9:NB:53:GLU:HG2	2.39	0.43
9:NB:55:PRO:HG2	9:NB:61:HIS:NE2	2.33	0.43
4:NC:49:G:H2'	4:NC:50:U:O4'	2.18	0.43
15:O:58:GLY:HA2	15:O:80:PHE:CD2	2.54	0.43
10:OB:9:LEU:O	10:OB:12:LEU:HB3	2.18	0.43
36:QC:74:LYS:NZ	36:QC:76:GLN:OE1	2.41	0.43
18:R:58:ARG:CG	18:R:58:ARG:NH1	2.79	0.43
38:SC:61:LYS:HA	38:SC:203:VAL:HG22	2.00	0.43
44:TA:25:GLU:O	44:TA:29:ARG:HG3	2.18	0.43
1:FB:589:C:OP1	42:WC:5:PRO:HG3	2.18	0.43
20:YB:57:ASN:O	20:YB:61:ASN:HB2	2.18	0.43
21:ZB:40:LYS:HG3	21:ZB:51:VAL:CG2	2.49	0.43
45:ZC:108:ILE:HG13	52:GD:87:ARG:HB3	2.00	0.43
1:A:1083:U:H5''	1:A:1084:G:OP2	2.18	0.43
1:A:1220:G:H21	53:CB:54:GLY:CA	2.32	0.43
1:A:1284:C:H3'	1:A:1285:A:C8	2.53	0.43
1:A:1508:G:H2'	1:A:1509:C:H6	1.83	0.43
1:A:1516:G:H2'	1:A:1518:MA6:OP2	2.19	0.43
51:AB:84:LEU:O	51:AB:87:LYS:HG3	2.18	0.43
2:B:330:A:H2	2:B:1210:A:HO2'	1.63	0.43
2:B:1883:G:HO2'	2:B:1884:A:H8	1.67	0.43
2:B:2082:A:H2'	2:B:2083:G:O4'	2.19	0.43
2:B:2251:OMG:H2'	2:B:2252:G:C8	2.54	0.43
2:B:2401:U:C2'	2:B:2402:C:H5'	2.47	0.43
2:B:33:U:O2'	2:B:446:G:N2	2.52	0.43
2:B:409:C:O2'	2:B:410:G:H5'	2.19	0.43
2:B:784:A:C5	5:E:229:VAL:HG21	2.54	0.43
2:B:871:U:H2'	2:B:872:A:C8	2.54	0.43
3:C:40:U:H2'	28:BA:2:LYS:HE2	1.99	0.43
29:CA:41:PRO:HA	29:CA:42:PRO:HD2	1.69	0.43
29:CA:42:PRO:O	29:CA:44:THR:HG23	2.19	0.43
4:D:8:4SU:O2	4:D:48:C:O2	2.36	0.43
4:D:51:C:N4	4:D:52:G:O6	2.52	0.43
6:F:63:LEU:O	6:F:67:PHE:HD2	2.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:162:A:C5	1:FB:163:C:H1'	2.54	0.43
1:FB:575:G:C6	1:FB:821:G:N7	2.87	0.43
1:FB:926:G:C6	1:FB:1505:G:C6	3.07	0.43
2:GB:1161:C:H1'	19:XB:8:GLY:O	2.18	0.43
2:GB:1341:U:O2	21:ZB:80:ILE:HD12	2.19	0.43
2:GB:1582:C:H2'	2:GB:1583:A:C8	2.54	0.43
2:GB:1657:C:O2'	2:GB:1658:C:H5'	2.18	0.43
2:GB:1855:G:O5'	2:GB:1855:G:H8	2.02	0.43
2:GB:1914:C:H6	2:GB:1914:C:OP2	2.01	0.43
2:GB:2392:A:OP2	32:KC:31:HIS:NE2	2.51	0.43
2:GB:2391:G:O6	2:GB:2425:A:H8	2.02	0.43
2:GB:252:G:OP1	13:RB:50:ARG:NH1	2.51	0.43
2:GB:270(P):U:H3	10:OB:56:LYS:HE3	1.83	0.43
3:HB:48:A:H4'	16:UB:95:HIS:CD2	2.54	0.43
4:IA:49:G:N2	4:IA:66:C:N3	2.66	0.43
1:FB:177:C:P	54:ID:65:LYS:NZ	2.92	0.43
10:J:104:GLN:HG2	10:J:105:HIS:HE1	1.78	0.43
10:J:76:THR:HG23	10:J:141:LYS:HB2	2.01	0.43
5:JB:183:ARG:CG	5:JB:183:ARG:NH1	2.79	0.43
5:JB:52:ARG:CZ	5:JB:53:PHE:HE2	2.31	0.43
2:GB:2052:G:C8	6:KB:141:ILE:HD11	2.54	0.43
6:KB:36:ARG:HH11	6:KB:85:ASN:CG	2.20	0.43
12:L:22:ILE:HG12	12:L:41:ALA:HA	1.99	0.43
7:LB:102:PRO:HB2	7:LB:105:VAL:HG23	2.01	0.43
7:LB:160:ASN:HD21	7:LB:163:VAL:HG23	1.84	0.43
7:LB:36:VAL:O	7:LB:40:GLN:HG3	2.19	0.43
37:MA:110:ASN:O	37:MA:141:VAL:HG22	2.19	0.43
9:NB:148:ILE:HG23	9:NB:151:ILE:HD12	2.01	0.43
39:OA:139:LEU:O	39:OA:142:LEU:HB2	2.19	0.43
2:GB:1012:U:C5	11:PB:28:THR:HG21	2.54	0.43
17:Q:30:VAL:O	17:Q:44:ASP:HA	2.19	0.43
12:QB:70:LYS:HE2	12:QB:70:LYS:HB3	1.73	0.43
36:QC:189:ASP:O	36:QC:192:SER:OG	2.23	0.43
36:QC:81:VAL:HA	36:QC:215:LEU:HD11	2.01	0.43
37:RC:139:GLN:O	37:RC:141:VAL:N	2.49	0.43
38:SC:162:LEU:HA	38:SC:162:LEU:HD13	1.76	0.43
39:TC:10:MET:HA	39:TC:32:VAL:HG22	2.01	0.43
17:VB:23:ARG:NH2	17:VB:120:ARG:HD3	2.34	0.43
23:W:94:GLU:O	23:W:129:SER:HA	2.19	0.43
18:WB:74:LEU:CD2	18:WB:79:PHE:HB2	2.48	0.43
18:WB:82:GLY:HA3	18:WB:113:ALA:HB1	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:WC:107:LEU:HD23	42:WC:107:LEU:HA	1.84	0.43
48:XA:4:LYS:HZ3	48:XA:7:ILE:HG13	1.83	0.43
1:A:391:G:H5'	50:ZA:8:ARG:NE	2.33	0.43
1:A:1029:G:C1'	1:A:1032(C):G:H1	2.32	0.43
1:A:1153:C:H2'	1:A:1154:G:O4'	2.19	0.43
1:A:1434:A:H61	1:A:1467:G:H1'	1.83	0.43
1:A:882:C:O2'	1:A:883:C:H5'	2.19	0.43
1:A:908:A:H2'	1:A:909:A:C8	2.54	0.43
2:B:1186:G:H2'	2:B:1187:G:O4'	2.18	0.43
2:B:1445:C:H2'	2:B:1446:C:C6	2.54	0.43
2:B:1835:G:N3	2:B:1835:G:H2'	2.34	0.43
2:B:1882:C:H2'	2:B:1883:G:O4'	2.19	0.43
2:B:2030:A:H4'	2:B:2031:A:H8	1.84	0.43
2:B:227:A:C2	2:B:2407:G:H1'	2.54	0.43
2:B:2309:A:N6	2:B:2310:A:N1	2.66	0.43
2:B:476:G:N2	2:B:478:A:H2'	2.34	0.43
2:B:768:G:C6	2:B:769:G:C5	3.07	0.43
2:B:829:A:N7	2:B:2247:A:O2'	2.42	0.43
54:DB:80:ARG:O	54:DB:84:LEU:HB2	2.19	0.43
49:DD:62:GLN:HA	49:DD:62:GLN:HE21	1.83	0.43
5:E:112:GLN:O	5:E:115:GLN:HB3	2.19	0.43
6:F:147:PRO:HB2	6:F:149:ARG:HG3	2.01	0.43
6:F:31:CYS:HB2	6:F:91:VAL:CG2	2.47	0.43
1:FB:1103:C:H2'	1:FB:1104:G:O4'	2.19	0.43
1:FB:598:U:H2'	1:FB:599:C:H6	1.84	0.43
7:G:19:GLU:HA	7:G:19:GLU:OE2	2.17	0.43
7:G:74:ARG:HG3	7:G:74:ARG:H	1.63	0.43
2:GB:1019:U:H2'	2:GB:1020:A:C8	2.53	0.43
2:GB:1206:G:C6	2:GB:1207:C:C4	3.07	0.43
2:GB:1295:C:O4'	15:TB:23:ASN:ND2	2.42	0.43
2:GB:1356:G:H2'	2:GB:1357:U:O4'	2.19	0.43
2:GB:1444:G:N2	2:GB:1548:C:C2	2.87	0.43
2:GB:1924:C:H2'	2:GB:1925:C:C6	2.54	0.43
2:GB:2186:G:C2'	2:GB:2187:G:H5'	2.49	0.43
2:GB:2623:G:OP1	2:GB:2826:A:O2'	2.19	0.43
2:GB:2711:A:OP1	2:GB:2712(A):A:OP1	2.36	0.43
2:GB:2877:G:H2'	2:GB:2878:U:O4'	2.19	0.43
2:GB:422:A:H2'	2:GB:423:A:C8	2.54	0.43
2:GB:861:A:N3	3:HB:79:C:O2'	2.50	0.43
8:H:131:TYR:CG	8:H:132:ASN:N	2.87	0.43
35:JA:143:ARG:HH21	35:JA:144:TRP:HE1	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:JB:116:GLN:HG2	5:JB:117:VAL:N	2.34	0.43
30:IC:22:ALA:HB1	32:KC:34:TRP:HA	2.01	0.43
12:L:97:ARG:HE	12:L:97:ARG:HB2	1.72	0.43
36:LA:83:MET:HG2	36:LA:234:PRO:HB2	2.01	0.43
7:LB:144:LYS:NZ	7:LB:144:LYS:CB	2.82	0.43
7:LB:60:SER:OG	7:LB:61:GLY:N	2.51	0.43
7:LB:64:ILE:HD13	7:LB:65:TRP:CD2	2.54	0.43
38:NA:52:SER:O	38:NA:56:VAL:HG23	2.18	0.43
39:OA:7:GLU:N	39:OA:35:GLY:O	2.41	0.43
10:OB:60:GLU:OE1	10:OB:64:GLU:HB3	2.18	0.43
35:PC:322:ILE:HD12	35:PC:324:LEU:HD22	2.01	0.43
41:QA:15:ASP:OD2	41:QA:18:TYR:N	2.33	0.43
41:QA:46:ALA:HB2	41:QA:117:ALA:HB1	2.01	0.43
36:QC:33:TYR:N	36:QC:41:ILE:O	2.42	0.43
36:QC:61:LEU:HD12	36:QC:64:ARG:HB2	2.00	0.43
2:B:1162:G:O3'	19:S:24:LYS:HE3	2.18	0.43
14:SB:134:ARG:HB3	14:SB:134:ARG:HE	1.70	0.43
38:SC:187:ARG:HB2	38:SC:188:LEU:HD22	2.00	0.43
20:T:69:LEU:HA	20:T:108:GLY:O	2.19	0.43
21:U:5:TYR:CE2	26:Z:30:ARG:HB2	2.54	0.43
45:UA:62:GLN:HB2	45:UA:93:GLN:HG3	2.01	0.43
16:UB:6:ALA:HA	16:UB:9:ARG:NH1	2.34	0.43
46:VA:79:GLU:O	46:VA:80:HIS:HB2	2.18	0.43
23:W:165:VAL:HB	23:W:166:SER:H	1.61	0.43
43:XC:31:GLN:HA	43:XC:35:GLU:OE1	2.19	0.43
20:YB:68:ARG:HH11	20:YB:68:ARG:HG2	1.84	0.43
1:FB:1151:A:C2	44:YC:39:PRO:HG3	2.54	0.43
45:ZC:52:GLY:O	45:ZC:55:LYS:HG2	2.19	0.43
1:A:1123:A:O2'	1:A:1124:G:H5'	2.18	0.43
1:A:1171:G:O2'	1:A:1172:C:H5'	2.18	0.43
1:A:1453:G:N3	54:DB:39:LYS:HE2	2.34	0.43
1:A:147:G:H1	1:A:175:C:N4	2.05	0.43
1:A:781:A:O2'	1:A:1522:U:O2	2.36	0.43
1:A:185:A:H1'	54:DB:81:LYS:HZ1	1.84	0.43
1:A:345:C:H5'	1:A:346:G:C5	2.54	0.43
1:A:538:G:H2'	1:A:539:A:H8	1.84	0.43
22:AC:90:LEU:HD13	22:AC:90:LEU:HA	1.73	0.43
2:B:1027:A:C2	2:B:2488:A:H5'	2.53	0.43
2:B:1641:A:H3'	2:B:1642:G:C8	2.54	0.43
2:B:1785:A:H4'	2:B:1982:C:O2'	2.18	0.43
2:B:2151:G:N2	2:B:2152:G:O6	2.45	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2682:U:O2'	6:F:13:ARG:HG3	2.19	0.43
2:B:44:A:O2'	2:B:45:G:H5'	2.19	0.43
28:BA:50:VAL:HG13	47:WA:65:LYS:HE3	2.01	0.43
47:BD:31:LYS:N	47:BD:31:LYS:HD2	2.34	0.43
53:CB:11:VAL:HB	53:CB:12:ASP:H	1.59	0.43
24:CC:42:GLY:O	24:CC:44:ARG:N	2.51	0.43
25:DC:16:ASN:HA	25:DC:38:SER:O	2.19	0.43
31:EA:25:PRO:HA	31:EA:28:ARG:CZ	2.49	0.43
6:F:57:LYS:HB2	6:F:57:LYS:HE2	1.87	0.43
1:FB:1052:U:O2'	1:FB:1055:A:OP2	2.21	0.43
1:FB:109:A:H5'	1:FB:110:C:C5	2.53	0.43
1:FB:1358:U:OP1	48:CD:35:ARG:HG2	2.19	0.43
1:FB:1435:G:H2'	1:FB:1436:U:C6	2.54	0.43
1:FB:1511:G:H8	1:FB:1511:G:O5'	2.02	0.43
1:FB:87:A:H5''	1:FB:88:C:N1	2.34	0.43
51:FD:26:GLN:HG2	51:FD:37:LYS:HG2	2.01	0.43
2:GB:1503:U:H2'	2:GB:1504:C:C6	2.54	0.43
2:GB:164:U:H3'	2:GB:165:U:O2	2.19	0.43
2:GB:1782:C:OP1	2:GB:1783:A:OP2	2.37	0.43
2:GB:2306:C:H2'	2:GB:2307:G:C8	2.53	0.43
2:GB:2467:C:H2'	2:GB:2468:G:O4'	2.19	0.43
2:GB:2646:C:OP2	2:GB:2732:G:O2'	2.30	0.43
2:GB:2681:C:OP2	6:KB:109:LYS:NZ	2.39	0.43
2:GB:2813:A:H2'	2:GB:2814:C:O4'	2.19	0.43
2:GB:30:G:OP2	18:WB:5:LYS:HE3	2.19	0.43
2:GB:540:G:H2'	2:GB:541:C:C6	2.54	0.43
2:GB:640:C:H2'	2:GB:641:C:C6	2.54	0.43
2:GB:657:U:H2'	2:GB:658:C:H6	1.82	0.43
2:GB:797:C:P	7:LB:62:ARG:HG3	2.58	0.43
8:H:23:PHE:CZ	8:H:168:GLU:HA	2.54	0.43
53:HD:39:THR:HG23	53:HD:69:HIS:O	2.18	0.43
2:GB:2208:U:H4'	5:JB:151:LYS:HG2	2.00	0.43
6:KB:112:GLY:O	6:KB:159:HIS:HA	2.18	0.43
12:L:13:ASN:ND2	12:L:97:ARG:O	2.52	0.43
36:LA:101:MET:HG2	36:LA:152:PHE:HE1	1.84	0.43
13:M:52:GLU:HG3	13:M:57:THR:HA	2.01	0.43
37:MA:40:ARG:O	37:MA:44:GLU:HG2	2.18	0.43
38:NA:60:GLU:O	38:NA:63:LYS:HB2	2.19	0.43
39:OA:40:ARG:HA	39:OA:40:ARG:HD3	1.88	0.43
37:RC:131:ARG:HH11	37:RC:135:LYS:HD2	1.81	0.43
43:SA:83:ARG:HD3	43:SA:102:LEU:HD21	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:SC:5:ILE:HB	38:SC:6:GLY:H	1.64	0.43
21:U:31:HIS:HA	21:U:32:PRO:HD3	1.85	0.43
47:WA:3:ARG:HB2	47:WA:8:GLU:HA	2.01	0.43
20:YB:18:ARG:HG2	20:YB:76:VAL:HB	2.00	0.43
1:A:468:A:H4'	50:ZA:80:PHE:O	2.19	0.43
1:A:1032(C):G:H8	1:A:1033:G:C4	2.37	0.42
1:A:1441:G:O2'	1:A:1460:A:N6	2.50	0.42
1:A:353:A:H2'	1:A:354:G:OP2	2.19	0.42
1:A:386:C:C2'	1:A:387:U:H5'	2.48	0.42
1:A:465:A:O2'	1:A:466:G:H5'	2.18	0.42
1:A:591:U:H2'	1:A:592:G:C8	2.54	0.42
1:A:682:G:C2	1:A:709:G:C6	3.07	0.42
46:AD:32:PHE:HE1	46:AD:86:ARG:HG2	1.84	0.42
2:B:1493:C:C5	2:B:2210:G:C4	3.07	0.42
2:B:1963:U:H6	2:B:1963:U:H2'	1.61	0.42
2:B:2466:C:H5''	33:GA:6:SER:HB3	2.02	0.42
2:B:2836:U:H2'	2:B:2837:G:H8	1.84	0.42
2:B:394:A:C6	2:B:395:U:N3	2.87	0.42
2:B:40:C:H2'	2:B:41:C:C6	2.54	0.42
2:B:496:G:C6	2:B:497:A:C4	3.07	0.42
2:B:660:G:C6	2:B:661:C:C4	3.07	0.42
40:PA:94:GLN:HG3	52:BB:32:ARG:HD3	2.01	0.42
47:BD:4:ILE:HG21	47:BD:57:ARG:HG2	2.01	0.42
14:SB:82:ARG:NE	24:CC:3:HIS:HB3	2.34	0.42
48:CD:37:PHE:HB2	48:CD:39:LEU:HB2	2.00	0.42
5:E:231:HIS:CG	5:E:232:PRO:HD2	2.54	0.42
5:E:30:GLU:HB3	5:E:33:LEU:HD12	2.01	0.42
1:FB:1329:A:O2'	1:FB:1330:U:H5'	2.19	0.42
1:FB:1498:UR3:H2'	34:MC:17:U:OP1	2.19	0.42
1:FB:14:U:O2'	1:FB:16:A:N7	2.33	0.42
1:FB:313:A:H2'	1:FB:314:C:C6	2.54	0.42
27:FC:41:PRO:HA	27:FC:44:ARG:NH1	2.32	0.42
7:G:60:SER:OG	7:G:61:GLY:N	2.51	0.42
2:GB:1051:G:H2'	2:GB:1052:C:C6	2.54	0.42
2:GB:1186:G:H2'	2:GB:1187:G:O4'	2.19	0.42
2:GB:125:G:H4'	2:GB:126:A:OP2	2.18	0.42
2:GB:1264:G:O5'	2:GB:1264:G:H8	2.03	0.42
2:GB:1451:C:N4	2:GB:1459:G:H1	2.15	0.42
2:GB:1982:C:H2'	2:GB:1982:C:O2	2.19	0.42
2:GB:2516:G:C6	2:GB:2517:C:C4	3.07	0.42
2:GB:2716:U:H2'	2:GB:2717:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:361:G:C2	2:GB:362:U:C5	3.07	0.42
2:GB:658:C:H2'	2:GB:659:C:C6	2.54	0.42
2:GB:993:G:OP2	18:WB:51:LYS:NZ	2.52	0.42
3:HB:75:G:H21	23:BC:85:HIS:CE1	2.35	0.42
29:HC:48:GLU:O	29:HC:60:VAL:HG21	2.19	0.42
35:JA:188:PRO:C	35:JA:190:THR:H	2.23	0.42
5:JB:159:ALA:HB1	5:JB:198:ASN:O	2.19	0.42
36:LA:23:ARG:HB2	36:LA:23:ARG:CZ	2.49	0.42
7:LB:202:PHE:O	7:LB:206:ILE:HG13	2.19	0.42
38:NA:121:VAL:O	38:NA:134:ASP:HA	2.19	0.42
18:R:69:CYS:HB3	18:R:74:LEU:HD22	2.01	0.42
18:R:88:ILE:HG22	18:R:90:VAL:HG23	2.01	0.42
42:RA:102:ARG:H	42:RA:102:ARG:HG3	1.51	0.42
37:RC:11:ARG:HD3	37:RC:15:THR:HB	2.01	0.42
15:TB:99:LYS:HZ3	15:TB:99:LYS:HB2	1.83	0.42
17:VB:33:LYS:HB2	17:VB:82:LEU:HD23	1.99	0.42
23:W:93:ASP:CB	23:W:131:ARG:HH12	2.32	0.42
23:W:132:ASN:O	23:W:134:PRO:HD3	2.19	0.42
47:WA:96:LEU:O	47:WA:98:VAL:N	2.52	0.42
43:XC:83:ARG:HD3	43:XC:102:LEU:HD21	2.01	0.42
1:A:1277:C:H1'	1:A:1282:C:O2	2.19	0.42
1:A:1476:G:H2'	1:A:1477:C:O4'	2.19	0.42
1:A:1521:G:H2'	1:A:1522:U:O4'	2.19	0.42
1:A:439:A:OP2	1:A:493:G:N1	2.49	0.42
1:A:663:A:O3'	52:BB:64:ARG:NH2	2.46	0.42
1:A:692:U:O2	1:A:694:A:C8	2.72	0.42
2:B:1108:U:C4	2:B:1109:C:C4	3.07	0.42
2:B:1176:G:C8	2:B:1177:A:C8	3.07	0.42
2:B:990:A:C6	2:B:1186:G:H1'	2.54	0.42
2:B:1339:G:H5''	21:U:16:LYS:HD3	2.02	0.42
2:B:189:G:O2'	2:B:207:A:N6	2.50	0.42
2:B:2210:G:H3'	2:B:2211:G:H8	1.80	0.42
2:B:2544:G:H2'	2:B:2545:G:O4'	2.19	0.42
2:B:432:A:H2'	2:B:433:C:C6	2.54	0.42
2:B:811:U:C2	2:B:1251:C:C5	3.08	0.42
2:B:947:G:N2	2:B:971:C:C2	2.87	0.42
2:B:993:G:OP2	18:R:51:LYS:NZ	2.52	0.42
24:CC:4:LYS:N	4:NC:74:C:H41	2.17	0.42
24:CC:46:LYS:HB3	24:CC:78:TYR:CD1	2.54	0.42
2:B:643:A:H1'	30:DA:44:ARG:NH1	2.34	0.42
49:DD:4:THR:HG23	49:DD:7:GLU:CD	2.39	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:EC:9:GLN:NE2	26:EC:56:GLN:HG3	2.34	0.42
2:B:2365:G:O6	32:FA:39:LYS:HE3	2.19	0.42
1:FB:1170:A:H8	1:FB:1170:A:OP2	2.01	0.42
1:FB:1376:U:H2'	1:FB:1377:A:H8	1.79	0.42
1:FB:1382:C:H2'	1:FB:1383:C:C6	2.54	0.42
1:FB:255:G:P	51:FD:69:LYS:NZ	2.93	0.42
1:FB:517:G:N2	1:FB:533:A:OP2	2.43	0.42
2:B:601:C:OP1	7:G:108:LYS:HE2	2.19	0.42
2:GB:1173:G:H8	2:GB:1173:G:O5'	2.02	0.42
2:GB:827:U:H2'	2:GB:2068:U:C2	2.55	0.42
2:GB:227:A:C2	2:GB:2407:G:H1'	2.55	0.42
2:GB:2682:U:O2'	17:VB:58:ASN:OD1	2.37	0.42
2:GB:2843:G:H1	2:GB:2874:C:H42	1.66	0.42
2:GB:492:A:H2'	2:GB:493:G:O4'	2.18	0.42
2:GB:510:C:OP1	2:GB:511:U:OP2	2.36	0.42
2:GB:595:C:N4	2:GB:662:G:H1	2.15	0.42
2:GB:985:C:H2'	2:GB:986:C:C6	2.54	0.42
29:HC:51:TYR:CE1	29:HC:56:LYS:HB2	2.54	0.42
9:I:16:SER:HB2	9:I:27:LYS:HG2	2.00	0.42
10:J:91:SER:O	10:J:93:THR:N	2.51	0.42
36:LA:130:ARG:HA	36:LA:131:PRO:HD3	1.88	0.42
37:MA:128:PHE:HA	37:MA:128:PHE:HD1	1.76	0.42
37:MA:59:ARG:HG2	37:MA:64:VAL:HB	2.01	0.42
38:NA:155:LEU:HD12	38:NA:155:LEU:HA	1.86	0.42
10:OB:124:GLY:O	10:OB:143:SER:HA	2.19	0.42
16:P:51:ALA:H	16:P:73:LEU:HD13	1.84	0.42
17:Q:93:ARG:HH11	17:Q:93:ARG:HB3	1.83	0.42
17:Q:96:ARG:HG3	17:Q:101:PHE:HE2	1.84	0.42
2:B:445:C:OP1	18:R:2:PRO:HA	2.19	0.42
42:RA:63:LEU:HB3	42:RA:65:TYR:CE2	2.54	0.42
39:TC:64:ARG:HG3	39:TC:64:ARG:HH11	1.83	0.42
14:N:55:VAL:HG22	23:W:178:GLU:HB3	2.01	0.42
45:ZC:34:ASP:OD1	45:ZC:38:ASN:HB2	2.18	0.42
45:ZC:58:PRO:HA	45:ZC:90:GLY:HA3	2.01	0.42
1:A:1275:A:H8	1:A:1275:A:OP2	2.02	0.42
46:AD:38:THR:O	46:AD:79:GLU:HG3	2.19	0.42
2:B:237:C:C2	2:B:261:G:N2	2.87	0.42
2:B:971:C:H2'	2:B:972:G:O4'	2.19	0.42
1:A:718:G:O6	52:BB:74:ARG:NH1	2.52	0.42
47:BD:31:LYS:O	47:BD:35:GLU:HB2	2.19	0.42
47:BD:56:LEU:HD12	47:BD:59:TYR:CE2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DC:73:LEU:HD23	25:DC:73:LEU:HA	1.82	0.42
6:F:11:MET:HB2	6:F:23:VAL:O	2.19	0.42
1:FB:115:G:H4'	1:FB:116:A:O5'	2.19	0.42
1:FB:186(C):C:N4	1:FB:191(E):G:H1	2.05	0.42
1:FB:46:G:O2'	1:FB:365:U:H1'	2.19	0.42
1:FB:701:C:OP1	1:FB:703:G:H5'	2.19	0.42
1:FB:848:C:H2'	1:FB:849:C:O4'	2.20	0.42
51:FD:26:GLN:HA	51:FD:36:ILE:O	2.19	0.42
51:FD:63:ARG:HA	51:FD:64:PRO:HD3	1.92	0.42
7:G:125:LEU:HD21	7:G:199:TRP:CD2	2.54	0.42
7:G:40:GLN:O	7:G:44:ARG:HD3	2.19	0.42
2:GB:1218:C:H42	2:GB:1231:G:H1	1.66	0.42
2:GB:1375:C:O5'	2:GB:1375:C:H6	2.02	0.42
2:GB:17:G:H2'	2:GB:18:C:C6	2.55	0.42
2:GB:1971:A:C4	5:JB:241:PRO:HG3	2.54	0.42
2:GB:530:G:C5	2:GB:2022:U:H5''	2.55	0.42
2:GB:2030:A:H4'	2:GB:2031:A:C8	2.54	0.42
2:GB:398:G:H2'	2:GB:399:G:H8	1.84	0.42
8:H:144:ILE:HB	8:H:149:VAL:HG23	2.02	0.42
53:HD:21:GLU:O	53:HD:25:LYS:HG3	2.20	0.42
9:I:136:ILE:HD12	9:I:140:LYS:NZ	2.35	0.42
54:ID:37:SER:O	54:ID:41:VAL:HG13	2.18	0.42
12:L:38:VAL:HG11	12:L:91:LEU:HD22	2.00	0.42
2:GB:2466:C:H5''	33:LC:6:SER:HB3	2.01	0.42
13:M:131:SER:HB3	13:M:134:ALA:CB	2.49	0.42
13:M:50:ARG:HG2	32:FA:61:LEU:HD11	2.01	0.42
37:MA:37:GLN:NE2	48:XA:52:GLN:OE1	2.52	0.42
8:MB:111:LEU:HD23	8:MB:111:LEU:HA	1.77	0.42
9:NB:153:LYS:HG2	9:NB:154:PRO:HD2	2.00	0.42
15:O:87:TYR:OH	15:O:116:LEU:HB3	2.19	0.42
39:OA:69:VAL:HA	39:OA:70:PRO:HD2	1.89	0.42
10:OB:75:LEU:HD13	10:OB:105:HIS:NE2	2.33	0.42
11:PB:59:LYS:HZ1	11:PB:125:GLY:HA2	1.84	0.42
17:Q:33:LYS:HB2	17:Q:82:LEU:HD23	2.01	0.42
36:QC:60:ASP:O	36:QC:64:ARG:HG2	2.19	0.42
18:R:80:ILE:O	18:R:83:LEU:N	2.51	0.42
38:SC:15:GLU:HG3	38:SC:19:LEU:HD21	2.00	0.42
20:T:3:ALA:HB3	20:T:58:ALA:HB2	2.01	0.42
20:T:84:ARG:HB2	20:T:96:ILE:HG22	2.00	0.42
40:UC:16:GLN:H	40:UC:16:GLN:CD	2.22	0.42
14:N:20:ALA:HB2	23:W:79:ARG:HG3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:WB:16:LYS:O	18:WB:20:LEU:HG	2.20	0.42
49:YA:43:LEU:HD11	49:YA:53:HIS:HA	2.02	0.42
37:RC:23:TYR:CZ	44:YC:9:ARG:HG3	2.54	0.42
1:A:626:U:H5''	50:ZA:38:TYR:CD2	2.54	0.42
1:A:1029:G:N2	1:A:1032(C):G:OP2	2.53	0.42
1:A:1077:G:C2	1:A:1081:G:C6	3.08	0.42
1:A:1129:C:H42	1:A:1143:G:N2	2.17	0.42
2:B:1069:A:O2'	2:B:1096:A:O5'	2.36	0.42
2:B:125:G:H4'	2:B:126:A:OP2	2.19	0.42
2:B:1342:A:C6	2:B:1345:C:C2	3.07	0.42
2:B:1429:G:N3	2:B:1568:G:C2	2.87	0.42
2:B:1510:A:C4	2:B:1511:A:C6	3.07	0.42
2:B:2019:A:N6	2:B:2020:A:C5	2.87	0.42
2:B:2611:U:H3'	2:B:2611:U:OP2	2.19	0.42
2:B:2661:G:H2'	2:B:2662:A:O4'	2.19	0.42
2:B:2674:G:H2'	2:B:2675:A:C8	2.53	0.42
2:B:2820:A:O4'	15:O:3:HIS:HB3	2.19	0.42
2:B:2809:A:OP2	2:B:2891:G:C2	2.72	0.42
2:B:2792:G:H8	2:B:2893:G:H22	1.66	0.42
2:B:391:G:C6	2:B:411:G:C2	3.07	0.42
2:B:524:U:H2'	2:B:525:U:C6	2.54	0.42
2:B:569:U:O4	2:B:2498:C:H5''	2.19	0.42
23:BC:102:LEU:HD11	23:BC:124:ILE:HB	2.00	0.42
29:CA:48:GLU:O	29:CA:60:VAL:HG21	2.19	0.42
54:DB:83:ARG:HA	54:DB:86:ARG:HD3	2.02	0.42
49:DD:43:LEU:HD11	49:DD:53:HIS:HA	2.02	0.42
5:E:30:GLU:O	5:E:32:SER:N	2.53	0.42
5:E:36:PRO:HA	5:E:61:LEU:CD1	2.49	0.42
50:ED:34:GLU:OE2	50:ED:55:ARG:HG2	2.19	0.42
1:FB:17:U:O4'	1:FB:1080:A:H1'	2.20	0.42
1:FB:1109:C:H2'	1:FB:1110:A:O4'	2.19	0.42
1:FB:1148:U:H2'	1:FB:1149:C:O4'	2.19	0.42
7:G:40:GLN:H	7:G:40:GLN:HG3	1.59	0.42
2:GB:101:G:O3'	26:EC:7:ARG:NH1	2.52	0.42
2:GB:10:G:H21	2:GB:2801:A:HO2'	1.68	0.42
2:GB:2032:G:OP2	2:GB:2454:G:O2'	2.36	0.42
2:GB:2298:A:H2'	2:GB:2299:G:O4'	2.19	0.42
2:GB:2409:G:C6	2:GB:2410:G:C5	3.07	0.42
2:GB:270(N):U:H4'	2:GB:270(O):G:C5'	2.50	0.42
2:GB:2689:U:P	2:GB:2719:G:H22	2.42	0.42
2:GB:2820:A:P	15:TB:2:ARG:NH2	2.93	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:330:A:O2'	2:GB:331:A:C8	2.71	0.42
2:GB:668:G:N7	2:GB:670:A:C8	2.88	0.42
2:GB:67:U:H2'	2:GB:68:G:C8	2.54	0.42
2:GB:882:G:H8	2:GB:882:G:OP2	2.02	0.42
2:GB:847:U:OP2	2:GB:929:G:O6	2.37	0.42
4:IA:53:G:C8	4:IA:54:5MU:H72	2.54	0.42
2:GB:1568:G:H5''	5:JB:61:LEU:HB2	1.99	0.42
6:KB:67:PHE:CD1	6:KB:74:PRO:HA	2.54	0.42
13:RB:49:ARG:CB	32:KC:61:LEU:HD21	2.48	0.42
7:LB:101:LEU:O	7:LB:106:ARG:NE	2.35	0.42
13:M:52:GLU:HB3	13:M:55:ARG:HG2	2.01	0.42
37:MA:88:ARG:HG2	37:MA:99:VAL:HG23	2.00	0.42
8:MB:63:ILE:HD11	8:MB:141:PHE:HB3	2.02	0.42
10:OB:9:LEU:HD22	10:OB:10:GLU:OE2	2.18	0.42
10:OB:110:ASP:HA	10:OB:111:PRO:HD3	1.86	0.42
12:L:80:ASP:OD2	17:Q:71:GLY:HA3	2.19	0.42
12:QB:60:ALA:CB	12:QB:86:ILE:HA	2.50	0.42
18:R:39:LEU:HA	18:R:39:LEU:HD23	1.80	0.42
42:RA:18:ARG:HE	42:RA:18:ARG:HA	1.85	0.42
21:U:23:GLU:OE2	21:U:25:LYS:HD2	2.20	0.42
19:XB:28:GLU:O	19:XB:30:GLY:N	2.52	0.42
50:ZA:20:VAL:HG21	50:ZA:32:TYR:CG	2.54	0.42
50:ZA:34:GLU:OE2	50:ZA:55:ARG:HG2	2.19	0.42
1:A:1480:G:C6	1:A:1481:U:N3	2.87	0.42
1:A:563:A:HO2'	1:A:564:C:P	2.32	0.42
1:A:885:G:H1	1:A:912:C:H42	1.68	0.42
2:B:1023:U:OP2	2:B:1025:G:O2'	2.37	0.42
2:B:1027:A:N6	2:B:1126:A:C4	2.87	0.42
2:B:1161:C:H1'	19:S:8:GLY:O	2.20	0.42
2:B:1641:A:H3'	2:B:1642:G:H8	1.84	0.42
2:B:2115:G:C4	2:B:2117:A:C8	3.08	0.42
2:B:2409:G:C6	2:B:2410:G:C5	3.08	0.42
2:B:2391:G:O6	2:B:2425:A:H8	2.01	0.42
2:B:449:A:C4	2:B:450:G:C8	3.07	0.42
2:B:449:A:H2'	2:B:450:G:H8	1.84	0.42
23:BC:71:VAL:HG13	23:BC:86:VAL:HG12	2.02	0.42
23:BC:54:HIS:HB3	23:BC:99:TYR:O	2.20	0.42
4:D:3:C:H42	4:D:70:G:H1	1.67	0.42
4:D:21:A:OP2	4:D:59:A:N6	2.52	0.42
54:DB:30:LYS:HG3	54:DB:34:LYS:HE3	2.02	0.42
54:DB:63:ILE:HD12	54:DB:81:LYS:HG2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:DD:15:PHE:HB3	49:DD:27:VAL:HG22	2.01	0.42
49:DD:21:ASP:OD1	49:DD:24:SER:HB2	2.19	0.42
6:F:6:GLY:HA2	6:F:51:PHE:CZ	2.55	0.42
1:FB:1493:A:O2'	1:FB:1494:G:O5'	2.37	0.42
1:FB:160:A:H1'	1:FB:344:A:C5	2.55	0.42
1:FB:559:A:H4'	1:FB:560:U:H3'	2.01	0.42
1:FB:613:C:H2'	1:FB:614:A:H8	1.84	0.42
27:FC:12:PRO:HB2	27:FC:20:LYS:HG2	2.02	0.42
2:GB:1027:A:N6	2:GB:1126:A:C4	2.88	0.42
2:GB:1539:G:H2'	2:GB:1540:G:O4'	2.19	0.42
2:GB:1540:G:H5''	2:GB:1541:U:OP2	2.19	0.42
2:GB:188:G:H1	2:GB:208:C:H42	1.67	0.42
2:GB:2173:A:H2'	2:GB:2174:C:O4'	2.19	0.42
2:GB:2436:G:C5	2:GB:2437:U:C5	3.07	0.42
2:GB:441:U:H2'	2:GB:442:G:C8	2.54	0.42
2:GB:781:A:H2	2:GB:1776:G:N3	2.17	0.42
2:GB:811:U:O3'	2:GB:1251:C:H5'	2.19	0.42
2:GB:932:G:OP1	27:FC:24:LYS:NZ	2.52	0.42
2:GB:959:A:N6	2:GB:960:A:N1	2.67	0.42
3:HB:2:C:H2'	3:HB:3:C:C6	2.54	0.42
4:IB:71:C:H2'	4:IB:72:A:C8	2.52	0.42
11:K:67:LEU:O	11:K:88:GLU:HG3	2.19	0.42
33:LC:7:VAL:HG12	33:LC:34:GLN:HB3	2.01	0.42
13:M:136:GLU:HG3	13:M:137:LYS:N	2.35	0.42
1:A:1206:G:O4'	37:MA:194:GLY:HA2	2.20	0.42
8:MB:152:LEU:HD22	8:MB:153:ARG:H	1.84	0.42
14:N:85:LYS:HE2	24:X:7:LEU:HD13	2.01	0.42
38:NA:196:LEU:HA	38:NA:196:LEU:HD12	1.75	0.42
38:NA:98:GLU:HG3	38:NA:194:LEU:CD2	2.50	0.42
4:NC:19:G:H5''	4:NC:60:U:O4	2.19	0.42
40:PA:91:VAL:HG22	40:PA:92:LYS:O	2.19	0.42
41:QA:79:ARG:HA	41:QA:83:ALA:O	2.19	0.42
12:QB:60:ALA:HB2	12:QB:86:ILE:HA	2.01	0.42
12:QB:89:ASN:ND2	12:QB:89:ASN:H	2.17	0.42
36:QC:23:ARG:HH11	36:QC:23:ARG:HB2	1.80	0.42
18:R:107:ALA:O	18:R:111:GLU:HG2	2.19	0.42
18:R:11:ARG:NH1	18:R:11:ARG:HG3	2.18	0.42
37:RC:153:VAL:HG22	37:RC:198:VAL:HG22	2.01	0.42
15:TB:31:HIS:O	15:TB:33:ARG:N	2.44	0.42
46:VA:61:THR:C	46:VA:63:GLY:H	2.23	0.42
2:GB:1753:G:C8	17:VB:113:LYS:NZ	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:YC:6:ILE:HD11	44:YC:23:ILE:HG21	2.01	0.42
26:Z:3:LEU:HD13	26:Z:4:SER:N	2.34	0.42
26:Z:35:LEU:HB3	26:Z:50:ILE:HG12	2.00	0.42
1:A:1327:C:H2'	1:A:1328:C:H6	1.84	0.42
1:A:1450:U:H4'	1:A:1451:A:C5	2.55	0.42
1:A:32:A:OP1	1:A:398:C:H1'	2.20	0.42
1:A:689:C:OP1	45:UA:44:SER:OG	2.35	0.42
1:A:772:U:H2'	1:A:773:G:C8	2.54	0.42
1:A:981:U:H5'	48:XA:21:TYR:CE2	2.55	0.42
1:A:991:U:C4	1:A:1212:U:H1'	2.55	0.42
22:AC:84:ARG:O	22:AC:100:ALA:HB2	2.20	0.42
46:AD:19:ARG:O	46:AD:21:LYS:NZ	2.53	0.42
2:B:1042:G:C6	2:B:1043:C:C4	3.07	0.42
2:B:1064:C:H5'	2:B:1065:U:OP2	2.19	0.42
2:B:1146:C:C2'	2:B:1147:C:H5'	2.50	0.42
2:B:1855:G:O5'	2:B:1855:G:H8	2.03	0.42
2:B:17:G:H2'	2:B:18:C:H6	1.84	0.42
2:B:1905:C:N4	2:B:1930:G:C2	2.86	0.42
2:B:2075:U:C4	2:B:2238:G:C6	3.07	0.42
2:B:2312:U:OP1	8:H:74:LYS:HB2	2.19	0.42
2:B:382:G:H1	2:B:392:C:H42	1.68	0.42
2:B:664:C:H4'	2:B:941:A:OP1	2.19	0.42
52:BB:46:GLU:OE1	52:BB:85:LEU:HD12	2.19	0.42
1:FB:1307:U:O3'	47:BD:110:ARG:HD3	2.19	0.42
49:DD:63:ARG:HH12	49:DD:87:ILE:HD13	1.80	0.42
26:EC:9:GLN:HE22	26:EC:56:GLN:HG3	1.83	0.42
1:FB:149:A:H2'	1:FB:150:C:C6	2.55	0.42
1:FB:1508:G:H2'	1:FB:1509:C:C6	2.53	0.42
1:FB:112:G:H4'	1:FB:389:A:H4'	2.02	0.42
1:FB:596:C:OP2	1:FB:597:G:OP2	2.37	0.42
1:FB:759:A:C8	1:FB:760:G:C8	3.08	0.42
7:G:179:GLU:CD	7:G:179:GLU:H	2.23	0.42
2:B:2478:A:OP2	33:GA:2:LYS:HE2	2.20	0.42
33:GA:25:VAL:HB	33:GA:34:GLN:HB2	2.01	0.42
2:GB:1882:C:H2'	2:GB:1883:G:O4'	2.20	0.42
2:GB:2009:G:OP1	20:YB:41:LYS:HE2	2.20	0.42
2:GB:2026:C:C4	2:GB:2027:G:N7	2.87	0.42
2:GB:2190:G:C2	2:GB:2191:G:C4	3.08	0.42
2:GB:2402:C:H6	2:GB:2402:C:OP2	2.03	0.42
2:GB:1999:C:H5''	2:GB:2723:C:O2'	2.19	0.42
2:GB:2865:U:C4	2:GB:2866:U:C4	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:126:PRO:HB2	9:I:130:ARG:NH2	2.31	0.42
9:I:130:ARG:HH11	9:I:130:ARG:HB3	1.84	0.42
4:IA:19:G:H5''	4:IA:60:U:O4	2.19	0.42
4:IB:48:C:OP1	4:IB:59:A:H5'	2.19	0.42
10:J:67:ARG:HG3	10:J:67:ARG:H	1.54	0.42
5:JB:244:ARG:HB2	5:JB:245:PRO:HD2	2.02	0.42
12:L:17:ARG:HA	12:L:17:ARG:NE	2.34	0.42
15:O:31:HIS:O	15:O:33:ARG:N	2.46	0.42
15:O:67:LEU:HD21	15:O:73:VAL:HA	2.02	0.42
40:PA:18:GLN:HA	40:PA:21:LEU:HG	2.01	0.42
2:GB:1012:U:O4	11:PB:28:THR:HG21	2.19	0.42
11:PB:67:LEU:HA	11:PB:67:LEU:HD23	1.93	0.42
1:A:1465:C:P	17:Q:108:ARG:HH22	2.43	0.42
36:QC:17:PHE:HB3	36:QC:44:LEU:HD11	2.02	0.42
36:QC:188:ALA:HB1	36:QC:192:SER:CB	2.49	0.42
18:R:72:HIS:O	18:R:74:LEU:HD12	2.19	0.42
42:RA:116:LYS:HG3	42:RA:129:VAL:HG11	2.01	0.42
42:RA:81:HIS:CD2	42:RA:104:ARG:HH22	2.37	0.42
37:RC:150:LYS:O	37:RC:201:TYR:N	2.51	0.42
38:SC:162:LEU:HD12	38:SC:178:VAL:HG13	2.00	0.42
39:TC:76:ILE:H	39:TC:76:ILE:HG13	1.54	0.42
39:TC:90:VAL:O	39:TC:91:LEU:HD13	2.19	0.42
16:UB:34:HIS:N	16:UB:34:HIS:ND1	2.67	0.42
47:WA:108:ARG:NH1	47:WA:114:ARG:HA	2.35	0.42
42:WC:120:THR:H	42:WC:123:GLU:HB2	1.84	0.42
25:Y:6:GLU:OE1	25:Y:61:ARG:HB3	2.20	0.42
50:ZA:71:ARG:HA	50:ZA:74:LEU:HD12	2.00	0.42
1:A:1120:G:C2	1:A:1154:G:C2	3.07	0.42
1:A:1120:G:C2	1:A:1154:G:N3	2.88	0.42
1:A:1285:A:H4'	1:A:1286:A:C8	2.54	0.42
1:A:160:A:H1'	1:A:344:A:C5	2.55	0.42
1:A:186(C):C:N4	1:A:191(E):G:H1	2.08	0.42
1:A:273:A:N6	1:A:274:A:N6	2.68	0.42
1:A:6:G:H4'	1:A:298:A:H4'	2.02	0.42
1:A:966:M2G:OP2	1:A:966:M2G:H8	2.02	0.42
2:B:851:U:O2'	27:AA:42:ALA:O	2.38	0.42
2:B:1517:G:H2'	2:B:1518:C:C6	2.54	0.42
2:B:1570:A:C6	2:B:1571:A:C6	3.07	0.42
2:B:1803:A:H2	2:B:1822:G:N3	2.17	0.42
2:B:1971:A:C4	5:E:241:PRO:HG3	2.54	0.42
2:B:554:U:H1'	2:B:556:G:N7	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:869:G:H2'	2:B:870:A:H8	1.85	0.42
28:BA:69:LYS:NZ	53:CB:20:LEU:HD12	2.35	0.42
47:BD:39:ILE:HD11	47:BD:56:LEU:HD11	2.01	0.42
24:CC:31:VAL:HG23	24:CC:32:ARG:O	2.20	0.42
48:CD:53:LEU:HA	48:CD:53:LEU:HD22	1.74	0.42
4:D:6:G:H2'	4:D:7:G:H8	1.85	0.42
25:DC:46:LEU:HD23	25:DC:62:VAL:C	2.40	0.42
5:E:67:PHE:CE1	5:E:106:ILE:HD11	2.55	0.42
1:FB:468:A:H5''	50:ED:80:PHE:HB3	2.01	0.42
1:FB:1207:2MG:H2'	1:FB:1208:C:H6	1.85	0.42
1:FB:1258:G:H2'	1:FB:1259:C:H6	1.84	0.42
1:FB:1285:A:H4'	1:FB:1286:A:C8	2.55	0.42
1:FB:1450:U:H4'	1:FB:1451:A:C5	2.55	0.42
1:FB:372:C:H4'	1:FB:373:A:OP1	2.18	0.42
27:FC:26:LEU:HA	27:FC:26:LEU:HD23	1.74	0.42
51:FD:43:LEU:HD23	51:FD:43:LEU:HA	1.73	0.42
51:FD:74:LEU:HD22	51:FD:74:LEU:HA	1.73	0.42
2:B:2527:C:H5''	33:GA:30:PRO:HB2	2.01	0.42
2:GB:1015:G:H2'	2:GB:1016:G:H8	1.83	0.42
2:GB:1069:A:O2'	2:GB:1096:A:O5'	2.38	0.42
2:GB:1640:C:H5'	2:GB:1641:A:OP2	2.19	0.42
2:GB:1493:C:C5	2:GB:2210:G:C4	3.07	0.42
2:GB:2454:G:H2'	2:GB:2455:G:H8	1.84	0.42
2:GB:454:A:H4'	2:GB:455:C:OP2	2.19	0.42
2:GB:460:A:H5''	2:GB:461:C:OP2	2.19	0.42
2:GB:732:C:H2'	2:GB:733:G:O4'	2.19	0.42
2:GB:738:G:C2	2:GB:759:G:C5	3.07	0.42
2:GB:742:G:H2'	2:GB:743:G:C8	2.54	0.42
2:GB:954:G:C5	2:GB:955:C:C5	3.08	0.42
8:H:137:GLU:HG2	8:H:152:LEU:HD11	2.01	0.42
4:IA:74:C:H5''	4:IA:75:C:OP2	2.19	0.42
10:J:135:GLU:O	10:J:137:PRO:HD3	2.19	0.42
2:GB:1815:A:P	5:JB:54:ARG:HH22	2.42	0.42
11:K:99:LEU:O	11:K:103:VAL:HG23	2.19	0.42
36:LA:122:PHE:CZ	36:LA:139:LYS:HB2	2.55	0.42
13:M:19:VAL:HG12	13:M:31:ALA:HB1	2.01	0.42
37:MA:88:ARG:HA	37:MA:91:LEU:HB2	2.01	0.42
8:MB:114:ILE:HD12	8:MB:136:ARG:NH1	2.35	0.42
8:MB:18:GLU:C	8:MB:21:ARG:HB3	2.40	0.42
14:N:13:GLN:O	14:N:72:LYS:HE3	2.19	0.42
38:NA:134:ASP:O	38:NA:136:PRO:HD3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:NA:162:LEU:HD12	38:NA:178:VAL:HG13	2.01	0.42
38:NA:19:LEU:HA	38:NA:19:LEU:HD12	1.68	0.42
4:NC:49:G:N2	4:NC:66:C:N3	2.68	0.42
40:PA:46:ARG:HB2	40:PA:60:PHE:CE1	2.54	0.42
42:RA:97:VAL:HA	42:RA:100:ILE:HG13	2.02	0.42
42:RA:81:HIS:HB2	42:RA:138:TRP:CD1	2.43	0.42
38:SC:21:LEU:O	38:SC:22:LYS:HB2	2.19	0.42
38:SC:2:GLY:HA3	38:SC:5:ILE:HD11	2.01	0.42
39:TC:144:THR:O	39:TC:148:VAL:HG23	2.19	0.42
39:TC:51:VAL:HG12	39:TC:55:VAL:HG23	2.02	0.42
23:W:85:HIS:HE1	23:W:87:ASP:OD1	2.02	0.42
1:FB:587:G:H4'	42:WC:3:THR:HA	2.01	0.42
18:WB:89:GLU:HB2	19:XB:50:PRO:HB3	2.01	0.42
44:YC:16:LEU:HD13	44:YC:94:VAL:HG13	2.02	0.42
50:ZA:77:ALA:HB3	50:ZA:79:VAL:HG23	2.02	0.42
1:A:1064:G:OP1	1:A:1386:G:H4'	2.20	0.42
1:A:1319:A:H4'	1:A:1320:C:OP1	2.19	0.42
1:A:49:U:C4	1:A:364:A:C5	3.07	0.42
1:A:559:A:H4'	1:A:560:U:H3'	2.01	0.42
1:A:685:G:O2'	1:A:686:U:H5'	2.19	0.42
1:A:833:U:H3	1:A:853:G:H1	1.68	0.42
51:AB:63:ARG:HA	51:AB:64:PRO:HD3	1.89	0.42
2:B:1173:G:O5'	2:B:1173:G:H8	2.02	0.42
2:B:1291:C:H2'	2:B:1292:U:H6	1.85	0.42
2:B:1817:G:C6	2:B:1818:U:C5	3.07	0.42
2:B:2073:C:O2'	2:B:2074:U:H5'	2.20	0.42
2:B:2101:G:H2'	2:B:2102:U:O4'	2.19	0.42
2:B:2271:G:H2'	2:B:2272:U:C6	2.55	0.42
2:B:2846:G:H2'	2:B:2847:U:O4'	2.20	0.42
2:B:322:A:C6	2:B:340:A:C2	3.07	0.42
2:B:822:U:H2'	2:B:823:G:H8	1.85	0.42
23:BC:116:VAL:HG22	23:BC:117:LEU:HD23	2.02	0.42
47:BD:111:LYS:HG2	47:BD:115:LYS:NZ	2.35	0.42
5:E:182:LEU:HA	5:E:182:LEU:HD23	1.70	0.42
26:EC:10:LEU:HD11	26:EC:14:ARG:NH1	2.34	0.42
1:FB:1064:G:OP1	1:FB:1386:G:H4'	2.19	0.42
1:FB:10:A:OP2	39:TC:126:ARG:HD3	2.20	0.42
1:FB:1195:C:N4	1:FB:1197:G:N7	2.68	0.42
1:FB:1238:A:O5'	1:FB:1336:C:N4	2.32	0.42
1:FB:102:G:O2'	1:FB:151:A:N3	2.45	0.42
1:FB:87:A:H5''	1:FB:88:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:992:U:H5'	1:FB:993:G:C4	2.55	0.42
7:G:10:PRO:HB3	7:G:17:ARG:HH12	1.85	0.42
2:GB:1394:U:C5	2:GB:1395:A:C5	3.08	0.42
2:GB:1748:G:H2'	2:GB:1749:A:C8	2.54	0.42
2:GB:2137:C:OP2	2:GB:2137:C:H6	2.02	0.42
2:GB:2166:G:H2'	2:GB:2167:U:C6	2.55	0.42
2:GB:2462:U:C2	2:GB:2489:G:N2	2.88	0.42
2:GB:253:C:H2'	2:GB:254:G:O4'	2.20	0.42
2:GB:2591:C:H2'	2:GB:2592:G:H8	1.85	0.42
2:GB:2680:C:H5'	6:KB:189:PRO:HA	2.01	0.42
2:GB:2704:C:H2'	2:GB:2705:A:O4'	2.20	0.42
2:GB:270(K):G:H3'	2:GB:270(L):C:C6	2.55	0.42
2:GB:2773:C:H5''	6:KB:164:ARG:HG2	2.01	0.42
2:GB:2866:U:C6	2:GB:2868:A:H1'	2.55	0.42
2:GB:2872:G:O2'	2:GB:2873:A:H5'	2.20	0.42
2:GB:602:G:O2'	2:GB:604:G:O2'	2.35	0.42
2:GB:686:G:H8	31:JC:7:PRO:HA	1.84	0.42
2:GB:85:G:C5	2:GB:98:G:C2	3.08	0.42
2:GB:882:G:N2	2:GB:883:G:N7	2.67	0.42
9:I:148:ILE:HG23	9:I:151:ILE:HD12	2.02	0.42
4:IB:26:G:H2'	4:IB:27:U:C6	2.54	0.42
54:ID:50:GLU:HB2	54:ID:100:ILE:HB	2.01	0.42
5:JB:267:SER:O	5:JB:269:PHE:N	2.53	0.42
36:LA:61:LEU:HD12	36:LA:64:ARG:HB2	2.01	0.42
7:G:34:TRP:CZ2	13:M:8:PRO:HB3	2.55	0.42
37:MA:124:ILE:HG13	37:MA:124:ILE:H	1.62	0.42
35:OC:144:TRP:CZ3	35:OC:171:VAL:HG13	2.54	0.42
16:P:30:ARG:HH11	16:P:97:ARG:HH11	1.68	0.42
17:Q:106:SER:O	17:Q:110:ILE:HG13	2.20	0.42
12:QB:97:ARG:HB2	12:QB:97:ARG:HE	1.66	0.42
36:QC:149:LEU:HD12	36:QC:152:PHE:HB3	2.00	0.42
13:RB:65:ARG:HG3	13:RB:66:GLY:N	2.35	0.42
39:TC:41:VAL:HG11	39:TC:109:ILE:HG23	2.01	0.42
3:HB:9:G:OP1	16:UB:25:ARG:NH2	2.53	0.42
23:W:93:ASP:HB2	23:W:131:ARG:HH12	1.84	0.42
18:WB:47:TYR:OH	18:WB:51:LYS:HE2	2.20	0.42
42:WC:2:LEU:HB3	42:WC:3:THR:H	1.65	0.42
48:XA:31:ARG:HH11	48:XA:31:ARG:HG2	1.84	0.42
50:ZA:8:ARG:HH12	50:ZA:15:PRO:CG	2.29	0.42
2:GB:1341:U:O4'	21:ZB:57:LEU:HD23	2.19	0.42
1:A:1216:G:O2'	1:A:1217:C:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:485:G:O2'	1:A:486:U:OP2	2.37	0.42
1:A:795:C:H1'	1:A:1506:U:C5	2.54	0.42
1:A:867:G:H2'	1:A:868:C:H6	1.85	0.42
2:B:1509:A:H4'	2:B:1510:A:N3	2.35	0.42
2:B:1717:G:H1	2:B:1742:C:H42	1.68	0.42
2:B:1900:A:N1	2:B:1970:A:C6	2.88	0.42
2:B:2358:G:H22	13:M:55:ARG:NH1	2.14	0.42
2:B:2392:A:OP2	32:FA:31:HIS:NE2	2.51	0.42
2:B:2516:G:C4	2:B:2569:G:N2	2.88	0.42
2:B:270(F):G:C6	2:B:270(G):U:C4	3.07	0.42
2:B:2677:G:H1'	2:B:2731:G:N2	2.35	0.42
2:B:2748:A:C4	2:B:2757:A:C6	3.08	0.42
2:B:2843:G:H1	2:B:2874:C:H42	1.67	0.42
2:B:722:A:H2'	2:B:723:G:C8	2.55	0.42
2:B:979:G:H3'	2:B:980:A:H5''	2.01	0.42
47:BD:17:VAL:C	47:BD:19:LEU:H	2.24	0.42
53:CB:21:GLU:O	53:CB:25:LYS:HG3	2.19	0.42
48:CD:23:ARG:NE	48:CD:28:GLY:O	2.53	0.42
48:CD:58:LYS:NZ	48:CD:58:LYS:HB3	2.35	0.42
54:DB:44:ALA:O	54:DB:91:LEU:HG	2.19	0.42
1:A:177:C:P	54:DB:65:LYS:NZ	2.93	0.42
25:DC:95:LEU:HD13	25:DC:95:LEU:HA	1.74	0.42
50:ED:26:ARG:HG3	50:ED:27:LYS:N	2.35	0.42
1:FB:1079:G:OP2	1:FB:1079:G:H8	2.02	0.42
1:FB:38:G:C2	1:FB:397:A:C2	3.08	0.42
1:FB:689:C:OP2	45:ZC:55:LYS:NZ	2.50	0.42
1:FB:814:A:N7	1:FB:816:A:C4	2.88	0.42
1:FB:87:A:C2	1:FB:88:C:H1'	2.55	0.42
2:GB:1005:C:H5''	2:GB:1006:C:OP2	2.19	0.42
2:GB:1149:G:H2'	2:GB:1150:C:C6	2.55	0.42
2:GB:1488:G:C6	2:GB:1489:U:C4	3.08	0.42
2:GB:1778:U:C5	2:GB:1784:A:C4	3.07	0.42
2:GB:2661:G:H2'	2:GB:2662:A:O4'	2.19	0.42
2:GB:2712:U:O2'	2:GB:2713:A:H5'	2.20	0.42
2:GB:2623:G:H4'	2:GB:2825:G:H8	1.85	0.42
2:GB:6:A:N7	2:GB:7:G:C4	2.87	0.42
52:GD:34:TYR:O	52:GD:35:ARG:HG3	2.19	0.42
8:H:10:LYS:HZ3	8:H:14:GLU:CD	2.23	0.42
8:H:11:TYR:HB2	8:H:176:LEU:HD21	2.02	0.42
9:I:137:ASP:HB3	9:I:140:LYS:NZ	2.35	0.42
4:IA:32:5MC:HM53	4:IA:33:U:O4	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:IA:51:C:N3	4:IA:52:G:N7	2.67	0.42
4:IB:23:C:N4	4:IB:24:U:O4	2.52	0.42
5:JB:13:ARG:HA	5:JB:16:MET:HE3	2.01	0.42
11:K:104:LYS:HB2	11:K:117:PHE:CE1	2.54	0.42
36:LA:75:LYS:HG3	36:LA:75:LYS:H	1.60	0.42
7:LB:135:LYS:HZ3	7:LB:135:LYS:HA	1.85	0.42
37:MA:185:GLY:HA3	37:MA:200:ALA:HB3	2.02	0.42
37:MA:72:LYS:HE3	37:MA:73:PRO:HD2	2.01	0.42
38:NA:196:LEU:O	38:NA:198:VAL:N	2.49	0.42
9:NB:105:LEU:HB3	9:NB:107:VAL:HG13	2.02	0.42
11:PB:72:TYR:CZ	11:PB:87:LEU:HD23	2.55	0.42
12:QB:65:THR:O	12:QB:79:PHE:HB2	2.20	0.42
19:S:40:LEU:HD23	19:S:41:GLY:N	2.35	0.42
21:U:21:PHE:HA	21:U:26:TYR:CE1	2.55	0.42
3:HB:48:A:H4'	16:UB:95:HIS:HD2	1.84	0.42
47:WA:39:ILE:HD11	47:WA:56:LEU:HD11	2.00	0.42
42:WC:97:VAL:HA	42:WC:100:ILE:HG13	2.02	0.42
42:WC:127:LEU:HB3	42:WC:128:GLY:H	1.74	0.42
2:B:270(T):G:H5''	25:Y:97:LEU:HD21	2.02	0.42
20:YB:62:HIS:O	20:YB:64:MET:HG3	2.20	0.42
1:FB:1279:A:P	44:YC:9:ARG:HH22	2.41	0.42
50:ZA:23:ASP:OD1	50:ZA:24:ALA:N	2.53	0.42
1:A:1002:G:H21	1:A:1003:G:H22	1.67	0.42
1:A:1175:G:C2	1:A:1176:A:C5	3.08	0.42
1:A:261:U:OP2	54:DB:79:ARG:NH2	2.37	0.42
1:A:322:C:N3	1:A:332:G:N2	2.68	0.42
27:AA:41:PRO:HA	27:AA:44:ARG:NH1	2.33	0.42
27:AA:8:LEU:HD13	27:AA:23:LEU:HD21	2.02	0.42
51:AB:65:ILE:HB	51:AB:69:LYS:HD2	2.01	0.42
46:AD:57:LYS:HA	46:AD:67:THR:HA	2.00	0.42
2:B:99:U:C6	2:B:102:G:N1	2.88	0.42
2:B:1607:C:H5''	2:B:1608:A:H5'	2.02	0.42
2:B:1759:A:H1'	2:B:2711:A:C2	2.55	0.42
2:B:2666:C:H3'	2:B:2667:C:H6	1.85	0.42
2:B:2784:C:H1'	6:F:37:ARG:NH2	2.35	0.42
2:B:363(B):A:H2'	2:B:363(C):G:H8	1.79	0.42
2:B:611:C:H2'	2:B:612:G:O4'	2.19	0.42
52:BB:71:LYS:O	52:BB:74:ARG:N	2.52	0.42
47:BD:55:ARG:HH11	47:BD:56:LEU:HD13	1.85	0.42
4:D:7:G:O2'	4:D:49:G:O4'	2.34	0.42
5:E:132:PRO:HD3	5:E:190:TYR:CZ	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:133:LEU:CB	5:E:173:VAL:HG21	2.50	0.42
26:EC:39:ALA:HB2	26:EC:44:LEU:HD23	2.02	0.42
2:GB:111:A:C5'	26:EC:69:ARG:HH22	2.33	0.42
50:ED:8:ARG:NH1	50:ED:15:PRO:HG3	2.27	0.42
1:FB:1435:G:H8	1:FB:1435:G:O5'	2.03	0.42
1:FB:24:U:H2'	1:FB:25:C:C6	2.55	0.42
1:FB:738:C:H4'	40:UC:69:GLU:O	2.20	0.42
1:FB:965:A:C2	1:FB:969:A:C2	3.08	0.42
1:FB:969:A:H2'	1:FB:970:C:O4'	2.20	0.42
2:GB:1835:G:H2'	2:GB:1835:G:N3	2.35	0.42
2:GB:1897:G:H2'	2:GB:1898:U:O4'	2.19	0.42
2:GB:2288:A:H4'	2:GB:2289:G:OP2	2.20	0.42
2:GB:238:C:H2'	2:GB:239:U:O4'	2.20	0.42
2:GB:2544:G:H2'	2:GB:2545:G:O4'	2.20	0.42
2:GB:2647:U:H2'	2:GB:2648:C:C6	2.55	0.42
2:GB:315:G:H2'	2:GB:316:C:O4'	2.20	0.42
2:GB:565:C:H42	2:GB:576:U:H3	1.68	0.42
2:GB:862:G:H2'	2:GB:863:A:O4'	2.20	0.42
2:GB:894:C:O2'	2:GB:895:U:P	2.78	0.42
3:HB:40:U:H2'	28:GC:2:LYS:HE2	2.00	0.42
4:IB:3:C:H42	4:IB:70:G:H1	1.67	0.42
6:KB:21:VAL:HA	6:KB:22:PRO:HD2	1.86	0.42
6:KB:79:ARG:HH11	6:KB:79:ARG:CG	2.33	0.42
12:L:106:LEU:O	12:L:111:PHE:HB2	2.20	0.42
12:L:89:ASN:HB2	12:L:90:GLN:NE2	2.34	0.42
13:M:119:GLU:HA	13:M:137:LYS:HE3	2.02	0.42
37:MA:123:GLN:O	37:MA:128:PHE:HB2	2.20	0.42
38:NA:31:CYS:C	38:NA:33:MET:N	2.71	0.42
38:NA:8:VAL:HG13	38:NA:9:CYS:H	1.84	0.42
39:OA:127:ASN:HA	39:OA:128:PRO:HD2	1.87	0.42
16:P:6:ALA:HA	16:P:9:ARG:NH1	2.34	0.42
40:PA:25:ILE:H	40:PA:25:ILE:HG13	1.63	0.42
40:PA:3:ARG:HH11	40:PA:3:ARG:CG	2.32	0.42
17:Q:19:LEU:HA	17:Q:20:PRO:HD3	1.98	0.42
36:QC:139:LYS:O	36:QC:142:LEU:HB3	2.20	0.42
42:RA:2:LEU:HB3	42:RA:3:THR:H	1.64	0.42
1:A:878:G:H5''	42:RA:90:GLY:HA3	2.01	0.42
13:RB:75:ILE:H	13:RB:75:ILE:HD12	1.85	0.42
20:T:88:ARG:HG3	20:T:94:ASP:OD2	2.20	0.42
15:TB:67:LEU:HD21	15:TB:73:VAL:HA	2.01	0.42
39:TC:86:ALA:HB3	39:TC:130:ASN:ND2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:12:VAL:HG21	21:U:27:THR:HG22	2.02	0.42
41:VC:57:GLU:HB2	41:VC:60:LYS:HE3	2.01	0.42
23:W:65:GLN:O	23:W:67:LEU:HD22	2.20	0.42
14:N:132:VAL:HG11	23:W:81:ARG:NH2	2.35	0.42
18:WB:47:TYR:CZ	18:WB:51:LYS:HE2	2.54	0.42
25:Y:50:ARG:HB3	25:Y:50:ARG:HH11	1.85	0.42
21:ZB:56:THR:HB	21:ZB:77:LYS:HE2	2.02	0.42
46:VA:7:ILE:HD12	51:AB:34:LYS:HD2	2.01	0.41
51:AB:87:LYS:HA	51:AB:90:ILE:HG22	2.02	0.41
46:AD:41:ARG:HB2	46:AD:41:ARG:HE	1.67	0.41
2:B:1335:U:H2'	2:B:1336:A:C8	2.52	0.41
2:B:1438:U:O2'	2:B:1439:A:H5'	2.19	0.41
2:B:144:C:H2'	2:B:145:G:C8	2.55	0.41
2:B:2061:G:H2'	2:B:2501:C:O2'	2.20	0.41
2:B:2369:A:N6	2:B:2382:G:O6	2.52	0.41
2:B:270(N):U:H4'	2:B:270(O):G:C5'	2.50	0.41
2:B:2877:G:H2'	2:B:2878:U:O4'	2.20	0.41
2:B:46:C:OP2	2:B:215:G:H2'	2.20	0.41
2:B:972:G:C6	2:B:973:A:C6	3.08	0.41
28:BA:40:HIS:CG	28:BA:41:PRO:HD2	2.55	0.41
23:BC:54:HIS:HB2	23:BC:101:PRO:HD3	2.02	0.41
23:BC:8:TYR:HE2	23:BC:23:LYS:NZ	1.96	0.41
3:C:76:G:H2'	3:C:77:U:O4'	2.20	0.41
30:DA:40:CYS:HB2	30:DA:43:CYS:HB2	2.01	0.41
2:B:2590:A:O3'	5:E:239:ARG:NH2	2.52	0.41
2:B:1568:G:H5''	5:E:61:LEU:HB2	2.01	0.41
1:FB:1050:G:H2'	1:FB:1051:C:C6	2.55	0.41
1:FB:1129:C:H5''	43:XC:16:ARG:NH2	2.33	0.41
1:FB:1480:G:C6	1:FB:1481:U:C2	3.08	0.41
1:FB:329:A:H2'	1:FB:332:G:O6	2.20	0.41
1:FB:421:U:H3'	1:FB:422:C:C6	2.54	0.41
1:FB:983:A:H3'	1:FB:983:A:N3	2.35	0.41
7:G:33:LEU:HA	7:G:33:LEU:HD12	1.72	0.41
2:GB:1231:G:H2'	2:GB:1232:G:C8	2.55	0.41
2:GB:1937:A:C8	2:GB:1939:5MU:H2'	2.54	0.41
2:GB:778:G:C6	2:GB:779:U:C4	3.08	0.41
2:GB:807:U:OP2	13:RB:41:ARG:NH2	2.52	0.41
8:H:13:GLU:O	8:H:14:GLU:HB2	2.20	0.41
53:HD:62:ILE:HA	53:HD:66:MET:SD	2.61	0.41
4:IB:19:G:HO2'	4:IB:20:U:P	2.40	0.41
54:ID:49:ALA:HB3	54:ID:99:LEU:HG	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:JB:227:ASN:HB3	5:JB:228:PRO:HD2	2.01	0.41
6:KB:84:PHE:CE2	6:KB:86:PRO:HD3	2.55	0.41
7:LB:170:LEU:HD12	7:LB:170:LEU:HA	1.84	0.41
14:N:16:ARG:HB2	14:N:16:ARG:NH1	2.34	0.41
14:N:60:ARG:HH12	23:W:177:PRO:CG	2.29	0.41
38:NA:21:LEU:HD12	38:NA:21:LEU:H	1.85	0.41
17:Q:94:ALA:HB1	17:Q:99:LEU:HD21	2.01	0.41
41:QA:12:LEU:HD23	41:QA:12:LEU:HA	1.86	0.41
12:QB:116:SER:OG	12:QB:117:LEU:N	2.53	0.41
12:QB:117:LEU:HD23	12:QB:117:LEU:HA	1.83	0.41
12:QB:38:VAL:HG11	12:QB:91:LEU:HD22	2.02	0.41
2:B:1218:C:OP2	18:R:15:LYS:HE2	2.20	0.41
38:SC:155:LEU:HA	38:SC:155:LEU:HD12	1.90	0.41
39:TC:121:LYS:HA	39:TC:121:LYS:HZ2	1.85	0.41
21:U:90:GLU:HA	21:U:93:GLU:CG	2.49	0.41
16:UB:29:PHE:O	16:UB:35:ILE:HD12	2.19	0.41
16:UB:5:THR:HG23	16:UB:8:GLU:OE2	2.20	0.41
22:V:9:LYS:HA	22:V:10:GLY:HA2	1.72	0.41
17:VB:11:GLU:OE2	17:VB:57:PHE:HD2	2.03	0.41
47:WA:111:LYS:HG2	47:WA:115:LYS:NZ	2.35	0.41
24:X:27:GLU:HB2	24:X:69:PHE:CD1	2.55	0.41
1:A:1060:C:H2'	1:A:1061:G:H8	1.85	0.41
1:A:1095:U:OP1	1:A:1108:G:N2	2.45	0.41
1:A:1275:A:N6	1:A:1276:G:O6	2.53	0.41
1:A:1324:A:H2'	1:A:1325:C:C6	2.55	0.41
1:A:1343:G:H2'	1:A:1344:C:C6	2.54	0.41
1:A:720:C:H2'	1:A:721:G:C8	2.55	0.41
1:A:753:A:H5'	1:A:754:C:C5	2.55	0.41
2:B:999:U:H5''	2:B:1154:G:O6	2.20	0.41
2:B:1356:G:H2'	2:B:1357:U:O4'	2.20	0.41
2:B:1728:G:H5''	2:B:1728:G:N3	2.35	0.41
2:B:1889:A:C6	2:B:1890:A:C6	3.09	0.41
2:B:1920:4OC:CM2	2:B:1921:G:H5'	2.39	0.41
2:B:2549:G:H2'	2:B:2550:G:H8	1.85	0.41
2:B:419:C:H2'	2:B:420:C:O4'	2.19	0.41
2:B:558:G:H2'	2:B:559:G:H8	1.85	0.41
2:B:774:A:O2'	2:B:775:G:H5''	2.20	0.41
2:B:895:U:H4'	2:B:896:A:OP1	2.20	0.41
5:E:240:ALA:HA	5:E:241:PRO:HD3	1.92	0.41
2:B:1675:C:O2	6:F:129:HIS:HA	2.20	0.41
6:F:175:VAL:HA	6:F:182:LEU:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1077:G:H1	39:TC:47:LYS:NZ	2.17	0.41
1:FB:124:G:C5	1:FB:125:U:C4	3.07	0.41
1:FB:1423:G:H2'	1:FB:1424:C:C6	2.55	0.41
1:FB:1518:MA6:H102	1:FB:1519:MA6:C10	2.50	0.41
1:FB:332:G:O2'	1:FB:333:G:H5'	2.19	0.41
1:FB:498:A:H1'	1:FB:500:G:C8	2.55	0.41
1:FB:692:U:H2'	1:FB:694:A:OP2	2.20	0.41
7:G:202:PHE:CZ	7:G:206:ILE:HD11	2.54	0.41
7:G:40:GLN:HA	7:G:43:LYS:HG2	2.02	0.41
2:GB:1146:C:C2'	2:GB:1147:C:H5'	2.49	0.41
2:GB:2011:U:H2'	2:GB:2012:G:O4'	2.20	0.41
2:GB:2071:A:H2'	2:GB:2072:G:H8	1.83	0.41
2:GB:2293:C:H2'	2:GB:2294:C:O4'	2.20	0.41
2:GB:2358:G:C6	2:GB:2359:C:C4	3.08	0.41
2:GB:2637:U:C4	2:GB:2638:G:C6	3.08	0.41
2:GB:2742:C:N4	2:GB:2762:G:H1	2.17	0.41
2:GB:611:C:H2'	2:GB:612:G:O4'	2.19	0.41
2:GB:844:C:C5	2:GB:845:G:C6	3.08	0.41
8:H:130:ASN:OD1	8:H:130:ASN:N	2.53	0.41
34:HA:14:A:H3'	34:HA:15:A:C8	2.56	0.41
3:HB:78:A:N3	3:HB:99:A:C6	2.88	0.41
9:I:91:GLY:HA3	9:I:94:TYR:CD2	2.54	0.41
54:ID:72:LEU:HD13	54:ID:77:ALA:HA	2.02	0.41
5:JB:217:ARG:CG	5:JB:217:ARG:NH1	2.77	0.41
6:KB:11:MET:CB	6:KB:24:THR:HA	2.50	0.41
36:LA:70:PHE:CD1	36:LA:163:PHE:HB3	2.55	0.41
7:LB:11:VAL:HB	7:LB:18:ARG:HB2	2.02	0.41
13:M:85:LEU:HD23	13:M:120:ALA:HA	2.01	0.41
37:MA:62:ASP:OD2	37:MA:97:LYS:HG2	2.19	0.41
17:Q:16:ARG:CZ	17:Q:19:LEU:HD21	2.50	0.41
12:QB:11:ALA:O	12:QB:98:VAL:HA	2.20	0.41
18:R:10:ARG:HG2	18:R:14:HIS:NE2	2.36	0.41
13:RB:56:SER:OG	13:RB:61:ARG:HD2	2.21	0.41
37:RC:59:ARG:HG2	37:RC:64:VAL:HB	2.02	0.41
19:S:64:HIS:HA	19:S:92:THR:HA	2.02	0.41
14:SB:12:GLN:HG2	14:SB:73:PRO:HD2	2.02	0.41
39:TC:32:VAL:O	39:TC:43:LEU:HD12	2.20	0.41
45:UA:40:ILE:HA	45:UA:40:ILE:HD13	1.84	0.41
46:VA:77:LEU:HD21	46:VA:107:ALA:CB	2.51	0.41
17:VB:105:LEU:HD13	17:VB:105:LEU:HA	1.66	0.41
17:VB:110:ILE:H	17:VB:110:ILE:HG13	1.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:VB:64:ARG:HB2	17:VB:73:GLU:HG3	2.01	0.41
18:WB:90:VAL:HG22	19:XB:38:LEU:HD22	2.02	0.41
42:WC:87:SER:HB2	42:WC:93:VAL:HB	2.02	0.41
43:XC:121:ARG:HG2	43:XC:121:ARG:NH1	2.34	0.41
26:Z:41:ILE:O	26:Z:43:GLN:HG2	2.20	0.41
21:ZB:29:TRP:CZ3	21:ZB:78:LYS:HG3	2.55	0.41
1:A:1118:C:H1'	1:A:1179:A:C4	2.54	0.41
1:A:149:A:H2'	1:A:150:C:C6	2.55	0.41
1:A:1519:MA6:H102	1:A:1520:G:O2'	2.19	0.41
1:A:255:G:H2'	1:A:256:U:C6	2.55	0.41
1:A:535:A:H4'	1:A:536:C:OP2	2.20	0.41
1:A:658:G:H2'	1:A:659:U:C6	2.56	0.41
22:AC:9:LYS:HA	22:AC:10:GLY:HA2	1.70	0.41
2:B:1003:G:O2'	2:B:1010:A:N1	2.41	0.41
2:B:1341:U:OP2	2:B:1394:U:O2'	2.28	0.41
2:B:1666:G:O3'	12:L:6:THR:HG23	2.21	0.41
2:B:188:G:H1	2:B:208:C:H42	1.69	0.41
2:B:2100:G:C2	2:B:2101:G:C4	3.08	0.41
2:B:2137:C:OP2	2:B:2137:C:H6	2.04	0.41
2:B:1493:C:C4	2:B:2210:G:N3	2.88	0.41
2:B:2433:A:H5''	2:B:2434:A:OP1	2.20	0.41
2:B:2711:A:OP1	2:B:2712(A):A:OP1	2.38	0.41
2:B:330:A:O2'	2:B:331:A:H8	1.97	0.41
2:B:609(B):G:N2	2:B:619:G:H1'	2.35	0.41
2:B:781:A:H2	2:B:1776:G:N3	2.18	0.41
2:B:882:G:N2	2:B:883:G:N7	2.69	0.41
23:BC:155:LEU:HD21	23:BC:171:ILE:HD12	2.02	0.41
3:C:43:C:OP1	28:BA:2:LYS:HB2	2.19	0.41
29:CA:14:ALA:O	29:CA:18:ALA:N	2.52	0.41
4:D:41:C:H2'	4:D:42:G:C8	2.55	0.41
4:D:6:G:H2'	4:D:7:G:C8	2.55	0.41
1:FB:1261:A:C6	1:FB:1275:A:H1'	2.55	0.41
1:FB:1424:C:H2'	1:FB:1425:U:O4'	2.20	0.41
1:FB:19:C:H5''	39:TC:86:ALA:HB1	2.01	0.41
1:FB:398:C:H2'	1:FB:399:G:C8	2.55	0.41
51:FD:9:VAL:HG11	51:FD:84:LEU:HD12	2.02	0.41
33:GA:15:LYS:HB2	33:GA:15:LYS:HE3	1.88	0.41
2:GB:1433:U:O2	2:GB:1561:G:N1	2.53	0.41
2:GB:1598:C:H2'	2:GB:1599:C:C6	2.53	0.41
2:GB:1917:PSU:O2	2:GB:1918:A:N6	2.53	0.41
2:GB:2340:G:H2'	2:GB:2341:G:C8	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2695:C:H2'	2:GB:2696:U:H6	1.83	0.41
2:GB:374:A:H2'	2:GB:375:C:O4'	2.20	0.41
2:GB:419:C:H2'	2:GB:420:C:O4'	2.20	0.41
2:GB:822:U:H2'	2:GB:823:G:H8	1.86	0.41
2:GB:840:C:H2'	2:GB:841:A:C8	2.55	0.41
2:GB:876:C:H2'	2:GB:877:U:O4'	2.20	0.41
2:GB:821:A:H2'	2:GB:946:G:O4'	2.20	0.41
54:ID:47:GLY:N	54:ID:48:LYS:HB2	2.36	0.41
10:J:101:LEU:HA	10:J:101:LEU:HD13	1.87	0.41
35:JA:137:ARG:O	35:JA:141:ALA:HB3	2.21	0.41
5:JB:146:GLU:HB2	5:JB:189:CYS:HB3	2.01	0.41
2:GB:1805:U:O2	5:JB:50:THR:HB	2.20	0.41
12:L:97:ARG:HA	12:L:117:LEU:HD13	2.02	0.41
12:L:13:ASN:HD21	12:L:97:ARG:N	2.18	0.41
38:NA:15:GLU:HG3	38:NA:19:LEU:HD21	2.01	0.41
10:OB:67:ARG:HG3	10:OB:67:ARG:H	1.56	0.41
40:PA:34:GLY:O	40:PA:68:PRO:HD2	2.20	0.41
42:RA:127:LEU:HB3	42:RA:128:GLY:H	1.73	0.41
1:FB:619:U:C4	38:SC:135:LEU:HD11	2.55	0.41
38:SC:139:ARG:NH1	38:SC:139:ARG:HG3	2.35	0.41
38:SC:174:LEU:HD23	38:SC:185:PHE:HA	2.02	0.41
39:TC:51:VAL:O	39:TC:55:VAL:HG23	2.20	0.41
39:TC:91:LEU:HD12	39:TC:118:ILE:HD11	2.02	0.41
46:VA:19:ARG:HD2	46:VA:20:LYS:N	2.35	0.41
46:VA:57:LYS:HA	46:VA:67:THR:HA	2.02	0.41
17:VB:7:ILE:O	17:VB:10:VAL:N	2.53	0.41
41:VC:70:LYS:HA	41:VC:71:PRO:HD2	1.89	0.41
23:W:116:VAL:HG22	23:W:117:LEU:HD23	2.02	0.41
1:A:1307:U:O3'	47:WA:110:ARG:HD3	2.21	0.41
25:Y:50:ARG:HH11	25:Y:50:ARG:CB	2.34	0.41
1:A:1072:G:C2	1:A:1073:U:C2	3.08	0.41
1:A:1195:C:C4	1:A:1197:G:C8	3.08	0.41
1:A:1493:A:N3	35:JA:119:THR:HG23	2.35	0.41
1:A:190:G:N7	51:AB:63:ARG:NH2	2.67	0.41
1:A:592:G:H1	1:A:647:C:H42	1.67	0.41
46:AD:8:ASN:HD22	46:AD:8:ASN:C	2.24	0.41
2:B:1153:C:H5'	18:R:76:TYR:CE2	2.54	0.41
2:B:1286:A:H1'	2:B:1288:U:OP2	2.20	0.41
2:B:1458:C:H4'	2:B:1459:G:O4'	2.19	0.41
2:B:1608:A:H1'	2:B:1610:A:OP2	2.19	0.41
2:B:18:C:H2'	2:B:19:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2026:C:H42	2:B:2037:G:H1	1.67	0.41
2:B:2438:U:H2'	2:B:2439:A:OP2	2.20	0.41
2:B:327:G:H2'	2:B:328:U:C6	2.55	0.41
2:B:398:G:H2'	2:B:399:G:H8	1.84	0.41
2:B:6:A:O2'	11:K:130:HIS:HB3	2.20	0.41
2:B:865:C:O2	2:B:867:C:N4	2.50	0.41
52:BB:54:ARG:NH1	52:BB:54:ARG:HB3	2.35	0.41
23:BC:102:LEU:HA	23:BC:137:ILE:HB	2.02	0.41
47:BD:96:LEU:O	47:BD:98:VAL:N	2.53	0.41
29:CA:36:CYS:SG	29:CA:38:ALA:HB3	2.61	0.41
4:D:48:C:H5'	4:D:50:U:OP2	2.20	0.41
2:GB:2080:G:H5''	25:DC:19:GLN:HG3	2.03	0.41
25:DC:5:CYS:HB3	25:DC:9:GLY:H	1.85	0.41
5:E:107:ALA:HA	5:E:108:PRO:HD3	1.80	0.41
6:F:11:MET:CB	6:F:24:THR:HA	2.50	0.41
1:FB:1176:A:C6	1:FB:1177:G:C6	3.08	0.41
7:G:155:LEU:HD23	7:G:186:ILE:HG12	2.03	0.41
2:GB:1021:A:H3'	2:GB:1021:A:C8	2.55	0.41
2:GB:1716:U:H2'	2:GB:1717:G:C8	2.53	0.41
2:GB:1790:C:H2'	2:GB:1791:A:C4	2.55	0.41
2:GB:2037:G:C6	2:GB:2038:G:C6	3.09	0.41
2:GB:2438:U:H2'	2:GB:2439:A:OP2	2.20	0.41
2:GB:2492:U:C2'	2:GB:2493:U:H5'	2.50	0.41
2:GB:2854:G:H2'	2:GB:2855:C:H6	1.82	0.41
2:GB:783:A:C2	2:GB:785:G:C8	3.08	0.41
2:GB:959:A:C6	2:GB:960:A:N1	2.88	0.41
53:HD:31:ILE:HB	53:HD:32:LYS:H	1.59	0.41
9:I:8:PRO:HB3	9:I:51:ARG:HG3	2.02	0.41
30:IC:27:LYS:HB3	30:IC:27:LYS:HZ3	1.86	0.41
54:ID:13:LEU:HD12	54:ID:14:LYS:H	1.85	0.41
35:JA:143:ARG:HG2	35:JA:144:TRP:HD1	1.86	0.41
5:JB:206:LEU:HD23	5:JB:206:LEU:HA	1.44	0.41
5:JB:94:LEU:HA	5:JB:94:LEU:HD23	1.84	0.41
11:K:110:GLY:HA2	11:K:114:ARG:HE	1.85	0.41
36:LA:164:VAL:HG12	36:LA:165:VAL:N	2.36	0.41
37:MA:122:GLU:HB3	37:MA:126:ARG:HH12	1.84	0.41
37:MA:72:LYS:HA	37:MA:73:PRO:HD3	1.84	0.41
14:N:138:ASP:N	14:N:138:ASP:OD1	2.53	0.41
16:P:19:LYS:HG2	16:P:25:ARG:HH11	1.85	0.41
16:P:63:THR:HG22	16:P:97:ARG:HA	2.02	0.41
16:P:30:ARG:HH11	16:P:97:ARG:NH1	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:137:LYS:H	17:Q:137:LYS:HG3	1.69	0.41
41:QA:111:ARG:C	41:QA:113:GLU:H	2.24	0.41
41:QA:69:VAL:HG22	41:QA:135:VAL:HG22	2.01	0.41
18:R:74:LEU:CD2	18:R:79:PHE:HB2	2.51	0.41
38:SC:107:ARG:HH21	38:SC:114:ARG:NH2	2.18	0.41
15:TB:70:LEU:HD23	15:TB:70:LEU:HA	1.75	0.41
16:UB:106:ARG:NE	16:UB:112:PHE:OXT	2.53	0.41
41:VC:88:PRO:HG3	41:VC:149:ARG:HA	2.02	0.41
23:W:107:THR:HA	23:W:108:PRO:HD3	1.84	0.41
47:WA:22:ILE:HG22	47:WA:25:ILE:HG13	2.02	0.41
18:WB:59:ARG:O	18:WB:63:VAL:HG23	2.20	0.41
18:WB:80:ILE:O	18:WB:83:LEU:N	2.53	0.41
2:B:855:G:O2'	24:X:27:GLU:OE2	2.35	0.41
1:A:1358:U:OP1	48:XA:35:ARG:HG2	2.20	0.41
20:YB:111:HIS:N	20:YB:111:HIS:ND1	2.68	0.41
21:ZB:90:GLU:HA	21:ZB:93:GLU:CG	2.50	0.41
45:ZC:83:ILE:HG23	45:ZC:109:VAL:HG23	2.02	0.41
1:A:1058:G:O5'	1:A:1058:G:H8	2.03	0.41
1:A:1118:C:H2'	1:A:1119:C:H6	1.86	0.41
1:A:1148:U:H2'	1:A:1149:C:O4'	2.21	0.41
1:A:1261:A:C6	1:A:1275:A:H1'	2.54	0.41
1:A:332:G:C4	1:A:333:G:C8	3.09	0.41
1:A:867:G:O2'	1:A:868:C:H5'	2.20	0.41
51:AB:72:ARG:H	51:AB:72:ARG:HG2	1.75	0.41
22:AC:55:TYR:HA	22:AC:56:PRO:HD2	1.94	0.41
2:B:1038:C:N4	2:B:1117:G:H1	2.18	0.41
2:B:1451:C:H4'	2:B:1453:A:C8	2.55	0.41
2:B:1851:U:H3	2:B:1891:G:H1	1.68	0.41
2:B:2402:C:OP2	2:B:2402:C:C6	2.73	0.41
2:B:248:G:C4	2:B:2431:U:H4'	2.56	0.41
2:B:2505:G:N7	29:CA:3:LYS:NZ	2.68	0.41
2:B:2711:A:P	2:B:2712(A):A:OP2	2.78	0.41
2:B:729:G:O6	5:E:209:ALA:N	2.44	0.41
2:B:777:A:C2	2:B:778:G:C4	3.08	0.41
53:CB:22:LEU:HD22	53:CB:47:HIS:CD2	2.56	0.41
54:DB:32:ALA:O	54:DB:36:LEU:HB2	2.20	0.41
54:DB:50:GLU:HB2	54:DB:100:ILE:HB	2.01	0.41
5:E:33:LEU:HD13	5:E:104:TYR:CD2	2.56	0.41
6:F:112:GLY:O	6:F:159:HIS:HA	2.20	0.41
6:F:36:ARG:HH11	6:F:85:ASN:CG	2.24	0.41
6:F:37:ARG:HD2	6:F:42:ASP:CG	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1039:C:H5''	1:FB:1040:U:OP2	2.21	0.41
1:FB:1324:A:OP2	1:FB:1324:A:C8	2.74	0.41
1:FB:1401:G:H2'	1:FB:1402:4OC:O4'	2.20	0.41
1:FB:123:C:H42	1:FB:238:G:H1	1.69	0.41
1:FB:618:C:H5'	1:FB:619:U:H5''	2.01	0.41
1:FB:909:A:H2'	1:FB:910:C:O4'	2.21	0.41
1:FB:973:G:H3'	1:FB:974:A:H5''	2.03	0.41
1:FB:981:U:H5'	48:CD:21:TYR:CE2	2.55	0.41
7:G:64:ILE:H	7:G:64:ILE:HG13	1.50	0.41
2:GB:1030:G:H8	2:GB:1030:G:O5'	2.04	0.41
2:GB:11:G:C2'	2:GB:12:U:H5'	2.51	0.41
2:GB:1323:U:H2'	2:GB:1324:G:H5'	2.03	0.41
2:GB:1557:C:H5''	2:GB:1558:A:OP2	2.20	0.41
2:GB:217:G:H2'	2:GB:218:A:O4'	2.20	0.41
2:GB:2416:C:H2'	2:GB:2417:C:H6	1.84	0.41
2:GB:2611:U:H3'	2:GB:2611:U:OP2	2.20	0.41
2:GB:2619:C:O2'	2:GB:2620:C:H5'	2.20	0.41
2:GB:443:A:N7	7:LB:45:ARG:HG2	2.35	0.41
2:GB:910:A:N6	2:GB:911:A:N6	2.68	0.41
8:H:63:ILE:HD11	8:H:141:PHE:HB3	2.01	0.41
2:GB:2056:G:O2'	29:HC:8:LYS:HE3	2.20	0.41
9:I:116:GLU:O	9:I:118:PRO:HD3	2.21	0.41
9:I:136:ILE:HD12	9:I:140:LYS:HZ1	1.86	0.41
9:I:55:PRO:HG2	9:I:61:HIS:CD2	2.55	0.41
10:J:84:GLY:HA3	10:J:87:LYS:O	2.20	0.41
5:JB:66:ASP:HA	5:JB:68:LYS:HZ3	1.85	0.41
7:LB:117:ARG:HA	7:LB:117:ARG:HD3	1.84	0.41
38:NA:21:LEU:O	38:NA:22:LYS:HB2	2.21	0.41
4:NC:23:C:H2'	4:NC:24:U:C6	2.53	0.41
15:O:79:LEU:HA	15:O:83:ILE:HD12	2.02	0.41
10:OB:135:GLU:O	10:OB:137:PRO:HD3	2.20	0.41
10:OB:2:LYS:HA	10:OB:20:ASP:HA	2.02	0.41
10:OB:95:LYS:HA	10:OB:111:PRO:HB3	2.02	0.41
3:C:9:G:OP1	16:P:25:ARG:NH2	2.54	0.41
16:P:28:VAL:HG11	16:P:98:VAL:HG11	2.02	0.41
1:A:1446:A:N3	17:Q:118:ARG:NH1	2.67	0.41
42:RA:40:ALA:O	42:RA:42:GLU:N	2.49	0.41
37:RC:15:THR:HG23	37:RC:207:VAL:HG11	2.01	0.41
19:S:28:GLU:HA	19:S:29:PRO:HD2	1.88	0.41
14:SB:85:LYS:HD3	24:CC:7:LEU:HD22	2.01	0.41
39:TC:71:LEU:HG	39:TC:71:LEU:H	1.57	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:67:LEU:CD2	22:V:72:VAL:HG23	2.51	0.41
17:VB:109:GLU:HG3	17:VB:112:ARG:NH2	2.35	0.41
17:VB:30:VAL:O	17:VB:44:ASP:HA	2.20	0.41
41:VC:26:PHE:O	41:VC:30:ILE:HG12	2.20	0.41
24:X:64:ASP:O	24:X:83:PRO:HA	2.21	0.41
1:A:1050:G:H2'	1:A:1051:C:C6	2.56	0.41
1:A:1060:C:H2'	1:A:1061:G:C8	2.55	0.41
1:A:162:A:C5	1:A:163:C:H1'	2.56	0.41
1:A:216:G:H2'	1:A:217:C:H6	1.81	0.41
1:A:277:C:O2'	1:A:278:G:H5'	2.20	0.41
1:A:636:U:H2'	1:A:637:G:H8	1.86	0.41
2:B:128:C:H2'	2:B:129:C:C6	2.56	0.41
2:B:2403:C:N3	2:B:2415:G:C2	2.89	0.41
2:B:270(Q):C:O2'	10:J:46:ALA:HA	2.19	0.41
2:B:2816:C:O2	2:B:2883:A:O2'	2.30	0.41
2:B:511:U:H5	2:B:512:G:C5	2.38	0.41
2:B:6:A:N7	2:B:7:G:C4	2.89	0.41
2:B:803:U:C4	2:B:804:A:N7	2.88	0.41
2:B:879:G:H2'	2:B:880:G:O4'	2.20	0.41
23:BC:70:LEU:HA	23:BC:70:LEU:HD22	1.80	0.41
47:BD:101:GLN:HE21	47:BD:101:GLN:HB2	1.53	0.41
3:C:30:C:H1'	3:C:58:A:N1	2.35	0.41
4:D:23:C:N4	4:D:24:U:O4	2.53	0.41
25:DC:77:ALA:HA	25:DC:80:LEU:HG	2.02	0.41
1:FB:740:U:OP2	49:DD:2:PRO:HG3	2.21	0.41
5:E:69:ARG:NH1	5:E:105:ILE:HD13	2.35	0.41
5:E:228:PRO:HD3	5:E:235:GLY:CA	2.50	0.41
50:ED:50:LYS:HA	50:ED:50:LYS:HD3	1.89	0.41
1:FB:1277:C:H1'	1:FB:1282:C:O2	2.21	0.41
1:FB:1327:C:H2'	1:FB:1328:C:H6	1.85	0.41
1:FB:1476:G:H2'	1:FB:1477:C:O4'	2.21	0.41
1:FB:157:G:N2	1:FB:165:C:C2	2.89	0.41
1:FB:279:A:H4'	1:FB:280:C:H5''	2.02	0.41
1:FB:892:A:C5	1:FB:893:C:C4	3.09	0.41
2:GB:1493:C:C4	2:GB:2210:G:N3	2.89	0.41
2:GB:1632:A:H8	2:GB:1632:A:O5'	2.03	0.41
2:GB:1829:A:H2'	2:GB:1830:C:O4'	2.21	0.41
2:GB:2309:A:N6	2:GB:2310:A:N1	2.68	0.41
2:GB:2328:A:H2'	2:GB:2329:G:C8	2.55	0.41
2:GB:2402:C:O4'	2:GB:2403:C:H5	2.04	0.41
2:GB:266:G:N1	2:GB:267:C:C2	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2685:G:N2	2:GB:2724:C:O2	2.52	0.41
2:GB:279:C:OP2	2:GB:279:C:C6	2.72	0.41
2:GB:525:U:O2'	2:GB:526:A:H5'	2.21	0.41
28:GC:61:ARG:HH22	53:HD:42:PRO:CG	2.31	0.41
3:HB:3:C:H2'	3:HB:4:C:C6	2.55	0.41
9:I:50:VAL:HG12	9:I:51:ARG:N	2.34	0.41
1:FB:1453:G:N3	54:ID:39:LYS:HE2	2.35	0.41
11:K:30:ILE:HG23	11:K:52:VAL:HG11	2.01	0.41
12:L:113:LYS:H	12:L:113:LYS:HG2	1.58	0.41
36:LA:54:THR:O	36:LA:58:ILE:HG13	2.21	0.41
9:NB:121:ILE:HD13	9:NB:144:VAL:HG11	2.02	0.41
16:P:12:PHE:HB3	16:P:16:ASN:ND2	2.35	0.41
16:P:29:PHE:O	16:P:35:ILE:HD12	2.21	0.41
1:A:1298:C:H41	41:QA:114:ARG:HD2	1.85	0.41
41:QA:78:ARG:HG2	41:QA:79:ARG:NH2	2.35	0.41
12:QB:106:LEU:O	12:QB:111:PHE:HB2	2.20	0.41
42:RA:11:THR:HG23	42:RA:14:ARG:HH11	1.86	0.41
37:RC:54:ARG:HG2	37:RC:55:VAL:O	2.20	0.41
43:SA:121:ARG:HG2	43:SA:121:ARG:NH1	2.35	0.41
43:SA:16:ARG:O	43:SA:63:ILE:HA	2.20	0.41
44:TA:45:ARG:HD3	48:XA:36:PHE:HE1	1.86	0.41
23:W:111:VAL:HG22	23:W:116:VAL:HA	2.01	0.41
11:PB:42:TRP:CE3	18:WB:63:VAL:HG11	2.56	0.41
43:XC:34:ASN:O	43:XC:38:GLN:HB2	2.19	0.41
49:YA:16:ALA:HB1	49:YA:18:PHE:O	2.21	0.41
1:A:1079:G:OP2	1:A:1079:G:H8	2.04	0.41
1:A:1108:G:H5'	37:MA:176:HIS:ND1	2.35	0.41
1:A:137:C:H1'	50:ZA:62:VAL:O	2.20	0.41
1:A:505:G:C6	1:A:535:A:C2	3.09	0.41
1:A:736:C:H2'	1:A:737:A:C8	2.56	0.41
1:A:741:G:H2'	1:A:742:G:H8	1.85	0.41
1:A:900:A:H2'	1:A:901:A:C8	2.55	0.41
51:AB:74:LEU:HA	51:AB:74:LEU:HD22	1.74	0.41
51:AB:95:TYR:O	51:AB:98:LEU:HB2	2.19	0.41
46:AD:20:LYS:O	46:AD:20:LYS:HD2	2.21	0.41
2:B:1243:G:H2'	2:B:1244:G:O4'	2.21	0.41
2:B:1358:G:O2'	2:B:1373:A:N6	2.54	0.41
2:B:137(B):G:H2'	2:B:139:G:N7	2.35	0.41
2:B:1671:U:O2	2:B:1673:U:H3'	2.20	0.41
2:B:1982:C:H2'	2:B:1982:C:O2	2.21	0.41
2:B:2141:G:N2	2:B:2142:C:N3	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:217:G:H2'	2:B:218:A:O4'	2.20	0.41
2:B:315:G:H2'	2:B:316:C:O4'	2.21	0.41
2:B:363(A):G:H2'	2:B:363(B):A:H8	1.85	0.41
2:B:598:G:H2'	2:B:599:G:O4'	2.20	0.41
2:B:671:C:H42	2:B:809:G:H1	1.69	0.41
2:B:926:A:H2'	2:B:928:G:H8	1.86	0.41
23:BC:97:GLU:H	23:BC:97:GLU:HG3	1.72	0.41
47:BD:3:ARG:HB2	47:BD:8:GLU:HA	2.02	0.41
47:BD:78:ILE:HG23	47:BD:81:LEU:HD12	2.02	0.41
3:C:17:C:O2	3:C:67:G:N2	2.40	0.41
24:CC:27:GLU:HB2	24:CC:69:PHE:CD1	2.56	0.41
25:DC:75:GLU:O	25:DC:78:LYS:HG3	2.20	0.41
1:FB:580:U:O2'	49:DD:57:LEU:HD12	2.21	0.41
49:DD:62:GLN:HG3	49:DD:66:LEU:HD22	2.02	0.41
1:FB:1001:G:H2'	1:FB:1001:G:N3	2.35	0.41
1:FB:1007:C:N4	1:FB:1022:G:H22	2.19	0.41
1:FB:1373:G:H5''	41:VC:36:LYS:HZ3	1.82	0.41
1:FB:1409:C:H2'	1:FB:1410:G:C8	2.55	0.41
1:FB:264:U:O4	1:FB:265:G:C6	2.73	0.41
33:GA:7:VAL:HG12	33:GA:34:GLN:HB3	2.01	0.41
2:GB:2369:A:N6	2:GB:2382:G:O6	2.53	0.41
2:GB:2534:A:C6	2:GB:2535:G:C5	3.08	0.41
2:GB:391:G:C6	2:GB:411:G:N2	2.89	0.41
2:GB:520:G:H2'	2:GB:521:G:H8	1.85	0.41
2:GB:846:C:O5'	2:GB:846:C:H6	2.04	0.41
2:GB:895:U:H4'	2:GB:896:A:OP1	2.20	0.41
4:IB:41:C:H2'	4:IB:42:G:C8	2.56	0.41
1:FB:177:C:P	54:ID:65:LYS:HZ3	2.39	0.41
10:J:103:ARG:HG2	10:J:103:ARG:H	1.70	0.41
6:KB:175:VAL:HA	6:KB:182:LEU:HA	2.03	0.41
12:L:107:ARG:HH12	17:Q:37:GLY:N	2.18	0.41
12:L:117:LEU:HA	12:L:117:LEU:HD23	1.85	0.41
12:L:47:ILE:HD12	12:L:48:PRO:O	2.20	0.41
12:L:16:ALA:HB2	12:L:52:VAL:HG21	2.03	0.41
8:MB:110:ALA:HB2	8:MB:142:PRO:HD3	2.02	0.41
14:N:46:GLN:NE2	14:N:126:PRO:HG3	2.36	0.41
38:NA:131:ARG:HH11	38:NA:131:ARG:HG3	1.85	0.41
4:NC:21:A:C6	4:NC:46:G:C5	3.09	0.41
39:OA:140:ARG:HE	39:OA:140:ARG:HB2	1.65	0.41
35:OC:137:ARG:O	35:OC:141:ALA:HB3	2.20	0.41
13:RB:90:ARG:HB2	13:RB:91:PHE:H	1.74	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RC:179:ARG:HG2	37:RC:207:VAL:H	1.84	0.41
16:UB:111:GLU:H	16:UB:111:GLU:HG3	1.68	0.41
40:UC:34:GLY:O	40:UC:68:PRO:HD2	2.21	0.41
17:VB:6:LEU:O	17:VB:10:VAL:HG23	2.20	0.41
23:W:97:GLU:H	23:W:97:GLU:HG3	1.72	0.41
2:GB:583:G:OP2	18:WB:10:ARG:HD2	2.21	0.41
44:YC:49:VAL:O	44:YC:60:ARG:HB2	2.20	0.41
21:ZB:89:ILE:HG22	21:ZB:92:LEU:HB2	2.02	0.41
1:A:1146:A:H2'	1:A:1147:C:H6	1.86	0.41
1:A:1262:C:H42	1:A:1273:G:H1	1.69	0.41
1:A:1498:UR3:OP2	34:HA:16:A:O2'	2.38	0.41
1:A:465:A:H8	1:A:465:A:OP1	2.04	0.41
1:A:55:A:N7	1:A:56:U:C2	2.89	0.41
1:A:93:U:H2'	1:A:95:G:C8	2.55	0.41
46:AD:77:LEU:HD21	46:AD:107:ALA:HB2	2.02	0.41
2:B:1058:G:H1'	2:B:1081:U:O2'	2.21	0.41
2:B:1118:C:H2'	2:B:1119:C:C6	2.56	0.41
2:B:1965:C:H3'	2:B:1966:A:H2'	2.02	0.41
2:B:2129:C:H2'	2:B:2130:U:H4'	2.02	0.41
2:B:2192:G:OP2	2:B:2192:G:H8	2.04	0.41
2:B:2210:G:C8	2:B:2211:G:O6	2.73	0.41
2:B:2340:G:H2'	2:B:2341:G:C8	2.56	0.41
2:B:2535:G:N3	2:B:2536:G:C8	2.89	0.41
2:B:2563:U:O2'	2:B:2565:A:N7	2.48	0.41
2:B:2712:U:O2'	2:B:2713:A:H5'	2.21	0.41
2:B:556:G:H2'	2:B:557:U:H6	1.82	0.41
2:B:581:C:OP2	18:R:33:ARG:HD3	2.20	0.41
2:B:656:G:C6	2:B:657:U:C4	3.08	0.41
2:B:658:C:H2'	2:B:659:C:C6	2.56	0.41
2:B:823:G:C6	2:B:835:A:N1	2.89	0.41
2:B:877:U:C2'	2:B:878:A:H5''	2.50	0.41
2:B:953:A:H2'	2:B:954:G:H8	1.86	0.41
47:BD:31:LYS:HZ3	47:BD:31:LYS:HA	1.84	0.41
47:BD:31:LYS:HG3	47:BD:35:GLU:OE1	2.21	0.41
3:C:21:G:C2	3:C:22:U:C2	3.09	0.41
53:CB:27:GLU:HA	53:CB:28:LYS:HA	1.60	0.41
24:CC:4:LYS:HB3	24:CC:7:LEU:HD11	2.03	0.41
49:DD:16:ALA:HB1	49:DD:18:PHE:O	2.21	0.41
5:E:202:LYS:HG3	5:E:203:ASN:OD1	2.21	0.41
1:FB:1407:5MC:H2'	1:FB:1408:A:C8	2.55	0.41
1:FB:1410:G:H2'	1:FB:1411:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1417:G:O2'	1:FB:1483:A:N6	2.51	0.41
1:FB:6:G:H4'	1:FB:298:A:H4'	2.03	0.41
1:FB:370:C:C2	1:FB:392:G:N2	2.89	0.41
1:FB:687:A:H4'	1:FB:688:G:O5'	2.20	0.41
1:FB:728:A:C5	49:DD:54:ARG:HD2	2.56	0.41
1:FB:943:U:C4	1:FB:944:G:N7	2.89	0.41
7:G:176:LEU:HD13	7:G:181:LEU:HA	2.03	0.41
2:GB:1165:U:H2'	2:GB:1166:C:C6	2.56	0.41
2:GB:1168:G:C2	2:GB:1182:A:C2	3.09	0.41
2:GB:1183:G:H2'	2:GB:1184:G:C8	2.56	0.41
2:GB:1288:U:H4'	2:GB:1289:C:OP2	2.20	0.41
2:GB:1291:C:H2'	2:GB:1292:U:H6	1.86	0.41
2:GB:1313:U:H5'	2:GB:1314:C:OP2	2.20	0.41
2:GB:1354:A:H2'	2:GB:1355:G:O4'	2.21	0.41
2:GB:2210:G:H8	2:GB:2211:G:C5	2.38	0.41
2:GB:382:G:H1	2:GB:392:C:H42	1.67	0.41
2:GB:449:A:C4	2:GB:450:G:C8	3.09	0.41
2:GB:647:G:H2'	2:GB:648:G:O4'	2.21	0.41
3:HB:43:C:OP1	28:GC:2:LYS:HB2	2.20	0.41
8:H:61:ALA:O	8:H:65:GLY:N	2.47	0.41
4:IA:21:A:C6	4:IA:46:G:C5	3.09	0.41
35:JA:186:ARG:HE	35:KA:312:PHE:HB2	1.86	0.41
37:MA:12:LEU:HD23	37:MA:12:LEU:HA	1.87	0.41
37:MA:32:LEU:HA	37:MA:32:LEU:HD12	1.86	0.41
8:MB:114:ILE:HA	8:MB:140:ILE:HD13	2.03	0.41
38:NA:30:LYS:HG2	38:NA:35:ARG:NH1	2.35	0.41
2:GB:2751:G:H4'	9:NB:4:ILE:HD11	2.03	0.41
10:OB:76:THR:HG23	10:OB:141:LYS:HB2	2.02	0.41
17:Q:64:ARG:CG	17:Q:64:ARG:HH11	2.22	0.41
12:QB:12:ASP:HB2	12:QB:13:ASN:H	1.64	0.41
36:QC:53:ARG:NH1	36:QC:199:TYR:HA	2.35	0.41
42:RA:9:MET:HA	42:RA:12:ARG:HB3	2.01	0.41
20:T:68:ARG:HD3	20:T:111:HIS:HA	2.03	0.41
1:FB:1080:A:C5'	39:TC:16:THR:HG21	2.50	0.41
41:VC:12:LEU:HD23	41:VC:12:LEU:HA	1.86	0.41
23:W:152:ALA:HA	23:W:171:ILE:HD11	2.03	0.41
23:W:68:PRO:O	23:W:90:VAL:HA	2.21	0.41
47:WA:55:ARG:HH11	47:WA:56:LEU:HD13	1.86	0.41
25:Y:82:LEU:H	25:Y:83:GLU:CD	2.21	0.41
49:YA:21:ASP:OD1	49:YA:24:SER:HB2	2.19	0.41
50:ZA:19:ILE:H	50:ZA:19:ILE:HG13	1.66	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1170:A:OP2	1:A:1170:A:H8	2.04	0.41
1:A:232:G:H1'	1:A:262:A:N1	2.36	0.41
1:A:692:U:O2'	1:A:694:A:N7	2.46	0.41
1:A:79:G:C6	1:A:80:G:N7	2.89	0.41
27:AA:22:ALA:O	27:AA:26:LEU:N	2.53	0.41
2:B:16:G:N3	2:B:17:G:C8	2.89	0.41
2:B:1951:U:H2'	2:B:1953:A:OP2	2.21	0.41
2:B:213:A:H2'	2:B:214:G:O4'	2.21	0.41
2:B:2465:C:O2	2:B:2486:G:C2	2.73	0.41
2:B:2489:G:O6	2:B:2490:G:N1	2.53	0.41
2:B:752:A:OP1	31:EA:3:ARG:NH2	2.48	0.41
2:B:791:C:H4'	2:B:792:G:OP1	2.21	0.41
2:B:855:G:H5''	2:B:856:C:OP2	2.21	0.41
52:BB:34:TYR:O	52:BB:35:ARG:HG3	2.20	0.41
53:CB:25:LYS:HG3	53:CB:26:GLY:H	1.85	0.41
5:E:274:ARG:HG2	5:E:274:ARG:HH11	1.80	0.41
6:F:4:ILE:HG12	6:F:5:LEU:N	2.36	0.41
6:F:48:GLN:HG2	6:F:78:LEU:HG	2.02	0.41
1:FB:1412:C:H42	1:FB:1488:G:H1	1.68	0.41
1:FB:575:G:H4'	1:FB:575:G:OP1	2.21	0.41
1:FB:603:U:H2'	1:FB:604:G:H8	1.85	0.41
1:FB:900:A:H2'	1:FB:901:A:C8	2.56	0.41
2:GB:1017:G:H2'	2:GB:1018:C:H6	1.86	0.41
2:GB:511:U:H4'	2:GB:1235:G:H4'	2.01	0.41
2:GB:1821:A:H8	2:GB:1821:A:O5'	2.03	0.41
2:GB:2057:A:H2'	2:GB:2058:A:O4'	2.21	0.41
2:GB:2528:U:O2'	2:GB:2529:G:H3'	2.21	0.41
2:GB:2883:A:C5'	2:GB:2884:U:H5'	2.50	0.41
2:GB:485:C:N4	2:GB:495:G:H1	2.17	0.41
8:H:131:TYR:O	8:H:159:VAL:HG22	2.20	0.41
8:H:22:ARG:HB2	8:H:23:PHE:CD2	2.56	0.41
53:HD:28:LYS:HZ1	53:HD:30:LEU:HD11	1.86	0.41
53:HD:81:ARG:HB3	53:HD:82:GLY:H	1.69	0.41
11:K:85:ILE:H	11:K:85:ILE:HD12	1.84	0.41
6:KB:52:LEU:HA	6:KB:53:PRO:HD3	1.86	0.41
12:L:66:LYS:HB2	12:L:82:ASN:ND2	2.19	0.41
36:LA:23:ARG:HB2	36:LA:23:ARG:HH11	1.82	0.41
37:MA:130:VAL:HG11	37:MA:157:ILE:HG23	2.02	0.41
37:MA:73:PRO:O	37:MA:76:VAL:N	2.52	0.41
4:NC:29:G:H2'	4:NC:30:G:O4'	2.20	0.41
35:OC:187:VAL:H	35:PC:313:PRO:HG2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:6:LEU:O	17:Q:10:VAL:HG23	2.21	0.41
36:QC:70:PHE:CD1	36:QC:163:PHE:HB3	2.56	0.41
13:RB:138:LEU:HD23	13:RB:145:PRO:HB3	2.02	0.41
13:RB:49:ARG:HH12	32:KC:4:MET:CE	2.32	0.41
37:RC:35:GLU:O	37:RC:39:ILE:N	2.39	0.41
39:TC:40:ARG:HD3	39:TC:40:ARG:HA	1.89	0.41
40:UC:91:VAL:HG22	40:UC:92:LYS:O	2.21	0.41
46:VA:89:ARG:HH11	46:VA:97:ARG:HD2	1.86	0.41
17:VB:85:LYS:O	17:VB:86:ILE:HD13	2.20	0.41
23:W:126:VAL:HA	23:W:164:ALA:H	1.86	0.41
47:WA:78:ILE:HG23	47:WA:81:LEU:HD12	2.01	0.41
48:XA:37:PHE:HB2	48:XA:39:LEU:HB2	2.03	0.41
21:ZB:57:LEU:CD1	21:ZB:78:LYS:HB2	2.51	0.41
1:A:1151:A:O2'	1:A:1152:A:H8	2.03	0.41
1:A:1412:C:H42	1:A:1488:G:H1	1.67	0.41
1:A:42:G:H1	1:A:400:C:H42	1.69	0.41
1:A:848:C:H2'	1:A:849:C:O4'	2.21	0.41
1:A:583:A:O2'	51:AB:91:ARG:NE	2.54	0.41
2:B:1074:G:H22	2:B:1095:A:H1'	1.86	0.41
2:B:1316:U:H2'	2:B:1317:A:H8	1.79	0.41
2:B:2079:U:H2'	2:B:2080:G:O4'	2.21	0.41
2:B:226:G:H1'	2:B:227:A:N7	2.35	0.41
2:B:1670:C:OP2	2:B:2550:G:OP1	2.38	0.41
2:B:2570:G:C2	2:B:2571:C:C2	3.09	0.41
2:B:2704:C:H2'	2:B:2705:A:O4'	2.21	0.41
2:B:714:U:H2'	2:B:716:A:OP2	2.21	0.41
2:B:751:A:C6	2:B:789:A:C5	3.09	0.41
3:C:105:G:C2	3:C:106:G:C8	3.09	0.41
54:DB:38:LYS:HA	54:DB:41:VAL:HG22	2.03	0.41
5:E:10:THR:HB	5:E:11:PRO:HD2	2.03	0.41
5:E:61:LEU:HD12	5:E:61:LEU:HA	1.61	0.41
26:EC:3:LEU:HD13	26:EC:4:SER:N	2.36	0.41
50:ED:3:LYS:HD2	50:ED:65:GLN:O	2.21	0.41
50:ED:1:MET:O	50:ED:3:LYS:HG2	2.21	0.41
1:FB:1120:G:C2	1:FB:1154:G:N3	2.89	0.41
1:FB:1440:C:N4	1:FB:1461:G:H1	2.15	0.41
1:FB:289:G:C6	1:FB:290:C:N4	2.88	0.41
1:FB:528:C:H5'	1:FB:535:A:C6	2.55	0.41
1:FB:504:C:C2	1:FB:542:G:C2	3.09	0.41
1:FB:815:A:H4'	1:FB:817:C:C4	2.56	0.41
2:GB:1510:A:H2'	2:GB:1511:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2137:C:HO2'	2:GB:2138:C:H6	1.65	0.41
2:GB:227:A:H4'	2:GB:228:A:O5'	2.21	0.41
2:GB:2516:G:O6	2:GB:2517:C:N4	2.54	0.41
2:GB:706:A:H2'	2:GB:707:G:O4'	2.21	0.41
3:HB:55:U:H4'	8:MB:28:VAL:HG11	2.02	0.41
4:IA:29:G:H2'	4:IA:30:G:O4'	2.21	0.41
10:J:133:HIS:CD2	10:J:134:PRO:HD2	2.55	0.41
5:JB:17:THR:OG1	5:JB:204:ILE:HA	2.20	0.41
6:KB:170:LEU:HA	6:KB:170:LEU:HD23	1.82	0.41
6:KB:38:THR:N	6:KB:42:ASP:HB2	2.36	0.41
36:LA:115:LEU:HG	36:LA:119:GLU:OE2	2.21	0.41
36:LA:126:GLU:OE1	36:LA:130:ARG:HG3	2.21	0.41
8:MB:76:SER:OG	8:MB:83:ARG:HA	2.21	0.41
9:NB:144:VAL:HA	9:NB:147:ASN:HB2	2.03	0.41
4:NC:35:A:H2'	4:NC:36:U:C6	2.55	0.41
39:OA:147:ASP:HA	39:OA:150:ARG:HH21	1.86	0.41
10:OB:141:LYS:HB2	10:OB:141:LYS:HE2	1.91	0.41
17:Q:96:ARG:HG3	17:Q:101:PHE:CE2	2.56	0.41
1:A:1446:A:C4	17:Q:118:ARG:NH1	2.88	0.41
41:QA:88:PRO:HG3	41:QA:149:ARG:HA	2.03	0.41
19:S:19:LYS:H	19:S:19:LYS:HG3	1.44	0.41
38:SC:106:TYR:HA	38:SC:111:ALA:HB3	2.03	0.41
21:U:50:LYS:HB3	21:U:84:ALA:HB3	2.02	0.41
46:VA:115:LYS:N	46:VA:117:ARG:HG2	2.36	0.41
46:VA:86:ARG:N	46:VA:99:HIS:O	2.53	0.41
17:VB:16:ARG:CZ	17:VB:19:LEU:HD21	2.51	0.41
47:WA:17:VAL:C	47:WA:19:LEU:H	2.24	0.41
24:X:4:LYS:HB3	24:X:7:LEU:HD11	2.03	0.41
20:YB:54:ALA:O	20:YB:57:ASN:HB2	2.20	0.41
26:Z:39:ALA:HA	26:Z:44:LEU:HB3	2.02	0.41
1:FB:718:G:C8	45:ZC:116:HIS:HB3	2.56	0.41
1:A:1007:C:N4	1:A:1022:G:H22	2.19	0.41
1:A:1166:G:O2'	1:A:1169:A:N7	2.49	0.41
1:A:383:A:H8	1:A:383:A:O5'	2.04	0.41
1:A:701:C:OP1	1:A:703:G:H5'	2.21	0.41
2:B:1021:A:C8	2:B:1021:A:H3'	2.55	0.41
2:B:1032:A:H2	2:B:1122:G:H1	1.69	0.41
2:B:1213:A:N6	2:B:1214:A:C6	2.89	0.41
2:B:1233:C:H6	2:B:1233:C:O5'	2.04	0.41
2:B:1299:G:H3'	2:B:1639:U:O4	2.20	0.41
2:B:1908:C:O2'	4:IA:12:G:H5''	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1914:C:H6	2:B:1914:C:OP2	2.03	0.41
2:B:1988:C:H2'	2:B:1989:G:H8	1.86	0.41
2:B:2117:A:H61	2:B:2172:U:H3	1.69	0.41
2:B:2291:U:OP1	2:B:2381:C:H5'	2.21	0.41
2:B:2549:G:O2'	2:B:2550:G:H5'	2.21	0.41
2:B:861:A:C2	2:B:917:A:C4	3.09	0.41
28:BA:14:ILE:HG23	28:BA:31:ILE:HB	2.03	0.41
47:BD:22:ILE:HG22	47:BD:25:ILE:HG13	2.02	0.41
29:CA:20:ARG:HA	29:CA:23:HIS:ND1	2.35	0.41
24:CC:21:LEU:HD21	24:CC:41:ARG:NH1	2.36	0.41
48:CD:40:CYS:HG	48:CD:43:CYS:CB	2.34	0.41
49:DD:24:SER:O	49:DD:27:VAL:N	2.54	0.41
5:E:183:ARG:NH1	5:E:183:ARG:CG	2.82	0.41
1:FB:1313:U:OP1	53:HD:5:LEU:HB2	2.21	0.41
1:FB:348:G:C2	1:FB:349:A:C8	3.09	0.41
1:FB:658:G:H2'	1:FB:659:U:C6	2.56	0.41
1:FB:69:G:C2	1:FB:73:G:C8	3.09	0.41
1:FB:583:A:O2'	51:FD:91:ARG:NE	2.54	0.41
7:G:102:PRO:HB2	7:G:105:VAL:HG23	2.03	0.41
2:GB:1243:G:H2'	2:GB:1244:G:O4'	2.20	0.41
2:GB:1263:U:C4	2:GB:1264:G:C6	3.09	0.41
2:GB:1340:U:OP2	21:ZB:78:LYS:NZ	2.52	0.41
2:GB:1641:A:H3'	2:GB:1642:G:H8	1.86	0.41
2:GB:1641:A:H3'	2:GB:1642:G:C8	2.56	0.41
2:GB:1817:G:C6	2:GB:1818:U:C5	3.09	0.41
2:GB:191:A:H2'	2:GB:192:C:H6	1.85	0.41
2:GB:2167:U:O2'	2:GB:2168:G:O5'	2.39	0.41
2:GB:2251:OMG:H2'	2:GB:2252:G:C8	2.55	0.41
2:GB:2623:G:H4'	2:GB:2825:G:C8	2.56	0.41
2:GB:2843:G:C2	2:GB:2875:C:N3	2.89	0.41
2:GB:501:A:C6	2:GB:502:A:C6	3.09	0.41
2:GB:593:G:C5	2:GB:594:U:C5	3.09	0.41
2:GB:647:G:O5'	2:GB:647:G:H8	2.03	0.41
2:GB:708:C:H42	2:GB:723:G:H1	1.67	0.41
2:GB:869:G:H2'	2:GB:870:A:H8	1.85	0.41
8:H:131:TYR:CE2	8:H:133:LEU:HD22	2.56	0.41
8:H:110:ALA:HB2	8:H:142:PRO:HD3	2.03	0.41
3:HB:11:C:OP2	3:HB:12:C:N4	2.42	0.41
29:HC:27:PRO:HA	29:HC:28:PRO:HD3	1.92	0.41
53:HD:25:LYS:HG3	53:HD:26:GLY:H	1.85	0.41
53:HD:61:TYR:HE2	53:HD:63:THR:HG23	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:3:ARG:NH1	9:I:4:ILE:H	2.19	0.41
10:J:101:LEU:HD12	10:J:107:ILE:HG23	2.02	0.41
11:K:19:GLU:HA	11:K:59:LYS:O	2.20	0.41
6:KB:75:VAL:HG22	6:KB:76:ARG:H	1.86	0.41
12:L:12:ASP:HB2	12:L:13:ASN:H	1.61	0.41
12:L:14:THR:OG1	12:L:86:ILE:HD12	2.21	0.41
12:L:63:VAL:HG22	12:L:84:ALA:HA	2.02	0.41
36:LA:188:ALA:HB1	36:LA:192:SER:CB	2.51	0.41
7:LB:91:GLY:HA2	7:LB:92:PRO:HD2	1.74	0.41
37:MA:150:LYS:O	37:MA:201:TYR:N	2.52	0.41
38:NA:76:ARG:O	38:NA:79:PHE:HB3	2.21	0.41
9:NB:27:LYS:HE3	9:NB:27:LYS:HB3	1.80	0.41
2:B:2820:A:P	15:O:2:ARG:HH22	2.44	0.41
39:OA:50:GLU:OE2	39:OA:51:VAL:HG23	2.21	0.41
39:OA:51:VAL:O	39:OA:55:VAL:HG23	2.20	0.41
35:OC:111:ALA:HB2	35:OC:172:TYR:CD1	2.55	0.41
13:RB:119:GLU:HA	13:RB:137:LYS:HE3	2.02	0.41
37:MA:21:ARG:HD2	44:TA:12:ASP:OD2	2.21	0.41
44:TA:87:THR:C	44:TA:89:ASP:H	2.24	0.41
45:UA:79:SER:HB2	45:UA:106:LYS:NZ	2.36	0.41
40:UC:17:SER:O	40:UC:21:LEU:HG	2.21	0.41
46:VA:58:VAL:N	46:VA:66:VAL:O	2.45	0.41
47:WA:23:TYR:O	47:WA:70:LEU:HD23	2.21	0.41
42:WC:40:ALA:O	42:WC:42:GLU:N	2.49	0.41
42:WC:83:ILE:HB	42:WC:137:VAL:HG22	2.03	0.41
1:FB:676:A:H1'	45:ZC:115:PRO:HB3	2.03	0.41
1:A:979:C:OP1	1:A:1223:C:N4	2.54	0.40
1:A:1244:C:H2'	1:A:1245:A:C8	2.57	0.40
1:A:1355:G:H1'	1:A:1368:G:N2	2.36	0.40
1:A:87:A:H5''	1:A:88:C:C2	2.57	0.40
2:B:1167:U:C2	2:B:1183:G:N2	2.89	0.40
2:B:1323:U:H2'	2:B:1324:G:H5'	2.02	0.40
2:B:1384:A:N3	2:B:1405:U:H1'	2.36	0.40
2:B:1716:U:H2'	2:B:1717:G:C8	2.56	0.40
2:B:2085:C:H2'	2:B:2086:U:O4'	2.20	0.40
2:B:2154:G:H21	2:B:2155:G:H8	1.68	0.40
2:B:238:C:H2'	2:B:239:U:O4'	2.21	0.40
2:B:2443:C:H2'	2:B:2444:G:H8	1.86	0.40
2:B:2658:C:H2'	2:B:2659:G:O4'	2.22	0.40
2:B:2753:A:O2'	33:GA:15:LYS:NZ	2.53	0.40
2:B:535:C:O3'	18:R:53:ARG:NH1	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:660:G:C5	2:B:661:C:C5	3.09	0.40
23:BC:152:ALA:HA	23:BC:171:ILE:HD11	2.03	0.40
47:BD:14:ARG:HE	47:BD:44:ARG:HH12	1.70	0.40
3:C:78:A:N3	3:C:99:A:C6	2.89	0.40
53:CB:53:ASN:HD22	53:CB:75:ALA:HB1	1.86	0.40
1:FB:1216:G:H5'	48:CD:5:ALA:HB2	2.03	0.40
25:DC:6:GLU:OE1	25:DC:61:ARG:HB3	2.21	0.40
25:DC:81:ARG:HB2	25:DC:81:ARG:NH1	2.32	0.40
50:ED:19:ILE:HG13	50:ED:19:ILE:H	1.64	0.40
6:F:21:VAL:HA	6:F:22:PRO:HD2	1.85	0.40
6:F:70:ALA:HB3	6:F:72:VAL:HG12	2.03	0.40
32:FA:14:VAL:HG22	32:FA:24:ALA:HB2	2.03	0.40
1:FB:238:G:C6	1:FB:239:U:C4	3.09	0.40
1:FB:322:C:N3	1:FB:332:G:N2	2.69	0.40
1:FB:332:G:C4	1:FB:333:G:C8	3.09	0.40
27:FC:22:ALA:O	27:FC:26:LEU:N	2.54	0.40
51:FD:14:LYS:H	51:FD:14:LYS:HE3	1.86	0.40
7:G:101:LEU:HA	7:G:102:PRO:HD3	1.88	0.40
7:G:117:ARG:O	7:G:121:GLY:N	2.54	0.40
2:GB:1013:C:H42	2:GB:1149:G:H1	1.68	0.40
2:GB:1788:C:H2'	2:GB:1789:A:O4'	2.21	0.40
2:GB:1942:5MC:OP2	2:GB:1943:U:O2'	2.27	0.40
2:GB:2723:C:O5'	2:GB:2723:C:H6	2.03	0.40
2:GB:2749:A:N1	2:GB:2750:A:N6	2.69	0.40
2:GB:768:G:C4	2:GB:769:G:C8	3.09	0.40
2:GB:778:G:C6	2:GB:779:U:N3	2.90	0.40
2:GB:889:C:O2'	2:GB:890:A:C8	2.74	0.40
8:H:16:ARG:N	8:H:17:PRO:HD2	2.36	0.40
3:HB:58:A:H2'	3:HB:59:A:O4'	2.21	0.40
4:IB:35:A:H61	34:MC:13:A:N6	2.19	0.40
10:J:127:VAL:HA	10:J:140:LEU:O	2.21	0.40
6:KB:21:VAL:HG21	6:KB:173:VAL:HG21	2.03	0.40
2:GB:2784:C:H1'	6:KB:37:ARG:HH22	1.86	0.40
7:LB:141:ALA:O	7:LB:144:LYS:HB3	2.21	0.40
13:M:94:GLU:HB2	13:M:124:LYS:HB3	2.03	0.40
37:MA:11:ARG:HD3	37:MA:15:THR:HB	2.03	0.40
9:NB:50:VAL:HG12	9:NB:51:ARG:N	2.36	0.40
4:NC:20:U:H5	4:NC:59:A:N6	2.19	0.40
35:OC:147:GLU:HG2	35:OC:165:LYS:HB3	2.03	0.40
35:OC:187:VAL:HG13	35:OC:195:ARG:O	2.21	0.40
16:P:49:VAL:HG22	16:P:76:LYS:HZ2	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:19:LEU:HG	17:Q:19:LEU:H	1.70	0.40
36:QC:114:ARG:HA	36:QC:117:GLU:HB2	2.03	0.40
36:QC:69:LEU:HD22	36:QC:159:PRO:HG3	2.02	0.40
18:R:88:ILE:HG12	18:R:88:ILE:H	1.65	0.40
37:RC:123:GLN:O	37:RC:128:PHE:HB2	2.21	0.40
19:S:81:TYR:CE1	19:S:83:ARG:NH1	2.89	0.40
44:TA:6:ILE:HD11	44:TA:23:ILE:HG21	2.02	0.40
21:U:57:LEU:HD12	21:U:78:LYS:HB2	2.02	0.40
21:U:89:ILE:HG22	21:U:92:LEU:HB2	2.02	0.40
22:V:99:CYS:SG	22:V:100:ALA:N	2.94	0.40
41:VC:71:PRO:HG2	41:VC:91:VAL:HG11	2.03	0.40
47:WA:32:GLU:HG2	47:WA:36:LYS:HD2	2.03	0.40
42:WC:29:SER:HB3	42:WC:32:LYS:HD2	2.02	0.40
42:WC:5:PRO:HB2	42:WC:32:LYS:NZ	2.36	0.40
42:WC:20:TYR:CE2	42:WC:75:ARG:HD2	2.55	0.40
49:YA:50:HIS:O	49:YA:53:HIS:HB3	2.21	0.40
26:Z:3:LEU:HD11	26:Z:7:ARG:HH11	1.86	0.40
21:ZB:50:LYS:HA	21:ZB:50:LYS:HD2	2.00	0.40
45:ZC:122:LYS:HB3	45:ZC:122:LYS:HE2	1.81	0.40
1:A:1430:C:H2'	1:A:1431:C:C6	2.56	0.40
1:A:737:A:H1'	40:PA:73:ASN:OD1	2.21	0.40
22:AC:51:VAL:HG23	22:AC:58:GLY:HA3	2.03	0.40
46:AD:89:ARG:NH1	46:AD:95:GLY:N	2.69	0.40
2:B:1168:G:C2	2:B:1182:A:C2	3.09	0.40
2:B:1530:G:O6	2:B:1542:G:N2	2.54	0.40
2:B:2166:G:H2'	2:B:2167:U:C6	2.56	0.40
2:B:2563:U:O2	2:B:2565:A:H8	2.04	0.40
2:B:2680:C:H5'	6:F:189:PRO:HA	2.02	0.40
2:B:2764:A:H5'	2:B:2765:A:OP2	2.21	0.40
2:B:327:G:C2	2:B:328:U:C2	3.09	0.40
2:B:681:G:H2'	2:B:682:G:O4'	2.21	0.40
2:B:735:A:H3'	2:B:736:C:C6	2.55	0.40
2:B:882:G:H2'	2:B:883:G:C8	2.56	0.40
23:BC:93:ASP:HB2	23:BC:131:ARG:HH12	1.85	0.40
24:CC:4:LYS:HD3	24:CC:7:LEU:HD11	2.03	0.40
48:CD:61:TRP:OXT	48:CD:61:TRP:CG	2.73	0.40
4:D:19:G:H5'	4:D:20:U:H5	1.86	0.40
49:DD:50:HIS:O	49:DD:53:HIS:HB3	2.20	0.40
31:EA:47:ARG:HA	31:EA:48:LYS:HZ1	1.84	0.40
50:ED:69:THR:O	50:ED:69:THR:OG1	2.38	0.40
6:F:5:LEU:HD11	6:F:79:ARG:HB2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1097:C:H2'	1:FB:1098:C:C6	2.56	0.40
1:FB:1146:A:H2'	1:FB:1147:C:H6	1.86	0.40
1:FB:1151:A:O2'	1:FB:1152:A:H8	2.05	0.40
1:FB:1338:G:C5'	1:FB:1339:A:OP2	2.67	0.40
1:FB:1493:A:C4	2:GB:1913:A:N6	2.89	0.40
1:FB:1523:G:OP1	45:ZC:123:LYS:HE3	2.21	0.40
1:FB:421:U:H4'	1:FB:422:C:OP2	2.21	0.40
1:FB:552:U:H1'	46:AD:32:PHE:CE1	2.56	0.40
1:FB:909:A:O5'	1:FB:909:A:H8	2.04	0.40
1:FB:950:U:H2'	1:FB:951:G:H8	1.86	0.40
2:GB:1252:G:C2	2:GB:1253:A:C2	3.09	0.40
2:GB:1479:G:H1'	2:GB:1558:A:OP1	2.21	0.40
2:GB:1916:A:H2'	2:GB:1917:PSU:O4'	2.21	0.40
2:GB:2358:G:H22	13:RB:55:ARG:NH1	2.14	0.40
2:GB:2076:U:H5	2:GB:2596:U:O2	2.04	0.40
2:GB:374:A:C2	2:GB:401:A:C4	3.10	0.40
3:HB:46:A:C5	3:HB:47:C:C4	3.09	0.40
35:JA:111:ALA:HB2	35:JA:172:TYR:CD1	2.55	0.40
2:GB:1657:C:P	6:KB:136:ARG:HG2	2.62	0.40
6:KB:51:PHE:CD2	6:KB:77:ILE:HD12	2.54	0.40
12:L:15:GLY:O	12:L:47:ILE:HG13	2.22	0.40
2:GB:615:G:H2'	7:LB:44:ARG:CZ	2.52	0.40
33:LC:15:LYS:HE3	33:LC:15:LYS:HB2	1.88	0.40
13:M:65:ARG:HG3	13:M:66:GLY:N	2.36	0.40
8:MB:16:ARG:N	8:MB:17:PRO:HD2	2.35	0.40
14:N:54:MET:HE3	14:N:54:MET:HB2	1.88	0.40
39:OA:32:VAL:O	39:OA:43:LEU:HD12	2.20	0.40
10:OB:53:ALA:O	10:OB:57:ARG:HG2	2.21	0.40
17:Q:45:PHE:CE2	17:Q:74:ARG:HB3	2.57	0.40
36:QC:132:LYS:HA	36:QC:135:GLN:HB3	2.02	0.40
36:QC:28:PHE:CD2	36:QC:190:THR:HA	2.57	0.40
42:RA:100:ILE:HA	42:RA:101:PRO:HD3	1.74	0.40
2:B:495:G:H1'	20:T:57:ASN:OD1	2.21	0.40
15:TB:110:PRO:O	15:TB:111:LEU:HD22	2.20	0.40
15:TB:111:LEU:HD13	15:TB:111:LEU:HA	1.62	0.40
46:VA:8:ASN:HD22	46:VA:8:ASN:C	2.24	0.40
23:W:71:VAL:HG13	23:W:86:VAL:HG12	2.04	0.40
14:N:25:ASP:OD1	23:W:78:LYS:HA	2.21	0.40
47:WA:49:THR:HB	47:WA:52:GLU:HB2	2.03	0.40
42:WC:9:MET:HA	42:WC:12:ARG:HB3	2.02	0.40
1:A:123:C:H5''	1:A:311:C:O2'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1298:C:H5	41:QA:114:ARG:NH1	2.11	0.40
1:A:1498:UR3:H2'	34:HA:17:U:OP1	2.21	0.40
1:A:358:U:H2'	1:A:359:U:C6	2.56	0.40
1:A:69:G:C2	1:A:73:G:C8	3.09	0.40
1:A:888:G:H3'	1:A:889:A:H2'	2.02	0.40
1:A:950:U:H2'	1:A:951:G:H8	1.86	0.40
2:B:1013:C:H42	2:B:1149:G:H1	1.68	0.40
2:B:1152:C:H5''	18:R:80:ILE:CG2	2.51	0.40
2:B:1181:C:H2'	2:B:1182:A:C8	2.56	0.40
2:B:1191:G:OP1	13:M:32:THR:HB	2.22	0.40
2:B:1550:C:H2'	2:B:1551:C:H6	1.86	0.40
2:B:1779:U:OP2	2:B:1784:A:N6	2.46	0.40
2:B:2029:G:H2'	2:B:2031:A:OP1	2.20	0.40
2:B:2038:G:H2'	2:B:2039:C:C6	2.56	0.40
2:B:945:A:C4	2:B:2448:A:C2	3.09	0.40
2:B:2661:G:C6	2:B:2662:A:C6	3.08	0.40
2:B:2723:C:O5'	2:B:2723:C:H6	2.04	0.40
2:B:295:G:O5'	22:V:1:MET:HG3	2.21	0.40
2:B:374:A:C2	2:B:401:A:C4	3.09	0.40
2:B:720:C:H5''	2:B:721:C:OP2	2.21	0.40
2:B:935:C:H2'	2:B:936:C:C6	2.56	0.40
23:BC:165:VAL:HB	23:BC:166:SER:H	1.59	0.40
47:WA:87:TYR:HB3	53:CB:73:GLU:HG2	2.02	0.40
50:ED:77:ALA:HB3	50:ED:79:VAL:HG23	2.02	0.40
6:F:116:VAL:HG13	6:F:117:MET:N	2.36	0.40
1:FB:1058:G:H2'	1:FB:1059:C:O4'	2.21	0.40
1:FB:1060:C:H2'	1:FB:1061:G:C8	2.57	0.40
1:FB:1258:G:H2'	1:FB:1259:C:C6	2.55	0.40
1:FB:1288:A:N3	1:FB:1352:C:O2'	2.46	0.40
1:FB:137:C:H2'	1:FB:138:G:H8	1.85	0.40
1:FB:922:G:N3	1:FB:1398:A:H2	2.20	0.40
1:FB:1434:A:H61	1:FB:1467:G:H1'	1.86	0.40
1:FB:1480:G:N1	1:FB:1481:U:C2	2.90	0.40
1:FB:321:A:C2	1:FB:333:G:C2	3.10	0.40
1:FB:4:U:H4'	1:FB:5:U:OP2	2.21	0.40
1:FB:600:C:H2'	1:FB:601:C:H6	1.87	0.40
1:FB:714:G:H2'	1:FB:715:A:C8	2.56	0.40
1:FB:91:C:H2'	1:FB:92:G:H8	1.87	0.40
2:GB:1190:G:H5''	13:RB:32:THR:HA	2.04	0.40
2:GB:1274:A:N3	2:GB:1297:C:H1'	2.37	0.40
2:GB:1344:G:OP1	2:GB:1345:C:H5	2.05	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1864:U:OP1	2:GB:2410:G:O2'	2.39	0.40
2:GB:530:G:C6	2:GB:2022:U:OP1	2.74	0.40
2:GB:2029:G:C2	2:GB:2033:A:N7	2.89	0.40
2:GB:2489:G:C6	2:GB:2490:G:N1	2.89	0.40
2:GB:2711:A:OP1	2:GB:2712(A):A:P	2.79	0.40
2:GB:387:U:H4'	2:GB:388:G:O5'	2.22	0.40
2:GB:394:A:C6	2:GB:395:U:N3	2.89	0.40
2:GB:404:C:O2'	2:GB:405:U:OP2	2.36	0.40
2:GB:686:G:N3	31:JC:11:LYS:HD2	2.35	0.40
2:GB:720:C:H5''	2:GB:721:C:OP2	2.22	0.40
2:GB:735:A:H3'	2:GB:736:C:C6	2.57	0.40
9:I:19:VAL:HG12	9:I:21:PRO:HD3	2.03	0.40
10:J:60:GLU:OE1	10:J:64:GLU:HB3	2.20	0.40
6:KB:37:ARG:HG3	6:KB:44:TYR:CZ	2.57	0.40
12:L:31:LYS:HB2	12:L:31:LYS:HE2	1.63	0.40
37:MA:131:ARG:HH11	37:MA:131:ARG:HG2	1.86	0.40
14:N:118:LEU:HD23	14:N:118:LEU:HA	1.86	0.40
4:NC:15:G:H2'	4:NC:59:A:C2	2.56	0.40
15:O:104:ARG:HB3	15:O:107:ASP:OD1	2.21	0.40
17:Q:7:ILE:O	17:Q:10:VAL:N	2.55	0.40
43:SA:97:LYS:HB3	43:SA:97:LYS:HE3	1.86	0.40
14:SB:118:LEU:HD23	14:SB:118:LEU:HA	1.85	0.40
14:SB:138:ASP:OD1	14:SB:138:ASP:N	2.54	0.40
20:T:78:GLU:HG3	20:T:79:GLY:N	2.36	0.40
45:UA:120:ARG:NH1	45:UA:126:ARG:HH11	2.11	0.40
16:UB:62:LYS:HB2	16:UB:62:LYS:HE3	1.90	0.40
41:VC:78:ARG:HG2	41:VC:79:ARG:NH2	2.36	0.40
23:W:102:LEU:HA	23:W:137:ILE:HB	2.03	0.40
42:WC:102:ARG:H	42:WC:102:ARG:HG3	1.53	0.40
1:FB:875:C:O2'	42:WC:11:THR:HG23	2.21	0.40
25:Y:95:LEU:O	25:Y:98:LEU:N	2.45	0.40
45:ZC:120:ARG:CG	45:ZC:120:ARG:NH1	2.85	0.40
45:ZC:34:ASP:O	45:ZC:36:ASP:N	2.54	0.40
1:A:517:G:N2	1:A:533:A:OP2	2.42	0.40
1:A:909:A:H2'	1:A:910:C:O4'	2.20	0.40
1:A:91:C:H2'	1:A:92:G:C8	2.57	0.40
1:A:998(A):G:H22	1:A:1043:C:N4	2.19	0.40
27:AA:46:ASN:O	27:AA:49:LYS:N	2.55	0.40
3:C:83:G:H5''	27:AA:52:HIS:NE2	2.36	0.40
46:AD:27:LEU:HD22	46:AD:98:TYR:CE1	2.56	0.40
2:B:1221(A):C:H2'	2:B:1222:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1375:C:O5'	2:B:1375:C:H6	2.05	0.40
2:B:1423:G:C4	2:B:1424:G:C8	3.09	0.40
2:B:1789:A:OP1	5:E:222:ARG:HG3	2.21	0.40
2:B:2011:U:H2'	2:B:2012:G:O4'	2.22	0.40
2:B:2149:G:H5'	2:B:2150:U:OP2	2.21	0.40
2:B:2543:G:C6	2:B:2544:G:C6	3.10	0.40
2:B:2850:A:OP2	2:B:2866:U:H5	2.05	0.40
2:B:464:U:H2'	2:B:465:G:O4'	2.21	0.40
2:B:65:C:H2'	2:B:66:C:H6	1.86	0.40
2:B:900:A:H2'	2:B:901:A:H8	1.82	0.40
2:B:966:G:O4'	2:B:2267:A:N6	2.54	0.40
48:CD:26:ARG:NH1	48:CD:43:CYS:HB3	2.36	0.40
5:E:111:LEU:HD12	5:E:115:GLN:OE1	2.22	0.40
5:E:213:ARG:NH2	5:E:218:ARG:HD2	2.37	0.40
26:EC:35:LEU:HD12	26:EC:53:LEU:HD12	2.02	0.40
6:F:18:ASP:HB3	17:Q:82:LEU:HD11	2.02	0.40
6:F:81:ILE:HD13	6:F:81:ILE:HA	1.84	0.40
7:G:113:ALA:HB1	7:G:186:ILE:HG21	2.03	0.40
2:GB:99:U:C6	2:GB:102:G:N1	2.89	0.40
2:GB:1458:C:H4'	2:GB:1459:G:O4'	2.21	0.40
2:GB:1510:A:C4	2:GB:1511:A:C6	3.10	0.40
2:GB:1766:U:H2'	2:GB:1767:C:H6	1.87	0.40
2:GB:2070:G:H2'	2:GB:2071:A:O4'	2.21	0.40
2:GB:27:G:C4	2:GB:512:G:N2	2.89	0.40
10:J:145:VAL:HB	10:J:146:ALA:H	1.48	0.40
35:JA:147:GLU:HG2	35:JA:165:LYS:HB3	2.02	0.40
5:JB:10:THR:HB	5:JB:11:PRO:HD2	2.03	0.40
11:K:89:LYS:O	11:K:92:ALA:HB3	2.22	0.40
11:K:9:VAL:HG11	11:K:39:ARG:HH22	1.86	0.40
36:LA:23:ARG:HH11	36:LA:23:ARG:CB	2.35	0.40
13:M:96:THR:HB	13:M:97:PRO:HD2	2.02	0.40
8:MB:22:ARG:HB2	8:MB:23:PHE:CD2	2.56	0.40
14:N:76:LYS:HB3	14:N:91:GLU:CG	2.47	0.40
38:NA:106:TYR:HA	38:NA:111:ALA:HB3	2.03	0.40
9:NB:3:ARG:NH2	9:NB:5:GLY:H	2.20	0.40
39:OA:144:THR:HG22	39:OA:147:ASP:OD2	2.21	0.40
10:OB:123:LEU:HD12	10:OB:144:VAL:HB	2.04	0.40
11:PB:125:GLY:HA3	11:PB:126:PRO:HD2	1.80	0.40
17:Q:85:LYS:O	17:Q:86:ILE:HD13	2.22	0.40
41:QA:105:VAL:O	41:QA:108:ALA:HB3	2.22	0.40
41:QA:70:LYS:HG3	41:QA:96:GLN:HB3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:QC:126:GLU:OE1	36:QC:130:ARG:HG3	2.21	0.40
18:R:85:LYS:HE3	18:R:116:ALA:O	2.21	0.40
42:RA:83:ILE:HB	42:RA:137:VAL:HG22	2.04	0.40
18:R:43:GLY:HA3	19:S:73:SER:HB3	2.03	0.40
15:TB:97:VAL:HG22	15:TB:114:VAL:HG22	2.03	0.40
46:VA:26:ALA:HA	46:VA:64:TYR:CD2	2.56	0.40
1:A:552:U:H1'	46:VA:32:PHE:CE1	2.57	0.40
46:VA:77:LEU:HD21	46:VA:107:ALA:HA	2.04	0.40
23:W:93:ASP:CB	23:W:131:ARG:HH22	2.34	0.40
18:WB:85:LYS:HE3	18:WB:116:ALA:O	2.21	0.40
19:XB:27:ALA:O	19:XB:64:HIS:NE2	2.53	0.40
49:YA:62:GLN:HA	49:YA:62:GLN:HE21	1.85	0.40
26:Z:8:LYS:O	26:Z:11:GLU:HG2	2.20	0.40
1:A:1001:G:N3	1:A:1001:G:H2'	2.37	0.40
1:A:1323:G:H4'	1:A:1362(B):C:C2	2.55	0.40
1:A:137:C:H2'	1:A:138:G:H8	1.86	0.40
1:A:922:G:O2'	1:A:1398:A:N1	2.44	0.40
1:A:1424:C:H2'	1:A:1425:U:O4'	2.22	0.40
1:A:708:C:P	45:UA:85:ARG:HH22	2.44	0.40
1:A:943:U:OP2	1:A:943:U:C6	2.75	0.40
27:AA:37:LEU:HD23	27:AA:37:LEU:HA	1.88	0.40
51:AB:58:GLU:CD	51:AB:75:ARG:HD2	2.42	0.40
2:B:1024:G:H8	2:B:1024:G:O5'	2.05	0.40
2:B:1117:G:C6	2:B:1118:C:C4	3.10	0.40
2:B:2026:C:C4	2:B:2027:G:N7	2.89	0.40
2:B:2402:C:O4'	2:B:2403:C:H5	2.04	0.40
2:B:2492:U:C2'	2:B:2493:U:H5'	2.52	0.40
2:B:2516:G:C6	2:B:2517:C:C4	3.09	0.40
2:B:2534:A:C6	2:B:2535:G:C5	3.10	0.40
2:B:387:U:H4'	2:B:388:G:O5'	2.22	0.40
2:B:431:U:O2'	2:B:432:A:H5'	2.22	0.40
2:B:668:G:C5	2:B:670:A:C5	3.09	0.40
2:B:668:G:C6	2:B:670:A:C4	3.09	0.40
23:BC:128:VAL:HG21	23:BC:132:ASN:HB2	2.04	0.40
28:BA:69:LYS:HD3	53:CB:20:LEU:HG	2.03	0.40
54:DB:50:GLU:HG3	54:DB:51:GLU:N	2.37	0.40
49:DD:72:ARG:O	49:DD:72:ARG:HG2	2.21	0.40
2:B:782:A:O2'	5:E:225:ALA:HB1	2.21	0.40
1:FB:1068:G:N2	1:FB:1191:A:N3	2.70	0.40
1:FB:1123:A:O2'	1:FB:1124:G:H5'	2.21	0.40
1:FB:1175:G:C2	1:FB:1176:A:C5	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1265:G:H2'	1:FB:1266:G:O4'	2.21	0.40
1:FB:1275:A:N6	1:FB:1276:G:O6	2.54	0.40
1:FB:1480:G:H2'	1:FB:1481:U:O4'	2.21	0.40
1:FB:275:G:H2'	1:FB:276:G:H8	1.86	0.40
1:FB:878:G:H5''	42:WC:90:GLY:HA3	2.02	0.40
1:FB:888:G:H3'	1:FB:889:A:H2'	2.04	0.40
2:GB:1042:G:C6	2:GB:1043:C:C4	3.09	0.40
2:GB:1203:G:N1	2:GB:1241:A:OP2	2.51	0.40
2:GB:1270:C:H5''	2:GB:1271:G:C5'	2.52	0.40
2:GB:1728:G:H3'	2:GB:1729:A:H5''	2.03	0.40
2:GB:1827:C:C2'	2:GB:1828:G:H5'	2.52	0.40
2:GB:1835:G:H5'	2:GB:1836:C:OP2	2.21	0.40
2:GB:226:G:H1'	2:GB:227:A:N7	2.37	0.40
2:GB:2023:G:H4'	2:GB:2617:C:O3'	2.20	0.40
2:GB:2771:C:H6	2:GB:2771:C:O5'	2.04	0.40
2:GB:327:G:C2	2:GB:328:U:C2	3.09	0.40
2:GB:853:G:H8	2:GB:853:G:O5'	2.05	0.40
1:FB:1220:G:H21	53:HD:54:GLY:CA	2.34	0.40
9:I:121:ILE:HD13	9:I:144:VAL:HG11	2.04	0.40
5:JB:85:ASP:HB2	5:JB:92:ILE:HD13	2.02	0.40
31:JC:2:LYS:HG3	31:JC:6:GLN:NE2	2.35	0.40
11:K:15:LEU:HG	11:K:135:PRO:HB2	2.03	0.40
2:B:2674:G:H4'	12:L:30:ALA:HB2	2.04	0.40
13:M:94:GLU:HG3	13:M:124:LYS:HG2	2.04	0.40
8:MB:111:LEU:O	8:MB:114:ILE:HG23	2.21	0.40
4:NC:28:C:O2'	47:BD:118:ALA:HA	2.21	0.40
4:NC:53:G:C8	4:NC:54:5MU:H72	2.57	0.40
39:OA:139:LEU:HA	39:OA:142:LEU:CD2	2.51	0.40
36:QC:178:ARG:NH2	42:WC:74:PRO:HB3	2.37	0.40
36:QC:193:ASP:HA	36:QC:194:PRO:HD3	1.77	0.40
36:QC:98:LEU:HD13	36:QC:98:LEU:HA	1.82	0.40
18:R:79:PHE:HE1	18:R:110:VAL:HA	1.86	0.40
13:RB:88:LEU:HD23	13:RB:91:PHE:HE2	1.86	0.40
1:FB:421:U:C5	37:RC:127:ARG:NH1	2.89	0.40
37:RC:6:HIS:CE1	37:RC:8:ILE:HB	2.57	0.40
38:SC:88:VAL:O	38:SC:90:GLY:N	2.54	0.40
15:TB:28:LEU:HD23	15:TB:28:LEU:HA	1.95	0.40
22:V:19:LYS:HB2	22:V:19:LYS:HE2	1.89	0.40
41:VC:146:GLU:HG2	41:VC:149:ARG:HD3	2.04	0.40
25:Y:11:ARG:HB2	25:Y:12:PRO:HD2	2.03	0.40
21:ZB:23:GLU:OE2	21:ZB:25:LYS:HD2	2.22	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1412:A:O2'	8:MB:9:ARG:NH1[1_655]	1.99	0.21

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	
5	E	273/275 (99%)	243 (89%)	24 (9%)	6 (2%)	6	29
5	JB	273/275 (99%)	245 (90%)	22 (8%)	6 (2%)	6	29
6	F	202/206 (98%)	166 (82%)	28 (14%)	8 (4%)	3	18
6	KB	202/206 (98%)	167 (83%)	29 (14%)	6 (3%)	4	23
7	G	200/205 (98%)	173 (86%)	24 (12%)	3 (2%)	10	36
7	LB	200/205 (98%)	172 (86%)	25 (12%)	3 (2%)	10	36
8	H	179/182 (98%)	134 (75%)	37 (21%)	8 (4%)	2	16
8	MB	179/182 (98%)	134 (75%)	37 (21%)	8 (4%)	2	16
9	I	172/180 (96%)	134 (78%)	32 (19%)	6 (4%)	3	21
9	NB	172/180 (96%)	134 (78%)	32 (19%)	6 (4%)	3	21
10	J	144/148 (97%)	111 (77%)	23 (16%)	10 (7%)	1	8
10	OB	144/148 (97%)	111 (77%)	24 (17%)	9 (6%)	1	9
11	K	138/140 (99%)	115 (83%)	17 (12%)	6 (4%)	2	17
11	PB	138/140 (99%)	118 (86%)	15 (11%)	5 (4%)	3	21
12	L	120/122 (98%)	110 (92%)	9 (8%)	1 (1%)	19	51
12	QB	120/122 (98%)	108 (90%)	9 (8%)	3 (2%)	5	26
13	M	148/150 (99%)	126 (85%)	12 (8%)	10 (7%)	1	8
13	RB	148/150 (99%)	124 (84%)	14 (10%)	10 (7%)	1	8
14	N	139/141 (99%)	120 (86%)	17 (12%)	2 (1%)	11	37

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	SB	139/141 (99%)	121 (87%)	15 (11%)	3 (2%)	6	29
15	O	116/118 (98%)	99 (85%)	12 (10%)	5 (4%)	2	17
15	TB	116/118 (98%)	97 (84%)	13 (11%)	6 (5%)	2	13
16	P	108/112 (96%)	82 (76%)	23 (21%)	3 (3%)	5	24
16	UB	108/112 (96%)	83 (77%)	22 (20%)	3 (3%)	5	24
17	Q	135/146 (92%)	118 (87%)	13 (10%)	4 (3%)	4	23
17	VB	135/146 (92%)	117 (87%)	15 (11%)	3 (2%)	6	29
18	R	115/118 (98%)	106 (92%)	9 (8%)	0	100	100
18	WB	115/118 (98%)	106 (92%)	8 (7%)	1 (1%)	17	49
19	S	99/101 (98%)	85 (86%)	10 (10%)	4 (4%)	3	18
19	XB	99/101 (98%)	84 (85%)	12 (12%)	3 (3%)	4	23
20	T	110/113 (97%)	97 (88%)	11 (10%)	2 (2%)	8	32
20	YB	110/113 (97%)	98 (89%)	12 (11%)	0	100	100
21	U	93/96 (97%)	83 (89%)	8 (9%)	2 (2%)	6	29
21	ZB	93/96 (97%)	85 (91%)	6 (6%)	2 (2%)	6	29
22	AC	105/110 (96%)	83 (79%)	16 (15%)	6 (6%)	1	12
22	V	105/110 (96%)	83 (79%)	14 (13%)	8 (8%)	1	6
23	BC	187/206 (91%)	137 (73%)	43 (23%)	7 (4%)	3	20
23	W	187/206 (91%)	139 (74%)	41 (22%)	7 (4%)	3	20
24	CC	82/85 (96%)	70 (85%)	8 (10%)	4 (5%)	2	14
24	X	82/85 (96%)	71 (87%)	8 (10%)	3 (4%)	3	20
25	DC	95/98 (97%)	87 (92%)	7 (7%)	1 (1%)	14	44
25	Y	95/98 (97%)	86 (90%)	8 (8%)	1 (1%)	14	44
26	EC	68/72 (94%)	61 (90%)	4 (6%)	3 (4%)	2	16
26	Z	68/72 (94%)	59 (87%)	6 (9%)	3 (4%)	2	16
27	AA	58/60 (97%)	44 (76%)	12 (21%)	2 (3%)	3	21
27	FC	58/60 (97%)	45 (78%)	11 (19%)	2 (3%)	3	21
28	BA	67/71 (94%)	43 (64%)	16 (24%)	8 (12%)	0	3
28	GC	67/71 (94%)	44 (66%)	15 (22%)	8 (12%)	0	3
29	CA	57/60 (95%)	50 (88%)	6 (10%)	1 (2%)	8	32
29	HC	57/60 (95%)	49 (86%)	8 (14%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	DA	51/54 (94%)	42 (82%)	8 (16%)	1 (2%)	7	30
30	IC	51/54 (94%)	42 (82%)	8 (16%)	1 (2%)	7	30
31	EA	46/49 (94%)	41 (89%)	5 (11%)	0	100	100
31	JC	46/49 (94%)	38 (83%)	8 (17%)	0	100	100
32	FA	62/65 (95%)	53 (86%)	9 (14%)	0	100	100
32	KC	62/65 (95%)	53 (86%)	9 (14%)	0	100	100
33	GA	35/37 (95%)	24 (69%)	8 (23%)	3 (9%)	1	5
33	LC	35/37 (95%)	24 (69%)	8 (23%)	3 (9%)	1	5
35	JA	108/365 (30%)	84 (78%)	18 (17%)	6 (6%)	2	12
35	KA	53/365 (14%)	31 (58%)	13 (24%)	9 (17%)	0	0
35	OC	108/365 (30%)	83 (77%)	19 (18%)	6 (6%)	2	12
35	PC	53/365 (14%)	31 (58%)	14 (26%)	8 (15%)	0	0
36	LA	232/256 (91%)	176 (76%)	40 (17%)	16 (7%)	1	8
36	QC	232/256 (91%)	174 (75%)	41 (18%)	17 (7%)	1	7
37	MA	204/239 (85%)	166 (81%)	28 (14%)	10 (5%)	2	14
37	RC	204/239 (85%)	167 (82%)	25 (12%)	12 (6%)	1	11
38	NA	206/209 (99%)	162 (79%)	35 (17%)	9 (4%)	2	16
38	SC	206/209 (99%)	158 (77%)	39 (19%)	9 (4%)	2	16
39	OA	149/162 (92%)	126 (85%)	19 (13%)	4 (3%)	5	26
39	TC	149/162 (92%)	124 (83%)	20 (13%)	5 (3%)	3	21
40	PA	99/101 (98%)	81 (82%)	14 (14%)	4 (4%)	3	18
40	UC	99/101 (98%)	82 (83%)	13 (13%)	4 (4%)	3	18
41	QA	153/156 (98%)	121 (79%)	24 (16%)	8 (5%)	2	13
41	VC	153/156 (98%)	121 (79%)	24 (16%)	8 (5%)	2	13
42	RA	136/138 (99%)	106 (78%)	25 (18%)	5 (4%)	3	20
42	WC	136/138 (99%)	106 (78%)	25 (18%)	5 (4%)	3	20
43	SA	125/128 (98%)	91 (73%)	28 (22%)	6 (5%)	2	15
43	XC	125/128 (98%)	93 (74%)	25 (20%)	7 (6%)	2	12
44	TA	96/105 (91%)	72 (75%)	15 (16%)	9 (9%)	0	4
44	YC	96/105 (91%)	75 (78%)	12 (12%)	9 (9%)	0	4
45	UA	114/129 (88%)	87 (76%)	23 (20%)	4 (4%)	3	21

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	ZC	114/129 (88%)	87 (76%)	24 (21%)	3 (3%)	5	26
46	AD	119/132 (90%)	91 (76%)	20 (17%)	8 (7%)	1	8
46	VA	119/132 (90%)	89 (75%)	22 (18%)	8 (7%)	1	8
47	BD	115/126 (91%)	90 (78%)	18 (16%)	7 (6%)	1	10
47	WA	115/126 (91%)	91 (79%)	18 (16%)	6 (5%)	2	13
48	CD	58/61 (95%)	45 (78%)	12 (21%)	1 (2%)	9	34
48	XA	58/61 (95%)	44 (76%)	13 (22%)	1 (2%)	9	34
49	DD	86/89 (97%)	67 (78%)	16 (19%)	3 (4%)	3	21
49	YA	86/89 (97%)	68 (79%)	14 (16%)	4 (5%)	2	15
50	ED	81/88 (92%)	72 (89%)	8 (10%)	1 (1%)	13	41
50	ZA	81/88 (92%)	71 (88%)	9 (11%)	1 (1%)	13	41
51	AB	97/105 (92%)	78 (80%)	15 (16%)	4 (4%)	3	18
51	FD	97/105 (92%)	81 (84%)	11 (11%)	5 (5%)	2	13
52	BB	68/88 (77%)	63 (93%)	4 (6%)	1 (2%)	10	36
52	GD	68/88 (77%)	61 (90%)	5 (7%)	2 (3%)	4	24
53	CB	81/93 (87%)	58 (72%)	16 (20%)	7 (9%)	1	5
53	HD	81/93 (87%)	58 (72%)	17 (21%)	6 (7%)	1	7
54	DB	97/106 (92%)	79 (81%)	11 (11%)	7 (7%)	1	7
54	ID	97/106 (92%)	79 (81%)	12 (12%)	6 (6%)	1	10
55	EB	22/27 (82%)	18 (82%)	2 (9%)	2 (9%)	1	4
55	JD	22/27 (82%)	18 (82%)	2 (9%)	2 (9%)	1	4
All	All	11806/13576 (87%)	9599 (81%)	1713 (14%)	494 (4%)	3	18

All (494) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	E	122	ASP
7	G	130	ALA
8	H	12	TYR
8	H	43	LEU
8	H	47	LYS
11	K	111	PRO
13	M	29	LYS
15	O	2	ARG
22	V	92	ASN

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Mol	Chain	Res	Type
24	X	43	THR
24	X	84	LEU
25	Y	3	LYS
26	Z	42	GLY
26	Z	43	GLN
26	Z	48	HIS
27	AA	38	GLU
28	BA	22	ILE
28	BA	52	THR
28	BA	56	VAL
35	JA	207	PRO
35	KA	323	ASN
35	KA	329	LEU
36	LA	17	PHE
36	LA	103	THR
36	LA	104	ASN
36	LA	124	SER
36	LA	165	VAL
37	MA	26	LYS
37	MA	100	ALA
38	NA	5	ILE
42	RA	42	GLU
43	SA	41	VAL
45	UA	89	ALA
45	UA	124	LYS
47	WA	3	ARG
52	BB	36	ASN
53	CB	9	VAL
53	CB	66	MET
54	DB	94	ALA
54	DB	99	LEU
5	JB	122	ASP
7	LB	130	ALA
8	MB	12	TYR
8	MB	43	LEU
8	MB	47	LYS
11	PB	111	PRO
13	RB	29	LYS
22	AC	92	ASN
24	CC	43	THR
24	CC	84	LEU
25	DC	3	LYS

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Mol	Chain	Res	Type
26	EC	42	GLY
26	EC	43	GLN
27	FC	38	GLU
28	GC	22	ILE
28	GC	52	THR
28	GC	56	VAL
35	OC	207	PRO
35	PC	323	ASN
35	PC	329	LEU
36	QC	17	PHE
36	QC	103	THR
36	QC	104	ASN
36	QC	124	SER
36	QC	165	VAL
37	RC	26	LYS
38	SC	5	ILE
42	WC	42	GLU
43	XC	41	VAL
45	ZC	89	ALA
45	ZC	124	LYS
47	BD	3	ARG
52	GD	36	ASN
53	HD	66	MET
54	ID	94	ALA
54	ID	99	LEU
5	E	26	LYS
5	E	236	GLY
7	G	7	TYR
8	H	14	GLU
8	H	63	ILE
8	H	163	ALA
9	I	21	PRO
9	I	47	GLU
10	J	42	SER
10	J	122	GLU
10	J	145	VAL
12	L	27	GLY
13	M	44	GLY
14	N	15	GLY
15	O	107	ASP
17	Q	18	ASP
19	S	64	HIS

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Mol	Chain	Res	Type
22	V	2	ARG
22	V	19	LYS
22	V	41	GLY
22	V	94	LYS
22	V	105	ALA
23	W	22	GLY
23	W	65	GLN
23	W	111	VAL
24	X	83	PRO
28	BA	38	LYS
28	BA	55	ARG
30	DA	32	ASN
33	GA	16	VAL
35	JA	143	ARG
35	KA	314	GLN
35	KA	324	LEU
35	KA	328	ARG
36	LA	150	SER
36	LA	208	ILE
37	MA	141	VAL
37	MA	172	ARG
38	NA	4	TYR
39	OA	65	ASN
40	PA	38	GLU
40	PA	42	GLU
41	QA	4	ARG
43	SA	70	LYS
43	SA	124	GLN
44	TA	16	LEU
46	VA	18	VAL
46	VA	26	ALA
46	VA	123	LYS
47	WA	42	ALA
47	WA	100	GLY
47	WA	116	THR
49	YA	80	ALA
51	AB	77	VAL
51	AB	99	SER
53	CB	11	VAL
54	DB	102	GLY
5	JB	26	LYS
8	MB	14	GLU

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Mol	Chain	Res	Type
8	MB	50	ALA
8	MB	63	ILE
8	MB	163	ALA
9	NB	21	PRO
9	NB	47	GLU
10	OB	12	LEU
10	OB	42	SER
10	OB	122	GLU
10	OB	145	VAL
12	QB	27	GLY
13	RB	43	GLY
13	RB	44	GLY
13	RB	76	LYS
15	TB	2	ARG
15	TB	107	ASP
17	VB	18	ASP
19	XB	64	HIS
22	AC	19	LYS
22	AC	105	ALA
23	BC	22	GLY
23	BC	65	GLN
23	BC	111	VAL
24	CC	83	PRO
26	EC	48	HIS
28	GC	38	LYS
28	GC	55	ARG
30	IC	32	ASN
33	LC	16	VAL
35	OC	143	ARG
35	PC	314	GLN
35	PC	324	LEU
35	PC	328	ARG
36	QC	208	ILE
37	RC	3	ASN
37	RC	100	ALA
37	RC	141	VAL
37	RC	172	ARG
38	SC	4	TYR
39	TC	65	ASN
40	UC	38	GLU
40	UC	42	GLU
41	VC	4	ARG

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Mol	Chain	Res	Type
41	VC	54	THR
43	XC	70	LYS
43	XC	124	GLN
44	YC	16	LEU
46	AD	18	VAL
46	AD	26	ALA
46	AD	123	LYS
47	BD	42	ALA
47	BD	100	GLY
47	BD	116	THR
49	DD	80	ALA
51	FD	77	VAL
51	FD	99	SER
53	HD	9	VAL
53	HD	11	VAL
54	ID	102	GLY
6	F	94	GLU
6	F	132	HIS
7	G	190	GLU
8	H	50	ALA
9	I	17	VAL
9	I	101	ARG
10	J	12	LEU
10	J	135	GLU
11	K	126	PRO
13	M	43	GLY
13	M	76	LYS
13	M	117	GLU
17	Q	126	ALA
19	S	29	PRO
19	S	78	LYS
23	W	21	ALA
35	JA	139	ALA
36	LA	16	HIS
36	LA	237	ALA
37	MA	3	ASN
37	MA	30	ARG
37	MA	60	ALA
38	NA	32	ALA
38	NA	42	GLN
41	QA	54	THR
41	QA	85	TYR

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Mol	Chain	Res	Type
41	QA	89	MET
42	RA	41	ARG
42	RA	127	LEU
44	TA	33	GLN
44	TA	78	ASN
44	TA	93	GLY
46	VA	51	ALA
47	WA	97	PRO
49	YA	23	GLY
49	YA	79	ARG
51	AB	97	SER
53	CB	25	LYS
53	CB	31	ILE
54	DB	95	ALA
6	KB	132	HIS
6	KB	135	HIS
7	LB	7	TYR
7	LB	190	GLU
9	NB	17	VAL
9	NB	101	ARG
10	OB	135	GLU
11	PB	41	ASP
11	PB	126	PRO
13	RB	38	GLN
13	RB	117	GLU
17	VB	55	ASN
17	VB	126	ALA
21	ZB	22	ALA
22	AC	41	GLY
22	AC	94	LYS
23	BC	13	GLU
28	GC	49	PHE
35	OC	139	ALA
36	QC	16	HIS
36	QC	125	PRO
36	QC	150	SER
36	QC	194	PRO
36	QC	237	ALA
37	RC	30	ARG
37	RC	60	ALA
38	SC	32	ALA
38	SC	42	GLN

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Mol	Chain	Res	Type
41	VC	89	MET
42	WC	127	LEU
44	YC	33	GLN
44	YC	78	ASN
44	YC	93	GLY
46	AD	51	ALA
46	AD	62	SER
47	BD	97	PRO
53	HD	25	LYS
53	HD	31	ILE
54	ID	95	ALA
5	E	268	ARG
6	F	52	LEU
10	J	127	VAL
11	K	41	ASP
11	K	76	SER
14	N	70	PRO
15	O	117	VAL
20	T	60	ASN
21	U	40	LYS
23	W	13	GLU
23	W	141	VAL
28	BA	49	PHE
33	GA	7	VAL
35	JA	160	LYS
35	KA	311	ASN
35	KA	315	GLY
35	KA	321	ARG
36	LA	10	LEU
36	LA	125	PRO
36	LA	158	LEU
36	LA	194	PRO
37	MA	127	ARG
37	MA	139	GLN
38	NA	22	LYS
38	NA	46	LYS
39	OA	11	ILE
39	OA	74	GLY
41	QA	16	LEU
41	QA	79	ARG
44	TA	37	PRO
45	UA	101	SER

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Mol	Chain	Res	Type
46	VA	62	SER
50	ZA	81	ARG
51	AB	98	LEU
55	EB	6	ARG
5	JB	268	ARG
6	KB	52	LEU
6	KB	94	GLU
12	QB	112	MET
13	RB	91	PHE
14	SB	15	GLY
19	XB	29	PRO
35	OC	160	LYS
35	PC	311	ASN
35	PC	315	GLY
35	PC	321	ARG
36	QC	126	GLU
36	QC	158	LEU
37	RC	127	ARG
38	SC	22	LYS
38	SC	46	LYS
39	TC	11	ILE
39	TC	74	GLY
41	VC	16	LEU
41	VC	79	ARG
41	VC	85	TYR
42	WC	41	ARG
44	YC	27	ALA
44	YC	37	PRO
44	YC	88	LEU
45	ZC	101	SER
49	DD	23	GLY
49	DD	79	ARG
50	ED	81	ARG
51	FD	14	LYS
51	FD	97	SER
51	FD	98	LEU
55	JD	6	ARG
6	F	179	GLU
8	H	138	GLN
11	K	51	PHE
13	M	88	LEU
13	M	91	PHE

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Mol	Chain	Res	Type
15	O	39	PRO
16	P	33	LYS
16	P	61	ASN
16	P	93	LYS
17	Q	55	ASN
17	Q	58	ASN
20	T	64	MET
21	U	22	ALA
23	W	157	LEU
36	LA	126	GLU
38	NA	88	VAL
40	PA	62	TRP
41	QA	17	VAL
43	SA	54	ASP
43	SA	96	LEU
43	SA	107	ARG
44	TA	27	ALA
44	TA	77	PRO
46	VA	25	PRO
54	DB	71	THR
54	DB	93	GLU
5	JB	236	GLY
8	MB	138	GLN
10	OB	30	LEU
11	PB	76	SER
13	RB	88	LEU
14	SB	70	PRO
14	SB	110	THR
15	TB	39	PRO
15	TB	56	LYS
15	TB	117	VAL
16	UB	33	LYS
16	UB	61	ASN
16	UB	93	LYS
18	WB	93	LYS
23	BC	21	ALA
23	BC	141	VAL
23	BC	157	LEU
28	GC	50	VAL
33	LC	7	VAL
36	QC	10	LEU
37	RC	139	GLN

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Mol	Chain	Res	Type
40	UC	62	TRP
43	XC	96	LEU
43	XC	107	ARG
44	YC	77	PRO
46	AD	25	PRO
46	AD	86	ARG
47	BD	23	TYR
54	ID	93	GLU
5	E	125	ILE
6	F	133	LYS
10	J	81	VAL
10	J	92	VAL
13	M	38	GLN
22	V	103	GLY
28	BA	50	VAL
29	CA	42	PRO
35	KA	358	GLU
36	LA	228	GLY
38	NA	147	ALA
42	RA	3	THR
44	TA	88	LEU
45	UA	117	ASN
46	VA	119	LYS
46	VA	125	PRO
47	WA	40	ASN
9	NB	24	VAL
10	OB	81	VAL
10	OB	127	VAL
21	ZB	40	LYS
22	AC	103	GLY
35	OC	105	PRO
36	QC	228	GLY
37	RC	82	GLU
38	SC	9	CYS
38	SC	88	VAL
41	VC	17	VAL
42	WC	54	ASP
43	XC	54	ASP
43	XC	58	ARG
46	AD	125	PRO
52	GD	23	LYS
6	F	56	PRO

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Mol	Chain	Res	Type
10	J	106	GLY
28	BA	19	GLY
35	JA	105	PRO
36	LA	231	GLU
53	CB	59	PRO
9	NB	37	VAL
10	OB	106	GLY
13	RB	122	PRO
15	TB	32	GLY
28	GC	19	GLY
47	BD	40	ASN
53	HD	59	PRO
6	F	130	GLY
6	F	172	VAL
9	I	24	VAL
9	I	37	VAL
11	K	135	PRO
15	O	32	GLY
37	MA	14	ILE
42	RA	128	GLY
54	DB	47	GLY
6	KB	56	PRO
6	KB	130	GLY
11	PB	135	PRO
12	QB	93	PRO
35	OC	121	GLY
36	QC	231	GLU
37	RC	14	ILE
39	TC	154	GLY
40	UC	81	ILE
42	WC	128	GLY
54	ID	47	GLY
5	E	256	GLY
13	M	122	PRO
27	AA	59	VAL
33	GA	10	ILE
44	TA	74	ILE
48	XA	14	PRO
49	YA	86	GLY
53	CB	76	PRO
5	JB	125	ILE
5	JB	256	GLY

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Mol	Chain	Res	Type
33	LC	10	ILE
36	QC	127	ILE
38	SC	90	GLY
48	CD	14	PRO
22	V	45	VAL
35	JA	121	GLY
38	NA	40	PRO
39	OA	154	GLY
40	PA	81	ILE
41	QA	112	PRO
24	CC	73	GLY
27	FC	59	VAL
44	YC	74	ILE
10	J	134	PRO
19	S	79	VAL
55	EB	19	GLY
19	XB	61	VAL
37	RC	66	VAL
39	TC	85	GLY
41	VC	112	PRO
55	JD	19	GLY
13	M	72	PRO
13	RB	72	PRO

5.3.2 Protein sidechains ⓘ

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	
5	E	217/217 (100%)	177 (82%)	40 (18%)	1	5
5	JB	217/217 (100%)	176 (81%)	41 (19%)	1	4
6	F	165/166 (99%)	139 (84%)	26 (16%)	2	10
6	KB	165/166 (99%)	139 (84%)	26 (16%)	2	10
7	G	161/162 (99%)	136 (84%)	25 (16%)	2	11
7	LB	161/162 (99%)	134 (83%)	27 (17%)	2	8

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	H	154/156 (99%)	121 (79%)	33 (21%)	1	3
8	MB	154/156 (99%)	121 (79%)	33 (21%)	1	3
9	I	144/148 (97%)	123 (85%)	21 (15%)	3	12
9	NB	144/148 (97%)	122 (85%)	22 (15%)	2	11
10	J	122/124 (98%)	95 (78%)	27 (22%)	1	2
10	OB	122/124 (98%)	94 (77%)	28 (23%)	1	2
11	K	119/119 (100%)	99 (83%)	20 (17%)	2	8
11	PB	119/119 (100%)	98 (82%)	21 (18%)	2	6
12	L	100/100 (100%)	88 (88%)	12 (12%)	5	19
12	QB	100/100 (100%)	87 (87%)	13 (13%)	4	16
13	M	116/116 (100%)	86 (74%)	30 (26%)	0	2
13	RB	116/116 (100%)	86 (74%)	30 (26%)	0	2
14	N	111/111 (100%)	94 (85%)	17 (15%)	2	11
14	SB	111/111 (100%)	94 (85%)	17 (15%)	2	11
15	O	101/101 (100%)	83 (82%)	18 (18%)	2	6
15	TB	101/101 (100%)	84 (83%)	17 (17%)	2	8
16	P	87/88 (99%)	72 (83%)	15 (17%)	2	8
16	UB	87/88 (99%)	73 (84%)	14 (16%)	2	10
17	Q	121/128 (94%)	97 (80%)	24 (20%)	1	4
17	VB	121/128 (94%)	96 (79%)	25 (21%)	1	3
18	R	93/94 (99%)	82 (88%)	11 (12%)	5	19
18	WB	93/94 (99%)	82 (88%)	11 (12%)	5	19
19	S	82/82 (100%)	64 (78%)	18 (22%)	1	3
19	XB	82/82 (100%)	64 (78%)	18 (22%)	1	3
20	T	91/92 (99%)	78 (86%)	13 (14%)	3	13
20	YB	91/92 (99%)	79 (87%)	12 (13%)	4	15
21	U	77/78 (99%)	70 (91%)	7 (9%)	9	32
21	ZB	77/78 (99%)	68 (88%)	9 (12%)	5	20
22	AC	87/91 (96%)	71 (82%)	16 (18%)	1	5
22	V	87/91 (96%)	71 (82%)	16 (18%)	1	5
23	BC	163/179 (91%)	133 (82%)	30 (18%)	1	5

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
23	W	163/179 (91%)	133 (82%)	30 (18%)	1	5
24	CC	66/67 (98%)	54 (82%)	12 (18%)	1	6
24	X	66/67 (98%)	53 (80%)	13 (20%)	1	4
25	DC	81/83 (98%)	64 (79%)	17 (21%)	1	3
25	Y	81/83 (98%)	67 (83%)	14 (17%)	2	7
26	EC	66/67 (98%)	60 (91%)	6 (9%)	9	32
26	Z	66/67 (98%)	59 (89%)	7 (11%)	6	24
27	AA	52/52 (100%)	38 (73%)	14 (27%)	0	1
27	FC	52/52 (100%)	37 (71%)	15 (29%)	0	1
28	BA	59/63 (94%)	44 (75%)	15 (25%)	0	2
28	GC	59/63 (94%)	44 (75%)	15 (25%)	0	2
29	CA	51/52 (98%)	43 (84%)	8 (16%)	2	10
29	HC	51/52 (98%)	43 (84%)	8 (16%)	2	10
30	DA	51/52 (98%)	41 (80%)	10 (20%)	1	4
30	IC	51/52 (98%)	41 (80%)	10 (20%)	1	4
31	EA	41/42 (98%)	33 (80%)	8 (20%)	1	4
31	JC	41/42 (98%)	33 (80%)	8 (20%)	1	4
32	FA	54/55 (98%)	50 (93%)	4 (7%)	13	42
32	KC	54/55 (98%)	49 (91%)	5 (9%)	9	31
33	GA	34/34 (100%)	33 (97%)	1 (3%)	42	69
33	LC	34/34 (100%)	33 (97%)	1 (3%)	42	69
35	JA	85/305 (28%)	68 (80%)	17 (20%)	1	3
35	KA	50/305 (16%)	38 (76%)	12 (24%)	0	2
35	OC	85/305 (28%)	68 (80%)	17 (20%)	1	3
35	PC	50/305 (16%)	38 (76%)	12 (24%)	0	2
36	LA	202/220 (92%)	156 (77%)	46 (23%)	1	2
36	QC	202/220 (92%)	154 (76%)	48 (24%)	0	2
37	MA	160/188 (85%)	137 (86%)	23 (14%)	3	13
37	RC	160/188 (85%)	138 (86%)	22 (14%)	3	14
38	NA	180/181 (99%)	155 (86%)	25 (14%)	3	13
38	SC	180/181 (99%)	155 (86%)	25 (14%)	3	13

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
39	OA	116/123 (94%)	93 (80%)	23 (20%)	1	4
39	TC	116/123 (94%)	94 (81%)	22 (19%)	1	4
40	PA	90/90 (100%)	79 (88%)	11 (12%)	5	18
40	UC	90/90 (100%)	78 (87%)	12 (13%)	4	15
41	QA	126/127 (99%)	105 (83%)	21 (17%)	2	8
41	VC	126/127 (99%)	105 (83%)	21 (17%)	2	8
42	RA	119/119 (100%)	105 (88%)	14 (12%)	5	19
42	WC	119/119 (100%)	106 (89%)	13 (11%)	6	23
43	SA	98/99 (99%)	79 (81%)	19 (19%)	1	4
43	XC	98/99 (99%)	79 (81%)	19 (19%)	1	4
44	TA	88/92 (96%)	72 (82%)	16 (18%)	1	6
44	YC	88/92 (96%)	71 (81%)	17 (19%)	1	4
45	UA	88/99 (89%)	77 (88%)	11 (12%)	4	17
45	ZC	88/99 (89%)	77 (88%)	11 (12%)	4	17
46	AD	102/108 (94%)	84 (82%)	18 (18%)	2	6
46	VA	102/108 (94%)	84 (82%)	18 (18%)	2	6
47	BD	94/101 (93%)	74 (79%)	20 (21%)	1	3
47	WA	94/101 (93%)	74 (79%)	20 (21%)	1	3
48	CD	49/50 (98%)	42 (86%)	7 (14%)	3	13
48	XA	49/50 (98%)	42 (86%)	7 (14%)	3	13
49	DD	79/80 (99%)	62 (78%)	17 (22%)	1	3
49	YA	79/80 (99%)	62 (78%)	17 (22%)	1	3
50	ED	72/74 (97%)	60 (83%)	12 (17%)	2	8
50	ZA	72/74 (97%)	61 (85%)	11 (15%)	2	11
51	AB	94/97 (97%)	77 (82%)	17 (18%)	1	6
51	FD	94/97 (97%)	76 (81%)	18 (19%)	1	4
52	BB	61/77 (79%)	49 (80%)	12 (20%)	1	4
52	GD	61/77 (79%)	50 (82%)	11 (18%)	1	6
53	CB	72/80 (90%)	57 (79%)	15 (21%)	1	3
53	HD	72/80 (90%)	58 (81%)	14 (19%)	1	4
54	DB	76/82 (93%)	66 (87%)	10 (13%)	4	15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
54	ID	76/82 (93%)	66 (87%)	10 (13%)	4	15
55	EB	19/22 (86%)	15 (79%)	4 (21%)	1	3
55	JD	19/22 (86%)	15 (79%)	4 (21%)	1	3
All	All	9972/11276 (88%)	8229 (82%)	1743 (18%)	2	7

All (1743) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	E	12	SER
5	E	23	GLU
5	E	26	LYS
5	E	30	GLU
5	E	37	LEU
5	E	52	ARG
5	E	59	LYS
5	E	68	LYS
5	E	69	ARG
5	E	73	VAL
5	E	87	ASN
5	E	92	ILE
5	E	94	LEU
5	E	99	ASP
5	E	116	GLN
5	E	131	LEU
5	E	138	VAL
5	E	141	VAL
5	E	150	LYS
5	E	155	LEU
5	E	157	ARG
5	E	168	ARG
5	E	171	ASP
5	E	173	VAL
5	E	183	ARG
5	E	200	ASP
5	E	212	SER
5	E	215	LEU
5	E	217	ARG
5	E	220	HIS
5	E	221	VAL
5	E	229	VAL
5	E	230	ASP

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Mol	Chain	Res	Type
5	E	237	GLU
5	E	242	ARG
5	E	263	ARG
5	E	266	SER
5	E	271	ILE
5	E	274	ARG
5	E	275	LYS
6	F	1	MET
6	F	9	VAL
6	F	13	ARG
6	F	21	VAL
6	F	38	THR
6	F	40	GLU
6	F	49	LEU
6	F	69	LYS
6	F	79	ARG
6	F	83	ASP
6	F	84	PHE
6	F	91	VAL
6	F	92	THR
6	F	117	MET
6	F	119	ARG
6	F	129	HIS
6	F	146	THR
6	F	149	ARG
6	F	154	LYS
6	F	160	TYR
6	F	163	GLU
6	F	167	VAL
6	F	173	VAL
6	F	192	ASN
6	F	195	LEU
6	F	199	ARG
7	G	6	MET
7	G	7	TYR
7	G	15	SER
7	G	17	ARG
7	G	33	LEU
7	G	38	ARG
7	G	51	THR
7	G	56	GLU
7	G	57	VAL

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Mol	Chain	Res	Type
7	G	64	ILE
7	G	70	THR
7	G	72	ARG
7	G	74	ARG
7	G	84	VAL
7	G	100	THR
7	G	110	LEU
7	G	116	ASP
7	G	132	VAL
7	G	144	LYS
7	G	160	ASN
7	G	176	LEU
7	G	182	ASN
7	G	183	VAL
7	G	192	LEU
7	G	195	ASP
8	H	7	LEU
8	H	28	VAL
8	H	38	VAL
8	H	43	LEU
8	H	48	GLU
8	H	49	ASP
8	H	51	ARG
8	H	52	ILE
8	H	53	LEU
8	H	54	GLU
8	H	60	LEU
8	H	70	VAL
8	H	71	THR
8	H	77	ILE
8	H	78	SER
8	H	82	LEU
8	H	103	LEU
8	H	111	LEU
8	H	115	ARG
8	H	116	ASP
8	H	123	ASN
8	H	130	ASN
8	H	135	LEU
8	H	136	ARG
8	H	139	LEU
8	H	143	GLU

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Mol	Chain	Res	Type
8	H	144	ILE
8	H	146	TYR
8	H	156	ASP
8	H	157	ILE
8	H	159	VAL
8	H	161	THR
8	H	170	ARG
9	I	3	ARG
9	I	17	VAL
9	I	24	VAL
9	I	27	LYS
9	I	33	LEU
9	I	40	GLU
9	I	53	GLU
9	I	58	GLU
9	I	61	HIS
9	I	71	LEU
9	I	83	TYR
9	I	84	SER
9	I	98	LEU
9	I	106	THR
9	I	114	VAL
9	I	122	THR
9	I	131	VAL
9	I	136	ILE
9	I	143	GLN
9	I	144	VAL
9	I	169	VAL
10	J	1	MET
10	J	5	LEU
10	J	7	GLU
10	J	9	LEU
10	J	10	GLU
10	J	19	VAL
10	J	22	LYS
10	J	41	GLU
10	J	43	ASN
10	J	47	LEU
10	J	48	GLU
10	J	61	ARG
10	J	67	ARG
10	J	73	GLU

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Mol	Chain	Res	Type
10	J	77	LEU
10	J	88	ILE
10	J	96	ASP
10	J	101	LEU
10	J	107	ILE
10	J	108	THR
10	J	109	ILE
10	J	117	GLU
10	J	121	LYS
10	J	128	LEU
10	J	140	LEU
10	J	144	VAL
10	J	145	VAL
11	K	1	MET
11	K	7	LYS
11	K	8	GLN
11	K	9	VAL
11	K	28	THR
11	K	32	THR
11	K	34	LEU
11	K	43	THR
11	K	48	MET
11	K	55	VAL
11	K	62	VAL
11	K	63	THR
11	K	67	LEU
11	K	73	THR
11	K	85	ILE
11	K	91	LEU
11	K	96	GLU
11	K	115	ARG
11	K	130	HIS
11	K	131	GLN
12	L	17	ARG
12	L	21	CYS
12	L	38	VAL
12	L	53	LYS
12	L	65	THR
12	L	69	VAL
12	L	75	SER
12	L	82	ASN
12	L	89	ASN

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Mol	Chain	Res	Type
12	L	99	PHE
12	L	113	LYS
12	L	114	ILE
13	M	2	LYS
13	M	5	ASP
13	M	14	LYS
13	M	16	ARG
13	M	19	VAL
13	M	45	LEU
13	M	57	THR
13	M	59	LEU
13	M	61	ARG
13	M	65	ARG
13	M	67	MET
13	M	71	VAL
13	M	75	ILE
13	M	77	ARG
13	M	79	ARG
13	M	81	GLN
13	M	88	LEU
13	M	90	ARG
13	M	91	PHE
13	M	92	GLU
13	M	99	LEU
13	M	105	LEU
13	M	112	LEU
13	M	114	ILE
13	M	117	GLU
13	M	125	VAL
13	M	126	VAL
13	M	136	GLU
13	M	146	VAL
13	M	149	GLU
14	N	8	LYS
14	N	10	ARG
14	N	12	GLN
14	N	16	ARG
14	N	17	LEU
14	N	21	THR
14	N	35	VAL
14	N	55	VAL
14	N	56	ARG

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Mol	Chain	Res	Type
14	N	58	PHE
14	N	68	ILE
14	N	82	ARG
14	N	96	VAL
14	N	101	ARG
14	N	110	THR
14	N	131	ILE
14	N	138	ASP
15	O	6	SER
15	O	15	SER
15	O	20	LEU
15	O	23	ASN
15	O	24	GLN
15	O	28	LEU
15	O	29	LEU
15	O	35	THR
15	O	44	LEU
15	O	65	LEU
15	O	67	LEU
15	O	72	ASP
15	O	76	VAL
15	O	82	GLU
15	O	102	GLU
15	O	103	ARG
15	O	105	ARG
15	O	111	LEU
16	P	13	ARG
16	P	21	THR
16	P	28	VAL
16	P	34	HIS
16	P	35	ILE
16	P	36	TYR
16	P	42	ASP
16	P	44	LYS
16	P	49	VAL
16	P	59	LYS
16	P	67	ARG
16	P	78	LEU
16	P	92	TYR
16	P	98	VAL
16	P	111	GLU
17	Q	1	MET

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Mol	Chain	Res	Type
17	Q	3	ARG
17	Q	6	LEU
17	Q	12	SER
17	Q	17	THR
17	Q	18	ASP
17	Q	19	LEU
17	Q	50	ILE
17	Q	51	ARG
17	Q	53	ARG
17	Q	54	ARG
17	Q	57	PHE
17	Q	59	THR
17	Q	64	ARG
17	Q	72	VAL
17	Q	74	ARG
17	Q	102	ILE
17	Q	105	LEU
17	Q	106	SER
17	Q	115	ARG
17	Q	119	LYS
17	Q	124	ASP
17	Q	128	GLU
17	Q	129	ARG
18	R	11	ARG
18	R	15	LYS
18	R	18	LEU
18	R	36	ARG
18	R	70	ARG
18	R	72	HIS
18	R	74	LEU
18	R	88	ILE
18	R	97	ASP
18	R	101	ARG
18	R	108	GLU
19	S	7	THR
19	S	19	LYS
19	S	26	ASP
19	S	32	THR
19	S	33	VAL
19	S	38	LEU
19	S	46	VAL
19	S	51	VAL

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Mol	Chain	Res	Type
19	S	53	GLU
19	S	56	SER
19	S	61	VAL
19	S	68	LYS
19	S	71	LEU
19	S	73	SER
19	S	79	VAL
19	S	82	ARG
19	S	88	ARG
19	S	95	LEU
20	T	11	ARG
20	T	19	LEU
20	T	28	SER
20	T	33	ARG
20	T	35	ILE
20	T	39	THR
20	T	63	ASP
20	T	78	GLU
20	T	84	ARG
20	T	86	LEU
20	T	101	SER
20	T	107	LEU
20	T	111	HIS
21	U	23	GLU
21	U	30	VAL
21	U	51	VAL
21	U	53	LYS
21	U	54	VAL
21	U	68	ARG
21	U	81	VAL
22	V	2	ARG
22	V	3	VAL
22	V	5	MET
22	V	8	LYS
22	V	9	LYS
22	V	43	ASN
22	V	44	ILE
22	V	45	VAL
22	V	51	VAL
22	V	55	TYR
22	V	72	VAL
22	V	83	THR

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Mol	Chain	Res	Type
22	V	90	LEU
22	V	96	ILE
22	V	97	ARG
22	V	106	LEU
23	W	5	LEU
23	W	8	TYR
23	W	13	GLU
23	W	24	LEU
23	W	30	ASN
23	W	31	ARG
23	W	33	LEU
23	W	37	VAL
23	W	50	GLN
23	W	54	HIS
23	W	67	LEU
23	W	70	LEU
23	W	72	ARG
23	W	76	LEU
23	W	78	LYS
23	W	80	ARG
23	W	86	VAL
23	W	104	PHE
23	W	121	HIS
23	W	132	ASN
23	W	146	ILE
23	W	150	LEU
23	W	157	LEU
23	W	161	VAL
23	W	165	VAL
23	W	168	GLU
23	W	171	ILE
23	W	175	VAL
23	W	179	ASP
23	W	180	VAL
24	X	10	THR
24	X	12	ASN
24	X	31	VAL
24	X	37	LEU
24	X	64	ASP
24	X	66	VAL
24	X	67	VAL
24	X	68	GLU

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Mol	Chain	Res	Type
24	X	70	GLN
24	X	74	ARG
24	X	75	LEU
24	X	80	HIS
24	X	84	LEU
25	Y	27	GLU
25	Y	40	ARG
25	Y	41	ARG
25	Y	47	GLN
25	Y	51	VAL
25	Y	52	ARG
25	Y	59	THR
25	Y	61	ARG
25	Y	75	GLU
25	Y	81	ARG
25	Y	82	LEU
25	Y	95	LEU
25	Y	97	LEU
25	Y	98	LEU
26	Z	3	LEU
26	Z	6	VAL
26	Z	17	SER
26	Z	24	LEU
26	Z	52	ASP
26	Z	59	ARG
26	Z	66	GLU
27	AA	6	VAL
27	AA	10	LYS
27	AA	18	ASP
27	AA	29	ARG
27	AA	31	LEU
27	AA	32	GLN
27	AA	33	GLN
27	AA	35	ARG
27	AA	38	GLU
27	AA	40	THR
27	AA	44	ARG
27	AA	54	VAL
27	AA	56	VAL
27	AA	59	VAL
28	BA	9	LEU
28	BA	22	ILE

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Mol	Chain	Res	Type
28	BA	24	THR
28	BA	25	TYR
28	BA	31	ILE
28	BA	33	VAL
28	BA	34	GLU
28	BA	36	CYS
28	BA	40	HIS
28	BA	44	THR
28	BA	49	PHE
28	BA	61	ARG
28	BA	65	ASP
28	BA	67	TYR
28	BA	68	ARG
29	CA	22	HIS
29	CA	25	LEU
29	CA	26	THR
29	CA	29	ILE
29	CA	33	CYS
29	CA	48	GLU
29	CA	55	ARG
29	CA	59	GLU
30	DA	6	ARG
30	DA	7	ILE
30	DA	9	LEU
30	DA	10	LEU
30	DA	14	THR
30	DA	27	LYS
30	DA	34	LEU
30	DA	43	CYS
30	DA	44	ARG
30	DA	52	VAL
31	EA	4	THR
31	EA	23	ARG
31	EA	24	THR
31	EA	29	LYS
31	EA	41	ARG
31	EA	43	THR
31	EA	46	VAL
31	EA	48	LYS
32	FA	6	THR
32	FA	11	LYS
32	FA	31	HIS

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Mol	Chain	Res	Type
32	FA	50	LEU
33	GA	10	ILE
35	JA	103	LYS
35	JA	104	ASP
35	JA	106	ASP
35	JA	107	ASP
35	JA	108	GLU
35	JA	109	ARG
35	JA	133	ARG
35	JA	142	ARG
35	JA	143	ARG
35	JA	156	HIS
35	JA	159	TYR
35	JA	171	VAL
35	JA	172	TYR
35	JA	174	ARG
35	JA	177	PHE
35	JA	190	THR
35	JA	193	GLN
35	KA	306	ARG
35	KA	317	VAL
35	KA	329	LEU
35	KA	332	VAL
35	KA	334	GLU
35	KA	338	ASP
35	KA	341	ILE
35	KA	347	GLU
35	KA	348	HIS
35	KA	352	GLN
35	KA	356	LEU
35	KA	359	GLN
36	LA	7	VAL
36	LA	10	LEU
36	LA	17	PHE
36	LA	19	HIS
36	LA	21	ARG
36	LA	33	TYR
36	LA	40	HIS
36	LA	50	GLU
36	LA	51	LEU
36	LA	52	GLU
36	LA	54	THR

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Mol	Chain	Res	Type
36	LA	74	LYS
36	LA	75	LYS
36	LA	76	GLN
36	LA	78	GLN
36	LA	79	ASP
36	LA	81	VAL
36	LA	82	ARG
36	LA	98	LEU
36	LA	119	GLU
36	LA	126	GLU
36	LA	127	ILE
36	LA	136	VAL
36	LA	140	HIS
36	LA	141	GLU
36	LA	145	LEU
36	LA	152	PHE
36	LA	156	LYS
36	LA	160	ASP
36	LA	168	THR
36	LA	172	ILE
36	LA	176	GLU
36	LA	187	LEU
36	LA	190	THR
36	LA	196	LEU
36	LA	200	ILE
36	LA	208	ILE
36	LA	210	SER
36	LA	212	GLN
36	LA	213	LEU
36	LA	215	LEU
36	LA	223	ILE
36	LA	226	ARG
36	LA	229	VAL
36	LA	230	VAL
36	LA	238	LEU
37	MA	16	ARG
37	MA	31	HIS
37	MA	37	GLN
37	MA	55	VAL
37	MA	66	VAL
37	MA	70	VAL
37	MA	72	LYS

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Mol	Chain	Res	Type
37	MA	85	ARG
37	MA	87	LEU
37	MA	94	LEU
37	MA	101	LEU
37	MA	102	ASN
37	MA	103	VAL
37	MA	105	GLU
37	MA	118	GLN
37	MA	124	ILE
37	MA	128	PHE
37	MA	140	ARG
37	MA	144	SER
37	MA	172	ARG
37	MA	175	LEU
37	MA	188	LEU
37	MA	195	VAL
38	NA	18	LYS
38	NA	19	LEU
38	NA	21	LEU
38	NA	26	CYS
38	NA	33	MET
38	NA	47	ARG
38	NA	50	ARG
38	NA	61	LYS
38	NA	73	ARG
38	NA	76	ARG
38	NA	80	GLU
38	NA	97	LEU
38	NA	116	GLN
38	NA	127	THR
38	NA	135	LEU
38	NA	141	ARG
38	NA	155	LEU
38	NA	168	ARG
38	NA	169	LYS
38	NA	173	TRP
38	NA	175	SER
38	NA	179	GLU
38	NA	182	LYS
38	NA	188	LEU
38	NA	194	LEU
39	OA	12	LEU

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Mol	Chain	Res	Type
39	OA	16	THR
39	OA	25	ARG
39	OA	26	PHE
39	OA	38	GLN
39	OA	41	VAL
39	OA	45	PHE
39	OA	50	GLU
39	OA	66	MET
39	OA	68	GLU
39	OA	69	VAL
39	OA	71	LEU
39	OA	72	GLN
39	OA	73	ASN
39	OA	80	ILE
39	OA	84	PHE
39	OA	91	LEU
39	OA	119	LEU
39	OA	120	THR
39	OA	121	LYS
39	OA	133	TYR
39	OA	142	LEU
39	OA	149	GLU
40	PA	3	ARG
40	PA	15	ASP
40	PA	16	GLN
40	PA	40	VAL
40	PA	52	ILE
40	PA	70	ASP
40	PA	73	ASN
40	PA	77	ARG
40	PA	94	GLN
40	PA	97	PHE
40	PA	98	LEU
41	QA	16	LEU
41	QA	17	VAL
41	QA	24	THR
41	QA	37	ASN
41	QA	47	CYS
41	QA	49	ILE
41	QA	50	ILE
41	QA	54	THR
41	QA	59	LEU

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Mol	Chain	Res	Type
41	QA	76	ARG
41	QA	79	ARG
41	QA	98	SER
41	QA	104	LEU
41	QA	110	GLN
41	QA	113	GLU
41	QA	118	VAL
41	QA	124	LEU
41	QA	129	GLU
41	QA	142	GLU
41	QA	155	ARG
41	QA	156	TRP
42	RA	3	THR
42	RA	10	LEU
42	RA	18	ARG
42	RA	25	ASP
42	RA	30	ARG
42	RA	37	ARG
42	RA	45	ILE
42	RA	77	GLU
42	RA	82	HIS
42	RA	83	ILE
42	RA	91	ARG
42	RA	97	VAL
42	RA	105	ARG
42	RA	129	VAL
43	SA	5	TYR
43	SA	7	THR
43	SA	23	ASN
43	SA	31	GLN
43	SA	32	ASP
43	SA	36	TYR
43	SA	40	LEU
43	SA	41	VAL
43	SA	42	ARG
43	SA	51	ARG
43	SA	59	PHE
43	SA	73	GLN
43	SA	75	ASP
43	SA	87	GLN
43	SA	102	LEU
43	SA	105	ASP

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Mol	Chain	Res	Type
43	SA	111	ARG
43	SA	113	LYS
43	SA	121	ARG
44	TA	4	ILE
44	TA	13	HIS
44	TA	15	THR
44	TA	34	VAL
44	TA	44	VAL
44	TA	45	ARG
44	TA	49	VAL
44	TA	62	HIS
44	TA	68	HIS
44	TA	72	VAL
44	TA	73	ASP
44	TA	74	ILE
44	TA	80	LYS
44	TA	81	THR
44	TA	96	ILE
44	TA	98	ILE
45	UA	11	LYS
45	UA	12	ARG
45	UA	21	ILE
45	UA	25	TYR
45	UA	33	THR
45	UA	44	SER
45	UA	63	LEU
45	UA	73	MET
45	UA	79	SER
45	UA	81	ASP
45	UA	95	ILE
46	VA	6	THR
46	VA	7	ILE
46	VA	8	ASN
46	VA	11	VAL
46	VA	13	LYS
46	VA	19	ARG
46	VA	20	LYS
46	VA	24	VAL
46	VA	27	LEU
46	VA	52	LEU
46	VA	55	VAL
46	VA	60	LEU

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Mol	Chain	Res	Type
46	VA	66	VAL
46	VA	67	THR
46	VA	97	ARG
46	VA	104	VAL
46	VA	112	ASP
46	VA	117	ARG
47	WA	4	ILE
47	WA	7	VAL
47	WA	9	ILE
47	WA	12	ASN
47	WA	22	ILE
47	WA	31	LYS
47	WA	32	GLU
47	WA	43	THR
47	WA	46	LYS
47	WA	55	ARG
47	WA	56	LEU
47	WA	60	VAL
47	WA	66	LEU
47	WA	67	GLU
47	WA	82	MET
47	WA	92	HIS
47	WA	101	GLN
47	WA	108	ARG
47	WA	109	THR
47	WA	117	VAL
48	XA	3	ARG
48	XA	12	ARG
48	XA	13	THR
48	XA	23	ARG
48	XA	33	VAL
48	XA	42	ILE
48	XA	53	LEU
49	YA	4	THR
49	YA	13	GLN
49	YA	17	ARG
49	YA	22	THR
49	YA	25	THR
49	YA	27	VAL
49	YA	31	LEU
49	YA	35	ARG
49	YA	39	LEU

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Mol	Chain	Res	Type
49	YA	56	LEU
49	YA	57	LEU
49	YA	62	GLN
49	YA	67	LEU
49	YA	70	LEU
49	YA	79	ARG
49	YA	83	GLU
49	YA	87	ILE
50	ZA	1	MET
50	ZA	2	VAL
50	ZA	8	ARG
50	ZA	20	VAL
50	ZA	25	ARG
50	ZA	42	ARG
50	ZA	54	GLU
50	ZA	57	ARG
50	ZA	68	ASP
50	ZA	69	THR
50	ZA	72	ARG
51	AB	3	LYS
51	AB	4	LYS
51	AB	9	VAL
51	AB	11	VAL
51	AB	13	ASP
51	AB	14	LYS
51	AB	24	GLU
51	AB	35	VAL
51	AB	45	HIS
51	AB	57	VAL
51	AB	63	ARG
51	AB	69	LYS
51	AB	72	ARG
51	AB	74	LEU
51	AB	75	ARG
51	AB	87	LYS
51	AB	96	GLN
52	BB	25	THR
52	BB	29	PHE
52	BB	35	ARG
52	BB	37	VAL
52	BB	38	GLU
52	BB	46	GLU

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Mol	Chain	Res	Type
52	BB	53	ARG
52	BB	55	ARG
52	BB	75	ILE
52	BB	76	LEU
52	BB	79	LEU
52	BB	82	THR
53	CB	9	VAL
53	CB	11	VAL
53	CB	17	GLU
53	CB	22	LEU
53	CB	37	ARG
53	CB	40	ILE
53	CB	41	VAL
53	CB	47	HIS
53	CB	58	VAL
53	CB	61	TYR
53	CB	63	THR
53	CB	73	GLU
53	CB	77	THR
53	CB	79	THR
53	CB	81	ARG
54	DB	10	LEU
54	DB	13	LEU
54	DB	20	LEU
54	DB	30	LYS
54	DB	45	GLN
54	DB	62	LEU
54	DB	75	ASN
54	DB	84	LEU
54	DB	88	VAL
54	DB	92	LEU
55	EB	8	THR
55	EB	13	ILE
55	EB	15	ARG
55	EB	17	THR
5	JB	9	TYR
5	JB	12	SER
5	JB	23	GLU
5	JB	26	LYS
5	JB	30	GLU
5	JB	37	LEU
5	JB	52	ARG

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Mol	Chain	Res	Type
5	JB	59	LYS
5	JB	68	LYS
5	JB	69	ARG
5	JB	73	VAL
5	JB	87	ASN
5	JB	92	ILE
5	JB	94	LEU
5	JB	99	ASP
5	JB	116	GLN
5	JB	131	LEU
5	JB	138	VAL
5	JB	141	VAL
5	JB	150	LYS
5	JB	155	LEU
5	JB	168	ARG
5	JB	171	ASP
5	JB	173	VAL
5	JB	183	ARG
5	JB	200	ASP
5	JB	211	ARG
5	JB	212	SER
5	JB	215	LEU
5	JB	220	HIS
5	JB	221	VAL
5	JB	226	MET
5	JB	229	VAL
5	JB	230	ASP
5	JB	237	GLU
5	JB	242	ARG
5	JB	263	ARG
5	JB	266	SER
5	JB	271	ILE
5	JB	274	ARG
5	JB	275	LYS
6	KB	1	MET
6	KB	9	VAL
6	KB	13	ARG
6	KB	21	VAL
6	KB	38	THR
6	KB	40	GLU
6	KB	49	LEU
6	KB	69	LYS

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Mol	Chain	Res	Type
6	KB	79	ARG
6	KB	83	ASP
6	KB	84	PHE
6	KB	91	VAL
6	KB	92	THR
6	KB	119	ARG
6	KB	127	ASP
6	KB	129	HIS
6	KB	146	THR
6	KB	149	ARG
6	KB	154	LYS
6	KB	160	TYR
6	KB	163	GLU
6	KB	167	VAL
6	KB	173	VAL
6	KB	192	ASN
6	KB	195	LEU
6	KB	199	ARG
7	LB	6	MET
7	LB	7	TYR
7	LB	15	SER
7	LB	17	ARG
7	LB	33	LEU
7	LB	38	ARG
7	LB	44	ARG
7	LB	51	THR
7	LB	56	GLU
7	LB	57	VAL
7	LB	64	ILE
7	LB	70	THR
7	LB	72	ARG
7	LB	74	ARG
7	LB	84	VAL
7	LB	100	THR
7	LB	110	LEU
7	LB	116	ASP
7	LB	132	VAL
7	LB	144	LYS
7	LB	158	THR
7	LB	160	ASN
7	LB	176	LEU
7	LB	182	ASN

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Mol	Chain	Res	Type
7	LB	183	VAL
7	LB	192	LEU
7	LB	195	ASP
8	MB	7	LEU
8	MB	28	VAL
8	MB	38	VAL
8	MB	43	LEU
8	MB	48	GLU
8	MB	49	ASP
8	MB	51	ARG
8	MB	52	ILE
8	MB	53	LEU
8	MB	54	GLU
8	MB	60	LEU
8	MB	70	VAL
8	MB	71	THR
8	MB	77	ILE
8	MB	78	SER
8	MB	82	LEU
8	MB	103	LEU
8	MB	111	LEU
8	MB	115	ARG
8	MB	116	ASP
8	MB	123	ASN
8	MB	130	ASN
8	MB	135	LEU
8	MB	136	ARG
8	MB	139	LEU
8	MB	143	GLU
8	MB	144	ILE
8	MB	146	TYR
8	MB	156	ASP
8	MB	157	ILE
8	MB	159	VAL
8	MB	161	THR
8	MB	170	ARG
9	NB	3	ARG
9	NB	17	VAL
9	NB	24	VAL
9	NB	27	LYS
9	NB	33	LEU
9	NB	40	GLU

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Mol	Chain	Res	Type
9	NB	53	GLU
9	NB	58	GLU
9	NB	61	HIS
9	NB	71	LEU
9	NB	83	TYR
9	NB	84	SER
9	NB	98	LEU
9	NB	106	THR
9	NB	114	VAL
9	NB	122	THR
9	NB	131	VAL
9	NB	136	ILE
9	NB	139	GLN
9	NB	143	GLN
9	NB	144	VAL
9	NB	169	VAL
10	OB	1	MET
10	OB	5	LEU
10	OB	7	GLU
10	OB	9	LEU
10	OB	10	GLU
10	OB	19	VAL
10	OB	22	LYS
10	OB	41	GLU
10	OB	43	ASN
10	OB	47	LEU
10	OB	48	GLU
10	OB	61	ARG
10	OB	67	ARG
10	OB	73	GLU
10	OB	77	LEU
10	OB	88	ILE
10	OB	96	ASP
10	OB	101	LEU
10	OB	105	HIS
10	OB	107	ILE
10	OB	108	THR
10	OB	109	ILE
10	OB	117	GLU
10	OB	121	LYS
10	OB	128	LEU
10	OB	140	LEU

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Mol	Chain	Res	Type
10	OB	144	VAL
10	OB	145	VAL
11	PB	1	MET
11	PB	7	LYS
11	PB	8	GLN
11	PB	9	VAL
11	PB	28	THR
11	PB	32	THR
11	PB	34	LEU
11	PB	43	THR
11	PB	48	MET
11	PB	55	VAL
11	PB	62	VAL
11	PB	63	THR
11	PB	67	LEU
11	PB	73	THR
11	PB	85	ILE
11	PB	91	LEU
11	PB	96	GLU
11	PB	115	ARG
11	PB	127	ASP
11	PB	130	HIS
11	PB	131	GLN
12	QB	17	ARG
12	QB	21	CYS
12	QB	38	VAL
12	QB	53	LYS
12	QB	65	THR
12	QB	69	VAL
12	QB	75	SER
12	QB	82	ASN
12	QB	89	ASN
12	QB	97	ARG
12	QB	99	PHE
12	QB	113	LYS
12	QB	114	ILE
13	RB	2	LYS
13	RB	5	ASP
13	RB	14	LYS
13	RB	16	ARG
13	RB	19	VAL
13	RB	45	LEU

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Mol	Chain	Res	Type
13	RB	57	THR
13	RB	59	LEU
13	RB	61	ARG
13	RB	65	ARG
13	RB	67	MET
13	RB	71	VAL
13	RB	75	ILE
13	RB	77	ARG
13	RB	79	ARG
13	RB	81	GLN
13	RB	88	LEU
13	RB	90	ARG
13	RB	91	PHE
13	RB	92	GLU
13	RB	99	LEU
13	RB	105	LEU
13	RB	112	LEU
13	RB	114	ILE
13	RB	117	GLU
13	RB	125	VAL
13	RB	126	VAL
13	RB	136	GLU
13	RB	146	VAL
13	RB	149	GLU
14	SB	7	MET
14	SB	8	LYS
14	SB	10	ARG
14	SB	12	GLN
14	SB	16	ARG
14	SB	17	LEU
14	SB	21	THR
14	SB	35	VAL
14	SB	55	VAL
14	SB	56	ARG
14	SB	58	PHE
14	SB	68	ILE
14	SB	82	ARG
14	SB	101	ARG
14	SB	110	THR
14	SB	131	ILE
14	SB	138	ASP
15	TB	6	SER

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Mol	Chain	Res	Type
15	TB	15	SER
15	TB	20	LEU
15	TB	23	ASN
15	TB	28	LEU
15	TB	29	LEU
15	TB	35	THR
15	TB	44	LEU
15	TB	65	LEU
15	TB	67	LEU
15	TB	72	ASP
15	TB	76	VAL
15	TB	82	GLU
15	TB	102	GLU
15	TB	103	ARG
15	TB	105	ARG
15	TB	111	LEU
16	UB	13	ARG
16	UB	28	VAL
16	UB	34	HIS
16	UB	35	ILE
16	UB	36	TYR
16	UB	42	ASP
16	UB	44	LYS
16	UB	49	VAL
16	UB	59	LYS
16	UB	67	ARG
16	UB	78	LEU
16	UB	92	TYR
16	UB	98	VAL
16	UB	111	GLU
17	VB	1	MET
17	VB	3	ARG
17	VB	6	LEU
17	VB	12	SER
17	VB	17	THR
17	VB	18	ASP
17	VB	19	LEU
17	VB	50	ILE
17	VB	51	ARG
17	VB	53	ARG
17	VB	54	ARG
17	VB	57	PHE

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Mol	Chain	Res	Type
17	VB	59	THR
17	VB	64	ARG
17	VB	72	VAL
17	VB	74	ARG
17	VB	96	ARG
17	VB	102	ILE
17	VB	105	LEU
17	VB	106	SER
17	VB	115	ARG
17	VB	119	LYS
17	VB	124	ASP
17	VB	128	GLU
17	VB	129	ARG
18	WB	11	ARG
18	WB	15	LYS
18	WB	18	LEU
18	WB	36	ARG
18	WB	70	ARG
18	WB	72	HIS
18	WB	74	LEU
18	WB	88	ILE
18	WB	97	ASP
18	WB	101	ARG
18	WB	108	GLU
19	XB	7	THR
19	XB	19	LYS
19	XB	26	ASP
19	XB	32	THR
19	XB	33	VAL
19	XB	38	LEU
19	XB	46	VAL
19	XB	51	VAL
19	XB	53	GLU
19	XB	56	SER
19	XB	61	VAL
19	XB	68	LYS
19	XB	71	LEU
19	XB	73	SER
19	XB	79	VAL
19	XB	82	ARG
19	XB	88	ARG
19	XB	95	LEU

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Mol	Chain	Res	Type
20	YB	11	ARG
20	YB	28	SER
20	YB	33	ARG
20	YB	35	ILE
20	YB	39	THR
20	YB	63	ASP
20	YB	78	GLU
20	YB	84	ARG
20	YB	86	LEU
20	YB	101	SER
20	YB	107	LEU
20	YB	111	HIS
21	ZB	23	GLU
21	ZB	30	VAL
21	ZB	35	THR
21	ZB	49	VAL
21	ZB	51	VAL
21	ZB	53	LYS
21	ZB	54	VAL
21	ZB	68	ARG
21	ZB	81	VAL
22	AC	2	ARG
22	AC	3	VAL
22	AC	5	MET
22	AC	8	LYS
22	AC	9	LYS
22	AC	43	ASN
22	AC	44	ILE
22	AC	45	VAL
22	AC	51	VAL
22	AC	55	TYR
22	AC	72	VAL
22	AC	83	THR
22	AC	90	LEU
22	AC	96	ILE
22	AC	97	ARG
22	AC	106	LEU
23	BC	5	LEU
23	BC	8	TYR
23	BC	13	GLU
23	BC	24	LEU
23	BC	30	ASN

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Mol	Chain	Res	Type
23	BC	31	ARG
23	BC	33	LEU
23	BC	50	GLN
23	BC	54	HIS
23	BC	67	LEU
23	BC	69	THR
23	BC	70	LEU
23	BC	72	ARG
23	BC	76	LEU
23	BC	78	LYS
23	BC	80	ARG
23	BC	86	VAL
23	BC	104	PHE
23	BC	121	HIS
23	BC	132	ASN
23	BC	146	ILE
23	BC	150	LEU
23	BC	157	LEU
23	BC	161	VAL
23	BC	165	VAL
23	BC	168	GLU
23	BC	171	ILE
23	BC	175	VAL
23	BC	179	ASP
23	BC	180	VAL
24	CC	10	THR
24	CC	12	ASN
24	CC	31	VAL
24	CC	37	LEU
24	CC	64	ASP
24	CC	67	VAL
24	CC	68	GLU
24	CC	70	GLN
24	CC	74	ARG
24	CC	75	LEU
24	CC	80	HIS
24	CC	84	LEU
25	DC	26	ARG
25	DC	27	GLU
25	DC	30	VAL
25	DC	38	SER
25	DC	40	ARG

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Mol	Chain	Res	Type
25	DC	41	ARG
25	DC	47	GLN
25	DC	51	VAL
25	DC	52	ARG
25	DC	59	THR
25	DC	61	ARG
25	DC	75	GLU
25	DC	81	ARG
25	DC	82	LEU
25	DC	95	LEU
25	DC	97	LEU
25	DC	98	LEU
26	EC	3	LEU
26	EC	6	VAL
26	EC	17	SER
26	EC	52	ASP
26	EC	59	ARG
26	EC	66	GLU
27	FC	6	VAL
27	FC	10	LYS
27	FC	18	ASP
27	FC	29	ARG
27	FC	31	LEU
27	FC	32	GLN
27	FC	33	GLN
27	FC	35	ARG
27	FC	37	LEU
27	FC	38	GLU
27	FC	40	THR
27	FC	44	ARG
27	FC	54	VAL
27	FC	56	VAL
27	FC	59	VAL
28	GC	9	LEU
28	GC	22	ILE
28	GC	24	THR
28	GC	25	TYR
28	GC	31	ILE
28	GC	33	VAL
28	GC	34	GLU
28	GC	36	CYS
28	GC	40	HIS

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Mol	Chain	Res	Type
28	GC	44	THR
28	GC	49	PHE
28	GC	61	ARG
28	GC	65	ASP
28	GC	67	TYR
28	GC	68	ARG
29	HC	22	HIS
29	HC	25	LEU
29	HC	26	THR
29	HC	29	ILE
29	HC	33	CYS
29	HC	48	GLU
29	HC	55	ARG
29	HC	59	GLU
30	IC	6	ARG
30	IC	7	ILE
30	IC	9	LEU
30	IC	10	LEU
30	IC	14	THR
30	IC	27	LYS
30	IC	34	LEU
30	IC	43	CYS
30	IC	44	ARG
30	IC	52	VAL
31	JC	4	THR
31	JC	23	ARG
31	JC	24	THR
31	JC	29	LYS
31	JC	41	ARG
31	JC	43	THR
31	JC	46	VAL
31	JC	48	LYS
32	KC	6	THR
32	KC	11	LYS
32	KC	31	HIS
32	KC	32	LEU
32	KC	50	LEU
33	LC	10	ILE
35	OC	103	LYS
35	OC	104	ASP
35	OC	106	ASP
35	OC	107	ASP

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Mol	Chain	Res	Type
35	OC	108	GLU
35	OC	109	ARG
35	OC	133	ARG
35	OC	142	ARG
35	OC	143	ARG
35	OC	156	HIS
35	OC	159	TYR
35	OC	171	VAL
35	OC	172	TYR
35	OC	174	ARG
35	OC	177	PHE
35	OC	190	THR
35	OC	193	GLN
35	PC	306	ARG
35	PC	317	VAL
35	PC	329	LEU
35	PC	332	VAL
35	PC	334	GLU
35	PC	338	ASP
35	PC	341	ILE
35	PC	347	GLU
35	PC	348	HIS
35	PC	352	GLN
35	PC	356	LEU
35	PC	359	GLN
36	QC	7	VAL
36	QC	10	LEU
36	QC	17	PHE
36	QC	19	HIS
36	QC	21	ARG
36	QC	32	ILE
36	QC	33	TYR
36	QC	40	HIS
36	QC	50	GLU
36	QC	51	LEU
36	QC	52	GLU
36	QC	54	THR
36	QC	60	ASP
36	QC	74	LYS
36	QC	75	LYS
36	QC	76	GLN
36	QC	78	GLN

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Mol	Chain	Res	Type
36	QC	79	ASP
36	QC	81	VAL
36	QC	82	ARG
36	QC	98	LEU
36	QC	106	LYS
36	QC	119	GLU
36	QC	126	GLU
36	QC	127	ILE
36	QC	136	VAL
36	QC	140	HIS
36	QC	141	GLU
36	QC	145	LEU
36	QC	152	PHE
36	QC	156	LYS
36	QC	160	ASP
36	QC	168	THR
36	QC	172	ILE
36	QC	176	GLU
36	QC	185	ILE
36	QC	187	LEU
36	QC	190	THR
36	QC	196	LEU
36	QC	200	ILE
36	QC	208	ILE
36	QC	212	GLN
36	QC	215	LEU
36	QC	223	ILE
36	QC	226	ARG
36	QC	229	VAL
36	QC	230	VAL
36	QC	238	LEU
37	RC	16	ARG
37	RC	31	HIS
37	RC	37	GLN
37	RC	55	VAL
37	RC	66	VAL
37	RC	70	VAL
37	RC	72	LYS
37	RC	85	ARG
37	RC	87	LEU
37	RC	94	LEU
37	RC	101	LEU

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Mol	Chain	Res	Type
37	RC	102	ASN
37	RC	103	VAL
37	RC	105	GLU
37	RC	118	GLN
37	RC	124	ILE
37	RC	128	PHE
37	RC	144	SER
37	RC	172	ARG
37	RC	175	LEU
37	RC	188	LEU
37	RC	195	VAL
38	SC	18	LYS
38	SC	19	LEU
38	SC	21	LEU
38	SC	26	CYS
38	SC	33	MET
38	SC	47	ARG
38	SC	50	ARG
38	SC	61	LYS
38	SC	73	ARG
38	SC	76	ARG
38	SC	80	GLU
38	SC	97	LEU
38	SC	116	GLN
38	SC	127	THR
38	SC	135	LEU
38	SC	141	ARG
38	SC	155	LEU
38	SC	168	ARG
38	SC	169	LYS
38	SC	173	TRP
38	SC	175	SER
38	SC	179	GLU
38	SC	182	LYS
38	SC	188	LEU
38	SC	194	LEU
39	TC	12	LEU
39	TC	16	THR
39	TC	25	ARG
39	TC	26	PHE
39	TC	38	GLN
39	TC	45	PHE

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Mol	Chain	Res	Type
39	TC	50	GLU
39	TC	66	MET
39	TC	68	GLU
39	TC	69	VAL
39	TC	71	LEU
39	TC	72	GLN
39	TC	73	ASN
39	TC	80	ILE
39	TC	84	PHE
39	TC	91	LEU
39	TC	119	LEU
39	TC	120	THR
39	TC	121	LYS
39	TC	133	TYR
39	TC	142	LEU
39	TC	149	GLU
40	UC	1	MET
40	UC	3	ARG
40	UC	15	ASP
40	UC	16	GLN
40	UC	40	VAL
40	UC	52	ILE
40	UC	70	ASP
40	UC	73	ASN
40	UC	77	ARG
40	UC	94	GLN
40	UC	97	PHE
40	UC	98	LEU
41	VC	16	LEU
41	VC	17	VAL
41	VC	24	THR
41	VC	37	ASN
41	VC	47	CYS
41	VC	49	ILE
41	VC	50	ILE
41	VC	54	THR
41	VC	59	LEU
41	VC	76	ARG
41	VC	79	ARG
41	VC	98	SER
41	VC	104	LEU
41	VC	110	GLN

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Mol	Chain	Res	Type
41	VC	113	GLU
41	VC	118	VAL
41	VC	124	LEU
41	VC	129	GLU
41	VC	142	GLU
41	VC	155	ARG
41	VC	156	TRP
42	WC	3	THR
42	WC	10	LEU
42	WC	18	ARG
42	WC	25	ASP
42	WC	30	ARG
42	WC	37	ARG
42	WC	77	GLU
42	WC	82	HIS
42	WC	83	ILE
42	WC	91	ARG
42	WC	97	VAL
42	WC	105	ARG
42	WC	129	VAL
43	XC	5	TYR
43	XC	7	THR
43	XC	23	ASN
43	XC	31	GLN
43	XC	32	ASP
43	XC	36	TYR
43	XC	40	LEU
43	XC	41	VAL
43	XC	42	ARG
43	XC	51	ARG
43	XC	59	PHE
43	XC	73	GLN
43	XC	75	ASP
43	XC	87	GLN
43	XC	102	LEU
43	XC	105	ASP
43	XC	111	ARG
43	XC	113	LYS
43	XC	121	ARG
44	YC	4	ILE
44	YC	13	HIS
44	YC	15	THR

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Mol	Chain	Res	Type
44	YC	34	VAL
44	YC	44	VAL
44	YC	45	ARG
44	YC	49	VAL
44	YC	62	HIS
44	YC	66	ARG
44	YC	68	HIS
44	YC	72	VAL
44	YC	73	ASP
44	YC	74	ILE
44	YC	80	LYS
44	YC	81	THR
44	YC	96	ILE
44	YC	98	ILE
45	ZC	11	LYS
45	ZC	12	ARG
45	ZC	21	ILE
45	ZC	25	TYR
45	ZC	33	THR
45	ZC	63	LEU
45	ZC	73	MET
45	ZC	79	SER
45	ZC	81	ASP
45	ZC	95	ILE
45	ZC	117	ASN
46	AD	6	THR
46	AD	7	ILE
46	AD	8	ASN
46	AD	11	VAL
46	AD	13	LYS
46	AD	19	ARG
46	AD	20	LYS
46	AD	24	VAL
46	AD	27	LEU
46	AD	52	LEU
46	AD	55	VAL
46	AD	60	LEU
46	AD	66	VAL
46	AD	67	THR
46	AD	97	ARG
46	AD	104	VAL
46	AD	112	ASP

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Mol	Chain	Res	Type
46	AD	117	ARG
47	BD	4	ILE
47	BD	7	VAL
47	BD	9	ILE
47	BD	12	ASN
47	BD	22	ILE
47	BD	31	LYS
47	BD	32	GLU
47	BD	43	THR
47	BD	46	LYS
47	BD	55	ARG
47	BD	56	LEU
47	BD	60	VAL
47	BD	66	LEU
47	BD	67	GLU
47	BD	82	MET
47	BD	92	HIS
47	BD	101	GLN
47	BD	108	ARG
47	BD	109	THR
47	BD	117	VAL
48	CD	3	ARG
48	CD	12	ARG
48	CD	13	THR
48	CD	23	ARG
48	CD	33	VAL
48	CD	42	ILE
48	CD	53	LEU
49	DD	4	THR
49	DD	13	GLN
49	DD	17	ARG
49	DD	22	THR
49	DD	25	THR
49	DD	27	VAL
49	DD	31	LEU
49	DD	35	ARG
49	DD	39	LEU
49	DD	56	LEU
49	DD	57	LEU
49	DD	62	GLN
49	DD	67	LEU
49	DD	70	LEU

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Mol	Chain	Res	Type
49	DD	79	ARG
49	DD	83	GLU
49	DD	87	ILE
50	ED	1	MET
50	ED	2	VAL
50	ED	6	LEU
50	ED	8	ARG
50	ED	20	VAL
50	ED	25	ARG
50	ED	42	ARG
50	ED	54	GLU
50	ED	57	ARG
50	ED	68	ASP
50	ED	69	THR
50	ED	72	ARG
51	FD	3	LYS
51	FD	4	LYS
51	FD	9	VAL
51	FD	11	VAL
51	FD	13	ASP
51	FD	14	LYS
51	FD	24	GLU
51	FD	35	VAL
51	FD	45	HIS
51	FD	57	VAL
51	FD	63	ARG
51	FD	69	LYS
51	FD	72	ARG
51	FD	74	LEU
51	FD	75	ARG
51	FD	87	LYS
51	FD	96	GLN
51	FD	100	LYS
52	GD	29	PHE
52	GD	35	ARG
52	GD	37	VAL
52	GD	38	GLU
52	GD	46	GLU
52	GD	53	ARG
52	GD	55	ARG
52	GD	75	ILE
52	GD	76	LEU

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Mol	Chain	Res	Type
52	GD	79	LEU
52	GD	82	THR
53	HD	9	VAL
53	HD	11	VAL
53	HD	17	GLU
53	HD	22	LEU
53	HD	37	ARG
53	HD	40	ILE
53	HD	41	VAL
53	HD	47	HIS
53	HD	58	VAL
53	HD	63	THR
53	HD	73	GLU
53	HD	77	THR
53	HD	79	THR
53	HD	81	ARG
54	ID	10	LEU
54	ID	13	LEU
54	ID	20	LEU
54	ID	30	LYS
54	ID	45	GLN
54	ID	62	LEU
54	ID	75	ASN
54	ID	84	LEU
54	ID	88	VAL
54	ID	92	LEU
55	JD	8	THR
55	JD	13	ILE
55	JD	15	ARG
55	JD	17	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (26) such sidechains are listed below:

Mol	Chain	Res	Type
10	J	17	GLN
12	L	82	ASN
12	L	89	ASN
12	L	90	GLN
15	O	24	GLN
25	Y	47	GLN
33	GA	36	GLN
35	KA	311	ASN

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Mol	Chain	Res	Type
38	NA	201	GLN
39	OA	141	GLN
44	TA	68	HIS
45	UA	22	HIS
47	WA	101	GLN
10	OB	17	GLN
12	QB	82	ASN
12	QB	89	ASN
12	QB	90	GLN
15	TB	24	GLN
16	UB	16	ASN
33	LC	36	GLN
35	PC	311	ASN
38	SC	201	GLN
39	TC	141	GLN
44	YC	68	HIS
45	ZC	22	HIS
47	BD	101	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1502/1507 (99%)	347 (23%)	12 (0%)
1	FB	1502/1507 (99%)	343 (22%)	12 (0%)
2	B	2876/2880 (99%)	658 (22%)	22 (0%)
2	GB	2876/2880 (99%)	658 (22%)	22 (0%)
3	C	119/120 (99%)	19 (15%)	0
3	HB	119/120 (99%)	20 (16%)	0
34	HA	9/27 (33%)	3 (33%)	0
34	MC	9/27 (33%)	3 (33%)	0
4	D	76/77 (98%)	27 (35%)	0
4	IA	76/77 (98%)	20 (26%)	0
4	IB	76/77 (98%)	26 (34%)	0
4	NC	76/77 (98%)	19 (25%)	0
All	All	9316/9376 (99%)	2143 (23%)	68 (0%)

All (2143) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	G
1	A	13	U

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Mol	Chain	Res	Type
1	A	22	G
1	A	26	A
1	A	31	G
1	A	32	A
1	A	39	G
1	A	47	C
1	A	48	C
1	A	50	A
1	A	51	A
1	A	52	G
1	A	58	C
1	A	61	G
1	A	79	G
1	A	80	G
1	A	82	U
1	A	84	U
1	A	85	U
1	A	86	U
1	A	87	A
1	A	88	C
1	A	101	A
1	A	115	G
1	A	116	A
1	A	121	C
1	A	122	G
1	A	131	C
1	A	144	G
1	A	163	C
1	A	169	C
1	A	173	U
1	A	174	C
1	A	176	C
1	A	180	U
1	A	182	U
1	A	185	A
1	A	188	U
1	A	195	A
1	A	197	A
1	A	201	C
1	A	208	U
1	A	209	U
1	A	210	U

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Mol	Chain	Res	Type
1	A	216	G
1	A	218	C
1	A	222	U
1	A	226	G
1	A	233	C
1	A	243	A
1	A	245	C
1	A	247	G
1	A	251	G
1	A	266	G
1	A	268	C
1	A	278	G
1	A	279	A
1	A	280	C
1	A	281	G
1	A	289	G
1	A	291	C
1	A	297	G
1	A	298	A
1	A	306	G
1	A	319	G
1	A	321	A
1	A	324	G
1	A	328	C
1	A	329	A
1	A	330	C
1	A	332	G
1	A	352	C
1	A	353	A
1	A	354	G
1	A	367	U
1	A	372	C
1	A	373	A
1	A	384	G
1	A	388	G
1	A	392	G
1	A	397	A
1	A	398	C
1	A	404	U
1	A	406	G
1	A	412	A
1	A	413	G

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Mol	Chain	Res	Type
1	A	423	G
1	A	429	U
1	A	439	A
1	A	442	C
1	A	452	A
1	A	458	C
1	A	464	G
1	A	465	A
1	A	466	G
1	A	467	G
1	A	482	A
1	A	484	G
1	A	485	G
1	A	486	U
1	A	494	U
1	A	495	A
1	A	496	A
1	A	497	U
1	A	500	G
1	A	505	G
1	A	508	C
1	A	509	A
1	A	511	C
1	A	518	C
1	A	519	C
1	A	521	G
1	A	531	U
1	A	532	A
1	A	536	C
1	A	547	A
1	A	559	A
1	A	561	U
1	A	562	C
1	A	563	A
1	A	564	C
1	A	567	G
1	A	568	G
1	A	572	A
1	A	573	A
1	A	576	G
1	A	577	G
1	A	579	G

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Mol	Chain	Res	Type
1	A	607	A
1	A	616	G
1	A	618	C
1	A	630	G
1	A	631	G
1	A	640	A
1	A	653	A
1	A	665	A
1	A	666	G
1	A	672	U
1	A	688	G
1	A	695	A
1	A	701	C
1	A	702	A
1	A	724	G
1	A	729	A
1	A	731	G
1	A	734	G
1	A	749	C
1	A	759	A
1	A	760	G
1	A	777	A
1	A	793	U
1	A	794	A
1	A	810	C
1	A	815	A
1	A	816	A
1	A	817	C
1	A	818	G
1	A	821	G
1	A	826	C
1	A	828	A
1	A	842	C
1	A	843	U
1	A	848	C
1	A	853	G
1	A	855	G
1	A	859	A
1	A	873	A
1	A	886	G
1	A	899	C
1	A	902	G

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Mol	Chain	Res	Type
1	A	908	A
1	A	914	A
1	A	916	G
1	A	926	G
1	A	927	G
1	A	934	C
1	A	935	A
1	A	941	G
1	A	943	U
1	A	952	U
1	A	958	A
1	A	960	U
1	A	969	A
1	A	971	G
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	982	U
1	A	988	G
1	A	990	C
1	A	992	U
1	A	993	G
1	A	994	A
1	A	1001	G
1	A	1002	G
1	A	1004	A
1	A	1005	A
1	A	1006	C
1	A	1007	C
1	A	1009	G
1	A	1011	G
1	A	1023	G
1	A	1024	G
1	A	1025	U
1	A	1026	G
1	A	1028(C)	C
1	A	1029	G
1	A	1030	C
1	A	1031	G
1	A	1032(A)	A
1	A	1032(B)	G

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Mol	Chain	Res	Type
1	A	1032(C)	G
1	A	1033	G
1	A	1038	C
1	A	1039	C
1	A	1040	U
1	A	1041	A
1	A	1042	G
1	A	1044	A
1	A	1045	C
1	A	1046	A
1	A	1053	G
1	A	1064	G
1	A	1065	U
1	A	1067	A
1	A	1079	G
1	A	1081	G
1	A	1085	U
1	A	1094	G
1	A	1095	U
1	A	1096	C
1	A	1101	A
1	A	1118	C
1	A	1122	U
1	A	1126	U
1	A	1129	C
1	A	1136	U
1	A	1137	C
1	A	1138	G
1	A	1139	G
1	A	1140	C
1	A	1144	G
1	A	1145	C
1	A	1146	A
1	A	1152	A
1	A	1159	U
1	A	1160	G
1	A	1163	C
1	A	1167	A
1	A	1170	A
1	A	1172	C
1	A	1174	G
1	A	1175	G

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Mol	Chain	Res	Type
1	A	1179	A
1	A	1183	A
1	A	1185	G
1	A	1189	C
1	A	1192	C
1	A	1193	G
1	A	1196	U
1	A	1197	G
1	A	1202	G
1	A	1209	C
1	A	1212	U
1	A	1213	A
1	A	1214	C
1	A	1217	C
1	A	1218	C
1	A	1225	A
1	A	1228	C
1	A	1234	C
1	A	1236	A
1	A	1238	A
1	A	1240	U
1	A	1241	G
1	A	1247	U
1	A	1248	A
1	A	1251	A
1	A	1252	A
1	A	1257	U
1	A	1258	G
1	A	1265	G
1	A	1267	C
1	A	1274	G
1	A	1277	C
1	A	1278	U
1	A	1279	A
1	A	1280	A
1	A	1281	U
1	A	1282	C
1	A	1285	A
1	A	1286	A
1	A	1287	A
1	A	1288	A
1	A	1296	C

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Mol	Chain	Res	Type
1	A	1297	C
1	A	1298	C
1	A	1299	A
1	A	1302	U
1	A	1305	G
1	A	1307	U
1	A	1310	G
1	A	1314	C
1	A	1315	U
1	A	1316	G
1	A	1317	C
1	A	1318	A
1	A	1320	C
1	A	1322	C
1	A	1324	A
1	A	1335	C
1	A	1336	C
1	A	1338	G
1	A	1339	A
1	A	1346	A
1	A	1347	G
1	A	1353	G
1	A	1356	G
1	A	1362(B)	C
1	A	1363	A
1	A	1370	G
1	A	1379	G
1	A	1382	C
1	A	1394	A
1	A	1395	C
1	A	1397	C
1	A	1398	A
1	A	1419	G
1	A	1429	C
1	A	1442	G
1	A	1451	A
1	A	1452	C
1	A	1487	G
1	A	1492	A
1	A	1493	A
1	A	1494	G
1	A	1497	G

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Mol	Chain	Res	Type
1	A	1498	UR3
1	A	1499	A
1	A	1502	A
1	A	1504	G
1	A	1506	U
1	A	1517	G
1	A	1529	G
1	A	1530	G
1	A	1532	U
2	B	12	U
2	B	34	C
2	B	35	G
2	B	39	C
2	B	46	C
2	B	50	U
2	B	61	G
2	B	64	A
2	B	71	A
2	B	74	A
2	B	75	G
2	B	91	A
2	B	95	G
2	B	99	U
2	B	118	A
2	B	120	U
2	B	125	G
2	B	131	G
2	B	133	C
2	B	149	A
2	B	154(A)	C
2	B	155	C
2	B	162	U
2	B	163	U
2	B	164	U
2	B	181	A
2	B	188	G
2	B	196	A
2	B	199	A
2	B	204	A
2	B	205	G
2	B	214	G
2	B	215	G

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Mol	Chain	Res	Type
2	B	216	A
2	B	220	G
2	B	222	A
2	B	225	A
2	B	228	A
2	B	229	A
2	B	233	A
2	B	248	G
2	B	249	C
2	B	264	C
2	B	269	U
2	B	270(M)	U
2	B	270(N)	U
2	B	270(O)	G
2	B	270(P)	U
2	B	270(Q)	C
2	B	271	G
2	B	276	A
2	B	278	A
2	B	279	C
2	B	288	C
2	B	294	A
2	B	311	A
2	B	317	G
2	B	322	A
2	B	323	G
2	B	324	A
2	B	329	G
2	B	330	A
2	B	331	A
2	B	334	C
2	B	339	U
2	B	342	G
2	B	346	A
2	B	352	G
2	B	353	G
2	B	362	U
2	B	363(A)	G
2	B	363(G)	A
2	B	372	G
2	B	376	C
2	B	380	U

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Mol	Chain	Res	Type
2	B	385	C
2	B	386	G
2	B	404	C
2	B	405	U
2	B	411	G
2	B	412	A
2	B	416	C
2	B	418	G
2	B	444	C
2	B	448	U
2	B	454	A
2	B	455	C
2	B	457	A
2	B	464	U
2	B	471	A
2	B	473	G
2	B	481	G
2	B	492	A
2	B	494	G
2	B	501	A
2	B	505	A
2	B	507	A
2	B	508	G
2	B	509	C
2	B	518	G
2	B	527	C
2	B	529	A
2	B	530	G
2	B	531	C
2	B	532	A
2	B	533	G
2	B	546	C
2	B	548	A
2	B	549	G
2	B	550	G
2	B	562	U
2	B	563	G
2	B	573	G
2	B	574	C
2	B	575	A
2	B	587	C
2	B	595	C

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Mol	Chain	Res	Type
2	B	603	A
2	B	604	G
2	B	607	U
2	B	609(B)	G
2	B	613	U
2	B	615	G
2	B	616	A
2	B	617	G
2	B	618(A)	G
2	B	627	A
2	B	629	G
2	B	634	C
2	B	637	A
2	B	645	C
2	B	646	A
2	B	651	G
2	B	652	U
2	B	654	U
2	B	656	G
2	B	668	G
2	B	670	A
2	B	671	C
2	B	673	C
2	B	682	G
2	B	686	G
2	B	701	G
2	B	702	G
2	B	708	C
2	B	717	G
2	B	720	C
2	B	722	A
2	B	730	C
2	B	738	G
2	B	749	C
2	B	758	C
2	B	765	G
2	B	769	G
2	B	775	G
2	B	776	G
2	B	779	U
2	B	782	A
2	B	784	A

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Mol	Chain	Res	Type
2	B	785	G
2	B	788	A
2	B	790	C
2	B	792	G
2	B	800	A
2	B	801	G
2	B	805	G
2	B	812	C
2	B	819	A
2	B	822	U
2	B	825	C
2	B	826	U
2	B	827	U
2	B	828	U
2	B	830	G
2	B	831	G
2	B	846	C
2	B	855	G
2	B	859	G
2	B	860	U
2	B	863	A
2	B	866	A
2	B	869	G
2	B	878	A
2	B	879	G
2	B	882	G
2	B	884	C
2	B	886	C
2	B	887	A
2	B	888	C
2	B	889	C
2	B	890	A
2	B	893	C
2	B	894	C
2	B	895	U
2	B	896	A
2	B	907	U
2	B	910	A
2	B	914	C
2	B	915	C
2	B	917	A
2	B	921	G

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Mol	Chain	Res	Type
2	B	931	G
2	B	932	G
2	B	938	G
2	B	941	A
2	B	945	A
2	B	946	G
2	B	958	U
2	B	961	C
2	B	973	A
2	B	974(A)	G
2	B	974(B)	C
2	B	978	G
2	B	980	A
2	B	983	A
2	B	996	A
2	B	1005	C
2	B	1012	U
2	B	1013	C
2	B	1016	G
2	B	1021	A
2	B	1022	G
2	B	1023	U
2	B	1024	G
2	B	1026	U
2	B	1027	A
2	B	1033	U
2	B	1038	C
2	B	1039	G
2	B	1045	A
2	B	1046	A
2	B	1047	G
2	B	1048	A
2	B	1050	A
2	B	1053	C
2	B	1054	A
2	B	1055	G
2	B	1056	G
2	B	1057	A
2	B	1059	G
2	B	1060	U
2	B	1061	U
2	B	1063	G

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Mol	Chain	Res	Type
2	B	1064	C
2	B	1065	U
2	B	1067	A
2	B	1068	G
2	B	1070	A
2	B	1071	G
2	B	1073	A
2	B	1074	G
2	B	1075	C
2	B	1076	C
2	B	1077	A
2	B	1078	U
2	B	1079	C
2	B	1080	C
2	B	1081	U
2	B	1082	U
2	B	1083	U
2	B	1084	A
2	B	1085	A
2	B	1086	A
2	B	1087	G
2	B	1088	A
2	B	1089	G
2	B	1090	U
2	B	1091	G
2	B	1092	C
2	B	1093	G
2	B	1094	U
2	B	1098	A
2	B	1099	G
2	B	1100	C
2	B	1101	U
2	B	1107	G
2	B	1111	A
2	B	1112	G
2	B	1113	U
2	B	1129	A
2	B	1130	U
2	B	1135	C
2	B	1136	G
2	B	1139	G
2	B	1142(B)	A

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Mol	Chain	Res	Type
2	B	1143	A
2	B	1147	C
2	B	1174	A
2	B	1175	U
2	B	1177	A
2	B	1205	U
2	B	1210	A
2	B	1211	U
2	B	1218	C
2	B	1220	A
2	B	1227	G
2	B	1240	U
2	B	1244	G
2	B	1248	G
2	B	1249	U
2	B	1252	G
2	B	1253	A
2	B	1256	G
2	B	1271	G
2	B	1272	A
2	B	1273	U
2	B	1275	A
2	B	1287	A
2	B	1300	U
2	B	1301	A
2	B	1313	U
2	B	1329	U
2	B	1347	G
2	B	1352	U
2	B	1359	A
2	B	1360	A
2	B	1365	A
2	B	1378	A
2	B	1379	A
2	B	1384	A
2	B	1385	G
2	B	1386	C
2	B	1394	U
2	B	1395	A
2	B	1396	U
2	B	1403	C
2	B	1416	G

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Mol	Chain	Res	Type
2	B	1417	C
2	B	1419	A
2	B	1424	G
2	B	1428	C
2	B	1437	C
2	B	1444(B)	A
2	B	1449(B)	A
2	B	1449	G
2	B	1453	A
2	B	1454	U
2	B	1455	G
2	B	1460	A
2	B	1467	C
2	B	1471	A
2	B	1483	G
2	B	1493	C
2	B	1497	U
2	B	1510	A
2	B	1511	A
2	B	1524	G
2	B	1525	G
2	B	1532	C
2	B	1534	G
2	B	1535	U
2	B	1537	C
2	B	1539	G
2	B	1543	A
2	B	1544	C
2	B	1554	A
2	B	1558	A
2	B	1559	G
2	B	1566	A
2	B	1569	A
2	B	1570	A
2	B	1578	U
2	B	1583	A
2	B	1585	C
2	B	1588	C
2	B	1595	G
2	B	1602	U
2	B	1608	A
2	B	1609	A

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Mol	Chain	Res	Type
2	B	1616	A
2	B	1618	A
2	B	1630(B)	C
2	B	1637	A
2	B	1640	C
2	B	1644	C
2	B	1648	C
2	B	1654	A
2	B	1669	A
2	B	1674	G
2	B	1675	C
2	B	1681	G
2	B	1700	A
2	B	1701	A
2	B	1717	G
2	B	1728	G
2	B	1729	A
2	B	1730	U
2	B	1731	G
2	B	1743	G
2	B	1746	G
2	B	1747	G
2	B	1757	U
2	B	1761	C
2	B	1762	A
2	B	1763	G
2	B	1764	G
2	B	1771	C
2	B	1773	A
2	B	1776	G
2	B	1791	A
2	B	1800	C
2	B	1801	G
2	B	1811	G
2	B	1816	G
2	B	1826	G
2	B	1829	A
2	B	1830	C
2	B	1833	U
2	B	1847	A
2	B	1859	A
2	B	1880	C

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Mol	Chain	Res	Type
2	B	1882	C
2	B	1900	A
2	B	1903	G
2	B	1906	G
2	B	1929	G
2	B	1930	G
2	B	1937	A
2	B	1938	A
2	B	1939	5MU
2	B	1940	U
2	B	1941	C
2	B	1955	U
2	B	1963	U
2	B	1964	G
2	B	1966	A
2	B	1967	C
2	B	1970	A
2	B	1971	A
2	B	1972	A
2	B	1993	U
2	B	1997	G
2	B	2020	A
2	B	2023	G
2	B	2031	A
2	B	2032	G
2	B	2033	A
2	B	2036	C
2	B	2039	C
2	B	2043	C
2	B	2051	A
2	B	2052	G
2	B	2055	C
2	B	2056	G
2	B	2060	A
2	B	2061	G
2	B	2062	A
2	B	2063	C
2	B	2069	G
2	B	2072	G
2	B	2102	U
2	B	2111	C
2	B	2116	G

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Mol	Chain	Res	Type
2	B	2117	A
2	B	2122	U
2	B	2124	G
2	B	2125	G
2	B	2127	G
2	B	2128	C
2	B	2129	C
2	B	2130	U
2	B	2131	G
2	B	2132	U
2	B	2133	G
2	B	2134	A
2	B	2135	A
2	B	2136	C
2	B	2137	C
2	B	2138	C
2	B	2139	C
2	B	2142	C
2	B	2143	C
2	B	2145	C
2	B	2146	C
2	B	2147	G
2	B	2148	G
2	B	2149	G
2	B	2150	U
2	B	2152	G
2	B	2157	G
2	B	2158	A
2	B	2159	G
2	B	2162	G
2	B	2163	C
2	B	2164	C
2	B	2165	G
2	B	2166	G
2	B	2167	U
2	B	2168	G
2	B	2169	A
2	B	2171	A
2	B	2172	U
2	B	2173	A
2	B	2174	C
2	B	2176	A

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Mol	Chain	Res	Type
2	B	2178	C
2	B	2183	C
2	B	2187	G
2	B	2189	U
2	B	2190	G
2	B	2192	G
2	B	2198	A
2	B	2210	G
2	B	2211	G
2	B	2212	A
2	B	2213	U
2	B	2225	A
2	B	2226	C
2	B	2234	G
2	B	2238	G
2	B	2239	G
2	B	2246	G
2	B	2251	OMG
2	B	2252	G
2	B	2269	A
2	B	2273	A
2	B	2275	C
2	B	2278	A
2	B	2283	C
2	B	2286	A
2	B	2287	A
2	B	2288	A
2	B	2289	G
2	B	2297	C
2	B	2305	A
2	B	2308	G
2	B	2311	A
2	B	2318	G
2	B	2319	G
2	B	2320	A
2	B	2321	G
2	B	2325	G
2	B	2327	A
2	B	2335	A
2	B	2336	A
2	B	2340	G
2	B	2344	U

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Mol	Chain	Res	Type
2	B	2345	G
2	B	2347	C
2	B	2354	G
2	B	2383	G
2	B	2385	C
2	B	2386	C
2	B	2396	G
2	B	2402	C
2	B	2406	U
2	B	2414	G
2	B	2420	C
2	B	2422	A
2	B	2425	A
2	B	2427	C
2	B	2428	G
2	B	2429	G
2	B	2430	A
2	B	2434	A
2	B	2435	A
2	B	2436	G
2	B	2439	A
2	B	2440	C
2	B	2441	C
2	B	2445	G
2	B	2448	A
2	B	2464	C
2	B	2465	C
2	B	2468	G
2	B	2475	C
2	B	2476	A
2	B	2478	A
2	B	2487	G
2	B	2489	G
2	B	2493	U
2	B	2502	G
2	B	2504	U
2	B	2505	G
2	B	2507	C
2	B	2513	G
2	B	2518	A
2	B	2520	C
2	B	2525	G

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Mol	Chain	Res	Type
2	B	2529	G
2	B	2542	A
2	B	2543	G
2	B	2549	G
2	B	2554	U
2	B	2555	U
2	B	2566	A
2	B	2567	G
2	B	2568	C
2	B	2572	A
2	B	2573	C
2	B	2576	G
2	B	2578	G
2	B	2585	U
2	B	2586	C
2	B	2596	U
2	B	2602	A
2	B	2603	G
2	B	2609	U
2	B	2611	U
2	B	2612	C
2	B	2615	U
2	B	2623	G
2	B	2635	C
2	B	2662	A
2	B	2667	C
2	B	2686	G
2	B	2689	U
2	B	2691	C
2	B	2702	U
2	B	2703	C
2	B	2711	A
2	B	2712(A)	A
2	B	2713	A
2	B	2714	G
2	B	2718	G
2	B	2724	C
2	B	2726	U
2	B	2732	G
2	B	2733	A
2	B	2748	A
2	B	2757	A

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Mol	Chain	Res	Type
2	B	2758	A
2	B	2764	A
2	B	2765	A
2	B	2766	G
2	B	2769	C
2	B	2778	A
2	B	2790	A
2	B	2791	C
2	B	2793	G
2	B	2794	C
2	B	2795	G
2	B	2797	U
2	B	2798	C
2	B	2799	A
2	B	2801	A
2	B	2802	G
2	B	2807	G
2	B	2809	A
2	B	2818	G
2	B	2820	A
2	B	2821	A
2	B	2825	G
2	B	2833	G
2	B	2835	A
2	B	2836	U
2	B	2870	C
2	B	2872	G
2	B	2873	A
2	B	2876	G
2	B	2879	C
2	B	2880	C
2	B	2883	A
2	B	2886	G
2	B	2892	A
2	B	2894	G
2	B	2895	U
2	B	2897	U
3	C	2	C
3	C	8	U
3	C	9	G
3	C	13	A
3	C	22	U

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Mol	Chain	Res	Type
3	C	30	C
3	C	35	U
3	C	41	U
3	C	42	C
3	C	44	G
3	C	53	A
3	C	63	G
3	C	65	C
3	C	66	A
3	C	73	A
3	C	87	G
3	C	90	C
3	C	105	G
3	C	109	G
4	D	7	G
4	D	8	4SU
4	D	9	G
4	D	10	G
4	D	12	G
4	D	15	G
4	D	16	C
4	D	17	C
4	D	17(A)	U
4	D	18	G
4	D	19	G
4	D	20	U
4	D	22	G
4	D	23	C
4	D	24	U
4	D	26	G
4	D	34	C
4	D	35	A
4	D	40	C
4	D	47	U
4	D	48	C
4	D	53	G
4	D	55	PSU
4	D	61	C
4	D	64	G
4	D	66	C
4	D	71	C
34	HA	16	A

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Mol	Chain	Res	Type
34	HA	21	A
34	HA	22	A
4	IA	3	C
4	IA	12	G
4	IA	17(A)	U
4	IA	18	G
4	IA	19	G
4	IA	21	A
4	IA	22	G
4	IA	25	C
4	IA	31	G
4	IA	42	G
4	IA	46	G
4	IA	48	C
4	IA	51	C
4	IA	56	C
4	IA	59	A
4	IA	72	A
4	IA	73	A
4	IA	74	C
4	IA	75	C
4	IA	76	A
1	FB	9	G
1	FB	13	U
1	FB	22	G
1	FB	26	A
1	FB	31	G
1	FB	32	A
1	FB	39	G
1	FB	47	C
1	FB	48	C
1	FB	50	A
1	FB	51	A
1	FB	52	G
1	FB	58	C
1	FB	61	G
1	FB	79	G
1	FB	80	G
1	FB	82	U
1	FB	84	U
1	FB	85	U
1	FB	86	U

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Mol	Chain	Res	Type
1	FB	87	A
1	FB	88	C
1	FB	101	A
1	FB	115	G
1	FB	116	A
1	FB	121	C
1	FB	122	G
1	FB	131	C
1	FB	144	G
1	FB	163	C
1	FB	169	C
1	FB	173	U
1	FB	174	C
1	FB	176	C
1	FB	180	U
1	FB	182	U
1	FB	185	A
1	FB	188	U
1	FB	195	A
1	FB	197	A
1	FB	201	C
1	FB	208	U
1	FB	209	U
1	FB	210	U
1	FB	216	G
1	FB	218	C
1	FB	222	U
1	FB	226	G
1	FB	233	C
1	FB	243	A
1	FB	247	G
1	FB	251	G
1	FB	266	G
1	FB	268	C
1	FB	278	G
1	FB	279	A
1	FB	280	C
1	FB	281	G
1	FB	289	G
1	FB	291	C
1	FB	297	G
1	FB	298	A

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Mol	Chain	Res	Type
1	FB	306	G
1	FB	319	G
1	FB	321	A
1	FB	324	G
1	FB	328	C
1	FB	329	A
1	FB	330	C
1	FB	332	G
1	FB	352	C
1	FB	353	A
1	FB	354	G
1	FB	367	U
1	FB	372	C
1	FB	373	A
1	FB	384	G
1	FB	388	G
1	FB	392	G
1	FB	397	A
1	FB	398	C
1	FB	404	U
1	FB	406	G
1	FB	412	A
1	FB	413	G
1	FB	423	G
1	FB	429	U
1	FB	439	A
1	FB	442	C
1	FB	452	A
1	FB	458	C
1	FB	464	G
1	FB	465	A
1	FB	466	G
1	FB	467	G
1	FB	482	A
1	FB	484	G
1	FB	485	G
1	FB	486	U
1	FB	494	U
1	FB	495	A
1	FB	496	A
1	FB	497	U
1	FB	500	G

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Mol	Chain	Res	Type
1	FB	505	G
1	FB	508	C
1	FB	509	A
1	FB	511	C
1	FB	518	C
1	FB	519	C
1	FB	531	U
1	FB	532	A
1	FB	536	C
1	FB	547	A
1	FB	559	A
1	FB	561	U
1	FB	562	C
1	FB	563	A
1	FB	564	C
1	FB	567	G
1	FB	568	G
1	FB	572	A
1	FB	573	A
1	FB	575	G
1	FB	576	G
1	FB	577	G
1	FB	579	G
1	FB	607	A
1	FB	616	G
1	FB	618	C
1	FB	630	G
1	FB	631	G
1	FB	653	A
1	FB	665	A
1	FB	666	G
1	FB	672	U
1	FB	688	G
1	FB	695	A
1	FB	701	C
1	FB	702	A
1	FB	724	G
1	FB	729	A
1	FB	731	G
1	FB	734	G
1	FB	749	C
1	FB	759	A

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Mol	Chain	Res	Type
1	FB	760	G
1	FB	777	A
1	FB	793	U
1	FB	794	A
1	FB	810	C
1	FB	815	A
1	FB	816	A
1	FB	817	C
1	FB	818	G
1	FB	821	G
1	FB	826	C
1	FB	828	A
1	FB	842	C
1	FB	843	U
1	FB	848	C
1	FB	853	G
1	FB	855	G
1	FB	859	A
1	FB	873	A
1	FB	886	G
1	FB	899	C
1	FB	902	G
1	FB	914	A
1	FB	916	G
1	FB	926	G
1	FB	927	G
1	FB	934	C
1	FB	935	A
1	FB	941	G
1	FB	943	U
1	FB	958	A
1	FB	960	U
1	FB	969	A
1	FB	971	G
1	FB	974	A
1	FB	975	A
1	FB	976	G
1	FB	977	A
1	FB	982	U
1	FB	988	G
1	FB	990	C
1	FB	992	U

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Mol	Chain	Res	Type
1	FB	993	G
1	FB	994	A
1	FB	1001	G
1	FB	1002	G
1	FB	1004	A
1	FB	1005	A
1	FB	1006	C
1	FB	1007	C
1	FB	1009	G
1	FB	1011	G
1	FB	1023	G
1	FB	1024	G
1	FB	1025	U
1	FB	1026	G
1	FB	1028(C)	C
1	FB	1029	G
1	FB	1030	C
1	FB	1031	G
1	FB	1032(A)	A
1	FB	1032(B)	G
1	FB	1032(C)	G
1	FB	1033	G
1	FB	1038	C
1	FB	1039	C
1	FB	1040	U
1	FB	1041	A
1	FB	1042	G
1	FB	1044	A
1	FB	1045	C
1	FB	1046	A
1	FB	1053	G
1	FB	1064	G
1	FB	1065	U
1	FB	1067	A
1	FB	1079	G
1	FB	1081	G
1	FB	1085	U
1	FB	1094	G
1	FB	1095	U
1	FB	1096	C
1	FB	1101	A
1	FB	1118	C

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Mol	Chain	Res	Type
1	FB	1122	U
1	FB	1123	A
1	FB	1126	U
1	FB	1129	C
1	FB	1136	U
1	FB	1137	C
1	FB	1138	G
1	FB	1139	G
1	FB	1140	C
1	FB	1144	G
1	FB	1145	C
1	FB	1146	A
1	FB	1152	A
1	FB	1159	U
1	FB	1160	G
1	FB	1163	C
1	FB	1167	A
1	FB	1170	A
1	FB	1172	C
1	FB	1174	G
1	FB	1175	G
1	FB	1179	A
1	FB	1183	A
1	FB	1185	G
1	FB	1189	C
1	FB	1192	C
1	FB	1193	G
1	FB	1196	U
1	FB	1197	G
1	FB	1202	G
1	FB	1209	C
1	FB	1212	U
1	FB	1213	A
1	FB	1214	C
1	FB	1217	C
1	FB	1218	C
1	FB	1225	A
1	FB	1228	C
1	FB	1234	C
1	FB	1236	A
1	FB	1238	A
1	FB	1240	U

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Mol	Chain	Res	Type
1	FB	1241	G
1	FB	1247	U
1	FB	1248	A
1	FB	1251	A
1	FB	1252	A
1	FB	1257	U
1	FB	1258	G
1	FB	1265	G
1	FB	1267	C
1	FB	1274	G
1	FB	1277	C
1	FB	1278	U
1	FB	1279	A
1	FB	1280	A
1	FB	1281	U
1	FB	1285	A
1	FB	1286	A
1	FB	1287	A
1	FB	1288	A
1	FB	1296	C
1	FB	1297	C
1	FB	1298	C
1	FB	1299	A
1	FB	1302	U
1	FB	1305	G
1	FB	1307	U
1	FB	1310	G
1	FB	1314	C
1	FB	1315	U
1	FB	1316	G
1	FB	1317	C
1	FB	1318	A
1	FB	1320	C
1	FB	1322	C
1	FB	1324	A
1	FB	1335	C
1	FB	1336	C
1	FB	1338	G
1	FB	1344	C
1	FB	1346	A
1	FB	1347	G
1	FB	1353	G

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Mol	Chain	Res	Type
1	FB	1356	G
1	FB	1362(B)	C
1	FB	1363	A
1	FB	1370	G
1	FB	1379	G
1	FB	1382	C
1	FB	1394	A
1	FB	1397	C
1	FB	1398	A
1	FB	1419	G
1	FB	1429	C
1	FB	1442	G
1	FB	1451	A
1	FB	1452	C
1	FB	1487	G
1	FB	1492	A
1	FB	1493	A
1	FB	1494	G
1	FB	1497	G
1	FB	1498	UR3
1	FB	1499	A
1	FB	1502	A
1	FB	1504	G
1	FB	1506	U
1	FB	1507	A
1	FB	1517	G
1	FB	1529	G
1	FB	1530	G
1	FB	1532	U
2	GB	12	U
2	GB	34	C
2	GB	35	G
2	GB	39	C
2	GB	46	C
2	GB	50	U
2	GB	59	U
2	GB	61	G
2	GB	63	U
2	GB	71	A
2	GB	74	A
2	GB	75	G
2	GB	91	A

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Mol	Chain	Res	Type
2	GB	99	U
2	GB	118	A
2	GB	120	U
2	GB	125	G
2	GB	131	G
2	GB	133	C
2	GB	149	A
2	GB	154(A)	C
2	GB	155	C
2	GB	162	U
2	GB	163	U
2	GB	164	U
2	GB	181	A
2	GB	188	G
2	GB	196	A
2	GB	199	A
2	GB	204	A
2	GB	205	G
2	GB	214	G
2	GB	215	G
2	GB	216	A
2	GB	220	G
2	GB	222	A
2	GB	225	A
2	GB	228	A
2	GB	229	A
2	GB	233	A
2	GB	248	G
2	GB	249	C
2	GB	264	C
2	GB	269	U
2	GB	270(M)	U
2	GB	270(N)	U
2	GB	270(O)	G
2	GB	270(P)	U
2	GB	270(Q)	C
2	GB	271	G
2	GB	276	A
2	GB	278	A
2	GB	279	C
2	GB	288	C
2	GB	294	A

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Mol	Chain	Res	Type
2	GB	311	A
2	GB	322	A
2	GB	323	G
2	GB	324	A
2	GB	329	G
2	GB	330	A
2	GB	331	A
2	GB	334	C
2	GB	339	U
2	GB	342	G
2	GB	346	A
2	GB	352	G
2	GB	353	G
2	GB	362	U
2	GB	363(A)	G
2	GB	363(G)	A
2	GB	372	G
2	GB	376	C
2	GB	380	U
2	GB	385	C
2	GB	386	G
2	GB	404	C
2	GB	405	U
2	GB	411	G
2	GB	412	A
2	GB	416	C
2	GB	418	G
2	GB	444	C
2	GB	448	U
2	GB	454	A
2	GB	455	C
2	GB	457	A
2	GB	464	U
2	GB	471	A
2	GB	473	G
2	GB	481	G
2	GB	492	A
2	GB	494	G
2	GB	501	A
2	GB	505	A
2	GB	507	A
2	GB	508	G

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Mol	Chain	Res	Type
2	GB	509	C
2	GB	518	G
2	GB	527	C
2	GB	529	A
2	GB	530	G
2	GB	531	C
2	GB	532	A
2	GB	533	G
2	GB	546	C
2	GB	548	A
2	GB	549	G
2	GB	550	G
2	GB	562	U
2	GB	563	G
2	GB	573	G
2	GB	574	C
2	GB	575	A
2	GB	595	C
2	GB	603	A
2	GB	604	G
2	GB	607	U
2	GB	609(B)	G
2	GB	613	U
2	GB	615	G
2	GB	616	A
2	GB	617	G
2	GB	627	A
2	GB	629	G
2	GB	634	C
2	GB	637	A
2	GB	645	C
2	GB	646	A
2	GB	651	G
2	GB	652	U
2	GB	654	U
2	GB	656	G
2	GB	668	G
2	GB	670	A
2	GB	671	C
2	GB	682	G
2	GB	686	G
2	GB	701	G

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Mol	Chain	Res	Type
2	GB	702	G
2	GB	708	C
2	GB	717	G
2	GB	720	C
2	GB	722	A
2	GB	723	G
2	GB	730	C
2	GB	738	G
2	GB	749	C
2	GB	758	C
2	GB	765	G
2	GB	775	G
2	GB	776	G
2	GB	779	U
2	GB	782	A
2	GB	784	A
2	GB	785	G
2	GB	788	A
2	GB	789	A
2	GB	790	C
2	GB	792	G
2	GB	800	A
2	GB	801	G
2	GB	805	G
2	GB	812	C
2	GB	819	A
2	GB	822	U
2	GB	825	C
2	GB	826	U
2	GB	827	U
2	GB	828	U
2	GB	831	G
2	GB	846	C
2	GB	855	G
2	GB	859	G
2	GB	860	U
2	GB	863	A
2	GB	865	C
2	GB	866	A
2	GB	869	G
2	GB	878	A
2	GB	879	G

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Mol	Chain	Res	Type
2	GB	882	G
2	GB	884	C
2	GB	886	C
2	GB	887	A
2	GB	888	C
2	GB	889	C
2	GB	890	A
2	GB	893	C
2	GB	894	C
2	GB	895	U
2	GB	896	A
2	GB	899	A
2	GB	907	U
2	GB	910	A
2	GB	914	C
2	GB	915	C
2	GB	917	A
2	GB	921	G
2	GB	931	G
2	GB	932	G
2	GB	938	G
2	GB	941	A
2	GB	945	A
2	GB	946	G
2	GB	958	U
2	GB	961	C
2	GB	973	A
2	GB	974(A)	G
2	GB	974(B)	C
2	GB	978	G
2	GB	980	A
2	GB	983	A
2	GB	996	A
2	GB	1005	C
2	GB	1009	A
2	GB	1012	U
2	GB	1013	C
2	GB	1016	G
2	GB	1021	A
2	GB	1022	G
2	GB	1023	U
2	GB	1024	G

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Mol	Chain	Res	Type
2	GB	1026	U
2	GB	1027	A
2	GB	1033	U
2	GB	1038	C
2	GB	1039	G
2	GB	1045	A
2	GB	1046	A
2	GB	1047	G
2	GB	1048	A
2	GB	1050	A
2	GB	1053	C
2	GB	1054	A
2	GB	1055	G
2	GB	1056	G
2	GB	1057	A
2	GB	1059	G
2	GB	1060	U
2	GB	1061	U
2	GB	1064	C
2	GB	1065	U
2	GB	1066	U
2	GB	1067	A
2	GB	1068	G
2	GB	1070	A
2	GB	1071	G
2	GB	1073	A
2	GB	1074	G
2	GB	1075	C
2	GB	1076	C
2	GB	1077	A
2	GB	1078	U
2	GB	1079	C
2	GB	1080	C
2	GB	1081	U
2	GB	1082	U
2	GB	1083	U
2	GB	1084	A
2	GB	1085	A
2	GB	1086	A
2	GB	1087	G
2	GB	1088	A
2	GB	1089	G

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Mol	Chain	Res	Type
2	GB	1090	U
2	GB	1091	G
2	GB	1092	C
2	GB	1093	G
2	GB	1094	U
2	GB	1098	A
2	GB	1099	G
2	GB	1100	C
2	GB	1101	U
2	GB	1107	G
2	GB	1111	A
2	GB	1112	G
2	GB	1113	U
2	GB	1129	A
2	GB	1130	U
2	GB	1135	C
2	GB	1136	G
2	GB	1139	G
2	GB	1142(B)	A
2	GB	1143	A
2	GB	1147	C
2	GB	1174	A
2	GB	1175	U
2	GB	1177	A
2	GB	1205	U
2	GB	1210	A
2	GB	1211	U
2	GB	1218	C
2	GB	1220	A
2	GB	1227	G
2	GB	1240	U
2	GB	1244	G
2	GB	1248	G
2	GB	1249	U
2	GB	1252	G
2	GB	1253	A
2	GB	1256	G
2	GB	1271	G
2	GB	1272	A
2	GB	1273	U
2	GB	1275	A
2	GB	1276	A

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Mol	Chain	Res	Type
2	GB	1300	U
2	GB	1301	A
2	GB	1302	A
2	GB	1313	U
2	GB	1329	U
2	GB	1347	G
2	GB	1352	U
2	GB	1359	A
2	GB	1360	A
2	GB	1365	A
2	GB	1378	A
2	GB	1379	A
2	GB	1384	A
2	GB	1385	G
2	GB	1386	C
2	GB	1394	U
2	GB	1395	A
2	GB	1396	U
2	GB	1403	C
2	GB	1416	G
2	GB	1417	C
2	GB	1419	A
2	GB	1424	G
2	GB	1428	C
2	GB	1437	C
2	GB	1444(B)	A
2	GB	1449(B)	A
2	GB	1449	G
2	GB	1453	A
2	GB	1454	U
2	GB	1455	G
2	GB	1460	A
2	GB	1467	C
2	GB	1471	A
2	GB	1483	G
2	GB	1493	C
2	GB	1497	U
2	GB	1510	A
2	GB	1511	A
2	GB	1524	G
2	GB	1525	G
2	GB	1532	C

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Mol	Chain	Res	Type
2	GB	1534	G
2	GB	1535	U
2	GB	1537	C
2	GB	1539	G
2	GB	1543	A
2	GB	1544	C
2	GB	1554	A
2	GB	1558	A
2	GB	1559	G
2	GB	1566	A
2	GB	1569	A
2	GB	1578	U
2	GB	1583	A
2	GB	1585	C
2	GB	1588	C
2	GB	1595	G
2	GB	1602	U
2	GB	1608	A
2	GB	1609	A
2	GB	1616	A
2	GB	1618	A
2	GB	1630(B)	C
2	GB	1637	A
2	GB	1640	C
2	GB	1644	C
2	GB	1648	C
2	GB	1654	A
2	GB	1669	A
2	GB	1674	G
2	GB	1675	C
2	GB	1681	G
2	GB	1700	A
2	GB	1701	A
2	GB	1717	G
2	GB	1728	G
2	GB	1729	A
2	GB	1730	U
2	GB	1731	G
2	GB	1743	G
2	GB	1746	G
2	GB	1747	G
2	GB	1757	U

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Mol	Chain	Res	Type
2	GB	1761	C
2	GB	1762	A
2	GB	1763	G
2	GB	1764	G
2	GB	1771	C
2	GB	1773	A
2	GB	1776	G
2	GB	1791	A
2	GB	1800	C
2	GB	1801	G
2	GB	1811	G
2	GB	1816	G
2	GB	1826	G
2	GB	1829	A
2	GB	1830	C
2	GB	1833	U
2	GB	1847	A
2	GB	1859	A
2	GB	1880	C
2	GB	1882	C
2	GB	1900	A
2	GB	1903	G
2	GB	1906	G
2	GB	1929	G
2	GB	1930	G
2	GB	1937	A
2	GB	1938	A
2	GB	1939	5MU
2	GB	1940	U
2	GB	1941	C
2	GB	1955	U
2	GB	1963	U
2	GB	1964	G
2	GB	1966	A
2	GB	1967	C
2	GB	1970	A
2	GB	1971	A
2	GB	1972	A
2	GB	1993	U
2	GB	1997	G
2	GB	2020	A
2	GB	2023	G

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Mol	Chain	Res	Type
2	GB	2031	A
2	GB	2032	G
2	GB	2033	A
2	GB	2036	C
2	GB	2039	C
2	GB	2043	C
2	GB	2051	A
2	GB	2052	G
2	GB	2055	C
2	GB	2056	G
2	GB	2060	A
2	GB	2061	G
2	GB	2062	A
2	GB	2063	C
2	GB	2069	G
2	GB	2072	G
2	GB	2093	G
2	GB	2102	U
2	GB	2111	C
2	GB	2116	G
2	GB	2117	A
2	GB	2122	U
2	GB	2124	G
2	GB	2125	G
2	GB	2127	G
2	GB	2128	C
2	GB	2129	C
2	GB	2130	U
2	GB	2131	G
2	GB	2132	U
2	GB	2133	G
2	GB	2134	A
2	GB	2135	A
2	GB	2136	C
2	GB	2137	C
2	GB	2138	C
2	GB	2139	C
2	GB	2142	C
2	GB	2143	C
2	GB	2145	C
2	GB	2146	C
2	GB	2147	G

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Mol	Chain	Res	Type
2	GB	2148	G
2	GB	2149	G
2	GB	2150	U
2	GB	2152	G
2	GB	2157	G
2	GB	2158	A
2	GB	2159	G
2	GB	2162	G
2	GB	2163	C
2	GB	2164	C
2	GB	2165	G
2	GB	2166	G
2	GB	2167	U
2	GB	2168	G
2	GB	2169	A
2	GB	2171	A
2	GB	2172	U
2	GB	2173	A
2	GB	2174	C
2	GB	2176	A
2	GB	2178	C
2	GB	2183	C
2	GB	2187	G
2	GB	2189	U
2	GB	2190	G
2	GB	2192	G
2	GB	2198	A
2	GB	2210	G
2	GB	2211	G
2	GB	2212	A
2	GB	2213	U
2	GB	2225	A
2	GB	2226	C
2	GB	2234	G
2	GB	2238	G
2	GB	2239	G
2	GB	2246	G
2	GB	2251	OMG
2	GB	2252	G
2	GB	2269	A
2	GB	2273	A
2	GB	2275	C

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Mol	Chain	Res	Type
2	GB	2278	A
2	GB	2282	G
2	GB	2283	C
2	GB	2286	A
2	GB	2287	A
2	GB	2288	A
2	GB	2289	G
2	GB	2297	C
2	GB	2305	A
2	GB	2308	G
2	GB	2311	A
2	GB	2318	G
2	GB	2319	G
2	GB	2320	A
2	GB	2321	G
2	GB	2325	G
2	GB	2327	A
2	GB	2334	G
2	GB	2335	A
2	GB	2336	A
2	GB	2340	G
2	GB	2344	U
2	GB	2345	G
2	GB	2347	C
2	GB	2354	G
2	GB	2356	C
2	GB	2383	G
2	GB	2385	C
2	GB	2386	C
2	GB	2396	G
2	GB	2402	C
2	GB	2406	U
2	GB	2420	C
2	GB	2422	A
2	GB	2425	A
2	GB	2427	C
2	GB	2428	G
2	GB	2429	G
2	GB	2430	A
2	GB	2434	A
2	GB	2436	G
2	GB	2439	A

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Mol	Chain	Res	Type
2	GB	2440	C
2	GB	2441	C
2	GB	2445	G
2	GB	2448	A
2	GB	2464	C
2	GB	2465	C
2	GB	2468	G
2	GB	2475	C
2	GB	2476	A
2	GB	2478	A
2	GB	2487	G
2	GB	2489	G
2	GB	2493	U
2	GB	2502	G
2	GB	2504	U
2	GB	2505	G
2	GB	2507	C
2	GB	2513	G
2	GB	2518	A
2	GB	2520	C
2	GB	2525	G
2	GB	2529	G
2	GB	2542	A
2	GB	2543	G
2	GB	2549	G
2	GB	2554	U
2	GB	2555	U
2	GB	2566	A
2	GB	2567	G
2	GB	2568	C
2	GB	2572	A
2	GB	2573	C
2	GB	2576	G
2	GB	2585	U
2	GB	2586	C
2	GB	2596	U
2	GB	2602	A
2	GB	2603	G
2	GB	2609	U
2	GB	2611	U
2	GB	2612	C
2	GB	2615	U

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Mol	Chain	Res	Type
2	GB	2623	G
2	GB	2635	C
2	GB	2662	A
2	GB	2667	C
2	GB	2686	G
2	GB	2689	U
2	GB	2691	C
2	GB	2702	U
2	GB	2703	C
2	GB	2711	A
2	GB	2712(A)	A
2	GB	2713	A
2	GB	2714	G
2	GB	2718	G
2	GB	2724	C
2	GB	2726	U
2	GB	2732	G
2	GB	2733	A
2	GB	2748	A
2	GB	2757	A
2	GB	2758	A
2	GB	2764	A
2	GB	2765	A
2	GB	2766	G
2	GB	2769	C
2	GB	2778	A
2	GB	2790	A
2	GB	2791	C
2	GB	2793	G
2	GB	2794	C
2	GB	2795	G
2	GB	2797	U
2	GB	2798	C
2	GB	2799	A
2	GB	2801	A
2	GB	2802	G
2	GB	2807	G
2	GB	2809	A
2	GB	2818	G
2	GB	2820	A
2	GB	2821	A
2	GB	2825	G

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Mol	Chain	Res	Type
2	GB	2833	G
2	GB	2835	A
2	GB	2836	U
2	GB	2870	C
2	GB	2872	G
2	GB	2873	A
2	GB	2876	G
2	GB	2879	C
2	GB	2880	C
2	GB	2883	A
2	GB	2886	G
2	GB	2892	A
2	GB	2894	G
2	GB	2895	U
2	GB	2897	U
3	HB	2	C
3	HB	8	U
3	HB	9	G
3	HB	13	A
3	HB	22	U
3	HB	24	G
3	HB	30	C
3	HB	35	U
3	HB	41	U
3	HB	42	C
3	HB	44	G
3	HB	53	A
3	HB	63	G
3	HB	65	C
3	HB	66	A
3	HB	73	A
3	HB	87	G
3	HB	90	C
3	HB	105	G
3	HB	109	G
4	IB	8	4SU
4	IB	9	G
4	IB	10	G
4	IB	12	G
4	IB	15	G
4	IB	16	C
4	IB	17	C

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Mol	Chain	Res	Type
4	IB	17(A)	U
4	IB	18	G
4	IB	19	G
4	IB	20	U
4	IB	22	G
4	IB	23	C
4	IB	24	U
4	IB	26	G
4	IB	34	C
4	IB	35	A
4	IB	40	C
4	IB	47	U
4	IB	48	C
4	IB	53	G
4	IB	55	PSU
4	IB	61	C
4	IB	64	G
4	IB	66	C
4	IB	71	C
34	MC	16	A
34	MC	21	A
34	MC	22	A
4	NC	3	C
4	NC	12	G
4	NC	17(A)	U
4	NC	18	G
4	NC	19	G
4	NC	21	A
4	NC	22	G
4	NC	25	C
4	NC	31	G
4	NC	46	G
4	NC	48	C
4	NC	51	C
4	NC	56	C
4	NC	59	A
4	NC	72	A
4	NC	73	A
4	NC	74	C
4	NC	75	C
4	NC	76	A

All (68) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	81	G
1	A	115	G
1	A	210	U
1	A	498	A
1	A	560	U
1	A	563	A
1	A	687	A
1	A	748	C
1	A	913	A
1	A	1201	A
1	A	1240	U
1	A	1491	G
2	B	34	C
2	B	222	A
2	B	352	G
2	B	507	A
2	B	528	A
2	B	614	U
2	B	974(A)	G
2	B	1026	U
2	B	1060	U
2	B	1080	C
2	B	1210	A
2	B	1558	A
2	B	1608	A
2	B	1939	5MU
2	B	1992	G
2	B	2062	A
2	B	2110	G
2	B	2251	OMG
2	B	2405	G
2	B	2439	A
2	B	2602	A
2	B	2756	U
1	FB	81	G
1	FB	115	G
1	FB	210	U
1	FB	498	A
1	FB	560	U
1	FB	563	A
1	FB	687	A
1	FB	748	C
1	FB	913	A

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Mol	Chain	Res	Type
1	FB	1201	A
1	FB	1240	U
1	FB	1491	G
2	GB	34	C
2	GB	352	G
2	GB	507	A
2	GB	528	A
2	GB	614	U
2	GB	974(A)	G
2	GB	1026	U
2	GB	1060	U
2	GB	1080	C
2	GB	1210	A
2	GB	1275	A
2	GB	1558	A
2	GB	1608	A
2	GB	1939	5MU
2	GB	1992	G
2	GB	2062	A
2	GB	2110	G
2	GB	2251	OMG
2	GB	2405	G
2	GB	2439	A
2	GB	2602	A
2	GB	2756	U

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

64 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	$\# Z > 2$
4	5MU	IB	54	4	15,22,23	1.67	3 (20%)	16,32,35	1.80	1 (6%)
1	5MC	FB	1400	1	15,22,23	1.43	2 (13%)	19,32,35	1.16	2 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	5MC	B	1942	2	15,22,23	1.53	2 (13%)	19,32,35	1.30	3 (15%)
4	4SU	IB	8	4	14,21,22	2.77	4 (28%)	15,30,33	2.02	3 (20%)
1	5MC	FB	967	1	15,22,23	1.40	2 (13%)	19,32,35	1.19	1 (5%)
4	PSU	IA	55	4	17,21,22	1.44	3 (17%)	20,30,33	3.27	6 (30%)
4	4SU	NC	8	4	14,21,22	2.91	4 (28%)	15,30,33	2.10	2 (13%)
2	PSU	GB	1911	2	17,21,22	1.46	3 (17%)	20,30,33	3.09	6 (30%)
1	UR3	FB	1498	1	14,22,23	1.64	1 (7%)	15,32,35	0.71	0
1	7MG	FB	527	1	22,26,27	2.28	7 (31%)	28,39,42	1.91	7 (25%)
1	5MC	A	1400	1	15,22,23	1.45	2 (13%)	19,32,35	1.27	3 (15%)
2	OMG	GB	2251	2	18,26,27	1.70	2 (11%)	20,38,41	1.78	6 (30%)
1	MA6	A	1518	1	19,26,27	1.66	3 (15%)	18,38,41	1.40	3 (16%)
2	4OC	B	1920	56,2	15,22,24	0.91	1 (6%)	17,31,35	2.19	4 (23%)
2	2MU	GB	2552	2	14,22,24	2.35	3 (21%)	14,31,36	1.20	1 (7%)
2	5MU	GB	1915	2	15,22,23	1.68	3 (20%)	16,32,35	1.87	2 (12%)
1	2MG	FB	1207	1	19,26,27	2.43	3 (15%)	21,38,41	1.80	7 (33%)
4	5MU	D	54	4	15,22,23	1.69	3 (20%)	16,32,35	1.79	1 (6%)
1	PSU	FB	516	1	17,21,22	1.73	4 (23%)	20,30,33	3.80	6 (30%)
2	5MC	B	1962	2	15,22,23	1.69	3 (20%)	19,32,35	1.73	3 (15%)
2	2MU	B	2552	2	14,22,24	2.55	4 (28%)	14,31,36	1.45	2 (14%)
2	5MU	B	1915	2	15,22,23	1.64	3 (20%)	16,32,35	1.82	2 (12%)
2	PSU	GB	2605	2	17,21,22	1.47	3 (17%)	20,30,33	2.89	6 (30%)
4	PSU	IB	55	4	17,21,22	1.54	4 (23%)	20,30,33	3.39	6 (30%)
46	0TD	AD	92	46	4,9,10	1.43	1 (25%)	3,11,13	3.36	2 (66%)
2	4OC	GB	1920	2	15,22,24	0.85	1 (6%)	17,31,35	2.02	3 (17%)
1	M2G	FB	966	1	20,27,28	2.07	3 (15%)	22,40,43	1.57	6 (27%)
2	PSU	GB	1917	2	17,21,22	1.61	3 (17%)	20,30,33	3.38	6 (30%)
1	5MC	A	1407	1	15,22,23	1.43	2 (13%)	19,32,35	1.29	3 (15%)
1	MA6	FB	1519	1	19,26,27	1.77	3 (15%)	18,38,41	1.42	2 (11%)
2	OMG	B	2251	2	18,26,27	1.78	2 (11%)	20,38,41	1.88	6 (30%)
1	MA6	FB	1518	1	19,26,27	1.56	3 (15%)	18,38,41	1.47	2 (11%)
1	5MC	FB	1404	1	15,22,23	1.55	2 (13%)	19,32,35	1.50	3 (15%)
2	2MA	GB	2503	2	17,25,26	1.45	2 (11%)	19,37,40	1.57	3 (15%)
2	5MC	GB	1962	2	15,22,23	1.47	2 (13%)	19,32,35	1.42	3 (15%)
4	5MC	D	32	4	15,22,23	1.43	2 (13%)	19,32,35	1.32	3 (15%)
1	2MG	A	1207	1	19,26,27	2.48	2 (10%)	21,38,41	1.91	7 (33%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	PSU	B	1917	2	17,21,22	1.55	4 (23%)	20,30,33	3.24	5 (25%)
1	7MG	A	527	1	22,26,27	2.16	7 (31%)	28,39,42	1.88	7 (25%)
4	5MU	NC	54	4	15,22,23	1.73	3 (20%)	16,32,35	1.92	1 (6%)
1	5MC	A	1404	1	15,22,23	1.59	3 (20%)	19,32,35	1.70	3 (15%)
1	PSU	A	516	1	17,21,22	1.61	4 (23%)	20,30,33	3.70	5 (25%)
46	0TD	VA	92	46	4,9,10	1.57	1 (25%)	3,11,13	3.52	2 (66%)
1	5MC	A	967	1	15,22,23	1.41	2 (13%)	19,32,35	1.21	2 (10%)
1	4OC	A	1402	1	16,23,24	0.94	1 (6%)	17,32,35	2.46	2 (11%)
2	PSU	B	2605	2	17,21,22	1.32	3 (17%)	20,30,33	3.35	6 (30%)
1	5MC	FB	1407	1	15,22,23	1.40	2 (13%)	19,32,35	1.16	2 (10%)
2	5MU	B	1939	2	15,22,23	1.56	3 (20%)	16,32,35	1.76	2 (12%)
4	PSU	NC	55	4	17,21,22	1.53	4 (23%)	20,30,33	3.32	6 (30%)
1	UR3	A	1498	1	14,22,23	1.66	1 (7%)	15,32,35	0.76	0
1	M2G	A	966	1	20,27,28	2.15	3 (15%)	22,40,43	1.59	6 (27%)
4	5MC	IA	32	4	15,22,23	1.44	2 (13%)	19,32,35	1.36	2 (10%)
2	2MA	B	2503	2	17,25,26	1.61	4 (23%)	19,37,40	1.57	3 (15%)
2	5MU	GB	1939	2	15,22,23	1.72	3 (20%)	16,32,35	1.81	2 (12%)
4	PSU	D	55	4	17,21,22	1.56	4 (23%)	20,30,33	3.31	6 (30%)
4	5MU	IA	54	4	15,22,23	1.75	3 (20%)	16,32,35	1.90	1 (6%)
4	4SU	IA	8	4	14,21,22	3.07	5 (35%)	15,30,33	2.03	2 (13%)
1	MA6	A	1519	1	19,26,27	1.43	3 (15%)	18,38,41	1.37	1 (5%)
4	4SU	D	8	4	14,21,22	2.89	4 (28%)	15,30,33	1.85	2 (13%)
2	5MC	GB	1942	2	15,22,23	1.30	2 (13%)	19,32,35	1.27	1 (5%)
1	4OC	FB	1402	1	16,23,24	0.89	1 (6%)	17,32,35	2.71	2 (11%)
2	PSU	B	1911	2	17,21,22	1.26	3 (17%)	20,30,33	3.38	6 (30%)
4	5MC	NC	32	4	15,22,23	1.41	2 (13%)	19,32,35	1.39	4 (21%)
4	5MC	IB	32	4	15,22,23	1.37	2 (13%)	19,32,35	1.24	2 (10%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	5MU	IB	54	4	-	0/5/25/26	0/2/2/2
1	5MC	FB	1400	1	-	0/5/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	5MC	B	1942	2	-	0/5/25/26	0/2/2/2
4	4SU	IB	8	4	-	1/5/25/26	0/2/2/2
1	5MC	FB	967	1	-	0/5/25/26	0/2/2/2
4	PSU	IA	55	4	-	0/7/25/26	0/2/2/2
4	4SU	NC	8	4	-	1/5/25/26	0/2/2/2
2	PSU	GB	1911	2	-	0/7/25/26	0/2/2/2
1	UR3	FB	1498	1	-	2/5/25/26	0/2/2/2
1	7MG	FB	527	1	-	2/7/37/38	0/3/3/3
1	5MC	A	1400	1	-	0/5/25/26	0/2/2/2
2	OMG	GB	2251	2	-	3/5/27/28	0/3/3/3
1	MA6	A	1518	1	-	3/7/29/30	0/3/3/3
2	4OC	B	1920	56,2	-	1/7/27/30	0/2/2/2
2	2MU	GB	2552	2	-	1/7/27/28	0/2/2/2
2	5MU	GB	1915	2	-	0/5/25/26	0/2/2/2
1	2MG	FB	1207	1	-	0/5/27/28	0/3/3/3
4	5MU	D	54	4	-	0/5/25/26	0/2/2/2
1	PSU	FB	516	1	-	0/7/25/26	0/2/2/2
2	5MC	B	1962	2	-	4/5/25/26	0/2/2/2
2	2MU	B	2552	2	-	1/7/27/28	0/2/2/2
2	5MU	B	1915	2	-	0/5/25/26	0/2/2/2
2	PSU	GB	2605	2	-	0/7/25/26	0/2/2/2
4	PSU	IB	55	4	-	1/7/25/26	0/2/2/2
46	0TD	AD	92	46	-	2/3/12/14	-
2	4OC	GB	1920	2	-	1/7/27/30	0/2/2/2
1	M2G	FB	966	1	-	4/7/29/30	0/3/3/3
2	PSU	GB	1917	2	-	1/7/25/26	0/2/2/2
1	5MC	A	1407	1	-	0/5/25/26	0/2/2/2
1	MA6	FB	1519	1	-	4/7/29/30	0/3/3/3
2	OMG	B	2251	2	-	3/5/27/28	0/3/3/3
1	MA6	FB	1518	1	-	3/7/29/30	0/3/3/3
1	5MC	FB	1404	1	-	0/5/25/26	0/2/2/2
2	2MA	GB	2503	2	-	2/3/25/26	0/3/3/3
2	5MC	GB	1962	2	-	4/5/25/26	0/2/2/2
4	5MC	D	32	4	-	0/5/25/26	0/2/2/2
1	2MG	A	1207	1	-	0/5/27/28	0/3/3/3
2	PSU	B	1917	2	-	0/7/25/26	0/2/2/2
1	7MG	A	527	1	-	2/7/37/38	0/3/3/3
4	5MU	NC	54	4	-	0/5/25/26	0/2/2/2
1	5MC	A	1404	1	-	0/5/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	A	516	1	-	0/7/25/26	0/2/2/2
46	0TD	VA	92	46	-	3/3/12/14	-
1	5MC	A	967	1	-	0/5/25/26	0/2/2/2
1	4OC	A	1402	1	-	3/9/29/30	0/2/2/2
2	PSU	B	2605	2	-	0/7/25/26	0/2/2/2
1	5MC	FB	1407	1	-	0/5/25/26	0/2/2/2
2	5MU	B	1939	2	-	1/5/25/26	0/2/2/2
4	PSU	NC	55	4	-	0/7/25/26	0/2/2/2
1	UR3	A	1498	1	-	2/5/25/26	0/2/2/2
1	M2G	A	966	1	-	4/7/29/30	0/3/3/3
4	5MC	IA	32	4	-	0/5/25/26	0/2/2/2
2	2MA	B	2503	2	-	2/3/25/26	0/3/3/3
2	5MU	GB	1939	2	-	0/5/25/26	0/2/2/2
4	PSU	D	55	4	-	1/7/25/26	0/2/2/2
4	5MU	IA	54	4	-	0/5/25/26	0/2/2/2
4	4SU	IA	8	4	-	1/5/25/26	0/2/2/2
1	MA6	A	1519	1	-	4/7/29/30	0/3/3/3
4	4SU	D	8	4	-	1/5/25/26	0/2/2/2
2	5MC	GB	1942	2	-	0/5/25/26	0/2/2/2
1	4OC	FB	1402	1	-	4/9/29/30	0/2/2/2
2	PSU	B	1911	2	-	0/7/25/26	0/2/2/2
4	5MC	NC	32	4	-	0/5/25/26	0/2/2/2
4	5MC	IB	32	4	-	0/5/25/26	0/2/2/2

All (179) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1207	2MG	C2-N2	8.19	1.41	1.34
1	FB	1207	2MG	C2-N2	7.80	1.40	1.34
1	FB	527	7MG	O6-C6	7.44	1.43	1.24
1	A	527	7MG	O6-C6	7.21	1.42	1.24
4	IA	8	4SU	C5-C4	7.19	1.46	1.38
4	D	8	4SU	C5-C4	7.00	1.46	1.38
4	NC	8	4SU	C5-C4	6.80	1.46	1.38
4	IA	8	4SU	C4-S4	6.69	1.79	1.67
2	B	2552	2MU	O4-C4	6.49	1.40	1.24
1	A	1207	2MG	O6-C6	6.38	1.40	1.24
1	FB	1207	2MG	O6-C6	6.33	1.40	1.24
4	IB	8	4SU	C5-C4	6.28	1.45	1.38
1	FB	966	M2G	O6-C6	6.10	1.39	1.24
4	NC	8	4SU	C4-S4	6.10	1.78	1.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	966	M2G	C2-N2	6.05	1.44	1.34
4	D	8	4SU	C4-S4	5.94	1.78	1.67
1	A	966	M2G	O6-C6	5.88	1.39	1.24
2	GB	2552	2MU	O4-C4	5.87	1.39	1.24
4	IB	8	4SU	C4-S4	5.83	1.78	1.67
2	B	2251	OMG	O6-C6	5.69	1.38	1.24
1	FB	1498	UR3	O4-C4	5.65	1.38	1.24
1	A	1498	UR3	O4-C4	5.59	1.38	1.24
1	FB	966	M2G	C2-N2	5.53	1.43	1.34
2	B	2552	2MU	C3'-C2'	-5.21	1.41	1.52
2	GB	2251	OMG	O6-C6	5.14	1.37	1.24
4	IA	8	4SU	C6-C5	4.98	1.49	1.38
4	D	8	4SU	C6-C5	4.97	1.49	1.38
4	NC	8	4SU	C6-C5	4.89	1.48	1.38
1	FB	1519	MA6	C4-N3	4.84	1.42	1.35
2	GB	2552	2MU	C3'-C2'	-4.81	1.42	1.52
4	IB	8	4SU	C6-C5	4.75	1.48	1.38
2	B	1962	5MC	C4-N4	4.68	1.45	1.34
2	B	1942	5MC	C4-N4	4.61	1.45	1.34
1	A	1518	MA6	C4-N3	4.49	1.41	1.35
2	GB	1917	PSU	C4-N3	4.43	1.40	1.33
1	A	1404	5MC	C4-N4	4.43	1.45	1.34
1	FB	1519	MA6	C6-N1	4.41	1.39	1.33
2	GB	1962	5MC	C4-N4	4.30	1.44	1.34
4	IA	54	5MU	O4-C4	4.29	1.35	1.24
1	A	967	5MC	C4-N4	4.28	1.44	1.34
1	FB	516	PSU	C4-N3	4.26	1.40	1.33
4	NC	32	5MC	C4-N4	4.23	1.44	1.34
1	FB	1407	5MC	C4-N4	4.22	1.44	1.34
2	GB	1915	5MU	O4-C4	4.21	1.35	1.24
4	NC	54	5MU	O4-C4	4.21	1.35	1.24
4	D	54	5MU	O4-C4	4.17	1.35	1.24
4	IA	32	5MC	C4-N4	4.16	1.44	1.34
1	A	1407	5MC	C4-N4	4.15	1.44	1.34
2	GB	2251	OMG	C2-N2	4.15	1.42	1.33
1	A	1400	5MC	C4-N4	4.14	1.44	1.34
4	IB	54	5MU	O4-C4	4.13	1.34	1.24
1	FB	967	5MC	C4-N4	4.12	1.44	1.34
4	D	32	5MC	C4-N4	4.08	1.44	1.34
4	IB	32	5MC	C4-N4	4.08	1.44	1.34
2	GB	2503	2MA	C8-N7	4.05	1.41	1.34
2	GB	1942	5MC	C4-N4	4.05	1.44	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	FB	1404	5MC	C5-C4	-4.03	1.35	1.41
1	A	1519	MA6	C4-N3	4.03	1.41	1.35
2	GB	1939	5MU	O4-C4	4.02	1.34	1.24
1	A	516	PSU	C4-N3	3.98	1.40	1.33
1	FB	1518	MA6	C4-N3	3.97	1.41	1.35
1	FB	1400	5MC	C4-N4	3.97	1.44	1.34
1	FB	1518	MA6	C6-N1	3.95	1.38	1.33
1	A	1518	MA6	C6-N1	3.94	1.38	1.33
4	IA	54	5MU	C4-N3	3.92	1.39	1.33
4	NC	55	PSU	C4-N3	3.91	1.39	1.33
2	B	1939	5MU	O4-C4	3.88	1.34	1.24
2	GB	1911	PSU	C4-N3	3.88	1.39	1.33
2	B	1915	5MU	O4-C4	3.85	1.34	1.24
4	IB	55	PSU	C4-N3	3.82	1.39	1.33
4	D	55	PSU	C4-N3	3.79	1.39	1.33
1	FB	1404	5MC	C4-N4	3.78	1.43	1.34
2	B	2503	2MA	C8-N7	3.77	1.41	1.34
4	IA	55	PSU	C4-N3	3.77	1.39	1.33
1	FB	527	7MG	C6-C5	3.72	1.46	1.41
1	FB	527	7MG	C2-N2	3.69	1.41	1.33
4	NC	54	5MU	C4-N3	3.67	1.39	1.33
2	B	1917	PSU	C4-N3	3.60	1.39	1.33
1	A	527	7MG	C2-N2	3.59	1.41	1.33
2	GB	1915	5MU	C4-N3	3.56	1.39	1.33
2	B	2503	2MA	C2-N1	3.48	1.40	1.34
2	GB	1917	PSU	C6-N1	3.44	1.41	1.34
4	IB	54	5MU	C4-N3	3.44	1.39	1.33
4	D	54	5MU	C4-N3	3.41	1.39	1.33
1	FB	516	PSU	C5-C1'	3.36	1.55	1.52
2	GB	1939	5MU	C4-N3	3.35	1.38	1.33
2	B	2251	OMG	C2-N2	3.28	1.40	1.33
2	B	1911	PSU	C4-N3	3.27	1.38	1.33
1	FB	527	7MG	C5-N7	3.25	1.45	1.39
2	B	2605	PSU	C4-N3	3.23	1.38	1.33
1	A	516	PSU	C5-C1'	3.22	1.55	1.52
1	A	1404	5MC	C5-C4	-3.21	1.36	1.41
1	FB	516	PSU	C6-N1	3.19	1.41	1.34
2	GB	1939	5MU	C4-C5	-3.18	1.34	1.41
2	GB	2605	PSU	C5-C1'	3.16	1.54	1.52
4	D	55	PSU	C6-N1	3.11	1.41	1.34
2	B	1962	5MC	C5-C4	-3.11	1.36	1.41
2	B	1917	PSU	C6-N1	3.07	1.40	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	527	7MG	C6-C5	3.05	1.45	1.41
1	A	966	M2G	C4-N3	3.04	1.40	1.35
2	B	1915	5MU	C4-N3	3.04	1.38	1.33
1	FB	1400	5MC	C5-C4	-3.03	1.36	1.41
1	A	527	7MG	CM7-N7	-3.03	1.40	1.46
4	D	32	5MC	C5-C4	-3.01	1.36	1.41
4	IB	55	PSU	C6-N1	2.99	1.40	1.34
1	A	516	PSU	C6-N1	2.99	1.40	1.34
1	A	1518	MA6	C2-N1	2.96	1.39	1.33
2	GB	2503	2MA	C2-N1	2.96	1.39	1.34
4	IA	32	5MC	C5-C4	-2.95	1.37	1.41
1	FB	1519	MA6	C2-N1	2.94	1.39	1.33
2	B	2605	PSU	C6-N1	2.94	1.40	1.34
2	GB	2605	PSU	C6-N1	2.94	1.40	1.34
4	NC	54	5MU	C4-C5	-2.93	1.35	1.41
1	A	1407	5MC	C5-C4	-2.93	1.37	1.41
2	B	1915	5MU	C4-C5	-2.92	1.35	1.41
1	A	1400	5MC	C5-C4	-2.88	1.37	1.41
1	FB	1518	MA6	C2-N1	2.86	1.39	1.33
4	NC	32	5MC	C5-C4	-2.82	1.37	1.41
4	D	54	5MU	C4-C5	-2.81	1.35	1.41
4	IA	54	5MU	C4-C5	-2.81	1.35	1.41
1	A	1519	MA6	C6-N1	2.79	1.37	1.33
4	NC	55	PSU	C6-N1	2.79	1.40	1.34
2	B	1939	5MU	C4-N3	2.76	1.37	1.33
4	IA	55	PSU	C6-N1	2.75	1.40	1.34
2	B	1939	5MU	C4-C5	-2.74	1.35	1.41
4	D	55	PSU	C5-C1'	2.73	1.54	1.52
4	IB	54	5MU	C4-C5	-2.72	1.35	1.41
2	GB	1911	PSU	C6-N1	2.72	1.40	1.34
4	NC	8	4SU	C2-N3	-2.70	1.32	1.38
1	FB	967	5MC	C5-C4	-2.68	1.37	1.41
2	GB	1911	PSU	O4'-C1'	-2.62	1.40	1.44
1	FB	1402	4OC	C4-N4	2.61	1.41	1.36
2	B	1942	5MC	C5-C4	-2.61	1.37	1.41
1	A	1402	4OC	C4-N4	2.60	1.41	1.36
1	FB	527	7MG	CM7-N7	-2.60	1.41	1.46
1	A	1519	MA6	C2-N1	2.57	1.38	1.33
4	IB	55	PSU	C5-C1'	2.56	1.54	1.52
4	IB	8	4SU	C2-N3	-2.55	1.33	1.38
4	IB	32	5MC	C5-C4	-2.53	1.37	1.41
2	B	1962	5MC	C4-N3	2.48	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	GB	1915	5MU	C4-C5	-2.48	1.36	1.41
2	B	1920	4OC	C4-N4	2.48	1.42	1.35
1	FB	1407	5MC	C5-C4	-2.47	1.37	1.41
2	GB	2605	PSU	C4-N3	2.47	1.37	1.33
1	A	527	7MG	C5-N7	2.47	1.44	1.39
1	FB	527	7MG	C2-N3	2.46	1.39	1.35
2	B	2503	2MA	C2-N3	-2.42	1.29	1.34
2	B	1911	PSU	C6-N1	2.42	1.39	1.34
1	FB	527	7MG	C4-N9	2.42	1.42	1.38
1	FB	966	M2G	C4-N3	2.37	1.39	1.35
1	A	967	5MC	C5-C4	-2.36	1.37	1.41
46	AD	92	0TD	CB-SB	-2.35	1.78	1.84
2	GB	1962	5MC	C5-C4	-2.35	1.37	1.41
46	VA	92	0TD	CB-SB	-2.32	1.78	1.84
4	IB	55	PSU	O4'-C1'	-2.30	1.41	1.44
1	A	527	7MG	C4-N9	2.27	1.42	1.38
2	GB	1920	4OC	C4-N4	2.27	1.41	1.35
1	A	527	7MG	C2-N3	2.26	1.39	1.35
2	GB	2552	2MU	O4'-C4'	-2.25	1.40	1.45
2	B	2605	PSU	O4'-C1'	-2.25	1.41	1.44
2	B	1917	PSU	O4'-C1'	-2.23	1.41	1.44
2	B	1911	PSU	O4'-C1'	-2.23	1.41	1.44
4	D	55	PSU	O4'-C1'	-2.22	1.41	1.44
1	A	1404	5MC	C4-N3	2.18	1.38	1.35
4	NC	55	PSU	C5-C1'	2.17	1.54	1.52
2	B	1917	PSU	C5-C1'	2.16	1.54	1.52
2	B	2552	2MU	O4'-C4'	-2.12	1.40	1.45
4	D	8	4SU	C2-N3	-2.12	1.34	1.38
4	IA	8	4SU	C2-N3	-2.10	1.34	1.38
2	GB	1942	5MC	C5-C4	-2.09	1.38	1.41
4	IA	8	4SU	C6-N1	2.09	1.38	1.35
4	NC	55	PSU	C6-C5	2.08	1.41	1.38
2	B	2552	2MU	C5'-C4'	-2.08	1.45	1.51
1	FB	1207	2MG	C6-N1	2.07	1.36	1.33
2	GB	1917	PSU	O4'-C1'	-2.07	1.41	1.44
1	A	516	PSU	O4'-C1'	-2.06	1.41	1.44
2	B	2503	2MA	C6-C5	-2.05	1.37	1.41
4	IA	55	PSU	O4'-C1'	-2.05	1.41	1.44
1	FB	516	PSU	O4'-C1'	-2.05	1.41	1.44

All (215) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	FB	516	PSU	N1-C2-N3	-13.04	118.06	128.43
1	A	516	PSU	N1-C2-N3	-12.78	118.27	128.43
4	IB	55	PSU	N1-C2-N3	-11.03	119.66	128.43
2	B	1917	PSU	N1-C2-N3	-10.93	119.74	128.43
2	GB	1917	PSU	N1-C2-N3	-10.91	119.75	128.43
4	D	55	PSU	N1-C2-N3	-10.86	119.80	128.43
4	NC	55	PSU	N1-C2-N3	-10.51	120.07	128.43
2	B	2605	PSU	N1-C2-N3	-10.46	120.12	128.43
1	FB	1402	4OC	CM4-N4-C4	-10.43	114.01	122.97
2	B	1911	PSU	N1-C2-N3	-10.29	120.25	128.43
4	IA	55	PSU	N1-C2-N3	-10.25	120.28	128.43
2	GB	1911	PSU	N1-C2-N3	-9.84	120.61	128.43
1	A	1402	4OC	CM4-N4-C4	-9.28	115.00	122.97
2	GB	2605	PSU	N1-C2-N3	-9.24	121.08	128.43
1	FB	516	PSU	C4-N3-C2	7.72	121.66	115.14
4	NC	54	5MU	C4-N3-C2	7.28	121.29	115.14
1	A	516	PSU	C4-N3-C2	7.28	121.29	115.14
4	IA	54	5MU	C4-N3-C2	7.20	121.22	115.14
4	NC	55	PSU	C4-N3-C2	7.14	121.17	115.14
4	NC	8	4SU	C5-C4-N3	-7.04	114.42	123.83
2	B	1911	PSU	C4-N3-C2	6.97	121.02	115.14
2	B	1917	PSU	C4-N3-C2	6.97	121.02	115.14
4	IA	8	4SU	C5-C4-N3	-6.87	114.64	123.83
2	GB	1915	5MU	C4-N3-C2	6.87	120.94	115.14
4	IA	55	PSU	C4-N3-C2	6.86	120.93	115.14
2	GB	1917	PSU	C4-N3-C2	6.74	120.84	115.14
4	IB	55	PSU	C4-N3-C2	6.72	120.82	115.14
2	B	1915	5MU	C4-N3-C2	6.69	120.79	115.14
4	IB	54	5MU	C4-N3-C2	6.67	120.77	115.14
4	D	54	5MU	C4-N3-C2	6.65	120.76	115.14
4	IB	8	4SU	C5-C4-N3	-6.49	115.15	123.83
4	D	55	PSU	C4-N3-C2	6.49	120.62	115.14
2	B	2605	PSU	C5-C6-N1	-6.20	116.82	124.44
2	GB	2605	PSU	C5-C6-N1	-5.99	117.08	124.44
2	GB	1939	5MU	C4-N3-C2	5.85	120.08	115.14
4	D	8	4SU	C5-C4-N3	-5.80	116.07	123.83
2	B	1911	PSU	C5-C4-N3	-5.56	118.20	125.36
2	GB	1911	PSU	C4-N3-C2	5.38	119.69	115.14
2	GB	1920	4OC	CM2-O2'-C2'	5.33	128.52	114.52
2	B	1920	4OC	CM2-O2'-C2'	5.26	128.34	114.52
2	B	2605	PSU	C4-N3-C2	5.10	119.45	115.14
2	B	1939	5MU	C4-N3-C2	5.06	119.42	115.14
2	B	1920	4OC	C2-N3-C4	4.96	121.37	116.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	VA	92	0TD	CSB-SB-CB	4.80	111.31	101.85
1	FB	527	7MG	N3-C4-N9	4.73	132.99	126.91
4	IA	55	PSU	C5-C4-N3	-4.73	119.27	125.36
4	NC	55	PSU	C5-C4-N3	-4.71	119.30	125.36
2	GB	1917	PSU	C5-C4-N3	-4.70	119.30	125.36
1	A	1519	MA6	N3-C2-N1	-4.70	121.33	128.68
2	GB	1911	PSU	C5-C6-N1	-4.64	118.73	124.44
46	AD	92	0TD	CSB-SB-CB	4.61	110.93	101.85
1	FB	1519	MA6	N3-C2-N1	-4.55	121.57	128.68
2	B	2503	2MA	C5-C6-N1	-4.44	118.40	123.06
1	A	527	7MG	N3-C4-N9	4.43	132.60	126.91
2	B	1911	PSU	C5-C6-N1	-4.40	119.03	124.44
4	IB	55	PSU	C5-C4-N3	-4.36	119.74	125.36
1	A	527	7MG	C4-N9-C1'	4.36	136.94	126.60
2	GB	1911	PSU	C5-C4-N3	-4.34	119.77	125.36
1	FB	527	7MG	C4-N9-C1'	4.30	136.79	126.60
4	IB	55	PSU	C5-C6-N1	-4.25	119.22	124.44
2	B	2605	PSU	C6-N1-C2	4.21	122.31	115.36
1	A	1207	2MG	C2-N3-C4	4.21	120.06	115.28
4	D	55	PSU	C5-C6-N1	-4.21	119.27	124.44
2	GB	1920	4OC	C2-N3-C4	4.20	120.59	116.34
1	FB	1518	MA6	N3-C2-N1	-4.19	122.12	128.68
2	B	1962	5MC	CM5-C5-C4	-4.17	117.50	121.72
4	D	55	PSU	C5-C4-N3	-4.16	120.00	125.36
2	GB	1917	PSU	C5-C6-N1	-4.15	119.34	124.44
2	GB	2503	2MA	C5-C6-N1	-4.12	118.74	123.06
2	GB	2503	2MA	C2-N3-C4	4.08	118.84	115.52
1	A	1404	5MC	N4-C4-N3	4.07	122.78	117.03
2	B	1917	PSU	C5-C4-N3	-4.06	120.13	125.36
1	FB	516	PSU	C5-C4-N3	-4.03	120.17	125.36
2	GB	1942	5MC	C5-C6-N1	-4.03	117.85	122.19
1	FB	527	7MG	C5-C4-N3	-4.02	119.93	126.49
1	A	516	PSU	C6-N1-C2	4.00	121.96	115.36
1	A	516	PSU	C5-C6-N1	-3.94	119.60	124.44
1	FB	516	PSU	C6-N1-C2	3.90	121.80	115.36
1	A	1518	MA6	N3-C2-N1	-3.90	122.58	128.68
1	A	516	PSU	C5-C4-N3	-3.86	120.39	125.36
2	B	2503	2MA	C2-N3-C4	3.84	118.64	115.52
2	GB	1962	5MC	C5-C6-N1	-3.84	118.06	122.19
2	GB	2605	PSU	C6-N1-C2	3.83	121.68	115.36
1	A	527	7MG	C5-C4-N3	-3.80	120.29	126.49
1	FB	516	PSU	C5-C6-N1	-3.78	119.79	124.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	FB	1518	MA6	N1-C6-N6	3.73	120.98	117.06
2	B	1962	5MC	C5-C6-N1	-3.69	118.21	122.19
2	GB	2605	PSU	C4-N3-C2	3.66	118.24	115.14
1	FB	1207	2MG	C2-N3-C4	3.62	119.38	115.28
2	B	2251	OMG	C5-C6-N1	-3.62	118.48	123.43
2	B	1920	4OC	N4-C4-N3	3.59	122.17	116.49
2	B	1962	5MC	N4-C4-N3	3.59	122.11	117.03
4	IB	55	PSU	C6-N1-C2	3.56	121.24	115.36
1	A	1404	5MC	CM5-C5-C4	-3.56	118.11	121.72
1	FB	1404	5MC	N4-C4-N3	3.55	122.05	117.03
1	A	966	M2G	C2-N3-C4	3.54	119.30	115.28
46	VA	92	0TD	CB-CA-N	-3.50	101.63	109.10
4	D	55	PSU	C6-N1-C2	3.50	121.14	115.36
2	B	1939	5MU	C5-C6-N1	-3.50	118.42	122.19
2	B	2605	PSU	C5-C4-N3	-3.50	120.86	125.36
4	IA	32	5MC	C2-N3-C4	3.42	120.15	116.02
1	A	527	7MG	C6-N1-C2	3.39	121.31	115.93
4	D	8	4SU	C5-C6-N1	-3.37	113.15	120.68
2	GB	1911	PSU	C6-N1-C2	3.37	120.92	115.36
1	FB	1404	5MC	C2-N3-C4	3.37	120.09	116.02
4	IA	55	PSU	C5-C6-N1	-3.37	120.30	124.44
1	A	1207	2MG	CM2-N2-C2	-3.37	119.52	123.59
1	A	967	5MC	C2-N3-C4	3.36	120.07	116.02
46	AD	92	0TD	CB-CA-N	-3.36	101.95	109.10
1	FB	966	M2G	C5-C6-N1	-3.33	118.87	123.43
1	A	966	M2G	C6-N1-C2	3.33	120.15	116.18
1	FB	967	5MC	C2-N3-C4	3.33	120.04	116.02
2	GB	1917	PSU	C6-N1-C2	3.32	120.84	115.36
1	A	1404	5MC	C2-N3-C4	3.32	120.02	116.02
4	NC	8	4SU	C5-C6-N1	-3.31	113.29	120.68
2	B	2251	OMG	O3'-C3'-C2'	3.30	120.53	111.17
1	FB	966	M2G	C2-N3-C4	3.29	119.01	115.28
4	IB	32	5MC	C2-N3-C4	3.26	119.96	116.02
2	GB	2251	OMG	N3-C2-N1	-3.25	122.89	127.22
2	B	1942	5MC	C5-C6-N1	-3.24	118.70	122.19
4	D	32	5MC	C2-N3-C4	3.22	119.91	116.02
2	GB	2251	OMG	C2-N3-C4	3.22	119.03	115.36
1	FB	1207	2MG	CM2-N2-C2	-3.22	119.71	123.59
2	GB	2251	OMG	C5-C6-N1	-3.21	119.03	123.43
1	A	1400	5MC	C2-N3-C4	3.21	119.89	116.02
1	FB	527	7MG	C6-N1-C2	3.20	121.02	115.93
1	A	1518	MA6	N1-C6-N6	3.17	120.39	117.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1207	2MG	C5-C6-N1	-3.16	119.10	123.43
2	B	2251	OMG	C2-N3-C4	3.12	118.92	115.36
4	IA	8	4SU	C5-C6-N1	-3.11	113.73	120.68
1	A	966	M2G	C5-C6-N1	-3.11	119.17	123.43
4	NC	55	PSU	C5-C6-N1	-3.10	120.63	124.44
4	NC	32	5MC	C2-N3-C4	3.09	119.74	116.02
2	B	2251	OMG	C6-N1-C2	3.08	120.82	115.93
2	B	2251	OMG	N3-C2-N1	-3.05	123.16	127.22
1	FB	1207	2MG	C5-C6-N1	-3.04	119.28	123.43
1	A	527	7MG	N1-C2-N3	-3.03	120.67	125.42
1	FB	527	7MG	N1-C2-N3	-2.97	120.75	125.42
2	GB	1920	4OC	N4-C4-N3	2.95	121.15	116.49
1	FB	966	M2G	C6-N1-C2	2.94	119.68	116.18
2	B	2605	PSU	O4'-C1'-C5	-2.93	105.39	109.93
2	B	1911	PSU	C6-N1-C2	2.93	120.19	115.36
1	FB	1207	2MG	C6-N1-C2	2.92	120.41	115.18
2	GB	1962	5MC	CM5-C5-C4	-2.89	118.80	121.72
1	A	1207	2MG	C6-N1-C2	2.89	120.35	115.18
1	FB	1400	5MC	C2-N3-C4	2.88	119.49	116.02
1	A	1407	5MC	C2-N3-C4	2.85	119.46	116.02
1	FB	1407	5MC	C2-N3-C4	2.85	119.46	116.02
1	FB	1404	5MC	CM5-C5-C4	-2.83	118.86	121.72
2	B	1917	PSU	C5-C6-N1	-2.81	120.98	124.44
4	IA	55	PSU	C6-N1-C2	2.78	119.95	115.36
4	IB	8	4SU	C5-C6-N1	-2.78	114.48	120.68
2	GB	2251	OMG	O3'-C3'-C2'	2.78	119.05	111.17
4	NC	55	PSU	C6-N1-C2	2.76	119.91	115.36
1	A	1207	2MG	C4-C5-N7	-2.74	106.55	109.40
4	NC	32	5MC	CM5-C5-C4	-2.70	118.99	121.72
2	GB	2251	OMG	C6-N1-C2	2.69	120.21	115.93
4	IA	55	PSU	C5-C1'-C2'	-2.66	110.58	115.32
2	B	1917	PSU	C6-N1-C2	2.64	119.71	115.36
1	A	966	M2G	CM2-N2-C2	-2.63	118.78	121.29
1	A	1207	2MG	N3-C2-N1	-2.60	122.12	126.23
4	NC	55	PSU	C5-C1'-C2'	-2.57	110.73	115.32
1	A	1407	5MC	C5-C6-N1	-2.57	119.43	122.19
1	FB	1207	2MG	C4-C5-N7	-2.56	106.73	109.40
4	IA	32	5MC	CM5-C5-C4	-2.55	119.14	121.72
1	FB	966	M2G	CM2-N2-C2	-2.55	118.86	121.29
1	FB	1519	MA6	N1-C6-N6	2.55	119.74	117.06
1	FB	527	7MG	C2-N3-C4	2.51	120.83	113.89
2	B	1942	5MC	CM5-C5-C4	-2.48	119.21	121.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	2605	PSU	C5-C4-N3	-2.44	122.22	125.36
4	IB	8	4SU	C6-N1-C2	2.43	125.06	121.20
1	FB	1207	2MG	N3-C2-N1	-2.40	122.43	126.23
2	B	2552	2MU	O4'-C4'-C5'	-2.40	101.47	109.37
1	FB	966	M2G	N3-C2-N2	2.40	119.61	117.18
2	B	2552	2MU	C5-C4-N3	-2.39	118.05	123.31
1	FB	1400	5MC	N4-C4-N3	2.39	120.41	117.03
4	D	32	5MC	N4-C4-N3	2.38	120.39	117.03
1	A	527	7MG	C2-N3-C4	2.34	120.37	113.89
2	GB	1917	PSU	O4'-C1'-C5	-2.34	106.31	109.93
2	B	2503	2MA	C4-C5-N7	-2.32	106.98	109.40
2	GB	2503	2MA	C4-C5-N7	-2.31	106.99	109.40
2	B	1920	4OC	C5-C4-N3	-2.31	119.06	121.72
1	A	1407	5MC	N4-C4-N3	2.31	120.30	117.03
1	A	966	M2G	N3-C2-N2	2.30	119.51	117.18
4	NC	32	5MC	C5-C6-N1	-2.30	119.72	122.19
2	B	1911	PSU	O4'-C1'-C2'	2.27	108.34	104.66
1	A	1400	5MC	C5-C6-N1	-2.21	119.81	122.19
1	A	1518	MA6	C4-C5-N7	-2.19	107.11	109.40
2	GB	1915	5MU	C5-C6-N1	-2.18	119.85	122.19
1	A	527	7MG	C6-C5-C4	2.17	117.53	115.20
1	A	967	5MC	C5-C6-N1	-2.17	119.86	122.19
1	A	1207	2MG	N2-C2-N3	2.16	119.04	116.96
4	IB	32	5MC	C5-C6-N1	-2.14	119.89	122.19
1	FB	1407	5MC	C5-C6-N1	-2.14	119.89	122.19
1	A	1400	5MC	N4-C4-N3	2.13	120.04	117.03
1	FB	1207	2MG	N2-C2-N1	2.12	119.00	116.96
2	GB	1939	5MU	C5-C6-N1	-2.12	119.91	122.19
4	D	32	5MC	CM5-C5-C4	-2.12	119.58	121.72
4	D	55	PSU	O4'-C1'-C2'	2.12	108.09	104.66
2	B	1942	5MC	C2-N3-C4	2.11	118.57	116.02
2	B	1915	5MU	C5-C6-N1	-2.11	119.92	122.19
4	IB	55	PSU	O4'-C1'-C2'	2.11	108.08	104.66
1	FB	516	PSU	C5-C1'-C2'	2.10	119.06	115.32
4	NC	32	5MC	N4-C4-N3	2.08	119.98	117.03
2	GB	2552	2MU	O4'-C4'-C5'	-2.08	102.53	109.37
2	GB	1911	PSU	O4'-C1'-C2'	2.06	108.00	104.66
1	FB	966	M2G	C1'-N9-C4	-2.05	123.04	126.64
1	A	966	M2G	C1'-N9-C4	-2.05	123.05	126.64
1	A	1402	4OC	N4-C4-N3	2.04	121.58	116.37
2	GB	1962	5MC	N4-C4-N3	2.03	119.91	117.03
1	FB	527	7MG	C6-C5-C4	2.03	117.37	115.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	GB	2251	OMG	C3'-C2'-C1'	-2.02	99.09	102.89
1	FB	1402	4OC	CM2-O2'-C2'	2.01	119.81	114.52
2	B	2251	OMG	C3'-C2'-C1'	-2.01	99.11	102.89
2	GB	2605	PSU	C3'-C2'-C1'	-2.01	99.62	101.93

There are no chirality outliers.

All (72) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	IB	8	4SU	C4'-C5'-O5'-P
4	NC	8	4SU	C2'-C1'-N1-C6
1	FB	1498	UR3	O4'-C4'-C5'-O5'
1	FB	1498	UR3	C3'-C4'-C5'-O5'
2	GB	2251	OMG	C1'-C2'-O2'-CM2
1	A	1518	MA6	C5-C6-N6-C9
1	A	1518	MA6	C5-C6-N6-C10
2	B	1920	4OC	C3'-C2'-O2'-CM2
2	B	1962	5MC	O4'-C1'-N1-C6
2	B	1962	5MC	C2'-C1'-N1-C6
46	AD	92	0TD	O-C-CA-CB
46	AD	92	0TD	CG-CB-SB-CSB
2	GB	1920	4OC	C3'-C2'-O2'-CM2
1	FB	1519	MA6	O4'-C4'-C5'-O5'
2	B	2251	OMG	C1'-C2'-O2'-CM2
1	FB	1518	MA6	C5-C6-N6-C9
1	FB	1518	MA6	C5-C6-N6-C10
2	GB	1962	5MC	O4'-C1'-N1-C6
2	GB	1962	5MC	C2'-C1'-N1-C6
46	VA	92	0TD	O-C-CA-CB
46	VA	92	0TD	CG-CB-SB-CSB
1	A	1402	4OC	C1'-C2'-O2'-CM2
1	A	1402	4OC	N3-C4-N4-CM4
1	A	1402	4OC	C5-C4-N4-CM4
1	A	1498	UR3	O4'-C4'-C5'-O5'
1	A	1498	UR3	C3'-C4'-C5'-O5'
4	IA	8	4SU	C2'-C1'-N1-C6
1	A	1519	MA6	O4'-C4'-C5'-O5'
4	D	8	4SU	C4'-C5'-O5'-P
1	FB	1402	4OC	C1'-C2'-O2'-CM2
1	FB	1402	4OC	N3-C4-N4-CM4
1	FB	1402	4OC	C5-C4-N4-CM4
1	FB	1519	MA6	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
2	B	2251	OMG	O4'-C4'-C5'-O5'
1	A	1519	MA6	C3'-C4'-C5'-O5'
2	GB	2251	OMG	O4'-C4'-C5'-O5'
2	B	1962	5MC	O4'-C4'-C5'-O5'
1	A	1518	MA6	N1-C6-N6-C9
1	FB	1518	MA6	N1-C6-N6-C9
1	A	966	M2G	N3-C2-N2-CM2
2	B	2251	OMG	C3'-C4'-C5'-O5'
1	A	966	M2G	N1-C2-N2-CM1
2	GB	1962	5MC	O4'-C4'-C5'-O5'
1	FB	966	M2G	N1-C2-N2-CM1
1	FB	966	M2G	N3-C2-N2-CM2
2	GB	2251	OMG	C3'-C4'-C5'-O5'
1	FB	1519	MA6	C5-C6-N6-C9
1	A	1519	MA6	C5-C6-N6-C9
1	FB	966	M2G	N1-C2-N2-CM2
1	FB	966	M2G	N3-C2-N2-CM1
1	A	966	M2G	N1-C2-N2-CM2
1	A	966	M2G	N3-C2-N2-CM1
2	GB	2503	2MA	O4'-C4'-C5'-O5'
4	IB	55	PSU	C4'-C5'-O5'-P
4	D	55	PSU	C4'-C5'-O5'-P
2	B	1962	5MC	C3'-C4'-C5'-O5'
2	B	2503	2MA	O4'-C4'-C5'-O5'
1	FB	1519	MA6	C4'-C5'-O5'-P
1	A	1519	MA6	C4'-C5'-O5'-P
1	A	527	7MG	C3'-C4'-C5'-O5'
2	GB	2552	2MU	C3'-C2'-O2'-C6'
2	B	2552	2MU	C3'-C2'-O2'-C6'
2	GB	1962	5MC	C3'-C4'-C5'-O5'
46	VA	92	0TD	CA-CB-SB-CSB
1	FB	527	7MG	C3'-C4'-C5'-O5'
2	GB	1917	PSU	O4'-C4'-C5'-O5'
2	GB	2503	2MA	C3'-C4'-C5'-O5'
2	B	1939	5MU	O4'-C4'-C5'-O5'
2	B	2503	2MA	C3'-C4'-C5'-O5'
1	FB	1402	4OC	O4'-C4'-C5'-O5'
1	FB	527	7MG	C4'-C5'-O5'-P
1	A	527	7MG	C4'-C5'-O5'-P

There are no ring outliers.

43 monomers are involved in 78 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	IB	8	4SU	2	0
1	FB	967	5MC	4	0
4	IA	55	PSU	1	0
1	FB	1498	UR3	3	0
1	FB	527	7MG	1	0
2	GB	2251	OMG	3	0
1	A	1518	MA6	1	0
2	B	1920	4OC	4	0
2	GB	1915	5MU	1	0
1	FB	1207	2MG	3	0
2	B	1962	5MC	1	0
2	B	2552	2MU	1	0
2	B	1915	5MU	1	0
46	AD	92	0TD	1	0
2	GB	1920	4OC	1	0
1	FB	966	M2G	1	0
2	GB	1917	PSU	2	0
1	A	1407	5MC	1	0
1	FB	1519	MA6	1	0
2	B	2251	OMG	3	0
1	FB	1518	MA6	1	0
2	GB	2503	2MA	3	0
2	GB	1962	5MC	1	0
1	A	1207	2MG	3	0
1	A	527	7MG	1	0
4	NC	54	5MU	4	0
46	VA	92	0TD	1	0
1	A	967	5MC	4	0
1	A	1402	4OC	1	0
1	FB	1407	5MC	1	0
2	B	1939	5MU	1	0
4	NC	55	PSU	1	0
1	A	1498	UR3	2	0
1	A	966	M2G	2	0
4	IA	32	5MC	3	0
2	B	2503	2MA	3	0
2	GB	1939	5MU	2	0
4	IA	54	5MU	4	0
1	A	1519	MA6	1	0
4	D	8	4SU	3	0
2	GB	1942	5MC	1	0
1	FB	1402	4OC	2	0
4	NC	32	5MC	2	0

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 1440 ligands modelled in this entry, 1438 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
57	BLS	B	9001	-	25,31,31	3.37	9 (36%)	23,43,43	2.82	8 (34%)
57	BLS	GB	9001	-	25,31,31	3.35	9 (36%)	23,43,43	2.42	7 (30%)

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
57	BLS	B	9001	-	-	7/17/38/38	0/2/2/2
57	BLS	GB	9001	-	-	7/17/38/38	0/2/2/2

All (18) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	B	9001	BLS	C14-N12	8.87	1.54	1.35
57	GB	9001	BLS	C14-N12	8.44	1.53	1.35
57	GB	9001	BLS	C7-N6	7.66	1.50	1.34
57	B	9001	BLS	C7-N6	6.79	1.48	1.34
57	B	9001	BLS	O5'-C5'	6.44	1.51	1.44
57	GB	9001	BLS	O5'-C5'	5.86	1.51	1.44
57	B	9001	BLS	C11-N12	5.07	1.57	1.47
57	B	9001	BLS	C3'-C2'	4.86	1.48	1.33
57	GB	9001	BLS	C11-N12	4.76	1.56	1.47
57	GB	9001	BLS	C3'-C2'	4.60	1.47	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	GB	9001	BLS	C13-N12	4.47	1.61	1.45
57	B	9001	BLS	C4-N4	4.34	1.48	1.35
57	B	9001	BLS	C13-N12	4.29	1.60	1.45
57	GB	9001	BLS	C4-N4	4.20	1.47	1.35
57	GB	9001	BLS	C4'-C5'	-3.33	1.47	1.53
57	B	9001	BLS	C4'-C5'	-3.05	1.48	1.53
57	B	9001	BLS	C4'-N6	2.60	1.50	1.46
57	GB	9001	BLS	C4'-N6	2.19	1.49	1.46

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
57	B	9001	BLS	C1'-C2'-C3'	-8.94	110.80	122.52
57	GB	9001	BLS	C1'-C2'-C3'	-7.21	113.08	122.52
57	B	9001	BLS	C10-C11-N12	5.48	120.97	112.15
57	GB	9001	BLS	C10-C11-N12	5.44	120.91	112.15
57	B	9001	BLS	C2-N3-C4	3.95	120.34	116.34
57	B	9001	BLS	N15-C14-N12	3.48	122.71	118.53
57	GB	9001	BLS	O5'-C1'-C2'	-3.10	111.46	113.13
57	GB	9001	BLS	C2-N3-C4	3.09	119.47	116.34
57	B	9001	BLS	O5'-C1'-C2'	-2.99	111.52	113.13
57	GB	9001	BLS	C3'-C4'-N6	-2.39	106.21	110.60
57	GB	9001	BLS	C4'-C3'-C2'	-2.38	111.31	120.00
57	B	9001	BLS	C5-C4-N3	-2.24	119.14	121.72
57	GB	9001	BLS	N15-C14-N12	2.13	121.08	118.53
57	B	9001	BLS	N4-C4-N3	2.12	119.84	116.49
57	B	9001	BLS	C4'-C3'-C2'	-2.09	112.38	120.00

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
57	GB	9001	BLS	C11-C10-C9-C8
57	GB	9001	BLS	C11-C10-C9-N9
57	GB	9001	BLS	C10-C11-N12-C13
57	GB	9001	BLS	C10-C11-N12-C14
57	B	9001	BLS	C11-C10-C9-C8
57	B	9001	BLS	C11-C10-C9-N9
57	B	9001	BLS	C10-C11-N12-C13
57	B	9001	BLS	C10-C11-N12-C14
57	GB	9001	BLS	N6-C7-C8-C9
57	B	9001	BLS	N6-C7-C8-C9

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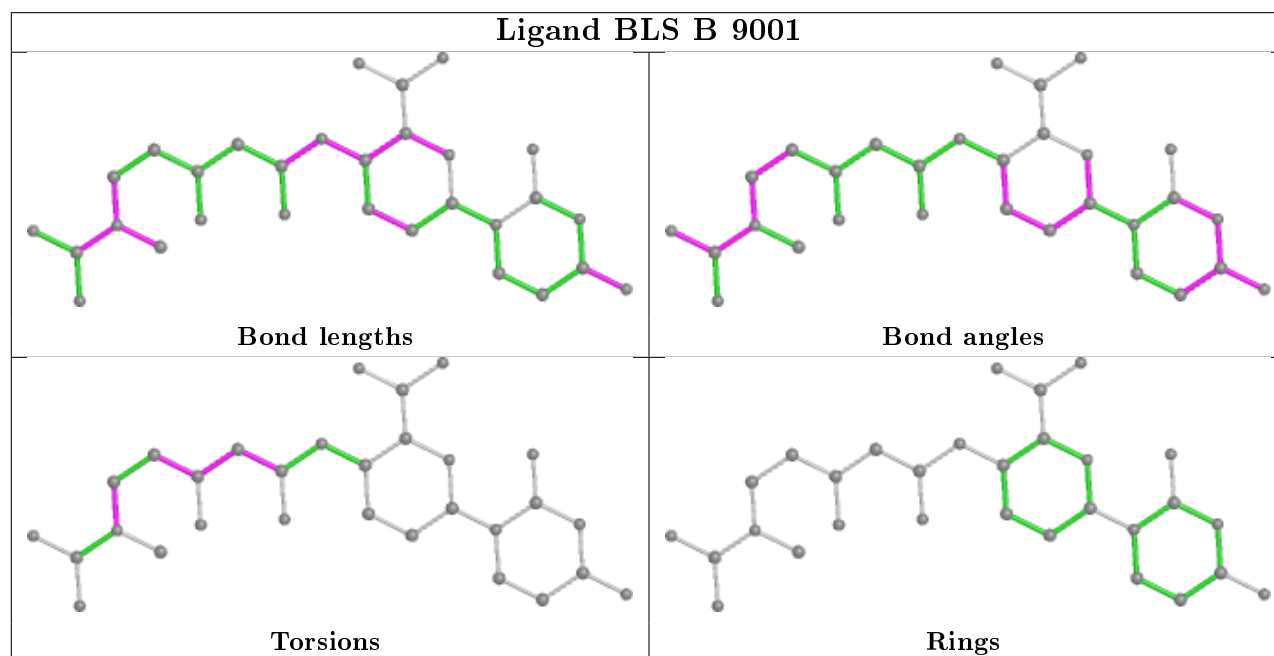
Mol	Chain	Res	Type	Atoms
57	GB	9001	BLS	O7-C7-C8-C9
57	B	9001	BLS	O7-C7-C8-C9
57	GB	9001	BLS	C7-C8-C9-N9
57	B	9001	BLS	C7-C8-C9-N9

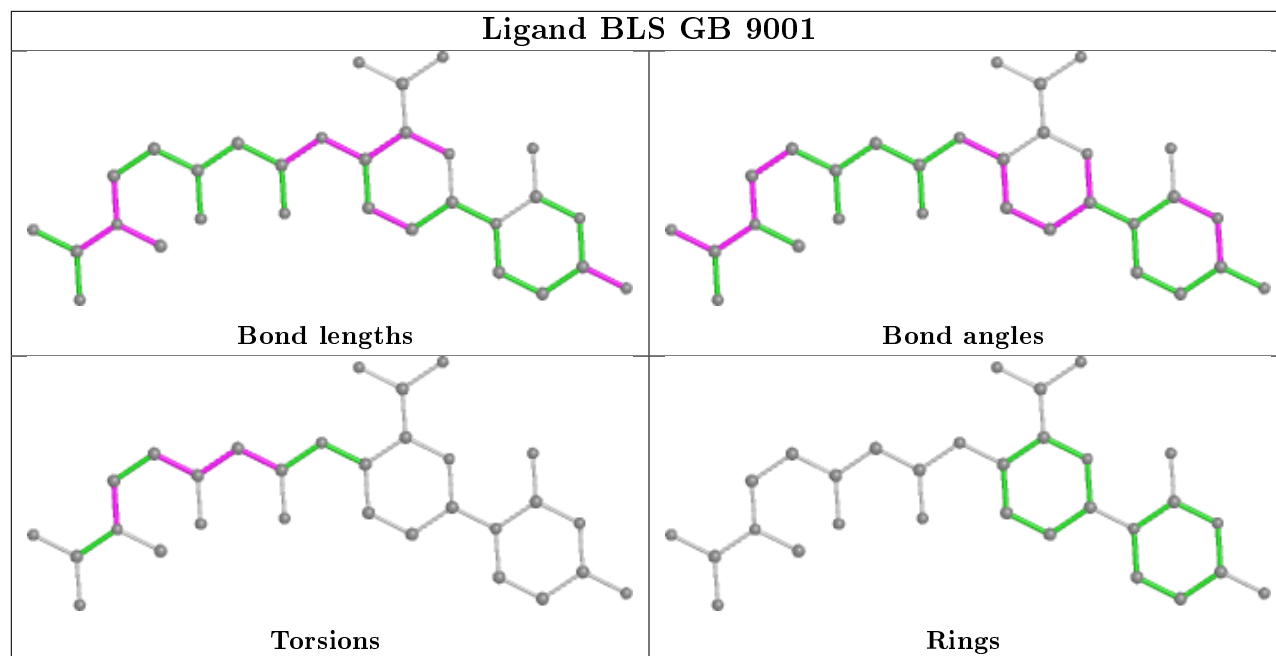
There are no ring outliers.

2 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
57	B	9001	BLS	4	0
57	GB	9001	BLS	7	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





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 ⓘ

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

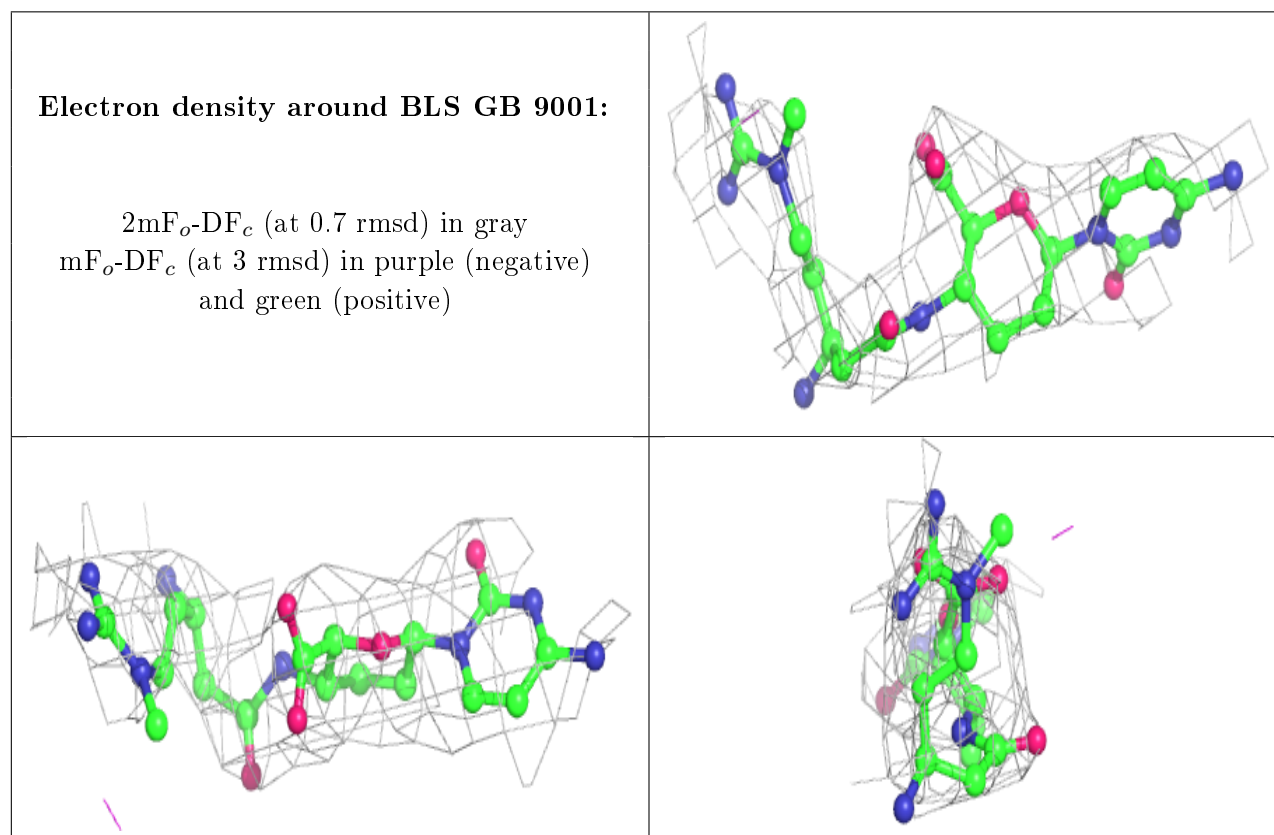
6.3 Carbohydrates ⓘ

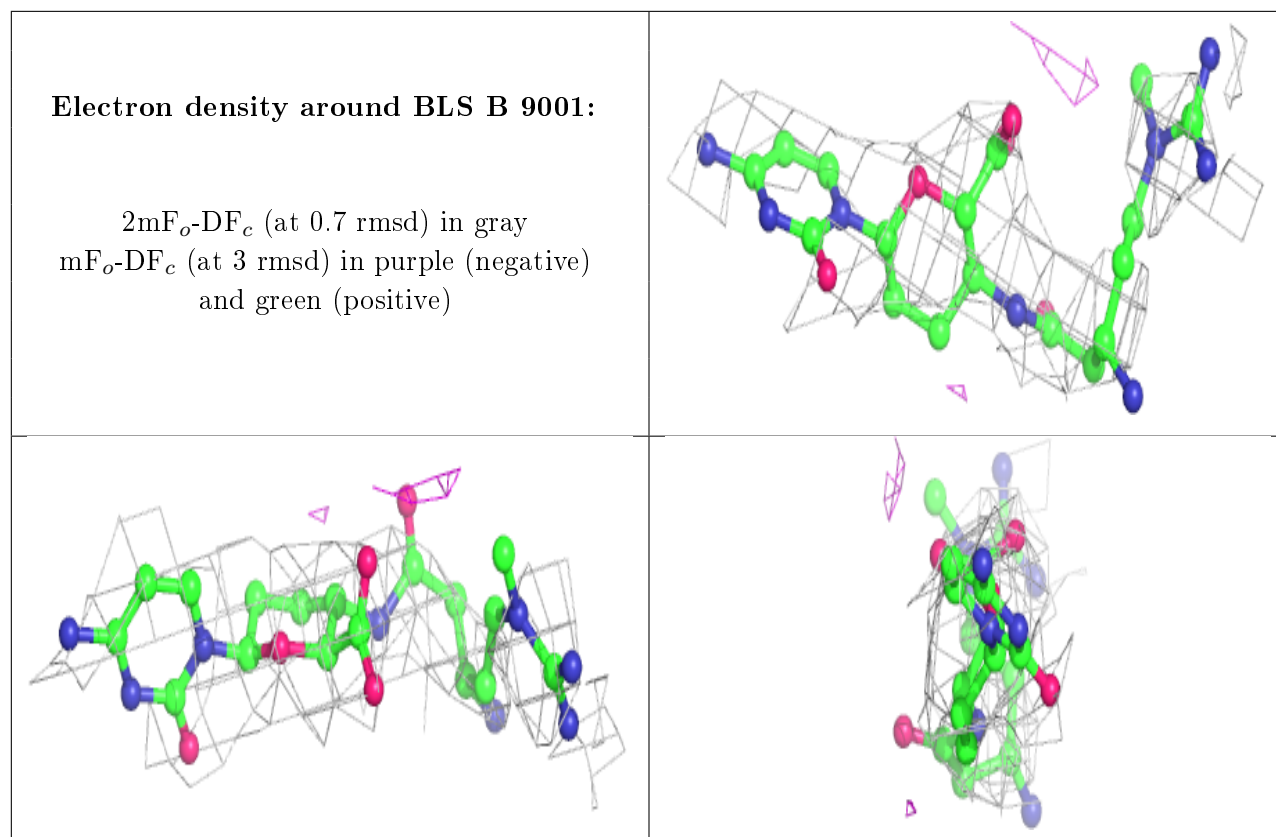
Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands ⓘ

Unable to reproduce the depositors R factor - this section is therefore empty.

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.





6.5 Other polymers [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.