Full wwPDB X-ray Structure Validation Report ⓘ

Mar 20, 2026 – 12:24 PM UTC

PDB ID	:	6BOH / pdb_00006boh
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 types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

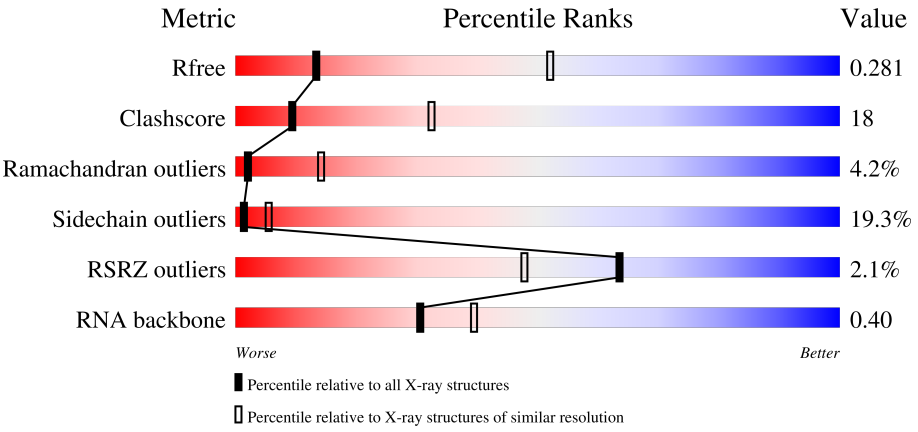
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.40 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}	180053	1001 (3.44-3.36)
Clashscore	190562	1022 (3.44-3.36)
Ramachandran outliers	187476	1012 (3.44-3.36)
Sidechain outliers	187428	1012 (3.44-3.36)
RSRZ outliers	180081	1001 (3.44-3.36)
RNA backbone	3983	1157 (3.80-3.00)

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

Mol	Chain	Length	Quality of chain
1	A	1507	35% 50% 14%
1	FB	1507	36% 50% 14%
2	B	2880	40% 46% 14%
2	GB	2880	41% 44% 14%

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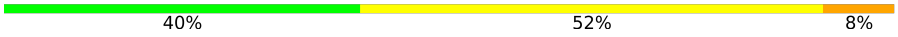
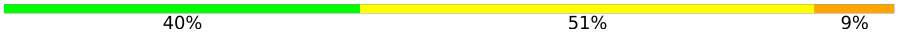
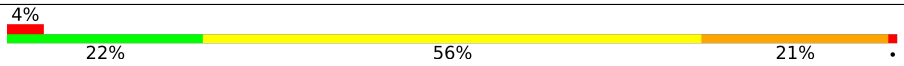
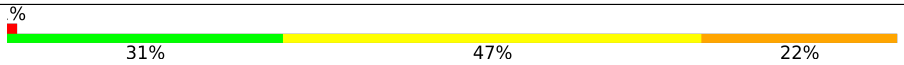
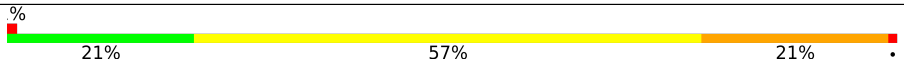
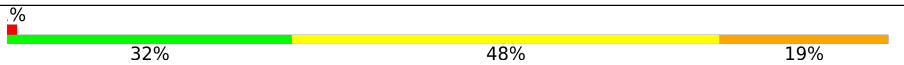
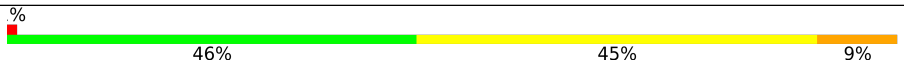
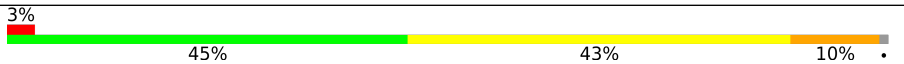
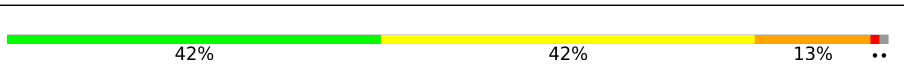
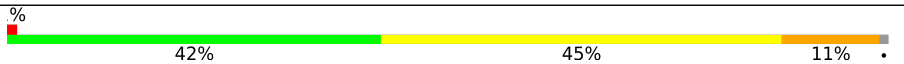
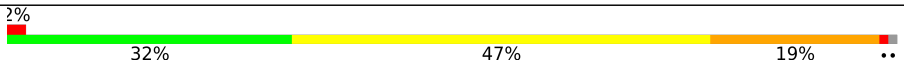
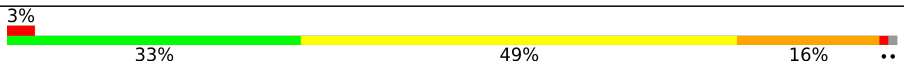
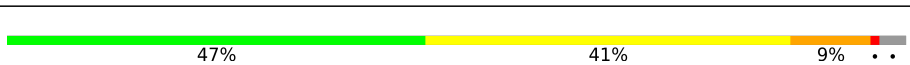
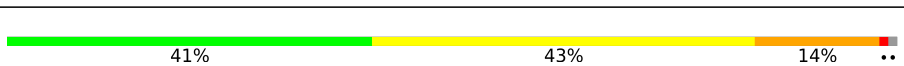
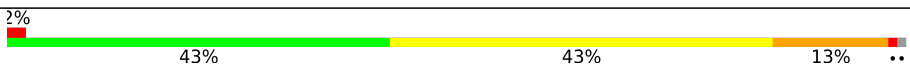
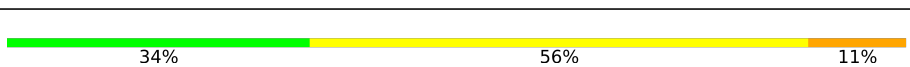
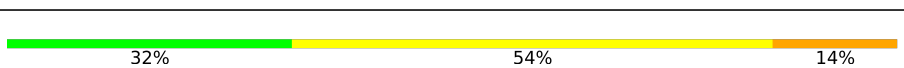
Mol	Chain	Length	Quality of chain
3	C	120	
3	HB	120	
4	D	77	
4	IA	77	
4	IB	77	
4	NC	77	
5	E	275	
5	JB	275	
6	F	206	
6	KB	206	
7	G	205	
7	LB	205	
8	H	182	
8	MB	182	
9	I	180	
9	NB	180	
10	J	148	
10	OB	148	
11	K	140	
11	PB	140	
12	L	122	
12	QB	122	
13	M	150	
13	RB	150	
14	N	141	

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Mol	Chain	Length	Quality of chain
14	SB	141	4% 52% 40% 8%
15	O	118	2% 46% 43% 11%
15	TB	118	4% 43% 46% 11%
16	P	112	10% 44% 42% 12%
16	UB	112	8% 46% 39% 13%
17	Q	146	% 36% 44% 14% 6%
17	VB	146	42% 39% 13% 6%
18	R	118	47% 47% 6%
18	WB	118	3% 47% 46% 6%
19	S	101	% 52% 39% 9%
19	XB	101	4% 54% 39% 7%
20	T	113	% 50% 36% 13%
20	YB	113	% 50% 38% 11%
21	U	96	% 49% 42% 8%
21	ZB	96	% 57% 33% 8%
22	AC	110	6% 43% 40% 14%
22	V	110	47% 35% 14%
23	BC	206	% 40% 42% 10% 8%
23	W	206	38% 42% 11% 8%
24	CC	85	9% 51% 39% 9%
24	X	85	12% 49% 39% 11%
25	DC	98	4% 44% 41% 14%
25	Y	98	% 49% 38% 12%
26	EC	72	% 47% 39% 11%
26	Z	72	46% 40% 11%

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Mol	Chain	Length	Quality of chain
27	AA	60	2% 45% 40% 13%
27	FC	60	2% 50% 37% 12%
28	BA	71	41% 42% 14%
28	GC	71	42% 45% 10%
29	CA	60	40% 45% 13%
29	HC	60	2% 45% 42% 12%
30	DA	54	4% 54% 37% 7%
30	IC	54	4% 56% 37% 6%
31	EA	49	47% 41% 10%
31	JC	49	2% 53% 35% 10%
32	FA	65	3% 52% 42% 5%
32	KC	65	54% 42%
33	GA	37	49% 57% 35% 8%
33	LC	37	46% 59% 32% 8%
34	HA	27	7% 11% 19% 11% 59%
34	MC	27	11% 19% 11% 59%
35	JA	365	% 16% 11% 70%
35	KA	365	5% 6% 85%
35	OC	365	% 15% 12% 70%
35	PC	365	% 6% 6% 85%
36	LA	256	36% 43% 12% 9%
36	QC	256	2% 37% 42% 12% 9%
37	MA	239	3% 38% 38% 8% 14%
37	RC	239	% 40% 37% 8% 14%
38	NA	209	8% 42% 45% 12%

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Mol	Chain	Length	Quality of chain
38	SC	209	8% 44% 43% 13%
39	OA	162	4% 40% 43% 11% 7%
39	TC	162	2% 38% 44% 11% 7%
40	PA	101	% 47% 46% 8%
40	UC	101	43% 50% 7%
41	QA	156	2% 44% 45% 7%
41	VC	156	3% 45% 44% 7%
42	RA	138	% 43% 49% 7%
42	WC	138	5% 43% 46% 9%
43	SA	128	12% 44% 47% 8%
43	XC	128	14% 43% 48% 7%
44	TA	105	10% 39% 41% 12% 7%
44	YC	105	7% 37% 42% 13% 7%
45	UA	129	2% 44% 37% 8% 10%
45	ZC	129	3% 43% 40% 7% 10%
46	AD	132	2% 42% 38% 13% 8%
46	VA	132	6% 42% 39% 12% 8%
47	BD	126	6% 38% 44% 11% 7%
47	WA	126	6% 37% 44% 11% 7%
48	CD	61	5% 41% 51% 5%
48	XA	61	7% 39% 52% 5%
49	DD	89	2% 35% 49% 15%
49	YA	89	3% 35% 48% 16%
50	ED	88	3% 48% 36% 10% 6%
50	ZA	88	8% 49% 36% 8% 6%

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Mol	Chain	Length	Quality of chain
51	AB	105	6% 41% 39% 14% 6%
51	FD	105	3% 43% 36% 13% 6%
52	BB	88	% 38% 32% 10% 20%
52	GD	88	% 35% 36% 8% 20%
53	CB	93	5% 32% 42% 12% 11%
53	HD	93	2% 37% 38% 15% 11%
54	DB	106	12% 48% 35% 10% 7%
54	ID	106	8% 51% 30% 12% 7%
55	EB	27	7% 30% 48% 11% 11%
55	JD	27	15% 33% 44% 11% 11%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
56	MG	A	1642	-	-	-	X
56	MG	A	1645	-	-	-	X
56	MG	A	1721	-	-	-	X
56	MG	B	9007	-	-	-	X
56	MG	B	9021	-	-	-	X
56	MG	B	9050	-	-	-	X
56	MG	C	201	-	-	-	X
56	MG	CC	101	-	-	-	X
56	MG	FB	1604	-	-	-	X
56	MG	FB	1618	-	-	-	X
56	MG	FB	1638	-	-	-	X
56	MG	FB	1643	-	-	-	X
56	MG	GB	9004	-	-	-	X
56	MG	GB	9012	-	-	-	X
56	MG	GB	9020	-	-	-	X
56	MG	GB	9022	-	-	-	X
56	MG	GB	9047	-	-	-	X
56	MG	GB	9108	-	-	-	X
56	MG	HB	201	-	-	-	X

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 1121	C 715	N 212	O 187	S 7	0	0	0

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

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

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

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

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

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

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

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

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

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

- 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 C N O S 850 525 157 164 4	0	0	0
35	KA	55	Total C N O S 455 281 83 89 2	0	0	0
35	OC	110	Total C N O S 850 525 157 164 4	0	0	0
35	PC	55	Total C N O S 455 281 83 89 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 208	C 128	N 50	O 30	0	0	0
55	JD	24	Total 208	C 128	N 50	O 30	0	0	0

- Molecule 56 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	A	183	Total 183	Mg 183	0	0
56	B	433	Total 433	Mg 433	0	0
56	C	22	Total 22	Mg 22	0	0
56	D	5	Total 5	Mg 5	0	0
56	E	6	Total 6	Mg 6	0	0
56	F	4	Total 4	Mg 4	0	0
56	G	2	Total 2	Mg 2	0	0
56	H	2	Total 2	Mg 2	0	0
56	J	1	Total 1	Mg 1	0	0
56	K	4	Total 4	Mg 4	0	0
56	L	3	Total 3	Mg 3	0	0
56	M	3	Total 3	Mg 3	0	0
56	O	2	Total 2	Mg 2	0	0
56	Q	1	Total 1	Mg 1	0	0
56	R	1	Total 1	Mg 1	0	0
56	S	1	Total 1	Mg 1	0	0
56	T	2	Total 2	Mg 2	0	0
56	U	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
56	V	2	Total Mg 2 2	0	0
56	Y	3	Total Mg 3 3	0	0
56	Z	1	Total Mg 1 1	0	0
56	AA	1	Total Mg 1 1	0	0
56	CA	1	Total Mg 1 1	0	0
56	EA	1	Total Mg 1 1	0	0
56	FA	1	Total Mg 1 1	0	0
56	HA	3	Total Mg 3 3	0	0
56	IA	9	Total Mg 9 9	0	0
56	JA	1	Total Mg 1 1	0	0
56	LA	1	Total Mg 1 1	0	0
56	MA	6	Total Mg 6 6	0	0
56	NA	2	Total Mg 2 2	0	0
56	OA	4	Total Mg 4 4	0	0
56	PA	3	Total Mg 3 3	0	0
56	QA	1	Total Mg 1 1	0	0
56	SA	1	Total Mg 1 1	0	0
56	UA	1	Total Mg 1 1	0	0
56	VA	2	Total Mg 2 2	0	0
56	YA	3	Total Mg 3 3	0	0
56	AB	2	Total Mg 2 2	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
56	BB	1	Total Mg 1 1	0	0
56	CB	1	Total Mg 1 1	0	0
56	FB	194	Total Mg 194 194	0	0
56	GB	402	Total Mg 402 402	0	0
56	HB	20	Total Mg 20 20	0	0
56	IB	2	Total Mg 2 2	0	0
56	JB	5	Total Mg 5 5	0	0
56	KB	2	Total Mg 2 2	0	0
56	LB	4	Total Mg 4 4	0	0
56	NB	1	Total Mg 1 1	0	0
56	OB	1	Total Mg 1 1	0	0
56	PB	2	Total Mg 2 2	0	0
56	QB	2	Total Mg 2 2	0	0
56	RB	3	Total Mg 3 3	0	0
56	SB	2	Total Mg 2 2	0	0
56	TB	1	Total Mg 1 1	0	0
56	UB	4	Total Mg 4 4	0	0
56	VB	3	Total Mg 3 3	0	0
56	XB	2	Total Mg 2 2	0	0
56	ZB	2	Total Mg 2 2	0	0
56	AC	1	Total Mg 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
56	BC	1	Total Mg 1 1	0	0
56	CC	1	Total Mg 1 1	0	0
56	DC	1	Total Mg 1 1	0	0
56	GC	1	Total Mg 1 1	0	0
56	IC	1	Total Mg 1 1	0	0
56	JC	1	Total Mg 1 1	0	0
56	KC	1	Total Mg 1 1	0	0
56	MC	3	Total Mg 3 3	0	0
56	NC	10	Total Mg 10 10	0	0
56	OC	1	Total Mg 1 1	0	0
56	PC	1	Total Mg 1 1	0	0
56	QC	3	Total Mg 3 3	0	0
56	RC	2	Total Mg 2 2	0	0
56	SC	4	Total Mg 4 4	0	0
56	TC	3	Total Mg 3 3	0	0
56	UC	3	Total Mg 3 3	0	0
56	VC	1	Total Mg 1 1	0	0
56	WC	1	Total Mg 1 1	0	0
56	ZC	1	Total Mg 1 1	0	0
56	AD	4	Total Mg 4 4	0	0
56	BD	1	Total Mg 1 1	0	0

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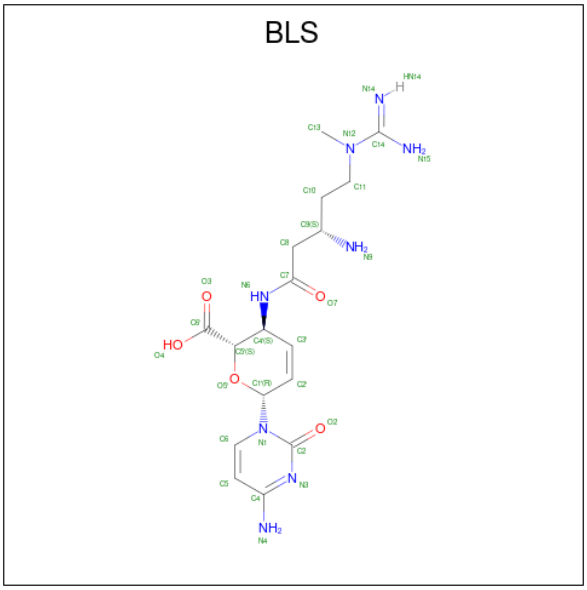
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
56	DD	1	Total Mg 1 1	0	0
56	ED	1	Total Mg 1 1	0	0
56	HD	1	Total Mg 1 1	0	0

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



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

- Molecule 58 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

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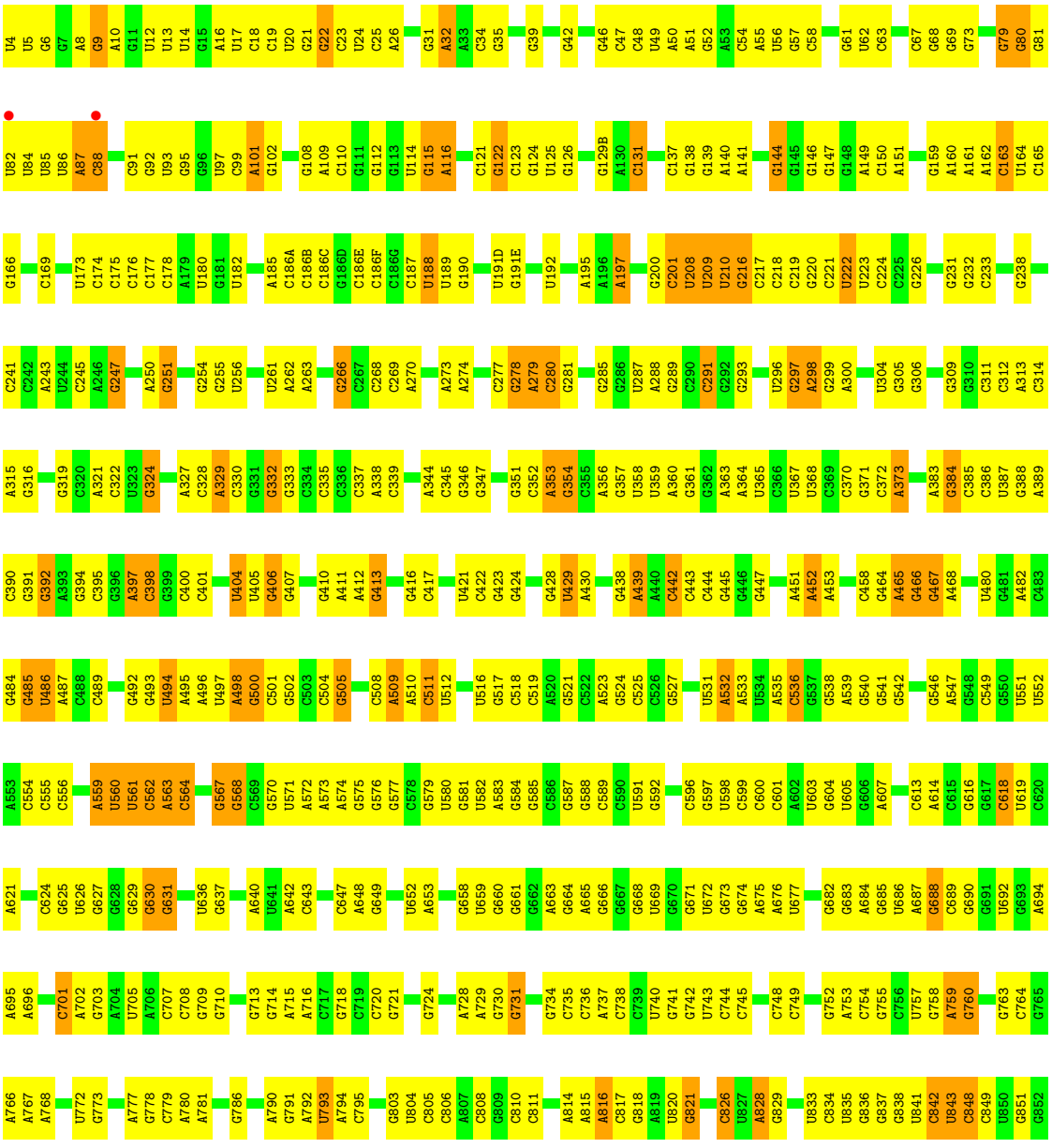
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
58	GA	1	Total Zn 1 1	0	0
58	AC	1	Total Zn 1 1	0	0
58	GC	1	Total Zn 1 1	0	0
58	HC	1	Total Zn 1 1	0	0
58	IC	1	Total Zn 1 1	0	0
58	LC	1	Total Zn 1 1	0	0

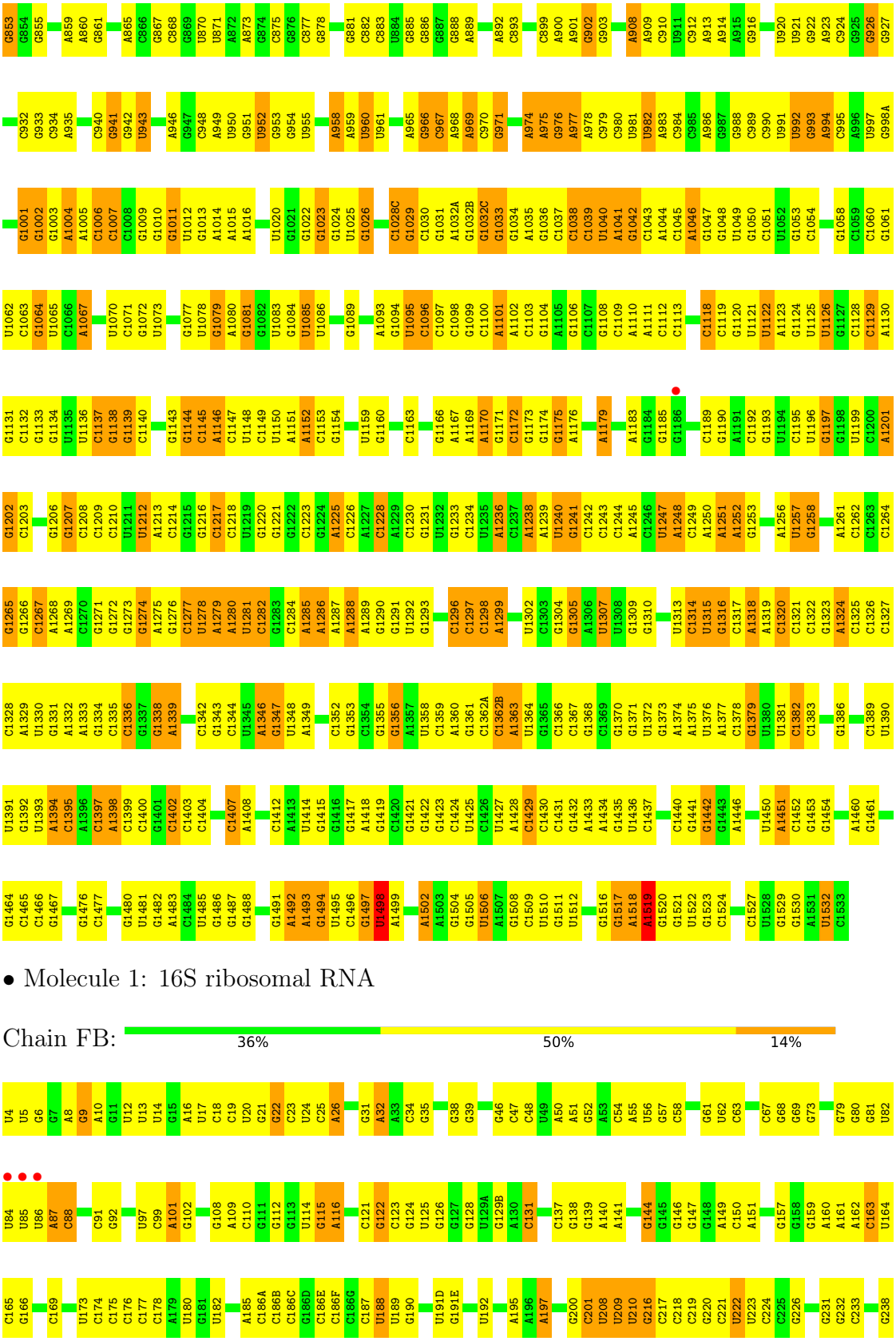
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). 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

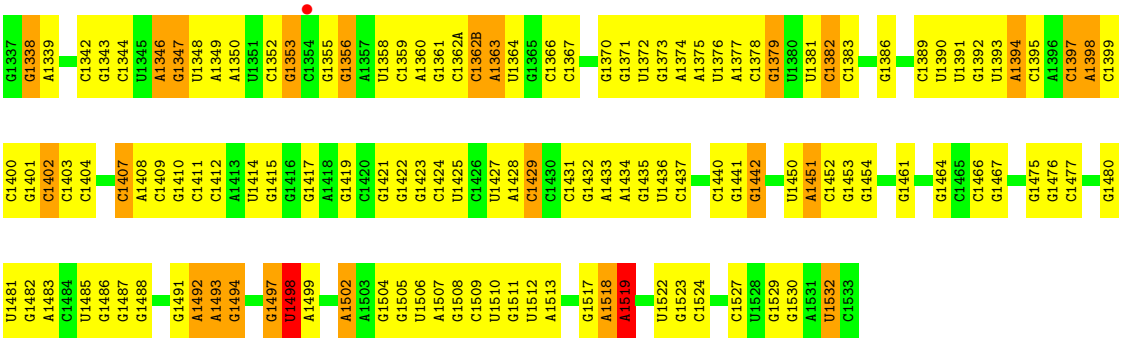
Chain A:





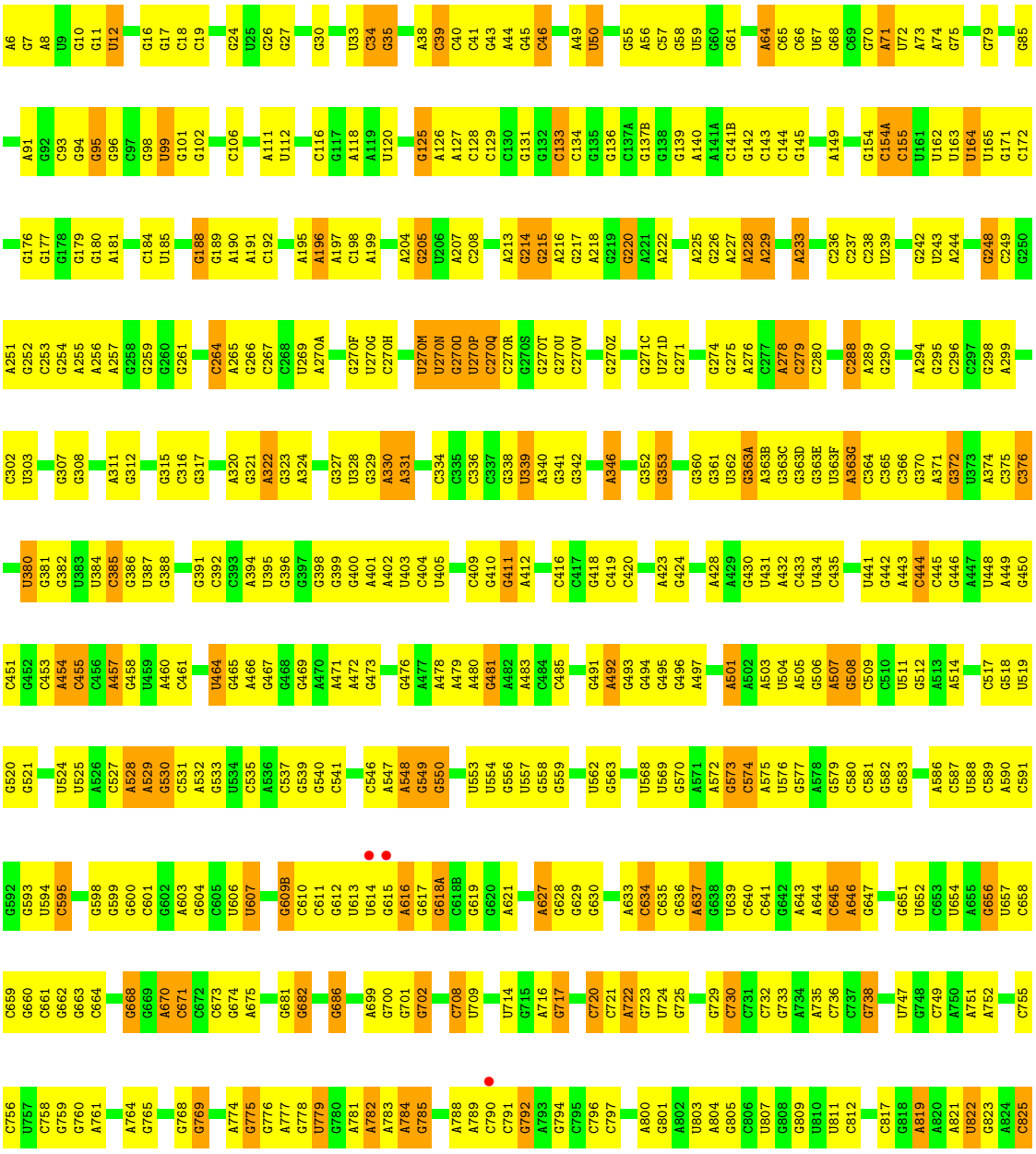
• Molecule 1: 16S ribosomal RNA

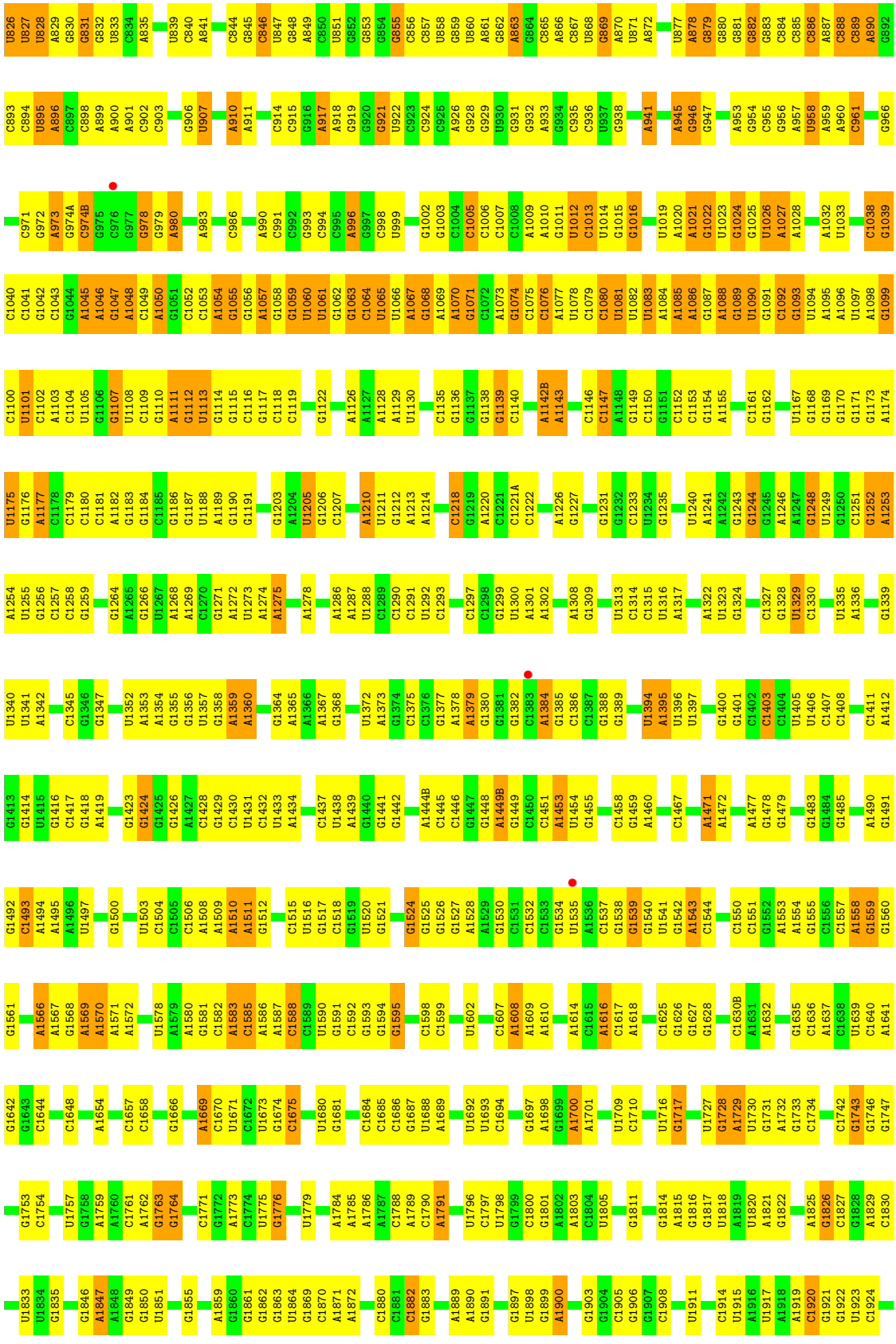
Chain FB:

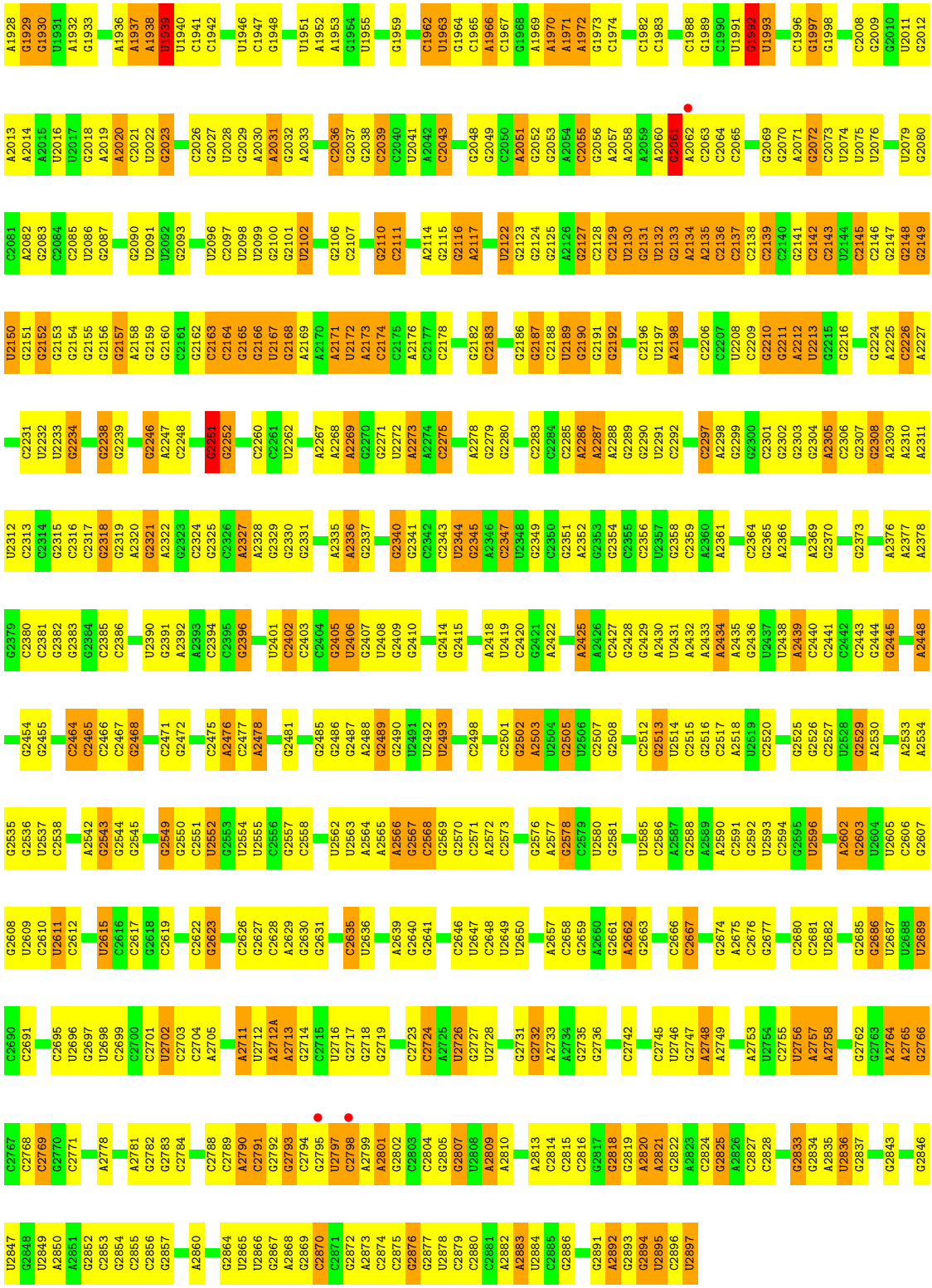


• Molecule 2: 23S ribosomal RNA

Chain B:

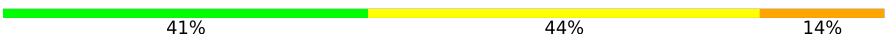


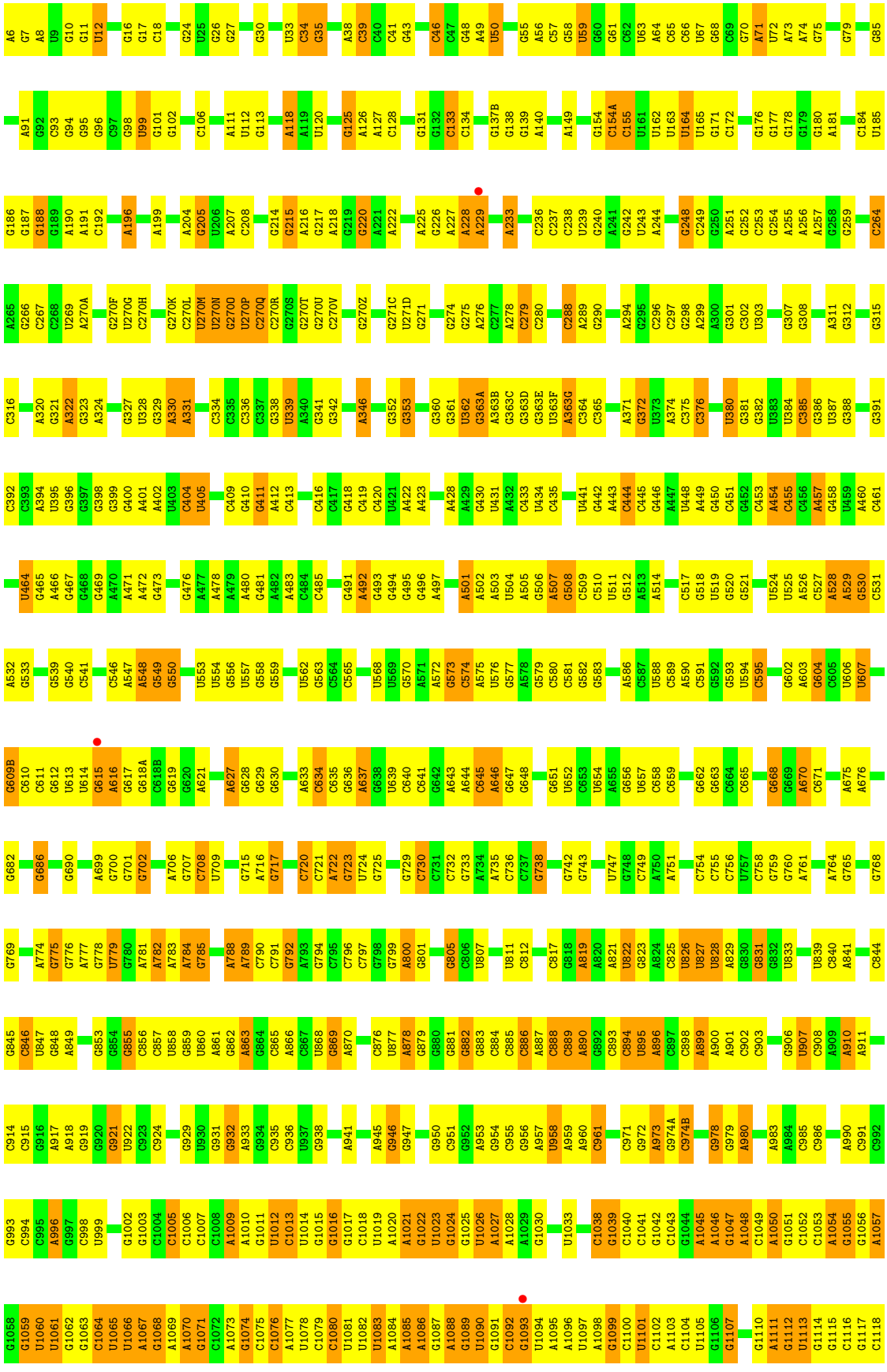


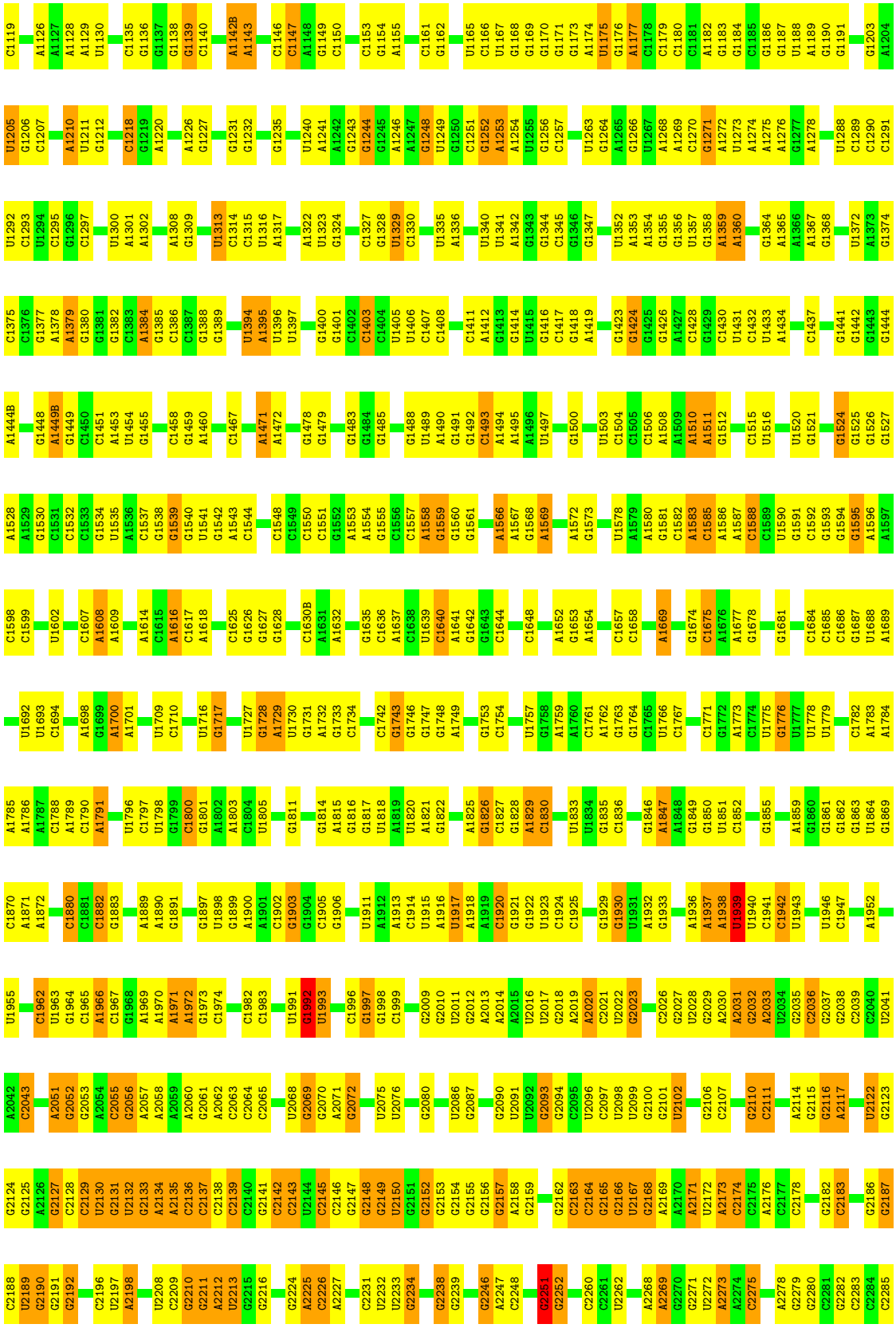


• Molecule 2: 23S ribosomal RNA

Chain GB:



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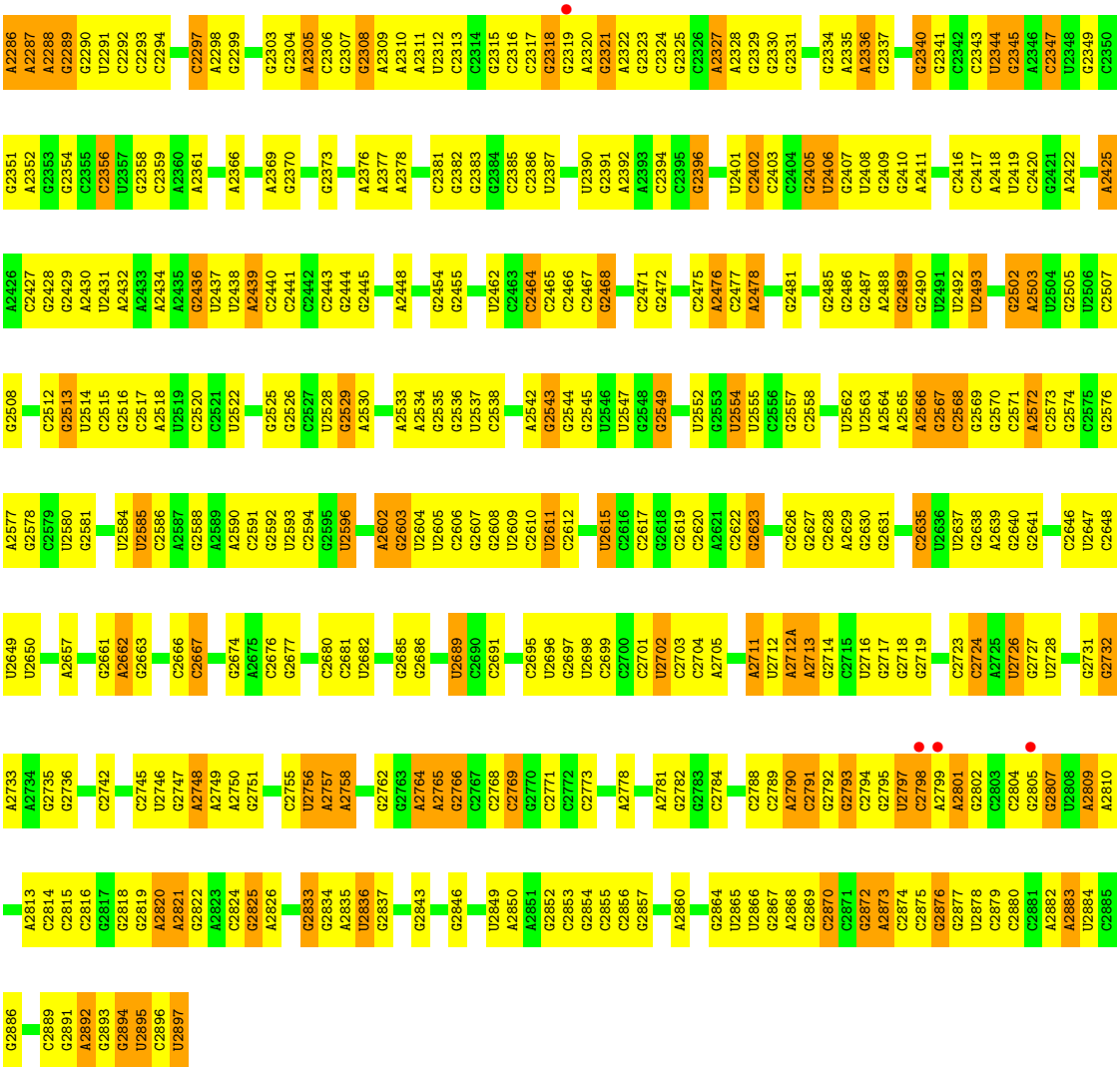
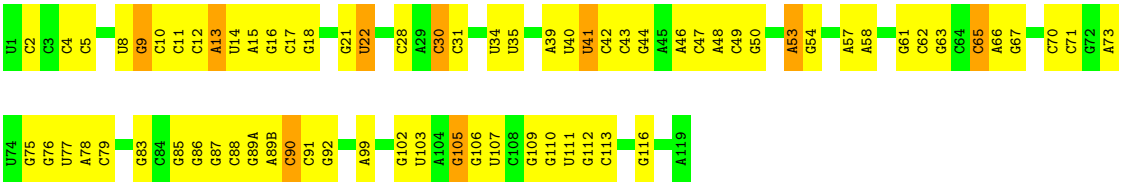


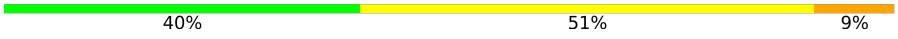
• Molecule 3: 5S ribosomal RNA

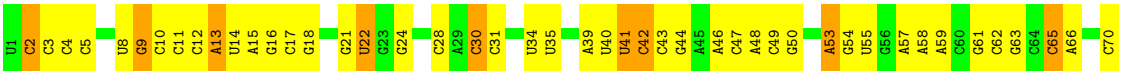
Chain C:

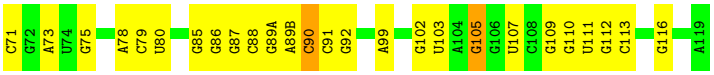


• Molecule 3: 5S ribosomal RNA

Chain HB:







• Molecule 4: tRNA

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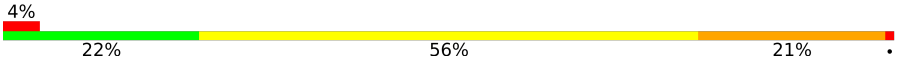

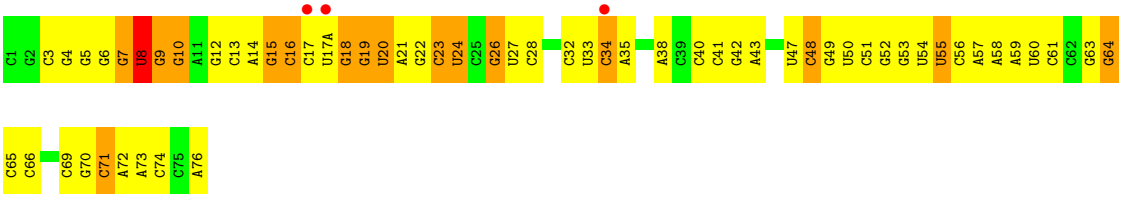

• Molecule 4: tRNA

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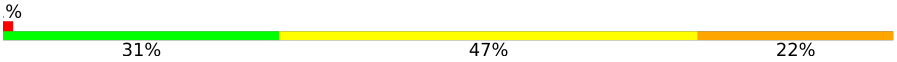
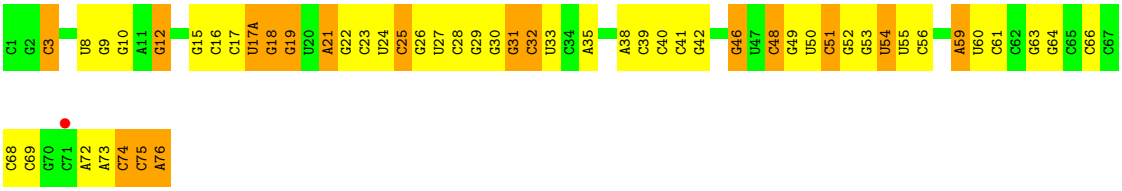
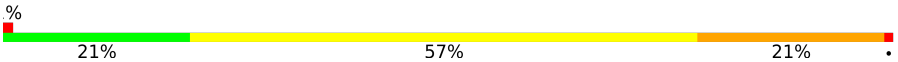
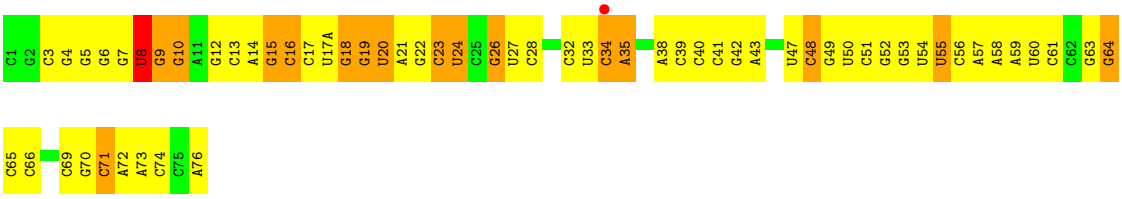




• Molecule 4: tRNA

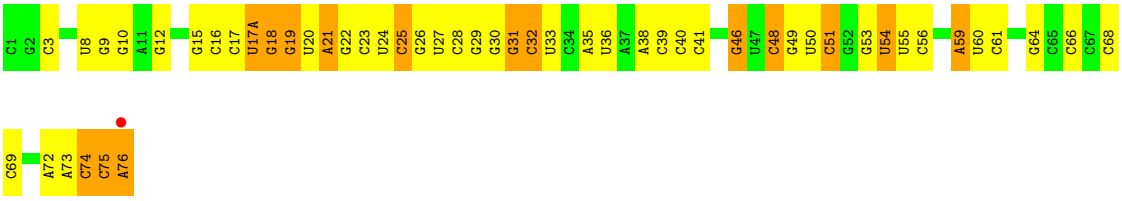
Chain IB:





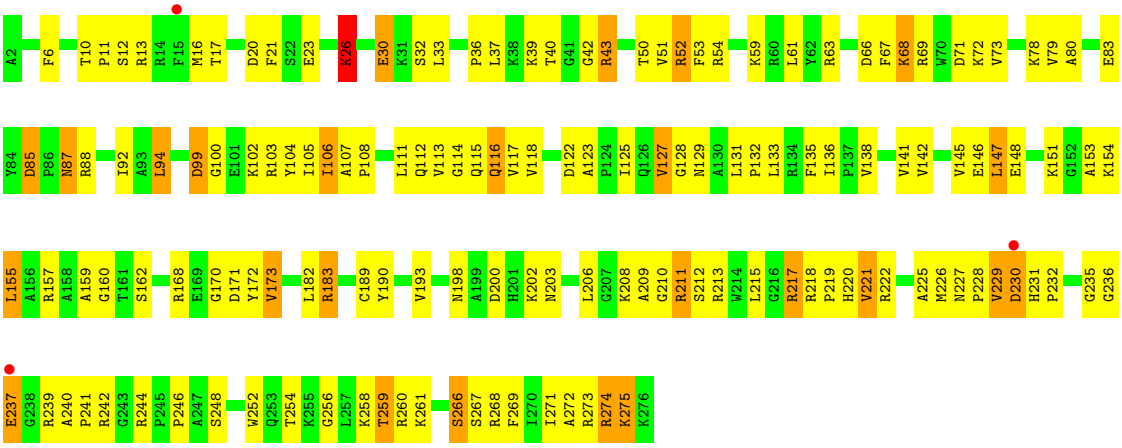
• Molecule 4: tRNA

Chain NC:



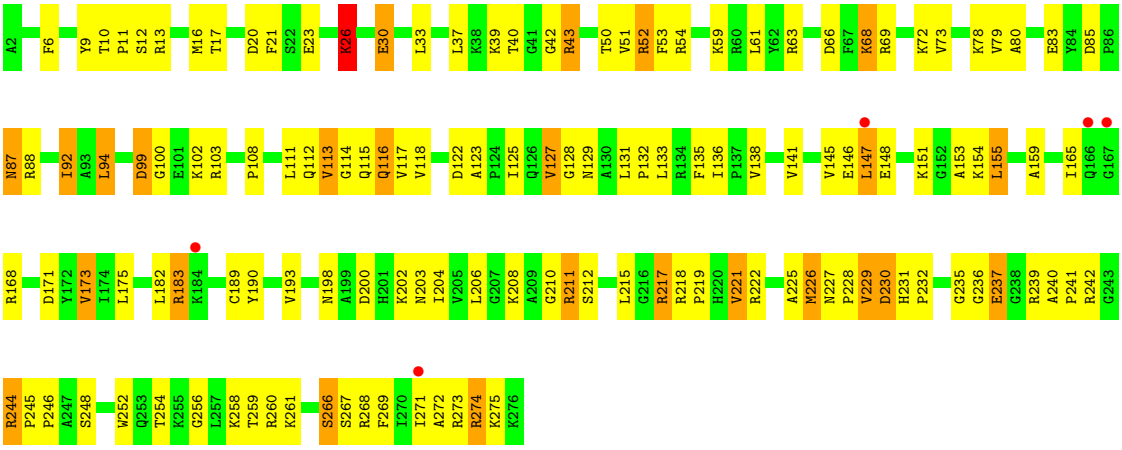
• Molecule 5: 50S ribosomal protein L2

Chain E:



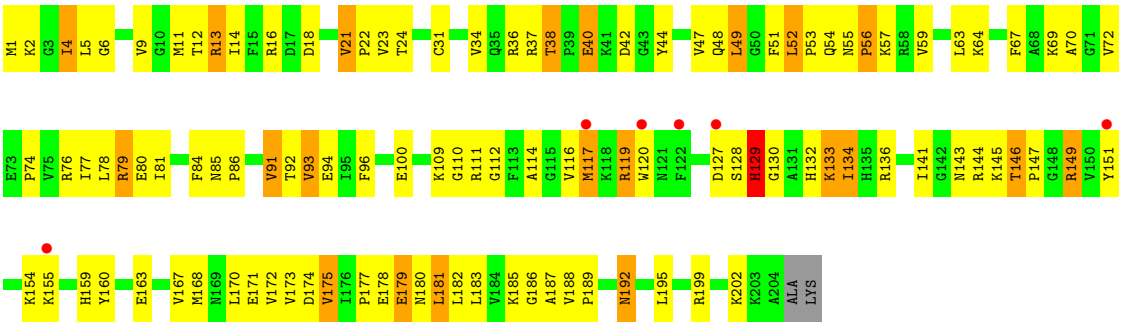
• Molecule 5: 50S ribosomal protein L2

Chain JB:



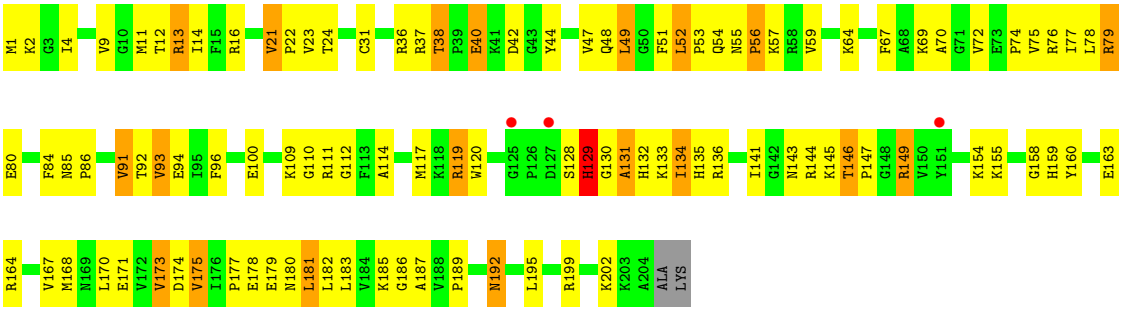
• Molecule 6: 50S ribosomal protein L3

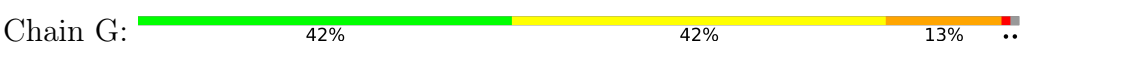
Chain F:

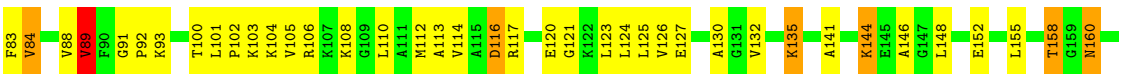


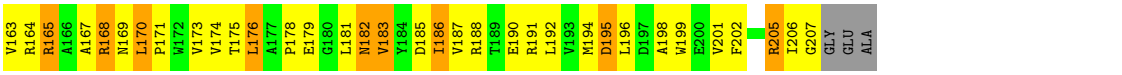
• Molecule 6: 50S ribosomal protein L3

Chain KB:



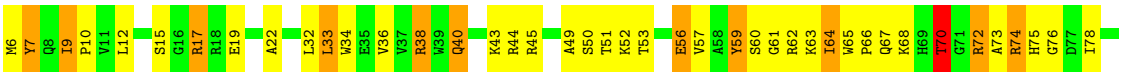






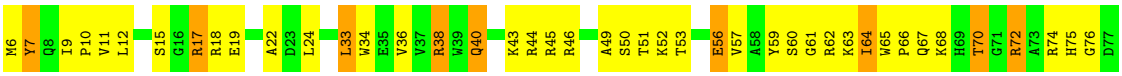
• Molecule 7: 50S ribosomal protein L4

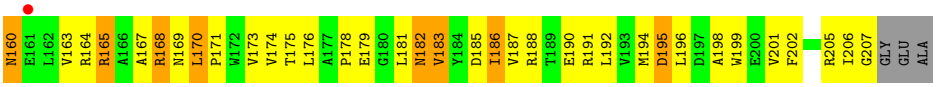
Chain G:



• Molecule 7: 50S ribosomal protein L4

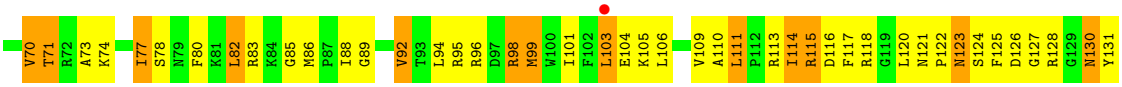
Chain LB:

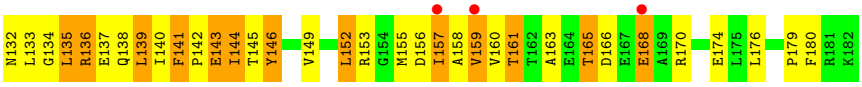




• Molecule 8: 50S ribosomal protein L5

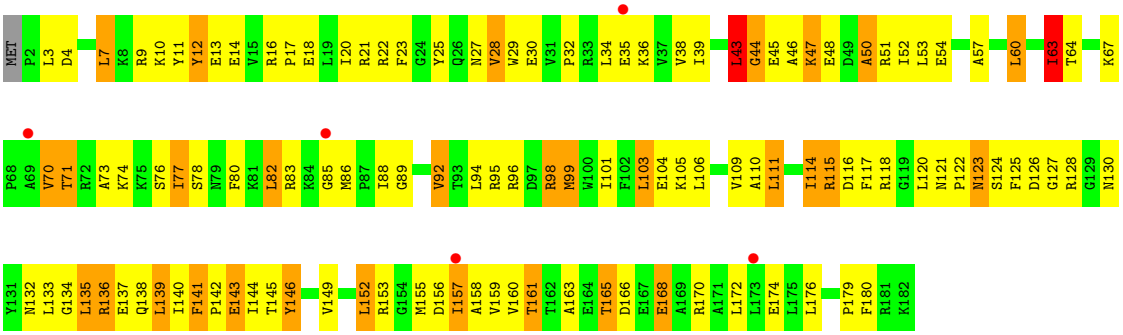
Chain H:





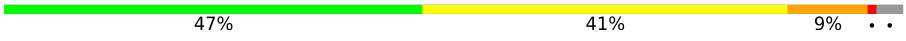
• Molecule 8: 50S ribosomal protein L5

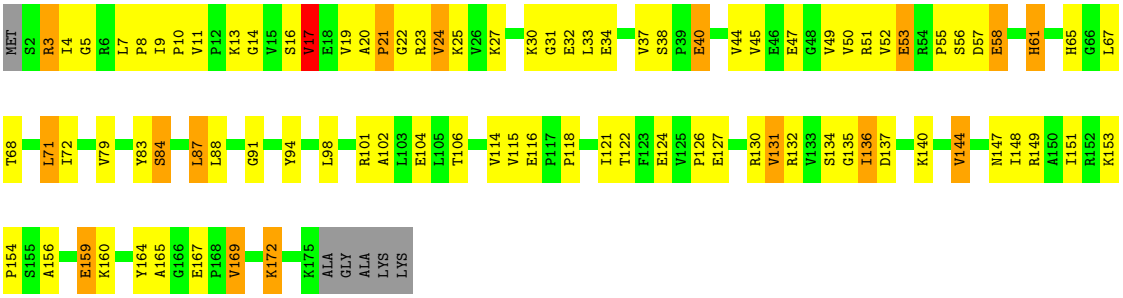
Chain MB:



• Molecule 9: 50S ribosomal protein L6

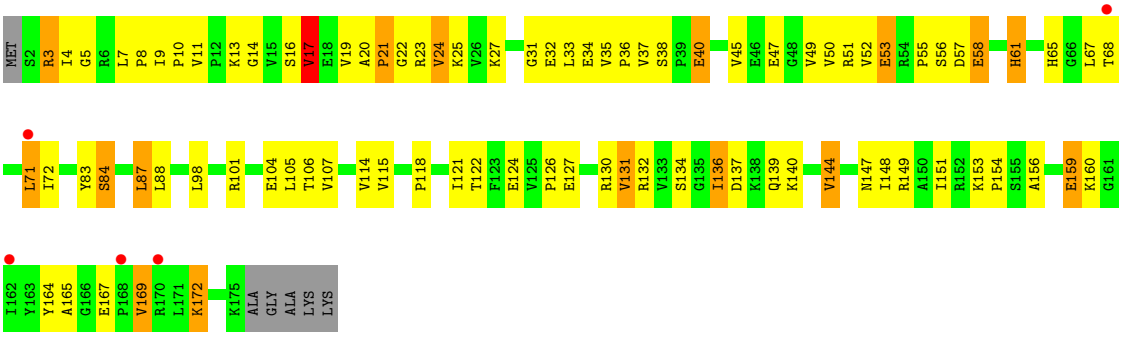
Chain I:





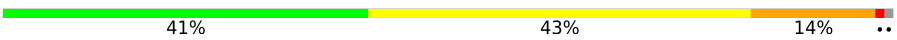
• Molecule 9: 50S ribosomal protein L6

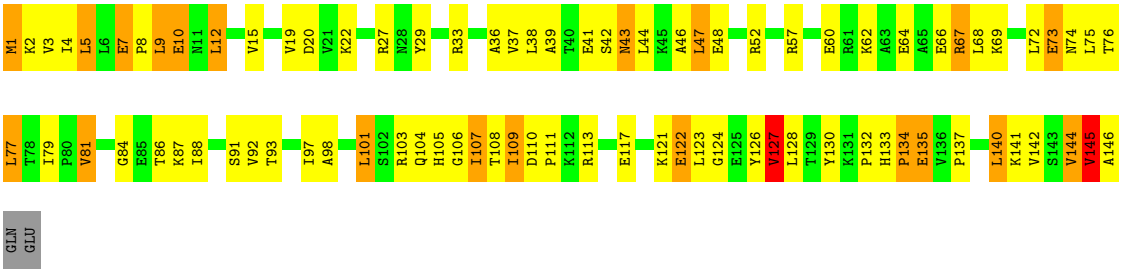
Chain NB:



• Molecule 10: 50S ribosomal protein L9

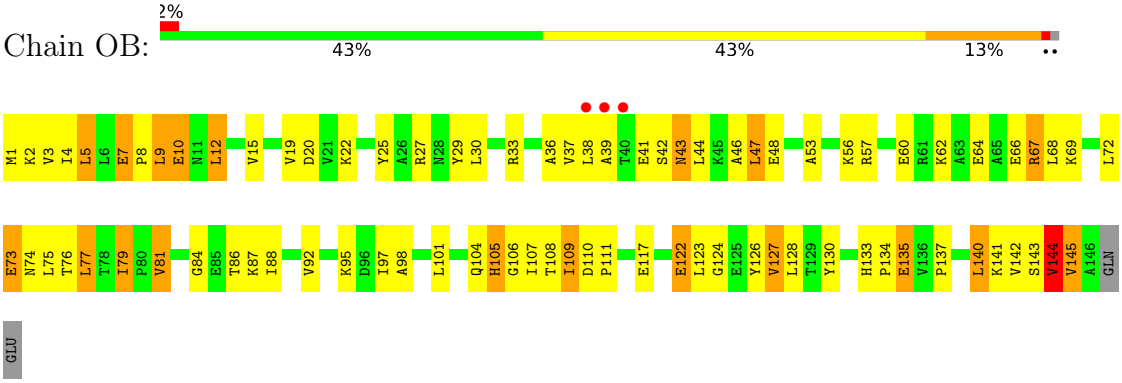
Chain J:





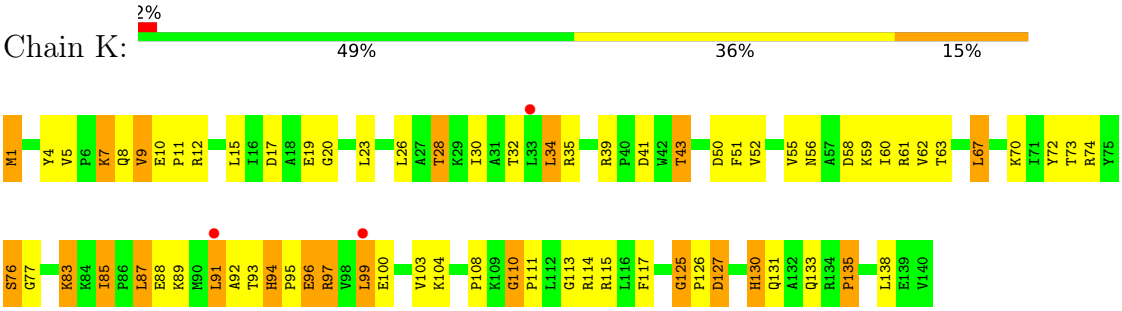
• Molecule 10: 50S ribosomal protein L9

Chain OB:



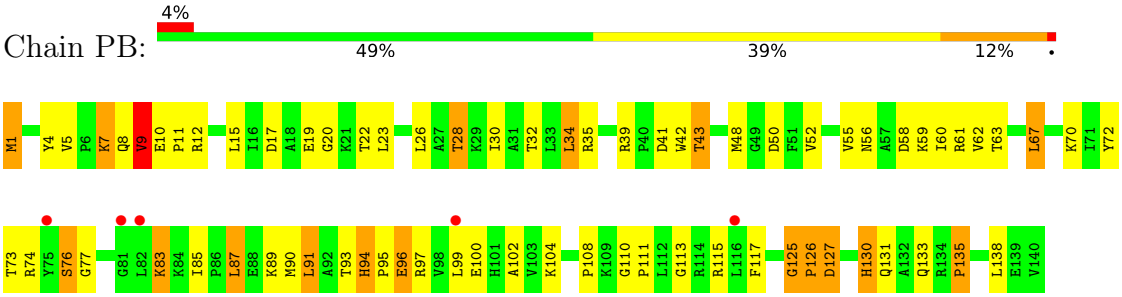
• Molecule 11: 50S ribosomal protein L13

Chain K:



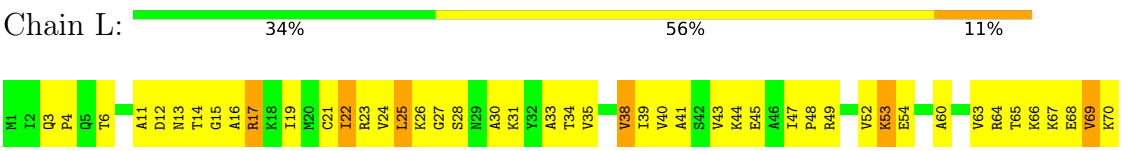
• Molecule 11: 50S ribosomal protein L13

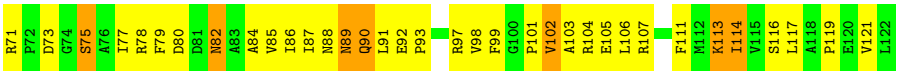
Chain PB:



• Molecule 12: 50S ribosomal protein L14

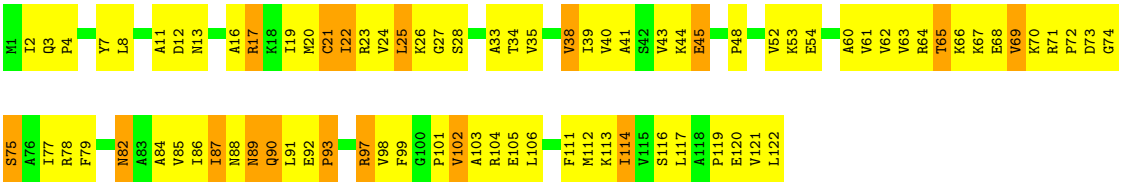
Chain L:





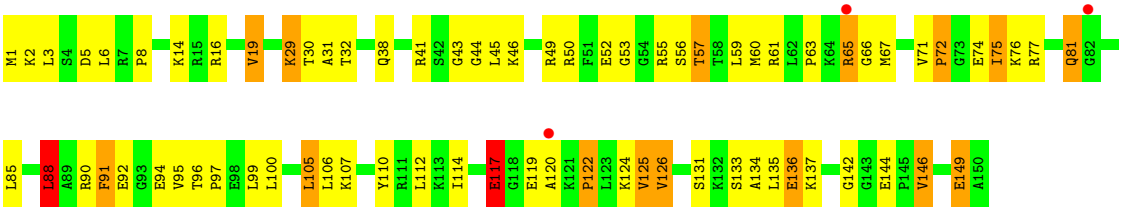
• Molecule 12: 50S ribosomal protein L14

Chain QB:



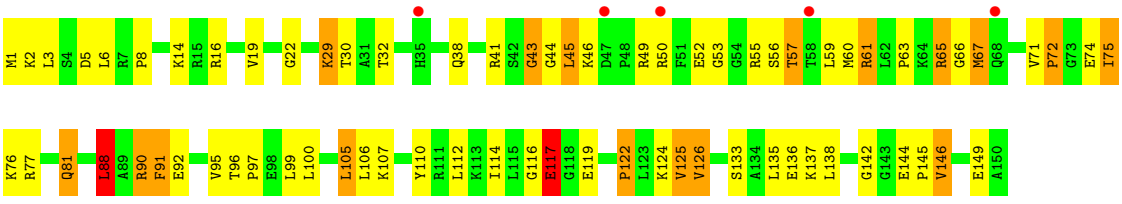
• Molecule 13: 50S ribosomal protein L15

Chain M:



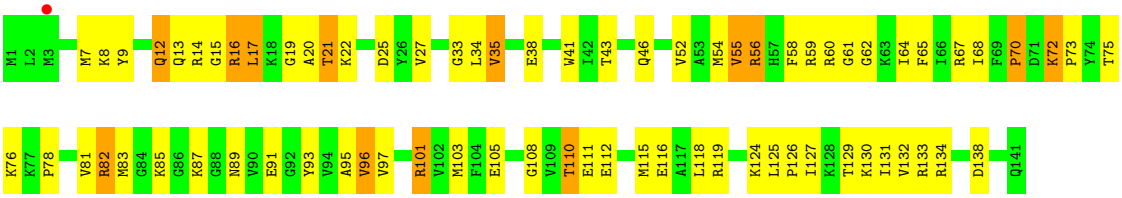
• Molecule 13: 50S ribosomal protein L15

Chain RB:



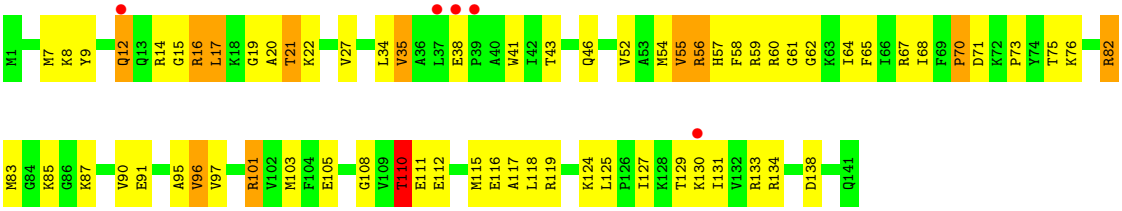
• Molecule 14: 50S ribosomal protein L16

Chain N:



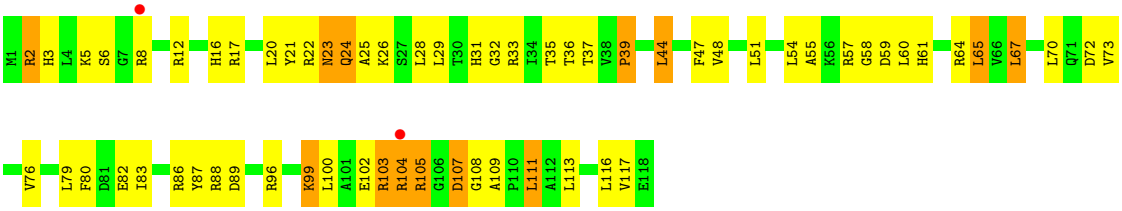
• Molecule 14: 50S ribosomal protein L16

Chain SB:



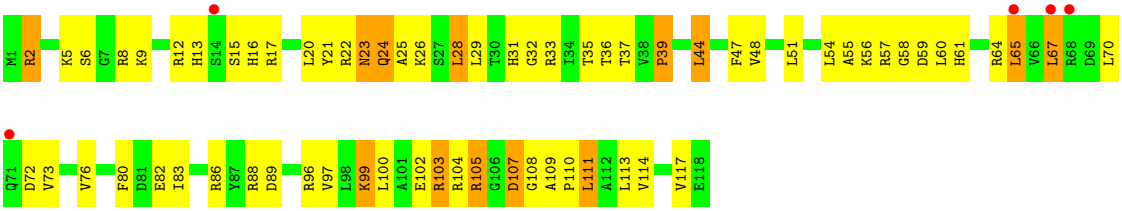
• Molecule 15: 50S ribosomal protein L17

Chain O:



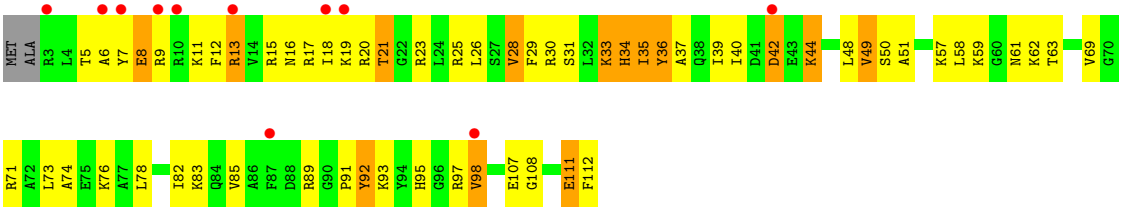
• Molecule 15: 50S ribosomal protein L17

Chain TB:



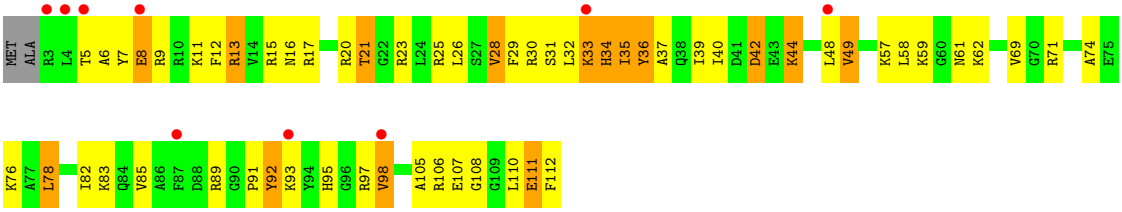
• Molecule 16: 50S ribosomal protein L18

Chain P:



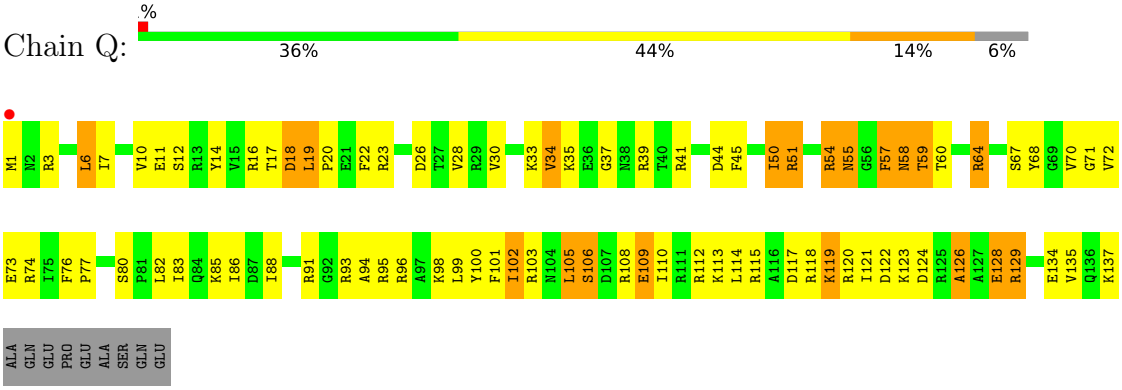
• Molecule 16: 50S ribosomal protein L18

Chain UB:



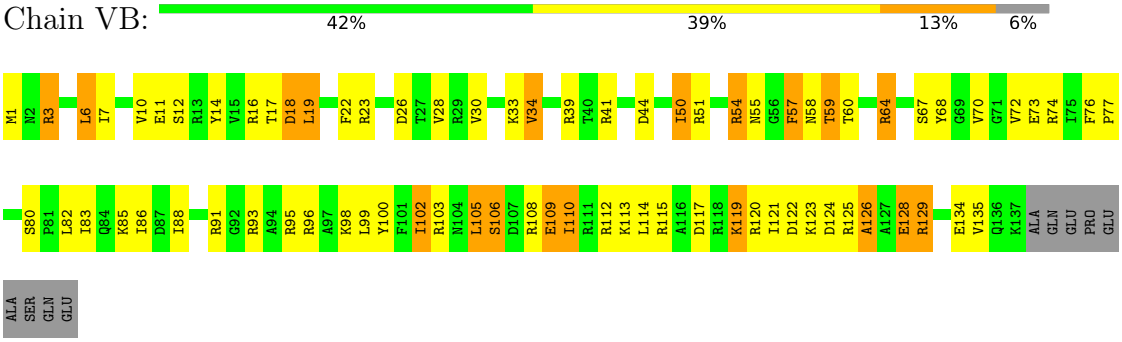
• Molecule 17: 50S ribosomal protein L19

Chain Q:



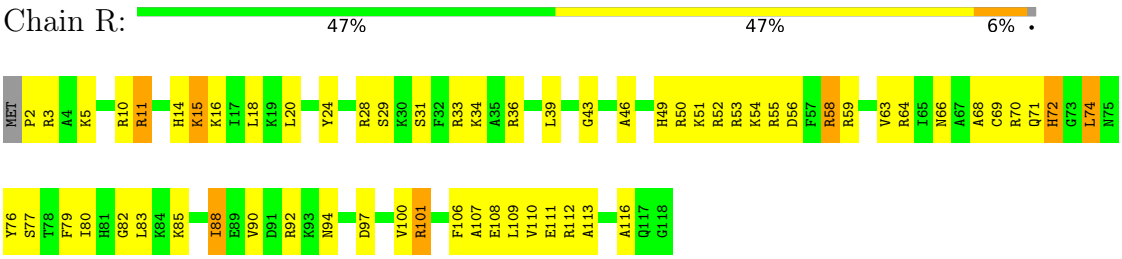
• Molecule 17: 50S ribosomal protein L19

Chain VB:



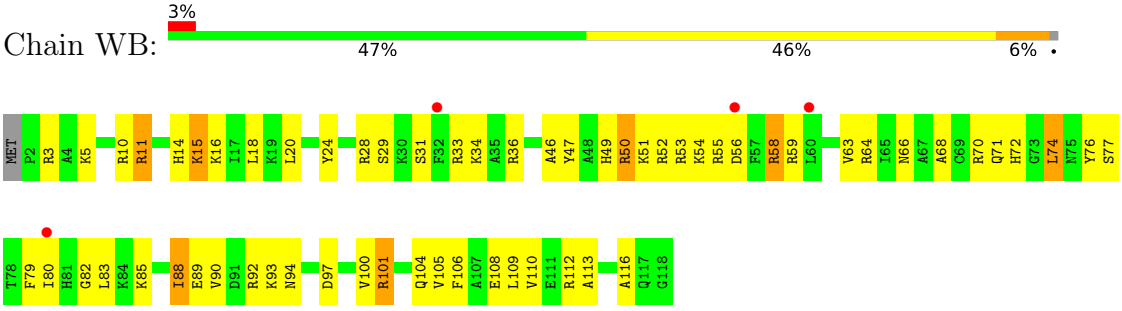
• Molecule 18: 50S ribosomal protein L20

Chain R:



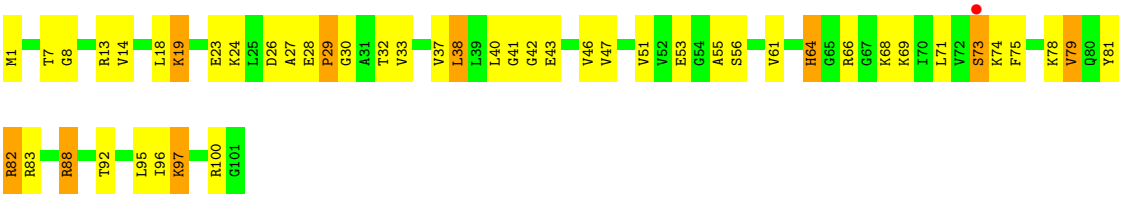
• Molecule 18: 50S ribosomal protein L20

Chain WB:

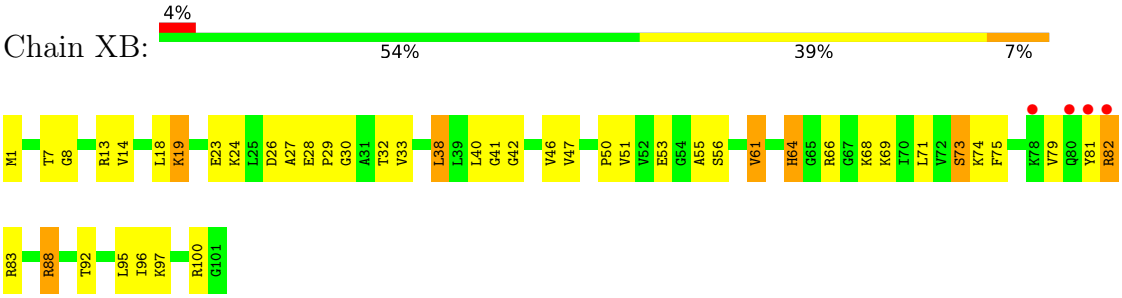


• Molecule 19: 50S ribosomal protein L21

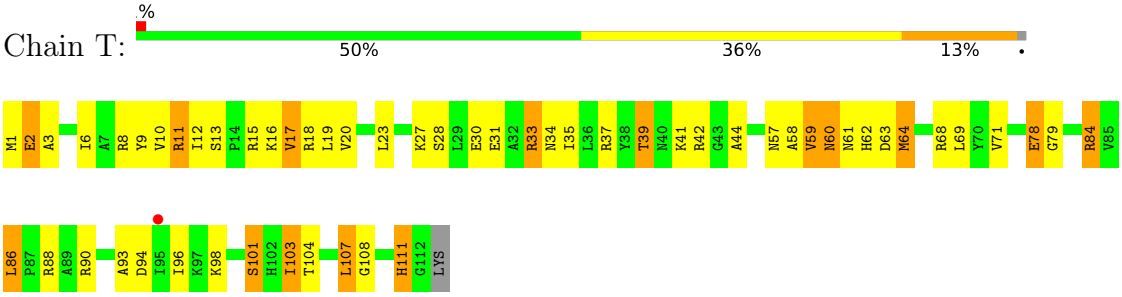
Chain S:



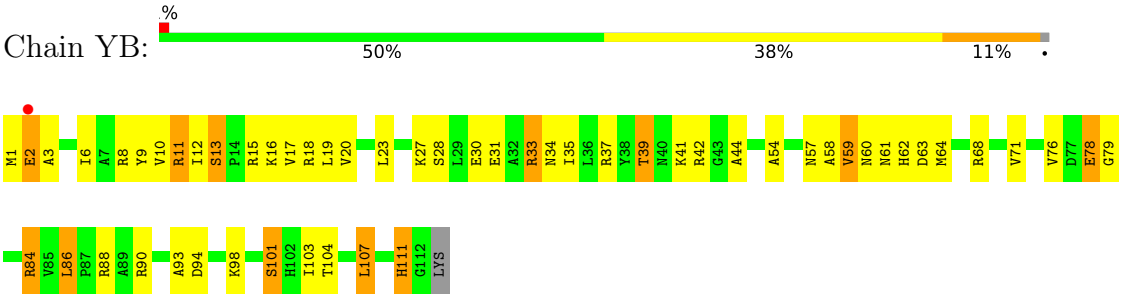
• Molecule 19: 50S ribosomal protein L21



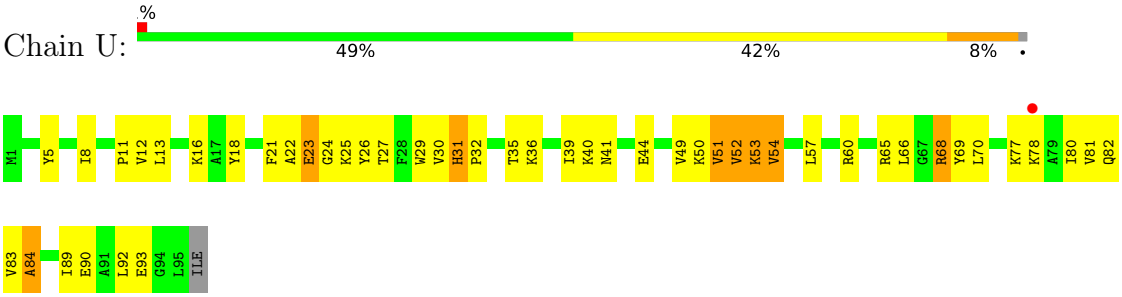
• Molecule 20: 50S ribosomal protein L22



• Molecule 20: 50S ribosomal protein L22

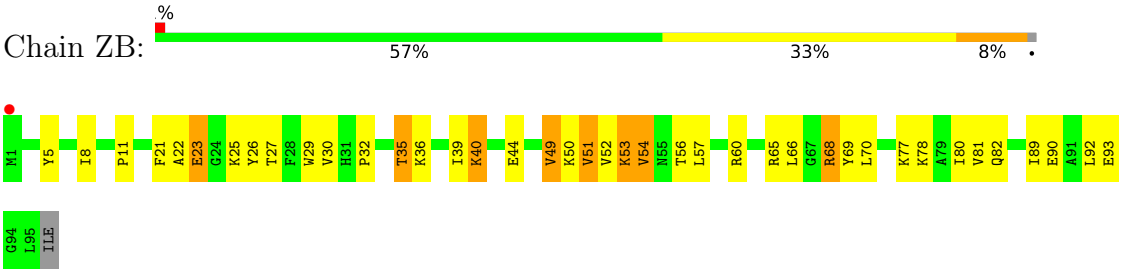


• Molecule 21: 50S ribosomal protein L23



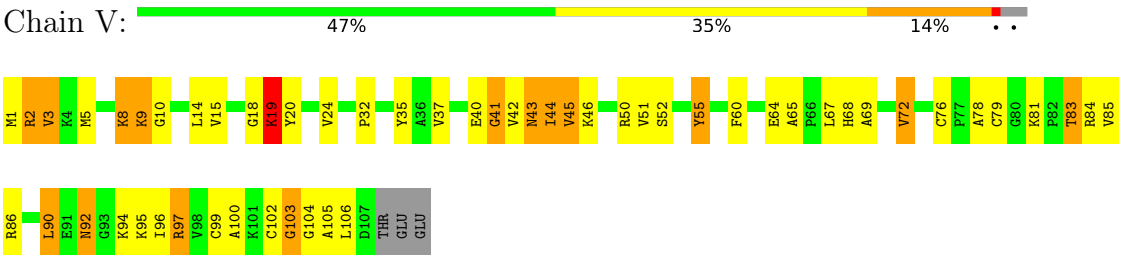
• Molecule 21: 50S ribosomal protein L23

Chain ZB:



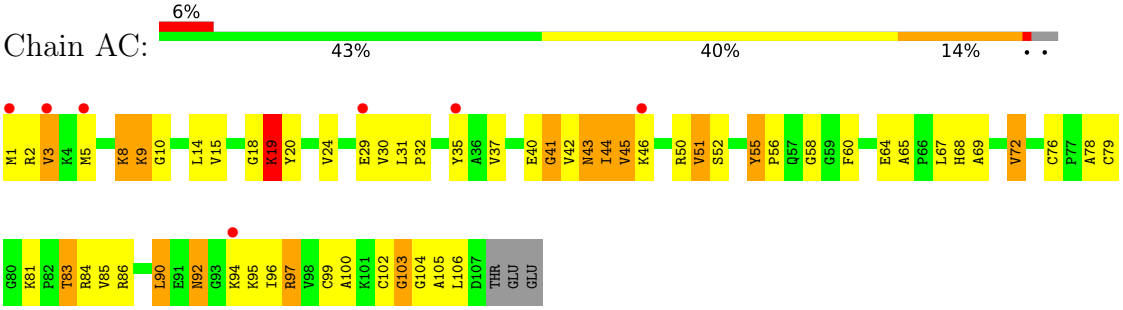
• Molecule 22: 50S ribosomal protein L24

Chain V:



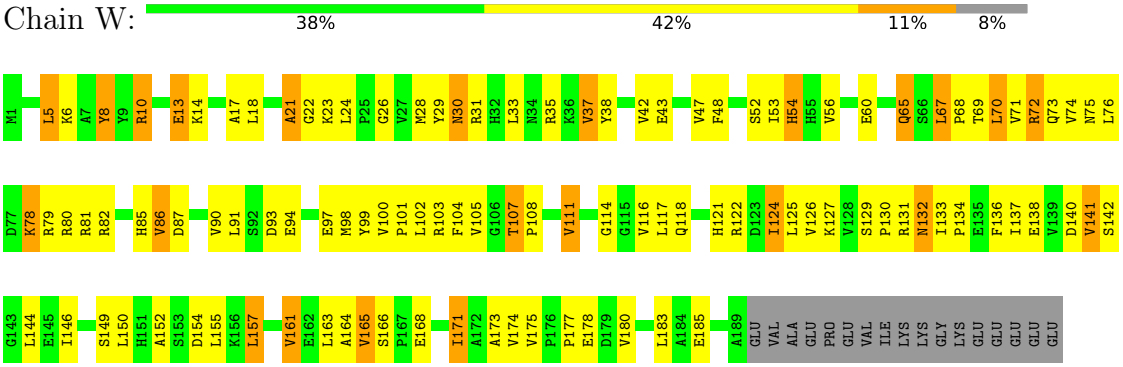
• Molecule 22: 50S ribosomal protein L24

Chain AC:



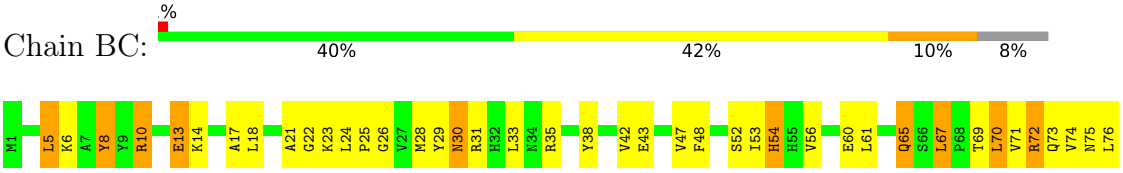
• Molecule 23: 50S ribosomal protein L25

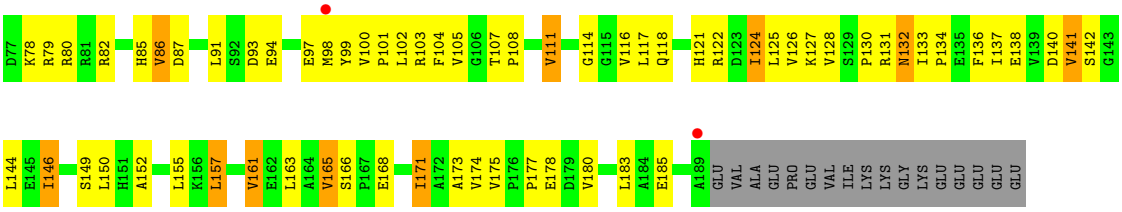
Chain W:



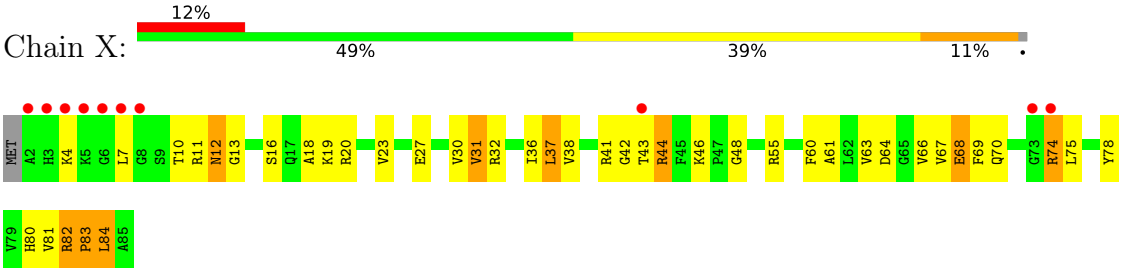
• Molecule 23: 50S ribosomal protein L25

Chain BC:

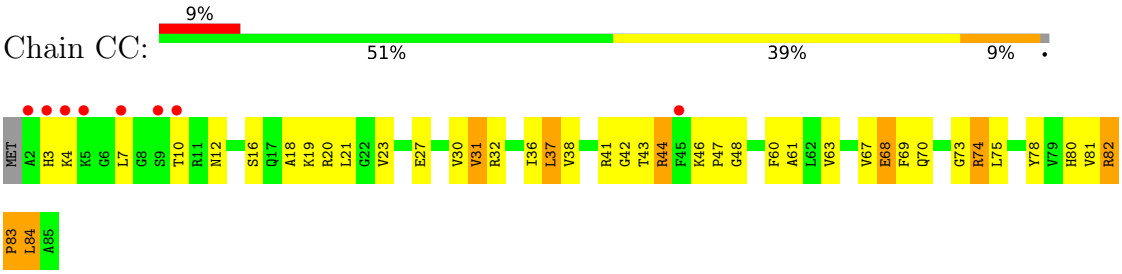




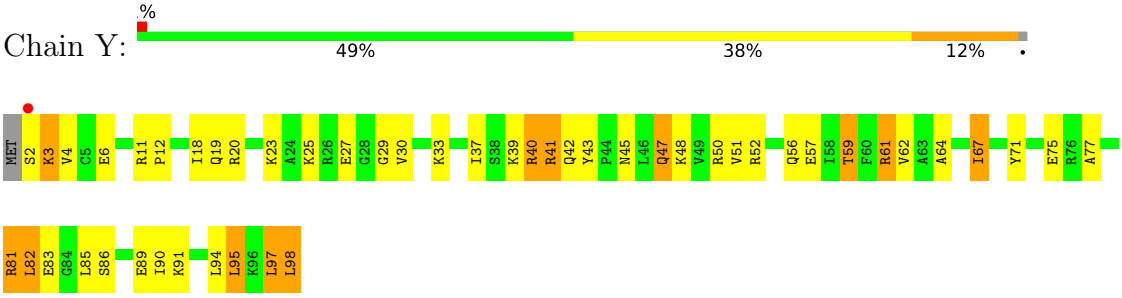
• Molecule 24: 50S ribosomal protein L27



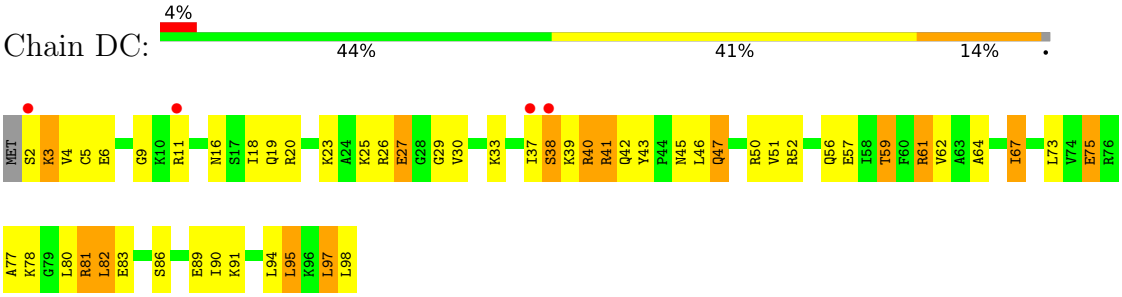
• Molecule 24: 50S ribosomal protein L27



• Molecule 25: 50S ribosomal protein L28

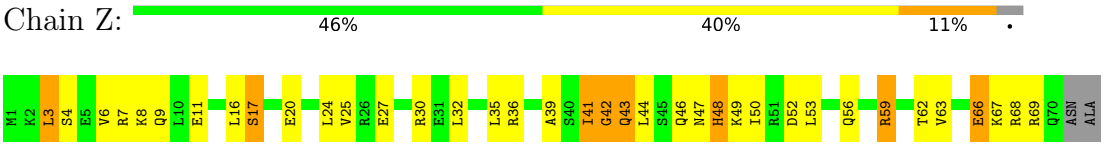


• Molecule 25: 50S ribosomal protein L28



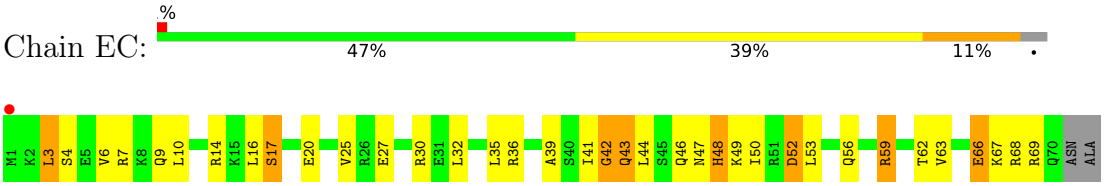
• Molecule 26: 50S ribosomal protein L29

Chain Z:



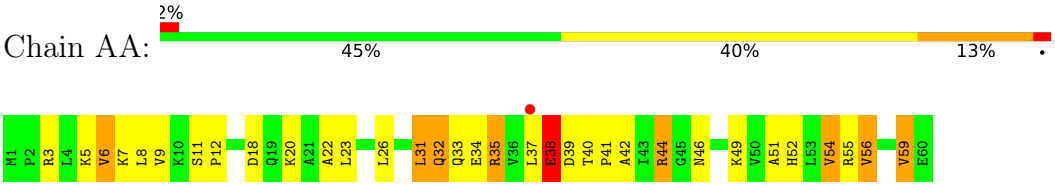
• Molecule 26: 50S ribosomal protein L29

Chain EC:



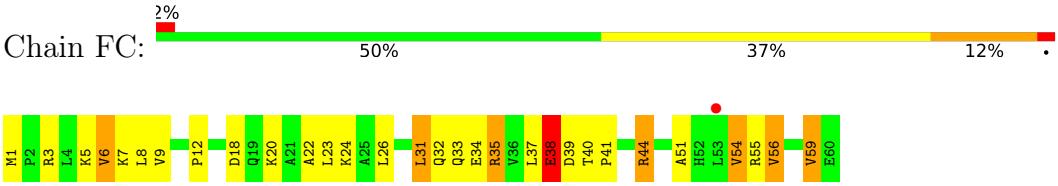
• Molecule 27: 50S ribosomal protein L30

Chain AA:



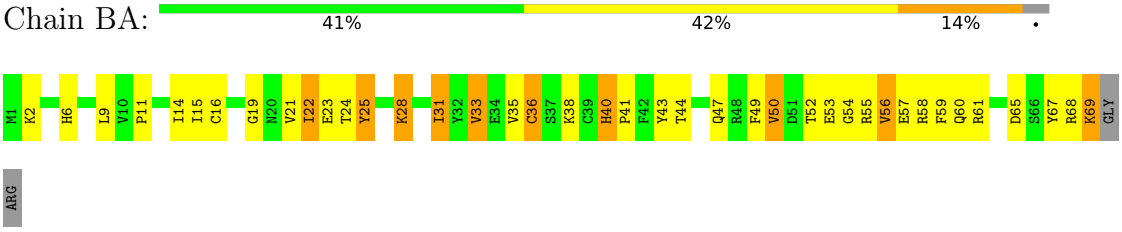
• Molecule 27: 50S ribosomal protein L30

Chain FC:



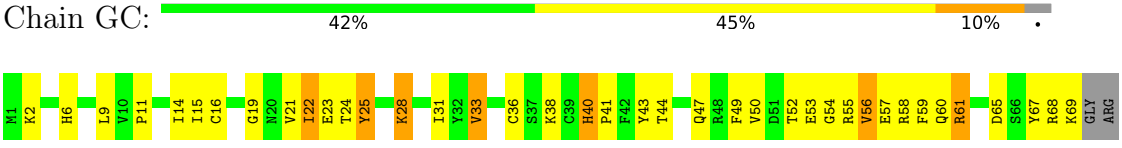
• Molecule 28: 50S ribosomal protein L31

Chain BA:



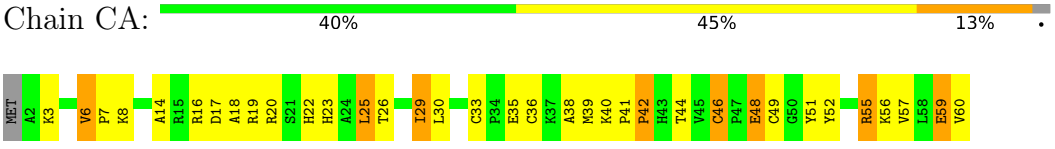
• Molecule 28: 50S ribosomal protein L31

Chain GC:



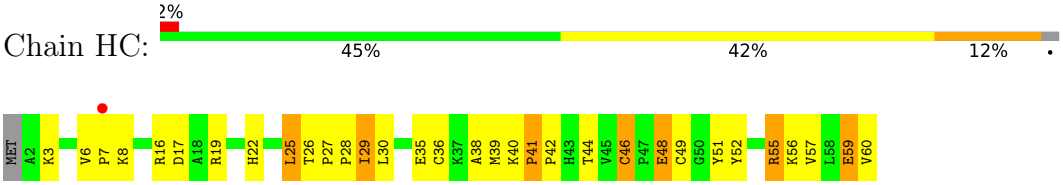
• Molecule 29: 50S ribosomal protein L32

Chain CA:



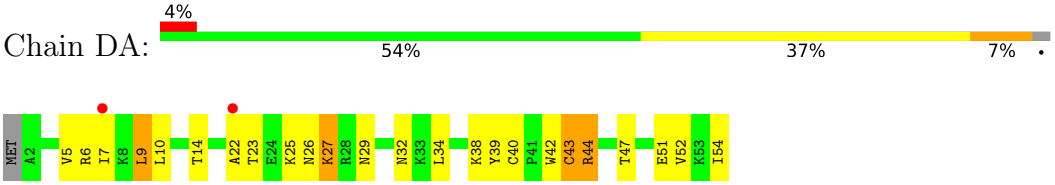
• Molecule 29: 50S ribosomal protein L32

Chain HC:



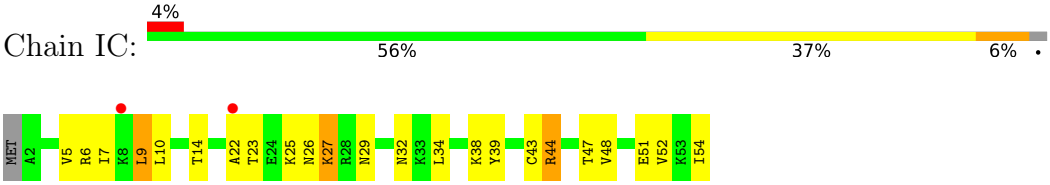
• Molecule 30: 50S ribosomal protein L33

Chain DA:



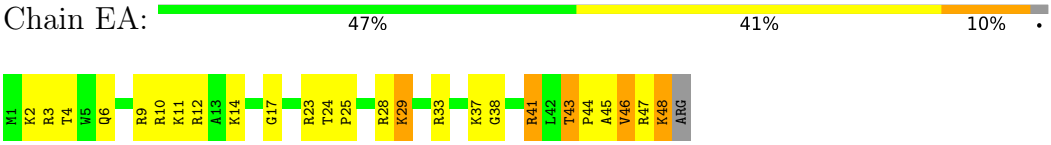
• Molecule 30: 50S ribosomal protein L33

Chain IC:



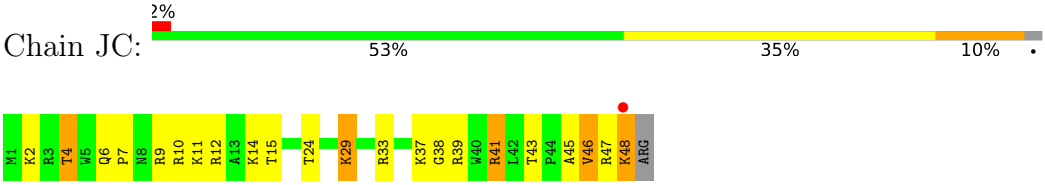
• Molecule 31: 50S ribosomal protein L34

Chain EA:



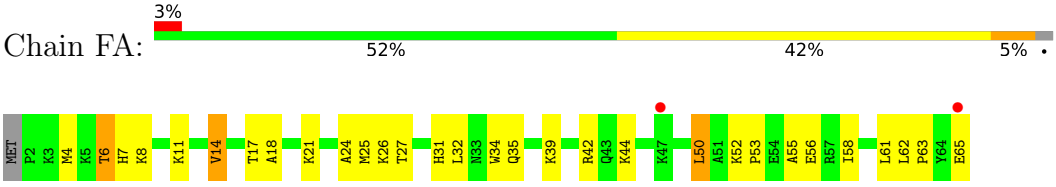
• Molecule 31: 50S ribosomal protein L34

Chain JC:



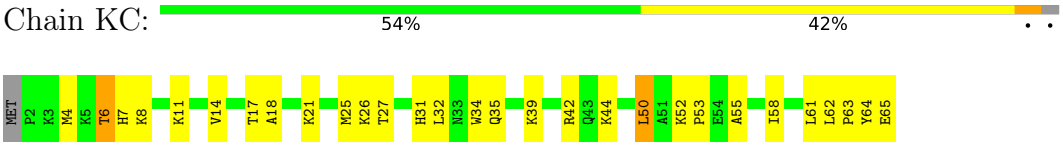
• Molecule 32: 50S ribosomal protein L35

Chain FA:



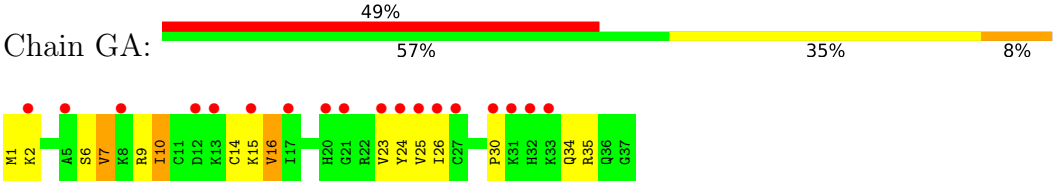
• Molecule 32: 50S ribosomal protein L35

Chain KC:



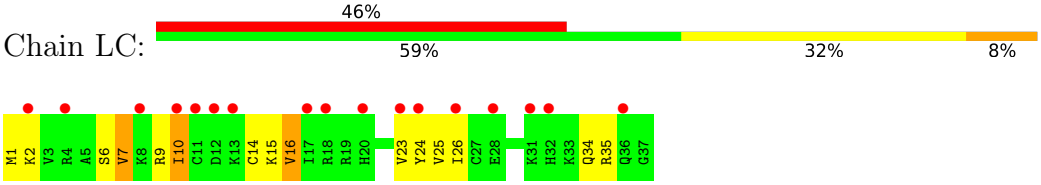
• Molecule 33: 50S ribosomal protein L36

Chain GA:



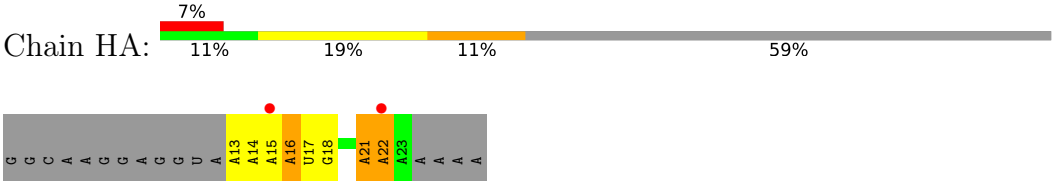
• Molecule 33: 50S ribosomal protein L36

Chain LC:



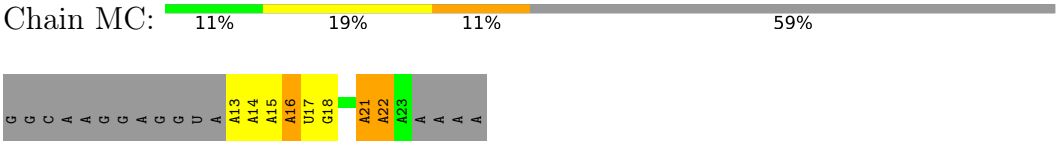
• Molecule 34: mRNA

Chain HA:



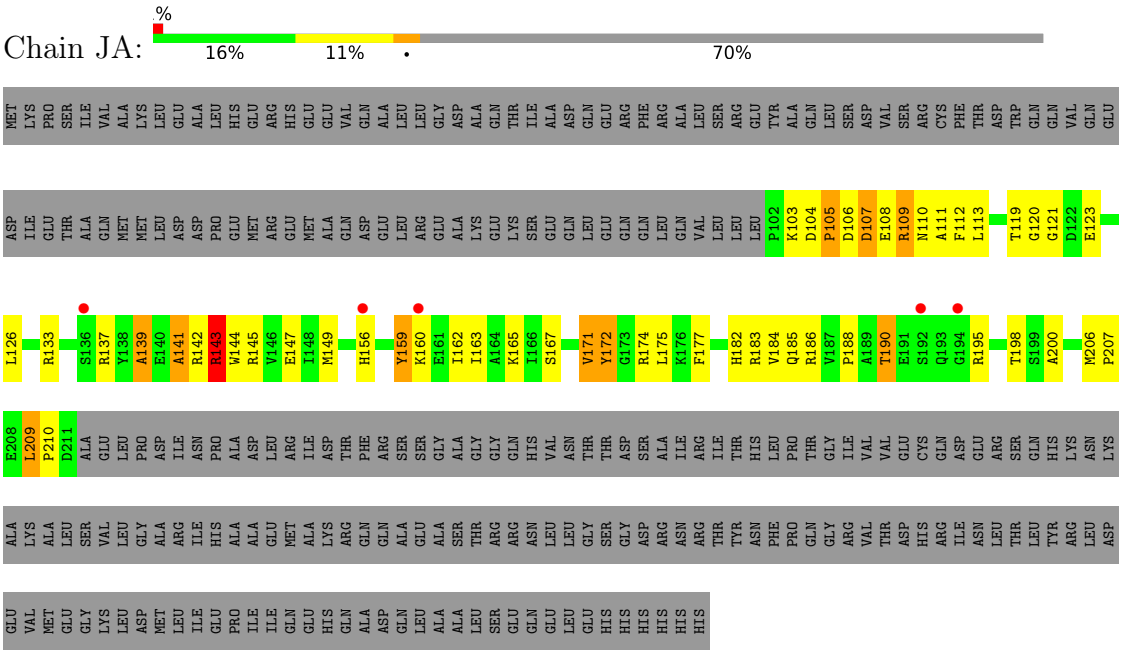
• Molecule 34: mRNA

Chain MC:



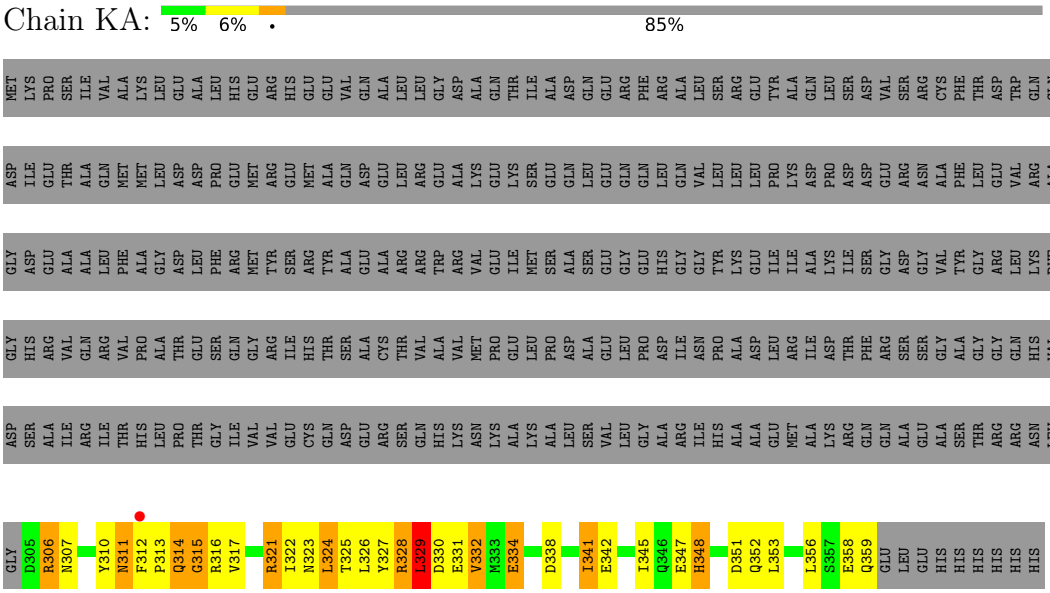
• Molecule 35: Peptide chain release factor 1

Chain JA:



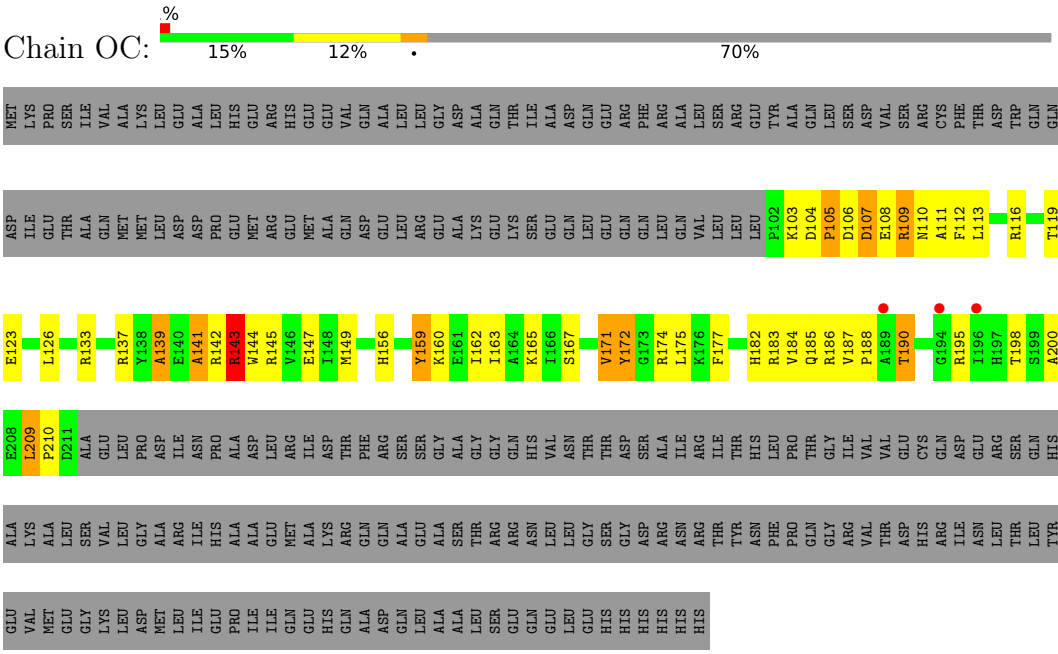
• Molecule 35: Peptide chain release factor 1

Chain KA:



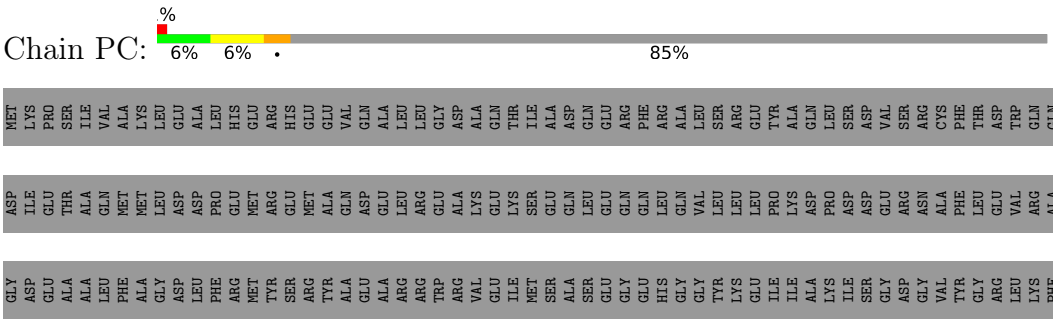
• Molecule 35: Peptide chain release factor 1

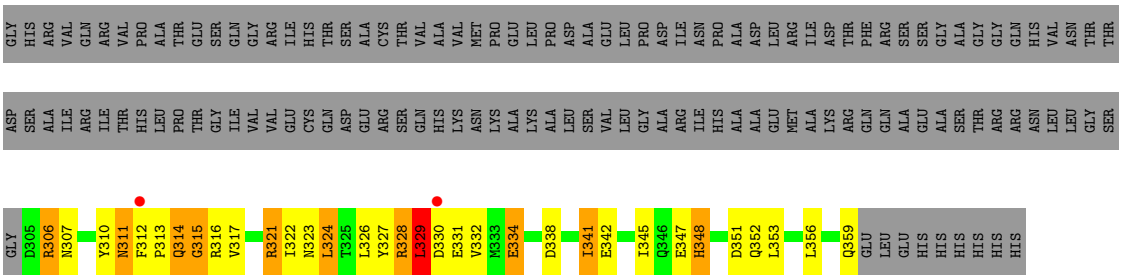
Chain OC:



• Molecule 35: Peptide chain release factor 1

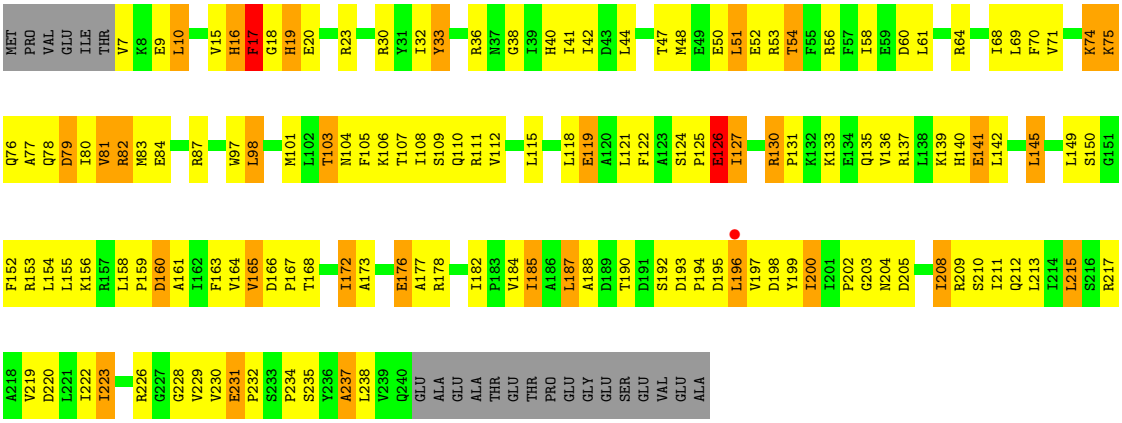
Chain PC:





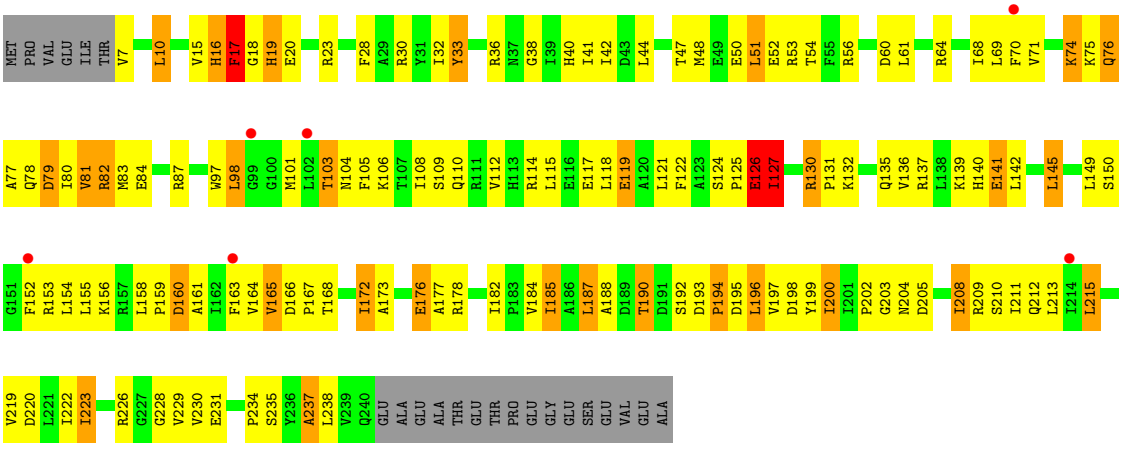
• Molecule 36: 30S ribosomal protein S2

Chain LA:



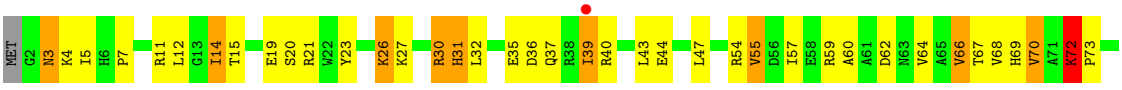
• Molecule 36: 30S ribosomal protein S2

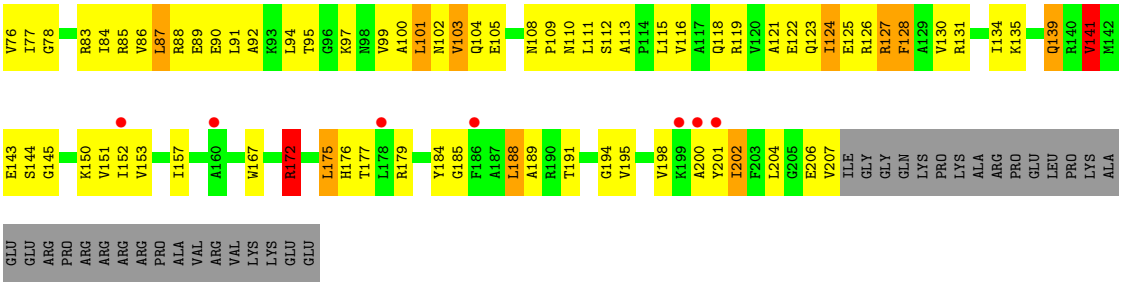
Chain QC:



• Molecule 37: 30S ribosomal protein S3

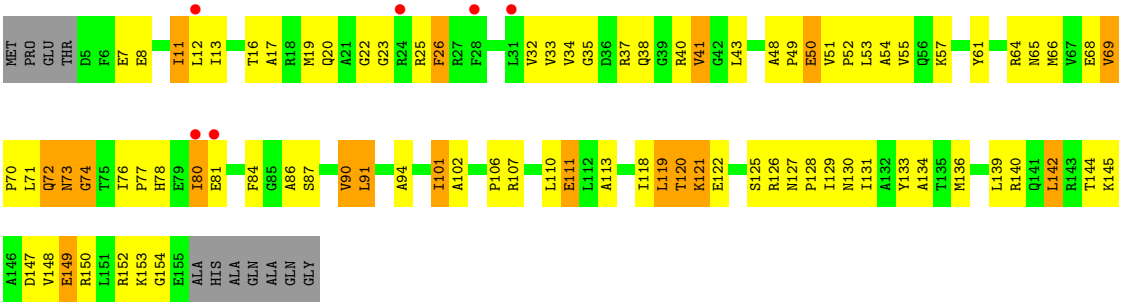
Chain MA:





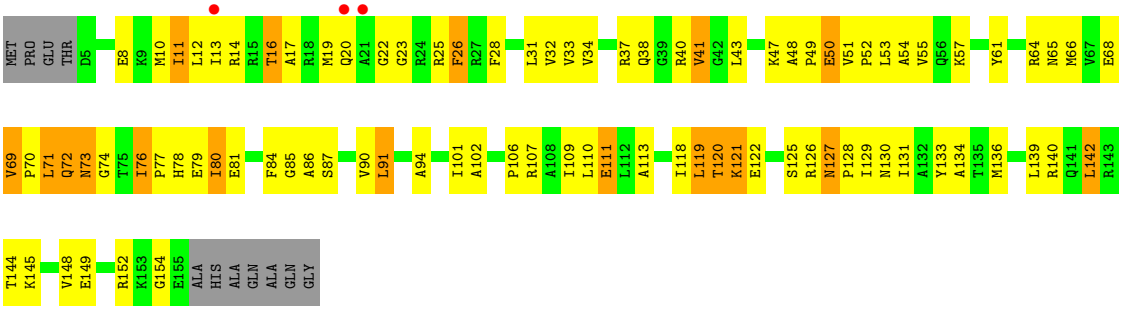
• Molecule 39: 30S ribosomal protein S5

Chain OA:



• Molecule 39: 30S ribosomal protein S5

Chain TC:

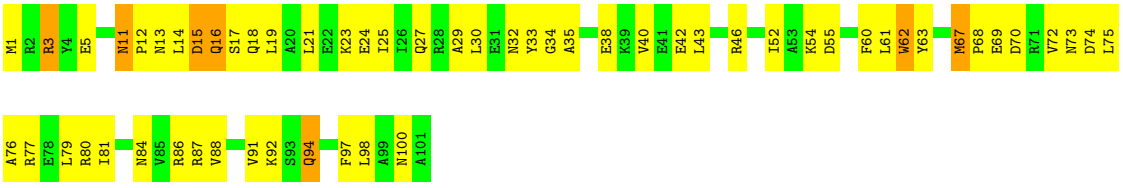


• Molecule 40: 30S ribosomal protein S6

Chain PA:

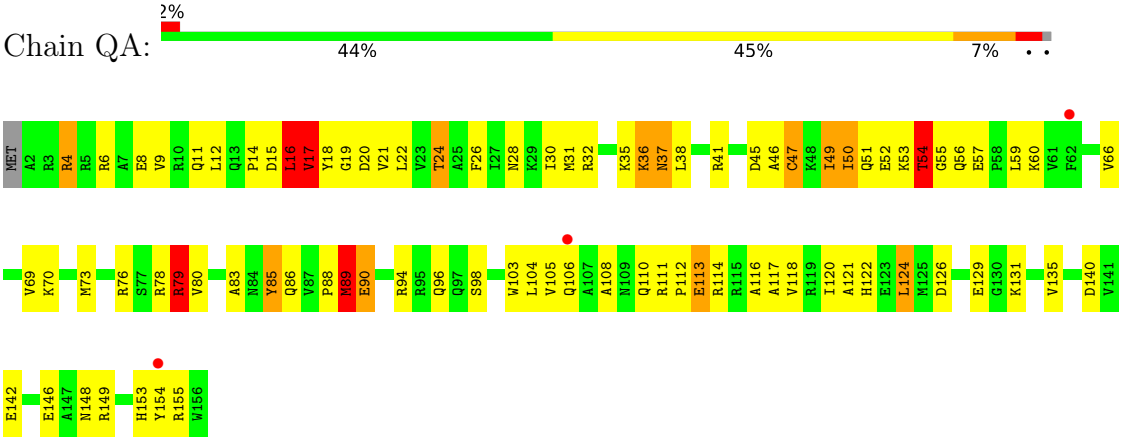
• Molecule 40: 30S ribosomal protein S6

Chain UC:



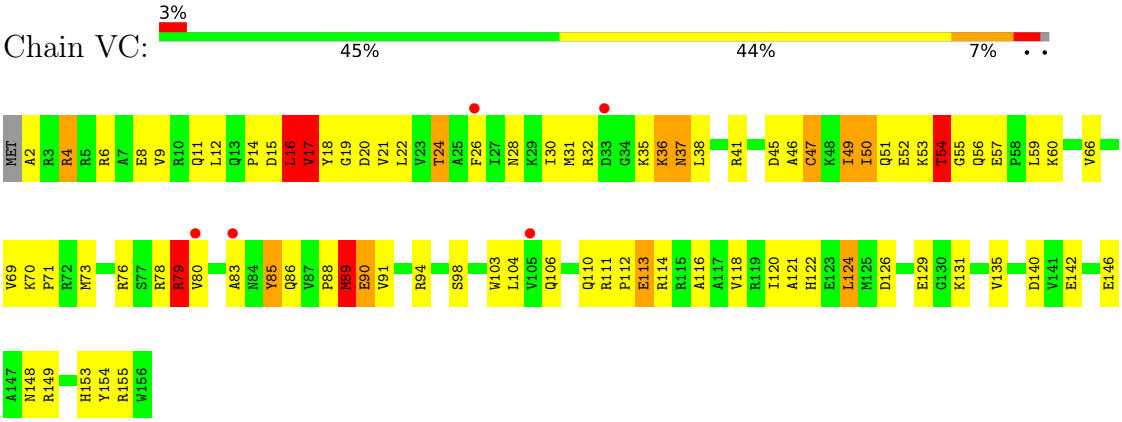
• Molecule 41: 30S ribosomal protein S7

Chain QA:



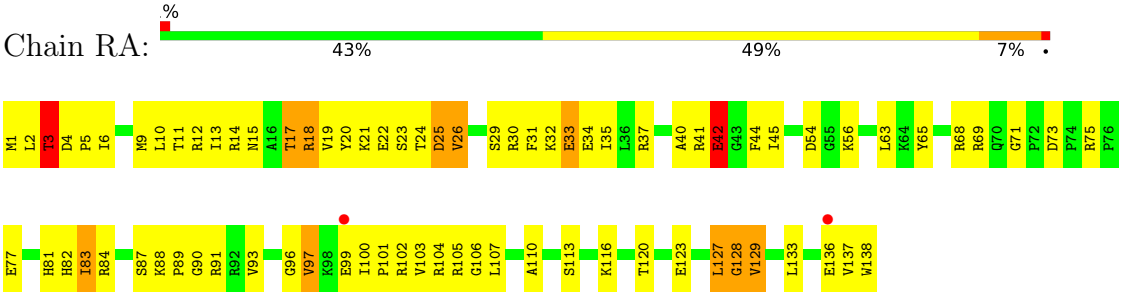
• Molecule 41: 30S ribosomal protein S7

Chain VC:



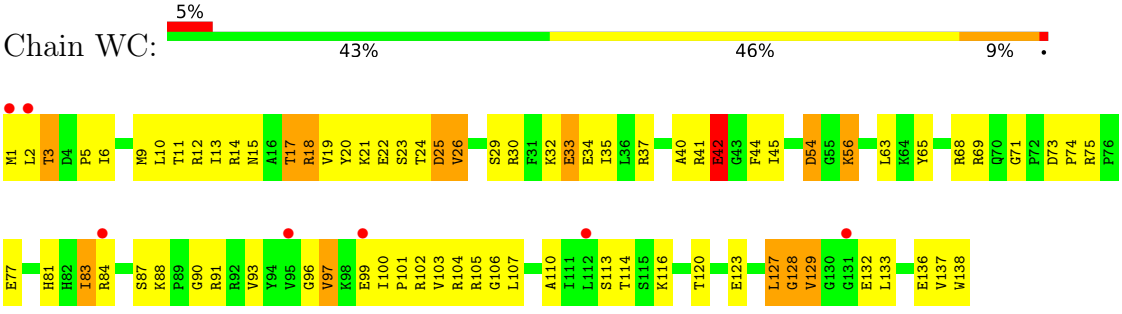
• Molecule 42: 30S ribosomal protein S8

Chain RA:



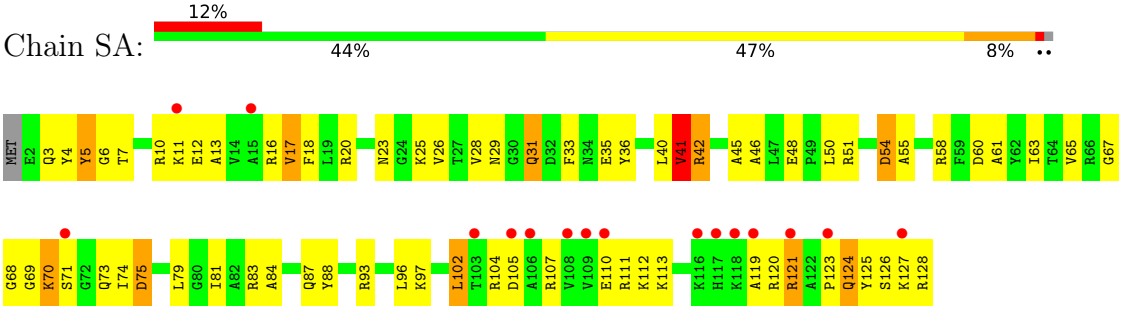
• Molecule 42: 30S ribosomal protein S8

Chain WC:



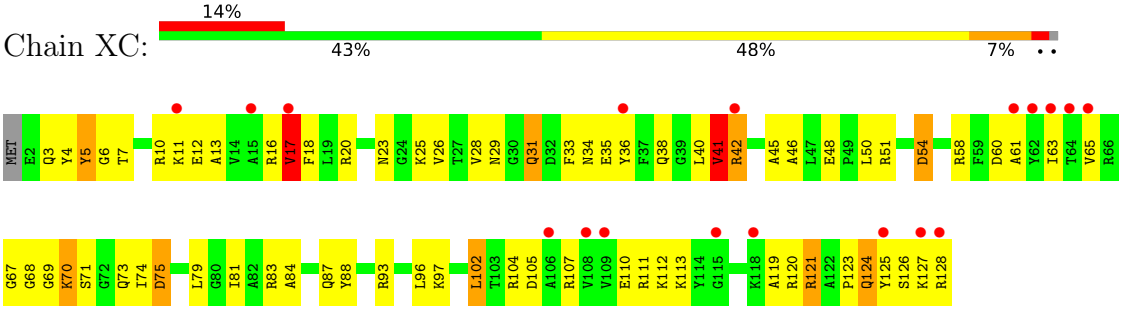
• Molecule 43: 30S ribosomal protein S9

Chain SA:



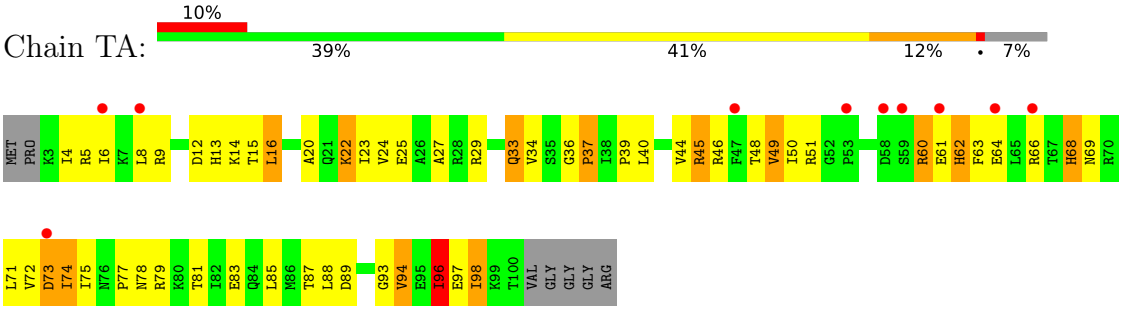
• Molecule 43: 30S ribosomal protein S9

Chain XC:



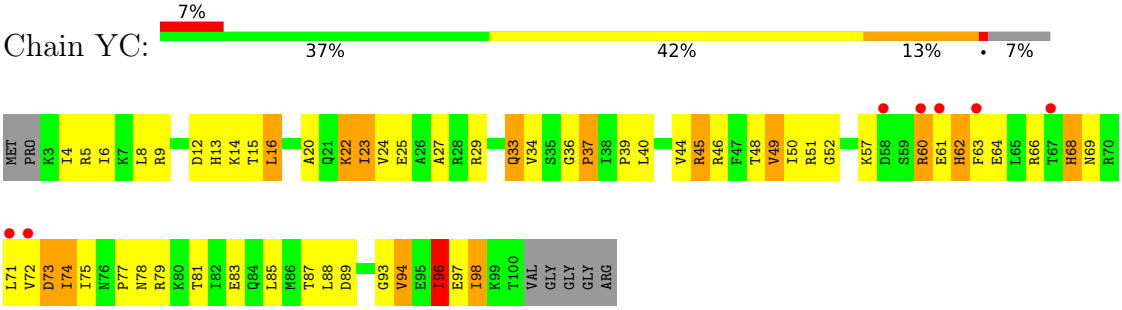
• Molecule 44: 30S ribosomal protein S10

Chain TA:



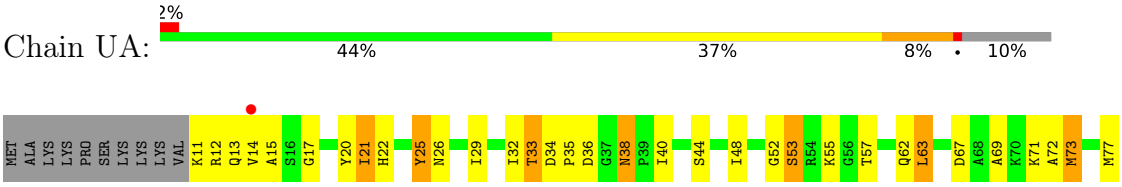
• Molecule 44: 30S ribosomal protein S10

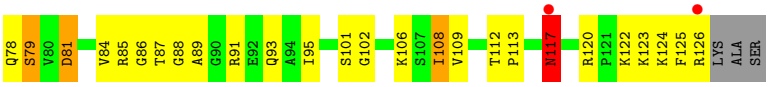
Chain YC:



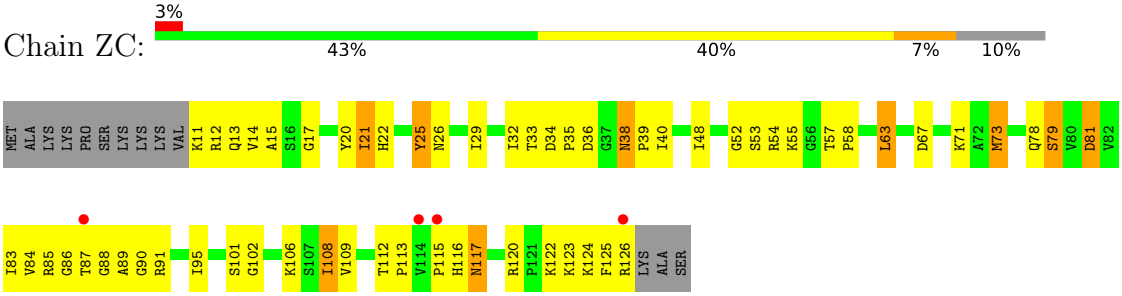
• Molecule 45: 30S ribosomal protein S11

Chain UA:

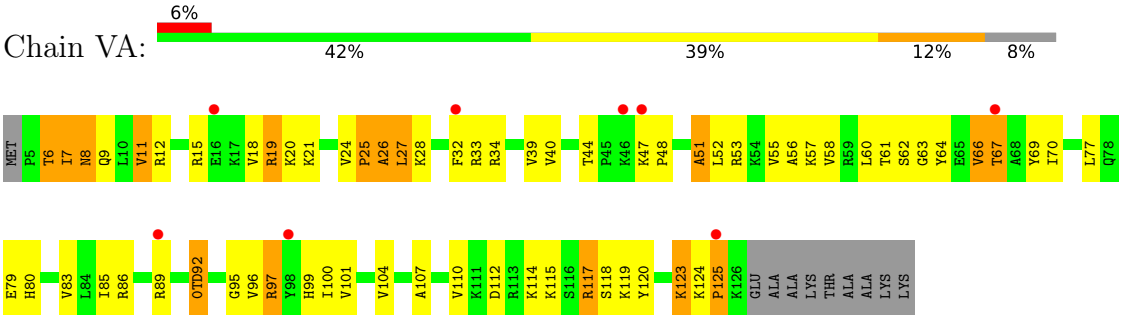




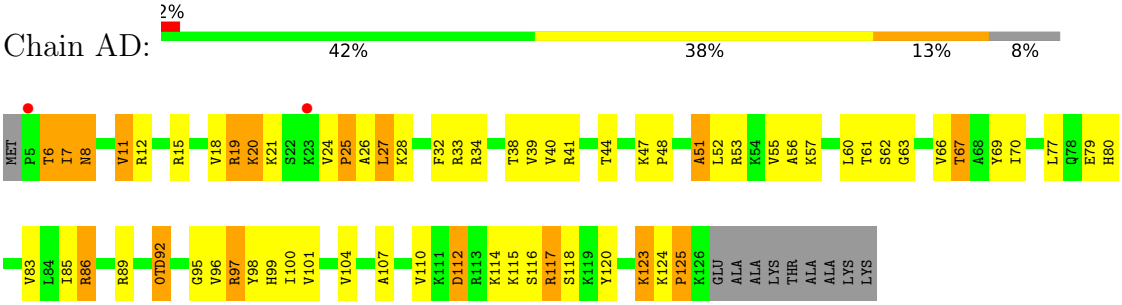
• Molecule 45: 30S ribosomal protein S11



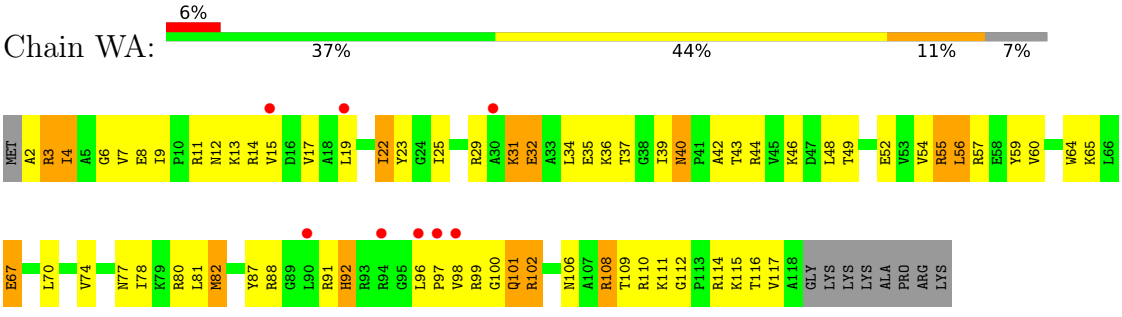
• Molecule 46: 30S ribosomal protein S12



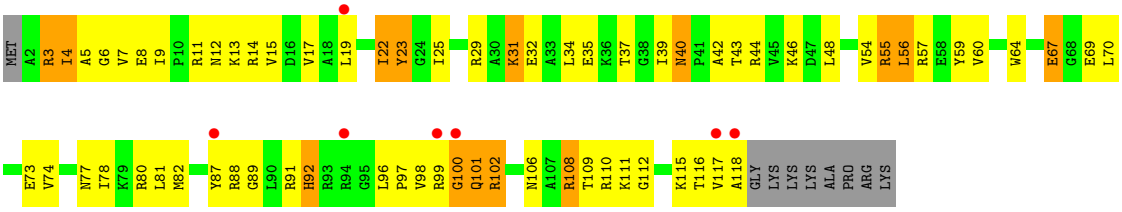
• Molecule 46: 30S ribosomal protein S12



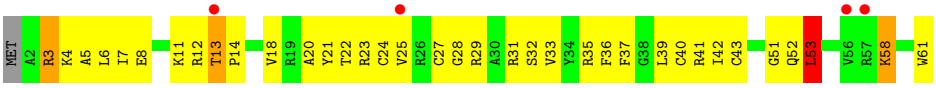
• Molecule 47: 30S ribosomal protein S13



• Molecule 47: 30S ribosomal protein S13

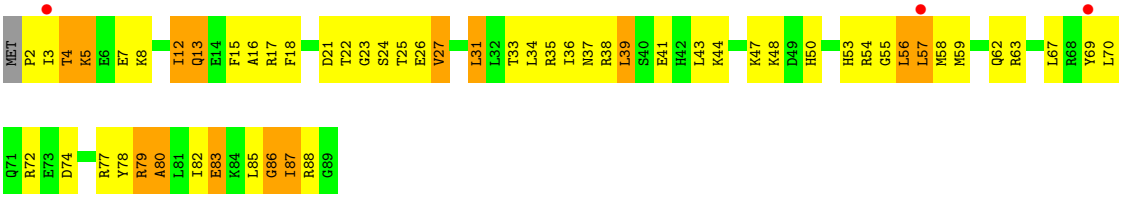


• Molecule 48: 30S ribosomal protein S14 type Z

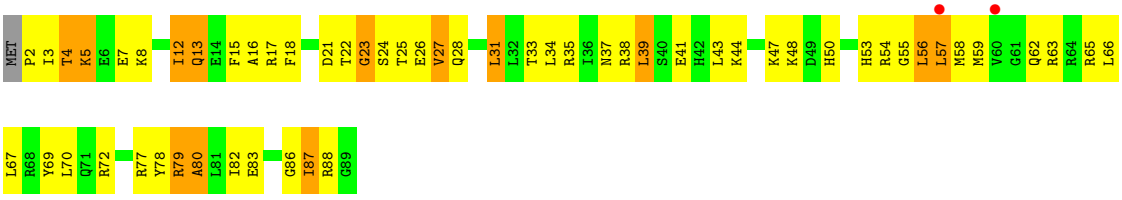


• Molecule 48: 30S ribosomal protein S14 type Z

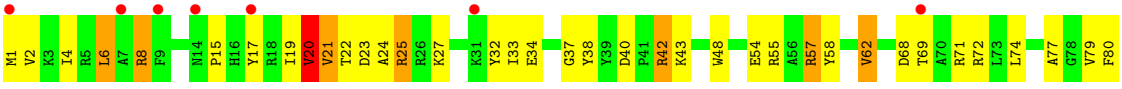
• Molecule 49: 30S ribosomal protein S15



• Molecule 49: 30S ribosomal protein S15

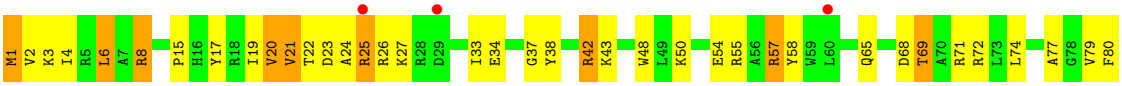


• Molecule 50: 30S ribosomal protein S16



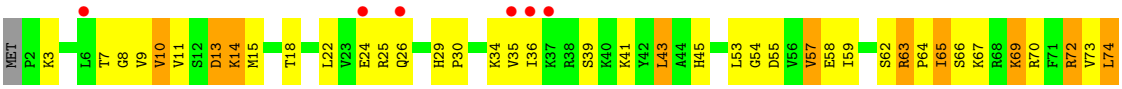
• Molecule 50: 30S ribosomal protein S16

Chain ED:



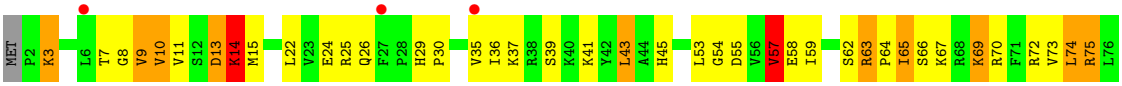
• Molecule 51: 30S ribosomal protein S17

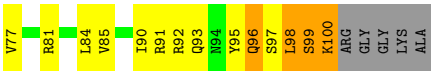
Chain AB:



• Molecule 51: 30S ribosomal protein S17

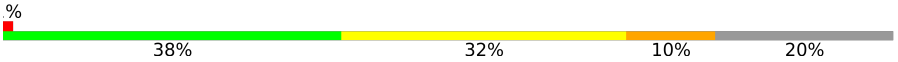
Chain FD:

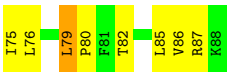




• Molecule 52: 30S ribosomal protein S18

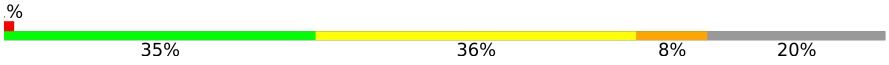
Chain BB:

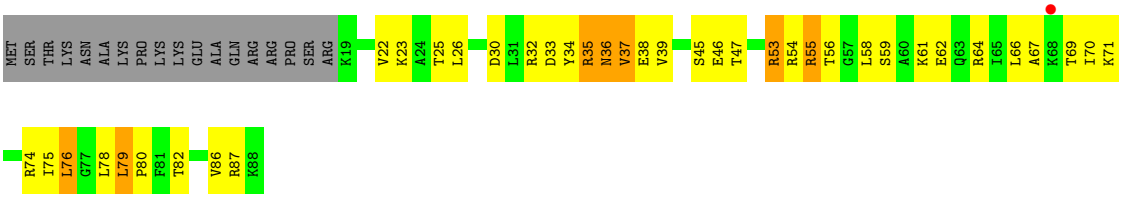




• Molecule 52: 30S ribosomal protein S18

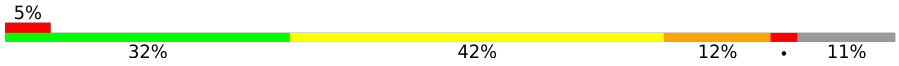
Chain GD:

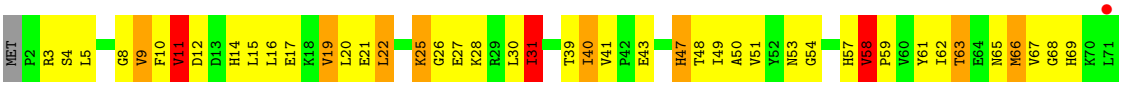




• Molecule 53: 30S ribosomal protein S19

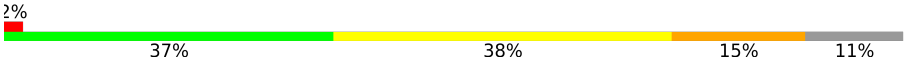
Chain CB:

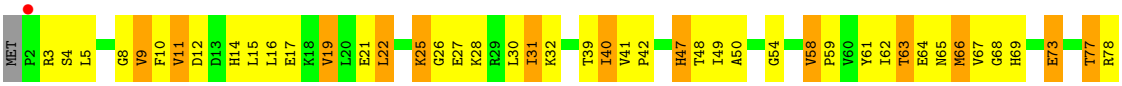


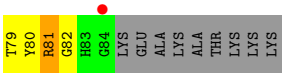


• Molecule 53: 30S ribosomal protein S19

Chain HD:

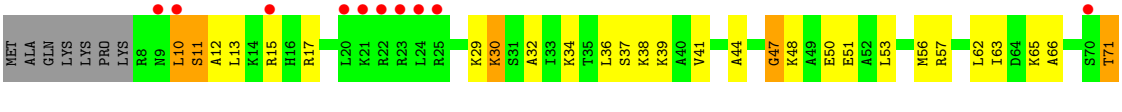


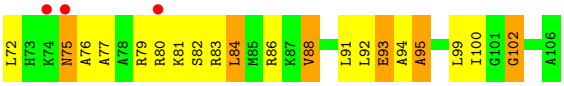




• Molecule 54: 30S ribosomal protein S20

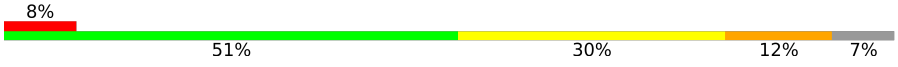
Chain DB:

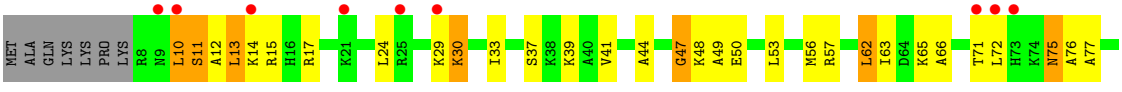


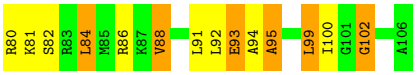


• Molecule 54: 30S ribosomal protein S20

Chain ID:

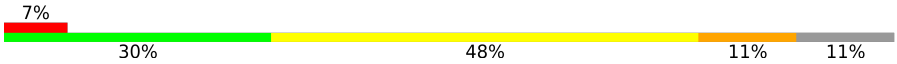


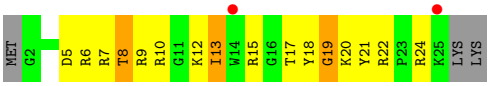




• Molecule 55: 30S ribosomal protein Thx

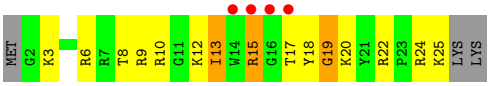
Chain EB:





• Molecule 55: 30S ribosomal protein Thx

Chain JD:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	209.86Å 450.69Å 615.88Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.40 50.00 – 3.40	Depositor EDS
% Data completeness (in resolution range)	99.9 (50.00-3.40) 100.0 (50.00-3.40)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.22 (at 3.41Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	(Not available) , (Not available) 0.243 , 0.281	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)	0.27 , 59.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.37$, $< L^2 > = 0.20$	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.*

[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

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

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	0.33	1/35961 (0.0%)	0.47	0/56125
1	FB	0.33	0/35961	0.47	0/56125
2	B	0.50	0/69214	0.61	3/108048 (0.0%)
2	GB	0.45	0/69214	0.58	1/108048 (0.0%)
3	C	0.31	0/2881	0.47	0/4494
3	HB	0.28	0/2881	0.45	0/4494
4	D	0.27	1/1744 (0.1%)	0.37	0/2719
4	IA	0.35	1/1744 (0.1%)	0.44	0/2719
4	IB	0.25	1/1744 (0.1%)	0.36	0/2719
4	NC	0.30	0/1744	0.42	0/2719
5	E	0.96	3/2195 (0.1%)	1.16	9/2955 (0.3%)
5	JB	0.76	0/2195	1.10	6/2955 (0.2%)
6	F	0.68	0/1596	1.04	8/2153 (0.4%)
6	KB	0.71	0/1596	1.04	5/2153 (0.2%)
7	G	0.78	2/1621 (0.1%)	1.09	11/2194 (0.5%)
7	LB	0.66	0/1621	1.04	9/2194 (0.4%)
8	H	0.47	0/1496	0.93	4/2013 (0.2%)
8	MB	0.45	0/1496	0.92	4/2013 (0.2%)
9	I	0.55	0/1356	0.94	7/1834 (0.4%)
9	NB	0.45	0/1356	0.91	6/1834 (0.3%)
10	J	0.58	0/1152	0.94	0/1559
10	OB	0.56	0/1152	0.95	4/1559 (0.3%)
11	K	0.58	0/1148	1.05	7/1547 (0.5%)
11	PB	0.54	0/1148	1.03	8/1547 (0.5%)
12	L	0.71	0/942	1.01	1/1268 (0.1%)
12	QB	0.77	0/942	1.03	1/1268 (0.1%)
13	M	0.68	0/1162	1.01	1/1544 (0.1%)
13	RB	0.60	0/1162	0.98	3/1544 (0.2%)
14	N	0.65	0/1142	0.97	5/1525 (0.3%)
14	SB	0.60	0/1142	0.93	2/1525 (0.1%)
15	O	0.67	0/982	0.96	2/1312 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
15	TB	0.71	0/982	0.97	1/1312 (0.1%)
16	P	0.53	0/887	0.86	0/1180
16	UB	0.46	0/887	0.85	0/1180
17	Q	0.59	0/1157	0.91	0/1544
17	VB	0.66	0/1157	0.93	0/1544
18	R	0.70	0/982	0.90	0/1306
18	WB	0.62	0/982	0.89	1/1306 (0.1%)
19	S	0.61	0/790	0.92	1/1057 (0.1%)
19	XB	0.51	0/790	0.88	0/1057
20	T	0.82	0/901	1.00	1/1209 (0.1%)
20	YB	0.78	0/901	0.99	3/1209 (0.2%)
21	U	0.84	0/764	1.02	2/1025 (0.2%)
21	ZB	0.71	0/764	0.92	0/1025
22	AC	0.61	0/827	0.94	1/1103 (0.1%)
22	V	0.70	0/827	0.95	0/1103
23	BC	0.51	0/1527	0.89	3/2073 (0.1%)
23	W	0.55	0/1527	0.90	3/2073 (0.1%)
24	CC	0.61	0/671	1.00	3/892 (0.3%)
24	X	0.67	0/671	1.04	3/892 (0.3%)
25	DC	0.69	0/768	1.02	3/1021 (0.3%)
25	Y	0.74	0/768	1.02	3/1021 (0.3%)
26	EC	0.59	0/594	0.93	0/785
26	Z	0.74	0/594	0.98	0/785
27	AA	0.61	0/482	0.98	2/646 (0.3%)
27	FC	0.56	0/482	0.94	0/646
28	BA	0.51	0/565	0.94	2/761 (0.3%)
28	GC	0.48	0/565	0.93	2/761 (0.3%)
29	CA	0.70	0/474	1.05	2/640 (0.3%)
29	HC	0.70	0/474	1.05	4/640 (0.6%)
30	DA	0.45	0/460	0.82	0/613
30	IC	0.43	0/460	0.79	0/613
31	EA	1.04	0/426	1.08	2/561 (0.4%)
31	JC	0.84	0/426	1.00	0/561
32	FA	0.71	0/525	0.93	1/691 (0.1%)
32	KC	0.65	0/525	0.91	0/691
33	GA	0.59	0/310	0.97	1/407 (0.2%)
33	LC	0.63	0/310	0.98	1/407 (0.2%)
34	HA	0.42	0/247	0.47	0/382
34	MC	0.39	0/247	0.46	0/382
35	JA	0.50	0/867	0.85	1/1165 (0.1%)
35	KA	0.49	0/461	0.86	2/622 (0.3%)
35	OC	0.46	0/867	0.85	1/1165 (0.1%)
35	PC	0.46	0/461	0.83	0/622

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
36	LA	0.50	0/1935	0.95	6/2609 (0.2%)
36	QC	0.45	0/1935	0.92	6/2609 (0.2%)
37	MA	0.47	0/1636	0.88	4/2205 (0.2%)
37	RC	0.45	0/1636	0.87	4/2205 (0.2%)
38	NA	0.53	0/1733	0.91	3/2318 (0.1%)
38	SC	0.60	0/1733	0.93	4/2318 (0.2%)
39	OA	0.55	0/1171	0.97	1/1576 (0.1%)
39	TC	0.53	0/1171	0.97	3/1576 (0.2%)
40	PA	0.59	0/856	0.97	3/1154 (0.3%)
40	UC	0.51	0/856	0.96	3/1154 (0.3%)
41	QA	0.49	0/1276	0.86	2/1709 (0.1%)
41	VC	0.46	0/1276	0.85	2/1709 (0.1%)
42	RA	0.47	0/1136	0.88	0/1527
42	WC	0.47	0/1136	0.88	0/1527
43	SA	0.45	0/1029	0.89	0/1378
43	XC	0.42	0/1029	0.88	1/1378 (0.1%)
44	TA	0.49	0/807	0.98	5/1085 (0.5%)
44	YC	0.47	0/807	0.99	8/1085 (0.7%)
45	UA	0.64	0/879	0.98	4/1187 (0.3%)
45	ZC	0.55	0/879	0.95	3/1187 (0.3%)
46	AD	0.64	0/963	0.95	2/1287 (0.2%)
46	VA	0.60	0/963	0.93	2/1287 (0.2%)
47	BD	0.44	0/943	0.84	0/1265
47	WA	0.47	0/943	0.84	0/1265
48	CD	0.39	0/501	0.84	2/664 (0.3%)
48	XA	0.42	0/501	0.87	2/664 (0.3%)
49	DD	0.54	0/745	0.85	0/992
49	YA	0.62	0/745	0.88	0/992
50	ED	0.52	0/716	0.91	1/963 (0.1%)
50	ZA	0.45	0/716	0.89	3/963 (0.3%)
51	AB	0.54	0/836	0.85	0/1117
51	FD	0.54	0/836	0.87	1/1117 (0.1%)
52	BB	0.53	0/579	0.84	0/768
52	GD	0.49	0/579	0.83	0/768
53	CB	0.42	0/680	0.83	2/915 (0.2%)
53	HD	0.42	0/680	0.83	0/915
54	DB	0.48	0/764	0.88	1/1006 (0.1%)
54	ID	0.54	0/764	0.88	1/1006 (0.1%)
55	EB	0.39	0/212	0.76	0/277
55	JD	0.38	0/212	0.73	0/277
All	All	0.48	9/320836 (0.0%)	0.68	235/479388 (0.0%)

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

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

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

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	E	237	GLU	CG-CD	6.19	1.67	1.52
7	G	89	VAL	CA-CB	-5.81	1.47	1.54
5	E	85	ASP	CA-C	-5.64	1.47	1.52
4	IB	8	4SU	O3'-P	5.31	1.61	1.56
7	G	84	VAL	CA-CB	-5.17	1.47	1.54
4	D	8	4SU	O3'-P	5.12	1.61	1.56
1	A	1498	UR3	O3'-P	5.11	1.61	1.56
5	E	237	GLU	CB-CG	5.11	1.67	1.52
4	IA	8	4SU	O3'-P	5.11	1.61	1.56

All (235) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	M	53	GLY	N-CA-C	-9.72	101.15	115.63
11	PB	125	GLY	CA-C-N	9.50	131.72	119.84
11	PB	125	GLY	C-N-CA	9.50	131.72	119.84
13	RB	53	GLY	N-CA-C	-9.24	101.86	115.63
11	K	125	GLY	CA-C-N	9.17	131.31	119.84
11	K	125	GLY	C-N-CA	9.17	131.31	119.84
5	JB	42	GLY	N-CA-C	-8.85	104.16	114.69
5	JB	244	ARG	CA-C-N	-8.63	111.49	120.38
5	JB	244	ARG	C-N-CA	-8.63	111.49	120.38
6	KB	186	GLY	N-CA-C	8.61	120.26	111.56
9	I	20	ALA	CA-C-N	8.50	130.47	119.84
9	I	20	ALA	C-N-CA	8.50	130.47	119.84
9	NB	20	ALA	CA-C-N	8.46	130.41	119.84
9	NB	20	ALA	C-N-CA	8.46	130.41	119.84
8	MB	98	ARG	N-CA-C	-8.28	102.38	114.39
6	F	186	GLY	N-CA-C	8.21	119.85	111.56
7	LB	93	LYS	CA-C-N	-7.97	112.50	120.31
7	LB	93	LYS	C-N-CA	-7.97	112.50	120.31
8	H	98	ARG	N-CA-C	-7.95	102.56	114.64
11	PB	110	GLY	CA-C-N	7.80	129.59	119.84
11	PB	110	GLY	C-N-CA	7.80	129.59	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	G	93	LYS	CA-C-N	-7.79	112.67	120.31
7	G	93	LYS	C-N-CA	-7.79	112.67	120.31
5	E	237	GLU	N-CA-C	-7.78	98.15	109.59
5	E	244	ARG	CA-C-N	-7.71	112.44	120.38
5	E	244	ARG	C-N-CA	-7.71	112.44	120.38
5	JB	237	GLU	N-CA-C	-7.68	98.44	109.96
28	GC	28	LYS	CA-C-N	7.55	129.27	119.84
28	GC	28	LYS	C-N-CA	7.55	129.27	119.84
28	BA	28	LYS	CA-C-N	7.47	129.18	119.84
28	BA	28	LYS	C-N-CA	7.47	129.18	119.84
24	X	82	ARG	CA-C-N	7.42	129.12	119.84
24	X	82	ARG	C-N-CA	7.42	129.12	119.84
5	E	42	GLY	N-CA-C	-7.23	106.09	114.69
11	K	110	GLY	CA-C-N	7.19	128.82	119.84
11	K	110	GLY	C-N-CA	7.19	128.82	119.84
36	LA	38	GLY	N-CA-C	-6.87	106.28	115.21
24	CC	82	ARG	CA-C-N	6.82	128.36	119.84
24	CC	82	ARG	C-N-CA	6.82	128.36	119.84
8	H	141	PHE	CA-C-N	6.79	126.74	119.28
8	H	141	PHE	C-N-CA	6.79	126.74	119.28
23	BC	163	LEU	N-CA-C	6.77	119.78	110.24
36	LA	166	ASP	CA-C-N	6.72	127.30	120.04
36	LA	166	ASP	C-N-CA	6.72	127.30	120.04
23	BC	107	THR	CA-C-N	6.70	126.72	119.89
23	BC	107	THR	C-N-CA	6.70	126.72	119.89
36	QC	166	ASP	CA-C-N	6.69	127.26	120.04
36	QC	166	ASP	C-N-CA	6.69	127.26	120.04
6	KB	168	MET	N-CA-C	6.65	120.36	109.85
11	PB	127	ASP	N-CA-C	6.52	116.66	108.45
2	GB	1992	G	C2'-C3'-O3'	6.51	119.26	109.50
40	UC	11	ASN	CA-C-N	6.50	125.73	118.97
40	UC	11	ASN	C-N-CA	6.50	125.73	118.97
36	QC	38	GLY	N-CA-C	-6.44	106.83	115.21
23	W	107	THR	CA-C-N	6.44	126.46	119.89
23	W	107	THR	C-N-CA	6.44	126.46	119.89
6	KB	131	ALA	N-CA-C	6.43	118.91	108.63
29	CA	46	CYS	CA-C-N	6.36	125.98	119.56
29	CA	46	CYS	C-N-CA	6.36	125.98	119.56
9	I	22	GLY	N-CA-C	-6.33	106.69	114.92
23	W	163	LEU	N-CA-C	6.29	119.11	110.24
44	YC	22	LYS	N-CA-C	-6.29	106.57	114.56
24	X	44	ARG	N-CA-C	-6.20	104.98	112.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	NB	22	GLY	N-CA-C	-6.19	106.88	114.92
6	F	168	MET	N-CA-C	6.16	119.58	109.85
24	CC	44	ARG	N-CA-C	-6.14	105.05	112.54
11	K	127	ASP	N-CA-C	6.12	116.17	108.45
5	E	100	GLY	N-CA-C	-6.12	107.20	114.48
25	DC	67	ILE	CB-CA-C	-6.12	107.86	114.35
40	PA	11	ASN	CA-C-N	6.03	125.24	118.97
40	PA	11	ASN	C-N-CA	6.03	125.24	118.97
37	MA	72	LYS	CA-C-N	6.02	126.13	119.87
37	MA	72	LYS	C-N-CA	6.02	126.13	119.87
51	FD	57	VAL	N-CA-C	6.02	116.51	108.27
44	TA	36	GLY	CA-C-N	5.98	127.32	119.84
44	TA	36	GLY	C-N-CA	5.98	127.32	119.84
29	HC	46	CYS	CA-C-N	5.98	125.66	119.56
29	HC	46	CYS	C-N-CA	5.98	125.66	119.56
25	Y	67	ILE	CB-CA-C	-5.96	108.03	114.35
45	ZC	38	ASN	CA-C-N	5.94	126.87	119.98
45	ZC	38	ASN	C-N-CA	5.94	126.87	119.98
40	PA	65	VAL	N-CA-C	5.94	115.77	108.53
14	N	96	VAL	CB-CA-C	-5.92	105.52	111.80
31	EA	17	GLY	N-CA-C	5.92	118.84	112.33
9	I	172	LYS	CA-C-N	5.88	125.82	119.76
9	I	172	LYS	C-N-CA	5.88	125.82	119.76
46	AD	44	THR	CA-C-N	5.88	125.85	120.21
46	AD	44	THR	C-N-CA	5.88	125.85	120.21
5	E	127	VAL	N-CA-C	5.87	116.99	109.30
39	TC	19	MET	N-CA-C	5.86	118.61	109.52
46	VA	44	THR	CA-C-N	5.86	125.84	120.21
46	VA	44	THR	C-N-CA	5.86	125.84	120.21
11	K	94	HIS	CA-C-N	5.85	127.15	119.84
11	K	94	HIS	C-N-CA	5.85	127.15	119.84
9	I	31	GLY	N-CA-C	5.84	117.91	110.96
25	Y	67	ILE	CA-C-N	-5.84	113.74	120.04
25	Y	67	ILE	C-N-CA	-5.84	113.74	120.04
37	RC	72	LYS	CA-C-N	5.82	125.93	119.87
37	RC	72	LYS	C-N-CA	5.82	125.93	119.87
7	LB	170	LEU	CA-C-N	5.80	127.09	119.84
7	LB	170	LEU	C-N-CA	5.80	127.09	119.84
7	G	170	LEU	CA-C-N	5.79	127.08	119.84
7	G	170	LEU	C-N-CA	5.79	127.08	119.84
37	MA	108	ASN	CA-C-N	5.79	125.89	119.87
37	MA	108	ASN	C-N-CA	5.79	125.89	119.87

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	JB	100	GLY	N-CA-C	-5.79	107.59	114.48
2	B	1992	G	C2'-C3'-O3'	5.76	118.15	109.50
8	MB	141	PHE	CA-C-N	5.75	126.14	119.47
8	MB	141	PHE	C-N-CA	5.75	126.14	119.47
39	OA	19	MET	N-CA-C	5.71	118.38	109.52
20	YB	71	VAL	CB-CA-C	-5.71	105.75	111.80
44	TA	60	ARG	N-CA-C	5.68	115.89	107.88
40	UC	67	MET	N-CA-C	5.68	113.24	108.13
9	NB	172	LYS	CA-C-N	5.66	125.95	119.83
9	NB	172	LYS	C-N-CA	5.66	125.95	119.83
45	UA	38	ASN	CA-C-N	5.66	126.92	119.84
45	UA	38	ASN	C-N-CA	5.66	126.92	119.84
5	JB	127	VAL	N-CA-C	5.65	116.70	109.30
35	KA	332	VAL	N-CA-C	-5.64	107.38	112.12
38	NA	110	PHE	N-CA-C	-5.64	106.36	113.18
25	DC	67	ILE	CA-C-N	-5.63	113.96	120.04
25	DC	67	ILE	C-N-CA	-5.63	113.96	120.04
20	T	71	VAL	CB-CA-C	-5.62	105.84	111.80
12	QB	90	GLN	N-CA-C	-5.60	106.30	113.02
54	DB	11	SER	N-CA-C	-5.59	105.05	113.89
10	OB	79	ILE	CA-C-N	-5.59	114.20	119.85
10	OB	79	ILE	C-N-CA	-5.59	114.20	119.85
44	YC	36	GLY	CA-C-N	5.59	126.83	119.84
44	YC	36	GLY	C-N-CA	5.59	126.83	119.84
36	LA	130	ARG	CA-C-N	5.55	125.55	119.89
36	LA	130	ARG	C-N-CA	5.55	125.55	119.89
37	RC	108	ASN	CA-C-N	5.54	125.63	119.87
37	RC	108	ASN	C-N-CA	5.54	125.63	119.87
10	OB	144	VAL	N-CA-C	5.54	115.85	108.27
41	QA	8	GLU	N-CA-C	5.53	118.26	110.14
18	WB	50	ARG	N-CA-C	-5.51	105.36	111.36
7	LB	24	LEU	CA-C-N	5.49	125.76	119.83
7	LB	24	LEU	C-N-CA	5.49	125.76	119.83
45	UA	13	GLN	N-CA-C	5.48	119.60	109.24
19	S	43	GLU	N-CA-C	-5.46	107.17	113.88
48	XA	53	LEU	CA-C-N	5.46	125.46	119.90
48	XA	53	LEU	C-N-CA	5.46	125.46	119.90
27	AA	11	SER	CA-C-N	5.45	125.54	119.87
27	AA	11	SER	C-N-CA	5.45	125.54	119.87
5	E	237	GLU	CB-CA-C	5.45	118.43	110.26
48	CD	53	LEU	CA-C-N	5.45	125.46	119.90
48	CD	53	LEU	C-N-CA	5.45	125.46	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	G	70	THR	N-CA-C	-5.44	105.43	111.36
36	QC	235	SER	N-CA-C	5.43	116.89	107.93
7	G	91	GLY	CA-C-N	5.42	125.73	119.93
7	G	91	GLY	C-N-CA	5.42	125.73	119.93
35	KA	325	THR	N-CA-C	-5.42	106.62	113.18
54	ID	11	SER	N-CA-C	-5.40	105.36	113.89
41	VC	8	GLU	N-CA-C	5.40	118.08	110.14
10	OB	79	ILE	N-CA-C	5.39	113.36	107.60
50	ZA	20	VAL	N-CA-C	5.38	116.12	108.42
44	YC	60	ARG	N-CA-C	5.38	115.46	107.88
7	LB	154	VAL	N-CA-C	5.37	115.72	107.77
32	FA	56	GLU	N-CA-C	-5.36	105.55	111.71
36	QC	130	ARG	CA-C-N	5.36	125.36	119.89
36	QC	130	ARG	C-N-CA	5.36	125.36	119.89
14	SB	96	VAL	CB-CA-C	-5.36	104.97	111.88
38	SC	12	CYS	CA-CB-SG	5.36	126.72	114.40
14	N	96	VAL	N-CA-C	5.35	114.97	107.37
6	KB	129	HIS	N-CA-C	5.34	121.66	113.28
38	SC	171	GLY	CA-C-N	5.33	126.50	119.84
38	SC	171	GLY	C-N-CA	5.33	126.50	119.84
35	OC	141	ALA	N-CA-C	-5.32	106.17	113.30
45	ZC	13	GLN	N-CA-C	5.32	119.29	109.24
2	B	197	A	OP1-P-O3'	-5.32	92.05	108.00
7	G	59	TYR	CB-CA-C	-5.32	107.76	114.40
14	N	72	LYS	CA-C-N	5.31	127.69	120.79
14	N	72	LYS	C-N-CA	5.31	127.69	120.79
11	PB	9	VAL	N-CA-C	5.30	116.11	108.48
33	LC	23	VAL	N-CA-C	5.30	114.38	106.85
2	B	2061	G	OP2-P-O3'	5.29	123.86	108.00
44	TA	96	ILE	N-CA-C	5.29	115.27	108.82
36	LA	235	SER	N-CA-C	5.28	116.64	107.93
38	NA	171	GLY	CA-C-N	5.28	125.98	120.12
38	NA	171	GLY	C-N-CA	5.28	125.98	120.12
15	TB	25	ALA	N-CA-C	-5.27	106.91	113.55
33	GA	23	VAL	N-CA-C	5.26	114.32	106.85
35	JA	141	ALA	N-CA-C	-5.25	106.27	113.30
41	VC	90	GLU	N-CA-C	5.24	116.94	108.34
50	ED	20	VAL	N-CA-C	5.23	115.90	108.42
6	F	188	VAL	CA-C-N	5.22	125.21	119.89
6	F	188	VAL	C-N-CA	5.22	125.21	119.89
22	AC	52	SER	N-CA-C	5.21	114.30	108.25
41	QA	90	GLU	N-CA-C	5.21	116.89	108.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	E	237	GLU	CB-CG-CD	5.18	121.42	112.60
6	F	34	VAL	N-CA-C	-5.17	108.46	113.53
29	HC	41	PRO	CA-C-N	5.17	126.30	119.84
29	HC	41	PRO	C-N-CA	5.17	126.30	119.84
8	H	44	GLY	N-CA-C	-5.17	108.86	115.42
9	NB	31	GLY	N-CA-C	5.16	117.58	110.56
44	YC	96	ILE	N-CA-C	5.16	115.12	108.82
13	RB	22	GLY	CA-C-N	5.16	124.95	119.28
13	RB	22	GLY	C-N-CA	5.16	124.95	119.28
7	G	9	ILE	CA-C-N	5.15	124.91	119.76
7	G	9	ILE	C-N-CA	5.15	124.91	119.76
14	N	33	GLY	N-CA-C	5.15	120.41	111.14
15	O	25	ALA	N-CA-C	-5.14	107.08	113.55
39	TC	127	ASN	CA-C-N	5.12	124.57	119.24
39	TC	127	ASN	C-N-CA	5.12	124.57	119.24
9	I	135	GLY	N-CA-C	5.12	118.16	110.18
31	EA	37	LYS	N-CA-C	-5.11	106.30	112.54
5	E	275	LYS	N-CA-C	-5.10	103.19	110.59
8	MB	44	GLY	N-CA-C	-5.09	108.95	115.42
21	U	31	HIS	CA-C-N	5.09	124.70	119.05
21	U	31	HIS	C-N-CA	5.09	124.70	119.05
44	YC	23	ILE	N-CA-C	-5.09	106.95	112.80
50	ZA	40	ASP	CA-C-N	5.09	124.78	119.64
50	ZA	40	ASP	C-N-CA	5.09	124.78	119.64
44	YC	52	GLY	CA-C-N	5.09	125.77	120.12
44	YC	52	GLY	C-N-CA	5.09	125.77	120.12
7	G	89	VAL	N-CA-C	5.08	115.31	110.53
7	LB	91	GLY	CA-C-N	5.08	126.19	119.84
7	LB	91	GLY	C-N-CA	5.08	126.19	119.84
12	L	90	GLN	N-CA-C	-5.08	106.93	113.02
53	CB	58	VAL	CA-C-N	5.08	126.19	119.84
53	CB	58	VAL	C-N-CA	5.08	126.19	119.84
6	KB	129	HIS	N-CA-CB	-5.07	108.39	114.17
38	SC	11	LEU	N-CA-C	-5.06	105.66	111.07
6	F	127	ASP	N-CA-C	-5.06	105.89	111.71
45	UA	53	SER	N-CA-C	-5.05	106.63	112.89
20	YB	13	SER	CA-C-N	5.04	125.06	119.32
20	YB	13	SER	C-N-CA	5.04	125.06	119.32
43	XC	17	VAL	N-CA-C	5.04	114.73	106.72
6	F	129	HIS	N-CA-C	5.03	121.18	113.28
44	TA	22	LYS	N-CA-C	-5.03	107.10	114.39
6	F	129	HIS	N-CA-CB	-5.03	108.44	114.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	PB	94	HIS	CA-C-N	5.03	126.12	119.84
11	PB	94	HIS	C-N-CA	5.03	126.12	119.84
15	O	104	ARG	N-CA-C	5.03	117.84	110.30
14	SB	96	VAL	N-CA-C	5.01	114.81	107.15

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 (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32394	0	16367	831	0
1	FB	32394	0	16367	823	0
2	B	62031	0	31273	1294	0
2	GB	62031	0	31275	1276	1
3	C	2576	0	1305	62	0
3	HB	2576	0	1305	64	0
4	D	1642	0	841	45	0
4	IA	1642	0	841	41	0
4	IB	1642	0	841	46	0
4	NC	1642	0	841	40	0
5	E	2145	0	2234	116	0
5	JB	2145	0	2234	107	0
6	F	1563	0	1629	92	0
6	KB	1563	0	1629	89	0
7	G	1586	0	1632	114	0
7	LB	1586	0	1632	108	0
8	H	1471	0	1526	92	0
8	MB	1471	0	1526	89	1
9	I	1330	0	1407	64	0
9	NB	1330	0	1407	59	0
10	J	1137	0	1225	56	0
10	OB	1137	0	1225	56	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	K	1121	0	1195	57	0
11	PB	1121	0	1195	56	0
12	L	932	0	994	77	0
12	QB	932	0	994	74	0
13	M	1145	0	1228	58	0
13	RB	1145	0	1228	48	0
14	N	1121	0	1179	65	0
14	SB	1121	0	1179	62	0
15	O	968	0	1033	36	0
15	TB	968	0	1033	41	0
16	P	877	0	938	49	0
16	UB	877	0	938	48	0
17	Q	1143	0	1211	81	0
17	VB	1143	0	1211	66	0
18	R	964	0	1022	61	0
18	WB	964	0	1022	54	0
19	S	779	0	852	29	0
19	XB	779	0	852	27	0
20	T	890	0	951	42	0
20	YB	890	0	951	43	0
21	U	750	0	814	40	0
21	ZB	750	0	814	37	0
22	AC	814	0	907	41	0
22	V	814	0	907	41	0
23	BC	1495	0	1521	82	0
23	W	1495	0	1521	93	0
24	CC	662	0	688	40	0
24	X	662	0	688	37	0
25	DC	761	0	837	52	0
25	Y	761	0	837	48	0
26	EC	592	0	654	32	0
26	Z	592	0	654	32	0
27	AA	477	0	529	27	0
27	FC	477	0	529	24	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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	FA	517	0	582	34	0
32	KC	517	0	582	30	0
33	GA	307	0	337	11	0
33	LC	307	0	337	9	0
34	HA	220	0	108	9	0
34	MC	220	0	108	10	0
35	JA	850	0	816	38	0
35	KA	455	0	444	25	0
35	OC	850	0	816	39	0
35	PC	455	0	444	27	0
36	LA	1900	0	1951	101	0
36	QC	1900	0	1951	95	0
37	MA	1612	0	1677	94	0
37	RC	1612	0	1677	81	0
38	NA	1703	0	1767	98	0
38	SC	1703	0	1767	97	0
39	OA	1155	0	1213	66	0
39	TC	1155	0	1213	74	0
40	PA	843	0	857	40	0
40	UC	843	0	857	41	0
41	QA	1257	0	1296	62	0
41	VC	1257	0	1296	62	0
42	RA	1116	0	1177	64	0
42	WC	1116	0	1177	65	0
43	SA	1011	0	1043	62	0
43	XC	1011	0	1043	60	0
44	TA	794	0	840	37	0
44	YC	794	0	840	40	0
45	UA	864	0	881	42	0
45	ZC	864	0	881	48	0
46	AD	958	0	1047	54	0
46	VA	958	0	1047	55	0
47	BD	933	0	992	64	0
47	WA	933	0	992	66	0
48	CD	492	0	533	36	0
48	XA	492	0	533	38	0
49	DD	734	0	771	44	0
49	YA	734	0	771	42	0
50	ED	700	0	720	33	0
50	ZA	700	0	720	28	0
51	AB	823	0	893	42	0
51	FD	823	0	893	43	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
52	BB	574	0	644	37	0
52	GD	574	0	644	34	0
53	CB	665	0	686	42	0
53	HD	665	0	686	43	0
54	DB	762	0	859	43	0
54	ID	762	0	859	43	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
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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
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
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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
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	8614	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 (8614) 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
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
5:E:43:ARG:HG3	5:E:43:ARG:HH11	1.16	1.11
3:HB:90:C:OP2	14:SB:16:ARG:NH1	1.82	1.11
2:GB:606:U:OP2	7:LB:104:LYS:NZ	1.84	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2313:C:OP2	8:H:74:LYS:NZ	1.85	1.09
45:UA:120:ARG:HH12	45:UA:126:ARG:NH1	1.52	1.07
26:EC:56:GLN:HA	26:EC:59:ARG:HH12	1.19	1.07
25:DC:47:GLN:HA	25:DC:47:GLN:HE21	1.17	1.06
34:HA:22:A:OP2	35:JA:195:ARG:NH1	1.89	1.06
7:G:72:ARG:HG3	7:G:72:ARG:HH11	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:HB2	9:I:3:ARG:HH11	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
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:XC:36:TYR:HE1	43:XC:70:LYS:HZ1	1.15	0.94
1:FB:504:C:H41	46:AD:115:LYS:HZ1	1.15	0.94
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
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
23:W:8:TYR:HE2	23:W:23:LYS:HZ3	1.02	0.92
29:HC:16:ARG:NH1	29:HC:17:ASP:OD1	2.02	0.92
2:B:2285:C:OP2	30:DA:6:ARG:NH1	2.03	0.92
16:P:13:ARG:HG2	16:P:13:ARG:HH11	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:HH11	16:UB:13:ARG:HG2	1.36	0.91
7:LB:165:ARG:HH11	7:LB:165:ARG:HG3	1.33	0.90
2:B:1952:A:OP1	12:L:44:LYS:NZ	2.02	0.90
28:GC:58:ARG:HH21	47:BD:80:ARG:HH12	1.15	0.90
1:FB:1240:U:H4'	1:FB:1241:G:OP2	1.69	0.90
18:R:11:ARG:HH11	18:R:11:ARG:HG3	1.37	0.90
2:GB:154:G:H3'	2:GB:154(A):C:H4'	1.53	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:HB2	9:I:3:ARG:NH1	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
1:FB:1304:G:N2	1:FB:1332:A:OP2	2.06	0.87
25:DC:3:LYS:HD3	25:DC:61:ARG:HH12	1.37	0.87
40:UC:94:GLN:HG3	52:GD:32:ARG:HH11	1.38	0.87
40:PA:94:GLN:HG3	52:BB:32:ARG:HH11	1.39	0.87
2:GB:2285:C:OP2	30:IC:6:ARG:NH1	2.06	0.87
12:L:66:LYS:HB2	12:L:82:ASN:HD21	1.38	0.86
1:FB:1240:U:O2'	41:VC:32:ARG:NH1	2.08	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
2:GB:2728:U:H5'	12:QB:70:LYS:HZ1	1.41	0.86
15:TB:103:ARG:NH1	15:TB:108:GLY:O	2.08	0.86
4:NC:33:U:OP2	43:XC:128:ARG:NH2	2.07	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RC:35:GLU:OE1	37:RC:97:LYS:NZ	2.07	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
1:A:177:C:OP1	54:DB:65:LYS:NZ	2.09	0.85
2:B:1264:G:OP1	29:CA:19:ARG:NH2	2.08	0.85
1:FB:177:C:OP1	54:ID:65:LYS:NZ	2.08	0.85
2:GB:430:G:H5"	2:GB:431:U:OP2	1.75	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
10:J:104:GLN:C	10:J:105:HIS:HD1	1.84	0.84
1:FB:993:G:H2'	1:FB:995:C:H41	1.41	0.84
1:FB:1256:A:OP1	37:RC:26:LYS:NZ	2.09	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
36:QC:74:LYS:HB3	36:QC:74:LYS:HZ2	1.43	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
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
45:ZC:108:ILE:HD12	52:GD:87:ARG:HH11	1.42	0.84
2:GB:1169:G:H1	2:GB:1180:C:H42	1.25	0.84
1:FB:1086:U:H3	1:FB:1099:G:H22	1.25	0.83
9:NB:3:ARG:HB2	9:NB:3:ARG:NH1	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
52:BB:56:THR:HB	52:BB:58:LEU:HD23	1.60	0.83
12:L:71:ARG:HH12	12:L:104:ARG:HB3	1.41	0.83
52:GD:56:THR:HB	52:GD:58:LEU:HD23	1.59	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
43:XC:112:LYS:NZ	43:XC:113:LYS:O	2.10	0.83
2:B:2728:U:H5'	12:L:70:LYS:HZ1	1.42	0.83
54:ID:57:ARG:NH1	54:ID:102:GLY:HA3	1.92	0.83
11:PB:43:THR:HG23	18:WB:64:ARG:HH11	1.44	0.83
26:EC:56:GLN:HA	26:EC:59:ARG:NH1	1.92	0.83
1:A:345:C:H3'	17:Q:41:ARG:HH12	1.41	0.82
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: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
44:TA:50:ILE:HA	44:TA:60:ARG:HB3	1.61	0.82
6:KB:47:VAL:HG11	6:KB:86:PRO:HD2	1.62	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:689:C:HO2'	1:FB:705:U:HO2'	1.24	0.82
1:FB:971:G:N2	1:FB:1363:A:OP2	2.12	0.82
43:SA:112:LYS:NZ	43:SA:113:LYS:O	2.12	0.81
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
2:B:2260:C:O2	2:B:2280:G:N2	2.10	0.81
5:E:217:ARG:HG2	5:E:217:ARG:HH11	1.43	0.81
11:K:43:THR:HG23	18:R:64:ARG:HH11	1.43	0.81
14:N:85:LYS:HG2	24:X:7:LEU:HB3	1.61	0.81
17:VB:64:ARG:HH11	17:VB:64:ARG:HG3	1.43	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
41:QA:79:ARG:HD2	41:QA:80:VAL:H	1.45	0.81
3:HB:31:C:O2	3:HB:53:A:N6	2.14	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
38:NA:175:SER:HB3	38:NA:184:LYS:HB3	1.62	0.80
2:GB:308:G:O2'	22:AC:19:LYS:NZ	2.15	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
36:LA:84:GLU:HB3	36:LA:219:VAL:HG11	1.63	0.80
1:FB:1309:G:H22	1:FB:1329:A:H1'	1.47	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
9:I:11:VAL:HG21	9:I:50:VAL:HG23	1.62	0.79
28:BA:33:VAL:O	47:WA:57:ARG:NH1	2.15	0.79
45:UA:108:ILE:HD12	52:BB:87:ARG:HH11	1.45	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
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
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
17:Q:64:ARG:HH11	17:Q:64:ARG:HG3	1.45	0.79
2:GB:1798:U:H5'	5:JB:259:THR:HG22	1.64	0.79
11:K:70:LYS:NZ	11:K:72:TYR:HE1	1.81	0.79
25:DC:47:GLN:HA	25:DC:47:GLN:NE2	1.93	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:C:15:A:H3'	3:C:16:G:H8	1.47	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
4:IA:9:G:O2'	4:IA:10:G:N7	2.16	0.78
16:P:42:ASP:OD2	16:P:42:ASP:N	2.16	0.78
2:GB:1022:G:H22	2:GB:1142(B):A:H2	1.26	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
25:Y:47:GLN:HA	25:Y:47:GLN:NE2	1.96	0.78
1:FB:512:U:OP1	38:SC:46:LYS:NZ	2.16	0.78
9:NB:126:PRO:HG2	9:NB:130:ARG:HH12	1.49	0.78
39:TC:50:GLU:OE2	39:TC:51:VAL:N	2.15	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
16:UB:42:ASP:OD2	16:UB:42:ASP:N	2.16	0.78
4:NC:9:G:O2'	4:NC:10:G:N7	2.16	0.78
17:Q:64:ARG:HH12	17:Q:103:ARG:HG2	1.47	0.78
17:Q:108:ARG:HG2	17:Q:112:ARG:HH12	1.49	0.78
23:W:72:ARG:HA	23:W:72:ARG:HH11	1.47	0.78
1:FB:509:A:H5'	38:SC:55:ALA:HB2	1.66	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
14:SB:82:ARG:HE	24:CC:4:LYS:HG3	1.50	0.77
7:G:182:ASN:ND2	7:G:185:ASP:OD2	2.16	0.77
2:GB:296:C:O3'	22:AC:95:LYS:NZ	2.17	0.77
10:J:104:GLN:HG2	10:J:105:HIS:CE1	2.18	0.77
1:FB:1264:C:H2'	1:FB:1265:G:H8	1.49	0.77
14:SB:85:LYS:HG2	24:CC:7:LEU:HB3	1.67	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:C:28:C:OP1	16:P:36:TYR:OH	2.02	0.77
47:WA:14:ARG:HG2	47:WA:44:ARG:HH11	1.49	0.77
51:AB:66:SER:O	51:AB:70:ARG:NH1	2.17	0.77
36:QC:68:ILE:HG12	36:QC:161:ALA:HB3	1.66	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
17:VB:108:ARG:HG2	17:VB:112:ARG:HH12	1.48	0.76
34:MC:13:A:H2'	34:MC:14:A:H4'	1.66	0.76
1:A:345:C:H3'	17:Q:41:ARG:NH1	1.99	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
34:HA:13:A:H2'	34:HA:14:A:H4'	1.65	0.76
1:FB:316:G:OP2	1:FB:351:G:O2'	2.02	0.76
36:QC:178:ARG:NH1	36:QC:196:LEU:O	2.17	0.76
38:SC:141:ARG:NH1	38:SC:141:ARG:HB2	2.00	0.76
2:GB:519:U:H2'	2:GB:520:G:H8	1.49	0.76
7:LB:72:ARG:HG3	7:LB:72:ARG:NH1	1.97	0.76
8:MB:143:GLU:HG3	28:GC:28:LYS:HB2	1.68	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
2:B:519:U:H2'	2:B:520:G:H8	1.48	0.76
5:E:230:ASP:OD1	5:E:230:ASP:N	2.12	0.76
1:FB:1047:G:H1	1:FB:1210:C:H42	1.32	0.76
16:UB:85:VAL:HB	16:UB:112:PHE:HB3	1.68	0.76
38:SC:175:SER:HB3	38:SC:184:LYS:HB3	1.66	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:507:A:O2'	2:B:508:G:OP2	2.03	0.76
2:B:2846:G:OP2	17:Q:54:ARG:HG3	1.86	0.76
14:N:82:ARG:HE	24:X:4:LYS:HG3	1.49	0.76
1:FB:984:C:H42	1:FB:1221:G:H1	1.31	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:467:G:H2'	1:FB:468:A:H8	1.50	0.75
1:FB:1022:G:H2'	1:FB:1023:G:H4'	1.67	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
2:GB:960:A:H61	14:SB:83:MET:HE3	1.52	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:HH11	18:WB:58:ARG:HG3	1.49	0.75
23:BC:98:MET:HE1	23:BC:133:ILE:HG23	1.68	0.75
9:I:164:TYR:HB2	9:I:167:GLU:HB2	1.67	0.75
2:B:1992:G:O2'	2:B:1993:U:OP2	2.04	0.74
27:AA:35:ARG:HB3	27:AA:35:ARG:HH11	1.52	0.74
10:OB:74:ASN:O	10:OB:141:LYS:NZ	2.19	0.74
24:CC:37:LEU:HD21	24:CC:61:ALA:HB2	1.68	0.74
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
27:FC:35:ARG:HB3	27:FC:35:ARG:NH1	2.03	0.74
1:A:658:G:OP1	49:YA:8:LYS:NZ	2.20	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
2:GB:55:G:H2'	2:GB:56:A:H8	1.52	0.74
2:GB:1936:A:OP2	2:GB:1962:5MC:N4	2.19	0.74
43:XC:6:GLY:H	43:XC:84:ALA:HB2	1.53	0.74
1:A:1166:G:H2'	1:A:1169:A:OP2	1.87	0.74
2:B:2304:G:H4'	8:H:133:LEU:HA	1.69	0.74
49:YA:63:ARG:NH1	49:YA:87:ILE:HD13	2.02	0.74
1:FB:979:C:H42	48:CD:18:VAL:HB	1.52	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1058:G:H1	1:FB:1199:U:H3	1.35	0.74
3:HB:11:C:H3'	3:HB:12:C:H6	1.52	0.74
47:BD:91:ARG:HB3	47:BD:91:ARG:HH11	1.53	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
2:B:296:C:O3'	22:V:95:LYS:NZ	2.19	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
6:KB:171:GLU:HB3	6:KB:185:LYS:HB3	1.68	0.74
28:GC:58:ARG:HH21	47:BD:80:ARG:NH1	1.84	0.74
28:GC:59:PHE:HE2	53:HD:64:GLU:HG3	1.51	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
9:I:87:LEU:HB2	9:I:131:VAL:HG23	1.68	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
39:OA:78:HIS:HD1	42:RA:104:ARG:HD2	1.53	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
22:AC:102:CYS:SG	22:AC:103:GLY:N	2.60	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
36:LA:68:ILE:HG12	36:LA:161:ALA:HB3	1.68	0.74
1:FB:949:A:H1'	1:FB:1364:U:H3	1.52	0.74
3:C:21:G:H1	3:C:62:C:H42	1.36	0.73
11:K:91:LEU:HA	11:K:95:PRO:HA	1.70	0.73
35:JA:139:ALA:HA	35:JA:144:TRP:HB2	1.70	0.73
42:RA:81:HIS:HB2	42:RA:138:TRP:HD1	1.53	0.73
2:GB:190:A:OP2	25:DC:39:LYS:NZ	2.21	0.73
23:BC:72:ARG:HH11	23:BC:72:ARG:HA	1.52	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
23:W:117:LEU:HA	23:W:174:VAL:HA	1.69	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
1:A:1323:G:N2	1:A:1361:G:O2'	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1375:A:OP1	41:QA:28:ASN:ND2	2.21	0.73
36:LA:74:LYS:NZ	36:LA:74:LYS:HB3	2.03	0.73
43:SA:97:LYS:NZ	43:SA:102:LEU:O	2.20	0.73
47:WA:91:ARG:HB3	47:WA:91:ARG:HH11	1.53	0.73
9:NB:126:PRO:HB2	9:NB:130:ARG:HH22	1.53	0.73
10:OB:104:GLN:C	10:OB:105:HIS:ND1	2.46	0.73
27:FC:51:ALA:HA	27:FC:54:VAL:HG12	1.70	0.73
2:B:2305:A:H5"	8:H:134:GLY:HA3	1.71	0.73
6:F:183:LEU:HD21	17:Q:10:VAL:HG11	1.69	0.73
10:J:133:HIS:CE1	10:J:135:GLU:HB3	2.23	0.73
43:SA:17:VAL:HG11	43:SA:81:ILE:HG12	1.69	0.73
52:BB:66:LEU:O	52:BB:69:THR:OG1	2.06	0.73
36:QC:209:ARG:NH1	36:QC:237:ALA:O	2.20	0.73
52:GD:79:LEU:HD13	52:GD:80:PRO:HD2	1.68	0.73
1:FB:1323:G:N2	1:FB:1361:G:O2'	2.21	0.73
2:GB:321:G:P	7:LB:135:LYS:HZ3	2.12	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
51:FD:66:SER:O	51:FD:70:ARG:NH1	2.21	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:466:A:O3'	31:EA:33:ARG:NH2	2.21	0.73
2:B:2405:G:O2'	2:B:2406:U:OP2	2.05	0.73
39:OA:50:GLU:OE2	39:OA:51:VAL:N	2.20	0.73
1:FB:677:U:H3	1:FB:713:G:H22	1.37	0.73
1:FB:1129:C:O2'	1:FB:1139:G:N7	2.19	0.73
2:GB:1226:A:OP1	18:WB:16:LYS:NZ	2.22	0.73
2:B:1059:G:N2	2:B:1080:C:O2	2.22	0.73
24:X:27:GLU:HG3	24:X:68:GLU:HA	1.70	0.73
41:QA:9:VAL:HG23	41:QA:94:ARG:HH21	1.54	0.73
13:RB:49:ARG:HH12	32:KC:4:MET:HE3	1.54	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
1:FB:718:G:H5'	45:ZC:117:ASN:HB2	1.71	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
36:QC:74:LYS:HB3	36:QC:74:LYS:NZ	2.03	0.73
47:BD:14:ARG:HG2	47:BD:44:ARG:HH11	1.53	0.73
14:N:60:ARG:HH12	23:W:177:PRO:HG2	1.54	0.72
36:LA:209:ARG:NH1	36:LA:237:ALA:O	2.21	0.72
2:GB:2055:C:OP1	29:HC:8:LYS:NZ	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
43:XC:17:VAL:HG11	43:XC:81:ILE:HG12	1.71	0.72
18:R:11:ARG:HH11	18:R:11:ARG:CG	2.01	0.72
25:Y:4:VAL:HG12	25:Y:11:ARG:HB3	1.69	0.72
2:GB:2736:G:N2	2:GB:2768:C:O2	2.19	0.72
42:WC:81:HIS:HB2	42:WC:138:TRP:HD1	1.54	0.72
1:A:1058:G:H1	1:A:1199:U:H3	1.36	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
22:AC:15:VAL:HG21	22:AC:42:VAL:HG11	1.71	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
23:BC:8:TYR:HE2	23:BC:23:LYS:HZ3	1.36	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
12:L:19:ILE:HG22	12:L:43:VAL:HA	1.71	0.72
42:RA:96:GLY:N	42:RA:99:GLU:OE2	2.22	0.72
2:GB:885:C:H3'	2:GB:886:C:H4'	1.69	0.72
2:GB:2093:G:H1	2:GB:2196:C:H42	1.37	0.72
35:PC:328:ARG:NH1	35:PC:331:GLU:HB2	2.04	0.72
2:B:2502:G:H5'	2:B:2503:2MA:H5"	1.70	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
1:FB:1373:G:H5"	41:VC:36:LYS:NZ	2.04	0.72
1:A:1327:C:OP1	55:EB:20:LYS:HB3	1.89	0.72
2:B:184:C:H2'	2:B:185:U:C6	2.25	0.72
31:EA:47:ARG:HB3	31:EA:47:ARG:HH11	1.55	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
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
28:BA:58:ARG:NH1	53:CB:68:GLY:HA3	2.04	0.72
29:CA:56:LYS:NZ	29:CA:59:GLU:HA	2.04	0.72
35:JA:105:PRO:O	35:JA:109:ARG:NH1	2.22	0.72
1:FB:35:G:H1	1:FB:549:C:H42	1.37	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
22:V:102:CYS:SG	22:V:103:GLY:N	2.62	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:GB:2130:U:H5'	2:GB:2131:G:OP2	1.90	0.72
10:OB:133:HIS:CE1	10:OB:135:GLU:HB3	2.24	0.72
48:CD:27:CYS:SG	48:CD:28:GLY:N	2.63	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
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
43:SA:6:GLY:H	43:SA:84:ALA:HB2	1.54	0.72
2:GB:1045:A:H5"	2:GB:1046:A:H5'	1.71	0.72
36:QC:155:LEU:HD21	36:QC:159:PRO:HD3	1.70	0.72
12:L:71:ARG:HH21	12:L:77:ILE:HG21	1.55	0.71
2:GB:978:G:H5"	2:GB:979:G:OP2	1.90	0.71
2:GB:1914:C:H5"	35:OC:116:ARG:NH1	2.05	0.71
18:WB:11:ARG:HH11	18:WB:11:ARG:CG	2.01	0.71
39:TC:78:HIS:HD1	42:WC:104:ARG:HD2	1.55	0.71
1:A:1381:U:H1'	41:QA:79:ARG:HE	1.53	0.71
2:B:955:C:OP2	14:N:14:ARG:HG3	1.90	0.71
19:S:69:LYS:HB2	19:S:88:ARG:HD2	1.70	0.71
28:BA:59:PHE:HA	28:BA:61:ARG:HH11	1.55	0.71
39:OA:121:LYS:NZ	39:OA:122:GLU:H	1.87	0.71
20:YB:13:SER:HB3	20:YB:16:LYS:HD2	1.72	0.71
20:YB:23:LEU:HD11	29:HC:25:LEU:HD22	1.72	0.71
43:XC:67:GLY:O	43:XC:73:GLN:NE2	2.23	0.71
49:DD:63:ARG:NH1	49:DD:87:ILE:HD13	2.05	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
35:KA:328:ARG:NH1	35:KA:331:GLU:HB2	2.05	0.71
2:GB:1316:U:H2'	2:GB:1317:A:C8	2.25	0.71
2:GB:2299:G:H1	2:GB:2317:C:H42	1.37	0.71
9:NB:58:GLU:OE2	9:NB:61:HIS:HB2	1.91	0.71
50:ED:8:ARG:HH12	50:ED:15:PRO:HG3	1.55	0.71
52:GD:53:ARG:NH1	52:GD:58:LEU:O	2.21	0.71
1:A:504:C:H41	46:VA:115:LYS:NZ	1.87	0.71
43:SA:79:LEU:HD11	43:SA:104:ARG:HA	1.72	0.71
45:UA:120:ARG:HG2	45:UA:120:ARG:HH11	1.56	0.71
2:GB:506:G:H4'	2:GB:507:A:H5'	1.71	0.71
2:GB:1052:C:N4	2:GB:1107:G:O6	2.23	0.71
53:HD:40:ILE:HD11	53:HD:69:HIS:HB2	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:GB:2846:G:OP2	17:VB:54:ARG:HG3	1.90	0.71
27:FC:35:ARG:HB3	27:FC:35:ARG:HH11	1.56	0.71
1:A:976:G:N2	1:A:1362(B):C:OP2	2.19	0.71
43:SA:93:ARG:HH12	43:SA:97:LYS:HD3	1.56	0.71
1:FB:1137:C:OP2	1:FB:1138:G:N2	2.23	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
37:RC:77:ILE:HA	37:RC:84:ILE:HB	1.71	0.71
43:XC:79:LEU:HD11	43:XC:104:ARG:HA	1.71	0.71
2:B:184:C:H2'	2:B:185:U:H6	1.56	0.71
2:B:1226:A:OP1	18:R:16:LYS:NZ	2.24	0.71
2:GB:2849:U:O4	17:VB:23:ARG:NH2	2.22	0.71
7:LB:188:ARG:HA	13:RB:3:LEU:HD11	1.72	0.71
10:OB:104:GLN:HG2	10:OB:105:HIS:HE1	1.56	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
9:NB:45:VAL:HG13	9:NB:50:VAL:HG22	1.73	0.71
51:FD:8:GLY:HA3	51:FD:22:LEU:O	1.91	0.71
2:B:451:C:H4'	7:G:52:LYS:NZ	2.06	0.70
1:FB:661:G:H1	1:FB:744:C:H42	1.39	0.70
1:FB:1003:G:H2'	1:FB:1004:A:H4'	1.71	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
2:B:2728:U:H5'	12:L:70:LYS:NZ	2.06	0.70
1:FB:533:A:O2'	1:FB:535:A:OP2	2.08	0.70
31:JC:47:ARG:HB3	31:JC:47:ARG:HH11	1.56	0.70
5:E:148:GLU:HB2	5:E:151:LYS:HD2	1.74	0.70
6:F:44:TYR:OH	6:F:80:GLU:OE2	2.04	0.70
6:F:56:PRO:HG2	6:F:57:LYS:NZ	2.05	0.70
29:CA:56:LYS:HZ1	29:CA:59:GLU:HA	1.55	0.70
49:YA:87:ILE:HG22	49:YA:88:ARG:H	1.55	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
26:EC:41:ILE:O	26:EC:43:GLN:N	2.23	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:MB:7:LEU:HD23	8:MB:104:GLU:HG3	1.72	0.70
49:DD:87:ILE:HG22	49:DD:88:ARG:H	1.56	0.70
1:A:661:G:H1	1:A:744:C:H42	1.39	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
2:B:455:C:N3	2:B:472:A:H2'	2.07	0.70
2:B:1062:G:OP1	2:B:1070:A:O2'	2.10	0.70
22:V:15:VAL:HG21	22:V:42:VAL:HG11	1.73	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
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
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
55:JD:18:TYR:HB2	55:JD:22:ARG:HB3	1.73	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
22:V:86:ARG:NH1	22:V:100:ALA:O	2.18	0.70
2:GB:817:C:O2'	2:GB:839:U:OP1	2.08	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:HG2	45:ZC:120:ARG:HH11	1.56	0.70
35:OC:105:PRO:O	35:OC:109:ARG:NH1	2.24	0.70
1:A:35:G:H1	1:A:549:C:H42	1.40	0.70
1:A:1132:C:H2'	1:A:1133:G:H8	1.56	0.70
2:B:1485:G:N2	2:B:1504:C:O2	2.19	0.70
37:MA:20:SER:OG	37:MA:40:ARG:NH2	2.24	0.70
1:FB:200:G:N2	1:FB:201:C:O2'	2.25	0.70
10:OB:4:ILE:HD12	10:OB:47:LEU:HD13	1.74	0.70
29:HC:56:LYS:HZ1	29:HC:59:GLU:HA	1.57	0.70
35:OC:139:ALA:HA	35:OC:144:TRP:HB2	1.73	0.70
1:A:1422:G:H5"	12:L:48:PRO:HB3	1.73	0.69
2:B:330:A:HO2'	2:B:331:A:H8	1.37	0.69
2:B:1814:G:OP1	5:E:40:THR:HG21	1.91	0.69
2:B:2028:U:H2'	2:B:2029:G:C8	2.27	0.69
7:G:188:ARG:HA	13:M:3:LEU:HD11	1.72	0.69
11:K:83:LYS:NZ	11:K:83:LYS:HB2	2.07	0.69
28:BA:2:LYS:HB2	28:BA:6:HIS:HE2	1.56	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:946:A:O2'	1:FB:1333:A:N3	2.23	0.69
2:GB:455:C:N3	2:GB:472:A:H2'	2.07	0.69
27:FC:39:ASP:O	27:FC:44:ARG:NH2	2.23	0.69
2:B:547:A:H2'	2:B:548:A:C8	2.28	0.69
11:K:43:THR:HG23	18:R:64:ARG:NH1	2.06	0.69
21:U:26:TYR:HE2	21:U:89:ILE:H	1.38	0.69
38:NA:177:ASP:HB3	38:NA:182:LYS:HG3	1.72	0.69
43:SA:67:GLY:O	43:SA:73:GLN:NE2	2.26	0.69
2:GB:1485:G:N2	2:GB:1504:C:O2	2.20	0.69
37:RC:20:SER:OG	37:RC:40:ARG:NH2	2.24	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
13:M:49:ARG:HH12	32:FA:4:MET:HE3	1.56	0.69
42:RA:69:ARG:NH1	42:RA:73:ASP:O	2.26	0.69
2:GB:16:G:H2'	2:GB:17:G:H8	1.57	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:HH11	5:E:274:ARG:CG	2.05	0.69
9:I:126:PRO:HB2	9:I:130:ARG:HH22	1.56	0.69
35:KA:315:GLY:HA2	35:KA:329:LEU:HD22	1.73	0.69
45:UA:120:ARG:NH1	45:UA:126:ARG:NH1	2.35	0.69
2:GB:955:C:OP2	14:SB:14:ARG:HG3	1.92	0.69
4:IB:74:C:H4'	25:DC:23:LYS:HB2	1.75	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:B:2771:C:H5"	6:F:202:LYS:HZ3	1.57	0.69
9:I:58:GLU:OE2	9:I:61:HIS:HB2	1.93	0.69
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
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
8:H:7:LEU:HD23	8:H:104:GLU:HG3	1.75	0.69
53:CB:31:ILE:H	53:CB:49:ILE:HG13	1.58	0.69
2:GB:503:A:H4'	2:GB:504:U:H5"	1.75	0.69
2:GB:1153:C:OP1	18:WB:92:ARG:NH2	2.25	0.69
22:AC:83:THR:OG1	22:AC:84:ARG:N	2.23	0.69
2:B:55:G:H2'	2:B:56:A:C8	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:205:G:H1	25:Y:39:LYS:HZ1	1.39	0.69
2:B:960:A:H61	14:N:83:MET:HE3	1.56	0.69
2:B:1054:A:H3'	2:B:1055:G:H8	1.58	0.69
3:C:57:A:OP2	3:C:58:A:OP2	2.11	0.69
16:P:30:ARG:NH1	16:P:97:ARG:NH1	2.41	0.69
1:FB:976:G:N2	1:FB:1362(B):C:OP2	2.20	0.69
2:GB:907:U:H4'	14:SB:101:ARG:HH22	1.57	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
4:IB:28:C:H42	4:IB:42:G:H1	1.41	0.69
6:KB:37:ARG:HA	6:KB:42:ASP:OD2	1.92	0.69
36:LA:74:LYS:HB3	36:LA:74:LYS:HZ2	1.56	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
12:QB:13:ASN:ND2	12:QB:97:ARG:HG3	2.07	0.69
24:CC:27:GLU:HG3	24:CC:68:GLU:HA	1.74	0.69
47:BD:4:ILE:HD13	47:BD:57:ARG:HG2	1.75	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
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
2:B:1500:G:O3'	5:E:102:LYS:NZ	2.26	0.68
27:AA:39:ASP:O	27:AA:44:ARG:NH2	2.27	0.68
17:VB:102:ILE:HA	17:VB:105:LEU:HD23	1.75	0.68
38:SC:177:ASP:HB3	38:SC:182:LYS:HG3	1.74	0.68
1:A:430:A:OP2	38:NA:8:VAL:HG12	1.93	0.68
2:B:2055:C:OP1	29:CA:8:LYS:NZ	2.25	0.68
27:AA:44:ARG:HB2	27:AA:44:ARG:HH11	1.58	0.68
2:GB:1754:C:N3	2:GB:2716:U:O2'	2.25	0.68
2:GB:2557:G:H2'	2:GB:2558:C:H6	1.59	0.68
10:OB:104:GLN:O	10:OB:105:HIS:ND1	2.25	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
35:PC:315:GLY:HA2	35:PC:329:LEU:HD22	1.75	0.68
6:F:37:ARG:HH11	6:F:42:ASP:HB3	1.57	0.68
24:X:68:GLU:HG3	24:X:82:ARG:HH22	1.57	0.68
37:MA:12:LEU:HD11	48:XA:51:GLY:HA2	1.76	0.68
1:FB:442:C:H42	1:FB:492:G:H1	1.42	0.68
1:FB:1492:A:H5'	46:AD:47:LYS:HD2	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
11:PB:91:LEU:HA	11:PB:95:PRO:HA	1.74	0.68
37:RC:12:LEU:HD11	48:CD:51:GLY:HA2	1.75	0.68
39:TC:20:GLN:HG3	39:TC:22:GLY:H	1.58	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
2:B:2849:U:O4	17:Q:23:ARG:NH2	2.26	0.68
36:LA:115:LEU:HB2	36:LA:145:LEU:HD22	1.75	0.68
55:EB:18:TYR:HB2	55:EB:22:ARG:HB3	1.75	0.68
8:MB:11:TYR:OH	8:MB:32:PRO:O	2.11	0.68
26:EC:42:GLY:O	26:EC:44:LEU:N	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
3:C:28:C:OP2	16:P:33:LYS:HG3	1.94	0.68
21:U:68:ARG:NH1	21:U:69:TYR:OH	2.26	0.68
29:CA:41:PRO:O	29:CA:44:THR:OG1	2.12	0.68
36:LA:178:ARG:NH1	36:LA:184:VAL:HG21	2.09	0.68
2:GB:1471:A:OP2	2:GB:1521:G:N2	2.27	0.68
14:SB:108:GLY:HA3	23:BC:116:VAL:HG11	1.75	0.68
47:BD:15:VAL:HG11	47:BD:48:LEU:HD13	1.76	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
35:JA:200:ALA:HB1	35:KA:306:ARG:HH11	1.59	0.68
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
12:QB:19:ILE:HG22	12:QB:43:VAL:HA	1.74	0.68
35:OC:123:GLU:HA	35:OC:126:LEU:HB2	1.76	0.68
25:Y:3:LYS:HD3	25:Y:61:ARG:NH1	2.05	0.68
36:LA:18:GLY:HA2	36:LA:42:ILE:H	1.58	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:OC:183:ARG:NH1	35:PC:306:ARG:HG3	2.09	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
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
36:LA:23:ARG:HB2	36:LA:23:ARG:NH1	2.08	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
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
2:B:1019:U:H3	2:B:1142(B):A:H62	1.42	0.68
10:J:104:GLN:C	10:J:105:HIS:ND1	2.50	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
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
2:B:2563:U:H4'	12:L:28:SER:HA	1.76	0.67
14:N:76:LYS:HB3	14:N:91:GLU:HG3	1.75	0.67
37:MA:92:ALA:HA	37:MA:95:THR:HB	1.76	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
25:DC:23:LYS:HB3	25:DC:29:GLY:HA3	1.75	0.67
36:QC:97:TRP:CH2	36:QC:176:GLU:HG3	2.30	0.67
2:B:16:G:H2'	2:B:17:G:H8	1.58	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:1316:U:H2'	2:B:1317:A:C8	2.29	0.67
10:J:3:VAL:HG12	10:J:38:LEU:HA	1.76	0.67
13:M:63:PRO:HG2	32:FA:25:MET:HB2	1.77	0.67
53:CB:40:ILE:HD11	53:CB:69:HIS:HB2	1.76	0.67
2:GB:572:A:H5"	2:GB:573:G:OP2	1.94	0.67
2:GB:2676:C:O2	2:GB:2732:G:N2	2.27	0.67
2:GB:2771:C:H5"	6:KB:202:LYS:HZ3	1.58	0.67
37:RC:92:ALA:HA	37:RC:95:THR:HB	1.76	0.67
2:B:557:U:H2'	2:B:558:G:H8	1.60	0.67
2:B:2093:G:H1	2:B:2196:C:H42	1.41	0.67
37:MA:40:ARG:HE	37:MA:55:VAL:HB	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:NA:109:GLY:HA3	38:NA:165:MET:HG3	1.76	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
12:QB:71:ARG:HH21	12:QB:77:ILE:HG21	1.59	0.67
2:B:530:G:N1	2:B:2022:U:OP1	2.27	0.67
2:B:1028:A:N3	2:B:2486:G:O2'	2.24	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
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
1:FB:126:G:OP1	1:FB:605:U:O2'	2.13	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
1:FB:767:A:O2'	1:FB:1524:C:O2	2.11	0.67
1:FB:1376:U:H2'	1:FB:1377:A:C8	2.30	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
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
10:J:62:LYS:HE2	10:J:135:GLU:OE2	1.94	0.67
37:MA:188:LEU:H	37:MA:188:LEU:HD13	1.60	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
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
54:ID:63:ILE:HG21	54:ID:81:LYS:HG3	1.76	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
2:B:2792:G:H2'	2:B:2793:G:H8	1.59	0.67
12:L:13:ASN:ND2	12:L:97:ARG:HG3	2.10	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
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
13:M:57:THR:HG23	13:M:60:MET:HB2	1.76	0.67
2:GB:2514:U:H3	2:GB:2570:G:H1	1.42	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:BC:97:GLU:HG2	23:BC:127:LYS:HG3	1.76	0.67
1:A:523:A:N6	46:VA:53:ARG:HH11	1.93	0.67
1:A:1496:C:O3'	2:B:1920:4OC:HM21	1.94	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
27:AA:44:ARG:HB2	27:AA:44:ARG:NH1	2.09	0.67
1:FB:1279:A:OP2	44:YC:9:ARG:NH2	2.27	0.67
2:GB:2091:U:H1'	25:DC:47:GLN:OE1	1.95	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
2:B:958:U:OP2	14:N:14:ARG:NH2	2.28	0.66
33:GA:9:ARG:HD3	33:GA:14:CYS:HB2	1.77	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
46:VA:89:ARG:HH12	46:VA:95:GLY:H	1.43	0.66
1:FB:1391:U:H2'	1:FB:1392:G:C8	2.29	0.66
2:GB:453:C:O2	2:GB:457:A:O2'	2.12	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
2:B:205:G:H1	25:Y:39:LYS:NZ	1.93	0.66
2:B:453:C:O2	2:B:457:A:O2'	2.13	0.66
2:B:907:U:H4'	14:N:101:ARG:HH22	1.59	0.66
2:B:2210:G:H3'	2:B:2211:G:N7	2.10	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
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
36:QC:23:ARG:NH1	36:QC:23:ARG:HB2	2.10	0.66
36:QC:101:MET:HA	36:QC:108:ILE:HG13	1.76	0.66
39:TC:121:LYS:HZ2	39:TC:122:GLU:H	1.44	0.66
44:YC:22:LYS:HZ1	44:YC:85:LEU:HD23	1.59	0.66
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
40:PA:80:ARG:HE	40:PA:88:VAL:HB	1.60	0.66
35:OC:200:ALA:HB1	35:PC:306:ARG:HH11	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RC:40:ARG:HE	37:RC:55:VAL:HB	1.61	0.66
37:RC:188:LEU:HD13	37:RC:188:LEU:H	1.60	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
23:W:140:ASP:OD2	23:W:141:VAL:N	2.29	0.66
39:OA:20:GLN:HG3	39:OA:22:GLY:H	1.60	0.66
1:FB:1147:C:O2'	43:XC:5:TYR:OH	2.12	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
16:UB:13:ARG:HH11	16:UB:13:ARG:CG	2.06	0.66
2:B:467:G:P	31:EA:33:ARG:HH21	2.19	0.66
29:CA:16:ARG:HG2	29:CA:16:ARG:HH11	1.59	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
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:A:1279:A:OP2	44:TA:9:ARG:NH2	2.28	0.66
10:J:74:ASN:O	10:J:141:LYS:NZ	2.28	0.66
17:Q:64:ARG:HG3	17:Q:64:ARG:NH1	2.10	0.66
26:Z:42:GLY:O	26:Z:44:LEU:N	2.28	0.66
38:NA:26:CYS:HA	38:NA:31:CYS:HB2	1.77	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
11:PB:7:LYS:HA	11:PB:7:LYS:NZ	2.11	0.66
40:UC:80:ARG:HE	40:UC:88:VAL:HB	1.60	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:O5'	2:B:298:G:H8	1.78	0.66
3:C:49:C:H2'	3:C:50:G:C8	2.31	0.66
8:H:101:ILE:O	8:H:105:LYS:NZ	2.24	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
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
2:GB:2143:C:O2	2:GB:2148:G:N2	2.28	0.66
10:OB:3:VAL:HG12	10:OB:38:LEU:HA	1.77	0.66
52:GD:58:LEU:HD12	52:GD:62:GLU:HB3	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:25:ARG:NH1	16:P:42:ASP:OD1	2.29	0.66
22:V:86:ARG:HH12	22:V:100:ALA:C	2.03	0.66
50:ZA:8:ARG:HH12	50:ZA:15:PRO:HG3	1.60	0.66
2:GB:1728:G:H8	2:GB:1732:A:H62	1.42	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
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
8:H:7:LEU:HA	8:H:10:LYS:HB3	1.78	0.65
12:L:35:VAL:HG11	12:L:103:ALA:HB3	1.77	0.65
35:JA:113:LEU:HD13	35:JA:175:LEU:HD11	1.77	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
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
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
4:IA:17:C:H5"	4:IA:17(A):U:OP2	1.96	0.65
1:FB:539:A:H2'	1:FB:540:G:C8	2.31	0.65
17:VB:91:ARG:HD2	17:VB:124:ASP:OD2	1.97	0.65
35:PC:328:ARG:HH12	35:PC:331:GLU:HB2	1.61	0.65
55:JD:10:ARG:HA	55:JD:13:ILE:HB	1.78	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
11:K:7:LYS:HA	11:K:7:LYS:NZ	2.11	0.65
23:W:98:MET:HE1	23:W:133:ILE:HG23	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
1:FB:1223:C:OP2	53:HD:78:ARG:NH2	2.28	0.65
11:PB:23:LEU:HA	11:PB:60:ILE:HD11	1.77	0.65
20:YB:2:GLU:HA	20:YB:64:MET:HE1	1.77	0.65
44:YC:33:GLN:HG2	44:YC:75:ILE:HG22	1.78	0.65
1:A:949:A:H1'	1:A:1364:U:N3	2.11	0.65
2:B:595:C:H42	2:B:662:G:H1	1.43	0.65
2:B:2821:A:OP2	2:B:2822:G:OP2	2.15	0.65
14:N:85:LYS:NZ	24:X:4:LYS:HE2	2.11	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:13:ARG:HH11	16:P:13:ARG:CG	2.06	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
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
15:O:12:ARG:O	15:O:17:ARG:NH1	2.30	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
25:DC:82:LEU:N	25:DC:83:GLU:OE1	2.29	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
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
23:W:8:TYR:HE2	23:W:23:LYS:NZ	1.88	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
13:RB:57:THR:HG23	13:RB:60:MET:HB2	1.78	0.65
4:NC:74:C:H3'	4:NC:75:C:H5'	1.78	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
17:VB:64:ARG:HG3	17:VB:64:ARG:NH1	2.07	0.65
34:MC:22:A:OP2	35:OC:195:ARG:NH1	2.29	0.65
35:OC:113:LEU:HD13	35:OC:175:LEU:HD11	1.79	0.65
40:UC:100:ASN:ND2	52:GD:26:LEU:O	2.30	0.65
1:A:345:C:OP2	17:Q:39:ARG:NH1	2.30	0.65
2:B:646:A:H2'	2:B:647:G:O4'	1.97	0.65
2:B:1506:C:H2'	2:B:1508:A:H8	1.62	0.65
2:B:2213:U:H5'	25:Y:57:GLU:OE2	1.97	0.65
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:55:G:H2'	2:GB:56:A:C8	2.30	0.65
2:GB:530:G:N1	2:GB:2022:U:OP1	2.29	0.65
21:ZB:57:LEU:HD11	21:ZB:78:LYS:HE2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
11:K:23:LEU:HA	11:K:60:ILE:HD11	1.78	0.65
35:JA:183:ARG:NH1	35:KA:306:ARG:HG3	2.12	0.65
36:LA:97:TRP:CH2	36:LA:176:GLU:HG3	2.31	0.65
1:FB:902:G:H2'	1:FB:903:G:C8	2.30	0.65
5:JB:217:ARG:HH11	5:JB:217:ARG:CG	2.09	0.65
23:BC:99:TYR:CZ	23:BC:125:LEU:HB2	2.32	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
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
2:GB:2711:A:OP2	2:GB:2712(A):A:OP2	2.14	0.64
36:QC:33:TYR:HB3	36:QC:41:ILE:HB	1.79	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
37:RC:139:GLN:NE2	37:RC:143:GLU:OE2	2.23	0.64
1:A:532:A:N6	1:A:1206:G:O2'	2.30	0.64
14:N:108:GLY:HA3	23:W:116:VAL:HG11	1.78	0.64
17:Q:102:ILE:HA	17:Q:105:LEU:HD23	1.79	0.64
39:OA:8:GLU:HG2	39:OA:34:VAL:HG12	1.77	0.64
45:UA:120:ARG:HH12	45:UA:126:ARG:HH11	1.44	0.64
51:AB:8:GLY:HA3	51:AB:22:LEU:O	1.95	0.64
51:AB:59:ILE:HG22	51:AB:73:VAL:HA	1.79	0.64
1:FB:1298:C:H5	41:VC:114:ARG:HH11	1.46	0.64
2:GB:2797:U:H3'	2:GB:2798:C:H4'	1.79	0.64
3:HB:28:C:OP2	16:UB:33:LYS:HG3	1.97	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
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
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
23:W:99:TYR:CZ	23:W:125:LEU:HB2	2.32	0.64
45:UA:26:ASN:O	45:UA:26:ASN:ND2	2.30	0.64
12:QB:71:ARG:NH1	12:QB:104:ARG:HB3	2.11	0.64
23:BC:52:SER:OG	23:BC:53:ILE:N	2.27	0.64
53:HD:48:THR:HB	53:HD:61:TYR:HA	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1129:C:H5”	43:SA:16:ARG:HH22	1.62	0.64
22:V:41:GLY:N	22:V:64:GLU:OE2	2.30	0.64
2:GB:384:U:H2’	2:GB:385:C:H6	1.62	0.64
2:GB:958:U:OP2	14:SB:14:ARG:NH2	2.31	0.64
2:GB:2557:G:H2’	2:GB:2558:C:C6	2.31	0.64
2:GB:2771:C:H5”	6:KB:202:LYS:NZ	2.12	0.64
48:CD:4:LYS:NZ	48:CD:7:ILE:HG13	2.13	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
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
38:NA:12:CYS:HG	38:NA:18:LYS:NZ	1.93	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
1:FB:630:G:H3’	1:FB:631:G:C8	2.33	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
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
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
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
16:P:74:ALA:HB1	16:P:108:GLY:HA3	1.79	0.64
38:NA:57:ARG:HH12	39:OA:107:ARG:NH1	1.94	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
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
1:A:1251:A:H4’	43:SA:12:GLU:OE2	1.98	0.64
2:B:59:U:H3	2:B:68:G:H1	1.45	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
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
41:QA:14:PRO:HB3	41:QA:19:GLY:HA2	1.80	0.64
52:BB:36:ASN:HB3	52:BB:39:VAL:HB	1.80	0.64
1:FB:17:U:H2’	1:FB:18:C:C6	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
26:EC:68:ARG:HG2	26:EC:68:ARG:HH11	1.63	0.64
1:A:297:G:H5"	1:A:298:A:OP2	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
2:B:2291:U:H2'	2:B:2292:C:C6	2.33	0.64
25:Y:18:ILE:HG12	25:Y:37:ILE:HG12	1.79	0.64
1:FB:467:G:H2'	1:FB:468:A:C8	2.32	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
2:GB:271(C):G:H4'	2:GB:271(D):U:H5'	1.78	0.64
2:GB:1432:C:H2'	2:GB:1433:U:O4'	1.96	0.64
21:ZB:26:TYR:HE2	21:ZB:89:ILE:H	1.44	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
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
1:A:946:A:O2'	1:A:1333:A:N3	2.26	0.64
2:B:1066:U:OP1	2:B:1069:A:N6	2.31	0.64
20:T:2:GLU:HA	20:T:64:MET:HE1	1.79	0.64
20:T:8:ARG:HB3	20:T:9:TYR:HD2	1.62	0.64
4:IA:39:C:H2'	4:IA:40:C:H6	1.63	0.64
2:GB:59:U:H3	2:GB:68:G:H1	1.45	0.64
8:MB:64:THR:HB	8:MB:94:LEU:HD21	1.78	0.64
25:DC:81:ARG:HH11	25:DC:81:ARG:HB2	1.63	0.64
35:OC:200:ALA:HB1	35:PC:306:ARG:NH1	2.12	0.64
43:XC:5:TYR:HB2	43:XC:18:PHE:HA	1.80	0.64
52:GD:36:ASN:HB3	52:GD:39:VAL:HB	1.80	0.64
1:A:1258:G:H1	1:A:1277:C:H42	1.46	0.63
1:FB:949:A:H1'	1:FB:1364:U:N3	2.13	0.63
50:ED:42:ARG:HB2	50:ED:42:ARG:HH11	1.64	0.63
1:A:304:U:H2'	1:A:305:G:C8	2.34	0.63
1:A:753:A:OP1	49:YA:69:TYR:OH	2.15	0.63
1:A:1271:G:H2'	1:A:1272:G:C8	2.34	0.63
8:H:36:LYS:HE2	8:H:160:VAL:HG11	1.78	0.63
8:H:132:ASN:HB3	8:H:158:ALA:HA	1.79	0.63
16:P:48:LEU:HD12	16:P:82:ILE:HD11	1.79	0.63
35:KA:352:GLN:HG3	35:KA:353:LEU:HD12	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
51:AB:65:ILE:HB	51:AB:69:LYS:HB3	1.79	0.63
1:FB:1123:A:O2'	44:YC:37:PRO:O	2.13	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
4:IB:49:G:O6	4:IB:65:C:N4	2.31	0.63
11:PB:1:MET:HE1	19:XB:13:ARG:HB3	1.79	0.63
46:AD:69:TYR:HB3	46:AD:99:HIS:HD2	1.63	0.63
1:A:55:A:N7	1:A:56:U:N3	2.46	0.63
2:B:1043:C:N4	2:B:1112:G:H1	1.95	0.63
7:G:72:ARG:HH11	7:G:72:ARG:CG	2.05	0.63
36:LA:105:PHE:O	36:LA:109:SER:N	2.30	0.63
1:FB:584:G:H5'	51:FD:91:ARG:HH21	1.62	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
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
46:AD:89:ARG:HH12	46:AD:95:GLY:H	1.47	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
2:GB:577:G:O2'	2:GB:1254:A:OP1	2.15	0.63
7:LB:185:ASP:OD1	7:LB:188:ARG:NH2	2.30	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
1:A:696:A:N3	1:A:786:G:O2'	2.25	0.63
26:Z:68:ARG:HG2	26:Z:68:ARG:HH11	1.62	0.63
30:DA:25:LYS:NZ	30:DA:51:GLU:OE1	2.26	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
43:SA:10:ARG:HG2	43:SA:11:LYS:HG3	1.80	0.63
2:GB:2563:U:H4'	12:QB:28:SER:HA	1.80	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
51:FD:41:LYS:HE3	51:FD:92:ARG:HH21	1.64	0.63
1:A:974:A:H4'	1:A:975:A:H5'	1.81	0.63
1:A:1137:C:OP2	1:A:1137:C:H4'	1.97	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
17:Q:16:ARG:HG3	17:Q:19:LEU:HD11	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
22:AC:41:GLY:N	22:AC:64:GLU:OE2	2.32	0.63
24:CC:23:VAL:HA	24:CC:38:VAL:HG22	1.79	0.63
55:JD:12:LYS:HZ2	55:JD:19:GLY:H	1.46	0.63
2:B:1889:A:H2'	2:B:1890:A:C8	2.34	0.63
8:H:27:ASN:HB3	8:H:30:GLU:HG3	1.79	0.63
17:Q:120:ARG:HA	17:Q:123:LYS:HB2	1.80	0.63
40:PA:3:ARG:HH11	40:PA:3:ARG:HB2	1.64	0.63
41:QA:49:ILE:HA	41:QA:52:GLU:HB2	1.80	0.63
49:YA:8:LYS:HE2	49:YA:31:LEU:HD11	1.79	0.63
51:AB:29:HIS:HB2	51:AB:36:ILE:HD11	1.81	0.63
1:FB:1251:A:H4'	43:XC:12:GLU:OE2	1.99	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
14:SB:103:MET:HE1	14:SB:127:ILE:HD11	1.80	0.63
16:UB:31:SER:O	16:UB:97:ARG:NH2	2.29	0.63
35:PC:352:GLN:HG3	35:PC:353:LEU:HD12	1.81	0.63
51:FD:95:TYR:HA	51:FD:98:LEU:HD12	1.78	0.63
1:A:467:G:H2'	1:A:468:A:C8	2.33	0.63
1:A:1041:A:H3'	1:A:1042:G:C8	2.33	0.63
1:A:1147:C:O2'	43:SA:5:TYR:OH	2.15	0.63
2:B:2308:G:O2'	2:B:2310:A:N7	2.31	0.63
9:I:9:ILE:HD11	9:I:72:ILE:HG13	1.79	0.63
2:GB:2641:G:OP1	11:PB:74:ARG:NE	2.32	0.63
18:WB:112:ARG:HH12	19:XB:47:VAL:HB	1.63	0.63
22:AC:86:ARG:HH12	22:AC:100:ALA:C	2.06	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
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
1:A:1029:G:H1'	1:A:1032(C):G:H22	1.63	0.63
2:B:289:A:H2'	2:B:290:G:O4'	1.99	0.63
2:B:1478:G:O2'	2:B:1558:A:N1	2.32	0.63
37:MA:70:VAL:HG21	37:MA:76:VAL:HG21	1.81	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)
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
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
9:NB:126:PRO:CG	9:NB:130:ARG:HH12	2.11	0.63
1:A:737:A:H2'	1:A:738:C:C6	2.34	0.62
1:A:1415:G:H1	1:A:1485:U:H3	1.46	0.62
2:B:307:G:H21	2:B:330:A:H62	1.46	0.62
2:B:2343:C:O2'	2:B:2373:G:O2'	2.16	0.62
10:J:43:ASN:HA	10:J:46:ALA:HB3	1.79	0.62
35:JA:174:ARG:HG3	35:KA:341:ILE:HG21	1.79	0.62
39:OA:48:ALA:HB3	39:OA:54:ALA:HB2	1.81	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
2:GB:2361:A:P	32:KC:26:LYS:HZ2	2.22	0.62
5:JB:230:ASP:OD1	5:JB:230:ASP:N	2.28	0.62
9:NB:10:PRO:HA	9:NB:49:VAL:HG12	1.81	0.62
50:ED:42:ARG:HB2	50:ED:42:ARG:NH1	2.13	0.62
2:B:2251:OMG:H8	2:B:2251:OMG:O5'	1.82	0.62
13:M:95:VAL:HB	13:M:125:VAL:HG12	1.80	0.62
38:NA:57:ARG:NH2	38:NA:205:GLU:OE1	2.33	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
23:BC:8:TYR:HE2	23:BC:23:LYS:NZ	1.96	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
1:A:1264:C:H2'	1:A:1265:G:C8	2.34	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
35:KA:328:ARG:O	35:KA:330:ASP:N	2.31	0.62
47:WA:15:VAL:HG11	47:WA:48:LEU:HD13	1.79	0.62
1:FB:974:A:H4'	1:FB:975:A:H5'	1.81	0.62
1:FB:1258:G:H1	1:FB:1277:C:H42	1.47	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
40:UC:3:ARG:HB2	40:UC:3:ARG:HH11	1.64	0.62
43:XC:50:LEU:O	43:XC:54:ASP:N	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:ZC:15:ALA:O	45:ZC:78:GLN:N	2.31	0.62
49:DD:39:LEU:HD12	49:DD:56:LEU:HB2	1.81	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
1:A:742:G:H5"	49:YA:58:MET:HE1	1.81	0.62
2:B:898:C:H2'	2:B:899:A:O4'	1.99	0.62
2:B:2090:G:N2	25:Y:45:ASN:OD1	2.27	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
25:Y:59:THR:O	25:Y:91:LYS:NZ	2.26	0.62
45:UA:123:LYS:O	45:UA:125:PHE:N	2.31	0.62
1:FB:254:G:O3'	51:FD:69:LYS:NZ	2.32	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
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
42:WC:9:MET:HB2	42:WC:26:VAL:HG21	1.81	0.62
45:ZC:123:LYS:O	45:ZC:125:PHE:N	2.31	0.62
51:FD:65:ILE:HB	51:FD:69:LYS:HB3	1.82	0.62
2:B:274:G:H1'	2:B:363(A):G:N2	2.15	0.62
2:B:1716:U:H3	2:B:1743:G:H1	1.46	0.62
4:D:9:G:H3'	4:D:10:G:H5"	1.82	0.62
17:Q:60:THR:HG22	17:Q:77:PRO:HA	1.80	0.62
25:Y:82:LEU:N	25:Y:83:GLU:OE1	2.31	0.62
37:MA:101:LEU:HD21	37:MA:103:VAL:HG13	1.81	0.62
1:FB:1129:C:H5"	43:XC:16:ARG:HH22	1.62	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
19:XB:66:ARG:HD2	19:XB:88:ARG:HG3	1.80	0.62
22:AC:86:ARG:NH1	22:AC:100:ALA:O	2.23	0.62
34:MC:21:A:H62	35:OC:198:THR:HG1	1.45	0.62
36:QC:112:VAL:HG13	36:QC:153:ARG:HA	1.80	0.62
1:A:1347:G:N7	43:SA:10:ARG:NH2	2.48	0.62
2:B:919:G:N2	2:B:2269:A:OP2	2.33	0.62
2:B:1048:A:N1	2:B:1112:G:O2'	2.27	0.62
25:Y:81:ARG:HB2	25:Y:81:ARG:HH11	1.65	0.62
37:MA:112:SER:HB3	37:MA:115:LEU:HD12	1.81	0.62
42:RA:21:LYS:O	42:RA:65:TYR:OH	2.18	0.62
7:LB:63:LYS:NZ	7:LB:75:HIS:O	2.27	0.62
16:UB:74:ALA:HB1	16:UB:108:GLY:HA3	1.80	0.62
36:QC:77:ALA:HA	36:QC:80:ILE:HD13	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:UC:5:GLU:OE1	52:GD:34:TYR:OH	2.12	0.62
40:UC:67:MET:HE1	40:UC:75:LEU:HD13	1.82	0.62
43:XC:26:VAL:HB	43:XC:33:PHE:HD2	1.64	0.62
1:A:983:A:H5'	1:A:984:C:OP2	1.99	0.62
1:A:1225:A:H2'	1:A:1225:A:N3	2.15	0.62
2:B:322:A:OP2	7:G:169:ASN:HB2	1.99	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
1:FB:808:C:OP2	49:DD:48:LYS:HD3	2.00	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
2:GB:363(B):A:H2'	2:GB:363(C):G:C8	2.34	0.62
2:GB:1448:G:H2'	2:GB:1449(B):A:C8	2.35	0.62
27:FC:44:ARG:NH1	27:FC:44:ARG:HB2	2.15	0.62
32:KC:55:ALA:HA	32:KC:58:ILE:HG12	1.82	0.62
36:QC:20:GLU:OE1	36:QC:23:ARG:NH2	2.26	0.62
49:DD:3:ILE:HG21	49:DD:34:LEU:HD21	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
10:J:8:PRO:HB3	10:J:15:VAL:H	1.65	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
25:Y:86:SER:HB3	25:Y:89:GLU:HG3	1.82	0.62
27:AA:6:VAL:HG13	27:AA:56:VAL:HG13	1.81	0.62
37:MA:139:GLN:NE2	37:MA:143:GLU:OE2	2.26	0.62
2:GB:607:U:OP1	7:LB:103:LYS:N	2.25	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
42:WC:23:SER:OG	42:WC:24:THR:N	2.33	0.62
52:GD:55:ARG:HB3	52:GD:55:ARG:NH1	2.14	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
12:L:34:THR:OG1	12:L:35:VAL:N	2.26	0.62
16:P:83:LYS:HB2	16:P:111:GLU:OE2	1.99	0.62
38:NA:188:LEU:HD13	38:NA:188:LEU:H	1.63	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
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
43:XC:10:ARG:HG2	43:XC:11:LYS:HG3	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:XC:83:ARG:HG2	43:XC:102:LEU:HD11	1.82	0.62
52:GD:55:ARG:HB3	52:GD:55:ARG:HH11	1.65	0.62
1:A:447:G:H1'	1:A:487:A:H61	1.64	0.62
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
38:NA:12:CYS:HG	38:NA:18:LYS:HZ2	1.48	0.62
45:UA:87:THR:HG22	45:UA:91:ARG:NH1	2.15	0.62
1:FB:1435:G:H1	1:FB:1466:C:H42	1.47	0.62
2:GB:898:C:H2'	2:GB:899:A:O4'	2.00	0.62
2:GB:2577:A:H5"	2:GB:2578:G:H5'	1.81	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
1:A:1298:C:H5	41:QA:114:ARG:HH11	1.48	0.61
2:B:207:A:H2'	2:B:208:C:O4'	2.00	0.61
2:B:1007:C:H5"	11:K:35:ARG:NH1	2.13	0.61
2:B:1092:C:N4	2:B:1099:G:H1	1.97	0.61
7:G:144:LYS:HZ3	7:G:144:LYS:HB2	1.65	0.61
42:RA:96:GLY:H	42:RA:99:GLU:HB2	1.65	0.61
43:SA:50:LEU:O	43:SA:54:ASP:N	2.33	0.61
2:GB:2358:G:H22	13:RB:55:ARG:HH12	1.48	0.61
17:VB:60:THR:HG22	17:VB:77:PRO:HA	1.82	0.61
17:VB:120:ARG:HA	17:VB:123:LYS:HB2	1.82	0.61
23:BC:140:ASP:OD2	23:BC:141:VAL:N	2.33	0.61
39:TC:101:ILE:HD11	39:TC:119:LEU:HD23	1.81	0.61
1:A:630:G:H3'	1:A:631:G:C8	2.35	0.61
1:A:1046:A:H5'	1:A:1047:G:OP2	2.01	0.61
2:B:376:C:H42	2:B:398:G:H1	1.48	0.61
5:E:108:PRO:HD2	5:E:111:LEU:HD22	1.82	0.61
11:K:20:GLY:HA2	11:K:61:ARG:HG3	1.82	0.61
31:EA:2:LYS:HG3	31:EA:6:GLN:HE21	1.64	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
55:EB:12:LYS:HZ2	55:EB:19:GLY:H	1.48	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
25:DC:59:THR:O	25:DC:91:LYS:NZ	2.31	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:363(B):A:H2'	2:B:363(C):G:C8	2.35	0.61
35:KA:328:ARG:HH12	35:KA:331:GLU:HB2	1.65	0.61
44:TA:16:LEU:HD23	44:TA:68:HIS:HD2	1.66	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
7:LB:165:ARG:HG3	7:LB:165:ARG:NH1	2.07	0.61
7:LB:170:LEU:HD12	7:LB:171:PRO:HD2	1.82	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
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
45:UA:81:ASP:OD2	45:UA:106:LYS:HB2	2.00	0.61
46:VA:69:TYR:HB3	46:VA:99:HIS:HD2	1.65	0.61
1:FB:742:G:H5"	49:DD:58:MET:HE1	1.82	0.61
1:A:291:C:H42	1:A:309:G:H1	1.48	0.61
1:A:1226:C:H4'	53:CB:80:TYR:CZ	2.35	0.61
2:B:252:G:P	13:M:50:ARG:HH12	2.23	0.61
2:B:1205:U:C5	7:G:171:PRO:HA	2.36	0.61
37:MA:66:VAL:HG23	37:MA:101:LEU:HB2	1.81	0.61
1:FB:735:C:H2'	1:FB:736:C:C6	2.35	0.61
1:FB:1143:G:H2'	1:FB:1144:G:H8	1.62	0.61
2:GB:444:C:H4'	7:LB:49:ALA:HB2	1.82	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
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
43:SA:5:TYR:HB2	43:SA:18:PHE:HA	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
45:ZC:81:ASP:OD2	45:ZC:106:LYS:HB2	2.00	0.61
1:A:339:C:OP2	12:L:97:ARG:NH1	2.33	0.61
2:B:95:G:H4'	26:Z:46:GLN:HA	1.82	0.61
2:B:548:A:H2'	2:B:549:G:O4'	2.00	0.61
2:B:1011:G:OP2	18:R:66:ASN:ND2	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:OA:121:LYS:HZ2	39:OA:122:GLU:H	1.48	0.61
49:YA:3:ILE:HG21	49:YA:34:LEU:HD21	1.81	0.61
1:FB:975:A:O2'	48:CD:32:SER:HA	1.99	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:1377:A:OP2	41:VC:94:ARG:NH1	2.34	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
51:FD:29:HIS:HB2	51:FD:36:ILE:HD11	1.82	0.61
1:A:624:C:H2'	1:A:625:G:C8	2.36	0.61
3:C:103:U:HO2'	23:W:29:TYR:HH	1.48	0.61
6:F:120:TRP:CD1	6:F:155:LYS:HB3	2.35	0.61
14:N:116:GLU:OE2	14:N:119:ARG:NE	2.33	0.61
31:EA:41:ARG:NH1	31:EA:41:ARG:HB2	2.16	0.61
37:MA:73:PRO:HA	37:MA:76:VAL:HG23	1.83	0.61
24:CC:18:ALA:HB3	24:CC:20:ARG:HH12	1.63	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
17:Q:30:VAL:HG22	17:Q:86:ILE:HD12	1.81	0.61
24:X:41:ARG:HH11	24:X:41:ARG:HG3	1.63	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:HB2	38:NA:141:ARG:HH11	1.65	0.61
54:DB:50:GLU:HA	54:DB:53:LEU:HD12	1.81	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
13:RB:124:LYS:HE2	13:RB:144:GLU:HG2	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:B:775:G:C5	2:B:794:G:C8	2.89	0.61
2:B:2135:A:H2'	2:B:2136:C:H2'	1.82	0.61
7:G:181:LEU:HD11	7:G:186:ILE:HD11	1.82	0.61
11:K:17:ASP:OD1	11:K:56:ASN:HB2	2.01	0.61
14:N:61:GLY:HA2	23:W:177:PRO:HB2	1.81	0.61
17:Q:54:ARG:HB3	17:Q:54:ARG:NH1	2.16	0.61
21:U:65:ARG:HB2	21:U:70:LEU:HG	1.83	0.61
41:QA:46:ALA:HB1	41:QA:121:ALA:HB2	1.81	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1441:G:H2'	2:GB:1442:G:C8	2.36	0.61
23:BC:48:PHE:HE1	23:BC:71:VAL:HG21	1.64	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
8:H:139:LEU:HD22	8:H:149:VAL:HG11	1.83	0.60
17:Q:64:ARG:HD2	17:Q:102:ILE:HD11	1.82	0.60
45:UA:48:ILE:HG21	45:UA:63:LEU:HB3	1.83	0.60
1:FB:959:A:N1	1:FB:1221:G:O2'	2.32	0.60
1:FB:982:U:H5"	48:CD:6:LEU:HD13	1.82	0.60
2:GB:1011:G:OP2	18:WB:66:ASN:ND2	2.33	0.60
2:GB:1826:G:H5"	2:GB:1827:C:OP2	2.01	0.60
18:WB:83:LEU:HD12	18:WB:113:ALA:HB2	1.83	0.60
4:NC:39:C:H2'	4:NC:40:C:H6	1.65	0.60
37:RC:73:PRO:HA	37:RC:76:VAL:HG23	1.83	0.60
44:YC:45:ARG:HD3	48:CD:36:PHE:HE1	1.65	0.60
1:A:1372:U:H5"	43:SA:71:SER:HB2	1.83	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
8:H:11:TYR:OH	8:H:32:PRO:O	2.18	0.60
20:T:1:MET:HG3	20:T:64:MET:HE3	1.83	0.60
41:QA:146:GLU:HA	41:QA:149:ARG:HB2	1.83	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
1:FB:1329:A:H5'	47:BD:29:ARG:HH11	1.66	0.60
2:GB:2321:G:H5'	2:GB:2322:A:OP2	2.01	0.60
13:RB:95:VAL:HB	13:RB:125:VAL:HG12	1.82	0.60
16:UB:44:LYS:HB2	16:UB:44:LYS:NZ	2.16	0.60
1:A:1175:G:H2'	1:A:1176:A:C8	2.36	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
5:E:66:ASP:HA	5:E:68:LYS:HZ3	1.66	0.60
12:L:82:ASN:HD22	12:L:82:ASN:N	1.97	0.60
18:R:83:LEU:HD12	18:R:113:ALA:HB2	1.83	0.60
29:CA:30:LEU:HD13	29:CA:39:MET:HB3	1.81	0.60
29:CA:40:LYS:NZ	29:CA:44:THR:O	2.30	0.60
38:NA:18:LYS:HE3	38:NA:20:TYR:H	1.66	0.60
1:FB:1137:C:OP2	1:FB:1137:C:H4'	2.00	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
3:HB:103:U:HO2'	23:BC:29:TYR:HH	1.46	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:JB:69:ARG:NH2	5:JB:128:GLY:O	2.34	0.60
46:AD:40:VAL:HG13	46:AD:56:ALA:HB2	1.84	0.60
48:CD:4:LYS:HZ2	48:CD:7:ILE:HG13	1.66	0.60
51:FD:66:SER:OG	51:FD:67:LYS:N	2.34	0.60
2:B:549:G:H5"	2:B:550:G:OP2	2.01	0.60
2:B:1104:C:H2'	2:B:1105:U:H6	1.65	0.60
8:H:60:LEU:O	8:H:64:THR:OG1	2.15	0.60
22:V:8:LYS:HZ1	22:V:97:ARG:HD3	1.66	0.60
1:FB:1225:A:H2'	1:FB:1225:A:N3	2.14	0.60
1:FB:1359:C:O2'	1:FB:1362(A):C:N4	2.33	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:1257:C:H4'	7:G:83:PHE:CD1	2.35	0.60
2:B:2091:U:H1'	25:Y:47:GLN:OE1	2.02	0.60
2:B:2635:C:H5"	6:F:78:LEU:HB3	1.83	0.60
2:B:2792:G:H2'	2:B:2793:G:C8	2.35	0.60
7:G:78:ILE:HA	7:G:83:PHE:CE2	2.37	0.60
48:XA:4:LYS:NZ	48:XA:7:ILE:HG13	2.17	0.60
1:FB:745:C:H1'	1:FB:836:G:O2'	2.01	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
2:GB:2792:G:H2'	2:GB:2793:G:C8	2.36	0.60
17:VB:16:ARG:HG3	17:VB:19:LEU:HD11	1.82	0.60
23:BC:6:LYS:H	23:BC:6:LYS:HD2	1.66	0.60
41:VC:46:ALA:HB1	41:VC:121:ALA:HB2	1.82	0.60
49:DD:33:THR:O	49:DD:37:ASN:ND2	2.25	0.60
54:ID:93:GLU:O	54:ID:95:ALA:N	2.33	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:1697:G:OP2	2:B:1698:A:O2'	2.18	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
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
31:EA:47:ARG:HB3	31:EA:47:ARG:NH1	2.16	0.60
52:BB:45:SER:HG	52:BB:47:THR:HG1	1.45	0.60
5:JB:66:ASP:HA	5:JB:68:LYS:HZ3	1.65	0.60
38:SC:141:ARG:HB2	38:SC:141:ARG:HH11	1.65	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2394:C:N3	4:D:76:A:O2'	2.28	0.60
6:F:21:VAL:HG22	6:F:23:VAL:HG23	1.83	0.60
7:G:165:ARG:HG3	7:G:165:ARG:NH1	2.13	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
45:UA:22:HIS:HB3	45:UA:29:ILE:HB	1.83	0.60
52:BB:55:ARG:NH1	52:BB:55:ARG:HB3	2.17	0.60
1:FB:112:G:OP2	50:ED:27:LYS:HE3	2.00	0.60
1:FB:826:C:O2	42:WC:15:ASN:ND2	2.35	0.60
1:FB:1013:G:N2	1:FB:1016:A:OP2	2.35	0.60
2:GB:755:C:H2'	2:GB:756:C:C6	2.37	0.60
17:VB:54:ARG:HB3	17:VB:54:ARG:NH1	2.17	0.60
23:BC:26:GLY:HA2	23:BC:85:HIS:CD2	2.37	0.60
38:SC:31:CYS:O	38:SC:33:MET:N	2.34	0.60
41:VC:146:GLU:HA	41:VC:149:ARG:HB2	1.82	0.60
45:ZC:108:ILE:HD12	52:GD:87:ARG:NH1	2.15	0.60
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
11:K:59:LYS:NZ	11:K:125:GLY:HA2	2.17	0.60
35:JA:112:PHE:HB2	35:JA:206:MET: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
2:GB:797:C:OP2	7:LB:62:ARG:HG3	2.02	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
14:SB:61:GLY:HA2	23:BC:177:PRO:HB2	1.83	0.60
37:RC:112:SER:HB3	37:RC:115:LEU:HD12	1.84	0.60
1:A:1175:G:H2'	1:A:1176:A:H8	1.66	0.60
2:B:900:A:H2'	2:B:901:A:C8	2.36	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
5:E:61:LEU:O	5:E:63:ARG:NH1	2.35	0.60
5:E:221:VAL:HG22	5:E:226:MET:HE2	1.83	0.60
6:F:119:ARG:HG2	6:F:120:TRP:CE2	2.37	0.60
7:G:108:LYS:HG2	7:G:112:MET:HE3	1.84	0.60
9:I:136:ILE:HD12	9:I:137:ASP:H	1.67	0.60
36:LA:33:TYR:HB3	36:LA:41:ILE:HB	1.83	0.60
49:YA:39:LEU:HD12	49:YA:56:LEU:HB2	1.83	0.60
1:FB:114:U:H2'	1:FB:115:G:C8	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:270(A):A:OP2	2:GB:270(Z):G:N2	2.32	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
6:KB:21:VAL:HG22	6:KB:23:VAL:HG23	1.84	0.60
7:LB:108:LYS:HG2	7:LB:112:MET:HE3	1.82	0.60
16:UB:11:LYS:HD3	16:UB:15:ARG:NH1	2.16	0.60
45:ZC:48:ILE:HG21	45:ZC:63:LEU:HB3	1.84	0.60
47:BD:87:TYR:CE2	47:BD:91:ARG:HD2	2.37	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
11:K:1:MET:HE1	19:S:13:ARG:HB3	1.83	0.60
18:R:10:ARG:HG2	18:R:14:HIS:CD2	2.36	0.60
38:NA:18:LYS:HB3	38:NA:20:TYR:CE2	2.37	0.60
41:QA:31:MET:HE2	41:QA:36:LYS:HB2	1.84	0.60
46:VA:97:ARG:HB2	46:VA:97:ARG:HH11	1.66	0.60
1:FB:696:A:N3	1:FB:786:G:O2'	2.28	0.60
12:QB:82:ASN:HD22	12:QB:82:ASN:N	1.97	0.60
31:JC:10:ARG:HH11	31:JC:14:LYS:HE3	1.67	0.60
39:TC:72:GLN:O	39:TC:73:ASN:ND2	2.35	0.60
1:A:1359:C:O2'	1:A:1362(A):C:N4	2.34	0.59
17:Q:91:ARG:HD2	17:Q:124:ASP:OD2	2.01	0.59
23:W:48:PHE:HE1	23:W:71:VAL:HG21	1.66	0.59
41:QA:85:TYR:HD2	41:QA:154:TYR:HE2	1.50	0.59
1:FB:1125:U:O2'	1:FB:1126:U:H5"	2.01	0.59
2:GB:735:A:H5"	2:GB:736:C:OP2	2.03	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
3:HB:22:U:H3	3:HB:61:G:H1	1.50	0.59
6:KB:119:ARG:HG2	6:KB:120:TRP:CE2	2.36	0.59
27:FC:44:ARG:HB2	27:FC:44:ARG:HH11	1.66	0.59
31:JC:41:ARG:NH1	31:JC:41:ARG:HB2	2.16	0.59
35:OC:174:ARG:HG3	35:PC:341:ILE:HG21	1.82	0.59
38:SC:18:LYS:HE3	38:SC:20:TYR:H	1.65	0.59
51:FD:66:SER:HB3	51:FD:69:LYS:HB2	1.84	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1364:G:OP1	25:Y:2:SER:HA	2.02	0.59
2:B:2321:G:H5'	2:B:2322:A: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
1:FB:960:U:H2'	1:FB:1225:A:H62	1.66	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
2:GB:1340:U:H4'	2:GB:1341:U:OP2	2.02	0.59
1:A:9:G:H5'	39:OA:122:GLU:OE2	2.02	0.59
1:A:674:G:OP1	40:PA:87:ARG:NH2	2.33	0.59
1:A:1329:A:H5'	47:WA:29:ARG:HH11	1.65	0.59
1:A:1435:G:H1	1:A:1466:C:H42	1.50	0.59
2:B:570:G:H2'	2:B:2030:A:C5	2.37	0.59
5:E:6:PHE:CE1	5:E:13:ARG:NH1	2.71	0.59
7:G:72:ARG:HG3	7:G:72:ARG:NH1	2.01	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
37:MA:185:GLY:O	37:MA:200:ALA:N	2.35	0.59
46:VA:86:ARG:HG3	46:VA:101:VAL:HG22	1.84	0.59
54:DB:56:MET:HG3	54:DB:88:VAL:HG21	1.83	0.59
1:FB:555:C:H2'	1:FB:556:C:H6	1.67	0.59
2:GB:140:A:H8	2:GB:1408:C:O2'	1.84	0.59
2:GB:573:G:O2'	2:GB:574:C:H3'	2.03	0.59
2:GB:2133:G:O2'	2:GB:2157:G:N2	2.35	0.59
2:GB:2657:A:O3'	9:NB:160:LYS:NZ	2.34	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
21:ZB:68:ARG:NH1	21:ZB:69:TYR:OH	2.35	0.59
32:KC:50:LEU:HB3	32:KC:55:ALA:HB2	1.84	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
7:G:50:SER:HA	7:G:92:PRO:O	2.03	0.59
7:G:170:LEU:HD12	7:G:171:PRO:HD2	1.84	0.59
8:H:64:THR:HB	8:H:94:LEU:HD21	1.84	0.59
8:H:125:PHE:HB3	8:H:166:ASP:OD1	2.02	0.59
10:J:27:ARG:HG2	25:Y:71:TYR:CZ	2.37	0.59
42:RA:84:ARG:HD3	42:RA:136:GLU:OE2	2.01	0.59
1:FB:112:G:H1	1:FB:315:A:H61	1.51	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:630:G:N2	2:GB:633:A:OP2	2.34	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
5:JB:218:ARG:HB3	5:JB:219:PRO:HD2	1.84	0.59
54:ID:56:MET:HG3	54:ID:88:VAL:HG21	1.84	0.59
1:A:1150:U:O2'	44:TA:39:PRO:O	2.21	0.59
12:L:63:VAL:HG11	12:L:85:VAL:HG23	1.84	0.59
23:W:80:ARG:HB3	23:W:82:ARG:NH1	2.16	0.59
37:MA:135:LYS:NZ	37:MA:135:LYS:HB3	2.18	0.59
40:PA:67:MET:HE1	40:PA:75:LEU:HD13	1.83	0.59
46:VA:40:VAL:HG11	46:VA:77:LEU:O	2.03	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
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
1:FB:1079:G:O3'	39:TC:14:ARG:NH2	2.35	0.59
2:GB:298:G:H8	2:GB:298:G:O5'	1.85	0.59
2:GB:467:G:P	31:JC:33:ARG:HH21	2.25	0.59
2:GB:2349:G:OP2	32:KC:42:ARG:HD3	2.02	0.59
2:GB:2439:A:H2'	57:GB:9001:BLS:N15	2.18	0.59
2:GB:2635:C:H5"	6:KB:78:LEU:HB3	1.83	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
9:NB:136:ILE:HD12	9:NB:137:ASP:H	1.66	0.59
14:SB:52:VAL:HG13	23:BC:183:LEU:HD11	1.82	0.59
14:SB:112:GLU:HA	14:SB:115:MET:HB2	1.83	0.59
15:TB:48:VAL:O	15:TB:51:LEU:N	2.35	0.59
21:ZB:35:THR:OG1	21:ZB:36:LYS:N	2.32	0.59
4:NC:17:C:H5"	4:NC:17(A):U:OP2	2.01	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:781:A:C8	5:E:219:PRO:HG3	2.36	0.59
2:B:1472:A:N6	2:B:1521:G:H1'	2.18	0.59
9:I:127:GLU:HB2	9:I:130:ARG:HB2	1.83	0.59
11:K:26:LEU:HG	11:K:30:ILE:HD11	1.83	0.59
23:W:79:ARG:HD2	23:W:80:ARG:NH1	2.18	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1372:U:H5"	43:XC:71:SER:HB2	1.84	0.59
2:GB:270(G):U:H2'	2:GB:270(H):C:C6	2.37	0.59
2:GB:1093:G:H2'	2:GB:1093:G:N3	2.16	0.59
3:HB:75:G:O2'	23:BC:10:ARG:NH2	2.30	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
31:JC:41:ARG:HB2	31:JC:41:ARG:HH11	1.68	0.59
41:VC:47:CYS:HA	41:VC:50:ILE:HB	1.84	0.59
1:A:32:A:OP2	1:A:398:C:O2'	2.21	0.59
1:A:371:G:O2'	1:A:373:A:N7	2.35	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
2:B:444:C:H4'	7:G:49:ALA:HB2	1.83	0.59
2:B:517:C:OP1	29:CA:16:ARG:NH2	2.36	0.59
2:B:797:C:OP2	7:G:62:ARG:HG3	2.02	0.59
2:B:2233:U:H2'	2:B:2234:G:C8	2.37	0.59
7:G:12:LEU:HB2	7:G:126:VAL:HG12	1.85	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: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
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
2:GB:2287:A:H62	2:GB:2344:U:H3	1.50	0.59
22:AC:46:LYS:HB3	22:AC:60:PHE:HD1	1.66	0.59
23:BC:108:PRO:HG3	23:BC:141:VAL:HG22	1.84	0.59
35:OC:106:ASP:HA	35:OC:109:ARG:HH11	1.66	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
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:686:G:O6	31:JC:12:ARG:NH1	2.36	0.59
2:GB:853:G:H1	2:GB:924:C:H42	1.51	0.59
2:GB:2854:G:H2'	2:GB:2855:C:C6	2.37	0.59
16:UB:48:LEU:HD12	16:UB:82:ILE:HD11	1.84	0.59
23:BC:80:ARG:HG2	23:BC:82:ARG:HH22	1.68	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
40:UC:43:LEU:HB2	40:UC:60:PHE:HB2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:405:U:O4	38:NA:3:ARG:HB2	2.02	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
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:570:G:H2'	2:GB:2030:A:C5	2.38	0.59
2:GB:1849:G:H2'	2:GB:1850:G:H8	1.68	0.59
9:NB:88:LEU:HD12	9:NB:165:ALA:HA	1.84	0.59
31:JC:47:ARG:HB3	31:JC:47:ARG:NH1	2.17	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: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
2:B:2641:G:OP1	11:K:74:ARG:NE	2.35	0.59
3:C:14:U:O3'	3:C:107:U:O2'	2.20	0.59
4:D:19:G:O2'	4:D:20:U:OP1	2.19	0.59
6:F:23:VAL:HG11	6:F:183:LEU:HD23	1.84	0.59
6:F:114:ALA:HB2	6:F:160:TYR:HB2	1.85	0.59
4:IA:33:U:P	43:SA:128:ARG:HH22	2.25	0.59
42:RA:23:SER:OG	42:RA:24:THR:N	2.36	0.59
1:FB:501:C:H2'	1:FB:502:G:H8	1.68	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
13:RB:49:ARG:NH1	32:KC:4:MET:HE3	2.18	0.59
26:EC:17:SER:H	26:EC:20:GLU:CD	2.11	0.59
4:NC:33:U:P	43:XC:128:ARG:HH22	2.26	0.59
51:FD:29:HIS:CD2	51:FD:30:PRO:HD2	2.38	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
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
37:MA:131:ARG:NH1	37:MA:135:LYS:HD2	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1257:C:H4'	7:LB:83:PHE:CD1	2.38	0.58
2:GB:1451:C:H42	2:GB:1459:G:H1	1.51	0.58
6:KB:114:ALA:HB2	6:KB:160:TYR:HB2	1.84	0.58
17:VB:64:ARG:HD2	17:VB:102:ILE:HD11	1.84	0.58
31:JC:29:LYS:O	31:JC:33:ARG:HG3	2.03	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
47:BD:91:ARG:HH12	47:BD:96:LEU:C	2.11	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
27:AA:7:LYS:HB2	27:AA:34:GLU:HG2	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
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
16:UB:83:LYS:HB2	16:UB:111:GLU:OE2	2.03	0.58
39:TC:136:MET:HA	39:TC:139:LEU:HD12	1.84	0.58
54:ID:30:LYS:HB2	54:ID:30:LYS:NZ	2.18	0.58
1:A:1245:A:H61	1:A:1292:U:H3	1.51	0.58
2:B:384:U:H2'	2:B:385:C:H6	1.68	0.58
2:B:2854:G:H2'	2:B:2855:C:C6	2.38	0.58
5:E:26:LYS:HD3	5:E:83:GLU:OE2	2.03	0.58
12:L:98:VAL:HG12	12:L:117:LEU:HB3	1.86	0.58
24:X:23:VAL:HA	24:X:38:VAL:HG22	1.83	0.58
33:GA:24:TYR:HA	33:GA:35:ARG:HA	1.85	0.58
36:LA:80:ILE:HG22	36:LA:215:LEU:HD12	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
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
1:FB:669:U:OP1	49:DD:48:LYS:NZ	2.27	0.58
1:FB:1150:U:O2'	44:YC:39:PRO:O	2.20	0.58
2:GB:1153:C:H5'	18:WB:76:TYR:HE2	1.67	0.58
8:MB:139:LEU:HD22	8:MB:149:VAL:HG11	1.84	0.58
13:RB:100:LEU:HD22	13:RB:105:LEU:HD13	1.84	0.58
22:AC:18:GLY:C	22:AC:20:TYR:H	2.11	0.58
1:A:1239:A:O2'	41:QA:114:ARG:O	2.22	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:91:C:H2'	3:C:92:G:C8	2.38	0.58
9:I:65:HIS:O	9:I:68:THR:OG1	2.21	0.58
12:L:73:ASP:HB2	17:Q:82:LEU:HD13	1.86	0.58
25:Y:50:ARG:HG2	25:Y:59:THR:HB	1.85	0.58
47:WA:31:LYS:HZ1	47:WA:34:LEU:HD12	1.68	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
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
19:XB:69:LYS:H	19:XB:88:ARG:HH11	1.50	0.58
35:OC:184:VAL:HG23	35:PC:310:TYR:HB2	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:735:A:H5"	2:B:736:C:OP2	2.04	0.58
2:B:2115:G:C5	2:B:2117:A:H2'	2.38	0.58
34:HA:21:A:H62	35:JA:198:THR:HG1	1.45	0.58
38:NA:31:CYS:O	38:NA:33:MET:N	2.35	0.58
1:FB:1394:A:H8	1:FB:1394:A:OP1	1.86	0.58
2:GB:1007:C:H5"	11:PB:35:ARG:NH1	2.18	0.58
2:GB:1074:G:H1	2:GB:1095:A:H4'	1.69	0.58
2:GB:2262:U:C5	24:CC:16:SER:HB3	2.39	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
27:FC:7:LYS:HB2	27:FC:34:GLU:HG2	1.84	0.58
35:OC:112:PHE:HB2	35:OC:206:MET:HB2	1.85	0.58
37:RC:47:LEU:HD22	37:RC:68:VAL:HG11	1.84	0.58
38:SC:153:ARG:NH1	38:SC:181:MET:HE3	2.18	0.58
39:TC:48:ALA:HB3	39:TC:54:ALA:HB2	1.85	0.58
49:DD:69:TYR:HA	49:DD:72:ARG:HB3	1.84	0.58
1:A:584:G:H5'	51:AB:91:ARG:HH21	1.67	0.58
1:A:1013:G:N2	1:A:1016:A:OP2	2.36	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
8:H:25:TYR:OH	8:H:168:GLU:OE1	2.09	0.58
10:J:77:LEU:HB3	10:J:142:VAL:HG12	1.86	0.58
20:T:6:ILE:HG12	20:T:104:THR:HG23	1.86	0.58
1:FB:1239:A:O2'	41:VC:114:ARG:O	2.21	0.58
1:FB:1347:G:N7	43:XC:10:ARG:NH2	2.50	0.58
2:GB:1028:A:N3	2:GB:2486:G:O2'	2.29	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
16:UB:30:ARG:NH1	16:UB:97:ARG:NH1	2.51	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
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
22:V:35:TYR:CD2	22:V:69:ALA:HB3	2.38	0.58
27:AA:5:LYS:HD2	27:AA:34:GLU:OE2	2.03	0.58
45:UA:108:ILE:HD12	52:BB:87:ARG:NH1	2.17	0.58
51:AB:90:ILE:HA	51:AB:93:GLN:HG2	1.84	0.58
1:FB:447:G:H2'	1:FB:485:G:N2	2.18	0.58
2:GB:154:G:H1	2:GB:172:C:H42	1.52	0.58
2:GB:628:G:H5"	32:KC:18:ALA:HB2	1.84	0.58
2:GB:1266:G:O5'	20:YB:15:ARG:NH2	2.36	0.58
2:GB:1686:C:H2'	2:GB:1687:G:O4'	2.03	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: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
42:WC:84:ARG:HD3	42:WC:136:GLU:OE2	2.03	0.58
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:1246:A:OP1	7:G:38:ARG:NH2	2.37	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:2680:C:H1'	6:F:187:ALA:HB1	1.84	0.58
2:B:2833:G:H4'	2:B:2834:G:OP2	2.04	0.58
21:U:53:LYS:H	21:U:82:GLN:HB3	1.69	0.58
54:DB:30:LYS:HB2	54:DB:30:LYS:NZ	2.19	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
1:FB:1201:A:H1'	1:FB:1202:G:OP2	2.03	0.58
2:GB:451:C:H4'	7:LB:52:LYS:NZ	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
21:ZB:27:THR:HG23	21:ZB:80:ILE:HG12	1.85	0.58
27:FC:41:PRO:HA	27:FC:44:ARG:HH12	1.69	0.58
41:VC:85:TYR:HD2	41:VC:154:TYR:HE2	1.51	0.58
50:ED:22:THR:HA	50:ED:33:ILE:HG12	1.85	0.58
51:FD:90:ILE:HA	51:FD:93:GLN:HG2	1.85	0.58
1:A:287:U:H2'	1:A:288:A:H8	1.69	0.58
1:A:1305:G:H8	55:EB:5:ASP:HA	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
3:C:18:G:H1	3:C:65:C:H42	1.52	0.58
18:R:112:ARG:HH12	19:S:47:VAL:HB	1.69	0.58
32:FA:50:LEU:HB3	32:FA:55:ALA:HB2	1.85	0.58
36:LA:163:PHE:HA	36:LA:185:ILE:O	2.04	0.58
50:ZA:42:ARG:NH1	50:ZA:42:ARG:HB2	2.19	0.58
54:DB:66:ALA:HB1	54:DB:71:THR:HB	1.84	0.58
2:GB:994:C:H3'	18:WB:54:LYS:HE3	1.85	0.58
6:KB:93:VAL:HG21	6:KB:180:ASN:HA	1.86	0.58
7:LB:127:GLU:HB3	7:LB:196:LEU:HD12	1.85	0.58
23:BC:80:ARG:HB3	23:BC:82:ARG:NH1	2.19	0.58
25:DC:4:VAL:HG12	25:DC:11:ARG:HB3	1.86	0.58
37:RC:40:ARG:HA	37:RC:43:LEU:HB2	1.86	0.58
49:DD:41:GLU:OE2	49:DD:44:LYS:HD2	2.04	0.58
54:ID:50:GLU:HA	54:ID:53:LEU:HD12	1.84	0.58
1:A:975:A:O2'	48:XA:32:SER:HA	2.04	0.58
2:B:279:C:H6	2:B:279:C:OP2	1.86	0.58
2:B:2287:A:H62	2:B:2344:U:H3	1.51	0.58
2:B:2315:G:H2'	2:B:2316:C:C6	2.38	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
10:J:9:LEU:HD13	10:J:10:GLU:O	2.04	0.58
23:W:72:ARG:HA	23:W:72:ARG:NH1	2.18	0.58
38:NA:31:CYS:O	38:NA:34:GLU:N	2.30	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:FB:9:G:H5'	39:TC:122:GLU:OE2	2.04	0.58
1:FB:370:C:N3	1:FB:392:G:C2	2.71	0.58
1:FB:1046:A:H5'	1:FB:1047:G:OP2	2.03	0.58
2:GB:1820:U:H4'	2:GB:1821:A:OP2	2.04	0.58
4:IB:19:G:O2'	4:IB:20:U:OP1	2.22	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
17:VB:93:ARG:NH1	17:VB:93:ARG:HB3	2.18	0.58
19:XB:69:LYS:H	19:XB:88:ARG:NH1	2.02	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
4:D:73:A:O2'	25:Y:23:LYS:NZ	2.26	0.57
4:IA:18:G:O2'	4:IA:19:G:O5'	2.21	0.57
40:PA:5:GLU:OE1	52:BB:34:TYR:OH	2.14	0.57
43:SA:28:VAL:HA	43:SA:63:ILE:HB	1.86	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: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: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
38:SC:26:CYS:SG	38:SC:31:CYS:SG	3.02	0.57
51:FD:99:SER:OG	51:FD:100:LYS:N	2.37	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
11:K:26:LEU:O	11:K:30:ILE:HG13	2.03	0.57
19:S:8:GLY:HA3	19:S:23:GLU:HB2	1.85	0.57
41:QA:47:CYS:HA	41:QA:50:ILE:HB	1.86	0.57
54:DB:93:GLU:O	54:DB:95:ALA:N	2.34	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
1:FB:1269:A:H5'	55:JD:19:GLY:HA2	1.84	0.57
2:GB:723:G:H2'	2:GB:724:U:O4'	2.04	0.57
2:GB:994:C:O2'	2:GB:996:A:OP1	2.19	0.57
2:GB:1043:C:H41	2:GB:1112:G:H1	1.52	0.57
2:GB:1364:G:OP1	25:DC:2:SER:HA	2.04	0.57
5:JB:108:PRO:HD2	5:JB:111:LEU:HD22	1.85	0.57
20:YB:11:ARG:NH1	20:YB:98:LYS:HB3	2.19	0.57
52:GD:35:ARG:O	52:GD:37:VAL:N	2.37	0.57
1:A:735:C:H2'	1:A:736:C:C6	2.39	0.57
1:A:1252:A:H61	1:A:1285:A:H61	1.51	0.57
2:B:853:G:H1	2:B:924:C:H42	1.53	0.57
2:B:1434:A:H61	2:B:1558:A:N6	2.00	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:49:ARG:HB2	32:FA:61:LEU:HD21	1.87	0.57
17:Q:122:ASP:O	17:Q:126:ALA:N	2.37	0.57
19:S:69:LYS:H	19:S:88:ARG:HH11	1.49	0.57
21:U:35:THR:OG1	21:U:36:LYS:N	2.36	0.57
27:AA:9:VAL:HG11	27:AA:55:ARG:NH2	2.19	0.57
31:EA:10:ARG:HH11	31:EA:14:LYS:HE3	1.69	0.57
36:LA:36:ARG:HB3	36:LA:41:ILE:HD11	1.87	0.57
36:LA:153:ARG:HG3	36:LA:154:LEU:HD12	1.86	0.57
37:MA:7:PRO:HG2	37:MA:184:TYR:HB2	1.85	0.57
1:FB:410:G:C6	1:FB:429:U:H1'	2.38	0.57
1:FB:411:A:OP1	38:SC:30:LYS:NZ	2.35	0.57
2:GB:548:A:H2'	2:GB:549:G:O4'	2.04	0.57
2:GB:911:A:H2'	14:SB:9:TYR:OH	2.05	0.57
4:IB:15:G:H5'	4:IB:16:C:H5"	1.86	0.57
7:LB:78:ILE:HA	7:LB:83:PHE:CE2	2.39	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
31:JC:2:LYS:HG3	31:JC:6:GLN:HE21	1.69	0.57
37:RC:131:ARG:NH1	37:RC:135:LYS:HD2	2.18	0.57
38:SC:33:MET:SD	38:SC:37:PRO:HA	2.44	0.57
46:AD:40:VAL:HG11	46:AD:77:LEU:O	2.05	0.57
54:ID:82:SER:O	54:ID:86:ARG:HG3	2.04	0.57
1:A:296:U:H2'	1:A:297:G:C8	2.38	0.57
2:B:2867:G:OP2	17:Q:119:LYS:NZ	2.36	0.57
12:L:102:VAL:HG22	12:L:121:VAL:HG22	1.85	0.57
23:W:26:GLY:HA2	23:W:85:HIS:CD2	2.38	0.57
36:LA:53:ARG:HH12	36:LA:199:TYR:HA	1.70	0.57
1:FB:1338:G:H3'	1:FB:1339:A:C8	2.39	0.57
2:GB:205:G:H1	25:DC:39:LYS:NZ	2.02	0.57
2:GB:662:G:H2'	2:GB:663:G:H8	1.70	0.57
2:GB:2712:U:O2'	2:GB:2712(A):A:H5"	2.04	0.57
24:CC:63:VAL:HG21	24:CC:83:PRO:HG3	1.85	0.57
43:XC:29:ASN:N	43:XC:63:ILE:O	2.32	0.57
47:BD:91:ARG:HB3	47:BD:91:ARG:NH1	2.20	0.57
1:A:737:A:H2'	1:A:738:C:H6	1.69	0.57
1:A:1347:G:N2	1:A:1374:A:O5'	2.37	0.57
2:B:372:G:H22	2:B:400:G:H2'	1.68	0.57
2:B:1869:G:N2	2:B:1871:A:H3'	2.19	0.57
3:C:53:A:H2'	3:C:54:G:H8	1.69	0.57
6:F:54:GLN:OE1	6:F:55:ASN:N	2.36	0.57
9:I:88:LEU:HD12	9:I:165:ALA:HA	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:68:GLU:HB3	12:L:78:ARG:HB3	1.85	0.57
14:N:55:VAL:HG23	14:N:64:ILE:HD12	1.86	0.57
14:N:103:MET:HE1	14:N:127:ILE:HD11	1.86	0.57
23:W:125:LEU:HB3	23:W:165:VAL:HG22	1.86	0.57
27:AA:41:PRO:HA	27:AA:44:ARG:HH12	1.69	0.57
36:LA:61:LEU:HD21	36:LA:160:ASP:HB2	1.85	0.57
1:FB:371:G:O2'	1:FB:373:A:N7	2.36	0.57
1:FB:1245:A:H61	1:FB:1292:U:H3	1.50	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
25:DC:83:GLU:OE1	25:DC:83:GLU:N	2.37	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
1:A:222:U:H2'	1:A:223:U:C6	2.40	0.57
1:A:335:C:O2'	1:A:1433:A:N3	2.35	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
1:A:1391:U:H2'	1:A:1392:G:C8	2.39	0.57
2:B:635:C:O2'	2:B:639:U:OP1	2.21	0.57
2:B:858:U:O2	2:B:2268:A:H2'	2.04	0.57
2:B:1093:G:H22	2:B:1096:A:H5"	1.69	0.57
2:B:2864:G:H2'	2:B:2865:U:O4'	2.05	0.57
9:I:126:PRO:CG	9:I:130:ARG:HH12	2.16	0.57
14:N:38:GLU:HG3	14:N:127:ILE:HB	1.85	0.57
25:Y:47:GLN:HE21	25:Y:47:GLN:CA	2.02	0.57
37:MA:95:THR:HG22	37:MA:97:LYS:H	1.70	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
1:FB:384:G:H2'	1:FB:385:C:C6	2.39	0.57
2:GB:79:G:O2'	2:GB:346:A:N3	2.36	0.57
2:GB:556:G:H2'	2:GB:557:U:C6	2.40	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
7:LB:183:VAL:O	7:LB:187:VAL:HG23	2.04	0.57
9:NB:16:SER:HB3	9:NB:27:LYS:H	1.70	0.57
16:UB:26:LEU:HG	16:UB:39:ILE:HG12	1.87	0.57
4:NC:18:G:O2'	4:NC:19:G:O5'	2.20	0.57
41:VC:15:ASP:OD2	41:VC:17:VAL:HG23	2.03	0.57
1:A:948:C:OP2	47:WA:106:ASN:HB3	2.04	0.57
7:G:183:VAL:O	7:G:187:VAL:HG23	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:185:ASP:OD1	7:G:188:ARG:NH2	2.37	0.57
17:Q:93:ARG:NH1	17:Q:93:ARG:HB3	2.20	0.57
28:BA:59:PHE:HA	28:BA:61:ARG:NH1	2.20	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
37:MA:40:ARG:HA	37:MA:43:LEU:HB2	1.86	0.57
40:PA:15:ASP:OD2	40:PA:18:GLN:HB2	2.04	0.57
47:WA:31:LYS:NZ	47:WA:35:GLU:OE1	2.34	0.57
52:BB:66:LEU:HG	52:BB:70:ILE:HD11	1.85	0.57
1:FB:159:G:O2'	1:FB:161:A:N7	2.32	0.57
7:LB:144:LYS:HB2	7:LB:144:LYS:NZ	2.18	0.57
8:MB:126:ASP:OD2	8:MB:127:GLY:N	2.35	0.57
11:PB:35:ARG:HG2	11:PB:35:ARG:HH11	1.68	0.57
11:PB:58:ASP:N	11:PB:58:ASP:OD1	2.37	0.57
14:SB:16:ARG:HH11	14:SB:16:ARG:HB2	1.68	0.57
14:SB:38:GLU:HG3	14:SB:127:ILE:HB	1.87	0.57
33:LC:9:ARG:HE	33:LC:16:VAL:HG13	1.69	0.57
37:RC:101:LEU:HD21	37:RC:103:VAL:HG13	1.86	0.57
41:VC:31:MET:HE2	41:VC:36:LYS:HB2	1.87	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
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
23:W:6:LYS:H	23:W:6:LYS:HD2	1.70	0.57
26:Z:48:HIS:O	26:Z:52:ASP:HB2	2.04	0.57
50:ZA:42:ARG:HB2	50:ZA:42:ARG:HH11	1.70	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
14:SB:116:GLU:OE2	14:SB:119:ARG:NE	2.35	0.57
18:WB:10:ARG:HG2	18:WB:14:HIS:CD2	2.40	0.57
21:ZB:44:GLU:HG3	21:ZB:51:VAL:HG22	1.87	0.57
36:QC:193:ASP:OD2	36:QC:196:LEU:HB2	2.04	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: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
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
8:H:121:ASN:O	8:H:124:SER:OG	2.23	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:94:HIS:HB3	11:K:97:ARG:HG3	1.87	0.57
14:N:16:ARG:HH11	14:N:16:ARG:HB2	1.69	0.57
14:N:85:LYS:HZ1	24:X:4:LYS:HE2	1.69	0.57
1:FB:811:C:H4'	1:FB:900:A:H62	1.69	0.57
2:GB:242:G:O2'	2:GB:254:G:O6	2.20	0.57
5:JB:228:PRO:HD3	5:JB:235:GLY:N	2.20	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
15:TB:12:ARG:O	15:TB:17:ARG:NH1	2.38	0.57
38:SC:201:GLN:NE2	38:SC:205:GLU:OE2	2.38	0.57
42:WC:96:GLY:H	42:WC:99:GLU:HB2	1.69	0.57
54:ID:66:ALA:HB1	54:ID:71:THR:HB	1.87	0.57
1:A:512:U:O4'	38:NA:43:HIS:HE1	1.88	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
8:H:139:LEU:HB3	8:H:149:VAL:HG21	1.87	0.57
21:U:68:ARG:NH1	21:U:69:TYR:CZ	2.73	0.57
43:SA:26:VAL:HB	43:SA:33:PHE:HD2	1.69	0.57
45:UA:109:VAL:HG12	52:BB:86:VAL:HG22	1.87	0.57
47:WA:91:ARG:HB3	47:WA:91:ARG:NH1	2.20	0.57
2:GB:2164:C:H41	2:GB:2166:G:N2	2.02	0.57
4:IB:39:C:H4'	45:ZC:54:ARG:HE	1.69	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
41:VC:35:LYS:NZ	41:VC:38:LEU:HD22	2.19	0.57
2:B:783:A:H4'	2:B:2588:G:H4'	1.87	0.56
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
4:D:15:G:H5'	4:D:16:C:H5"	1.86	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
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
36:LA:118:LEU:HB3	36:LA:142:LEU:HD12	1.87	0.56
1:FB:940:C:H2'	1:FB:941:G:C8	2.40	0.56
1:FB:1252:A:H61	1:FB:1285:A:H61	1.52	0.56
1:FB:1264:C:H2'	1:FB:1265:G:C8	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:EC:16:LEU:O	26:EC:67:LYS:NZ	2.26	0.56
27:FC:3:ARG:HG2	27:FC:38:GLU:OE2	2.05	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:49:A:H4'	2:B:50:U:H5"	1.86	0.56
2:B:270(G):U:H2'	2:B:270(H):C:C6	2.40	0.56
2:B:1187:G:H8	2:B:1187:G:O5'	1.88	0.56
9:I:16:SER:HB3	9:I:27:LYS:H	1.69	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
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:68:GLU:HB3	12:QB:78:ARG:HB3	1.86	0.56
12:QB:119:PRO:HB2	17:VB:68:TYR:CE2	2.40	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
1:A:1014:A:H5'	53:CB:14:HIS:CE1	2.41	0.56
2:B:34:C:HO2'	2:B:35:G:P	2.28	0.56
2:B:817:C:O2'	2:B:839:U:OP1	2.20	0.56
2:B:828:U:H4'	2:B:831:G:N1	2.20	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:2405:G:HO2'	2:B:2406:U:P	2.27	0.56
3:C:75:G:O2'	23:W:10:ARG:NH2	2.34	0.56
3:C:88:C:H2'	3:C:89(A):G:O4'	2.06	0.56
5:E:218:ARG:HB3	5:E:219:PRO:HD2	1.87	0.56
10:J:5:LEU:HA	10:J:36:ALA:HA	1.86	0.56
14:N:112:GLU:HA	14:N:115:MET:HB2	1.85	0.56
25:Y:83:GLU:OE1	25:Y:83:GLU:N	2.38	0.56
4:IA:51:C:O2'	4:IA:64:G:N2	2.37	0.56
35:JA:106:ASP:HA	35:JA:109:ARG:HH11	1.69	0.56
36:LA:77:ALA:HA	36:LA:80:ILE:HD13	1.85	0.56
36:LA:193:ASP:OD2	36:LA:196:LEU:HB2	2.05	0.56
37:MA:47:LEU:HD22	37:MA:68:VAL:HG11	1.87	0.56
37:MA:57:ILE:HD12	37:MA:66:VAL:HG12	1.87	0.56
39:OA:52:PRO:HG2	39:OA:53:LEU:HD12	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:UA:86:GLY:H	45:UA:112:THR:HG23	1.70	0.56
51:AB:29:HIS:CD2	51:AB:30:PRO:HD2	2.41	0.56
52:BB:67:ALA:HA	52:BB:70:ILE:HD12	1.87	0.56
54:DB:86:ARG:HG2	54:DB:86:ARG:HH11	1.71	0.56
1:FB:146:G:H2'	1:FB:147:G:C8	2.40	0.56
1:FB:161:A:N1	1:FB:347:G:O2'	2.34	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
1:FB:977:A:O2'	1:FB:981:U:N3	2.37	0.56
1:FB:1040:U:H5'	1:FB:1041:A:OP2	2.05	0.56
2:GB:363(G):A:H8	2:GB:363(G):A:OP2	1.89	0.56
2:GB:900:A:H2'	2:GB:901:A:C8	2.40	0.56
2:GB:1441:G:H2'	2:GB:1442:G:H8	1.69	0.56
2:GB:2565:A:H5"	2:GB:2566:A:OP2	2.05	0.56
5:JB:6:PHE:CE1	5:JB:13:ARG:NH1	2.73	0.56
6:KB:23:VAL:HG11	6:KB:183:LEU:HD23	1.88	0.56
10:OB:29:TYR:O	10:OB:33:ARG:HD2	2.06	0.56
21:ZB:65:ARG:HB2	21:ZB:70:LEU:HG	1.86	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
50:ED:43:LYS:HG2	50:ED:48:TRP:CD2	2.41	0.56
52:GD:59:SER:N	52:GD:62:GLU:OE2	2.28	0.56
1:A:940:C:H2'	1:A:941:G:C8	2.40	0.56
1:A:1338:G:H3'	1:A:1339:A:C8	2.39	0.56
2:B:568:U:O4	2:B:973:A:OP2	2.24	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
6:F:56:PRO:HG2	6:F:57:LYS:HZ3	1.69	0.56
9:I:137:ASP:HB3	9:I:140:LYS:HB3	1.87	0.56
16:P:44:LYS:HB2	16:P:44:LYS:NZ	2.20	0.56
18:R:58:ARG:HH11	18:R:58:ARG:CG	2.19	0.56
39:OA:145:LYS:HA	39:OA:148:VAL:HB	1.87	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
2:GB:270(Q):C:H2'	2:GB:270(R):C:C6	2.40	0.56
2:GB:2021:C:H4'	2:GB:2022:U:OP2	2.04	0.56
20:YB:1:MET:HG3	20:YB:64:MET:HE3	1.87	0.56
1:A:1417:G:N2	1:A:1482:G:H2'	2.20	0.56
2:B:1104:C:H2'	2:B:1105:U:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:5:C:OP1	3:C:61:G:O2'	2.24	0.56
8:H:106:LEU:HA	8:H:110:ALA:HB3	1.87	0.56
22:V:67:LEU:HD23	22:V:72:VAL:HG23	1.86	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
42:RA:11:THR:OG1	42:RA:14:ARG:NH1	2.32	0.56
1:FB:1342:C:H2'	1:FB:1343:G:C8	2.40	0.56
2:GB:321:G:C2	2:GB:341:G:H4'	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
12:QB:64:ARG:HD3	12:QB:79:PHE:CD1	2.40	0.56
22:AC:102:CYS:SG	22:AC:104:GLY:N	2.77	0.56
28:GC:54:GLY:O	28:GC:56:VAL:N	2.38	0.56
1:A:692:U:O4	45:UA:53:SER:N	2.38	0.56
1:A:1201:A:H1'	1:A:1202:G:OP2	2.06	0.56
2:B:401:A:H2'	2:B:402:A:C8	2.40	0.56
2:B:1153:C:H5'	18:R:76:TYR:HE2	1.69	0.56
2:B:1616:A:H4'	2:B:1617:C:OP2	2.05	0.56
14:N:82:ARG:NE	24:X:4:LYS:HG3	2.20	0.56
1:FB:437:U:O2'	38:SC:123:HIS:ND1	2.33	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:46:ALA:HA	8:MB:50:ALA:HB3	1.88	0.56
8:MB:139:LEU:HB3	8:MB:149:VAL:HG21	1.88	0.56
9:NB:65:HIS:O	9:NB:68:THR:OG1	2.23	0.56
19:XB:55:ALA:HA	19:XB:100:ARG:O	2.06	0.56
40:UC:75:LEU:O	40:UC:79:LEU:HG	2.06	0.56
49:DD:78:TYR:O	49:DD:80:ALA:N	2.38	0.56
1:A:721:G:OP2	52:BB:53:ARG:HB2	2.06	0.56
1:A:1207:2MG:HM23	1:A:1208:C:H1'	1.87	0.56
2:B:2115:G:H4'	2:B:2167:U:N3	2.21	0.56
21:U:27:THR:HG23	21:U:80:ILE:HG12	1.86	0.56
23:W:80:ARG:HG2	23:W:82:ARG:HH22	1.71	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
17:VB:30:VAL:HG22	17:VB:86:ILE:HD12	1.87	0.56
30:IC:6:ARG:NH1	30:IC:26:ASN:HB2	2.20	0.56
40:UC:15:ASP:CG	40:UC:18:GLN:HB2	2.30	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
16:P:11:LYS:HD3	16:P:15:ARG:NH1	2.20	0.56
29:CA:55:ARG:HH21	29:CA:57:VAL:HG22	1.70	0.56
36:LA:56:ARG:HB3	36:LA:56:ARG:HH11	1.70	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
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:CG	5:JB:183:ARG:HH11	2.19	0.56
17:VB:105:LEU:HB3	17:VB:110:ILE:HG12	1.88	0.56
23:BC:108:PRO:HA	23:BC:142:SER:HA	1.87	0.56
26:EC:59:ARG:HB2	26:EC:59:ARG:HH11	1.71	0.56
36:QC:61:LEU:HD21	36:QC:160:ASP:HB2	1.86	0.56
44:YC:22:LYS:NZ	44:YC:85:LEU:HD23	2.21	0.56
49:DD:26:GLU:HG3	49:DD:77:ARG:HH21	1.71	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
1:A:1121:U:H3	1:A:1152:A:H61	1.54	0.56
2:B:392:C:H5"	2:B:409:C:H5"	1.86	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
7:G:125:LEU:HD21	7:G:199:TRP:CG	2.41	0.56
7:G:127:GLU:HB3	7:G:196:LEU:HD12	1.88	0.56
16:P:28:VAL:HG21	16:P:98:VAL:HG12	1.88	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
35:JA:107:ASP:N	35:JA:107:ASP:OD2	2.37	0.56
41:QA:35:LYS:NZ	41:QA:38:LEU:HD22	2.21	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
1:FB:1207:2MG:HM23	1:FB:1208:C:H1'	1.87	0.56
2:GB:589:C:H2'	2:GB:590:A:C8	2.40	0.56
2:GB:2712:U:H1'	2:GB:2712(A):A:C8	2.41	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
12:QB:71:ARG:HH12	12:QB:104:ARG:CB	2.14	0.56
23:BC:144:LEU:HD21	23:BC:149:SER:HA	1.88	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
47:BD:54:VAL:HA	47:BD:57:ARG:HG3	1.88	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
14:N:21:THR:OG1	14:N:22:LYS:N	2.40	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
46:VA:6:THR:OG1	46:VA:8:ASN:N	2.38	0.56
1:FB:269:C:H2'	1:FB:270:A:C8	2.40	0.56
1:FB:948:C:OP2	47:BD:106:ASN:HB3	2.05	0.56
1:FB:1373:G:H5"	41:VC:36:LYS:HZ3	1.70	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
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
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
1:A:1243:C:OP1	55:EB:10:ARG:HG3	2.06	0.55
1:A:1373:G:H5"	41:QA:36:LYS:HZ3	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
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
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
36:LA:187:LEU:HD12	36:LA:203:GLY:HA3	1.88	0.55
37:MA:27:LYS:O	37:MA:31:HIS:NE2	2.39	0.55
38:NA:153:ARG:NH1	38:NA:181:MET:HE3	2.20	0.55
43:SA:29:ASN:N	43:SA:63:ILE:O	2.30	0.55
52:BB:55:ARG:HB3	52:BB:55:ARG:HH11	1.71	0.55
1:FB:102:G:OP1	54:ID:17:ARG:NH2	2.39	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
7:LB:155:LEU:HA	7:LB:174:VAL:HG23	1.87	0.55
12:QB:87:ILE:HG22	12:QB:93:PRO:HA	1.88	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
7:G:152:GLU:OE2	7:G:191:ARG:NH1	2.38	0.55
37:MA:113:ALA:HB2	37:MA:202:ILE:HG13	1.89	0.55
49:YA:8:LYS:NZ	49:YA:31:LEU:HD21	2.21	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
1:FB:1022:G:C6	1:FB:1023:G:H1'	2.41	0.55
2:GB:715:G:C2	49:DD:56:LEU:HD21	2.41	0.55
2:GB:2298:A:H62	2:GB:2318:G:H8	1.51	0.55
8:MB:106:LEU:HA	8:MB:110:ALA:HB3	1.86	0.55
21:ZB:35:THR:O	21:ZB:39:ILE:HG13	2.07	0.55
31:JC:41:ARG:HD3	31:JC:45:ALA:HB2	1.88	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
50:ED:21:VAL:O	50:ED:33:ILE:N	2.38	0.55
54:ID:75:ASN:OD1	54:ID:75:ASN:N	2.37	0.55
1:A:407:G:H4'	38:NA:116:GLN:HA	1.89	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
8:H:115:ARG:HH12	47:WA:2:ALA:HA	1.71	0.55
31:EA:41:ARG:HB2	31:EA:41:ARG:HH11	1.69	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
44:TA:50:ILE:HG13	48:XA:41:ARG:NH1	2.20	0.55
2:GB:34:C:HO2'	2:GB:35:G:P	2.30	0.55
2:GB:1048:A:N1	2:GB:1112:G:O2'	2.27	0.55
8:MB:123:ASN:OD1	8:MB:123:ASN:N	2.37	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
19:XB:75:PHE:HE1	19:XB:82:ARG:NH1	2.03	0.55
25:DC:40:ARG:C	25:DC:40:ARG:HD3	2.32	0.55
32:KC:17:THR:OG1	32:KC:21:LYS:HB2	2.05	0.55
1:A:562:C:H1'	46:VA:15:ARG:HB3	1.88	0.55
1:A:731:G:OP1	1:A:766:A:H1'	2.06	0.55
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:17:THR:O	5:E:211:ARG:NH2	2.40	0.55
11:K:58:ASP:OD1	11:K:58:ASP:N	2.38	0.55
12:L:71:ARG:NH1	12:L:104:ARG:HB3	2.18	0.55
13:M:49:ARG:NH1	32:FA:4:MET:HE3	2.20	0.55
17:Q:117:ASP:O	17:Q:121:ILE:HG12	2.07	0.55
26:Z:17:SER:H	26:Z:20:GLU:CD	2.14	0.55
36:LA:187:LEU:HG	36:LA:205:ASP:HB3	1.89	0.55
51:AB:99:SER:OG	51:AB:100:LYS:N	2.39	0.55
54:DB:37:SER:HB3	54:DB:84:LEU:HD11	1.89	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
35:OC:109:ARG:HG3	35:OC:110:ASN:H	1.72	0.55
36:QC:56:ARG:NH1	36:QC:56:ARG:HB3	2.20	0.55
39:TC:41:VAL:HG22	39:TC:113:ALA:HA	1.88	0.55
43:XC:28:VAL:HA	43:XC:63:ILE:HB	1.88	0.55
53:HD:8:GLY:O	53:HD:10:PHE:N	2.40	0.55
1:A:1070:U:H2'	1:A:1071:C:H6	1.71	0.55
2:B:2064:C:H2'	2:B:2065:C:C6	2.42	0.55
6:F:93:VAL:HG21	6:F:180:ASN:HA	1.87	0.55
31:EA:29:LYS:O	31:EA:33:ARG:HG3	2.06	0.55
1:FB:731:G:OP1	1:FB:766:A:H1'	2.07	0.55
1:FB:781:A:H4'	1:FB:1522:U:O2'	2.06	0.55
1:FB:924:C:H42	1:FB:1392:G:H1	1.54	0.55
1:FB:1012:U:H2'	1:FB:1013:G:C8	2.41	0.55
2:GB:205:G:H1	25:DC:39:LYS:HZ1	1.53	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
2:GB:1101:U:H2'	2:GB:1102:C:O4'	2.07	0.55
11:PB:127:ASP:N	11:PB:127:ASP:OD1	2.38	0.55
17:VB:108:ARG:HG2	17:VB:112:ARG:NH1	2.21	0.55
25:DC:52:ARG:HH21	25:DC:57:GLU:HG3	1.72	0.55
36:QC:56:ARG:HB3	36:QC:56:ARG:HH11	1.71	0.55
36:QC:187:LEU:HG	36:QC:205:ASP:HB3	1.89	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
1:A:165:C:H2'	1:A:166:G:H8	1.71	0.55
1:A:1244:C:OP2	55:EB:9:ARG:NH1	2.38	0.55
2:B:270(Q):C:H2'	2:B:270(R):C:C6	2.41	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
7:G:10:PRO:HA	7:G:17:ARG:HH12	1.71	0.55
7:G:63:LYS:NZ	7:G:75:HIS:O	2.33	0.55
10:J:7:GLU:OE2	10:J:8:PRO:HD2	2.06	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
24:X:36:ILE:HD13	24:X:60:PHE:HB3	1.87	0.55
33:GA:9:ARG:HE	33:GA:16:VAL:HG13	1.69	0.55
37:MA:125:GLU:HA	37:MA:191:THR:HG22	1.89	0.55
42:RA:13:ILE:O	42:RA:17:THR:OG1	2.21	0.55
45:UA:123:LYS:C	45:UA:125:PHE:H	2.14	0.55
48:XA:61:TRP:OXT	48:XA:61:TRP:CD1	2.59	0.55
54:DB:47:GLY:HA2	54:DB:48:LYS:C	2.31	0.55
1:FB:741:G:H5'	49:DD:39:LEU:HD21	1.87	0.55
2:GB:2090:G:N2	25:DC:45:ASN:OD1	2.30	0.55
5:JB:267:SER:C	5:JB:269:PHE:H	2.15	0.55
18:WB:50:ARG:O	18:WB:54:LYS:NZ	2.36	0.55
22:AC:8:LYS:HZ1	22:AC:97:ARG:HD3	1.72	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:911:A:H2'	14:N:9:TYR:OH	2.07	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
2:B:2820:A:OP2	15:O:2:ARG:NH2	2.40	0.55
3:C:43:C:O2	8:H:95:ARG:NE	2.28	0.55
11:K:96:GLU:N	11:K:96:GLU:OE2	2.39	0.55
12:L:3:GLN:HB2	12:L:4:PRO:HD2	1.89	0.55
4:IA:23:C:H2'	4:IA:24:U:H6	1.71	0.55
49:YA:44:LYS:O	49:YA:47:LYS:NZ	2.40	0.55
53:CB:8:GLY:O	53:CB:10:PHE:N	2.39	0.55
2:GB:2343:C:O2'	2:GB:2373:G:O2'	2.23	0.55
2:GB:2439:A:OP1	57:GB:9001:BLS:H101	2.07	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
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
42:WC:23:SER:HA	42:WC:63:LEU:HD23	1.89	0.55
1:A:669:U:OP1	49:YA:48:LYS:NZ	2.23	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1248:G:C2	18:R:3:ARG:HD2	2.42	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
42:RA:19:VAL:HG23	42:RA:21:LYS:HG2	1.88	0.55
52:BB:38:GLU:H	52:BB:38:GLU:CD	2.15	0.55
1:FB:881:G:P	46:AD:12:ARG:HH22	2.30	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: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
2:GB:858:U:O2	2:GB:2268:A:H2'	2.07	0.55
2:GB:2251:OMG:H8	2:GB:2251:OMG:O5'	1.90	0.55
2:GB:2262:U:OP2	24:CC:16:SER:HB2	2.06	0.55
2:GB:2515:C:O2	2:GB:2570:G:C2	2.60	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
26:EC:47:ASN:O	26:EC:49:LYS:N	2.40	0.55
32:KC:7:HIS:HD2	32:KC:61:LEU:HD13	1.72	0.55
36:QC:105:PHE:HA	36:QC:108:ILE:HB	1.89	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:H8	1:A:1394:A:OP1	1.89	0.55
2:B:483:A:H4'	22:V:50:ARG:HA	1.88	0.55
2:B:1002:G:H2'	2:B:1003:G:O4'	2.07	0.55
5:E:13:ARG:HA	5:E:16:MET:HE3	1.88	0.55
10:J:67:ARG:HD2	10:J:68:LEU:HG	1.87	0.55
12:L:68:GLU:H	12:L:68:GLU:CD	2.14	0.55
40:PA:21:LEU:O	40:PA:24:GLU:HB3	2.07	0.55
42:RA:23:SER:HA	42:RA:63:LEU:HD23	1.89	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
1:FB:1346:A:H5"	43:XC:120:ARG:HH12	1.72	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
12:QB:13:ASN:HD21	12:QB:97:ARG:H	1.54	0.55
29:HC:51:TYR:HA	29:HC:56:LYS:HA	1.88	0.55
38:SC:192:GLU:CD	38:SC:192:GLU:H	2.15	0.55
45:ZC:120:ARG:HH12	45:ZC:126:ARG:HH11	1.53	0.55
47:BD:29:ARG:HH21	47:BD:64:TRP:CD1	2.25	0.55
1:A:8:A:N6	38:NA:205:GLU:O	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:1123:A:O2'	44:TA:37:PRO:O	2.18	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
2:B:1161:C:O2'	19:S:8:GLY:HA2	2.07	0.55
2:B:1268:A:H2'	2:B:1269:A:O4'	2.06	0.55
9:I:136:ILE:HD12	9:I:140:LYS:HZ1	1.72	0.55
29:CA:16:ARG:NH1	29:CA:16:ARG:HG2	2.22	0.55
36:LA:71:VAL:N	36:LA:163:PHE:O	2.40	0.55
40:PA:15:ASP:CG	40:PA:18:GLN:HB2	2.31	0.55
40:PA:62:TRP:CD1	52:BB:35:ARG:HE	2.24	0.55
49:YA:5:LYS:HE2	49:YA:5:LYS:HA	1.87	0.55
1:FB:424:G:OP2	1:FB:424:G:H8	1.90	0.55
1:FB:562:C:H1'	46:AD:15:ARG:HB3	1.89	0.55
2:GB:888:C:H5"	2:GB:889:C:OP2	2.06	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:2846:G:P	17:VB:54:ARG:HG3	2.47	0.55
14:SB:56:ARG:O	14:SB:59:ARG:HG3	2.07	0.55
25:DC:47:GLN:HE21	25:DC:47:GLN:CA	2.03	0.55
37:RC:135:LYS:NZ	37:RC:135:LYS:HB3	2.22	0.55
48:CD:37:PHE:HE1	48:CD:53:LEU:HD11	1.72	0.55
52:GD:45:SER:OG	52:GD:47:THR:OG1	2.18	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:609(B):G:H2'	2:B:610:C:C6	2.42	0.54
2:B:2351:G:HO2'	2:B:2352:A:H8	1.55	0.54
2:B:2661:G:H2'	2:B:2662:A:C8	2.43	0.54
57:B:9001:BLS:H2'	4:IA:76:A:N3	2.22	0.54
5:E:267:SER:C	5:E:269:PHE:H	2.15	0.54
6:F:37:ARG:HH11	6:F:42:ASP:CB	2.20	0.54
9:I:68:THR:O	9:I:72:ILE:HG12	2.07	0.54
18:R:28:ARG:HA	18:R:34:LYS:HB3	1.88	0.54
36:LA:30:ARG:NH2	36:LA:195:ASP:OD1	2.41	0.54
36:LA:105:PHE:HA	36:LA:108:ILE:HB	1.88	0.54
54:DB:30:LYS:HB2	54:DB:30:LYS:HZ2	1.71	0.54
1:FB:335:C:O2'	1:FB:1433:A:N3	2.39	0.54
1:FB:406:G:H2'	1:FB:407:G:H8	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:861:A:H2'	2:GB:862:G:O4'	2.07	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
57:GB:9001:BLS:H101	57:GB:9001:BLS:H151	1.71	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
17:VB:54:ARG:HA	17:VB:59:THR:HB	1.89	0.54
54:ID:37:SER:HB3	54:ID:84:LEU:HD21	1.88	0.54
2:B:2712:U:H1'	2:B:2712(A):A:C8	2.42	0.54
11:K:4:TYR:HB2	18:R:101:ARG:NH1	2.23	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
35:JA:109:ARG:HG3	35:JA:110:ASN:H	1.72	0.54
50:ZA:21:VAL:O	50:ZA:33:ILE:N	2.39	0.54
1:FB:820:U:O2'	1:FB:821:G:OP1	2.25	0.54
2:GB:321:G:P	7:LB:135:LYS:NZ	2.76	0.54
2:GB:1246:A:OP1	7:LB:38:ARG:NH2	2.40	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
2:GB:2791:C:OP1	2:GB:2892:A:N6	2.40	0.54
7:LB:34:TRP:CH2	13:RB:8:PRO:HB3	2.42	0.54
31:JC:9:ARG:HE	31:JC:47:ARG:HB2	1.72	0.54
39:TC:129:ILE:O	39:TC:133:TYR:HB2	2.07	0.54
1:A:222:U:OP2	1:A:222:U:H6	1.91	0.54
1:A:580:U:H2'	1:A:581:G:O4'	2.07	0.54
1:A:1366:C:O2'	44:TA:60:ARG:NH2	2.40	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: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
24:X:41:ARG:HG3	24:X:41:ARG:NH1	2.20	0.54
50:ZA:6:LEU:HG	50:ZA:17:TYR:HB3	1.88	0.54
54:DB:82:SER:O	54:DB:86:ARG:HG3	2.06	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
1:FB:663:A:H5"	52:GD:61:LYS:HE3	1.89	0.54
1:FB:1121:U:H2'	1:FB:1122:U:C6	2.42	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
5:JB:13:ARG:HA	5:JB:16:MET:HE3	1.89	0.54
6:KB:51:PHE:HD2	6:KB:77:ILE:HD12	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:VB:122:ASP:O	17:VB:126:ALA:N	2.41	0.54
25:DC:50:ARG:HG2	25:DC:59:THR:HB	1.88	0.54
4:NC:51:C:O2'	4:NC:64:G:N2	2.41	0.54
38:SC:18:LYS:HZ3	38:SC:26:CYS:HG	1.52	0.54
39:TC:37:ARG:HH12	39:TC:111:GLU:CG	2.19	0.54
52:GD:67:ALA:HA	52:GD:70:ILE:HD12	1.90	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:433:C:H2'	2:B:434:U:C6	2.42	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:2349:G:OP2	32:FA:42:ARG:HD3	2.07	0.54
2:B:2361:A:O5'	32:FA:27:THR:OG1	2.24	0.54
2:B:2716:U:H2'	2:B:2717:G:H8	1.73	0.54
2:B:2846:G:P	17:Q:54:ARG:HG3	2.47	0.54
8:H:46:ALA:HA	8:H:50:ALA:HB3	1.89	0.54
19:S:14:VAL:HB	19:S:96:ILE:HG13	1.89	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
53:CB:19:VAL:HA	53:CB:22:LEU:HB2	1.88	0.54
2:GB:360:G:H2'	2:GB:361:G:O4'	2.08	0.54
2:GB:1515:C:H2'	2:GB:1516:U:C6	2.43	0.54
2:GB:1998:G:HO2'	2:GB:2724:C:HO2'	1.55	0.54
2:GB:2227:A:O3'	5:JB:261:LYS:NZ	2.37	0.54
2:GB:2351:G:HO2'	2:GB:2352:A:H8	1.56	0.54
2:GB:2508:G:HO2'	2:GB:2554:U:HO2'	1.56	0.54
16:UB:83:LYS:O	16:UB:85:VAL:HG23	2.08	0.54
37:RC:150:LYS:HB3	37:RC:201:TYR:HB2	1.88	0.54
40:UC:74:ASP:O	40:UC:77:ARG:HB3	2.06	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
5:E:183:ARG:CG	5:E:183:ARG:HH11	2.20	0.54
6:F:174:ASP:O	6:F:183:LEU:N	2.40	0.54
8:H:135:LEU:C	8:H:136:ARG:HG3	2.31	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
20:T:1:MET:HE3	20:T:62:HIS:HB3	1.88	0.54
31:EA:9:ARG:HE	31:EA:47:ARG:HB2	1.71	0.54
32:FA:55:ALA:HA	32:FA:58:ILE:HG12	1.88	0.54
35:JA:159:TYR:HB2	35:JA:162:ILE:HG12	1.89	0.54
37:MA:122:GLU:HA	37:MA:125:GLU:HB2	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:MA:134:ILE:HG23	37:MA:151:VAL:HG13	1.90	0.54
40:PA:62:TRP:CG	52:BB:35:ARG:HH21	2.26	0.54
54:DB:37:SER:HB3	54:DB:84:LEU:HD21	1.88	0.54
1:FB:498:A:H4'	1:FB:500:G:OP1	2.07	0.54
1:FB:1089:G:H1	1:FB:1096:C:H42	1.56	0.54
5:JB:133:LEU:HB2	5:JB:173:VAL:HG21	1.88	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
1:A:1243:C:H5"	55:EB:8:THR:HG21	1.89	0.54
2:B:451:C:H4'	7:G:52:LYS:HZ1	1.73	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
8:H:114:ILE:HG12	8:H:117:PHE:HD1	1.72	0.54
10:J:122:GLU:HB2	10:J:126:TYR:OH	2.08	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
24:X:63:VAL:HG21	24:X:83:PRO:HG3	1.90	0.54
36:LA:19:HIS:CG	36:LA:20:GLU:HG2	2.42	0.54
36:LA:177:ALA:HB1	36:LA:182:ILE:HB	1.89	0.54
38:NA:140:VAL:HG13	38:NA:144:ASP:OD2	2.08	0.54
43:SA:26:VAL:HA	43:SA:61:ALA:HB3	1.89	0.54
1:FB:673:G:H2'	1:FB:674:G:C8	2.42	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
2:GB:1083:U:H2'	2:GB:1085:A:H5"	1.89	0.54
5:JB:182:LEU:HB2	5:JB:272:ALA:HB3	1.89	0.54
10:OB:5:LEU:HA	10:OB:36:ALA:HA	1.89	0.54
17:VB:117:ASP:O	17:VB:121:ILE:HG12	2.07	0.54
29:HC:55:ARG:HH21	29:HC:57:VAL:HG22	1.73	0.54
36:QC:118:LEU:HB3	36:QC:142:LEU:HD12	1.88	0.54
45:ZC:123:LYS:C	45:ZC:125:PHE:H	2.16	0.54
52:GD:66:LEU:HG	52:GD:70:ILE:HD11	1.88	0.54
1:A:191(D):U:H2'	1:A:191(E):G:C8	2.42	0.54
1:A:1296:C:H3'	1:A:1297:C:C6	2.43	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
11:K:30:ILE:HG22	11:K:34:LEU:HD22	1.89	0.54
24:X:11:ARG:NH1	4:IA:63:G:O3'	2.38	0.54
38:NA:117:ALA:HA	38:NA:120:LEU:HD12	1.89	0.54
2:GB:2681:C:OP2	6:KB:109:LYS:NZ	2.39	0.54
3:HB:4:C:H42	3:HB:116:G:H1	1.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:OB:27:ARG:HD3	25:DC:67:ILE:HG21	1.90	0.54
23:BC:132:ASN:OD1	23:BC:132:ASN:N	2.38	0.54
27:FC:6:VAL:HG13	27:FC:56:VAL:HG13	1.90	0.54
28:GC:40:HIS:HB3	28:GC:43:TYR:HB2	1.89	0.54
29:HC:16:ARG:NH1	29:HC:16:ARG:HG2	2.23	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:763:G:H2'	1:A:764:C:C6	2.42	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
2:B:243:U:OP1	32:FA:6:THR:OG1	2.20	0.54
2:B:783:A:H2'	2:B:783:A:N3	2.23	0.54
2:B:833:U:O2	13:M:55:ARG:NH2	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
7:G:65:TRP:HD1	7:G:70:THR:HG21	1.71	0.54
11:K:83:LYS:HB2	11:K:83:LYS:HZ2	1.71	0.54
11:K:127:ASP:N	11:K:127:ASP:OD1	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
22:V:18:GLY:C	22:V:20:TYR:H	2.16	0.54
24:X:68:GLU:HG3	24:X:82:ARG:NH2	2.22	0.54
4:IA:53:G:H22	4:IA:61:C:N4	2.06	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:FB:743:U:H2'	1:FB:744:C:C6	2.43	0.54
1:FB:1314:C:OP2	53:HD:4:SER:OG	2.23	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
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
16:UB:28:VAL:HG21	16:UB:98:VAL:HG12	1.90	0.54
46:AD:25:PRO:O	46:AD:27:LEU:N	2.40	0.54
46:AD:114:LYS:HA	46:AD:117:ARG:HD2	1.90	0.54
1:A:923:A:H61	1:A:1393:U:H3	1.53	0.54
1:A:1228:C:OP2	47:WA:111:LYS:HD3	2.08	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2533:A:H2'	2:B:2534:A:O4'	2.07	0.54
5:E:118:VAL:N	5:E:129:ASN:OD1	2.40	0.54
7:G:155:LEU:HA	7:G:174:VAL:HG23	1.89	0.54
13:M:126:VAL:HA	13:M:146:VAL:O	2.06	0.54
16:P:25:ARG:NH2	16:P:40:ILE:HD12	2.23	0.54
46:VA:47:LYS:HG2	46:VA:48:PRO:HA	1.89	0.54
1:FB:165:C:H2'	1:FB:166:G:H8	1.71	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
12:QB:13:ASN:HD21	12:QB:97:ARG:HG3	1.72	0.54
26:EC:48:HIS:O	26:EC:52:ASP:HB2	2.08	0.54
4:NC:53:G:H22	4:NC:61:C:N4	2.06	0.54
39:TC:81:GLU:HB3	39:TC:90:VAL:HG13	1.90	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
47:BD:6:GLY:HA3	47:BD:67:GLU:HG2	1.90	0.54
1:A:941:G:N2	1:A:942:G:H1'	2.23	0.54
1:A:975:A:H8	1:A:975:A:H5"	1.73	0.54
1:A:1111:A:H2'	1:A:1112:C:C6	2.43	0.54
2:B:755:C:H2'	2:B:756:C:C6	2.43	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
19:S:66:ARG:HD2	19:S:88:ARG:HG3	1.89	0.54
39:OA:87:SER:HB3	39:OA:131:ILE:HD13	1.89	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
18:WB:53:ARG:HA	18:WB:56:ASP:OD2	2.07	0.54
22:AC:43:ASN:O	22:AC:65:ALA:N	2.26	0.54
51:FD:67:LYS:C	51:FD:70:ARG:HH12	2.16	0.54
3:C:103:U:O3'	23:W:72:ARG:HD2	2.08	0.53
17:Q:108:ARG:HG2	17:Q:112:ARG:NH1	2.21	0.53
22:V:79:CYS:SG	22:V:81:LYS:HB2	2.49	0.53
44:TA:22:LYS:NZ	44:TA:85:LEU:HD23	2.23	0.53
48:XA:4:LYS:HZ3	48:XA:7:ILE:HG13	1.72	0.53
54:DB:56:MET:SD	54:DB:88:VAL:HG11	2.48	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1014:A:H5'	53:HD:14:HIS:CE1	2.42	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
2:GB:191:A:H2'	2:GB:192:C:C6	2.43	0.53
2:GB:392:C:H5"	2:GB:409:C:H5"	1.90	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:2115:G:H4'	2:GB:2167:U:N3	2.23	0.53
2:GB:2674:G:H5"	12:QB:26:LYS:HE2	1.89	0.53
6:KB:128:SER:OG	6:KB:129:HIS:N	2.40	0.53
6:KB:178:GLU:OE2	6:KB:178:GLU:N	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
12:QB:66:LYS:HB2	12:QB:82:ASN:ND2	2.15	0.53
21:ZB:60:ARG:CZ	31:JC:47:ARG:HH22	2.21	0.53
22:AC:35:TYR:CD2	22:AC:69:ALA:HB3	2.42	0.53
38:SC:8:VAL:HA	38:SC:11:LEU:HD13	1.90	0.53
45:ZC:109:VAL:HG12	52:GD:86:VAL:HG22	1.89	0.53
48:CD:8:GLU:HA	48:CD:11:LYS:HD2	1.90	0.53
54:ID:47:GLY:HA2	54:ID:48:LYS:C	2.33	0.53
55:JD:12:LYS:HB3	55:JD:18:TYR:HA	1.90	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
1:A:1072:G:H21	36:LA:107:THR:HG21	1.72	0.53
1:A:1248:A:OP1	1:A:1248:A:H4'	2.07	0.53
2:B:64:A:C5	21:U:66:LEU:HD13	2.43	0.53
2:B:279:C:H2'	2:B:280:C:C6	2.43	0.53
2:B:675:A:OP1	7:G:63:LYS:HD2	2.07	0.53
4:D:71:C:H2'	4:D:72:A:H8	1.73	0.53
7:G:202:PHE:CE1	7:G:206:ILE:HD11	2.43	0.53
28:BA:54:GLY:O	28:BA:56:VAL:N	2.42	0.53
1:FB:773:G:H1	1:FB:806:C:H42	1.55	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
2:GB:413:C:HO2'	2:GB:1880:C:HO2'	1.57	0.53
2:GB:833:U:H1'	13:RB:55:ARG:HH21	1.72	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2247:A:H2'	2:GB:2248:C:H6	1.74	0.53
8:MB:101:ILE:O	8:MB:105:LYS:NZ	2.28	0.53
24:CC:41:ARG:HG3	24:CC:41:ARG:HH11	1.73	0.53
25:DC:64:ALA:HA	25:DC:67:ILE:HG13	1.90	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
46:AD:6:THR:OG1	46:AD:8:ASN:N	2.39	0.53
46:AD:8:ASN:HA	46:AD:11:VAL:HG23	1.91	0.53
47:BD:31:LYS:HZ1	47:BD:34:LEU:HD12	1.73	0.53
49:DD:5:LYS:HA	49:DD:5:LYS:HE2	1.89	0.53
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
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
12:L:21:CYS:HB2	12:L:39:ILE:HD12	1.90	0.53
43:SA:4:TYR:HB2	43:SA:88:TYR:HD1	1.72	0.53
44:TA:51:ARG:HG3	44:TA:60:ARG:HA	1.90	0.53
45:UA:120:ARG:HG2	45:UA:120:ARG:NH1	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:FB:451:A:N6	1:FB:480:U:H2'	2.23	0.53
1:FB:1175:G:H8	1:FB:1175:G:OP2	1.90	0.53
2:GB:483:A:H4'	22:AC:50:ARG:HA	1.89	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
23:BC:72:ARG:HA	23:BC:72:ARG:NH1	2.22	0.53
24:CC:36:ILE:HD13	24:CC:60:PHE:HB3	1.89	0.53
38:SC:94:LEU:HD11	38:SC:200:GLU:HG3	1.90	0.53
1:A:447:G:H2'	1:A:485:G:N2	2.22	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
6:F:179:GLU:HA	6:F:179:GLU:OE2	2.07	0.53
9:I:67:LEU:O	9:I:71:LEU:HB2	2.08	0.53
21:U:60:ARG:CZ	31:EA:47:ARG:HH22	2.22	0.53
4:IA:16:C:OP1	4:IA:17:C:N4	2.41	0.53
39:OA:81:GLU:HB3	39:OA:90:VAL:HG13	1.90	0.53
1:FB:56:U:H2'	1:FB:57:G:C8	2.43	0.53
1:FB:189:U:O4	51:FD:62:SER:OG	2.22	0.53
1:FB:689:C:H2'	1:FB:690:G:O4'	2.09	0.53
1:FB:1296:C:H3'	1:FB:1297:C:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1309:G:O3'	47:BD:77:ASN:ND2	2.41	0.53
1:FB:1532:U:OP2	1:FB:1532:U:H6	1.91	0.53
2:GB:11:G:H22	2:GB:2628:C:P	2.30	0.53
2:GB:764:A:H5"	5:JB:210:GLY:HA3	1.89	0.53
2:GB:2377:A:H2'	2:GB:2378:A:C8	2.43	0.53
2:GB:2855:C:H2'	2:GB:2856:C:H6	1.73	0.53
8:MB:135:LEU:C	8:MB:136:ARG:HG3	2.33	0.53
9:NB:68:THR:O	9:NB:72:ILE:HG12	2.09	0.53
18:WB:49:HIS:HA	18:WB:52:ARG:HB3	1.90	0.53
36:QC:19:HIS:CG	36:QC:20:GLU:HG2	2.43	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
1:A:981:U:H5'	48:XA:21:TYR:CZ	2.44	0.53
1:A:1532:U:OP2	1:A:1532:U:H6	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
2:B:1266:G:O5'	20:T:15:ARG:NH2	2.41	0.53
2:B:1803:A:O2'	5:E:259:THR:HG21	2.08	0.53
2:B:1814:G:H4'	5:E:51:VAL:HG21	1.91	0.53
7:G:65:TRP:CD1	7:G:70:THR:HG21	2.44	0.53
20:T:59:VAL:HG13	20:T:60:ASN:H	1.73	0.53
23:W:108:PRO:HA	23:W:142:SER:HA	1.90	0.53
28:BA:41:PRO:HB3	28:BA:47:GLN:HG2	1.91	0.53
32:FA:4:MET:HE2	32:FA:63:PRO:HG3	1.89	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
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
2:GB:1367:A:N7	2:GB:1368:G:H1'	2.24	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
12:QB:119:PRO:HB2	17:VB:68:TYR:CD2	2.43	0.53
15:TB:100:LEU:HD11	15:TB:113:LEU:HB3	1.91	0.53
43:XC:4:TYR:HB2	43:XC:88:TYR:HD1	1.73	0.53
1:A:660:G:H1	1:A:745:C:H42	1.57	0.53
1:A:1431:C:H2'	1:A:1432:G:O4'	2.09	0.53
2:B:226:G:H1'	2:B:227:A:C8	2.43	0.53
12:L:89:ASN:HB2	12:L:90:GLN:HE22	1.72	0.53
21:U:35:THR:O	21:U:39:ILE:HG13	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:JA:186:ARG:HA	35:KA:313:PRO:CD	2.39	0.53
48:XA:8:GLU:HA	48:XA:11:LYS:HD2	1.89	0.53
2:GB:1074:G:N2	2:GB:1095:A:O2'	2.40	0.53
12:QB:101:PRO:HD3	17:VB:67:SER:O	2.09	0.53
22:AC:18:GLY:O	22:AC:20:TYR:N	2.41	0.53
36:QC:44:LEU:HD12	36:QC:44:LEU:H	1.73	0.53
37:RC:37:GLN:NE2	48:CD:52:GLN:OE1	2.41	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
1:A:1041:A:H3'	1:A:1042:G:H8	1.73	0.53
2:B:154:G:H1	2:B:172:C:H42	1.56	0.53
2:B:1210:A:C8	2:B:1212:G:C2	2.96	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
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
5:E:260:ARG:NH2	5:E:266:SER:OG	2.42	0.53
8:H:16:ARG:O	8:H:20:ILE:HG13	2.09	0.53
21:U:44:GLU:HG3	21:U:51:VAL:HG22	1.91	0.53
29:CA:51:TYR:HA	29:CA:56:LYS:HA	1.90	0.53
40:PA:75:LEU:O	40:PA:79:LEU:HG	2.08	0.53
50:ZA:43:LYS:HG2	50:ZA:48:TRP:CD2	2.43	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:H8	1:FB:975:A:H5"	1.74	0.53
2:GB:921:G:H5"	2:GB:922:U:OP2	2.08	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:1568:G:P	5:JB:63:ARG:HH22	2.31	0.53
2:GB:1591:G:H2'	2:GB:1592:C:C6	2.44	0.53
5:JB:118:VAL:N	5:JB:129:ASN:OD1	2.40	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
24:CC:46:LYS:HD3	24:CC:78:TYR:CZ	2.43	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
42:WC:5:PRO:HG2	42:WC:6:ILE:HD12	1.90	0.53
52:GD:54:ARG:HB3	52:GD:54:ARG:CZ	2.38	0.53
1:A:312:C:H2'	1:A:313:A:C8	2.43	0.53
2:B:1693:U:OP2	2:B:1694:C:H5	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
8:H:123:ASN:OD1	8:H:123:ASN:N	2.37	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
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
35:JA:145:ARG:H	35:JA:167:SER:HB2	1.72	0.53
47:WA:91:ARG:HH12	47:WA:96:LEU:C	2.16	0.53
1:FB:56:U:H2'	1:FB:57:G:H8	1.74	0.53
1:FB:222:U:OP2	1:FB:222:U:H6	1.91	0.53
1:FB:1089:G:H1	1:FB:1096:C:N4	2.06	0.53
2:GB:548:A:H4'	19:XB:19:LYS:HZ2	1.73	0.53
2:GB:751:A:H5'	20:YB:90:ARG:HA	1.90	0.53
2:GB:1411:C:H2'	2:GB:1412:A:C8	2.44	0.53
2:GB:1983:C:H4'	2:GB:2606:C:H4'	1.91	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
27:FC:39:ASP:OD1	27:FC:44:ARG:NH2	2.41	0.53
38:SC:36:ARG:HB3	38:SC:38:TYR:CZ	2.44	0.53
39:TC:52:PRO:HG2	39:TC:53:LEU:HD12	1.91	0.53
50:ED:6:LEU:HG	50:ED:17:TYR:HB3	1.91	0.53
1:A:56:U:H2'	1:A:57:G:C8	2.43	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: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
1:A:1062:U:H2'	1:A:1063:C:C6	2.44	0.53
2:B:71:A:OP1	2:B:112:U:O2'	2.14	0.53
2:B:574:C:N3	6:F:145:LYS:NZ	2.55	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:2251:OMG:HN21	57:B:9001:BLS:C2	2.21	0.53
5:E:79:VAL:HG12	5:E:113:VAL:HA	1.91	0.53
14:N:56:ARG:O	14:N:59:ARG:HG3	2.09	0.53
23:W:130:PRO:HD2	23:W:131:ARG:HH11	1.74	0.53
23:W:132:ASN:OD1	23:W:132:ASN:N	2.41	0.53
30:DA:6:ARG:NH1	30:DA:26:ASN:HB2	2.22	0.53
32:FA:26:LYS:HB2	32:FA:44:LYS:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:LA:71:VAL:HB	36:LA:164:VAL:HG22	1.90	0.53
43:SA:42:ARG:NH1	43:SA:75:ASP:OD2	2.41	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
1:FB:1305:G:N2	1:FB:1331:G:H1'	2.24	0.53
2:GB:908:C:O2'	14:SB:71:ASP:OD2	2.21	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
7:LB:120:GLU:OE1	13:RB:1:MET:N	2.41	0.53
23:BC:80:ARG:CG	23:BC:82:ARG:HH12	2.22	0.53
1:A:1128:C:N4	1:A:1129:C:H41	2.07	0.53
1:A:1216:G:H5"	48:XA:5:ALA:HB2	1.91	0.53
2:B:861:A:H2'	2:B:862:G:O4'	2.09	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
40:PA:33:TYR:HD2	40:PA:75:LEU:HA	1.73	0.53
49:YA:41:GLU:OE2	49:YA:44:LYS:HD2	2.09	0.53
51:AB:96:GLN:O	51:AB:98:LEU:N	2.38	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
9:NB:148:ILE:HA	9:NB:151:ILE:HG13	1.92	0.53
12:QB:87:ILE:HD13	12:QB:91:LEU:HA	1.91	0.53
17:VB:51:ARG:HG3	17:VB:98:LYS:HE3	1.90	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: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
38:SC:117:ALA:HA	38:SC:120:LEU:HD12	1.90	0.53
1:A:324:G:N1	1:A:327:A:OP2	2.41	0.52
1:A:781:A:H4'	1:A:1522:U:O2'	2.10	0.52
1:A:1175:G:H8	1:A:1175:G:OP2	1.92	0.52
1:A:1346:A:H5"	43:SA:120:ARG:HH12	1.73	0.52
2:B:733:G:N7	2:B:761:A:N7	2.57	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
4:D:5:G:O2'	4:D:6:G:OP2	2.26	0.52
15:O:60:LEU:HD21	15:O:64:ARG:NH1	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:EA:41:ARG:HD3	31:EA:45:ALA:HB2	1.91	0.52
36:LA:44:LEU:H	36:LA:44:LEU:HD12	1.74	0.52
40:PA:43:LEU:HB2	40:PA:60:PHE:HB2	1.90	0.52
55:EB:12:LYS:HB3	55:EB:18:TYR:HA	1.91	0.52
1:FB:708:C:P	45:ZC:85:ARG:HH22	2.31	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:180:G:N2	2:GB:215:G:O6	2.42	0.52
2:GB:259:G:O2'	2:GB:621:A:O2'	2.25	0.52
2:GB:1288:U:C2	2:GB:1327:C:O2	2.62	0.52
2:GB:2661:G:H2'	2:GB:2662:A:C8	2.44	0.52
8:MB:4:ASP:OD2	8:MB:9:ARG:HD2	2.09	0.52
18:WB:31:SER:HB3	18:WB:34:LYS:HB2	1.91	0.52
22:AC:37:VAL:HG21	22:AC:72:VAL:HG21	1.91	0.52
4:NC:53:G:H22	4:NC:61:C:H42	1.55	0.52
38:SC:32:ALA:O	38:SC:36:ARG:N	2.38	0.52
53:HD:19:VAL:HA	53:HD:22:LEU:HB2	1.90	0.52
2:B:881:G:H1	2:B:895:U:H3	1.57	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
23:W:144:LEU:HD21	23:W:149:SER:HA	1.91	0.52
52:BB:54:ARG:HB3	52:BB:54:ARG:CZ	2.39	0.52
1:FB:501:C:H2'	1:FB:502:G:C8	2.44	0.52
2:GB:868:U:N3	2:GB:869:G:N7	2.57	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:2361:A:P	32:KC:26:LYS:NZ	2.82	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
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
19:XB:14:VAL:HB	19:XB:96:ILE:HG13	1.91	0.52
23:BC:125:LEU:HB3	23:BC:165:VAL:HG22	1.90	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
42:WC:25:ASP:OD1	42:WC:25:ASP:N	2.41	0.52
1:A:1309:G:O3'	47:WA:77:ASN:ND2	2.41	0.52
2:B:723:G:H2'	2:B:724:U:O4'	2.09	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
15:O:21:TYR:HB3	15:O:47:PHE:CD2	2.45	0.52
17:Q:54:ARG:HA	17:Q:59:THR:HB	1.92	0.52
38:NA:8:VAL:O	38:NA:10:ARG:N	2.41	0.52
38:NA:33:MET:SD	38:NA:37:PRO:HA	2.48	0.52
38:NA:61:LYS:HB2	38:NA:203:VAL:HG13	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
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
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
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
2:GB:1175:U:H1'	2:GB:1176:G:N2	2.25	0.52
2:GB:1401:G:HO2'	2:GB:1524:G:HO2'	1.57	0.52
2:GB:2107:C:O2	2:GB:2182:G:N2	2.39	0.52
9:NB:56:SER:OG	9:NB:57:ASP:N	2.42	0.52
35:OC:159:TYR:HB2	35:OC:162:ILE:HG12	1.92	0.52
41:VC:35:LYS:HG2	41:VC:38:LEU:HB2	1.91	0.52
44:YC:46:ARG:HG3	44:YC:64:GLU:HB3	1.90	0.52
48:CD:24:CYS:HB3	48:CD:28:GLY:H	1.73	0.52
1:A:1040:U:H5'	1:A:1041:A:OP2	2.09	0.52
2:B:243:U:OP2	32:FA:8:LYS:NZ	2.33	0.52
2:B:627:A:O4'	2:B:637:A:N6	2.41	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
6:F:14:ILE:HB	17:Q:14:TYR:CE1	2.44	0.52
30:DA:9:LEU:HA	30:DA:54:ILE:HB	1.91	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
43:SA:70:LYS:O	43:SA:74:ILE:N	2.39	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1161:C:O2'	19:XB:8:GLY:HA2	2.10	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
7:LB:10:PRO:CB	7:LB:17:ARG:HH12	2.22	0.52
10:OB:75:LEU:HD13	10:OB:105:HIS:HE2	1.73	0.52
14:SB:55:VAL:HG23	14:SB:64:ILE:HD12	1.90	0.52
20:YB:1:MET:HE3	20:YB:62:HIS:HB3	1.90	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:2443:C:OP1	7:G:68:LYS:HD3	2.08	0.52
2:B:2805:G:H2'	2:B:2807:G:H5"	1.91	0.52
6:F:114:ALA:CB	6:F:160:TYR:HB2	2.39	0.52
10:J:2:LYS:HG2	10:J:20:ASP:HB2	1.92	0.52
16:P:83:LYS:O	16:P:85:VAL:HG23	2.09	0.52
4:IA:53:G:H22	4:IA:61:C:H42	1.56	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
40:PA:74:ASP:O	40:PA:77:ARG:HB3	2.09	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: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
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
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
6:KB:37:ARG:HH11	6:KB:42:ASP:CB	2.22	0.52
6:KB:56:PRO:HG2	6:KB:57:LYS:HZ3	1.74	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
10:OB:38:LEU:O	10:OB:43:ASN:ND2	2.43	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
1:A:56:U:H2'	1:A:57:G:H8	1.74	0.52
1:A:102:G:OP1	54:DB:17:ARG:NH2	2.42	0.52
1:A:587:G:H8	1:A:587:G:O5'	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1268:A:N3	1:A:1326:C:O2'	2.42	0.52
2:B:600:G:H5'	7:G:32:LEU:HD13	1.91	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
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:17:ALA:HB2	39:OA:26:PHE:HD1	1.74	0.52
39:OA:37:ARG:HH12	39:OA:111:GLU:HB3	1.75	0.52
41:QA:49:ILE:HG22	41:QA:53:LYS:HG3	1.91	0.52
47:WA:31:LYS:NZ	47:WA:31:LYS:HA	2.25	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
13:RB:107:LYS:HB2	13:RB:110:TYR:CD2	2.45	0.52
39:TC:37:ARG:HH12	39:TC:111:GLU:HB3	1.75	0.52
1:A:146:G:H2'	1:A:147:G:C8	2.43	0.52
1:A:1292:U:H2'	1:A:1293:G:C8	2.45	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
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
44:TA:8:LEU:HD23	44:TA:96:ILE:HG23	1.91	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:243:U:OP2	32:KC:8:LYS:NZ	2.36	0.52
2:GB:270(A):A:OP2	2:GB:270(Z):G:N1	2.42	0.52
2:GB:528:A:C2	2:GB:2043:C:H4'	2.45	0.52
2:GB:1257:C:H4'	7:LB:83:PHE:CE1	2.44	0.52
2:GB:1538:G:H2'	2:GB:1539:G:H8	1.74	0.52
2:GB:2139:C:H5	2:GB:2153:G:H21	1.55	0.52
7:LB:36:VAL:HG11	7:LB:183:VAL:HG11	1.90	0.52
12:QB:63:VAL:HG11	12:QB:85:VAL:HG23	1.91	0.52
12:QB:68:GLU:H	12:QB:68:GLU:CD	2.18	0.52
37:RC:64:VAL:HG22	37:RC:66:VAL:HG13	1.92	0.52
46:AD:117:ARG:NH2	46:AD:123:LYS:O	2.38	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:997:U:H3'	1:A:998(A):G:H8	1.75	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
2:B:140:A:H8	2:B:1408:C:O2'	1.93	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
2:B:1045:A:H5"	2:B:1046:A:C5'	2.38	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
5:E:133:LEU:HB2	5:E:173:VAL:HG21	1.92	0.52
6:F:96:PHE:HA	6:F:100:GLU:OE2	2.10	0.52
7:G:64:ILE:HD12	7:G:65:TRP:H	1.74	0.52
8:H:115:ARG:O	8:H:136:ARG:NH2	2.40	0.52
25:Y:52:ARG:HH21	25:Y:57:GLU:HG3	1.75	0.52
26:Z:59:ARG:HH11	26:Z:59:ARG:HB2	1.74	0.52
36:LA:79:ASP:HA	36:LA:82:ARG:HB3	1.92	0.52
42:RA:12:ARG:HD3	42:RA:25:ASP:O	2.09	0.52
43:SA:110:GLU:OE2	43:SA:119:ALA:HB1	2.09	0.52
1:FB:394:G:H2'	1:FB:395:C:C6	2.45	0.52
1:FB:1414:U:H3	1:FB:1486:G:H1	1.57	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: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
23:BC:56:VAL:HA	23:BC:70:LEU:HD23	1.92	0.52
37:RC:11:ARG:HA	37:RC:14:ILE:HB	1.92	0.52
41:VC:20:ASP:OD2	41:VC:22:LEU:HD23	2.10	0.52
44:YC:8:LEU:HD23	44:YC:96:ILE:HG23	1.90	0.52
50:ED:57:ARG:NH2	50:ED:79:VAL:O	2.42	0.52
1:A:865:A:H5'	1:A:1078:U:C5	2.45	0.52
1:A:1292:U:H2'	1:A:1293:G:H8	1.75	0.52
2:B:363(G):A:H8	2:B:363(G):A:OP2	1.93	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
8:H:118:ARG:HH12	28:BA:41:PRO:HB2	1.75	0.52
22:V:102:CYS:SG	22:V:104:GLY:N	2.83	0.52
35:KA:307:ASN:HA	35:KA:321:ARG:HH12	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:PA:11:ASN:HB3	40:PA:14:LEU:HD11	1.92	0.52
48:XA:27:CYS:HB3	48:XA:43:CYS:SG	2.50	0.52
1:FB:1284:C:H3'	1:FB:1285:A:H8	1.74	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
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
5:JB:274:ARG:HH11	5:JB:274:ARG:HG2	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:16:SER:OG	9:NB:17:VAL:N	2.43	0.52
9:NB:137:ASP:HB3	9:NB:140:LYS:HB3	1.92	0.52
14:SB:85:LYS:HZ1	24:CC:4:LYS:HE2	1.72	0.52
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
47:BD:96:LEU:O	47:BD:110:ARG:NH2	2.42	0.52
1:A:575:G:O2'	1:A:821:G:H5"	2.10	0.52
1:A:600:C:H2'	1:A:601:C:C6	2.45	0.52
2:B:11:G:H22	2:B:2628:C:P	2.33	0.52
2:B:528:A:C2	2:B:2043:C:H4'	2.44	0.52
2:B:686:G:O6	31:EA:12:ARG:NH1	2.43	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
12:L:111:PHE:O	12:L:114:ILE:HG12	2.09	0.52
13:M:107:LYS:HB2	13:M:110:TYR:CD2	2.45	0.52
36:LA:61:LEU:HA	36:LA:64:ARG:HG2	1.91	0.52
46:VA:89:ARG:HH12	46:VA:95:GLY:N	2.06	0.52
54:DB:57:ARG:HH11	54:DB:102:GLY:HA3	1.75	0.52
1:FB:191(D):U:H2'	1:FB:191(E):G:C8	2.44	0.52
1:FB:1239:A:H5'	1:FB:1241:G:H1'	1.92	0.52
2:GB:2233:U:H2'	2:GB:2234:G:C8	2.46	0.52
2:GB:2816:C:O2	2:GB:2883:A:O2'	2.27	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:14:ILE:HB	17:VB:14:TYR:CE1	2.45	0.52
6:KB:143:ASN:HD22	6:KB:147:PRO:HD3	1.74	0.52
7:LB:53:THR:H	7:LB:56:GLU:HG3	1.75	0.52
7:LB:167:ALA:HB1	7:LB:173:VAL:HG11	1.92	0.52
18:WB:106:PHE:HA	18:WB:109:LEU:HD12	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
53:HD:28:LYS:NZ	53:HD:30:LEU:HD11	2.25	0.52
1:A:424:G:H8	1:A:424:G:OP2	1.92	0.51
1:A:948:C:H42	1:A:1233:G:H1	1.58	0.51
1:A:1130:A:H2'	1:A:1131:G:C8	2.43	0.51
2:B:612:G:N2	2:B:616:A:O2'	2.42	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
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
14:N:34:LEU:HD11	14:N:129:THR:HB	1.91	0.51
32:FA:6:THR:HG22	32:FA:62:LEU:HA	1.91	0.51
36:LA:209:ARG:HA	36:LA:237:ALA:HB1	1.92	0.51
41:QA:120:ILE:O	41:QA:124:LEU:HB2	2.11	0.51
42:RA:5:PRO:HG2	42:RA:6:ILE:HD12	1.92	0.51
54:DB:10:LEU:HD12	54:DB:11:SER:H	1.74	0.51
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
1:FB:1292:U:H2'	1:FB:1293:G:H8	1.75	0.51
2:GB:64:A:C5	21:ZB:66:LEU:HD13	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
6:KB:177:PRO:C	6:KB:179:GLU:H	2.18	0.51
8:MB:39:ILE:HB	8:MB:92:VAL:HG13	1.91	0.51
20:YB:10:VAL:HG12	20:YB:12:ILE:HG22	1.91	0.51
32:KC:6:THR:HG22	32:KC:62:LEU:HA	1.93	0.51
36:QC:79:ASP:HA	36:QC:82:ARG:HB3	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
1:A:1121:U:H2'	1:A:1122:U:C6	2.45	0.51
1:A:1179:A:H5'	43:SA:97:LYS:HE2	1.92	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:111:U:H2'	3:C:112:G:C8	2.45	0.51
7:G:120:GLU:OE1	13:M:1:MET:N	2.42	0.51
7:G:201:VAL:O	7:G:205:ARG:N	2.43	0.51
9:I:56:SER:OG	9:I:57:ASP:N	2.40	0.51
10:J:97:ILE:HD12	10:J:142:VAL:HG11	1.92	0.51
15:O:8:ARG:NH1	15:O:39:PRO:HA	2.25	0.51
21:U:8:ILE:O	26:Z:36:ARG:NH2	2.43	0.51
38:NA:94:LEU:HD11	38:NA:200:GLU:HG3	1.92	0.51
43:SA:84:ALA:O	43:SA:88:TYR:HB3	2.10	0.51
44:TA:46:ARG:HG3	44:TA:64:GLU:HB3	1.92	0.51
47:WA:31:LYS:HA	47:WA:31:LYS:HZ3	1.75	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
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
8:MB:43:LEU:C	8:MB:45:GLU:H	2.19	0.51
10:OB:9:LEU:HD13	10:OB:10:GLU:O	2.10	0.51
17:VB:74:ARG:HG2	17:VB:76:PHE:CZ	2.45	0.51
18:WB:28:ARG:HA	18:WB:34:LYS:HB3	1.92	0.51
29:HC:6:VAL:HG13	29:HC:7:PRO:HD2	1.91	0.51
31:JC:12:ARG:HD3	31:JC:46:VAL:HG13	1.92	0.51
38:SC:110:PHE:N	38:SC:110:PHE:CD2	2.77	0.51
39:TC:125:SER:OG	39:TC:126:ARG:N	2.43	0.51
1:A:1517:G:H1'	2:B:1919:A:O3'	2.10	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: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:2361:A:P	32:FA:26:LYS:NZ	2.83	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
10:J:29:TYR:O	10:J:33:ARG:HD2	2.10	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
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
1:FB:1179:A:H5'	43:XC:97:LYS:HE2	1.92	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
6:KB:38:THR:HB	6:KB:40:GLU:HG2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
21:ZB:11:PRO:HB3	21:ZB:92:LEU:HD11	1.92	0.51
28:GC:21:VAL:O	28:GC:23:GLU:N	2.43	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
54:ID:56:MET:SD	54:ID:88:VAL:HG11	2.51	0.51
1:A:1318:A:H4'	53:CB:10:PHE:CE2	2.45	0.51
2:B:274:G:H1'	2:B:363(A):G:H22	1.76	0.51
2:B:321:G:C2	2:B:341:G:H4'	2.46	0.51
2:B:994:C:H3'	18:R:54:LYS:HE3	1.92	0.51
2:B:1969:A:O2'	2:B:1972:A:O2'	2.25	0.51
2:B:2012:G:OP2	20:T:16:LYS:NZ	2.43	0.51
3:C:4:C:H42	3:C:116:G:H1	1.57	0.51
7:G:146:ALA:O	7:G:148:LEU:HG	2.10	0.51
23:W:80:ARG:CG	23:W:82:ARG:HH12	2.24	0.51
4:IA:27:U:H2'	4:IA:28:C:C6	2.46	0.51
36:LA:69:LEU:O	36:LA:163:PHE:N	2.43	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
4:IB:35:A:H61	34:MC:13:A:H62	1.59	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
14:SB:54:MET:HE3	14:SB:64:ILE:HD13	1.92	0.51
30:IC:9:LEU:HA	30:IC:54:ILE:HB	1.92	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
43:XC:84:ALA:O	43:XC:88:TYR:HB3	2.10	0.51
1:A:287:U:H2'	1:A:288:A:C8	2.45	0.51
1:A:517:G:H8	1:A:517:G:OP2	1.93	0.51
1:A:804:U:H5"	1:A:805:C:OP2	2.10	0.51
1:A:1013:G:O2'	1:A:1015:A:N7	2.39	0.51
2:B:299:A:N1	2:B:322:A:O2'	2.39	0.51
2:B:974(B):C:OP2	2:B:974(B):C:H4'	2.10	0.51
2:B:1506:C:H2'	2:B:1508:A:C8	2.45	0.51
6:F:14:ILE:HG13	6:F:21:VAL:HG13	1.92	0.51
18:R:53:ARG:HA	18:R:56:ASP:OD2	2.10	0.51
20:T:27:LYS:HD3	20:T:31:GLU:OE2	2.11	0.51
25:Y:40:ARG:C	25:Y:40:ARG:HD3	2.35	0.51
41:QA:35:LYS:HG2	41:QA:38:LEU:HB2	1.92	0.51
45:UA:34:ASP:OD1	45:UA:38:ASN:HB2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:600:C:H2'	1:FB:601:C:C6	2.46	0.51
1:FB:954:G:H2'	1:FB:955:U:O4'	2.10	0.51
1:FB:1321:C:H1'	53:HD:77:THR:HG21	1.93	0.51
2:GB:6:A:H2'	2:GB:7:G:O4'	2.11	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: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
36:QC:145:LEU:HD23	36:QC:149:LEU:HD23	1.93	0.51
37:RC:57:ILE:HD12	37:RC:66:VAL:HG12	1.92	0.51
53:HD:40:ILE:HD12	53:HD:66:MET:HB3	1.90	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:A:1098:C:H2'	1:A:1099:G:O4'	2.10	0.51
2:B:270(F):G:H1	2:B:270(V):C:H42	1.56	0.51
2:B:1479:G:H5"	2:B:1560:G:H4'	1.92	0.51
2:B:2016:U:O2	29:CA:7:PRO:HG2	2.10	0.51
5:E:52:ARG:CZ	5:E:53:PHE:HE2	2.24	0.51
7:G:9:ILE:HG21	7:G:123:LEU:HD23	1.93	0.51
21:U:60:ARG:NH1	31:EA:47:ARG:HH22	2.08	0.51
23:W:105:VAL:HG11	23:W:138:GLU:HG2	1.93	0.51
53:CB:40:ILE:HD12	53:CB:66:MET:HB3	1.92	0.51
1:FB:504:C:N4	46:AD:115:LYS:NZ	2.54	0.51
1:FB:791:G:N2	1:FB:1497:G:O3'	2.43	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
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
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
11:PB:12:ARG:HD3	11:PB:50:ASP:OD2	2.11	0.51
18:WB:58:ARG:HH11	18:WB:58:ARG:CG	2.18	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
36:QC:71:VAL:HB	36:QC:164:VAL:HG22	1.92	0.51
40:UC:3:ARG:HH11	40:UC:3:ARG:CB	2.22	0.51
42:WC:19:VAL:HG23	42:WC:21:LYS:HG2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:DD:8:LYS:NZ	49:DD:31:LEU:HD21	2.24	0.51
1:A:337:C:H2'	1:A:338:A:C8	2.46	0.51
1:A:574:A:N3	1:A:883:C:H1'	2.26	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:974:A:H8	1:A:974:A:OP1	1.93	0.51
1:A:1421:G:C2	1:A:1480:G:C2	2.99	0.51
2:B:96:G:H4'	26:Z:48:HIS:CD2	2.46	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: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
7:G:164:ARG:HB3	7:G:175:THR:HB	1.92	0.51
8:H:34:LEU:HD23	8:H:161:THR:HB	1.93	0.51
36:LA:145:LEU:HD23	36:LA:149:LEU:HD23	1.93	0.51
41:QA:126:ASP:HB3	41:QA:131:LYS:O	2.11	0.51
1:FB:551:U:H2'	1:FB:552:U:C6	2.46	0.51
1:FB:997:U:H3'	1:FB:998(A):G:H8	1.76	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
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
57:GB:9001:BLS:H2'	4:NC:76:A:N3	2.26	0.51
5:JB:79:VAL:HG12	5:JB:113:VAL:HA	1.93	0.51
8:MB:118:ARG:HH12	28:GC:41:PRO:HB2	1.76	0.51
12:QB:17:ARG:HA	12:QB:17:ARG:HE	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
40:UC:62:TRP:CD1	52:GD:35:ARG:HE	2.28	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
46:AD:124:LYS:HG3	46:AD:125:PRO:HD2	1.92	0.51
49:DD:18:PHE:CE2	49:DD:21:ASP:HB2	2.44	0.51
1:A:312:C:H2'	1:A:313:A:H8	1.74	0.51
1:A:1510:U:H2'	1:A:1511:G:C8	2.46	0.51
2:B:366:C:OP2	2:B:403:U:O2'	2.28	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2317:C:H2'	2:B:2318:G:C5'	2.40	0.51
21:U:5:TYR:CE1	26:Z:30:ARG:HG3	2.46	0.51
31:EA:47:ARG:HA	31:EA:48:LYS:NZ	2.26	0.51
37:MA:179:ARG:HG2	37:MA:206:GLU:HB3	1.92	0.51
47:WA:110:ARG:HH11	47:WA:110:ARG:HA	1.76	0.51
1:FB:8:A:C5	38:SC:209:ARG:HG3	2.46	0.51
1:FB:444:C:H2'	1:FB:445:G:C8	2.46	0.51
2:GB:2766:G:H2'	2:GB:2766:G:N3	2.26	0.51
7:LB:206:ILE:HG22	7:LB:207:GLY:H	1.76	0.51
10:OB:109:ILE:HB	10:OB:130:TYR:CZ	2.46	0.51
28:GC:41:PRO:HB3	28:GC:47:GLN:HG2	1.93	0.51
39:TC:57:LYS:HE3	39:TC:61:TYR:CE2	2.46	0.51
39:TC:87:SER:HB3	39:TC:131:ILE:HD13	1.92	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
44:YC:51:ARG:HG3	44:YC:60:ARG:HA	1.93	0.51
46:AD:47:LYS:HG2	46:AD:48:PRO:HA	1.93	0.51
52:GD:38:GLU:H	52:GD:38:GLU:CD	2.19	0.51
55:JD:12:LYS:NZ	55:JD:19:GLY:H	2.09	0.51
1:A:298:A:H2'	1:A:299:G:O4'	2.11	0.51
1:A:1080:A:H5"	1:A:1081:G:OP2	2.10	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
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:H2'	2:B:2766:G:N3	2.26	0.51
9:I:16:SER:OG	9:I:17:VAL:N	2.38	0.51
10:J:66:GLU:OE2	10:J:69:LYS:HG2	2.11	0.51
16:P:49:VAL:HG21	16:P:76:LYS:HG2	1.92	0.51
27:AA:44:ARG:HH11	27:AA:44:ARG:CB	2.23	0.51
35:KA:342:GLU:OE2	35:KA:345:ILE:HD11	2.10	0.51
41:QA:15:ASP:C	41:QA:17:VAL:H	2.19	0.51
1:FB:582:U:C2	1:FB:760:G:C6	2.99	0.51
1:FB:1298:C:H5	41:VC:114:ARG:NH1	2.07	0.51
2:GB:244:A:C2	2:GB:255:A:C4	2.99	0.51
6:KB:2:LYS:HA	6:KB:84:PHE:CD1	2.46	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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
2:B:2757:A:N1	9:I:67:LEU:HD22	2.26	0.51
6:F:177:PRO:C	6:F:179:GLU:H	2.19	0.51
7:G:78:ILE:HA	7:G:83:PHE:CD2	2.46	0.51
15:O:54:LEU:HD21	15:O:65:LEU:HB3	1.93	0.51
28:BA:11:PRO:HA	28:BA:25:TYR:HA	1.93	0.51
35:KA:311:ASN:O	35:KA:315:GLY:N	2.44	0.51
39:OA:17:ALA:HA	39:OA:26:PHE:HA	1.92	0.51
47:WA:29:ARG:HH21	47:WA:64:TRP:CD1	2.29	0.51
47:WA:96:LEU:O	47:WA:110:ARG:NH2	2.43	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
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
2:GB:991:C:OP2	2:GB:1186:G:H5'	2.11	0.51
2:GB:2833:G:H4'	2:GB:2834:G:OP2	2.11	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
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
20:YB:88:ARG:HG3	20:YB:94:ASP:OD2	2.11	0.51
29:HC:52:TYR:HB3	29:HC:57:VAL:HG21	1.92	0.51
31:JC:47:ARG:HA	31:JC:48:LYS:HZ3	1.76	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
35:JA:186:ARG:HA	35:KA:313:PRO:HD2	1.92	0.50
51:AB:67:LYS:C	51:AB:70:ARG:HH12	2.19	0.50
1:FB:238:G:P	51:FD:25:ARG:HH22	2.34	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:1010:G:N2	1:FB:1020:U:H1'	2.26	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
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:1942:5MC:OP2	2:GB:1943:U:O2'	2.27	0.50
2:GB:2093:G:C6	2:GB:2225:A:C8	2.98	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:2781:A:H5"	2:GB:2782:G:H5'	1.93	0.50
3:HB:50:G:OP2	16:UB:62:LYS:HE3	2.11	0.50
25:DC:82:LEU:HD12	25:DC:83:GLU:OE2	2.11	0.50
38:SC:87:GLY:O	38:SC:89:THR:N	2.43	0.50
39:TC:139:LEU:O	39:TC:142:LEU:HB2	2.11	0.50
41:VC:15:ASP:C	41:VC:17:VAL:H	2.18	0.50
43:XC:127:LYS:HG3	43:XC:128:ARG:HG3	1.93	0.50
1:A:977:A:O2'	1:A:981:U:N3	2.43	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
6:F:55:ASN:C	6:F:57:LYS:H	2.20	0.50
9:I:124:GLU:HB3	9:I:132:ARG:HB3	1.93	0.50
11:K:58:ASP:OD1	11:K:125:GLY:N	2.44	0.50
14:N:35:VAL:HG23	14:N:130:LYS:O	2.12	0.50
17:Q:23:ARG:HB2	17:Q:120:ARG:HH12	1.76	0.50
37:MA:35:GLU:CD	37:MA:97:LYS:NZ	2.69	0.50
38:NA:36:ARG:HB3	38:NA:38:TYR:CZ	2.46	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:106:C:H1'	22:AC:1:MET:HG2	1.92	0.50
2:GB:458:G:O2'	2:GB:469:G:O6	2.22	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
4:IB:41:C:H2'	4:IB:42:G:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:JB:132:PRO:HD3	5:JB:190:TYR:CZ	2.46	0.50
8:MB:73:ALA:HB3	8:MB:85:GLY:H	1.76	0.50
14:SB:134:ARG:HH11	23:BC:122:ARG:NE	2.09	0.50
20:YB:30:GLU:OE2	20:YB:33:ARG:HD3	2.10	0.50
36:QC:103:THR:HG23	36:QC:176:GLU:OE1	2.11	0.50
54:ID:86:ARG:HG2	54:ID:86:ARG:HH11	1.77	0.50
1:A:1111:A:H2	37:MA:177:THR:HG1	1.59	0.50
2:B:191:A:H2'	2:B:192:C:C6	2.47	0.50
2:B:279:C:OP2	2:B:279:C:C6	2.64	0.50
2:B:1063:G:N2	2:B:1076:C:O2'	2.44	0.50
2:B:2432:A:C4	25:Y:33:LYS:HG3	2.46	0.50
2:B:2646:C:OP2	2:B:2732:G:O2'	2.28	0.50
4:D:58:A:H61	4:D:60:U:H2'	1.77	0.50
14:N:75:THR:HG21	14:N:87:LYS:NZ	2.25	0.50
14:N:134:ARG:NH1	23:W:122:ARG:NE	2.58	0.50
35:KA:312:PHE:HB3	35:KA:313:PRO:HD3	1.93	0.50
39:OA:57:LYS:HE3	39:OA:61:TYR:CE2	2.45	0.50
43:SA:127:LYS:HG3	43:SA:128:ARG:HG3	1.94	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
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
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
2:GB:363(E):G:H2'	2:GB:363(F):U:O4'	2.11	0.50
2:GB:514:A:N3	2:GB:581:C:O2'	2.40	0.50
2:GB:848:G:C4	2:GB:933:A:H8	2.29	0.50
2:GB:1689:A:N6	2:GB:1698:A:H2	2.09	0.50
2:GB:2053:G:OP1	6:KB:144:ARG:HG3	2.11	0.50
2:GB:2336:A:H3'	2:GB:2337:G:C8	2.46	0.50
2:GB:2590:A:O3'	5:JB:239:ARG:NH2	2.44	0.50
2:GB:2790:A:H2'	2:GB:2791:C:H5'	1.94	0.50
37:RC:40:ARG:HA	37:RC:43:LEU:HD12	1.92	0.50
45:ZC:120:ARG:HG2	45:ZC:120:ARG:NH1	2.23	0.50
46:AD:28:LYS:HB2	46:AD:33:ARG:HH21	1.76	0.50
1:A:187:C:H2'	1:A:188:U:O4'	2.11	0.50
1:A:1230:C:H2'	1:A:1231:G:H8	1.76	0.50
1:A:1240:U:OP2	41:QA:116:ALA:N	2.43	0.50
1:A:1360:A:H8	1:A:1360:A:OP1	1.95	0.50
2:B:6:A:H2'	2:B:7:G:O4'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:26:G:C6	2:B:27:G:N1	2.79	0.50
2:B:270(T):G:H2'	2:B:270(U):G:H8	1.76	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
6:F:111:ARG:HB2	6:F:160:TYR:HB3	1.93	0.50
7:G:158:THR:O	7:G:178:PRO:HD3	2.11	0.50
10:J:109:ILE:HB	10:J:130:TYR:CZ	2.47	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:FB:122:G:H2'	1:FB:123:C:O4'	2.11	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
1:FB:1248:A:OP1	1:FB:1248:A:H4'	2.10	0.50
1:FB:1266:G:N2	1:FB:1269:A:OP2	2.44	0.50
2:GB:101:G:H1'	26:EC:7:ARG:HH12	1.75	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
2:GB:863:A:OP2	14:SB:22:LYS:NZ	2.44	0.50
2:GB:910:A:C6	2:GB:911:A:C6	2.99	0.50
2:GB:1414:G:H1	2:GB:1588:C:H42	1.59	0.50
2:GB:1567:A:O2'	5:JB:63:ARG:NH2	2.45	0.50
3:HB:43:C:OP1	28:GC:6:HIS:NE2	2.44	0.50
8:MB:109:VAL:HG21	28:GC:14:ILE:HG21	1.93	0.50
12:QB:7:TYR:HE1	12:QB:20:MET:HE3	1.76	0.50
17:VB:50:ILE:HD13	17:VB:50:ILE:H	1.77	0.50
22:AC:86:ARG:NH1	22:AC:100:ALA:HA	2.26	0.50
37:RC:179:ARG:HG2	37:RC:206:GLU:HB3	1.94	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
1:A:404:U:H2'	1:A:405:U:H6	1.76	0.50
2:B:594:U:H3	2:B:663:G:H1	1.59	0.50
2:B:2488:A:H8	2:B:2488:A:O5'	1.95	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
17:Q:51:ARG:HG3	17:Q:98:LYS:HE3	1.92	0.50
38:NA:8:VAL:HG22	38:NA:21:LEU:HD13	1.92	0.50
38:NA:192:GLU:H	38:NA:192:GLU:CD	2.19	0.50
39:OA:125:SER:OG	39:OA:126:ARG:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:TA:51:ARG:NH2	44:TA:61:GLU:HB3	2.25	0.50
51:AB:66:SER:OG	51:AB:67:LYS:N	2.42	0.50
1:FB:892:A:O2'	1:FB:1415:G:H4'	2.12	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
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:2485:G:H5"	14:SB:46:GLN:HE21	1.75	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
13:RB:29:LYS:HG2	13:RB:30:THR:HG23	1.92	0.50
40:UC:62:TRP:CG	52:GD:35:ARG:HH21	2.29	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
1:A:1171:G:H2'	1:A:1172:C:H6	1.76	0.50
2:B:155:C:H41	2:B:171:G:H1	1.59	0.50
2:B:517:C:O2'	20:T:18:ARG:NH2	2.45	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:1971:A:C5	5:E:241:PRO:HG3	2.47	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
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
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
8:H:165:THR:HB	8:H:168:GLU:OE2	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
21:U:60:ARG:NH1	31:EA:47:ARG:NH2	2.59	0.50
26:Z:68:ARG:HG2	26:Z:68:ARG:NH1	2.27	0.50
28:BA:16:CYS:SG	28:BA:33:VAL:HB	2.51	0.50
39:OA:51:VAL:O	39:OA:55:VAL:N	2.32	0.50
1:FB:974:A:H8	1:FB:974:A:OP1	1.93	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
2:GB:299:A:N1	2:GB:322:A:O2'	2.40	0.50
2:GB:721:C:H2'	2:GB:722:A:H8	1.75	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:278:G:N2	51:AB:95:TYR:HB3	2.26	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:826:C:O2	42:RA:15:ASN:ND2	2.45	0.50
1:A:969:A:N6	43:SA:128:ARG:O	2.44	0.50
1:A:1328:C:OP1	55:EB:21:TYR:OH	2.30	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
7:G:64:ILE:HD12	7:G:65:TRP:N	2.27	0.50
8:H:43:LEU:C	8:H:45:GLU:H	2.18	0.50
9:I:118:PRO:HD2	9:I:121:ILE:HD12	1.94	0.50
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:124:GLY:N	10:J:144:VAL:HG23	2.26	0.50
10:J:133:HIS:HE1	10:J:135:GLU:HB3	1.76	0.50
12:L:116:SER:OG	12:L:117:LEU:N	2.45	0.50
16:P:83:LYS:HB2	16:P:111:GLU:CD	2.37	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
37:MA:152:ILE:HG23	37:MA:167:TRP:HB3	1.94	0.50
38:NA:87:GLY:O	38:NA:89:THR:N	2.45	0.50
40:PA:35:ALA:HB2	40:PA:67:MET:HE2	1.93	0.50
41:QA:20:ASP:OD2	41:QA:22:LEU:HD23	2.10	0.50
42:RA:20:TYR:HA	42:RA:65:TYR:CE1	2.47	0.50
1:FB:792:A:O2'	1:FB:794:A:N7	2.42	0.50
2:GB:71:A:H3'	2:GB:71:A:OP2	2.11	0.50
2:GB:433:C:H2'	2:GB:434:U:C6	2.46	0.50
2:GB:783:A:H4'	2:GB:2588:G:H4'	1.93	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
8:MB:16:ARG:O	8:MB:20:ILE:HG13	2.12	0.50
9:NB:16:SER:HB2	9:NB:27:LYS:HG2	1.93	0.50
16:UB:28:VAL:HG23	16:UB:37:ALA:HB2	1.94	0.50
22:AC:46:LYS:HB3	22:AC:60:PHE:CD1	2.47	0.50
23:BC:126:VAL:HG21	23:BC:161:VAL:HG12	1.94	0.50
31:JC:9:ARG:HH21	31:JC:47:ARG:HD3	1.76	0.50
39:TC:94:ALA:HB2	39:TC:119:LEU:HG	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
54:ID:30:LYS:HB2	54:ID:30:LYS:HZ2	1.76	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: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:B:1047:G:H2'	2:B:1110:G:N1	2.27	0.50
2:B:1805:U:O2	5:E:50:THR:HB	2.12	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
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
8:H:113:ARG:NH1	47:WA:2:ALA:O	2.45	0.50
37:MA:30:ARG:HG2	48:XA:36:PHE:O	2.11	0.50
50:ZA:82:GLN:O	50:ZA:83:GLU:HB2	2.12	0.50
54:DB:82:SER:C	54:DB:86:ARG:HG3	2.37	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
1:FB:1095:U:P	1:FB:1108:G:H1	2.35	0.50
2:GB:312:G:H5'	2:GB:331:A:O2'	2.12	0.50
2:GB:387:U:OP2	25:DC:20:ARG:NH1	2.45	0.50
2:GB:445:C:O2'	2:GB:446:G:H5'	2.12	0.50
2:GB:634:C:H2'	2:GB:635:C:C6	2.47	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:2571:C:O2'	6:KB:146:THR:O	2.28	0.50
2:GB:2745:C:C4	2:GB:2746:U:C4	3.00	0.50
3:HB:53:A:H2'	3:HB:54:G:H8	1.76	0.50
7:LB:179:GLU:H	7:LB:179:GLU:CD	2.20	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
29:HC:35:GLU:HG3	29:HC:51:TYR:CB	2.42	0.50
38:SC:31:CYS:C	38:SC:33:MET:N	2.70	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
1:A:1037:C:O2'	1:A:1038:C:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1305:G:C8	55:EB:5:ASP:HA	2.46	0.50
1:A:1428:A:H2'	1:A:1429:C:O4'	2.12	0.50
2:B:807:U:OP2	13:M:41:ARG:NH2	2.44	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
8:H:9:ARG:O	8:H:12:TYR:HB2	2.12	0.50
8:H:109:VAL:HG21	28:BA:14:ILE:HG21	1.93	0.50
8:H:120:LEU:HB2	8:H:179:PRO:O	2.11	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
43:SA:93:ARG:HH12	43:SA:97:LYS:CD	2.24	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
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
2:GB:155:C:H41	2:GB:171:G:H1	1.60	0.50
2:GB:675:A:H4'	7:LB:67:GLN:OE1	2.12	0.50
2:GB:885:C:O2'	2:GB:890:A:N6	2.45	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
14:SB:35:VAL:HG23	14:SB:130:LYS:O	2.11	0.50
18:WB:24:TYR:O	18:WB:29:SER:HB3	2.11	0.50
20:YB:59:VAL:HG13	20:YB:60:ASN:H	1.77	0.50
22:AC:79:CYS:SG	22:AC:81:LYS:HB2	2.52	0.50
43:XC:3:GLN:OE1	43:XC:20:ARG:NH2	2.41	0.50
44:YC:79:ARG:O	44:YC:83:GLU:HB2	2.12	0.50
47:BD:39:ILE:HD11	47:BD:55:ARG:NH1	2.27	0.50
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
1:A:1271:G:H2'	1:A:1272:G:H8	1.75	0.49
2:B:729:G:H2'	2:B:1775:U:H1'	1.93	0.49
3:C:75:G:N2	23:W:87:ASP:OD2	2.45	0.49
14:N:54:MET:HE3	14:N:64:ILE:HD13	1.94	0.49
21:U:36:LYS:HG2	21:U:54:VAL:HB	1.94	0.49
23:W:185:GLU:OE1	23:W:185:GLU:N	2.40	0.49
25:Y:52:ARG:HA	25:Y:56:GLN:O	2.13	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
38:NA:28:SER:OG	38:NA:30:LYS:HB2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:NA:94:LEU:HA	38:NA:97:LEU:HB2	1.94	0.49
40:PA:27:GLN:HA	40:PA:30:LEU:HB2	1.93	0.49
47:WA:39:ILE:HD11	47:WA:55:ARG:HH12	1.77	0.49
49:YA:55:GLY:O	49:YA:59:MET:HG3	2.12	0.49
54:DB:37:SER:O	54:DB:41:VAL:HG13	2.12	0.49
1:FB:587:G:H8	1:FB:587:G:O5'	1.94	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
8:MB:73:ALA:HA	8:MB:88:ILE:HD11	1.93	0.49
10:OB:72:LEU:HB3	10:OB:140:LEU:HD23	1.93	0.49
12:QB:7:TYR:CE1	12:QB:20:MET:HE3	2.47	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
20:YB:27:LYS:HD3	20:YB:31:GLU:OE2	2.11	0.49
23:BC:108:PRO:HB2	23:BC:111:VAL:HG23	1.94	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
1:A:139:G:H2'	1:A:140:A:H8	1.77	0.49
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
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
2:B:501:A:OP1	22:V:19:LYS:NZ	2.44	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
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
49:YA:4:THR:HG23	49:YA:7:GLU:CD	2.36	0.49
55:EB:12:LYS:NZ	55:EB:19:GLY:H	2.10	0.49
1:FB:370:C:H2'	1:FB:371:G:C8	2.46	0.49
2:GB:579:G:O2'	2:GB:2019:A:OP1	2.25	0.49
2:GB:675:A:OP1	7:LB:63:LYS:HD2	2.12	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
20:YB:2:GLU:HB2	20:YB:107:LEU:O	2.11	0.49
23:BC:6:LYS:NZ	23:BC:43:GLU:OE2	2.23	0.49
23:BC:30:ASN:ND2	23:BC:31:ARG:HG2	2.27	0.49
26:EC:63:VAL:HG12	26:EC:67:LYS:HG3	1.94	0.49
28:GC:58:ARG:NH1	53:HD:68:GLY:HA3	2.27	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
1:A:1381:U:H1'	41:QA:79:ARG:NE	2.25	0.49
2:B:1040:C:H2'	2:B:1041:C:C6	2.47	0.49
2:B:2882:A:P	15:O:96:ARG:HH21	2.36	0.49
8:H:77:ILE:HB	8:H:80:PHE:HB2	1.94	0.49
15:O:48:VAL:O	15:O:51:LEU:N	2.45	0.49
39:OA:148:VAL:O	39:OA:152:ARG:HG2	2.12	0.49
2:GB:46:C:OP2	2:GB:215:G:H2'	2.11	0.49
2:GB:1506:C:H2'	2:GB:1508:A:C8	2.47	0.49
2:GB:1971:A:H1'	5:JB:240:ALA:O	2.12	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
3:HB:43:C:O2'	8:MB:95:ARG:HB3	2.11	0.49
9:NB:124:GLU:HB3	9:NB:132:ARG:HB3	1.93	0.49
35:PC:316:ARG:HA	35:PC:327:TYR:HB2	1.95	0.49
39:TC:84:PHE:HB2	39:TC:134:ALA:HB2	1.95	0.49
46:AD:89:ARG:HH12	46:AD:95:GLY:N	2.10	0.49
1:A:238:G:P	51:AB:25:ARG:HH22	2.35	0.49
2:B:274:G:H2'	2:B:275:G:O4'	2.13	0.49
2:B:783:A:O2'	2:B:785:G:OP1	2.26	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:2869:G:H2'	2:B:2870:C:O4'	2.13	0.49
7:G:206:ILE:HG22	7:G:207:GLY:H	1.78	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
17:Q:124:ASP:O	17:Q:128:GLU:HB3	2.11	0.49
18:R:94:ASN:HA	18:R:97:ASP:HB3	1.94	0.49
23:W:111:VAL:O	23:W:114:GLY:N	2.45	0.49
24:X:64:ASP:OD2	24:X:64:ASP:N	2.45	0.49
29:CA:6:VAL:HG13	29:CA:7:PRO:HD2	1.94	0.49
4:IA:48:C:O2'	4:IA:59:A:O2'	2.29	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:LA:178:ARG:NH2	36:LA:198:ASP:OD1	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
45:UA:33:THR:OG1	45:UA:34:ASP:O	2.24	0.49
49:YA:3:ILE:HD11	49:YA:38:ARG:HD2	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:H8	1:FB:1360:A:OP1	1.94	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
2:GB:2396:G:H5'	25:DC:25:LYS:HE2	1.94	0.49
2:GB:2562:U:H1'	12:QB:23:ARG:HE	1.77	0.49
3:HB:75:G:N2	23:BC:87:ASP:OD2	2.44	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
11:PB:89:LYS:NZ	11:PB:93:THR:HG21	2.27	0.49
15:TB:104:ARG:HD2	15:TB:109:ALA:HB3	1.94	0.49
37:RC:30:ARG:HG2	48:CD:36:PHE:O	2.12	0.49
37:RC:152:ILE:HG23	37:RC:167:TRP:HB3	1.94	0.49
40:UC:29:ALA:HA	40:UC:32:ASN:ND2	2.27	0.49
46:AD:86:ARG:HH21	46:AD:99:HIS:HD1	1.60	0.49
54:ID:29:LYS:HE2	54:ID:65:LYS:HB3	1.94	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
1:A:1381:U:C2'	1:A:1382:C:H5'	2.43	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
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
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
5:E:53:PHE:HE1	5:E:221:VAL:HG13	1.77	0.49
7:G:195:ASP:HB3	7:G:198:ALA:H	1.77	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
47:WA:11:ARG:C	47:WA:13:LYS:H	2.19	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
1:FB:160:A:H1'	1:FB:344:A:N7	2.27	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
2:GB:288:C:H42	2:GB:353:G:H1	1.59	0.49
2:GB:451:C:H4'	7:LB:52:LYS:HZ2	1.78	0.49
2:GB:2488:A:H8	2:GB:2488:A:O5'	1.95	0.49
7:LB:146:ALA:O	7:LB:148:LEU:HG	2.12	0.49
8:MB:23:PHE:CZ	8:MB:168:GLU:HA	2.47	0.49
14:SB:34:LEU:HD11	14:SB:129:THR:HB	1.94	0.49
21:ZB:5:TYR:CE1	26:EC:30:ARG:HG3	2.47	0.49
25:DC:52:ARG:HA	25:DC:56:GLN:O	2.12	0.49
37:RC:150:LYS:HE2	37:RC:152:ILE:HD11	1.93	0.49
50:ED:82:GLN:O	50:ED:83:GLU:HB2	2.13	0.49
51:FD:14:LYS:HZ1	51:FD:53:LEU:HD11	1.77	0.49
1:A:131:C:O2	1:A:231:G:N2	2.38	0.49
1:A:397:A:H5'	1:A:398:C:OP1	2.13	0.49
1:A:1511:G:H8	1:A:1511:G:O5'	1.96	0.49
2:B:236:C:H2'	2:B:237:C:C6	2.48	0.49
2:B:764:A:H5"	5:E:210:GLY:HA3	1.94	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:2821:A:OP1	6:F:110:GLY:N	2.44	0.49
5:E:206:LEU:HD22	5:E:211:ARG:HG2	1.94	0.49
11:K:35:ARG:HG2	11:K:35:ARG:HH11	1.77	0.49
18:R:31:SER:HB3	18:R:34:LYS:HB2	1.95	0.49
20:T:20:VAL:HA	20:T:23:LEU:HD12	1.94	0.49
23:W:14:LYS:HB2	23:W:17:ALA:HB3	1.94	0.49
32:FA:7:HIS:HD2	32:FA:61:LEU:HD13	1.76	0.49
35:KA:324:LEU:HD12	35:KA:326:LEU:HB2	1.95	0.49
42:RA:91:ARG:HG3	46:VA:7:ILE:HG13	1.93	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:2406:U:C4	13:RB:72:PRO:HD2	2.48	0.49
21:ZB:32:PRO:HA	21:ZB:77:LYS:HB2	1.93	0.49
36:QC:118:LEU:HD13	36:QC:142:LEU:HB2	1.95	0.49
41:VC:41:ARG:O	41:VC:45:ASP:HB2	2.12	0.49
44:YC:51:ARG:NH2	44:YC:61:GLU:HB3	2.28	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
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
2:B:364:C:OP2	2:B:365:C:OP2	2.31	0.49
2:B:675:A:H4'	7:G:67:GLN:OE1	2.13	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
2:B:1060:U:H4'	2:B:1061:U:O5'	2.12	0.49
5:E:116:GLN:HG2	5:E:117:VAL:N	2.28	0.49
13:M:75:ILE:H	13:M:75:ILE:HD12	1.78	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
28:BA:21:VAL:O	28:BA:23:GLU:N	2.45	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
1:FB:26:A:OP2	1:FB:26:A:H8	1.95	0.49
1:FB:163:C:H2'	1:FB:164:U:O4'	2.13	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:1321:C:H4'	47:BD:87:TYR:CE2	2.47	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
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
4:IB:42:G:N2	4:IB:43:A:N3	2.60	0.49
6:KB:55:ASN:C	6:KB:57:LYS:H	2.20	0.49
8:MB:96:ARG:O	8:MB:98:ARG:N	2.42	0.49
20:YB:86:LEU:HG	20:YB:88:ARG:HD3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AC:67:LEU:HD23	22:AC:72:VAL:HG23	1.93	0.49
1:A:12:U:H3	1:A:22:G:H1	1.61	0.49
1:A:201:C:O2	1:A:216:G:N1	2.45	0.49
1:A:589:C:OP1	42:RA:5:PRO:HG3	2.13	0.49
1:A:1089:G:H1	1:A:1096:C:N4	2.10	0.49
1:A:1453:G:H4'	1:A:1454:G:OP2	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
2:B:1039:G:C6	2:B:1040:C:C4	3.01	0.49
2:B:1401:G:HO2'	2:B:1524:G:HO2'	1.60	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
10:J:69:LYS:O	10:J:73:GLU:HB2	2.13	0.49
11:K:30:ILE:O	11:K:34:LEU:HD22	2.12	0.49
12:L:13:ASN:HD21	12:L:97:ARG:H	1.58	0.49
12:L:119:PRO:HB2	17:Q:68:TYR:CD2	2.48	0.49
31:EA:43:THR:HG23	31:EA:44:PRO:O	2.12	0.49
35:KA:316:ARG:HA	35:KA:327:TYR:HB2	1.95	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
38:NA:142:PRO:HA	38:NA:185:PHE:HD2	1.78	0.49
40:PA:27:GLN:HA	40:PA:30:LEU:HD12	1.94	0.49
49:YA:63:ARG:HH12	49:YA:87:ILE:HD13	1.75	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
1:FB:1190:G:P	37:RC:5:ILE:HB	2.53	0.49
1:FB:1272:G:C2	1:FB:1273:G:H1'	2.48	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
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:1657:C:O3'	6:KB:133:LYS:HB3	2.13	0.49
2:GB:1923:U:H2'	2:GB:1924:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2317:C:H2'	2:GB:2318:G:C5'	2.43	0.49
3:HB:112:G:H2'	3:HB:113:C:C6	2.48	0.49
5:JB:258:LYS:HE2	5:JB:273:ARG:CZ	2.42	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
9:NB:156:ALA:O	9:NB:172:LYS:HB3	2.13	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
4:NC:15:G:H2'	4:NC:59:A:N1	2.27	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:634:C:H2'	2:B:635:C:C6	2.48	0.49
2:B:1821:A:H8	2:B:1821:A:O5'	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
3:C:85:G:C2	3:C:86:G:C8	3.00	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
14:N:110:THR:HG22	14:N:111:GLU:H	1.78	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
4:IA:15:G:H2'	4:IA:59:A:N1	2.27	0.49
36:LA:16:HIS:CE1	36:LA:204:ASN:HB2	2.48	0.49
41:QA:41:ARG:O	41:QA:45:ASP:HB2	2.12	0.49
48:XA:13:THR:HG23	48:XA:20:ALA:HB2	1.94	0.49
53:CB:62:ILE:HA	53:CB:66:MET:SD	2.52	0.49
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
2:GB:176:G:O2'	2:GB:177:G:H5'	2.13	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
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
3:HB:78:A:C2	3:HB:99:A:C4	3.01	0.49
6:KB:192:ASN:OD1	6:KB:192:ASN:N	2.44	0.49
7:LB:10:PRO:CA	7:LB:17:ARG:HH12	2.26	0.49
10:OB:133:HIS:HE1	10:OB:135:GLU:HB3	1.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:YB:12:ILE:O	20:YB:101:SER:OG	2.30	0.49
35:OC:149:MET:HB2	35:OC:163:ILE:HG23	1.95	0.49
42:WC:73:ASP:OD1	42:WC:75:ARG:HG3	2.12	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:2562:U:H1'	12:L:23:ARG:HE	1.77	0.49
2:B:2567:G:H2'	2:B:2568:C:C6	2.48	0.49
2:B:2571:C:O2'	6:F:146:THR:O	2.31	0.49
2:B:2850:A:H2	15:O:61:HIS:CG	2.31	0.49
2:B:2876:G:OP1	17:Q:3:ARG:NH2	2.45	0.49
14:N:134:ARG:HH11	23:W:122:ARG:NE	2.10	0.49
22:V:46:LYS:HB3	22:V:60:PHE:CD1	2.45	0.49
23:W:56:VAL:HA	23:W:70:LEU:HD23	1.94	0.49
48:XA:61:TRP:OXT	48:XA:61:TRP:CG	2.66	0.49
51:AB:7:THR:HG23	51:AB:57:VAL:C	2.38	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:922:G:O2'	1:FB:1398:A:N1	2.41	0.49
1:FB:942:G:H21	43:XC:124:GLN:HE21	1.60	0.49
1:FB:1099:G:C6	1:FB:1100:C:C2	3.01	0.49
2:GB:395:U:H1'	2:GB:396:G:N7	2.28	0.49
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
2:GB:1803:A:H2	2:GB:1822:G:N3	2.11	0.49
2:GB:2478:A:OP2	33:LC:2:LYS:HE2	2.13	0.49
2:GB:2516:G:C4	2:GB:2569:G:N2	2.81	0.49
7:LB:7:TYR:O	7:LB:22:ALA:HB3	2.13	0.49
8:MB:60:LEU:O	8:MB:64:THR:OG1	2.20	0.49
12:QB:120:GLU:OE2	12:QB:122:LEU:HD21	2.13	0.49
20:YB:34:ASN:HA	20:YB:37:ARG:HB2	1.95	0.49
22:AC:99:CYS:SG	22:AC:100:ALA:N	2.85	0.49
23:BC:105:VAL:HG11	23:BC:138:GLU:HG2	1.95	0.49
40:UC:27:GLN:HA	40:UC:30:LEU:HB2	1.94	0.49
42:WC:30:ARG:HA	42:WC:33:GLU:HB3	1.95	0.49
54:ID:37:SER:HB3	54:ID:84:LEU:HD11	1.95	0.49
1:A:1010:G:H2'	1:A:1011:G:H8	1.78	0.48
1:A:1220:G:N2	53:CB:54:GLY:O	2.46	0.48
1:A:1382:C:H2'	1:A:1383:C:H6	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1483:A:H1'	2:B:1948:G:H1'	1.95	0.48
2:B:70:G:H5"	2:B:112:U:O2	2.13	0.48
2:B:586:A:H5'	7:G:89:VAL:HG21	1.95	0.48
2:B:979:G:H3'	2:B:980:A:C5'	2.43	0.48
2:B:1451:C:N4	2:B:1459:G:H1	2.11	0.48
5:E:228:PRO:HD3	5:E:235:GLY:N	2.28	0.48
7:G:53:THR:N	7:G:56:GLU:HG3	2.28	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
22:V:86:ARG:NH1	22:V:100:ALA:HA	2.28	0.48
37:MA:11:ARG:HA	37:MA:14:ILE:HB	1.94	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
46:VA:28:LYS:HB2	46:VA:33:ARG:HH21	1.78	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
54:DB:76:ALA:O	54:DB:80:ARG:HB2	2.13	0.48
1:FB:588:G:H2'	1:FB:589:C:C6	2.47	0.48
2:GB:279:C:H6	2:GB:279:C:OP2	1.94	0.48
2:GB:1557:C:OP2	2:GB:1558:A:H2'	2.12	0.48
5:JB:221:VAL:HG22	5:JB:226:MET:HE2	1.94	0.48
6:KB:134:ILE:O	6:KB:136:ARG:N	2.46	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
12:QB:89:ASN:C	12:QB:91:LEU:H	2.22	0.48
14:SB:43:THR:N	14:SB:46:GLN:OE1	2.35	0.48
16:UB:83:LYS:HB2	16:UB:111:GLU:CD	2.36	0.48
17:VB:39:ARG:HH12	17:VB:41:ARG:HD3	1.78	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
37:RC:125:GLU:HA	37:RC:191:THR:HG22	1.95	0.48
38:SC:8:VAL:HG22	38:SC:21:LEU:HD13	1.93	0.48
45:ZC:25:TYR:CD1	45:ZC:88:GLY:HA2	2.48	0.48
47:BD:31:LYS:NZ	47:BD:31:LYS:HA	2.27	0.48
1:A:989:C:H42	1:A:1217:C:N4	2.10	0.48
1:A:1063:C:H5"	1:A:1064:G:OP2	2.13	0.48
1:A:1236:A:O2'	1:A:1304:G:H4'	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
2:B:548:A:H4'	19:S:19:LYS:NZ	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
9:I:149:ARG:NH1	9:I:167:GLU:CD	2.71	0.48
14:N:64:ILE:HG13	23:W:178:GLU:HG3	1.95	0.48
26:Z:39:ALA:HB2	26:Z:44:LEU:HD23	1.96	0.48
37:MA:39:ILE:HD12	37:MA:59:ARG:HH22	1.78	0.48
39:OA:37:ARG:NH1	39:OA:111:GLU:HB3	2.27	0.48
42:RA:101:PRO:HG2	42:RA:133:LEU:HD11	1.95	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
1:FB:1275:A:P	1:FB:1275:A:H8	2.35	0.48
1:FB:1442:G:N3	1:FB:1442:G:H2'	2.28	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
8:MB:39:ILE:HG13	8:MB:157:ILE:HG22	1.94	0.48
11:PB:30:ILE:HG22	11:PB:34:LEU:HD22	1.95	0.48
15:TB:104:ARG:HB3	15:TB:107:ASP:OD1	2.13	0.48
23:BC:131:ARG:H	23:BC:131:ARG:HD2	1.78	0.48
25:DC:82:LEU:H	25:DC:83:GLU:CD	2.20	0.48
29:HC:40:LYS:NZ	29:HC:44:THR:O	2.23	0.48
37:RC:36:ASP:OD2	37:RC:59:ARG:NH2	2.43	0.48
41:VC:126:ASP:HB3	41:VC:131:LYS:O	2.13	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
1:A:1054:C:OP2	1:A:1197:G:OP2	2.31	0.48
2:B:336:C:O2'	22:V:35:TYR:OH	2.29	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
6:F:11:MET:HB3	6:F:24:THR:HA	1.93	0.48
8:H:4:ASP:OD2	8:H:9:ARG:HD2	2.13	0.48
8:H:114:ILE:HG22	8:H:140:ILE:HG21	1.95	0.48
9:I:16:SER:HB3	9:I:27:LYS:N	2.28	0.48
11:K:59:LYS:HZ2	11:K:125:GLY:HA2	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RA:34:GLU:O	42:RA:37:ARG:HG3	2.13	0.48
46:VA:86:ARG:HH21	46:VA:99:HIS:HD1	1.60	0.48
54:DB:10:LEU:CD1	54:DB:11:SER:H	2.26	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
1:FB:1353:G:OP1	55:JD:10:ARG:NH2	2.46	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
3:HB:111:U:H2'	3:HB:112:G:H8	1.78	0.48
8:MB:77:ILE:HB	8:MB:80:PHE:HB2	1.94	0.48
8:MB:139:LEU:HD23	8:MB:139:LEU:H	1.78	0.48
15:TB:60:LEU:HD21	15:TB:64:ARG:NH1	2.27	0.48
19:XB:14:VAL:HG12	19:XB:18:LEU:HD23	1.94	0.48
36:QC:16:HIS:CE1	36:QC:204:ASN:HB2	2.47	0.48
37:RC:3:ASN:HD21	37:RC:4:LYS:HZ2	1.59	0.48
38:SC:53:ASP:O	38:SC:57:ARG:HD3	2.13	0.48
45:ZC:86:GLY:H	45:ZC:112:THR:HG23	1.77	0.48
46:AD:61:THR:C	46:AD:63:GLY:H	2.21	0.48
1:A:327:A:C4	1:A:329:A:C8	3.02	0.48
1:A:1146:A:H2'	1:A:1147:C:O4'	2.13	0.48
1:A:1190:G:P	37:MA:5:ILE:HB	2.53	0.48
2:B:511:U:C5	2:B:512:G:C5	3.01	0.48
2:B:885:C:O2'	2:B:890:A:N6	2.46	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
11:K:7:LYS:HA	11:K:7:LYS:HZ2	1.77	0.48
14:N:116:GLU:OE2	14:N:119:ARG:NH2	2.47	0.48
25:Y:77:ALA:HB2	25:Y:94:LEU:HD21	1.95	0.48
35:JA:185:GLN:HG3	35:JA:198:THR:HG23	1.95	0.48
37:MA:40:ARG:HG2	37:MA:55:VAL:HG11	1.95	0.48
41:QA:69:VAL:HG12	41:QA:103:TRP:HE3	1.78	0.48
46:VA:77:LEU:HD21	46:VA:107:ALA:HB2	1.95	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:376:C:N4	2:GB:398:G:H1	2.11	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:380:U:H2'	2:GB:381:G:C8	2.47	0.48
2:GB:434:U:H1'	2:GB:435:C:H5	1.78	0.48
2:GB:618(A):G:H5'	7:LB:205:ARG:NH1	2.29	0.48
2:GB:755:C:H2'	2:GB:756:C:H6	1.78	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
5:JB:260:ARG:NH2	5:JB:266:SER:OG	2.46	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
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
20:YB:78:GLU:HG3	20:YB:79:GLY:N	2.26	0.48
24:CC:41:ARG:HG3	24:CC:41:ARG:NH1	2.29	0.48
35:PC:324:LEU:HD12	35:PC:326:LEU:HB2	1.95	0.48
38:SC:142:PRO:HA	38:SC:185:PHE:HD2	1.78	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
47:BD:11:ARG:C	47:BD:13:LYS:H	2.19	0.48
49:DD:55:GLY:O	49:DD:59:MET:HG3	2.14	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
1:A:958:A:N6	53:CB:77:THR:O	2.46	0.48
2:B:395:U:H1'	2:B:396:G:N7	2.28	0.48
2:B:647:G:H8	2:B:647:G:O5'	1.96	0.48
2:B:1019:U:H2'	2:B:1020:A:C8	2.49	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
5:E:132:PRO:HD2	5:E:135:PHE:HD2	1.78	0.48
7:G:102:PRO:O	7:G:106:ARG:HG3	2.14	0.48
8:H:126:ASP:OD2	8:H:127:GLY:N	2.40	0.48
18:R:49:HIS:HA	18:R:52:ARG:HB3	1.96	0.48
36:LA:80:ILE:O	36:LA:84:GLU:HG2	2.13	0.48
39:OA:102:ALA:HB2	39:OA:120:THR:HG21	1.94	0.48
44:TA:79:ARG:O	44:TA:83:GLU:HB2	2.14	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
1:FB:1325:C:OP1	55:JD:15:ARG:HD3	2.13	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:HB:42:C:O2'	8:MB:67:LYS:O	2.28	0.48
7:LB:52:LYS:HA	7:LB:56:GLU:OE1	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
20:YB:20:VAL:HA	20:YB:23:LEU:HD12	1.95	0.48
26:EC:17:SER:N	26:EC:20:GLU:OE2	2.46	0.48
43:XC:36:TYR:HE2	43:XC:65:VAL:HG11	1.79	0.48
54:ID:57:ARG:HH11	54:ID:102:GLY:HA3	1.74	0.48
54:ID:86:ARG:HG2	54:ID:86:ARG:NH1	2.27	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
1:A:875:C:O2'	42:RA:14:ARG:HD2	2.13	0.48
1:A:1072:G:N2	36:LA:107:THR:HG21	2.29	0.48
1:A:1252:A:H61	1:A:1285:A:N6	2.12	0.48
1:A:1278:U:H5"	1:A:1279:A:O4'	2.14	0.48
1:A:1331:G:O6	55:EB:7:ARG:NH2	2.47	0.48
2:B:662:G:H2'	2:B:663:G:C8	2.49	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:1657:C:O3'	6:F:133:LYS:HB3	2.14	0.48
2:B:2623:G:H4'	2:B:2825:G:C8	2.49	0.48
5:E:183:ARG:HH11	5:E:183:ARG:HG2	1.78	0.48
6:F:13:ARG:HG2	6:F:13:ARG:HH11	1.79	0.48
7:G:64:ILE:HG13	7:G:76:GLY:O	2.14	0.48
8:H:63:ILE:HG23	8:H:64:THR:HG23	1.96	0.48
12:L:13:ASN:HD21	12:L:97:ARG:HG3	1.75	0.48
44:TA:51:ARG:HG2	44:TA:61:GLU:HG2	1.95	0.48
1:FB:613:C:H2'	1:FB:614:A:C8	2.49	0.48
1:FB:973:G:OP1	44:YC:57:LYS:NZ	2.45	0.48
1:FB:1063:C:H5"	1:FB:1064:G:OP2	2.14	0.48
1:FB:1175:G:OP2	1:FB:1175:G:C8	2.66	0.48
1:FB:1275:A:C8	1:FB:1275:A:OP2	2.66	0.48
2:GB:48:G:N1	2:GB:177:G:OP2	2.44	0.48
2:GB:637:A:H8	13:RB:117:GLU:HG3	1.78	0.48
2:GB:1382:G:H8	2:GB:1382:G:O5'	1.96	0.48
2:GB:1586:A:H3'	2:GB:1587:A:H8	1.78	0.48
2:GB:2116:G:O2'	2:GB:2117:A:N3	2.44	0.48
6:KB:12:THR:HB	17:VB:58:ASN:HD21	1.79	0.48
13:RB:3:LEU:HD12	13:RB:3:LEU:H	1.78	0.48
17:VB:23:ARG:HB2	17:VB:120:ARG:HH12	1.78	0.48
32:KC:52:LYS:HB3	32:KC:53:PRO:HD3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:OC:188:PRO:C	35:OC:190:THR:H	2.22	0.48
51:FD:58:GLU:CD	51:FD:75:ARG:HD2	2.38	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
1:A:755:G:H21	42:RA:1:MET:HE1	1.79	0.48
2:B:140:A:C8	2:B:1408:C:O2'	2.64	0.48
2:B:330:A:O2'	2:B:331:A:C8	2.66	0.48
2:B:929:G:H8	2:B:929:G:O5'	1.96	0.48
2:B:1188:U:O2'	2:B:1189:A:H5'	2.13	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
5:E:208:LYS:HG3	5:E:211:ARG:H	1.79	0.48
9:I:13:LYS:HA	9:I:14:GLY:HA2	1.53	0.48
38:NA:31:CYS:C	38:NA:33:MET:N	2.71	0.48
40:PA:61:LEU:HD23	40:PA:63:TYR:CE2	2.48	0.48
1:FB:991:U:H4'	1:FB:992:U:H5"	1.96	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
2:GB:637:A:OP1	13:RB:133:SER:OG	2.32	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
4:IB:64:G:H2'	4:IB:65:C:C6	2.47	0.48
11:PB:83:LYS:HB2	11:PB:83:LYS:HZ3	1.78	0.48
15:TB:21:TYR:HB3	15:TB:47:PHE:CD2	2.49	0.48
24:CC:63:VAL:O	24:CC:81:VAL:HG11	2.14	0.48
37:RC:35:GLU:CD	37:RC:97:LYS:NZ	2.72	0.48
39:TC:20:GLN:HG3	39:TC:23:GLY:H	1.79	0.48
39:TC:37:ARG:NH1	39:TC:111:GLU:HB3	2.28	0.48
40:UC:16:GLN:H	40:UC:16:GLN:CD	2.22	0.48
46:AD:110:VAL:HG23	46:AD:120:TYR:HB3	1.96	0.48
55:JD:9:ARG:HG3	55:JD:10:ARG:HG2	1.96	0.48
1:A:1378:C:H5	1:A:1379:G:C8	2.32	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
10:J:9:LEU:HD22	10:J:10:GLU:OE2	2.13	0.48
15:O:105:ARG:HH11	15:O:105:ARG:CG	2.27	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
23:W:103:ARG:HB2	23:W:138:GLU:HA	1.95	0.48
32:FA:6:THR:HG23	32:FA:63:PRO:HD2	1.95	0.48
36:LA:47:THR:HG22	36:LA:51:LEU:HD23	1.96	0.48
48:XA:24:CYS:SG	48:XA:25:VAL:N	2.87	0.48
52:BB:30:ASP:OD2	52:BB:33:ASP:N	2.46	0.48
54:DB:10:LEU:HD12	54:DB:12:ALA:H	1.78	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
1:FB:1348:U:C2	1:FB:1349:A:C8	3.01	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
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
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:2809:A:OP2	2:GB:2891:G:C2	2.67	0.48
2:GB:2875:C:H2’	2:GB:2876:G:O4’	2.14	0.48
6:KB:93:VAL:HG11	6:KB:181:LEU:O	2.14	0.48
7:LB:64:ILE:HG13	7:LB:76:GLY:O	2.14	0.48
10:OB:66:GLU:OE2	10:OB:69:LYS:HG2	2.14	0.48
23:BC:103:ARG:HG3	23:BC:136:PHE:HB3	1.96	0.48
32:KC:61:LEU:C	32:KC:63:PRO:HD3	2.39	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
48:CD:13:THR:HG23	48:CD:20:ALA:HB2	1.96	0.48
54:ID:82:SER:C	54:ID:86:ARG:HG3	2.39	0.48
1:A:967:5MC:H4’	43:SA:125:TYR:OH	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1241:G:H5”	1:A:1242:C:OP2	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:242:G:O2’	2:B:254:G:O6	2.24	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:959:A:N6	2:B:960:A:N1	2.62	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:2591:C:H2’	2:B:2592:G:C8	2.49	0.48
3:C:102:G:H21	23:W:73:GLN:NE2	2.11	0.48
3:C:102:G:H21	23:W:73:GLN:HE22	1.60	0.48
8:H:10:LYS:HZ3	8:H:14:GLU:CD	2.22	0.48
9:I:55:PRO:HG2	9:I:61:HIS:NE2	2.29	0.48
23:W:8:TYR:HD2	23:W:38:TYR:CZ	2.32	0.48
27:AA:35:ARG:HH11	27:AA:35:ARG:CB	2.26	0.48
34:HA:14:A:H3’	34:HA:15:A:H8	1.79	0.48
37:MA:109:PRO:HB2	37:MA:119:ARG:HH12	1.79	0.48
37:MA:111:LEU:HB3	37:MA:204:LEU:HD21	1.96	0.48
41:QA:90:GLU:OE2	41:QA:90:GLU:HA	2.14	0.48
50:ZA:19:ILE:N	50:ZA:37:GLY:O	2.47	0.48
1:FB:87:A:H5”	1:FB:88:C:C2	2.49	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
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
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:2262:U:OP2	24:CC:19:LYS:HE3	2.14	0.48
22:AC:76:CYS:SG	22:AC:78:ALA:HB3	2.54	0.48
26:EC:35:LEU:HB3	26:EC:50:ILE:HG12	1.94	0.48
28:GC:25:TYR:CD2	28:GC:25:TYR:N	2.82	0.48
35:OC:119:THR:HG22	35:OC:120:GLY:H	1.78	0.48
35:OC:145:ARG:H	35:OC:167:SER:HB2	1.79	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
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
51:FD:14:LYS:N	51:FD:14:LYS:HE3	2.29	0.48
1:A:197:A:N6	1:A:221:C:H5’	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:1238:A:O5'	1:A:1336:C:N4	2.31	0.48
1:A:1299:A:N3	1:A:1299:A:H2'	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
2:B:252:G:OP1	13:M:50:ARG:NH1	2.46	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
2:B:2291:U:OP1	2:B:2380:C:O2'	2.29	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
8:H:139:LEU:HD23	8:H:139:LEU:H	1.79	0.48
12:L:101:PRO:HD3	17:Q:67:SER:O	2.12	0.48
15:O:36:THR:HG22	15:O:37:THR:N	2.29	0.48
28:BA:25:TYR:N	28:BA:25:TYR:CD2	2.82	0.48
47:WA:70:LEU:O	47:WA:74:VAL:HG23	2.13	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
1:FB:1004:A:H61	1:FB:1026:G:H5"	1.79	0.48
2:GB:196:A:OP2	13:RB:46:LYS:NZ	2.47	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:MB:9:ARG:O	8:MB:12:TYR:HB2	2.14	0.48
8:MB:174:GLU:HA	8:MB:180:PHE:HE2	1.78	0.48
9:NB:52:VAL:C	9:NB:53:GLU:HG2	2.39	0.48
14:SB:67:ARG:HD2	14:SB:105:GLU:OE2	2.13	0.48
15:TB:54:LEU:HD21	15:TB:65:LEU:HB3	1.96	0.48
17:VB:124:ASP:O	17:VB:128:GLU:HB3	2.13	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
28:GC:59:PHE:CE2	53:HD:64:GLU:HG3	2.40	0.48
37:RC:40:ARG:HG2	37:RC:55:VAL:HG11	1.94	0.48
38:SC:3:ARG:NH2	38:SC:4:TYR:HB3	2.25	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
42:WC:22:GLU:O	42:WC:63:LEU:HB2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:AD:39:VAL:HG12	46:AD:57:LYS:CB	2.43	0.48
47:BD:39:ILE:HD11	47:BD:55:ARG:HH12	1.78	0.48
1:A:619:U:C4	38:NA:135:LEU:HD11	2.49	0.47
1:A:642:A:H2'	1:A:643:C:C6	2.49	0.47
1:A:1145:C:OP2	1:A:1145:C:H6	1.96	0.47
2:B:64:A:C4	21:U:66:LEU:HD13	2.49	0.47
2:B:67:U:H2'	2:B:68:G:C8	2.49	0.47
2:B:71:A:H3'	2:B:71:A:OP2	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
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
5:E:33:LEU:HD13	5:E:104:TYR:CE2	2.49	0.47
7:G:64:ILE:HD13	7:G:65:TRP:CD2	2.49	0.47
7:G:196:LEU:HA	7:G:196:LEU:HD23	1.66	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
15:O:104:ARG:HD2	15:O:109:ALA:HB3	1.96	0.47
20:T:17:VAL:HG11	20:T:103:ILE:HD13	1.94	0.47
36:LA:195:ASP:O	42:RA:68:ARG:NH2	2.47	0.47
39:OA:86:ALA:HB3	39:OA:130:ASN:ND2	2.28	0.47
42:RA:81:HIS:HD2	42:RA:104:ARG:HH22	1.61	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
1:FB:1080:A:H5"	1:FB:1081:G:OP2	2.14	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
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:2432:A:C4	25:DC:33:LYS:HG3	2.48	0.47
6:KB:36:ARG:HH11	6:KB:85:ASN:CG	2.20	0.47
6:KB:54:GLN:HB2	6:KB:76:ARG:HG3	1.95	0.47
8:MB:120:LEU:HB2	8:MB:179:PRO:O	2.14	0.47
9:NB:27:LYS:HA	9:NB:32:GLU:HA	1.96	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:UB:25:ARG:NH2	16:UB:40:ILE:HD12	2.29	0.47
21:ZB:8:ILE:O	26:EC:36:ARG:NH2	2.47	0.47
25:DC:47:GLN:N	25:DC:62:VAL:O	2.41	0.47
36:QC:173:ALA:HA	36:QC:176:GLU:HB2	1.95	0.47
38:SC:35:ARG:O	38:SC:37:PRO:HD3	2.14	0.47
39:TC:13:ILE:HG21	39:TC:51:VAL:HG13	1.96	0.47
40:UC:13:ASN:OD1	40:UC:55:ASP:OD1	2.32	0.47
42:WC:81:HIS:CD2	42:WC:104:ARG:HH22	2.32	0.47
46:AD:39:VAL:HG12	46:AD:57:LYS:HB3	1.95	0.47
47:BD:92:HIS:CG	47:BD:98:VAL:HG21	2.49	0.47
52:GD:30:ASP:OD2	52:GD:33:ASP:N	2.46	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
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
2:B:699:A:H2'	2:B:700:G:O4'	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
5:E:118:VAL:HG13	5:E:123:ALA:HB1	1.95	0.47
8:H:111:LEU:HD23	8:H:111:LEU:HA	1.76	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
15:O:26:LYS:HE3	15:O:70:LEU:O	2.14	0.47
20:T:39:THR:HG22	20:T:44:ALA:HB2	1.96	0.47
25:Y:86:SER:O	25:Y:90:ILE:HG13	2.14	0.47
38:NA:3:ARG:NH2	38:NA:4:TYR:HB3	2.25	0.47
46:VA:39:VAL:HG12	46:VA:57:LYS:CB	2.44	0.47
1:FB:950:U:OP2	47:BD:102:ARG:HG3	2.14	0.47
1:FB:1228:C:OP1	47:BD:115:LYS:N	2.42	0.47
1:FB:1366:C:O2'	44:YC:60:ARG:NH2	2.47	0.47
2:GB:70:G:H5"	2:GB:112:U:O2	2.15	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:2127:G:H1'	2:GB:2173:A:H2	1.79	0.47
2:GB:2135:A:N6	2:GB:2155:G:O6	2.48	0.47
6:KB:16:ARG:NH1	6:KB:171:GLU:OE2	2.46	0.47
9:NB:67:LEU:O	9:NB:71:LEU:HB2	2.15	0.47
13:RB:122:PRO:HB3	13:RB:142:GLY:O	2.14	0.47
14:SB:64:ILE:HG13	23:BC:178:GLU:HG3	1.96	0.47
22:AC:90:LEU:HB3	22:AC:92:ASN:OD1	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:QC:48:MET:HA	36:QC:51:LEU: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
41:VC:37:ASN:HA	43:XC:41:VAL:HG13	1.95	0.47
50:ED:43:LYS:HG2	50:ED:48:TRP:CE3	2.49	0.47
54:ID:10:LEU:HD12	54:ID:11:SER:H	1.79	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
1:A:1274:G:C8	1:A:1274:G:OP2	2.67	0.47
2:B:1567:A:O2'	5:E:63:ARG:NH2	2.46	0.47
57:B:9001:BLS:H2'	4:IA:76:A:C4	2.49	0.47
44:TA:51:ARG:CZ	44:TA:61:GLU:HB3	2.45	0.47
52:BB:70:ILE:H	52:BB:70:ILE:HG13	1.54	0.47
1:FB:219:C:H2'	1:FB:220:G:O4'	2.14	0.47
1:FB:969:A:N6	43:XC:128:ARG:O	2.47	0.47
2:GB:833:U:O2	13:RB:55:ARG:NH2	2.45	0.47
2:GB:1115:G:H2'	2:GB:1116:C:C6	2.49	0.47
2:GB:1278:A:OP1	15:TB:36:THR:HG23	2.14	0.47
2:GB:1490:A:O2'	5:JB:99:ASP:OD1	2.26	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
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
37:RC:109:PRO:HB2	37:RC:119:ARG:HH12	1.79	0.47
41:VC:86:GLN:HB2	41:VC:148:ASN:HD22	1.78	0.47
44:YC:40:LEU:HD23	44:YC:69:ASN:HB2	1.95	0.47
54:ID:76:ALA:O	54:ID:80:ARG:HB2	2.14	0.47
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
1:A:1103:C:H5'	36:LA:98:LEU:HD12	1.96	0.47
2:B:729:G:OP1	5:E:10:THR:OG1	2.21	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
3:C:48:A:H4'	16:P:95:HIS:HD2	1.79	0.47
4:D:64:G:H2'	4:D:65:C:C6	2.49	0.47
8:H:174:GLU:HA	8:H:180:PHE:HE2	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:9:LEU:O	10:J:12:LEU:HB3	2.15	0.47
15:O:88:ARG:NH1	15:O:89:ASP:OD1	2.47	0.47
17:Q:35:LYS:NZ	17:Q:37:GLY:O	2.24	0.47
31:EA:12:ARG:HD3	31:EA:46:VAL:HG13	1.97	0.47
4:IA:25:C:H2'	4:IA:26:G:O4'	2.15	0.47
35:JA:188:PRO:C	35:JA:190:THR:H	2.23	0.47
36:LA:103:THR:HG23	36:LA:176:GLU:OE1	2.13	0.47
43:SA:3:GLN:OE1	43:SA:20:ARG:NH2	2.45	0.47
44:TA:79:ARG:HG2	44:TA:83:GLU:OE2	2.15	0.47
51:AB:10:VAL:HG23	51:AB:55:ASP:O	2.14	0.47
54:DB:29:LYS:HE2	54:DB:65:LYS:HB3	1.97	0.47
1:FB:778:G:O2'	45:ZC:120:ARG:O	2.30	0.47
1:FB:920:U:H2'	1:FB:921:U:C6	2.48	0.47
1:FB:1299:A:N3	1:FB:1299:A:H2'	2.30	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:2748:A:H2'	2:GB:2749:A:C8	2.48	0.47
5:JB:182:LEU:HD23	5:JB:182:LEU:HA	1.77	0.47
9:NB:13:LYS:HA	9:NB:14:GLY:HA2	1.53	0.47
11:PB:58:ASP:OD1	11:PB:125:GLY:N	2.47	0.47
18:WB:104:GLN:NE2	18:WB:105:VAL:HG23	2.29	0.47
4:NC:25:C:H2'	4:NC:26:G:O4'	2.15	0.47
38:SC:94:LEU:HA	38:SC:97:LEU:HB2	1.97	0.47
45:ZC:67:ASP:OD2	45:ZC:71:LYS:HE3	2.14	0.47
47:BD:70:LEU:O	47:BD:74:VAL:HG23	2.14	0.47
49:DD:4:THR:HG23	49:DD:7:GLU:CD	2.39	0.47
49:DD:44:LYS:O	49:DD:47:LYS:NZ	2.48	0.47
1:A:209:U:H4'	1:A:216:G:C2	2.49	0.47
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
1:A:1321:C:H4'	47:WA:87:TYR:CE2	2.49	0.47
1:A:1442:G:N3	1:A:1442:G:H2'	2.29	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:134:ILE:O	6:F:136:ARG:N	2.47	0.47
7:G:52:LYS:HA	7:G:56:GLU:OE1	2.15	0.47
14:N:70:PRO:HA	14:N:95:ALA:HB2	1.97	0.47
20:T:34:ASN:HA	20:T:37:ARG:HB2	1.97	0.47
23:W:30:ASN:ND2	23:W:31:ARG:HG2	2.29	0.47
23:W:108:PRO:HB2	23:W:111:VAL:HG23	1.97	0.47
28:BA:57:GLU:HA	28:BA:58:ARG:HA	1.54	0.47
32:FA:17:THR:OG1	32:FA:21:LYS:HB2	2.14	0.47
33:GA:2:LYS:HB2	33:GA:34:GLN:HG2	1.97	0.47
34:HA:18:G:C6	4:IA:35:A:N1	2.82	0.47
38:NA:110:PHE:CD2	38:NA:110:PHE:N	2.82	0.47
38:NA:139:ARG:HH11	38:NA:139:ARG:HG3	1.78	0.47
39:OA:121:LYS:HZ3	39:OA:122:GLU:H	1.61	0.47
41:QA:89:MET:HB3	41:QA:90:GLU:H	1.52	0.47
47:WA:34:LEU:HD22	47:WA:40:ASN:O	2.14	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
1:FB:1274:G:H8	1:FB:1274:G:OP2	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
2:GB:2405:G:HO2'	2:GB:2406:U:P	2.37	0.47
5:JB:43:ARG:HH11	5:JB:43:ARG:CG	2.07	0.47
7:LB:165:ARG:O	7:LB:168:ARG:HB2	2.13	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
12:QB:69:VAL:HG11	12:QB:105:GLU:OE2	2.13	0.47
13:RB:43:GLY:O	13:RB:45:LEU:N	2.44	0.47
16:UB:89:ARG:NH1	16:UB:92:TYR:O	2.48	0.47
23:BC:5:LEU:HB3	23:BC:47:VAL:HG21	1.96	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
30:IC:39:TYR:OH	30:IC:44:ARG:HG3	2.14	0.47
32:KC:4:MET:HE2	32:KC:63:PRO:HG3	1.97	0.47
35:PC:342:GLU:OE2	35:PC:345:ILE:HD11	2.14	0.47
36:QC:193:ASP:HB3	36:QC:196:LEU:HD12	1.96	0.47
37:RC:30:ARG:HB3	37:RC:30:ARG:NH1	2.30	0.47
38:SC:102:ASP:OD2	38:SC:136:PRO:HB3	2.14	0.47
39:TC:17:ALA:HB2	39:TC:26:PHE:HD1	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:TC:106:PRO:O	39:TC:110:LEU:HG	2.15	0.47
47:BD:108:ARG:NH1	47:BD:112:GLY:O	2.47	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
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
2:B:137(B):G:H1'	21:U:41:ASN:ND2	2.29	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
2:B:1354:A:C8	2:B:1355:G:C8	3.03	0.47
2:B:2197:U:O2'	2:B:2198:A:OP2	2.28	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
9:I:3:ARG:NH2	9:I:5:GLY:H	2.12	0.47
10:J:113:ARG:HD3	10:J:132:PRO:HA	1.97	0.47
12:L:25:LEU:HB2	12:L:38:VAL:HG23	1.96	0.47
16:P:7:TYR:CZ	16:P:91:PRO:HG2	2.50	0.47
35:JA:149:MET:HB2	35:JA:163:ILE:HG23	1.95	0.47
37:MA:30:ARG:NH1	37:MA:30:ARG:HB3	2.30	0.47
41:QA:16:LEU:HG	43:SA:42:ARG:HA	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
1:FB:1493:A:C5	2:GB:1913:A:C6	3.03	0.47
2:GB:7:G:H2'	2:GB:8:A:O4'	2.14	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:1039:G:C6	2:GB:1040:C:C4	3.02	0.47
2:GB:2036:C:H6	2:GB:2036:C:H5'	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
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
10:OB:124:GLY:N	10:OB:144:VAL:HG23	2.29	0.47
11:PB:9:VAL:HG11	11:PB:39:ARG:HH22	1.79	0.47
25:DC:77:ALA:HB2	25:DC:94:LEU:HD21	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BD:55:ARG:NH1	47:BD:56:LEU:HD13	2.30	0.47
54:ID:10:LEU:CD1	54:ID:11:SER:H	2.27	0.47
1:A:337:C:H2'	1:A:338:A:H8	1.78	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
2:B:387:U:OP2	25:Y:20:ARG:NH1	2.47	0.47
2:B:458:G:H5"	31:EA:38:GLY:O	2.15	0.47
2:B:1012:U:C4	11:K:28:THR:HG21	2.49	0.47
2:B:1071:G:H1'	2:B:1089:G:C8	2.50	0.47
2:B:1291:C:H2'	2:B:1292:U:C6	2.50	0.47
2:B:1550:C:OP1	2:B:1727:U:O2'	2.32	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: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
3:C:34:U:H6	3:C:34:U:O5'	1.97	0.47
3:C:39:A:O2'	3:C:46:A:N1	2.45	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
7:G:179:GLU:H	7:G:179:GLU:CD	2.23	0.47
10:J:72:LEU:HB3	10:J:140:LEU:HD23	1.97	0.47
20:T:8:ARG:HB3	20:T:9:TYR:CD2	2.45	0.47
22:V:76:CYS:SG	22:V:78:ALA:HB3	2.54	0.47
23:W:131:ARG:H	23:W:131:ARG:HD2	1.79	0.47
27:AA:7:LYS:HE3	27:AA:32:GLN:O	2.15	0.47
42:RA:31:PHE:O	42:RA:35:ILE:HG13	2.14	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
46:VA:61:THR:C	46:VA:63:GLY:H	2.23	0.47
50:ZA:57:ARG:NH2	50:ZA:79:VAL:O	2.48	0.47
51:AB:26:GLN:HA	51:AB:36:ILE:O	2.14	0.47
52:BB:71:LYS:HA	52:BB:74:ARG:HD2	1.96	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
1:FB:877:C:OP1	42:WC:88:LYS:NZ	2.46	0.47
1:FB:1251:A:OP2	43:XC:67:GLY:HA2	2.13	0.47
1:FB:1285:A:H5"	55:JD:25:LYS:NZ	2.30	0.47
2:GB:24:G:O2'	20:YB:78:GLU:O	2.30	0.47
2:GB:111:A:H5'	26:EC:69:ARG:HH22	1.79	0.47
2:GB:570:G:H2'	2:GB:2030:A:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:906:G:O3'	14:SB:67:ARG:NH2	2.47	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:2231:C:OP1	25:DC:42:GLN:HA	2.13	0.47
2:GB:2369:A:H2'	2:GB:2370:G:H8	1.80	0.47
3:HB:5:C:OP1	3:HB:61:G:O2'	2.24	0.47
5:JB:61:LEU:HD12	5:JB:61:LEU:HA	1.64	0.47
7:LB:33:LEU:HD12	7:LB:33:LEU:HA	1.73	0.47
9:NB:149:ARG:NH1	9:NB:167:GLU:CD	2.73	0.47
11:PB:108:PRO:O	11:PB:113:GLY:HA3	2.15	0.47
16:UB:13:ARG:CG	16:UB:13:ARG:NH1	2.73	0.47
18:WB:94:ASN:HA	18:WB:97:ASP:HB3	1.95	0.47
23:BC:8:TYR:HD2	23:BC:38:TYR:CZ	2.33	0.47
4:NC:31:G:H5"	4:NC:32:5MC:OP2	2.14	0.47
36:QC:71:VAL:N	36:QC:163:PHE:O	2.47	0.47
37:RC:88:ARG:HA	37:RC:91:LEU:HB2	1.96	0.47
41:VC:66:VAL:O	41:VC:70:LYS:HB2	2.14	0.47
42:WC:103:VAL:HG21	42:WC:110:ALA:N	2.29	0.47
46:AD:70:ILE:HG12	46:AD:100:ILE:HD12	1.96	0.47
49:DD:3:ILE:HD11	49:DD:38:ARG:HD2	1.95	0.47
51:FD:100:LYS:HB2	51:FD:100:LYS:NZ	2.29	0.47
53:HD:28:LYS:HZ2	53:HD:30:LEU:HD11	1.80	0.47
1:A:763:G:H2'	1:A:764:C:H6	1.80	0.47
2:B:127:A:H5"	2:B:128:C:O4'	2.14	0.47
2:B:256:A:H2'	2:B:257:A:C8	2.49	0.47
2:B:259:G:O2'	2:B:621:A:O2'	2.29	0.47
2:B:302:C:H2'	2:B:303:U:H6	1.78	0.47
2:B:1170:G:H1	2:B:1179:C:H42	1.62	0.47
2:B:1359:A:C2	2:B:1372:U:O4	2.67	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:2747:G:O6	2:B:2755:C:H5"	2.15	0.47
3:C:111:U:H2'	3:C:112:G:H8	1.80	0.47
4:D:51:C:H42	4:D:64:G:N2	2.13	0.47
6:F:192:ASN:OD1	6:F:192:ASN:N	2.45	0.47
12:L:17:ARG:HA	12:L:17:ARG:HE	1.80	0.47
14:N:17:LEU:HD21	14:N:41:TRP:HE1	1.78	0.47
17:Q:105:LEU:HB3	17:Q:110:ILE:HG12	1.97	0.47
19:S:73:SER:OG	19:S:74:LYS:N	2.45	0.47
26:Z:16:LEU:O	26:Z:67:LYS:NZ	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:EA:9:ARG:HH21	31:EA:47:ARG:HD3	1.80	0.47
36:LA:48:MET:HA	36:LA:51:LEU:HB2	1.95	0.47
38:NA:102:ASP:OD2	38:NA:136:PRO:HB3	2.14	0.47
47:WA:55:ARG:NH1	47:WA:56:LEU:HD13	2.30	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
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
2:GB:702:G:H1	2:GB:730:C:H42	1.62	0.47
2:GB:1012:U:C4	11:PB:28:THR:HG21	2.50	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
4:IB:21:A:OP2	4:IB:59:A:N6	2.47	0.47
5:JB:30:GLU:HB3	5:JB:33:LEU:HD12	1.97	0.47
5:JB:145:VAL:HB	5:JB:155:LEU:HB2	1.96	0.47
6:KB:13:ARG:NH1	6:KB:13:ARG:HG2	2.29	0.47
7:LB:64:ILE:HD12	7:LB:65:TRP:H	1.80	0.47
8:MB:18:GLU:C	8:MB:21:ARG:HB3	2.40	0.47
12:QB:35:VAL:HA	12:QB:62:VAL:HG12	1.97	0.47
15:TB:36:THR:HG22	15:TB:37:THR:N	2.29	0.47
21:ZB:57:LEU:HD12	21:ZB:78:LYS:HB2	1.95	0.47
22:AC:40:GLU:O	22:AC:42:VAL:N	2.48	0.47
27:FC:8:LEU:HG	27:FC:31:LEU:HD22	1.97	0.47
44:YC:45:ARG:HD3	48:CD:36:PHE:CE1	2.48	0.47
1:A:1112:C:H5"	1:A:1113:C:OP2	2.15	0.47
1:A:1249:C:H1'	43:SA:69:GLY:O	2.15	0.47
1:A:1502:A:C8	1:A:1505:G:N2	2.83	0.47
1:A:1532:U:OP2	1:A:1532:U:C6	2.68	0.47
2:B:724:U:H2'	2:B:725:G:O4'	2.14	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:1971:A:H1'	5:E:240:ALA:O	2.14	0.47
2:B:2330:G:H2'	2:B:2331:G:O4'	2.15	0.47
2:B:2615:U:C2	29:CA:7:PRO:HA	2.50	0.47
2:B:2662:A:H2'	2:B:2663:G:O4'	2.14	0.47
2:B:2727:G:O2'	12:L:70:LYS:NZ	2.47	0.47
11:K:35:ARG:NH1	11:K:35:ARG:HG2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
32:FA:26:LYS:HE3	32:FA:26:LYS:HB3	1.67	0.47
35:KA:331:GLU:HA	35:KA:334:GLU:HB3	1.97	0.47
36:LA:53:ARG:NH1	36:LA:199:TYR:HA	2.30	0.47
37:MA:135:LYS:HB3	37:MA:135:LYS:HZ2	1.79	0.47
38:NA:120:LEU:HB3	38:NA:126:ILE:HD11	1.96	0.47
43:SA:123:PRO:O	43:SA:125:TYR:N	2.47	0.47
1:FB:62:U:H2'	1:FB:63:C:C6	2.49	0.47
1:FB:139:G:H2'	1:FB:140:A:H8	1.80	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
1:FB:1077:G:C2	1:FB:1081:G:C6	3.03	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
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:1971:A:C5	5:JB:241:PRO:HG3	2.50	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
4:IB:15:G:O6	4:IB:59:A:O2'	2.33	0.47
6:KB:13:ARG:HG2	6:KB:13:ARG:HH11	1.80	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:96:ARG:O	8:MB:99:MET:HB3	2.14	0.47
12:QB:89:ASN:HB2	12:QB:90:GLN:HE22	1.78	0.47
15:TB:105:ARG:HH11	15:TB:105:ARG:CG	2.27	0.47
26:EC:3:LEU:HD11	26:EC:7:ARG:HH11	1.80	0.47
27:FC:35:ARG:HH11	27:FC:35:ARG:CB	2.27	0.47
4:NC:16:C:OP1	4:NC:17:C:N4	2.46	0.47
36:QC:167:PRO:HD3	36:QC:187:LEU:O	2.15	0.47
44:YC:79:ARG:HG2	44:YC:83:GLU:OE2	2.15	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:57:C:H2'	2:B:58:G:O4'	2.15	0.47
2:B:79:G:O2'	2:B:346:A:N3	2.43	0.47
2:B:478:A:C6	2:B:480:A:C6	3.04	0.47
2:B:637:A:H8	13:M:117:GLU:HG3	1.78	0.47
2:B:861:A:N3	3:C:79:C:O2'	2.48	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
5:E:71:ASP:OD2	5:E:71:ASP:N	2.37	0.47
7:G:34:TRP:CH2	13:M:8:PRO:HB3	2.50	0.47
9:I:102:ALA:HB2	9:I:116:GLU:OE2	2.15	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
45:UA:67:ASP:OD2	45:UA:71:LYS:HE3	2.15	0.47
51:AB:54:GLY:O	51:AB:81:ARG:HB2	2.15	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:942:G:H21	43:XC:124:GLN:NE2	2.13	0.47
1:FB:943:U:OP2	1:FB:943:U:H6	1.98	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
2:GB:57:C:H2'	2:GB:58:G:O4'	2.14	0.47
2:GB:496:G:C2	2:GB:497:A:H1'	2.50	0.47
2:GB:781:A:C8	5:JB:219:PRO:HG3	2.50	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:2106:G:H1	2:GB:2183:C:H42	1.63	0.47
25:DC:46:LEU:HD23	25:DC:62:VAL:C	2.40	0.47
27:FC:38:GLU:HB3	27:FC:39:ASP:H	1.50	0.47
33:LC:25:VAL:HB	33:LC:34:GLN:HB2	1.96	0.47
36:QC:197:VAL:HG11	36:QC:200:ILE:HG23	1.96	0.47
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
40:UC:35:ALA:HB2	40:UC:67:MET:HE2	1.95	0.47
40:UC:61:LEU:HD23	40:UC:63:TYR:CE2	2.50	0.47
45:ZC:79:SER:HB2	45:ZC:106:LYS:NZ	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BD:55:ARG:NH1	47:BD:55:ARG:HB3	2.30	0.47
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
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
2:B:576:U:OP1	2:B:2503:2MA:OP1	2.32	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:2019:A:O4'	18:R:34:LYS:HE2	2.15	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
4:D:57:A:C2	4:D:58:A:H1'	2.49	0.46
6:F:37:ARG:HD2	6:F:42:ASP:CG	2.40	0.46
7:G:66:PRO:HG2	7:G:70:THR:HG23	1.97	0.46
12:L:88:ASN:OD1	12:L:92:GLU:HB2	2.14	0.46
15:O:83:ILE:HG23	15:O:86:ARG:HH21	1.79	0.46
16:P:5:THR:HG23	16:P:8:GLU:OE2	2.15	0.46
25:Y:41:ARG:HD3	25:Y:43:TYR:CE1	2.50	0.46
25:Y:82:LEU:H	25:Y:83:GLU:CD	2.21	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
35:JA:184:VAL:HG22	35:JA:186:ARG:HG3	1.96	0.46
37:MA:87:LEU:HD11	37:MA:101:LEU:HD13	1.97	0.46
39:OA:13:ILE:HG21	39:OA:51:VAL:HG13	1.97	0.46
41:QA:86:GLN:HB2	41:QA:148:ASN:HD22	1.80	0.46
42:RA:103:VAL:HG21	42:RA:110:ALA:N	2.30	0.46
43:SA:45:ALA:HA	43:SA:48:GLU:HB2	1.97	0.46
1:FB:67:C:H2'	1:FB:68:G:C8	2.51	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:707:C:H4'	45:ZC:20:TYR:CD2	2.51	0.46
1:FB:908:A:H2'	1:FB:909:A:C8	2.50	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:2755:C:HO2'	2:GB:2756:U:H6	1.63	0.46
2:GB:2804:C:H2'	2:GB:2805:G:O4'	2.15	0.46
4:IB:48:C:H5'	4:IB:50:U:P	2.55	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:IB:64:G:O2'	4:IB:65:C:O4'	2.27	0.46
23:BC:70:LEU:HB2	23:BC:91:LEU:HD21	1.97	0.46
37:RC:7:PRO:HB3	37:RC:175:LEU:HD11	1.97	0.46
43:XC:4:TYR:HB2	43:XC:88:TYR:CD1	2.50	0.46
47:BD:17:VAL:C	47:BD:19:LEU:H	2.24	0.46
53:HD:61:TYR:CE2	53:HD:63:THR:HG23	2.50	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
1:A:1099:G:C6	1:A:1100:C:C2	3.03	0.46
1:A:1275:A:P	1:A:1275:A:H8	2.37	0.46
2:B:7:G:H2'	2:B:8:A:O4'	2.14	0.46
2:B:370:G:C6	2:B:424:G:N7	2.83	0.46
2:B:1019:U:H3	2:B:1142(B):A:N6	2.09	0.46
2:B:1255:U:C5	7:G:73:ALA:HA	2.50	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:2485:G:H5"	14:N:46:GLN:HE21	1.80	0.46
2:B:2804:C:H2'	2:B:2805:G:O4'	2.16	0.46
8:H:57:ALA:HA	8:H:60:LEU:HB2	1.96	0.46
8:H:114:ILE:HA	8:H:140:ILE:HD13	1.97	0.46
36:LA:149:LEU:HD12	36:LA:152:PHE:HB3	1.97	0.46
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
1:FB:538:G:H2'	1:FB:539:A:C8	2.50	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
2:GB:330:A:HO2'	2:GB:331:A:H8	1.62	0.46
2:GB:1248:G:C2	18:WB:3:ARG:HD2	2.50	0.46
2:GB:2251:OMG:HN21	57:GB:9001:BLS:C2	2.28	0.46
2:GB:2292:C:OP2	16:UB:17:ARG:NH2	2.49	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
3:HB:34:U:H6	3:HB:34:U:O5'	1.99	0.46
7:LB:194:MET:HE3	7:LB:194:MET:HB2	1.81	0.46
8:MB:57:ALA:HA	8:MB:60:LEU:HB2	1.97	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
17:VB:125:ARG:O	17:VB:128:GLU:OE2	2.33	0.46
23:BC:75:ASN:HB2	23:BC:85:HIS:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:GC:57:GLU:HA	28:GC:58:ARG:HA	1.53	0.46
31:JC:47:ARG:HA	31:JC:48:LYS:NZ	2.31	0.46
36:QC:172:ILE:H	36:QC:172:ILE:HD12	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
44:YC:50:ILE:HA	44:YC:60:ARG:CB	2.39	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
1:A:1171:G:H2'	1:A:1172:C:C6	2.50	0.46
2:B:220:G:O2'	2:B:233:A:N3	2.42	0.46
2:B:747:U:O2	2:B:2014:A:H1'	2.16	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:H6	2:B:2755:C:O5'	1.98	0.46
8:H:114:ILE:HD12	8:H:136:ARG:NH1	2.30	0.46
10:J:98:ALA:HA	10:J:109:ILE:HD11	1.96	0.46
11:K:96:GLU:O	11:K:100:GLU:HG3	2.16	0.46
13:M:29:LYS:HG2	13:M:30:THR:HG23	1.96	0.46
20:T:57:ASN:O	20:T:61:ASN:HB2	2.16	0.46
29:CA:20:ARG:HA	29:CA:23:HIS:CE1	2.50	0.46
36:LA:173:ALA:HA	36:LA:176:GLU:HB2	1.97	0.46
40:PA:11:ASN:N	40:PA:84:ASN:O	2.49	0.46
1:FB:401:C:O2'	1:FB:621:A:N3	2.45	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
2:GB:764:A:H5"	5:JB:210:GLY:CA	2.45	0.46
2:GB:1138:G:O2'	11:PB:102:ALA:O	2.33	0.46
2:GB:1162:G:O3'	19:XB:24:LYS:HE3	2.15	0.46
2:GB:2133:G:O2'	2:GB:2134:A:OP2	2.28	0.46
2:GB:2677:G:N3	2:GB:2731:G:C2	2.83	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:2755:C:H6	2:GB:2755:C:O5'	1.98	0.46
11:PB:7:LYS:HA	11:PB:7:LYS:HZ2	1.79	0.46
11:PB:104:LYS:HB2	11:PB:117:PHE:CE1	2.51	0.46
18:WB:104:GLN:HE21	18:WB:105:VAL:HG23	1.80	0.46
23:BC:118:GLN:N	23:BC:173:ALA:O	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:KC:6:THR:HG23	32:KC:63:PRO:HD2	1.96	0.46
32:KC:26:LYS:HB3	32:KC:26:LYS:HE3	1.63	0.46
38:SC:19:LEU:HD12	38:SC:19:LEU:HA	1.68	0.46
53:HD:30:LEU:HD23	53:HD:48:THR:HG23	1.97	0.46
1:A:404:U:H2'	1:A:405:U:C6	2.50	0.46
1:A:1132:C:H2'	1:A:1133:G:C8	2.43	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
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
7:G:7:TYR:O	7:G:22:ALA:HB3	2.16	0.46
7:G:36:VAL:HG12	7:G:40:GLN:OE1	2.14	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
32:FA:52:LYS:HB3	32:FA:53:PRO:HD3	1.97	0.46
4:IA:31:G:H5"	4:IA:32:5MC:OP2	2.16	0.46
36:LA:109:SER:OG	36:LA:110:GLN:N	2.48	0.46
37:MA:121:ALA:HB1	37:MA:189:ALA:HB2	1.97	0.46
37:MA:139:GLN:O	37:MA:141:VAL:N	2.41	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
43:SA:13:ALA:HA	43:SA:67:GLY:HA3	1.98	0.46
49:YA:8:LYS:O	49:YA:12:ILE:HG13	2.15	0.46
53:CB:40:ILE:H	53:CB:40:ILE:HG12	1.48	0.46
1:FB:160:A:H1'	1:FB:344:A:C8	2.51	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
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:H2'	2:GB:783:A:N3	2.30	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
16:UB:7:TYR:CZ	16:UB:91:PRO:HG2	2.51	0.46
23:BC:111:VAL:O	23:BC:114:GLY:N	2.48	0.46
23:BC:146:ILE:H	23:BC:146:ILE:HG13	1.33	0.46
29:HC:36:CYS:SG	29:HC:38:ALA:HB3	2.55	0.46
34:MC:14:A:H3'	34:MC:15:A:H8	1.81	0.46
36:QC:167:PRO:HG3	36:QC:188:ALA:HB2	1.98	0.46
44:YC:5:ARG:HG3	44:YC:73:ASP:HA	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
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:2262:U:H4'	2:B:2328:A:H2	1.80	0.46
2:B:2290:G:H2'	2:B:2291:U:O4'	2.14	0.46
2:B:2292:C:OP2	16:P:17:ARG:NH2	2.49	0.46
2:B:2629:A:H1'	2:B:2895:U:O4	2.16	0.46
3:C:75:G:H21	23:W:85:HIS:CE1	2.33	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
8:H:170:ARG:NH1	8:H:174:GLU:OE1	2.42	0.46
12:L:71:ARG:HH12	12:L:104:ARG:CB	2.21	0.46
22:V:41:GLY:O	22:V:44:ILE:HD11	2.16	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
45:UA:73:MET:HE1	45:UA:102:GLY:HA3	1.97	0.46
47:WA:31:LYS:O	47:WA:35:GLU:HB2	2.15	0.46
1:FB:779:C:H2'	1:FB:780:A:O4'	2.15	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
2:GB:1026:U:H4'	2:GB:1027:A:OP2	2.15	0.46
2:GB:1028:A:H8	2:GB:1028:A:O5'	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:2016:U:O2	29:HC:7:PRO:HG2	2.14	0.46
2:GB:2167:U:H2'	2:GB:2168:G:C8	2.51	0.46
2:GB:2685:G:H4'	12:QB:67:LYS:NZ	2.30	0.46
3:HB:102:G:H21	23:BC:73:GLN:HE22	1.63	0.46
5:JB:118:VAL:HG13	5:JB:123:ALA:HB1	1.97	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
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
17:VB:108:ARG:CG	17:VB:112:ARG:HH12	2.21	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:WB:58:ARG:CG	18:WB:58:ARG:NH1	2.78	0.46
35:OC:149:MET:HE3	35:OC:165:LYS:HD2	1.97	0.46
38:SC:141:ARG:HB2	38:SC:141:ARG:CZ	2.46	0.46
40:UC:18:GLN:HA	40:UC:21:LEU:HG	1.97	0.46
42:WC:34:GLU:O	42:WC:37:ARG:HG3	2.15	0.46
45:ZC:73:MET:HE1	45:ZC:102:GLY:HA3	1.96	0.46
46:AD:8:ASN:C	46:AD:8:ASN:HD22	2.24	0.46
1:A:67:C:H2'	1:A:68:G:C8	2.51	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:790:A:C6	1:A:791:G:C6	3.03	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
2:B:196:A:OP2	13:M:46:LYS:NZ	2.48	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:888:C:N3	47:WA:82:MET:HE3	2.31	0.46
2:B:978:G:C2	2:B:986:C:C2	3.03	0.46
2:B:1490:A:O2'	5:E:99:ASP:OD1	2.31	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:2639:A:O3'	11:K:97:ARG:NH2	2.48	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
7:G:141:ALA:O	7:G:144:LYS:HB3	2.15	0.46
8:H:35:GLU:HB2	8:H:160:VAL:O	2.15	0.46
10:J:1:MET:SD	10:J:1:MET:N	2.85	0.46
23:W:126:VAL:HG21	23:W:161:VAL:HG12	1.97	0.46
27:AA:8:LEU:HG	27:AA:31:LEU:HD22	1.98	0.46
27:AA:38:GLU:HB3	27:AA:39:ASP:H	1.47	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
41:QA:111:ARG:C	41:QA:113:GLU:H	2.24	0.46
41:QA:111:ARG:NH1	41:QA:122:HIS:HB3	2.31	0.46
43:SA:31:GLN:HA	43:SA:35:GLU:OE1	2.15	0.46
44:TA:50:ILE:HA	44:TA:60:ARG:CB	2.40	0.46
54:DB:84:LEU:O	54:DB:88:VAL:HB	2.15	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
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
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:788:A:N3	31:JC:4:THR:HG23	2.29	0.46
2:GB:791:C:H4'	2:GB:792:G:OP1	2.16	0.46
2:GB:1798:U:H5'	5:JB:259:THR:CG2	2.40	0.46
2:GB:2262:U:H4'	2:GB:2328:A:H2	1.80	0.46
2:GB:2291:U:OP1	2:GB:2381:C:H5'	2.15	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
4:IB:39:C:H4'	45:ZC:54:ARG:NE	2.30	0.46
5:JB:228:PRO:HD3	5:JB:235:GLY:CA	2.45	0.46
8:MB:25:TYR:CZ	8:MB:32:PRO:HD3	2.51	0.46
8:MB:137:GLU:HG2	8:MB:152:LEU:HD11	1.97	0.46
11:PB:30:ILE:O	11:PB:34:LEU:HD22	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
19:XB:83:ARG:HG2	19:XB:83:ARG:HH11	1.80	0.46
27:FC:5:LYS:HD2	27:FC:34:GLU:OE2	2.14	0.46
29:HC:40:LYS:HD3	29:HC:46:CYS:HB2	1.98	0.46
35:OC:184:VAL:HG22	35:OC:186:ARG:HG3	1.97	0.46
36:QC:101:MET:HG2	36:QC:152:PHE:HE1	1.80	0.46
1:A:955:U:P	35:JA:137:ARG:HH21	2.39	0.46
2:B:460:A:H5"	2:B:461:C:OP2	2.15	0.46
2:B:1557:C:H5"	2:B:1558:A:OP2	2.16	0.46
2:B:1937:A:H1'	2:B:1939:5MU:H71	1.98	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
6:F:36:ARG:HH11	6:F:85:ASN:CG	2.24	0.46
6:F:128:SER:OG	6:F:129:HIS:N	2.47	0.46
12:L:69:VAL:HG11	12:L:105:GLU:OE2	2.16	0.46
13:M:88:LEU:HA	13:M:91:PHE:CE2	2.50	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
35:JA:149:MET:HE3	35:JA:165:LYS:HD2	1.98	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:NA:128:VAL:HG12	38:NA:133:VAL:HG21	1.98	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
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
50:ZA:25:ARG:H	50:ZA:25:ARG:HG2	1.61	0.46
1:FB:619:U:N3	38:SC:135:LEU:HD11	2.31	0.46
1:FB:1252:A:H61	1:FB:1285:A:N6	2.13	0.46
2:GB:248:G:C4	2:GB:2431:U:H4'	2.51	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
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:2394:C:N3	4:IB:76:A:O2'	2.41	0.46
2:GB:2472:G:H22	2:GB:2477:C:H5'	1.81	0.46
6:KB:174:ASP:O	6:KB:183:LEU:N	2.47	0.46
8:MB:127:GLY:HA2	8:MB:166:ASP:HB2	1.96	0.46
14:SB:20:ALA:HB2	23:BC:79:ARG:HG3	1.98	0.46
19:XB:81:TYR:CE1	19:XB:83:ARG:NH1	2.83	0.46
25:DC:50:ARG:HB3	25:DC:50:ARG:HH11	1.81	0.46
26:EC:68:ARG:HG2	26:EC:68:ARG:NH1	2.27	0.46
4:NC:74:C:H3'	4:NC:75:C:C5'	2.45	0.46
36:QC:16:HIS:ND1	36:QC:204:ASN:HB2	2.31	0.46
36:QC:69:LEU:O	36:QC:163:PHE:N	2.48	0.46
36:QC:109:SER:OG	36:QC:110:GLN:N	2.48	0.46
38:SC:157:LEU:HA	38:SC:160:GLN:OE1	2.16	0.46
43:XC:28:VAL:HG22	43:XC:63:ILE:HD12	1.97	0.46
53:HD:21:GLU:OE1	53:HD:25:LYS:HD3	2.16	0.46
1:A:73:G:H1	1:A:97:U:H3	1.63	0.46
1:A:262:A:C6	1:A:263:A:C6	3.04	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
1:A:1202:G:H2'	1:A:1203:C:O4'	2.16	0.46
1:A:1280:A:H5"	44:TA:40:LEU:HD11	1.98	0.46
1:A:1450:U:H4'	1:A:1451:A:N7	2.31	0.46
2:B:840:C:H2'	2:B:841:A:C8	2.51	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2570:G:C6	2:B:2571:C:C4	3.04	0.46
5:E:248:SER:HG	5:E:252:TRP:CG	2.33	0.46
6:F:51:PHE:HD2	6:F:77:ILE:HD12	1.80	0.46
8:H:25:TYR:CZ	8:H:32:PRO:HD3	2.50	0.46
17:Q:26:ASP:OD1	17:Q:120:ARG:NH2	2.47	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
1:FB:99:C:H2'	1:FB:101:A:O4'	2.15	0.46
1:FB:262:A:C6	1:FB:263:A:C6	3.04	0.46
1:FB:676:A:H5"	45:ZC:113:PRO:HB2	1.97	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: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
2:GB:93:C:H2'	2:GB:94:G:O4'	2.15	0.46
2:GB:220:G:O2'	2:GB:233:A:N3	2.46	0.46
2:GB:918:A:C5	2:GB:919:G:H1'	2.51	0.46
2:GB:971:C:H2'	2:GB:972:G:O4'	2.16	0.46
2:GB:1520:U:H2'	2:GB:1521:G:O4'	2.16	0.46
3:HB:43:C:O2	8:MB:95:ARG:NE	2.34	0.46
9:NB:130:ARG:HB3	9:NB:130:ARG:NH1	2.31	0.46
12:QB:22:ILE:HG13	12:QB:40:VAL:HG12	1.98	0.46
19:XB:40:LEU:HD23	19:XB:41:GLY:N	2.30	0.46
20:YB:8:ARG:HB3	20:YB:9:TYR:CD2	2.51	0.46
20:YB:68:ARG:HD3	20:YB:111:HIS:HA	1.98	0.46
25:DC:86:SER:O	25:DC:90:ILE:HG13	2.16	0.46
1:A:582:U:C2	1:A:760:G:C6	3.04	0.46
1:A:1145:C:H4'	1:A:1146:A:C8	2.44	0.46
1:A:1324:A:OP2	1:A:1324:A:H8	1.99	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
2:B:1788:C:H2'	2:B:1789:A:O4'	2.16	0.46
2:B:1993:U:H5"	6:F:128:SER:HB3	1.96	0.46
4:D:26:G:H2'	4:D:27:U:H6	1.80	0.46
5:E:72:LYS:HG2	5:E:103:ARG:NH1	2.31	0.46
7:G:123:LEU:HD12	7:G:124:LEU:N	2.31	0.46
8:H:39:ILE:HG13	8:H:157:ILE:HG22	1.98	0.46
22:V:40:GLU:O	22:V:42:VAL:N	2.49	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:NA:141:ARG:HB2	38:NA:141:ARG:CZ	2.45	0.46
49:YA:82:ILE:O	49:YA:86:GLY:N	2.48	0.46
1:FB:430:A:OP2	38:SC:8:VAL:HG12	2.16	0.46
1:FB:656:C:O2'	49:DD:28:GLN:OE1	2.17	0.46
1:FB:1532:U:OP2	1:FB:1532:U:C6	2.68	0.46
2:GB:239:U:H2'	2:GB:240:G:O4'	2.16	0.46
2:GB:270(F):G:H1	2:GB:270(V):C:H42	1.63	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:2464:C:H42	2:GB:2486:G:H1	1.62	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
20:YB:11:ARG:HH11	20:YB:98:LYS:HB3	1.80	0.46
20:YB:39:THR:HG22	20:YB:44:ALA:HB2	1.98	0.46
25:DC:41:ARG:HD3	25:DC:43:TYR:CE1	2.51	0.46
44:YC:63:PHE:CD1	48:CD:58:LYS:HA	2.51	0.46
1:A:108:G:N1	54:DB:15:ARG:HG2	2.31	0.46
1:A:160:A:H1'	1:A:344:A:C8	2.51	0.46
1:A:546:G:C5	38:NA:3:ARG:O	2.69	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
2:B:738:G:C2	2:B:759:G:C5	3.04	0.46
2:B:764:A:H5"	5:E:210:GLY:CA	2.46	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
2:B:1038:C:H42	2:B:1117:G:H1	1.63	0.46
2:B:2685:G:H4'	12:L:67:LYS:NZ	2.31	0.46
3:C:89(A):G:H2'	3:C:89(B):A:C8	2.51	0.46
7:G:167:ALA:HB1	7:G:173:VAL:HG11	1.98	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
14:N:111:GLU:OE2	14:N:133:ARG:NH2	2.49	0.46
18:R:82:GLY:HA3	18:R:113:ALA:HB1	1.98	0.46
23:W:99:TYR:CE1	23:W:125:LEU:HB2	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
36:LA:141:GLU:O	36:LA:145:LEU:HB2	2.16	0.46
53:CB:28:LYS:NZ	53:CB:30:LEU:HD11	2.30	0.46
1:FB:129(B):G:N2	1:FB:189:U:H5"	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:737:A:H2'	1:FB:738:C:H6	1.79	0.46
1:FB:1084:G:C5	1:FB:1085:U:C4	3.05	0.46
2:GB:729:G:H2'	2:GB:1775:U:H1'	1.97	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:2030:A:H4'	2:GB:2031:A:H8	1.81	0.46
2:GB:2747:G:O6	2:GB:2755:C:H5"	2.16	0.46
2:GB:2748:A:H2'	2:GB:2749:A:H8	1.81	0.46
2:GB:2789:C:C2	2:GB:2894:G:N2	2.84	0.46
2:GB:2820:A:P	15:TB:2:ARG:HH22	2.39	0.46
5:JB:133:LEU:CB	5:JB:173:VAL:HG21	2.46	0.46
7:LB:12:LEU:HD23	7:LB:12:LEU:HA	1.70	0.46
8:MB:82:LEU:HD13	8:MB:86:MET:HB2	1.98	0.46
10:OB:84:GLY:HA3	10:OB:87:LYS:O	2.16	0.46
23:BC:111:VAL:HG22	23:BC:116:VAL:HA	1.98	0.46
28:GC:33:VAL:HG11	28:GC:36:CYS:HB2	1.97	0.46
32:KC:26:LYS:HB2	32:KC:44:LYS:O	2.16	0.46
36:QC:141:GLU:O	36:QC:145:LEU:HB2	2.16	0.46
39:TC:121:LYS:HZ1	39:TC:122:GLU:H	1.60	0.46
48:CD:61:TRP:OXT	48:CD:61:TRP:CD1	2.69	0.46
1:A:124:G:C5	1:A:125:U:C4	3.04	0.45
1:A:580:U:O2'	49:YA:57:LEU:HD12	2.16	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
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: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
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
2:B:1026:U:H4'	2:B:1027:A:OP2	2.16	0.45
2:B:1998:G:O2'	2:B:2724:C:O2'	2.20	0.45
2:B:2008:C:H2'	2:B:2009:G:H8	1.80	0.45
2:B:2407:G:N2	2:B:2408:U:H1'	2.31	0.45
3:C:13:A:O2'	3:C:15:A:H2'	2.16	0.45
37:MA:19:GLU:HA	37:MA:54:ARG:NH2	2.31	0.45
37:MA:112:SER:O	37:MA:116:VAL:HG23	2.16	0.45
41:QA:57:GLU:HB2	41:QA:60:LYS:HE3	1.98	0.45
1:FB:102:G:O2'	1:FB:151:A:N3	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:345:C:H5'	1:FB:346:G:C5	2.51	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
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: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
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
18:WB:88:ILE:HG22	18:WB:90:VAL:HG23	1.98	0.45
24:CC:46:LYS:HA	24:CC:47:PRO:HD3	1.78	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
37:RC:67:THR:HG22	37:RC:102:ASN:HB3	1.98	0.45
42:WC:101:PRO:HG2	42:WC:133:LEU:HD11	1.98	0.45
1:A:266:G:H3'	51:AB:67:LYS:HB2	1.97	0.45
1:A:961:U:OP2	1:A:1223:C:O4'	2.34	0.45
1:A:1313:U:OP1	53:CB:5:LEU:HB2	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
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:2401:U:H4'	30:DA:42:TRP:CH2	2.51	0.45
4:D:8:4SU:H3'	4:D:13:C:H41	1.81	0.45
5:E:146:GLU:HB2	5:E:189:CYS:HB3	1.97	0.45
14:N:124:LYS:O	14:N:125:LEU:HD23	2.16	0.45
15:O:36:THR:HG22	15:O:37:THR:H	1.81	0.45
17:Q:34:VAL:HG22	17:Q:41:ARG:HG3	1.97	0.45
17:Q:108:ARG:CG	17:Q:112:ARG:HH12	2.22	0.45
23:W:152:ALA:HB3	23:W:166:SER:O	2.16	0.45
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
36:LA:33:TYR:N	36:LA:41:ILE:O	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:OA:53:LEU:HD12	39:OA:53:LEU:H	1.81	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:30:ARG:HA	42:RA:33:GLU:HB3	1.98	0.45
42:RA:103:VAL:O	42:RA:106:GLY:N	2.48	0.45
44:TA:87:THR:C	44:TA:89:ASP:H	2.24	0.45
53:CB:12:ASP:O	53:CB:15:LEU:HB3	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
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
2:GB:1969:A:O2'	2:GB:1972:A:O2'	2.31	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:2361:A:OP1	32:KC:26:LYS:NZ	2.43	0.45
4:IB:57:A:C2	4:IB:58:A:H1'	2.51	0.45
7:LB:78:ILE:HA	7:LB:83:PHE:CD2	2.51	0.45
7:LB:158:THR:O	7:LB:178:PRO:HD3	2.16	0.45
14:SB:124:LYS:O	14:SB:125:LEU:HD23	2.16	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
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
21:ZB:68:ARG:NH1	21:ZB:69:TYR:CZ	2.84	0.45
23:BC:130:PRO:HD2	23:BC:131:ARG:HH11	1.80	0.45
38:SC:60:GLU:HG3	38:SC:198:VAL:HG23	1.98	0.45
41:VC:89:MET:HB3	41:VC:90:GLU:H	1.55	0.45
41:VC:90:GLU:HA	41:VC:90:GLU:OE2	2.15	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
51:FD:95:TYR:O	51:FD:98:LEU:HB2	2.17	0.45
52:GD:54:ARG:HB3	52:GD:54:ARG:NH1	2.31	0.45
1:A:112:G:H4'	1:A:389:A:H4'	1.99	0.45
1:A:994:A:N3	48:XA:5:ALA:HA	2.31	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
2:B:17:G:H2'	2:B:18:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:24:G:O2'	20:T:78:GLU:O	2.29	0.45
2:B:144:C:H2'	2:B:145:G:H8	1.79	0.45
2:B:302:C:H2'	2:B:303:U:C6	2.51	0.45
2:B:1680:U:N3	2:B:1764:G:OP2	2.25	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
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
9:I:84:SER:HB2	9:I:134:SER:HA	1.99	0.45
16:P:12:PHE:HB3	16:P:16:ASN:HD21	1.80	0.45
24:X:4:LYS:N	4:IA:74:C:H41	2.15	0.45
26:Z:66:GLU:HB2	26:Z:69:ARG:HE	1.81	0.45
39:OA:91:LEU:HA	39:OA:91:LEU:HD13	1.74	0.45
43:SA:13:ALA:HB2	43:SA:68:GLY:HA3	1.99	0.45
47:WA:17:VAL:C	47:WA:19:LEU:H	2.24	0.45
1:FB:391:G:H5"	50:ED:8:ARG:HE	1.81	0.45
1:FB:977:A:C8	1:FB:1223:C:C4	3.05	0.45
1:FB:1378:C:C5	1:FB:1379:G:C8	3.04	0.45
2:GB:643:A:H1'	30:IC:44:ARG:NH1	2.31	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
5:JB:132:PRO:HD2	5:JB:135:PHE:HD2	1.81	0.45
10:OB:133:HIS:HA	10:OB:134:PRO:HD3	1.81	0.45
18:WB:68:ALA:O	18:WB:71:GLN:HB2	2.15	0.45
46:AD:89:ARG:HD2	46:AD:96:VAL:O	2.17	0.45
50:ED:23:ASP:OD1	50:ED:24:ALA:N	2.48	0.45
55:JD:18:TYR:HE2	55:JD:24:ARG:HA	1.82	0.45
1:A:35:G:O2'	46:VA:118:SER:O	2.33	0.45
1:A:860:A:H2'	1:A:861:G:O4'	2.17	0.45
1:A:942:G:H21	43:SA:124:GLN:HE21	1.65	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2818:G:HO2'	2:B:2836:U:HO2'	1.64	0.45
3:C:48:A:H4'	16:P:95:HIS:CD2	2.51	0.45
3:C:50:G:OP2	16:P:62:LYS:HE3	2.16	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
28:BA:33:VAL:HG11	28:BA:36:CYS:HB2	1.97	0.45
4:IA:49:G:H2'	4:IA:50:U:O4'	2.16	0.45
36:LA:69:LEU:HD22	36:LA:159:PRO:HG3	1.98	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
46:VA:89:ARG:HD2	46:VA:96:VAL:O	2.17	0.45
1:FB:958:A:N6	53:HD:77:THR:O	2.50	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:186:G:H2'	2:GB:187:G:H8	1.81	0.45
2:GB:301:G:C4	2:GB:302:C:C5	3.04	0.45
2:GB:1080:C:H6	2:GB:1080:C:OP2	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:1789:A:OP1	5:JB:222:ARG:HG3	2.17	0.45
2:GB:1891:G:H8	2:GB:1891:G:O5'	1.99	0.45
2:GB:2094:G:H5'	10:OB:25:TYR:CD1	2.51	0.45
2:GB:2408:U:O5'	2:GB:2408:U:H6	2.00	0.45
3:HB:13:A:O2'	3:HB:15:A:H2'	2.16	0.45
8:MB:9:ARG:HA	8:MB:12:TYR:HB2	1.99	0.45
9:NB:137:ASP:HB3	9:NB:140:LYS:HZ1	1.80	0.45
10:OB:69:LYS:HD2	10:OB:73:GLU:OE1	2.16	0.45
15:TB:9:LYS:O	15:TB:17:ARG:NH1	2.49	0.45
19:XB:73:SER:OG	19:XB:74:LYS:N	2.46	0.45
21:ZB:60:ARG:NH1	31:JC:47:ARG:NH2	2.65	0.45
4:NC:53:G:H2'	4:NC:54:5MU:H73	1.99	0.45
37:RC:111:LEU:HB3	37:RC:204:LEU:HD21	1.99	0.45
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: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
1:A:1349:A:H2'	1:A:1349:A:N3	2.32	0.45
2:B:164:U:H3'	2:B:165:U:O2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
2:B:2135:A:N6	2:B:2155:G:O6	2.50	0.45
2:B:2167:U:O2'	2:B:2168:G:O4'	2.20	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
6:F:2:LYS:HA	6:F:84:PHE:CD1	2.51	0.45
10:J:86:THR:O	10:J:123:LEU:HB2	2.15	0.45
15:O:59:ASP:OD2	15:O:61:HIS:HB3	2.16	0.45
26:Z:63:VAL:HG12	26:Z:67:LYS:HG3	1.99	0.45
37:MA:36:ASP:OD2	37:MA:59:ARG:NH2	2.48	0.45
38:NA:17:VAL:O	38:NA:19:LEU:HD13	2.17	0.45
45:UA:52:GLY:O	45:UA:55:LYS:HG2	2.16	0.45
46:VA:8:ASN:HD22	46:VA:8:ASN:C	2.24	0.45
48:XA:58:LYS:NZ	48:XA:58:LYS:HB3	2.32	0.45
50:ZA:22:THR:OG1	50:ZA:23:ASP:N	2.49	0.45
53:CB:30:LEU:HD23	53:CB:48:THR:HG23	1.98	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
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
2:GB:270(T):G:H2'	2:GB:270(U):G:H8	1.82	0.45
2:GB:553:U:O2'	2:GB:554:U:H5'	2.17	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:2677:G:H1'	2:GB:2731:G:N2	2.31	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:H8	4:IB:38:A:O5'	2.00	0.45
6:KB:179:GLU:HA	6:KB:179:GLU:OE2	2.16	0.45
7:LB:116:ASP:OD2	13:RB:1:MET:HB3	2.16	0.45
8:MB:170:ARG:NH1	8:MB:174:GLU:OE1	2.40	0.45
13:RB:97:PRO:HD3	13:RB:126:VAL:O	2.16	0.45
17:VB:54:ARG:HB3	17:VB:54:ARG:HH11	1.80	0.45
21:ZB:60:ARG:NH1	31:JC:47:ARG:HH22	2.13	0.45
22:AC:29:GLU:OE2	22:AC:31:LEU:HD21	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:NC:68:C:H2'	4:NC:69:C:O4'	2.16	0.45
36:QC:137:ARG:O	36:QC:141:GLU:HB3	2.17	0.45
37:RC:77:ILE:HG13	37:RC:78:GLY:N	2.31	0.45
47:BD:55:ARG:HB3	47:BD:55:ARG:HH11	1.81	0.45
54:ID:80:ARG:O	54:ID:84:LEU:HB2	2.17	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
1:A:407:G:O2'	38:NA:116:GLN:HB2	2.16	0.45
1:A:1207:2MG:H2'	1:A:1208:C:C6	2.51	0.45
1:A:1257:U:OP1	37:MA:27:LYS:NZ	2.45	0.45
2:B:41:C:H2'	2:B:43:G:O4'	2.16	0.45
2:B:116:C:OP1	2:B:128:C:N4	2.46	0.45
2:B:270(T):G:H2'	2:B:270(U):G:C8	2.51	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
2:B:1142(B):A:O2'	2:B:1143:A:H3'	2.17	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:2809:A:OP2	2:B:2891:G:N1	2.49	0.45
6:F:31:CYS:HB3	6:F:49:LEU:HB3	1.98	0.45
7:G:158:THR:HA	7:G:195:ASP:HB2	1.99	0.45
8:H:152:LEU:HD22	8:H:153:ARG:H	1.82	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
21:U:11:PRO:HB3	21:U:92:LEU:HD11	1.97	0.45
4:IA:74:C:H3'	4:IA:75:C:C5'	2.44	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
38:NA:162:LEU:HD12	38:NA:178:VAL:HG22	1.98	0.45
44:TA:16:LEU:HD13	44:TA:94:VAL:HG13	1.99	0.45
46:VA:51:ALA:HB3	46:VA:53:ARG:NH2	2.32	0.45
51:AB:58:GLU:CD	51:AB:75:ARG:HD2	2.42	0.45
53:CB:50:ALA:HB1	53:CB:58:VAL:N	2.32	0.45
1:FB:363:A:OP1	46:AD:34:ARG:HG2	2.17	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
2:GB:138:G:H22	2:GB:1596:A:P	2.40	0.45
2:GB:586:A:H5'	7:LB:89:VAL:HG21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:690:G:O2'	5:JB:43:ARG:NH2	2.50	0.45
2:GB:2019:A:O4'	18:WB:34:LYS:HE2	2.17	0.45
2:GB:2152:G:H2'	2:GB:2153:G:O4'	2.16	0.45
2:GB:2639:A:O3'	11:PB:97:ARG:NH2	2.50	0.45
8:MB:121:ASN:HA	8:MB:122:PRO:HD3	1.76	0.45
10:OB:57:ARG:O	10:OB:60:GLU:HB3	2.15	0.45
21:ZB:5:TYR:CE2	26:EC:30:ARG:HB2	2.51	0.45
22:AC:3:VAL:HG21	22:AC:32:PRO:O	2.16	0.45
27:FC:44:ARG:HH11	27:FC:44:ARG:CB	2.29	0.45
4:NC:48:C:O2'	4:NC:59:A:O2'	2.30	0.45
38:SC:12:CYS:HG	38:SC:18:LYS:NZ	2.11	0.45
47:BD:3:ARG:HB2	47:BD:8:GLU:HG3	1.98	0.45
50:ED:8:ARG:HH12	50:ED:15:PRO:CG	2.26	0.45
50:ED:25:ARG:H	50:ED:25:ARG:HG2	1.65	0.45
51:FD:54:GLY:O	51:FD:81:ARG:HB2	2.17	0.45
54:ID:24:LEU:HD13	54:ID:24:LEU:HA	1.82	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
2:B:133:C:H5"	2:B:134:C:OP2	2.16	0.45
2:B:270(F):G:H1	2:B:270(V):C:N4	2.14	0.45
2:B:520:G:H2'	2:B:521:G:H8	1.81	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: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:2206:C:OP2	25:Y:48:LYS:NZ	2.44	0.45
2:B:2639:A:H3'	2:B:2640:G:H8	1.82	0.45
2:B:2854:G:H2'	2:B:2855:C:H6	1.81	0.45
9:I:144:VAL:HA	9:I:147:ASN:HB2	1.99	0.45
11:K:12:ARG:HH22	11:K:138:LEU:HD11	1.82	0.45
13:M:122:PRO:HB3	13:M:142:GLY:O	2.16	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
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
35:JA:119:THR:HG22	35:JA:120:GLY:H	1.82	0.45
36:LA:17:PHE:HB3	36:LA:44:LEU:HD11	1.99	0.45
36:LA:193:ASP:HB3	36:LA:196:LEU:HD12	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
47:WA:80:ARG:HD2	53:CB:65:ASN:HB3	1.98	0.45
53:CB:21:GLU:OE1	53:CB:25:LYS:HD3	2.17	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:161:A:H2'	1:FB:162:A:C8	2.52	0.45
1:FB:593:G:H1	1:FB:646:U:H3	1.63	0.45
1:FB:778:G:H8	1:FB:778:G:O5'	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
1:FB:1118:C:H1'	1:FB:1179:A:C4	2.52	0.45
2:GB:41:C:H2'	2:GB:43:G:O4'	2.17	0.45
2:GB:127:A:H5"	2:GB:128:C:O4'	2.15	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
2:GB:1040:C:H2'	2:GB:1041:C:C6	2.52	0.45
2:GB:1939:5MU:OP1	2:GB:2604:U:O2'	2.28	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
4:IB:13:C:H2'	4:IB:14:A:H8	1.81	0.45
16:UB:44:LYS:HB2	16:UB:44:LYS:HZ3	1.80	0.45
25:DC:27:GLU:H	25:DC:27:GLU:HG3	1.61	0.45
41:VC:15:ASP:HA	41:VC:24:THR:HG23	1.98	0.45
41:VC:79:ARG:HA	41:VC:83:ALA:O	2.16	0.45
42:WC:63:LEU:HB3	42:WC:65:TYR:CE2	2.52	0.45
46:AD:51:ALA:HB3	46:AD:53:ARG:NH2	2.32	0.45
47:BD:23:TYR:O	47:BD:70:LEU:HD23	2.16	0.45
47:BD:110:ARG:HA	47:BD:110:ARG:HH11	1.81	0.45
50:ED:55:ARG:O	50:ED:58:TYR:HB3	2.16	0.45
1:A:17:U:H2'	1:A:18:C:H6	1.80	0.45
1:A:413:G:H1'	1:A:428:G:H21	1.82	0.45
1:A:421:U:H3'	1:A:422:C:C6	2.52	0.45
1:A:778:G:O2'	45:UA:120:ARG:O	2.35	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1279:A:P	44:TA:9:ARG:HH22	2.39	0.45
2:B:180:G:N2	2:B:215:G:O6	2.50	0.45
2:B:882:G:OP2	2:B:882:G:H8	1.99	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:2022:U:O2'	2:B:2617:C:H5'	2.17	0.45
5:E:258:LYS:HE2	5:E:273:ARG:CZ	2.46	0.45
8:H:145:THR:OG1	8:H:146:TYR:N	2.48	0.45
13:M:88:LEU:HA	13:M:91:PHE:HE2	1.82	0.45
13:M:119:GLU:HB3	27:FC:1:MET:N	2.31	0.45
24:X:12:ASN:HB2	24:X:13:GLY:H	1.56	0.45
36:LA:60:ASP:O	36:LA:64:ARG:HG2	2.16	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
46:VA:89:ARG:NH1	46:VA:95:GLY:H	2.10	0.45
50:ZA:55:ARG:O	50:ZA:58:TYR:HB3	2.17	0.45
1:FB:73:G:H1	1:FB:97:U:H3	1.64	0.45
1:FB:192:U:H5'	54:ID:102:GLY:HA2	1.99	0.45
1:FB:201:C:H3'	1:FB:208:U:H5"	1.98	0.45
1:FB:266:G:H3'	51:FD:67:LYS:HB2	1.99	0.45
1:FB:293:G:H8	1:FB:293:G:OP2	1.99	0.45
1:FB:523:A:H61	46:AD:92:0TD:CG	2.30	0.45
1:FB:989:C:H42	1:FB:1217:C:N4	2.14	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:1348:U:H2'	1:FB:1349:A:H8	1.81	0.45
2:GB:302:C:H2'	2:GB:303:U:C6	2.51	0.45
2:GB:507:A:HO2'	2:GB:508:G:P	2.37	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
7:LB:202:PHE:CZ	7:LB:206:ILE:HD11	2.52	0.45
17:VB:22:PHE:HA	17:VB:91:ARG:NH2	2.32	0.45
23:BC:99:TYR:CE1	23:BC:125:LEU:HB2	2.52	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
38:SC:12:CYS:HG	38:SC:18:LYS:HZ2	1.60	0.45
53:HD:12:ASP:O	53:HD:15:LEU:HB3	2.16	0.45
54:ID:44:ALA:O	54:ID:91:LEU:HG	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
4:D:34:C:O5'	4:D:34:C:H6	2.00	0.45
7:G:10:PRO:CB	7:G:17:ARG:HH12	2.29	0.45
8:H:99:MET:O	8:H:103:LEU:HB2	2.17	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
22:V:8:LYS:HZ1	22:V:97:ARG:CD	2.30	0.45
23:W:54:HIS:HB2	23:W:101:PRO:HD3	1.99	0.45
39:OA:84:PHE:HB2	39:OA:134:ALA:HB2	1.98	0.45
46:VA:70:ILE:HG12	46:VA:100:ILE:HD12	1.97	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
50:ZA:43:LYS:HG2	50:ZA:48:TRP:CE3	2.52	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
2:GB:328:U:H4'	22:AC:68:HIS:CD2	2.51	0.45
2:GB:1118:C:H2'	2:GB:1119:C:C6	2.52	0.45
2:GB:2192:G:OP2	2:GB:2192:G:C8	2.70	0.45
57:GB:9001:BLS:H2'	4:NC:76:A:H1'	1.99	0.45
6:KB:131:ALA:O	6:KB:133:LYS:N	2.49	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
14:SB:85:LYS:HE2	24:CC:7:LEU:HD13	1.99	0.45
28:GC:53:GLU:OE2	28:GC:60:GLN:NE2	2.49	0.45
32:KC:4:MET:O	32:KC:64:TYR:HE2	2.00	0.45
34:MC:21:A:N6	35:OC:198:THR:OG1	2.27	0.45
38:SC:8:VAL:HG13	38:SC:9:CYS:H	1.82	0.45
50:ED:22:THR:OG1	50:ED:23:ASP:N	2.49	0.45
51:FD:58:GLU:OE2	51:FD:75:ARG:NH1	2.46	0.45
1:A:279:A:H4'	1:A:280:C:H5"	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:A:1435:G:H8	1:A:1435:G:O5'	2.00	0.45
2:B:71:A:H4'	2:B:72:U:H5"	1.99	0.45
2:B:265:A:C8	2:B:266:G:H1'	2.52	0.45
2:B:797:C:P	7:G:62:ARG:HG3	2.56	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:2406:U:C4	13:M:72:PRO:HD2	2.52	0.45
2:B:2636:U:H4'	6:F:80:GLU:CD	2.42	0.45
9:I:94:TYR:CZ	9:I:160:LYS:HD3	2.52	0.45
14:N:67:ARG:HD2	14:N:105:GLU:OE2	2.16	0.45
21:U:92:LEU:HD12	21:U:92:LEU:HA	1.66	0.45
23:W:28:MET:HG3	23:W:35:ARG:HB3	1.99	0.45
38:NA:171:GLY:HA2	38:NA:172:PRO:HD3	1.82	0.45
44:TA:40:LEU:HD23	44:TA:69:ASN:HB2	1.98	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
1:FB:1007:C:N4	1:FB:1023:G:H21	2.14	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
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
6:KB:31:CYS:HB3	6:KB:49:LEU:HB3	1.99	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
14:SB:16:ARG:NH1	14:SB:16:ARG:HB2	2.31	0.45
15:TB:24:GLN:HG2	15:TB:44:LEU:HG	1.98	0.45
4:NC:48:C:HO2'	4:NC:59:A:HO2'	1.60	0.45
37:RC:122:GLU:HB3	37:RC:126:ARG:HH12	1.82	0.45
45:ZC:38:ASN:HA	45:ZC:39:PRO:HD3	1.78	0.45
52:GD:71:LYS:HA	52:GD:74:ARG:HD2	1.97	0.45
54:ID:10:LEU:HD12	54:ID:12:ALA:H	1.81	0.45
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:689:C:OP1	45:UA:44:SER:OG	2.35	0.44
1:A:837:G:H1	1:A:849:C:N4	2.14	0.44
1:A:1007:C:N4	1:A:1023:G:H21	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:B:195:A:H61	2:B:198:C:H3'	1.81	0.44
2:B:844:C:C5	2:B:845:G:C6	3.05	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: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:2893:G:O5'	2:B:2893:G:H8	2.01	0.44
6:F:79:ARG:HH11	6:F:79:ARG:CG	2.29	0.44
13:M:96:THR:HA	13:M:126:VAL:HG23	1.98	0.44
18:R:59:ARG:O	18:R:63:VAL:HG23	2.16	0.44
18:R:72:HIS:CD2	18:R:110:VAL:HG21	2.52	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
22:V:84:ARG:O	22:V:100:ALA:HB2	2.17	0.44
29:CA:49:CYS:SG	29:CA:51:TYR:HB2	2.57	0.44
38:NA:174:LEU:HD23	38:NA:185:PHE:HA	1.99	0.44
39:OA:91:LEU:HD12	39:OA:118:ILE:HD11	1.98	0.44
1:FB:129(B):G:O6	1:FB:187:C:O2'	2.28	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
1:FB:875:C:O2'	42:WC:14:ARG:HD2	2.17	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:1480:G:C6	1:FB:1481:U:N3	2.86	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
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
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
9:NB:84:SER:HB2	9:NB:134:SER:HA	1.99	0.44
17:VB:3:ARG:O	17:VB:7:ILE:HG12	2.18	0.44
17:VB:106:SER:O	17:VB:110:ILE:HG13	2.16	0.44
21:ZB:36:LYS:HG2	21:ZB:54:VAL:HB	1.98	0.44
37:RC:110:ASN:O	37:RC:141:VAL:HG22	2.17	0.44
39:TC:53:LEU:HD12	39:TC:53:LEU:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:XC:46:ALA:HB2	43:XC:74:ILE:HG23	1.99	0.44
47:BD:4:ILE:HA	47:BD:5:ALA:HA	1.63	0.44
1:A:109:A:H5'	1:A:110:C:C5	2.53	0.44
1:A:504:C:C2	1:A:542:G:C2	3.05	0.44
1:A:664:G:P	52:BB:64:ARG:HH21	2.40	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
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
2:B:93:C:H2'	2:B:94:G:O4'	2.17	0.44
2:B:451:C:H4'	7:G:52:LYS:HZ2	1.81	0.44
2:B:792:G:N3	2:B:2072:G:O2'	2.47	0.44
2:B:846:C:O5'	2:B:846:C:H6	2.00	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
13:M:3:LEU:HD12	13:M:3:LEU:H	1.82	0.44
17:Q:80:SER:HB3	17:Q:83:ILE:HG12	1.99	0.44
22:V:35:TYR:CE2	22:V:69:ALA:HB3	2.53	0.44
4:IA:3:C:OP2	4:IA:3:C:H6	1.99	0.44
4:IA:32:5MC:H3'	43:SA:128:ARG:NH2	2.32	0.44
4:IA:68:C:H2'	4:IA:69:C:O4'	2.16	0.44
35:KA:322:ILE:HB	35:KA:324: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
47:WA:56:LEU:HD12	47:WA:59:TYR:CE2	2.53	0.44
1:FB:23:C:H5	1:FB:561:U:O4	2.00	0.44
1:FB:209:U:H4'	1:FB:216:G:C2	2.51	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:710:G:OP1	40:UC:54:LYS:NZ	2.46	0.44
1:FB:718:G:O6	52:GD:74:ARG:NH1	2.50	0.44
1:FB:755:G:OP2	49:DD:65:ARG:HB3	2.17	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
3:HB:89(A):G:H2'	3:HB:89(B):A:C8	2.52	0.44
3:HB:102:G:H21	23:BC:73:GLN:NE2	2.15	0.44
5:JB:78:LYS:HE3	5:JB:114:GLY:HA2	1.98	0.44
7:LB:40:GLN:NE2	7:LB:182:ASN:OD1	2.50	0.44
7:LB:123:LEU:HD12	7:LB:124:LEU:N	2.32	0.44
12:QB:88:ASN:OD1	12:QB:92:GLU:HB2	2.17	0.44
23:BC:185:GLU:OE1	23:BC:185:GLU:N	2.45	0.44
35:OC:143:ARG:HH21	35:OC:144:TRP:HE1	1.66	0.44
37:RC:21:ARG:HD2	44:YC:12:ASP:OD2	2.18	0.44
38:SC:134:ASP:O	38:SC:136:PRO:HD3	2.18	0.44
41:VC:51:GLN:O	41:VC:55:GLY:HA2	2.17	0.44
43:XC:45:ALA:HA	43:XC:48:GLU:HB2	1.98	0.44
47:BD:69:GLU:O	47:BD:73:GLU:N	2.43	0.44
51:FD:10:VAL:HG23	51:FD:55:ASP:O	2.18	0.44
1:A:743:U:H2'	1:A:744:C:H6	1.81	0.44
2:B:640:C:H2'	2:B:641:C:C6	2.52	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
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
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:HB2	15:O:99:LYS:NZ	2.32	0.44
20:T:62:HIS:O	20:T:64:MET:N	2.50	0.44
27:AA:12:PRO:HB2	27:AA:20:LYS:HG2	1.99	0.44
39:OA:90:VAL:O	39:OA:91:LEU:HD13	2.17	0.44
43:SA:11:LYS:C	43:SA:13:ALA:H	2.25	0.44
47:WA:31:LYS:N	47:WA:31:LYS:HD2	2.32	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
1:FB:1441:G:O5'	1:FB:1441:G:H8	2.00	0.44
2:GB:8:A:H2	2:GB:2896:C:C2	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:10:G:H4'	2:GB:2801:A:N1	2.33	0.44
2:GB:65:C:H2'	2:GB:66:C:C6	2.53	0.44
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
7:LB:10:PRO:HB3	7:LB:17:ARG:HH12	1.81	0.44
14:SB:111:GLU:OE2	14:SB:133:ARG:NH2	2.50	0.44
15:TB:13:HIS:CE1	15:TB:16:HIS:HB2	2.53	0.44
16:UB:30:ARG:NH1	16:UB:97:ARG:HH11	2.14	0.44
20:YB:3:ALA:HB3	20:YB:58:ALA:HB2	1.98	0.44
26:EC:53:LEU:HD23	26:EC:53:LEU:HA	1.84	0.44
33:LC:2:LYS:HB2	33:LC:34:GLN:HG2	1.99	0.44
36:QC:178:ARG:HB3	42:WC:71:GLY:O	2.16	0.44
44:YC:20:ALA:O	44:YC:24:VAL:HG23	2.18	0.44
49:DD:82:ILE:O	49:DD:86:GLY:N	2.50	0.44
51:FD:7:THR:HG23	51:FD:57:VAL:C	2.42	0.44
53:HD:65:ASN:O	53:HD:67:VAL:N	2.50	0.44
1:A:429:U:OP1	38:NA:13:ARG:NH1	2.50	0.44
1:A:1378:C:H5"	41:QA:6:ARG:HG3	1.99	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
5:E:53:PHE:CD1	5:E:220:HIS:HA	2.52	0.44
5:E:182:LEU:HB2	5:E:272:ALA:HB3	2.00	0.44
6:F:177:PRO:HD2	6:F:178:GLU:OE2	2.16	0.44
8:H:18:GLU:C	8:H:21:ARG:HB3	2.42	0.44
14:N:85:LYS:HD3	24:X:7:LEU:HD22	1.99	0.44
17:Q:50:ILE:HD13	17:Q:50:ILE:H	1.81	0.44
17:Q:105:LEU:HD13	17:Q:105:LEU:HA	1.70	0.44
18:R:34:LYS:HA	18:R:34:LYS:HD2	1.71	0.44
20:T:12:ILE:HB	20:T:42:ARG:HH12	1.83	0.44
22:V:90:LEU:HD13	22:V:90:LEU:HA	1.77	0.44
23:W:21:ALA:O	23:W:23:LYS:N	2.50	0.44
23:W:103:ARG:HG3	23:W:136:PHE:HB3	1.99	0.44
26:Z:53:LEU:HA	26:Z:53:LEU:HD23	1.81	0.44
29:CA:35:GLU:HG3	29:CA:51:TYR:CB	2.47	0.44
36:LA:139:LYS:O	36:LA:142:LEU:HB3	2.17	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
46:VA:89:ARG:NH1	46:VA:95:GLY:N	2.65	0.44
49:YA:15:PHE:HB3	49:YA:27:VAL:HG22	2.00	0.44
54:DB:72:LEU:HD13	54:DB:77:ALA:HA	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:976:G:O5'	1:FB:1358:U:O2'	2.32	0.44
1:FB:991:U:C4	1:FB:1212:U:H1'	2.52	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:1235:U:H5"	55:JD:3:LYS:HB2	2.00	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
1:FB:1508:G:H2'	1:FB:1509:C:H6	1.83	0.44
2:GB:947:G:N2	2:GB:971:C:C2	2.85	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:OP2	2:GB:2402:C:C6	2.70	0.44
2:GB:2443:C:OP1	7:LB:68:LYS:HD3	2.17	0.44
3:HB:17:C:H2'	3:HB:18:G:O4'	2.18	0.44
5:JB:208:LYS:HG3	5:JB:211:ARG:H	1.81	0.44
14:SB:70:PRO:HA	14:SB:95:ALA:HB2	2.00	0.44
27:FC:8:LEU:HD13	27:FC:23:LEU:HD21	2.00	0.44
35:PC:314:GLN:CD	35:PC:316:ARG:HH11	2.25	0.44
38:SC:31:CYS:C	38:SC:33:MET:H	2.26	0.44
47:BD:87:TYR:HB3	53:HD:73:GLU:HG2	1.99	0.44
1:A:247:G:OP2	51:AB:100:LYS:N	2.51	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
1:A:828:A:H2'	1:A:829:G:O4'	2.16	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
7:G:40:GLN:NE2	7:G:182:ASN:OD1	2.49	0.44
12:L:89:ASN:C	12:L:91:LEU:H	2.26	0.44
19:S:97:LYS:HD3	19:S:97:LYS:HA	1.84	0.44
23:W:70:LEU:HB2	23:W:91:LEU:HD21	2.00	0.44
38:NA:53:ASP:O	38:NA:57:ARG:HD3	2.18	0.44
42:RA:4:ASP:HB2	42:RA:89:PRO:HG3	2.00	0.44
43:SA:36:TYR:CE2	43:SA:65:VAL:HG11	2.53	0.44
45:UA:25:TYR:CD1	45:UA:88:GLY:HA2	2.51	0.44
48:XA:53:LEU:HD22	48:XA:53:LEU:HA	1.72	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:826:C:H5'	42:WC:12:ARG:HH21	1.82	0.44
1:FB:833:U:H3	1:FB:853:G:H1	1.65	0.44
1:FB:1101:A:H4'	1:FB:1102:A:O5'	2.18	0.44
2:GB:469:G:O6	31:JC:37:LYS:HE2	2.18	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: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:2345:G:OP2	30:IC:38:LYS:HD3	2.17	0.44
2:GB:2629:A:H1'	2:GB:2895:U:O4	2.17	0.44
5:JB:165:ILE:HA	5:JB:175:LEU:HD23	2.00	0.44
6:KB:37:ARG:HD2	6:KB:42:ASP:CG	2.42	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LB:165:ARG:NH1	7:LB:165:ARG:CG	2.80	0.44
11:PB:10:GLU:OE2	11:PB:11:PRO:HD2	2.18	0.44
15:TB:8:ARG:NH1	15:TB:39:PRO:HA	2.33	0.44
15:TB:83:ILE:HG23	15:TB:86:ARG:HH21	1.82	0.44
38:SC:52:SER:O	38:SC:56:VAL:HG23	2.17	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
48:CD:31:ARG:HG2	48:CD:31:ARG:HH11	1.82	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
1:A:707:C:H4'	45:UA:20:TYR:CD2	2.52	0.44
1:A:1124:G:O2'	1:A:1125:U:OP2	2.29	0.44
1:A:1421:G:O5'	1:A:1421:G:H8	1.99	0.44
2:B:155:C:H3'	2:B:155:C:OP2	2.18	0.44
2:B:581:C:O5'	2:B:581:C:H6	2.00	0.44
2:B:902:C:H2'	2:B:903:C:C6	2.52	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:2789:C:C2	2:B:2894:G:N2	2.85	0.44
2:B:2883:A:C5'	2:B:2884:U:H5'	2.48	0.44
5:E:53:PHE:CE1	5:E:220:HIS:HA	2.53	0.44
5:E:146:GLU:HA	5:E:153:ALA:HA	1.99	0.44
21:U:13:LEU:HD12	21:U:18:TYR:OH	2.16	0.44
26:Z:9:GLN:NE2	26:Z:56:GLN:HG3	2.32	0.44
36:LA:81:VAL:HA	36:LA:215:LEU:HD11	1.98	0.44
37:MA:179:ARG:HG2	37:MA:207:VAL:H	1.83	0.44
42:RA:120:THR:H	42:RA:123:GLU:HB2	1.83	0.44
49:YA:21:ASP:CG	49:YA:24:SER:HB2	2.42	0.44
55:EB:9:ARG:HG3	55:EB:10:ARG:HG2	1.99	0.44
1:FB:842:C:H4'	1:FB:843:U:OP1	2.17	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
2:GB:137(B):G:H2'	2:GB:139:G:N7	2.32	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:GB:1335:U:H2'	2:GB:1336:A:H8	1.81	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
4:IB:34:C:O5'	4:IB:34:C:H6	2.00	0.44
4:IB:51:C:N4	4:IB:52:G:O6	2.51	0.44
7:LB:59:TYR:HB3	7:LB:60:SER:H	1.49	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
14:SB:19:GLY:HA2	23:BC:79:ARG:HH22	1.81	0.44
14:SB:85:LYS:HZ3	24:CC:4:LYS:HE2	1.81	0.44
17:VB:34:VAL:HG22	17:VB:41:ARG:HG3	1.99	0.44
21:ZB:44:GLU:HG2	21:ZB:49:VAL:O	2.18	0.44
29:HC:41:PRO:HA	29:HC:42:PRO:HD2	1.70	0.44
31:JC:12:ARG:NH1	31:JC:12:ARG:HG3	2.31	0.44
38:SC:76:ARG:O	38:SC:79:PHE:HB3	2.17	0.44
38:SC:120:LEU:HB3	38:SC:126:ILE:HD11	1.99	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
41:VC:111:ARG:C	41:VC:113:GLU:H	2.24	0.44
42:WC:93:VAL:O	42:WC:132:GLU:HA	2.18	0.44
46:AD:112:ASP:OD2	46:AD:112:ASP:N	2.50	0.44
53:HD:22:LEU:HD22	53:HD:47:HIS:CD2	2.53	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
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
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
2:B:8:A:H2	2:B:2896:C:C2	2.36	0.44
2:B:10:G:H4'	2:B:2801:A:C2	2.52	0.44
2:B:11:G:C2'	2:B:12:U:H5'	2.48	0.44
2:B:320:A:H4'	2:B:322:A:N7	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:959:A:C6	2:B:960:A:N1	2.85	0.44
2:B:1183:G:H2'	2:B:1184:G:H8	1.82	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
6:F:93:VAL:HG11	6:F:181:LEU:O	2.18	0.44
7:G:194:MET:HE3	7:G:194:MET:HB2	1.84	0.44
8:H:39:ILE:HG21	8:H:60:LEU:HD21	1.99	0.44
13:M:81:GLN:OE1	13:M:106:LEU:HA	2.18	0.44
16:P:34:HIS:ND1	16:P:34:HIS:N	2.66	0.44
19:S:83:ARG:HG2	19:S:83:ARG:HH11	1.82	0.44
37:MA:7:PRO:HB3	37:MA:175:LEU:HD11	1.99	0.44
41:QA:51:GLN:O	41:QA:55:GLY:HA2	2.18	0.44
41:QA:153:HIS:CD2	45:UA:57:THR:HB	2.52	0.44
44:TA:20:ALA:O	44:TA:24:VAL:HG23	2.17	0.44
46:VA:19:ARG:O	46:VA:21:LYS:NZ	2.51	0.44
1:FB:979:C:H2'	1:FB:980:C:H5'	1.99	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
2:GB:902:C:H2'	2:GB:903:C:C6	2.53	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:1268:A:C2	2:GB:2013:A:C4	3.06	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: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
4:IB:48:C:H4'	4:IB:49:G:H5"	2.00	0.44
16:UB:105:ALA:O	16:UB:110:LEU:HB2	2.18	0.44
22:AC:40:GLU:C	22:AC:42:VAL:H	2.26	0.44
30:IC:23:THR:HA	32:KC:34:TRP:HD1	1.83	0.44
36:QC:83:MET:HG2	36:QC:234:PRO:HB2	1.99	0.44
36:QC:178:ARG:NH2	36:QC:198:ASP:OD1	2.51	0.44
38:SC:18:LYS:HD2	38:SC:18:LYS:HA	1.90	0.44
41:VC:111:ARG:NH1	41:VC:122:HIS:HB3	2.32	0.44
46:AD:89:ARG:NH1	46:AD:95:GLY:H	2.15	0.44
46:AD:118:SER:C	46:AD:120:TYR:H	2.25	0.44
49:DD:21:ASP:CG	49:DD:24:SER:HB2	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:ED:71:ARG:HA	50:ED:74:LEU:HD12	1.99	0.44
1:A:19:C:H5"	39:OA:86:ALA:HB1	1.98	0.44
1:A:99:C:H2'	1:A:101:A:O4'	2.16	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:1109:C:H2'	1:A:1110:A:O4'	2.18	0.44
1:A:1289:A:N1	1:A:1371:G:O2'	2.42	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
2:B:10:G:H4'	2:B:2801:A:N1	2.33	0.44
2:B:328:U:H4'	22:V:68:HIS:CD2	2.52	0.44
2:B:511:U:H4'	2:B:1235:G:H4'	1.99	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
2:B:1012:U:O4	11:K:28:THR:HG21	2.17	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:2537:U:H2'	2:B:2538:C:C6	2.53	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
6:F:170:LEU:HD23	6:F:170:LEU:HA	1.79	0.44
15:O:24:GLN:HG2	15:O:44:LEU:HG	2.00	0.44
17:Q:109:GLU:HG3	17:Q:112:ARG:NH2	2.33	0.44
19:S:28:GLU:O	19:S:30:GLY:N	2.51	0.44
23:W:155:LEU:HD21	23:W:171:ILE:HD12	1.99	0.44
28:BA:50:VAL:HG11	47:WA:64:TRP:HA	1.98	0.44
40:PA:33:TYR:HB2	40:PA:75:LEU:HD12	2.00	0.44
47:WA:3:ARG:H	47:WA:8:GLU:HB2	1.83	0.44
51:AB:14:LYS:N	51:AB:14:LYS:HE3	2.33	0.44
55:EB:18:TYR:HE2	55:EB:24:ARG:HA	1.83	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:6:A:O2'	11:PB:130:HIS:HB3	2.18	0.44
2:GB:154:G:H1	2:GB:172:C:N4	2.15	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
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
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
4:IB:5:G:O2'	4:IB:6:G:OP2	2.25	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
11:PB:19:GLU:HA	11:PB:59:LYS:O	2.17	0.44
12:QB:20:MET:SD	12:QB:44:LYS:HE2	2.58	0.44
13:RB:52:GLU:HG3	13:RB:57:THR:HA	2.00	0.44
14:SB:57:HIS:HD2	14:SB:117:ALA:HB2	1.82	0.44
15:TB:58:GLY:HA2	15:TB:80:PHE:CD2	2.52	0.44
20:YB:12:ILE:HB	20:YB:42:ARG:HH12	1.83	0.44
20:YB:17:VAL:HG11	20:YB:103:ILE:HD13	1.99	0.44
21:ZB:40:LYS:HG3	21:ZB:51:VAL:HG23	1.99	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
38:SC:60:GLU:O	38:SC:63:LYS:HB2	2.18	0.44
39:TC:139:LEU:HA	39:TC:142:LEU:CD2	2.47	0.44
44:YC:25:GLU:O	44:YC:29:ARG:HG3	2.17	0.44
53:HD:50:ALA:HB1	53:HD:58:VAL:N	2.32	0.44
1:A:115:G:H4'	1:A:116:A:O5'	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
1:A:932:C:H5"	41:QA:4:ARG:CZ	2.48	0.44
1:A:967:5MC:H2'	1:A:968:A:C8	2.53	0.44
1:A:1151:A:C2	44:TA:39:PRO:HG3	2.53	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
2:B:863:A:OP2	14:N:22:LYS:NZ	2.51	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
2:B:1012:U:C5	11:K:28:THR:HG21	2.53	0.44
2:B:1080:C:H6	2:B:1080:C:OP2	2.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1818:U:O2'	5:E:154:LYS:O	2.28	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
3:C:46:A:C5	3:C:47:C:C4	3.06	0.44
6:F:67:PHE:CD1	6:F:74:PRO:HA	2.53	0.44
7:G:59:TYR:HB3	7:G:60:SER:H	1.48	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
15:O:23:ASN:OD1	15:O:23:ASN:N	2.51	0.44
17:Q:54:ARG:HB3	17:Q:54:ARG:HH11	1.81	0.44
19:S:27:ALA:O	19:S:64:HIS:NE2	2.51	0.44
26:Z:9:GLN:HE22	26:Z:56:GLN:HG3	1.82	0.44
28:BA:2:LYS:O	28:BA:6:HIS:HD2	2.01	0.44
35:JA:209:LEU:HD23	35:JA:210:PRO:HD2	2.00	0.44
40:PA:46:ARG:HE	40:PA:46:ARG:HB3	1.66	0.44
47:WA:55:ARG:NH1	47:WA:55:ARG:HB3	2.32	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
1:FB:1409:C:H2'	1:FB:1410:G:H8	1.83	0.44
2:GB:71:A:H4'	2:GB:72:U:H5"	1.99	0.44
2:GB:72:U:O4	2:GB:111:A:O2'	2.35	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:568:U:O4	2:GB:973:A:OP2	2.36	0.44
2:GB:774:A:O2'	2:GB:775:G:H5"	2.18	0.44
2:GB:1021:A:H8	2:GB:1021:A:H3'	1.83	0.44
2:GB:2387:U:H4'	24:CC:41:ARG:NH2	2.33	0.44
2:GB:2409:G:H8	2:GB:2409:G:O5'	2.01	0.44
2:GB:2792:G:H8	2:GB:2893:G:H22	1.66	0.44
5:JB:30:GLU:CB	5:JB:33:LEU:HD12	2.48	0.44
5:JB:231:HIS:CG	5:JB:232:PRO:HD2	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
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
22:AC:30:VAL:HG22	22:AC:37:VAL:HG12	1.98	0.44
35:OC:185:GLN:HG3	35:OC:198:THR:HG23	2.00	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
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
43:XC:123:PRO:O	43:XC:125:TYR:N	2.51	0.44
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
1:A:1097:C:O2'	1:A:1169:A:N3	2.46	0.43
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:1483:A:H2	2:B:1959:G:N3	2.16	0.43
2:B:85:G:C5	2:B:98:G:C2	3.06	0.43
2:B:165:U:H2'	2:B:171:G:O4'	2.18	0.43
2:B:312:G:H5'	2:B:331:A:O2'	2.18	0.43
2:B:819:A:P	2:B:1187:G:H22	2.38	0.43
2:B:910:A:C5	14:N:13:GLN:HG3	2.53	0.43
2:B:1186:G:H8	2:B:1186:G:O5'	2.01	0.43
2:B:1290:C:H2'	2:B:1291:C:H6	1.81	0.43
2:B:1923:U:H2'	2:B:1924:C:C6	2.53	0.43
2:B:2262:U:OP2	24:X:19:LYS:HE3	2.17	0.43
2:B:2755:C:HO2'	2:B:2756:U:H6	1.64	0.43
3:C:89(A):G:C6	3:C:89(B):A:C6	3.06	0.43
6:F:16:ARG:NH1	6:F:171:GLU:OE2	2.51	0.43
7:G:65:TRP:CH2	7:G:72:ARG:NH1	2.86	0.43
17:Q:64:ARG:NH1	17:Q:103:ARG:HG2	2.25	0.43
24:X:42:GLY:O	24:X:44:ARG:N	2.50	0.43
28:BA:53:GLU:OE2	28:BA:60:GLN:NE2	2.49	0.43
31:EA:6:GLN:HA	31:EA:6:GLN:OE1	2.17	0.43
1:FB:391:G:H5"	50:ED:8:ARG:NE	2.33	0.43
1:FB:769:G:H4'	1:FB:1513:A:H4'	2.00	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
2:GB:609(B):G:N2	2:GB:619:G:H1'	2.33	0.43
2:GB:782:A:H2	5:JB:230:ASP:OD2	2.01	0.43
2:GB:1179:C:H2'	2:GB:1180:C:C6	2.52	0.43
2:GB:2439:A:C5	57:GB:9001:BLS:H112	2.53	0.43
2:GB:2602:A:H5"	4:NC:75:C:P	2.58	0.43
2:GB:2689:U:OP2	2:GB:2719:G:N2	2.46	0.43
5:JB:53:PHE:HE1	5:JB:221:VAL:HG13	1.82	0.43
7:LB:53:THR:HG23	7:LB:56:GLU:OE1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:MB:99:MET:O	8:MB:103:LEU:HB2	2.18	0.43
11:PB:15:LEU:HG	11:PB:135:PRO:HB2	2.00	0.43
19:XB:64:HIS:HA	19:XB:92:THR:HA	2.00	0.43
21:ZB:21:PHE:HA	21:ZB:26:TYR:HE1	1.82	0.43
35:OC:182:HIS:HB3	35:PC:310:TYR:HE1	1.82	0.43
36:QC:115:LEU:HG	36:QC:119:GLU:OE2	2.18	0.43
41:VC:153:HIS:CD2	45:ZC:57:THR:HB	2.53	0.43
44:YC:97:GLU:HG2	44:YC:98:ILE:H	1.82	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
53:HD:27:GLU:HA	53:HD:28:LYS:HA	1.60	0.43
1:A:46:G:O2'	1:A:365:U:H1'	2.18	0.43
1:A:189:U:O4	51:AB:62:SER:OG	2.30	0.43
1:A:438:G:O2'	1:A:494:U:O4	2.31	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
1:A:1048:G:P	48:XA:4:LYS:HB2	2.58	0.43
2:B:65:C:H2'	2:B:66:C:C6	2.53	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: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:885:C:C5	2:B:886:C:H1'	2.52	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:2827:C:H2'	2:B:2828:C:C6	2.53	0.43
4:D:48:C:OP1	4:D:59:A:H5'	2.17	0.43
7:G:135:LYS:HZ2	7:G:135:LYS:HB3	1.84	0.43
8:H:21:ARG:HG3	8:H:22:ARG:N	2.33	0.43
9:I:130:ARG:NH1	9:I:130:ARG:HB3	2.33	0.43
9:I:159:GLU:OE2	9:I:169:VAL:HG11	2.18	0.43
11:K:72:TYR:CZ	11:K:87:LEU:HD23	2.52	0.43
13:M:46:LYS:HE2	13:M:46:LYS:HB3	1.80	0.43
13:M:88:LEU:HD23	13:M:91:PHE:HE2	1.83	0.43
17:Q:74:ARG:HG2	17:Q:76:PHE:CZ	2.53	0.43
18:R:68:ALA:O	18:R:71:GLN:HB2	2.18	0.43
26:Z:17:SER:N	26:Z:20:GLU:OE2	2.47	0.43
35:JA:110:ASN:HA	35:JA:171:VAL:HG23	2.00	0.43
35:JA:182:HIS:HB3	35:KA:310:TYR:HE1	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:MA:67:THR:HG22	37:MA:102:ASN:HB3	1.99	0.43
38:NA:35:ARG:O	38:NA:37:PRO:HD3	2.18	0.43
38:NA:157:LEU:HA	38:NA:160:GLN:OE1	2.18	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
46:VA:117:ARG:NH2	46:VA:123:LYS:O	2.37	0.43
53:CB:39:THR:HG23	53:CB:69:HIS:O	2.18	0.43
1:FB:12:U:H3	1:FB:22:G:H1	1.66	0.43
1:FB:995:C:H4'	48:CD:8:GLU:OE2	2.18	0.43
1:FB:1216:G:O2'	1:FB:1217:C:H5'	2.17	0.43
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
2:GB:458:G:O2'	31:JC:39:ARG:HD3	2.18	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
2:GB:1902:C:N3	2:GB:1903:G:H1'	2.33	0.43
2:GB:2666:C:H3'	2:GB:2667:C:H6	1.82	0.43
5:JB:246:PRO:O	5:JB:254:THR:HG22	2.18	0.43
6:KB:48:GLN:HG2	6:KB:78:LEU:HG	2.00	0.43
7:LB:135:LYS:HZ2	7:LB:135:LYS:HB3	1.83	0.43
9:NB:23:ARG:HB2	9:NB:34:GLU:OE2	2.18	0.43
9:NB:126:PRO:HB2	9:NB:130:ARG:NH2	2.27	0.43
12:QB:16:ALA:HB2	12:QB:52:VAL:HG21	1.99	0.43
17:VB:126:ALA:O	17:VB:129:ARG:HB3	2.17	0.43
22:AC:44:ILE:O	22:AC:45:VAL:HG13	2.18	0.43
23:BC:103:ARG:HB2	23:BC:138:GLU:HA	1.99	0.43
26:EC:66:GLU:HB2	26:EC:69:ARG:HE	1.83	0.43
28:GC:2:LYS:O	28:GC:6:HIS:HD2	2.01	0.43
31:JC:6:GLN:OE1	31:JC:6:GLN:HA	2.18	0.43
38:SC:171:GLY:HA2	38:SC:172:PRO:HD3	1.78	0.43
38:SC:178:VAL:C	38:SC:180:GLY:H	2.26	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
42:WC:103:VAL:O	42:WC:106:GLY:N	2.51	0.43
1:A:129(B):G:N2	1:A:189:U:H5"	2.33	0.43
1:A:922:G:C6	1:A:923:A:C6	3.06	0.43
1:A:1049:U:OP1	48:XA:3:ARG:HG2	2.17	0.43
1:A:1508:G:H2'	1:A:1509:C:C6	2.53	0.43
2:B:111:A:H5'	26:Z:69:ARG:HH22	1.83	0.43
2:B:176:G:O2'	2:B:177:G:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:321:G:P	7:G:135:LYS:HZ3	2.29	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
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: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
5:E:53:PHE:HD1	5:E:219:PRO:O	2.01	0.43
7:G:12:LEU:HA	7:G:12:LEU:HD23	1.68	0.43
8:H:127:GLY:HA2	8:H:166:ASP:HB2	1.99	0.43
10:J:57:ARG:O	10:J:60:GLU:HB3	2.17	0.43
12:L:53:LYS:NZ	12:L:53:LYS:HB2	2.33	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
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
23:W:102:LEU:HD11	23:W:124:ILE:HB	2.00	0.43
30:DA:22:ALA:HB1	32:FA:34:TRP:HA	1.99	0.43
4:IA:53:G:H2'	4:IA:54:5MU:C6	2.53	0.43
36:LA:172:ILE:H	36:LA:172:ILE:HD12	1.83	0.43
42:RA:20:TYR:CE2	42:RA:75:ARG:HD2	2.53	0.43
45:UA:122:LYS:HE2	45:UA:122:LYS:HB3	1.82	0.43
46:VA:39:VAL:HG12	46:VA:57:LYS:HB3	2.01	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
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
2:GB:133:C:H5"	2:GB:134:C:OP2	2.17	0.43
2:GB:460:A:H3'	2:GB:461:C:H6	1.84	0.43
2:GB:782:A:O2'	5:JB:225:ALA:HB1	2.18	0.43
2:GB:935:C:H2'	2:GB:936:C:C6	2.54	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
7:LB:64:ILE:HD12	7:LB:65:TRP:N	2.32	0.43
9:NB:8:PRO:HB3	9:NB:51:ARG:HG3	2.00	0.43
4:NC:32:5MC:HM52	4:NC:33:U:O4	2.18	0.43
35:PC:322:ILE:HB	35:PC:324:LEU:H	1.83	0.43
39:TC:69:VAL:HA	39:TC:70:PRO:HD2	1.87	0.43
47:BD:80:ARG:HD2	53:HD:65:ASN:HB3	1.98	0.43
47:BD:88:ARG:HA	47:BD:98:VAL:HG13	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4:U:H4'	1:A:5:U:OP2	2.19	0.43
1:A:10:A:OP2	39:OA:126:ARG:HD3	2.19	0.43
1:A:298:A:C6	1:A:299:G:C2	3.06	0.43
1:A:356:A:N3	1:A:368:U:O2'	2.47	0.43
1:A:587:G:H4'	42:RA:3:THR:HA	2.00	0.43
1:A:707:C:H2'	1:A:708:C:C6	2.52	0.43
1:A:986:A:H1'	1:A:1220:G:N2	2.33	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:618(A):G:H5'	7:G:205:ARG:NH1	2.33	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
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:O5'	2:B:2408:U:H6	2.01	0.43
4:D:26:G:H2'	4:D:27:U:C6	2.53	0.43
18:R:90:VAL:HG22	19:S:38:LEU:HD22	2.01	0.43
21:U:29:TRP:CZ3	21:U:78:LYS:HG3	2.54	0.43
23:W:54:HIS:HB3	23:W:99:TYR:O	2.17	0.43
32:FA:39:LYS:HA	32:FA:42:ARG:NH2	2.33	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
38:NA:60:GLU:HG3	38:NA:198:VAL:HG23	1.99	0.43
46:VA:6:THR:OG1	46:VA:7:ILE:N	2.51	0.43
46:VA:26:ALA:HA	46:VA:64:TYR:CE2	2.54	0.43
51:AB:18:THR:HG21	51:AB:43:LEU:HD13	1.99	0.43
1:FB:250:A:H4'	1:FB:251:G:O5'	2.18	0.43
1:FB:688:G:O2'	1:FB:704:A:N1	2.49	0.43
1:FB:922:G:C6	1:FB:923:A:C6	3.06	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
2:GB:118:A:N3	2:GB:178:G:H1'	2.33	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
2:GB:398:G:H2'	2:GB:399:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:990:A:C6	2:GB:1186:G:H1'	2.54	0.43
2:GB:1045:A:H5"	2:GB:1046:A:C5'	2.44	0.43
2:GB:1520:U:O4	2:GB:1521:G:C2	2.71	0.43
2:GB:2547:U:O2	12:QB:23:ARG:NH2	2.51	0.43
7:LB:66:PRO:HG2	7:LB:70:THR:HG23	2.00	0.43
14:SB:75:THR:HG21	14:SB:87:LYS:NZ	2.32	0.43
15:TB:55:ALA:C	15:TB:57:ARG:H	2.26	0.43
15:TB:59:ASP:OD2	15:TB:61:HIS:HB3	2.18	0.43
16:UB:74:ALA:HA	16:UB:110:LEU:HD13	2.00	0.43
18:WB:79:PHE:HE1	18:WB:110:VAL:HA	1.83	0.43
19:XB:1:MET:HA	19:XB:42:GLY:HA3	2.01	0.43
22:AC:20:TYR:CD1	22:AC:42:VAL:HG13	2.53	0.43
24:CC:74:ARG:H	24:CC:74:ARG:HG3	1.65	0.43
28:GC:41:PRO:HA	28:GC:47:GLN:HB2	2.01	0.43
39:TC:28:PHE:CD2	39:TC:50:GLU:HA	2.52	0.43
42:WC:54:ASP:O	42:WC:56:LYS:HG2	2.19	0.43
42:WC:116:LYS:HG3	42:WC:129:VAL:HG11	2.00	0.43
52:GD:76:LEU:HB3	52:GD:78:LEU:HD12	2.00	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
1:A:950:U:OP2	47:WA:102:ARG:HG3	2.18	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
2:B:570:G:H2'	2:B:2030:A:C6	2.52	0.43
2:B:778:G:O5'	2:B:778:G:H8	2.01	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
7:G:116:ASP:OD2	13:M:1:MET:HB3	2.18	0.43
9:I:27:LYS:HA	9:I:32:GLU:HA	2.00	0.43
11:K:108:PRO:O	11:K:113:GLY:HA3	2.19	0.43
16:P:13:ARG:CG	16:P:13:ARG:NH1	2.73	0.43
17:Q:22:PHE:HA	17:Q:91:ARG:NH2	2.33	0.43
20:T:12:ILE:O	20:T:101:SER:OG	2.36	0.43
27:AA:31:LEU:HD13	27:AA:32:GLN:N	2.34	0.43
30:DA:23:THR:HA	32:FA:34:TRP:HD1	1.84	0.43
36:LA:9:GLU:HG3	36:LA:217: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
47:WA:55:ARG:HB3	47:WA:55:ARG:HH11	1.83	0.43
53:CB:65:ASN:O	53:CB:67:VAL:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:108:G:N1	54:ID:15:ARG:HG2	2.34	0.43
1:FB:232:G:H1'	1:FB:262:A:N1	2.33	0.43
1:FB:1195:C:C4	1:FB:1197:G:C8	3.06	0.43
1:FB:1324:A:OP2	1:FB:1324:A:H8	2.01	0.43
1:FB:1346:A:H61	1:FB:1374:A:H3'	1.84	0.43
2:GB:676:A:N1	2:GB:2069:G:O2'	2.43	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
2:GB:957:A:H5'	14:SB:76:LYS:HD3	2.01	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
5:JB:111:LEU:HA	5:JB:111:LEU:HD12	1.82	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
38:SC:108:LEU:HD23	38:SC:108:LEU:HA	1.84	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
43:XC:13:ALA:HA	43:XC:67:GLY:HA3	2.01	0.43
45:ZC:40:ILE:HD13	45:ZC:40:ILE:HA	1.89	0.43
46:AD:77:LEU:HD23	46:AD:77:LEU:HA	1.70	0.43
46:AD:115:LYS:N	46:AD:117:ARG:HG2	2.33	0.43
54:ID:13:LEU:H	54:ID:13:LEU:HG	1.55	0.43
54:ID:84:LEU:O	54:ID:88:VAL:HB	2.19	0.43
1:A:124:G:H4'	1:A:291:C:O2'	2.19	0.43
1:A:778:G:H8	1:A:778:G:O5'	2.01	0.43
1:A:1207:2MG:H2'	1:A:1208:C:H6	1.84	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
2:B:530:G:C6	2:B:2022:U:OP1	2.71	0.43
2:B:1006:C:C2	2:B:1138:G:N2	2.86	0.43
2:B:1007:C:OP1	11:K:35:ARG:NH1	2.51	0.43
2:B:2297:C:H42	2:B:2321:G:H1	1.66	0.43
7:G:160:ASN:OD1	7:G:163:VAL:HB	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:23:ARG:HB2	9:I:34:GLU:OE2	2.19	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
13:M:49:ARG:CB	32:FA:61:LEU:HD21	2.49	0.43
13:M:81:GLN:HG3	13:M:110:TYR:CD2	2.54	0.43
20:T:68:ARG:HG2	20:T:68:ARG:HH11	1.83	0.43
21:U:24:GLY:O	21:U:83:VAL:HG22	2.18	0.43
23:W:70:LEU:HD22	23:W:70:LEU:HA	1.80	0.43
24:X:31:VAL:HG23	24:X:32:ARG:O	2.18	0.43
25:Y:95:LEU:HD13	25:Y:95:LEU:HA	1.76	0.43
37:MA:23:TYR:CZ	44:TA:9:ARG:HG3	2.54	0.43
37:MA:131:ARG:HH11	37:MA:135:LYS:HD2	1.83	0.43
40:PA:16:GLN:CD	40:PA:16:GLN:H	2.25	0.43
45:UA:85:ARG:HA	45:UA:112:THR:OG1	2.19	0.43
47:WA:101:GLN:HE21	47:WA:101:GLN:HB2	1.48	0.43
49:YA:36:ILE:HG12	49:YA:59:MET:HE3	2.01	0.43
49:YA:74:ASP:OD2	49:YA:77:ARG:HD3	2.18	0.43
51:AB:14:LYS:HZ1	51:AB:53:LEU:HD11	1.83	0.43
53:CB:51:VAL:O	53:CB:57:HIS:HA	2.19	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
1:FB:1268:A:H4'	55:JD:20:LYS:HB2	2.00	0.43
1:FB:1493:A:C4	35:OC:119:THR:HG23	2.53	0.43
2:GB:64:A:C4	21:ZB:66:LEU:HD13	2.54	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
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:2275:C:O2	14:SB:85:LYS:HG3	2.18	0.43
3:HB:70:C:H2'	3:HB:71:C:C6	2.54	0.43
4:IB:51:C:H2'	4:IB:52:G:C8	2.54	0.43
7:LB:158:THR:HA	7:LB:195:ASP:HB2	2.00	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
13:RB:81:GLN:OE1	13:RB:106:LEU:HA	2.18	0.43
17:VB:100:TYR:CD1	17:VB:103:ARG:NH1	2.86	0.43
30:IC:27:LYS:HB3	30:IC:27:LYS:HZ3	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:PC:328:ARG:NH2	35:PC:331:GLU:O	2.52	0.43
38:SC:36:ARG:HD2	38:SC:38:TYR:OH	2.19	0.43
39:TC:80:ILE:HD12	39:TC:91:LEU:HB2	2.00	0.43
39:TC:152:ARG:NH1	42:WC:42:GLU:O	2.47	0.43
45:ZC:34:ASP:C	45:ZC:36:ASP:H	2.27	0.43
46:AD:27:LEU:HD22	46:AD:98:TYR:HE1	1.82	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:141(B):C:H2'	2:B:142:G:O4'	2.19	0.43
2:B:375:C:H42	2:B:399:G:H1	1.65	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: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
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
7:G:114:VAL:HG21	7:G:202:PHE:CZ	2.53	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
14:N:73:PRO:HG3	14:N:93:TYR:HE1	1.82	0.43
15:O:58:GLY:HA2	15:O:80:PHE:CD2	2.54	0.43
18:R:58:ARG:CG	18:R:58:ARG:NH1	2.79	0.43
35:KA:314:GLN:CD	35:KA:316:ARG:HH11	2.26	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
44:TA:25:GLU:O	44:TA:29:ARG:HG3	2.18	0.43
1:FB:277:C:O2'	1:FB:278:G:H5'	2.17	0.43
1:FB:589:C:OP1	42:WC:5:PRO:HG3	2.18	0.43
1:FB:741:G:H2'	1:FB:742:G:H8	1.84	0.43
2:GB:777:A:C2	2:GB:778:G:C4	3.07	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
3:HB:30:C:OP2	16:UB:32:LEU:HD11	2.17	0.43
6:KB:70:ALA:HB3	6:KB:72:VAL:HG12	2.00	0.43
8:MB:11:TYR:HB2	8:MB:176:LEU:HD21	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:MB:18:GLU:O	8:MB:21:ARG:HB3	2.18	0.43
9:NB:55:PRO:HG2	9:NB:61:HIS:NE2	2.33	0.43
10:OB:9:LEU:O	10:OB:12:LEU:HB3	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
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
31:JC:12:ARG:HG3	31:JC:12:ARG:HH11	1.84	0.43
4:NC:49:G:H2'	4:NC:50:U:O4'	2.18	0.43
36:QC:74:LYS:NZ	36:QC:76:GLN:OE1	2.41	0.43
38:SC:61:LYS:HA	38:SC:203:VAL:HG22	2.00	0.43
45:ZC:108:ILE:HG13	52:GD:87:ARG:HB3	2.00	0.43
47:BD:81:LEU:O	47:BD:89:GLY:HA3	2.19	0.43
1:A:391:G:H5"	50:ZA:8:ARG:NE	2.33	0.43
1:A:877:C:OP1	42:RA:88:LYS:NZ	2.52	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
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
2:B:2082:A:H2'	2:B:2083:G:O4'	2.19	0.43
2:B:2135:A:OP1	2:B:2160:G:O2'	2.33	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
3:C:40:U:H2'	28:BA:2:LYS:HE2	1.99	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
7:G:144:LYS:HB2	7:G:144:LYS:NZ	2.25	0.43
10:J:76:THR:HG23	10:J:141:LYS:HB2	2.01	0.43
10:J:104:GLN:HG2	10:J:105:HIS:HE1	1.78	0.43
12:L:22:ILE:HG12	12:L:41:ALA:HA	1.99	0.43
17:Q:30:VAL:O	17:Q:44:ASP:HA	2.19	0.43
23:W:94:GLU:O	23:W:129:SER:HA	2.19	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:IA:49:G:N2	4:IA:66:C:N3	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:MA:110:ASN:O	37:MA:141:VAL:HG22	2.19	0.43
39:OA:139:LEU:O	39:OA:142:LEU:HB2	2.19	0.43
51:AB:84:LEU:O	51:AB:87:LYS:HG3	2.18	0.43
1:FB:162:A:C5	1:FB:163:C:H1'	2.54	0.43
1:FB:177:C:P	54:ID:65:LYS:NZ	2.92	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: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
2:GB:1012:U:C5	11:PB:28:THR:HG21	2.54	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:H8	2:GB:1855:G:O5'	2.02	0.43
2:GB:1914:C:OP2	2:GB:1914:C:H6	2.01	0.43
2:GB:2052:G:C8	6:KB:141:ILE:HD11	2.54	0.43
2:GB:2391:G:O6	2:GB:2425:A:H8	2.02	0.43
2:GB:2392:A:OP2	32:KC:31:HIS:NE2	2.51	0.43
3:HB:48:A:H4'	16:UB:95:HIS:CD2	2.54	0.43
5:JB:52:ARG:CZ	5:JB:53:PHE:HE2	2.31	0.43
5:JB:183:ARG:CG	5:JB:183:ARG:NH1	2.79	0.43
7:LB:36:VAL:O	7:LB:40:GLN:HG3	2.19	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
9:NB:148:ILE:HG23	9:NB:151:ILE:HD12	2.01	0.43
12:QB:70:LYS:HE2	12:QB:70:LYS:HB3	1.73	0.43
17:VB:23:ARG:NH2	17:VB:120:ARG:HD3	2.34	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
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:25:ARG:C	38:SC:27:TYR:H	2.26	0.43
38:SC:162:LEU:HD13	38:SC:162:LEU:HA	1.76	0.43
39:TC:10:MET:HA	39:TC:32:VAL:HG22	2.01	0.43
42:WC:107:LEU:HD23	42:WC:107:LEU:HA	1.84	0.43
44:YC:87:THR:C	44:YC:89:ASP:H	2.26	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1434:A:H61	1:A:1467:G:H1'	1.83	0.43
2:B:227:A:C2	2:B:2407:G:H1'	2.54	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
2:B:1162:G:O3'	19:S:24:LYS:HE3	2.18	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:2309:A:N6	2:B:2310:A:N1	2.66	0.43
5:E:112:GLN:O	5:E:115:GLN:HB3	2.19	0.43
6:F:31:CYS:HB2	6:F:91:VAL:CG2	2.47	0.43
6:F:147:PRO:HB2	6:F:149:ARG:HG3	2.01	0.43
7:G:74:ARG:H	7:G:74:ARG:HG3	1.63	0.43
12:L:97:ARG:HE	12:L:97:ARG:HB2	1.72	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
23:W:165:VAL:HB	23:W:166:SER:H	1.61	0.43
4:IA:53:G:H2'	4:IA:54:5MU:H73	2.01	0.43
35:JA:143:ARG:HH21	35:JA:144:TRP:HE1	1.66	0.43
36:LA:83:MET:HG2	36:LA:234:PRO:HB2	2.01	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
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
45:UA:62:GLN:HB2	45:UA:93:GLN:HG3	2.01	0.43
46:VA:79:GLU:O	46:VA:80:HIS:HB2	2.18	0.43
54:DB:80:ARG:O	54:DB:84:LEU:HB2	2.19	0.43
1:FB:598:U:H2'	1:FB:599:C:H6	1.84	0.43
1:FB:1103:C:H2'	1:FB:1104:G:O4'	2.19	0.43
1:FB:1151:A:C2	44:YC:39:PRO:HG3	2.54	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
2:GB:932:G:OP1	27:FC:24:LYS:NZ	2.52	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
5:JB:116:GLN:HG2	5:JB:117:VAL:N	2.34	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
7:LB:144:LYS:NZ	7:LB:144:LYS:CB	2.82	0.43
10:OB:60:GLU:OE1	10:OB:64:GLU:HB3	2.18	0.43
14:SB:134:ARG:HE	14:SB:134:ARG:HB3	1.70	0.43
16:UB:6:ALA:HA	16:UB:9:ARG:NH1	2.34	0.43
20:YB:68:ARG:HG2	20:YB:68:ARG:HH11	1.84	0.43
30:IC:22:ALA:HB1	32:KC:34:TRP:HA	2.01	0.43
35:PC:322:ILE:HD12	35:PC:324:LEU:HD22	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
38:SC:187:ARG:HB2	38:SC:188:LEU:HD22	2.00	0.43
43:XC:31:GLN:HA	43:XC:35:GLU:OE1	2.19	0.43
45:ZC:52:GLY:O	45:ZC:55:LYS:HG2	2.19	0.43
49:DD:13:GLN:C	49:DD:15:PHE:H	2.26	0.43
49:DD:62:GLN:HA	49:DD:62:GLN:HE21	1.83	0.43
1:A:147:G:H1	1:A:175:C:N4	2.05	0.43
1:A:345:C:H5'	1:A:346:G:C5	2.54	0.43
1:A:468:A:H4'	50:ZA:80:PHE:O	2.19	0.43
1:A:538:G:H2'	1:A:539:A:H8	1.84	0.43
1:A:781:A:O2'	1:A:1522:U:O2	2.36	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
2:B:44:A:O2'	2:B:45:G:H5'	2.19	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
2:B:2682:U:O2'	6:F:13:ARG:HG3	2.19	0.43
6:F:57:LYS:HE2	6:F:57:LYS:HB2	1.87	0.43
8:H:23:PHE:CZ	8:H:168:GLU:HA	2.54	0.43
12:L:13:ASN:ND2	12:L:97:ARG:O	2.52	0.43
13:M:52:GLU:HG3	13:M:57:THR:HA	2.01	0.43
21:U:31:HIS:HA	21:U:32:PRO:HD3	1.85	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BA:50:VAL:HG13	47:WA:65:LYS:HE3	2.01	0.43
31:EA:25:PRO:HA	31:EA:28:ARG:CZ	2.49	0.43
36:LA:101:MET:HG2	36:LA:152:PHE:HE1	1.84	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:HD3	39:OA:40:ARG:HA	1.88	0.43
43:SA:83:ARG:HD3	43:SA:102:LEU:HD21	2.01	0.43
47:WA:3:ARG:HB2	47:WA:8:GLU:HA	2.01	0.43
53:CB:11:VAL:HB	53:CB:12:ASP:H	1.59	0.43
1:FB:87:A:H5"	1:FB:88:C:N1	2.34	0.43
1:FB:109:A:H5'	1:FB:110:C:C5	2.53	0.43
1:FB:1052:U:O2'	1:FB:1055:A:OP2	2.21	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
2:GB:30:G:OP2	18:WB:5:LYS:HE3	2.19	0.43
2:GB:164:U:H3'	2:GB:165:U:O2	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
2:GB:1503:U:H2'	2:GB:1504:C:C6	2.54	0.43
2:GB:1782:C:OP1	2:GB:1783:A:OP2	2.37	0.43
2:GB:2208:U:H4'	5:JB:151:LYS:HG2	2.00	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:2813:A:H2'	2:GB:2814:C:O4'	2.19	0.43
6:KB:112:GLY:O	6:KB:159:HIS:HA	2.18	0.43
20:YB:18:ARG:HG2	20:YB:76:VAL:HB	2.00	0.43
22:AC:90:LEU:HD13	22:AC:90:LEU:HA	1.73	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
37:RC:131:ARG:HH11	37:RC:135:LYS:HD2	1.81	0.43
38:SC:5:ILE:HB	38:SC:6:GLY:H	1.64	0.43
47:BD:31:LYS:HD2	47:BD:31:LYS:N	2.34	0.43
51:FD:26:GLN:HG2	51:FD:37:LYS:HG2	2.01	0.43
53:HD:39:THR:HG23	53:HD:69:HIS:O	2.18	0.43
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
2:B:40:C:H2'	2:B:41:C:C6	2.54	0.42
2:B:394:A:C6	2:B:395:U:N3	2.87	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
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
5:E:30:GLU:HB3	5:E:33:LEU:HD12	2.01	0.42
5:E:231:HIS:CG	5:E:232:PRO:HD2	2.54	0.42
7:G:60:SER:OG	7:G:61:GLY:N	2.51	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
23:W:93:ASP:CB	23:W:131:ARG:HH12	2.32	0.42
23:W:98:MET:HE3	23:W:100:VAL:HG12	2.00	0.42
23:W:132:ASN:O	23:W:134:PRO:HD3	2.19	0.42
36:LA:23:ARG:HB2	36:LA:23:ARG:CZ	2.49	0.42
38:NA:121:VAL:O	38:NA:134:ASP:HA	2.19	0.42
40:PA:94:GLN:HG3	52:BB:32:ARG:HD3	2.01	0.42
42:RA:102:ARG:H	42:RA:102:ARG:HG3	1.51	0.42
47:WA:96:LEU:O	47:WA:98:VAL:N	2.52	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
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
2:GB:125:G:H4'	2:GB:126:A:OP2	2.18	0.42
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
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:1264:G:H8	2:GB:1264:G:O5'	2.03	0.42
2:GB:1451:C:N4	2:GB:1459:G:H1	2.15	0.42
2:GB:1982:C:O2	2:GB:1982:C:H2'	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
3:HB:75:G:H21	23:BC:85:HIS:CE1	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:JB:159:ALA:HB1	5:JB:198:ASN:O	2.19	0.42
7:LB:202:PHE:O	7:LB:206:ILE:HG13	2.19	0.42
14:SB:82:ARG:NE	24:CC:3:HIS:HB3	2.34	0.42
15:TB:99:LYS:HB2	15:TB:99:LYS:HZ3	1.83	0.42
17:VB:33:LYS:HB2	17:VB:82:LEU:HD23	1.99	0.42
27:FC:41:PRO:HA	27:FC:44:ARG:NH1	2.32	0.42
29:HC:48:GLU:O	29:HC:60:VAL:HG21	2.19	0.42
37:RC:11:ARG:HD3	37:RC:15:THR:HB	2.01	0.42
43:XC:83:ARG:HD3	43:XC:102:LEU:HD21	2.01	0.42
46:AD:32:PHE:HE1	46:AD:86:ARG:HG2	1.84	0.42
47:BD:4:ILE:HG21	47:BD:57:ARG:HG2	2.01	0.42
48:CD:37:PHE:HB2	48:CD:39:LEU:HB2	2.00	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
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
2:B:189:G:O2’	2:B:207:A:N6	2.50	0.42
2:B:432:A:H2’	2:B:433:C:C6	2.54	0.42
2:B:445:C:OP1	18:R:2:PRO:HA	2.19	0.42
2:B:601:C:OP1	7:G:108:LYS:HE2	2.19	0.42
2:B:643:A:H1’	30:DA:44:ARG:NH1	2.34	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:990:A:C6	2:B:1186:G:H1’	2.54	0.42
2:B:993:G:OP2	18:R:51:LYS:NZ	2.52	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:1339:G:H5”	21:U:16:LYS:HD3	2.02	0.42
2:B:2210:G:H3’	2:B:2211:G:H8	1.80	0.42
2:B:2365:G:O6	32:FA:39:LYS:HE3	2.19	0.42
2:B:2544:G:H2’	2:B:2545:G:O4’	2.19	0.42
6:F:37:ARG:HH11	6:F:42:ASP:CG	2.27	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
14:N:55:VAL:HG22	23:W:178:GLU:HB3	2.01	0.42
15:O:22:ARG:C	15:O:24:GLN:H	2.27	0.42
16:P:51:ALA:H	16:P:73:LEU:HD13	1.84	0.42
17:Q:93:ARG:HB3	17:Q:93:ARG:HH11	1.83	0.42
17:Q:96:ARG:HG3	17:Q:101:PHE:HE2	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:LA:130:ARG:HA	36:LA:131:PRO:HD3	1.88	0.42
37:MA:59:ARG:HG2	37:MA:64:VAL:HB	2.01	0.42
37:MA:128:PHE:HD1	37:MA:128:PHE:HA	1.76	0.42
38:NA:155:LEU:HD12	38:NA:155:LEU:HA	1.86	0.42
42:RA:63:LEU:HB3	42:RA:65:TYR:CE2	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
1:FB:755:G:H21	42:WC:1:MET:HE1	1.85	0.42
1:FB:1170:A:OP2	1:FB:1170:A:H8	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
2:GB:227:A:C2	2:GB:2407:G:H1'	2.55	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:827:U:H2'	2:GB:2068:U:C2	2.55	0.42
2:GB:985:C:H2'	2:GB:986:C:C6	2.54	0.42
2:GB:1173:G:H8	2:GB:1173:G:O5'	2.02	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
10:OB:124:GLY:O	10:OB:143:SER:HA	2.19	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
26:EC:9:GLN:NE2	26:EC:56:GLN:HG3	2.34	0.42
29:HC:51:TYR:CE1	29:HC:56:LYS:HB2	2.54	0.42
39:TC:64:ARG:HH11	39:TC:64:ARG:HG3	1.83	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:626:U:H5"	50:ZA:38:TYR:CD2	2.54	0.42
1:A:718:G:O6	52:BB:74:ARG:NH1	2.52	0.42
1:A:1275:A:OP2	1:A:1275:A:H8	2.02	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
6:F:11:MET:HB2	6:F:23:VAL:O	2.19	0.42
7:G:40:GLN:O	7:G:44:ARG:HD3	2.19	0.42
7:G:125:LEU:HD21	7:G:199:TRP:CD2	2.54	0.42
8:H:144:ILE:HB	8:H:149:VAL:HG23	2.02	0.42
9:I:136:ILE:HD12	9:I:140:LYS:NZ	2.35	0.42
12:L:38:VAL:HG11	12:L:91:LEU:HD22	2.00	0.42
13:M:50:ARG:HG2	32:FA:61:LEU:HD11	2.01	0.42
13:M:131:SER:HB3	13:M:134:ALA:CB	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:20:ALA:HB2	23:W:79:ARG:HG3	2.01	0.42
15:O:87:TYR:OH	15:O:116:LEU:HB3	2.19	0.42
17:Q:33:LYS:HB2	17:Q:82:LEU:HD23	2.01	0.42
18:R:80:ILE:O	18:R:83:LEU:N	2.51	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
37:MA:37:GLN:NE2	48:XA:52:GLN:OE1	2.52	0.42
39:OA:69:VAL:HA	39:OA:70:PRO:HD2	1.89	0.42
49:YA:43:LEU:HD11	49:YA:53:HIS:HA	2.02	0.42
1:FB:46:G:O2'	1:FB:365:U:H1'	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: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
2:GB:17:G:H2'	2:GB:18:C:C6	2.55	0.42
2:GB:398:G:H2'	2:GB:399:G:H8	1.84	0.42
2:GB:530:G:C5	2:GB:2022:U:H5"	2.55	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:1971:A:C4	5:JB:241:PRO:HG3	2.54	0.42
2:GB:2030:A:H4'	2:GB:2031:A:C8	2.54	0.42
2:GB:2466:C:H5"	33:LC:6:SER:HB3	2.01	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
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
18:WB:16:LYS:O	18:WB:20:LEU:HG	2.20	0.42
25:DC:73:LEU:HD23	25:DC:73:LEU:HA	1.82	0.42
36:QC:60:ASP:O	36:QC:64:ARG:HG2	2.19	0.42
37:RC:23:TYR:CZ	44:YC:9:ARG:HG3	2.54	0.42
38:SC:15:GLU:HG3	38:SC:19:LEU:HD21	2.00	0.42
39:TC:121:LYS:HZ2	39:TC:122:GLU:N	2.15	0.42
46:AD:38:THR:O	46:AD:79:GLU:HG3	2.19	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
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
53:HD:21:GLU:O	53:HD:25:LYS:HG3	2.20	0.42
54:ID:37:SER:O	54:ID:41:VAL:HG13	2.18	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1129:C:H42	1:A:1143:G:N2	2.17	0.42
2:B:125:G:H4'	2:B:126:A:OP2	2.19	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
2:B:1069:A:O2'	2:B:1096:A:O5'	2.36	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:2792:G:H8	2:B:2893:G:H22	1.66	0.42
2:B:2809:A:OP2	2:B:2891:G:C2	2.72	0.42
2:B:2820:A:O4'	15:O:3:HIS:HB3	2.19	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
7:G:40:GLN:H	7:G:40:GLN:HG3	1.59	0.42
12:L:80:ASP:OD2	17:Q:71:GLY:HA3	2.19	0.42
13:M:52:GLU:HB3	13:M:55:ARG:HG2	2.01	0.42
18:R:39:LEU:HD23	18:R:39:LEU:HA	1.80	0.42
21:U:23:GLU:OE2	21:U:25:LYS:HD2	2.20	0.42
29:CA:48:GLU:O	29:CA:60:VAL:HG21	2.19	0.42
37:MA:88:ARG:HG2	37:MA:99:VAL:HG23	2.00	0.42
42:RA:18:ARG:HA	42:RA:18:ARG:HE	1.85	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
54:DB:83:ARG:HA	54:DB:86:ARG:HD3	2.02	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
2:GB:67:U:H2'	2:GB:68:G:C8	2.54	0.42
2:GB:101:G:O3'	26:EC:7:ARG:NH1	2.52	0.42
2:GB:270(N):U:H4'	2:GB:270(O):G:C5'	2.50	0.42
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:847:U:OP2	2:GB:929:G:O6	2.37	0.42
2:GB:882:G:OP2	2:GB:882:G:H8	2.02	0.42
2:GB:1568:G:H5"	5:JB:61:LEU:HB2	1.99	0.42
2:GB:1818:U:O2'	5:JB:154:LYS:O	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
6:KB:67:PHE:CD1	6:KB:74:PRO:HA	2.54	0.42
7:LB:101:LEU:O	7:LB:106:ARG:NE	2.35	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:QB:60:ALA:CB	12:QB:86:ILE:HA	2.50	0.42
13:RB:49:ARG:CB	32:KC:61:LEU:HD21	2.48	0.42
13:RB:67:MET:HE3	13:RB:67:MET:HB3	1.63	0.42
19:XB:28:GLU:O	19:XB:30:GLY:N	2.52	0.42
23:BC:102:LEU:HD11	23:BC:124:ILE:HB	2.00	0.42
39:TC:121:LYS:HZ2	39:TC:121:LYS:HA	1.84	0.42
49:DD:43:LEU:HD11	49:DD:53:HIS:HA	2.02	0.42
50:ED:34:GLU:OE2	50:ED:55:ARG:HG2	2.19	0.42
51:FD:13:ASP:C	51:FD:15:MET:H	2.26	0.42
1:A:885:G:H1	1:A:912:C:H42	1.68	0.42
1:A:1206:G:O4'	37:MA:194:GLY:HA2	2.20	0.42
1:A:1480:G:C6	1:A:1481:U:N3	2.87	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
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:2391:G:O6	2:B:2425:A:H8	2.01	0.42
2:B:2409:G:C6	2:B:2410:G:C5	3.08	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
6:F:6:GLY:HA2	6:F:51:PHE:CZ	2.55	0.42
11:K:67:LEU:O	11:K:88:GLU:HG3	2.19	0.42
13:M:136:GLU:HG3	13:M:137:LYS:N	2.35	0.42
14:N:85:LYS:HE2	24:X:7:LEU:HD13	2.01	0.42
18:R:11:ARG:HG3	18:R:11:ARG:NH1	2.18	0.42
18:R:107:ALA:O	18:R:111:GLU:HG2	2.19	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
32:FA:61:LEU:C	32:FA:63:PRO:HD3	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:NA:98:GLU:HG3	38:NA:194:LEU:CD2	2.50	0.42
38:NA:196:LEU:HA	38:NA:196:LEU:HD12	1.75	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
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
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
1:FB:1077:G:H1	39:TC:47:LYS:NZ	2.17	0.42
1:FB:1493:A:O2'	1:FB:1494:G:O5'	2.37	0.42
2:GB:188:G:H1	2:GB:208:C:H42	1.67	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:959:A:N6	2:GB:960:A:N1	2.67	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:1753:G:C8	17:VB:113:LYS:NZ	2.87	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
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
8:MB:152:LEU:HD22	8:MB:153:ARG:H	1.84	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
15:TB:22:ARG:C	15:TB:24:GLN:N	2.77	0.42
15:TB:31:HIS:O	15:TB:33:ARG:N	2.44	0.42
23:BC:28:MET:HE1	23:BC:61:LEU:HD21	2.01	0.42
23:BC:54:HIS:HB3	23:BC:99:TYR:O	2.20	0.42
23:BC:71:VAL:HG13	23:BC:86:VAL:HG12	2.02	0.42
27:FC:12:PRO:HB2	27:FC:20:LYS:HG2	2.02	0.42
33:LC:7:VAL:HG12	33:LC:34:GLN:HB3	2.01	0.42
4:NC:19:G:H5"	4:NC:60:U:O4	2.19	0.42
36:QC:23:ARG:HB2	36:QC:23:ARG:HH11	1.80	0.42
37:RC:124:ILE:C	37:RC:127:ARG:H	2.27	0.42
37:RC:153:VAL:HG22	37:RC:198:VAL:HG22	2.01	0.42
44:YC:6:ILE:HD11	44:YC:23:ILE:HG21	2.01	0.42
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:32:A:OP1	1:A:398:C:H1'	2.20	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
1:A:1067:A:O2'	1:A:1093:A:O2'	2.33	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:1465:C:P	17:Q:108:ARG:HH22	2.43	0.42
2:B:17:G:H2'	2:B:18:C:H6	1.84	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
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:H8	2:B:1855:G:O5'	2.03	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:2478:A:OP2	33:GA:2:LYS:HE2	2.20	0.42
9:I:126:PRO:HB2	9:I:130:ARG:NH2	2.31	0.42
9:I:130:ARG:HB3	9:I:130:ARG:HH11	1.84	0.42
10:J:67:ARG:H	10:J:67:ARG:HG3	1.54	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
18:R:72:HIS:O	18:R:74:LEU:HD12	2.19	0.42
25:Y:6:GLU:OE1	25:Y:61:ARG:HB3	2.20	0.42
33:GA:25:VAL:HB	33:GA:34:GLN:HB2	2.01	0.42
4:IA:19:G:H5"	4:IA:60:U:O4	2.19	0.42
38:NA:178:VAL:C	38:NA:180:GLY:H	2.28	0.42
40:PA:18:GLN:HA	40:PA:21:LEU:HG	2.01	0.42
42:RA:81:HIS:CD2	42:RA:104:ARG:HH22	2.37	0.42
42:RA:116:LYS:HG3	42:RA:129:VAL:HG11	2.01	0.42
45:UA:34:ASP:C	45:UA:36:ASP:H	2.28	0.42
46:VA:118:SER:C	46:VA:120:TYR:H	2.28	0.42
47:WA:108:ARG:NH1	47:WA:114:ARG:HA	2.35	0.42
50:ZA:71:ARG:HA	50:ZA:74:LEU:HD12	2.00	0.42
52:BB:46:GLU:OE1	52:BB:85:LEU:HD12	2.19	0.42
54:DB:56:MET:HE2	54:DB:56:MET:HB3	1.92	0.42
1:FB:112:G:H4'	1:FB:389:A:H4'	2.02	0.42
1:FB:149:A:H2'	1:FB:150:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:FB:1307:U:O3'	47:BD:110:ARG:HD3	2.19	0.42
1:FB:1508:G:H2'	1:FB:1509:C:C6	2.53	0.42
2:GB:1012:U:O4	11:PB:28:THR:HG21	2.19	0.42
2:GB:1882:C:H2'	2:GB:1883:G:O4'	2.20	0.42
2:GB:1999:C:H5"	2:GB:2723:C:O2'	2.19	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:OP2	2:GB:2402:C:H6	2.03	0.42
2:GB:2865:U:C4	2:GB:2866:U:C4	3.07	0.42
4:IB:48:C:OP1	4:IB:59:A:H5'	2.19	0.42
5:JB:244:ARG:HB2	5:JB:245:PRO:HD2	2.02	0.42
11:PB:67:LEU:HD23	11:PB:67:LEU:HA	1.93	0.42
16:UB:34:HIS:ND1	16:UB:34:HIS:N	2.67	0.42
22:AC:84:ARG:O	22:AC:100:ALA:HB2	2.20	0.42
26:EC:9:GLN:HE22	26:EC:56:GLN:HG3	1.83	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
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
42:WC:114:THR:C	42:WC:116:LYS:H	2.28	0.42
42:WC:120:THR:H	42:WC:123:GLU:HB2	1.84	0.42
43:XC:11:LYS:C	43:XC:13:ALA:H	2.26	0.42
46:AD:19:ARG:O	46:AD:21:LYS:NZ	2.53	0.42
49:DD:63:ARG:HH12	49:DD:87:ILE:HD13	1.80	0.42
1:A:6:G:H4'	1:A:298:A:H4'	2.02	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:966:M2G:H8	1:A:966:M2G:OP2	2.02	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
2:B:554:U:H1'	2:B:556:G:N7	2.34	0.42
2:B:851:U:O2'	27:AA:42:ALA:O	2.38	0.42
2:B:869:G:H2'	2:B:870:A:H8	1.85	0.42
2:B:1517:G:H2'	2:B:1518:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2527:C:H5"	33:GA:30:PRO:HB2	2.01	0.42
4:D:6:G:H2'	4:D:7:G:H8	1.85	0.42
5:E:67:PHE:CE1	5:E:106:ILE:HD11	2.55	0.42
8:H:137:GLU:HG2	8:H:152:LEU:HD11	2.01	0.42
10:J:135:GLU:O	10:J:137:PRO:HD3	2.19	0.42
11:K:99:LEU:O	11:K:103:VAL:HG23	2.19	0.42
13:M:19:VAL:HG12	13:M:31:ALA:HB1	2.01	0.42
14:N:13:GLN:O	14:N:72:LYS:HE3	2.19	0.42
23:W:85:HIS:HE1	23:W:87:ASP:OD1	2.02	0.42
28:BA:69:LYS:NZ	53:CB:20:LEU:HD12	2.35	0.42
4:IA:74:C:H5"	4:IA:75:C:OP2	2.19	0.42
36:LA:122:PHE:CZ	36:LA:139:LYS:HB2	2.55	0.42
37:MA:88:ARG:HA	37:MA:91:LEU:HB2	2.01	0.42
38:NA:19:LEU:HA	38:NA:19:LEU:HD12	1.68	0.42
38:NA:134:ASP:O	38:NA:136:PRO:HD3	2.20	0.42
38:NA:162:LEU:HD12	38:NA:178:VAL:HG13	2.01	0.42
40:PA:46:ARG:HB2	40:PA:60:PHE:CE1	2.54	0.42
42:RA:81:HIS:HB2	42:RA:138:TRP:CD1	2.43	0.42
42:RA:97:VAL:HA	42:RA:100:ILE:HG13	2.02	0.42
50:ZA:77:ALA:HB3	50:ZA:79:VAL:HG23	2.02	0.42
1:FB:372:C:H4'	1:FB:373:A:OP1	2.18	0.42
1:FB:468:A:H5"	50:ED:80:PHE:HB3	2.01	0.42
1:FB:587:G:H4'	42:WC:3:THR:HA	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
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
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:1493:C:C5	2:GB:2210:G:C4	3.07	0.42
2:GB:1640:C:H5'	2:GB:1641:A:OP2	2.19	0.42
2:GB:1815:A:P	5:JB:54:ARG:HH22	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2454:G:H2'	2:GB:2455:G:H8	1.84	0.42
2:GB:2728:U:C5'	12:QB:70:LYS:HZ1	2.22	0.42
8:MB:114:ILE:HD12	8:MB:136:ARG:NH1	2.35	0.42
18:WB:89:GLU:HB2	19:XB:50:PRO:HB3	2.01	0.42
24:CC:31:VAL:HG23	24:CC:32:ARG:O	2.20	0.42
27:FC:26:LEU:HA	27:FC:26:LEU:HD23	1.74	0.42
4:NC:49:G:N2	4:NC:66:C:N3	2.68	0.42
38:SC:2:GLY:HA3	38:SC:5:ILE:HD11	2.01	0.42
38:SC:21:LEU:O	38:SC:22:LYS:HB2	2.19	0.42
39:TC:51:VAL:HG12	39:TC:55:VAL:HG23	2.02	0.42
39:TC:144:THR:O	39:TC:148:VAL:HG23	2.19	0.42
44:YC:16:LEU:HD13	44:YC:94:VAL:HG13	2.02	0.42
47:BD:39:ILE:HD11	47:BD:56:LEU:HD11	2.01	0.42
48:CD:53:LEU:HD22	48:CD:53:LEU:HA	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
54:ID:33:ILE:HD11	54:ID:62:LEU:C	2.45	0.42
1:A:49:U:C4	1:A:364:A:C5	3.07	0.42
1:A:485:G:O2'	1:A:486:U:OP2	2.37	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
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
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
2:B:1173:G:H8	2:B:1173:G:O5'	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
5:E:182:LEU:HD23	5:E:182:LEU:HA	1.70	0.42
6:F:117:MET:HB3	6:F:117:MET:HE2	1.52	0.42
7:G:10:PRO:HB3	7:G:17:ARG:HH12	1.85	0.42
7:G:34:TRP:CZ2	13:M:8:PRO:HB3	2.55	0.42
9:I:148:ILE:HG23	9:I:151:ILE:HD12	2.02	0.42
12:L:90:GLN:CD	12:L:90:GLN:N	2.78	0.42
13:M:149:GLU:H	13:M:149:GLU:CD	2.27	0.42
16:P:30:ARG:HH11	16:P:97:ARG:HH11	1.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:106:SER:O	17:Q:110:ILE:HG13	2.20	0.42
23:W:93:ASP:HB2	23:W:131:ARG:HH12	1.84	0.42
36:LA:61:LEU:HD12	36:LA:64:ARG:HB2	2.01	0.42
37:MA:124:ILE:H	37:MA:124:ILE:HG13	1.62	0.42
48:XA:31:ARG:HG2	48:XA:31:ARG:HH11	1.84	0.42
50:ZA:8:ARG:HH12	50:ZA:15:PRO:CG	2.29	0.42
51:AB:63:ARG:HA	51:AB:64:PRO:HD3	1.89	0.42
1:FB:10:A:OP2	39:TC:126:ARG:HD3	2.20	0.42
1:FB:87:A:H5"	1:FB:88:C:C6	2.54	0.42
1:FB:992:U:H5'	1:FB:993:G:C4	2.55	0.42
1:FB:1064:G:OP1	1:FB:1386:G:H4'	2.19	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
2:GB:85:G:C5	2:GB:98:G:C2	3.08	0.42
2:GB:253:C:H2'	2:GB:254:G:O4'	2.20	0.42
2:GB:270(K):G:H3'	2:GB:270(L):C:C6	2.55	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:882:G:N2	2:GB:883:G:N7	2.67	0.42
2:GB:1128:A:N7	2:GB:2489:G:O2'	2.51	0.42
2:GB:1341:U:O4'	21:ZB:57:LEU:HD23	2.19	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: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: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
3:HB:9:G:OP1	16:UB:25:ARG:NH2	2.53	0.42
4:IB:26:G:H2'	4:IB:27:U:C6	2.54	0.42
5:JB:267:SER:O	5:JB:269:PHE:N	2.53	0.42
12:QB:97:ARG:HE	12:QB:97:ARG:HB2	1.66	0.42
13:RB:65:ARG:HG3	13:RB:66:GLY:N	2.35	0.42
18:WB:47:TYR:OH	18:WB:51:LYS:HE2	2.20	0.42
23:BC:116:VAL:HG22	23:BC:117:LEU:HD23	2.02	0.42
26:EC:10:LEU:HD11	26:EC:14:ARG:NH1	2.34	0.42
35:OC:144:TRP:CZ3	35:OC:171:VAL:HG13	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:QC:149:LEU:HD12	36:QC:152:PHE:HB3	2.00	0.42
39:TC:41:VAL:HG11	39:TC:109:ILE:HG23	2.01	0.42
42:WC:2:LEU:HB3	42:WC:3:THR:H	1.65	0.42
47:BD:111:LYS:HG2	47:BD:115:LYS:NZ	2.35	0.42
54:ID:50:GLU:HB2	54:ID:100:ILE:HB	2.01	0.42
1:A:177:C:P	54:DB:65:LYS:NZ	2.93	0.42
1:A:280:C:N3	51:AB:39:SER:OG	2.34	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
1:A:1216:G:O2'	1:A:1217:C:H5'	2.20	0.42
1:A:1288:A:N3	1:A:1352:C:O2'	2.49	0.42
2:B:270(F):G:C6	2:B:270(G):U:C4	3.07	0.42
2:B:270(T):G:H5"	25:Y:97:LEU:HD21	2.02	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
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: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
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
11:K:104:LYS:HB2	11:K:117:PHE:CE1	2.54	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
4:IA:51:C:N3	4:IA:52:G:N7	2.67	0.42
36:LA:75:LYS:H	36:LA:75:LYS:HG3	1.60	0.42
37:MA:72:LYS:HE3	37:MA:73:PRO:HD2	2.01	0.42
37:MA:185:GLY:HA3	37:MA:200:ALA:HB3	2.02	0.42
38:NA:196:LEU:O	38:NA:198:VAL:N	2.49	0.42
47:WA:39:ILE:HD11	47:WA:56:LEU:HD11	2.00	0.42
50:ZA:23:ASP:OD1	50:ZA:24:ALA:N	2.53	0.42
53:CB:21:GLU:O	53:CB:25:LYS:HG3	2.19	0.42
54:DB:44:ALA:O	54:DB:91:LEU:HG	2.19	0.42
1:FB:38:G:C2	1:FB:397:A:C2	3.08	0.42
1:FB:87:A:C2	1:FB:88:C:H1'	2.55	0.42
1:FB:689:C:OP2	45:ZC:55:LYS:NZ	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:814:A:N7	1:FB:816:A:C4	2.88	0.42
1:FB:1079:G:OP2	1:FB:1079:G:H8	2.02	0.42
1:FB:1151:A:O2'	1:FB:1152:A:O5'	2.36	0.42
1:FB:1279:A:P	44:YC:9:ARG:HH22	2.41	0.42
2:GB:6:A:N7	2:GB:7:G:C4	2.87	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:2623:G:H4'	2:GB:2825:G:H8	1.85	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
3:HB:48:A:H4'	16:UB:95:HIS:HD2	1.84	0.42
4:IB:23:C:N4	4:IB:24:U:O4	2.52	0.42
5:JB:248:SER:HG	5:JB:252:TRP:CG	2.37	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
20:YB:62:HIS:O	20:YB:64:MET:HG3	2.20	0.42
25:DC:95:LEU:HD13	25:DC:95:LEU:HA	1.74	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
48:CD:23:ARG:NE	48:CD:28:GLY:O	2.53	0.42
48:CD:58:LYS:HB3	48:CD:58:LYS:NZ	2.35	0.42
50:ED:26:ARG:HG3	50:ED:27:LYS:N	2.35	0.42
52:GD:34:TYR:O	52:GD:35:ARG:HG3	2.19	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
1:A:878:G:H5"	42:RA:90:GLY:HA3	2.01	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
2:B:99:U:C6	2:B:102:G:N1	2.88	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
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
5:E:132:PRO:HD3	5:E:190:TYR:CZ	2.55	0.42
5:E:133:LEU:CB	5:E:173:VAL:HG21	2.50	0.42
12:L:89:ASN:HB2	12:L:90:GLN:NE2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:106:LEU:O	12:L:111:PHE:HB2	2.20	0.42
13:M:119:GLU:HA	13:M:137:LYS:HE3	2.02	0.42
14:N:132:VAL:HG11	23:W:81:ARG:NH2	2.35	0.42
16:P:6:ALA:HA	16:P:9:ARG:NH1	2.34	0.42
17:Q:19:LEU:HA	17:Q:20:PRO:HD3	1.98	0.42
20:T:88:ARG:HG3	20:T:94:ASP:OD2	2.20	0.42
21:U:12:VAL:HG21	21:U:27:THR:HG22	2.02	0.42
23:W:65:GLN:O	23:W:67:LEU:HD22	2.20	0.42
25:Y:50:ARG:HB3	25:Y:50:ARG:HH11	1.85	0.42
27:AA:8:LEU:HD13	27:AA:23:LEU:HD21	2.02	0.42
27:AA:41:PRO:HA	27:AA:44:ARG:NH1	2.33	0.42
37:MA:123:GLN:O	37:MA:128:PHE:HB2	2.20	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
40:PA:3:ARG:HH11	40:PA:3:ARG:CG	2.32	0.42
40:PA:25:ILE:H	40:PA:25:ILE:HG13	1.63	0.42
42:RA:2:LEU:HB3	42:RA:3:THR:H	1.64	0.42
49:YA:13:GLN:C	49:YA:15:PHE:H	2.28	0.42
51:AB:65:ILE:HB	51:AB:69:LYS:HD2	2.01	0.42
52:BB:71:LYS:O	52:BB:74:ARG:N	2.52	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
1:FB:1435:G:H8	1:FB:1435:G:O5'	2.03	0.42
2:GB:111:A:C5'	26:EC:69:ARG:HH22	2.33	0.42
2:GB:238:C:H2'	2:GB:239:U:O4'	2.20	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
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: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
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
13:RB:75:ILE:H	13:RB:75:ILE:HD12	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:TB:67:LEU:HD21	15:TB:73:VAL:HA	2.01	0.42
18:WB:47:TYR:CZ	18:WB:51:LYS:HE2	2.54	0.42
21:ZB:56:THR:HB	21:ZB:77:LYS:HE2	2.02	0.42
26:EC:39:ALA:HB2	26:EC:44:LEU:HD23	2.02	0.42
36:QC:139:LYS:O	36:QC:142:LEU:HB3	2.20	0.42
39:TC:86:ALA:HB3	39:TC:130:ASN:ND2	2.34	0.42
41:VC:57:GLU:HB2	41:VC:60:LYS:HE3	2.01	0.42
46:AD:57:LYS:HA	46:AD:67:THR:HA	2.00	0.42
47:BD:55:ARG:HH11	47:BD:56:LEU:HD13	1.85	0.42
50:ED:8:ARG:NH1	50:ED:15:PRO:HG3	2.27	0.42
54:ID:56:MET:HE2	54:ID:56:MET:HB3	1.91	0.42
2:B:46:C:OP2	2:B:215:G:H2'	2.20	0.41
2:B:144:C:H2'	2:B:145:G:C8	2.55	0.41
2:B:270(N):U:H4'	2:B:270(O):G:C5'	2.50	0.41
2:B:972:G:C6	2:B:973:A:C6	3.08	0.41
2:B:1218:C:OP2	18:R:15:LYS:HE2	2.20	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:1568:G:H5"	5:E:61:LEU:HB2	2.01	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:2590:A:O3'	5:E:239:ARG:NH2	2.52	0.41
2:B:2877:G:H2'	2:B:2878:U:O4'	2.20	0.41
3:C:76:G:H2'	3:C:77:U:O4'	2.20	0.41
7:G:33:LEU:HD12	7:G:33:LEU:HA	1.72	0.41
8:H:13:GLU:O	8:H:14:GLU:HB2	2.20	0.41
8:H:83:ARG:HB3	8:H:86:MET:HE3	2.01	0.41
14:N:16:ARG:NH1	14:N:16:ARG:HB2	2.34	0.41
14:N:60:ARG:HH12	23:W:177:PRO:CG	2.29	0.41
15:O:22:ARG:C	15:O:24:GLN:N	2.78	0.41
17:Q:94:ALA:HB1	17:Q:99:LEU:HD21	2.01	0.41
21:U:90:GLU:HA	21:U:93:GLU:CG	2.49	0.41
22:V:9:LYS:HA	22:V:10:GLY:HA2	1.72	0.41
22:V:40:GLU:C	22:V:42:VAL:H	2.28	0.41
24:X:27:GLU:HB2	24:X:69:PHE:CD1	2.55	0.41
28:BA:40:HIS:CG	28:BA:41:PRO:HD2	2.55	0.41
30:DA:40:CYS:HB2	30:DA:43:CYS:HB2	2.01	0.41
38:NA:21:LEU:H	38:NA:21:LEU:HD12	1.85	0.41
38:NA:25:ARG:C	38:NA:27:TYR:H	2.28	0.41
38:NA:31:CYS:C	38:NA:33:MET:H	2.28	0.41
41:QA:12:LEU:HD23	41:QA:12:LEU:HA	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:VA:7:ILE:HD12	51:AB:34:LYS:HD2	2.01	0.41
47:WA:111:LYS:HG2	47:WA:115:LYS:NZ	2.35	0.41
51:AB:13:ASP:C	51:AB:15:MET:H	2.27	0.41
51:AB:87:LYS:HA	51:AB:90:ILE:HG22	2.02	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
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
2:GB:606:U:P	7:LB:104:LYS:HZ3	2.29	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
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
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
12:QB:38:VAL:HG11	12:QB:91:LEU:HD22	2.02	0.41
12:QB:116:SER:OG	12:QB:117:LEU:N	2.53	0.41
12:QB:117:LEU:HA	12:QB:117:LEU:HD23	1.83	0.41
16:UB:5:THR:HG23	16:UB:8:GLU:OE2	2.20	0.41
16:UB:29:PHE:O	16:UB:35:ILE:HD12	2.19	0.41
17:VB:11:GLU:OE2	17:VB:57:PHE:HD2	2.03	0.41
23:BC:54:HIS:HB2	23:BC:101:PRO:HD3	2.02	0.41
38:SC:155:LEU:HD12	38:SC:155:LEU:HA	1.90	0.41
46:AD:41:ARG:HE	46:AD:41:ARG:HB2	1.67	0.41
47:BD:98:VAL:C	47:BD:100:GLY:H	2.28	0.41
53:HD:62:ILE:HA	53:HD:66:MET:SD	2.61	0.41
54:ID:49:ALA:HB3	54:ID:99:LEU:HG	2.01	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
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:1675:C:O2	6:F:129:HIS:HA	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
5:E:240:ALA:HA	5:E:241:PRO:HD3	1.92	0.41
6:F:175:VAL:HA	6:F:182:LEU:HA	2.02	0.41
7:G:40:GLN:HA	7:G:43:LYS:HG2	2.02	0.41
7:G:202:PHE:CZ	7:G:206:ILE:HD11	2.54	0.41
8:H:130:ASN:OD1	8:H:130:ASN:N	2.53	0.41
9:I:91:GLY:HA3	9:I:94:TYR:CD2	2.54	0.41
13:M:85:LEU:HD23	13:M:120:ALA:HA	2.01	0.41
17:Q:16:ARG:CZ	17:Q:19:LEU:HD21	2.50	0.41
18:R:10:ARG:HG2	18:R:14:HIS:NE2	2.36	0.41
19:S:64:HIS:HA	19:S:92:THR:HA	2.02	0.41
23:W:152:ALA:C	23:W:154:ASP:H	2.28	0.41
26:Z:41:ILE:O	26:Z:43:GLN:HG2	2.20	0.41
34:HA:14:A:H3'	34:HA:15:A:C8	2.56	0.41
36:LA:70:PHE:CD1	36:LA:163:PHE:HB3	2.55	0.41
37:MA:62:ASP:OD2	37:MA:97:LYS:HG2	2.19	0.41
45:UA:40:ILE:HD13	45:UA:40:ILE:HA	1.84	0.41
46:VA:77:LEU:HD21	46:VA:107:ALA:CB	2.51	0.41
1:FB:124:G:C5	1:FB:125:U:C4	3.07	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
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
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
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
3:HB:78:A:N3	3:HB:99:A:C6	2.88	0.41
5:JB:217:ARG:CG	5:JB:217:ARG:NH1	2.77	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:KB:11:MET:CB	6:KB:24:THR:HA	2.50	0.41
7:LB:11:VAL:HB	7:LB:18:ARG:HB2	2.02	0.41
12:QB:11:ALA:O	12:QB:98:VAL:HA	2.20	0.41
13:RB:56:SER:OG	13:RB:61:ARG:HD2	2.21	0.41
14:SB:12:GLN:HG2	14:SB:73:PRO:HD2	2.02	0.41
17:VB:64:ARG:HB2	17:VB:73:GLU:HG3	2.01	0.41
17:VB:105:LEU:HD13	17:VB:105:LEU:HA	1.66	0.41
17:VB:110:ILE:HG13	17:VB:110:ILE:H	1.56	0.41
18:WB:90:VAL:HG22	19:XB:38:LEU:HD22	2.02	0.41
21:ZB:29:TRP:CZ3	21:ZB:78:LYS:HG3	2.55	0.41
37:RC:59:ARG:HG2	37:RC:64:VAL:HB	2.02	0.41
39:TC:32:VAL:O	39:TC:43:LEU:HD12	2.20	0.41
42:WC:87:SER:HB2	42:WC:93:VAL:HB	2.02	0.41
43:XC:121:ARG:NH1	43:XC:121:ARG:HG2	2.34	0.41
54:ID:72:LEU:HD13	54:ID:77:ALA:HA	2.02	0.41
1:A:149:A:H2'	1:A:150:C:C6	2.55	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
1:A:1118:C:H1'	1:A:1179:A:C4	2.54	0.41
1:A:1307:U:O3'	47:WA:110:ARG:HD3	2.21	0.41
1:A:1519:MA6:H102	1:A:1520:G:O2'	2.19	0.41
2:B:188:G:H1	2:B:208:C:H42	1.69	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
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:1493:C:C4	2:B:2210:G:N3	2.88	0.41
2:B:1666:G:O3'	12:L:6:THR:HG23	2.21	0.41
2:B:2100:G:C2	2:B:2101:G:C4	3.08	0.41
2:B:2137:C:H6	2:B:2137:C:OP2	2.04	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
3:C:43:C:OP1	28:BA:2:LYS:HB2	2.19	0.41
4:D:6:G:H2'	4:D:7:G:C8	2.55	0.41
4:D:41:C:H2'	4:D:42:G:C8	2.55	0.41
5:E:267:SER:C	5:E:269:PHE:N	2.78	0.41
10:J:101:LEU:HD13	10:J:101:LEU:HA	1.87	0.41
12:L:13:ASN:HD21	12:L:97:ARG:N	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:97:ARG:HA	12:L:117:LEU:HD13	2.02	0.41
16:P:44:LYS:HB2	16:P:44:LYS:HZ3	1.85	0.41
23:W:116:VAL:HG22	23:W:117:LEU:HD23	2.02	0.41
25:Y:50:ARG:HH11	25:Y:50:ARG:CB	2.34	0.41
29:CA:14:ALA:O	29:CA:18:ALA:N	2.52	0.41
33:GA:15:LYS:HE3	33:GA:15:LYS:HB2	1.88	0.41
35:JA:137:ARG:O	35:JA:141:ALA:HB3	2.21	0.41
36:LA:131:PRO:C	36:LA:133:LYS:H	2.29	0.41
38:NA:15:GLU:HG3	38:NA:19:LEU:HD21	2.01	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
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
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
1:FB:619:U:C4	38:SC:135:LEU:HD11	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
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:821:A:H2'	2:GB:946:G: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: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:1805:U:O2	5:JB:50:THR:HB	2.20	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
2:GB:2695:C:H2'	2:GB:2696:U:H6	1.83	0.41
5:JB:146:GLU:HB2	5:JB:189:CYS:HB3	2.01	0.41
10:OB:67:ARG:H	10:OB:67:ARG:HG3	1.56	0.41
17:VB:7:ILE:O	17:VB:10:VAL:N	2.53	0.41
22:AC:9:LYS:HA	22:AC:10:GLY:HA2	1.70	0.41
23:BC:155:LEU:HD21	23:BC:171:ILE:HD12	2.02	0.41
38:SC:139:ARG:HG3	38:SC:139:ARG:NH1	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
41:VC:70:LYS:HA	41:VC:71:PRO:HD2	1.89	0.41
51:FD:9:VAL:HG11	51:FD:84:LEU:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:ID:47:GLY:N	54:ID:48:LYS:HB2	2.36	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
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:1358:U:OP1	48:XA:35:ARG:HG2	2.20	0.41
1:A:1493:A:N3	35:JA:119:THR:HG23	2.35	0.41
2:B:6:A:O2'	11:K:130:HIS:HB3	2.20	0.41
2:B:18:C:H2'	2:B:19:C:C6	2.56	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:865:C:O2	2:B:867:C:N4	2.50	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: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
4:D:48:C:H5'	4:D:50:U:OP2	2.20	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
7:G:155:LEU:HD23	7:G:186:ILE:HG12	2.03	0.41
8:H:131:TYR:CG	8:H:132:ASN:N	2.87	0.41
9:I:8:PRO:HB3	9:I:51:ARG:HG3	2.02	0.41
9:I:30:LYS:HB2	9:I:79:VAL:C	2.46	0.41
11:K:110:GLY:HA2	11:K:114:ARG:HE	1.85	0.41
14:N:138:ASP:OD1	14:N:138:ASP:N	2.53	0.41
16:P:19:LYS:HG2	16:P:25:ARG:HH11	1.85	0.41
16:P:30:ARG:HH11	16:P:97:ARG:NH1	2.18	0.41
16:P:63:THR:HG22	16:P:97:ARG:HA	2.02	0.41
17:Q:137:LYS:H	17:Q:137:LYS:HG3	1.69	0.41
18:R:74:LEU:CD2	18:R:79:PHE:HB2	2.51	0.41
23:W:107:THR:HA	23:W:108:PRO:HD3	1.84	0.41
29:CA:36:CYS:SG	29:CA:38:ALA:HB3	2.61	0.41
35:JA:143:ARG:HG2	35:JA:144:TRP:HD1	1.86	0.41
36:LA:164:VAL:HG12	36:LA:165:VAL:N	2.36	0.41
37:MA:72:LYS:HA	37:MA:73:PRO:HD3	1.84	0.41
37:MA:122:GLU:HB3	37:MA:126:ARG:HH12	1.84	0.41
41:QA:69:VAL:HG22	41:QA:135:VAL:HG22	2.01	0.41
47:WA:22:ILE:HG22	47:WA:25:ILE:HG13	2.02	0.41
52:BB:54:ARG:HB3	52:BB:54:ARG:NH1	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:1176:A:C6	1:FB:1177:G:C6	3.08	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
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:2080:G:H5"	25:DC:19:GLN:HG3	2.03	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
5:JB:94:LEU:HD23	5:JB:94:LEU:HA	1.84	0.41
5:JB:206:LEU:HA	5:JB:206:LEU:HD23	1.44	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
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
20:YB:111:HIS:ND1	20:YB:111:HIS:N	2.68	0.41
21:ZB:90:GLU:HA	21:ZB:93:GLU:CG	2.50	0.41
23:BC:102:LEU:HA	23:BC:137:ILE:HB	2.02	0.41
25:DC:5:CYS:HB3	25:DC:9:GLY:H	1.85	0.41
38:SC:107:ARG:HH21	38:SC:114:ARG:NH2	2.18	0.41
41:VC:88:PRO:HG3	41:VC:149:ARG:HA	2.02	0.41
45:ZC:83:ILE:HG23	45:ZC:109:VAL:HG23	2.02	0.41
47:BD:96:LEU:O	47:BD:98:VAL:N	2.53	0.41
53:HD:31:ILE:HB	53:HD:32:LYS:H	1.59	0.41
54:ID:13:LEU:HD12	54:ID:14:LYS:H	1.85	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
1:A:1058:G:H8	1:A:1058:G:O5'	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:1446:A:N3	17:Q:118:ARG:NH1	2.67	0.41
2:B:248:G:C4	2:B:2431:U:H4'	2.56	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
3:C:9:G:OP1	16:P:25:ARG:NH2	2.54	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
7:G:64:ILE:HG13	7:G:64:ILE:H	1.50	0.41
8:H:63:ILE:HD11	8:H:141:PHE:HB3	2.01	0.41
9:I:55:PRO:HG2	9:I:61:HIS:CD2	2.55	0.41
9:I:116:GLU:O	9:I:118:PRO:HD3	2.21	0.41
10:J:84:GLY:HA3	10:J:87:LYS:O	2.20	0.41
15:O:79:LEU:HA	15:O:83:ILE:HD12	2.02	0.41
16:P:28:VAL:HG11	16:P:98:VAL:HG11	2.02	0.41
19:S:28:GLU:HA	19:S:29:PRO:HD2	1.88	0.41
22:V:67:LEU:CD2	22:V:72:VAL:HG23	2.51	0.41
24:X:64:ASP:O	24:X:83:PRO:HA	2.21	0.41
38:NA:21:LEU:O	38:NA:22:LYS:HB2	2.21	0.41
42:RA:40:ALA:O	42:RA:42:GLU:N	2.49	0.41
51:AB:72:ARG:H	51:AB:72:ARG:HG2	1.75	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
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
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
2:GB:11:G:C2'	2:GB:12:U:H5'	2.51	0.41
2:GB:217:G:H2'	2:GB:218:A:O4'	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
2:GB:1030:G:H8	2:GB:1030:G:O5'	2.04	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:2056:G:O2'	29:HC:8:LYS:HE3	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
4:IB:7:G:O2'	4:IB:49:G:O4'	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LB:117:ARG:HD3	7:LB:117:ARG:HA	1.84	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
10:OB:135:GLU:O	10:OB:137:PRO:HD3	2.20	0.41
14:SB:85:LYS:HD3	24:CC:7:LEU:HD22	2.01	0.41
17:VB:30:VAL:O	17:VB:44:ASP:HA	2.20	0.41
17:VB:109:GLU:HG3	17:VB:112:ARG:NH2	2.35	0.41
22:AC:55:TYR:HA	22:AC:56:PRO:HD2	1.94	0.41
4:NC:23:C:H2'	4:NC:24:U:C6	2.53	0.41
37:RC:15:THR:HG23	37:RC:207:VAL:HG11	2.01	0.41
39:TC:71:LEU:H	39:TC:71:LEU:HG	1.57	0.41
41:VC:26:PHE:O	41:VC:30:ILE:HG12	2.20	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
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:1298:C:H41	41:QA:114:ARG:HD2	1.85	0.41
2:B:6:A:N7	2:B:7:G:C4	2.89	0.41
2:B:128:C:H2'	2:B:129:C:C6	2.56	0.41
2:B:270(Q):C:O2'	10:J:46:ALA:HA	2.19	0.41
2:B:511:U:H5	2:B:512:G:C5	2.38	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
2:B:2403:C:N3	2:B:2415:G:C2	2.89	0.41
2:B:2816:C:O2	2:B:2883:A:O2'	2.30	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
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
9:I:50:VAL:HG12	9:I:51:ARG:N	2.34	0.41
9:I:52:VAL:C	9:I:53:GLU:HG2	2.44	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
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
23:W:111:VAL:HG22	23:W:116:VAL:HA	2.01	0.41
36:LA:54:THR:O	36:LA:58:ILE:HG13	2.21	0.41
41:QA:78:ARG:HG2	41:QA:79:ARG:NH2	2.35	0.41
42:RA:11:THR:HG23	42:RA:14:ARG:HH11	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:SA:16:ARG:O	43:SA:63:ILE:HA	2.20	0.41
43:SA:121:ARG:NH1	43:SA:121:ARG:HG2	2.35	0.41
44:TA:45:ARG:HD3	48:XA:36:PHE:HE1	1.86	0.41
49:YA:16:ALA:HB1	49:YA:18:PHE:O	2.21	0.41
52:BB:25:THR:C	52:BB:26:LEU:HD12	2.46	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:740:U:OP2	49:DD:2:PRO:HG3	2.21	0.41
1:FB:892:A:C5	1:FB:893:C:C4	3.09	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:1453:G:N3	54:ID:39:LYS:HE2	2.35	0.41
1:FB:1476:G:H2'	1:FB:1477:C:O4'	2.21	0.41
2:GB:266:G:N1	2:GB:267:C:C2	2.89	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
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:2685:G:N2	2:GB:2724:C:O2	2.52	0.41
3:HB:3:C:H2'	3:HB:4:C:C6	2.55	0.41
9:NB:121:ILE:HD13	9:NB:144:VAL:HG11	2.02	0.41
11:PB:42:TRP:CE3	18:WB:63:VAL:HG11	2.56	0.41
12:QB:106:LEU:O	12:QB:111:PHE:HB2	2.20	0.41
23:BC:70:LEU:HD22	23:BC:70:LEU:HA	1.80	0.41
25:DC:77:ALA:HA	25:DC:80:LEU:HG	2.02	0.41
28:GC:61:ARG:HH22	53:HD:42:PRO:CG	2.31	0.41
37:RC:54:ARG:HG2	37:RC:55:VAL:O	2.20	0.41
43:XC:34:ASN:O	43:XC:38:GLN:HB2	2.19	0.41
47:BD:101:GLN:HE21	47:BD:101:GLN:HB2	1.53	0.41
50:ED:50:LYS:HD3	50:ED:50:LYS:HA	1.89	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:137(B):G:H2'	2:B:139:G:N7	2.35	0.41
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
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:1671:U:O2	2:B:1673:U:H3'	2.20	0.41
2:B:1982:C:O2	2:B:1982:C:H2'	2.21	0.41
2:B:2141:G:N2	2:B:2142:C:N3	2.69	0.41
3:C:17:C:O2	3:C:67:G:N2	2.40	0.41
10:J:103:ARG:H	10:J:103:ARG:HG2	1.70	0.41
12:L:16:ALA:HB2	12:L:52:VAL:HG21	2.03	0.41
12:L:47:ILE:HD12	12:L:48:PRO:O	2.20	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
14:N:46:GLN:NE2	14:N:126:PRO:HG3	2.36	0.41
20:T:62:HIS:C	20:T:64:MET:H	2.28	0.41
23:W:97:GLU:H	23:W:97:GLU:HG3	1.72	0.41
33:GA:7:VAL:HG12	33:GA:34:GLN:HB3	2.01	0.41
38:NA:131:ARG:HH11	38:NA:131:ARG:HG3	1.85	0.41
39:OA:140:ARG:HE	39:OA:140:ARG:HB2	1.65	0.41
51:AB:74:LEU:HD22	51:AB:74:LEU:HA	1.74	0.41
51:AB:95:TYR:O	51:AB:98:LEU:HB2	2.19	0.41
1:FB:177:C:P	54:ID:65:LYS:HZ3	2.39	0.41
1:FB:264:U:O4	1:FB:265:G:C6	2.73	0.41
1:FB:580:U:O2'	49:DD:57:LEU:HD12	2.21	0.41
1:FB:1001:G:N3	1:FB:1001:G:H2'	2.35	0.41
1:FB:1007:C:N4	1:FB:1022:G:H22	2.19	0.41
1:FB:1401:G:OP1	34:MC:18:G:O2'	2.29	0.41
1:FB:1409:C:H2'	1:FB:1410:G:C8	2.55	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:583:G:OP2	18:WB:10:ARG:HD2	2.21	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
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
4:IB:41:C:H2'	4:IB:42:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:KB:175:VAL:HA	6:KB:182:LEU:HA	2.03	0.41
8:MB:83:ARG:HB3	8:MB:86:MET:HE3	2.02	0.41
8:MB:110:ALA:HB2	8:MB:142:PRO:HD3	2.02	0.41
13:RB:90:ARG:HB2	13:RB:91:PHE:H	1.74	0.41
16:UB:111:GLU:H	16:UB:111:GLU:HG3	1.68	0.41
17:VB:6:LEU:O	17:VB:10:VAL:HG23	2.20	0.41
21:ZB:89:ILE:HG22	21:ZB:92:LEU:HB2	2.02	0.41
23:BC:97:GLU:H	23:BC:97:GLU:HG3	1.72	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
4:NC:21:A:C6	4:NC:46:G:C5	3.09	0.41
35:OC:137:ARG:O	35:OC:141:ALA:HB3	2.20	0.41
37:RC:179:ARG:HG2	37:RC:207:VAL:H	1.84	0.41
40:UC:34:GLY:O	40:UC:68:PRO:HD2	2.21	0.41
44:YC:49:VAL:O	44:YC:60:ARG:HB2	2.20	0.41
46:AD:20:LYS:O	46:AD:20:LYS:HD2	2.21	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
49:DD:62:GLN:HG3	49:DD:66:LEU:HD22	2.02	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
1:A:465:A:H8	1:A:465:A:OP1	2.04	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
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
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:2712:U:O2'	2:B:2713:A:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:21:G:C2	3:C:22:U:C2	3.09	0.41
5:E:202:LYS:HG3	5:E:203:ASN:OD1	2.21	0.41
7:G:176:LEU:HD13	7:G:181:LEU:HA	2.03	0.41
8:H:61:ALA:O	8:H:65:GLY:N	2.47	0.41
17:Q:64:ARG:HH11	17:Q:64:ARG:CG	2.22	0.41
20:T:68:ARG:HD3	20:T:111:HIS:HA	2.03	0.41
23:W:68:PRO:O	23:W:90:VAL:HA	2.21	0.41
23:W:152:ALA:HA	23:W:171:ILE:HD11	2.03	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:HD12	37:MA:32:LEU:HA	1.86	0.41
38:NA:30:LYS:HG2	38:NA:35:ARG:NH1	2.35	0.41
42:RA:9:MET:HA	42:RA:12:ARG:HB3	2.01	0.41
47:WA:55:ARG:HH11	47:WA:56:LEU:HD13	1.86	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
53:CB:27:GLU:HA	53:CB:28:LYS:HA	1.60	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
1:FB:1080:A:C5'	39:TC:16:THR:HG21	2.50	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
1:FB:1417:G:O2'	1:FB:1483:A:N6	2.51	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
2:GB:1139:G:O2'	2:GB:1143:A:N1	2.41	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:2751:G:H4'	9:NB:4:ILE:HD11	2.03	0.41
3:HB:43:C:OP1	28:GC:2:LYS:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:MB:114:ILE:HA	8:MB:140:ILE:HD13	2.03	0.41
10:OB:76:THR:HG23	10:OB:141:LYS:HB2	2.02	0.41
12:QB:12:ASP:HB2	12:QB:13:ASN:H	1.64	0.41
24:CC:4:LYS:HB3	24:CC:7:LEU:HD11	2.03	0.41
36:QC:53:ARG:NH1	36:QC:199:TYR:HA	2.35	0.41
41:VC:12:LEU:HD23	41:VC:12:LEU:HA	1.86	0.41
46:AD:77:LEU:HD21	46:AD:107:ALA:HB2	2.02	0.41
47:BD:31:LYS:HA	47:BD:31:LYS:HZ3	1.84	0.41
47:BD:31:LYS:HG3	47:BD:35:GLU:OE1	2.21	0.41
49:DD:16:ALA:HB1	49:DD:18:PHE:O	2.21	0.41
1:A:42:G:H1	1:A:400:C:H42	1.69	0.41
1:A:79:G:C6	1:A:80:G:N7	2.89	0.41
1:A:232:G:H1'	1:A:262:A:N1	2.36	0.41
1:A:583:A:O2'	51:AB:91:ARG:NE	2.54	0.41
1:A:692:U:O2'	1:A:694:A:N7	2.46	0.41
1:A:848:C:H2'	1:A:849:C:O4'	2.21	0.41
1:A:1151:A:O2'	1:A:1152:A:H8	2.03	0.41
1:A:1170:A:H8	1:A:1170:A:OP2	2.04	0.41
1:A:1412:C:H42	1:A:1488:G:H1	1.67	0.41
1:A:1446:A:C4	17:Q:118:ARG:NH1	2.88	0.41
2:B:16:G:N3	2:B:17:G:C8	2.89	0.41
2:B:213:A:H2'	2:B:214:G:O4'	2.21	0.41
2:B:226:G:H1'	2:B:227:A:N7	2.35	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
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
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:1670:C:OP2	2:B:2550:G:OP1	2.38	0.41
2:B:1951:U:H2'	2:B:1953:A:OP2	2.21	0.41
2:B:2079:U:H2'	2:B:2080: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: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
3:C:105:G:C2	3:C:106:G:C8	3.09	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
5:E:274:ARG:HH11	5:E:274:ARG:HG2	1.80	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
7:G:19:GLU:OE2	7:G:19:GLU:HA	2.17	0.41
8:H:22:ARG:HB2	8:H:23:PHE:CD2	2.56	0.41
8:H:131:TYR:O	8:H:159:VAL:HG22	2.20	0.41
10:J:133:HIS:CD2	10:J:134:PRO:HD2	2.55	0.41
11:K:85:ILE:HD12	11:K:85:ILE:H	1.84	0.41
12:L:66:LYS:HB2	12:L:82:ASN:ND2	2.19	0.41
15:O:55:ALA:C	15:O:57:ARG:H	2.28	0.41
16:P:16:ASN:C	16:P:18:ILE:H	2.29	0.41
17:Q:6:LEU:O	17:Q:10:VAL:HG23	2.21	0.41
17:Q:96:ARG:HG3	17:Q:101:PHE:CE2	2.56	0.41
19:S:19:LYS:H	19:S:19:LYS:HG3	1.44	0.41
20:T:86:LEU:C	20:T:86:LEU:HD12	2.46	0.41
21:U:50:LYS:HB3	21:U:84:ALA:HB3	2.02	0.41
23:W:10:ARG:HG2	23:W:37:VAL:C	2.46	0.41
23:W:126:VAL:HA	23:W:164:ALA:H	1.86	0.41
24:X:4:LYS:HB3	24:X:7:LEU:HD11	2.03	0.41
26:Z:39:ALA:HA	26:Z:44:LEU:HB3	2.02	0.41
27:AA:22:ALA:O	27:AA:26:LEU:N	2.53	0.41
4:IA:29:G:H2'	4:IA:30:G:O4'	2.21	0.41
4:IA:32:5MC:HM52	4:IA:33:U:O4	2.21	0.41
36:LA:23:ARG:HB2	36:LA:23:ARG:HH11	1.82	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
37:MA:3:ASN:HD21	37:MA:4:LYS:HZ2	1.67	0.41
37:MA:73:PRO:O	37:MA:76:VAL:N	2.52	0.41
37:MA:124:ILE:C	37:MA:127:ARG:H	2.29	0.41
37:MA:130:VAL:HG11	37:MA:157:ILE:HG23	2.02	0.41
39:OA:147:ASP:HA	39:OA:150:ARG:HH21	1.86	0.41
41:QA:88:PRO:HG3	41:QA:149:ARG:HA	2.03	0.41
46:VA:86:ARG:N	46:VA:99:HIS:O	2.53	0.41
46:VA:89:ARG:HH11	46:VA:97:ARG:HD2	1.86	0.41
46:VA:115:LYS:N	46:VA:117:ARG:HG2	2.36	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
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
54:DB:38:LYS:HA	54:DB:41:VAL:HG22	2.03	0.41
1:FB:289:G:C6	1:FB:290:C:N4	2.88	0.41
1:FB:504:C:C2	1:FB:542:G:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:FB:528:C:H5'	1:FB:535:A:C6	2.55	0.41
1:FB:575:G:OP1	1:FB:575:G:H4'	2.21	0.41
1:FB:603:U:H2'	1:FB:604:G:H8	1.85	0.41
1:FB:718:G:C8	45:ZC:116:HIS:HB3	2.56	0.41
1:FB:815:A:H4'	1:FB:817:C:C4	2.56	0.41
1:FB:900:A:H2'	1:FB:901:A:C8	2.56	0.41
1:FB:1120:G:C2	1:FB:1154:G:N3	2.89	0.41
1:FB:1412:C:H42	1:FB:1488:G:H1	1.68	0.41
1:FB:1440:C:N4	1:FB:1461:G:H1	2.15	0.41
2:GB:227:A:H4'	2:GB:228:A:O5'	2.21	0.41
2:GB:297:C:P	22:AC:95:LYS:HZ1	2.43	0.41
2:GB:485:C:N4	2:GB:495:G:H1	2.17	0.41
2:GB:511:U:H4'	2:GB:1235:G:H4'	2.01	0.41
2:GB:706:A:H2'	2:GB:707:G:O4'	2.21	0.41
2:GB:1017:G:H2'	2:GB:1018:C:H6	1.86	0.41
2:GB:1023:U:OP2	2:GB:1025:G:O2'	2.35	0.41
2:GB:1510:A:H2'	2:GB:1511:A:C8	2.56	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:2516:G:O6	2:GB:2517:C:N4	2.54	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
3:HB:55:U:H4'	8:MB:28:VAL:HG11	2.02	0.41
5:JB:17:THR:OG1	5:JB:204:ILE:HA	2.20	0.41
6:KB:38:THR:N	6:KB:42:ASP:HB2	2.36	0.41
6:KB:52:LEU:HA	6:KB:53:PRO:HD3	1.86	0.41
6:KB:170:LEU:HA	6:KB:170:LEU:HD23	1.82	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
10:OB:141:LYS:HB2	10:OB:141:LYS:HE2	1.91	0.41
12:QB:72:PRO:C	12:QB:74:GLY:H	2.28	0.41
13:RB:138:LEU:HD23	13:RB:145:PRO:HB3	2.02	0.41
17:VB:16:ARG:CZ	17:VB:19:LEU:HD21	2.51	0.41
17:VB:85:LYS:O	17:VB:86:ILE:HD13	2.20	0.41
20:YB:54:ALA:O	20:YB:57:ASN:HB2	2.20	0.41
21:ZB:57:LEU:CD1	21:ZB:78:LYS:HB2	2.51	0.41
26:EC:3:LEU:HD13	26:EC:4:SER:N	2.36	0.41
4:NC:29:G:H2'	4:NC:30:G:O4'	2.20	0.41
4:NC:35:A:H2'	4:NC:36:U:C6	2.55	0.41
35:OC:187:VAL:H	35:PC:313:PRO:HG2	1.86	0.41
36:QC:70:PHE:CD1	36:QC:163:PHE:HB3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RC:35:GLU:O	37:RC:39:ILE:N	2.39	0.41
38:SC:106:TYR:HA	38:SC:111:ALA:HB3	2.03	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
50:ED:1:MET:O	50:ED:3:LYS:HG2	2.21	0.41
50:ED:3:LYS:HD2	50:ED:65:GLN:O	2.21	0.41
53:HD:81:ARG:HB3	53:HD:82:GLY:H	1.69	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
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
2:B:861:A:C2	2:B:917:A:C4	3.09	0.41
2:B:1021:A:H3'	2:B:1021:A:C8	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:O5'	2:B:1233:C:H6	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
2:B:1914:C:OP2	2:B:1914:C:H6	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:2820:A:P	15:O:2:ARG:HH22	2.44	0.41
5:E:170:GLY:C	5:E:172:TYR:H	2.29	0.41
5:E:183:ARG:CG	5:E:183:ARG:NH1	2.82	0.41
7:G:102:PRO:HB2	7:G:105:VAL:HG23	2.03	0.41
8:H:110:ALA:HB2	8:H:142:PRO:HD3	2.03	0.41
8:H:131:TYR:CE2	8:H:133:LEU:HD22	2.56	0.41
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
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
28:BA:14:ILE:HG23	28:BA:31:ILE:HB	2.03	0.41
29:CA:20:ARG:HA	29:CA:23:HIS:ND1	2.35	0.41
36:LA:188:ALA:HB1	36:LA:192:SER:CB	2.51	0.41
37:MA:21:ARG:HD2	44:TA:12:ASP:OD2	2.21	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
45:UA:79:SER:HB2	45:UA:106:LYS:NZ	2.36	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
1:FB:69:G:C2	1:FB:73:G:C8	3.09	0.41
1:FB:348:G:C2	1:FB:349:A:C8	3.09	0.41
1:FB:583:A:O2'	51:FD:91:ARG:NE	2.54	0.41
1:FB:658:G:H2'	1:FB:659:U:C6	2.56	0.41
1:FB:676:A:H1'	45:ZC:115:PRO:HB3	2.03	0.41
1:FB:1313:U:OP1	53:HD:5:LEU:HB2	2.21	0.41
2:GB:191:A:H2'	2:GB:192:C:H6	1.85	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:H8	2:GB:647:G:O5'	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
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: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
3:HB:11:C:OP2	3:HB:12:C:N4	2.42	0.41
6:KB:75:VAL:HG22	6:KB:76:ARG:H	1.86	0.41
7:LB:91:GLY:HA2	7:LB:92:PRO:HD2	1.74	0.41
9:NB:27:LYS:HE3	9:NB:27:LYS:HB3	1.80	0.41
13:RB:119:GLU:HA	13:RB:137:LYS:HE3	2.02	0.41
24:CC:21:LEU:HD21	24:CC:41:ARG:NH1	2.36	0.41
29:HC:27:PRO:HA	29:HC:28:PRO:HD3	1.92	0.41
35:OC:111:ALA:HB2	35:OC:172:TYR:CD1	2.55	0.41
40:UC:17:SER:O	40:UC:21:LEU:HG	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
42:WC:114:THR:C	42:WC:116:LYS:N	2.79	0.41
45:ZC:123:LYS:C	45:ZC:125:PHE:N	2.78	0.41
47:BD:22:ILE:HG22	47:BD:25:ILE:HG13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:DD:24:SER:O	49:DD:27:VAL:N	2.54	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
1:A:87:A:H5"	1:A:88:C:C2	2.57	0.40
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
2:B:238:C:H2'	2:B:239:U:O4'	2.21	0.40
2:B:535:C:O3'	18:R:53:ARG:NH1	2.54	0.40
2:B:660:G:C5	2:B:661:C:C5	3.09	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: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
3:C:78:A:N3	3:C:99:A:C6	2.89	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
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
8:H:16:ARG:N	8:H:17:PRO:HD2	2.36	0.40
10:J:127:VAL:HA	10:J:140:LEU:O	2.21	0.40
13:M:55:ARG:O	13:M:56:SER:C	2.63	0.40
13:M:94:GLU:HB2	13:M:124:LYS:HB3	2.03	0.40
17:Q:19:LEU:H	17:Q:19:LEU:HG	1.70	0.40
18:R:88:ILE:H	18:R:88:ILE:HG12	1.65	0.40
19:S:81:TYR:CE1	19:S:83:ARG:NH1	2.89	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
26:Z:3:LEU:HD11	26:Z:7:ARG:HH11	1.86	0.40
32:FA:14:VAL:HG22	32:FA:24:ALA:HB2	2.03	0.40
37:MA:11:ARG:HD3	37:MA:15:THR:HB	2.03	0.40
44:TA:6:ILE:HD11	44:TA:23:ILE:HG21	2.02	0.40
45:UA:77:MET:HE2	45:UA:77:MET:HB2	1.89	0.40
47:WA:32:GLU:HG2	47:WA:36:LYS:HD2	2.03	0.40
49:YA:50:HIS:O	49:YA:53:HIS:HB3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:CB:53:ASN:HD22	53:CB:75:ALA:HB1	1.86	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
1:FB:1216:G:H5"	48:CD:5:ALA:HB2	2.03	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
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: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:2784:C:H1'	6:KB:37:ARG:HH22	1.86	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
6:KB:21:VAL:HG21	6:KB:173:VAL:HG21	2.03	0.40
7:LB:141:ALA:O	7:LB:144:LYS:HB3	2.21	0.40
9:NB:50:VAL:HG12	9:NB:51:ARG:N	2.36	0.40
21:ZB:50:LYS:HD2	21:ZB:50:LYS:HA	2.00	0.40
23:BC:152:ALA:HA	23:BC:171:ILE:HD11	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
27:FC:22:ALA:O	27:FC:26:LEU:N	2.54	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
36:QC:69:LEU:HD22	36:QC:159:PRO:HG3	2.02	0.40
36:QC:114:ARG:HA	36:QC:117:GLU:HB2	2.03	0.40
37:RC:123:GLN:O	37:RC:128:PHE:HB2	2.21	0.40
41:VC:71:PRO:HG2	41:VC:91:VAL:HG11	2.03	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
42:WC:29:SER:HB3	42:WC:32:LYS:HD2	2.02	0.40
45:ZC:122:LYS:HE2	45:ZC:122:LYS:HB3	1.81	0.40
47:BD:14:ARG:HE	47:BD:44:ARG:HH12	1.70	0.40
50:ED:19:ILE:H	50:ED:19:ILE:HG13	1.64	0.40
51:FD:14:LYS:HE3	51:FD:14:LYS:H	1.86	0.40
1:A:737:A:H1'	40:PA:73:ASN:OD1	2.21	0.40
1:A:1430:C:H2'	1:A:1431:C:C6	2.56	0.40
2:B:327:G:C2	2:B:328:U:C2	3.09	0.40
2:B:495:G:H1'	20:T:57:ASN:OD1	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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
4:D:19:G:H5'	4:D:20:U:H5	1.86	0.40
6:F:5:LEU:HD11	6:F:79:ARG:HB2	2.04	0.40
12:L:15:GLY:O	12:L:47:ILE:HG13	2.22	0.40
13:M:65:ARG:HG3	13:M:66:GLY:N	2.36	0.40
14:N:25:ASP:OD1	23:W:78:LYS:HA	2.21	0.40
17:Q:45:PHE:CE2	17:Q:74:ARG:HB3	2.57	0.40
23:W:71:VAL:HG13	23:W:86:VAL:HG12	2.04	0.40
23:W:132:ASN:C	23:W:134:PRO:HD3	2.46	0.40
25:Y:82:LEU:C	25:Y:85:LEU:HD13	2.46	0.40
31:EA:47:ARG:HA	31:EA:48:LYS:HZ1	1.84	0.40
32:FA:4:MET:HE2	32:FA:4:MET:HB3	1.88	0.40
35:JA:111:ALA:HB2	35:JA:172:TYR:CD1	2.55	0.40
39:OA:32:VAL:O	39:OA:43:LEU:HD12	2.20	0.40
42:RA:100:ILE:HA	42:RA:101:PRO:HD3	1.74	0.40
47:WA:49:THR:HB	47:WA:52:GLU:HB2	2.03	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:H8	1:FB:909:A:O5'	2.04	0.40
1:FB:950:U:H2'	1:FB:951:G:H8	1.86	0.40
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
2:GB:374:A:C2	2:GB:401:A:C4	3.10	0.40
2:GB:615:G:H2'	7:LB:44:ARG:CZ	2.52	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:1657:C:P	6:KB:136:ARG:HG2	2.62	0.40
2:GB:1916:A:H2'	2:GB:1917:PSU:O4'	2.21	0.40
2:GB:2076:U:H5	2:GB:2596:U:O2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:2358:G:H22	13:RB:55:ARG:NH1	2.14	0.40
2:GB:2522:U:O2'	2:GB:2647:U:OP1	2.33	0.40
3:HB:46:A:C5	3:HB:47:C:C4	3.09	0.40
6:KB:51:PHE:CD2	6:KB:77:ILE:HD12	2.54	0.40
8:MB:16:ARG:N	8:MB:17:PRO:HD2	2.35	0.40
10:OB:53:ALA:O	10:OB:57:ARG:HG2	2.21	0.40
15:TB:110:PRO:O	15:TB:111:LEU:HD22	2.20	0.40
15:TB:111:LEU:HA	15:TB:111:LEU:HD13	1.62	0.40
22:AC:51:VAL:HG23	22:AC:58:GLY:HA3	2.03	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
33:LC:15:LYS:HE3	33:LC:15:LYS:HB2	1.88	0.40
36:QC:28:PHE:CD2	36:QC:190:THR:HA	2.57	0.40
36:QC:132:LYS:HA	36:QC:135:GLN:HB3	2.02	0.40
42:WC:9:MET:HE2	42:WC:9:MET:HB3	1.93	0.40
42:WC:9:MET:HA	42:WC:12:ARG:HB3	2.02	0.40
46:AD:89:ARG:NH1	46:AD:95:GLY:N	2.69	0.40
48:CD:61:TRP:OXT	48:CD:61:TRP:CG	2.73	0.40
49:DD:50:HIS:O	49:DD:53:HIS:HB3	2.20	0.40
50:ED:69:THR:O	50:ED:69:THR:OG1	2.38	0.40
1:A:69:G:C2	1:A:73:G:C8	3.09	0.40
1:A:123:C:H5"	1:A:311:C:O2'	2.22	0.40
1:A:358:U:H2'	1:A:359:U:C6	2.56	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
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
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
2:B:945:A:C4	2:B:2448:A:C2	3.09	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:2661:G:C6	2:B:2662:A:C6	3.08	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2723:C:O5'	2:B:2723:C:H6	2.04	0.40
6:F:116:VAL:HG13	6:F:117:MET:N	2.36	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
12:L:31:LYS:HE2	12:L:31:LYS:HB2	1.63	0.40
14:N:118:LEU:HD23	14:N:118:LEU:HA	1.86	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
20:T:78:GLU:HG3	20:T:79:GLY:N	2.36	0.40
23:W:102:LEU:HA	23:W:137:ILE:HB	2.03	0.40
25:Y:95:LEU:O	25:Y:98:LEU:N	2.45	0.40
37:MA:131:ARG:HH11	37:MA:131:ARG:HG2	1.86	0.40
39:OA:73:ASN:CG	39:OA:74:GLY:N	2.79	0.40
42:RA:11:THR:HG1	42:RA:14:ARG:HH12	1.62	0.40
43:SA:97:LYS:HE3	43:SA:97:LYS:HB3	1.86	0.40
45:UA:120:ARG:NH1	45:UA:126:ARG:HH11	2.11	0.40
47:WA:87:TYR:HB3	53:CB:73:GLU:HG2	2.02	0.40
1:FB:4:U:H4'	1:FB:5:U:OP2	2.21	0.40
1:FB:91:C:H2'	1:FB:92:G:H8	1.87	0.40
1:FB:137:C:H2'	1:FB:138:G:H8	1.85	0.40
1:FB:321:A:C2	1:FB:333:G:C2	3.10	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:875:C:O2'	42:WC:11:THR:HG23	2.21	0.40
1:FB:922:G:N3	1:FB:1398:A:H2	2.20	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:1270:C:O2'	1:FB:1313:U:O2'	2.32	0.40
1:FB:1288:A:N3	1:FB:1352:C:O2'	2.46	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
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:530:G:C6	2:GB:2022:U:OP1	2.74	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:GB:1344:G:OP1	2:GB:1345:C:H5	2.05	0.40
2:GB:1864:U:OP1	2:GB:2410:G:O2'	2.39	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
6:KB:37:ARG:HG3	6:KB:44:TYR:CZ	2.57	0.40
10:OB:57:ARG:C	10:OB:60:GLU:HB3	2.47	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
15:TB:22:ARG:C	15:TB:24:GLN:H	2.28	0.40
16:UB:62:LYS:HE3	16:UB:62:LYS:HB2	1.90	0.40
23:BC:98:MET:HE3	23:BC:100:VAL:HG12	2.02	0.40
23:BC:165:VAL:HB	23:BC:166:SER:H	1.59	0.40
4:NC:15:G:H2'	4:NC:59:A:C2	2.56	0.40
38:SC:35:ARG:C	38:SC:37:PRO:HD3	2.46	0.40
41:VC:78:ARG:HG2	41:VC:79:ARG:NH2	2.36	0.40
42:WC:102:ARG:H	42:WC:102:ARG:HG3	1.53	0.40
45:ZC:34:ASP:O	45:ZC:36:ASP:N	2.54	0.40
45:ZC:120:ARG:NH1	45:ZC:120:ARG:CG	2.85	0.40
50:ED:77:ALA:HB3	50:ED:79:VAL:HG23	2.02	0.40
1:A:91:C:H2'	1:A:92:G:C8	2.57	0.40
1:A:517:G:N2	1:A:533:A:OP2	2.42	0.40
1:A:552:U:H1'	46:VA:32:PHE:CE1	2.57	0.40
1:A:909:A:H2'	1:A:910:C:O4'	2.20	0.40
1:A:998(A):G:H22	1:A:1043:C:N4	2.19	0.40
2:B:65:C:H2'	2:B:66:C:H6	1.86	0.40
2:B:464:U:H2'	2:B:465:G:O4'	2.21	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
2:B:1221(A):C:H2'	2:B:1222:C:C6	2.56	0.40
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
3:C:83:G:H5"	27:AA:52:HIS:NE2	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
6:F:18:ASP:HB3	17:Q:82:LEU:HD11	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
10:J:145:VAL:HB	10:J:146:ALA:H	1.48	0.40
11:K:9:VAL:HG11	11:K:39:ARG:HH22	1.86	0.40
11:K:89:LYS:O	11:K:92:ALA:HB3	2.22	0.40
13:M:96:THR:HB	13:M:97:PRO:HD2	2.02	0.40
14:N:76:LYS:HB3	14:N:91:GLU:CG	2.47	0.40
17:Q:85:LYS:O	17:Q:86:ILE:HD13	2.22	0.40
18:R:43:GLY:HA3	19:S:73:SER:HB3	2.03	0.40
18:R:85:LYS:HE3	18:R:116:ALA:O	2.21	0.40
23:W:93:ASP:CB	23:W:131:ARG:HH22	2.34	0.40
26:Z:8:LYS:O	26:Z:11:GLU:HG2	2.20	0.40
27:AA:46:ASN:O	27:AA:49:LYS:N	2.55	0.40
35:JA:147:GLU:HG2	35:JA:165:LYS:HB3	2.02	0.40
36:LA:23:ARG:HH11	36:LA:23:ARG:CB	2.35	0.40
38:NA:106:TYR:HA	38:NA:111:ALA:HB3	2.03	0.40
39:OA:144:THR:HG22	39:OA:147:ASP:OD2	2.21	0.40
41:QA:70:LYS:HG3	41:QA:96:GLN:HB3	2.02	0.40
41:QA:105:VAL:O	41:QA:108:ALA:HB3	2.22	0.40
42:RA:83:ILE:HB	42:RA:137:VAL:HG22	2.04	0.40
46:VA:26:ALA:HA	46:VA:64:TYR:CD2	2.56	0.40
46:VA:77:LEU:HD21	46:VA:107:ALA:HA	2.04	0.40
49:YA:62:GLN:HE21	49:YA:62:GLN:HA	1.85	0.40
49:YA:83:GLU:C	49:YA:85:LEU:H	2.30	0.40
2:GB:27:G:C4	2:GB:512:G:N2	2.89	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
5:JB:10:THR:HB	5:JB:11:PRO:HD2	2.03	0.40
8:MB:22:ARG:HB2	8:MB:23:PHE:CD2	2.56	0.40
9:NB:3:ARG:NH2	9:NB:5:GLY:H	2.20	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
15:TB:97:VAL:HG22	15:TB:114:VAL:HG22	2.03	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
23:BC:132:ASN:C	23:BC:134:PRO:HD3	2.46	0.40
26:EC:35:LEU:HD12	26:EC:53:LEU:HD12	2.02	0.40
36:QC:126:GLU:OE1	36:QC:130:ARG:HG3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:AD:27:LEU:HD22	46:AD:98:TYR:CE1	2.56	0.40
48:CD:26:ARG:NH1	48:CD:43:CYS:HB3	2.36	0.40
1:A:137:C:H2'	1:A:138:G:H8	1.86	0.40
1:A:708:C:P	45:UA:85:ARG:HH22	2.44	0.40
1:A:922:G:O2'	1:A:1398:A:N1	2.44	0.40
1:A:943:U:OP2	1:A:943:U:C6	2.75	0.40
1:A:1001:G:N3	1:A:1001:G:H2'	2.37	0.40
1:A:1151:A:O2'	1:A:1152:A:O5'	2.36	0.40
1:A:1323:G:H4'	1:A:1362(B):C:C2	2.55	0.40
1:A:1424:C:H2'	1:A:1425:U:O4'	2.22	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
2:B:782:A:O2'	5:E:225:ALA:HB1	2.21	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:2674:G:H4'	12:L:30:ALA:HB2	2.04	0.40
9:I:121:ILE:HD13	9:I:144:VAL:HG11	2.04	0.40
11:K:15:LEU:HG	11:K:135:PRO:HB2	2.03	0.40
13:M:94:GLU:HG3	13:M:124:LYS:HG2	2.04	0.40
18:R:79:PHE:HE1	18:R:110:VAL:HA	1.86	0.40
22:V:19:LYS:HB2	22:V:19:LYS:HE2	1.89	0.40
25:Y:11:ARG:HB2	25:Y:12:PRO:HD2	2.03	0.40
27:AA:37:LEU:HD23	27:AA:37:LEU:HA	1.88	0.40
28:BA:69:LYS:HD3	53:CB:20:LEU:HG	2.03	0.40
39:OA:139:LEU:HA	39:OA:142:LEU:CD2	2.51	0.40
52:BB:38:GLU:CD	52:BB:38:GLU:N	2.79	0.40
54:DB:50:GLU:HG3	54:DB:51:GLU:N	2.37	0.40
1:FB:275:G:H2'	1:FB:276:G:H8	1.86	0.40
1:FB:421:U:C5	37:RC:127:ARG:NH1	2.89	0.40
1:FB:503:C:OP2	46:AD:116:SER:OG	2.25	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
1:FB:977:A:O2'	1:FB:979:C:OP2	2.25	0.40
1:FB:1068:G:N2	1:FB:1191:A:N3	2.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:FB:1220:G:H21	53:HD:54:GLY:CA	2.34	0.40
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
2:GB:226:G:H1'	2:GB:227:A:N7	2.37	0.40
2:GB:327:G:C2	2:GB:328:U:C2	3.09	0.40
2:GB:853:G:O5'	2:GB:853:G:H8	2.05	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:2023:G:H4'	2:GB:2617:C:O3'	2.20	0.40
2:GB:2771:C:O5'	2:GB:2771:C:H6	2.04	0.40
5:JB:85:ASP:HB2	5:JB:92:ILE:HD13	2.02	0.40
8:MB:111:LEU:O	8:MB:114:ILE:HG23	2.21	0.40
13:RB:88:LEU:HD23	13:RB:91:PHE:HE2	1.86	0.40
15:TB:28:LEU:HD23	15:TB:28:LEU:HA	1.95	0.40
21:ZB:23:GLU:OE2	21:ZB:25:LYS:HD2	2.22	0.40
23:BC:128:VAL:HG21	23:BC:132:ASN:HB2	2.04	0.40
31:JC:2:LYS:HG3	31:JC:6:GLN:NE2	2.35	0.40
4:NC:28:C:O2'	47:BD:118:ALA:HA	2.21	0.40
36:QC:98:LEU:HA	36:QC:98:LEU:HD13	1.82	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
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
41:VC:146:GLU:HG2	41:VC:149:ARG:HD3	2.04	0.40
49:DD:72:ARG:HG2	49:DD:72:ARG:O	2.21	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%)	5 24
5	JB	273/275 (99%)	245 (90%)	22 (8%)	6 (2%)	5 24
6	F	202/206 (98%)	166 (82%)	28 (14%)	8 (4%)	2 15
6	KB	202/206 (98%)	167 (83%)	29 (14%)	6 (3%)	3 18
7	G	200/205 (98%)	173 (86%)	24 (12%)	3 (2%)	8 30
7	LB	200/205 (98%)	172 (86%)	25 (12%)	3 (2%)	8 30
8	H	179/182 (98%)	134 (75%)	37 (21%)	8 (4%)	2 12
8	MB	179/182 (98%)	134 (75%)	37 (21%)	8 (4%)	2 12
9	I	172/180 (96%)	134 (78%)	32 (19%)	6 (4%)	3 16
9	NB	172/180 (96%)	134 (78%)	32 (19%)	6 (4%)	3 16
10	J	144/148 (97%)	111 (77%)	23 (16%)	10 (7%)	1 6
10	OB	144/148 (97%)	111 (77%)	24 (17%)	9 (6%)	1 7
11	K	138/140 (99%)	115 (83%)	17 (12%)	6 (4%)	2 13
11	PB	138/140 (99%)	118 (86%)	15 (11%)	5 (4%)	2 16
12	L	120/122 (98%)	110 (92%)	9 (8%)	1 (1%)	16 44
12	QB	120/122 (98%)	108 (90%)	9 (8%)	3 (2%)	4 21
13	M	148/150 (99%)	126 (85%)	12 (8%)	10 (7%)	1 6
13	RB	148/150 (99%)	124 (84%)	14 (10%)	10 (7%)	1 6
14	N	139/141 (99%)	120 (86%)	17 (12%)	2 (1%)	9 31
14	SB	139/141 (99%)	121 (87%)	15 (11%)	3 (2%)	5 24
15	O	116/118 (98%)	99 (85%)	12 (10%)	5 (4%)	2 13
15	TB	116/118 (98%)	97 (84%)	13 (11%)	6 (5%)	1 10
16	P	108/112 (96%)	82 (76%)	23 (21%)	3 (3%)	4 19
16	UB	108/112 (96%)	83 (77%)	22 (20%)	3 (3%)	4 19
17	Q	135/146 (92%)	118 (87%)	13 (10%)	4 (3%)	3 18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
17	VB	135/146 (92%)	117 (87%)	15 (11%)	3 (2%)	5 24
18	R	115/118 (98%)	106 (92%)	9 (8%)	0	100 100
18	WB	115/118 (98%)	106 (92%)	8 (7%)	1 (1%)	14 42
19	S	99/101 (98%)	85 (86%)	10 (10%)	4 (4%)	2 15
19	XB	99/101 (98%)	84 (85%)	12 (12%)	3 (3%)	3 18
20	T	110/113 (97%)	97 (88%)	11 (10%)	2 (2%)	6 26
20	YB	110/113 (97%)	98 (89%)	12 (11%)	0	100 100
21	U	93/96 (97%)	83 (89%)	8 (9%)	2 (2%)	5 24
21	ZB	93/96 (97%)	85 (91%)	6 (6%)	2 (2%)	5 24
22	AC	105/110 (96%)	83 (79%)	16 (15%)	6 (6%)	1 9
22	V	105/110 (96%)	83 (79%)	14 (13%)	8 (8%)	1 5
23	BC	187/206 (91%)	137 (73%)	43 (23%)	7 (4%)	2 16
23	W	187/206 (91%)	139 (74%)	41 (22%)	7 (4%)	2 16
24	CC	82/85 (96%)	70 (85%)	8 (10%)	4 (5%)	1 11
24	X	82/85 (96%)	71 (87%)	8 (10%)	3 (4%)	2 16
25	DC	95/98 (97%)	87 (92%)	7 (7%)	1 (1%)	11 38
25	Y	95/98 (97%)	86 (90%)	8 (8%)	1 (1%)	11 38
26	EC	68/72 (94%)	61 (90%)	4 (6%)	3 (4%)	2 13
26	Z	68/72 (94%)	59 (87%)	6 (9%)	3 (4%)	2 13
27	AA	58/60 (97%)	44 (76%)	12 (21%)	2 (3%)	3 17
27	FC	58/60 (97%)	45 (78%)	11 (19%)	2 (3%)	3 17
28	BA	67/71 (94%)	43 (64%)	16 (24%)	8 (12%)	0 2
28	GC	67/71 (94%)	44 (66%)	15 (22%)	8 (12%)	0 2
29	CA	57/60 (95%)	50 (88%)	6 (10%)	1 (2%)	6 26
29	HC	57/60 (95%)	49 (86%)	8 (14%)	0	100 100
30	DA	51/54 (94%)	42 (82%)	8 (16%)	1 (2%)	6 25
30	IC	51/54 (94%)	42 (82%)	8 (16%)	1 (2%)	6 25
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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
33	GA	35/37 (95%)	24 (69%)	8 (23%)	3 (9%)	0 4
33	LC	35/37 (95%)	24 (69%)	8 (23%)	3 (9%)	0 4
35	JA	108/365 (30%)	84 (78%)	18 (17%)	6 (6%)	1 9
35	KA	53/365 (14%)	31 (58%)	13 (24%)	9 (17%)	0 0
35	OC	108/365 (30%)	83 (77%)	19 (18%)	6 (6%)	1 9
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 6
36	QC	232/256 (91%)	174 (75%)	41 (18%)	17 (7%)	1 5
37	MA	204/239 (85%)	166 (81%)	28 (14%)	10 (5%)	1 11
37	RC	204/239 (85%)	167 (82%)	25 (12%)	12 (6%)	1 8
38	NA	206/209 (99%)	162 (79%)	35 (17%)	9 (4%)	2 13
38	SC	206/209 (99%)	158 (77%)	39 (19%)	9 (4%)	2 13
39	OA	149/162 (92%)	126 (85%)	19 (13%)	4 (3%)	4 20
39	TC	149/162 (92%)	124 (83%)	20 (13%)	5 (3%)	3 17
40	PA	99/101 (98%)	81 (82%)	14 (14%)	4 (4%)	2 15
40	UC	99/101 (98%)	82 (83%)	13 (13%)	4 (4%)	2 15
41	QA	153/156 (98%)	121 (79%)	24 (16%)	8 (5%)	1 10
41	VC	153/156 (98%)	121 (79%)	24 (16%)	8 (5%)	1 10
42	RA	136/138 (99%)	106 (78%)	25 (18%)	5 (4%)	2 16
42	WC	136/138 (99%)	106 (78%)	25 (18%)	5 (4%)	2 16
43	SA	125/128 (98%)	91 (73%)	28 (22%)	6 (5%)	2 11
43	XC	125/128 (98%)	93 (74%)	25 (20%)	7 (6%)	1 9
44	TA	96/105 (91%)	72 (75%)	15 (16%)	9 (9%)	0 3
44	YC	96/105 (91%)	75 (78%)	12 (12%)	9 (9%)	0 3
45	UA	114/129 (88%)	87 (76%)	23 (20%)	4 (4%)	3 16
45	ZC	114/129 (88%)	87 (76%)	24 (21%)	3 (3%)	4 21
46	AD	119/132 (90%)	91 (76%)	20 (17%)	8 (7%)	1 6
46	VA	119/132 (90%)	89 (75%)	22 (18%)	8 (7%)	1 6
47	BD	115/126 (91%)	90 (78%)	18 (16%)	7 (6%)	1 7
47	WA	115/126 (91%)	91 (79%)	18 (16%)	6 (5%)	1 10
48	CD	58/61 (95%)	45 (78%)	12 (21%)	1 (2%)	7 28

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
48	XA	58/61 (95%)	44 (76%)	13 (22%)	1 (2%)	7 28
49	DD	86/89 (97%)	67 (78%)	16 (19%)	3 (4%)	3 16
49	YA	86/89 (97%)	68 (79%)	14 (16%)	4 (5%)	2 12
50	ED	81/88 (92%)	72 (89%)	8 (10%)	1 (1%)	10 35
50	ZA	81/88 (92%)	71 (88%)	9 (11%)	1 (1%)	10 35
51	AB	97/105 (92%)	78 (80%)	15 (16%)	4 (4%)	2 15
51	FD	97/105 (92%)	81 (84%)	11 (11%)	5 (5%)	1 10
52	BB	68/88 (77%)	63 (93%)	4 (6%)	1 (2%)	8 30
52	GD	68/88 (77%)	61 (90%)	5 (7%)	2 (3%)	3 19
53	CB	81/93 (87%)	58 (72%)	16 (20%)	7 (9%)	0 4
53	HD	81/93 (87%)	58 (72%)	17 (21%)	6 (7%)	1 5
54	DB	97/106 (92%)	79 (81%)	11 (11%)	7 (7%)	1 5
54	ID	97/106 (92%)	79 (81%)	12 (12%)	6 (6%)	1 7
55	EB	22/27 (82%)	18 (82%)	2 (9%)	2 (9%)	0 3
55	JD	22/27 (82%)	18 (82%)	2 (9%)	2 (9%)	0 3
All	All	11806/13576 (87%)	9599 (81%)	1713 (14%)	494 (4%)	2 14

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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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 (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	E	217/217 (100%)	173 (80%)	44 (20%)	1 4
5	JB	217/217 (100%)	175 (81%)	42 (19%)	1 5
6	F	165/166 (99%)	137 (83%)	28 (17%)	2 9
6	KB	165/166 (99%)	137 (83%)	28 (17%)	2 9
7	G	161/162 (99%)	128 (80%)	33 (20%)	1 4
7	LB	161/162 (99%)	130 (81%)	31 (19%)	1 5
8	H	154/156 (99%)	114 (74%)	40 (26%)	0 1
8	MB	154/156 (99%)	114 (74%)	40 (26%)	0 1
9	I	144/148 (97%)	120 (83%)	24 (17%)	2 9
9	NB	144/148 (97%)	120 (83%)	24 (17%)	2 9
10	J	122/124 (98%)	94 (77%)	28 (23%)	1 2
10	OB	122/124 (98%)	93 (76%)	29 (24%)	1 2

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
11	K	119/119 (100%)	94 (79%)	25 (21%)	1 4
11	PB	119/119 (100%)	92 (77%)	27 (23%)	1 3
12	L	100/100 (100%)	86 (86%)	14 (14%)	3 13
12	QB	100/100 (100%)	82 (82%)	18 (18%)	2 7
13	M	116/116 (100%)	87 (75%)	29 (25%)	0 1
13	RB	116/116 (100%)	87 (75%)	29 (25%)	0 1
14	N	111/111 (100%)	92 (83%)	19 (17%)	2 9
14	SB	111/111 (100%)	92 (83%)	19 (17%)	2 9
15	O	101/101 (100%)	82 (81%)	19 (19%)	1 6
15	TB	101/101 (100%)	81 (80%)	20 (20%)	1 5
16	P	87/88 (99%)	68 (78%)	19 (22%)	1 3
16	UB	87/88 (99%)	69 (79%)	18 (21%)	1 4
17	Q	121/128 (94%)	94 (78%)	27 (22%)	1 3
17	VB	121/128 (94%)	92 (76%)	29 (24%)	1 2
18	R	93/94 (99%)	81 (87%)	12 (13%)	4 16
18	WB	93/94 (99%)	81 (87%)	12 (13%)	4 16
19	S	82/82 (100%)	62 (76%)	20 (24%)	1 2
19	XB	82/82 (100%)	63 (77%)	19 (23%)	1 2
20	T	91/92 (99%)	74 (81%)	17 (19%)	1 6
20	YB	91/92 (99%)	76 (84%)	15 (16%)	2 10
21	U	77/78 (99%)	68 (88%)	9 (12%)	5 20
21	ZB	77/78 (99%)	67 (87%)	10 (13%)	4 16
22	AC	87/91 (96%)	67 (77%)	20 (23%)	1 2
22	V	87/91 (96%)	67 (77%)	20 (23%)	1 2
23	BC	163/179 (91%)	131 (80%)	32 (20%)	1 5
23	W	163/179 (91%)	130 (80%)	33 (20%)	1 4
24	CC	66/67 (98%)	54 (82%)	12 (18%)	2 7
24	X	66/67 (98%)	53 (80%)	13 (20%)	1 5
25	DC	81/83 (98%)	65 (80%)	16 (20%)	1 5
25	Y	81/83 (98%)	67 (83%)	14 (17%)	2 8
26	EC	66/67 (98%)	56 (85%)	10 (15%)	3 10

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
26	Z	66/67 (98%)	55 (83%)	11 (17%)	2 9
27	AA	52/52 (100%)	40 (77%)	12 (23%)	1 2
27	FC	52/52 (100%)	39 (75%)	13 (25%)	0 1
28	BA	59/63 (94%)	45 (76%)	14 (24%)	1 2
28	GC	59/63 (94%)	46 (78%)	13 (22%)	1 3
29	CA	51/52 (98%)	42 (82%)	9 (18%)	2 8
29	HC	51/52 (98%)	44 (86%)	7 (14%)	3 14
30	DA	51/52 (98%)	40 (78%)	11 (22%)	1 3
30	IC	51/52 (98%)	39 (76%)	12 (24%)	1 2
31	EA	41/42 (98%)	32 (78%)	9 (22%)	1 3
31	JC	41/42 (98%)	33 (80%)	8 (20%)	1 5
32	FA	54/55 (98%)	48 (89%)	6 (11%)	6 21
32	KC	54/55 (98%)	48 (89%)	6 (11%)	6 21
33	GA	34/34 (100%)	31 (91%)	3 (9%)	9 31
33	LC	34/34 (100%)	31 (91%)	3 (9%)	9 31
35	JA	85/305 (28%)	70 (82%)	15 (18%)	2 8
35	KA	50/305 (16%)	39 (78%)	11 (22%)	1 3
35	OC	85/305 (28%)	70 (82%)	15 (18%)	2 8
35	PC	50/305 (16%)	39 (78%)	11 (22%)	1 3
36	LA	202/220 (92%)	153 (76%)	49 (24%)	1 2
36	QC	202/220 (92%)	153 (76%)	49 (24%)	1 2
37	MA	160/188 (85%)	137 (86%)	23 (14%)	3 13
37	RC	160/188 (85%)	137 (86%)	23 (14%)	3 13
38	NA	180/181 (99%)	145 (81%)	35 (19%)	1 5
38	SC	180/181 (99%)	144 (80%)	36 (20%)	1 4
39	OA	116/123 (94%)	90 (78%)	26 (22%)	1 3
39	TC	116/123 (94%)	91 (78%)	25 (22%)	1 3
40	PA	90/90 (100%)	77 (86%)	13 (14%)	3 13
40	UC	90/90 (100%)	77 (86%)	13 (14%)	3 13
41	QA	126/127 (99%)	101 (80%)	25 (20%)	1 5
41	VC	126/127 (99%)	101 (80%)	25 (20%)	1 5

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
42	RA	119/119 (100%)	104 (87%)	15 (13%)	4 18
42	WC	119/119 (100%)	104 (87%)	15 (13%)	4 18
43	SA	98/99 (99%)	82 (84%)	16 (16%)	2 10
43	XC	98/99 (99%)	82 (84%)	16 (16%)	2 10
44	TA	88/92 (96%)	69 (78%)	19 (22%)	1 3
44	YC	88/92 (96%)	69 (78%)	19 (22%)	1 3
45	UA	88/99 (89%)	74 (84%)	14 (16%)	2 10
45	ZC	88/99 (89%)	74 (84%)	14 (16%)	2 10
46	AD	102/108 (94%)	83 (81%)	19 (19%)	1 6
46	VA	102/108 (94%)	84 (82%)	18 (18%)	2 8
47	BD	94/101 (93%)	73 (78%)	21 (22%)	1 3
47	WA	94/101 (93%)	73 (78%)	21 (22%)	1 3
48	CD	49/50 (98%)	41 (84%)	8 (16%)	2 10
48	XA	49/50 (98%)	41 (84%)	8 (16%)	2 10
49	DD	79/80 (99%)	61 (77%)	18 (23%)	1 3
49	YA	79/80 (99%)	61 (77%)	18 (23%)	1 3
50	ED	72/74 (97%)	58 (81%)	14 (19%)	1 5
50	ZA	72/74 (97%)	57 (79%)	15 (21%)	1 4
51	AB	94/97 (97%)	74 (79%)	20 (21%)	1 3
51	FD	94/97 (97%)	74 (79%)	20 (21%)	1 3
52	BB	61/77 (79%)	49 (80%)	12 (20%)	1 5
52	GD	61/77 (79%)	50 (82%)	11 (18%)	2 7
53	CB	72/80 (90%)	56 (78%)	16 (22%)	1 3
53	HD	72/80 (90%)	57 (79%)	15 (21%)	1 4
54	DB	76/82 (93%)	68 (90%)	8 (10%)	6 23
54	ID	76/82 (93%)	68 (90%)	8 (10%)	6 23
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%)	8048 (81%)	1924 (19%)	1 5

All (1924) 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	39	LYS
5	E	43	ARG
5	E	52	ARG
5	E	59	LYS
5	E	68	LYS
5	E	73	VAL
5	E	87	ASN
5	E	92	ILE
5	E	94	LEU
5	E	99	ASP
5	E	106	ILE
5	E	116	GLN
5	E	131	LEU
5	E	138	VAL
5	E	141	VAL
5	E	142	VAL
5	E	147	LEU
5	E	155	LEU
5	E	157	ARG
5	E	162	SER
5	E	168	ARG
5	E	171	ASP
5	E	173	VAL
5	E	183	ARG
5	E	200	ASP
5	E	211	ARG
5	E	212	SER
5	E	215	LEU
5	E	217	ARG
5	E	221	VAL
5	E	229	VAL
5	E	230	ASP
5	E	237	GLU
5	E	242	ARG
5	E	259	THR
5	E	266	SER
5	E	271	ILE
5	E	274	ARG

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Mol	Chain	Res	Type
5	E	275	LYS
6	F	1	MET
6	F	4	ILE
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	91	VAL
6	F	92	THR
6	F	93	VAL
6	F	117	MET
6	F	119	ARG
6	F	129	HIS
6	F	134	ILE
6	F	146	THR
6	F	149	ARG
6	F	154	LYS
6	F	163	GLU
6	F	167	VAL
6	F	173	VAL
6	F	175	VAL
6	F	181	LEU
6	F	192	ASN
6	F	195	LEU
6	F	199	ARG
7	G	6	MET
7	G	15	SER
7	G	17	ARG
7	G	33	LEU
7	G	38	ARG
7	G	40	GLN
7	G	51	THR
7	G	56	GLU
7	G	57	VAL
7	G	64	ILE
7	G	70	THR
7	G	72	ARG
7	G	74	ARG

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Mol	Chain	Res	Type
7	G	84	VAL
7	G	88	VAL
7	G	89	VAL
7	G	100	THR
7	G	110	LEU
7	G	116	ASP
7	G	132	VAL
7	G	135	LYS
7	G	144	LYS
7	G	158	THR
7	G	160	ASN
7	G	165	ARG
7	G	168	ARG
7	G	176	LEU
7	G	182	ASN
7	G	183	VAL
7	G	186	ILE
7	G	192	LEU
7	G	195	ASP
7	G	205	ARG
8	H	3	LEU
8	H	7	LEU
8	H	13	GLU
8	H	28	VAL
8	H	38	VAL
8	H	43	LEU
8	H	48	GLU
8	H	51	ARG
8	H	52	ILE
8	H	53	LEU
8	H	54	GLU
8	H	60	LEU
8	H	63	ILE
8	H	70	VAL
8	H	71	THR
8	H	77	ILE
8	H	78	SER
8	H	82	LEU
8	H	92	VAL
8	H	99	MET
8	H	103	LEU
8	H	111	LEU

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Mol	Chain	Res	Type
8	H	114	ILE
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
8	H	144	ILE
8	H	146	TYR
8	H	152	LEU
8	H	156	ASP
8	H	157	ILE
8	H	159	VAL
8	H	161	THR
8	H	165	THR
8	H	168	GLU
9	I	3	ARG
9	I	17	VAL
9	I	24	VAL
9	I	33	LEU
9	I	40	GLU
9	I	44	VAL
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	87	LEU
9	I	98	LEU
9	I	104	GLU
9	I	106	THR
9	I	114	VAL
9	I	115	VAL
9	I	122	THR
9	I	131	VAL
9	I	136	ILE
9	I	144	VAL
9	I	159	GLU
9	I	169	VAL

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Mol	Chain	Res	Type
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	37	VAL
10	J	41	GLU
10	J	43	ASN
10	J	47	LEU
10	J	48	GLU
10	J	67	ARG
10	J	73	GLU
10	J	77	LEU
10	J	81	VAL
10	J	88	ILE
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	127	VAL
10	J	128	LEU
10	J	140	LEU
10	J	144	VAL
10	J	145	VAL
11	K	1	MET
11	K	5	VAL
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	55	VAL
11	K	62	VAL
11	K	63	THR
11	K	67	LEU
11	K	73	THR

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Mol	Chain	Res	Type
11	K	83	LYS
11	K	85	ILE
11	K	87	LEU
11	K	91	LEU
11	K	96	GLU
11	K	97	ARG
11	K	99	LEU
11	K	115	ARG
11	K	130	HIS
11	K	131	GLN
11	K	133	GLN
12	L	17	ARG
12	L	22	ILE
12	L	25	LEU
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
12	L	99	PHE
12	L	102	VAL
12	L	113	LYS
12	L	114	ILE
13	M	2	LYS
13	M	5	ASP
13	M	6	LEU
13	M	14	LYS
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	81	GLN
13	M	88	LEU
13	M	90	ARG

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Mol	Chain	Res	Type
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	135	LEU
13	M	136	GLU
13	M	146	VAL
13	M	149	GLU
14	N	7	MET
14	N	8	LYS
14	N	12	GLN
14	N	16	ARG
14	N	17	LEU
14	N	21	THR
14	N	27	VAL
14	N	35	VAL
14	N	55	VAL
14	N	56	ARG
14	N	58	PHE
14	N	68	ILE
14	N	82	ARG
14	N	89	ASN
14	N	96	VAL
14	N	97	VAL
14	N	101	ARG
14	N	110	THR
14	N	131	ILE
15	O	5	LYS
15	O	6	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

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Mol	Chain	Res	Type
15	O	72	ASP
15	O	76	VAL
15	O	82	GLU
15	O	99	LYS
15	O	102	GLU
15	O	103	ARG
15	O	105	ARG
15	O	111	LEU
16	P	8	GLU
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	50	SER
16	P	57	LYS
16	P	58	LEU
16	P	59	LYS
16	P	69	VAL
16	P	78	LEU
16	P	92	TYR
16	P	98	VAL
16	P	111	GLU
17	Q	1	MET
17	Q	6	LEU
17	Q	12	SER
17	Q	17	THR
17	Q	18	ASP
17	Q	19	LEU
17	Q	28	VAL
17	Q	34	VAL
17	Q	50	ILE
17	Q	51	ARG
17	Q	54	ARG
17	Q	57	PHE
17	Q	59	THR
17	Q	64	ARG
17	Q	70	VAL

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Mol	Chain	Res	Type
17	Q	72	VAL
17	Q	88	ILE
17	Q	95	ARG
17	Q	102	ILE
17	Q	105	LEU
17	Q	106	SER
17	Q	109	GLU
17	Q	114	LEU
17	Q	115	ARG
17	Q	119	LYS
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	58	ARG
18	R	70	ARG
18	R	72	HIS
18	R	74	LEU
18	R	88	ILE
18	R	100	VAL
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	37	VAL
19	S	38	LEU
19	S	46	VAL
19	S	51	VAL
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

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Mol	Chain	Res	Type
19	S	95	LEU
19	S	97	LYS
20	T	2	GLU
20	T	11	ARG
20	T	17	VAL
20	T	19	LEU
20	T	28	SER
20	T	33	ARG
20	T	35	ILE
20	T	39	THR
20	T	59	VAL
20	T	63	ASP
20	T	78	GLU
20	T	84	ARG
20	T	86	LEU
20	T	101	SER
20	T	103	ILE
20	T	107	LEU
20	T	111	HIS
21	U	23	GLU
21	U	30	VAL
21	U	49	VAL
21	U	51	VAL
21	U	52	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	14	LEU
22	V	19	LYS
22	V	24	VAL
22	V	43	ASN
22	V	44	ILE
22	V	45	VAL
22	V	51	VAL
22	V	55	TYR
22	V	72	VAL

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Mol	Chain	Res	Type
22	V	83	THR
22	V	85	VAL
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	10	ARG
23	W	13	GLU
23	W	18	LEU
23	W	24	LEU
23	W	30	ASN
23	W	33	LEU
23	W	37	VAL
23	W	42	VAL
23	W	54	HIS
23	W	60	GLU
23	W	67	LEU
23	W	69	THR
23	W	70	LEU
23	W	72	ARG
23	W	74	VAL
23	W	76	LEU
23	W	78	LYS
23	W	86	VAL
23	W	104	PHE
23	W	121	HIS
23	W	124	ILE
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	180	VAL
24	X	10	THR
24	X	12	ASN
24	X	30	VAL

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Mol	Chain	Res	Type
24	X	31	VAL
24	X	37	LEU
24	X	66	VAL
24	X	67	VAL
24	X	68	GLU
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	30	VAL
25	Y	40	ARG
25	Y	41	ARG
25	Y	47	GLN
25	Y	51	VAL
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	25	VAL
26	Z	27	GLU
26	Z	32	LEU
26	Z	41	ILE
26	Z	59	ARG
26	Z	62	THR
26	Z	66	GLU
27	AA	6	VAL
27	AA	18	ASP
27	AA	31	LEU
27	AA	32	GLN
27	AA	33	GLN
27	AA	35	ARG
27	AA	38	GLU

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Mol	Chain	Res	Type
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
28	BA	24	THR
28	BA	25	TYR
28	BA	31	ILE
28	BA	33	VAL
28	BA	35	VAL
28	BA	36	CYS
28	BA	40	HIS
28	BA	44	THR
28	BA	65	ASP
28	BA	67	TYR
28	BA	68	ARG
28	BA	69	LYS
29	CA	6	VAL
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	5	VAL
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	47	THR
30	DA	52	VAL
31	EA	4	THR
31	EA	11	LYS
31	EA	23	ARG

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Mol	Chain	Res	Type
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	14	VAL
32	FA	32	LEU
32	FA	50	LEU
32	FA	65	GLU
33	GA	1	MET
33	GA	10	ILE
33	GA	26	ILE
35	JA	103	LYS
35	JA	104	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	177	PHE
35	JA	190	THR
35	JA	209	LEU
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	356	LEU
35	KA	359	GLN
36	LA	7	VAL

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Mol	Chain	Res	Type
36	LA	10	LEU
36	LA	15	VAL
36	LA	17	PHE
36	LA	19	HIS
36	LA	32	ILE
36	LA	33	TYR
36	LA	40	HIS
36	LA	50	GLU
36	LA	51	LEU
36	LA	52	GLU
36	LA	54	THR
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	106	LYS
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	156	LYS
36	LA	160	ASP
36	LA	168	THR
36	LA	172	ILE
36	LA	176	GLU
36	LA	185	ILE
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	211	ILE
36	LA	212	GLN
36	LA	213	LEU

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Mol	Chain	Res	Type
36	LA	215	LEU
36	LA	222	ILE
36	LA	223	ILE
36	LA	229	VAL
36	LA	230	VAL
36	LA	238	LEU
37	MA	31	HIS
37	MA	39	ILE
37	MA	55	VAL
37	MA	66	VAL
37	MA	70	VAL
37	MA	72	LYS
37	MA	85	ARG
37	MA	87	LEU
37	MA	90	GLU
37	MA	94	LEU
37	MA	101	LEU
37	MA	103	VAL
37	MA	105	GLU
37	MA	118	GLN
37	MA	124	ILE
37	MA	128	PHE
37	MA	141	VAL
37	MA	144	SER
37	MA	172	ARG
37	MA	175	LEU
37	MA	188	LEU
37	MA	195	VAL
37	MA	202	ILE
38	NA	5	ILE
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	84	LYS

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Mol	Chain	Res	Type
38	NA	85	LYS
38	NA	97	LEU
38	NA	104	VAL
38	NA	112	VAL
38	NA	116	GLN
38	NA	127	THR
38	NA	132	ARG
38	NA	135	LEU
38	NA	141	ARG
38	NA	148	VAL
38	NA	155	LEU
38	NA	162	LEU
38	NA	166	LYS
38	NA	168	ARG
38	NA	169	LYS
38	NA	175	SER
38	NA	179	GLU
38	NA	182	LYS
38	NA	188	LEU
38	NA	194	LEU
38	NA	196	LEU
38	NA	202	LEU
39	OA	11	ILE
39	OA	12	LEU
39	OA	16	THR
39	OA	25	ARG
39	OA	26	PHE
39	OA	33	VAL
39	OA	38	GLN
39	OA	41	VAL
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	76	ILE
39	OA	80	ILE
39	OA	90	VAL
39	OA	91	LEU
39	OA	101	ILE

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Mol	Chain	Res	Type
39	OA	111	GLU
39	OA	119	LEU
39	OA	120	THR
39	OA	121	LYS
39	OA	142	LEU
39	OA	149	GLU
40	PA	1	MET
40	PA	3	ARG
40	PA	15	ASP
40	PA	16	GLN
40	PA	25	ILE
40	PA	40	VAL
40	PA	52	ILE
40	PA	70	ASP
40	PA	72	VAL
40	PA	73	ASN
40	PA	94	GLN
40	PA	97	PHE
40	PA	98	LEU
41	QA	11	GLN
41	QA	16	LEU
41	QA	17	VAL
41	QA	24	THR
41	QA	36	LYS
41	QA	37	ASN
41	QA	47	CYS
41	QA	49	ILE
41	QA	50	ILE
41	QA	54	THR
41	QA	59	LEU
41	QA	73	MET
41	QA	76	ARG
41	QA	79	ARG
41	QA	89	MET
41	QA	98	SER
41	QA	104	LEU
41	QA	106	GLN
41	QA	110	GLN
41	QA	113	GLU
41	QA	118	VAL
41	QA	124	LEU
41	QA	129	GLU

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Mol	Chain	Res	Type
41	QA	142	GLU
41	QA	155	ARG
42	RA	3	THR
42	RA	10	LEU
42	RA	17	THR
42	RA	18	ARG
42	RA	25	ASP
42	RA	26	VAL
42	RA	33	GLU
42	RA	42	GLU
42	RA	45	ILE
42	RA	77	GLU
42	RA	82	HIS
42	RA	83	ILE
42	RA	97	VAL
42	RA	105	ARG
42	RA	129	VAL
43	SA	5	TYR
43	SA	7	THR
43	SA	17	VAL
43	SA	23	ASN
43	SA	31	GLN
43	SA	40	LEU
43	SA	41	VAL
43	SA	42	ARG
43	SA	51	ARG
43	SA	75	ASP
43	SA	87	GLN
43	SA	102	LEU
43	SA	105	ASP
43	SA	111	ARG
43	SA	121	ARG
43	SA	126	SER
44	TA	4	ILE
44	TA	13	HIS
44	TA	14	LYS
44	TA	15	THR
44	TA	34	VAL
44	TA	44	VAL
44	TA	45	ARG
44	TA	49	VAL
44	TA	62	HIS

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Mol	Chain	Res	Type
44	TA	66	ARG
44	TA	68	HIS
44	TA	71	LEU
44	TA	72	VAL
44	TA	73	ASP
44	TA	74	ILE
44	TA	81	THR
44	TA	94	VAL
44	TA	96	ILE
44	TA	98	ILE
45	UA	11	LYS
45	UA	12	ARG
45	UA	14	VAL
45	UA	21	ILE
45	UA	25	TYR
45	UA	32	ILE
45	UA	33	THR
45	UA	63	LEU
45	UA	73	MET
45	UA	79	SER
45	UA	81	ASP
45	UA	95	ILE
45	UA	108	ILE
45	UA	117	ASN
46	VA	6	THR
46	VA	7	ILE
46	VA	8	ASN
46	VA	11	VAL
46	VA	19	ARG
46	VA	24	VAL
46	VA	27	LEU
46	VA	52	LEU
46	VA	55	VAL
46	VA	60	LEU
46	VA	66	VAL
46	VA	67	THR
46	VA	83	VAL
46	VA	85	ILE
46	VA	97	ARG
46	VA	104	VAL
46	VA	112	ASP
46	VA	117	ARG

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Mol	Chain	Res	Type
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	37	THR
47	WA	43	THR
47	WA	46	LYS
47	WA	55	ARG
47	WA	56	LEU
47	WA	60	VAL
47	WA	67	GLU
47	WA	82	MET
47	WA	92	HIS
47	WA	101	GLN
47	WA	102	ARG
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
48	XA	58	LYS
49	YA	4	THR
49	YA	5	LYS
49	YA	12	ILE
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
49	YA	56	LEU
49	YA	57	LEU

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Mol	Chain	Res	Type
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	4	ILE
50	ZA	6	LEU
50	ZA	8	ARG
50	ZA	20	VAL
50	ZA	21	VAL
50	ZA	25	ARG
50	ZA	42	ARG
50	ZA	54	GLU
50	ZA	57	ARG
50	ZA	62	VAL
50	ZA	68	ASP
50	ZA	69	THR
50	ZA	72	ARG
51	AB	3	LYS
51	AB	9	VAL
51	AB	10	VAL
51	AB	11	VAL
51	AB	13	ASP
51	AB	14	LYS
51	AB	24	GLU
51	AB	35	VAL
51	AB	43	LEU
51	AB	45	HIS
51	AB	57	VAL
51	AB	63	ARG
51	AB	65	ILE
51	AB	69	LYS
51	AB	72	ARG
51	AB	74	LEU
51	AB	75	ARG
51	AB	85	VAL
51	AB	96	GLN
51	AB	100	LYS
52	BB	22	VAL
52	BB	25	THR

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Mol	Chain	Res	Type
52	BB	35	ARG
52	BB	37	VAL
52	BB	38	GLU
52	BB	46	GLU
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	16	LEU
53	CB	17	GLU
53	CB	19	VAL
53	CB	22	LEU
53	CB	31	ILE
53	CB	40	ILE
53	CB	41	VAL
53	CB	47	HIS
53	CB	58	VAL
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	30	LYS
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

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Mol	Chain	Res	Type
5	JB	30	GLU
5	JB	37	LEU
5	JB	39	LYS
5	JB	43	ARG
5	JB	52	ARG
5	JB	59	LYS
5	JB	68	LYS
5	JB	73	VAL
5	JB	87	ASN
5	JB	92	ILE
5	JB	94	LEU
5	JB	99	ASP
5	JB	113	VAL
5	JB	116	GLN
5	JB	131	LEU
5	JB	138	VAL
5	JB	141	VAL
5	JB	147	LEU
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	217	ARG
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	266	SER
5	JB	271	ILE
5	JB	274	ARG
5	JB	275	LYS
6	KB	1	MET
6	KB	4	ILE
6	KB	9	VAL
6	KB	13	ARG

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Mol	Chain	Res	Type
6	KB	21	VAL
6	KB	38	THR
6	KB	40	GLU
6	KB	49	LEU
6	KB	69	LYS
6	KB	79	ARG
6	KB	91	VAL
6	KB	92	THR
6	KB	93	VAL
6	KB	117	MET
6	KB	119	ARG
6	KB	129	HIS
6	KB	134	ILE
6	KB	146	THR
6	KB	149	ARG
6	KB	154	LYS
6	KB	163	GLU
6	KB	167	VAL
6	KB	173	VAL
6	KB	175	VAL
6	KB	181	LEU
6	KB	192	ASN
6	KB	195	LEU
6	KB	199	ARG
7	LB	6	MET
7	LB	15	SER
7	LB	17	ARG
7	LB	33	LEU
7	LB	38	ARG
7	LB	40	GLN
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	88	VAL
7	LB	100	THR
7	LB	110	LEU
7	LB	116	ASP

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Mol	Chain	Res	Type
7	LB	132	VAL
7	LB	135	LYS
7	LB	144	LYS
7	LB	158	THR
7	LB	160	ASN
7	LB	165	ARG
7	LB	168	ARG
7	LB	176	LEU
7	LB	182	ASN
7	LB	183	VAL
7	LB	186	ILE
7	LB	192	LEU
7	LB	195	ASP
8	MB	3	LEU
8	MB	7	LEU
8	MB	13	GLU
8	MB	28	VAL
8	MB	38	VAL
8	MB	43	LEU
8	MB	48	GLU
8	MB	51	ARG
8	MB	52	ILE
8	MB	53	LEU
8	MB	54	GLU
8	MB	60	LEU
8	MB	63	ILE
8	MB	70	VAL
8	MB	71	THR
8	MB	77	ILE
8	MB	78	SER
8	MB	82	LEU
8	MB	92	VAL
8	MB	99	MET
8	MB	103	LEU
8	MB	111	LEU
8	MB	114	ILE
8	MB	115	ARG
8	MB	116	ASP
8	MB	123	ASN
8	MB	130	ASN
8	MB	135	LEU
8	MB	136	ARG

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Mol	Chain	Res	Type
8	MB	139	LEU
8	MB	143	GLU
8	MB	144	ILE
8	MB	146	TYR
8	MB	152	LEU
8	MB	156	ASP
8	MB	157	ILE
8	MB	159	VAL
8	MB	161	THR
8	MB	165	THR
8	MB	168	GLU
9	NB	3	ARG
9	NB	17	VAL
9	NB	24	VAL
9	NB	33	LEU
9	NB	40	GLU
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	87	LEU
9	NB	98	LEU
9	NB	104	GLU
9	NB	106	THR
9	NB	114	VAL
9	NB	115	VAL
9	NB	122	THR
9	NB	131	VAL
9	NB	136	ILE
9	NB	139	GLN
9	NB	144	VAL
9	NB	159	GLU
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

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Mol	Chain	Res	Type
10	OB	37	VAL
10	OB	41	GLU
10	OB	43	ASN
10	OB	47	LEU
10	OB	48	GLU
10	OB	67	ARG
10	OB	73	GLU
10	OB	77	LEU
10	OB	81	VAL
10	OB	88	ILE
10	OB	92	VAL
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	127	VAL
10	OB	128	LEU
10	OB	140	LEU
10	OB	144	VAL
10	OB	145	VAL
11	PB	1	MET
11	PB	5	VAL
11	PB	7	LYS
11	PB	8	GLN
11	PB	9	VAL
11	PB	22	THR
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	83	LYS
11	PB	85	ILE
11	PB	87	LEU
11	PB	90	MET

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Mol	Chain	Res	Type
11	PB	91	LEU
11	PB	96	GLU
11	PB	99	LEU
11	PB	115	ARG
11	PB	130	HIS
11	PB	131	GLN
11	PB	133	GLN
12	QB	17	ARG
12	QB	21	CYS
12	QB	22	ILE
12	QB	25	LEU
12	QB	38	VAL
12	QB	45	GLU
12	QB	53	LYS
12	QB	65	THR
12	QB	69	VAL
12	QB	75	SER
12	QB	82	ASN
12	QB	87	ILE
12	QB	89	ASN
12	QB	97	ARG
12	QB	99	PHE
12	QB	102	VAL
12	QB	113	LYS
12	QB	114	ILE
13	RB	2	LYS
13	RB	5	ASP
13	RB	6	LEU
13	RB	14	LYS
13	RB	19	VAL
13	RB	45	LEU
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	81	GLN
13	RB	88	LEU
13	RB	90	ARG

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Mol	Chain	Res	Type
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	135	LEU
13	RB	136	GLU
13	RB	146	VAL
13	RB	149	GLU
14	SB	7	MET
14	SB	8	LYS
14	SB	12	GLN
14	SB	16	ARG
14	SB	17	LEU
14	SB	21	THR
14	SB	27	VAL
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	90	VAL
14	SB	96	VAL
14	SB	97	VAL
14	SB	101	ARG
14	SB	110	THR
14	SB	131	ILE
15	TB	5	LYS
15	TB	6	SER
15	TB	15	SER
15	TB	20	LEU
15	TB	23	ASN
15	TB	24	GLN
15	TB	28	LEU
15	TB	29	LEU
15	TB	35	THR
15	TB	44	LEU
15	TB	65	LEU

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Mol	Chain	Res	Type
15	TB	67	LEU
15	TB	72	ASP
15	TB	76	VAL
15	TB	82	GLU
15	TB	99	LYS
15	TB	102	GLU
15	TB	103	ARG
15	TB	105	ARG
15	TB	111	LEU
16	UB	8	GLU
16	UB	13	ARG
16	UB	21	THR
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	57	LYS
16	UB	58	LEU
16	UB	59	LYS
16	UB	69	VAL
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	28	VAL
17	VB	34	VAL
17	VB	50	ILE
17	VB	54	ARG
17	VB	57	PHE
17	VB	59	THR
17	VB	64	ARG
17	VB	70	VAL

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Mol	Chain	Res	Type
17	VB	72	VAL
17	VB	88	ILE
17	VB	95	ARG
17	VB	96	ARG
17	VB	102	ILE
17	VB	105	LEU
17	VB	106	SER
17	VB	109	GLU
17	VB	110	ILE
17	VB	114	LEU
17	VB	115	ARG
17	VB	119	LYS
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	58	ARG
18	WB	70	ARG
18	WB	72	HIS
18	WB	74	LEU
18	WB	88	ILE
18	WB	100	VAL
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

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Mol	Chain	Res	Type
19	XB	88	ARG
19	XB	95	LEU
19	XB	97	LYS
20	YB	2	GLU
20	YB	11	ARG
20	YB	19	LEU
20	YB	28	SER
20	YB	33	ARG
20	YB	35	ILE
20	YB	39	THR
20	YB	59	VAL
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	52	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	14	LEU
22	AC	19	LYS
22	AC	24	VAL
22	AC	43	ASN
22	AC	44	ILE
22	AC	45	VAL
22	AC	51	VAL
22	AC	55	TYR
22	AC	72	VAL

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Mol	Chain	Res	Type
22	AC	83	THR
22	AC	85	VAL
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	10	ARG
23	BC	13	GLU
23	BC	18	LEU
23	BC	24	LEU
23	BC	30	ASN
23	BC	33	LEU
23	BC	42	VAL
23	BC	54	HIS
23	BC	60	GLU
23	BC	67	LEU
23	BC	69	THR
23	BC	70	LEU
23	BC	72	ARG
23	BC	74	VAL
23	BC	76	LEU
23	BC	78	LYS
23	BC	86	VAL
23	BC	104	PHE
23	BC	121	HIS
23	BC	124	ILE
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	180	VAL
24	CC	10	THR
24	CC	12	ASN
24	CC	30	VAL
24	CC	31	VAL

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Mol	Chain	Res	Type
24	CC	37	LEU
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
25	DC	41	ARG
25	DC	47	GLN
25	DC	51	VAL
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	25	VAL
26	EC	27	GLU
26	EC	32	LEU
26	EC	52	ASP
26	EC	59	ARG
26	EC	62	THR
26	EC	66	GLU
27	FC	6	VAL
27	FC	18	ASP
27	FC	31	LEU
27	FC	32	GLN
27	FC	33	GLN
27	FC	35	ARG
27	FC	37	LEU
27	FC	38	GLU

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Mol	Chain	Res	Type
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	40	HIS
28	GC	44	THR
28	GC	61	ARG
28	GC	65	ASP
28	GC	67	TYR
28	GC	68	ARG
28	GC	69	LYS
29	HC	22	HIS
29	HC	25	LEU
29	HC	26	THR
29	HC	29	ILE
29	HC	48	GLU
29	HC	55	ARG
29	HC	59	GLU
30	IC	5	VAL
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	47	THR
30	IC	48	VAL
30	IC	52	VAL
31	JC	4	THR
31	JC	15	THR
31	JC	24	THR
31	JC	29	LYS
31	JC	41	ARG

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Mol	Chain	Res	Type
31	JC	43	THR
31	JC	46	VAL
31	JC	48	LYS
32	KC	6	THR
32	KC	11	LYS
32	KC	14	VAL
32	KC	32	LEU
32	KC	50	LEU
32	KC	65	GLU
33	LC	1	MET
33	LC	10	ILE
33	LC	26	ILE
35	OC	103	LYS
35	OC	104	ASP
35	OC	107	ASP
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	177	PHE
35	OC	190	THR
35	OC	209	LEU
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	356	LEU
35	PC	359	GLN
36	QC	7	VAL
36	QC	10	LEU
36	QC	15	VAL
36	QC	17	PHE

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Mol	Chain	Res	Type
36	QC	19	HIS
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	74	LYS
36	QC	75	LYS
36	QC	76	GLN
36	QC	78	GLN
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	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	210	SER
36	QC	211	ILE
36	QC	212	GLN
36	QC	213	LEU
36	QC	215	LEU
36	QC	222	ILE
36	QC	223	ILE

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Mol	Chain	Res	Type
36	QC	229	VAL
36	QC	230	VAL
36	QC	238	LEU
37	RC	31	HIS
37	RC	39	ILE
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	90	GLU
37	RC	94	LEU
37	RC	101	LEU
37	RC	103	VAL
37	RC	105	GLU
37	RC	118	GLN
37	RC	124	ILE
37	RC	128	PHE
37	RC	141	VAL
37	RC	144	SER
37	RC	172	ARG
37	RC	175	LEU
37	RC	188	LEU
37	RC	195	VAL
37	RC	202	ILE
38	SC	5	ILE
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	84	LYS
38	SC	85	LYS
38	SC	97	LEU
38	SC	104	VAL

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Mol	Chain	Res	Type
38	SC	110	PHE
38	SC	112	VAL
38	SC	116	GLN
38	SC	127	THR
38	SC	132	ARG
38	SC	135	LEU
38	SC	141	ARG
38	SC	148	VAL
38	SC	155	LEU
38	SC	162	LEU
38	SC	166	LYS
38	SC	168	ARG
38	SC	169	LYS
38	SC	175	SER
38	SC	179	GLU
38	SC	182	LYS
38	SC	188	LEU
38	SC	194	LEU
38	SC	196	LEU
38	SC	202	LEU
39	TC	11	ILE
39	TC	12	LEU
39	TC	16	THR
39	TC	25	ARG
39	TC	26	PHE
39	TC	31	LEU
39	TC	33	VAL
39	TC	38	GLN
39	TC	41	VAL
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	76	ILE
39	TC	80	ILE
39	TC	91	LEU
39	TC	111	GLU
39	TC	119	LEU
39	TC	120	THR

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Mol	Chain	Res	Type
39	TC	121	LYS
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	25	ILE
40	UC	40	VAL
40	UC	52	ILE
40	UC	70	ASP
40	UC	72	VAL
40	UC	73	ASN
40	UC	94	GLN
40	UC	97	PHE
40	UC	98	LEU
41	VC	11	GLN
41	VC	16	LEU
41	VC	17	VAL
41	VC	24	THR
41	VC	36	LYS
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	73	MET
41	VC	76	ARG
41	VC	79	ARG
41	VC	89	MET
41	VC	98	SER
41	VC	104	LEU
41	VC	106	GLN
41	VC	110	GLN
41	VC	113	GLU
41	VC	118	VAL
41	VC	124	LEU
41	VC	129	GLU
41	VC	142	GLU
41	VC	155	ARG
42	WC	3	THR

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Mol	Chain	Res	Type
42	WC	10	LEU
42	WC	17	THR
42	WC	18	ARG
42	WC	25	ASP
42	WC	26	VAL
42	WC	33	GLU
42	WC	42	GLU
42	WC	45	ILE
42	WC	56	LYS
42	WC	77	GLU
42	WC	83	ILE
42	WC	97	VAL
42	WC	105	ARG
42	WC	129	VAL
43	XC	5	TYR
43	XC	7	THR
43	XC	17	VAL
43	XC	23	ASN
43	XC	31	GLN
43	XC	40	LEU
43	XC	41	VAL
43	XC	42	ARG
43	XC	51	ARG
43	XC	75	ASP
43	XC	87	GLN
43	XC	102	LEU
43	XC	105	ASP
43	XC	111	ARG
43	XC	121	ARG
43	XC	126	SER
44	YC	4	ILE
44	YC	13	HIS
44	YC	14	LYS
44	YC	15	THR
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	71	LEU

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Mol	Chain	Res	Type
44	YC	72	VAL
44	YC	73	ASP
44	YC	74	ILE
44	YC	81	THR
44	YC	94	VAL
44	YC	96	ILE
44	YC	98	ILE
45	ZC	11	LYS
45	ZC	12	ARG
45	ZC	14	VAL
45	ZC	21	ILE
45	ZC	25	TYR
45	ZC	32	ILE
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	108	ILE
45	ZC	117	ASN
46	AD	6	THR
46	AD	7	ILE
46	AD	8	ASN
46	AD	11	VAL
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	83	VAL
46	AD	85	ILE
46	AD	97	ARG
46	AD	104	VAL
46	AD	112	ASP
46	AD	117	ARG
47	BD	4	ILE
47	BD	7	VAL

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Mol	Chain	Res	Type
47	BD	9	ILE
47	BD	12	ASN
47	BD	22	ILE
47	BD	31	LYS
47	BD	32	GLU
47	BD	37	THR
47	BD	43	THR
47	BD	46	LYS
47	BD	55	ARG
47	BD	56	LEU
47	BD	60	VAL
47	BD	67	GLU
47	BD	82	MET
47	BD	92	HIS
47	BD	101	GLN
47	BD	102	ARG
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
48	CD	58	LYS
49	DD	4	THR
49	DD	5	LYS
49	DD	12	ILE
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	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	4	ILE
50	ED	6	LEU
50	ED	8	ARG
50	ED	20	VAL
50	ED	21	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	9	VAL
51	FD	10	VAL
51	FD	11	VAL
51	FD	13	ASP
51	FD	14	LYS
51	FD	24	GLU
51	FD	35	VAL
51	FD	43	LEU
51	FD	45	HIS
51	FD	57	VAL
51	FD	63	ARG
51	FD	65	ILE
51	FD	69	LYS
51	FD	72	ARG
51	FD	74	LEU
51	FD	75	ARG
51	FD	85	VAL
51	FD	96	GLN
51	FD	100	LYS
52	GD	22	VAL
52	GD	25	THR
52	GD	35	ARG
52	GD	37	VAL
52	GD	46	GLU

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Mol	Chain	Res	Type
52	GD	53	ARG
52	GD	55	ARG
52	GD	75	ILE
52	GD	76	LEU
52	GD	79	LEU
52	GD	82	THR
53	HD	9	VAL
53	HD	11	VAL
53	HD	16	LEU
53	HD	17	GLU
53	HD	19	VAL
53	HD	22	LEU
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	30	LYS
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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (76) such sidechains are listed below:

Mol	Chain	Res	Type
6	F	132	HIS
10	J	17	GLN
10	J	133	HIS
11	K	94	HIS
11	K	131	GLN

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Mol	Chain	Res	Type
12	L	3	GLN
12	L	13	ASN
12	L	82	ASN
12	L	89	ASN
12	L	90	GLN
13	M	35	HIS
15	O	24	GLN
15	O	50	HIS
15	O	61	HIS
17	Q	55	ASN
18	R	94	ASN
18	R	117	GLN
20	T	60	ASN
23	W	55	HIS
23	W	118	GLN
25	Y	47	GLN
26	Z	9	GLN
33	GA	29	ASN
33	GA	36	GLN
35	KA	311	ASN
37	MA	37	GLN
37	MA	102	ASN
38	NA	74	GLN
38	NA	201	GLN
39	OA	130	ASN
39	OA	141	GLN
41	QA	13	GLN
41	QA	64	GLN
41	QA	86	GLN
44	TA	68	HIS
45	UA	22	HIS
47	WA	92	HIS
47	WA	101	GLN
49	YA	13	GLN
49	YA	62	GLN
53	CB	57	HIS
53	CB	65	ASN
10	OB	17	GLN
10	OB	133	HIS
11	PB	131	GLN
12	QB	82	ASN
12	QB	89	ASN

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Mol	Chain	Res	Type
12	QB	90	GLN
15	TB	24	GLN
15	TB	50	HIS
15	TB	53	HIS
15	TB	61	HIS
17	VB	55	ASN
18	WB	117	GLN
23	BC	55	HIS
23	BC	118	GLN
33	LC	29	ASN
33	LC	36	GLN
35	OC	156	HIS
35	PC	311	ASN
37	RC	102	ASN
38	SC	45	GLN
38	SC	201	GLN
39	TC	141	GLN
41	VC	13	GLN
41	VC	64	GLN
41	VC	86	GLN
44	YC	68	HIS
44	YC	69	ASN
45	ZC	22	HIS
45	ZC	117	ASN
47	BD	101	GLN
49	DD	13	GLN
50	ED	76	GLN
51	FD	16	GLN
53	HD	57	HIS

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1505/1507 (99%)	349 (23%)	12 (0%)
1	FB	1505/1507 (99%)	345 (22%)	12 (0%)
2	B	2879/2880 (99%)	657 (22%)	22 (0%)
2	GB	2879/2880 (99%)	657 (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

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
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	9328/9376 (99%)	2145 (22%)	68 (0%)

All (2145) RNA backbone outliers are listed below:

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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	687	A
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	1519	MA6
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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	2505	G
2	B	2507	C
2	B	2513	G
2	B	2518	A
2	B	2520	C
2	B	2525	G
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
1	FB	666	G
1	FB	672	U
1	FB	687	A
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	1519	MA6
1	FB	1529	G
1	FB	1530	G

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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

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Mol	Chain	Res	Type
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
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 (i)

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	$\#\|Z\| > 2$
1	5MC	FB	967	1	19,22,23	2.54	5 (26%)	26,32,35	1.40	5 (19%)
2	PSU	GB	1911	2	18,21,22	1.59	3 (16%)	21,30,33	2.19	7 (33%)
2	2MA	B	2503	2	22,25,26	1.72	5 (22%)	32,37,40	1.95	6 (18%)
2	PSU	B	1911	2	18,21,22	1.35	1 (5%)	21,30,33	2.13	7 (33%)
1	2MG	A	1207	1	23,26,27	2.22	4 (17%)	33,38,41	2.14	11 (33%)
4	PSU	IB	55	4	18,21,22	1.66	2 (11%)	21,30,33	1.74	5 (23%)
1	MA6	A	1519	1	23,26,27	1.43	3 (13%)	33,38,41	2.04	10 (30%)
1	5MC	FB	1404	1	19,22,23	3.02	4 (21%)	26,32,35	1.14	2 (7%)
4	4SU	IA	8	4	18,21,22	4.94	7 (38%)	25,30,33	5.95	10 (40%)
1	MA6	FB	1519	1	23,26,27	1.67	4 (17%)	33,38,41	2.07	12 (36%)
1	5MC	A	1404	1	19,22,23	2.84	5 (26%)	26,32,35	1.27	5 (19%)
4	PSU	D	55	4	18,21,22	1.69	2 (11%)	21,30,33	1.76	5 (23%)
2	2MA	GB	2503	2	22,25,26	1.66	4 (18%)	32,37,40	2.03	7 (21%)
4	4SU	D	8	4	18,21,22	4.71	7 (38%)	25,30,33	5.99	10 (40%)
1	5MC	A	1407	1	19,22,23	2.71	4 (21%)	26,32,35	1.17	3 (11%)
1	MA6	A	1518	1	23,26,27	1.62	4 (17%)	33,38,41	2.19	12 (36%)
1	MA6	FB	1518	1	23,26,27	1.55	4 (17%)	33,38,41	2.19	12 (36%)
2	2MU	GB	2552	2	19,22,24	2.54	5 (26%)	25,31,36	2.31	7 (28%)
4	5MC	NC	32	4	19,22,23	2.64	4 (21%)	26,32,35	1.08	2 (7%)
2	4OC	B	1920	56,2	19,22,24	1.13	1 (5%)	25,31,35	1.55	2 (8%)
1	7MG	A	527	1	23,26,27	3.02	7 (30%)	27,39,42	2.18	8 (29%)
1	5MC	FB	1407	1	19,22,23	2.56	4 (21%)	26,32,35	1.11	3 (11%)
2	PSU	GB	2605	2	18,21,22	1.72	3 (16%)	21,30,33	2.34	6 (28%)
1	PSU	FB	516	1	18,21,22	1.78	3 (16%)	21,30,33	1.40	3 (14%)
1	PSU	A	516	1	18,21,22	1.61	3 (16%)	21,30,33	1.44	2 (9%)
46	0TD	VA	92	46	8,9,10	2.40	2 (25%)	6,11,13	3.17	4 (66%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	M2G	A	966	1	24,27,28	2.21	4 (16%)	33,40,43	1.93	8 (24%)
1	5MC	FB	1400	1	19,22,23	2.66	5 (26%)	26,32,35	1.16	2 (7%)
1	5MC	A	1400	1	19,22,23	2.61	5 (26%)	26,32,35	1.34	4 (15%)
1	4OC	A	1402	1	20,23,24	1.08	2 (10%)	25,32,35	1.20	1 (4%)
2	5MU	GB	1915	2	19,22,23	2.01	3 (15%)	27,32,35	2.19	8 (29%)
2	5MC	GB	1942	2	19,22,23	2.35	4 (21%)	26,32,35	1.55	3 (11%)
1	5MC	A	967	1	19,22,23	2.47	5 (26%)	26,32,35	1.43	4 (15%)
2	5MC	B	1962	2	19,22,23	2.82	5 (26%)	26,32,35	1.48	4 (15%)
2	PSU	B	2605	2	18,21,22	1.53	2 (11%)	21,30,33	2.13	5 (23%)
4	5MC	IB	32	4	19,22,23	2.50	4 (21%)	26,32,35	1.10	2 (7%)
2	OMG	B	2251	2	23,26,27	2.02	3 (13%)	32,38,41	2.11	10 (31%)
4	PSU	NC	55	4	18,21,22	1.72	2 (11%)	21,30,33	1.82	4 (19%)
2	4OC	GB	1920	2	19,22,24	1.07	1 (5%)	25,31,35	1.46	1 (4%)
4	4SU	NC	8	4	18,21,22	4.65	7 (38%)	25,30,33	6.26	10 (40%)
2	2MU	B	2552	2	19,22,24	2.69	6 (31%)	25,31,36	2.27	7 (28%)
4	5MU	IB	54	4	19,22,23	2.06	3 (15%)	27,32,35	2.12	7 (25%)
1	2MG	FB	1207	1	23,26,27	2.20	3 (13%)	33,38,41	2.05	11 (33%)
2	PSU	GB	1917	2	18,21,22	1.81	2 (11%)	21,30,33	1.83	5 (23%)
4	5MC	IA	32	4	19,22,23	2.69	4 (21%)	26,32,35	0.98	2 (7%)
2	5MU	B	1915	2	19,22,23	2.01	3 (15%)	27,32,35	2.30	9 (33%)
4	4SU	IB	8	4	18,21,22	4.57	7 (38%)	25,30,33	5.95	11 (44%)
2	5MC	B	1942	2	19,22,23	2.57	4 (21%)	26,32,35	1.41	3 (11%)
2	5MC	GB	1962	2	19,22,23	2.50	5 (26%)	26,32,35	1.36	2 (7%)
4	5MC	D	32	4	19,22,23	2.69	4 (21%)	26,32,35	1.11	3 (11%)
4	PSU	IA	55	4	18,21,22	1.64	2 (11%)	21,30,33	1.88	4 (19%)
1	4OC	FB	1402	1	20,23,24	1.02	2 (10%)	25,32,35	1.30	2 (8%)
1	UR3	FB	1498	1	19,22,23	1.80	1 (5%)	26,32,35	1.51	3 (11%)
1	UR3	A	1498	1	19,22,23	1.78	1 (5%)	26,32,35	1.43	2 (7%)
4	5MU	D	54	4	19,22,23	2.09	3 (15%)	27,32,35	2.11	6 (22%)
1	7MG	FB	527	1	23,26,27	3.15	7 (30%)	27,39,42	2.29	8 (29%)
4	5MU	NC	54	4	19,22,23	2.09	3 (15%)	27,32,35	2.03	7 (25%)
2	5MU	GB	1939	2	19,22,23	2.24	4 (21%)	27,32,35	2.43	8 (29%)
2	PSU	B	1917	2	18,21,22	1.77	2 (11%)	21,30,33	1.79	4 (19%)
4	5MU	IA	54	4	19,22,23	2.07	3 (15%)	27,32,35	2.05	8 (29%)
2	OMG	GB	2251	2	23,26,27	1.98	3 (13%)	32,38,41	2.08	9 (28%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	M2G	FB	966	1	24,27,28	2.20	4 (16%)	33,40,43	1.88	8 (24%)
46	0TD	AD	92	46	8,9,10	1.98	2 (25%)	6,11,13	3.12	4 (66%)
2	5MU	B	1939	2	19,22,23	2.08	4 (21%)	27,32,35	2.60	8 (29%)

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
1	5MC	FB	967	1	-	0/7/25/26	0/2/2/2
2	PSU	GB	1911	2	-	0/7/25/26	0/2/2/2
2	2MA	B	2503	2	-	1/7/25/26	0/3/3/3
2	PSU	B	1911	2	-	0/7/25/26	0/2/2/2
1	2MG	A	1207	1	-	0/9/27/28	0/3/3/3
4	PSU	IB	55	4	-	1/7/25/26	0/2/2/2
1	MA6	A	1519	1	-	4/11/29/30	0/3/3/3
1	5MC	FB	1404	1	-	0/7/25/26	0/2/2/2
4	4SU	IA	8	4	-	2/7/25/26	0/2/2/2
1	MA6	FB	1519	1	-	4/11/29/30	0/3/3/3
1	5MC	A	1404	1	-	0/7/25/26	0/2/2/2
4	PSU	D	55	4	-	1/7/25/26	0/2/2/2
2	2MA	GB	2503	2	-	1/7/25/26	0/3/3/3
4	4SU	D	8	4	-	1/7/25/26	0/2/2/2
1	5MC	A	1407	1	-	0/7/25/26	0/2/2/2
1	MA6	A	1518	1	-	3/11/29/30	0/3/3/3
1	MA6	FB	1518	1	-	3/11/29/30	0/3/3/3
2	2MU	GB	2552	2	-	1/9/27/28	0/2/2/2
4	5MC	NC	32	4	-	0/7/25/26	0/2/2/2
2	4OC	B	1920	56,2	-	1/9/27/30	0/2/2/2
1	7MG	A	527	1	-	2/7/37/38	0/3/3/3
1	5MC	FB	1407	1	-	0/7/25/26	0/2/2/2
2	PSU	GB	2605	2	-	0/7/25/26	0/2/2/2
1	PSU	FB	516	1	-	0/7/25/26	0/2/2/2
1	PSU	A	516	1	-	0/7/25/26	0/2/2/2
46	0TD	VA	92	46	-	3/7/12/14	-
1	M2G	A	966	1	-	0/11/29/30	0/3/3/3
1	5MC	FB	1400	1	-	0/7/25/26	0/2/2/2
1	5MC	A	1400	1	-	0/7/25/26	0/2/2/2
1	4OC	A	1402	1	-	1/9/29/30	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	5MU	GB	1915	2	-	0/7/25/26	0/2/2/2
2	5MC	GB	1942	2	-	0/7/25/26	0/2/2/2
1	5MC	A	967	1	-	0/7/25/26	0/2/2/2
2	5MC	B	1962	2	-	2/7/25/26	0/2/2/2
2	PSU	B	2605	2	-	0/7/25/26	0/2/2/2
4	5MC	IB	32	4	-	0/7/25/26	0/2/2/2
2	OMG	B	2251	2	-	3/9/27/28	0/3/3/3
4	PSU	NC	55	4	-	1/7/25/26	0/2/2/2
2	4OC	GB	1920	2	-	1/9/27/30	0/2/2/2
4	4SU	NC	8	4	-	2/7/25/26	0/2/2/2
2	2MU	B	2552	2	-	1/9/27/28	0/2/2/2
4	5MU	IB	54	4	-	0/7/25/26	0/2/2/2
1	2MG	FB	1207	1	-	0/9/27/28	0/3/3/3
2	PSU	GB	1917	2	-	1/7/25/26	0/2/2/2
4	5MC	IA	32	4	-	0/7/25/26	0/2/2/2
2	5MU	B	1915	2	-	0/7/25/26	0/2/2/2
4	4SU	IB	8	4	-	1/7/25/26	0/2/2/2
2	5MC	B	1942	2	-	0/7/25/26	0/2/2/2
2	5MC	GB	1962	2	-	2/7/25/26	0/2/2/2
4	5MC	D	32	4	-	0/7/25/26	0/2/2/2
4	PSU	IA	55	4	-	2/7/25/26	0/2/2/2
1	4OC	FB	1402	1	-	2/9/29/30	0/2/2/2
1	UR3	FB	1498	1	-	2/7/25/26	0/2/2/2
1	UR3	A	1498	1	-	2/7/25/26	0/2/2/2
4	5MU	D	54	4	-	0/7/25/26	0/2/2/2
1	7MG	FB	527	1	-	2/7/37/38	0/3/3/3
4	5MU	NC	54	4	-	0/7/25/26	0/2/2/2
2	5MU	GB	1939	2	-	0/7/25/26	0/2/2/2
2	PSU	B	1917	2	-	0/7/25/26	0/2/2/2
4	5MU	IA	54	4	-	0/7/25/26	0/2/2/2
2	OMG	GB	2251	2	-	3/9/27/28	0/3/3/3
1	M2G	FB	966	1	-	0/11/29/30	0/3/3/3
46	0TD	AD	92	46	-	2/7/12/14	-
2	5MU	B	1939	2	-	1/7/25/26	0/2/2/2

All (234) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	IA	8	4SU	C4-N3	13.44	1.51	1.37
4	D	8	4SU	C4-N3	12.49	1.50	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	NC	8	4SU	C4-N3	12.20	1.50	1.37
4	IB	8	4SU	C4-N3	11.78	1.49	1.37
4	IA	8	4SU	O2-C2	11.75	1.43	1.23
4	D	8	4SU	O2-C2	11.73	1.43	1.23
4	IB	8	4SU	O2-C2	11.70	1.43	1.23
4	NC	8	4SU	O2-C2	11.65	1.43	1.23
1	FB	1404	5MC	C5-C4	-11.47	1.35	1.44
1	FB	527	7MG	O6-C6	10.38	1.43	1.23
1	A	527	7MG	O6-C6	10.08	1.42	1.23
1	A	1404	5MC	C5-C4	-9.83	1.36	1.44
2	B	1962	5MC	C5-C4	-9.63	1.36	1.44
1	FB	1400	5MC	C5-C4	-9.47	1.36	1.44
4	D	32	5MC	C5-C4	-9.44	1.36	1.44
4	IA	32	5MC	C5-C4	-9.32	1.37	1.44
1	A	1407	5MC	C5-C4	-9.27	1.37	1.44
1	A	1400	5MC	C5-C4	-9.17	1.37	1.44
4	NC	32	5MC	C5-C4	-9.05	1.37	1.44
1	A	1207	2MG	O6-C6	8.98	1.40	1.23
1	FB	1207	2MG	O6-C6	8.91	1.40	1.23
1	FB	967	5MC	C5-C4	-8.78	1.37	1.44
2	B	1942	5MC	C5-C4	-8.63	1.37	1.44
1	FB	966	M2G	O6-C6	8.60	1.39	1.23
4	IB	32	5MC	C5-C4	-8.47	1.37	1.44
2	B	2552	2MU	O4-C4	8.39	1.40	1.24
1	FB	1407	5MC	C5-C4	-8.36	1.37	1.44
1	A	966	M2G	O6-C6	8.31	1.39	1.23
1	A	967	5MC	C5-C4	-8.13	1.37	1.44
2	GB	1962	5MC	C5-C4	-8.12	1.37	1.44
2	B	2251	OMG	O6-C6	8.06	1.38	1.23
1	FB	527	7MG	C5-N7	7.76	1.45	1.35
2	GB	1942	5MC	C5-C4	-7.60	1.38	1.44
2	GB	2552	2MU	O4-C4	7.59	1.39	1.24
2	GB	2251	OMG	O6-C6	7.33	1.37	1.23
1	FB	1498	UR3	O4-C4	7.05	1.38	1.23
1	A	1498	UR3	O4-C4	6.98	1.38	1.23
1	A	527	7MG	C5-N7	6.70	1.44	1.35
2	GB	1939	5MU	C4-C5	-6.23	1.34	1.44
4	IA	54	5MU	O4-C4	6.21	1.35	1.23
4	IA	8	4SU	C4-S4	6.19	1.79	1.68
2	GB	1915	5MU	O4-C4	6.10	1.35	1.23
4	NC	54	5MU	O4-C4	6.09	1.35	1.23
4	D	54	5MU	O4-C4	6.05	1.35	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	IA	8	4SU	C6-C5	6.04	1.49	1.35
4	D	8	4SU	C6-C5	6.02	1.49	1.35
4	IB	54	5MU	O4-C4	5.99	1.34	1.23
4	NC	8	4SU	C6-C5	5.95	1.48	1.35
4	NC	54	5MU	C4-C5	-5.90	1.35	1.44
2	B	1915	5MU	C4-C5	-5.88	1.35	1.44
2	GB	1939	5MU	O4-C4	5.85	1.34	1.23
4	NC	55	PSU	C6-C5	5.84	1.41	1.35
4	IB	8	4SU	C6-C5	5.82	1.48	1.35
4	D	54	5MU	C4-C5	-5.75	1.35	1.44
4	IA	54	5MU	C4-C5	-5.74	1.35	1.44
2	GB	1917	PSU	C6-C5	5.69	1.41	1.35
2	B	1917	PSU	C6-C5	5.68	1.41	1.35
2	B	1939	5MU	O4-C4	5.66	1.34	1.23
2	B	1939	5MU	C4-C5	-5.65	1.35	1.44
4	IB	54	5MU	C4-C5	-5.63	1.35	1.44
2	B	1915	5MU	O4-C4	5.62	1.34	1.23
4	NC	8	4SU	C4-S4	5.58	1.78	1.68
4	IA	55	PSU	C6-C5	5.55	1.41	1.35
1	FB	516	PSU	C6-C5	5.55	1.41	1.35
2	GB	2605	PSU	C6-C5	5.51	1.41	1.35
4	D	55	PSU	C6-C5	5.48	1.41	1.35
4	IB	55	PSU	C6-C5	5.43	1.41	1.35
4	D	8	4SU	C4-S4	5.41	1.78	1.68
2	B	2552	2MU	C3'-C2'	-5.34	1.41	1.53
2	GB	2503	2MA	C8-N7	5.33	1.41	1.31
2	GB	1915	5MU	C4-C5	-5.31	1.36	1.44
4	IB	8	4SU	C4-S4	5.31	1.78	1.68
4	IA	8	4SU	C2-N1	5.29	1.46	1.38
1	A	966	M2G	C2-N2	5.20	1.44	1.35
2	B	2503	2MA	C8-N7	5.06	1.41	1.31
2	GB	1911	PSU	C6-C5	5.03	1.40	1.35
2	GB	2552	2MU	C3'-C2'	-4.92	1.42	1.53
4	D	8	4SU	C2-N1	4.86	1.46	1.38
4	IB	8	4SU	C2-N1	4.86	1.46	1.38
1	A	516	PSU	C6-C5	4.85	1.40	1.35
2	B	2605	PSU	C6-C5	4.79	1.40	1.35
1	FB	966	M2G	C2-N2	4.75	1.43	1.35
46	VA	92	0TD	CB-CA	-4.74	1.53	1.54
2	B	1962	5MC	C4-N4	4.60	1.45	1.34
2	B	1942	5MC	C4-N4	4.54	1.45	1.34
1	A	1518	MA6	C6-N6	4.52	1.49	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	FB	1518	MA6	C6-N6	4.44	1.49	1.36
4	NC	8	4SU	C2-N1	4.42	1.45	1.38
1	A	1404	5MC	C4-N4	4.36	1.45	1.34
1	FB	1519	MA6	C4-N3	4.24	1.42	1.34
2	GB	1962	5MC	C4-N4	4.23	1.44	1.34
1	A	967	5MC	C4-N4	4.21	1.44	1.34
4	NC	32	5MC	C4-N4	4.16	1.44	1.34
1	FB	1407	5MC	C4-N4	4.16	1.44	1.34
1	FB	1407	5MC	C6-C5	4.15	1.41	1.34
1	FB	1519	MA6	C6-N6	4.15	1.48	1.36
1	A	527	7MG	C8-N9	-4.13	1.43	1.45
2	B	1911	PSU	C6-C5	4.12	1.39	1.35
4	IA	32	5MC	C4-N4	4.09	1.44	1.34
1	A	1407	5MC	C4-N4	4.08	1.44	1.34
4	IA	32	5MC	C6-C5	4.08	1.41	1.34
1	A	1400	5MC	C4-N4	4.07	1.44	1.34
4	NC	32	5MC	C6-C5	4.06	1.41	1.34
4	D	32	5MC	C6-C5	4.06	1.41	1.34
1	FB	967	5MC	C4-N4	4.05	1.44	1.34
1	A	1404	5MC	C6-C5	4.04	1.41	1.34
4	D	32	5MC	C4-N4	4.02	1.44	1.34
4	IB	32	5MC	C4-N4	4.02	1.44	1.34
2	GB	1942	5MC	C4-N4	3.98	1.44	1.34
1	A	1518	MA6	C4-N3	3.98	1.41	1.34
1	A	1407	5MC	C6-C5	3.97	1.41	1.34
1	FB	527	7MG	C4-N9	3.97	1.42	1.37
1	FB	1400	5MC	C4-N4	3.91	1.44	1.34
4	IB	32	5MC	C6-C5	3.91	1.41	1.34
1	A	1519	MA6	C6-N6	3.85	1.47	1.36
1	A	1407	5MC	C6-N1	-3.80	1.31	1.38
1	A	527	7MG	C4-N9	3.75	1.42	1.37
2	B	1962	5MC	C6-N1	-3.74	1.31	1.38
2	GB	1942	5MC	C6-N1	-3.73	1.31	1.38
1	FB	1404	5MC	C4-N4	3.72	1.43	1.34
46	AD	92	0TD	CB-SB	-3.68	1.78	1.82
1	A	1207	2MG	C2-N2	3.66	1.41	1.33
1	A	1519	MA6	C4-N3	3.63	1.41	1.34
1	A	967	5MC	C6-N1	-3.61	1.31	1.38
2	GB	1962	5MC	C6-C5	3.61	1.40	1.34
46	VA	92	0TD	CB-SB	-3.60	1.78	1.82
2	B	2503	2MA	C2-N1	3.60	1.40	1.34
1	FB	1518	MA6	C4-N3	3.59	1.41	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	FB	1407	5MC	C6-N1	-3.59	1.31	1.38
1	FB	967	5MC	C6-N1	-3.57	1.31	1.38
2	GB	1962	5MC	C6-N1	-3.55	1.32	1.38
2	B	1920	4OC	C4-N4	3.54	1.42	1.33
2	GB	1942	5MC	C6-C5	3.53	1.40	1.34
2	B	1942	5MC	C6-C5	3.52	1.40	1.34
1	FB	1207	2MG	C2-N2	3.50	1.40	1.33
2	GB	2251	OMG	C2-N2	3.43	1.42	1.34
1	A	1404	5MC	C6-N1	-3.42	1.32	1.38
1	FB	1400	5MC	C6-C5	3.42	1.40	1.34
1	FB	527	7MG	C8-N9	-3.42	1.43	1.45
1	FB	1404	5MC	C6-C5	3.39	1.40	1.34
2	B	1962	5MC	C6-C5	3.36	1.40	1.34
4	IA	8	4SU	C5-C4	3.36	1.46	1.42
1	A	1400	5MC	C6-N1	-3.32	1.32	1.38
1	A	527	7MG	C6-N1	-3.32	1.32	1.38
2	GB	1917	PSU	C6-N1	3.29	1.41	1.36
2	GB	1920	4OC	C4-N4	3.27	1.41	1.33
4	NC	32	5MC	C6-N1	-3.22	1.32	1.38
2	B	1942	5MC	C6-N1	-3.21	1.32	1.38
1	FB	527	7MG	C6-N1	-3.21	1.32	1.38
4	D	8	4SU	C5-C4	3.18	1.46	1.42
2	GB	2251	OMG	C6-N1	-3.16	1.32	1.38
1	A	1400	5MC	C6-C5	3.15	1.39	1.34
2	GB	2552	2MU	C4-N3	-3.14	1.33	1.38
4	D	32	5MC	C6-N1	-3.13	1.32	1.38
1	A	967	5MC	C6-C5	3.10	1.39	1.34
1	A	1518	MA6	C2-N1	3.09	1.39	1.33
1	FB	1519	MA6	C2-N1	3.07	1.39	1.33
1	FB	1400	5MC	C6-N1	-3.05	1.32	1.38
2	GB	2503	2MA	C2-N1	3.05	1.39	1.34
1	FB	527	7MG	C2-N2	3.04	1.41	1.34
1	FB	967	5MC	C6-C5	3.00	1.39	1.34
4	NC	8	4SU	C5-C4	2.99	1.46	1.42
4	IA	32	5MC	C6-N1	-2.99	1.32	1.38
1	FB	1518	MA6	C2-N1	2.98	1.39	1.33
1	FB	516	PSU	C6-N1	2.97	1.41	1.36
4	IB	32	5MC	C6-N1	-2.97	1.33	1.38
1	A	527	7MG	C2-N2	2.95	1.41	1.34
4	NC	8	4SU	C2-N3	-2.95	1.32	1.38
46	AD	92	0TD	CB-CA	-2.93	1.53	1.54
2	GB	1939	5MU	C6-C5	2.91	1.39	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	FB	1404	5MC	C6-N1	-2.90	1.33	1.38
4	D	55	PSU	C6-N1	2.87	1.41	1.36
2	B	1917	PSU	C6-N1	2.82	1.40	1.36
4	IB	8	4SU	C2-N3	-2.78	1.33	1.38
1	FB	1519	MA6	C6-N1	2.78	1.39	1.34
1	A	1402	4OC	C4-N3	2.78	1.37	1.32
2	B	1962	5MC	C4-N3	2.77	1.38	1.34
1	FB	1402	4OC	C4-N4	2.73	1.41	1.36
1	FB	1207	2MG	C2-N3	2.73	1.37	1.32
1	A	1402	4OC	C4-N4	2.72	1.41	1.36
1	FB	527	7MG	C2-N3	2.72	1.39	1.33
4	IB	55	PSU	C6-N1	2.70	1.40	1.36
1	A	516	PSU	C6-N1	2.70	1.40	1.36
1	A	966	M2G	C4-N3	2.70	1.40	1.34
2	B	2251	OMG	C2-N2	2.69	1.40	1.34
1	A	1519	MA6	C2-N1	2.67	1.38	1.33
2	B	2605	PSU	C6-N1	2.65	1.40	1.36
2	GB	2605	PSU	C6-N1	2.64	1.40	1.36
1	A	527	7MG	C2-N3	2.58	1.39	1.33
1	FB	1402	4OC	C4-N3	2.58	1.37	1.32
2	GB	1939	5MU	C2-N1	-2.56	1.34	1.38
2	B	2503	2MA	C2-N3	-2.55	1.29	1.34
4	IB	54	5MU	C6-C5	2.54	1.38	1.34
2	GB	2503	2MA	C5-C4	2.54	1.43	1.39
1	A	1207	2MG	C2-N3	2.53	1.36	1.32
2	B	1939	5MU	C6-C5	2.53	1.38	1.34
2	GB	1915	5MU	C6-C5	2.51	1.38	1.34
4	IB	8	4SU	C5-C4	2.50	1.45	1.42
1	A	1404	5MC	C4-N3	2.50	1.38	1.34
4	D	54	5MU	C6-C5	2.50	1.38	1.34
2	B	1939	5MU	C2-N1	-2.45	1.34	1.38
2	B	2503	2MA	C5-C4	2.45	1.43	1.39
4	NC	55	PSU	C6-N1	2.44	1.40	1.36
2	B	2552	2MU	C2'-C1'	-2.42	1.47	1.53
1	FB	1518	MA6	C6-N1	2.41	1.38	1.34
4	IA	55	PSU	C6-N1	2.40	1.40	1.36
1	A	1518	MA6	C6-N1	2.40	1.38	1.34
2	GB	1911	PSU	C6-N1	2.36	1.40	1.36
2	GB	1962	5MC	C4-N3	2.30	1.37	1.34
4	D	8	4SU	C2-N3	-2.30	1.34	1.38
2	B	2251	OMG	C6-N1	-2.29	1.34	1.38
2	GB	1911	PSU	O4'-C1'	-2.27	1.40	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	IA	8	4SU	C2-N3	-2.27	1.34	1.38
1	A	1207	2MG	C2-N1	-2.27	1.33	1.36
2	B	2503	2MA	C4-N9	2.27	1.42	1.37
4	IA	54	5MU	C6-C5	2.26	1.38	1.34
2	GB	2552	2MU	O4'-C4'	-2.26	1.40	1.45
1	FB	966	M2G	C4-N3	2.24	1.39	1.34
1	FB	1400	5MC	C4-N3	2.22	1.37	1.34
1	FB	966	M2G	C6-N1	-2.21	1.34	1.38
1	FB	967	5MC	C4-N3	2.19	1.37	1.34
1	A	967	5MC	C4-N3	2.17	1.37	1.34
1	FB	516	PSU	C1'-C5	2.15	1.55	1.50
2	B	2552	2MU	C5'-C4'	-2.15	1.45	1.51
2	GB	2552	2MU	C2'-C1'	-2.14	1.47	1.53
2	B	2552	2MU	O4'-C4'	-2.13	1.40	1.45
1	A	1400	5MC	C4-N3	2.13	1.37	1.34
4	NC	54	5MU	C6-C5	2.12	1.38	1.34
2	GB	2503	2MA	C6-N6	2.12	1.39	1.34
1	A	516	PSU	C1'-C5	2.10	1.55	1.50
2	B	2552	2MU	C4-N3	-2.08	1.35	1.38
2	GB	2605	PSU	C1'-C5	2.07	1.54	1.50
2	B	1915	5MU	C6-C5	2.04	1.37	1.34
1	A	966	M2G	C6-N1	-2.01	1.35	1.38

All (373) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	IB	8	4SU	S4-C4-N3	-15.25	104.25	120.20
4	NC	8	4SU	C4-N3-C2	-15.06	112.88	127.31
4	IA	8	4SU	C4-N3-C2	-14.45	113.47	127.31
4	IB	8	4SU	C5-C4-S4	-13.95	108.37	124.31
4	D	8	4SU	C4-N3-C2	-13.80	114.09	127.31
4	D	8	4SU	C5-C4-S4	-13.49	108.89	124.31
4	D	8	4SU	C1'-N1-C2	12.46	139.97	117.59
4	IA	8	4SU	C5-C4-S4	-12.40	110.14	124.31
4	D	8	4SU	S4-C4-N3	-12.36	107.28	120.20
4	NC	8	4SU	S4-C4-N3	-12.29	107.35	120.20
4	IB	8	4SU	C4-N3-C2	-12.26	115.56	127.31
4	NC	8	4SU	C5-C4-S4	-12.17	110.41	124.31
4	IA	8	4SU	C1'-N1-C2	12.00	139.14	117.59
4	NC	8	4SU	C1'-N1-C2	11.92	138.99	117.59
4	IA	8	4SU	S4-C4-N3	-10.24	109.49	120.20
4	NC	8	4SU	O2-C2-N1	-9.91	109.89	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	NC	8	4SU	C1'-N1-C6	-9.84	99.75	120.78
4	D	8	4SU	C1'-N1-C6	-9.78	99.87	120.78
4	IA	8	4SU	C1'-N1-C6	-9.74	99.97	120.78
4	IB	8	4SU	C1'-N1-C6	-9.68	100.09	120.78
4	IB	8	4SU	C1'-N1-C2	9.39	134.45	117.59
4	IA	8	4SU	O2-C2-N1	-9.17	110.86	122.80
4	D	8	4SU	O2-C2-N1	-7.05	113.62	122.80
2	GB	2503	2MA	C5-C4-N3	-7.00	119.81	127.18
4	IB	8	4SU	O2-C2-N1	-6.85	113.89	122.80
4	NC	8	4SU	O2-C2-N3	-6.83	108.90	121.49
2	B	2503	2MA	C5-C4-N3	-6.76	120.06	127.18
4	IA	8	4SU	O2-C2-N3	-6.50	109.51	121.49
1	A	1207	2MG	C2-N3-C4	6.44	120.06	112.00
1	A	966	M2G	C5-C4-N3	-6.22	118.49	128.39
1	FB	966	M2G	C5-C4-N3	-6.14	118.61	128.39
2	B	1915	5MU	C5-C4-N3	6.13	120.65	115.32
2	GB	2251	OMG	C5-C4-N3	-6.11	118.66	128.39
2	B	1939	5MU	C4-N3-C2	-6.04	119.42	127.34
2	B	2251	OMG	C5-C4-N3	-5.98	118.87	128.39
2	GB	2552	2MU	C4-N3-C2	-5.92	119.26	126.61
1	A	1207	2MG	C5-C4-N3	-5.91	118.98	128.39
2	GB	2605	PSU	C4-N3-C2	-5.91	118.24	126.37
1	FB	1207	2MG	C2-N3-C4	5.90	119.38	112.00
1	FB	1498	UR3	C4-N3-C2	-5.68	120.01	124.58
2	GB	2605	PSU	N1-C2-N3	5.61	121.08	115.17
1	FB	1207	2MG	C5-C4-N3	-5.54	119.58	128.39
2	GB	1939	5MU	C4-N3-C2	-5.53	120.08	127.34
2	GB	2552	2MU	N3-C2-N1	5.49	122.04	114.89
4	IB	54	5MU	C5-C4-N3	5.48	120.08	115.32
2	GB	1920	4OC	CM2-O2'-C2'	5.47	128.52	114.47
2	B	1920	4OC	CM2-O2'-C2'	5.40	128.34	114.47
2	B	1939	5MU	O2-C2-N1	-5.36	115.82	122.80
4	D	8	4SU	C5-C6-N1	-5.35	113.15	121.84
4	D	54	5MU	C5-C4-N3	5.31	119.94	115.32
2	B	2552	2MU	O2-C2-N1	-5.30	115.89	122.80
4	NC	8	4SU	C5-C6-N1	-5.26	113.29	121.84
1	A	1518	MA6	C5-C4-N3	-5.25	119.49	126.72
1	FB	527	7MG	C5-C6-N1	5.20	120.09	110.94
2	GB	1939	5MU	O4-C4-C5	-5.20	118.97	124.92
1	A	1498	UR3	C4-N3-C2	-5.16	120.43	124.58
2	GB	1911	PSU	N1-C2-N3	5.16	120.61	115.17
1	FB	527	7MG	N9-C4-N3	5.14	132.99	125.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	966	M2G	N9-C4-N3	5.05	136.06	125.95
1	A	527	7MG	C5-C6-N1	5.05	119.83	110.94
2	GB	1939	5MU	N3-C2-N1	5.04	121.45	114.89
2	GB	1942	5MC	C5-C6-N1	-5.03	117.85	123.31
2	B	2605	PSU	C4-N3-C2	-5.03	119.45	126.37
4	D	54	5MU	C4-N3-C2	-5.02	120.76	127.34
2	B	1939	5MU	N3-C2-N1	5.01	121.41	114.89
4	IB	54	5MU	C4-N3-C2	-5.01	120.77	127.34
2	B	1915	5MU	C4-N3-C2	-4.99	120.79	127.34
2	B	2552	2MU	N3-C2-N1	4.99	121.39	114.89
4	IA	8	4SU	C5-C6-N1	-4.99	113.73	121.84
1	FB	966	M2G	N9-C4-N3	4.98	135.91	125.95
46	VA	92	0TD	CSB-SB-CB	4.97	111.31	102.36
2	GB	1915	5MU	C5-C4-N3	4.96	119.64	115.32
1	FB	527	7MG	C2-N3-C4	4.95	120.83	112.30
4	NC	8	4SU	C6-C5-C4	-4.95	115.67	119.95
2	B	2552	2MU	C4-N3-C2	-4.94	120.47	126.61
4	NC	54	5MU	C5-C4-N3	4.94	119.61	115.32
2	GB	1915	5MU	C4-N3-C2	-4.88	120.94	127.34
1	A	527	7MG	N9-C4-N3	4.87	132.60	125.46
2	GB	1911	PSU	C4-N3-C2	-4.85	119.69	126.37
4	IA	55	PSU	N1-C2-N3	4.85	120.28	115.17
2	GB	1962	5MC	C5-C6-N1	-4.84	118.06	123.31
2	B	1911	PSU	N1-C2-N3	4.82	120.25	115.17
1	FB	1518	MA6	C5-C4-N3	-4.80	120.10	126.72
4	IA	54	5MU	C5-C4-N3	4.79	119.49	115.32
1	A	1519	MA6	N1-C2-N3	-4.79	121.33	128.58
2	GB	1939	5MU	C5-C4-N3	4.77	119.47	115.32
46	AD	92	0TD	CSB-SB-CB	4.76	110.93	102.36
2	GB	1939	5MU	O2-C2-N1	-4.72	116.65	122.80
2	B	1939	5MU	C5-C4-N3	4.70	119.41	115.32
2	B	1962	5MC	C5-C6-N1	-4.69	118.21	123.31
2	B	2605	PSU	N1-C2-N3	4.69	120.12	115.17
4	IA	54	5MU	O4-C4-C5	-4.69	119.55	124.92
1	A	527	7MG	C2-N3-C4	4.68	120.37	112.30
4	IA	54	5MU	C4-N3-C2	-4.67	121.22	127.34
2	B	2251	OMG	N9-C4-N3	4.65	135.26	125.95
4	NC	55	PSU	N1-C2-N3	4.65	120.07	115.17
4	NC	54	5MU	O4-C4-C5	-4.64	119.61	124.92
1	FB	1519	MA6	N1-C2-N3	-4.63	121.57	128.58
2	B	1911	PSU	C6-C5-C4	4.62	121.30	118.17
4	NC	54	5MU	C4-N3-C2	-4.61	121.29	127.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	IB	8	4SU	C5-C6-N1	-4.53	114.48	121.84
2	B	1939	5MU	C5-C6-N1	-4.50	118.42	123.31
2	GB	2251	OMG	N9-C4-N3	4.47	134.88	125.95
1	A	1519	MA6	C2-N1-C6	4.43	122.65	111.83
4	D	55	PSU	N1-C2-N3	4.39	119.80	115.17
2	B	1915	5MU	O4-C4-C5	-4.38	119.90	124.92
2	GB	2552	2MU	O2-C2-N1	-4.37	117.10	122.80
1	FB	527	7MG	C5-C4-N3	-4.37	119.93	128.13
2	GB	1917	PSU	N1-C2-N3	4.35	119.75	115.17
1	FB	1519	MA6	C5-C4-N3	-4.34	120.74	126.72
2	B	1917	PSU	N1-C2-N3	4.34	119.74	115.17
1	FB	1402	4OC	CM4-N4-C4	-4.32	114.01	122.45
4	D	54	5MU	O4-C4-C5	-4.32	119.98	124.92
2	GB	2503	2MA	N3-C4-N9	4.30	132.45	126.99
1	FB	1518	MA6	N1-C2-N3	-4.27	122.12	128.58
4	IB	55	PSU	N1-C2-N3	4.26	119.66	115.17
2	B	1942	5MC	C5-C6-N1	-4.24	118.70	123.31
4	D	8	4SU	C6-C5-C4	-4.24	116.28	119.95
2	GB	1915	5MU	O4-C4-C5	-4.23	120.07	124.92
1	A	1519	MA6	C5-C4-N3	-4.18	120.96	126.72
1	A	527	7MG	C5-C4-N3	-4.18	120.29	128.13
4	D	55	PSU	C4-N3-C2	-4.17	120.62	126.37
4	D	54	5MU	N3-C2-N1	4.12	120.25	114.89
4	IB	55	PSU	C4-N3-C2	-4.03	120.82	126.37
2	GB	1917	PSU	C4-N3-C2	-4.02	120.84	126.37
4	IB	54	5MU	O4-C4-C5	-4.02	120.32	124.92
1	A	1518	MA6	N3-C4-N9	4.01	133.99	127.17
2	B	2503	2MA	N3-C4-N9	3.99	132.06	126.99
4	IB	54	5MU	N3-C2-N1	3.99	120.08	114.89
2	GB	1911	PSU	O2-C2-N1	-3.98	118.68	122.79
4	IA	8	4SU	C6-C5-C4	-3.98	116.51	119.95
2	B	1939	5MU	C6-C5-C4	3.97	121.29	118.02
1	A	1518	MA6	N1-C2-N3	-3.96	122.58	128.58
1	FB	1519	MA6	C2-N1-C6	3.95	121.49	111.83
4	IA	55	PSU	C4-N3-C2	-3.95	120.93	126.37
1	FB	1518	MA6	N3-C4-N9	3.91	133.82	127.17
2	GB	2251	OMG	C2-N3-C4	3.91	119.03	112.30
2	B	1917	PSU	C4-N3-C2	-3.88	121.02	126.37
2	B	1911	PSU	C4-N3-C2	-3.88	121.02	126.37
2	B	2251	OMG	C2-N3-C4	3.85	118.92	112.30
4	IB	8	4SU	C6-C5-C4	-3.84	116.62	119.95
2	B	2605	PSU	C5-C6-N1	-3.84	116.82	122.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	IB	8	4SU	O2-C2-N3	-3.83	114.43	121.49
1	A	1402	4OC	CM4-N4-C4	-3.82	115.00	122.45
2	GB	1942	5MC	CM5-C5-C6	-3.79	117.72	122.85
1	FB	967	5MC	C1'-N1-C6	-3.79	114.91	121.15
4	NC	55	PSU	C4-N3-C2	-3.78	121.17	126.37
1	FB	1518	MA6	C2-N1-C6	3.75	120.99	111.83
46	AD	92	0TD	OD2-CG-CB	3.72	121.19	113.15
2	GB	1915	5MU	N3-C2-N1	3.71	119.73	114.89
2	B	1942	5MC	O2-C2-N3	-3.71	116.49	122.33
1	A	516	PSU	C4-N3-C2	-3.69	121.29	126.37
46	VA	92	0TD	CB-CA-N	-3.68	101.63	109.10
1	A	967	5MC	C1'-N1-C6	-3.68	115.10	121.15
1	A	966	M2G	C2-N3-C4	3.67	119.30	112.51
1	A	1519	MA6	N9-C8-N7	-3.65	108.76	113.94
4	NC	8	4SU	N3-C2-N1	-3.64	110.15	114.89
2	GB	2605	PSU	C5-C6-N1	-3.64	117.08	122.14
1	A	1518	MA6	C4-C5-C6	3.62	119.65	115.91
2	B	1939	5MU	O4-C4-C5	-3.61	120.79	124.92
1	A	1518	MA6	C2-N1-C6	3.59	120.59	111.83
1	A	1407	5MC	C5-C6-N1	-3.58	119.43	123.31
1	FB	1519	MA6	N3-C4-N9	3.56	133.23	127.17
2	GB	2503	2MA	N6-C6-N1	3.55	121.82	117.03
46	AD	92	0TD	CB-CA-N	-3.53	101.95	109.10
1	FB	1518	MA6	N9-C8-N7	-3.53	108.93	113.94
4	IA	54	5MU	N3-C2-N1	3.52	119.47	114.89
1	FB	966	M2G	C2-N3-C4	3.52	119.01	112.51
4	D	8	4SU	O2-C2-N3	-3.51	115.01	121.49
46	VA	92	0TD	OD2-CG-CB	3.51	120.72	113.15
1	FB	1518	MA6	C4-N9-C8	3.49	109.41	105.74
2	B	1915	5MU	N3-C2-N1	3.49	119.44	114.89
1	A	1207	2MG	C2-N1-C6	-3.48	120.35	124.55
4	IB	8	4SU	N3-C2-N1	3.47	119.41	114.89
4	NC	54	5MU	N3-C2-N1	3.44	119.37	114.89
1	A	1207	2MG	N9-C4-N3	3.44	132.82	125.95
1	FB	1207	2MG	C2-N1-C6	-3.43	120.41	124.55
1	FB	516	PSU	C4-N3-C2	-3.42	121.66	126.37
1	FB	1519	MA6	C4-N9-C8	3.40	109.31	105.74
1	A	1518	MA6	N9-C8-N7	-3.39	109.12	113.94
1	FB	1518	MA6	N1-C6-N6	3.39	120.98	116.86
2	B	2605	PSU	C6-C5-C4	3.37	120.45	118.17
1	FB	1519	MA6	N9-C8-N7	-3.36	109.17	113.94
2	B	2503	2MA	N6-C6-N1	3.36	121.56	117.03

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	2251	OMG	O3'-C3'-C2'	3.34	120.53	111.19
4	IB	8	4SU	C6-N1-C2	3.34	125.06	121.00
2	GB	2552	2MU	C5-C4-N3	3.32	119.45	114.80
4	NC	32	5MC	C5-C6-N1	-3.31	119.72	123.31
1	FB	1518	MA6	C4-C5-C6	3.30	119.32	115.91
1	A	1400	5MC	C1'-N1-C6	-3.28	115.75	121.15
1	FB	1207	2MG	N9-C4-N3	3.27	132.50	125.95
2	B	1917	PSU	O2-C2-N1	-3.26	119.43	122.79
2	B	1911	PSU	O2-C2-N1	-3.24	119.44	122.79
1	A	1400	5MC	C5-C6-N1	-3.23	119.81	123.31
2	B	1917	PSU	C6-N1-C2	-3.21	119.71	122.69
1	A	1519	MA6	C5-N7-C8	3.19	108.47	103.45
2	GB	1915	5MU	C5-C6-N1	-3.19	119.85	123.31
1	A	967	5MC	C5-C6-N1	-3.18	119.86	123.31
2	GB	1917	PSU	O2-C2-N1	-3.18	119.51	122.79
2	GB	2503	2MA	N9-C8-N7	-3.18	109.43	113.94
1	A	967	5MC	CM5-C5-C6	-3.16	118.57	122.85
4	IB	32	5MC	C5-C6-N1	-3.15	119.89	123.31
1	FB	1407	5MC	C5-C6-N1	-3.15	119.89	123.31
2	B	2503	2MA	C4-C5-N7	-3.15	106.98	110.58
1	A	1519	MA6	N3-C4-N9	3.14	132.51	127.17
1	FB	527	7MG	C4-C5-N7	3.14	109.09	105.38
2	GB	2503	2MA	C4-C5-N7	-3.14	106.99	110.58
2	GB	1939	5MU	C5-C6-N1	-3.14	119.91	123.31
1	A	966	M2G	O6-C6-C5	-3.13	118.27	126.53
2	B	1915	5MU	C5-C6-N1	-3.13	119.92	123.31
2	GB	1911	PSU	C6-C5-C4	3.12	120.28	118.17
1	FB	966	M2G	N9-C8-N7	-3.12	107.62	113.40
1	A	1518	MA6	C5-N7-C8	3.11	108.34	103.45
1	FB	527	7MG	O6-C6-C5	-3.08	120.05	127.62
2	B	1939	5MU	C5M-C5-C6	-3.08	118.68	122.85
1	A	1518	MA6	C2-N3-C4	3.06	119.31	111.83
1	FB	1518	MA6	C2-N3-C4	3.05	119.28	111.83
1	A	966	M2G	N9-C8-N7	-3.04	107.76	113.40
1	A	1519	MA6	C4-N9-C8	3.04	108.93	105.74
1	A	1518	MA6	C4-C5-N7	-3.03	107.11	110.58
1	A	1518	MA6	C4-N9-C8	3.01	108.90	105.74
4	IA	32	5MC	C5-C6-N1	-3.00	120.05	123.31
4	NC	55	PSU	C6-N1-C2	-3.00	119.91	122.69
2	B	2503	2MA	C5-N7-C8	2.98	108.14	103.45
1	FB	1519	MA6	C2-N3-C4	2.98	119.10	111.83
1	FB	1498	UR3	C5-C4-N3	2.96	118.94	115.04

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	IA	55	PSU	C6-N1-C2	-2.95	119.95	122.69
1	A	516	PSU	N1-C2-N3	2.94	118.27	115.17
1	A	1404	5MC	C5-C6-N1	-2.94	120.12	123.31
1	A	527	7MG	C4-C5-N7	2.93	108.84	105.38
1	A	1498	UR3	C5-C4-N3	2.92	118.89	115.04
1	A	1518	MA6	N1-C6-N6	2.90	120.39	116.86
1	FB	1404	5MC	C5-C6-N1	-2.90	120.17	123.31
1	A	527	7MG	O6-C6-C5	-2.90	120.51	127.62
4	D	32	5MC	C5-C6-N1	-2.88	120.19	123.31
2	GB	1915	5MU	C6-C5-C4	2.87	120.39	118.02
2	B	2503	2MA	N9-C8-N7	-2.87	109.86	113.94
1	FB	1518	MA6	C5-C6-N6	-2.86	120.81	125.33
1	FB	527	7MG	C6-C5-C4	-2.86	117.37	122.40
1	A	1519	MA6	C4-C5-N7	-2.85	107.32	110.58
1	FB	1400	5MC	C5-C6-N1	-2.84	120.23	123.31
1	FB	1518	MA6	C5-N7-C8	2.84	107.91	103.45
4	IB	54	5MU	C5-C6-N1	-2.81	120.26	123.31
2	GB	2251	OMG	O3'-C3'-C2'	2.81	119.05	111.19
2	B	1915	5MU	C1'-N1-C2	2.81	122.64	117.59
1	A	1519	MA6	C4-C5-C6	2.80	118.81	115.91
2	B	1962	5MC	C5-C4-N4	-2.78	117.48	121.39
2	GB	2503	2MA	C5-N7-C8	2.78	107.81	103.45
1	FB	967	5MC	CM5-C5-C6	-2.77	119.09	122.85
1	A	527	7MG	C6-C5-C4	-2.77	117.53	122.40
4	NC	55	PSU	O2-C2-N1	-2.76	119.94	122.79
4	IA	55	PSU	O2-C2-N1	-2.76	119.94	122.79
1	A	1519	MA6	C2-N3-C4	2.75	118.55	111.83
2	B	1915	5MU	C5M-C5-C6	-2.75	119.13	122.85
1	FB	516	PSU	N1-C2-N3	2.75	118.06	115.17
46	VA	92	0TD	OD2-CG-OD1	-2.75	117.85	124.08
2	GB	1915	5MU	C1'-N1-C2	2.74	122.51	117.59
2	B	2251	OMG	N9-C8-N7	-2.73	108.34	113.40
4	IA	8	4SU	N3-C2-N1	-2.73	111.34	114.89
1	FB	1519	MA6	C5-N7-C8	2.72	107.73	103.45
46	AD	92	0TD	OD2-CG-OD1	-2.72	117.91	124.08
2	GB	1915	5MU	C5M-C5-C6	-2.71	119.18	122.85
1	A	1407	5MC	C5-C4-N3	-2.71	118.97	121.75
2	B	2251	OMG	O6-C6-C5	-2.71	119.38	126.53
2	GB	2251	OMG	C2-N1-C6	-2.70	120.21	125.11
1	FB	967	5MC	C5-C6-N1	-2.70	120.38	123.31
2	B	1911	PSU	C6-N1-C2	-2.69	120.19	122.69
2	B	2605	PSU	O2-C2-N3	-2.69	117.08	121.86

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	FB	1400	5MC	C1'-N1-C6	-2.68	116.74	121.15
4	D	54	5MU	C5-C6-N1	-2.68	120.41	123.31
2	B	2552	2MU	O4'-C1'-N1	2.66	114.39	108.36
4	D	8	4SU	N3-C2-N1	2.64	118.33	114.89
2	GB	2251	OMG	O6-C6-C5	-2.62	119.61	126.53
1	FB	1407	5MC	C5-C4-N3	-2.62	119.07	121.75
1	A	1518	MA6	C5-C6-N6	-2.61	121.21	125.33
1	A	1207	2MG	C4-C5-N7	-2.60	106.55	110.67
1	A	1400	5MC	O2-C2-N3	-2.60	118.23	122.33
2	GB	1917	PSU	C6-C5-C4	2.59	119.92	118.17
2	GB	2605	PSU	C5-C4-N3	2.57	122.22	116.55
1	FB	1518	MA6	C4-C5-N7	-2.54	107.68	110.58
2	GB	1942	5MC	O2-C2-N3	-2.53	118.35	122.33
1	A	1404	5MC	C5-C4-N3	-2.51	119.18	121.75
2	GB	2605	PSU	O2-C2-N1	-2.51	120.20	122.79
1	A	1207	2MG	N9-C8-N7	-2.50	108.77	113.40
1	FB	1407	5MC	CM5-C5-C6	-2.50	119.47	122.85
1	FB	1207	2MG	C4-C5-N7	-2.48	106.73	110.67
2	GB	1939	5MU	C6-C5-C4	2.48	120.06	118.02
1	A	1407	5MC	CM5-C5-C6	-2.47	119.50	122.85
2	B	2552	2MU	O4-C4-C5	-2.47	120.89	125.16
2	GB	2251	OMG	N9-C8-N7	-2.47	108.82	113.40
1	FB	1519	MA6	C4-C5-N7	-2.47	107.76	110.58
1	FB	1207	2MG	N9-C8-N7	-2.46	108.84	113.40
2	GB	1911	PSU	C5-C6-N1	-2.46	118.73	122.14
2	B	2552	2MU	O4'-C4'-C5'	-2.46	101.47	109.33
1	FB	966	M2G	O6-C6-C5	-2.45	120.06	126.53
4	NC	32	5MC	C5-C4-N3	-2.42	119.27	121.75
1	FB	1519	MA6	C5-C6-N6	-2.41	121.52	125.33
2	GB	1962	5MC	C4-N3-C2	-2.40	117.47	120.81
4	IB	32	5MC	CM5-C5-C6	-2.40	119.61	122.85
1	FB	966	M2G	C8-N9-C4	2.40	110.52	106.03
1	FB	1207	2MG	N1-C2-N2	2.39	119.00	116.56
1	FB	1404	5MC	C5-C4-N4	-2.39	118.03	121.39
2	B	1920	4OC	N4-C4-N3	2.38	122.17	117.91
1	A	1404	5MC	C5-C4-N4	-2.38	118.03	121.39
1	A	1400	5MC	O2-C2-N1	2.38	123.56	118.90
1	FB	1519	MA6	C4-C5-C6	2.38	118.37	115.91
1	FB	1207	2MG	C5-C6-N1	2.37	119.28	113.25
2	B	2251	OMG	C2-N1-C6	-2.37	120.82	125.11
1	FB	1519	MA6	N1-C6-N6	2.37	119.74	116.86
2	B	1962	5MC	C4-N3-C2	-2.36	117.53	120.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1404	5MC	N4-C4-N3	2.36	122.78	118.51
1	A	1207	2MG	C8-N7-C5	2.36	108.47	104.26
1	FB	1207	2MG	O6-C6-C5	-2.33	120.37	126.53
2	GB	2552	2MU	O4'-C1'-N1	2.33	113.63	108.36
1	A	966	M2G	C5-C6-N1	2.33	119.17	113.25
2	GB	1939	5MU	C6-N1-C2	-2.33	118.99	121.30
2	B	2552	2MU	C5-C4-N3	2.32	118.05	114.80
1	A	1207	2MG	O6-C6-C5	-2.32	120.41	126.53
2	B	1911	PSU	O4'-C1'-C2'	2.31	108.34	105.15
1	FB	1207	2MG	C8-N7-C5	2.30	108.36	104.26
4	IA	54	5MU	C5-C6-N1	-2.30	120.82	123.31
4	D	54	5MU	C6-N1-C2	-2.30	119.01	121.30
1	A	1207	2MG	C5-C6-N1	2.30	119.10	113.25
4	IA	54	5MU	C5M-C5-C6	-2.30	119.74	122.85
4	NC	54	5MU	C5-C6-N1	-2.30	120.82	123.31
4	D	32	5MC	O2-C2-N3	-2.29	118.73	122.33
1	FB	967	5MC	O2-C2-N3	-2.28	118.73	122.33
2	GB	2251	OMG	C5-C6-N1	2.27	119.03	113.25
1	FB	967	5MC	C1'-N1-C2	2.27	123.45	118.44
1	FB	516	PSU	O4-C4-C5	-2.27	118.38	124.01
2	GB	2251	OMG	C2'-C1'-N9	-2.26	109.95	114.24
2	GB	1911	PSU	O4-C4-C5	-2.26	118.39	124.01
1	FB	527	7MG	C2-N1-C6	-2.26	121.02	125.11
2	GB	2605	PSU	C6-C5-C4	2.26	119.70	118.17
4	IA	32	5MC	C5-C4-N3	-2.25	119.45	121.75
2	B	1911	PSU	C5-C6-N1	-2.24	119.03	122.14
1	A	1207	2MG	N1-C2-N2	2.24	118.84	116.56
4	NC	54	5MU	C5M-C5-C6	-2.23	119.83	122.85
1	FB	1207	2MG	C6-C5-N7	2.23	134.34	130.29
4	IB	54	5MU	C5M-C5-C6	-2.21	119.86	122.85
1	FB	966	M2G	C5-C6-N1	2.21	118.87	113.25
2	GB	2503	2MA	C4-N9-C8	2.18	108.03	105.74
1	FB	966	M2G	C8-N7-C5	2.18	108.15	104.26
1	A	966	M2G	C8-N7-C5	2.18	108.15	104.26
4	IB	55	PSU	O2-C2-N1	-2.18	120.54	122.79
1	A	966	M2G	C8-N9-C4	2.17	110.10	106.03
4	D	55	PSU	O2-C2-N1	-2.17	120.55	122.79
2	B	1915	5MU	C5M-C5-C4	2.17	121.09	118.78
4	IB	54	5MU	C6-N1-C2	-2.16	119.15	121.30
1	A	967	5MC	O2-C2-N3	-2.15	118.93	122.33
1	A	1404	5MC	C1'-N1-C6	-2.15	117.62	121.15
1	FB	1498	UR3	C3U-N3-C2	2.14	121.07	117.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	NC	54	5MU	O2-C2-N1	-2.13	120.03	122.80
4	D	55	PSU	O4'-C1'-C2'	2.13	108.09	105.15
2	B	1915	5MU	C6-C5-C4	2.12	119.77	118.02
2	GB	2552	2MU	O4'-C4'-C5'	-2.12	102.53	109.33
2	GB	2552	2MU	O4-C4-C5	-2.12	121.50	125.16
2	B	2251	OMG	C8-N7-C5	2.12	108.03	104.26
4	IB	55	PSU	O4'-C1'-C2'	2.11	108.08	105.15
4	IB	55	PSU	C5-C6-N1	-2.10	119.22	122.14
1	A	527	7MG	C2-N1-C6	-2.10	121.31	125.11
2	B	1942	5MC	CM5-C5-C6	-2.08	120.03	122.85
1	FB	1402	4OC	CM2-O2'-C2'	2.08	119.81	114.47
1	A	1207	2MG	C6-C5-N7	2.08	134.07	130.29
4	D	55	PSU	C5-C6-N1	-2.07	119.27	122.14
4	D	32	5MC	C5-C4-N3	-2.06	119.64	121.75
2	GB	1911	PSU	O4'-C1'-C2'	2.06	108.00	105.15
2	B	2251	OMG	C5-C6-N1	2.06	118.48	113.25
4	IA	54	5MU	C6-C5-C4	2.03	119.69	118.02
2	B	2251	OMG	O2'-C2'-C1'	-2.02	105.15	108.99
2	GB	1917	PSU	C5-C6-N1	-2.01	119.34	122.14
4	IA	54	5MU	C6-N1-C2	-2.00	119.31	121.30
2	B	1962	5MC	O2-C2-N3	-2.00	119.17	122.33

There are no chirality outliers.

All (59) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1402	4OC	C1'-C2'-O2'-CM2
1	A	1498	UR3	O4'-C4'-C5'-O5'
1	A	1518	MA6	C5-C6-N6-C9
1	A	1519	MA6	O4'-C4'-C5'-O5'
2	B	1920	4OC	C3'-C2'-O2'-CM2
2	B	2251	OMG	C1'-C2'-O2'-CM2
46	VA	92	0TD	O-C-CA-CB
46	VA	92	0TD	CG-CB-SB-CSB
1	FB	1402	4OC	C1'-C2'-O2'-CM2
1	FB	1498	UR3	O4'-C4'-C5'-O5'
1	FB	1518	MA6	C5-C6-N6-C9
1	FB	1519	MA6	O4'-C4'-C5'-O5'
2	GB	1920	4OC	C3'-C2'-O2'-CM2
2	GB	2251	OMG	C1'-C2'-O2'-CM2
46	AD	92	0TD	O-C-CA-CB
46	AD	92	0TD	CG-CB-SB-CSB

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Mol	Chain	Res	Type	Atoms
4	D	8	4SU	C4'-C5'-O5'-P
4	IB	8	4SU	C4'-C5'-O5'-P
1	A	1498	UR3	C3'-C4'-C5'-O5'
2	B	2251	OMG	O4'-C4'-C5'-O5'
1	FB	1498	UR3	C3'-C4'-C5'-O5'
2	B	1962	5MC	O4'-C4'-C5'-O5'
2	GB	2251	OMG	O4'-C4'-C5'-O5'
1	A	1518	MA6	N1-C6-N6-C9
1	FB	1518	MA6	N1-C6-N6-C9
1	A	1519	MA6	C3'-C4'-C5'-O5'
1	FB	1519	MA6	C3'-C4'-C5'-O5'
2	GB	1962	5MC	O4'-C4'-C5'-O5'
4	IA	8	4SU	C2'-C1'-N1-C2
4	NC	8	4SU	C2'-C1'-N1-C2
1	A	1518	MA6	C5-C6-N6-C10
1	FB	1518	MA6	C5-C6-N6-C10
2	B	2251	OMG	C3'-C4'-C5'-O5'
2	GB	2251	OMG	C3'-C4'-C5'-O5'
4	NC	8	4SU	C2'-C1'-N1-C6
4	IA	8	4SU	C2'-C1'-N1-C6
4	D	55	PSU	C4'-C5'-O5'-P
4	IB	55	PSU	C4'-C5'-O5'-P
4	IA	55	PSU	O4'-C1'-C5-C4
4	NC	55	PSU	O4'-C1'-C5-C4
1	A	527	7MG	C3'-C4'-C5'-O5'
2	B	1962	5MC	C3'-C4'-C5'-O5'
1	A	1519	MA6	C4'-C5'-O5'-P
1	FB	1519	MA6	C4'-C5'-O5'-P
2	GB	2503	2MA	O4'-C4'-C5'-O5'
1	A	1519	MA6	C5-C6-N6-C9
1	FB	1519	MA6	C5-C6-N6-C9
2	B	2552	2MU	C3'-C2'-O2'-C6'
2	GB	2552	2MU	C3'-C2'-O2'-C6'
2	B	2503	2MA	O4'-C4'-C5'-O5'
1	FB	527	7MG	C3'-C4'-C5'-O5'
46	VA	92	0TD	CA-CB-SB-CSB
2	GB	1917	PSU	O4'-C4'-C5'-O5'
2	GB	1962	5MC	C3'-C4'-C5'-O5'
4	IA	55	PSU	O4'-C1'-C5-C6
2	B	1939	5MU	O4'-C4'-C5'-O5'
1	FB	1402	4OC	O4'-C4'-C5'-O5'
1	A	527	7MG	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
1	FB	527	7MG	C4'-C5'-O5'-P

There are no ring outliers.

37 monomers are involved in 69 short contacts:

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

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	1939	5MU	2	0

5.5 Carbohydrates (i)

There are no oligosaccharides 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	-	30,31,31	3.19	12 (40%)	30,43,43	2.36	6 (20%)
57	BLS	GB	9001	-	30,31,31	3.14	11 (36%)	30,43,43	1.97	8 (26%)

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	-	-	6/25/38/38	0/2/2/2
57	BLS	GB	9001	-	-	7/25/38/38	0/2/2/2

All (23) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	B	9001	BLS	C14-N12	9.09	1.54	1.35
57	GB	9001	BLS	C14-N12	8.65	1.53	1.35
57	GB	9001	BLS	C7-N6	7.71	1.50	1.34
57	B	9001	BLS	C7-N6	6.83	1.48	1.34
57	B	9001	BLS	C4-N4	5.82	1.48	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	GB	9001	BLS	C4-N4	5.64	1.47	1.33
57	B	9001	BLS	C11-N12	4.89	1.57	1.47
57	B	9001	BLS	C3'-C2'	4.85	1.48	1.33
57	GB	9001	BLS	C3'-C2'	4.60	1.47	1.33
57	GB	9001	BLS	C11-N12	4.59	1.56	1.47
57	GB	9001	BLS	C13-N12	4.43	1.61	1.45
57	B	9001	BLS	O5'-C5'	4.42	1.51	1.43
57	B	9001	BLS	C13-N12	4.25	1.60	1.45
57	GB	9001	BLS	O5'-C5'	4.06	1.51	1.43
57	B	9001	BLS	C2-N1	-3.19	1.33	1.40
57	GB	9001	BLS	C2-N1	-2.87	1.34	1.40
57	B	9001	BLS	C1'-N1	-2.79	1.44	1.48
57	B	9001	BLS	C4'-N6	2.72	1.50	1.46
57	GB	9001	BLS	C5'-C6'	-2.64	1.47	1.53
57	GB	9001	BLS	C4'-C5'	-2.38	1.47	1.53
57	B	9001	BLS	C5'-C6'	-2.37	1.48	1.53
57	GB	9001	BLS	C4'-N6	2.29	1.49	1.46
57	B	9001	BLS	C4'-C5'	-2.17	1.48	1.53

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
57	B	9001	BLS	C1'-C2'-C3'	-9.47	110.80	122.45
57	GB	9001	BLS	C1'-C2'-C3'	-7.62	113.08	122.45
57	B	9001	BLS	N15-C14-N12	3.71	122.71	118.64
57	B	9001	BLS	O4-C6'-O3	3.27	131.49	124.08
57	B	9001	BLS	O3-C6'-C5'	-3.17	109.36	120.81
57	GB	9001	BLS	O4-C6'-O3	3.05	131.00	124.08
57	B	9001	BLS	C4'-C5'-C6'	-2.58	107.01	111.94
57	GB	9001	BLS	O3-C6'-C5'	-2.57	111.55	120.81
57	GB	9001	BLS	C4'-C3'-C2'	-2.40	111.31	120.16
57	GB	9001	BLS	C3'-C4'-N6	-2.30	106.21	110.44
57	GB	9001	BLS	N15-C14-N12	2.23	121.08	118.64
57	B	9001	BLS	C4'-C3'-C2'	-2.12	112.38	120.16
57	GB	9001	BLS	C13-N12-C11	2.03	119.94	115.90
57	GB	9001	BLS	C5-C6-N1	-2.00	118.58	121.84

There are no chirality outliers.

All (13) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
57	B	9001	BLS	C11-C10-C9-C8

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Mol	Chain	Res	Type	Atoms
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	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	GB	9001	BLS	N6-C7-C8-C9
57	GB	9001	BLS	O7-C7-C8-C9
57	B	9001	BLS	N6-C7-C8-C9
57	B	9001	BLS	C7-C8-C9-N9
57	GB	9001	BLS	C7-C8-C9-N9

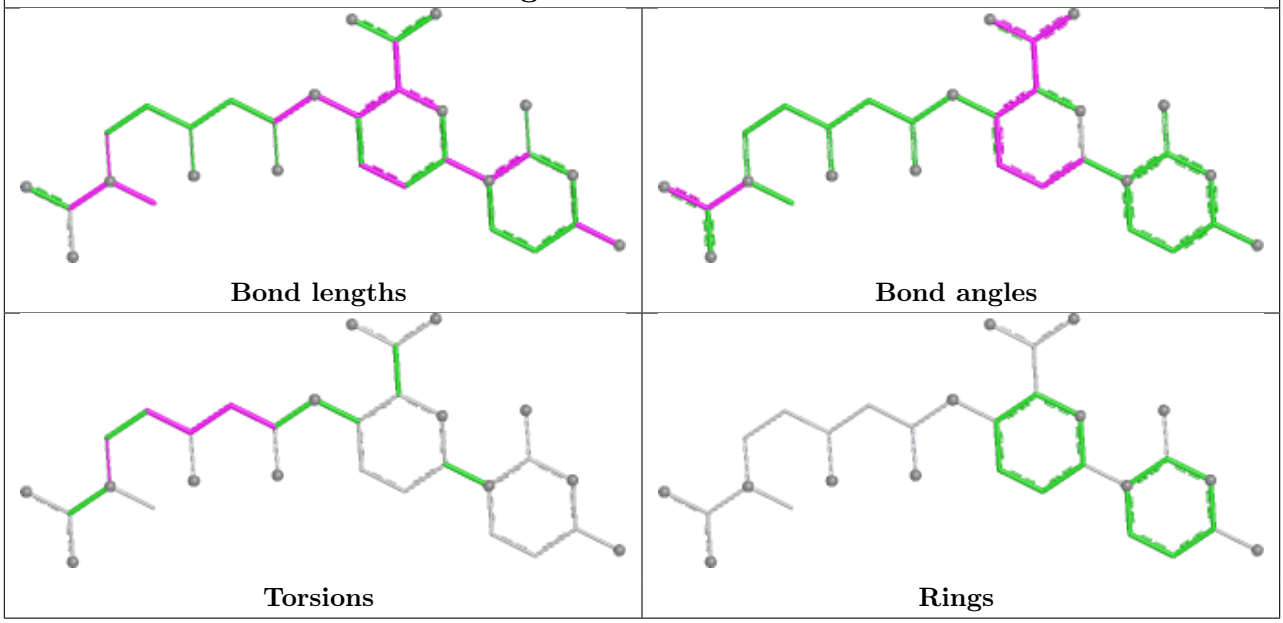
There are no ring outliers.

2 monomers are involved in 11 short contacts:

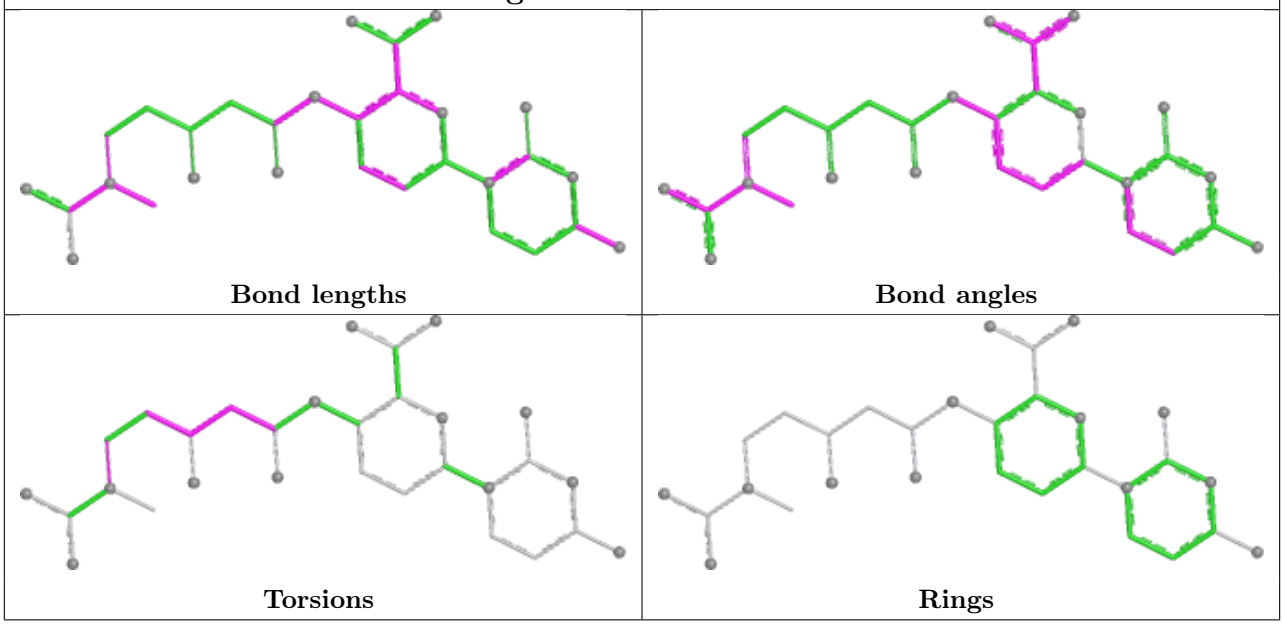
Mol	Chain	Res	Type	Clashes	Symm-Clashes
57	B	9001	BLS	4	0
57	GB	9001	BLS	7	0

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 then 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.

Ligand BLS B 9001



Ligand BLS GB 9001



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

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	1495/1507 (99%)	-0.69	3 (0%) 91 87	92, 150, 224, 269	0
1	FB	1495/1507 (99%)	-0.48	6 (0%) 88 81	99, 138, 232, 276	0
2	B	2869/2880 (99%)	-0.73	9 (0%) 90 84	73, 105, 203, 272	0
2	GB	2869/2880 (99%)	-0.60	7 (0%) 91 87	81, 114, 229, 316	0
3	C	120/120 (100%)	-0.74	0 100 100	129, 165, 182, 187	0
3	HB	120/120 (100%)	-0.35	0 100 100	139, 177, 198, 207	0
4	D	73/77 (94%)	-0.49	3 (4%) 41 29	135, 221, 238, 244	0
4	IA	73/77 (94%)	-0.45	1 (1%) 73 59	130, 161, 182, 190	0
4	IB	73/77 (94%)	-0.30	1 (1%) 73 59	158, 256, 274, 283	0
4	NC	73/77 (94%)	-0.39	1 (1%) 73 59	148, 189, 217, 220	0
5	E	275/275 (100%)	-0.24	3 (1%) 78 65	69, 83, 95, 102	0
5	JB	275/275 (100%)	0.02	5 (1%) 67 53	84, 104, 121, 128	0
6	F	204/206 (99%)	-0.09	6 (2%) 53 39	82, 119, 139, 147	0
6	KB	204/206 (99%)	-0.03	3 (1%) 72 57	81, 107, 132, 144	0
7	G	202/205 (98%)	-0.30	0 100 100	77, 107, 121, 133	0
7	LB	202/205 (98%)	-0.10	3 (1%) 72 57	82, 126, 141, 150	0
8	H	181/182 (99%)	0.09	4 (2%) 62 47	165, 174, 184, 186	0
8	MB	181/182 (99%)	0.06	5 (2%) 55 41	181, 188, 199, 202	0
9	I	174/180 (96%)	-0.14	0 100 100	116, 131, 138, 155	0
9	NB	174/180 (96%)	0.14	5 (2%) 53 39	149, 188, 215, 222	0
10	J	146/148 (98%)	-0.24	0 100 100	107, 130, 149, 153	0
10	OB	146/148 (98%)	-0.06	3 (2%) 63 48	124, 155, 159, 161	0
11	K	140/140 (100%)	0.10	3 (2%) 63 48	100, 121, 133, 138	0
11	PB	140/140 (100%)	0.21	5 (3%) 46 33	100, 129, 143, 147	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
12	L	122/122 (100%)	-0.20	0 100 100	94, 108, 119, 123	0
12	QB	122/122 (100%)	-0.28	0 100 100	88, 96, 103, 107	0
13	M	150/150 (100%)	0.10	3 (2%) 65 49	82, 110, 137, 139	0
13	RB	150/150 (100%)	0.13	5 (3%) 49 36	104, 124, 140, 142	0
14	N	141/141 (100%)	0.15	1 (0%) 84 73	100, 123, 140, 148	0
14	SB	141/141 (100%)	0.20	5 (3%) 47 34	106, 137, 154, 160	0
15	O	118/118 (100%)	0.10	2 (1%) 69 54	93, 111, 126, 130	0
15	TB	118/118 (100%)	0.24	5 (4%) 40 29	90, 106, 116, 121	0
16	P	110/112 (98%)	0.54	11 (10%) 12 12	147, 157, 163, 164	0
16	UB	110/112 (98%)	0.42	9 (8%) 17 16	153, 169, 181, 188	0
17	Q	137/146 (93%)	-0.07	1 (0%) 84 73	111, 125, 174, 192	0
17	VB	137/146 (93%)	-0.33	0 100 100	93, 108, 139, 148	0
18	R	117/118 (99%)	0.04	0 100 100	83, 116, 131, 132	0
18	WB	117/118 (99%)	0.05	4 (3%) 48 35	98, 129, 143, 146	0
19	S	101/101 (100%)	-0.20	1 (0%) 79 66	86, 126, 132, 136	0
19	XB	101/101 (100%)	-0.21	4 (3%) 42 30	96, 141, 148, 150	0
20	T	112/113 (99%)	-0.28	1 (0%) 81 68	78, 97, 113, 122	0
20	YB	112/113 (99%)	-0.05	1 (0%) 81 68	83, 101, 121, 127	0
21	U	95/96 (98%)	-0.10	1 (1%) 78 65	86, 92, 102, 109	0
21	ZB	95/96 (98%)	0.17	1 (1%) 78 65	109, 120, 129, 135	0
22	AC	107/110 (97%)	0.36	7 (6%) 25 20	120, 125, 139, 143	0
22	V	107/110 (97%)	-0.25	0 100 100	101, 108, 120, 126	0
23	BC	189/206 (91%)	-0.04	2 (1%) 78 65	143, 165, 176, 180	0
23	W	189/206 (91%)	-0.10	0 100 100	131, 152, 162, 164	0
24	CC	84/85 (98%)	0.49	8 (9%) 14 13	128, 134, 146, 154	0
24	X	84/85 (98%)	0.55	10 (11%) 9 10	119, 125, 139, 146	0
25	DC	97/98 (98%)	0.20	4 (4%) 41 29	94, 114, 137, 145	0
25	Y	97/98 (98%)	0.09	1 (1%) 79 66	83, 105, 132, 140	0
26	EC	70/72 (97%)	0.05	1 (1%) 73 59	123, 129, 136, 138	0
26	Z	70/72 (97%)	-0.23	0 100 100	95, 101, 107, 116	0
27	AA	60/60 (100%)	-0.06	1 (1%) 69 54	104, 117, 128, 134	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
27	FC	60/60 (100%)	0.13	1 (1%) 69 54	118, 131, 141, 142	0
28	BA	69/71 (97%)	-0.29	0 100 100	186, 191, 204, 206	0
28	GC	69/71 (97%)	-0.18	0 100 100	200, 207, 212, 213	0
29	CA	59/60 (98%)	-0.20	0 100 100	90, 115, 125, 130	0
29	HC	59/60 (98%)	-0.36	1 (1%) 69 54	81, 113, 123, 124	0
30	DA	53/54 (98%)	0.20	2 (3%) 44 31	184, 184, 185, 185	0
30	IC	53/54 (98%)	0.49	2 (3%) 44 31	207, 213, 217, 219	0
31	EA	48/49 (97%)	-0.25	0 100 100	72, 77, 83, 88	0
31	JC	48/49 (97%)	0.13	1 (2%) 63 48	89, 91, 100, 110	0
32	FA	64/65 (98%)	0.46	2 (3%) 51 38	93, 102, 119, 127	0
32	KC	64/65 (98%)	0.34	0 100 100	101, 112, 128, 135	0
33	GA	37/37 (100%)	2.05	18 (48%) 0 1	185, 186, 188, 188	0
33	LC	37/37 (100%)	1.93	17 (45%) 0 1	187, 189, 190, 191	0
34	HA	11/27 (40%)	0.61	2 (18%) 3 5	127, 142, 152, 153	0
34	MC	11/27 (40%)	0.02	0 100 100	143, 154, 164, 168	0
35	JA	110/365 (30%)	-0.04	5 (4%) 38 28	158, 176, 196, 210	0
35	KA	55/365 (15%)	-0.04	1 (1%) 67 53	172, 187, 214, 219	0
35	OC	110/365 (30%)	0.05	3 (2%) 56 42	186, 196, 207, 214	0
35	PC	55/365 (15%)	-0.06	2 (3%) 46 33	195, 202, 215, 219	0
36	LA	234/256 (91%)	-0.17	1 (0%) 88 81	148, 161, 170, 174	0
36	QC	234/256 (91%)	-0.00	6 (2%) 57 42	167, 184, 197, 202	0
37	MA	206/239 (86%)	-0.12	8 (3%) 43 31	153, 163, 175, 182	0
37	RC	206/239 (86%)	-0.08	3 (1%) 72 57	159, 177, 193, 200	0
38	NA	208/209 (99%)	0.53	17 (8%) 17 16	135, 159, 171, 177	0
38	SC	208/209 (99%)	0.22	17 (8%) 17 16	117, 126, 133, 137	0
39	OA	151/162 (93%)	0.01	6 (3%) 42 30	128, 140, 147, 155	0
39	TC	151/162 (93%)	-0.09	3 (1%) 65 49	124, 140, 150, 152	0
40	PA	101/101 (100%)	-0.22	1 (0%) 79 66	119, 128, 134, 146	0
40	UC	101/101 (100%)	-0.25	0 100 100	141, 149, 156, 163	0
41	QA	155/156 (99%)	-0.03	3 (1%) 66 51	146, 168, 177, 181	0
41	VC	155/156 (99%)	0.18	5 (3%) 50 37	167, 185, 197, 201	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
42	RA	138/138 (100%)	-0.04	2 (1%) 73 59	130, 145, 149, 153	0
42	WC	138/138 (100%)	0.22	7 (5%) 33 25	128, 144, 156, 163	0
43	SA	127/128 (99%)	0.57	16 (12%) 8 9	167, 190, 195, 199	0
43	XC	127/128 (99%)	0.65	18 (14%) 6 8	176, 212, 221, 227	0
44	TA	98/105 (93%)	0.51	10 (10%) 12 12	166, 189, 198, 201	0
44	YC	98/105 (93%)	0.56	7 (7%) 22 18	176, 197, 211, 213	0
45	UA	116/129 (89%)	-0.07	3 (2%) 57 42	104, 128, 135, 139	0
45	ZC	116/129 (89%)	-0.02	4 (3%) 48 35	126, 154, 160, 162	0
46	AD	121/132 (91%)	0.07	2 (1%) 69 54	109, 116, 124, 136	0
46	VA	121/132 (91%)	0.27	8 (6%) 24 19	115, 124, 134, 139	0
47	BD	117/126 (92%)	0.32	7 (5%) 27 21	179, 210, 214, 215	0
47	WA	117/126 (92%)	0.17	8 (6%) 23 19	161, 193, 196, 198	0
48	CD	60/61 (98%)	0.73	3 (5%) 34 25	180, 189, 208, 209	0
48	XA	60/61 (98%)	0.55	4 (6%) 24 19	164, 171, 193, 194	0
49	DD	88/89 (98%)	0.04	2 (2%) 61 46	126, 142, 153, 155	0
49	YA	88/89 (98%)	-0.04	3 (3%) 48 35	106, 126, 136, 137	0
50	ED	83/88 (94%)	0.19	3 (3%) 46 33	112, 120, 133, 148	0
50	ZA	83/88 (94%)	0.33	7 (8%) 17 15	150, 160, 174, 183	0
51	AB	99/105 (94%)	0.16	6 (6%) 27 21	116, 138, 144, 148	0
51	FD	99/105 (94%)	-0.05	3 (3%) 52 39	115, 124, 130, 132	0
52	BB	70/88 (79%)	-0.34	1 (1%) 73 59	119, 132, 140, 147	0
52	GD	70/88 (79%)	0.02	1 (1%) 73 59	145, 156, 163, 165	0
53	CB	83/93 (89%)	0.48	5 (6%) 27 21	171, 198, 201, 203	0
53	HD	83/93 (89%)	0.33	2 (2%) 59 45	179, 212, 217, 221	0
54	DB	99/106 (93%)	0.64	13 (13%) 7 8	152, 164, 174, 175	0
54	ID	99/106 (93%)	0.35	9 (9%) 15 14	115, 133, 145, 146	0
55	EB	24/27 (88%)	0.91	2 (8%) 17 15	179, 189, 195, 198	0
55	JD	24/27 (88%)	1.11	4 (16%) 4 6	202, 210, 219, 223	0
All	All	21292/22952 (92%)	-0.23	452 (2%) 63 48	69, 131, 210, 316	0

All (452) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
38	NA	120	LEU	7.3
24	X	4	LYS	6.7
42	WC	1	MET	6.2
49	DD	57	LEU	5.9
33	LC	12	ASP	5.9
25	Y	2	SER	5.7
24	X	2	ALA	5.6
24	CC	2	ALA	5.6
54	DB	9	ASN	5.6
38	SC	9	CYS	5.4
2	B	615	G	5.4
55	JD	16	GLY	5.3
42	WC	2	LEU	5.2
38	NA	9	CYS	5.2
43	SA	117	HIS	5.1
33	GA	17	ILE	5.1
24	X	3	HIS	5.0
38	NA	31	CYS	5.0
33	GA	33	LYS	4.9
33	LC	17	ILE	4.9
51	AB	37	LYS	4.8
16	P	19	LYS	4.8
47	BD	99	ARG	4.8
35	OC	194	GLY	4.7
24	CC	4	LYS	4.6
33	LC	23	VAL	4.6
25	DC	2	SER	4.6
1	FB	723	U	4.6
51	AB	35	VAL	4.6
43	XC	64	THR	4.4
33	GA	31	LYS	4.4
38	SC	31	CYS	4.3
54	ID	25	ARG	4.2
47	BD	118	ALA	4.2
2	GB	2799	A	4.1
16	UB	3	ARG	4.1
38	NA	26	CYS	4.1
44	TA	58	ASP	4.1
41	VC	80	VAL	4.1
44	TA	64	GLU	4.1
11	PB	99	LEU	4.0
32	FA	65	GLU	4.0
33	GA	32	HIS	4.0

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Mol	Chain	Res	Type	RSRZ
16	P	7	TYR	4.0
33	GA	23	VAL	4.0
44	TA	47	PHE	4.0
46	VA	32	PHE	4.0
11	PB	75	TYR	4.0
38	SC	26	CYS	3.9
16	P	18	ILE	3.9
24	CC	3	HIS	3.9
47	WA	98	VAL	3.9
33	GA	26	ILE	3.9
32	FA	47	LYS	3.8
14	SB	37	LEU	3.8
19	XB	80	GLN	3.8
44	YC	58	ASP	3.8
1	FB	84	U	3.8
8	H	157	ILE	3.8
5	JB	147	LEU	3.7
1	FB	85	U	3.7
24	CC	7	LEU	3.7
13	RB	50	ARG	3.7
38	SC	79	PHE	3.7
43	XC	106	ALA	3.6
36	QC	163	PHE	3.6
6	F	120	TRP	3.6
38	SC	12	CYS	3.6
45	ZC	126	ARG	3.6
42	WC	95	VAL	3.6
55	JD	14	TRP	3.5
37	RC	10	PHE	3.5
15	TB	71	GLN	3.5
5	E	230	ASP	3.5
24	CC	5	LYS	3.5
14	SB	38	GLU	3.5
6	KB	151	TYR	3.5
53	CB	76	PRO	3.5
2	GB	615	G	3.5
8	MB	35	GLU	3.4
24	X	7	LEU	3.4
55	JD	17	THR	3.4
15	TB	68	ARG	3.4
35	PC	330	ASP	3.4
43	XC	11	LYS	3.4

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Mol	Chain	Res	Type	RSRZ
2	B	1383	C	3.4
42	WC	131	GLY	3.4
48	CD	2	ALA	3.4
2	B	790	C	3.4
15	TB	14	SER	3.3
42	WC	84	ARG	3.3
50	ZA	31	LYS	3.3
33	GA	21	GLY	3.3
38	NA	3	ARG	3.3
19	XB	78	LYS	3.3
43	SA	105	ASP	3.3
54	ID	73	HIS	3.3
44	YC	67	THR	3.3
39	OA	24	ARG	3.2
5	JB	271	ILE	3.2
43	SA	118	LYS	3.2
36	LA	196	LEU	3.2
50	ED	25	ARG	3.2
33	LC	13	LYS	3.2
9	NB	170	ARG	3.2
39	OA	80	ILE	3.2
15	TB	65	LEU	3.1
51	AB	24	GLU	3.1
22	AC	3	VAL	3.1
41	QA	62	PHE	3.1
44	YC	72	VAL	3.1
38	SC	86	LYS	3.1
16	UB	4	LEU	3.1
41	VC	105	VAL	3.1
26	EC	1	MET	3.1
43	XC	109	VAL	3.1
2	GB	2798	C	3.0
2	GB	2805	G	3.0
33	GA	8	LYS	3.0
39	TC	13	ILE	3.0
22	AC	35	TYR	3.0
16	P	9	ARG	3.0
44	TA	53	PRO	3.0
10	OB	38	LEU	3.0
10	OB	39	ALA	3.0
43	XC	42	ARG	3.0
43	SA	127	LYS	3.0

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Mol	Chain	Res	Type	RSRZ
24	CC	10	THR	3.0
38	SC	21	LEU	3.0
53	CB	71	LEU	3.0
38	SC	4	TYR	3.0
1	FB	86	U	3.0
6	F	117	MET	3.0
47	WA	94	ARG	2.9
37	MA	160	ALA	2.9
38	NA	32	ALA	2.9
35	JA	194	GLY	2.9
47	BD	117	VAL	2.9
37	MA	178	LEU	2.9
54	DB	23	ARG	2.9
38	NA	135	LEU	2.9
46	AD	23	LYS	2.9
36	QC	152	PHE	2.9
18	WB	80	ILE	2.9
23	BC	98	MET	2.9
10	OB	40	THR	2.9
2	B	976	C	2.9
33	LC	31	LYS	2.9
55	EB	14	TRP	2.9
38	NA	12	CYS	2.9
25	DC	37	ILE	2.9
30	IC	8	LYS	2.9
47	WA	90	LEU	2.9
55	EB	25	LYS	2.9
24	CC	9	SER	2.8
43	XC	125	TYR	2.8
44	TA	59	SER	2.8
2	GB	2319	G	2.8
51	FD	35	VAL	2.8
54	DB	25	ARG	2.8
48	CD	17	LYS	2.8
44	YC	71	LEU	2.8
51	AB	36	ILE	2.8
54	ID	72	LEU	2.8
6	F	155	LYS	2.8
6	KB	127	ASP	2.8
33	GA	20	HIS	2.8
16	P	3	ARG	2.8
11	K	99	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
36	QC	102	LEU	2.8
16	UB	87	PHE	2.8
22	AC	5	MET	2.8
35	OC	196	ILE	2.8
1	A	82	U	2.8
4	IA	71	C	2.8
47	WA	96	LEU	2.8
48	CD	36	PHE	2.7
37	RC	158	GLY	2.7
43	XC	36	TYR	2.7
16	P	6	ALA	2.7
43	SA	116	LYS	2.7
8	H	159	VAL	2.7
7	LB	78	ILE	2.7
39	OA	81	GLU	2.7
16	P	42	ASP	2.7
43	SA	121	ARG	2.7
43	SA	123	PRO	2.7
53	HD	84	GLY	2.7
31	JC	48	LYS	2.7
47	BD	19	LEU	2.7
54	DB	21	LYS	2.7
11	PB	82	LEU	2.7
54	DB	22	ARG	2.7
55	JD	15	ARG	2.7
33	GA	13	LYS	2.7
50	ZA	69	THR	2.7
13	RB	35	HIS	2.7
38	SC	75	PHE	2.6
43	SA	103	THR	2.6
35	JA	136	SER	2.6
53	HD	2	PRO	2.6
51	AB	26	GLN	2.6
47	BD	100	GLY	2.6
16	UB	8	GLU	2.6
17	Q	1	MET	2.6
35	KA	312	PHE	2.6
41	QA	106	GLN	2.6
5	JB	167	GLY	2.6
8	H	168	GLU	2.6
16	UB	5	THR	2.6
43	SA	106	ALA	2.6

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Mol	Chain	Res	Type	RSRZ
43	XC	15	ALA	2.6
43	XC	118	LYS	2.6
30	DA	7	ILE	2.6
21	ZB	1	MET	2.6
54	DB	70	SER	2.6
11	PB	116	LEU	2.6
50	ED	60	LEU	2.6
54	ID	10	LEU	2.6
33	GA	5	ALA	2.6
52	GD	68	LYS	2.6
19	S	73	SER	2.5
38	NA	130	GLY	2.5
8	H	103	LEU	2.5
16	P	98	VAL	2.5
44	TA	66	ARG	2.5
47	WA	15	VAL	2.5
49	DD	60	VAL	2.5
50	ED	29	ASP	2.5
33	LC	24	TYR	2.5
44	YC	61	GLU	2.5
54	ID	9	ASN	2.5
9	NB	168	PRO	2.5
54	ID	21	LYS	2.5
35	OC	189	ALA	2.5
45	UA	126	ARG	2.5
2	B	2062	A	2.5
34	HA	15	A	2.5
43	XC	115	GLY	2.5
33	LC	36	GLN	2.5
40	PA	90	VAL	2.5
43	XC	65	VAL	2.5
44	TA	61	GLU	2.5
49	YA	3	ILE	2.5
43	XC	127	LYS	2.5
51	FD	6	LEU	2.5
33	LC	11	CYS	2.4
33	LC	26	ILE	2.4
33	LC	28	GLU	2.4
38	NA	80	GLU	2.4
44	TA	73	ASP	2.4
13	M	82	GLY	2.4
24	X	8	GLY	2.4

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Mol	Chain	Res	Type	RSRZ
5	JB	166	GLN	2.4
39	OA	28	PHE	2.4
18	WB	60	LEU	2.4
39	OA	12	LEU	2.4
51	AB	6	LEU	2.4
54	DB	75	ASN	2.4
1	FB	974	A	2.4
45	ZC	114	VAL	2.4
41	VC	26	PHE	2.4
38	NA	152	SER	2.4
39	OA	31	LEU	2.4
24	X	43	THR	2.4
29	HC	7	PRO	2.4
13	M	120	ALA	2.4
37	MA	152	ILE	2.4
1	FB	1354	C	2.4
8	MB	85	GLY	2.4
30	DA	22	ALA	2.4
37	MA	201	TYR	2.4
13	RB	68	GLN	2.4
5	E	15	PHE	2.4
9	NB	71	LEU	2.4
24	X	5	LYS	2.3
44	YC	60	ARG	2.3
50	ZA	7	ALA	2.3
54	DB	80	ARG	2.3
50	ZA	9	PHE	2.3
42	WC	99	GLU	2.3
38	SC	22	LYS	2.3
15	O	104	ARG	2.3
38	NA	5	ILE	2.3
33	GA	24	TYR	2.3
14	SB	12	GLN	2.3
18	WB	32	PHE	2.3
33	GA	2	LYS	2.3
30	IC	22	ALA	2.3
43	SA	71	SER	2.3
7	LB	97	TYR	2.3
49	YA	69	TYR	2.3
37	RC	12	LEU	2.3
38	SC	135	LEU	2.3
35	PC	312	PHE	2.3

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Mol	Chain	Res	Type	RSRZ
18	WB	56	ASP	2.3
33	GA	30	PRO	2.3
38	SC	78	LEU	2.3
46	VA	98	TYR	2.3
39	TC	20	GLN	2.3
35	JA	160	LYS	2.3
37	MA	199	LYS	2.3
2	B	1535	U	2.3
47	WA	97	PRO	2.3
1	A	88	C	2.3
2	B	2798	C	2.3
50	ZA	1	MET	2.3
15	TB	67	LEU	2.3
54	DB	24	LEU	2.3
38	NA	86	LYS	2.3
38	NA	119	GLN	2.3
2	GB	1093	G	2.2
44	TA	6	ILE	2.2
46	AD	5	PRO	2.2
41	VC	83	ALA	2.2
43	SA	119	ALA	2.2
2	GB	229	A	2.2
49	YA	57	LEU	2.2
33	LC	20	HIS	2.2
46	VA	67	THR	2.2
50	ZA	17	TYR	2.2
25	DC	11	ARG	2.2
43	XC	17	VAL	2.2
45	UA	117	ASN	2.2
41	VC	33	ASP	2.2
9	NB	162	ILE	2.2
36	QC	214	ILE	2.2
43	SA	15	ALA	2.2
46	VA	125	PRO	2.2
8	MB	173	LEU	2.2
27	FC	53	LEU	2.2
53	CB	82	GLY	2.2
54	DB	20	LEU	2.2
33	GA	15	LYS	2.2
46	VA	47	LYS	2.2
38	SC	66	ARG	2.2
34	HA	22	A	2.2

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Mol	Chain	Res	Type	RSRZ
47	WA	19	LEU	2.2
16	UB	93	LYS	2.2
22	AC	46	LYS	2.2
54	ID	14	LYS	2.2
36	QC	70	PHE	2.2
33	GA	25	VAL	2.2
38	NA	21	LEU	2.2
42	RA	136	GLU	2.2
54	DB	10	LEU	2.2
6	KB	125	GLY	2.2
11	PB	81	GLY	2.2
38	SC	2	GLY	2.2
39	TC	21	ALA	2.2
22	AC	94	LYS	2.2
33	GA	12	ASP	2.2
54	DB	74	LYS	2.2
6	F	122	PHE	2.2
15	O	8	ARG	2.2
47	BD	94	ARG	2.2
4	IB	34	C	2.2
8	MB	157	ILE	2.2
16	UB	48	LEU	2.2
7	LB	161	GLU	2.2
22	AC	29	GLU	2.2
14	SB	39	PRO	2.2
14	SB	130	LYS	2.2
6	F	127	ASP	2.2
13	RB	47	ASP	2.2
16	P	87	PHE	2.2
6	F	151	TYR	2.1
41	QA	154	TYR	2.1
5	E	237	GLU	2.1
23	BC	189	ALA	2.1
16	P	13	ARG	2.1
53	CB	84	GLY	2.1
44	YC	63	PHE	2.1
43	SA	109	VAL	2.1
13	RB	58	THR	2.1
48	XA	13	THR	2.1
52	BB	31	LEU	2.1
1	A	1186	G	2.1
2	B	2795	G	2.1

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Mol	Chain	Res	Type	RSRZ
14	N	3	MET	2.1
19	XB	82	ARG	2.1
33	LC	18	ARG	2.1
37	MA	200	ALA	2.1
43	XC	61	ALA	2.1
25	DC	38	SER	2.1
35	JA	192	SER	2.1
42	RA	99	GLU	2.1
16	UB	98	VAL	2.1
38	SC	112	VAL	2.1
4	D	17(A)	U	2.1
33	LC	8	LYS	2.1
43	SA	11	LYS	2.1
44	TA	8	LEU	2.1
45	ZC	87	THR	2.1
22	AC	1	MET	2.1
20	YB	2	GLU	2.1
43	SA	110	GLU	2.1
45	ZC	115	PRO	2.1
38	NA	208	SER	2.1
43	SA	108	VAL	2.1
54	ID	29	LYS	2.1
33	GA	27	CYS	2.1
43	XC	63	ILE	2.1
16	P	10	ARG	2.1
19	XB	81	TYR	2.1
47	BD	87	TYR	2.1
47	WA	30	ALA	2.1
2	B	614	U	2.1
43	XC	108	VAL	2.1
48	XA	56	VAL	2.1
4	NC	76	A	2.1
46	VA	46	LYS	2.1
13	M	65	ARG	2.1
33	LC	4	ARG	2.1
33	LC	10	ILE	2.1
38	SC	118	ARG	2.1
42	WC	112	LEU	2.1
35	JA	156	HIS	2.1
46	VA	89	ARG	2.1
48	XA	57	ARG	2.1
43	XC	62	TYR	2.1

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Mol	Chain	Res	Type	RSRZ
53	CB	79	THR	2.1
54	ID	71	THR	2.1
8	MB	69	ALA	2.1
37	MA	186	PHE	2.1
46	VA	16	GLU	2.1
51	FD	27	PHE	2.1
5	JB	184	LYS	2.0
33	LC	2	LYS	2.0
11	K	91	LEU	2.0
27	AA	37	LEU	2.0
37	MA	39	ILE	2.0
38	NA	70	ILE	2.0
43	XC	128	ARG	2.0
50	ZA	14	ASN	2.0
33	LC	32	HIS	2.0
4	D	17	C	2.0
4	D	34	C	2.0
16	UB	33	LYS	2.0
45	UA	14	VAL	2.0
11	K	33	LEU	2.0
54	DB	15	ARG	2.0
9	NB	68	THR	2.0
24	X	6	GLY	2.0
24	X	73	GLY	2.0
24	CC	45	PHE	2.0
36	QC	99	GLY	2.0
21	U	78	LYS	2.0
24	X	74	ARG	2.0
48	XA	25	VAL	2.0
20	T	95	ILE	2.0
38	SC	67	ILE	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	4SU	D	8	20/21	0.63	0.09	223,225,227,227	0
4	PSU	D	55	20/21	0.66	0.07	239,243,246,247	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	PSU	IB	55	20/21	0.68	0.08	276,281,283,284	0
4	5MU	IB	54	21/22	0.73	0.09	275,277,280,281	0
4	5MU	D	54	21/22	0.74	0.07	237,240,244,246	0
4	PSU	NC	55	20/21	0.75	0.08	211,216,222,223	0
4	4SU	IA	8	20/21	0.78	0.08	158,160,162,163	0
4	5MC	IB	32	21/22	0.79	0.10	204,204,204,204	0
2	PSU	GB	1911	20/21	0.81	0.09	127,133,134,135	0
4	4SU	IB	8	20/21	0.81	0.09	254,257,259,260	0
4	4SU	NC	8	20/21	0.82	0.07	185,190,192,193	0
2	5MU	B	1915	21/22	0.84	0.06	129,131,133,134	0
4	5MC	D	32	21/22	0.86	0.07	212,212,212,212	0
4	5MC	NC	32	21/22	0.87	0.10	156,157,157,157	0
1	5MC	FB	967	21/22	0.87	0.12	160,163,166,168	0
1	PSU	A	516	20/21	0.87	0.07	139,142,145,146	0
2	5MU	GB	1915	21/22	0.88	0.05	143,146,149,150	0
4	5MU	NC	54	21/22	0.88	0.10	213,217,223,226	0
1	2MG	FB	1207	24/25	0.88	0.08	171,174,176,178	0
4	PSU	IA	55	20/21	0.88	0.07	185,189,193,195	0
2	5MU	B	1939	21/22	0.88	0.11	83,84,84,84	0
4	5MU	IA	54	21/22	0.88	0.07	184,188,192,194	0
1	PSU	FB	516	20/21	0.89	0.06	132,134,138,138	0
2	OMG	GB	2251	24/25	0.90	0.11	95,97,100,100	0
2	4OC	GB	1920	21/23	0.90	0.11	123,127,129,131	0
1	5MC	A	967	21/22	0.91	0.09	139,142,145,147	0
4	5MC	IA	32	21/22	0.91	0.10	138,139,139,139	0
1	4OC	A	1402	22/23	0.92	0.11	117,118,120,120	0
1	4OC	FB	1402	22/23	0.92	0.09	134,136,138,138	0
2	5MC	B	1942	21/22	0.92	0.07	90,92,93,94	0
2	5MC	B	1962	21/22	0.92	0.10	90,92,94,95	0
2	PSU	GB	1917	20/21	0.92	0.06	129,132,136,137	0
2	PSU	B	1911	20/21	0.92	0.06	113,117,119,120	0
2	5MU	GB	1939	21/22	0.92	0.10	86,88,89,89	0
1	2MG	A	1207	24/25	0.92	0.08	163,164,166,167	0
1	5MC	A	1400	21/22	0.93	0.10	125,127,130,132	0
2	5MC	GB	1962	21/22	0.93	0.08	93,96,98,99	0
2	2MA	B	2503	23/24	0.93	0.11	76,78,79,80	0
2	2MA	GB	2503	23/24	0.93	0.13	83,84,86,86	0
46	0TD	AD	92	10/11	0.93	0.20	122,122,123,123	0
1	5MC	FB	1400	21/22	0.93	0.13	141,145,148,150	0
2	PSU	B	1917	20/21	0.93	0.06	111,113,117,118	0
1	UR3	FB	1498	21/22	0.94	0.14	130,130,132,132	0
2	4OC	B	1920	21/23	0.94	0.08	106,109,111,113	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	7MG	FB	527	24/25	0.94	0.09	122,124,126,127	0
2	5MC	GB	1942	21/22	0.94	0.06	90,93,94,95	0
1	5MC	FB	1404	21/22	0.95	0.09	123,125,126,126	0
1	UR3	A	1498	21/22	0.95	0.09	109,109,110,110	0
2	PSU	GB	2605	20/21	0.95	0.07	85,85,86,87	0
1	M2G	FB	966	25/26	0.95	0.14	157,160,164,165	0
1	M2G	A	966	25/26	0.96	0.09	137,140,143,144	0
1	5MC	FB	1407	21/22	0.96	0.08	121,124,125,126	0
2	OMG	B	2251	24/25	0.96	0.07	87,89,92,92	0
1	7MG	A	527	24/25	0.96	0.09	125,127,129,130	0
2	2MU	B	2552	21/23	0.96	0.10	86,87,88,89	0
2	2MU	GB	2552	21/23	0.96	0.06	86,87,88,89	0
2	PSU	B	2605	20/21	0.96	0.07	78,79,80,81	0
1	MA6	A	1518	24/25	0.96	0.10	98,102,104,104	0
1	5MC	A	1404	21/22	0.97	0.07	105,107,108,108	0
1	MA6	FB	1519	24/25	0.97	0.12	117,121,123,123	0
1	5MC	A	1407	21/22	0.97	0.06	108,110,112,112	0
46	0TD	VA	92	10/11	0.97	0.12	125,126,126,126	0
1	MA6	A	1519	24/25	0.97	0.11	98,101,103,103	0
1	MA6	FB	1518	24/25	0.98	0.09	116,119,122,123	0

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9272	1/1	-0.53	0.25	194,194,194,194	0
56	MG	FB	1638	1/1	-0.51	0.51	198,198,198,198	0
56	MG	B	9072	1/1	-0.39	0.18	248,248,248,248	0
56	MG	GB	9320	1/1	-0.32	0.15	223,223,223,223	0
56	MG	FB	1612	1/1	-0.31	0.26	201,201,201,201	0
56	MG	FB	1644	1/1	-0.30	0.19	239,239,239,239	0
56	MG	B	9207	1/1	-0.29	0.24	185,185,185,185	0
56	MG	HB	208	1/1	-0.28	0.32	177,177,177,177	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	FB	1765	1/1	-0.22	0.15	234,234,234,234	0
56	MG	A	1747	1/1	-0.21	0.18	215,215,215,215	0
56	MG	GB	9298	1/1	-0.21	0.20	250,250,250,250	0
56	MG	B	9378	1/1	-0.19	0.20	254,254,254,254	0
56	MG	IB	101	1/1	-0.19	0.14	243,243,243,243	0
56	MG	GB	9247	1/1	-0.16	0.11	278,278,278,278	0
56	MG	GB	9136	1/1	-0.16	0.23	154,154,154,154	0
56	MG	A	1764	1/1	-0.14	0.30	204,204,204,204	0
56	MG	A	1778	1/1	-0.14	0.23	156,156,156,156	0
56	MG	A	1620	1/1	-0.11	0.31	201,201,201,201	0
56	MG	A	1634	1/1	-0.10	0.29	165,165,165,165	0
56	MG	FB	1646	1/1	-0.10	0.30	170,170,170,170	0
56	MG	FB	1705	1/1	-0.07	0.18	200,200,200,200	0
56	MG	A	1641	1/1	-0.07	0.23	154,154,154,154	0
56	MG	A	1650	1/1	-0.07	0.34	170,170,170,170	0
56	MG	A	1652	1/1	-0.05	0.18	232,232,232,232	0
56	MG	B	9305	1/1	-0.05	0.28	207,207,207,207	0
56	MG	A	1686	1/1	-0.04	0.38	169,169,169,169	0
56	MG	A	1660	1/1	-0.03	0.19	252,252,252,252	0
56	MG	GC	102	1/1	-0.02	0.21	205,205,205,205	0
56	MG	GB	9278	1/1	-0.01	0.27	149,149,149,149	0
56	MG	GB	9391	1/1	0.00	0.18	172,172,172,172	0
56	MG	GB	9118	1/1	-0.00	0.17	144,144,144,144	0
56	MG	H	202	1/1	0.01	0.14	161,161,161,161	0
56	MG	B	9285	1/1	0.01	0.17	164,164,164,164	0
56	MG	B	9157	1/1	0.02	0.33	128,128,128,128	0
56	MG	HB	209	1/1	0.02	0.22	183,183,183,183	0
56	MG	A	1653	1/1	0.03	0.12	260,260,260,260	0
56	MG	GB	9117	1/1	0.03	0.32	160,160,160,160	0
56	MG	IA	102	1/1	0.04	0.32	162,162,162,162	0
56	MG	GB	9066	1/1	0.05	0.25	176,176,176,176	0
56	MG	HB	215	1/1	0.05	0.14	189,189,189,189	0
56	MG	C	213	1/1	0.06	0.24	156,156,156,156	0
56	MG	A	1642	1/1	0.07	0.42	143,143,143,143	0
56	MG	HB	220	1/1	0.07	0.18	159,159,159,159	0
56	MG	GB	9269	1/1	0.08	0.17	146,146,146,146	0
56	MG	GB	9121	1/1	0.08	0.24	186,186,186,186	0
56	MG	GB	9106	1/1	0.09	0.24	142,142,142,142	0
56	MG	FB	1601	1/1	0.09	0.37	117,117,117,117	0
56	MG	A	1638	1/1	0.09	0.17	188,188,188,188	0
56	MG	GB	9167	1/1	0.10	0.24	166,166,166,166	0
56	MG	HB	202	1/1	0.10	0.30	149,149,149,149	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	FB	1643	1/1	0.11	0.45	138,138,138,138	0
56	MG	HB	204	1/1	0.11	0.33	138,138,138,138	0
56	MG	FB	1671	1/1	0.11	0.15	255,255,255,255	0
56	MG	IA	101	1/1	0.11	0.35	152,152,152,152	0
56	MG	HB	205	1/1	0.12	0.36	140,140,140,140	0
56	MG	NA	301	1/1	0.14	0.30	159,159,159,159	0
56	MG	FB	1623	1/1	0.14	0.31	136,136,136,136	0
56	MG	HB	201	1/1	0.15	0.43	130,130,130,130	0
56	MG	NA	302	1/1	0.15	0.12	163,163,163,163	0
56	MG	A	1635	1/1	0.16	0.29	168,168,168,168	0
56	MG	FB	1710	1/1	0.16	0.17	155,155,155,155	0
56	MG	A	1664	1/1	0.16	0.21	172,172,172,172	0
56	MG	SB	201	1/1	0.16	0.29	143,143,143,143	0
56	MG	GB	9057	1/1	0.16	0.26	145,145,145,145	0
56	MG	GB	9052	1/1	0.17	0.27	132,132,132,132	0
56	MG	GB	9208	1/1	0.17	0.14	210,210,210,210	0
56	MG	A	1644	1/1	0.17	0.24	159,159,159,159	0
56	MG	GB	9301	1/1	0.17	0.25	252,252,252,252	0
56	MG	GB	9306	1/1	0.17	0.17	151,151,151,151	0
56	MG	GB	9139	1/1	0.17	0.22	166,166,166,166	0
56	MG	FB	1634	1/1	0.18	0.35	128,128,128,128	0
56	MG	GB	9224	1/1	0.18	0.19	152,152,152,152	0
56	MG	GB	9335	1/1	0.19	0.21	141,141,141,141	0
56	MG	A	1631	1/1	0.20	0.29	142,142,142,142	0
56	MG	A	1657	1/1	0.21	0.25	155,155,155,155	0
56	MG	NB	201	1/1	0.21	0.16	189,189,189,189	0
56	MG	FB	1665	1/1	0.21	0.23	188,188,188,188	0
56	MG	A	1717	1/1	0.21	0.29	154,154,154,154	0
56	MG	FB	1730	1/1	0.22	0.19	167,167,167,167	0
56	MG	GB	9195	1/1	0.22	0.10	172,172,172,172	0
56	MG	HB	210	1/1	0.22	0.26	166,166,166,166	0
56	MG	B	9256	1/1	0.23	0.25	157,157,157,157	0
56	MG	B	9302	1/1	0.23	0.19	167,167,167,167	0
56	MG	FB	1615	1/1	0.23	0.17	209,209,209,209	0
56	MG	A	1742	1/1	0.24	0.14	160,160,160,160	0
56	MG	FB	1684	1/1	0.24	0.17	140,140,140,140	0
56	MG	A	1760	1/1	0.25	0.16	178,178,178,178	0
56	MG	B	9399	1/1	0.25	0.22	175,175,175,175	0
56	MG	A	1714	1/1	0.25	0.19	111,111,111,111	0
56	MG	RC	302	1/1	0.25	0.16	161,161,161,161	0
56	MG	C	201	1/1	0.26	0.43	132,132,132,132	0
56	MG	FB	1630	1/1	0.26	0.31	128,128,128,128	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	A	1643	1/1	0.26	0.35	170,170,170,170	0
56	MG	FB	1716	1/1	0.27	0.39	197,197,197,197	0
56	MG	A	1618	1/1	0.28	0.38	141,141,141,141	0
56	MG	A	1782	1/1	0.28	0.15	159,159,159,159	0
56	MG	NC	101	1/1	0.28	0.22	189,189,189,189	0
56	MG	FB	1662	1/1	0.28	0.28	139,139,139,139	0
56	MG	GB	9181	1/1	0.29	0.23	135,135,135,135	0
56	MG	GB	9373	1/1	0.29	0.17	157,157,157,157	0
56	MG	A	1674	1/1	0.30	0.30	133,133,133,133	0
56	MG	FB	1675	1/1	0.30	0.29	197,197,197,197	0
56	MG	IA	108	1/1	0.30	0.11	165,165,165,165	0
56	MG	B	9024	1/1	0.31	0.30	120,120,120,120	0
56	MG	D	102	1/1	0.31	0.18	185,185,185,185	0
56	MG	IB	102	1/1	0.31	0.09	246,246,246,246	0
56	MG	GB	9383	1/1	0.31	0.16	137,137,137,137	0
56	MG	LB	302	1/1	0.32	0.12	137,137,137,137	0
56	MG	FB	1720	1/1	0.32	0.19	164,164,164,164	0
56	MG	A	1640	1/1	0.33	0.23	140,140,140,140	0
56	MG	FB	1780	1/1	0.33	0.16	184,184,184,184	0
56	MG	A	1683	1/1	0.33	0.17	166,166,166,166	0
56	MG	FB	1653	1/1	0.34	0.30	146,146,146,146	0
56	MG	FB	1686	1/1	0.34	0.23	139,139,139,139	0
56	MG	TC	201	1/1	0.34	0.37	120,120,120,120	0
56	MG	A	1719	1/1	0.35	0.28	170,170,170,170	0
56	MG	FB	1635	1/1	0.35	0.18	151,151,151,151	0
56	MG	FB	1659	1/1	0.35	0.22	122,122,122,122	0
56	MG	A	1692	1/1	0.35	0.31	149,149,149,149	0
56	MG	GB	9028	1/1	0.35	0.28	112,112,112,112	0
56	MG	B	9174	1/1	0.35	0.35	113,113,113,113	0
56	MG	B	9066	1/1	0.35	0.23	130,130,130,130	0
56	MG	GB	9288	1/1	0.36	0.23	202,202,202,202	0
56	MG	A	1672	1/1	0.36	0.17	158,158,158,158	0
56	MG	GB	9027	1/1	0.36	0.25	140,140,140,140	0
56	MG	GB	9078	1/1	0.36	0.21	185,185,185,185	0
56	MG	GB	9228	1/1	0.36	0.19	226,226,226,226	0
56	MG	GB	9093	1/1	0.36	0.25	116,116,116,116	0
56	MG	GB	9166	1/1	0.36	0.20	129,129,129,129	0
56	MG	D	103	1/1	0.36	0.20	147,147,147,147	0
56	MG	A	1639	1/1	0.36	0.15	166,166,166,166	0
56	MG	FB	1691	1/1	0.37	0.18	144,144,144,144	0
56	MG	A	1622	1/1	0.37	0.30	125,125,125,125	0
56	MG	GB	9024	1/1	0.37	0.22	151,151,151,151	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	FB	1756	1/1	0.38	0.14	123,123,123,123	0
56	MG	B	9119	1/1	0.38	0.33	114,114,114,114	0
56	MG	FB	1648	1/1	0.38	0.32	108,108,108,108	0
56	MG	A	1612	1/1	0.38	0.37	125,125,125,125	0
56	MG	LA	5800	1/1	0.38	0.20	163,163,163,163	0
56	MG	GB	9381	1/1	0.38	0.17	132,132,132,132	0
56	MG	HB	207	1/1	0.38	0.31	146,146,146,146	0
56	MG	FB	1651	1/1	0.39	0.20	186,186,186,186	0
56	MG	A	1602	1/1	0.39	0.34	124,124,124,124	0
56	MG	MC	101	1/1	0.39	0.38	130,130,130,130	0
56	MG	B	9280	1/1	0.39	0.18	183,183,183,183	0
56	MG	FB	1708	1/1	0.39	0.15	152,152,152,152	0
56	MG	QA	201	1/1	0.39	0.34	144,144,144,144	0
56	MG	C	215	1/1	0.40	0.10	137,137,137,137	0
56	MG	A	1739	1/1	0.40	0.20	161,161,161,161	0
56	MG	GB	9183	1/1	0.40	0.20	169,169,169,169	0
56	MG	NC	102	1/1	0.40	0.14	165,165,165,165	0
56	MG	B	9183	1/1	0.40	0.18	172,172,172,172	0
56	MG	UB	204	1/1	0.40	0.18	161,161,161,161	0
56	MG	HB	217	1/1	0.41	0.24	135,135,135,135	0
56	MG	A	1677	1/1	0.41	0.13	237,237,237,237	0
56	MG	A	1617	1/1	0.41	0.20	193,193,193,193	0
56	MG	B	9237	1/1	0.41	0.16	165,165,165,165	0
56	MG	GB	9132	1/1	0.41	0.29	151,151,151,151	0
56	MG	GB	9337	1/1	0.41	0.20	147,147,147,147	0
56	MG	FB	1751	1/1	0.41	0.15	174,174,174,174	0
56	MG	B	9177	1/1	0.42	0.28	126,126,126,126	0
56	MG	A	1721	1/1	0.42	0.44	169,169,169,169	0
56	MG	B	9201	1/1	0.42	0.17	159,159,159,159	0
56	MG	B	9282	1/1	0.42	0.15	153,153,153,153	0
56	MG	A	1685	1/1	0.42	0.13	154,154,154,154	0
56	MG	FB	1622	1/1	0.43	0.25	128,128,128,128	0
56	MG	FB	1633	1/1	0.43	0.18	153,153,153,153	0
56	MG	GB	9238	1/1	0.43	0.34	120,120,120,120	0
56	MG	IA	104	1/1	0.43	0.14	140,140,140,140	0
56	MG	GB	9257	1/1	0.43	0.19	124,124,124,124	0
56	MG	GB	9018	1/1	0.43	0.24	136,136,136,136	0
56	MG	FB	1688	1/1	0.43	0.27	137,137,137,137	0
56	MG	B	9392	1/1	0.44	0.17	140,140,140,140	0
56	MG	FB	1777	1/1	0.44	0.32	135,135,135,135	0
56	MG	A	1656	1/1	0.44	0.18	161,161,161,161	0
56	MG	GB	9229	1/1	0.44	0.17	135,135,135,135	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9140	1/1	0.44	0.23	102,102,102,102	0
56	MG	JA	401	1/1	0.44	0.10	169,169,169,169	0
56	MG	B	9131	1/1	0.44	0.23	92,92,92,92	0
56	MG	FB	1618	1/1	0.44	0.49	111,111,111,111	0
56	MG	A	1702	1/1	0.44	0.15	211,211,211,211	0
56	MG	B	9116	1/1	0.44	0.25	127,127,127,127	0
56	MG	GB	9205	1/1	0.44	0.13	158,158,158,158	0
56	MG	GB	9115	1/1	0.45	0.28	109,109,109,109	0
56	MG	GB	9248	1/1	0.45	0.12	158,158,158,158	0
56	MG	XB	202	1/1	0.45	0.14	140,140,140,140	0
56	MG	B	9042	1/1	0.45	0.33	120,120,120,120	0
56	MG	GB	9017	1/1	0.45	0.19	132,132,132,132	0
56	MG	B	9139	1/1	0.45	0.24	147,147,147,147	0
56	MG	GB	9174	1/1	0.45	0.19	136,136,136,136	0
56	MG	B	9088	1/1	0.45	0.35	108,108,108,108	0
56	MG	GB	9114	1/1	0.45	0.22	134,134,134,134	0
56	MG	B	9036	1/1	0.46	0.22	75,75,75,75	0
56	MG	B	9111	1/1	0.46	0.27	104,104,104,104	0
56	MG	FB	1641	1/1	0.46	0.28	131,131,131,131	0
56	MG	GB	9398	1/1	0.46	0.17	165,165,165,165	0
56	MG	BD	201	1/1	0.46	0.11	182,182,182,182	0
56	MG	GB	9350	1/1	0.47	0.11	143,143,143,143	0
56	MG	GB	9354	1/1	0.47	0.15	164,164,164,164	0
56	MG	GB	9097	1/1	0.47	0.24	134,134,134,134	0
56	MG	A	1689	1/1	0.47	0.17	184,184,184,184	0
56	MG	GB	9303	1/1	0.48	0.16	165,165,165,165	0
56	MG	B	9135	1/1	0.48	0.21	142,142,142,142	0
56	MG	FB	1624	1/1	0.48	0.19	136,136,136,136	0
56	MG	FB	1699	1/1	0.48	0.25	120,120,120,120	0
56	MG	FB	1642	1/1	0.48	0.17	121,121,121,121	0
56	MG	GB	9041	1/1	0.48	0.33	111,111,111,111	0
56	MG	HB	214	1/1	0.48	0.16	163,163,163,163	0
56	MG	MA	304	1/1	0.48	0.15	165,165,165,165	0
56	MG	B	9102	1/1	0.49	0.28	107,107,107,107	0
56	MG	FB	1732	1/1	0.49	0.13	164,164,164,164	0
56	MG	FB	1680	1/1	0.49	0.16	139,139,139,139	0
56	MG	B	9144	1/1	0.49	0.24	117,117,117,117	0
56	MG	FB	1757	1/1	0.49	0.18	170,170,170,170	0
56	MG	HB	211	1/1	0.49	0.26	147,147,147,147	0
56	MG	FB	1627	1/1	0.49	0.19	123,123,123,123	0
56	MG	GB	9235	1/1	0.49	0.19	156,156,156,156	0
56	MG	FB	1772	1/1	0.49	0.26	165,165,165,165	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	NC	109	1/1	0.49	0.24	157,157,157,157	0
56	MG	A	1713	1/1	0.49	0.21	151,151,151,151	0
56	MG	B	9311	1/1	0.49	0.17	136,136,136,136	0
56	MG	GB	9256	1/1	0.49	0.19	138,138,138,138	0
56	MG	IA	109	1/1	0.50	0.12	140,140,140,140	0
56	MG	B	9324	1/1	0.50	0.17	182,182,182,182	0
56	MG	B	9233	1/1	0.50	0.19	207,207,207,207	0
56	MG	GB	9295	1/1	0.50	0.12	182,182,182,182	0
56	MG	GB	9390	1/1	0.50	0.13	238,238,238,238	0
56	MG	CB	101	1/1	0.50	0.16	191,191,191,191	0
56	MG	B	9385	1/1	0.50	0.16	173,173,173,173	0
56	MG	MC	102	1/1	0.51	0.18	145,145,145,145	0
56	MG	HB	216	1/1	0.51	0.10	184,184,184,184	0
56	MG	B	9349	1/1	0.51	0.13	163,163,163,163	0
56	MG	A	1762	1/1	0.51	0.13	153,153,153,153	0
56	MG	GB	9200	1/1	0.51	0.16	152,152,152,152	0
56	MG	GB	9034	1/1	0.51	0.24	139,139,139,139	0
56	MG	A	1609	1/1	0.51	0.30	112,112,112,112	0
56	MG	C	214	1/1	0.52	0.14	170,170,170,170	0
56	MG	A	1754	1/1	0.52	0.11	201,201,201,201	0
56	MG	C	219	1/1	0.52	0.15	155,155,155,155	0
56	MG	FB	1606	1/1	0.52	0.21	137,137,137,137	0
56	MG	GB	9077	1/1	0.52	0.35	84,84,84,84	0
56	MG	GB	9386	1/1	0.52	0.20	135,135,135,135	0
56	MG	GB	9013	1/1	0.52	0.29	111,111,111,111	0
56	MG	A	1671	1/1	0.52	0.35	114,114,114,114	0
56	MG	A	1748	1/1	0.52	0.19	116,116,116,116	0
56	MG	A	1751	1/1	0.52	0.18	159,159,159,159	0
56	MG	FB	1752	1/1	0.52	0.23	132,132,132,132	0
56	MG	SC	302	1/1	0.52	0.28	129,129,129,129	0
56	MG	B	9138	1/1	0.52	0.15	158,158,158,158	0
56	MG	A	1768	1/1	0.52	0.11	151,151,151,151	0
56	MG	B	9277	1/1	0.53	0.19	131,131,131,131	0
56	MG	FB	1702	1/1	0.53	0.23	171,171,171,171	0
56	MG	A	1722	1/1	0.53	0.24	132,132,132,132	0
56	MG	B	9382	1/1	0.53	0.09	135,135,135,135	0
56	MG	FB	1604	1/1	0.53	0.45	103,103,103,103	0
56	MG	HB	203	1/1	0.53	0.28	137,137,137,137	0
56	MG	OA	201	1/1	0.53	0.34	118,118,118,118	0
56	MG	GB	9033	1/1	0.54	0.27	131,131,131,131	0
56	MG	B	9057	1/1	0.54	0.29	85,85,85,85	0
56	MG	B	9199	1/1	0.54	0.17	94,94,94,94	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9313	1/1	0.54	0.10	127,127,127,127	0
56	MG	A	1720	1/1	0.54	0.26	126,126,126,126	0
56	MG	FB	1762	1/1	0.54	0.09	256,256,256,256	0
56	MG	GB	9212	1/1	0.54	0.12	210,210,210,210	0
56	MG	A	1687	1/1	0.54	0.12	247,247,247,247	0
56	MG	GB	9169	1/1	0.54	0.16	142,142,142,142	0
56	MG	A	1636	1/1	0.54	0.23	138,138,138,138	0
56	MG	GB	9234	1/1	0.54	0.19	132,132,132,132	0
56	MG	VC	201	1/1	0.54	0.10	145,145,145,145	0
56	MG	C	218	1/1	0.54	0.12	166,166,166,166	0
56	MG	V	502	1/1	0.55	0.16	109,109,109,109	0
56	MG	B	9222	1/1	0.55	0.29	126,126,126,126	0
56	MG	B	9238	1/1	0.55	0.21	95,95,95,95	0
56	MG	FB	1735	1/1	0.55	0.18	131,131,131,131	0
56	MG	IA	103	1/1	0.55	0.17	149,149,149,149	0
56	MG	B	9430	1/1	0.55	0.15	159,159,159,159	0
56	MG	GB	9275	1/1	0.55	0.25	149,149,149,149	0
56	MG	FB	1714	1/1	0.55	0.17	202,202,202,202	0
56	MG	GB	9055	1/1	0.55	0.25	123,123,123,123	0
56	MG	B	9190	1/1	0.55	0.18	110,110,110,110	0
56	MG	GB	9019	1/1	0.55	0.20	130,130,130,130	0
56	MG	GB	9184	1/1	0.55	0.26	130,130,130,130	0
56	MG	GB	9262	1/1	0.56	0.25	119,119,119,119	0
56	MG	FB	1728	1/1	0.56	0.17	139,139,139,139	0
56	MG	GB	9158	1/1	0.56	0.28	136,136,136,136	0
56	MG	LB	303	1/1	0.56	0.19	123,123,123,123	0
56	MG	B	9396	1/1	0.56	0.17	120,120,120,120	0
56	MG	OB	201	1/1	0.56	0.18	148,148,148,148	0
56	MG	GB	9043	1/1	0.56	0.24	112,112,112,112	0
56	MG	GB	9137	1/1	0.56	0.32	134,134,134,134	0
56	MG	FB	1725	1/1	0.56	0.12	138,138,138,138	0
56	MG	GB	9297	1/1	0.56	0.15	132,132,132,132	0
56	MG	GB	9355	1/1	0.57	0.15	131,131,131,131	0
56	MG	B	9351	1/1	0.57	0.13	147,147,147,147	0
56	MG	GB	9138	1/1	0.57	0.33	122,122,122,122	0
56	MG	B	9219	1/1	0.57	0.18	138,138,138,138	0
56	MG	FB	1791	1/1	0.57	0.12	138,138,138,138	0
56	MG	GB	9325	1/1	0.57	0.17	105,105,105,105	0
56	MG	B	9330	1/1	0.57	0.21	125,125,125,125	0
56	MG	FB	1672	1/1	0.57	0.31	131,131,131,131	0
56	MG	GB	9401	1/1	0.57	0.23	106,106,106,106	0
56	MG	GB	9230	1/1	0.57	0.25	137,137,137,137	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	B	9321	1/1	0.57	0.13	132,132,132,132	0
56	MG	B	9109	1/1	0.58	0.22	70,70,70,70	0
56	MG	GB	9128	1/1	0.58	0.21	136,136,136,136	0
56	MG	A	1770	1/1	0.58	0.13	163,163,163,163	0
56	MG	UB	201	1/1	0.58	0.14	149,149,149,149	0
56	MG	A	1624	1/1	0.58	0.20	144,144,144,144	0
56	MG	B	9303	1/1	0.58	0.25	120,120,120,120	0
56	MG	FB	1697	1/1	0.58	0.16	149,149,149,149	0
56	MG	A	1758	1/1	0.58	0.10	98,98,98,98	0
56	MG	GB	9095	1/1	0.58	0.37	108,108,108,108	0
56	MG	GB	9152	1/1	0.58	0.21	119,119,119,119	0
56	MG	B	9243	1/1	0.58	0.13	153,153,153,153	0
56	MG	GB	9035	1/1	0.58	0.22	104,104,104,104	0
56	MG	GB	9112	1/1	0.58	0.18	139,139,139,139	0
56	MG	B	9098	1/1	0.58	0.25	114,114,114,114	0
56	MG	B	9013	1/1	0.58	0.22	96,96,96,96	0
56	MG	GB	9051	1/1	0.58	0.33	106,106,106,106	0
56	MG	B	9220	1/1	0.58	0.19	112,112,112,112	0
56	MG	B	9156	1/1	0.59	0.17	145,145,145,145	0
56	MG	GB	9116	1/1	0.59	0.20	124,124,124,124	0
56	MG	GB	9172	1/1	0.59	0.17	135,135,135,135	0
56	MG	B	9267	1/1	0.59	0.11	164,164,164,164	0
56	MG	GB	9331	1/1	0.59	0.09	143,143,143,143	0
56	MG	B	9327	1/1	0.59	0.19	139,139,139,139	0
56	MG	A	1623	1/1	0.59	0.28	119,119,119,119	0
56	MG	GB	9127	1/1	0.59	0.18	119,119,119,119	0
56	MG	B	9112	1/1	0.59	0.22	138,138,138,138	0
56	MG	UA	201	1/1	0.59	0.09	139,139,139,139	0
56	MG	VA	201	1/1	0.59	0.10	120,120,120,120	0
56	MG	B	9428	1/1	0.59	0.15	138,138,138,138	0
56	MG	B	9307	1/1	0.59	0.14	142,142,142,142	0
56	MG	GB	9103	1/1	0.59	0.20	126,126,126,126	0
56	MG	H	201	1/1	0.59	0.23	146,146,146,146	0
56	MG	GB	9108	1/1	0.59	0.47	116,116,116,116	0
56	MG	FB	1731	1/1	0.59	0.18	156,156,156,156	0
56	MG	A	1715	1/1	0.59	0.21	121,121,121,121	0
56	MG	GB	9123	1/1	0.60	0.27	109,109,109,109	0
56	MG	B	9235	1/1	0.60	0.12	165,165,165,165	0
56	MG	FB	1605	1/1	0.60	0.37	103,103,103,103	0
56	MG	GB	9207	1/1	0.60	0.23	119,119,119,119	0
56	MG	GB	9075	1/1	0.60	0.20	129,129,129,129	0
56	MG	B	9105	1/1	0.60	0.32	111,111,111,111	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	A	1693	1/1	0.60	0.11	154,154,154,154	0
56	MG	A	1780	1/1	0.60	0.17	163,163,163,163	0
56	MG	J	201	1/1	0.60	0.13	157,157,157,157	0
56	MG	GB	9026	1/1	0.60	0.26	88,88,88,88	0
56	MG	FB	1620	1/1	0.60	0.18	126,126,126,126	0
56	MG	A	1745	1/1	0.60	0.14	172,172,172,172	0
56	MG	B	9260	1/1	0.60	0.24	103,103,103,103	0
56	MG	B	9043	1/1	0.60	0.24	95,95,95,95	0
56	MG	FB	1658	1/1	0.60	0.37	119,119,119,119	0
56	MG	FB	1706	1/1	0.60	0.26	117,117,117,117	0
56	MG	A	1756	1/1	0.60	0.19	102,102,102,102	0
56	MG	B	9234	1/1	0.60	0.18	130,130,130,130	0
56	MG	IA	107	1/1	0.60	0.13	109,109,109,109	0
56	MG	GB	9375	1/1	0.60	0.09	152,152,152,152	0
56	MG	C	221	1/1	0.60	0.22	157,157,157,157	0
56	MG	B	9015	1/1	0.61	0.29	84,84,84,84	0
56	MG	A	1699	1/1	0.61	0.18	136,136,136,136	0
56	MG	FB	1613	1/1	0.61	0.37	105,105,105,105	0
56	MG	GB	9146	1/1	0.61	0.16	116,116,116,116	0
56	MG	GB	9151	1/1	0.61	0.23	104,104,104,104	0
56	MG	FB	1744	1/1	0.61	0.17	135,135,135,135	0
56	MG	A	1738	1/1	0.61	0.20	127,127,127,127	0
56	MG	GB	9022	1/1	0.61	0.41	99,99,99,99	0
56	MG	B	9284	1/1	0.61	0.17	128,128,128,128	0
56	MG	GB	9385	1/1	0.61	0.19	105,105,105,105	0
56	MG	SA	201	1/1	0.61	0.13	169,169,169,169	0
56	MG	B	9418	1/1	0.61	0.19	111,111,111,111	0
56	MG	B	9076	1/1	0.61	0.22	104,104,104,104	0
56	MG	B	9080	1/1	0.61	0.26	117,117,117,117	0
56	MG	A	1665	1/1	0.61	0.18	134,134,134,134	0
56	MG	A	1606	1/1	0.61	0.20	109,109,109,109	0
56	MG	B	9045	1/1	0.61	0.40	105,105,105,105	0
56	MG	HD	101	1/1	0.61	0.22	150,150,150,150	0
56	MG	GB	9349	1/1	0.62	0.12	134,134,134,134	0
56	MG	FB	1614	1/1	0.62	0.32	125,125,125,125	0
56	MG	A	1604	1/1	0.62	0.20	125,125,125,125	0
56	MG	A	1729	1/1	0.62	0.17	141,141,141,141	0
56	MG	GB	9119	1/1	0.62	0.34	126,126,126,126	0
56	MG	B	9171	1/1	0.62	0.17	150,150,150,150	0
56	MG	A	1663	1/1	0.62	0.20	135,135,135,135	0
56	MG	B	9084	1/1	0.62	0.25	101,101,101,101	0
56	MG	GB	9308	1/1	0.62	0.30	102,102,102,102	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	B	9025	1/1	0.62	0.40	87,87,87,87	0
56	MG	GB	9067	1/1	0.62	0.19	105,105,105,105	0
56	MG	GB	9113	1/1	0.62	0.24	99,99,99,99	0
56	MG	GB	9328	1/1	0.62	0.10	152,152,152,152	0
56	MG	A	1613	1/1	0.62	0.33	121,121,121,121	0
56	MG	GB	9038	1/1	0.62	0.30	98,98,98,98	0
56	MG	GB	9279	1/1	0.62	0.12	140,140,140,140	0
56	MG	GB	9343	1/1	0.62	0.09	133,133,133,133	0
56	MG	B	9101	1/1	0.63	0.19	102,102,102,102	0
56	MG	B	9265	1/1	0.63	0.13	136,136,136,136	0
56	MG	GB	9395	1/1	0.63	0.09	158,158,158,158	0
56	MG	B	9310	1/1	0.63	0.08	162,162,162,162	0
56	MG	A	1776	1/1	0.63	0.23	144,144,144,144	0
56	MG	QC	302	1/1	0.63	0.19	143,143,143,143	0
56	MG	B	9289	1/1	0.63	0.23	138,138,138,138	0
56	MG	B	9254	1/1	0.63	0.13	188,188,188,188	0
56	MG	C	208	1/1	0.63	0.15	164,164,164,164	0
56	MG	A	1783	1/1	0.63	0.16	160,160,160,160	0
56	MG	HB	219	1/1	0.63	0.17	141,141,141,141	0
56	MG	GB	9246	1/1	0.63	0.13	133,133,133,133	0
56	MG	MC	103	1/1	0.64	0.20	140,140,140,140	0
56	MG	FB	1723	1/1	0.64	0.25	181,181,181,181	0
56	MG	B	9129	1/1	0.64	0.21	108,108,108,108	0
56	MG	GB	9010	1/1	0.64	0.30	92,92,92,92	0
56	MG	YA	101	1/1	0.64	0.23	126,126,126,126	0
56	MG	A	1707	1/1	0.64	0.23	164,164,164,164	0
56	MG	FB	1637	1/1	0.64	0.36	109,109,109,109	0
56	MG	B	9180	1/1	0.64	0.15	178,178,178,178	0
56	MG	B	9023	1/1	0.64	0.32	92,92,92,92	0
56	MG	B	9186	1/1	0.64	0.17	116,116,116,116	0
56	MG	GB	9083	1/1	0.64	0.23	125,125,125,125	0
56	MG	A	1726	1/1	0.65	0.14	140,140,140,140	0
56	MG	GB	9039	1/1	0.65	0.29	130,130,130,130	0
56	MG	GB	9090	1/1	0.65	0.25	129,129,129,129	0
56	MG	C	207	1/1	0.65	0.12	152,152,152,152	0
56	MG	FB	1645	1/1	0.65	0.17	144,144,144,144	0
56	MG	GB	9044	1/1	0.65	0.23	119,119,119,119	0
56	MG	FB	1603	1/1	0.65	0.29	118,118,118,118	0
56	MG	FB	1771	1/1	0.65	0.17	138,138,138,138	0
56	MG	B	9055	1/1	0.65	0.18	127,127,127,127	0
56	MG	GB	9109	1/1	0.65	0.17	111,111,111,111	0
56	MG	GB	9190	1/1	0.65	0.23	112,112,112,112	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	FB	1650	1/1	0.65	0.26	135,135,135,135	0
56	MG	B	9423	1/1	0.65	0.25	117,117,117,117	0
56	MG	GB	9392	1/1	0.65	0.20	147,147,147,147	0
56	MG	B	9373	1/1	0.65	0.14	160,160,160,160	0
56	MG	F	303	1/1	0.65	0.12	131,131,131,131	0
56	MG	GB	9270	1/1	0.65	0.17	123,123,123,123	0
56	MG	GB	9271	1/1	0.65	0.29	126,126,126,126	0
56	MG	A	1688	1/1	0.65	0.13	170,170,170,170	0
56	MG	JB	303	1/1	0.66	0.10	102,102,102,102	0
56	MG	A	1666	1/1	0.66	0.25	123,123,123,123	0
56	MG	GB	9092	1/1	0.66	0.22	110,110,110,110	0
56	MG	FB	1703	1/1	0.66	0.17	116,116,116,116	0
56	MG	A	1605	1/1	0.66	0.25	119,119,119,119	0
56	MG	A	1727	1/1	0.66	0.18	161,161,161,161	0
56	MG	GB	9129	1/1	0.66	0.09	103,103,103,103	0
56	MG	FB	1673	1/1	0.66	0.21	133,133,133,133	0
56	MG	FB	1647	1/1	0.66	0.23	136,136,136,136	0
56	MG	C	203	1/1	0.66	0.17	161,161,161,161	0
56	MG	GB	9201	1/1	0.66	0.23	107,107,107,107	0
56	MG	GB	9203	1/1	0.66	0.17	100,100,100,100	0
56	MG	FB	1617	1/1	0.66	0.26	110,110,110,110	0
56	MG	GB	9110	1/1	0.66	0.17	98,98,98,98	0
56	MG	FB	1685	1/1	0.66	0.13	141,141,141,141	0
56	MG	D	101	1/1	0.66	0.13	231,231,231,231	0
56	MG	GB	9380	1/1	0.66	0.11	120,120,120,120	0
56	MG	B	9232	1/1	0.66	0.22	111,111,111,111	0
56	MG	B	9038	1/1	0.66	0.31	85,85,85,85	0
56	MG	GB	9153	1/1	0.66	0.15	110,110,110,110	0
56	MG	A	1718	1/1	0.66	0.20	133,133,133,133	0
56	MG	A	1755	1/1	0.66	0.25	110,110,110,110	0
56	MG	GB	9084	1/1	0.66	0.26	111,111,111,111	0
56	MG	A	1700	1/1	0.67	0.14	97,97,97,97	0
56	MG	A	1781	1/1	0.67	0.12	149,149,149,149	0
56	MG	GB	9227	1/1	0.67	0.25	116,116,116,116	0
56	MG	B	9052	1/1	0.67	0.26	114,114,114,114	0
56	MG	A	1698	1/1	0.67	0.13	171,171,171,171	0
56	MG	FB	1781	1/1	0.67	0.39	179,179,179,179	0
56	MG	NC	105	1/1	0.67	0.05	174,174,174,174	0
56	MG	O	202	1/1	0.67	0.28	102,102,102,102	0
56	MG	PC	401	1/1	0.67	0.15	167,167,167,167	0
56	MG	FB	1759	1/1	0.67	0.30	134,134,134,134	0
56	MG	FB	1639	1/1	0.67	0.16	123,123,123,123	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9244	1/1	0.67	0.20	132,132,132,132	0
56	MG	GB	9060	1/1	0.67	0.24	124,124,124,124	0
56	MG	A	1645	1/1	0.67	0.42	131,131,131,131	0
56	MG	FB	1767	1/1	0.67	0.15	137,137,137,137	0
56	MG	GB	9254	1/1	0.67	0.10	109,109,109,109	0
56	MG	GB	9185	1/1	0.68	0.16	120,120,120,120	0
56	MG	SB	202	1/1	0.68	0.21	137,137,137,137	0
56	MG	GB	9290	1/1	0.68	0.15	146,146,146,146	0
56	MG	UB	202	1/1	0.68	0.35	164,164,164,164	0
56	MG	B	9044	1/1	0.68	0.36	73,73,73,73	0
56	MG	GB	9243	1/1	0.68	0.15	127,127,127,127	0
56	MG	GB	9149	1/1	0.68	0.10	108,108,108,108	0
56	MG	A	1676	1/1	0.68	0.26	133,133,133,133	0
56	MG	GB	9104	1/1	0.68	0.18	103,103,103,103	0
56	MG	FB	1670	1/1	0.68	0.18	197,197,197,197	0
56	MG	GB	9155	1/1	0.68	0.15	150,150,150,150	0
56	MG	B	9078	1/1	0.68	0.24	88,88,88,88	0
56	MG	GB	9040	1/1	0.68	0.25	113,113,113,113	0
56	MG	GB	9020	1/1	0.68	0.48	94,94,94,94	0
56	MG	GB	9218	1/1	0.68	0.15	108,108,108,108	0
56	MG	B	9210	1/1	0.68	0.17	133,133,133,133	0
56	MG	C	209	1/1	0.68	0.29	130,130,130,130	0
56	MG	OA	204	1/1	0.68	0.10	134,134,134,134	0
56	MG	A	1690	1/1	0.68	0.32	105,105,105,105	0
56	MG	B	9140	1/1	0.68	0.21	111,111,111,111	0
56	MG	WC	201	1/1	0.68	0.11	134,134,134,134	0
56	MG	FB	1729	1/1	0.68	0.19	134,134,134,134	0
56	MG	PB	201	1/1	0.68	0.10	134,134,134,134	0
56	MG	G	301	1/1	0.69	0.15	101,101,101,101	0
56	MG	A	1710	1/1	0.69	0.29	148,148,148,148	0
56	MG	FB	1640	1/1	0.69	0.16	103,103,103,103	0
56	MG	B	9182	1/1	0.69	0.11	116,116,116,116	0
56	MG	B	9308	1/1	0.69	0.10	125,125,125,125	0
56	MG	K	204	1/1	0.69	0.11	133,133,133,133	0
56	MG	C	211	1/1	0.69	0.14	149,149,149,149	0
56	MG	GB	9240	1/1	0.69	0.13	113,113,113,113	0
56	MG	GB	9319	1/1	0.69	0.27	104,104,104,104	0
56	MG	LB	304	1/1	0.69	0.12	127,127,127,127	0
56	MG	A	1759	1/1	0.69	0.40	175,175,175,175	0
56	MG	GB	9321	1/1	0.69	0.13	147,147,147,147	0
56	MG	MA	301	1/1	0.69	0.16	152,152,152,152	0
56	MG	FB	1727	1/1	0.69	0.23	119,119,119,119	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9388	1/1	0.69	0.18	108,108,108,108	0
56	MG	HB	213	1/1	0.69	0.06	187,187,187,187	0
56	MG	A	1763	1/1	0.69	0.11	104,104,104,104	0
56	MG	B	9224	1/1	0.69	0.17	120,120,120,120	0
56	MG	C	202	1/1	0.70	0.29	126,126,126,126	0
56	MG	AB	201	1/1	0.70	0.15	135,135,135,135	0
56	MG	B	9258	1/1	0.70	0.10	109,109,109,109	0
56	MG	GB	9015	1/1	0.70	0.24	86,86,86,86	0
56	MG	A	1704	1/1	0.70	0.15	106,106,106,106	0
56	MG	A	1607	1/1	0.70	0.28	122,122,122,122	0
56	MG	BC	301	1/1	0.70	0.20	136,136,136,136	0
56	MG	GB	9088	1/1	0.70	0.21	115,115,115,115	0
56	MG	FB	1766	1/1	0.70	0.29	110,110,110,110	0
56	MG	GB	9304	1/1	0.70	0.17	102,102,102,102	0
56	MG	GB	9091	1/1	0.70	0.20	107,107,107,107	0
56	MG	K	201	1/1	0.70	0.08	128,128,128,128	0
56	MG	GB	9310	1/1	0.70	0.21	124,124,124,124	0
56	MG	A	1777	1/1	0.70	0.18	152,152,152,152	0
56	MG	A	1696	1/1	0.70	0.10	106,106,106,106	0
56	MG	FB	1776	1/1	0.70	0.11	214,214,214,214	0
56	MG	GB	9220	1/1	0.70	0.21	122,122,122,122	0
56	MG	GB	9168	1/1	0.70	0.15	115,115,115,115	0
56	MG	GB	9056	1/1	0.70	0.25	93,93,93,93	0
56	MG	GB	9400	1/1	0.70	0.09	150,150,150,150	0
56	MG	FB	1607	1/1	0.70	0.33	99,99,99,99	0
56	MG	B	9092	1/1	0.70	0.13	140,140,140,140	0
56	MG	A	1658	1/1	0.70	0.31	177,177,177,177	0
56	MG	GB	9339	1/1	0.70	0.24	102,102,102,102	0
56	MG	FB	1753	1/1	0.71	0.22	132,132,132,132	0
56	MG	GB	9225	1/1	0.71	0.12	93,93,93,93	0
56	MG	MA	306	1/1	0.71	0.11	149,149,149,149	0
56	MG	A	1734	1/1	0.71	0.16	143,143,143,143	0
56	MG	B	9213	1/1	0.71	0.20	105,105,105,105	0
56	MG	C	204	1/1	0.71	0.27	113,113,113,113	0
56	MG	GB	9120	1/1	0.71	0.11	101,101,101,101	0
56	MG	B	9115	1/1	0.71	0.27	119,119,119,119	0
56	MG	A	1728	1/1	0.71	0.07	183,183,183,183	0
56	MG	GB	9107	1/1	0.71	0.14	88,88,88,88	0
56	MG	GB	9280	1/1	0.71	0.16	104,104,104,104	0
56	MG	A	1630	1/1	0.71	0.30	112,112,112,112	0
56	MG	SC	304	1/1	0.71	0.11	116,116,116,116	0
56	MG	B	9429	1/1	0.71	0.16	100,100,100,100	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	FB	1737	1/1	0.71	0.11	114,114,114,114	0
56	MG	FB	1609	1/1	0.71	0.38	110,110,110,110	0
56	MG	ZC	201	1/1	0.71	0.28	126,126,126,126	0
56	MG	B	9121	1/1	0.71	0.22	142,142,142,142	0
56	MG	B	9335	1/1	0.71	0.13	126,126,126,126	0
56	MG	GB	9125	1/1	0.72	0.26	89,89,89,89	0
56	MG	A	1669	1/1	0.72	0.16	132,132,132,132	0
56	MG	GB	9377	1/1	0.72	0.39	114,114,114,114	0
56	MG	A	1749	1/1	0.72	0.10	129,129,129,129	0
56	MG	GB	9021	1/1	0.72	0.37	109,109,109,109	0
56	MG	FB	1663	1/1	0.72	0.14	110,110,110,110	0
56	MG	GB	9133	1/1	0.72	0.23	107,107,107,107	0
56	MG	PA	201	1/1	0.72	0.07	109,109,109,109	0
56	MG	RB	202	1/1	0.72	0.10	134,134,134,134	0
56	MG	A	1633	1/1	0.72	0.30	112,112,112,112	0
56	MG	GB	9219	1/1	0.72	0.16	143,143,143,143	0
56	MG	GB	9296	1/1	0.72	0.14	133,133,133,133	0
56	MG	D	104	1/1	0.72	0.12	131,131,131,131	0
56	MG	B	9338	1/1	0.72	0.39	112,112,112,112	0
56	MG	FB	1616	1/1	0.72	0.40	108,108,108,108	0
56	MG	B	9348	1/1	0.72	0.12	151,151,151,151	0
56	MG	FB	1770	1/1	0.72	0.12	133,133,133,133	0
56	MG	FB	1678	1/1	0.72	0.24	115,115,115,115	0
56	MG	B	9062	1/1	0.72	0.19	109,109,109,109	0
56	MG	FB	1774	1/1	0.72	0.23	118,118,118,118	0
56	MG	YA	102	1/1	0.72	0.16	134,134,134,134	0
56	MG	A	1732	1/1	0.72	0.22	139,139,139,139	0
56	MG	B	9125	1/1	0.72	0.32	100,100,100,100	0
56	MG	NC	107	1/1	0.72	0.19	122,122,122,122	0
56	MG	NC	108	1/1	0.72	0.13	136,136,136,136	0
56	MG	GB	9241	1/1	0.72	0.26	113,113,113,113	0
56	MG	C	217	1/1	0.72	0.13	140,140,140,140	0
56	MG	B	9314	1/1	0.72	0.15	131,131,131,131	0
56	MG	GB	9004	1/1	0.72	0.40	88,88,88,88	0
56	MG	GB	9007	1/1	0.72	0.28	75,75,75,75	0
56	MG	GB	9008	1/1	0.72	0.28	83,83,83,83	0
56	MG	FB	1696	1/1	0.72	0.18	191,191,191,191	0
56	MG	GB	9061	1/1	0.72	0.16	108,108,108,108	0
56	MG	B	9212	1/1	0.72	0.21	108,108,108,108	0
56	MG	FB	1738	1/1	0.72	0.23	143,143,143,143	0
56	MG	B	9050	1/1	0.72	0.44	105,105,105,105	0
56	MG	Y	102	1/1	0.72	0.09	126,126,126,126	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	A	1682	1/1	0.73	0.18	136,136,136,136	0
56	MG	B	9269	1/1	0.73	0.12	153,153,153,153	0
56	MG	FB	1660	1/1	0.73	0.32	102,102,102,102	0
56	MG	GB	9089	1/1	0.73	0.30	113,113,113,113	0
56	MG	RB	201	1/1	0.73	0.25	87,87,87,87	0
56	MG	B	9272	1/1	0.73	0.16	116,116,116,116	0
56	MG	GB	9175	1/1	0.73	0.18	92,92,92,92	0
56	MG	GB	9176	1/1	0.73	0.19	104,104,104,104	0
56	MG	Z	101	1/1	0.73	0.20	105,105,105,105	0
56	MG	B	9375	1/1	0.73	0.07	95,95,95,95	0
56	MG	B	9100	1/1	0.73	0.17	100,100,100,100	0
56	MG	A	1648	1/1	0.73	0.13	130,130,130,130	0
56	MG	GB	9188	1/1	0.73	0.22	90,90,90,90	0
56	MG	A	1603	1/1	0.73	0.24	102,102,102,102	0
56	MG	GB	9323	1/1	0.73	0.23	98,98,98,98	0
56	MG	GB	9250	1/1	0.73	0.20	132,132,132,132	0
56	MG	GB	9102	1/1	0.73	0.26	81,81,81,81	0
56	MG	GB	9197	1/1	0.73	0.18	91,91,91,91	0
56	MG	IA	105	1/1	0.73	0.24	135,135,135,135	0
56	MG	GB	9259	1/1	0.73	0.16	91,91,91,91	0
56	MG	D	105	1/1	0.73	0.09	129,129,129,129	0
56	MG	HB	212	1/1	0.73	0.30	130,130,130,130	0
56	MG	GB	9054	1/1	0.73	0.31	105,105,105,105	0
56	MG	FB	1677	1/1	0.73	0.21	119,119,119,119	0
56	MG	B	9253	1/1	0.73	0.12	107,107,107,107	0
56	MG	FB	1724	1/1	0.73	0.34	162,162,162,162	0
56	MG	A	1725	1/1	0.73	0.30	126,126,126,126	0
56	MG	GB	9368	1/1	0.73	0.07	139,139,139,139	0
56	MG	B	9064	1/1	0.73	0.20	107,107,107,107	0
56	MG	B	9401	1/1	0.73	0.07	139,139,139,139	0
56	MG	A	1730	1/1	0.73	0.15	115,115,115,115	0
56	MG	B	9067	1/1	0.73	0.19	89,89,89,89	0
56	MG	B	9136	1/1	0.73	0.17	121,121,121,121	0
56	MG	GB	9030	1/1	0.73	0.33	80,80,80,80	0
56	MG	B	9054	1/1	0.74	0.27	115,115,115,115	0
56	MG	GB	9063	1/1	0.74	0.18	115,115,115,115	0
56	MG	B	9262	1/1	0.74	0.23	110,110,110,110	0
56	MG	B	9347	1/1	0.74	0.09	115,115,115,115	0
56	MG	FB	1666	1/1	0.74	0.13	128,128,128,128	0
56	MG	GB	9076	1/1	0.74	0.18	104,104,104,104	0
56	MG	A	1668	1/1	0.74	0.14	147,147,147,147	0
56	MG	FB	1682	1/1	0.74	0.17	130,130,130,130	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	A	1701	1/1	0.74	0.20	160,160,160,160	0
56	MG	GB	9191	1/1	0.74	0.17	116,116,116,116	0
56	MG	B	9383	1/1	0.74	0.18	116,116,116,116	0
56	MG	A	1675	1/1	0.75	0.20	96,96,96,96	0
56	MG	B	9376	1/1	0.75	0.17	94,94,94,94	0
56	MG	GB	9287	1/1	0.75	0.07	164,164,164,164	0
56	MG	B	9193	1/1	0.75	0.23	96,96,96,96	0
56	MG	MA	303	1/1	0.75	0.10	139,139,139,139	0
56	MG	AA	101	1/1	0.75	0.20	106,106,106,106	0
56	MG	B	9037	1/1	0.75	0.24	89,89,89,89	0
56	MG	B	9169	1/1	0.75	0.24	110,110,110,110	0
56	MG	B	9204	1/1	0.75	0.22	113,113,113,113	0
56	MG	B	9241	1/1	0.75	0.08	118,118,118,118	0
56	MG	GB	9182	1/1	0.75	0.17	125,125,125,125	0
56	MG	GB	9130	1/1	0.75	0.21	116,116,116,116	0
56	MG	FB	1692	1/1	0.75	0.17	129,129,129,129	0
56	MG	A	1737	1/1	0.75	0.20	131,131,131,131	0
56	MG	GB	9309	1/1	0.75	0.11	109,109,109,109	0
56	MG	GB	9135	1/1	0.75	0.24	105,105,105,105	0
56	MG	GB	9311	1/1	0.75	0.12	132,132,132,132	0
56	MG	GB	9058	1/1	0.75	0.29	117,117,117,117	0
56	MG	B	9301	1/1	0.75	0.11	119,119,119,119	0
56	MG	FB	1625	1/1	0.75	0.23	99,99,99,99	0
56	MG	A	1649	1/1	0.75	0.19	88,88,88,88	0
56	MG	FB	1629	1/1	0.75	0.12	101,101,101,101	0
56	MG	GB	9324	1/1	0.75	0.11	153,153,153,153	0
56	MG	NC	106	1/1	0.75	0.17	108,108,108,108	0
56	MG	FB	1674	1/1	0.75	0.25	107,107,107,107	0
56	MG	GB	9326	1/1	0.75	0.11	180,180,180,180	0
56	MG	GB	9147	1/1	0.75	0.28	114,114,114,114	0
56	MG	GB	9329	1/1	0.75	0.16	91,91,91,91	0
56	MG	GB	9072	1/1	0.75	0.16	113,113,113,113	0
56	MG	GB	9263	1/1	0.75	0.12	148,148,148,148	0
56	MG	B	9417	1/1	0.75	0.14	113,113,113,113	0
56	MG	FB	1707	1/1	0.75	0.35	113,113,113,113	0
56	MG	FB	1782	1/1	0.75	0.17	175,175,175,175	0
56	MG	FB	1790	1/1	0.75	0.10	138,138,138,138	0
56	MG	GB	9157	1/1	0.75	0.09	143,143,143,143	0
56	MG	GB	9276	1/1	0.75	0.18	94,94,94,94	0
56	MG	FB	1745	1/1	0.75	0.22	138,138,138,138	0
56	MG	GB	9360	1/1	0.75	0.14	101,101,101,101	0
56	MG	GB	9268	1/1	0.76	0.17	109,109,109,109	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	MA	302	1/1	0.76	0.11	157,157,157,157	0
56	MG	B	9248	1/1	0.76	0.22	104,104,104,104	0
56	MG	CC	101	1/1	0.76	0.52	111,111,111,111	0
56	MG	DC	101	1/1	0.76	0.20	122,122,122,122	0
56	MG	B	9058	1/1	0.76	0.17	151,151,151,151	0
56	MG	GB	9086	1/1	0.76	0.13	123,123,123,123	0
56	MG	GB	9053	1/1	0.76	0.36	88,88,88,88	0
56	MG	FB	1783	1/1	0.76	0.14	160,160,160,160	0
56	MG	FB	1788	1/1	0.76	0.11	127,127,127,127	0
56	MG	B	9334	1/1	0.76	0.21	91,91,91,91	0
56	MG	B	9221	1/1	0.76	0.15	161,161,161,161	0
56	MG	B	9419	1/1	0.76	0.10	102,102,102,102	0
56	MG	GB	9031	1/1	0.76	0.32	96,96,96,96	0
56	MG	B	9181	1/1	0.76	0.12	97,97,97,97	0
56	MG	GB	9292	1/1	0.76	0.21	122,122,122,122	0
56	MG	GB	9293	1/1	0.76	0.10	90,90,90,90	0
56	MG	GB	9101	1/1	0.76	0.27	84,84,84,84	0
56	MG	A	1628	1/1	0.76	0.19	101,101,101,101	0
56	MG	FB	1695	1/1	0.76	0.24	118,118,118,118	0
56	MG	B	9319	1/1	0.76	0.08	110,110,110,110	0
56	MG	GB	9068	1/1	0.76	0.25	100,100,100,100	0
56	MG	TC	202	1/1	0.76	0.14	135,135,135,135	0
56	MG	B	9175	1/1	0.76	0.19	102,102,102,102	0
56	MG	HB	206	1/1	0.76	0.18	141,141,141,141	0
56	MG	E	306	1/1	0.76	0.07	88,88,88,88	0
56	MG	A	1616	1/1	0.76	0.25	101,101,101,101	0
56	MG	FB	1778	1/1	0.76	0.12	121,121,121,121	0
56	MG	GB	9316	1/1	0.77	0.12	157,157,157,157	0
56	MG	B	9007	1/1	0.77	0.52	75,75,75,75	0
56	MG	B	9402	1/1	0.77	0.20	104,104,104,104	0
56	MG	GB	9080	1/1	0.77	0.29	84,84,84,84	0
56	MG	B	9206	1/1	0.77	0.19	96,96,96,96	0
56	MG	GB	9154	1/1	0.77	0.25	114,114,114,114	0
56	MG	B	9239	1/1	0.77	0.16	86,86,86,86	0
56	MG	GB	9215	1/1	0.77	0.20	145,145,145,145	0
56	MG	B	9133	1/1	0.77	0.18	89,89,89,89	0
56	MG	B	9134	1/1	0.77	0.23	80,80,80,80	0
56	MG	B	9245	1/1	0.77	0.40	103,103,103,103	0
56	MG	A	1654	1/1	0.77	0.25	98,98,98,98	0
56	MG	A	1706	1/1	0.77	0.11	147,147,147,147	0
56	MG	A	1752	1/1	0.77	0.24	112,112,112,112	0
56	MG	GB	9126	1/1	0.77	0.20	109,109,109,109	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	A	1615	1/1	0.77	0.29	101,101,101,101	0
56	MG	A	1614	1/1	0.77	0.23	116,116,116,116	0
56	MG	GB	9231	1/1	0.77	0.16	96,96,96,96	0
56	MG	FB	1690	1/1	0.77	0.21	107,107,107,107	0
56	MG	GB	9178	1/1	0.77	0.16	115,115,115,115	0
56	MG	GB	9364	1/1	0.77	0.14	122,122,122,122	0
56	MG	GB	9180	1/1	0.77	0.34	104,104,104,104	0
56	MG	B	9032	1/1	0.77	0.29	73,73,73,73	0
56	MG	QC	301	1/1	0.77	0.19	133,133,133,133	0
56	MG	C	205	1/1	0.77	0.17	101,101,101,101	0
56	MG	A	1711	1/1	0.77	0.21	110,110,110,110	0
56	MG	B	9230	1/1	0.77	0.15	129,129,129,129	0
56	MG	GB	9105	1/1	0.77	0.20	116,116,116,116	0
56	MG	FB	1733	1/1	0.77	0.08	92,92,92,92	0
56	MG	B	9192	1/1	0.77	0.13	132,132,132,132	0
56	MG	UC	202	1/1	0.77	0.11	138,138,138,138	0
56	MG	FB	1736	1/1	0.77	0.16	120,120,120,120	0
56	MG	B	9127	1/1	0.77	0.34	104,104,104,104	0
56	MG	B	9158	1/1	0.77	0.20	90,90,90,90	0
56	MG	A	1712	1/1	0.77	0.11	198,198,198,198	0
56	MG	QB	201	1/1	0.77	0.26	104,104,104,104	0
56	MG	A	1740	1/1	0.78	0.19	108,108,108,108	0
56	MG	FB	1657	1/1	0.78	0.17	166,166,166,166	0
56	MG	GB	9150	1/1	0.78	0.25	143,143,143,143	0
56	MG	B	9231	1/1	0.78	0.13	85,85,85,85	0
56	MG	B	9061	1/1	0.78	0.27	104,104,104,104	0
56	MG	B	9403	1/1	0.78	0.16	132,132,132,132	0
56	MG	A	1691	1/1	0.78	0.08	145,145,145,145	0
56	MG	FB	1722	1/1	0.78	0.17	105,105,105,105	0
56	MG	B	9368	1/1	0.78	0.21	92,92,92,92	0
56	MG	B	9194	1/1	0.78	0.09	151,151,151,151	0
56	MG	FB	1794	1/1	0.78	0.20	125,125,125,125	0
56	MG	B	9075	1/1	0.78	0.31	106,106,106,106	0
56	MG	GB	9253	1/1	0.78	0.22	104,104,104,104	0
56	MG	FB	1693	1/1	0.78	0.17	160,160,160,160	0
56	MG	B	9288	1/1	0.78	0.12	153,153,153,153	0
56	MG	SC	301	1/1	0.78	0.25	102,102,102,102	0
56	MG	B	9104	1/1	0.78	0.14	78,78,78,78	0
56	MG	SC	303	1/1	0.78	0.08	114,114,114,114	0
56	MG	B	9380	1/1	0.78	0.18	100,100,100,100	0
56	MG	B	9291	1/1	0.78	0.12	77,77,77,77	0
56	MG	B	9203	1/1	0.78	0.13	128,128,128,128	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9177	1/1	0.78	0.27	124,124,124,124	0
56	MG	UC	203	1/1	0.78	0.08	120,120,120,120	0
56	MG	GB	9111	1/1	0.78	0.25	102,102,102,102	0
56	MG	GB	9047	1/1	0.78	0.48	99,99,99,99	0
56	MG	B	9040	1/1	0.78	0.36	98,98,98,98	0
56	MG	B	9142	1/1	0.78	0.18	116,116,116,116	0
56	MG	B	9229	1/1	0.78	0.14	100,100,100,100	0
56	MG	GB	9374	1/1	0.79	0.27	117,117,117,117	0
56	MG	B	9316	1/1	0.79	0.11	126,126,126,126	0
56	MG	GB	9267	1/1	0.79	0.10	118,118,118,118	0
56	MG	B	9151	1/1	0.79	0.16	95,95,95,95	0
56	MG	B	9355	1/1	0.79	0.07	158,158,158,158	0
56	MG	B	9367	1/1	0.79	0.12	102,102,102,102	0
56	MG	B	9021	1/1	0.79	0.43	79,79,79,79	0
56	MG	B	9073	1/1	0.79	0.20	79,79,79,79	0
56	MG	FB	1619	1/1	0.79	0.19	125,125,125,125	0
56	MG	A	1621	1/1	0.79	0.17	105,105,105,105	0
56	MG	FB	1621	1/1	0.79	0.32	97,97,97,97	0
56	MG	FB	1679	1/1	0.79	0.08	244,244,244,244	0
56	MG	B	9255	1/1	0.79	0.16	100,100,100,100	0
56	MG	B	9422	1/1	0.79	0.11	148,148,148,148	0
56	MG	B	9161	1/1	0.79	0.22	94,94,94,94	0
56	MG	GB	9012	1/1	0.79	0.44	77,77,77,77	0
56	MG	B	9071	1/1	0.79	0.20	85,85,85,85	0
56	MG	B	9124	1/1	0.79	0.26	94,94,94,94	0
56	MG	GB	9294	1/1	0.79	0.16	131,131,131,131	0
56	MG	B	9345	1/1	0.79	0.10	85,85,85,85	0
56	MG	FB	1726	1/1	0.79	0.19	107,107,107,107	0
56	MG	MA	305	1/1	0.79	0.08	156,156,156,156	0
56	MG	C	220	1/1	0.79	0.14	161,161,161,161	0
56	MG	GB	9096	1/1	0.79	0.24	114,114,114,114	0
56	MG	B	9431	1/1	0.79	0.11	89,89,89,89	0
56	MG	B	9089	1/1	0.79	0.14	126,126,126,126	0
56	MG	FB	1636	1/1	0.79	0.24	103,103,103,103	0
56	MG	B	9150	1/1	0.79	0.15	101,101,101,101	0
56	MG	A	1750	1/1	0.80	0.15	157,157,157,157	0
56	MG	GB	9025	1/1	0.80	0.30	88,88,88,88	0
56	MG	B	9149	1/1	0.80	0.19	104,104,104,104	0
56	MG	FB	1704	1/1	0.80	0.24	129,129,129,129	0
56	MG	A	1667	1/1	0.80	0.38	112,112,112,112	0
56	MG	B	9122	1/1	0.80	0.18	106,106,106,106	0
56	MG	IC	102	1/1	0.80	0.21	131,131,131,131	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	FB	1741	1/1	0.80	0.22	106,106,106,106	0
56	MG	B	9200	1/1	0.80	0.15	109,109,109,109	0
56	MG	FB	1628	1/1	0.80	0.23	98,98,98,98	0
56	MG	B	9155	1/1	0.80	0.10	97,97,97,97	0
56	MG	GB	9194	1/1	0.80	0.07	119,119,119,119	0
56	MG	FB	1792	1/1	0.80	0.11	134,134,134,134	0
56	MG	GB	9371	1/1	0.80	0.13	92,92,92,92	0
56	MG	B	9056	1/1	0.80	0.39	94,94,94,94	0
56	MG	FB	1683	1/1	0.80	0.19	104,104,104,104	0
56	MG	FB	1611	1/1	0.80	0.26	112,112,112,112	0
56	MG	IA	106	1/1	0.80	0.10	135,135,135,135	0
56	MG	B	9276	1/1	0.80	0.28	105,105,105,105	0
56	MG	GB	9206	1/1	0.80	0.24	113,113,113,113	0
56	MG	GB	9011	1/1	0.80	0.27	88,88,88,88	0
56	MG	GB	9261	1/1	0.80	0.22	104,104,104,104	0
56	MG	A	1695	1/1	0.80	0.26	101,101,101,101	0
56	MG	A	1766	1/1	0.80	0.21	133,133,133,133	0
56	MG	GB	9213	1/1	0.80	0.13	92,92,92,92	0
56	MG	B	9083	1/1	0.80	0.27	100,100,100,100	0
56	MG	B	9188	1/1	0.80	0.20	95,95,95,95	0
56	MG	B	9393	1/1	0.80	0.10	98,98,98,98	0
56	MG	GB	9397	1/1	0.80	0.16	104,104,104,104	0
56	MG	FB	1668	1/1	0.80	0.28	105,105,105,105	0
56	MG	B	9020	1/1	0.80	0.26	83,83,83,83	0
56	MG	AB	202	1/1	0.80	0.12	133,133,133,133	0
56	MG	AD	201	1/1	0.80	0.20	97,97,97,97	0
56	MG	GB	9131	1/1	0.80	0.21	90,90,90,90	0
56	MG	B	9352	1/1	0.80	0.12	121,121,121,121	0
56	MG	GB	9032	1/1	0.81	0.33	86,86,86,86	0
56	MG	FB	1739	1/1	0.81	0.17	115,115,115,115	0
56	MG	GB	9249	1/1	0.81	0.07	107,107,107,107	0
56	MG	GB	9389	1/1	0.81	0.23	107,107,107,107	0
56	MG	A	1757	1/1	0.81	0.09	169,169,169,169	0
56	MG	FB	1701	1/1	0.81	0.23	114,114,114,114	0
56	MG	GB	9330	1/1	0.81	0.12	95,95,95,95	0
56	MG	LB	301	1/1	0.81	0.06	118,118,118,118	0
56	MG	B	9304	1/1	0.81	0.08	86,86,86,86	0
56	MG	GB	9098	1/1	0.81	0.11	122,122,122,122	0
56	MG	B	9432	1/1	0.81	0.24	119,119,119,119	0
56	MG	A	1694	1/1	0.81	0.19	100,100,100,100	0
56	MG	B	9342	1/1	0.81	0.24	104,104,104,104	0
56	MG	FB	1689	1/1	0.81	0.32	109,109,109,109	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	FB	1632	1/1	0.81	0.18	104,104,104,104	0
56	MG	FB	1785	1/1	0.81	0.19	123,123,123,123	0
56	MG	A	1697	1/1	0.81	0.14	135,135,135,135	0
56	MG	FB	1760	1/1	0.81	0.08	112,112,112,112	0
56	MG	GB	9164	1/1	0.81	0.28	85,85,85,85	0
56	MG	B	9346	1/1	0.81	0.08	109,109,109,109	0
56	MG	TC	203	1/1	0.81	0.09	134,134,134,134	0
56	MG	B	9099	1/1	0.81	0.27	83,83,83,83	0
56	MG	FB	1664	1/1	0.81	0.16	98,98,98,98	0
56	MG	FB	1718	1/1	0.81	0.13	133,133,133,133	0
56	MG	B	9117	1/1	0.81	0.28	79,79,79,79	0
56	MG	GB	9173	1/1	0.81	0.09	108,108,108,108	0
56	MG	A	1601	1/1	0.81	0.32	75,75,75,75	0
56	MG	GB	9322	1/1	0.81	0.12	112,112,112,112	0
56	MG	ED	101	1/1	0.81	0.10	120,120,120,120	0
56	MG	GB	9286	1/1	0.81	0.27	105,105,105,105	0
56	MG	B	9070	1/1	0.82	0.10	83,83,83,83	0
56	MG	FB	1709	1/1	0.82	0.12	116,116,116,116	0
56	MG	B	9146	1/1	0.82	0.25	78,78,78,78	0
56	MG	FB	1754	1/1	0.82	0.14	155,155,155,155	0
56	MG	FB	1713	1/1	0.82	0.11	163,163,163,163	0
56	MG	GB	9100	1/1	0.82	0.28	112,112,112,112	0
56	MG	B	9270	1/1	0.82	0.14	93,93,93,93	0
56	MG	B	9086	1/1	0.82	0.31	93,93,93,93	0
56	MG	GB	9314	1/1	0.82	0.33	98,98,98,98	0
56	MG	A	1679	1/1	0.82	0.11	125,125,125,125	0
56	MG	FB	1652	1/1	0.82	0.13	111,111,111,111	0
56	MG	GB	9143	1/1	0.82	0.15	94,94,94,94	0
56	MG	A	1743	1/1	0.82	0.17	121,121,121,121	0
56	MG	B	9320	1/1	0.82	0.18	86,86,86,86	0
56	MG	FB	1687	1/1	0.82	0.15	116,116,116,116	0
56	MG	A	1610	1/1	0.82	0.15	152,152,152,152	0
56	MG	B	9215	1/1	0.82	0.14	92,92,92,92	0
56	MG	A	1673	1/1	0.82	0.14	121,121,121,121	0
56	MG	FB	1661	1/1	0.82	0.14	90,90,90,90	0
56	MG	GB	9071	1/1	0.82	0.29	105,105,105,105	0
56	MG	B	9004	1/1	0.82	0.34	70,70,70,70	0
56	MG	A	1647	1/1	0.82	0.24	127,127,127,127	0
56	MG	B	9159	1/1	0.82	0.10	163,163,163,163	0
56	MG	NC	110	1/1	0.82	0.28	100,100,100,100	0
56	MG	GB	9162	1/1	0.82	0.09	97,97,97,97	0
56	MG	B	9389	1/1	0.82	0.16	112,112,112,112	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	B	9120	1/1	0.82	0.33	91,91,91,91	0
56	MG	B	9162	1/1	0.82	0.10	85,85,85,85	0
56	MG	GB	9081	1/1	0.82	0.22	97,97,97,97	0
56	MG	B	9167	1/1	0.82	0.21	95,95,95,95	0
56	MG	B	9079	1/1	0.82	0.10	73,73,73,73	0
56	MG	GB	9289	1/1	0.82	0.12	95,95,95,95	0
56	MG	GB	9363	1/1	0.82	0.29	97,97,97,97	0
56	MG	GB	9122	1/1	0.82	0.15	88,88,88,88	0
56	MG	B	9009	1/1	0.82	0.29	82,82,82,82	0
56	MG	UC	201	1/1	0.82	0.14	130,130,130,130	0
56	MG	JB	305	1/1	0.82	0.15	112,112,112,112	0
56	MG	GB	9232	1/1	0.82	0.16	106,106,106,106	0
56	MG	B	9069	1/1	0.82	0.20	111,111,111,111	0
56	MG	B	9266	1/1	0.82	0.12	82,82,82,82	0
56	MG	GB	9237	1/1	0.82	0.14	117,117,117,117	0
56	MG	B	9411	1/1	0.82	0.08	139,139,139,139	0
56	MG	FB	1793	1/1	0.82	0.07	138,138,138,138	0
56	MG	GB	9300	1/1	0.82	0.23	107,107,107,107	0
56	MG	B	9350	1/1	0.82	0.16	115,115,115,115	0
56	MG	B	9030	1/1	0.83	0.41	87,87,87,87	0
56	MG	B	9259	1/1	0.83	0.13	100,100,100,100	0
56	MG	B	9049	1/1	0.83	0.27	69,69,69,69	0
56	MG	B	9068	1/1	0.83	0.29	93,93,93,93	0
56	MG	F	301	1/1	0.83	0.09	114,114,114,114	0
56	MG	B	9264	1/1	0.83	0.07	98,98,98,98	0
56	MG	B	9359	1/1	0.83	0.12	78,78,78,78	0
56	MG	GB	9366	1/1	0.83	0.09	92,92,92,92	0
56	MG	GB	9170	1/1	0.83	0.15	101,101,101,101	0
56	MG	GB	9216	1/1	0.83	0.28	90,90,90,90	0
56	MG	B	9362	1/1	0.83	0.11	97,97,97,97	0
56	MG	B	9095	1/1	0.83	0.17	99,99,99,99	0
56	MG	FB	1654	1/1	0.83	0.18	111,111,111,111	0
56	MG	B	9018	1/1	0.83	0.23	82,82,82,82	0
56	MG	B	9114	1/1	0.83	0.18	88,88,88,88	0
56	MG	FB	1784	1/1	0.83	0.11	137,137,137,137	0
56	MG	K	202	1/1	0.83	0.10	105,105,105,105	0
56	MG	FB	1787	1/1	0.83	0.08	127,127,127,127	0
56	MG	QC	303	1/1	0.83	0.20	155,155,155,155	0
56	MG	GB	9274	1/1	0.83	0.30	103,103,103,103	0
56	MG	GB	9387	1/1	0.83	0.14	131,131,131,131	0
56	MG	FB	1715	1/1	0.83	0.19	121,121,121,121	0
56	MG	B	9244	1/1	0.83	0.23	101,101,101,101	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	L	203	1/1	0.83	0.09	89,89,89,89	0
56	MG	B	9336	1/1	0.83	0.05	94,94,94,94	0
56	MG	B	9060	1/1	0.83	0.32	91,91,91,91	0
56	MG	GB	9285	1/1	0.83	0.20	108,108,108,108	0
56	MG	B	9130	1/1	0.83	0.15	115,115,115,115	0
56	MG	B	9033	1/1	0.83	0.29	78,78,78,78	0
56	MG	B	9211	1/1	0.83	0.09	169,169,169,169	0
56	MG	FB	1761	1/1	0.83	0.17	125,125,125,125	0
56	MG	A	1632	1/1	0.83	0.39	89,89,89,89	0
56	MG	B	9017	1/1	0.83	0.25	78,78,78,78	0
56	MG	GB	9048	1/1	0.83	0.26	92,92,92,92	0
56	MG	AD	202	1/1	0.83	0.23	103,103,103,103	0
56	MG	VB	201	1/1	0.83	0.14	105,105,105,105	0
56	MG	B	9434	1/1	0.83	0.12	133,133,133,133	0
56	MG	GB	9348	1/1	0.83	0.08	112,112,112,112	0
56	MG	FB	1681	1/1	0.84	0.13	126,126,126,126	0
56	MG	FB	1626	1/1	0.84	0.42	103,103,103,103	0
56	MG	GB	9141	1/1	0.84	0.20	101,101,101,101	0
56	MG	FB	1712	1/1	0.84	0.07	111,111,111,111	0
56	MG	B	9197	1/1	0.84	0.23	73,73,73,73	0
56	MG	GB	9074	1/1	0.84	0.25	101,101,101,101	0
56	MG	B	9328	1/1	0.84	0.08	105,105,105,105	0
56	MG	B	9209	1/1	0.84	0.17	90,90,90,90	0
56	MG	B	9331	1/1	0.84	0.07	118,118,118,118	0
56	MG	B	9356	1/1	0.84	0.10	96,96,96,96	0
56	MG	B	9433	1/1	0.84	0.13	99,99,99,99	0
56	MG	B	9290	1/1	0.84	0.27	107,107,107,107	0
56	MG	GB	9358	1/1	0.84	0.09	94,94,94,94	0
56	MG	GB	9252	1/1	0.84	0.19	94,94,94,94	0
56	MG	GB	9361	1/1	0.84	0.14	86,86,86,86	0
56	MG	R	201	1/1	0.84	0.09	119,119,119,119	0
56	MG	C	222	1/1	0.84	0.13	164,164,164,164	0
56	MG	B	9014	1/1	0.84	0.23	60,60,60,60	0
56	MG	GB	9367	1/1	0.84	0.11	118,118,118,118	0
56	MG	GB	9087	1/1	0.84	0.19	81,81,81,81	0
56	MG	GB	9258	1/1	0.84	0.18	104,104,104,104	0
56	MG	FB	1763	1/1	0.84	0.08	108,108,108,108	0
56	MG	B	9296	1/1	0.84	0.12	84,84,84,84	0
56	MG	B	9315	1/1	0.84	0.23	91,91,91,91	0
56	MG	GB	9049	1/1	0.84	0.15	79,79,79,79	0
56	MG	EA	101	1/1	0.84	0.13	85,85,85,85	0
56	MG	GB	9014	1/1	0.84	0.28	88,88,88,88	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9382	1/1	0.84	0.29	107,107,107,107	0
56	MG	HA	101	1/1	0.84	0.18	129,129,129,129	0
56	MG	GB	9318	1/1	0.84	0.07	112,112,112,112	0
56	MG	PA	203	1/1	0.84	0.10	127,127,127,127	0
56	MG	B	9372	1/1	0.84	0.09	102,102,102,102	0
56	MG	A	1746	1/1	0.84	0.14	116,116,116,116	0
56	MG	E	303	1/1	0.84	0.15	76,76,76,76	0
56	MG	B	9077	1/1	0.84	0.13	74,74,74,74	0
56	MG	B	9113	1/1	0.84	0.15	98,98,98,98	0
56	MG	A	1637	1/1	0.84	0.20	102,102,102,102	0
56	MG	B	9323	1/1	0.84	0.09	68,68,68,68	0
56	MG	GB	9327	1/1	0.84	0.11	171,171,171,171	0
56	MG	UB	203	1/1	0.84	0.08	130,130,130,130	0
56	MG	B	9005	1/1	0.84	0.34	79,79,79,79	0
56	MG	B	9195	1/1	0.85	0.08	85,85,85,85	0
56	MG	A	1627	1/1	0.85	0.21	101,101,101,101	0
56	MG	B	9406	1/1	0.85	0.10	130,130,130,130	0
56	MG	B	9143	1/1	0.85	0.23	102,102,102,102	0
56	MG	A	1731	1/1	0.85	0.10	130,130,130,130	0
56	MG	B	9082	1/1	0.85	0.23	98,98,98,98	0
56	MG	B	9148	1/1	0.85	0.26	99,99,99,99	0
56	MG	GB	9036	1/1	0.85	0.22	85,85,85,85	0
56	MG	B	9029	1/1	0.85	0.32	81,81,81,81	0
56	MG	FB	1631	1/1	0.85	0.21	104,104,104,104	0
56	MG	GB	9134	1/1	0.85	0.15	111,111,111,111	0
56	MG	FB	1700	1/1	0.85	0.15	120,120,120,120	0
56	MG	B	9074	1/1	0.85	0.14	109,109,109,109	0
56	MG	GB	9192	1/1	0.85	0.18	123,123,123,123	0
56	MG	B	9370	1/1	0.85	0.08	108,108,108,108	0
56	MG	FB	1602	1/1	0.85	0.40	87,87,87,87	0
56	MG	GB	9196	1/1	0.85	0.09	82,82,82,82	0
56	MG	GB	9046	1/1	0.85	0.24	91,91,91,91	0
56	MG	FB	1669	1/1	0.85	0.23	105,105,105,105	0
56	MG	B	9329	1/1	0.85	0.12	91,91,91,91	0
56	MG	GB	9402	1/1	0.85	0.12	122,122,122,122	0
56	MG	FB	1748	1/1	0.85	0.09	119,119,119,119	0
56	MG	GB	9002	1/1	0.85	0.56	75,75,75,75	0
56	MG	A	1735	1/1	0.85	0.12	106,106,106,106	0
56	MG	GB	9006	1/1	0.85	0.50	87,87,87,87	0
56	MG	B	9152	1/1	0.85	0.13	89,89,89,89	0
56	MG	B	9118	1/1	0.85	0.24	117,117,117,117	0
56	MG	GB	9332	1/1	0.85	0.07	102,102,102,102	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9334	1/1	0.85	0.31	89,89,89,89	0
56	MG	B	9103	1/1	0.85	0.13	87,87,87,87	0
56	MG	B	9059	1/1	0.85	0.24	95,95,95,95	0
56	MG	B	9337	1/1	0.85	0.08	96,96,96,96	0
56	MG	RC	301	1/1	0.85	0.10	151,151,151,151	0
56	MG	B	9268	1/1	0.85	0.18	94,94,94,94	0
56	MG	GB	9345	1/1	0.85	0.27	106,106,106,106	0
56	MG	B	9240	1/1	0.85	0.05	88,88,88,88	0
56	MG	GB	9283	1/1	0.85	0.31	99,99,99,99	0
56	MG	B	9388	1/1	0.85	0.13	100,100,100,100	0
56	MG	GB	9160	1/1	0.85	0.15	97,97,97,97	0
56	MG	A	1765	1/1	0.85	0.08	134,134,134,134	0
56	MG	GB	9357	1/1	0.85	0.07	125,125,125,125	0
56	MG	FB	1717	1/1	0.85	0.08	129,129,129,129	0
56	MG	GB	9165	1/1	0.85	0.22	83,83,83,83	0
56	MG	B	9391	1/1	0.85	0.14	121,121,121,121	0
56	MG	B	9309	1/1	0.85	0.09	159,159,159,159	0
56	MG	KB	302	1/1	0.85	0.14	99,99,99,99	0
56	MG	B	9271	1/1	0.85	0.10	76,76,76,76	0
56	MG	B	9006	1/1	0.85	0.27	61,61,61,61	0
56	MG	B	9094	1/1	0.85	0.21	93,93,93,93	0
56	MG	S	201	1/1	0.85	0.07	111,111,111,111	0
56	MG	FB	1773	1/1	0.85	0.13	106,106,106,106	0
56	MG	B	9141	1/1	0.85	0.20	130,130,130,130	0
56	MG	B	9176	1/1	0.86	0.21	90,90,90,90	0
56	MG	AC	202	1/1	0.86	0.21	124,124,124,124	0
56	MG	A	1744	1/1	0.86	0.16	123,123,123,123	0
56	MG	A	1655	1/1	0.86	0.15	232,232,232,232	0
56	MG	B	9387	1/1	0.86	0.13	124,124,124,124	0
56	MG	GB	9359	1/1	0.86	0.12	123,123,123,123	0
56	MG	B	9294	1/1	0.86	0.15	82,82,82,82	0
56	MG	B	9106	1/1	0.86	0.14	72,72,72,72	0
56	MG	YA	103	1/1	0.86	0.13	125,125,125,125	0
56	MG	B	9317	1/1	0.86	0.04	137,137,137,137	0
56	MG	GB	9312	1/1	0.86	0.21	93,93,93,93	0
56	MG	K	203	1/1	0.86	0.06	130,130,130,130	0
56	MG	FB	1649	1/1	0.86	0.29	119,119,119,119	0
56	MG	GB	9222	1/1	0.86	0.26	93,93,93,93	0
56	MG	B	9145	1/1	0.86	0.13	78,78,78,78	0
56	MG	A	1646	1/1	0.86	0.17	120,120,120,120	0
56	MG	GB	9179	1/1	0.86	0.20	87,87,87,87	0
56	MG	B	9343	1/1	0.86	0.23	110,110,110,110	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9144	1/1	0.86	0.14	80,80,80,80	0
56	MG	B	9397	1/1	0.86	0.12	96,96,96,96	0
56	MG	JB	302	1/1	0.86	0.09	117,117,117,117	0
56	MG	A	1774	1/1	0.86	0.04	176,176,176,176	0
56	MG	GB	9148	1/1	0.86	0.20	86,86,86,86	0
56	MG	T	202	1/1	0.86	0.10	105,105,105,105	0
56	MG	A	1684	1/1	0.86	0.08	111,111,111,111	0
56	MG	GB	9189	1/1	0.86	0.10	154,154,154,154	0
56	MG	B	9046	1/1	0.86	0.26	70,70,70,70	0
56	MG	FB	1608	1/1	0.86	0.28	86,86,86,86	0
56	MG	FB	1749	1/1	0.86	0.16	110,110,110,110	0
56	MG	GB	9242	1/1	0.86	0.10	122,122,122,122	0
56	MG	B	9087	1/1	0.86	0.14	80,80,80,80	0
56	MG	GB	9393	1/1	0.86	0.07	84,84,84,84	0
56	MG	GB	9394	1/1	0.86	0.09	88,88,88,88	0
56	MG	B	9002	1/1	0.86	0.54	64,64,64,64	0
56	MG	GB	9094	1/1	0.86	0.39	89,89,89,89	0
56	MG	CA	102	1/1	0.86	0.04	116,116,116,116	0
56	MG	TB	201	1/1	0.86	0.28	101,101,101,101	0
56	MG	GB	9199	1/1	0.86	0.15	98,98,98,98	0
56	MG	C	206	1/1	0.86	0.15	149,149,149,149	0
56	MG	A	1709	1/1	0.86	0.15	107,107,107,107	0
56	MG	GB	9029	1/1	0.86	0.21	71,71,71,71	0
56	MG	B	9381	1/1	0.86	0.20	84,84,84,84	0
56	MG	B	9208	1/1	0.87	0.08	104,104,104,104	0
56	MG	FB	1610	1/1	0.87	0.37	87,87,87,87	0
56	MG	B	9107	1/1	0.87	0.17	91,91,91,91	0
56	MG	GB	9045	1/1	0.87	0.11	89,89,89,89	0
56	MG	GB	9369	1/1	0.87	0.18	95,95,95,95	0
56	MG	FB	1698	1/1	0.87	0.08	120,120,120,120	0
56	MG	B	9384	1/1	0.87	0.09	98,98,98,98	0
56	MG	U	101	1/1	0.87	0.07	91,91,91,91	0
56	MG	A	1771	1/1	0.87	0.18	99,99,99,99	0
56	MG	A	1779	1/1	0.87	0.08	152,152,152,152	0
56	MG	B	9249	1/1	0.87	0.11	123,123,123,123	0
56	MG	GB	9239	1/1	0.87	0.15	96,96,96,96	0
56	MG	B	9028	1/1	0.87	0.36	90,90,90,90	0
56	MG	B	9363	1/1	0.87	0.17	103,103,103,103	0
56	MG	B	9364	1/1	0.87	0.11	95,95,95,95	0
56	MG	GB	9163	1/1	0.87	0.10	94,94,94,94	0
56	MG	A	1716	1/1	0.87	0.20	112,112,112,112	0
56	MG	FB	1740	1/1	0.87	0.08	156,156,156,156	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	B	9295	1/1	0.87	0.06	108,108,108,108	0
56	MG	B	9369	1/1	0.87	0.17	90,90,90,90	0
56	MG	A	1775	1/1	0.87	0.05	208,208,208,208	0
56	MG	B	9400	1/1	0.87	0.07	136,136,136,136	0
56	MG	GB	9341	1/1	0.87	0.21	96,96,96,96	0
56	MG	F	304	1/1	0.87	0.06	119,119,119,119	0
56	MG	GB	9211	1/1	0.87	0.16	123,123,123,123	0
56	MG	GB	9346	1/1	0.87	0.08	118,118,118,118	0
56	MG	B	9184	1/1	0.87	0.24	77,77,77,77	0
56	MG	A	1733	1/1	0.87	0.07	143,143,143,143	0
56	MG	GB	9214	1/1	0.87	0.06	99,99,99,99	0
56	MG	GB	9352	1/1	0.87	0.11	85,85,85,85	0
56	MG	A	1678	1/1	0.87	0.10	97,97,97,97	0
56	MG	B	9011	1/1	0.87	0.36	61,61,61,61	0
56	MG	B	9407	1/1	0.87	0.12	114,114,114,114	0
56	MG	B	9408	1/1	0.87	0.22	85,85,85,85	0
56	MG	B	9326	1/1	0.87	0.08	79,79,79,79	0
56	MG	B	9414	1/1	0.87	0.15	77,77,77,77	0
56	MG	ZB	102	1/1	0.87	0.05	100,100,100,100	0
56	MG	DD	101	1/1	0.87	0.15	144,144,144,144	0
56	MG	B	9281	1/1	0.87	0.22	87,87,87,87	0
56	MG	B	9012	1/1	0.87	0.33	70,70,70,70	0
56	MG	XB	201	1/1	0.88	0.12	117,117,117,117	0
56	MG	B	9110	1/1	0.88	0.29	71,71,71,71	0
56	MG	GB	9353	1/1	0.88	0.28	100,100,100,100	0
56	MG	GB	9251	1/1	0.88	0.26	87,87,87,87	0
56	MG	B	9413	1/1	0.88	0.09	100,100,100,100	0
56	MG	A	1723	1/1	0.88	0.13	170,170,170,170	0
56	MG	B	9166	1/1	0.88	0.14	82,82,82,82	0
56	MG	GB	9255	1/1	0.88	0.08	107,107,107,107	0
56	MG	B	9225	1/1	0.88	0.12	147,147,147,147	0
56	MG	B	9228	1/1	0.88	0.11	76,76,76,76	0
56	MG	GB	9362	1/1	0.88	0.11	147,147,147,147	0
56	MG	GB	9016	1/1	0.88	0.26	98,98,98,98	0
56	MG	L	202	1/1	0.88	0.05	117,117,117,117	0
56	MG	B	9081	1/1	0.88	0.14	98,98,98,98	0
56	MG	NC	104	1/1	0.88	0.14	134,134,134,134	0
56	MG	GB	9217	1/1	0.88	0.07	141,141,141,141	0
56	MG	B	9357	1/1	0.88	0.11	94,94,94,94	0
56	MG	Q	201	1/1	0.88	0.14	121,121,121,121	0
56	MG	B	9273	1/1	0.88	0.13	130,130,130,130	0
56	MG	FB	1734	1/1	0.88	0.13	109,109,109,109	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	B	9091	1/1	0.88	0.21	78,78,78,78	0
56	MG	A	1662	1/1	0.88	0.11	105,105,105,105	0
56	MG	GB	9065	1/1	0.88	0.35	81,81,81,81	0
56	MG	B	9093	1/1	0.88	0.15	95,95,95,95	0
56	MG	JB	304	1/1	0.88	0.18	101,101,101,101	0
56	MG	OA	203	1/1	0.88	0.12	123,123,123,123	0
56	MG	A	1659	1/1	0.88	0.17	124,124,124,124	0
56	MG	B	9031	1/1	0.88	0.34	78,78,78,78	0
56	MG	B	9283	1/1	0.88	0.21	105,105,105,105	0
56	MG	GB	9233	1/1	0.88	0.13	83,83,83,83	0
56	MG	B	9313	1/1	0.88	0.09	91,91,91,91	0
56	MG	E	302	1/1	0.88	0.15	97,97,97,97	0
56	MG	A	1608	1/1	0.88	0.22	96,96,96,96	0
56	MG	B	9236	1/1	0.88	0.11	77,77,77,77	0
56	MG	FB	1750	1/1	0.88	0.16	105,105,105,105	0
56	MG	B	9179	1/1	0.88	0.09	158,158,158,158	0
56	MG	GB	9338	1/1	0.88	0.05	136,136,136,136	0
56	MG	F	302	1/1	0.88	0.07	119,119,119,119	0
56	MG	B	9404	1/1	0.88	0.08	157,157,157,157	0
56	MG	B	9198	1/1	0.88	0.14	92,92,92,92	0
56	MG	FB	1655	1/1	0.88	0.24	103,103,103,103	0
56	MG	B	9132	1/1	0.88	0.12	93,93,93,93	0
56	MG	AD	204	1/1	0.88	0.07	96,96,96,96	0
56	MG	GB	9202	1/1	0.88	0.09	86,86,86,86	0
56	MG	FB	1721	1/1	0.88	0.09	118,118,118,118	0
56	MG	A	1705	1/1	0.88	0.19	105,105,105,105	0
56	MG	VB	203	1/1	0.88	0.14	112,112,112,112	0
56	MG	GB	9023	1/1	0.89	0.35	79,79,79,79	0
56	MG	OA	202	1/1	0.89	0.09	131,131,131,131	0
56	MG	JC	101	1/1	0.89	0.13	87,87,87,87	0
56	MG	HB	218	1/1	0.89	0.13	129,129,129,129	0
56	MG	GB	9333	1/1	0.89	0.13	82,82,82,82	0
56	MG	B	9398	1/1	0.89	0.06	96,96,96,96	0
56	MG	HA	103	1/1	0.89	0.22	111,111,111,111	0
56	MG	B	9223	1/1	0.89	0.14	74,74,74,74	0
56	MG	NC	103	1/1	0.89	0.19	112,112,112,112	0
56	MG	B	9178	1/1	0.89	0.07	125,125,125,125	0
56	MG	FB	1764	1/1	0.89	0.23	136,136,136,136	0
56	MG	B	9165	1/1	0.89	0.08	104,104,104,104	0
56	MG	A	1626	1/1	0.89	0.24	98,98,98,98	0
56	MG	B	9263	1/1	0.89	0.14	77,77,77,77	0
56	MG	GB	9062	1/1	0.89	0.12	110,110,110,110	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9347	1/1	0.89	0.07	126,126,126,126	0
56	MG	GB	9265	1/1	0.89	0.15	106,106,106,106	0
56	MG	GB	9159	1/1	0.89	0.25	94,94,94,94	0
56	MG	B	9016	1/1	0.89	0.28	79,79,79,79	0
56	MG	B	9053	1/1	0.89	0.15	84,84,84,84	0
56	MG	A	1670	1/1	0.89	0.07	91,91,91,91	0
56	MG	B	9358	1/1	0.89	0.10	121,121,121,121	0
56	MG	QB	202	1/1	0.89	0.10	100,100,100,100	0
56	MG	B	9008	1/1	0.89	0.25	61,61,61,61	0
56	MG	GB	9273	1/1	0.89	0.09	96,96,96,96	0
56	MG	GB	9403	1/1	0.89	0.10	89,89,89,89	0
56	MG	A	1619	1/1	0.89	0.27	82,82,82,82	0
56	MG	GB	9317	1/1	0.89	0.11	116,116,116,116	0
56	MG	B	9252	1/1	0.89	0.13	98,98,98,98	0
56	MG	B	9187	1/1	0.89	0.25	101,101,101,101	0
56	MG	GB	9042	1/1	0.89	0.24	78,78,78,78	0
56	MG	B	9154	1/1	0.89	0.36	76,76,76,76	0
56	MG	Y	101	1/1	0.89	0.14	97,97,97,97	0
56	MG	VB	202	1/1	0.89	0.12	97,97,97,97	0
56	MG	GB	9282	1/1	0.89	0.11	107,107,107,107	0
56	MG	C	210	1/1	0.89	0.12	125,125,125,125	0
56	MG	B	9189	1/1	0.89	0.29	102,102,102,102	0
56	MG	B	9297	1/1	0.89	0.13	100,100,100,100	0
56	MG	GB	9142	1/1	0.89	0.18	96,96,96,96	0
56	MG	B	9164	1/1	0.89	0.24	90,90,90,90	0
56	MG	B	9257	1/1	0.89	0.20	92,92,92,92	0
56	MG	GB	9050	1/1	0.89	0.22	76,76,76,76	0
56	MG	L	201	1/1	0.90	0.10	114,114,114,114	0
56	MG	GB	9264	1/1	0.90	0.09	126,126,126,126	0
56	MG	B	9191	1/1	0.90	0.19	90,90,90,90	0
56	MG	B	9298	1/1	0.90	0.13	92,92,92,92	0
56	MG	M	203	1/1	0.90	0.21	82,82,82,82	0
56	MG	B	9322	1/1	0.90	0.06	85,85,85,85	0
56	MG	GB	9226	1/1	0.90	0.09	91,91,91,91	0
56	MG	A	1767	1/1	0.90	0.14	93,93,93,93	0
56	MG	GB	9069	1/1	0.90	0.29	82,82,82,82	0
56	MG	A	1611	1/1	0.90	0.26	84,84,84,84	0
56	MG	A	1625	1/1	0.90	0.11	94,94,94,94	0
56	MG	FB	1694	1/1	0.90	0.08	143,143,143,143	0
56	MG	GB	9187	1/1	0.90	0.36	92,92,92,92	0
56	MG	T	201	1/1	0.90	0.07	101,101,101,101	0
56	MG	A	1736	1/1	0.90	0.07	169,169,169,169	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	B	9196	1/1	0.90	0.09	93,93,93,93	0
56	MG	FB	1667	1/1	0.90	0.19	103,103,103,103	0
56	MG	GB	9079	1/1	0.90	0.20	86,86,86,86	0
56	MG	A	1772	1/1	0.90	0.09	91,91,91,91	0
56	MG	V	503	1/1	0.90	0.05	93,93,93,93	0
56	MG	GB	9082	1/1	0.90	0.27	105,105,105,105	0
56	MG	B	9185	1/1	0.90	0.10	61,61,61,61	0
56	MG	B	9287	1/1	0.90	0.14	82,82,82,82	0
56	MG	GB	9336	1/1	0.90	0.16	121,121,121,121	0
56	MG	Y	103	1/1	0.90	0.11	101,101,101,101	0
56	MG	B	9251	1/1	0.90	0.20	106,106,106,106	0
56	MG	PB	202	1/1	0.90	0.05	127,127,127,127	0
56	MG	A	1773	1/1	0.90	0.12	116,116,116,116	0
56	MG	B	9218	1/1	0.90	0.09	78,78,78,78	0
56	MG	GB	9342	1/1	0.90	0.08	111,111,111,111	0
56	MG	B	9126	1/1	0.90	0.32	116,116,116,116	0
56	MG	B	9292	1/1	0.90	0.08	98,98,98,98	0
56	MG	HA	102	1/1	0.90	0.35	133,133,133,133	0
56	MG	B	9426	1/1	0.90	0.07	99,99,99,99	0
56	MG	GB	9209	1/1	0.90	0.14	89,89,89,89	0
56	MG	C	216	1/1	0.90	0.08	167,167,167,167	0
56	MG	B	9341	1/1	0.90	0.07	121,121,121,121	0
56	MG	GB	9351	1/1	0.90	0.16	113,113,113,113	0
56	MG	B	9026	1/1	0.90	0.26	92,92,92,92	0
56	MG	GB	9171	1/1	0.90	0.23	88,88,88,88	0
56	MG	AD	203	1/1	0.90	0.08	99,99,99,99	0
56	MG	GB	9059	1/1	0.90	0.30	91,91,91,91	0
56	MG	B	9108	1/1	0.90	0.16	84,84,84,84	0
56	MG	GB	9356	1/1	0.90	0.16	90,90,90,90	0
56	MG	GB	9099	1/1	0.90	0.12	93,93,93,93	0
56	MG	B	9063	1/1	0.90	0.19	90,90,90,90	0
56	MG	B	9318	1/1	0.91	0.10	137,137,137,137	0
56	MG	B	9286	1/1	0.91	0.07	84,84,84,84	0
56	MG	A	1708	1/1	0.91	0.06	134,134,134,134	0
56	MG	B	9405	1/1	0.91	0.11	103,103,103,103	0
56	MG	KB	301	1/1	0.91	0.44	90,90,90,90	0
56	MG	B	9361	1/1	0.91	0.10	91,91,91,91	0
56	MG	FA	101	1/1	0.91	0.14	98,98,98,98	0
56	MG	B	9090	1/1	0.91	0.17	77,77,77,77	0
56	MG	B	9250	1/1	0.91	0.20	99,99,99,99	0
56	MG	B	9274	1/1	0.91	0.05	84,84,84,84	0
56	MG	GB	9210	1/1	0.91	0.14	99,99,99,99	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9245	1/1	0.91	0.08	107,107,107,107	0
56	MG	GB	9399	1/1	0.91	0.19	129,129,129,129	0
56	MG	GB	9281	1/1	0.91	0.14	97,97,97,97	0
56	MG	GB	9145	1/1	0.91	0.13	101,101,101,101	0
56	MG	B	9153	1/1	0.91	0.20	66,66,66,66	0
56	MG	O	201	1/1	0.91	0.26	83,83,83,83	0
56	MG	GB	9064	1/1	0.91	0.19	80,80,80,80	0
56	MG	FB	1779	1/1	0.91	0.09	115,115,115,115	0
56	MG	B	9010	1/1	0.91	0.31	69,69,69,69	0
56	MG	B	9293	1/1	0.91	0.21	94,94,94,94	0
56	MG	B	9217	1/1	0.91	0.12	98,98,98,98	0
56	MG	GB	9291	1/1	0.91	0.09	124,124,124,124	0
56	MG	GB	9124	1/1	0.91	0.14	104,104,104,104	0
56	MG	FB	1755	1/1	0.91	0.16	104,104,104,104	0
56	MG	GB	9070	1/1	0.91	0.27	81,81,81,81	0
56	MG	GB	9372	1/1	0.91	0.06	101,101,101,101	0
56	MG	GB	9156	1/1	0.91	0.23	86,86,86,86	0
56	MG	B	9395	1/1	0.91	0.23	76,76,76,76	0
56	MG	A	1661	1/1	0.91	0.09	103,103,103,103	0
56	MG	GB	9073	1/1	0.91	0.16	77,77,77,77	0
56	MG	GB	9378	1/1	0.91	0.07	134,134,134,134	0
56	MG	A	1761	1/1	0.91	0.10	106,106,106,106	0
56	MG	B	9424	1/1	0.91	0.09	112,112,112,112	0
56	MG	B	9048	1/1	0.91	0.19	70,70,70,70	0
56	MG	B	9333	1/1	0.91	0.10	85,85,85,85	0
56	MG	GB	9384	1/1	0.91	0.13	131,131,131,131	0
56	MG	B	9168	1/1	0.91	0.16	91,91,91,91	0
56	MG	B	9022	1/1	0.91	0.24	78,78,78,78	0
56	MG	A	1680	1/1	0.92	0.17	84,84,84,84	0
56	MG	B	9227	1/1	0.92	0.13	93,93,93,93	0
56	MG	GB	9085	1/1	0.92	0.15	97,97,97,97	0
56	MG	B	9128	1/1	0.92	0.18	106,106,106,106	0
56	MG	GB	9266	1/1	0.92	0.08	118,118,118,118	0
56	MG	VA	202	1/1	0.92	0.13	127,127,127,127	0
56	MG	GB	9003	1/1	0.92	0.30	67,67,67,67	0
56	MG	RB	203	1/1	0.92	0.09	103,103,103,103	0
56	MG	FB	1711	1/1	0.92	0.10	118,118,118,118	0
56	MG	GB	9305	1/1	0.92	0.06	80,80,80,80	0
56	MG	B	9137	1/1	0.92	0.12	83,83,83,83	0
56	MG	A	1629	1/1	0.92	0.25	85,85,85,85	0
56	MG	B	9299	1/1	0.92	0.10	101,101,101,101	0
56	MG	B	9390	1/1	0.92	0.09	89,89,89,89	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	B	9065	1/1	0.92	0.14	69,69,69,69	0
56	MG	BB	101	1/1	0.92	0.13	118,118,118,118	0
56	MG	B	9412	1/1	0.92	0.07	82,82,82,82	0
56	MG	FB	1747	1/1	0.92	0.07	116,116,116,116	0
56	MG	GB	9315	1/1	0.92	0.04	151,151,151,151	0
56	MG	B	9170	1/1	0.92	0.11	78,78,78,78	0
56	MG	B	9123	1/1	0.92	0.15	88,88,88,88	0
56	MG	B	9354	1/1	0.92	0.11	103,103,103,103	0
56	MG	GB	9186	1/1	0.92	0.15	80,80,80,80	0
56	MG	B	9172	1/1	0.92	0.14	87,87,87,87	0
56	MG	B	9275	1/1	0.92	0.12	76,76,76,76	0
56	MG	M	201	1/1	0.92	0.07	104,104,104,104	0
56	MG	A	1703	1/1	0.92	0.15	101,101,101,101	0
56	MG	E	301	1/1	0.92	0.22	68,68,68,68	0
56	MG	B	9051	1/1	0.92	0.11	93,93,93,93	0
56	MG	B	9047	1/1	0.92	0.26	89,89,89,89	0
56	MG	FB	1758	1/1	0.92	0.06	104,104,104,104	0
56	MG	B	9360	1/1	0.92	0.03	106,106,106,106	0
56	MG	GB	9260	1/1	0.92	0.13	109,109,109,109	0
56	MG	C	212	1/1	0.92	0.13	138,138,138,138	0
58	ZN	IC	101	1/1	0.92	0.13	158,158,158,158	0
56	MG	FB	1769	1/1	0.93	0.11	109,109,109,109	0
56	MG	GB	9221	1/1	0.93	0.12	80,80,80,80	0
56	MG	B	9097	1/1	0.93	0.12	73,73,73,73	0
56	MG	B	9160	1/1	0.93	0.19	103,103,103,103	0
56	MG	OC	401	1/1	0.93	0.15	171,171,171,171	0
56	MG	A	1753	1/1	0.93	0.07	132,132,132,132	0
56	MG	B	9332	1/1	0.93	0.09	96,96,96,96	0
56	MG	B	9377	1/1	0.93	0.06	92,92,92,92	0
56	MG	B	9147	1/1	0.93	0.08	103,103,103,103	0
56	MG	PA	202	1/1	0.93	0.07	125,125,125,125	0
56	MG	GB	9009	1/1	0.93	0.29	78,78,78,78	0
56	MG	B	9163	1/1	0.93	0.11	85,85,85,85	0
56	MG	JB	301	1/1	0.93	0.13	75,75,75,75	0
56	MG	GB	9365	1/1	0.93	0.11	87,87,87,87	0
56	MG	ZB	101	1/1	0.93	0.10	103,103,103,103	0
56	MG	B	9034	1/1	0.93	0.15	69,69,69,69	0
56	MG	B	9035	1/1	0.93	0.28	69,69,69,69	0
56	MG	GB	9340	1/1	0.93	0.11	111,111,111,111	0
56	MG	E	304	1/1	0.93	0.08	85,85,85,85	0
56	MG	GB	9037	1/1	0.93	0.22	82,82,82,82	0
56	MG	B	9415	1/1	0.93	0.11	97,97,97,97	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	GB	9344	1/1	0.93	0.13	100,100,100,100	0
56	MG	B	9366	1/1	0.93	0.09	76,76,76,76	0
56	MG	KC	101	1/1	0.93	0.18	117,117,117,117	0
56	MG	B	9214	1/1	0.93	0.07	93,93,93,93	0
56	MG	FB	1743	1/1	0.93	0.06	98,98,98,98	0
56	MG	FB	1786	1/1	0.93	0.08	96,96,96,96	0
56	MG	GB	9379	1/1	0.93	0.22	89,89,89,89	0
56	MG	A	1724	1/1	0.93	0.06	100,100,100,100	0
56	MG	B	9205	1/1	0.93	0.12	120,120,120,120	0
56	MG	A	1769	1/1	0.93	0.13	117,117,117,117	0
56	MG	G	302	1/1	0.93	0.14	90,90,90,90	0
58	ZN	BA	101	1/1	0.93	0.04	194,194,194,194	0
56	MG	FB	1768	1/1	0.93	0.15	105,105,105,105	0
56	MG	FB	1719	1/1	0.94	0.05	150,150,150,150	0
56	MG	B	9325	1/1	0.94	0.18	92,92,92,92	0
56	MG	GB	9307	1/1	0.94	0.06	109,109,109,109	0
56	MG	GB	9193	1/1	0.94	0.13	95,95,95,95	0
56	MG	GB	9376	1/1	0.94	0.06	143,143,143,143	0
56	MG	FB	1789	1/1	0.94	0.19	107,107,107,107	0
56	MG	FB	1775	1/1	0.94	0.06	119,119,119,119	0
56	MG	B	9353	1/1	0.94	0.13	92,92,92,92	0
56	MG	B	9386	1/1	0.94	0.08	114,114,114,114	0
56	MG	GB	9198	1/1	0.94	0.07	89,89,89,89	0
56	MG	B	9427	1/1	0.94	0.17	84,84,84,84	0
56	MG	B	9216	1/1	0.94	0.13	85,85,85,85	0
56	MG	B	9242	1/1	0.94	0.18	93,93,93,93	0
56	MG	B	9312	1/1	0.94	0.04	122,122,122,122	0
56	MG	B	9247	1/1	0.94	0.10	93,93,93,93	0
56	MG	GB	9277	1/1	0.94	0.08	82,82,82,82	0
56	MG	B	9019	1/1	0.94	0.37	79,79,79,79	0
56	MG	GB	9299	1/1	0.94	0.06	162,162,162,162	0
56	MG	GB	9223	1/1	0.94	0.05	85,85,85,85	0
56	MG	B	9420	1/1	0.94	0.20	94,94,94,94	0
56	MG	GB	9302	1/1	0.94	0.05	112,112,112,112	0
56	MG	FB	1656	1/1	0.94	0.08	120,120,120,120	0
58	ZN	GC	101	1/1	0.94	0.05	206,206,206,206	0
56	MG	B	9410	1/1	0.94	0.07	84,84,84,84	0
56	MG	GB	9236	1/1	0.95	0.06	87,87,87,87	0
56	MG	B	9085	1/1	0.95	0.09	77,77,77,77	0
56	MG	A	1681	1/1	0.95	0.05	132,132,132,132	0
56	MG	B	9041	1/1	0.95	0.21	71,71,71,71	0
56	MG	GB	9396	1/1	0.95	0.09	78,78,78,78	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	FB	1676	1/1	0.95	0.14	94,94,94,94	0
56	MG	B	9173	1/1	0.95	0.28	86,86,86,86	0
56	MG	B	9421	1/1	0.95	0.10	85,85,85,85	0
56	MG	E	305	1/1	0.95	0.04	85,85,85,85	0
56	MG	B	9278	1/1	0.95	0.10	101,101,101,101	0
56	MG	B	9279	1/1	0.95	0.16	93,93,93,93	0
56	MG	B	9374	1/1	0.95	0.07	94,94,94,94	0
56	MG	B	9425	1/1	0.95	0.07	83,83,83,83	0
56	MG	B	9003	1/1	0.95	0.38	64,64,64,64	0
56	MG	B	9340	1/1	0.95	0.05	85,85,85,85	0
56	MG	B	9371	1/1	0.96	0.07	81,81,81,81	0
56	MG	B	9202	1/1	0.96	0.05	80,80,80,80	0
56	MG	GB	9204	1/1	0.96	0.09	130,130,130,130	0
56	MG	B	9416	1/1	0.96	0.04	82,82,82,82	0
56	MG	FB	1746	1/1	0.96	0.07	96,96,96,96	0
56	MG	B	9379	1/1	0.96	0.06	100,100,100,100	0
56	MG	B	9409	1/1	0.96	0.16	83,83,83,83	0
56	MG	A	1741	1/1	0.96	0.04	109,109,109,109	0
56	MG	A	1651	1/1	0.96	0.04	175,175,175,175	0
56	MG	B	9306	1/1	0.96	0.06	83,83,83,83	0
56	MG	M	202	1/1	0.96	0.05	81,81,81,81	0
57	BLS	B	9001	30/30	0.96	0.11	105,105,106,106	0
57	BLS	GB	9001	30/30	0.96	0.09	104,104,105,105	0
58	ZN	V	501	1/1	0.96	0.06	123,123,123,123	0
56	MG	B	9261	1/1	0.96	0.15	66,66,66,66	0
58	ZN	DA	101	1/1	0.96	0.05	160,160,160,160	0
56	MG	GB	9161	1/1	0.96	0.07	101,101,101,101	0
56	MG	GB	9005	1/1	0.96	0.45	68,68,68,68	0
56	MG	B	9027	1/1	0.97	0.32	68,68,68,68	0
56	MG	B	9039	1/1	0.97	0.05	68,68,68,68	0
56	MG	FB	1742	1/1	0.97	0.04	121,121,121,121	0
56	MG	B	9096	1/1	0.97	0.08	78,78,78,78	0
56	MG	B	9339	1/1	0.97	0.11	88,88,88,88	0
56	MG	B	9365	1/1	0.97	0.09	84,84,84,84	0
56	MG	B	9394	1/1	0.97	0.06	71,71,71,71	0
58	ZN	GA	101	1/1	0.97	0.06	153,153,153,153	0
58	ZN	AC	201	1/1	0.97	0.05	147,147,147,147	0
56	MG	B	9226	1/1	0.97	0.33	70,70,70,70	0
56	MG	B	9300	1/1	0.97	0.09	89,89,89,89	0
56	MG	GB	9370	1/1	0.98	0.03	127,127,127,127	0
56	MG	B	9246	1/1	0.98	0.05	84,84,84,84	0
56	MG	GB	9284	1/1	0.98	0.07	91,91,91,91	0

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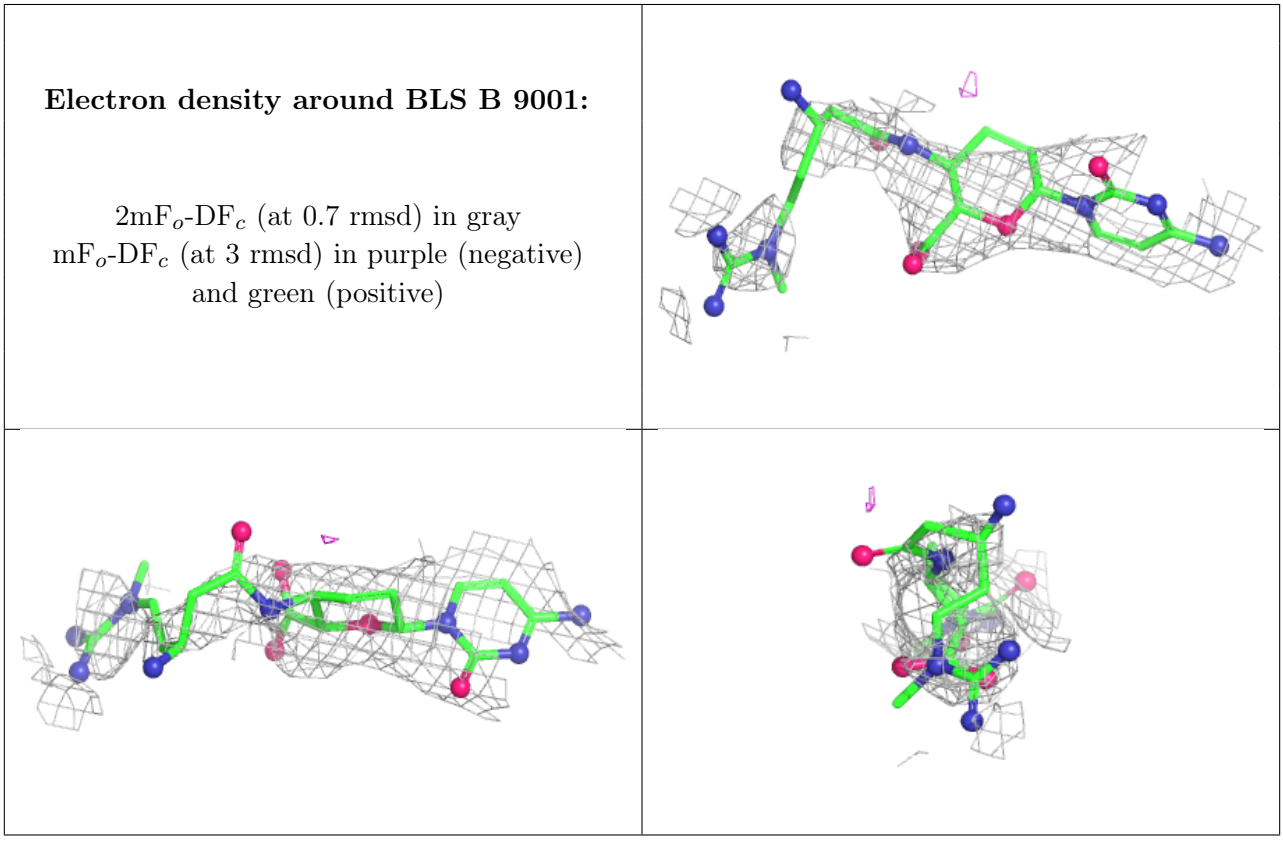
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
56	MG	B	9344	1/1	0.98	0.12	93,93,93,93	0
58	ZN	LC	101	1/1	0.98	0.07	171,171,171,171	0
58	ZN	CA	101	1/1	0.99	0.02	125,125,125,125	0
58	ZN	HC	101	1/1	1.00	0.01	126,126,126,126	0

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.

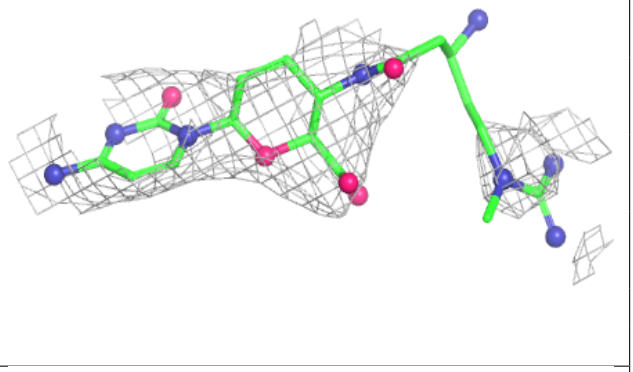
Electron density around BLS B 9001:

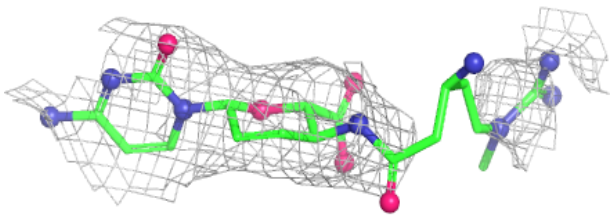
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

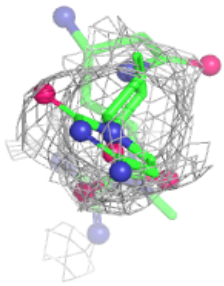


Electron density around BLS GB 9001:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)







6.5 Other polymers

There are no such residues in this entry.