



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 22, 2025 – 11:56 AM EDT

PDB ID : 4V9P
Title : Control of ribosomal subunit rotation by elongation factor G
Authors : Pulk, A.; Cate, J.H.D.
Deposited on : 2013-05-03
Resolution : 2.90 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.21
EDS	:	FAILED
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.41.4

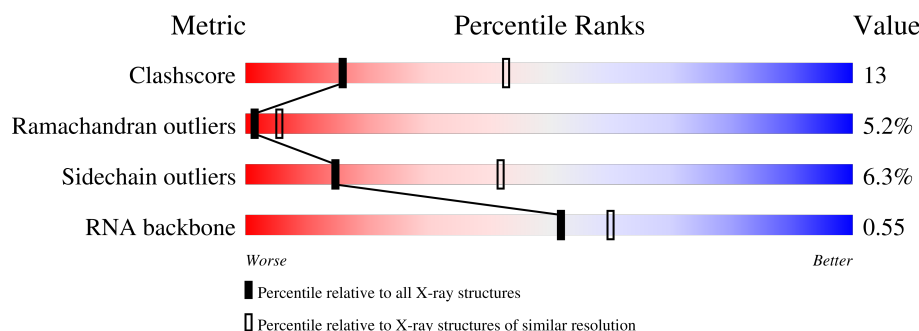
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	180529	2564 (2.90-2.90)
Ramachandran outliers	177936	2514 (2.90-2.90)
Sidechain outliers	177891	2516 (2.90-2.90)
RNA backbone	3690	1039 (3.10-2.70)


























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

Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	AA	2904	47% 38% 12% ..
1	CA	2904	52% 33% 11% ..
1	EA	2904	50% 34% 12% ..
1	GA	2904	53% 32% 11% ..
2	AB	120	51% 40% 6% ..
2	CB	120	54% 33% 10% ..


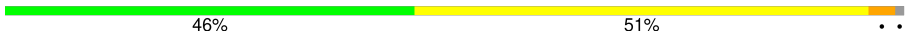























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Mol	Chain	Length	Quality of chain
2	EB	120	
2	GB	120	
3	AC	273	
3	CC	273	
3	EC	273	
3	GC	273	
4	AD	209	
4	CD	209	
4	ED	209	
4	GD	209	
5	AE	201	
5	CE	201	
5	EE	201	
5	GE	201	
6	AF	179	
6	CF	179	
6	EF	179	
6	GF	179	
7	AG	177	
7	CG	177	
7	EG	177	
7	GG	177	
8	AH	50	
8	CH	50	
8	EH	50	


























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Mol	Chain	Length	Quality of chain
8	GH	50	 58% 40% .
9	AI	142	 46% 51% ..
9	CI	142	 50% 44% 5% .
9	EI	142	 61% 35% ..
9	GI	142	 48% 46% 6% .
10	AJ	142	 60% 30% 9% .
10	CJ	142	 58% 31% 11% .
10	EJ	142	 53% 33% 11% .
10	GJ	142	 58% 32% 9% .
11	AK	123	 51% 39% 8% ..
11	CK	123	 47% 44% 7% ..
11	EK	123	 54% 37% 9% .
11	GK	123	 50% 42% 7% .
12	AL	144	 67% 28% ..
12	CL	144	 63% 32% ..
12	EL	144	 70% 25% ..
12	GL	144	 57% 38% ..
13	AM	136	 61% 31% 6% .
13	CM	136	 63% 32% 5% .
13	EM	136	 66% 27% 6% .
13	GM	136	 71% 26% .
14	AN	127	 62% 30% .. 6%
14	CN	127	 60% 28% 6% . 6%
14	EN	127	 62% 30% . 6%
14	GN	127	 56% 36% . 6%


























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Mol	Chain	Length	Quality of chain
15	AO	117	
15	CO	117	
15	EO	117	
15	GO	117	
16	AP	115	
16	CP	115	
16	EP	115	
16	GP	115	
17	AQ	118	
17	CQ	118	
17	EQ	118	
17	GQ	118	
18	AR	103	
18	CR	103	
18	ER	103	
18	GR	103	
19	AS	110	
19	CS	110	
19	ES	110	
19	GS	110	
20	AT	100	
20	CT	100	
20	ET	100	
20	GT	100	
21	AU	104	


























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Mol	Chain	Length	Quality of chain
21	CU	104	
21	EU	104	
21	GU	104	
22	AV	94	
22	CV	94	
22	EV	94	
22	GV	94	
23	AW	85	
23	CW	85	
23	EW	85	
23	GW	85	
24	AX	78	
24	CX	78	
24	EX	78	
24	GX	78	
25	AY	63	
25	CY	63	
25	EY	63	
25	GY	63	
26	AZ	59	
26	CZ	59	
26	EZ	59	
26	GZ	59	
27	A0	57	
27	C0	57	

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Mol	Chain	Length	Quality of chain
27	E0	57	
27	G0	57	
28	A1	55	
28	C1	55	
28	E1	55	
28	G1	55	
29	A2	46	
29	C2	46	
29	E2	46	
29	G2	46	
30	A3	65	
30	C3	65	
30	E3	65	
30	G3	65	
31	A4	38	
31	C4	38	
31	E4	38	
31	G4	38	
32	A5	165	
32	E5	165	
33	BA	1542	
33	DA	1542	
33	FA	1542	
33	HA	1542	
34	BB	241	



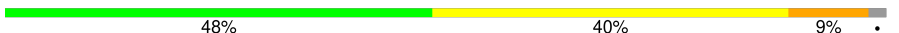


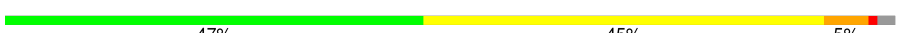



















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Mol	Chain	Length	Quality of chain
34	DB	241	
34	FB	241	
34	HB	241	
35	BC	233	
35	DC	233	
35	FC	233	
35	HC	233	
36	BD	206	
36	DD	206	
36	FD	206	
36	HD	206	
37	BE	167	
37	DE	167	
37	FE	167	
37	HE	167	
38	BF	135	
38	DF	135	
38	FF	135	
38	HF	135	
39	BG	179	
39	DG	179	
39	FG	179	
39	HG	179	
40	BH	130	
40	DH	130	

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Mol	Chain	Length	Quality of chain
40	FH	130	
40	HH	130	
41	BI	130	
41	DI	130	
41	FI	130	
41	HI	130	
42	BJ	103	
42	DJ	103	
42	FJ	103	
42	HJ	103	
43	BK	129	
43	DK	129	
43	FK	129	
43	HK	129	
44	BL	124	
44	DL	124	
44	FL	124	
44	HL	124	
45	BM	118	
45	DM	118	
45	FM	118	
45	HM	118	
46	BN	101	
46	DN	101	
46	FN	101	

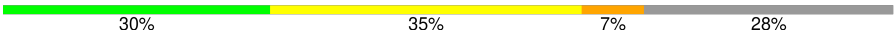

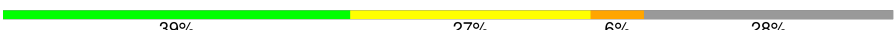
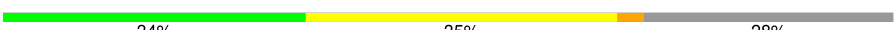






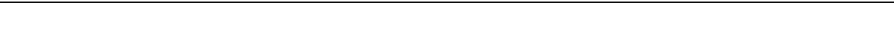
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Mol	Chain	Length	Quality of chain
46	HN	101	
47	BO	89	
47	DO	89	
47	FO	89	
47	HO	89	
48	BP	82	
48	DP	82	
48	FP	82	
48	HP	82	
49	BQ	84	
49	DQ	84	
49	FQ	84	
49	HQ	84	
50	BR	75	
50	DR	75	
50	FR	75	
50	HR	75	
51	BS	92	
51	DS	92	
51	FS	92	
51	HS	92	
52	BT	87	
52	DT	87	
52	FT	87	
52	HT	87	

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Mol	Chain	Length	Quality of chain
53	BU	71	
53	DU	71	
53	FU	71	
53	HU	71	
54	BV	704	
54	DV	704	
54	FV	704	
54	HV	704	
55	BW	6	
55	DW	6	
55	FW	6	

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 590573 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 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	AA	2854	Total	C	N	O	P	0	0	0
			61274	27334	11279	19807	2854			
1	CA	2854	Total	C	N	O	P	0	0	0
			61274	27334	11279	19807	2854			
1	EA	2854	Total	C	N	O	P	0	0	0
			61274	27334	11279	19807	2854			
1	GA	2854	Total	C	N	O	P	0	0	0
			61274	27334	11279	19807	2854			

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	AB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			
2	CB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			
2	EB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			
2	GB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			

- Molecule 3 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	AC	271	Total	C	N	O	S	0	0	0
			2082	1288	423	364	7			
3	CC	271	Total	C	N	O	S	0	0	0
			2082	1288	423	364	7			
3	EC	271	Total	C	N	O	S	0	0	0
			2082	1288	423	364	7			
3	GC	271	Total	C	N	O	S	0	0	0
			2082	1288	423	364	7			

- Molecule 4 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AD	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			
4	CD	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			
4	ED	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			
4	GD	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			

- Molecule 5 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			
5	CE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			
5	EE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			
5	GE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

- Molecule 6 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AF	177	Total	C	N	O	S	0	0	0
			1410	899	249	256	6			
6	CF	177	Total	C	N	O	S	0	0	0
			1410	899	249	256	6			
6	EF	177	Total	C	N	O	S	0	0	0
			1410	899	249	256	6			
6	GF	177	Total	C	N	O	S	0	0	0
			1410	899	249	256	6			

- Molecule 7 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			
7	CG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			
7	EG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	GG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

- Molecule 8 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AH	50	Total	C	N	O	S	0	0	0
			384	247	68	68	1			
8	CH	50	Total	C	N	O	S	0	0	0
			384	247	68	68	1			
8	EH	50	Total	C	N	O	S	0	0	0
			384	247	68	68	1			
8	GH	50	Total	C	N	O	S	0	0	0
			384	247	68	68	1			

- Molecule 9 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			
9	CI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			
9	EI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			
9	GI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			

- Molecule 10 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AJ	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			
10	CJ	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			
10	EJ	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			
10	GJ	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			

- Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AK	122	Total	C	N	O	S	0	0	0
			938	587	180	165	6			
11	CK	122	Total	C	N	O	S	0	0	0
			938	587	180	165	6			
11	EK	122	Total	C	N	O	S	0	0	0
			938	587	180	165	6			
11	GK	122	Total	C	N	O	S	0	0	0
			938	587	180	165	6			

- Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AL	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			
12	CL	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			
12	EL	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			
12	GL	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			

- Molecule 13 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AM	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			
13	CM	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			
13	EM	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			
13	GM	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			

- Molecule 14 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AN	120	Total	C	N	O	S	0	0	0
			960	593	196	166	5			
14	CN	120	Total	C	N	O	S	0	0	0
			960	593	196	166	5			
14	EN	120	Total	C	N	O	S	0	0	0
			960	593	196	166	5			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	GN	120	Total	C	N	O	S	0	0	0
			960	593	196	166	5			

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AO	116	Total	C	N	O		0	0	0
			892	552	178	162				
15	CO	116	Total	C	N	O		0	0	0
			892	552	178	162				
15	EO	116	Total	C	N	O		0	0	0
			892	552	178	162				
15	GO	116	Total	C	N	O		0	0	0
			892	552	178	162				

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AP	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			
16	CP	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			
16	EP	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			
16	GP	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			

- Molecule 17 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AQ	117	Total	C	N	O		0	0	0
			947	604	192	151				
17	CQ	117	Total	C	N	O		0	0	0
			947	604	192	151				
17	EQ	117	Total	C	N	O		0	0	0
			947	604	192	151				
17	GQ	117	Total	C	N	O		0	0	0
			947	604	192	151				

- Molecule 18 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	AR	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			
18	CR	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			
18	ER	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			
18	GR	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			

- Molecule 19 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AS	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			
19	CS	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			
19	ES	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			
19	GS	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			

- Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AT	93	Total	C	N	O	S	0	0	0
			738	466	139	131	2			
20	CT	93	Total	C	N	O	S	0	0	0
			738	466	139	131	2			
20	ET	93	Total	C	N	O	S	0	0	0
			738	466	139	131	2			
20	GT	93	Total	C	N	O	S	0	0	0
			738	466	139	131	2			

- Molecule 21 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	AU	102	Total	C	N	O	0	0	0
			779	492	146	141			
21	CU	102	Total	C	N	O	0	0	0
			779	492	146	141			
21	EU	102	Total	C	N	O	0	0	0
			779	492	146	141			

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	GU	102	Total	C	N	O	0	0	0
			779	492	146	141			

- Molecule 22 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			
22	CV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			
22	EV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			
22	GV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	AW	79	Total	C	N	O	S	0	0	0
			596	367	120	108	1			
23	CW	79	Total	C	N	O	S	0	0	0
			596	367	120	108	1			
23	EW	79	Total	C	N	O	S	0	0	0
			596	367	120	108	1			
23	GW	79	Total	C	N	O	S	0	0	0
			596	367	120	108	1			

- Molecule 24 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	AX	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			
24	CX	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			
24	EX	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			
24	GX	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	AY	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			
25	CY	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			
25	EY	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			
25	GY	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	AZ	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			
26	CZ	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			
26	EZ	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			
26	GZ	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	A0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			
27	C0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			
27	E0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			
27	G0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
28	A1	50	Total	C	N	O	0	0	0
			409	263	75	71			
28	C1	50	Total	C	N	O	0	0	0
			409	263	75	71			
28	E1	50	Total	C	N	O	0	0	0
			409	263	75	71			

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
28	G1	50	Total	C	N	O	0	0	0
			409	263	75	71			

- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	A2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			
29	C2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			
29	E2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			
29	G2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	A3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			
30	C3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			
30	E3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			
30	G3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	A4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			
31	C4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			
31	E4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			
31	G4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 32 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	A5	148	Total	C	N	O	S	0	0	0
			1117	705	196	209	7			
32	E5	144	Total	C	N	O	S	0	0	0
			1092	691	192	202	7			

- Molecule 33 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	BA	1533	Total	C	N	O	P	0	0	0
			32895	14671	6036	10655	1533			
33	DA	1533	Total	C	N	O	P	0	0	0
			32895	14671	6036	10655	1533			
33	FA	1533	Total	C	N	O	P	0	0	0
			32895	14671	6036	10655	1533			
33	HA	1533	Total	C	N	O	P	0	0	0
			32895	14671	6036	10655	1533			

- Molecule 34 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	BB	218	Total	C	N	O	S	0	0	0
			1704	1081	305	311	7			
34	DB	218	Total	C	N	O	S	0	0	0
			1704	1081	305	311	7			
34	FB	218	Total	C	N	O	S	0	0	0
			1704	1081	305	311	7			
34	HB	218	Total	C	N	O	S	0	0	0
			1704	1081	305	311	7			

- Molecule 35 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	BC	206	Total	C	N	O	S	0	0	0
			1624	1028	305	288	3			
35	DC	206	Total	C	N	O	S	0	0	0
			1624	1028	305	288	3			
35	FC	206	Total	C	N	O	S	0	0	0
			1624	1028	305	288	3			
35	HC	206	Total	C	N	O	S	0	0	0
			1624	1028	305	288	3			

- Molecule 36 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	BD	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			
36	DD	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			
36	FD	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			
36	HD	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			

- Molecule 37 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	BE	150	Total	C	N	O	S	0	0	0
			1105	687	211	201	6			
37	DE	150	Total	C	N	O	S	0	0	0
			1105	687	211	201	6			
37	FE	150	Total	C	N	O	S	0	0	0
			1105	687	211	201	6			
37	HE	150	Total	C	N	O	S	0	0	0
			1105	687	211	201	6			

- Molecule 38 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	BF	100	Total	C	N	O	S	0	0	0
			817	515	148	148	6			
38	DF	100	Total	C	N	O	S	0	0	0
			817	515	148	148	6			
38	FF	100	Total	C	N	O	S	0	0	0
			817	515	148	148	6			
38	HF	100	Total	C	N	O	S	0	0	0
			817	515	148	148	6			

- Molecule 39 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BG	151	Total	C	N	O	S	0	0	0
			1181	735	227	215	4			
39	DG	151	Total	C	N	O	S	0	0	0
			1181	735	227	215	4			
39	FG	151	Total	C	N	O	S	0	0	0
			1181	735	227	215	4			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	HG	151	Total	C	N	O	S	0	0	0
			1181	735	227	215	4			

- Molecule 40 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			
40	DH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			
40	FH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			
40	HH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			

- Molecule 41 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			
41	DI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			
41	FI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			
41	HI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			

- Molecule 42 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	BJ	98	Total	C	N	O	S	0	0	0
			786	493	150	142	1			
42	DJ	98	Total	C	N	O	S	0	0	0
			786	493	150	142	1			
42	FJ	98	Total	C	N	O	S	0	0	0
			786	493	150	142	1			
42	HJ	98	Total	C	N	O	S	0	0	0
			786	493	150	142	1			

- Molecule 43 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	BK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			
43	DK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			
43	FK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			
43	HK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			

- Molecule 44 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BL	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			
44	DL	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			
44	FL	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			
44	HL	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			

- Molecule 45 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	BM	114	Total	C	N	O	S	0	0	0
			883	546	178	156	3			
45	DM	114	Total	C	N	O	S	0	0	0
			883	546	178	156	3			
45	FM	114	Total	C	N	O	S	0	0	0
			883	546	178	156	3			
45	HM	114	Total	C	N	O	S	0	0	0
			883	546	178	156	3			

- Molecule 46 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	BN	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			
46	DN	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			
46	FN	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	HN	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			

- Molecule 47 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	BO	88	Total	C	N	O	S	0	0	0
			714	439	144	130	1			
47	DO	88	Total	C	N	O	S	0	0	0
			714	439	144	130	1			
47	FO	88	Total	C	N	O	S	0	0	0
			714	439	144	130	1			
47	HO	88	Total	C	N	O	S	0	0	0
			714	439	144	130	1			

- Molecule 48 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	BP	82	Total	C	N	O	S	0	0	0
			649	406	128	114	1			
48	DP	82	Total	C	N	O	S	0	0	0
			649	406	128	114	1			
48	FP	82	Total	C	N	O	S	0	0	0
			649	406	128	114	1			
48	HP	82	Total	C	N	O	S	0	0	0
			649	406	128	114	1			

- Molecule 49 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	BQ	80	Total	C	N	O	S	0	0	0
			648	411	121	113	3			
49	DQ	80	Total	C	N	O	S	0	0	0
			648	411	121	113	3			
49	FQ	80	Total	C	N	O	S	0	0	0
			648	411	121	113	3			
49	HQ	80	Total	C	N	O	S	0	0	0
			648	411	121	113	3			

- Molecule 50 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
50	BR	55	Total	C	N	O	0	0	0
			455	288	86	81			
50	DR	55	Total	C	N	O	0	0	0
			455	288	86	81			
50	FR	55	Total	C	N	O	0	0	0
			455	288	86	81			
50	HR	55	Total	C	N	O	0	0	0
			455	288	86	81			

- Molecule 51 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	BS	79	Total	C	N	O	S	0	0	0
			637	408	120	107	2			
51	DS	79	Total	C	N	O	S	0	0	0
			637	408	120	107	2			
51	FS	79	Total	C	N	O	S	0	0	0
			637	408	120	107	2			
51	HS	79	Total	C	N	O	S	0	0	0
			637	408	120	107	2			

- Molecule 52 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	BT	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			
52	DT	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			
52	FT	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			
52	HT	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			

- Molecule 53 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	BU	51	Total	C	N	O	S	0	0	0
			425	265	86	73	1			
53	DU	51	Total	C	N	O	S	0	0	0
			425	265	86	73	1			
53	FU	51	Total	C	N	O	S	0	0	0
			425	265	86	73	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	HU	51	Total	C	N	O	S	0	0	0
			425	265	86	73	1			

- Molecule 54 is a protein called elongation factor G.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	BV	689	Total	C	N	O	S	0	0	0
			5319	3345	919	1030	25			
54	DV	689	Total	C	N	O	S	0	0	0
			5319	3345	919	1030	25			
54	FV	689	Total	C	N	O	S	0	0	0
			5319	3345	919	1030	25			
54	HV	689	Total	C	N	O	S	0	0	0
			5319	3345	919	1030	25			

- Molecule 55 is a protein called Viomycin.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
55	BW	6	Total	C	N	O	0	0	0
			48	25	13	10			
55	DW	6	Total	C	N	O	0	0	0
			48	25	13	10			
55	FW	6	Total	C	N	O	0	0	0
			48	25	13	10			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	AA	130	Total	Mg	0	0
			130	130		
56	AB	4	Total	Mg	0	0
			4	4		
56	AC	3	Total	Mg	0	0
			3	3		
56	AD	1	Total	Mg	0	0
			1	1		
56	AE	1	Total	Mg	0	0
			1	1		
56	AT	1	Total	Mg	0	0
			1	1		
56	A3	1	Total	Mg	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	BA	40	Total 40	Mg 40	0	0
56	BE	1	Total 1	Mg 1	0	0
56	BL	1	Total 1	Mg 1	0	0
56	BU	1	Total 1	Mg 1	0	0
56	BV	1	Total 1	Mg 1	0	0
56	CA	134	Total 134	Mg 134	0	0
56	CB	4	Total 4	Mg 4	0	0
56	CD	1	Total 1	Mg 1	0	0
56	CE	1	Total 1	Mg 1	0	0
56	C4	1	Total 1	Mg 1	0	0
56	DA	42	Total 42	Mg 42	0	0
56	DU	1	Total 1	Mg 1	0	0
56	DV	1	Total 1	Mg 1	0	0
56	EA	133	Total 133	Mg 133	0	0
56	EB	4	Total 4	Mg 4	0	0
56	EC	1	Total 1	Mg 1	0	0
56	ED	2	Total 2	Mg 2	0	0
56	EQ	1	Total 1	Mg 1	0	0
56	FA	41	Total 41	Mg 41	0	0
56	FE	1	Total 1	Mg 1	0	0
56	FU	1	Total 1	Mg 1	0	0

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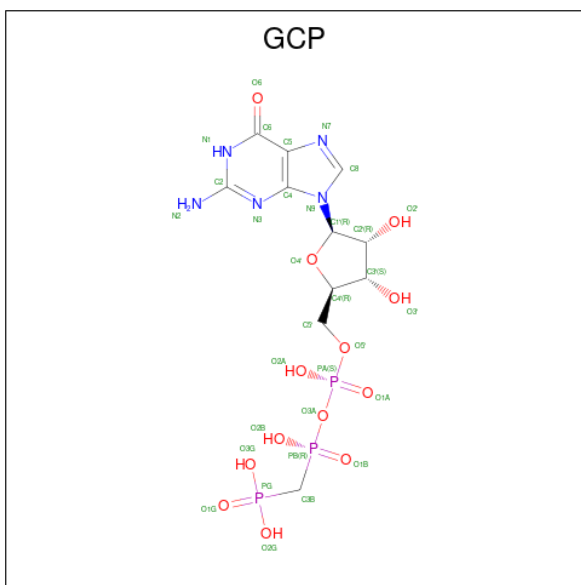
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	FV	1	Total 1	Mg 1	0	0
56	GA	134	Total 134	Mg 134	0	0
56	GB	4	Total 4	Mg 4	0	0
56	GC	1	Total 1	Mg 1	0	0
56	GL	1	Total 1	Mg 1	0	0
56	GS	1	Total 1	Mg 1	0	0
56	HA	40	Total 40	Mg 40	0	0
56	HC	1	Total 1	Mg 1	0	0
56	HE	1	Total 1	Mg 1	0	0
56	HT	1	Total 1	Mg 1	0	0
56	HV	1	Total 1	Mg 1	0	0

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	A4	1	Total 1	Zn 1	0	0
57	C4	1	Total 1	Zn 1	0	0
57	E4	1	Total 1	Zn 1	0	0
57	G4	1	Total 1	Zn 1	0	0

- Molecule 58 is PHOSPHOMETHYLPHOSPHONIC ACID GUANYLATE ESTER (three-letter code: GCP) (formula: $C_{11}H_{18}N_5O_{13}P_3$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
58	BV	1	Total 32	C 11	N 5	O 13	P 3	0	0
58	DV	1	Total 32	C 11	N 5	O 13	P 3	0	0
58	FV	1	Total 32	C 11	N 5	O 13	P 3	0	0
58	HV	1	Total 32	C 11	N 5	O 13	P 3	0	0

- Molecule 59 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
59	AA	608	Total O 608 608	0	0
59	AB	19	Total O 19 19	0	0
59	AC	10	Total O 10 10	0	0
59	AD	3	Total O 3 3	0	0
59	AE	1	Total O 1 1	0	0
59	AJ	1	Total O 1 1	0	0
59	AL	7	Total O 7 7	0	0
59	AN	4	Total O 4 4	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
59	AP	1	Total O 1 1	0	0
59	AQ	1	Total O 1 1	0	0
59	AS	1	Total O 1 1	0	0
59	AU	1	Total O 1 1	0	0
59	A0	1	Total O 1 1	0	0
59	A3	1	Total O 1 1	0	0
59	A4	2	Total O 2 2	0	0
59	BA	197	Total O 197 197	0	0
59	BC	1	Total O 1 1	0	0
59	BD	1	Total O 1 1	0	0
59	BI	1	Total O 1 1	0	0
59	BK	1	Total O 1 1	0	0
59	BN	3	Total O 3 3	0	0
59	BT	2	Total O 2 2	0	0
59	BU	1	Total O 1 1	0	0
59	BV	1	Total O 1 1	0	0
59	CA	604	Total O 604 604	0	0
59	CB	20	Total O 20 20	0	0
59	CC	11	Total O 11 11	0	0
59	CD	3	Total O 3 3	0	0
59	CE	1	Total O 1 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	CF	1	Total 1	O 1	0	0
59	CJ	3	Total 3	O 3	0	0
59	CL	6	Total 6	O 6	0	0
59	CN	4	Total 4	O 4	0	0
59	CS	1	Total 1	O 1	0	0
59	CT	2	Total 2	O 2	0	0
59	C2	1	Total 1	O 1	0	0
59	C3	1	Total 1	O 1	0	0
59	C4	2	Total 2	O 2	0	0
59	DA	193	Total 193	O 193	0	0
59	DC	1	Total 1	O 1	0	0
59	DE	2	Total 2	O 2	0	0
59	DG	1	Total 1	O 1	0	0
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59	DN	6	Total 6	O 6	0	0
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59	DT	1	Total 1	O 1	0	0
59	DU	1	Total 1	O 1	0	0
59	DV	1	Total 1	O 1	0	0
59	EA	617	Total 617	O 617	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
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59	EC	8	Total 8	O 8	0	0
59	ED	1	Total 1	O 1	0	0
59	EL	4	Total 4	O 4	0	0
59	EN	2	Total 2	O 2	0	0
59	ER	1	Total 1	O 1	0	0
59	ET	1	Total 1	O 1	0	0
59	EU	1	Total 1	O 1	0	0
59	E0	2	Total 2	O 2	0	0
59	E3	2	Total 2	O 2	0	0
59	E4	1	Total 1	O 1	0	0
59	FA	198	Total 198	O 198	0	0
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59	FK	1	Total 1	O 1	0	0
59	FN	3	Total 3	O 3	0	0
59	FQ	1	Total 1	O 1	0	0
59	FT	4	Total 4	O 4	0	0
59	FV	1	Total 1	O 1	0	0
59	GA	607	Total 607	O 607	0	0
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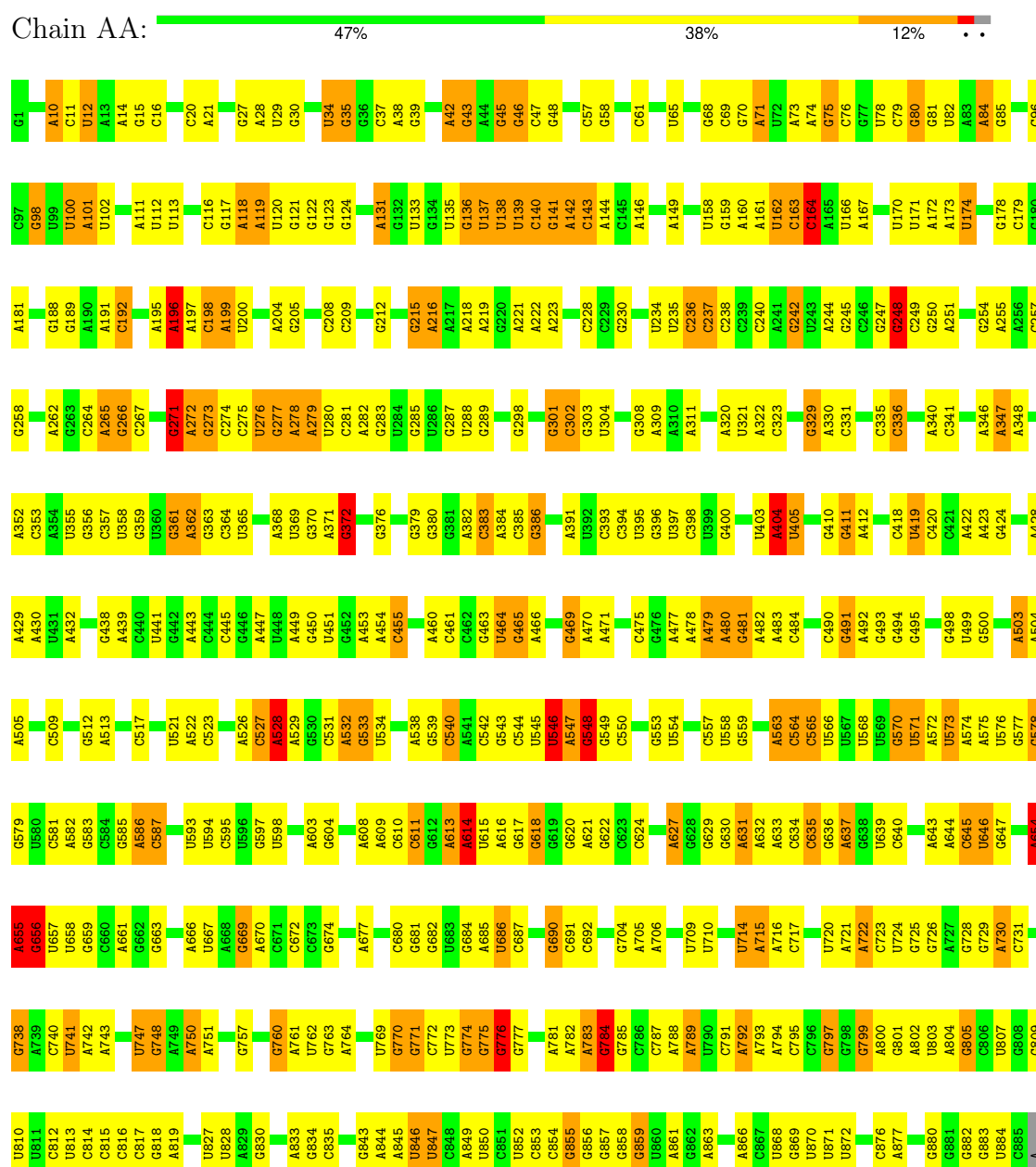
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59	GL	4	Total 4	O 4	0	0
59	GN	3	Total 3	O 3	0	0
59	GQ	1	Total 1	O 1	0	0
59	GR	2	Total 2	O 2	0	0
59	GS	1	Total 1	O 1	0	0
59	GT	1	Total 1	O 1	0	0
59	GU	2	Total 2	O 2	0	0
59	GV	1	Total 1	O 1	0	0
59	G2	2	Total 2	O 2	0	0
59	G3	1	Total 1	O 1	0	0
59	G4	1	Total 1	O 1	0	0
59	HA	197	Total 197	O 197	0	0
59	HD	1	Total 1	O 1	0	0
59	HE	3	Total 3	O 3	0	0
59	HN	5	Total 5	O 5	0	0
59	HT	1	Total 1	O 1	0	0
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3 Residue-property plots

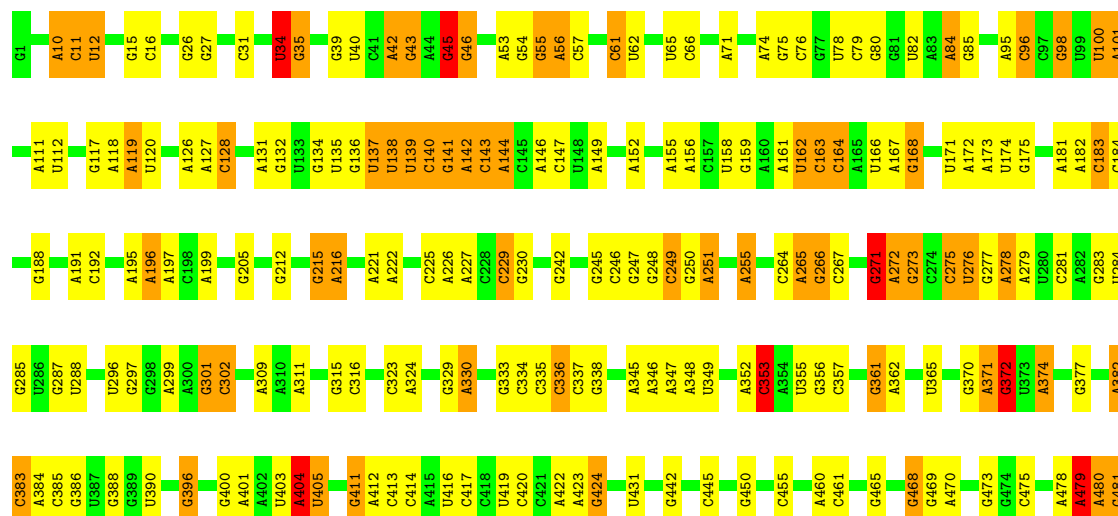
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded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

Note EDS failed to run properly.

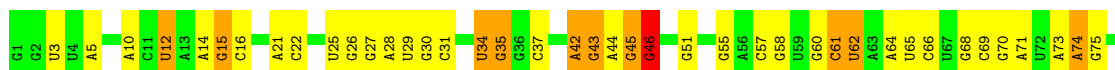
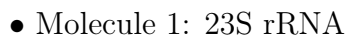
• Molecule 1: 23S rRNA



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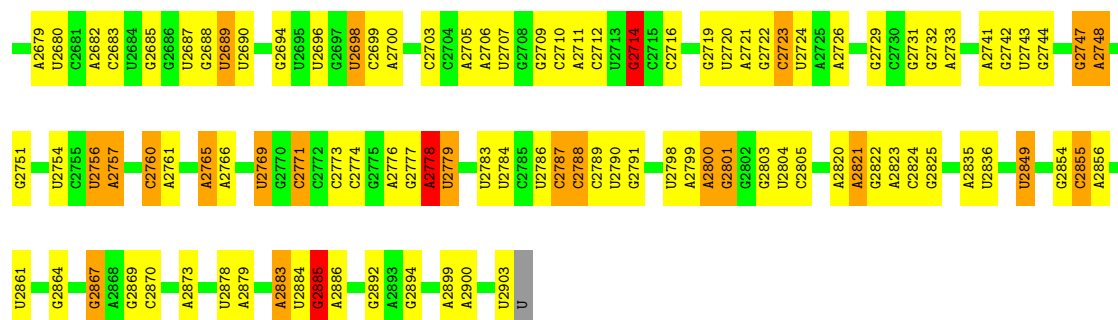




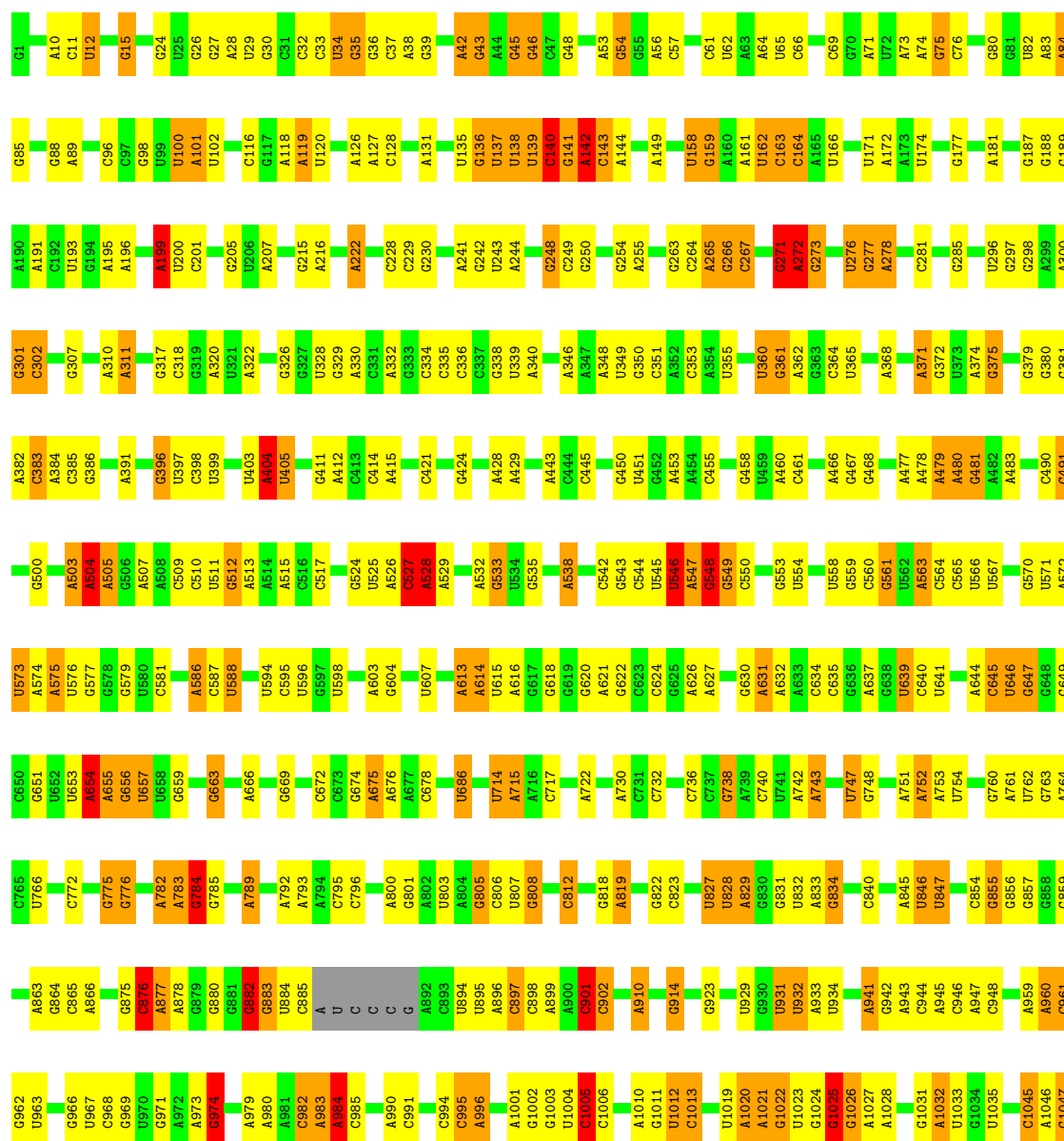




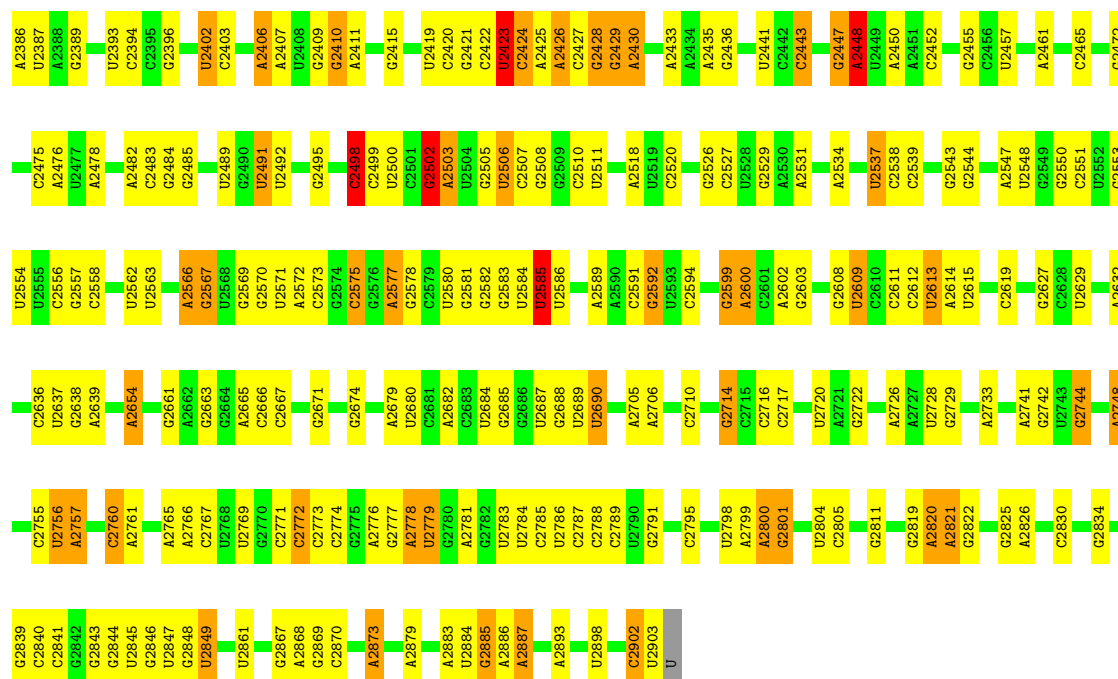
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- Molecule 1: 23S rRNA

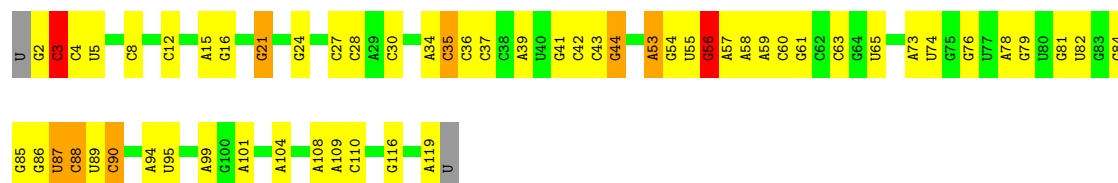


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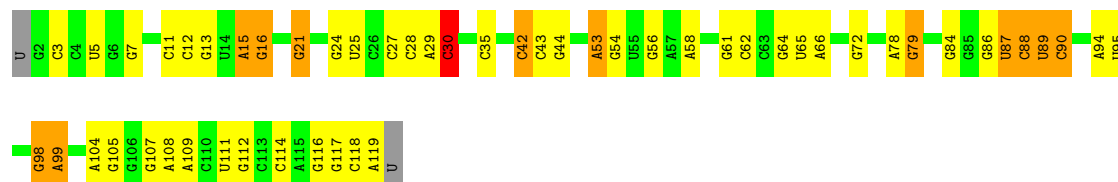
• Molecule 2: 5S rRNA

Chain AB: 51% 40% 6% ..



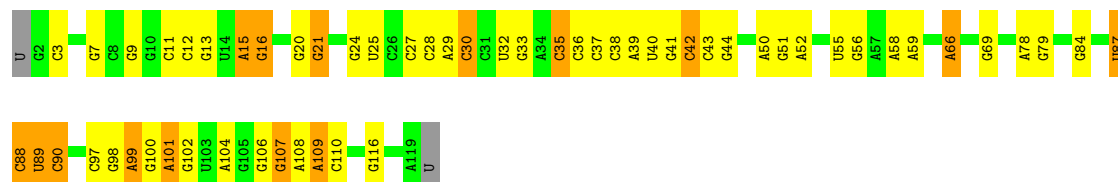
• Molecule 2: 5S rRNA

Chain CB: 54% 33% 10% ..



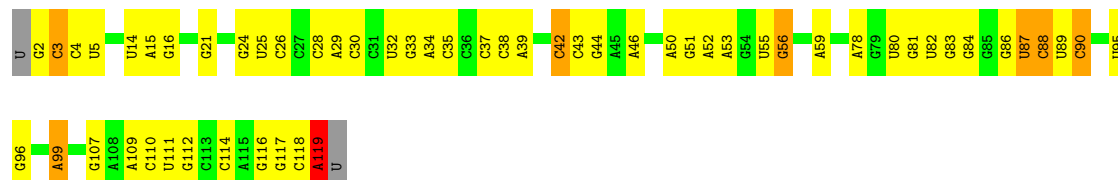
• Molecule 2: 5S rRNA

Chain EB: 51% 35% 12% .



- Molecule 2: 5S rRNA

Chain GB:  52% 40% 6% ..



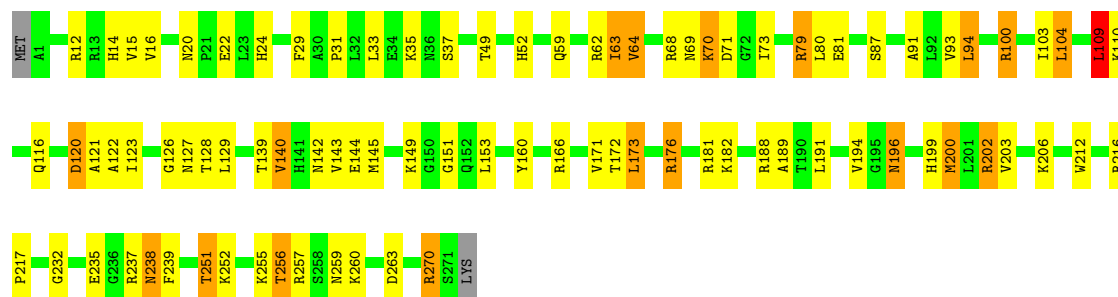
- Molecule 3: 50S ribosomal protein L2

Chain AC:  68% 28% ...




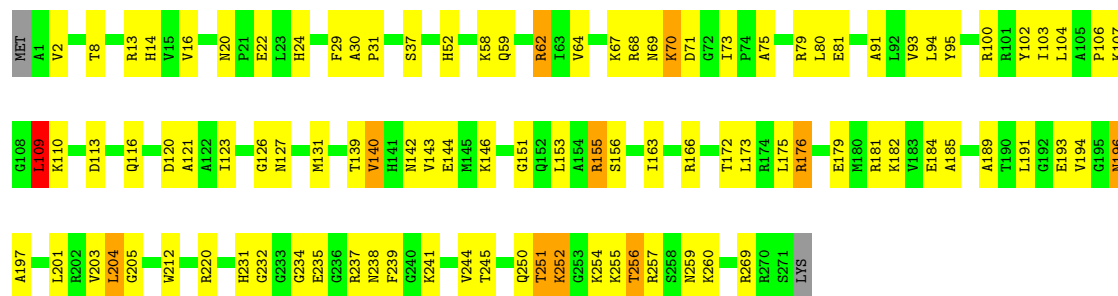
- Molecule 3: 50S ribosomal protein L2

Chain CC:  67% 25% 7% .

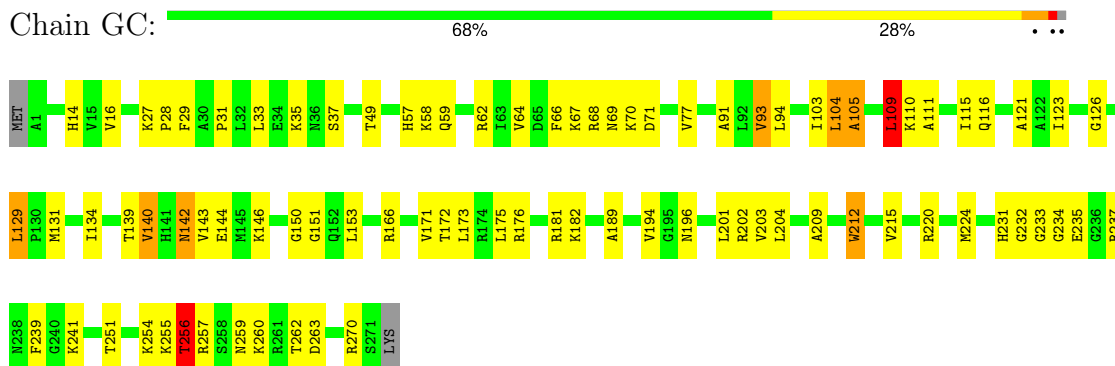


- Molecule 3: 50S ribosomal protein L2

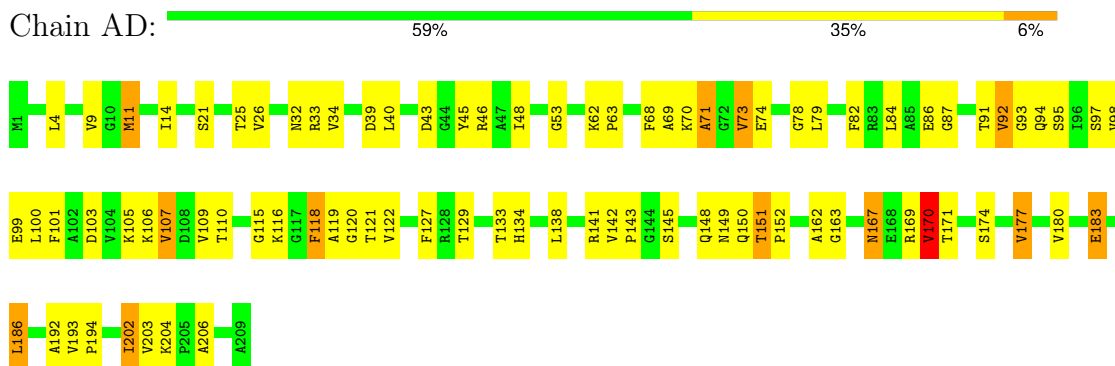
Chain EC:  63% 33% ..



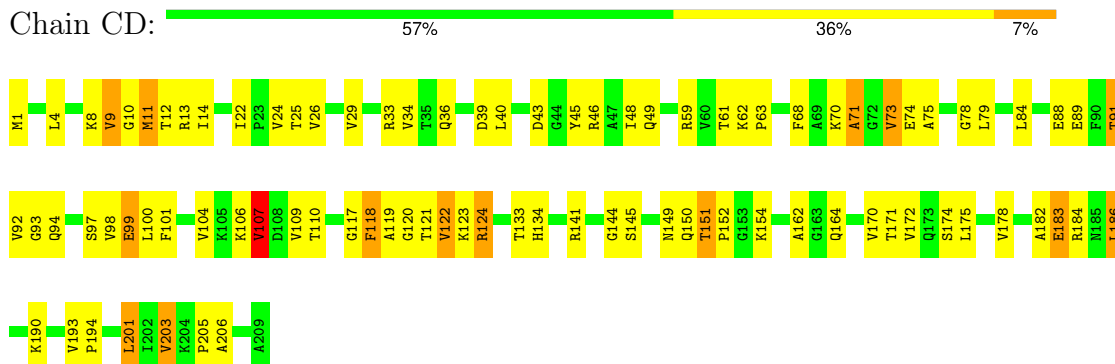
- Molecule 3: 50S ribosomal protein L2



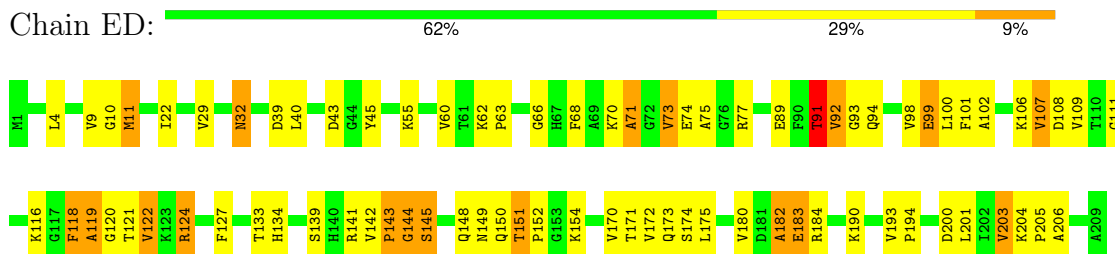
- Molecule 4: 50S ribosomal protein L3



- Molecule 4: 50S ribosomal protein L3

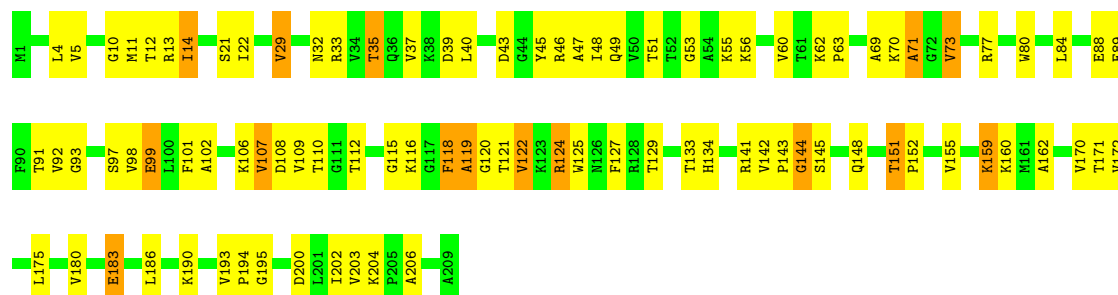


- Molecule 4: 50S ribosomal protein L3



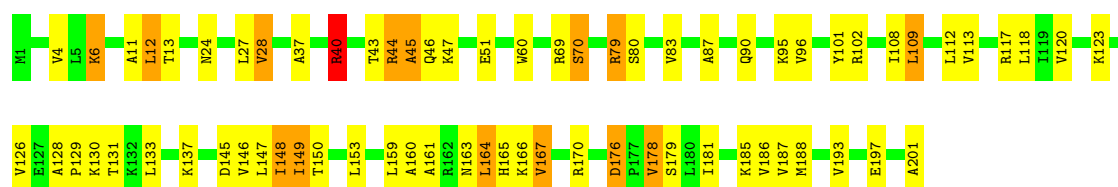
- Molecule 4: 50S ribosomal protein L3

Chain GD:  56% 37% 7%



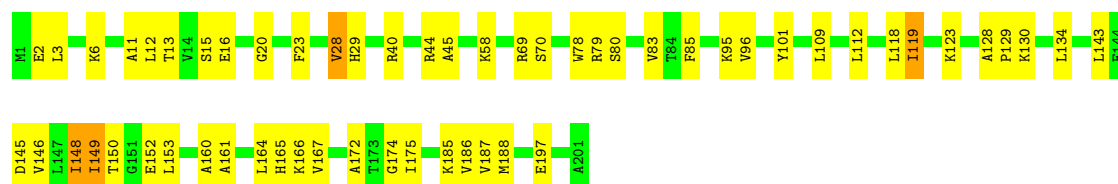
- Molecule 5: 50S ribosomal protein L4

Chain AE:  65% 27% 7%



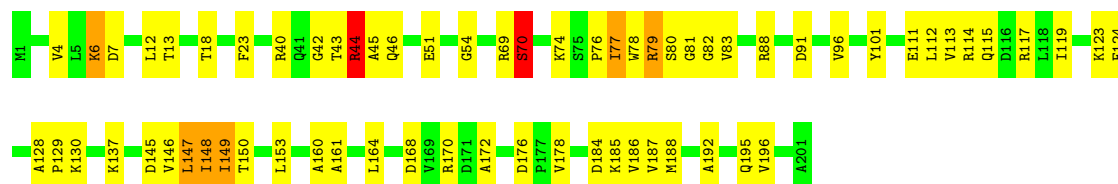
- Molecule 5: 50S ribosomal protein L4

Chain CE:  72% 26% 2%



- Molecule 5: 50S ribosomal protein L4

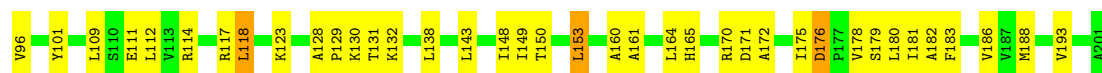
Chain EE:  67% 29% 4%



- Molecule 5: 50S ribosomal protein L4

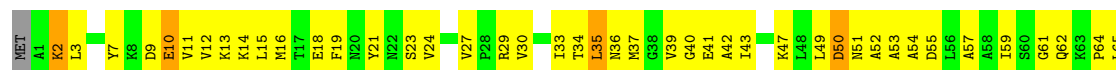
Chain GE:  62% 34% 4%





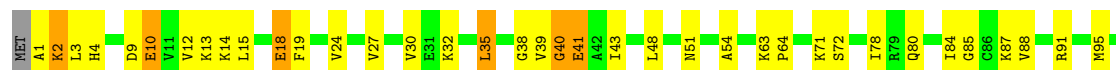
- Molecule 6: 50S ribosomal protein L5

Chain AF: 40% 53% 6% .



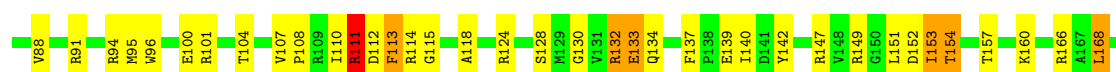
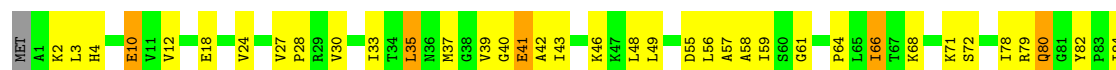
- Molecule 6: 50S ribosomal protein L5

Chain CF: 61% 32% 6% .



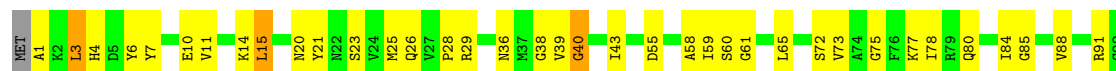
- Molecule 6: 50S ribosomal protein L5

Chain EF: 55% 36% 7% ..



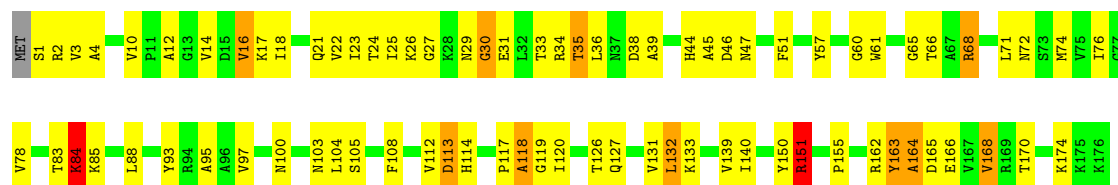
- Molecule 6: 50S ribosomal protein L5

Chain GF: 52% 43% . .

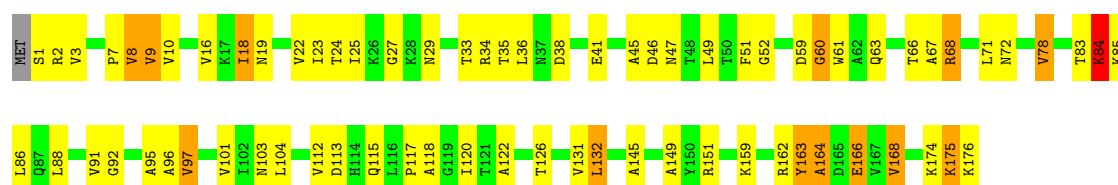


LYS

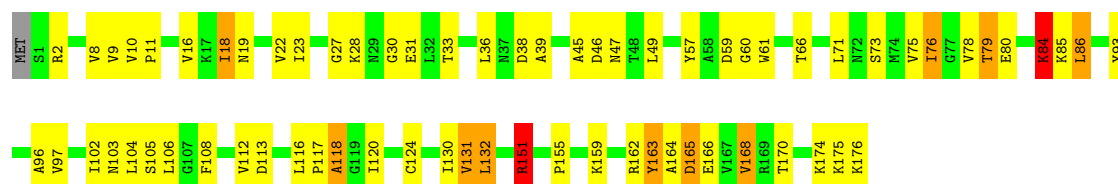
- Molecule 7: 50S ribosomal protein L6

Chain AG:  55% 38% 6% ..

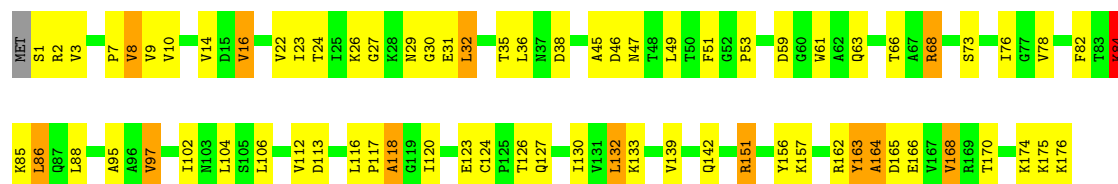
- Molecule 7: 50S ribosomal protein L6

Chain CG:  58% 33% 7% ..

- Molecule 7: 50S ribosomal protein L6

Chain EG:  60% 32% 6% ..

- Molecule 7: 50S ribosomal protein L6

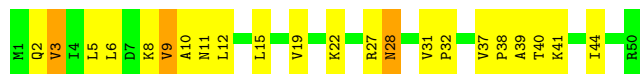
Chain GG:  58% 34% 7% ..

- Molecule 8: 50S ribosomal protein L9

Chain AH:  54% 42% ..

- Molecule 8: 50S ribosomal protein L9

Chain CH: 



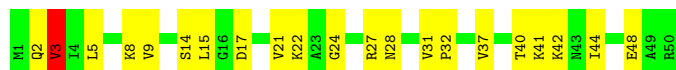
- Molecule 8: 50S ribosomal protein L9

Chain EH: 



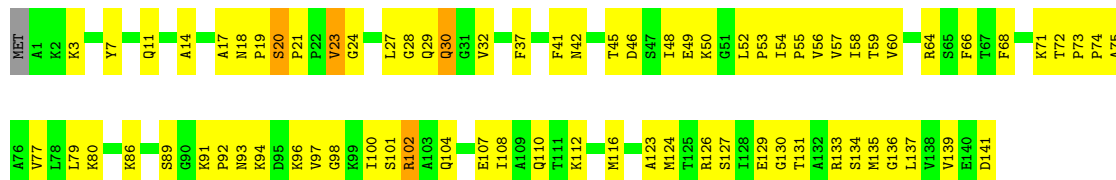
- Molecule 8: 50S ribosomal protein L9

Chain GH: 



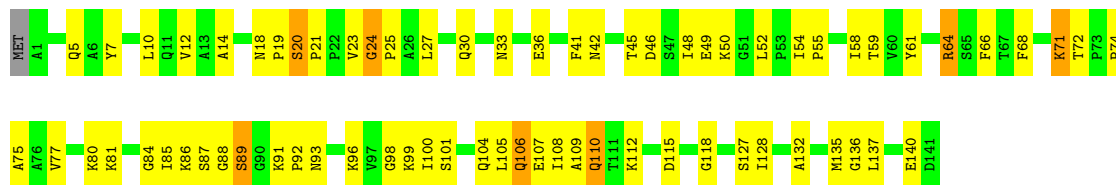
- Molecule 9: 50S ribosomal protein L11

Chain AI: 



- Molecule 9: 50S ribosomal protein L11

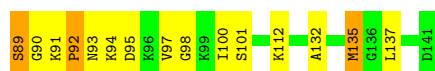
Chain CI: 



- Molecule 9: 50S ribosomal protein L11

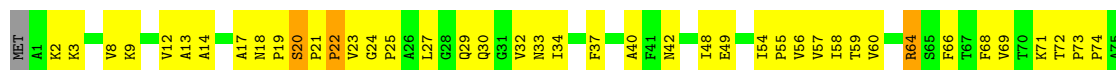
Chain EI: 





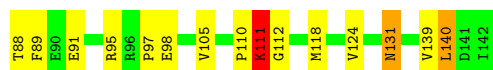
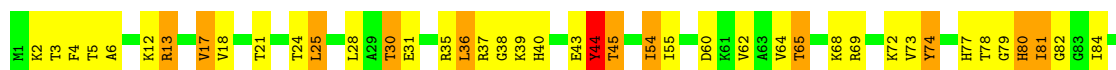
- Molecule 9: 50S ribosomal protein L11

Chain GI: 48% 46% 6% .



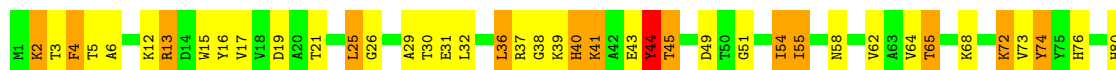
- Molecule 10: 50S ribosomal protein L13

Chain AJ: 60% 30% 9% .



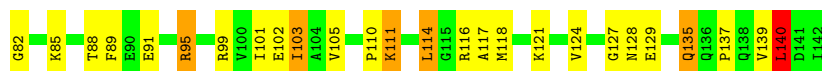
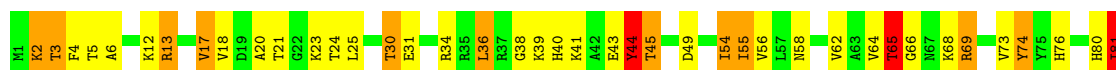
- Molecule 10: 50S ribosomal protein L13

Chain CJ: 58% 31% 11% .



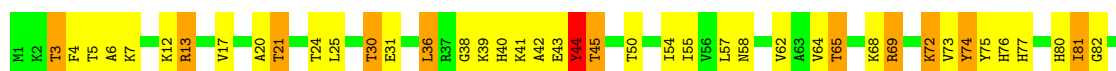
- Molecule 10: 50S ribosomal protein L13

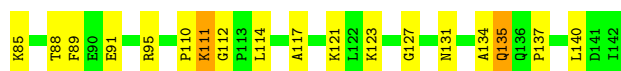
Chain EJ: 53% 33% 11% .



- Molecule 10: 50S ribosomal protein L13

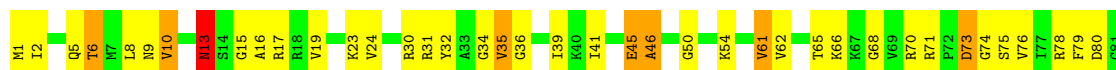
Chain GJ: 58% 32% 9% .





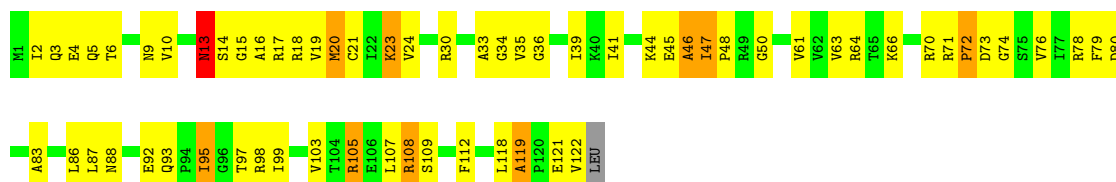
- Molecule 11: 50S ribosomal protein L14

Chain AK: 51% 39% 8% ..



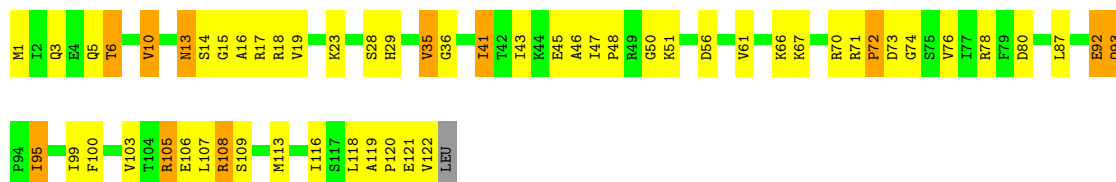
- Molecule 11: 50S ribosomal protein L14

Chain CK: 47% 44% 7% ..



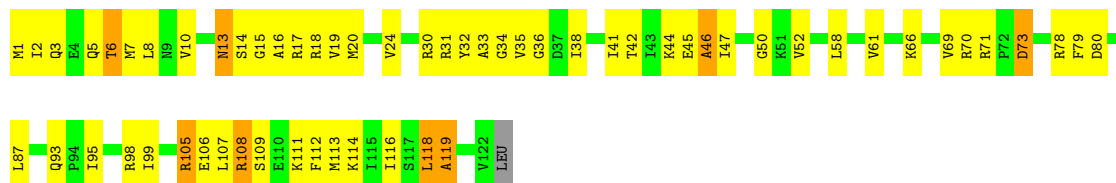
- Molecule 11: 50S ribosomal protein L14

Chain EK: 54% 37% 9% .



- Molecule 11: 50S ribosomal protein L14

Chain GK: 50% 42% 7% .



- Molecule 12: 50S ribosomal protein L15

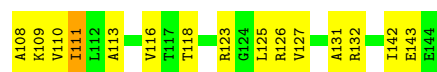
Chain AL: 67% 28% ..





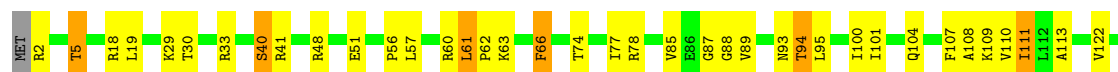
- Molecule 12: 50S ribosomal protein L15

Chain CL: 63% 32% ..



- Molecule 12: 50S ribosomal protein L15

Chain EL: 70% 25% ..



- Molecule 12: 50S ribosomal protein L15

Chain GL: 57% 38% ..



- Molecule 13: 50S ribosomal protein L16

Chain AM: 61% 31% 6% .



- Molecule 13: 50S ribosomal protein L16

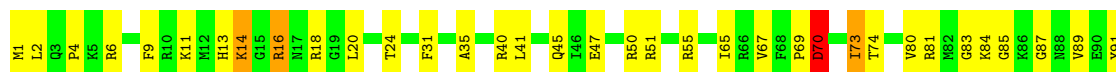
Chain CM: 63% 32% 5% .





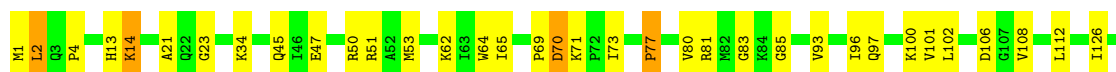
- Molecule 13: 50S ribosomal protein L16

Chain EM: 66% 27% 6% •



- Molecule 13: 50S ribosomal protein L16

Chain GM: 71% 26% •



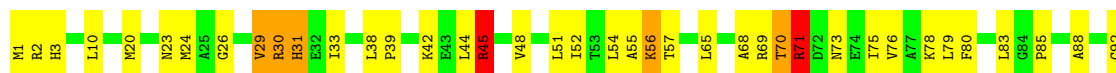
- Molecule 14: 50S ribosomal protein L17

Chain AN: 62% 30% • • 6%



- Molecule 14: 50S ribosomal protein L17

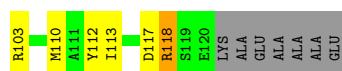
Chain CN: 60% 28% 6% • 6%



- Molecule 14: 50S ribosomal protein L17

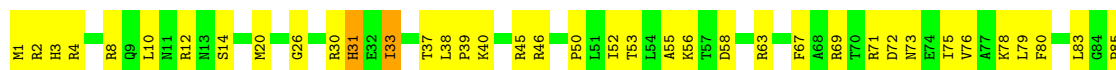
Chain EN: 62% 30% • 6%





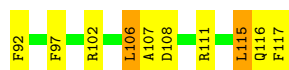
- Molecule 14: 50S ribosomal protein L17

Chain GN: 56% 36% 6%



- Molecule 15: 50S ribosomal protein L18

Chain AO: 59% 37% 4%



- Molecule 15: 50S ribosomal protein L18

Chain CO: 69% 26% 5%



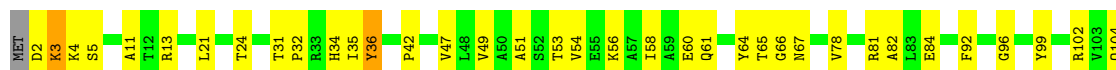
- Molecule 15: 50S ribosomal protein L18

Chain EO: 72% 24% 4%



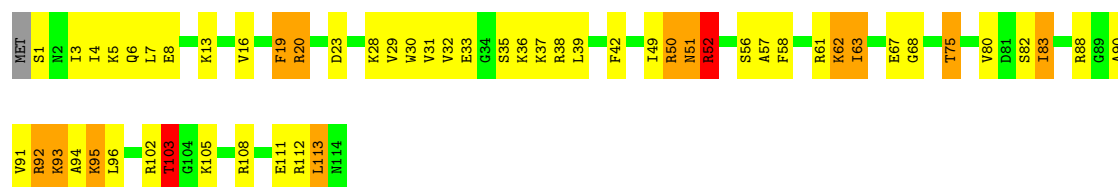
- Molecule 15: 50S ribosomal protein L18

Chain GO: 66% 32% 2%



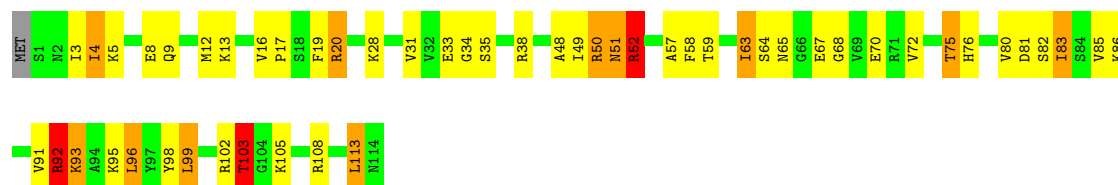
- Molecule 16: 50S ribosomal protein L19

Chain AP: 



- Molecule 16: 50S ribosomal protein L19

Chain CP: 



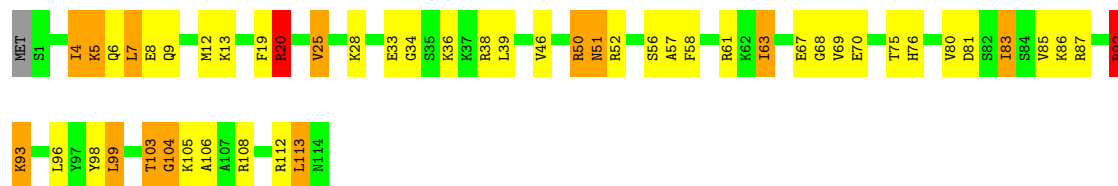
- Molecule 16: 50S ribosomal protein L19

Chain EP: 



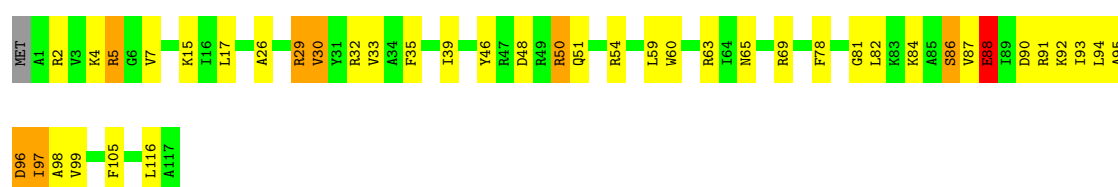
- Molecule 16: 50S ribosomal protein L19

Chain GP: 



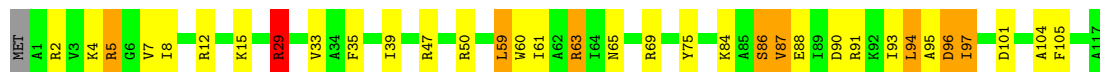
- Molecule 17: 50S ribosomal protein L20

Chain AQ: 



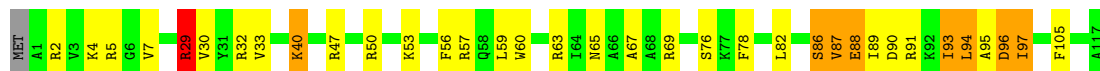
- Molecule 17: 50S ribosomal protein L20

Chain CQ:  70% 21% 7% ..



- Molecule 17: 50S ribosomal protein L20

Chain EQ:  69% 22% 7% ..



- Molecule 17: 50S ribosomal protein L20

Chain GQ:  67% 28% . .



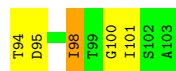
- Molecule 18: 50S ribosomal protein L21

Chain AR:  56% 40% .



- Molecule 18: 50S ribosomal protein L21

Chain CR:  56% 40% .



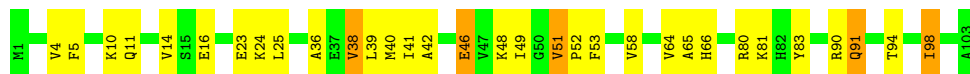
- Molecule 18: 50S ribosomal protein L21

Chain ER:  59% 36% . .



- Molecule 18: 50S ribosomal protein L21

Chain GR:  69% 26% 5%



- Molecule 19: 50S ribosomal protein L22

Chain AS:  71% 22% 7%



- Molecule 19: 50S ribosomal protein L22

Chain CS:  70% 25% 5%



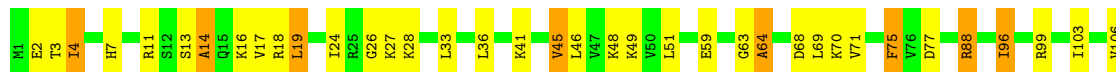
- Molecule 19: 50S ribosomal protein L22

Chain ES:  68% 22% 10%



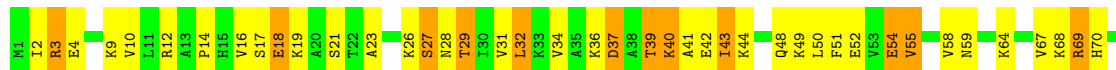
- Molecule 19: 50S ribosomal protein L22

Chain GS:  65% 28% 7%



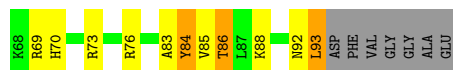
- Molecule 20: 50S ribosomal protein L23

Chain AT:  44% 35% 14% 7%

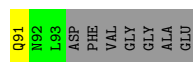
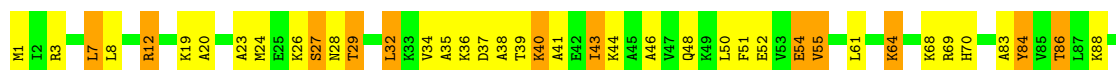




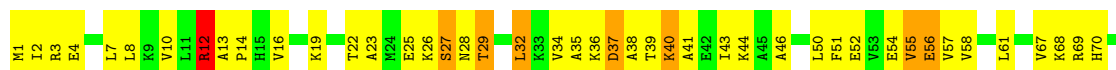
- Molecule 20: 50S ribosomal protein L23



- Molecule 20: 50S ribosomal protein L23



- Molecule 20: 50S ribosomal protein L23



- Molecule 21: 50S ribosomal protein L24

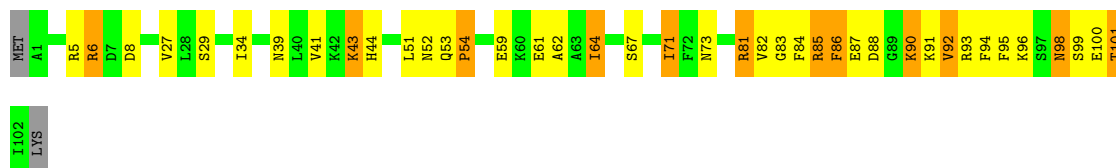


- Molecule 21: 50S ribosomal protein L24



- Molecule 21: 50S ribosomal protein L24

Chain EU:  60% 27% 12% .




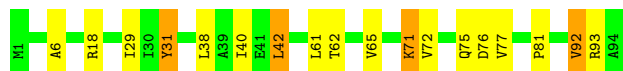
- Molecule 21: 50S ribosomal protein L24

Chain GU:  66% 24% 8% .



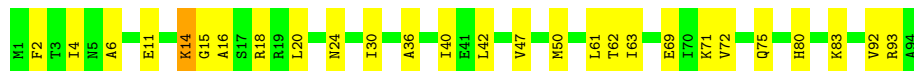
- Molecule 22: 50S ribosomal protein L25

Chain AV:  81% 15% .



- Molecule 22: 50S ribosomal protein L25

Chain CV:  71% 28% .



- Molecule 22: 50S ribosomal protein L25

Chain EV:  72% 28% .



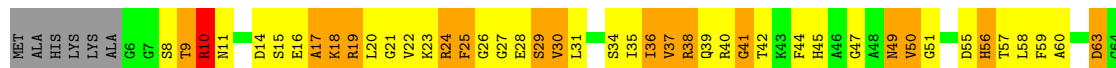
- Molecule 22: 50S ribosomal protein L25

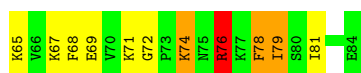
Chain GV:  69% 29% .



- Molecule 23: 50S ribosomal protein L27

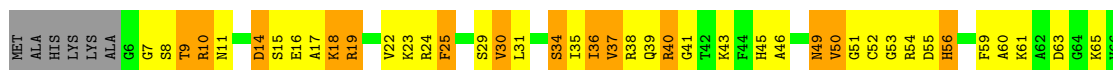
Chain AW:  28% 40% 22% 7% .





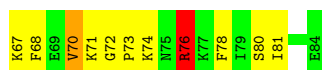
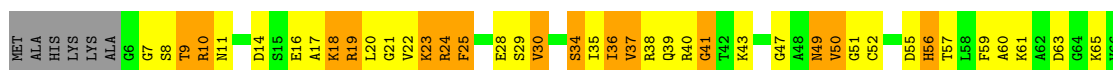
- Molecule 23: 50S ribosomal protein L27

Chain CW: 28% 46% 18% 7%



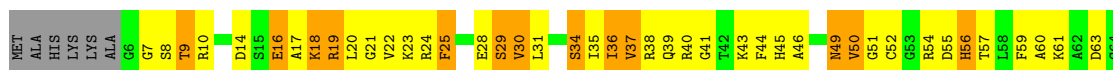
- Molecule 23: 50S ribosomal protein L27

Chain EW: 32% 41% 19% 7%



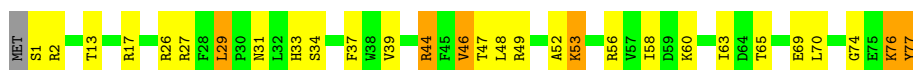
- Molecule 23: 50S ribosomal protein L27

Chain GW: 25% 51% 16% 7%



- Molecule 24: 50S ribosomal protein L28

Chain AX: 62% 29% 8%



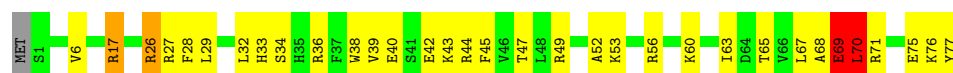
- Molecule 24: 50S ribosomal protein L28

Chain CX: 60% 31% 6%



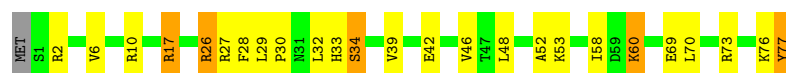
- Molecule 24: 50S ribosomal protein L28

Chain EX:  56% 37% . . .



- Molecule 24: 50S ribosomal protein L28

Chain GX:  67% 26% 6% .



- Molecule 25: 50S ribosomal protein L29

Chain AY:  63% 35% .



- Molecule 25: 50S ribosomal protein L29

Chain CY:  62% 38%



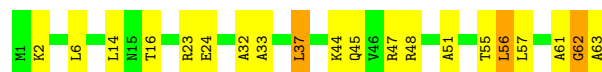
- Molecule 25: 50S ribosomal protein L29

Chain EY:  56% 38% 5% .




- Molecule 25: 50S ribosomal protein L29

Chain GY:  68% 27% 5%



- Molecule 26: 50S ribosomal protein L30

Chain AZ:  80% 14% 5% .



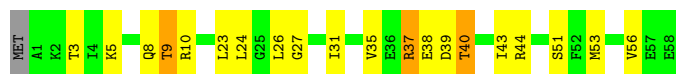
- Molecule 26: 50S ribosomal protein L30

Chain CZ:  69% 25% ..



- Molecule 26: 50S ribosomal protein L30

Chain EZ:  64% 29% 5% ..



- Molecule 26: 50S ribosomal protein L30

Chain GZ:  66% 22% 10% ..



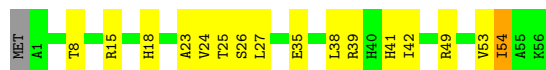
- Molecule 27: 50S ribosomal protein L32

Chain A0:  67% 30% ..




- Molecule 27: 50S ribosomal protein L32

Chain C0:  70% 26% ..



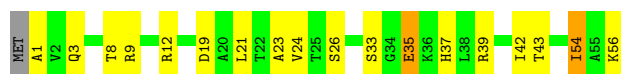
- Molecule 27: 50S ribosomal protein L32

Chain E0:  75% 21% ..



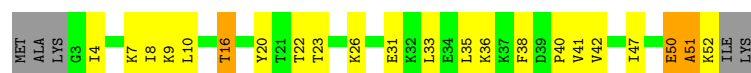
- Molecule 27: 50S ribosomal protein L32

Chain G0:  67% 28% ..



- Molecule 28: 50S ribosomal protein L33

Chain A1: 



- Molecule 28: 50S ribosomal protein L33

Chain C1: 



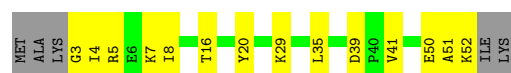
- Molecule 28: 50S ribosomal protein L33

Chain E1: 



- Molecule 28: 50S ribosomal protein L33

Chain G1: 



- Molecule 29: 50S ribosomal protein L34

Chain A2: 



- Molecule 29: 50S ribosomal protein L34

Chain C2: 



- Molecule 29: 50S ribosomal protein L34

Chain E2: 



- Molecule 29: 50S ribosomal protein L34

Chain G2:  67% 28% .




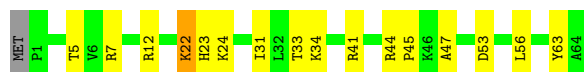
- Molecule 30: 50S ribosomal protein L35

Chain A3:  66% 29% ..



- Molecule 30: 50S ribosomal protein L35

Chain C3:  74% 23% ..



- Molecule 30: 50S ribosomal protein L35

Chain E3:  69% 23% 6% .



- Molecule 30: 50S ribosomal protein L35

Chain G3:  63% 31% 5% .



- Molecule 31: 50S ribosomal protein L36

Chain A4:  61% 32% 8%



- Molecule 31: 50S ribosomal protein L36

Chain C4:  55% 39% 5%



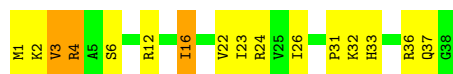
- Molecule 31: 50S ribosomal protein L36

Chain E4: 



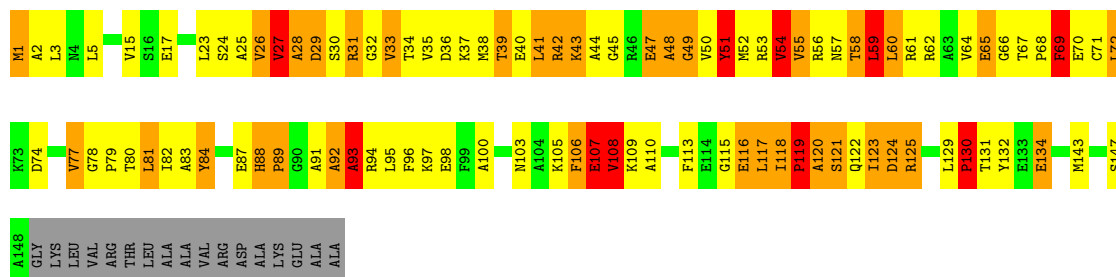
- Molecule 31: 50S ribosomal protein L36

Chain G4: 



- Molecule 32: 50S ribosomal protein L10

Chain A5: 



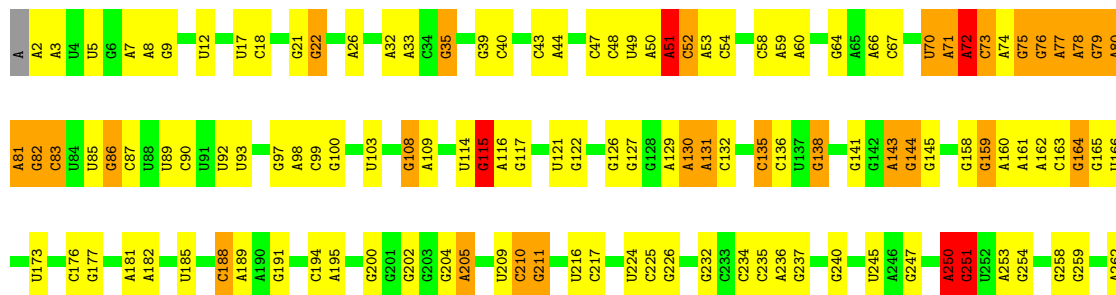
- Molecule 32: 50S ribosomal protein L10

Chain E5: 



- Molecule 33: 16S rRNA

Chain BA: 

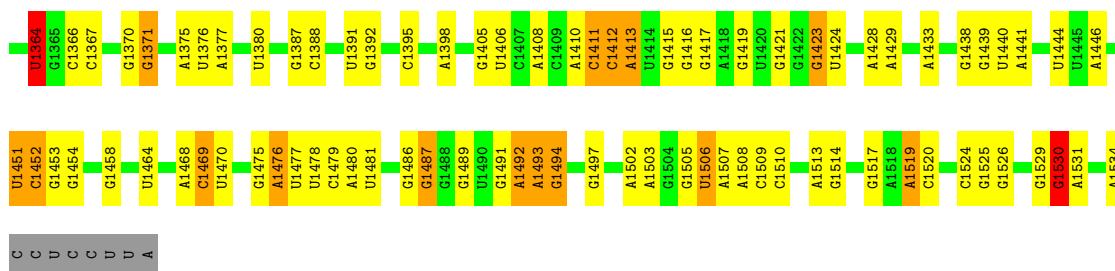


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U1476	A1289	G1198	A1375	A1290	U1023	A831	A749	C679	U593	U512	A436	G354	C264
C1479	U1291	A1201	U1376	U1292	U1025	G833	U751	A681	A596	C513	U437	G362	G265
A1480	G1292	U1202	U1377	G1293	G1026	C841	G752	G682	U597	G515	U438	U365	C267
A1483	G1294	U1212	U1380	G1295	C1027	U842	A753	U684	U598	C518	A448	A366	U273
	U1296	A1213	C1383	C1296	U1029	U843	G754	G685	C599	C519	A449	A367	
G1487	G1297	A1216	G1386	G1297	U1030	G844	G756	U686	A600	A520	G449	U368	G276
G1488	U1298	C1217	G1387	U1298	C1031	A845	U757	A687	G601	A521	G450	G369	
G1489	A1299	C1218	G1387	A1299	G1032	C846	G758	G688	A602	C522	A451	U375	C284
U1490		A1219	U1391		G1033	C847		G689	G604	A523	G452	A372	C280
G1491	C1302		G1392		G1034	C848	G763	G690	U605		G453	A373	G281
A1492	G1303	A1130			A1035		G764	G691	A608	G527	G454	A374	G282
A1493	C1304	U1131			A1036	G858		G692			G455	A375	U283
A1494	G1305	G1132			C1037	G859	A767	U697	C613	G530	A456	U376	C285
	A1306	C1133			C1038	C861	A768	A860	U619	U532	U458	G377	C286
G1497		G1134			G1041	A865	G770	U701	C618	A533	A460	C381	G289
U1498	G1309	U1135			A1042	C866	G771	A702	U620		A461	A382	G292
A1499		C1136				U870	G776	A704	G639	C536	A462	A383	
A1500	U1313	C1137			U1049	U871	A777	A705	U641	G537	U463	G384	G299
C1501	C1314	G1138			G1050	C881	G778	A706	A622	G538	U464		A300
A1502	U1315	G1139			G1051	G874	G779	A707	G626	G539	A465	G388	G301
A1503	G1316	U1240			U1052	U875	A780	U707		G540	A466		
G1504	C1317	G1242			G1053			C708	A629		U467	C382	C307
G1505	A1318	G1243			C1054	A878	A784	U709	A630	A547	A468	A393	C308
U1506	A1319	G1143			G1058	C879	G785	G710		G548	A394	G394	C309
A1507	C1320	A1145			U982	C880	G786	G711		C549	U472	C395	G310
A1508	U1321	C1245			A983	C881	A787	G714	G639		U473	C396	
C1509	G1322	U1247			U1060	C882		A715	U641	A553	C474		G319
	C1323	A1248				G885	G791	A716	A642	C556	C400	G389	A320
U1512	A1324	C1249			U1065	C886	A792	A717	C643	G557	C401	C400	A321
A1513		A1151			C1066	G887	U793	U717		G558	U479	U405	U322
G1514	A1329	A1152			G1074	G890	A794	C720	G650	A559	U480	U406	G324
G1515	U1330	G1156			G1077	C891	G795	G721	G651	A560	G481	G406	A325
G1516	G1331	U1159				C892	G796	G722	U652	U561	A482	U407	G326
G1517	A1332	G1160			U1085	C893	G797	U723	U653	U562	C483	A408	G327
A1518	G1333	C1161			U1086	A901	U798	G724	G654	A563	G484	G410	C328
U1519	A1334	A1163			G1087	C902	G799	G725	A655	C564	U485	A411	A329
U1522	C1335	G1166			U1088	A906	A802	G726	C658	G568	A487	A412	G332
G1523	G1336	A1167			G1094	A913	G803	G727	U659	C569	G413	G333	U333
C1524	U1337	U1168			U1095	A914	U804	A728	C660	G570	A414	C334	C334
G1525	G1338	A1169			G1096	A923	G809	G730	G661	U571	A415	C335	C335
U1526	A1346	A1174			U1097	G922	C810	G731	G664	A572	G416	A336	C336
U1527	G1347	G1175			U1098	G923	C811	G734	A665	A573	G417	A337	A337
G1528	U1348	A1179			C1098	G924	G812		G668	G575	U420	A338	C339
G1529	A1349	A1180			G1099	G925	A815	C737	G669	C576	U421	U340	U340
G1530		U1181			C1100	G926	A816	G738	G670	A499	C422	C341	
	G1353	G1182			A1101	G927	C817	U740	G671	G500	G423	A344	A344
		U1183			C1102	G932	U820	G742	U672	A502	G425	G345	C345
		A1191			G1104	G933		A743	G674	G588	U426	G346	G346
		A1196			G1108	C934	U827	A746	A675	U589	U427	G347	G347
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						C936					U429	G351	C352
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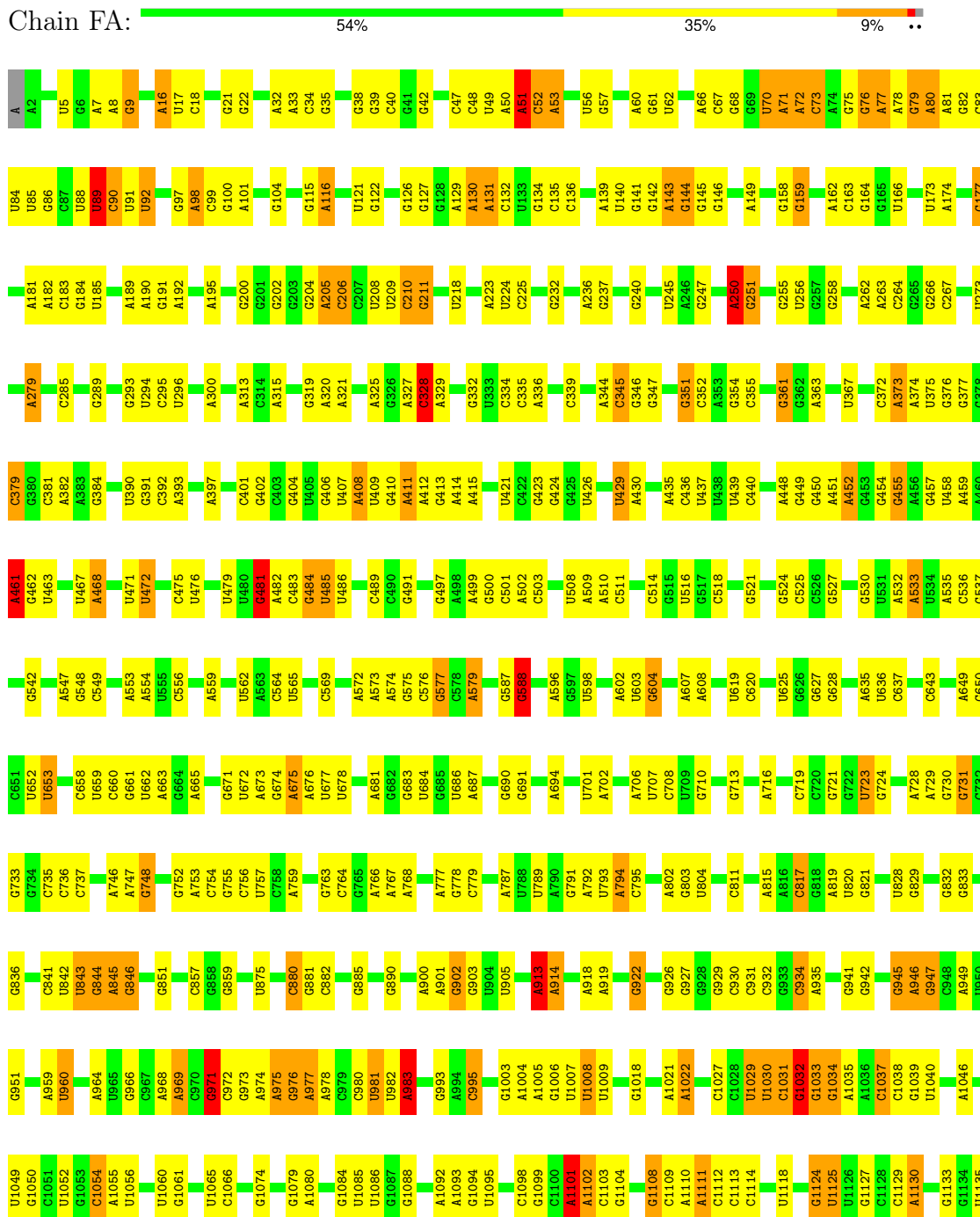
• Molecule 33: 16S rRNA

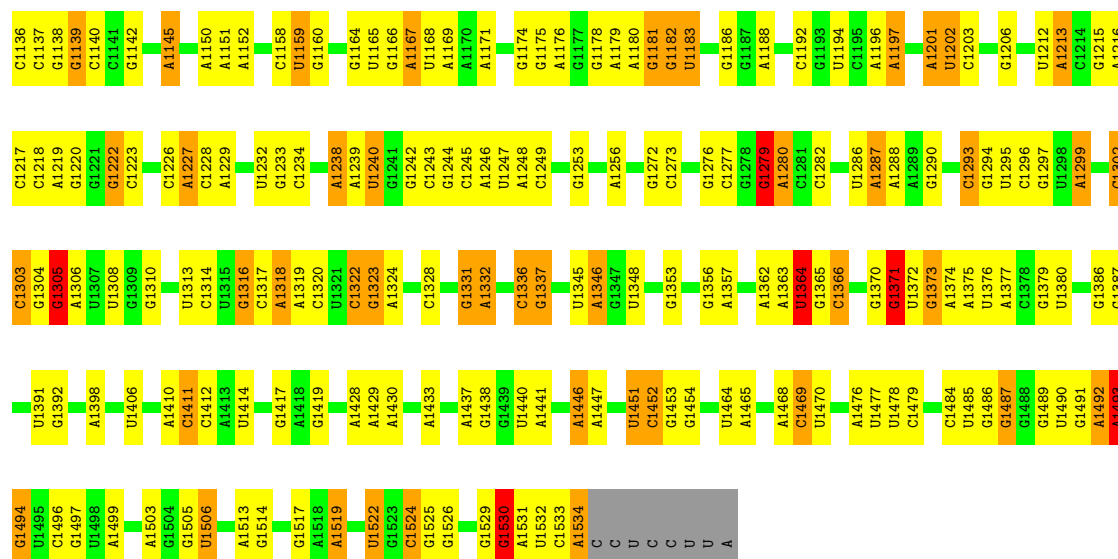
Chain DA:  51% 37% 10% ..

A	A2	A3	A4	A5	A6	A7	A8	A9	A16	A17	A18	G21	G22	A28	U29	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	C48	U49	A50	A51	A52	A53	G57	C58	A59	A60	G61	U62	C63	G64	A65	A66	C67	G68	G69	U70	A71	A72	C73	A74	G75	G76	A77																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
A78	G79	A80	A81	G82	C83	U84	A85	G86	C87	A16	A17	C90	C95	A98	C99	G100	G108	A109	C110	G111	U114	G115	A116	U121	G122	G127	G128	A129	A130	A131	C132	U133	G134	C135	C136	G141	G142	A143	G144	G145	G146	G147	G148	A149	G158	G159	C163	G164	U166																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
U173	A174	G177	C178	A182	G187	A188	A189	A190	G191	A195	A196	A197	G202	G203	A205	C206	G207	U208	U209	C210	G211	G212	G213	G220	A223	U224	C234	C235	A236	G237	G240	U244	U245	G247	A250	C251	G254	G255	U256	G257	G258	G259	G260	U261	A262																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
A263	C264	G265	C267	A270	C271	C272	U273	G276	G277	G278	A279	A282	U283	C284	C285	G288	A289	C290	U291	G292	G293	U294	A298	G299	A300	A309	A313	A321	C322	U323	G324	A325	G326	A327	C328	A329	C332	U340	C341	A344	C345	G346	G347	G351	C352	A353	G354																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
C355	C359	A363	A364	A367	C372	A373	A374	U375	G376	G377	C381	A382	U383	C384	C385	C386	U387	G388	A389	U390	C392	A393	G394	C395	C396	A397	U398	C400	A401	G402	C403	G404	U405	G406	U407	A408	U409	G410	A411	A412	G413	A414	A415	G416	C419	U420	U421	G422	G423	A424	G425																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
U426	U427	G428	U429	A430	A431	A432	G433	U434	A435	A436	U437	A441	G442	C443	G444	U445	A446	G447	A448	G449	U450	A451	A452	G453	G454	G455	A456	A457	U458	A459	C460	A461	U462	A463	U464	A465	A466	U467	A468	C469	U470	U471	U472	U473	U474	U475	U476	U477	U478	U479	U480	A481	A482	C483	U484	U485	U486	A487	C488																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
C489	C490	G491	G492	A493	A494	A495	A496	G497	A498	A499	A500	C501	C502	C503	C504	C505	U506	A507	U508	A509	A510	U511	U512	C513	C514	C515	C516	C517	C518	C519	C520	C521	C522	C523	C524	C525	C526	C527	C528	C529	C530	C531	C532	C533	C534	C535	C536	C537	C538	C539	C540	C541	C542	C543	C544	C545	C546	C547	C548	C549	C550	C551	C552	C553	C554	C555	C556	C557	C558	C559	C560	C561	C562	C563	C564	C565	C566	C567	C568	C569	C570	C571	C572	C573	C574	C575	C576	C577	C578	C579	C580	C581	C582	C583	C584	C585	C586	C587	C588	C589	C590	C591	C592	C593	C594	C595	C596	C597	C598	C599	C600	C601	C602	C603	C604	C605	C606	C607	C608	C609	C610	C611	C612	C613	C614	C615	C616	C617	C618	C619	C620	C621	C622	C623	C624	C625	C626	C627	C628	C629	C630	C631	C632	C633	C634	C635	C636	C637	C638	C639	C640	C641	C642	C643	C644	C645	C646	C647	C648	C649	C650	C651	C652	C653	C654	C655	C656	C657	C658	C659	C660	C661	C662	C663	C664	C665	C666	C667	C668	C669	C670	C671	C672	C673	C674	C675	C676	C677	C678	C679	C680	C681	C682	C683	C684	C685	C686	C687	C688	C689	C690	C691	C692	C693	C694	C695	C696	C697	C698	C699	C700	C701	C702	C703	C704	C705	C706	C707	C708	C709	C710	C711	C712	C713	C714	C715	C716	C717	C718	C719	C720	C721	C722	C723	C724	C725	C726	C727	C728	C729	C730	C731	C732	C733	C734	C735	C736	C737	C738	C739	C740	C741	C742	C743	C744	C745	C746	C747	C748	C749	C750	C751	C752	C753	C754	C755	C756	C757	C758	C759	C760	C761	C762	C763	C764	C765	C766	C767	C768	C769	C770	C771	C772	C773	C774	C775	C776	C777	C778	C779	C780	C781	C782	C783	C784	C785	C786	C787	C788	C789	C790	C791	C792	C793	C794	C795	C796	C797	C798	C799	C800	C801	C802	C803	C804	C805	C806	C807	C808	C809	C810	C811	C812	C813	C814	C815	C816	C817	C818	C819	C820	C821	C822	C823	C824	C825	C826	C827	C828	C829	C830	C831	C832	C833	C834	C835	C836	C837	C838	C839	C840	C841	C842	C843	C844	C845	C846	C847	C848	C849	C850	C851	C852	C853	C854	C855	C856	C857	C858	C859	C860	C861	C862	C863	C864	C865	C866	C867	C868	C869	C870	C871	C872	C873	C874	C875	C876	C877	C878	C879	C880	C881	C882	C883	C884	C885	C886	C887	C888	C889	C890	C891	C892	C893	C894	C895	C896	C897	C898	C899	C900	C901	C902	C903	C904	C905	C906	C907	C908	C909	C910	C911	C912	C913	C914	C915	C916	C917	C918	C919	C920	C921	C922	C923	C924	C925	C926	C927	C928	C929	C930	C931	C932	C933	C934	C935	C936	C937	C938	C939	C940	C941	C942	C943	C944	C945	C946	C947	C948	C949	C950	C951	C952	C953	C954	C955	C956	C957	C958	C959	C960	C961	C962	C963	C964	C965	C966	C967	C968	C969	C970	C971	C972	C973	C974	C975	C976	C977	C978	C979	C980	C981	C982	C983	C984	C985	C986	C987	C988	C989	C990	C991	C992	C993	C994	C995	C996	C997	C998	C999	C1000	C1001	C1002	C1003	C1004	C1005	C1006	C1007	C1008	C1009	C1010	C1011	C1012	C1013	C1014	C1015	C1016	C1017	C1018	C1019	C1020	C1021	C1022	C1023	C1024	C1025	C1026	C1027	C1028	C1029	C1030	C1031	C1032	C1033	C1034	C1035	C1036	C1037	C1038	C1039	C1040	C1041	C1042	C1043	C1044	C1045	C1046	C1047	C1048	C1049	C1050	C1051	C1052	C1053	C1054	C1055	C1056	C1057	C1058	C1059	C1060	C1061	C1062	C1063	C1064	C1065	C1066	C1067	C1068	C1069	C1070	C1071	C1072	C1073	C1074	C1075	C1076	C1077	C1078	C1079	C1080	C1081	C1082	C1083	C1084	C1085	C1086	C1087	C1088	C1089	C1090	C1091	C1092	C1093	C1094	C1095	C1096	C1097	C1098	C1099	C1100	C1101	C1102	C1103	C1104	C1105	C1106	C1107	C1108	C1109	C1110	C1111	C1112	C1113	C1114	C1115	C1116	C1117	C1118	C1119	C1120	C1121	C1122	C1123	C1124	C1125	C1126	C1127	C1128	C1129	C1130	C1131	C1132	C1133	C1134	C1135	C1136	C1137	C1138	C1139	C1140	C1141	C1142	C1143	C1144	C1145	C1146	C1147	C1148	C1149	C1150	C1151	C1152	C1153	C1154	C1155	C1156	C1157	C1158	C1159	C1160	C1161	C1162	C1163	C1164	C1165	C1166	C1167	C1168	C1169	C1170	C1171	C1172	C1173	C1174	C1175	C1176	C1177	C1178	C1179	C1180	C1181	C1182	C1183	C1184	C1185	C1186	C1187	C1188	C1189	C1190	C1191	C1192	C1193	C1194	C1195	C1196	C1197	C1198	C1199	C1200	C1201	C1202	C1203	C1204	C1205	C1206	C1207	C1208	C1209	C1210	C1211	C1212	C1213	C1214	C1215	C1216	C1217	C1218	C1219	C1220	C1221	C1222	C1223	C1224	C1225	C1226	C1227	C1228	C1229	C1230	C1231	C1232	C1233	C1234	C1235	C1236	C1237	C1238	C1239	C1240	C1241	C1242	C1243	C1244	C1245	C1246	C1247	C1248	C1249	C1250	C1251	C1252	C1253	C1254	C1255	C1256	C1257	C1258	C1259	C1260	C1261	C1262	C1263	C1264	C1265	C1266	C1267	C1268	C1269	C1270	C1271	C1272	C1273	C1274	C1275	C1276	C1277	C1278	C1279	C1280	C1281	C1282	C1283	C1284	C1285	C1286	C1287	C1288	C1289	C1290	C1291	C1292	C1293	C1294	C1295	C1296	C1297	C1298	C1299	C1300	C1301	C1302	C1303	C1304	C1305	C1306	C1307	C1308	C1309	C1310	C1311	C1312	C1313	C1314	C1315	C1316	C1317	C1318	C1319	C1320	C1321	C1322	C1323	C1324	C1325	C1326	C1327	C1328	C1329	C1330	C1331	C1332	C1333	C1334	C1335	C1336	C1337	C1338	C1339	C1340	C1341	C1342	C1343	C1344	C1345	C1346	C1347	C1348	C1349	C1350	C1351	C1352	C1353	C1354	C1355	C1356	C1357	C1358	C1359	C1360	C1361	C1362	C1363	C1364	C1365	C1366	C1367	C1368	C1369	C1370	C1371	C1372	C1373	C1374	C1375	C1376	C1377	C1378	C1379	C1380	C1381	C1382	C1383	C1384	C1385	C1386	C1387	C1388	C1389	C1390	C1391	C1392	C1393	C1394	C1395	C1396	C1397	C1398	C1399	C1400	C1401	C1402	C1403	C1404	C1405	C1406	C1407	C1408	C1409	C1410	C1411	C1412	C1413	C1414	C1415	C1416	C1417	C1418	C1419	C1420	C1421	C1422	C1423	C1424	C1425	C1426	C1427	C1428	C1429	C1430	C1431	C1432	C1433	C1434	C1435	C1436	C1437	C1438	C1439	C1440	C1441	C1442	C1443	C1444	C1445	C1446	C1447	C1448	C1449	C1450	C1451	C1452	C1453	C1454	C1455	C1456	C1457	C1458	C1459	C1460	C1461	C1462	C1463	C1464	C1465	C1466	C1467	C1468	C1469	C1470	C1471	C1472	C1473	C1474	C1475	C1476	C1477	C1478	C1479	C1480	C1481	C1482	C1483	C1484	C1485	C1486	C1487	C1488	C1489	C1490	C1491	C1492	C1493	C1494	C1495	C1496	C1497	C1498	C1499	C1500	C1501	C1502	C1503	C1504	C1505	C1506	C1507	C1508	C1509	C1510	C1511	C1512	C1513	C1514	C1515	C1516	C1517	C1518	C1519	C1520	C1521	C1522	C1523	C1524	C1525	C1526	C1527	C1528	C1529	C1530	C1531	C1532	C1533	C1534	C1535	C1536	C1537	C1538	C1539	C1540	C1541	C1542	C1543	C1544	C1545	C1546	C1547	C1548	C1549	C1550	C1551	C1552	C1553	C1554	C1555	C1556	C1557	C1558	C1559	C1560	C1561	C1562	C1563	C1564	C1565	C1566	C1567	C1568	C1569	C1570	C1571	C1572	C1573	C1574	C1575	C1576	C1577	C1578	C1579	C1580	C1581	C1582	C1583	C1584	C1585	C1586	C1587	C1588	C1589	C1590	C1591	C1592	C1593	C1594	C1595	C1596	C1597	C1598	C1599	C1600	C1601	C1602	C1603	C1604	C1605	C1606	C1607	C1608	C1609	C1610	C1611	C1612	C1613	C1614	C1615	C1616	C1617	C



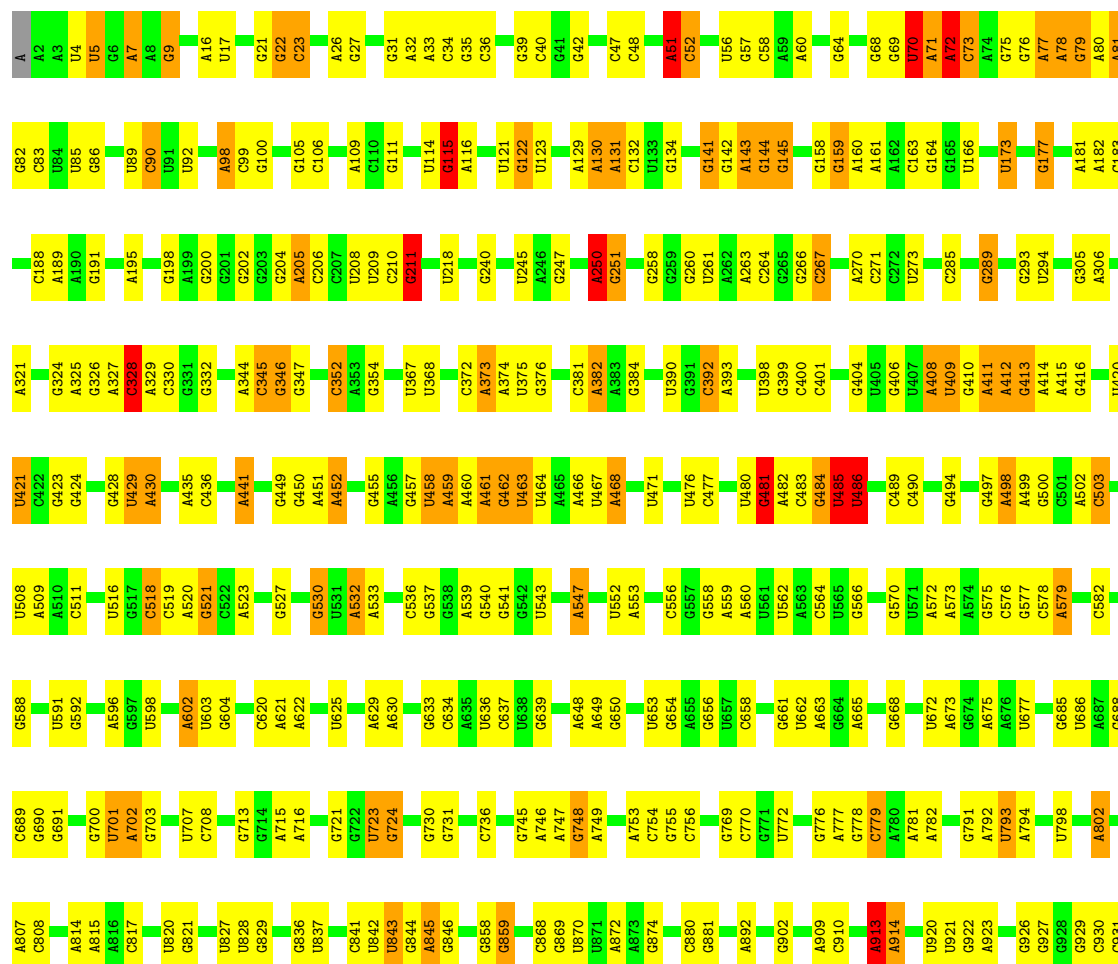
• Molecule 33: 16S rRNA

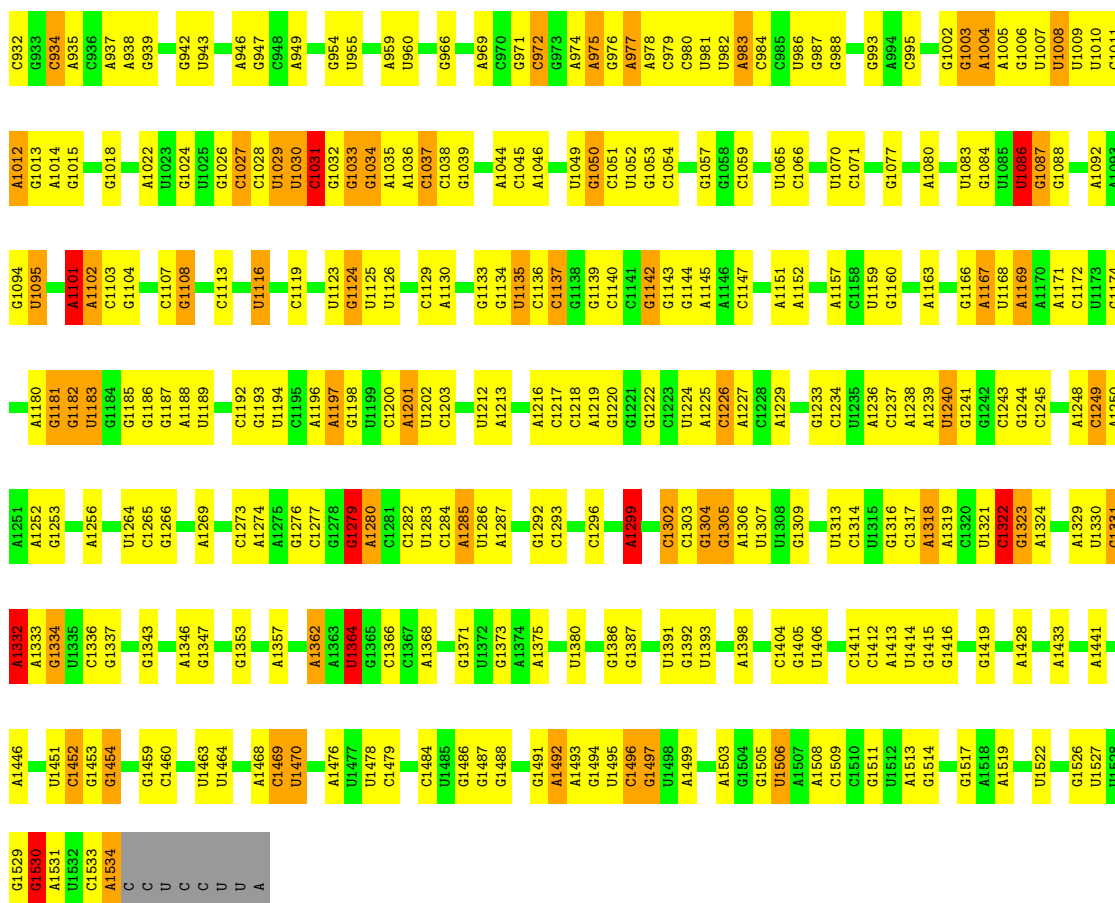




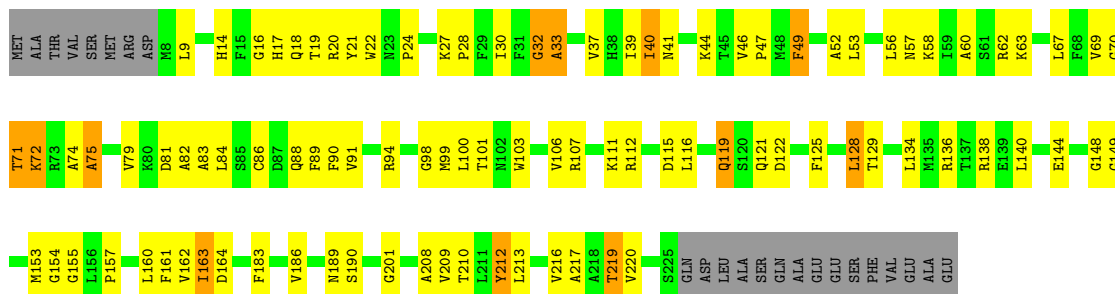
• Molecule 33: 16S rRNA

Chain HA: 56% 34% 8% ..

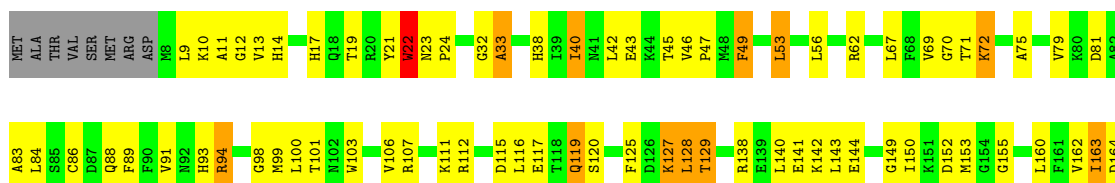




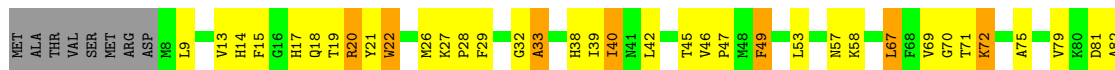
- Molecule 34: 30S ribosomal protein S2



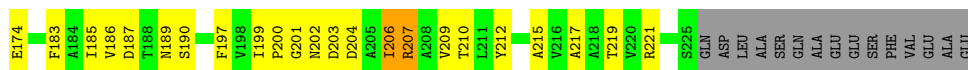
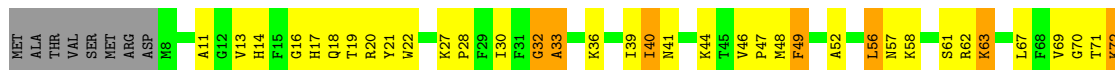
- Molecule 34: 30S ribosomal protein S2



- Molecule 34: 30S ribosomal protein S2



- Molecule 34: 30S ribosomal protein S2

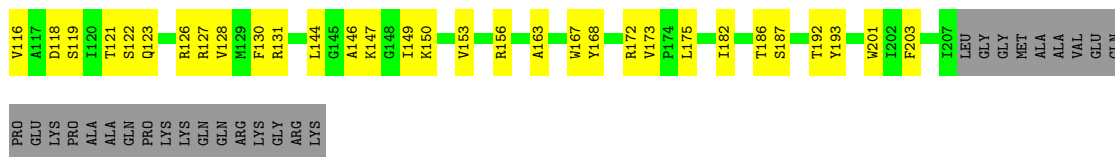


- Molecule 35: 30S ribosomal protein S3

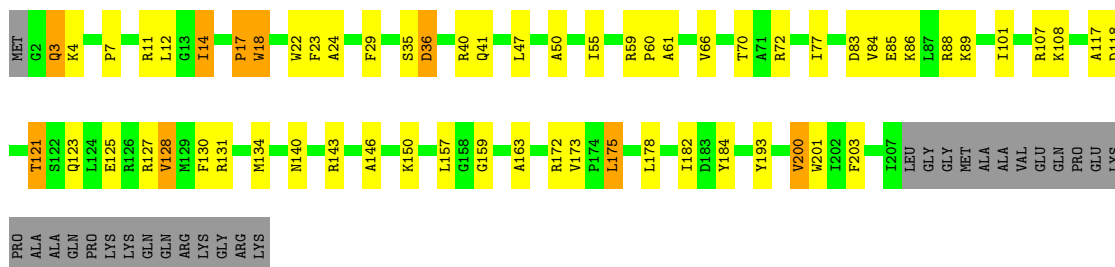


- Molecule 35: 30S ribosomal protein S3

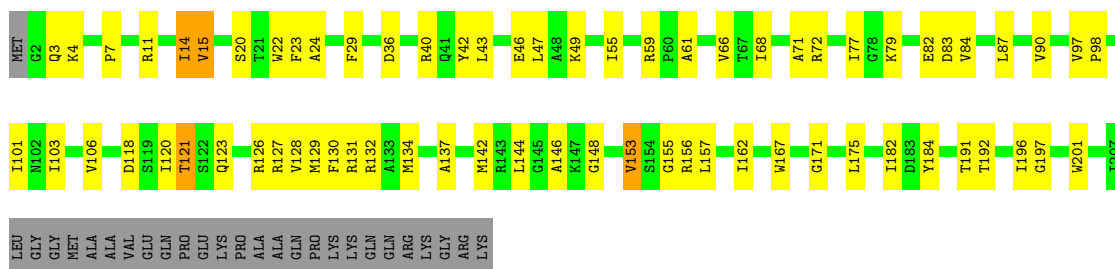




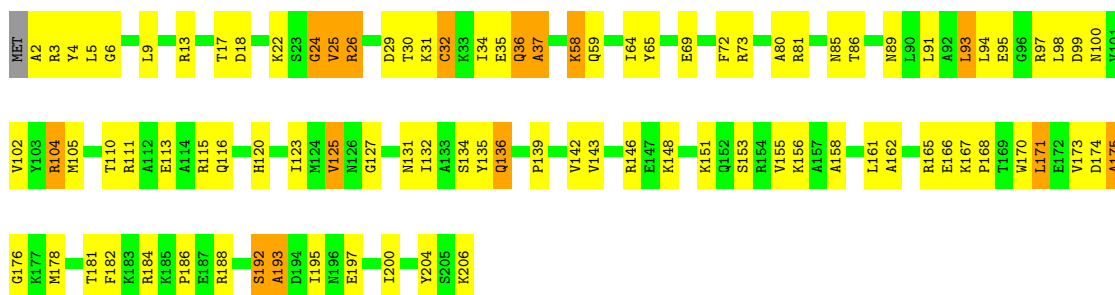
- Molecule 35: 30S ribosomal protein S3



- Molecule 35: 30S ribosomal protein S3

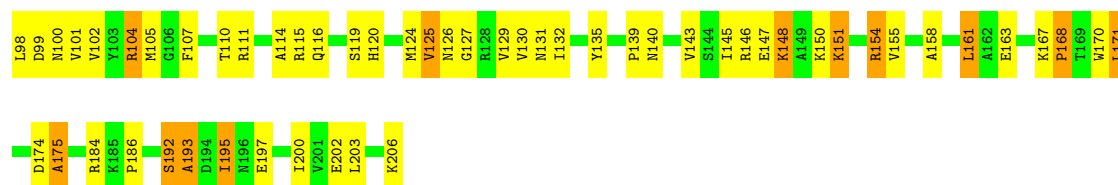


- Molecule 36: 30S ribosomal protein S4



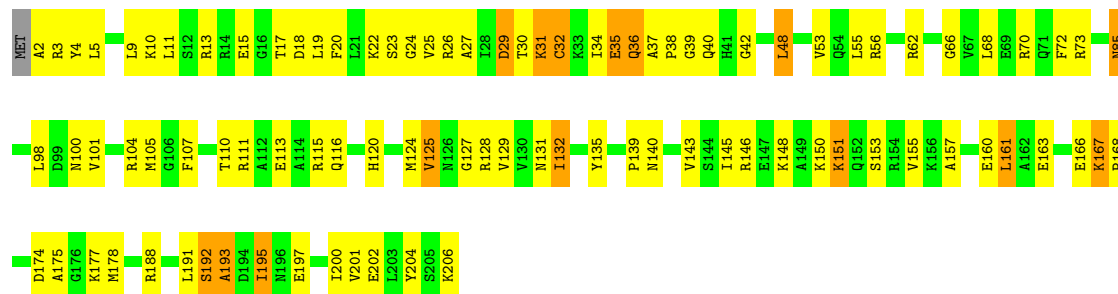
- Molecule 36: 30S ribosomal protein S4





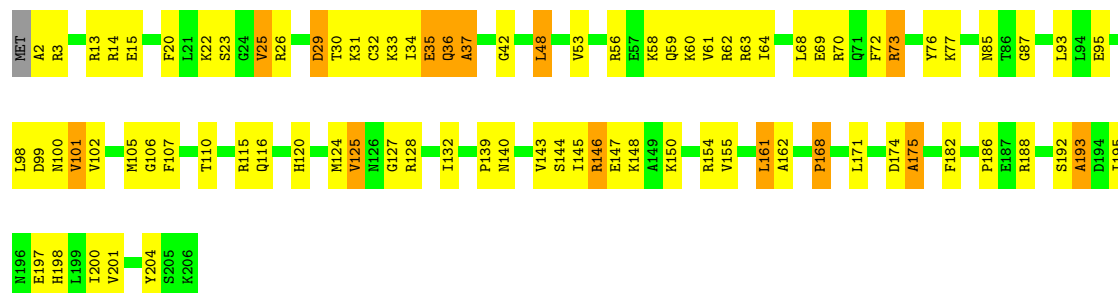
- Molecule 36: 30S ribosomal protein S4

Chain FD: 54% 38% 7%



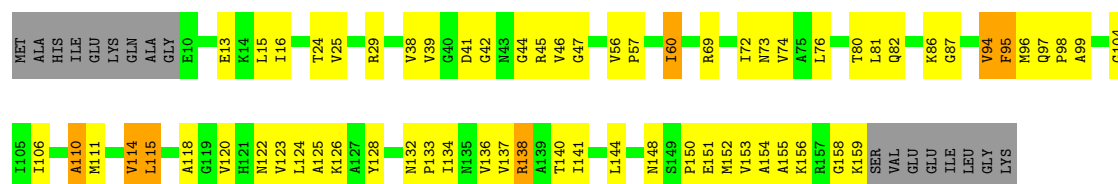
- Molecule 36: 30S ribosomal protein S4

Chain HD: 58% 35% 7%



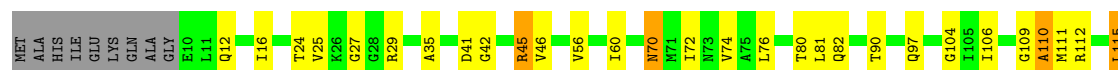
- Molecule 37: 30S ribosomal protein S5

Chain BE: 50% 35% 10%



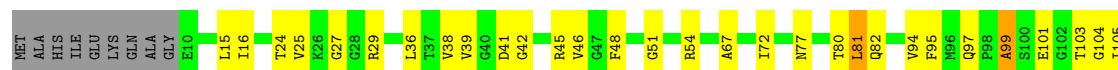
- Molecule 37: 30S ribosomal protein S5

Chain DE: 62% 25% 10%

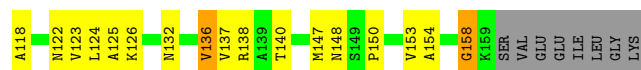
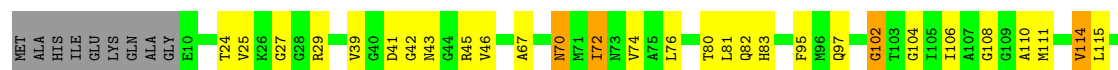




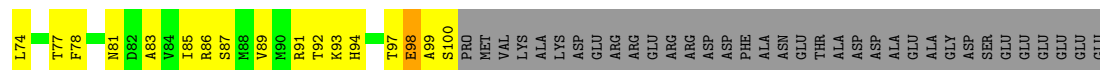
- Molecule 37: 30S ribosomal protein S5



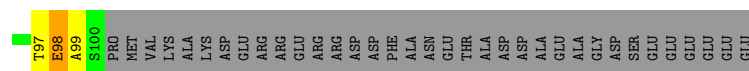
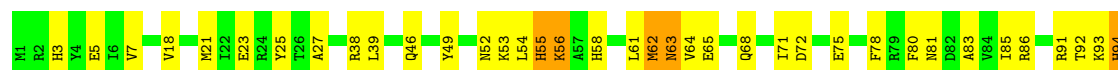
- Molecule 37: 30S ribosomal protein S5



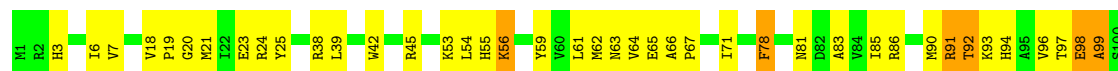
- Molecule 38: 30S ribosomal protein S6



- Molecule 38: 30S ribosomal protein S6



- Molecule 38: 30S ribosomal protein S6



PRO MET VAL LYS ALA LYS ASP ASP ARG ARG ARG ARG ARG ASP ASP PHE PHE ALA ALA ASN GLU THR ALA ASP ASP ASP ASP ALA ALA GLY ASP SER SER GLU GLU GLU GLU GLU

• Molecule 38: 30S ribosomal protein S6

Chain HF: 47% 24% • 26%

H1 H2 H3 H4 H5 H6 H7 V10 H11 Q17 V18 F19 G20 M21 M22 I22 E23 T26 T28 R38 L39 I51 H55 K56 A57 H58 M62 N63 V64 E65 E66 A66 P67 V70 L74 F78 N81 D82 A83 V84 I85 R91 T92 K93 H94 T97 E98 A99 S100 PRO

MET VAL LYS ALA LYS ASP ASP ARG ARG ARG ARG ASP PHE PHE ALA ALA ASN GLU THR ALA ASP ASP ASP ASP ALA ALA GLY ASP SER SER GLU GLU GLU GLU GLU

• Molecule 39: 30S ribosomal protein S7

Chain BG: 62% 22% • 16%

MET P2 P3 R4 R5 V6 V7 D15 F18 L22 K25 F26 V27 N28 Y43 Y44 L50 S57 E58 L59 E60 F61 F62 A65 R70 R79 S77 R78 R79 S83 Q86 V87 P88 V89 R96 W103 D113 L118 N122 A128

E139 D140 V141 H142 M143 M144 A145 A146 A147 N148 A149 F151 A152 HIS TYR ARG TRP LEU SER LEU ARG ARG PHE SER HIS GLN ALA GLY ALA SER SER LYS GLN PRO LEU TYR LEU ASN

• Molecule 39: 30S ribosomal protein S7

Chain DG: 60% 23% • 16%

MET P2 R3 R4 R5 V6 V7 V8 Q9 L13 P14 D15 F18 L22 L29 Y44 L50 A51 S52 S53 S54 S55 F56 S57 E58 L59 E60 F62 R70 E74 R79 S83 P88 R95 R96 W103 E106 K110 D113 R119 N122

S125 D126 A127 A128 V141 A146 E146 A147 K148 K149 A152 HIS TYR ARG TRP LEU SER LEU ARG ARG PHE SER HIS GLN ALA GLY ALA SER SER LYS GLN PRO LEU TYR LEU ASN

• Molecule 39: 30S ribosomal protein S7

Chain FG: 55% 27% • 16%

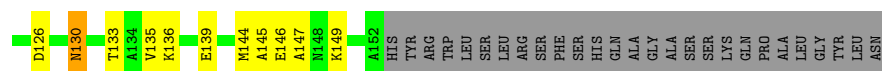
MET P2 R3 R4 R5 V6 Q9 D15 F18 G19 S20 E21 L22 K25 F26 V27 N28 Y43 Y44 L50 R53 S57 S58 L59 E60 F62 L66 E67 R68 V69 R70 R79 G82 V89 E90 R96 N97 M101 R102 W103 I104 V105 E106 A107 A108

R109 K110 R111 G112 D113 M122 E123 L124 S125 D126 M130 G131 T133 D140 V141 H142 M143 A145 E146 A147 H148 K149 A152 HIS TYR ARG TRP LEU SER LEU ARG ARG PHE SER HIS GLN ALA GLY ALA SER SER LYS GLN PRO ALA ALA GLY SER SER LYS GLN PRO ALA ALA GLY TYR LEU ASN

• Molecule 39: 30S ribosomal protein S7

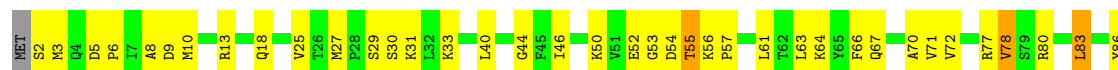
Chain HG: 60% 24% • 16%

MET P2 R3 R4 R5 V6 I12 D15 F18 G19 S20 E21 L23 A46 L47 E48 T49 L50 A51 Q52 R53 S54 S55 S56 S57 E58 A61 E67 V75 S83 T84 Y85 R95 R96 N97 A98 L99 E106 A107 A108 R109 K110 R111 G112 D113 R119 N122



- Molecule 40: 30S ribosomal protein S8

Chain BH: 58% 37%



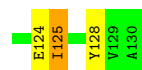
- Molecule 40: 30S ribosomal protein S8

Chain DH: 64% 32%



- Molecule 40: 30S ribosomal protein S8

Chain FH: 70% 24% 5%



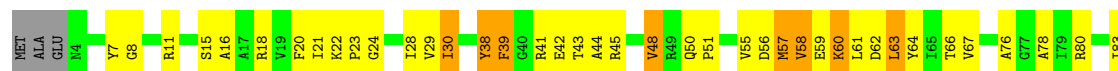
- Molecule 40: 30S ribosomal protein S8

Chain HH: 72% 26%



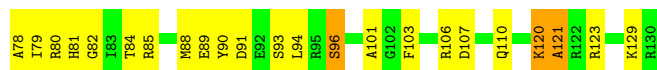
- Molecule 41: 30S ribosomal protein S9

Chain BI: 48% 40% 9%

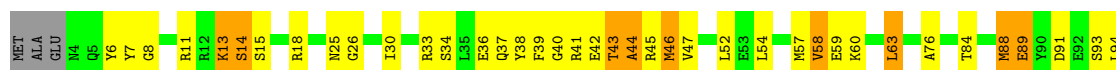




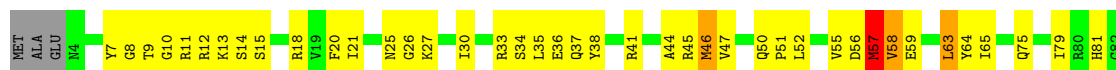
- Molecule 41: 30S ribosomal protein S9



- Molecule 41: 30S ribosomal protein S9



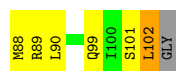
- Molecule 41: 30S ribosomal protein S9



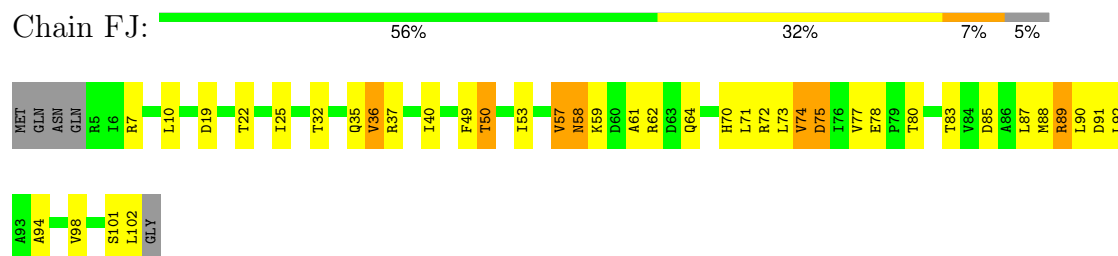
- Molecule 42: 30S ribosomal protein S10



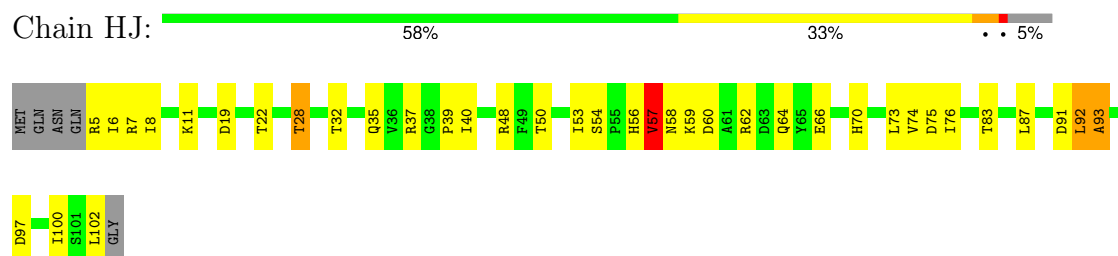
- Molecule 42: 30S ribosomal protein S10



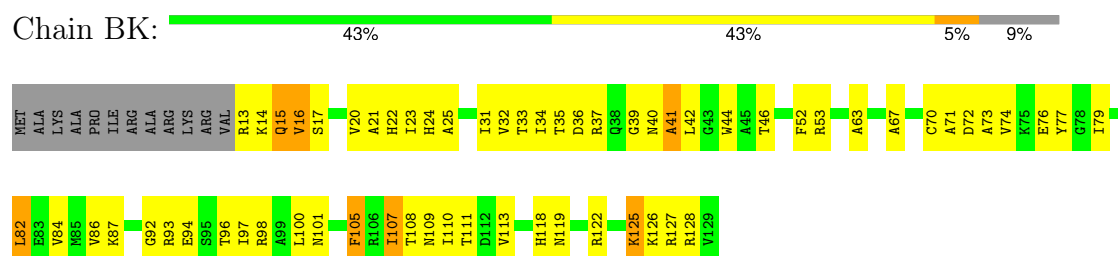
● Molecule 42: 30S ribosomal protein S10



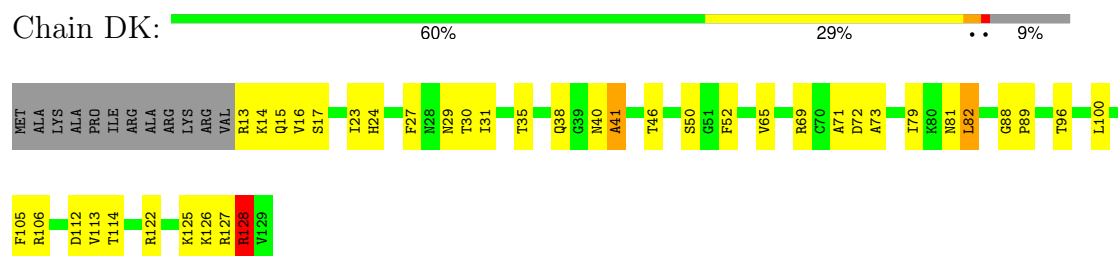
● Molecule 42: 30S ribosomal protein S10



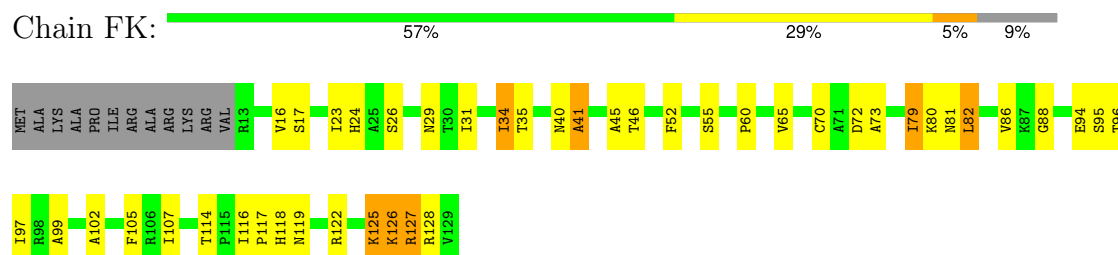
● Molecule 43: 30S ribosomal protein S11



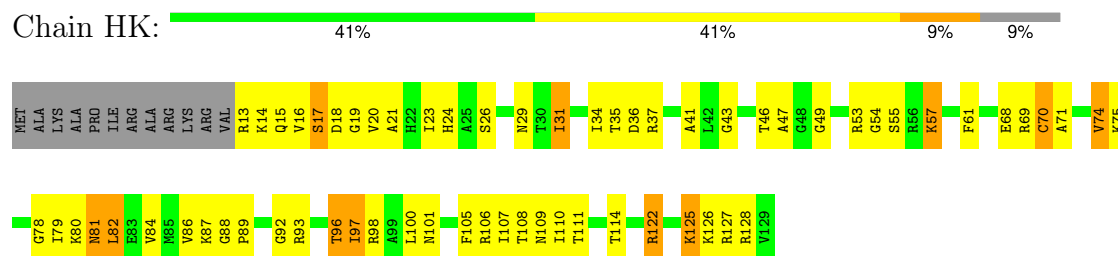
● Molecule 43: 30S ribosomal protein S11



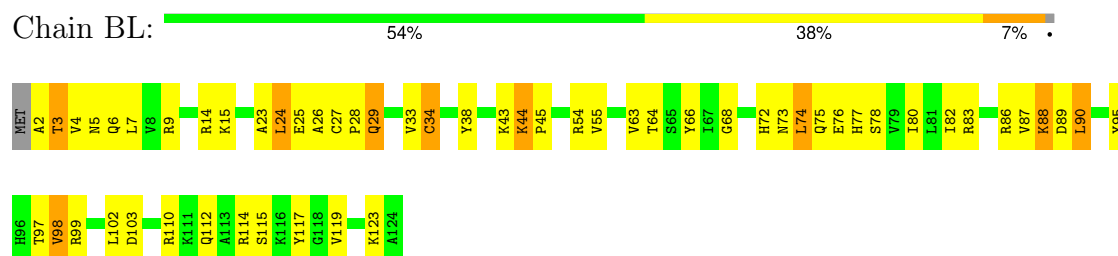
● Molecule 43: 30S ribosomal protein S11



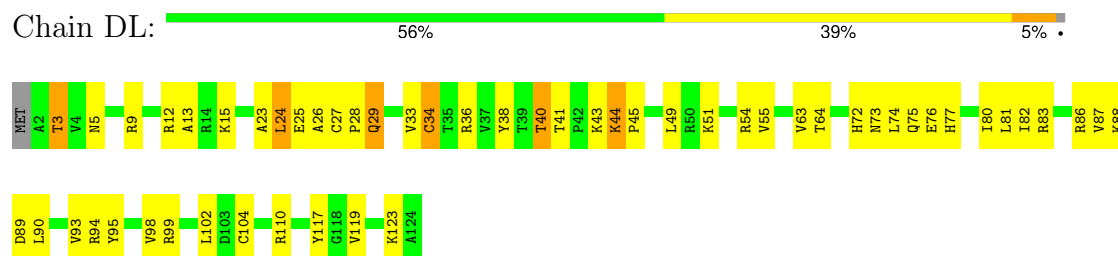
- Molecule 43: 30S ribosomal protein S11



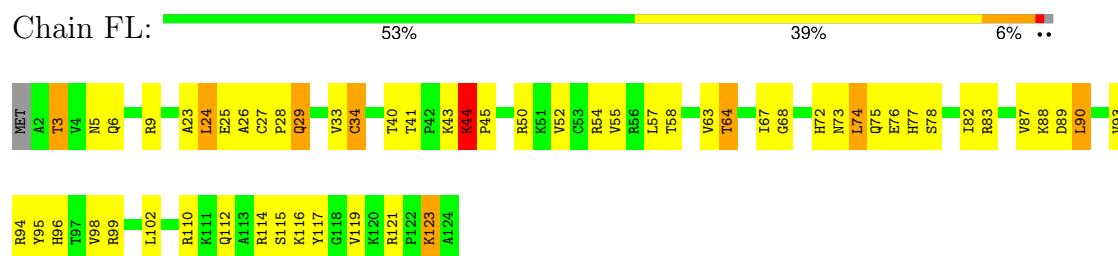
- Molecule 44: 30S ribosomal protein S12



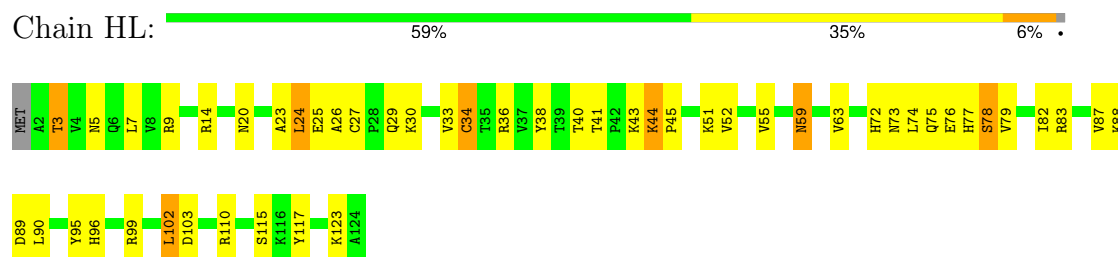
- Molecule 44: 30S ribosomal protein S12



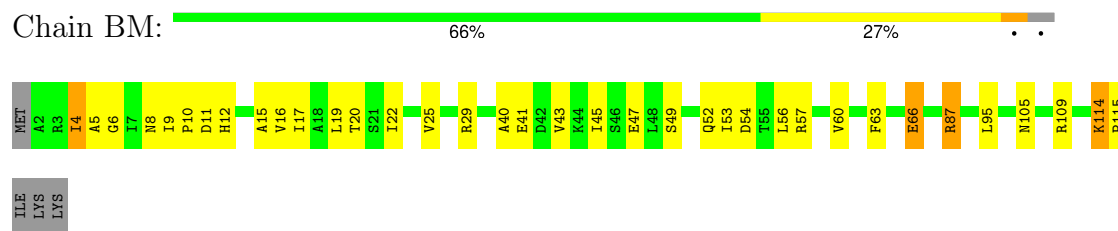
- Molecule 44: 30S ribosomal protein S12



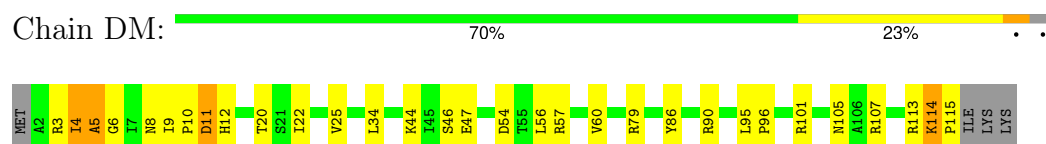
- Molecule 44: 30S ribosomal protein S12



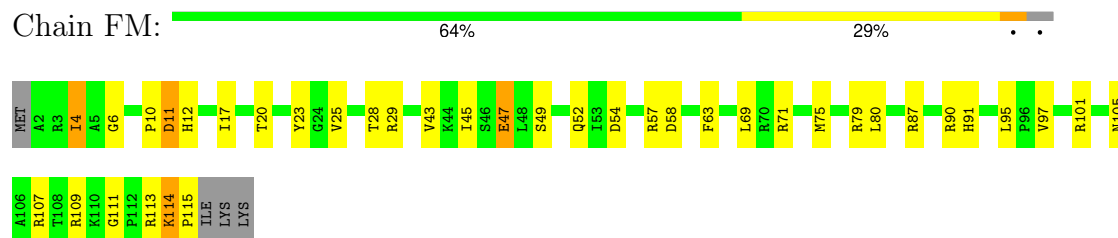
● Molecule 45: 30S ribosomal protein S13



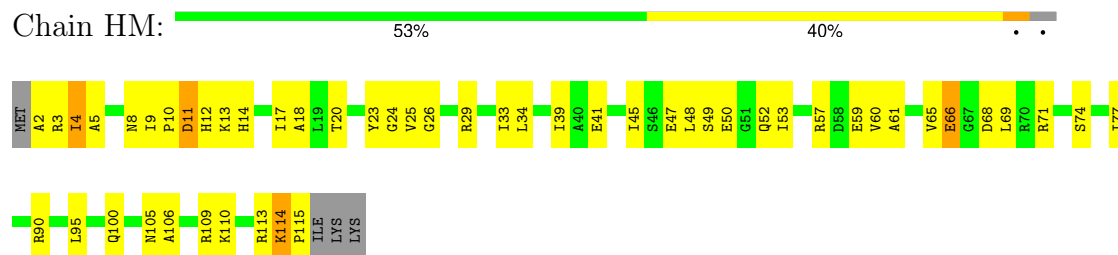
● Molecule 45: 30S ribosomal protein S13



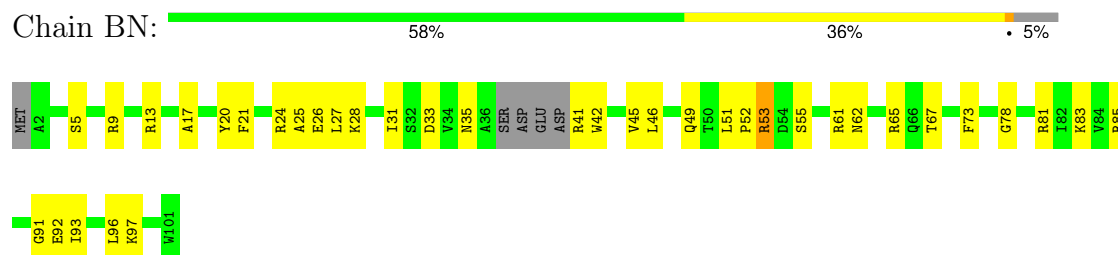
● Molecule 45: 30S ribosomal protein S13



● Molecule 45: 30S ribosomal protein S13



● Molecule 46: 30S ribosomal protein S14



● Molecule 46: 30S ribosomal protein S14

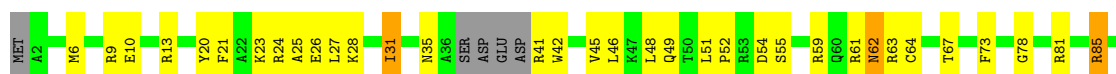




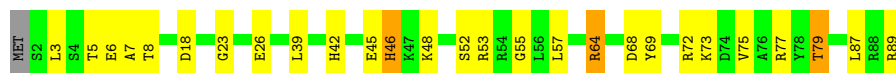
- Molecule 46: 30S ribosomal protein S14



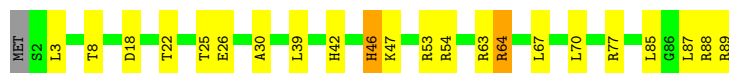
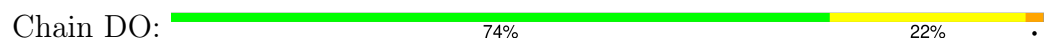
- Molecule 46: 30S ribosomal protein S14



- Molecule 47: 30S ribosomal protein S15



- Molecule 47: 30S ribosomal protein S15



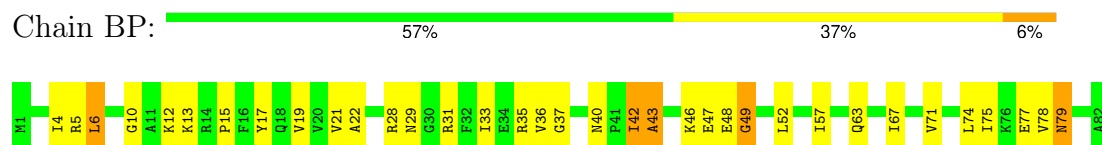
- Molecule 47: 30S ribosomal protein S15



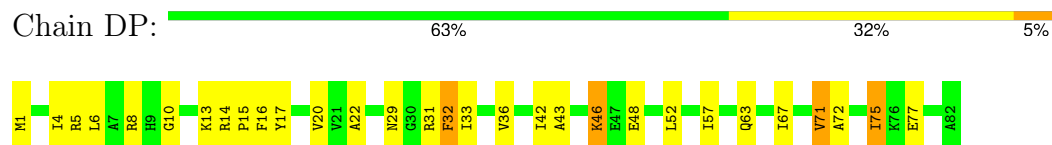
- Molecule 47: 30S ribosomal protein S15



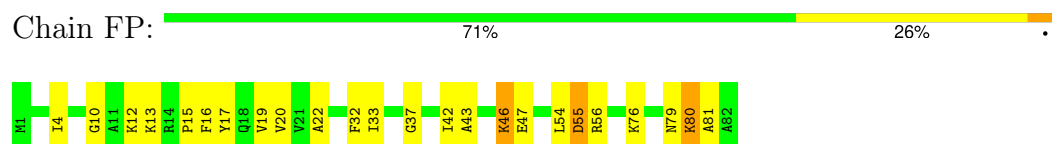
- Molecule 48: 30S ribosomal protein S16



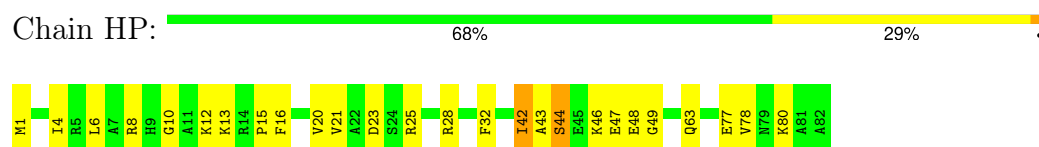
- Molecule 48: 30S ribosomal protein S16



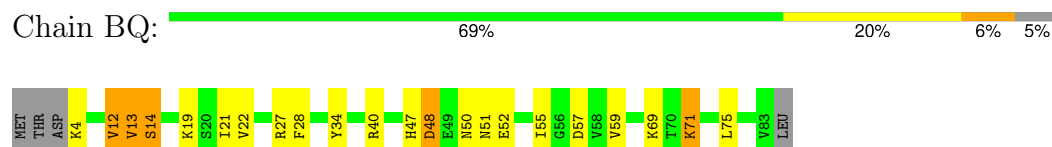
- Molecule 48: 30S ribosomal protein S16



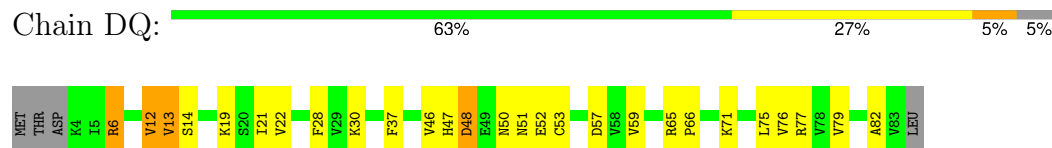
- Molecule 48: 30S ribosomal protein S16



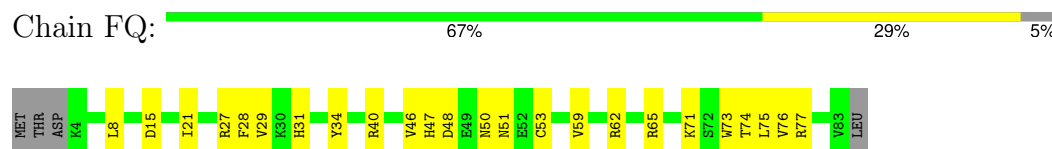
- Molecule 49: 30S ribosomal protein S17



- Molecule 49: 30S ribosomal protein S17



- Molecule 49: 30S ribosomal protein S17



- Molecule 49: 30S ribosomal protein S17

Chain HQ:  60% 31% 5% 5%



- Molecule 50: 30S ribosomal protein S18

Chain BR:  43% 31% 27%



- Molecule 50: 30S ribosomal protein S18

Chain DR:  48% 25% 27%



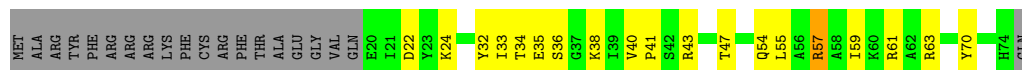
- Molecule 50: 30S ribosomal protein S18

Chain FR:  47% 27% 27%



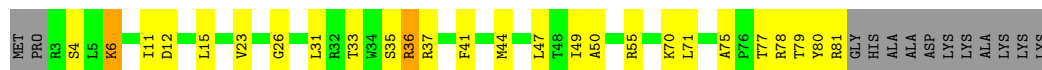
- Molecule 50: 30S ribosomal protein S18

Chain HR:  48% 24% 27%



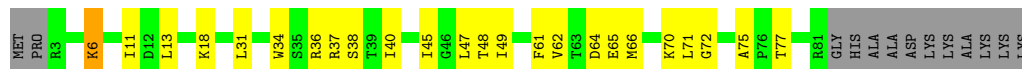
- Molecule 51: 30S ribosomal protein S19

Chain BS:  58% 26% 14%

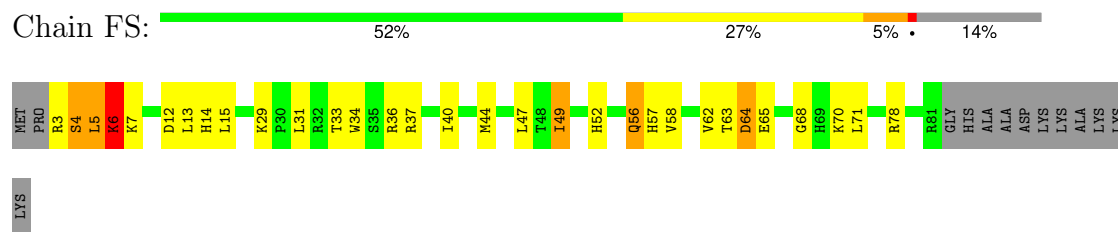


- Molecule 51: 30S ribosomal protein S19

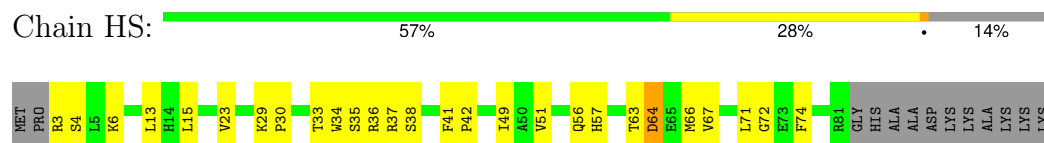
Chain DS:  60% 25% 14%



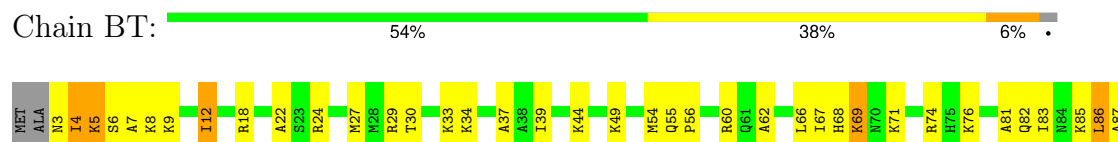
- Molecule 51: 30S ribosomal protein S19



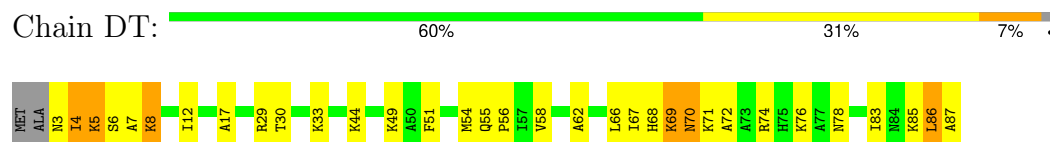
- Molecule 51: 30S ribosomal protein S19



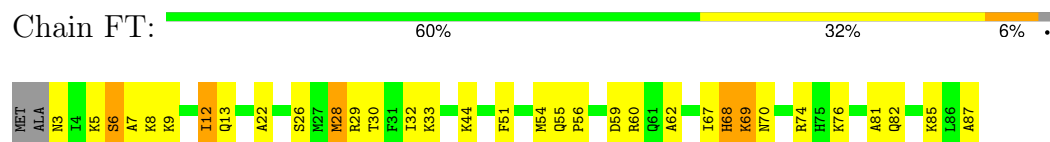
- Molecule 52: 30S ribosomal protein S20



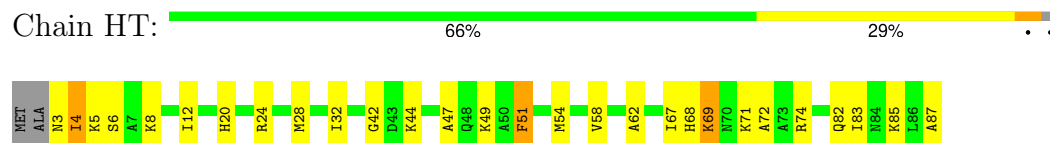
- Molecule 52: 30S ribosomal protein S20



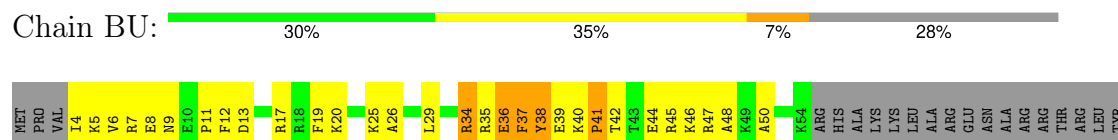
- Molecule 52: 30S ribosomal protein S20



- Molecule 52: 30S ribosomal protein S20

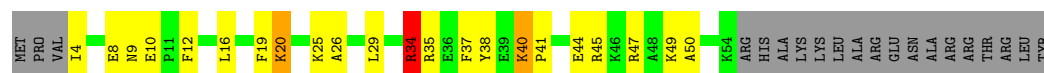


- Molecule 53: 30S ribosomal protein S21



- Molecule 53: 30S ribosomal protein S21

Chain DU:  41% 27% 28%



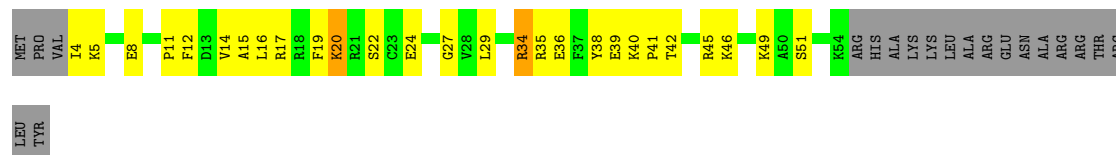
- Molecule 53: 30S ribosomal protein S21

Chain FU:  39% 27% 6% 28%



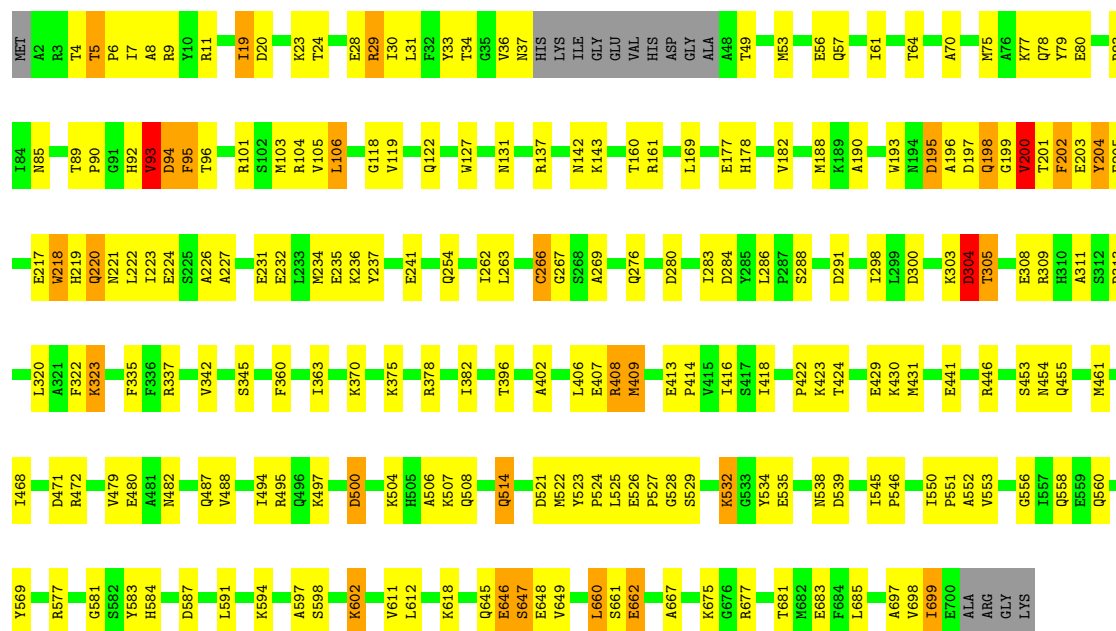
- Molecule 53: 30S ribosomal protein S21

Chain HU:  34% 35% 28%



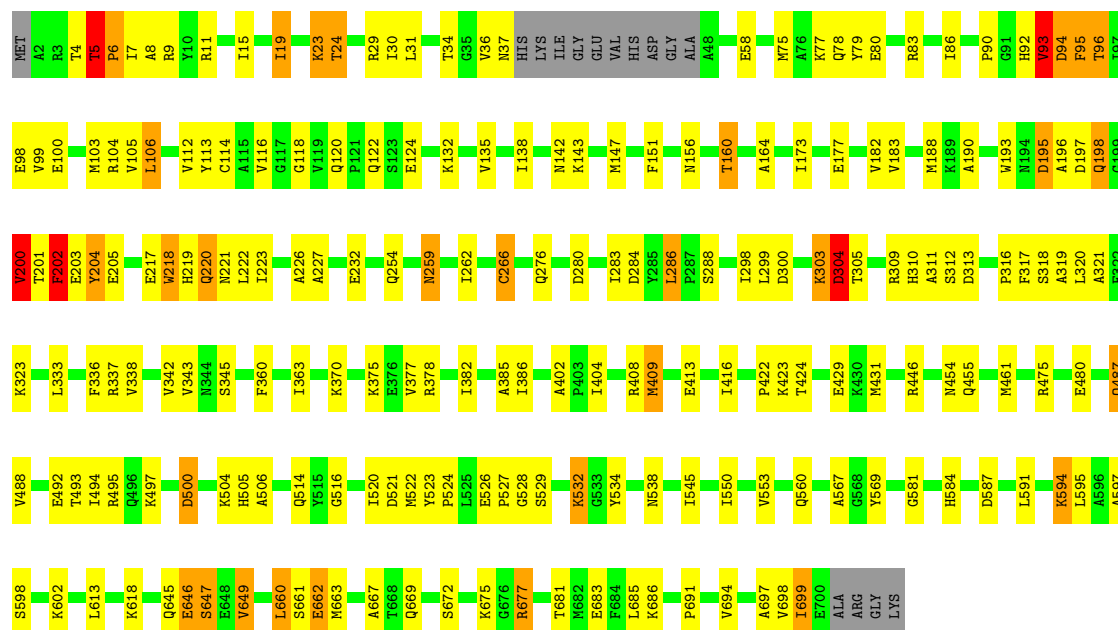
- Molecule 54: elongation factor G

Chain BV:  67% 27%



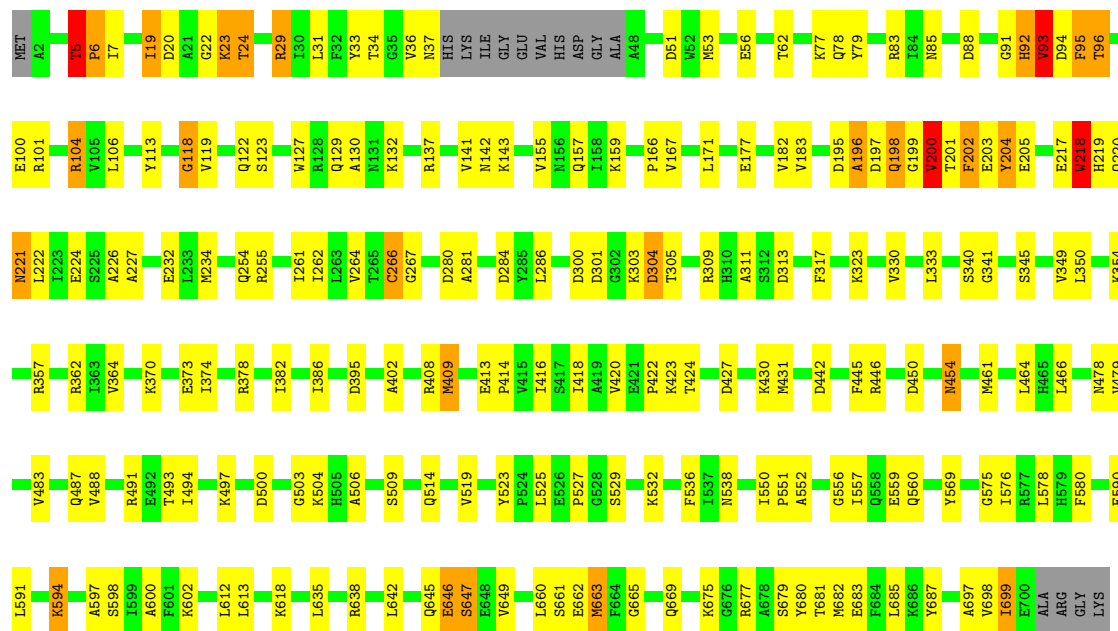
- Molecule 54: elongation factor G

Chain DV:  68% 25%



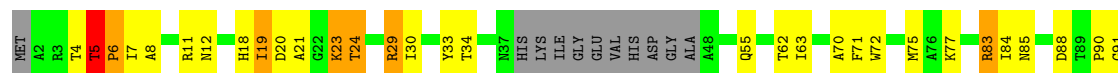
• Molecule 54: elongation factor G

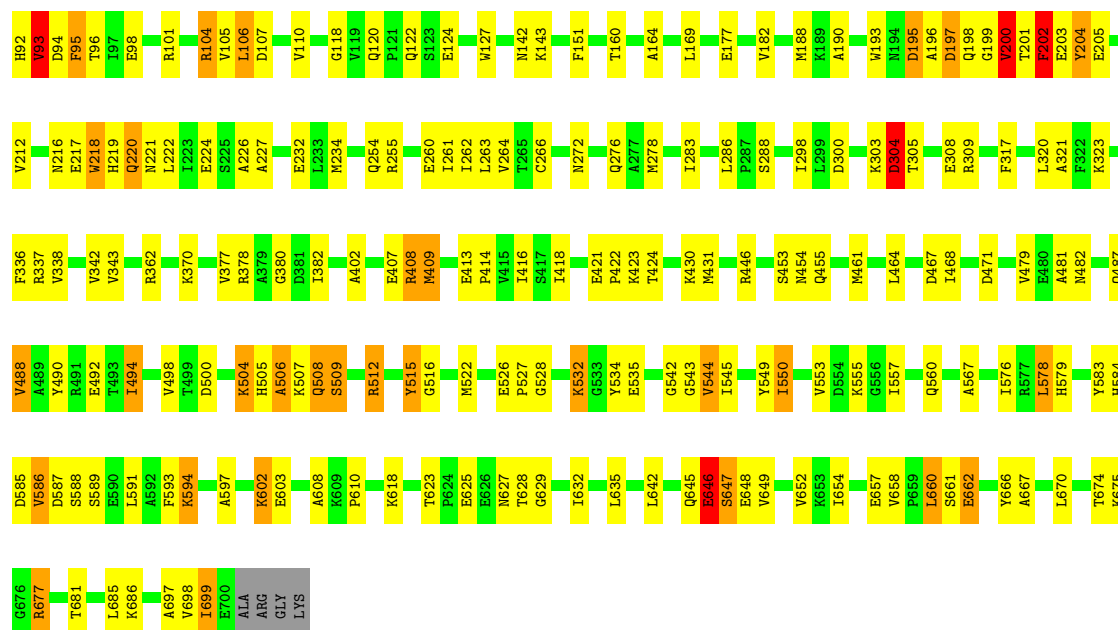
Chain FV: 68% 26% ...



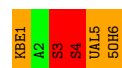
• Molecule 54: elongation factor G

Chain HV: 65% 27% 5% ...

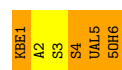




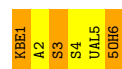
- Molecule 55: Viomycin



- Molecule 55: Viomycin



- Molecule 55: Viomycin



4 Data and refinement statistics

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

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	361.14Å 360.51Å 429.73Å 90.00° 103.22° 90.00°	Depositor
Resolution (Å)	70.00 – 2.90	Depositor
% Data completeness (in resolution range)	(Not available) (70.00-2.90)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.24 (at 2.81Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.215 , 0.267	Depositor
Wilson B-factor (Å ²)	54.5	Xtriage
Anisotropy	0.324	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	590573	wwPDB-VP
Average B, all atoms (Å ²)	35.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 21.58 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 6.8072e-03.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: GCP, UAL, ZN, 5OH, MG, KBE, DPP

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	AA	0.74	9/68626 (0.0%)	1.28	446/107056 (0.4%)
1	CA	0.76	7/68626 (0.0%)	1.27	404/107056 (0.4%)
1	EA	0.90	29/68626 (0.0%)	1.41	729/107056 (0.7%)
1	GA	0.72	11/68626 (0.0%)	1.25	345/107056 (0.3%)
2	AB	0.67	0/2828	1.20	13/4410 (0.3%)
2	CB	0.61	0/2828	1.15	11/4410 (0.2%)
2	EB	0.75	1/2828 (0.0%)	1.38	18/4410 (0.4%)
2	GB	0.62	0/2828	1.09	2/4410 (0.0%)
3	AC	0.55	0/2121	0.83	3/2852 (0.1%)
3	CC	0.60	0/2121	0.81	0/2852
3	EC	0.62	0/2121	0.83	1/2852 (0.0%)
3	GC	0.59	0/2121	0.84	1/2852 (0.0%)
4	AD	0.60	0/1586	0.81	1/2134 (0.0%)
4	CD	0.55	0/1586	0.75	1/2134 (0.0%)
4	ED	0.63	0/1586	0.81	0/2134
4	GD	0.54	0/1586	0.78	1/2134 (0.0%)
5	AE	0.50	0/1571	0.76	1/2113 (0.0%)
5	CE	0.53	0/1571	0.71	0/2113
5	EE	0.59	0/1571	0.79	2/2113 (0.1%)
5	GE	0.49	0/1571	0.68	0/2113
6	AF	0.69	0/1434	0.89	0/1926
6	CF	0.52	0/1434	0.70	0/1926
6	EF	0.51	0/1434	0.73	0/1926
6	GF	0.58	0/1434	0.77	1/1926 (0.1%)
7	AG	0.54	0/1343	0.72	0/1816
7	CG	0.52	0/1343	0.73	0/1816
7	EG	0.53	0/1343	0.74	0/1816
7	GG	0.52	0/1343	0.72	0/1816
8	AH	0.54	0/389	0.71	0/523
8	CH	0.60	0/389	0.76	0/523
8	EH	0.57	0/389	0.73	0/523
8	GH	0.57	0/389	0.74	0/523

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
9	AI	0.58	0/1046	0.77	0/1410
9	CI	0.58	0/1046	0.74	0/1410
9	EI	0.61	0/1046	0.75	0/1410
9	GI	0.71	0/1046	0.84	0/1410
10	AJ	0.53	0/1152	0.77	0/1551
10	CJ	0.57	1/1152 (0.1%)	0.78	0/1551
10	EJ	0.70	1/1152 (0.1%)	0.82	1/1551 (0.1%)
10	GJ	0.55	1/1152 (0.1%)	0.71	0/1551
11	AK	0.62	0/947	0.79	0/1268
11	CK	0.63	0/947	0.78	0/1268
11	EK	0.59	0/947	0.83	0/1268
11	GK	0.55	0/947	0.80	0/1268
12	AL	0.53	0/1054	0.78	2/1403 (0.1%)
12	CL	0.53	0/1054	0.81	2/1403 (0.1%)
12	EL	0.61	0/1054	0.81	0/1403
12	GL	0.52	0/1054	0.78	0/1403
13	AM	0.61	1/1093 (0.1%)	0.81	1/1460 (0.1%)
13	CM	0.53	0/1093	0.75	0/1460
13	EM	0.62	0/1093	0.87	2/1460 (0.1%)
13	GM	0.52	0/1093	0.73	0/1460
14	AN	0.51	0/973	0.75	1/1301 (0.1%)
14	CN	0.46	0/973	0.77	4/1301 (0.3%)
14	EN	0.57	0/973	0.74	0/1301
14	GN	0.49	0/973	0.69	0/1301
15	AO	0.48	0/902	0.72	0/1209
15	CO	0.47	0/902	0.70	0/1209
15	EO	0.48	0/902	0.75	0/1209
15	GO	0.48	0/902	0.74	0/1209
16	AP	0.56	0/929	0.87	2/1242 (0.2%)
16	CP	0.56	0/929	0.85	2/1242 (0.2%)
16	EP	0.63	1/929 (0.1%)	0.89	1/1242 (0.1%)
16	GP	0.58	0/929	0.80	0/1242
17	AQ	0.56	0/960	0.75	1/1278 (0.1%)
17	CQ	0.60	0/960	0.78	1/1278 (0.1%)
17	EQ	0.70	0/960	0.88	2/1278 (0.2%)
17	GQ	0.53	0/960	0.74	0/1278
18	AR	0.59	0/829	0.75	0/1107
18	CR	0.59	0/829	0.75	0/1107
18	ER	0.68	2/829 (0.2%)	0.79	0/1107
18	GR	0.56	0/829	0.75	0/1107
19	AS	0.52	0/864	0.76	0/1156
19	CS	0.52	0/864	0.73	0/1156
19	ES	0.62	0/864	0.84	1/1156 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
19	GS	0.49	0/864	0.72	0/1156
20	AT	0.60	0/744	0.84	0/994
20	CT	0.56	0/744	0.89	0/994
20	ET	0.65	0/744	0.92	1/994 (0.1%)
20	GT	0.57	0/744	0.91	1/994 (0.1%)
21	AU	0.56	0/787	0.76	0/1051
21	CU	0.52	0/787	0.75	0/1051
21	EU	0.61	0/787	0.81	0/1051
21	GU	0.52	0/787	0.77	0/1051
22	AV	0.48	0/766	0.67	0/1025
22	CV	0.55	1/766 (0.1%)	0.67	0/1025
22	EV	0.57	0/766	0.72	0/1025
22	GV	0.47	0/766	0.65	0/1025
23	AW	0.63	0/603	0.93	1/797 (0.1%)
23	CW	0.70	0/603	0.94	1/797 (0.1%)
23	EW	0.78	0/603	0.97	1/797 (0.1%)
23	GW	0.66	0/603	0.92	0/797
24	AX	0.52	0/635	0.83	1/848 (0.1%)
24	CX	0.58	0/635	0.80	2/848 (0.2%)
24	EX	0.56	0/635	0.79	1/848 (0.1%)
24	GX	0.51	0/635	0.79	0/848
25	AY	0.47	0/510	0.75	0/677
25	CY	0.51	0/510	0.76	0/677
25	EY	0.54	0/510	0.85	1/677 (0.1%)
25	GY	0.55	0/510	0.79	1/677 (0.1%)
26	AZ	0.53	0/453	0.65	0/605
26	CZ	0.49	0/453	0.75	0/605
26	EZ	0.58	0/453	0.82	0/605
26	GZ	0.48	0/453	0.73	0/605
27	A0	0.50	0/450	0.77	0/599
27	C0	0.49	0/450	0.72	0/599
27	E0	0.68	1/450 (0.2%)	0.80	1/599 (0.2%)
27	G0	0.52	1/450 (0.2%)	0.69	0/599
28	A1	0.54	0/416	0.78	0/554
28	C1	0.51	0/416	0.76	0/554
28	E1	0.54	0/416	0.72	0/554
28	G1	0.54	0/416	0.73	0/554
29	A2	0.52	0/380	0.77	0/498
29	C2	0.56	0/380	0.73	0/498
29	E2	0.75	1/380 (0.3%)	0.84	1/498 (0.2%)
29	G2	0.59	0/380	0.75	0/498
30	A3	0.51	0/513	0.74	0/676
30	C3	0.54	0/513	0.68	0/676

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
30	E3	0.64	0/513	0.81	0/676
30	G3	0.50	0/513	0.70	0/676
31	A4	0.61	0/303	0.78	0/397
31	C4	0.60	0/303	0.81	0/397
31	E4	0.60	0/303	0.82	0/397
31	G4	0.53	0/303	0.77	0/397
32	A5	0.83	0/1131	1.34	28/1524 (1.8%)
32	E5	0.74	0/1106	1.34	26/1490 (1.7%)
33	BA	0.64	0/36834	1.15	99/57462 (0.2%)
33	DA	0.63	0/36834	1.13	95/57462 (0.2%)
33	FA	0.65	1/36834 (0.0%)	1.18	114/57462 (0.2%)
33	HA	0.64	0/36834	1.13	101/57462 (0.2%)
34	BB	0.53	0/1735	0.72	0/2338
34	DB	0.49	0/1735	0.70	0/2338
34	FB	0.54	0/1735	0.73	0/2338
34	HB	0.52	0/1735	0.72	0/2338
35	BC	0.47	0/1651	0.64	0/2225
35	DC	0.47	0/1651	0.61	0/2225
35	FC	0.50	0/1651	0.71	0/2225
35	HC	0.48	0/1651	0.67	0/2225
36	BD	0.52	0/1665	0.74	0/2227
36	DD	0.54	0/1665	0.76	0/2227
36	FD	0.49	0/1665	0.71	0/2227
36	HD	0.52	0/1665	0.73	0/2227
37	BE	0.56	1/1118 (0.1%)	0.77	0/1504
37	DE	0.50	0/1118	0.74	0/1504
37	FE	0.54	0/1118	0.78	0/1504
37	HE	0.52	0/1118	0.76	0/1504
38	BF	0.64	0/835	0.75	0/1128
38	DF	0.55	0/835	0.73	0/1128
38	FF	0.54	0/835	0.73	0/1128
38	HF	0.58	0/835	0.72	0/1128
39	BG	0.48	0/1195	0.66	0/1602
39	DG	0.47	0/1195	0.66	0/1602
39	FG	0.51	0/1195	0.70	0/1602
39	HG	0.51	0/1195	0.73	0/1602
40	BH	0.48	0/989	0.63	0/1326
40	DH	0.50	0/989	0.65	0/1326
40	FH	0.50	0/989	0.72	0/1326
40	HH	0.45	0/989	0.66	0/1326
41	BI	0.52	0/1034	0.77	0/1375
41	DI	0.49	0/1034	0.72	1/1375 (0.1%)
41	FI	0.52	0/1034	0.80	0/1375

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
41	HI	0.56	0/1034	0.76	1/1375 (0.1%)
42	BJ	0.53	0/796	0.73	1/1077 (0.1%)
42	DJ	0.55	0/796	0.75	0/1077
42	FJ	0.55	0/796	0.78	0/1077
42	HJ	0.54	0/796	0.77	0/1077
43	BK	0.59	0/893	0.81	0/1205
43	DK	0.51	0/893	0.80	1/1205 (0.1%)
43	FK	0.52	0/893	0.72	0/1205
43	HK	0.71	0/893	0.92	2/1205 (0.2%)
44	BL	0.55	0/969	0.78	0/1300
44	DL	0.54	0/969	0.79	0/1300
44	FL	0.51	0/969	0.75	1/1300 (0.1%)
44	HL	0.50	0/969	0.78	0/1300
45	BM	0.48	0/892	0.72	0/1193
45	DM	0.48	0/892	0.70	0/1193
45	FM	0.46	0/892	0.72	0/1193
45	HM	0.60	0/892	0.83	0/1193
46	BN	0.53	0/785	0.73	0/1043
46	DN	0.53	0/785	0.68	0/1043
46	FN	0.59	0/785	0.80	0/1043
46	HN	0.48	0/785	0.67	0/1043
47	BO	0.46	0/722	0.65	0/964
47	DO	0.47	0/722	0.64	0/964
47	FO	0.44	0/722	0.63	0/964
47	HO	0.50	0/722	0.68	0/964
48	BP	0.51	0/659	0.74	0/884
48	DP	0.52	0/659	0.72	0/884
48	FP	0.48	0/659	0.70	0/884
48	HP	0.51	0/659	0.67	0/884
49	BQ	0.51	0/657	0.73	0/881
49	DQ	0.50	0/657	0.74	0/881
49	FQ	0.49	0/657	0.66	0/881
49	HQ	0.51	0/657	0.75	0/881
50	BR	0.53	0/462	0.67	0/621
50	DR	0.50	0/462	0.71	0/621
50	FR	0.48	0/462	0.63	0/621
50	HR	0.53	0/462	0.77	1/621 (0.2%)
51	BS	0.47	0/652	0.78	0/877
51	DS	0.49	0/652	0.70	0/877
51	FS	0.48	0/652	0.72	0/877
51	HS	0.66	0/652	0.79	0/877
52	BT	0.50	0/671	0.65	0/888
52	DT	0.49	0/671	0.64	0/888

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
52	FT	0.48	0/671	0.68	0/888
52	HT	0.49	0/671	0.72	0/888
53	BU	0.67	0/430	0.75	0/570
53	DU	0.67	0/430	0.83	1/570 (0.2%)
53	FU	0.69	0/430	0.83	0/570
53	HU	0.78	0/430	0.82	0/570
54	BV	0.48	0/5418	0.68	1/7329 (0.0%)
54	DV	0.46	0/5418	0.66	1/7329 (0.0%)
54	FV	0.57	0/5418	0.68	1/7329 (0.0%)
54	HV	0.50	0/5418	0.70	1/7329 (0.0%)
55	BW	2.44	1/11 (9.1%)	1.38	0/13
55	DW	2.31	1/11 (9.1%)	1.57	0/13
55	FW	2.44	1/11 (9.1%)	2.53	1/13 (7.7%)
All	All	0.68	73/635346 (0.0%)	1.13	2493/946873 (0.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
3	CC	0	1
3	EC	0	1
3	GC	0	1
4	CD	0	2
4	ED	0	1
4	GD	0	1
32	A5	0	2
41	FI	0	1
44	BL	0	1
44	DL	0	1
44	FL	0	1
44	HL	0	1
54	BV	0	2
54	DV	0	2
54	FV	0	2
54	HV	0	3
All	All	0	23

All (73) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	EA	984	A	N9-C4	-10.08	1.31	1.37
1	EA	528	A	N9-C4	-9.15	1.32	1.37
37	BE	94	VAL	CB-CG2	9.12	1.72	1.52
13	AM	13	HIS	CG-CD2	8.66	1.50	1.35
10	EJ	44	TYR	CD1-CE1	-7.92	1.27	1.39
2	EB	99	A	N9-C4	-7.52	1.33	1.37
1	EA	2447	G	C6-O6	7.51	1.30	1.24
22	CV	14	LYS	CD-CE	7.49	1.70	1.51
1	GA	1142	A	N9-C4	-7.45	1.33	1.37
27	E0	19	ASP	CB-CG	7.37	1.67	1.51
1	AA	984	A	N9-C4	-7.31	1.33	1.37
1	CA	984	A	N9-C4	-7.29	1.33	1.37
1	GA	528	A	N9-C4	-7.21	1.33	1.37
1	AA	783	A	N7-C5	-7.01	1.35	1.39
1	CA	783	A	N9-C4	-6.99	1.33	1.37
1	EA	984	A	C5-C6	-6.62	1.35	1.41
1	AA	1142	A	N9-C4	-6.61	1.33	1.37
1	CA	654	A	N9-C4	6.61	1.41	1.37
1	EA	1022	G	N7-C5	-6.56	1.35	1.39
1	EA	142	A	O3'-P	6.51	1.69	1.61
55	FW	3	SER	C-N	6.37	1.48	1.34
1	GA	142	A	O3'-P	6.35	1.68	1.61
1	AA	783	A	N9-C4	-6.34	1.34	1.37
55	BW	3	SER	C-N	6.34	1.48	1.34
1	AA	2053	G	N7-C5	-6.30	1.35	1.39
18	ER	86	GLN	CB-CG	6.29	1.69	1.52
1	EA	1263	U	C4-O4	6.28	1.28	1.23
1	EA	528	A	N3-C4	-6.26	1.31	1.34
1	EA	783	A	N9-C4	-6.25	1.34	1.37
1	EA	974	G	C5-C6	-6.23	1.36	1.42
55	DW	3	SER	C-N	6.22	1.48	1.34
10	GJ	44	TYR	CD1-CE1	-6.10	1.30	1.39
1	CA	783	A	N3-C4	-6.08	1.31	1.34
10	CJ	44	TYR	CD1-CE1	-6.01	1.30	1.39
1	EA	984	A	N7-C5	-5.93	1.35	1.39
1	EA	974	G	N9-C8	5.92	1.42	1.37
33	FA	461	A	N9-C4	5.89	1.41	1.37
1	EA	207	A	N9-C4	-5.86	1.34	1.37
1	EA	1142	A	N9-C4	-5.84	1.34	1.37
1	EA	808	G	N7-C5	-5.80	1.35	1.39
1	EA	752	A	C5-C6	-5.76	1.35	1.41
1	EA	793	A	N3-C4	-5.73	1.31	1.34
1	EA	2570	G	N9-C4	-5.71	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	EA	142	A	P-O5'	5.71	1.65	1.59
1	EA	972	A	C5-C6	-5.61	1.36	1.41
1	GA	808	G	N7-C5	-5.56	1.35	1.39
27	G0	19	ASP	CB-CG	5.54	1.63	1.51
1	GA	783	A	N9-C4	-5.52	1.34	1.37
1	GA	528	A	N3-C4	-5.48	1.31	1.34
1	GA	654	A	N9-C4	5.47	1.41	1.37
1	AA	2482	A	N9-C4	-5.42	1.34	1.37
1	EA	2250	G	N9-C8	5.41	1.41	1.37
1	GA	2183	A	N9-C4	5.33	1.41	1.37
1	GA	789	A	N9-C4	-5.33	1.34	1.37
1	CA	792	A	N9-C4	-5.32	1.34	1.37
1	EA	613	A	N9-C4	5.32	1.41	1.37
1	EA	734	A	N9-C4	-5.25	1.34	1.37
1	EA	1254	A	N3-C4	-5.25	1.31	1.34
1	CA	1902	C	N1-C6	-5.24	1.34	1.37
1	EA	251	A	N9-C4	-5.24	1.34	1.37
1	AA	896	A	N9-C4	5.18	1.41	1.37
1	CA	1899	A	N9-C4	-5.15	1.34	1.37
1	EA	972	A	N7-C5	-5.14	1.36	1.39
1	AA	984	A	C5-C6	-5.13	1.36	1.41
18	ER	86	GLN	CG-CD	5.12	1.62	1.51
29	E2	44	VAL	CA-CB	5.11	1.65	1.54
1	EA	1678	A	N3-C4	-5.10	1.31	1.34
1	GA	783	A	N3-C4	-5.10	1.31	1.34
16	EP	50	ARG	CB-CG	5.09	1.66	1.52
1	EA	1983	G	N9-C4	-5.08	1.33	1.38
1	GA	311	A	N9-C4	5.07	1.40	1.37
1	EA	752	A	N7-C5	-5.04	1.36	1.39
1	AA	1665	A	N7-C5	-5.02	1.36	1.39

All (2493) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	834	G	N1-C6-O6	16.23	129.64	119.90
1	EA	984	A	C2-N3-C4	-15.83	102.68	110.60
1	EA	974	G	C4-C5-N7	15.17	116.87	110.80
1	AA	2544	G	N1-C6-O6	14.98	128.89	119.90
1	AA	2053	G	N1-C6-O6	14.67	128.70	119.90
1	AA	984	A	C2-N3-C4	-13.99	103.61	110.60
1	AA	2447	G	N1-C6-O6	13.87	128.22	119.90
1	CA	984	A	C2-N3-C4	-13.82	103.69	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1073	A	N1-C6-N6	-13.64	110.42	118.60
1	EA	974	G	C5-N7-C8	-13.56	97.52	104.30
1	EA	2447	G	C5-C6-N1	-13.53	104.73	111.50
1	EA	974	G	C6-C5-N7	-13.43	122.34	130.40
1	AA	2544	G	C6-C5-N7	-12.49	122.91	130.40
1	GA	984	A	C2-N3-C4	-12.29	104.45	110.60
1	EA	834	G	C5-C6-O6	-12.08	121.35	128.60
1	EA	1079	C	OP1-P-O3'	-11.91	78.99	105.20
1	CA	1087	G	OP1-P-O3'	-11.63	79.62	105.20
1	EA	1779	U	O5'-P-OP1	-11.48	95.37	105.70
1	EA	984	A	N3-C4-C5	11.48	134.83	126.80
1	GA	752	A	N1-C6-N6	11.17	125.30	118.60
1	EA	2447	G	N1-C6-O6	11.09	126.55	119.90
1	EA	2250	G	C2-N3-C4	-11.06	106.37	111.90
1	EA	829	A	O5'-P-OP2	-10.99	95.81	105.70
1	EA	974	G	N1-C6-O6	10.89	126.44	119.90
1	AA	2592	G	O5'-P-OP2	-10.85	95.93	105.70
1	CA	2544	G	N1-C6-O6	10.73	126.34	119.90
1	GA	834	G	N1-C6-O6	10.72	126.33	119.90
1	CA	752	A	N1-C6-N6	10.69	125.02	118.60
1	EA	2250	G	C5-N7-C8	-10.69	98.96	104.30
1	GA	1865	U	OP1-P-O3'	-10.66	81.75	105.20
1	GA	1866	A	OP1-P-OP2	10.65	135.57	119.60
1	GA	1925	C	C6-N1-C2	-10.65	116.04	120.30
1	AA	2447	G	C5-C6-O6	-10.55	122.27	128.60
1	EA	974	G	N7-C8-N9	10.50	118.35	113.10
1	CA	834	G	N1-C6-O6	10.48	126.19	119.90
1	EA	2076	U	C5-C4-O4	10.46	132.18	125.90
16	AP	52	ARG	NE-CZ-NH1	10.39	125.50	120.30
1	AA	738	G	O5'-P-OP2	-10.37	96.36	105.70
1	GA	834	G	C5-C6-N1	-10.35	106.32	111.50
1	AA	1073	A	C5-C6-N6	10.29	131.93	123.70
1	EA	2250	G	N3-C4-C5	10.27	133.74	128.60
1	EA	834	G	C6-C5-N7	-10.24	124.25	130.40
16	CP	52	ARG	NE-CZ-NH1	10.17	125.38	120.30
2	EB	66	A	N1-C6-N6	10.09	124.65	118.60
1	AA	1073	A	C5-N7-C8	10.07	108.93	103.90
1	AA	2053	G	C6-C5-N7	-10.03	124.38	130.40
1	EA	783	A	C2-N3-C4	-10.02	105.59	110.60
1	AA	2061	G	N1-C6-O6	10.01	125.91	119.90
1	EA	984	A	N1-C6-N6	10.01	124.61	118.60
1	EA	984	A	C5-C6-N1	-9.99	112.70	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1190	G	N1-C6-O6	9.97	125.88	119.90
1	EA	1606	C	N3-C2-O2	-9.96	114.92	121.90
33	HA	5	U	C2-N1-C1'	9.96	129.65	117.70
1	CA	2061	G	N1-C6-O6	9.95	125.87	119.90
1	EA	2053	G	N1-C6-O6	9.94	125.86	119.90
1	AA	1533	C	C6-N1-C2	-9.90	116.34	120.30
1	EA	2689	U	C5-C4-O4	9.88	131.82	125.90
1	EA	2511	U	O5'-P-OP2	-9.79	96.89	105.70
1	GA	2592	G	O5'-P-OP2	-9.74	96.93	105.70
1	EA	1779	U	N3-C4-O4	-9.71	112.61	119.40
1	AA	1073	A	C6-C5-N7	9.70	139.09	132.30
1	EA	528	A	C2-N3-C4	-9.68	105.76	110.60
17	EQ	29	ARG	NE-CZ-NH1	9.65	125.12	120.30
1	EA	2447	G	C4-C5-C6	9.65	124.59	118.80
1	EA	1027	A	N1-C6-N6	9.59	124.36	118.60
1	EA	974	G	C5-C6-O6	-9.58	122.85	128.60
1	CA	2250	G	C2-N3-C4	-9.57	107.12	111.90
1	EA	1263	U	N3-C4-C5	-9.52	108.89	114.60
1	GA	1865	U	OP2-P-O3'	-9.50	84.31	105.20
1	GA	1606	C	N3-C2-O2	-9.49	115.26	121.90
1	GA	1606	C	N1-C2-O2	9.40	124.54	118.90
1	EA	1943	U	C5-C4-O4	9.38	131.53	125.90
1	CA	2250	G	C4-C5-N7	9.33	114.53	110.80
1	AA	2361	G	O5'-P-OP2	-9.31	97.32	105.70
33	BA	251	G	N1-C6-O6	9.31	125.49	119.90
1	CA	546	U	O4'-C1'-N1	9.29	115.63	108.20
1	CA	1088	A	OP1-P-OP2	9.28	133.51	119.60
1	GA	1925	C	C5-C6-N1	9.27	125.64	121.00
32	A5	117	LEU	C-N-CA	9.27	144.88	121.70
1	AA	783	A	N7-C8-N9	9.26	118.43	113.80
1	EA	37	C	O5'-P-OP2	-9.24	97.38	105.70
1	EA	783	A	C5-N7-C8	-9.23	99.29	103.90
1	CA	2105	U	C5-C6-N1	9.22	127.31	122.70
1	EA	2544	G	N1-C6-O6	9.20	125.42	119.90
1	AA	2544	G	C5-C6-O6	-9.18	123.09	128.60
33	DA	207	C	C6-N1-C2	-9.17	116.63	120.30
32	A5	92	ALA	C-N-CA	9.15	144.58	121.70
1	EA	1606	C	N1-C2-O2	9.15	124.39	118.90
1	EA	1779	U	C5-C4-O4	9.14	131.39	125.90
1	EA	752	A	N1-C6-N6	9.14	124.08	118.60
12	AL	82	LEU	CA-CB-CG	9.13	136.31	115.30
12	CL	82	LEU	CA-CB-CG	9.13	136.30	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	808	G	N1-C6-O6	9.13	125.38	119.90
1	GA	752	A	O4'-C1'-N9	9.11	115.49	108.20
1	GA	834	G	N7-C8-N9	9.10	117.65	113.10
1	AA	2053	G	N3-C2-N2	-9.04	113.57	119.90
1	GA	834	G	C8-N9-C4	-9.04	102.79	106.40
1	CA	1349	C	O5'-P-OP2	-9.02	97.58	105.70
32	E5	93	ALA	C-N-CA	9.01	144.21	121.70
1	EA	984	A	N3-C4-N9	-9.00	120.20	127.40
1	EA	2275	C	C6-N1-C2	-9.00	116.70	120.30
1	AA	1073	A	C4-C5-N7	-9.00	106.20	110.70
1	AA	783	A	C5-N7-C8	-8.96	99.42	103.90
1	EA	694	U	N3-C2-O2	-8.95	115.93	122.20
1	EA	62	U	N3-C2-O2	-8.92	115.96	122.20
1	EA	811	U	O5'-P-OP1	-8.92	97.67	105.70
1	AA	2053	G	C5-C6-N1	-8.92	107.04	111.50
1	EA	460	A	O5'-P-OP1	-8.91	97.68	105.70
1	EA	542	C	N3-C4-C5	-8.89	118.34	121.90
1	EA	2250	G	C4-C5-N7	8.87	114.35	110.80
1	EA	797	G	O5'-P-OP2	-8.86	97.73	105.70
1	CA	974	G	C6-C5-N7	-8.85	125.09	130.40
33	FA	51	A	P-O3'-C3'	8.85	130.31	119.70
1	AA	1958	C	N3-C2-O2	-8.84	115.72	121.90
1	GA	834	G	C4-C5-C6	8.81	124.09	118.80
1	EA	780	G	C8-N9-C4	-8.80	102.88	106.40
1	CA	2250	G	N1-C6-O6	8.79	125.17	119.90
1	EA	784	G	O4'-C1'-N9	-8.78	101.17	108.20
1	CA	2250	G	C5-N7-C8	-8.77	99.92	104.30
1	EA	972	A	N1-C6-N6	8.74	123.85	118.60
1	EA	2779	U	O5'-P-OP1	-8.74	97.83	105.70
1	CA	1913	A	C5-N7-C8	8.73	108.26	103.90
1	EA	2250	G	N3-C4-N9	-8.73	120.76	126.00
1	CA	1943	U	C5-C4-O4	8.72	131.13	125.90
1	GA	2572	A	O5'-P-OP2	-8.72	97.85	105.70
1	AA	1073	A	N7-C8-N9	-8.71	109.44	113.80
32	A5	93	ALA	C-N-CA	8.70	143.45	121.70
1	GA	1509	A	O4'-C1'-N9	8.69	115.16	108.20
1	CA	984	A	N3-C4-C5	8.65	132.85	126.80
1	EA	62	U	N1-C2-O2	8.64	128.85	122.80
1	CA	974	G	N7-C8-N9	8.62	117.41	113.10
2	CB	79	G	N3-C2-N2	8.62	125.94	119.90
1	GA	783	A	C5-N7-C8	-8.59	99.61	103.90
1	CA	2250	G	N3-C4-C5	8.57	132.88	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	AC	176	ARG	NE-CZ-NH2	8.55	124.58	120.30
1	EA	1355	G	N1-C6-O6	8.55	125.03	119.90
5	EE	44	ARG	NE-CZ-NH2	8.55	124.58	120.30
1	AA	783	A	N1-C6-N6	8.54	123.73	118.60
32	A5	77	VAL	C-N-CA	8.53	140.21	122.30
1	EA	550	C	O5'-P-OP2	-8.52	98.03	105.70
1	EA	834	G	N3-C2-N2	-8.46	113.98	119.90
2	EB	66	A	N9-C4-C5	-8.45	102.42	105.80
1	AA	783	A	C6-C5-N7	-8.43	126.40	132.30
1	EA	2250	G	N7-C8-N9	8.40	117.30	113.10
1	CA	2443	C	C6-N1-C2	-8.40	116.94	120.30
1	EA	2076	U	N3-C2-O2	-8.36	116.35	122.20
1	EA	1943	U	N3-C4-O4	-8.33	113.57	119.40
1	AA	2358	A	N1-C6-N6	-8.33	113.60	118.60
1	GA	528	A	C2-N3-C4	-8.31	106.44	110.60
1	AA	748	G	O4'-C1'-N9	8.31	114.85	108.20
33	HA	1087	G	C6-C5-N7	-8.31	125.42	130.40
32	E5	77	VAL	C-N-CA	8.26	139.65	122.30
1	CA	1606	C	N1-C2-O2	8.25	123.85	118.90
1	EA	984	A	C5-N7-C8	-8.25	99.78	103.90
1	EA	1263	U	C6-N1-C2	-8.24	116.05	121.00
1	EA	2385	C	O5'-P-OP2	-8.21	98.31	105.70
1	EA	2076	U	N3-C4-O4	-8.20	113.66	119.40
5	AE	40	ARG	NE-CZ-NH1	8.19	124.39	120.30
1	EA	1332	G	C5-C6-O6	-8.15	123.71	128.60
33	HA	481	G	C5-C6-O6	-8.14	123.71	128.60
33	BA	51	A	P-O3'-C3'	8.14	129.47	119.70
1	CA	2544	G	C6-C5-N7	-8.14	125.52	130.40
1	AA	2544	G	C4-C5-C6	8.13	123.68	118.80
32	E5	117	LEU	C-N-CA	8.13	142.02	121.70
33	BA	1507	A	O5'-P-OP1	-8.12	98.39	105.70
1	CA	654	A	C2-N3-C4	8.12	114.66	110.60
1	AA	795	C	O5'-P-OP1	-8.10	98.41	105.70
1	EA	1006	C	N1-C2-O2	-8.10	114.04	118.90
1	CA	752	A	C4-C5-N7	8.09	114.75	110.70
1	CA	1253	A	O5'-P-OP1	-8.09	98.42	105.70
1	EA	2447	G	C6-C5-N7	-8.09	125.55	130.40
1	AA	2053	G	C4-C5-C6	8.08	123.65	118.80
1	EA	941	A	C8-N9-C4	8.08	109.03	105.80
1	AA	974	G	C6-C5-N7	-8.06	125.56	130.40
33	BA	328	C	N1-C2-O2	8.06	123.73	118.90
1	CA	984	A	C5-C6-N1	-8.05	113.68	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	808	G	C6-C5-N7	-8.04	125.58	130.40
1	AA	984	A	N1-C6-N6	8.04	123.42	118.60
1	AA	974	G	C4-C5-N7	8.03	114.01	110.80
1	GA	834	G	C6-C5-N7	-8.00	125.60	130.40
1	EA	961	C	O5'-P-OP2	-7.99	98.51	105.70
32	E5	92	ALA	C-N-CA	7.99	141.66	121.70
1	CA	974	G	C4-N9-C1'	7.98	136.88	126.50
1	CA	752	A	C5-C6-N6	-7.97	117.32	123.70
1	GA	752	A	C5-C6-N6	-7.96	117.33	123.70
33	BA	1101	A	P-O3'-C3'	7.96	129.25	119.70
23	AW	76	ARG	NE-CZ-NH2	7.95	124.28	120.30
1	CA	834	G	C5-C6-O6	-7.94	123.83	128.60
1	CA	2224	G	C5-C6-O6	-7.93	123.84	128.60
43	DK	128	ARG	NE-CZ-NH1	7.93	124.26	120.30
1	EA	520	G	N1-C6-O6	-7.92	115.15	119.90
1	GA	2071	A	O5'-P-OP2	-7.92	98.57	105.70
1	CA	671	C	C6-N1-C2	-7.91	117.14	120.30
1	EA	1190	G	C5-N7-C8	-7.90	100.35	104.30
1	CA	2038	G	N1-C6-O6	7.89	124.63	119.90
1	GA	808	G	C5-C6-O6	-7.89	123.87	128.60
32	A5	51	TYR	C-N-CA	7.88	141.39	121.70
1	EA	2146	C	OP1-P-O3'	7.88	122.53	105.20
1	AA	1936	A	C2-N3-C4	-7.87	106.67	110.60
1	EA	1073	A	O5'-P-OP1	-7.86	98.63	105.70
1	GA	984	A	N1-C2-N3	7.84	133.22	129.30
33	HA	1087	G	N7-C8-N9	7.84	117.02	113.10
33	DA	1099	G	C5-C6-O6	7.84	133.30	128.60
32	E5	54	VAL	CG1-CB-CG2	7.82	123.42	110.90
1	CA	834	G	C6-C5-N7	-7.80	125.72	130.40
1	EA	210	C	C6-N1-C2	7.80	123.42	120.30
1	GA	2402	U	O4'-C1'-N1	7.80	114.44	108.20
4	GD	151	THR	C-N-CD	7.80	144.78	128.40
32	E5	72	LEU	C-N-CA	7.80	141.19	121.70
33	HA	1086	U	N3-C2-O2	-7.79	116.75	122.20
1	EA	865	C	C6-N1-C2	7.79	123.42	120.30
1	EA	528	A	N3-C4-N9	-7.79	121.17	127.40
1	EA	694	U	C6-N1-C2	-7.79	116.33	121.00
33	BA	251	G	C5-C6-O6	-7.76	123.94	128.60
1	GA	1940	U	O5'-P-OP2	-7.75	98.72	105.70
1	EA	783	A	C4-C5-N7	7.75	114.57	110.70
1	CA	1190	G	C5-C6-O6	-7.73	123.96	128.60
33	FA	1279	G	N7-C8-N9	7.73	116.96	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	863	A	O5'-P-OP2	-7.72	98.75	105.70
1	EA	821	A	O5'-P-OP2	-7.71	98.76	105.70
1	EA	2551	C	OP2-P-O3'	7.70	122.15	105.20
33	DA	1279	G	C8-N9-C4	-7.70	103.32	106.40
1	EA	1452	G	N3-C4-C5	7.70	132.45	128.60
1	EA	2053	G	C5-C6-O6	-7.69	123.98	128.60
1	EA	972	A	C5-C6-N6	-7.69	117.55	123.70
1	AA	783	A	C8-N9-C4	-7.68	102.73	105.80
1	CA	1793	C	O5'-P-OP2	-7.68	98.79	105.70
33	HA	51	A	P-O3'-C3'	7.67	128.91	119.70
1	AA	1257	C	N1-C2-O2	-7.67	114.30	118.90
1	CA	2290	G	N1-C6-O6	7.67	124.50	119.90
1	GA	743	A	O5'-P-OP2	-7.67	98.80	105.70
1	CA	1779	U	C5-C6-N1	-7.66	118.87	122.70
1	EA	2272	U	O5'-P-OP2	-7.66	98.81	105.70
32	E5	47	GLU	C-N-CA	7.65	140.83	121.70
1	CA	371	A	O5'-P-OP1	-7.65	98.82	105.70
33	DA	1099	G	N1-C6-O6	-7.65	115.31	119.90
1	CA	2544	G	C5-C6-N1	-7.64	107.68	111.50
1	GA	1142	A	C2-N3-C4	-7.64	106.78	110.60
1	AA	1534	U	C2-N1-C1'	7.64	126.86	117.70
1	AA	2253	G	N1-C6-O6	7.63	124.48	119.90
33	FA	1370	G	N1-C6-O6	7.63	124.48	119.90
1	GA	1072	C	N3-C2-O2	-7.63	116.56	121.90
1	CA	974	G	C8-N9-C4	-7.62	103.35	106.40
1	EA	794	A	N1-C6-N6	7.62	123.17	118.60
1	EA	528	A	N3-C4-C5	7.62	132.13	126.80
32	E5	119	PRO	C-N-CA	7.62	140.75	121.70
1	GA	2571	U	N3-C4-O4	7.61	124.73	119.40
1	EA	2515	C	N1-C2-O2	-7.61	114.33	118.90
1	EA	2054	A	O5'-P-OP1	-7.60	98.86	105.70
1	GA	586	A	O5'-P-OP1	-7.60	98.86	105.70
1	EA	2071	A	O5'-P-OP2	-7.59	98.87	105.70
1	EA	967	U	C6-N1-C2	-7.59	116.45	121.00
1	CA	249	C	N3-C4-N4	7.58	123.31	118.00
1	EA	527	C	N1-C2-O2	7.58	123.44	118.90
32	E5	27	VAL	CG1-CB-CG2	7.57	123.02	110.90
32	A5	49	GLY	C-N-CA	7.57	140.62	121.70
33	DA	51	A	P-O3'-C3'	7.56	128.78	119.70
1	CA	1898	U	C5-C4-O4	7.56	130.43	125.90
1	EA	752	A	C5-C6-N6	-7.55	117.66	123.70
1	CA	183	C	C6-N1-C2	-7.55	117.28	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	996	A	O5'-P-OP1	-7.55	98.90	105.70
1	GA	752	A	C4-C5-N7	7.55	114.47	110.70
32	E5	49	GLY	C-N-CA	7.55	140.57	121.70
1	EA	470	A	OP1-P-OP2	-7.54	108.29	119.60
1	AA	1713	A	N1-C6-N6	7.53	123.12	118.60
1	AA	2447	G	O5'-P-OP1	-7.52	98.93	105.70
1	EA	2443	C	N1-C2-O2	-7.52	114.39	118.90
1	AA	1069	A	O4'-C1'-N9	7.51	114.21	108.20
1	AA	2482	A	N1-C6-N6	7.51	123.11	118.60
1	CA	1656	C	N1-C2-O2	-7.51	114.39	118.90
1	CA	1030	C	C6-N1-C2	7.51	123.30	120.30
1	CA	974	G	C5-N7-C8	-7.49	100.56	104.30
32	E5	123	ILE	CG1-CB-CG2	7.49	127.88	111.40
1	EA	974	G	C2-N3-C4	-7.49	108.16	111.90
1	AA	1142	A	C2-N3-C4	-7.49	106.86	110.60
32	A5	28	ALA	C-N-CA	7.48	140.40	121.70
1	EA	2557	G	N1-C6-O6	-7.48	115.41	119.90
1	GA	1413	A	N1-C6-N6	7.48	123.09	118.60
1	GA	984	A	N1-C6-N6	7.44	123.07	118.60
1	EA	30	G	O5'-P-OP1	-7.44	99.00	105.70
2	EB	66	A	C2-N3-C4	-7.44	106.88	110.60
1	EA	784	G	P-O3'-C3'	7.44	128.62	119.70
33	HA	5	U	C6-N1-C1'	-7.44	110.79	121.20
1	EA	1252	G	O5'-P-OP1	7.43	119.62	110.70
1	CA	783	A	C5-N7-C8	-7.43	100.18	103.90
1	EA	570	G	N1-C6-O6	7.43	124.36	119.90
1	AA	923	G	N3-C4-N9	7.43	130.46	126.00
33	DA	1279	G	N7-C8-N9	7.43	116.81	113.10
1	EA	974	G	C8-N9-C4	-7.42	103.43	106.40
1	CA	1970	A	C8-N9-C4	-7.42	102.83	105.80
1	EA	1829	A	O5'-P-OP1	-7.42	99.02	105.70
32	A5	47	GLU	C-N-CA	7.42	140.24	121.70
33	BA	1362	A	C8-N9-C4	7.42	108.77	105.80
1	GA	2146	C	C6-N1-C2	-7.42	117.33	120.30
1	EA	1141	U	C5-C6-N1	7.41	126.41	122.70
1	AA	586	A	O5'-P-OP1	-7.41	99.03	105.70
1	AA	2061	G	O5'-P-OP2	-7.41	99.03	105.70
20	GT	12	ARG	NE-CZ-NH1	7.41	124.00	120.30
1	GA	504	A	O4'-C1'-N9	7.40	114.12	108.20
1	EA	1823	G	N3-C2-N2	-7.39	114.72	119.90
1	AA	2445	G	C5-C6-O6	-7.39	124.17	128.60
1	CA	1061	U	N3-C2-O2	-7.39	117.03	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	DA	1370	G	C5-C6-N1	-7.38	107.81	111.50
1	EA	2150	C	C6-N1-C2	-7.38	117.35	120.30
1	EA	825	A	N1-C6-N6	-7.38	114.17	118.60
2	AB	3	C	C6-N1-C2	-7.37	117.35	120.30
1	EA	984	A	C4-C5-N7	7.37	114.38	110.70
1	EA	2584	U	N3-C4-O4	7.36	124.55	119.40
1	EA	2584	U	C5-C4-O4	-7.36	121.49	125.90
1	GA	784	G	O4'-C1'-N9	-7.35	102.32	108.20
1	EA	778	G	N1-C6-O6	7.35	124.31	119.90
1	CA	1087	G	OP2-P-O3'	-7.34	89.04	105.20
1	CA	372	G	N1-C6-O6	7.34	124.30	119.90
33	HA	1087	G	C4-N9-C1'	7.34	136.04	126.50
1	EA	578	G	C6-C5-N7	-7.33	126.00	130.40
1	AA	974	G	N7-C8-N9	7.32	116.76	113.10
1	CA	793	A	N1-C6-N6	7.32	122.99	118.60
32	A5	27	VAL	CG1-CB-CG2	7.31	122.60	110.90
24	AX	44	ARG	NE-CZ-NH2	7.31	123.96	120.30
1	CA	2544	G	C2-N3-C4	-7.31	108.25	111.90
33	FA	101	A	N1-C6-N6	7.31	122.98	118.60
1	EA	2510	C	C6-N1-C2	-7.30	117.38	120.30
1	GA	1779	U	C5-C4-O4	7.29	130.28	125.90
2	AB	101	A	C8-N9-C4	7.28	108.71	105.80
33	HA	1101	A	P-O3'-C3'	7.27	128.43	119.70
1	EA	1027	A	C6-C5-N7	-7.27	127.21	132.30
1	AA	1672	A	N9-C4-C5	-7.26	102.89	105.80
1	EA	626	A	N1-C6-N6	7.26	122.96	118.60
1	CA	2594	C	C6-N1-C2	-7.26	117.40	120.30
2	EB	102	G	OP2-P-O3'	7.26	121.16	105.20
1	AA	1069	A	N1-C6-N6	7.25	122.95	118.60
1	EA	520	G	C5-C6-O6	7.25	132.95	128.60
1	EA	2326	C	C6-N1-C2	-7.25	117.40	120.30
1	GA	834	G	C4-N9-C1'	7.25	135.92	126.50
1	GA	404	A	N1-C6-N6	7.24	122.95	118.60
33	HA	1299	A	N1-C6-N6	7.24	122.95	118.60
1	EA	2523	G	C8-N9-C4	-7.24	103.50	106.40
1	AA	2053	G	C5-C6-O6	-7.24	124.26	128.60
54	BV	93	VAL	N-CA-C	-7.23	91.48	111.00
1	EA	1983	G	C8-N9-C4	7.23	109.29	106.40
1	EA	2698	U	C5-C4-O4	7.23	130.24	125.90
54	DV	93	VAL	N-CA-C	-7.22	91.51	111.00
1	GA	1025	G	P-O3'-C3'	7.22	128.36	119.70
1	EA	2362	C	N1-C2-O2	-7.21	114.57	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	982	C	N1-C2-O2	7.20	123.22	118.90
1	AA	974	G	C5-N7-C8	-7.20	100.70	104.30
33	BA	1362	A	O4'-C1'-N9	7.20	113.96	108.20
1	EA	783	A	N1-C6-N6	7.19	122.92	118.60
33	FA	1101	A	P-O3'-C3'	7.18	128.32	119.70
1	EA	2590	A	N1-C6-N6	-7.18	114.29	118.60
1	EA	2689	U	N3-C4-O4	-7.18	114.38	119.40
1	AA	781	A	O5'-P-OP1	-7.18	99.24	105.70
1	AA	923	G	N3-C4-C5	-7.17	125.01	128.60
1	EA	2579	C	N3-C4-C5	7.17	124.77	121.90
33	HA	1279	G	C8-N9-C4	-7.17	103.53	106.40
33	HA	1454	G	O5'-P-OP1	-7.17	99.25	105.70
1	EA	2290	G	N1-C6-O6	7.16	124.19	119.90
1	EA	301	G	P-O3'-C3'	7.16	128.29	119.70
1	AA	2544	G	C4-N9-C1'	7.15	135.79	126.50
1	EA	14	A	N1-C6-N6	7.13	122.88	118.60
1	GA	1378	A	P-O3'-C3'	7.13	128.26	119.70
33	FA	1279	G	C5-C6-O6	-7.13	124.33	128.60
1	EA	62	U	C2-N1-C1'	7.12	126.24	117.70
33	BA	1054	C	C6-N1-C2	-7.12	117.45	120.30
1	CA	974	G	C4-C5-N7	7.12	113.65	110.80
1	CA	1779	U	O4'-C1'-N1	7.11	113.89	108.20
1	GA	974	G	N7-C8-N9	7.11	116.65	113.10
1	AA	2601	C	C6-N1-C2	-7.10	117.46	120.30
33	DA	1099	G	C4-C5-N7	-7.10	107.96	110.80
1	GA	783	A	N1-C6-N6	7.10	122.86	118.60
33	HA	481	G	N9-C4-C5	-7.10	102.56	105.40
1	EA	1618	A	C8-N9-C4	-7.09	102.96	105.80
1	EA	1784	A	C8-N9-C4	7.09	108.64	105.80
1	AA	248	G	O5'-P-OP2	-7.08	99.33	105.70
32	E5	51	TYR	C-N-CA	7.08	139.40	121.70
1	CA	677	A	OP1-P-O3'	7.08	120.76	105.20
33	BA	250	A	P-O3'-C3'	7.07	128.19	119.70
1	EA	801	G	N3-C4-C5	-7.07	125.06	128.60
1	GA	783	A	N7-C8-N9	7.06	117.33	113.80
1	EA	914	G	N1-C6-O6	7.06	124.14	119.90
1	GA	2452	C	C6-N1-C2	7.06	123.12	120.30
1	EA	2053	G	C6-C5-N7	-7.06	126.17	130.40
33	HA	481	G	N3-C4-N9	7.06	130.24	126.00
32	E5	50	VAL	C-N-CA	7.06	139.34	121.70
1	CA	974	G	N1-C6-O6	7.05	124.13	119.90
33	BA	495	A	N1-C6-N6	-7.05	114.37	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	784	G	P-O3'-C3'	7.05	128.16	119.70
33	BA	188	C	C6-N1-C2	-7.05	117.48	120.30
1	EA	2585	U	N3-C2-O2	-7.05	117.26	122.20
1	EA	565	C	C5-C4-N4	-7.05	115.27	120.20
1	GA	1824	G	N1-C6-O6	-7.04	115.67	119.90
1	EA	752	A	C4-C5-N7	7.04	114.22	110.70
33	FA	1061	G	O5'-P-OP2	-7.04	99.36	105.70
32	A5	72	LEU	C-N-CA	7.04	139.29	121.70
1	CA	1606	C	N3-C2-O2	-7.03	116.98	121.90
1	AA	140	C	N1-C2-O2	7.03	123.12	118.90
1	GA	1189	A	N1-C6-N6	7.02	122.81	118.60
33	BA	684	U	C6-N1-C2	-7.02	116.79	121.00
1	EA	2729	G	N3-C4-C5	-7.01	125.09	128.60
1	CA	1963	U	N3-C2-O2	-7.01	117.29	122.20
1	CA	1247	A	P-O3'-C3'	7.00	128.10	119.70
1	CA	1584	U	C5-C6-N1	6.99	126.20	122.70
1	EA	1079	C	OP2-P-O3'	-6.99	89.82	105.20
1	CA	249	C	C5-C4-N4	-6.99	115.31	120.20
1	EA	14	A	N9-C4-C5	-6.98	103.01	105.80
1	EA	776	G	N3-C4-C5	-6.98	125.11	128.60
33	BA	481	G	N1-C6-O6	-6.98	115.71	119.90
33	FA	328	C	N1-C2-O2	6.98	123.09	118.90
1	CA	1726	C	C5-C4-N4	-6.98	115.31	120.20
33	DA	1101	A	P-O3'-C3'	6.97	128.07	119.70
1	AA	1257	C	N3-C2-O2	6.97	126.78	121.90
1	CA	984	A	N1-C6-N6	6.96	122.78	118.60
1	AA	2544	G	C5-C6-N1	-6.96	108.02	111.50
1	CA	1088	A	P-O3'-C3'	6.96	128.05	119.70
33	FA	250	A	P-O3'-C3'	6.96	128.05	119.70
32	A5	119	PRO	C-N-CA	6.96	139.10	121.70
1	AA	984	A	N3-C4-C5	6.96	131.67	126.80
32	A5	50	VAL	C-N-CA	6.95	139.08	121.70
1	EA	752	A	C6-C5-N7	-6.95	127.43	132.30
32	E5	81	LEU	CB-CG-CD2	6.95	122.81	111.00
1	CA	2242	G	C8-N9-C4	-6.95	103.62	106.40
17	CQ	29	ARG	NE-CZ-NH1	6.95	123.77	120.30
1	EA	971	G	N1-C6-O6	6.94	124.06	119.90
1	CA	752	A	C5-N7-C8	-6.94	100.43	103.90
1	GA	2447	G	C5-C6-O6	-6.94	124.44	128.60
1	EA	14	A	C8-N9-C4	6.93	108.57	105.80
1	EA	55	G	N9-C4-C5	6.93	108.17	105.40
32	A5	81	LEU	CB-CG-CD2	6.93	122.78	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	546	U	N3-C2-O2	-6.93	117.35	122.20
33	HA	913	A	P-O3'-C3'	6.93	128.01	119.70
1	EA	783	A	N7-C8-N9	6.92	117.26	113.80
2	EB	13	G	O5'-P-OP2	-6.92	99.47	105.70
1	CA	1725	U	C5-C6-N1	6.92	126.16	122.70
1	EA	528	A	C5-N7-C8	-6.92	100.44	103.90
1	AA	1672	A	C2-N3-C4	-6.91	107.15	110.60
1	EA	695	G	C5-C6-N1	-6.90	108.05	111.50
1	AA	542	C	N3-C4-C5	-6.90	119.14	121.90
1	AA	598	U	O5'-P-OP2	-6.90	99.49	105.70
1	AA	776	G	C5-C6-O6	6.90	132.74	128.60
33	BA	1362	A	N7-C8-N9	-6.89	110.35	113.80
1	AA	2447	G	C6-C5-N7	-6.89	126.27	130.40
1	EA	404	A	N1-C6-N6	6.89	122.73	118.60
1	EA	1088	A	P-O3'-C3'	6.89	127.97	119.70
1	EA	959	A	O5'-P-OP1	-6.89	99.50	105.70
1	AA	1737	G	N3-C4-C5	-6.88	125.16	128.60
1	AA	565	C	N1-C2-O2	6.88	123.03	118.90
1	EA	761	A	O5'-P-OP2	-6.88	99.51	105.70
33	HA	1362	A	O4'-C1'-N9	6.87	113.69	108.20
1	AA	2061	G	C5-C6-O6	-6.87	124.48	128.60
1	AA	984	A	C5-C6-N1	-6.87	114.27	117.70
1	EA	198	C	N3-C4-C5	6.87	124.65	121.90
1	EA	1619	G	O5'-P-OP2	-6.86	99.52	105.70
1	AA	331	C	N1-C2-O2	6.86	123.01	118.90
33	BA	1279	G	C8-N9-C4	-6.86	103.66	106.40
14	CN	71	ARG	NE-CZ-NH2	6.85	123.73	120.30
1	EA	397	U	O5'-P-OP2	-6.85	99.53	105.70
1	GA	784	G	P-O3'-C3'	6.85	127.92	119.70
1	GA	2510	C	O5'-P-OP2	-6.85	99.53	105.70
33	FA	472	U	C5-C6-N1	6.85	126.12	122.70
1	AA	984	A	N1-C2-N3	6.84	132.72	129.30
1	CA	1027	A	N1-C6-N6	6.84	122.71	118.60
1	CA	2775	G	N1-C6-O6	6.84	124.01	119.90
33	FA	817	C	O5'-P-OP2	6.84	118.91	110.70
1	AA	1378	A	N1-C6-N6	-6.84	114.50	118.60
1	GA	2360	G	N1-C6-O6	6.84	124.00	119.90
1	AA	1066	U	N3-C2-O2	-6.84	117.41	122.20
1	EA	2387	U	O5'-P-OP1	-6.84	99.54	105.70
33	HA	1087	G	C8-N9-C4	-6.84	103.67	106.40
1	EA	2788	C	C6-N1-C2	-6.83	117.57	120.30
33	FA	983	A	C2-N3-C4	6.83	114.02	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2592	G	O5'-P-OP2	-6.83	99.55	105.70
1	EA	1469	A	N1-C6-N6	-6.83	114.50	118.60
1	CA	559	G	O5'-P-OP1	-6.83	99.56	105.70
1	CA	573	U	C5-C6-N1	6.82	126.11	122.70
1	GA	812	C	N3-C2-O2	6.82	126.68	121.90
1	GA	974	G	C5-N7-C8	-6.82	100.89	104.30
1	CA	184	C	N1-C2-O2	-6.82	114.81	118.90
1	EA	512	G	O4'-C1'-N9	6.82	113.66	108.20
33	BA	936	C	C6-N1-C2	-6.82	117.57	120.30
1	CA	533	G	N1-C6-O6	6.82	123.99	119.90
1	EA	1332	G	N1-C6-O6	6.81	123.99	119.90
33	HA	602	A	N1-C6-N6	6.81	122.69	118.60
14	AN	71	ARG	NE-CZ-NH2	6.81	123.70	120.30
1	AA	656	G	O5'-P-OP2	-6.80	99.58	105.70
1	EA	1713	A	N1-C6-N6	6.80	122.68	118.60
33	FA	1305	G	C5-C6-O6	6.80	132.68	128.60
33	FA	472	U	C6-N1-C2	-6.80	116.92	121.00
33	FA	1032	G	C4-N9-C1'	6.77	135.31	126.50
1	EA	1263	U	C4-C5-C6	6.77	123.76	119.70
1	GA	2902	C	P-O3'-C3'	6.77	127.82	119.70
1	AA	1378	A	P-O3'-C3'	6.76	127.82	119.70
1	GA	2654	A	O5'-P-OP2	-6.76	99.61	105.70
1	AA	2681	C	C6-N1-C2	6.76	123.00	120.30
1	EA	967	U	N3-C2-O2	-6.76	117.47	122.20
1	CA	2250	G	C6-C5-N7	-6.76	126.34	130.40
17	AQ	29	ARG	NE-CZ-NH1	6.76	123.68	120.30
1	GA	1943	U	C5-C4-O4	6.75	129.95	125.90
1	EA	1452	G	N1-C6-O6	6.75	123.95	119.90
33	FA	983	A	N1-C6-N6	-6.75	114.55	118.60
33	BA	495	A	C5-C6-N6	6.75	129.10	123.70
1	EA	164	C	C6-N1-C2	-6.75	117.60	120.30
1	GA	1611	C	C6-N1-C2	6.75	123.00	120.30
1	AA	2305	U	O4'-C1'-N1	6.74	113.59	108.20
33	DA	95	C	N1-C2-O2	6.74	122.94	118.90
1	EA	973	A	O5'-P-OP1	-6.74	99.63	105.70
1	EA	1355	G	C6-C5-N7	-6.74	126.36	130.40
33	HA	250	A	P-O3'-C3'	6.74	127.79	119.70
33	FA	588	G	O5'-P-OP2	-6.74	99.64	105.70
33	BA	1362	A	C4-N9-C1'	-6.74	114.17	126.30
33	FA	913	A	P-O3'-C3'	6.73	127.78	119.70
1	EA	733	G	C5-C6-O6	-6.73	124.56	128.60
1	AA	1672	A	N1-C6-N6	6.72	122.63	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	HA	503	C	C6-N1-C2	-6.72	117.61	120.30
1	CA	2038	G	C6-C5-N7	-6.72	126.37	130.40
32	A5	123	ILE	CG1-CB-CG2	6.72	126.18	111.40
1	EA	2290	G	C6-C5-N7	-6.72	126.37	130.40
4	CD	151	THR	C-N-CD	6.71	142.50	128.40
14	CN	45	ARG	NE-CZ-NH1	6.71	123.66	120.30
1	CA	1762	A	N1-C6-N6	6.71	122.63	118.60
1	EA	2463	C	C5-C4-N4	-6.71	115.50	120.20
1	CA	1951	U	N1-C2-O2	-6.71	118.11	122.80
1	EA	1452	G	C2-N3-C4	-6.71	108.55	111.90
1	GA	2443	C	C6-N1-C2	-6.71	117.62	120.30
1	CA	783	A	N1-C6-N6	6.71	122.62	118.60
33	FA	1370	G	C5-C6-N1	-6.71	108.15	111.50
1	EA	2241	A	C8-N9-C4	-6.70	103.12	105.80
1	GA	775	G	O4'-C1'-N9	6.70	113.56	108.20
1	AA	1841	U	N1-C2-O2	-6.70	118.11	122.80
1	EA	2394	C	N1-C2-O2	-6.70	114.88	118.90
33	BA	1001	C	C6-N1-C2	-6.70	117.62	120.30
1	EA	1646	C	N3-C4-C5	6.70	124.58	121.90
1	EA	1772	A	O5'-P-OP2	-6.70	99.67	105.70
33	FA	1370	G	N3-C2-N2	-6.70	115.21	119.90
1	AA	570	G	C4-N9-C1'	6.69	135.20	126.50
1	EA	119	A	P-O3'-C3'	6.69	127.72	119.70
1	GA	1072	C	P-O3'-C3'	-6.69	111.68	119.70
1	EA	467	G	O5'-P-OP2	-6.68	99.69	105.70
1	AA	2551	C	OP2-P-O3'	6.67	119.89	105.20
33	FA	1032	G	N3-C4-C5	-6.67	125.26	128.60
1	AA	974	G	O4'-C1'-N9	6.67	113.53	108.20
1	EA	679	C	N3-C4-C5	6.67	124.57	121.90
1	AA	2065	C	C5-C4-N4	-6.66	115.54	120.20
33	FA	1101	A	N1-C6-N6	6.65	122.59	118.60
1	CA	512	G	O4'-C1'-N9	6.65	113.52	108.20
1	GA	1061	U	O4'-C1'-N1	6.65	113.52	108.20
1	EA	353	C	C6-N1-C2	-6.64	117.64	120.30
1	EA	834	G	C4-C5-C6	6.64	122.78	118.80
1	AA	512	G	O4'-C1'-N9	6.64	113.51	108.20
1	AA	2061	G	N3-C2-N2	-6.64	115.25	119.90
1	EA	1316	U	O5'-P-OP2	-6.64	99.72	105.70
1	EA	2423	U	P-O3'-C3'	6.64	127.67	119.70
33	FA	379	C	O5'-P-OP1	-6.64	99.73	105.70
1	CA	752	A	C6-C5-N7	-6.64	127.65	132.30
1	EA	2606	C	N1-C2-O2	-6.63	114.92	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1422	G	C5-C6-O6	-6.63	124.62	128.60
1	EA	1257	C	N3-C4-C5	-6.63	119.25	121.90
33	BA	913	A	P-O3'-C3'	6.62	127.64	119.70
1	CA	353	C	C6-N1-C2	-6.62	117.65	120.30
1	GA	834	G	N3-C2-N2	-6.62	115.27	119.90
33	HA	1496	C	C6-N1-C2	-6.62	117.65	120.30
1	AA	1202	G	C8-N9-C4	6.61	109.04	106.40
1	CA	984	A	N3-C4-N9	-6.61	122.11	127.40
1	EA	548	G	C8-N9-C4	-6.61	103.76	106.40
1	EA	688	U	O5'-P-OP2	-6.61	99.75	105.70
1	EA	443	A	N1-C6-N6	-6.60	114.64	118.60
33	BA	12	U	C5-C4-O4	6.59	129.86	125.90
1	EA	1263	U	N1-C2-N3	6.59	118.85	114.90
1	AA	570	G	N3-C4-C5	-6.58	125.31	128.60
1	EA	2253	G	C8-N9-C4	-6.58	103.77	106.40
1	EA	1083	U	N3-C2-O2	-6.58	117.60	122.20
1	AA	1269	A	C5-C6-N1	-6.57	114.41	117.70
33	HA	27	G	C8-N9-C4	-6.57	103.77	106.40
1	CA	1263	U	C6-N1-C2	-6.57	117.06	121.00
33	DA	1364	U	N1-C2-O2	6.56	127.39	122.80
33	FA	1030	U	O4'-C1'-N1	6.56	113.45	108.20
1	AA	911	A	N1-C6-N6	6.56	122.53	118.60
1	CA	2700	A	N9-C4-C5	-6.56	103.18	105.80
1	EA	1190	G	C4-C5-N7	6.56	113.42	110.80
32	E5	59	LEU	C-N-CA	6.56	138.09	121.70
33	HA	1299	A	C5-C6-N6	-6.55	118.46	123.70
1	GA	1382	G	O5'-P-OP1	6.55	118.56	110.70
1	AA	2888	C	C6-N1-C2	-6.55	117.68	120.30
32	A5	84	TYR	C-N-CA	6.55	138.08	121.70
1	CA	1963	U	N1-C2-O2	6.55	127.39	122.80
1	EA	1080	A	OP1-P-OP2	6.55	129.42	119.60
1	EA	1694	C	C6-N1-C2	-6.55	117.68	120.30
1	CA	465	G	N3-C4-C5	-6.54	125.33	128.60
33	FA	328	C	N3-C2-O2	-6.54	117.32	121.90
1	GA	2887	A	N1-C6-N6	6.54	122.52	118.60
1	GA	2452	C	C5-C4-N4	-6.54	115.62	120.20
32	A5	147	SER	C-N-CA	6.54	138.04	121.70
33	FA	339	C	C6-N1-C2	-6.53	117.69	120.30
1	AA	1656	C	C6-N1-C2	-6.53	117.69	120.30
13	EM	70	ASP	CB-CG-OD1	6.53	124.17	118.30
1	GA	678	C	C6-N1-C2	6.53	122.91	120.30
1	CA	974	G	C5-C6-O6	-6.52	124.69	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	967	U	N3-C4-C5	-6.52	110.69	114.60
1	EA	2517	C	O4'-C1'-N1	6.52	113.42	108.20
1	GA	752	A	N9-C4-C5	-6.52	103.19	105.80
1	GA	1264	A	O5'-P-OP1	-6.52	99.83	105.70
1	EA	801	G	C8-N9-C4	-6.52	103.79	106.40
1	EA	2146	C	P-O3'-C3'	6.52	127.52	119.70
1	GA	2281	A	C8-N9-C4	6.52	108.41	105.80
33	DA	557	G	N3-C4-N9	6.52	129.91	126.00
1	AA	116	C	O5'-P-OP2	-6.51	99.84	105.70
1	EA	493	G	N1-C6-O6	6.51	123.81	119.90
33	DA	177	G	N3-C4-C5	-6.51	125.34	128.60
1	CA	2893	A	N1-C6-N6	6.51	122.51	118.60
1	AA	2772	C	N1-C2-O2	-6.51	115.00	118.90
1	EA	520	G	C8-N9-C4	-6.51	103.80	106.40
1	GA	1925	C	O5'-P-OP2	-6.51	99.84	105.70
1	AA	2544	G	C4-C5-N7	6.51	113.40	110.80
32	A5	40	GLU	C-N-CA	6.50	137.96	121.70
1	CA	546	U	C2-N1-C1'	6.50	125.50	117.70
1	EA	972	A	C4-C5-N7	6.50	113.95	110.70
1	EA	2676	C	N3-C4-C5	6.50	124.50	121.90
33	FA	733	G	N1-C6-O6	6.50	123.80	119.90
1	AA	670	A	O4'-C1'-N9	-6.50	103.00	108.20
1	AA	1394	U	N3-C2-O2	-6.49	117.66	122.20
33	BA	914	A	O5'-P-OP1	-6.49	99.86	105.70
1	CA	744	U	O5'-P-OP2	-6.49	99.86	105.70
1	EA	253	C	N3-C4-C5	6.49	124.50	121.90
1	EA	731	C	C6-N1-C2	-6.49	117.70	120.30
1	EA	2446	G	C8-N9-C4	6.49	109.00	106.40
2	EB	66	A	C4-C5-N7	6.49	113.94	110.70
1	AA	570	G	C4-C5-C6	6.48	122.69	118.80
1	EA	935	C	N1-C2-O2	-6.48	115.01	118.90
1	AA	57	C	C6-N1-C2	-6.48	117.71	120.30
1	EA	1662	U	N1-C2-O2	-6.48	118.27	122.80
33	BA	328	C	C2-N1-C1'	6.47	125.92	118.80
1	AA	2047	C	N3-C2-O2	6.47	126.43	121.90
1	AA	2482	A	C2-N3-C4	-6.47	107.37	110.60
1	GA	533	G	O5'-P-OP1	-6.47	99.88	105.70
1	CA	1313	U	C2-N1-C1'	6.46	125.45	117.70
1	EA	1250	G	O4'-C1'-N9	-6.46	103.03	108.20
1	AA	2437	G	C8-N9-C4	-6.46	103.82	106.40
1	GA	752	A	C6-C5-N7	-6.46	127.78	132.30
1	EA	2719	G	C5-C6-N1	-6.45	108.27	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	FA	355	C	O5'-P-OP1	-6.45	99.90	105.70
1	CA	2032	G	N3-C4-C5	6.44	131.82	128.60
1	AA	2505	G	N1-C2-N2	-6.44	110.40	116.20
1	CA	2061	G	C5-C6-N1	-6.44	108.28	111.50
1	GA	974	G	C8-N9-C4	-6.44	103.82	106.40
1	EA	2506	U	N1-C2-O2	6.44	127.31	122.80
1	GA	1984	G	O5'-P-OP2	-6.44	99.91	105.70
1	AA	2732	G	N3-C4-C5	-6.43	125.38	128.60
1	CA	2202	U	C5-C4-O4	6.43	129.76	125.90
1	EA	575	A	O5'-P-OP1	-6.43	99.91	105.70
33	FA	89	U	O4'-C1'-N1	6.43	113.35	108.20
1	AA	2447	G	N9-C4-C5	-6.43	102.83	105.40
32	E5	28	ALA	C-N-CA	6.43	137.78	121.70
33	BA	1001	C	C5-C6-N1	6.43	124.21	121.00
1	EA	447	A	N1-C6-N6	6.43	122.46	118.60
1	EA	520	G	N9-C4-C5	6.43	107.97	105.40
1	AA	1252	G	C4-C5-N7	-6.42	108.23	110.80
1	CA	1030	C	C5-C6-N1	-6.42	117.79	121.00
1	EA	790	U	O5'-P-OP1	6.42	118.41	110.70
1	EA	987	C	N1-C2-O2	-6.42	115.05	118.90
1	GA	654	A	C2-N3-C4	6.42	113.81	110.60
1	GA	795	C	O5'-P-OP1	-6.42	99.92	105.70
1	EA	372	G	C5-C6-O6	-6.42	124.75	128.60
1	EA	2064	C	N1-C2-O2	6.42	122.75	118.90
1	GA	1311	G	C8-N9-C4	-6.42	103.83	106.40
1	EA	570	G	C5-C6-O6	-6.42	124.75	128.60
1	EA	733	G	N1-C6-O6	6.42	123.75	119.90
1	CA	1713	A	N1-C6-N6	6.42	122.45	118.60
33	HA	485	U	N3-C2-O2	-6.41	117.71	122.20
33	HA	1031	C	C6-N1-C2	-6.41	117.73	120.30
1	GA	2508	G	N9-C4-C5	6.41	107.97	105.40
1	CA	528	A	C2-N3-C4	-6.41	107.39	110.60
1	AA	2243	U	O5'-P-OP1	-6.41	99.94	105.70
1	EA	268	C	N3-C4-N4	6.41	122.48	118.00
1	EA	846	U	P-O3'-C3'	6.41	127.39	119.70
1	EA	1407	G	C5-C6-O6	-6.41	124.76	128.60
32	E5	53	ARG	C-N-CA	6.41	137.71	121.70
1	AA	776	G	C5-C6-N1	-6.40	108.30	111.50
1	CA	2553	G	N3-C4-N9	6.40	129.84	126.00
1	EA	404	A	P-O3'-C3'	6.40	127.38	119.70
1	GA	2455	G	N3-C4-C5	-6.40	125.40	128.60
1	EA	1730	C	C2-N1-C1'	-6.40	111.76	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	542	C	N3-C4-C5	-6.39	119.34	121.90
33	BA	890	G	O5'-P-OP1	6.39	118.37	110.70
23	EW	41	GLY	N-CA-C	-6.39	97.12	113.10
1	AA	2588	G	N9-C4-C5	6.39	107.95	105.40
33	FA	1526	G	C6-C5-N7	-6.39	126.57	130.40
33	DA	1228	C	N1-C2-O2	6.38	122.73	118.90
1	AA	2434	A	OP2-P-O3'	6.38	119.24	105.20
1	CA	2224	G	N1-C6-O6	6.38	123.73	119.90
33	DA	250	A	P-O3'-C3'	6.38	127.35	119.70
1	AA	2616	C	O5'-P-OP1	-6.38	99.96	105.70
1	CA	783	A	C2-N3-C4	-6.38	107.41	110.60
1	AA	548	G	C8-N9-C4	-6.37	103.85	106.40
1	EA	46	G	O5'-P-OP1	6.37	118.35	110.70
33	DA	1364	U	N3-C2-O2	-6.37	117.74	122.20
1	EA	2449	U	N3-C2-O2	-6.37	117.74	122.20
1	CA	2516	A	N1-C6-N6	-6.37	114.78	118.60
33	DA	1086	U	N3-C2-O2	-6.37	117.74	122.20
1	EA	1131	G	OP1-P-O3'	6.37	119.21	105.20
1	CA	1025	G	P-O3'-C3'	6.37	127.34	119.70
33	DA	435	A	C8-N9-C4	-6.36	103.25	105.80
1	EA	1936	A	C2-N3-C4	-6.36	107.42	110.60
32	E5	84	TYR	C-N-CA	6.36	137.60	121.70
1	CA	2354	C	C6-N1-C2	-6.36	117.76	120.30
1	EA	2061	G	N3-C4-N9	6.36	129.81	126.00
1	GA	2436	G	N9-C4-C5	6.35	107.94	105.40
33	HA	947	G	N1-C6-O6	6.35	123.71	119.90
33	FA	1526	G	N1-C6-O6	6.34	123.71	119.90
33	HA	1307	U	C5-C6-N1	6.34	125.87	122.70
1	CA	431	U	C6-N1-C2	-6.34	117.19	121.00
1	AA	1670	C	N1-C2-O2	-6.34	115.10	118.90
1	GA	1938	A	O4'-C1'-N9	6.33	113.27	108.20
1	AA	466	A	N1-C6-N6	6.33	122.40	118.60
1	EA	783	A	C6-C5-N7	-6.33	127.87	132.30
1	GA	2147	A	O4'-C1'-N9	-6.33	103.14	108.20
1	EA	776	G	C4-N9-C1'	6.33	134.73	126.50
1	GA	2006	C	C5-C6-N1	6.33	124.17	121.00
1	EA	1746	A	N1-C6-N6	6.33	122.40	118.60
1	EA	1025	G	P-O3'-C3'	6.33	127.29	119.70
1	EA	260	G	N1-C6-O6	-6.32	116.11	119.90
1	EA	545	U	C5-C6-N1	6.32	125.86	122.70
1	EA	2544	G	C5-C6-O6	-6.32	124.81	128.60
33	HA	1304	G	C8-N9-C4	-6.32	103.87	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	808	G	N3-C4-N9	6.32	129.79	126.00
32	E5	108	VAL	CG1-CB-CG2	6.31	121.00	110.90
1	GA	1352	U	O5'-P-OP2	-6.31	100.02	105.70
1	GA	2067	G	C5-C6-O6	6.31	132.39	128.60
1	CA	527	C	N1-C2-O2	6.30	122.68	118.90
1	EA	546	U	O4'-C1'-N1	6.30	113.24	108.20
33	FA	361	G	O5'-P-OP1	-6.30	100.03	105.70
1	CA	1190	G	C5-N7-C8	-6.30	101.15	104.30
1	EA	2076	U	OP2-P-O3'	6.30	119.06	105.20
1	GA	2307	G	C5-C6-O6	-6.30	124.82	128.60
1	CA	1378	A	P-O3'-C3'	6.30	127.26	119.70
1	GA	1473	G	N1-C6-O6	-6.29	116.12	119.90
1	GA	2717	C	N1-C2-O2	6.29	122.68	118.90
1	EA	946	C	N1-C2-O2	-6.29	115.13	118.90
1	AA	1094	U	C6-N1-C2	-6.29	117.23	121.00
1	CA	1685	C	C6-N1-C2	-6.29	117.78	120.30
1	EA	732	C	N3-C4-C5	-6.29	119.39	121.90
1	EA	2765	A	O5'-P-OP1	-6.28	100.05	105.70
17	EQ	29	ARG	NE-CZ-NH2	-6.28	117.16	120.30
1	AA	237	C	N3-C4-N4	6.27	122.39	118.00
1	AA	2440	C	N3-C2-O2	-6.27	117.51	121.90
33	FA	481	G	N9-C4-C5	-6.27	102.89	105.40
41	HI	57	MET	CG-SD-CE	6.27	110.23	100.20
1	AA	793	A	O5'-P-OP2	-6.27	100.06	105.70
1	GA	62	U	C2-N1-C1'	6.27	125.22	117.70
33	BA	485	U	O5'-P-OP1	-6.27	100.06	105.70
33	BA	779	C	C6-N1-C2	-6.27	117.79	120.30
33	FA	1279	G	O4'-C1'-N9	-6.27	103.19	108.20
1	AA	1956	U	N3-C2-O2	-6.27	117.81	122.20
1	EA	2250	G	C8-N9-C4	-6.27	103.89	106.40
1	EA	1935	G	C8-N9-C4	-6.26	103.89	106.40
1	EA	2518	A	O4'-C1'-N9	-6.26	103.19	108.20
1	GA	1476	U	C5-C4-O4	-6.26	122.14	125.90
1	AA	1029	A	O5'-P-OP1	-6.26	100.07	105.70
33	DA	207	C	N3-C2-O2	-6.26	117.52	121.90
1	GA	1931	U	O5'-P-OP1	-6.25	100.07	105.70
1	AA	2050	C	O5'-P-OP2	-6.25	100.08	105.70
1	CA	1349	C	O5'-P-OP1	6.25	118.20	110.70
1	EA	2241	A	N9-C4-C5	6.25	108.30	105.80
1	GA	663	G	N1-C6-O6	6.24	123.65	119.90
1	GA	752	A	C5-N7-C8	-6.24	100.78	103.90
1	GA	2508	G	C4-C5-N7	-6.24	108.30	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	783	A	C4-C5-N7	6.24	113.82	110.70
12	AL	19	LEU	CA-CB-CG	6.24	129.64	115.30
1	EA	493	G	C5-C6-O6	-6.23	124.86	128.60
1	CA	34	U	O4'-C1'-N1	-6.23	103.22	108.20
1	CA	404	A	P-O3'-C3'	6.23	127.17	119.70
1	GA	1779	U	C5-C6-N1	-6.23	119.59	122.70
1	CA	1422	G	N1-C6-O6	6.23	123.64	119.90
33	DA	62	U	C5-C4-O4	6.22	129.63	125.90
1	EA	2442	C	N1-C2-O2	-6.22	115.17	118.90
1	EA	971	G	C5-C6-N1	-6.22	108.39	111.50
1	CA	1989	G	C8-N9-C4	-6.22	103.91	106.40
33	BA	135	C	C6-N1-C2	6.22	122.79	120.30
1	EA	213	A	N1-C6-N6	6.22	122.33	118.60
1	AA	2204	G	C5-C6-O6	-6.21	124.87	128.60
1	EA	733	G	C6-C5-N7	-6.21	126.67	130.40
1	CA	2645	G	O5'-P-OP2	-6.21	100.11	105.70
33	FA	53	A	C8-N9-C4	-6.21	103.32	105.80
1	EA	670	A	O4'-C1'-N9	-6.20	103.24	108.20
1	CA	271	G	P-O3'-C3'	6.20	127.14	119.70
1	AA	1189	A	C5-C6-N1	-6.20	114.60	117.70
1	EA	978	G	N3-C4-N9	6.20	129.72	126.00
1	GA	1072	C	N1-C2-O2	6.20	122.62	118.90
1	CA	1083	U	N3-C2-O2	-6.20	117.86	122.20
1	EA	578	G	N1-C6-O6	6.20	123.62	119.90
33	BA	1322	C	N1-C2-O2	6.20	122.62	118.90
1	GA	263	G	O5'-P-OP2	-6.20	100.12	105.70
1	AA	1364	G	N3-C4-C5	6.19	131.70	128.60
1	EA	1287	A	C8-N9-C4	-6.19	103.32	105.80
1	AA	1252	G	N9-C4-C5	6.19	107.88	105.40
33	FA	461	A	C2-N3-C4	6.18	113.69	110.60
32	E5	40	GLU	C-N-CA	6.18	137.15	121.70
1	CA	1943	U	N3-C4-O4	-6.18	115.07	119.40
1	AA	855	G	C8-N9-C4	-6.18	103.93	106.40
1	AA	2253	G	C5-C6-O6	-6.18	124.89	128.60
1	CA	2336	A	N1-C6-N6	-6.17	114.89	118.60
32	E5	39	THR	C-N-CA	6.17	137.13	121.70
1	AA	774	G	N3-C4-C5	-6.17	125.51	128.60
1	CA	995	C	O4'-C1'-N1	-6.17	103.26	108.20
1	CA	2336	A	C5-C6-N6	6.17	128.64	123.70
33	BA	739	C	O5'-P-OP1	-6.17	100.15	105.70
1	GA	808	G	N9-C4-C5	-6.17	102.93	105.40
1	AA	1385	A	O4'-C1'-N9	6.17	113.14	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1556	C	O5'-P-OP2	-6.17	100.15	105.70
1	EA	569	U	N1-C2-O2	-6.17	118.48	122.80
1	GA	2448	A	N1-C6-N6	6.17	122.30	118.60
1	GA	783	A	C4-C5-N7	6.17	113.78	110.70
33	FA	880	C	O5'-P-OP2	-6.16	100.15	105.70
1	AA	1066	U	N1-C2-O2	6.16	127.11	122.80
33	HA	1012	A	C8-N9-C4	-6.16	103.34	105.80
1	AA	784	G	O5'-P-OP1	-6.16	100.16	105.70
1	EA	782	A	O5'-P-OP2	-6.16	100.16	105.70
1	EA	2498	C	C2-N3-C4	-6.16	116.82	119.90
1	AA	2250	G	C2-N3-C4	-6.15	108.82	111.90
1	EA	431	U	N3-C4-O4	6.15	123.71	119.40
1	EA	677	A	OP1-P-O3'	6.15	118.73	105.20
1	AA	1534	U	N3-C2-O2	-6.15	117.89	122.20
1	CA	2054	A	C8-N9-C4	-6.15	103.34	105.80
1	GA	2577	A	O5'-P-OP2	-6.15	100.16	105.70
1	EA	542	C	C6-N1-C2	-6.15	117.84	120.30
33	DA	244	U	N3-C2-O2	-6.14	117.90	122.20
1	CA	1027	A	C6-C5-N7	-6.14	128.00	132.30
1	CA	1617	C	O5'-P-OP2	-6.14	100.17	105.70
1	AA	1088	A	P-O3'-C3'	6.14	127.07	119.70
1	EA	549	G	N3-C4-N9	6.14	129.69	126.00
1	EA	841	G	N1-C6-O6	6.14	123.58	119.90
1	AA	1648	U	N3-C2-O2	6.14	126.50	122.20
1	GA	2495	G	N1-C6-O6	6.14	123.58	119.90
1	AA	2440	C	N1-C2-O2	6.13	122.58	118.90
1	AA	2902	C	P-O3'-C3'	6.13	127.06	119.70
33	FA	1032	G	C8-N9-C1'	-6.13	119.02	127.00
1	EA	470	A	O5'-P-OP2	6.13	118.06	110.70
1	GA	1478	G	N3-C2-N2	-6.13	115.61	119.90
1	AA	1174	U	O4'-C1'-N1	6.13	113.10	108.20
1	CA	869	G	N1-C6-O6	6.13	123.58	119.90
1	GA	512	G	O4'-C1'-N9	6.13	113.10	108.20
1	AA	1779	U	C5-C4-O4	6.13	129.58	125.90
1	EA	1902	C	C6-N1-C2	6.13	122.75	120.30
1	GA	829	A	C2-N3-C4	-6.13	107.54	110.60
1	CA	654	A	N3-C4-C5	-6.12	122.51	126.80
2	CB	99	A	O5'-P-OP1	-6.12	100.19	105.70
1	AA	2867	G	O5'-P-OP2	6.12	118.05	110.70
1	CA	2423	U	P-O3'-C3'	6.12	127.05	119.70
1	CA	1606	C	C2-N1-C1'	6.12	125.53	118.80
1	CA	1422	G	C6-C5-N7	-6.11	126.73	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1762	A	N9-C4-C5	-6.10	103.36	105.80
1	AA	528	A	C5-N7-C8	-6.10	100.85	103.90
1	CA	1087	G	P-O3'-C3'	6.10	127.02	119.70
1	GA	2447	G	N1-C6-O6	6.10	123.56	119.90
1	EA	1930	G	C4-N9-C1'	-6.09	118.58	126.50
1	GA	2534	A	N1-C6-N6	6.09	122.26	118.60
1	CA	2719	G	C5-C6-N1	-6.09	108.45	111.50
1	CA	533	G	N3-C2-N2	-6.09	115.64	119.90
1	GA	1943	U	N3-C4-O4	-6.09	115.14	119.40
1	GA	2599	G	C4-C5-N7	-6.09	108.36	110.80
33	HA	1334	G	N3-C4-N9	6.09	129.65	126.00
1	EA	786	C	OP2-P-O3'	6.09	118.59	105.20
16	AP	52	ARG	NE-CZ-NH2	-6.09	117.26	120.30
33	BA	1099	G	C5-C6-O6	6.09	132.25	128.60
1	EA	248	G	C5-C6-O6	-6.09	124.95	128.60
1	EA	501	A	O5'-P-OP2	-6.09	100.22	105.70
1	EA	2228	G	N1-C6-O6	6.09	123.55	119.90
1	GA	2571	U	C5-C4-O4	-6.09	122.25	125.90
1	AA	1073	A	C4-N9-C1'	-6.08	115.35	126.30
1	EA	2503	A	C5-C6-N6	-6.08	118.83	123.70
1	CA	470	A	OP1-P-OP2	-6.08	110.47	119.60
1	CA	1365	A	OP2-P-O3'	6.08	118.58	105.20
1	EA	1789	A	OP1-P-OP2	-6.08	110.48	119.60
33	FA	733	G	N3-C4-C5	6.08	131.64	128.60
1	GA	1087	G	C8-N9-C4	-6.08	103.97	106.40
1	AA	528	A	C2-N3-C4	-6.08	107.56	110.60
1	EA	2506	U	N3-C2-O2	-6.08	117.94	122.20
1	AA	2139	U	C5-C4-O4	-6.08	122.25	125.90
1	EA	694	U	O5'-P-OP2	-6.08	100.23	105.70
1	GA	119	A	P-O3'-C3'	6.08	126.99	119.70
1	GA	2073	C	C6-N1-C2	-6.08	117.87	120.30
1	CA	1088	A	O5'-P-OP1	6.08	117.99	110.70
1	EA	264	C	O5'-P-OP2	-6.08	100.23	105.70
1	AA	1142	A	N3-C4-C5	6.07	131.05	126.80
1	EA	1779	U	C2-N1-C1'	-6.07	110.41	117.70
1	EA	2391	G	O4'-C1'-N9	6.07	113.06	108.20
33	HA	206	C	C6-N1-C2	-6.07	117.87	120.30
1	AA	2614	A	N1-C6-N6	6.07	122.24	118.60
1	EA	776	G	C5-C6-N1	-6.07	108.46	111.50
1	AA	2505	G	N3-C4-N9	6.07	129.64	126.00
1	AA	974	G	C4-N9-C1'	6.07	134.38	126.50
1	CA	2551	C	OP2-P-O3'	6.07	118.54	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	2509	G	C2-N3-C4	-6.07	108.87	111.90
1	AA	1305	C	C6-N1-C2	-6.06	117.88	120.30
32	A5	60	LEU	CB-CG-CD2	6.06	121.31	111.00
1	CA	2686	G	OP2-P-O3'	6.06	118.52	105.20
33	BA	496	A	O4'-C1'-N9	6.05	113.04	108.20
1	EA	264	C	O5'-P-OP1	6.05	117.97	110.70
1	EA	2503	A	N1-C6-N6	6.05	122.23	118.60
1	AA	2645	G	O4'-C1'-N9	6.05	113.04	108.20
1	EA	685	A	C8-N9-C4	-6.05	103.38	105.80
1	EA	2076	U	N1-C2-O2	6.05	127.04	122.80
1	EA	374	A	N1-C6-N6	6.05	122.23	118.60
1	GA	2022	U	N1-C2-N3	-6.05	111.27	114.90
1	GA	2360	G	C6-C5-N7	-6.05	126.77	130.40
1	CA	793	A	N9-C4-C5	-6.05	103.38	105.80
1	EA	987	C	C6-N1-C2	-6.05	117.88	120.30
1	AA	2020	A	N1-C6-N6	6.05	122.23	118.60
1	AA	2253	G	C6-C5-N7	-6.05	126.77	130.40
1	AA	2505	G	N3-C4-C5	-6.05	125.58	128.60
1	CA	933	A	C8-N9-C4	-6.05	103.38	105.80
1	GA	1606	C	P-O3'-C3'	6.05	126.96	119.70
32	A5	54	VAL	CG1-CB-CG2	6.04	120.57	110.90
1	GA	271	G	OP1-P-O3'	6.04	118.50	105.20
1	AA	2748	A	OP1-P-OP2	-6.04	110.54	119.60
1	EA	587	C	O5'-P-OP1	-6.04	100.26	105.70
1	EA	2595	G	N1-C6-O6	-6.04	116.28	119.90
1	EA	2788	C	N3-C2-O2	-6.04	117.67	121.90
1	AA	2505	G	N3-C2-N2	6.04	124.13	119.90
33	BA	728	A	N1-C6-N6	-6.04	114.98	118.60
33	FA	903	G	C6-C5-N7	-6.04	126.78	130.40
33	BA	686	U	O4'-C1'-N1	6.04	113.03	108.20
41	DI	68	LYS	CD-CE-NZ	6.04	125.58	111.70
1	AA	677	A	OP1-P-O3'	6.03	118.47	105.20
1	CA	583	G	N1-C6-O6	6.03	123.52	119.90
1	EA	1003	G	C8-N9-C4	-6.03	103.99	106.40
1	GA	1831	G	C8-N9-C4	-6.03	103.99	106.40
33	HA	578	C	N1-C2-O2	-6.03	115.28	118.90
1	CA	1049	C	C6-N1-C2	6.03	122.71	120.30
1	EA	2579	C	N1-C2-O2	6.03	122.52	118.90
1	GA	772	C	N1-C2-O2	-6.03	115.28	118.90
1	AA	1394	U	N1-C2-O2	6.03	127.02	122.80
1	CA	336	C	C6-N1-C2	-6.03	117.89	120.30
1	EA	2377	A	O5'-P-OP1	-6.03	100.28	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	2428	G	O5'-P-OP2	-6.03	100.28	105.70
1	EA	995	C	O4'-C1'-N1	-6.03	103.38	108.20
33	FA	1032	G	N3-C4-N9	6.02	129.62	126.00
1	AA	1724	G	C4-N9-C1'	6.02	134.33	126.50
1	CA	2146	C	N1-C2-O2	6.02	122.51	118.90
25	GY	62	GLY	N-CA-C	6.02	128.15	113.10
1	EA	2584	U	N3-C2-O2	6.02	126.41	122.20
1	EA	473	G	O5'-P-OP2	-6.01	100.29	105.70
1	AA	1737	G	C8-N9-C4	-6.01	104.00	106.40
1	EA	984	A	C6-N1-C2	6.01	122.21	118.60
33	FA	1201	A	P-O3'-C3'	6.01	126.92	119.70
33	HA	5	U	C5-C4-O4	-6.01	122.29	125.90
1	EA	248	G	C8-N9-C4	6.01	108.80	106.40
1	CA	1951	U	N3-C2-O2	6.01	126.41	122.20
1	EA	195	A	O5'-P-OP2	-6.00	100.30	105.70
1	EA	1025	G	C8-N9-C4	-6.00	104.00	106.40
33	FA	1279	G	N1-C6-O6	6.00	123.50	119.90
1	CA	1475	G	P-O3'-C3'	6.00	126.91	119.70
33	FA	857	C	C6-N1-C2	-6.00	117.90	120.30
1	EA	941	A	O5'-P-OP1	-6.00	100.30	105.70
33	DA	1054	C	N1-C2-O2	-6.00	115.30	118.90
1	AA	2544	G	C8-N9-C1'	-6.00	119.20	127.00
1	EA	469	G	O5'-P-OP1	-6.00	100.31	105.70
1	GA	1478	G	N1-C6-O6	5.99	123.50	119.90
32	A5	59	LEU	C-N-CA	5.99	136.68	121.70
33	HA	485	U	N1-C2-O2	5.99	126.99	122.80
1	CA	785	G	O5'-P-OP1	-5.99	100.31	105.70
1	CA	1157	G	N1-C6-O6	5.99	123.50	119.90
1	EA	2581	G	N3-C4-N9	5.99	129.59	126.00
1	GA	1062	G	N3-C4-C5	-5.99	125.61	128.60
1	GA	2508	G	N3-C4-N9	-5.99	122.41	126.00
1	GA	2465	C	OP2-P-O3'	5.99	118.38	105.20
1	EA	839	U	C5-C4-O4	5.99	129.49	125.90
1	GA	2254	C	O5'-P-OP1	-5.99	100.31	105.70
1	GA	2107	G	P-O3'-C3'	5.99	126.88	119.70
43	HK	122	ARG	NE-CZ-NH2	-5.99	117.31	120.30
33	BA	1515	G	N1-C6-O6	5.98	123.49	119.90
1	CA	2544	G	C4-C5-C6	5.98	122.39	118.80
1	EA	1730	C	C5-C6-N1	-5.98	118.01	121.00
1	AA	205	G	O4'-C1'-N9	5.98	112.98	108.20
1	AA	991	C	C6-N1-C2	-5.98	117.91	120.30
1	CA	2517	C	O4'-C1'-N1	5.98	112.98	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	1356	G	O5'-P-OP2	5.98	117.87	110.70
1	GA	1383	A	O4'-C1'-N9	5.98	112.98	108.20
33	HA	328	C	N1-C2-O2	5.98	122.49	118.90
33	DA	328	C	C2-N1-C1'	5.98	125.37	118.80
1	AA	2076	U	N3-C2-O2	-5.97	118.02	122.20
32	A5	39	THR	C-N-CA	5.97	136.63	121.70
1	EA	527	C	C2-N1-C1'	5.97	125.37	118.80
1	GA	1620	G	N1-C6-O6	5.97	123.48	119.90
3	GC	233	GLY	N-CA-C	-5.97	98.17	113.10
1	EA	361	G	N1-C6-O6	5.97	123.48	119.90
1	EA	752	A	O4'-C1'-N9	5.97	112.98	108.20
1	EA	776	G	C4-C5-N7	-5.97	108.41	110.80
1	AA	2053	G	O5'-P-OP2	5.97	117.87	110.70
1	EA	2017	U	C6-N1-C2	-5.97	117.42	121.00
1	GA	776	G	C5-C6-N1	-5.97	108.52	111.50
1	GA	2060	A	OP1-P-O3'	5.97	118.33	105.20
33	HA	1087	G	C4-C5-C6	5.97	122.38	118.80
1	CA	2030	A	N9-C4-C5	5.97	108.19	105.80
1	AA	2423	U	P-O3'-C3'	5.97	126.86	119.70
1	AA	2719	G	C5-C6-N1	-5.97	108.52	111.50
1	CA	1452	G	C6-C5-N7	-5.97	126.82	130.40
1	EA	669	G	N9-C4-C5	5.97	107.79	105.40
1	EA	802	A	O5'-P-OP2	-5.96	100.33	105.70
1	EA	2524	G	OP2-P-O3'	5.96	118.32	105.20
1	AA	531	C	N3-C2-O2	-5.96	117.73	121.90
1	AA	119	A	P-O3'-C3'	5.96	126.85	119.70
1	EA	1665	A	O5'-P-OP1	-5.96	100.34	105.70
33	FA	995	C	C6-N1-C2	5.96	122.68	120.30
1	CA	2455	G	N3-C4-C5	-5.96	125.62	128.60
33	DA	401	C	C6-N1-C2	-5.96	117.92	120.30
1	EA	818	G	C8-N9-C4	-5.96	104.02	106.40
1	EA	2332	C	N3-C4-C5	5.96	124.28	121.90
1	GA	1824	G	C5-C6-O6	5.96	132.17	128.60
54	HV	93	VAL	N-CA-C	-5.96	94.92	111.00
2	AB	63	C	C6-N1-C2	5.95	122.68	120.30
1	GA	272	A	O4'-C1'-N9	5.95	112.96	108.20
1	GA	812	C	N1-C2-O2	-5.95	115.33	118.90
1	AA	2146	C	C2-N1-C1'	5.95	125.34	118.80
33	FA	1530	G	C4-N9-C1'	-5.95	118.77	126.50
1	AA	797	G	OP1-P-O3'	5.95	118.28	105.20
3	AC	12	ARG	NE-CZ-NH1	5.94	123.27	120.30
1	CA	2020	A	C8-N9-C4	-5.94	103.42	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2516	A	C5-C6-N6	5.94	128.45	123.70
2	EB	36	C	C6-N1-C2	5.93	122.67	120.30
1	AA	1073	A	C8-N9-C4	5.93	108.17	105.80
2	EB	66	A	C5-C6-N1	-5.93	114.74	117.70
1	GA	2323	G	N1-C6-O6	5.93	123.46	119.90
1	CA	834	G	N3-C2-N2	-5.92	115.75	119.90
1	CA	132	G	N1-C6-O6	5.92	123.45	119.90
1	AA	2864	G	N1-C6-O6	-5.92	116.35	119.90
1	EA	1027	A	C4-C5-C6	5.92	119.96	117.00
33	DA	913	A	P-O3'-C3'	5.92	126.80	119.70
1	EA	1931	U	N3-C4-O4	5.92	123.54	119.40
33	FA	1279	G	C8-N9-C4	-5.92	104.03	106.40
1	GA	1509	A	P-O3'-C3'	5.92	126.80	119.70
1	EA	271	G	P-O3'-C3'	5.92	126.80	119.70
33	HA	639	G	C8-N9-C4	-5.92	104.03	106.40
1	EA	2575	C	N3-C4-C5	5.92	124.27	121.90
1	EA	586	A	O5'-P-OP1	-5.91	100.38	105.70
1	AA	559	G	N1-C6-O6	5.91	123.44	119.90
1	AA	1088	A	O4'-C1'-N9	-5.91	103.47	108.20
1	CA	793	A	C8-N9-C4	5.91	108.16	105.80
1	EA	1378	A	P-O3'-C3'	5.91	126.79	119.70
33	BA	768	A	O5'-P-OP1	-5.91	100.39	105.70
1	GA	2038	G	N1-C6-O6	5.90	123.44	119.90
33	HA	1086	U	C6-N1-C2	-5.90	117.46	121.00
1	GA	2455	G	N3-C4-N9	5.90	129.54	126.00
1	CA	1673	G	C8-N9-C4	5.90	108.76	106.40
1	EA	1999	C	OP2-P-O3'	5.90	118.18	105.20
10	EJ	140	LEU	CA-CB-CG	5.90	128.87	115.30
1	CA	117	G	O5'-P-OP1	5.90	117.78	110.70
1	CA	1190	G	C4-C5-N7	5.90	113.16	110.80
1	EA	375	G	C6-C5-N7	-5.90	126.86	130.40
1	EA	1030	C	N1-C2-O2	-5.90	115.36	118.90
1	EA	141	G	N3-C4-C5	-5.89	125.65	128.60
1	CA	583	G	C4-C5-N7	5.89	113.16	110.80
1	AA	1475	G	P-O3'-C3'	5.89	126.77	119.70
1	GA	2772	C	C6-N1-C2	-5.89	117.94	120.30
1	GA	404	A	P-O3'-C3'	5.89	126.76	119.70
1	CA	1263	U	N3-C4-C5	-5.88	111.07	114.60
1	CA	1857	G	P-O3'-C3'	5.88	126.76	119.70
1	EA	88	G	C5-C6-O6	5.88	132.13	128.60
1	EA	198	C	C2-N3-C4	-5.88	116.96	119.90
1	EA	1447	C	C6-N1-C2	-5.88	117.95	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	1452	G	C5-N7-C8	-5.88	101.36	104.30
1	CA	442	G	C8-N9-C4	-5.88	104.05	106.40
1	EA	790	U	C2-N1-C1'	5.88	124.76	117.70
1	EA	2723	C	N3-C4-N4	-5.88	113.88	118.00
1	AA	336	C	C6-N1-C2	-5.88	117.95	120.30
1	AA	1823	G	O5'-P-OP1	-5.88	100.41	105.70
1	CA	2146	C	N3-C2-O2	-5.88	117.79	121.90
1	AA	2544	G	N7-C8-N9	5.88	116.04	113.10
1	EA	1520	U	C6-N1-C2	-5.88	117.47	121.00
33	BA	882	C	N1-C2-O2	-5.88	115.38	118.90
1	EA	2042	A	O5'-P-OP2	-5.88	100.41	105.70
33	DA	1405	G	O5'-P-OP1	-5.87	100.41	105.70
33	FA	945	G	N1-C6-O6	5.87	123.42	119.90
1	GA	2204	G	N1-C6-O6	5.87	123.42	119.90
1	EA	62	U	C6-N1-C1'	-5.87	112.98	121.20
1	EA	308	G	C5-C6-O6	-5.87	125.08	128.60
1	GA	2447	G	C8-N9-C4	5.87	108.75	106.40
1	AA	404	A	P-O3'-C3'	5.87	126.74	119.70
1	EA	2308	G	O4'-C1'-N9	-5.87	103.50	108.20
1	GA	2006	C	C6-N1-C2	-5.87	117.95	120.30
1	CA	396	G	N1-C6-O6	-5.87	116.38	119.90
33	DA	563	A	O4'-C1'-N9	5.87	112.89	108.20
1	GA	466	A	N1-C6-N6	-5.87	115.08	118.60
1	GA	789	A	C8-N9-C4	5.87	108.15	105.80
1	CA	2621	G	O5'-P-OP1	-5.87	100.42	105.70
1	CA	528	A	N1-C2-N3	5.87	132.23	129.30
33	DA	1178	G	C4-N9-C1'	5.87	134.12	126.50
1	GA	1703	G	C8-N9-C4	-5.87	104.05	106.40
33	FA	975	A	O5'-P-OP2	-5.86	100.42	105.70
1	CA	1025	G	OP2-P-O3'	5.86	118.10	105.20
1	EA	807	U	C6-N1-C2	-5.86	117.48	121.00
1	AA	680	C	C6-N1-C2	-5.86	117.95	120.30
1	EA	1218	G	C8-N9-C4	-5.86	104.06	106.40
1	GA	503	A	C8-N9-C4	-5.86	103.45	105.80
1	GA	1307	A	O5'-P-OP2	5.86	117.73	110.70
1	GA	1779	U	O5'-P-OP1	-5.86	100.43	105.70
1	AA	2610	C	N3-C2-O2	-5.86	117.80	121.90
1	CA	251	A	C2-N3-C4	5.86	113.53	110.60
1	CA	1779	U	O5'-P-OP1	-5.86	100.43	105.70
1	EA	1180	U	C2-N1-C1'	5.86	124.73	117.70
33	FA	1279	G	C5-N7-C8	-5.86	101.37	104.30
1	GA	1675	C	O5'-P-OP2	-5.86	100.43	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1936	A	N1-C2-N3	5.85	132.23	129.30
1	GA	2103	C	C5-C6-N1	5.85	123.93	121.00
1	AA	298	G	N1-C6-O6	5.85	123.41	119.90
1	AA	2142	A	OP2-P-O3'	5.85	118.07	105.20
1	CA	2017	U	N3-C4-O4	5.85	123.50	119.40
1	CA	729	G	C5-C6-O6	-5.85	125.09	128.60
1	CA	789	A	C8-N9-C4	-5.85	103.46	105.80
1	EA	1827	U	C6-N1-C2	-5.85	117.49	121.00
2	AB	37	C	C6-N1-C2	5.84	122.64	120.30
1	AA	352	A	N1-C6-N6	5.84	122.11	118.60
1	CA	1802	A	N1-C6-N6	-5.84	115.09	118.60
1	EA	2607	G	N3-C4-C5	-5.84	125.68	128.60
1	GA	882	G	P-O3'-C3'	5.84	126.71	119.70
33	HA	1279	G	N7-C8-N9	5.84	116.02	113.10
33	BA	1366	C	N1-C2-O2	-5.84	115.39	118.90
1	CA	1102	C	C6-N1-C2	5.84	122.64	120.30
53	DU	34	ARG	NE-CZ-NH2	5.84	123.22	120.30
1	EA	972	A	O5'-P-OP1	5.84	117.71	110.70
1	EA	2055	C	C6-N1-C2	5.84	122.64	120.30
33	FA	1530	G	O4'-C1'-N9	5.84	112.87	108.20
1	GA	855	G	C8-N9-C4	-5.84	104.06	106.40
33	BA	1480	A	N1-C6-N6	5.84	122.10	118.60
33	FA	1203	C	O5'-P-OP2	-5.84	100.45	105.70
1	EA	987	C	N3-C4-N4	5.83	122.08	118.00
33	FA	1114	C	C6-N1-C2	-5.83	117.97	120.30
33	HA	798	U	N3-C2-O2	5.83	126.28	122.20
1	AA	570	G	C8-N9-C4	-5.83	104.07	106.40
1	EA	1061	U	N1-C2-O2	5.83	126.88	122.80
1	EA	1188	U	OP2-P-O3'	5.83	118.03	105.20
1	EA	2885	G	N3-C4-C5	-5.83	125.68	128.60
1	GA	2042	A	N1-C6-N6	5.83	122.10	118.60
1	GA	2825	G	C8-N9-C4	-5.83	104.07	106.40
33	HA	1086	U	N1-C2-O2	5.83	126.88	122.80
1	GA	200	U	C5-C4-O4	5.83	129.40	125.90
1	EA	2508	G	N3-C2-N2	-5.83	115.82	119.90
1	AA	571	U	O4'-C1'-N1	5.83	112.86	108.20
33	BA	485	U	N1-C2-O2	5.83	126.88	122.80
1	EA	1348	C	C6-N1-C2	5.83	122.63	120.30
33	HA	1116	U	O5'-P-OP2	-5.83	100.46	105.70
32	A5	108	VAL	CG1-CB-CG2	5.82	120.22	110.90
1	EA	540	C	N1-C2-O2	-5.82	115.41	118.90
1	AA	2824	C	O5'-P-OP2	-5.82	100.46	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1963	U	C2-N1-C1'	5.82	124.69	117.70
33	HA	115	G	C8-N9-C4	-5.82	104.07	106.40
1	EA	207	A	N3-C4-C5	5.82	130.87	126.80
1	EA	644	A	N1-C6-N6	5.82	122.09	118.60
1	EA	774	G	C5-C6-O6	-5.82	125.11	128.60
1	EA	941	A	C4-C5-C6	-5.81	114.09	117.00
3	EC	109	LEU	CA-CB-CG	5.81	128.67	115.30
1	GA	2027	G	N3-C4-N9	5.81	129.49	126.00
1	CA	372	G	C5-C6-O6	-5.81	125.11	128.60
1	EA	2444	G	N1-C2-N3	5.81	127.39	123.90
1	CA	479	A	P-O3'-C3'	5.81	126.67	119.70
33	DA	251	G	N1-C6-O6	5.81	123.38	119.90
1	EA	1779	U	O4'-C1'-N1	5.81	112.85	108.20
1	CA	1190	G	N3-C2-N2	-5.80	115.84	119.90
1	CA	2608	G	O5'-P-OP2	-5.80	100.48	105.70
1	CA	2747	G	N1-C6-O6	5.80	123.38	119.90
33	DA	244	U	N1-C2-O2	5.80	126.86	122.80
1	CA	2250	G	N3-C4-N9	-5.80	122.52	126.00
1	EA	736	C	N3-C2-O2	5.80	125.96	121.90
1	EA	2498	C	N3-C4-C5	5.80	124.22	121.90
1	EA	794	A	N9-C4-C5	-5.79	103.48	105.80
1	EA	561	G	N1-C6-O6	-5.79	116.42	119.90
1	EA	1336	A	C8-N9-C4	-5.79	103.48	105.80
1	CA	1983	G	O5'-P-OP1	5.79	117.64	110.70
1	CA	2076	U	N3-C2-O2	-5.79	118.15	122.20
1	EA	733	G	C4-C5-N7	5.79	113.11	110.80
1	CA	528	A	C8-N9-C4	-5.78	103.49	105.80
1	CA	776	G	C5-C6-O6	5.78	132.07	128.60
1	CA	2594	C	O5'-P-OP1	-5.78	100.49	105.70
1	AA	1025	G	P-O3'-C3'	5.78	126.64	119.70
1	AA	1648	U	N1-C2-O2	-5.78	118.75	122.80
1	EA	1310	G	C5-C6-O6	5.78	132.07	128.60
1	CA	2433	A	O5'-P-OP2	-5.78	100.50	105.70
1	EA	2279	G	C5-C6-O6	-5.78	125.13	128.60
1	CA	2061	G	N3-C2-N2	-5.78	115.86	119.90
1	EA	631	A	O5'-P-OP1	-5.78	100.50	105.70
1	GA	375	G	C5-C6-N1	-5.78	108.61	111.50
1	GA	546	U	N1-C2-O2	5.78	126.84	122.80
1	AA	2262	U	C6-N1-C2	-5.77	117.54	121.00
1	CA	2032	G	C4-C5-N7	5.77	113.11	110.80
1	EA	271	G	OP1-P-O3'	5.77	117.90	105.20
1	CA	1256	G	N9-C4-C5	5.77	107.71	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	991	C	C6-N1-C2	-5.77	117.99	120.30
1	EA	477	A	O5'-P-OP2	-5.77	100.51	105.70
1	AA	1958	C	N1-C2-O2	5.77	122.36	118.90
1	EA	801	G	N9-C4-C5	5.77	107.71	105.40
33	FA	450	G	N3-C4-C5	-5.77	125.72	128.60
1	GA	142	A	P-O3'-C3'	5.77	126.62	119.70
1	AA	2719	G	C4-N9-C1'	5.77	134.00	126.50
1	EA	1083	U	C6-N1-C2	-5.76	117.54	121.00
1	AA	469	G	C6-C5-N7	-5.76	126.94	130.40
1	CA	2061	G	C6-C5-N7	-5.76	126.94	130.40
1	EA	1780	A	OP1-P-O3'	5.76	117.87	105.20
1	AA	2067	G	C8-N9-C4	-5.76	104.10	106.40
1	EA	140	C	C6-N1-C2	-5.75	118.00	120.30
1	AA	2591	C	N1-C2-O2	-5.75	115.45	118.90
1	AA	991	C	N3-C4-C5	-5.75	119.60	121.90
1	CA	784	G	P-O3'-C3'	5.75	126.60	119.70
1	EA	1245	G	C8-N9-C4	5.75	108.70	106.40
1	GA	1996	C	O5'-P-OP2	-5.75	100.53	105.70
33	DA	557	G	N3-C4-C5	-5.75	125.73	128.60
1	GA	546	U	C2-N1-C1'	5.75	124.59	117.70
1	AA	2391	G	O4'-C1'-N9	5.74	112.79	108.20
1	EA	409	G	OP2-P-O3'	5.74	117.83	105.20
1	CA	1779	U	N3-C4-O4	-5.74	115.38	119.40
1	CA	1656	C	N3-C2-O2	5.74	125.92	121.90
1	EA	2510	C	N1-C2-O2	-5.74	115.46	118.90
1	GA	271	G	P-O3'-C3'	5.74	126.58	119.70
33	FA	481	G	C5-C6-O6	-5.73	125.16	128.60
33	FA	1305	G	C4-C5-N7	-5.73	108.51	110.80
33	DA	332	G	N3-C4-C5	5.73	131.47	128.60
33	DA	1489	G	C8-N9-C4	-5.73	104.11	106.40
1	EA	1291	C	C6-N1-C2	-5.73	118.01	120.30
1	GA	116	C	C6-N1-C2	-5.73	118.01	120.30
1	EA	1501	G	N1-C6-O6	5.73	123.34	119.90
1	GA	222	A	C8-N9-C4	5.73	108.09	105.80
1	CA	1794	A	C8-N9-C4	-5.73	103.51	105.80
33	FA	922	G	C8-N9-C4	-5.73	104.11	106.40
1	EA	140	C	N1-C2-O2	5.73	122.33	118.90
1	EA	810	U	O5'-P-OP2	-5.73	100.55	105.70
1	AA	1215	G	OP2-P-O3'	5.72	117.80	105.20
1	EA	195	A	C5-C6-N6	-5.72	119.12	123.70
1	EA	2581	G	N3-C4-C5	-5.72	125.74	128.60
1	GA	1063	G	C4-C5-N7	5.72	113.09	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1831	G	C8-N9-C4	-5.72	104.11	106.40
23	CW	40	ARG	NE-CZ-NH1	5.72	123.16	120.30
1	EA	2280	G	C8-N9-C4	-5.72	104.11	106.40
1	EA	2771	C	O5'-P-OP1	-5.72	100.55	105.70
1	EA	1252	G	O5'-P-OP2	-5.72	100.55	105.70
1	AA	1377	G	N1-C6-O6	-5.72	116.47	119.90
1	EA	782	A	C8-N9-C4	5.72	108.09	105.80
1	EA	1452	G	C4-C5-N7	5.72	113.09	110.80
1	GA	360	U	C5-C4-O4	-5.72	122.47	125.90
1	GA	467	G	O5'-P-OP2	-5.72	100.56	105.70
1	EA	1345	C	C6-N1-C2	-5.71	118.01	120.30
1	EA	2570	G	C6-C5-N7	5.71	133.83	130.40
1	EA	1555	G	C8-N9-C1'	-5.71	119.57	127.00
1	GA	207	A	C5-C6-N1	-5.71	114.84	117.70
1	CA	782	A	N1-C6-N6	-5.71	115.17	118.60
1	CA	1695	G	O5'-P-OP2	-5.71	100.56	105.70
1	EA	2052	A	C2-N3-C4	5.71	113.45	110.60
1	GA	140	C	N1-C2-O2	5.71	122.32	118.90
1	GA	1323	C	OP2-P-O3'	5.71	117.76	105.20
33	DA	530	G	N1-C6-O6	5.70	123.32	119.90
1	GA	1083	U	C6-N1-C2	-5.70	117.58	121.00
1	GA	1475	G	P-O3'-C3'	5.70	126.54	119.70
4	AD	151	THR	C-N-CD	5.70	140.37	128.40
1	GA	1093	G	C4-N9-C1'	5.70	133.91	126.50
33	HA	1087	G	C8-N9-C1'	-5.70	119.59	127.00
1	GA	2717	C	N3-C2-O2	-5.70	117.91	121.90
1	CA	1030	C	C2-N3-C4	-5.70	117.05	119.90
1	EA	578	G	N3-C4-N9	5.70	129.42	126.00
1	EA	865	C	N1-C2-N3	-5.70	115.21	119.20
2	EB	97	C	N3-C4-C5	5.69	124.18	121.90
33	HA	1137	C	C6-N1-C2	-5.69	118.02	120.30
1	CA	948	C	C6-N1-C2	-5.69	118.02	120.30
1	EA	2447	G	N3-C2-N2	-5.69	115.92	119.90
33	HA	1452	C	P-O3'-C3'	5.69	126.53	119.70
1	AA	2576	G	C6-C5-N7	-5.69	126.99	130.40
1	AA	2608	G	N1-C6-O6	5.69	123.31	119.90
1	GA	974	G	C4-C5-N7	5.69	113.08	110.80
1	AA	2639	A	N1-C6-N6	5.69	122.01	118.60
1	EA	669	G	C2-N3-C4	5.69	114.74	111.90
1	EA	972	A	C6-C5-N7	-5.69	128.32	132.30
1	AA	1737	G	N3-C4-N9	5.68	129.41	126.00
1	AA	2754	U	N3-C4-O4	5.68	123.38	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	1937	A	O4'-C1'-N9	5.68	112.75	108.20
1	EA	776	G	C5-C6-O6	5.68	132.01	128.60
33	HA	409	U	O5'-P-OP2	-5.68	100.58	105.70
1	EA	2449	U	N1-C2-O2	5.68	126.78	122.80
1	AA	1216	G	OP2-P-O3'	5.68	117.70	105.20
1	EA	1931	U	C5-C4-O4	-5.68	122.49	125.90
1	EA	2009	A	N1-C6-N6	5.68	122.01	118.60
1	EA	1229	C	OP2-P-O3'	5.68	117.69	105.20
1	AA	1429	G	N3-C4-C5	-5.68	125.76	128.60
33	DA	1423	G	C8-N9-C4	-5.68	104.13	106.40
1	EA	812	C	N1-C2-O2	-5.68	115.49	118.90
1	GA	1413	A	C5-C6-N6	-5.68	119.16	123.70
33	HA	1322	C	N1-C2-O2	5.68	122.31	118.90
33	FA	577	G	N3-C4-N9	-5.67	122.59	126.00
33	HA	1187	G	O5'-P-OP1	-5.67	100.59	105.70
33	BA	200	G	N1-C6-O6	5.67	123.30	119.90
1	EA	515	A	N1-C6-N6	-5.67	115.20	118.60
1	GA	751	A	N1-C6-N6	5.67	122.00	118.60
1	AA	512	G	N3-C4-N9	-5.67	122.60	126.00
1	EA	2710	C	N3-C4-N4	-5.67	114.03	118.00
1	AA	1190	G	N3-C4-C5	5.67	131.43	128.60
33	FA	1430	A	N1-C6-N6	-5.67	115.20	118.60
1	GA	1062	G	C4-N9-C1'	5.67	133.87	126.50
1	GA	1313	U	C2-N1-C1'	5.67	124.50	117.70
33	HA	1322	C	C2-N1-C1'	5.67	125.03	118.80
1	EA	1694	C	N3-C4-C5	-5.67	119.63	121.90
1	AA	1672	A	C8-N9-C4	5.66	108.07	105.80
1	CA	2351	G	C5-C6-O6	-5.66	125.20	128.60
1	AA	1025	G	OP2-P-O3'	5.66	117.66	105.20
1	EA	473	G	C5-C6-O6	5.66	132.00	128.60
33	FA	1188	A	N1-C6-N6	-5.66	115.20	118.60
1	EA	2071	A	P-O3'-C3'	5.66	126.49	119.70
1	AA	2611	C	O5'-P-OP2	-5.66	100.61	105.70
1	CA	212	G	N1-C6-O6	-5.66	116.51	119.90
1	EA	1252	G	N9-C4-C5	5.66	107.66	105.40
1	GA	1653	G	N3-C4-C5	-5.66	125.77	128.60
33	DA	511	C	C6-N1-C2	-5.65	118.04	120.30
33	HA	22	G	N1-C6-O6	5.65	123.29	119.90
1	GA	796	C	N1-C2-O2	-5.65	115.51	118.90
33	HA	1527	U	O5'-P-OP2	-5.65	100.61	105.70
1	AA	1091	G	C4-N9-C1'	-5.65	119.15	126.50
33	DA	1395	C	C6-N1-C2	5.65	122.56	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	DA	947	G	O5'-P-OP1	-5.65	100.62	105.70
2	EB	107	G	C8-N9-C4	5.65	108.66	106.40
1	AA	2250	G	C4-C5-N7	5.65	113.06	110.80
1	GA	1619	G	C5-C6-O6	5.65	131.99	128.60
1	GA	2508	G	C6-C5-N7	5.65	133.79	130.40
1	AA	654	A	C2-N3-C4	5.64	113.42	110.60
1	GA	2612	C	N1-C2-O2	5.64	122.28	118.90
2	CB	98	G	N7-C8-N9	-5.64	110.28	113.10
1	GA	1906	G	O4'-C1'-N9	-5.64	103.69	108.20
1	EA	911	A	C8-N9-C4	-5.64	103.54	105.80
1	EA	2505	G	O5'-P-OP2	-5.64	100.62	105.70
2	AB	110	C	N1-C2-O2	5.64	122.28	118.90
1	AA	236	C	C6-N1-C2	-5.64	118.05	120.30
32	A5	60	LEU	CB-CG-CD1	5.64	120.58	111.00
1	GA	1433	A	C8-N9-C4	-5.64	103.55	105.80
1	EA	2070	A	OP1-P-O3'	5.63	117.60	105.20
33	FA	1112	C	O5'-P-OP1	-5.63	100.63	105.70
1	GA	368	A	C8-N9-C4	5.63	108.05	105.80
1	GA	2023	C	C6-N1-C2	-5.63	118.05	120.30
1	AA	687	C	N3-C4-N4	5.63	121.94	118.00
1	CA	945	A	C2-N3-C4	5.63	113.42	110.60
1	CA	56	A	O5'-P-OP1	-5.63	100.63	105.70
1	AA	271	G	P-O3'-C3'	5.63	126.46	119.70
1	CA	2241	A	C8-N9-C4	-5.63	103.55	105.80
33	FA	733	G	C5-C6-O6	-5.63	125.22	128.60
1	CA	974	G	C8-N9-C1'	-5.63	119.68	127.00
1	CA	2015	A	C2-N3-C4	5.63	113.41	110.60
1	CA	2362	C	C6-N1-C2	-5.63	118.05	120.30
1	EA	978	G	O5'-P-OP2	-5.63	100.64	105.70
1	EA	2489	U	OP2-P-O3'	5.63	117.58	105.20
1	CA	2017	U	N1-C2-O2	-5.63	118.86	122.80
1	AA	1238	G	O4'-C1'-N9	5.62	112.70	108.20
1	EA	1227	G	C5-C6-N1	-5.62	108.69	111.50
1	AA	2442	C	C6-N1-C2	-5.62	118.05	120.30
1	EA	1830	C	O5'-P-OP2	-5.62	100.64	105.70
1	EA	1985	C	OP1-P-OP2	-5.62	111.16	119.60
1	GA	740	C	C6-N1-C2	-5.62	118.05	120.30
1	GA	1025	G	OP2-P-O3'	5.62	117.57	105.20
1	GA	2282	G	N3-C4-C5	-5.62	125.79	128.60
2	GB	90	C	O5'-P-OP1	-5.62	100.64	105.70
1	CA	205	G	O4'-C1'-N9	5.62	112.70	108.20
1	CA	2659	G	C5-C6-N1	-5.62	108.69	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	E5	50	VAL	CA-CB-CG1	5.62	119.33	110.90
1	GA	2323	G	C6-C5-N7	-5.62	127.03	130.40
1	CA	2308	G	O4'-C1'-N9	-5.62	103.70	108.20
33	DA	115	G	N3-C4-C5	-5.62	125.79	128.60
1	EA	1971	U	O5'-P-OP2	-5.62	100.64	105.70
1	GA	2506	U	N3-C2-O2	-5.62	118.27	122.20
1	AA	1350	C	N1-C2-O2	-5.62	115.53	118.90
33	BA	1279	G	N7-C8-N9	5.62	115.91	113.10
1	CA	345	A	N1-C6-N6	5.61	121.97	118.60
1	CA	865	C	N1-C2-O2	5.61	122.27	118.90
1	CA	1606	C	P-O3'-C3'	5.61	126.44	119.70
1	EA	2440	C	C5-C4-N4	5.61	124.13	120.20
1	EA	2570	G	N1-C6-O6	-5.61	116.53	119.90
1	AA	2204	G	C4-C5-N7	5.61	113.05	110.80
33	DA	1322	C	C6-N1-C1'	-5.61	114.07	120.80
1	GA	1906	G	C8-N9-C4	-5.61	104.16	106.40
1	EA	595	C	O5'-P-OP2	-5.61	100.65	105.70
1	EA	2143	C	C6-N1-C2	-5.61	118.06	120.30
1	EA	2578	G	C5-C6-O6	5.61	131.97	128.60
33	DA	1322	C	C2-N1-C1'	5.61	124.97	118.80
1	CA	1174	U	C2-N1-C1'	5.61	124.43	117.70
1	CA	2799	A	N1-C6-N6	5.61	121.96	118.60
1	CA	2061	G	C2-N3-C4	-5.61	109.10	111.90
33	FA	481	G	O4'-C1'-N9	-5.61	103.72	108.20
1	AA	690	G	N3-C2-N2	-5.60	115.98	119.90
1	EA	819	A	C2-N3-C4	-5.60	107.80	110.60
1	GA	663	G	C5-C6-N1	-5.60	108.70	111.50
1	GA	2448	A	C5-C6-N6	-5.60	119.22	123.70
33	BA	1515	G	C5-C6-O6	-5.59	125.24	128.60
1	CA	1131	G	OP1-P-O3'	5.59	117.50	105.20
1	GA	54	G	OP1-P-O3'	5.59	117.51	105.20
1	CA	45	G	C4-C5-N7	-5.59	108.56	110.80
1	CA	583	G	C5-C6-O6	-5.59	125.25	128.60
1	EA	1543	G	O5'-P-OP1	-5.59	100.67	105.70
33	BA	1145	A	C4-C5-C6	-5.59	114.20	117.00
33	DA	1098	C	C6-N1-C2	-5.59	118.06	120.30
33	FA	1186	G	OP1-P-O3'	5.59	117.50	105.20
1	GA	2457	U	C6-N1-C2	-5.59	117.65	121.00
1	CA	614	A	N1-C6-N6	5.59	121.95	118.60
1	CA	2747	G	C6-C5-N7	-5.59	127.05	130.40
1	GA	458	G	C5-C6-O6	-5.59	125.25	128.60
1	AA	570	G	C6-C5-N7	-5.58	127.05	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2250	G	C5-C6-O6	-5.58	125.25	128.60
42	BJ	36	VAL	CG1-CB-CG2	-5.58	101.97	110.90
1	CA	1833	C	N3-C4-N4	-5.58	114.09	118.00
1	EA	1452	G	N3-C4-N9	-5.58	122.65	126.00
1	EA	2648	G	N1-C6-O6	5.58	123.25	119.90
1	AA	503	A	C8-N9-C4	-5.58	103.57	105.80
33	BA	321	A	N1-C6-N6	5.58	121.95	118.60
1	CA	2719	G	C4-C5-C6	5.58	122.15	118.80
33	HA	211	G	C2-N3-C4	5.58	114.69	111.90
1	CA	1215	G	N1-C6-O6	5.58	123.25	119.90
1	EA	1996	C	C6-N1-C2	5.58	122.53	120.30
1	GA	2072	C	C6-N1-C2	-5.58	118.07	120.30
33	DA	884	U	O4'-C1'-N1	5.57	112.66	108.20
1	GA	75	G	N1-C6-O6	5.57	123.24	119.90
1	GA	1063	G	C8-N9-C1'	-5.57	119.75	127.00
33	HA	5	U	C5-C6-N1	5.57	125.49	122.70
1	AA	196	A	N1-C6-N6	5.57	121.94	118.60
1	EA	479	A	P-O3'-C3'	5.57	126.39	119.70
33	HA	779	C	N3-C2-O2	-5.57	118.00	121.90
1	AA	2047	C	C6-N1-C2	5.57	122.53	120.30
1	CA	784	G	O4'-C1'-N9	-5.57	103.74	108.20
1	CA	1936	A	C2-N3-C4	-5.57	107.81	110.60
1	EA	2038	G	N1-C6-O6	5.57	123.24	119.90
33	FA	1522	U	O5'-P-OP2	-5.57	100.69	105.70
1	AA	1387	A	C8-N9-C4	-5.57	103.57	105.80
1	EA	398	C	C6-N1-C2	5.57	122.53	120.30
1	CA	914	G	N3-C4-C5	5.57	131.38	128.60
1	CA	2553	G	C6-C5-N7	-5.57	127.06	130.40
1	EA	542	C	C2-N3-C4	5.57	122.68	119.90
1	EA	673	C	C5-C4-N4	-5.57	116.30	120.20
1	GA	1328	A	O5'-P-OP2	-5.57	100.69	105.70
1	AA	783	A	C4-C5-C6	5.57	119.78	117.00
1	EA	846	U	N1-C1'-C2'	5.57	121.23	114.00
1	AA	1606	C	P-O3'-C3'	5.56	126.37	119.70
1	EA	2064	C	OP1-P-O3'	5.56	117.44	105.20
1	GA	1508	A	O4'-C1'-N9	5.56	112.65	108.20
1	CA	650	C	C6-N1-C2	-5.56	118.08	120.30
1	EA	2729	G	C4-N9-C1'	5.56	133.73	126.50
1	AA	921	C	N1-C2-O2	-5.56	115.56	118.90
1	AA	1169	A	N1-C6-N6	5.56	121.94	118.60
1	AA	1738	G	N3-C4-N9	-5.56	122.67	126.00
1	EA	2578	G	C4-C5-N7	-5.56	108.58	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	1570	A	N1-C6-N6	5.56	121.94	118.60
1	EA	140	C	N3-C2-O2	-5.56	118.01	121.90
33	HA	5	U	O4'-C1'-N1	-5.56	103.75	108.20
33	HA	1362	A	N1-C6-N6	-5.56	115.27	118.60
1	AA	1649	G	N3-C4-C5	-5.56	125.82	128.60
1	EA	752	A	C5-N7-C8	-5.55	101.12	103.90
1	EA	814	C	N3-C2-O2	-5.55	118.01	121.90
1	EA	1125	G	C2-N3-C4	-5.55	109.12	111.90
1	GA	675	A	O5'-P-OP2	-5.55	100.70	105.70
1	AA	372	G	C4-N9-C1'	-5.55	119.28	126.50
1	AA	1026	G	C4-N9-C1'	5.55	133.72	126.50
33	BA	974	A	O5'-P-OP1	-5.55	100.70	105.70
33	FA	757	U	C6-N1-C2	5.55	124.33	121.00
33	FA	1282	C	C6-N1-C2	-5.55	118.08	120.30
33	BA	72	A	C8-N9-C4	-5.55	103.58	105.80
1	CA	1452	G	C4-N9-C1'	5.55	133.72	126.50
1	AA	2445	G	N1-C6-O6	5.55	123.23	119.90
33	BA	1054	C	N3-C2-O2	-5.55	118.02	121.90
1	CA	1094	U	O4'-C1'-N1	5.55	112.64	108.20
1	EA	121	G	C5-C6-O6	-5.55	125.27	128.60
1	EA	2084	C	N1-C2-O2	-5.55	115.57	118.90
1	EA	2429	G	O5'-P-OP1	5.55	117.36	110.70
1	GA	840	C	C6-N1-C2	5.55	122.52	120.30
1	GA	2423	U	P-O3'-C3'	5.55	126.36	119.70
1	AA	546	U	O4'-C1'-N1	5.55	112.64	108.20
1	AA	1687	G	N3-C4-C5	-5.55	125.83	128.60
1	CA	781	A	O5'-P-OP1	-5.55	100.71	105.70
1	AA	1728	C	C6-N1-C2	-5.54	118.08	120.30
1	EA	117	G	C8-N9-C4	-5.54	104.18	106.40
1	EA	694	U	N1-C2-N3	5.54	118.23	114.90
1	GA	542	C	N3-C4-C5	-5.54	119.68	121.90
33	HA	115	G	P-O3'-C3'	5.54	126.35	119.70
2	CB	89	U	O4'-C1'-N1	-5.54	103.77	108.20
1	AA	198	C	C5-C4-N4	-5.54	116.32	120.20
33	DA	574	A	C8-N9-C4	5.54	108.02	105.80
1	EA	1610	A	O5'-P-OP1	-5.54	100.71	105.70
1	GA	1063	G	N9-C4-C5	-5.54	103.18	105.40
33	HA	305	G	C8-N9-C4	-5.54	104.19	106.40
1	AA	1665	A	OP1-P-O3'	5.54	117.38	105.20
1	CA	2060	A	N9-C4-C5	5.54	108.02	105.80
1	EA	1321	A	C8-N9-C4	-5.54	103.58	105.80
1	EA	1782	U	N3-C2-O2	-5.54	118.33	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	825	A	O5'-P-OP2	-5.53	100.72	105.70
1	EA	1156	A	OP1-P-O3'	5.53	117.37	105.20
1	AA	1270	C	O5'-P-OP1	-5.53	100.72	105.70
1	EA	1935	G	N9-C4-C5	5.53	107.61	105.40
1	EA	2048	G	C8-N9-C4	-5.53	104.19	106.40
2	EB	107	G	N9-C4-C5	-5.53	103.19	105.40
1	AA	2898	U	N1-C2-O2	-5.53	118.93	122.80
1	AA	2610	C	N1-C2-O2	5.53	122.22	118.90
1	CA	469	G	N1-C6-O6	5.53	123.22	119.90
1	EA	1730	C	C2-N3-C4	-5.53	117.14	119.90
1	GA	2076	U	N3-C2-O2	-5.52	118.33	122.20
1	AA	1369	G	N1-C6-O6	5.52	123.21	119.90
1	AA	2204	G	N1-C6-O6	5.52	123.21	119.90
1	EA	244	A	N1-C6-N6	5.52	121.91	118.60
1	EA	1328	A	OP2-P-O3'	5.52	117.34	105.20
1	AA	1180	U	C2-N1-C1'	5.52	124.32	117.70
1	AA	1644	C	O5'-P-OP1	-5.52	100.73	105.70
2	AB	101	A	N7-C8-N9	-5.52	111.04	113.80
1	EA	747	U	C5-C6-N1	5.52	125.46	122.70
32	E5	60	LEU	CB-CG-CD2	5.52	120.38	111.00
1	AA	2502	G	N9-C4-C5	5.52	107.61	105.40
32	A5	50	VAL	CA-CB-CG1	5.51	119.17	110.90
1	CA	1955	U	O4'-C1'-N1	5.51	112.61	108.20
2	CB	21	G	O5'-P-OP2	-5.51	100.74	105.70
33	DA	29	U	O5'-P-OP1	-5.51	100.74	105.70
1	EA	694	U	C5-C4-O4	5.51	129.21	125.90
16	EP	50	ARG	CB-CG-CD	5.51	125.93	111.60
1	CA	1784	A	C8-N9-C4	5.51	108.00	105.80
1	CA	2248	C	O5'-P-OP1	-5.51	100.74	105.70
1	EA	51	G	C5-C6-O6	5.51	131.91	128.60
1	EA	130	C	N1-C2-O2	-5.51	115.59	118.90
1	EA	578	G	C5-C6-O6	-5.51	125.29	128.60
1	EA	613	A	C8-N9-C4	-5.51	103.60	105.80
1	GA	451	U	O4'-C1'-N1	5.51	112.61	108.20
1	AA	200	U	N3-C2-O2	5.51	126.06	122.20
1	EA	180	G	C5-C6-O6	-5.51	125.29	128.60
1	EA	783	A	N3-C4-C5	5.51	130.66	126.80
1	EA	1124	G	N1-C6-O6	5.51	123.21	119.90
1	EA	914	G	C6-C5-N7	-5.51	127.09	130.40
1	EA	975	A	C8-N9-C4	-5.51	103.60	105.80
1	EA	141	G	C4-N9-C1'	5.51	133.66	126.50
33	FA	514	C	C6-N1-C2	-5.51	118.10	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	808	G	C8-N9-C1'	-5.51	119.84	127.00
33	HA	1362	A	C6-C5-N7	5.51	136.15	132.30
33	DA	1099	G	N9-C4-C5	5.50	107.60	105.40
1	EA	2447	G	C4-N9-C1'	5.50	133.66	126.50
1	CA	832	U	O5'-P-OP1	5.50	117.30	110.70
1	EA	141	G	C8-N9-C4	-5.50	104.20	106.40
1	EA	790	U	O4'-C1'-N1	5.50	112.60	108.20
1	EA	923	G	N3-C4-N9	5.50	129.30	126.00
1	EA	2366	A	O5'-P-OP2	-5.50	100.75	105.70
1	AA	2146	C	C6-N1-C2	-5.50	118.10	120.30
1	EA	2042	A	C8-N9-C4	-5.50	103.60	105.80
1	GA	2006	C	N3-C4-N4	5.50	121.85	118.00
1	EA	1571	A	OP2-P-O3'	5.50	117.30	105.20
33	HA	779	C	N1-C2-O2	5.50	122.20	118.90
1	AA	2585	U	P-O3'-C3'	5.50	126.30	119.70
1	CA	1178	C	C6-N1-C2	-5.50	118.10	120.30
1	GA	1738	G	C8-N9-C4	-5.50	104.20	106.40
33	DA	462	G	C8-N9-C4	-5.50	104.20	106.40
33	DA	1530	G	C4-N9-C1'	-5.50	119.35	126.50
1	EA	830	G	OP1-P-OP2	5.50	127.84	119.60
1	EA	1141	U	C6-N1-C2	-5.50	117.70	121.00
32	A5	41	LEU	CB-CG-CD1	-5.49	101.66	111.00
33	BA	1362	A	C6-C5-N7	5.49	136.15	132.30
1	CA	1713	A	N9-C4-C5	-5.49	103.60	105.80
1	CA	1913	A	N7-C8-N9	-5.49	111.05	113.80
2	AB	76	G	N3-C4-N9	5.49	129.29	126.00
1	CA	1913	A	C4-C5-N7	-5.49	107.96	110.70
1	CA	2544	G	N1-C2-N3	5.49	127.19	123.90
1	EA	776	G	C4-C5-C6	5.49	122.09	118.80
33	FA	973	G	C8-N9-C4	-5.49	104.20	106.40
33	BA	1364	U	N3-C2-O2	-5.49	118.36	122.20
1	CA	783	A	C4-C5-N7	5.49	113.44	110.70
33	DA	328	C	N1-C2-O2	5.49	122.19	118.90
33	DA	351	G	C5-N7-C8	-5.49	101.56	104.30
33	HA	1530	G	C4-N9-C1'	-5.48	119.37	126.50
1	EA	1247	A	P-O3'-C3'	5.48	126.28	119.70
33	FA	450	G	N3-C4-N9	5.48	129.29	126.00
1	AA	2609	U	O5'-P-OP2	-5.48	100.77	105.70
1	EA	825	A	N9-C4-C5	5.48	107.99	105.80
24	EX	70	LEU	CA-CB-CG	5.48	127.90	115.30
1	AA	1651	G	OP1-P-OP2	-5.48	111.38	119.60
33	FA	1111	A	OP1-P-O3'	5.48	117.25	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2358	A	C5-C6-N6	5.48	128.08	123.70
14	CN	45	ARG	CG-CD-NE	5.48	123.30	111.80
1	CA	2414	G	N1-C6-O6	5.47	123.18	119.90
1	EA	375	G	C4-C5-C6	5.47	122.08	118.80
1	AA	655	A	C8-N9-C4	-5.47	103.61	105.80
1	EA	920	A	OP2-P-O3'	5.47	117.24	105.20
33	HA	328	C	N3-C2-O2	-5.47	118.07	121.90
1	AA	1261	C	OP1-P-OP2	-5.47	111.40	119.60
1	AA	2505	G	C6-C5-N7	-5.47	127.12	130.40
33	BA	251	G	N3-C2-N2	-5.47	116.07	119.90
1	EA	1394	U	O4'-C1'-N1	-5.47	103.83	108.20
1	EA	2179	C	C6-N1-C2	-5.47	118.11	120.30
1	EA	2700	A	C8-N9-C4	-5.47	103.61	105.80
33	DA	84	U	N3-C2-O2	-5.47	118.37	122.20
1	AA	559	G	C6-C5-N7	-5.47	127.12	130.40
33	FA	905	U	O5'-P-OP2	5.47	117.26	110.70
1	GA	2436	G	C8-N9-C4	-5.47	104.21	106.40
1	AA	2228	G	N1-C6-O6	5.46	123.18	119.90
33	BA	737	C	C6-N1-C2	-5.46	118.11	120.30
1	CA	834	G	N7-C8-N9	5.46	115.83	113.10
1	CA	1726	C	C6-N1-C1'	-5.46	114.24	120.80
1	EA	904	G	N3-C4-C5	5.46	131.33	128.60
1	GA	249	C	C2-N1-C1'	5.46	124.81	118.80
33	HA	70	U	C2-N1-C1'	5.46	124.26	117.70
1	AA	2397	G	N3-C4-N9	-5.46	122.72	126.00
33	BA	560	A	N1-C6-N6	5.46	121.88	118.60
2	AB	56	G	C4-N9-C1'	5.46	133.60	126.50
1	EA	2502	G	N3-C4-C5	-5.46	125.87	128.60
33	HA	1086	U	C2-N1-C1'	5.46	124.25	117.70
2	AB	8	C	N1-C2-O2	5.46	122.17	118.90
33	HA	1362	A	C4-N9-C1'	-5.46	116.48	126.30
1	AA	164	C	C6-N1-C2	-5.46	118.12	120.30
1	AA	771	G	OP2-P-O3'	5.46	117.20	105.20
33	DA	352	C	C6-N1-C2	5.46	122.48	120.30
33	BA	485	U	N3-C2-O2	-5.45	118.38	122.20
1	CA	787	C	C6-N1-C2	-5.45	118.12	120.30
1	AA	2502	G	C8-N9-C4	-5.45	104.22	106.40
1	CA	45	G	C5-C6-O6	5.45	131.87	128.60
1	EA	2595	G	C5-C6-N1	5.45	114.22	111.50
33	HA	1201	A	P-O3'-C3'	5.45	126.24	119.70
1	AA	792	A	C4-C5-N7	5.45	113.42	110.70
1	CA	1257	C	C6-N1-C2	-5.45	118.12	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	CB	98	G	N3-C4-N9	-5.45	122.73	126.00
5	EE	44	ARG	NE-CZ-NH1	-5.45	117.58	120.30
1	GA	1780	A	OP1-P-O3'	5.45	117.19	105.20
1	AA	1713	A	C5-C6-N6	-5.45	119.34	123.70
1	CA	673	C	N3-C4-N4	5.45	121.81	118.00
1	EA	2072	C	C6-N1-C2	-5.44	118.12	120.30
1	GA	1891	G	N1-C6-O6	5.44	123.17	119.90
1	AA	1695	G	N3-C4-N9	5.44	129.27	126.00
33	BA	115	G	P-O3'-C3'	5.44	126.23	119.70
1	EA	2279	G	N1-C6-O6	5.44	123.17	119.90
1	EA	997	G	C8-N9-C4	5.44	108.58	106.40
1	CA	1030	C	C2-N1-C1'	-5.44	112.82	118.80
1	EA	2419	U	N1-C2-O2	-5.44	118.99	122.80
1	EA	2555	U	N1-C2-O2	-5.44	118.99	122.80
1	AA	204	A	C8-N9-C4	5.44	107.97	105.80
1	EA	1606	C	C2-N1-C1'	5.44	124.78	118.80
1	AA	870	U	N3-C2-O2	5.43	126.00	122.20
1	CA	374	A	C8-N9-C4	5.43	107.97	105.80
1	CA	1967	C	O5'-P-OP2	-5.43	100.81	105.70
1	GA	2038	G	C5-C6-O6	-5.43	125.34	128.60
1	AA	816	C	C6-N1-C2	5.43	122.47	120.30
1	AA	1691	C	N1-C2-O2	-5.43	115.64	118.90
1	EA	972	A	OP1-P-O3'	5.43	117.15	105.20
1	GA	2410	G	N3-C2-N2	-5.43	116.10	119.90
33	HA	1031	C	O5'-P-OP1	-5.43	100.81	105.70
1	CA	1169	A	N1-C6-N6	5.43	121.86	118.60
1	CA	2526	G	N1-C6-O6	5.43	123.16	119.90
1	EA	180	G	N1-C6-O6	5.43	123.16	119.90
1	AA	931	U	P-O3'-C3'	5.43	126.22	119.70
1	AA	1713	A	N9-C4-C5	-5.43	103.63	105.80
1	CA	2351	G	C4-C5-N7	5.43	112.97	110.80
33	DA	485	U	N1-C2-O2	5.43	126.60	122.80
1	EA	260	G	C5-C6-O6	5.43	131.86	128.60
1	EA	570	G	C6-C5-N7	-5.43	127.14	130.40
1	EA	2215	C	O5'-P-OP1	-5.43	100.81	105.70
3	AC	176	ARG	NE-CZ-NH1	-5.43	117.59	120.30
33	DA	489	C	C6-N1-C2	-5.43	118.13	120.30
1	EA	733	G	N3-C4-N9	5.43	129.25	126.00
1	CA	1401	G	C8-N9-C4	-5.42	104.23	106.40
1	EA	124	G	N3-C4-N9	-5.42	122.75	126.00
1	EA	207	A	C2-N3-C4	-5.42	107.89	110.60
33	FA	481	G	N3-C4-N9	5.42	129.25	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	2508	G	C5-C6-O6	5.42	131.85	128.60
1	AA	1328	A	O5'-P-OP1	5.42	117.21	110.70
1	CA	1386	C	C6-N1-C2	-5.42	118.13	120.30
1	AA	271	G	OP1-P-O3'	5.42	117.12	105.20
1	CA	923	G	N3-C4-N9	5.42	129.25	126.00
1	EA	622	G	OP2-P-O3'	5.42	117.13	105.20
1	CA	128	C	N1-C2-O2	-5.42	115.65	118.90
1	CA	2260	C	C6-N1-C2	-5.42	118.13	120.30
1	AA	546	U	C2-N1-C1'	5.42	124.20	117.70
1	CA	479	A	O4'-C1'-N9	5.42	112.53	108.20
1	CA	2623	G	N1-C6-O6	5.42	123.15	119.90
1	CA	2747	G	C5-C6-O6	-5.42	125.35	128.60
1	EA	2054	A	OP2-P-O3'	5.42	117.11	105.20
33	FA	913	A	C8-N9-C4	-5.42	103.63	105.80
1	CA	2513	A	N1-C6-N6	-5.42	115.35	118.60
32	A5	50	VAL	CG1-CB-CG2	5.41	119.56	110.90
1	CA	2685	G	C5-C6-N1	-5.41	108.79	111.50
1	CA	2766	A	O5'-P-OP2	-5.41	100.83	105.70
1	GA	199	A	N1-C6-N6	-5.41	115.35	118.60
1	AA	663	G	C2-N3-C4	-5.41	109.19	111.90
1	CA	517	C	C6-N1-C2	-5.41	118.14	120.30
1	EA	1321	A	O4'-C1'-N9	5.41	112.53	108.20
32	E5	60	LEU	CB-CG-CD1	5.41	120.20	111.00
1	GA	776	G	O4'-C1'-N9	-5.41	103.87	108.20
1	GA	1653	G	N3-C4-N9	5.41	129.25	126.00
1	AA	1670	C	N3-C2-O2	5.41	125.69	121.90
2	CB	79	G	N1-C2-N2	-5.41	111.33	116.20
33	DA	32	A	O5'-P-OP2	-5.41	100.83	105.70
1	EA	1746	A	C5-C6-N6	-5.41	119.37	123.70
1	GA	2282	G	C8-N9-C4	-5.41	104.24	106.40
1	EA	254	G	C8-N9-C4	5.41	108.56	106.40
1	CA	1509	A	P-O3'-C3'	5.41	126.19	119.70
1	CA	1921	G	C8-N9-C4	-5.41	104.24	106.40
1	EA	1068	G	N3-C4-C5	-5.41	125.90	128.60
1	EA	1475	G	P-O3'-C3'	5.41	126.19	119.70
1	EA	205	G	N1-C6-O6	-5.40	116.66	119.90
2	AB	85	G	N1-C6-O6	5.40	123.14	119.90
1	EA	624	C	O5'-P-OP1	5.40	117.18	110.70
1	EA	834	G	C4-C5-N7	5.40	112.96	110.80
33	FA	79	G	N3-C4-N9	5.40	129.24	126.00
1	GA	2455	G	OP2-P-O3'	5.40	117.08	105.20
1	CA	1839	G	C8-N9-C4	5.40	108.56	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	511	U	OP2-P-O3'	5.40	117.08	105.20
1	EA	1656	C	C6-N1-C2	-5.40	118.14	120.30
1	GA	1827	U	C5-C6-N1	5.40	125.40	122.70
1	GA	1972	G	OP2-P-O3'	5.40	117.07	105.20
1	AA	770	G	N1-C6-O6	-5.39	116.66	119.90
1	AA	2608	G	O5'-P-OP2	-5.39	100.84	105.70
1	EA	2448	A	C8-N9-C4	-5.39	103.64	105.80
1	CA	1266	G	C8-N9-C4	5.39	108.56	106.40
1	CA	2232	C	N1-C2-O2	-5.39	115.66	118.90
1	CA	2250	G	OP1-P-O3'	5.39	117.06	105.20
1	EA	587	C	O4'-C1'-N1	-5.39	103.89	108.20
1	EA	2039	U	N3-C4-O4	5.39	123.17	119.40
1	EA	2539	C	C2-N3-C4	-5.39	117.20	119.90
1	AA	237	C	N3-C4-C5	-5.39	119.74	121.90
1	EA	1310	G	N9-C4-C5	5.39	107.56	105.40
1	EA	2611	C	N3-C4-N4	-5.39	114.23	118.00
1	GA	2307	G	N9-C4-C5	-5.39	103.24	105.40
1	AA	1833	C	N1-C2-O2	-5.39	115.67	118.90
33	DA	485	U	N3-C2-O2	-5.39	118.43	122.20
1	EA	1325	U	N3-C2-O2	-5.39	118.43	122.20
1	AA	298	G	C5-N7-C8	-5.39	101.61	104.30
2	AB	2	G	C4-N9-C1'	5.39	133.50	126.50
1	CA	1299	G	C5-C6-O6	-5.39	125.37	128.60
1	EA	2731	G	C6-C5-N7	-5.39	127.17	130.40
1	EA	1831	G	C8-N9-C4	-5.38	104.25	106.40
1	GA	1873	G	N3-C4-N9	5.38	129.23	126.00
1	EA	520	G	C4-C5-N7	-5.38	108.65	110.80
1	EA	1831	G	N9-C4-C5	5.38	107.55	105.40
1	AA	1998	A	O5'-P-OP2	-5.38	100.86	105.70
1	GA	1565	C	O5'-P-OP1	-5.38	100.86	105.70
1	AA	1395	A	O4'-C1'-N9	5.38	112.50	108.20
1	CA	1779	U	C5-C4-O4	5.38	129.13	125.90
1	AA	2544	G	N3-C4-N9	5.38	129.23	126.00
33	BA	319	G	C4-N9-C1'	-5.38	119.51	126.50
33	HA	1511	G	N1-C6-O6	5.38	123.13	119.90
1	AA	140	C	C2-N1-C1'	5.38	124.71	118.80
1	AA	1269	A	C2-N3-C4	-5.38	107.91	110.60
1	AA	2619	C	O5'-P-OP1	5.38	117.15	110.70
1	EA	915	C	N3-C2-O2	-5.38	118.14	121.90
1	AA	1916	A	N1-C6-N6	5.38	121.83	118.60
33	BA	365	U	N3-C4-O4	-5.37	115.64	119.40
1	CA	1840	G	N1-C6-O6	5.37	123.12	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	180	G	N3-C4-C5	5.37	131.29	128.60
2	EB	66	A	C6-C5-N7	-5.37	128.54	132.30
33	FA	1524	C	N1-C2-O2	-5.37	115.68	118.90
1	GA	1093	G	C8-N9-C1'	-5.37	120.01	127.00
1	AA	298	G	C4-C5-N7	5.37	112.95	110.80
1	AA	1338	G	C8-N9-C4	-5.37	104.25	106.40
1	AA	2065	C	N3-C4-N4	5.37	121.76	118.00
1	EA	142	A	N1-C6-N6	5.37	121.82	118.60
1	EA	2754	U	N3-C4-C5	-5.37	111.38	114.60
1	GA	1447	C	O5'-P-OP1	-5.37	100.87	105.70
1	CA	1737	G	C8-N9-C4	-5.37	104.25	106.40
13	EM	16	ARG	NE-CZ-NH1	5.37	122.98	120.30
1	EA	2032	G	O5'-P-OP1	-5.36	100.87	105.70
1	EA	480	A	O5'-P-OP2	-5.36	100.87	105.70
1	EA	1131	G	C4-C5-N7	5.36	112.94	110.80
1	EA	1377	G	O5'-P-OP2	-5.36	100.88	105.70
1	EA	2455	G	N3-C4-C5	-5.36	125.92	128.60
1	GA	1130	U	C5-C4-O4	-5.36	122.69	125.90
1	GA	2140	G	O4'-C1'-N9	5.36	112.49	108.20
1	AA	2593	U	N1-C2-O2	-5.36	119.05	122.80
16	CP	52	ARG	NE-CZ-NH2	-5.36	117.62	120.30
1	EA	733	G	N9-C4-C5	-5.36	103.26	105.40
1	AA	2207	C	C6-N1-C2	-5.36	118.16	120.30
1	CA	876	C	P-O3'-C3'	5.36	126.13	119.70
1	CA	2224	G	C4-C5-N7	5.35	112.94	110.80
33	FA	1366	C	C6-N1-C2	5.35	122.44	120.30
1	CA	1996	C	O5'-P-OP1	-5.35	100.88	105.70
1	EA	2547	A	N9-C4-C5	5.35	107.94	105.80
1	AA	1091	G	C8-N9-C1'	5.35	133.96	127.00
1	AA	1233	C	O5'-P-OP1	-5.35	100.89	105.70
1	EA	1174	U	C5-C6-N1	5.35	125.37	122.70
1	EA	1249	U	O5'-P-OP2	-5.35	100.89	105.70
1	EA	2084	C	N3-C4-N4	5.35	121.75	118.00
1	GA	736	C	N3-C4-C5	5.35	124.04	121.90
1	GA	2502	G	N1-C6-O6	-5.35	116.69	119.90
1	AA	1544	A	C8-N9-C4	-5.35	103.66	105.80
1	EA	534	U	N1-C2-N3	5.35	118.11	114.90
1	AA	1122	G	N1-C2-N2	5.35	121.01	116.20
1	AA	1930	G	C4-N9-C1'	-5.35	119.55	126.50
33	BA	200	G	C5-C6-O6	-5.35	125.39	128.60
33	HA	177	G	C8-N9-C4	-5.35	104.26	106.40
1	EA	577	G	C4-C5-N7	-5.34	108.66	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1069	A	OP2-P-O3'	5.34	116.95	105.20
1	EA	1034	G	N9-C4-C5	5.34	107.54	105.40
1	GA	2498	C	C5-C4-N4	-5.34	116.46	120.20
1	AA	1690	A	N1-C6-N6	5.34	121.80	118.60
25	EY	56	LEU	CA-CB-CG	5.34	127.58	115.30
1	AA	464	U	OP2-P-O3'	5.34	116.95	105.20
1	AA	2053	G	C2-N3-C4	-5.34	109.23	111.90
1	AA	2550	G	C4-C5-N7	5.34	112.94	110.80
1	CA	2062	A	C8-N9-C4	5.34	107.94	105.80
1	EA	1670	C	C6-N1-C2	-5.34	118.16	120.30
1	EA	2608	G	N1-C6-O6	5.34	123.10	119.90
1	EA	2703	C	C6-N1-C2	-5.34	118.16	120.30
1	EA	2747	G	C5-C6-O6	-5.34	125.40	128.60
1	CA	776	G	C8-N9-C4	-5.34	104.27	106.40
1	EA	570	G	C4-C5-C6	5.34	122.00	118.80
2	EB	66	A	C8-N9-C4	5.34	107.94	105.80
1	CA	45	G	N1-C6-O6	-5.34	116.70	119.90
1	CA	2368	C	O5'-P-OP1	-5.34	100.90	105.70
33	DA	351	G	C4-C5-N7	5.34	112.94	110.80
1	EA	636	G	N1-C6-O6	5.34	123.10	119.90
1	EA	1965	C	N3-C4-C5	5.34	124.03	121.90
33	FA	1410	A	C8-N9-C4	-5.34	103.67	105.80
33	BA	996	A	O4'-C1'-N9	5.33	112.47	108.20
1	GA	2600	A	C8-N9-C4	-5.33	103.67	105.80
1	EA	776	G	C8-N9-C4	-5.33	104.27	106.40
1	EA	2712	C	N3-C2-O2	5.33	125.63	121.90
1	EA	785	G	N3-C4-C5	5.33	131.26	128.60
33	FA	1197	A	N1-C6-N6	5.33	121.80	118.60
33	HA	582	C	N3-C2-O2	5.33	125.63	121.90
1	AA	376	G	N3-C4-C5	-5.33	125.94	128.60
1	AA	2550	G	C6-C5-N7	-5.33	127.20	130.40
1	CA	1061	U	N1-C2-O2	5.33	126.53	122.80
1	CA	2590	A	C8-N9-C4	-5.33	103.67	105.80
1	EA	2211	A	P-O3'-C3'	5.33	126.09	119.70
1	EA	2228	G	C5-C6-O6	-5.33	125.40	128.60
1	EA	142	A	P-O3'-C3'	5.33	126.09	119.70
1	AA	1625	C	C6-N1-C2	5.33	122.43	120.30
1	AA	2228	G	C8-N9-C1'	-5.33	120.08	127.00
33	BA	684	U	N1-C2-N3	5.33	118.10	114.90
1	CA	2106	U	C5-C6-N1	5.33	125.36	122.70
1	GA	805	G	N3-C4-N9	5.33	129.19	126.00
1	AA	799	G	OP2-P-O3'	5.32	116.91	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	2570	G	N3-C4-N9	-5.32	122.81	126.00
54	FV	93	VAL	N-CA-C	-5.32	96.63	111.00
1	GA	1847	A	P-O3'-C3'	5.32	126.09	119.70
1	AA	2252	G	C6-C5-N7	-5.32	127.21	130.40
33	BA	1099	G	N1-C6-O6	-5.32	116.71	119.90
1	EA	2431	U	O5'-P-OP2	-5.32	100.91	105.70
1	EA	2582	G	C8-N9-C4	-5.32	104.27	106.40
33	FA	575	G	C4-C5-N7	-5.32	108.67	110.80
1	AA	1319	C	C6-N1-C2	-5.32	118.17	120.30
1	CA	1830	C	C6-N1-C2	-5.32	118.17	120.30
1	CA	2444	G	C8-N9-C4	-5.32	104.27	106.40
1	EA	2585	U	N1-C2-O2	5.32	126.52	122.80
33	FA	1101	A	C5-C6-N6	-5.32	119.45	123.70
1	GA	458	G	N1-C6-O6	5.32	123.09	119.90
1	GA	2181	U	C2-N1-C1'	5.32	124.08	117.70
1	CA	2106	U	C6-N1-C2	-5.32	117.81	121.00
1	AA	2053	G	C4-N9-C1'	5.31	133.41	126.50
1	CA	860	U	O5'-P-OP2	-5.31	100.92	105.70
1	AA	2076	U	O4'-C1'-N1	5.31	112.45	108.20
1	EA	793	A	O5'-P-OP2	-5.31	100.92	105.70
1	EA	814	C	C2-N3-C4	-5.31	117.24	119.90
1	EA	847	U	N3-C2-O2	-5.31	118.48	122.20
33	HA	1101	A	N1-C6-N6	5.31	121.79	118.60
1	AA	1142	A	N3-C4-N9	-5.31	123.15	127.40
33	DA	430	A	N1-C6-N6	5.31	121.79	118.60
33	FA	1493	A	P-O3'-C3'	5.31	126.07	119.70
1	GA	2027	G	C6-C5-N7	-5.31	127.22	130.40
1	GA	2498	C	N3-C4-C5	5.31	124.02	121.90
1	CA	275	C	C6-N1-C2	-5.31	118.18	120.30
1	EA	1407	G	C8-N9-C4	5.31	108.52	106.40
1	GA	783	A	C8-N9-C4	-5.31	103.68	105.80
33	HA	145	G	C5-C6-N1	-5.31	108.85	111.50
1	CA	1157	G	C5-C6-N1	-5.31	108.85	111.50
1	EA	1777	U	N1-C2-N3	5.30	118.08	114.90
33	HA	23	C	N1-C2-O2	5.30	122.08	118.90
1	EA	1936	A	C8-N9-C4	5.30	107.92	105.80
33	FA	319	G	OP2-P-O3'	5.30	116.87	105.20
1	GA	732	C	O5'-P-OP1	-5.30	100.93	105.70
1	CA	1256	G	C8-N9-C4	-5.30	104.28	106.40
1	CA	1263	U	N1-C2-O2	-5.30	119.09	122.80
1	EA	2585	U	P-O3'-C3'	5.30	126.06	119.70
1	EA	2645	G	O4'-C1'-N9	5.30	112.44	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	2694	G	C5-C6-O6	-5.30	125.42	128.60
1	GA	581	C	N3-C4-N4	5.30	121.71	118.00
1	AA	2251	G	N3-C4-N9	-5.30	122.82	126.00
33	FA	1305	G	N1-C6-O6	-5.30	116.72	119.90
1	GA	984	A	C6-C5-N7	-5.30	128.59	132.30
1	CA	132	G	C5-C6-O6	-5.30	125.42	128.60
33	DA	1137	C	N3-C2-O2	-5.30	118.19	121.90
1	GA	876	C	OP1-P-O3'	5.30	116.86	105.20
1	GA	1311	G	N7-C8-N9	5.30	115.75	113.10
50	HR	57	ARG	CB-CG-CD	-5.30	97.83	111.60
1	EA	1142	A	C2-N3-C4	-5.30	107.95	110.60
1	EA	2487	G	C4-C5-N7	5.30	112.92	110.80
33	DA	922	G	C8-N9-C4	-5.29	104.28	106.40
1	EA	752	A	N9-C1'-C2'	5.29	120.88	114.00
27	E0	19	ASP	CB-CG-OD2	5.29	123.06	118.30
1	AA	921	C	C6-N1-C2	5.29	122.42	120.30
1	CA	2465	C	C6-N1-C2	5.29	122.42	120.30
1	EA	451	U	O4'-C1'-N1	5.29	112.43	108.20
1	EA	1730	C	N3-C4-C5	5.29	124.02	121.90
1	AA	2072	C	O5'-P-OP1	-5.29	100.94	105.70
1	EA	1713	A	N9-C4-C5	-5.29	103.68	105.80
1	EA	2579	C	C4-C5-C6	-5.29	114.75	117.40
33	FA	981	U	C6-N1-C2	-5.29	117.83	121.00
1	CA	2290	G	C6-C5-N7	-5.29	127.23	130.40
1	AA	1574	C	C6-N1-C2	-5.29	118.19	120.30
1	CA	2348	U	C5-C4-O4	-5.29	122.73	125.90
1	CA	2433	A	N1-C6-N6	-5.29	115.43	118.60
1	GA	1025	G	N1-C6-O6	-5.29	116.73	119.90
33	HA	972	C	C6-N1-C2	5.29	122.42	120.30
1	EA	124	G	N1-C2-N2	5.29	120.96	116.20
33	HA	1012	A	N7-C8-N9	5.28	116.44	113.80
1	AA	2559	C	OP2-P-O3'	5.28	116.82	105.20
14	CN	71	ARG	NE-CZ-NH1	-5.28	117.66	120.30
33	FA	223	A	O5'-P-OP2	-5.28	100.95	105.70
1	GA	1687	G	N1-C6-O6	-5.28	116.73	119.90
33	BA	468	A	C4-C5-C6	5.28	119.64	117.00
1	EA	1288	G	O4'-C1'-N9	5.28	112.42	108.20
19	ES	19	LEU	CA-CB-CG	5.28	127.44	115.30
1	CA	229	C	N1-C2-O2	5.28	122.07	118.90
1	CA	765	C	N3-C4-C5	5.28	124.01	121.90
33	DA	427	U	O5'-P-OP2	5.28	117.03	110.70
33	DA	1413	A	C8-N9-C4	-5.28	103.69	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	967	U	C5-C4-O4	5.28	129.06	125.90
1	GA	62	U	N3-C2-O2	-5.28	118.51	122.20
1	GA	2103	C	C6-N1-C2	-5.28	118.19	120.30
33	DA	251	G	C5-C6-O6	-5.27	125.44	128.60
1	EA	2030	A	O4'-C1'-N9	5.27	112.42	108.20
33	BA	880	C	C6-N1-C2	5.27	122.41	120.30
44	FL	44	LYS	C-N-CD	5.27	139.47	128.40
1	GA	2038	G	C6-C5-N7	-5.27	127.24	130.40
1	GA	2402	U	C5-C4-O4	5.27	129.06	125.90
1	GA	2575	C	N1-C2-O2	-5.27	115.74	118.90
1	AA	528	A	N1-C6-N6	5.27	121.76	118.60
33	DA	279	A	C5-N7-C8	-5.27	101.26	103.90
1	EA	1201	U	OP2-P-O3'	5.27	116.80	105.20
1	CA	843	G	C8-N9-C4	-5.27	104.29	106.40
1	EA	679	C	C2-N3-C4	-5.27	117.27	119.90
1	AA	1094	U	N3-C4-C5	-5.27	111.44	114.60
1	EA	129	C	N3-C4-C5	5.27	124.01	121.90
33	HA	1334	G	N3-C4-C5	-5.27	125.97	128.60
1	AA	760	G	N3-C2-N2	-5.27	116.21	119.90
1	CA	1355	G	C5-C6-N1	-5.27	108.87	111.50
1	EA	535	G	C2-N3-C4	-5.27	109.27	111.90
32	E5	50	VAL	CG1-CB-CG2	5.27	119.33	110.90
1	AA	2228	G	C4-N9-C1'	5.26	133.34	126.50
1	CA	1786	A	O4'-C1'-N9	5.26	112.41	108.20
1	CA	2250	G	N7-C8-N9	5.26	115.73	113.10
1	EA	2676	C	C6-N1-C2	5.26	122.41	120.30
1	CA	767	U	C5-C4-O4	5.26	129.06	125.90
1	GA	332	A	N1-C6-N6	-5.26	115.44	118.60
1	AA	611	C	OP2-P-O3'	5.26	116.77	105.20
33	BA	328	C	N3-C2-O2	-5.26	118.22	121.90
1	CA	609	A	N1-C6-N6	5.26	121.76	118.60
1	CA	2351	G	C6-C5-N7	-5.26	127.24	130.40
1	EA	1007	C	C6-N1-C2	5.26	122.40	120.30
1	GA	128	C	N1-C2-O2	-5.26	115.74	118.90
1	EA	1130	U	O5'-P-OP1	-5.26	100.97	105.70
1	EA	1422	G	C5-C6-O6	5.26	131.75	128.60
1	AA	2503	A	N1-C6-N6	5.26	121.75	118.60
1	EA	1340	U	O4'-C1'-N1	5.26	112.41	108.20
1	EA	2580	U	C6-N1-C2	-5.26	117.85	121.00
1	CA	168	G	N1-C6-O6	5.25	123.05	119.90
1	CA	377	G	N3-C4-C5	-5.25	125.97	128.60
1	EA	1118	C	N1-C2-O2	-5.25	115.75	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	BA	452	A	N1-C6-N6	5.25	121.75	118.60
1	CA	2037	A	C8-N9-C4	-5.25	103.70	105.80
1	CA	1827	U	N3-C2-O2	-5.25	118.52	122.20
1	GA	561	G	N3-C4-N9	-5.25	122.85	126.00
1	GA	738	G	O5'-P-OP2	-5.25	100.97	105.70
1	GA	982	C	N1-C2-O2	5.25	122.05	118.90
1	GA	2304	G	N3-C4-N9	-5.25	122.85	126.00
1	GA	649	G	C8-N9-C4	-5.25	104.30	106.40
1	AA	1726	C	C5-C4-N4	-5.25	116.53	120.20
1	CA	2361	G	O5'-P-OP2	-5.25	100.98	105.70
1	AA	1771	C	OP2-P-O3'	5.25	116.74	105.20
1	GA	195	A	N7-C8-N9	5.25	116.42	113.80
33	HA	1484	C	N1-C2-O2	-5.25	115.75	118.90
1	EA	454	A	OP2-P-O3'	5.25	116.74	105.20
1	EA	1512	C	O5'-P-OP2	5.25	116.99	110.70
1	GA	2893	A	C8-N9-C4	5.25	107.90	105.80
32	A5	53	ARG	C-N-CA	5.24	134.81	121.70
33	BA	1515	G	C6-C5-N7	-5.24	127.25	130.40
1	EA	2202	U	C5-C4-O4	5.24	129.05	125.90
33	HA	382	A	O5'-P-OP2	-5.24	100.98	105.70
1	AA	1779	U	O5'-P-OP1	-5.24	100.98	105.70
12	CL	19	LEU	CA-CB-CG	5.24	127.36	115.30
1	EA	443	A	N9-C4-C5	5.24	107.90	105.80
1	GA	2553	G	C8-N9-C4	-5.24	104.30	106.40
33	DA	1086	U	N1-C2-O2	5.24	126.47	122.80
33	DA	1370	G	N3-C2-N2	-5.24	116.23	119.90
1	EA	565	C	N3-C4-N4	5.24	121.67	118.00
1	EA	1407	G	N1-C6-O6	5.24	123.04	119.90
1	CA	2839	G	O5'-P-OP1	-5.24	100.99	105.70
1	AA	1069	A	OP2-P-O3'	5.24	116.72	105.20
33	BA	522	C	O5'-P-OP2	-5.24	100.99	105.70
33	BA	1530	G	C4-N9-C1'	-5.24	119.69	126.50
33	FA	79	G	N3-C4-C5	-5.24	125.98	128.60
33	FA	206	C	C6-N1-C2	-5.24	118.21	120.30
1	GA	639	U	N3-C2-O2	-5.24	118.53	122.20
1	CA	2109	U	O4'-C1'-N1	5.23	112.39	108.20
1	GA	1293	C	C6-N1-C2	-5.23	118.21	120.30
1	GA	2537	U	C5-C4-O4	5.23	129.04	125.90
1	AA	2606	C	N1-C2-O2	-5.23	115.76	118.90
2	EB	55	U	C6-N1-C2	-5.23	117.86	121.00
1	CA	2286	G	C4-C5-N7	5.23	112.89	110.80
1	EA	647	G	C5-C6-O6	5.23	131.74	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2440	C	N1-C2-O2	5.23	122.04	118.90
1	EA	941	A	N9-C4-C5	-5.23	103.71	105.80
1	AA	1383	A	C8-N9-C4	5.22	107.89	105.80
1	CA	794	A	C8-N9-C4	5.22	107.89	105.80
33	FA	183	C	C5-C6-N1	5.22	123.61	121.00
1	AA	419	U	N3-C2-O2	-5.22	118.54	122.20
33	BA	1366	C	N3-C2-O2	5.22	125.56	121.90
1	CA	16	C	C6-N1-C2	-5.22	118.21	120.30
1	CA	1779	U	C2-N1-C1'	-5.22	111.43	117.70
1	CA	1963	U	C6-N1-C2	-5.22	117.87	121.00
2	CB	30	C	C6-N1-C2	-5.22	118.21	120.30
33	DA	87	C	N1-C2-O2	5.22	122.03	118.90
1	EA	672	C	C6-N1-C2	-5.22	118.21	120.30
33	FA	536	C	C6-N1-C2	-5.22	118.21	120.30
1	GA	818	G	N9-C4-C5	5.22	107.49	105.40
1	GA	2410	G	N1-C6-O6	5.22	123.03	119.90
1	AA	2557	G	C8-N9-C4	-5.22	104.31	106.40
1	EA	259	G	N9-C4-C5	5.22	107.49	105.40
1	GA	1788	C	N1-C2-O2	-5.22	115.77	118.90
1	AA	1737	G	C4-N9-C1'	5.22	133.28	126.50
1	GA	1251	C	N3-C2-O2	-5.22	118.25	121.90
1	EA	1940	U	C2-N1-C1'	5.21	123.96	117.70
1	GA	1509	A	OP2-P-O3'	5.21	116.67	105.20
1	AA	2712	C	OP1-P-O3'	5.21	116.67	105.20
1	AA	212	G	OP2-P-O3'	5.21	116.67	105.20
1	EA	1180	U	C5-C6-N1	5.21	125.31	122.70
2	GB	119	A	O5'-P-OP2	5.21	116.95	110.70
33	HA	481	G	C4-C5-N7	5.21	112.89	110.80
1	CA	2038	G	C5-C6-O6	-5.21	125.47	128.60
33	BA	1364	U	N1-C2-O2	5.21	126.44	122.80
1	EA	519	U	O5'-P-OP2	-5.21	101.01	105.70
1	EA	1328	A	O5'-P-OP2	-5.21	101.01	105.70
33	FA	890	G	O4'-C1'-N9	5.21	112.37	108.20
1	GA	2211	A	P-O3'-C3'	5.21	125.95	119.70
1	AA	1509	A	P-O3'-C3'	5.21	125.95	119.70
33	BA	1522	U	N3-C2-O2	-5.21	118.56	122.20
1	EA	372	G	N1-C6-O6	5.21	123.02	119.90
1	EA	669	G	C4-C5-N7	-5.21	108.72	110.80
1	EA	2710	C	N1-C2-N3	5.21	122.84	119.20
1	AA	1724	G	C8-N9-C4	-5.21	104.32	106.40
1	AA	1724	G	N7-C8-N9	5.21	115.70	113.10
33	BA	108	G	N7-C8-N9	5.21	115.70	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1238	G	N3-C4-C5	-5.20	126.00	128.60
33	BA	384	G	C5-C6-O6	-5.20	125.48	128.60
1	CA	1142	A	C2-N3-C4	-5.20	108.00	110.60
33	DA	290	C	OP2-P-O3'	5.20	116.65	105.20
33	DA	728	A	N1-C6-N6	-5.20	115.48	118.60
33	BA	328	C	C6-N1-C1'	-5.20	114.56	120.80
1	CA	11	C	C6-N1-C2	5.20	122.38	120.30
1	AA	465	G	OP2-P-O3'	5.20	116.64	105.20
1	CA	834	G	C4-C5-C6	5.20	121.92	118.80
2	CB	53	A	N1-C6-N6	5.20	121.72	118.60
1	GA	375	G	N3-C4-N9	-5.20	122.88	126.00
1	GA	527	C	P-O3'-C3'	5.20	125.94	119.70
1	GA	766	U	OP2-P-O3'	5.20	116.64	105.20
33	BA	1483	A	O5'-P-OP1	-5.20	101.02	105.70
1	EA	992	C	C6-N1-C2	-5.20	118.22	120.30
1	GA	2221	G	C8-N9-C4	-5.20	104.32	106.40
1	GA	1250	G	C5-C6-O6	-5.20	125.48	128.60
1	AA	776	G	C4-C5-C6	5.20	121.92	118.80
1	CA	2338	C	O5'-P-OP1	-5.20	101.02	105.70
1	CA	2455	G	C4-C5-C6	5.20	121.92	118.80
1	GA	548	G	O4'-C1'-N9	5.20	112.36	108.20
33	HA	115	G	N3-C4-C5	-5.20	126.00	128.60
1	AA	1937	A	O4'-C1'-N9	5.19	112.36	108.20
1	EA	2278	A	C8-N9-C4	-5.19	103.72	105.80
1	AA	2106	U	C6-N1-C2	-5.19	117.88	121.00
1	EA	1422	G	N1-C6-O6	-5.19	116.78	119.90
1	EA	2754	U	C6-N1-C2	-5.19	117.88	121.00
33	FA	1373	G	N1-C6-O6	5.19	123.02	119.90
1	AA	540	C	N1-C2-O2	-5.19	115.78	118.90
33	BA	326	G	C5-C6-O6	5.19	131.72	128.60
1	EA	780	G	O5'-P-OP2	-5.19	101.03	105.70
1	EA	972	A	OP1-P-OP2	-5.19	111.81	119.60
33	BA	1317	C	C6-N1-C2	5.19	122.38	120.30
1	EA	776	G	N1-C2-N3	5.19	127.01	123.90
1	GA	1078	U	O4'-C1'-N1	5.19	112.35	108.20
1	EA	520	G	N3-C4-C5	-5.19	126.01	128.60
33	HA	1364	U	N1-C2-O2	5.19	126.43	122.80
1	AA	974	G	C8-N9-C4	-5.18	104.33	106.40
1	AA	2747	G	OP2-P-O3'	5.18	116.60	105.20
1	CA	255	A	O4'-C1'-N9	-5.18	104.05	108.20
1	CA	2313	C	C6-N1-C2	-5.18	118.23	120.30
1	EA	2754	U	N3-C4-O4	5.18	123.03	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	HA	776	G	N3-C4-C5	5.18	131.19	128.60
1	AA	192	C	C5-C6-N1	5.18	123.59	121.00
1	CA	984	A	N1-C2-N3	5.18	131.89	129.30
1	AA	776	G	C8-N9-C4	-5.18	104.33	106.40
1	CA	2003	A	N1-C6-N6	-5.18	115.49	118.60
1	EA	515	A	C8-N9-C4	-5.18	103.73	105.80
1	AA	242	G	C8-N9-C4	5.18	108.47	106.40
1	AA	2025	C	C5-C4-N4	-5.18	116.57	120.20
1	EA	1355	G	C5-C6-N1	-5.18	108.91	111.50
1	EA	2040	G	C8-N9-C4	-5.18	104.33	106.40
1	EA	2855	C	C6-N1-C2	-5.18	118.23	120.30
32	A5	108	VAL	CA-CB-CG1	5.18	118.67	110.90
1	CA	2032	G	C5-N7-C8	-5.18	101.71	104.30
1	EA	5	A	C8-N9-C4	-5.18	103.73	105.80
2	EB	104	A	N1-C6-N6	5.18	121.71	118.60
1	AA	2231	U	N3-C2-O2	-5.17	118.58	122.20
33	FA	183	C	C6-N1-C2	-5.17	118.23	120.30
33	HA	70	U	C5-C6-N1	5.17	125.29	122.70
1	CA	468	G	N3-C2-N2	-5.17	116.28	119.90
1	EA	2580	U	C5-C6-N1	5.17	125.29	122.70
1	CA	1970	A	N9-C4-C5	5.17	107.87	105.80
1	EA	1310	G	C8-N9-C4	-5.17	104.33	106.40
1	EA	2440	C	N3-C4-C5	-5.17	119.83	121.90
1	EA	2586	U	C5-C4-O4	-5.17	122.80	125.90
1	EA	2787	C	N3-C2-O2	-5.17	118.28	121.90
1	AA	669	G	N3-C2-N2	-5.17	116.28	119.90
1	AA	1831	G	N3-C4-C5	-5.17	126.02	128.60
1	AA	2560	A	O5'-P-OP2	-5.17	101.05	105.70
33	BA	351	G	N7-C8-N9	5.17	115.68	113.10
33	DA	1201	A	P-O3'-C3'	5.17	125.90	119.70
1	EA	518	G	C4-C5-C6	5.17	121.90	118.80
1	EA	820	A	OP2-P-O3'	5.17	116.57	105.20
33	HA	1087	G	N1-C6-O6	5.17	123.00	119.90
1	AA	1342	A	N1-C6-N6	5.17	121.70	118.60
1	EA	2714	G	C2-N3-C4	-5.17	109.32	111.90
1	EA	578	G	N9-C4-C5	-5.17	103.33	105.40
1	GA	1347	A	O5'-P-OP1	-5.17	101.05	105.70
33	HA	1332	A	O4'-C1'-N9	5.17	112.33	108.20
1	AA	2058	A	OP2-P-O3'	5.16	116.56	105.20
1	CA	748	G	O4'-C1'-N9	5.16	112.33	108.20
1	CA	866	A	N1-C6-N6	5.16	121.70	118.60
1	EA	935	C	N3-C2-O2	5.16	125.51	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	1668	A	O4'-C1'-N9	-5.16	104.07	108.20
1	CA	988	A	N1-C6-N6	5.16	121.70	118.60
1	CA	1955	U	O5'-P-OP1	-5.16	101.05	105.70
1	EA	29	U	OP1-P-O3'	5.16	116.56	105.20
1	EA	835	C	O5'-P-OP2	-5.16	101.06	105.70
1	AA	1658	C	N1-C2-O2	-5.16	115.80	118.90
1	CA	830	G	N1-C6-O6	5.16	123.00	119.90
1	EA	248	G	O5'-P-OP1	5.16	116.89	110.70
1	EA	732	C	C6-N1-C2	-5.16	118.24	120.30
33	FA	339	C	N3-C2-O2	-5.16	118.29	121.90
1	AA	2445	G	N1-C2-N2	5.16	120.84	116.20
1	CA	117	G	O5'-P-OP2	-5.16	101.06	105.70
33	FA	1227	A	N1-C6-N6	5.16	121.69	118.60
1	GA	1032	A	C8-N9-C4	5.16	107.86	105.80
33	BA	1362	A	C4-C5-C6	-5.16	114.42	117.00
1	AA	1653	G	O5'-P-OP2	-5.16	101.06	105.70
1	CA	1913	A	N1-C6-N6	-5.15	115.51	118.60
1	EA	780	G	N9-C4-C5	5.15	107.46	105.40
1	GA	1438	U	N3-C4-O4	5.15	123.01	119.40
1	GA	1606	C	C2-N1-C1'	5.15	124.47	118.80
1	AA	921	C	N3-C2-O2	5.15	125.51	121.90
33	DA	557	G	C4-N9-C1'	5.15	133.20	126.50
1	EA	266	G	O5'-P-OP1	5.15	116.88	110.70
1	EA	2458	G	O5'-P-OP2	-5.15	101.06	105.70
33	DA	62	U	O5'-P-OP2	-5.15	101.06	105.70
1	EA	55	G	C4-C5-N7	-5.15	108.74	110.80
1	EA	2731	G	N3-C4-C5	-5.15	126.03	128.60
33	HA	1486	G	C6-C5-N7	-5.15	127.31	130.40
33	BA	1362	A	C8-N9-C1'	5.15	136.97	127.70
33	DA	177	G	C4-C5-N7	-5.15	108.74	110.80
1	EA	799	G	C2-N3-C4	-5.15	109.33	111.90
1	AA	801	G	N1-C6-O6	-5.15	116.81	119.90
1	AA	1099	G	N3-C4-C5	5.15	131.17	128.60
33	BA	384	G	N1-C6-O6	5.15	122.99	119.90
1	CA	1386	C	N3-C4-C5	-5.15	119.84	121.90
1	CA	2447	G	O4'-C1'-N9	5.15	112.32	108.20
1	EA	1322	A	N1-C6-N6	5.15	121.69	118.60
1	EA	1556	C	N3-C4-N4	-5.15	114.40	118.00
1	EA	1130	U	OP1-P-OP2	5.14	127.32	119.60
1	GA	2307	G	C8-N9-C4	5.14	108.46	106.40
43	HK	49	GLY	N-CA-C	5.14	125.96	113.10
1	AA	2303	G	C8-N9-C4	-5.14	104.34	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2361	G	OP1-P-OP2	5.14	127.31	119.60
1	AA	2560	A	C8-N9-C4	-5.14	103.74	105.80
33	BA	307	C	C6-N1-C2	5.14	122.36	120.30
1	CA	1997	C	C2-N1-C1'	-5.14	113.14	118.80
1	EA	1730	C	N3-C4-N4	-5.14	114.40	118.00
1	EA	2646	C	C5-C4-N4	-5.14	116.60	120.20
1	GA	901	C	C6-N1-C2	-5.14	118.24	120.30
24	CX	29	LEU	CA-CB-CG	5.14	127.12	115.30
1	AA	1655	A	N1-C6-N6	5.14	121.68	118.60
1	CA	1831	G	N9-C4-C5	5.14	107.46	105.40
33	DA	84	U	C6-N1-C2	-5.14	117.92	121.00
1	EA	2329	U	N3-C2-O2	5.14	125.80	122.20
1	GA	445	C	C6-N1-C2	-5.14	118.24	120.30
1	CA	473	G	O5'-P-OP2	-5.14	101.08	105.70
1	AA	2250	G	C6-C5-N7	-5.14	127.32	130.40
2	AB	53	A	C8-N9-C4	-5.14	103.75	105.80
33	FA	16	A	OP2-P-O3'	5.14	116.50	105.20
33	FA	1145	A	N9-C4-C5	5.14	107.86	105.80
33	HA	1364	U	C2-N1-C1'	5.14	123.86	117.70
33	DA	115	G	P-O3'-C3'	5.13	125.86	119.70
1	AA	557	C	C6-N1-C2	5.13	122.35	120.30
1	CA	843	G	N9-C4-C5	5.13	107.45	105.40
1	EA	1940	U	O5'-P-OP2	-5.13	101.08	105.70
33	HA	1304	G	N7-C8-N9	5.13	115.67	113.10
1	EA	809	G	N3-C4-C5	-5.13	126.03	128.60
1	EA	1373	A	O5'-P-OP2	-5.13	101.08	105.70
1	EA	2061	G	N3-C4-C5	-5.13	126.03	128.60
1	EA	2319	G	N1-C6-O6	5.13	122.98	119.90
1	AA	254	G	O5'-P-OP2	-5.13	101.08	105.70
1	AA	372	G	C8-N9-C1'	5.13	133.67	127.00
33	DA	810	C	O5'-P-OP2	-5.13	101.08	105.70
33	FA	1371	G	C8-N9-C4	-5.13	104.35	106.40
1	GA	191	A	C8-N9-C4	5.13	107.85	105.80
33	HA	772	U	O5'-P-OP1	5.13	116.85	110.70
1	AA	2567	G	C8-N9-C4	-5.13	104.35	106.40
33	BA	35	G	N1-C6-O6	5.13	122.97	119.90
1	EA	201	C	N3-C4-C5	5.13	123.95	121.90
33	BA	438	U	O4'-C1'-N1	5.12	112.30	108.20
1	EA	2232	C	N1-C2-O2	-5.12	115.83	118.90
1	AA	1695	G	N3-C4-C5	-5.12	126.04	128.60
33	BA	70	U	C2-N1-C1'	5.12	123.85	117.70
1	EA	849	A	C2-N3-C4	-5.12	108.04	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	2056	G	O5'-P-OP2	-5.12	101.09	105.70
1	EA	2756	U	O5'-P-OP2	5.12	116.85	110.70
1	GA	421	C	C6-N1-C2	5.12	122.35	120.30
33	HA	541	G	N3-C4-C5	5.12	131.16	128.60
1	AA	445	C	C6-N1-C2	-5.12	118.25	120.30
1	CA	2587	A	N1-C6-N6	5.12	121.67	118.60
1	EA	447	A	C5-C6-N6	-5.12	119.60	123.70
1	EA	1959	G	O5'-P-OP2	-5.12	101.09	105.70
1	EA	2228	G	C6-C5-N7	-5.12	127.33	130.40
33	DA	451	A	P-O3'-C3'	5.12	125.84	119.70
1	EA	2822	G	OP2-P-O3'	5.12	116.47	105.20
55	FW	3	SER	N-CA-CB	-5.12	102.82	110.50
1	EA	2017	U	N3-C4-O4	5.12	122.98	119.40
33	FA	1364	U	C2-N1-C1'	5.12	123.84	117.70
33	FA	1525	G	C8-N9-C4	-5.12	104.35	106.40
1	GA	510	C	N1-C2-O2	5.12	121.97	118.90
1	AA	690	G	N9-C4-C5	5.12	107.45	105.40
33	DA	1526	G	O5'-P-OP1	-5.12	101.10	105.70
1	GA	542	C	C6-N1-C2	-5.12	118.25	120.30
1	GA	783	A	C6-C5-N7	-5.12	128.72	132.30
1	AA	117	G	N3-C4-C5	-5.11	126.04	128.60
1	AA	1626	A	P-O3'-C3'	5.11	125.84	119.70
1	CA	2032	G	C2-N3-C4	-5.11	109.34	111.90
1	GA	1438	U	C5-C4-O4	-5.11	122.83	125.90
1	AA	2544	G	N9-C4-C5	-5.11	103.36	105.40
33	DA	890	G	O4'-C1'-N9	5.11	112.29	108.20
1	EA	738	G	N1-C6-O6	-5.11	116.83	119.90
1	AA	331	C	N3-C2-O2	-5.11	118.32	121.90
1	AA	1298	C	C6-N1-C2	-5.11	118.26	120.30
1	AA	2447	G	C4-C5-N7	5.11	112.84	110.80
1	AA	2547	A	O4'-C1'-N9	5.11	112.29	108.20
2	CB	98	G	N1-C6-O6	-5.11	116.83	119.90
1	CA	528	A	C5-N7-C8	-5.11	101.35	103.90
1	EA	25	U	N3-C4-O4	5.11	122.98	119.40
1	EA	2525	G	OP2-P-O3'	5.11	116.44	105.20
1	EA	2696	U	N1-C2-O2	-5.11	119.22	122.80
1	AA	2608	G	C5-C6-O6	-5.11	125.53	128.60
1	CA	62	U	N3-C2-O2	-5.11	118.62	122.20
1	GA	969	G	C2-N3-C4	-5.11	109.35	111.90
1	CA	1422	G	C4-C5-N7	5.11	112.84	110.80
1	CA	2675	A	OP2-P-O3'	5.11	116.43	105.20
1	EA	379	G	N9-C4-C5	5.11	107.44	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	EA	528	A	C5-C6-N1	-5.11	115.15	117.70
1	EA	2447	G	C8-N9-C1'	-5.11	120.36	127.00
1	EA	2778	A	C8-N9-C4	-5.11	103.76	105.80
33	BA	468	A	C8-N9-C4	-5.10	103.76	105.80
1	AA	331	C	N3-C4-C5	5.10	123.94	121.90
1	AA	587	C	N3-C4-C5	-5.10	119.86	121.90
1	AA	1027	A	OP2-P-O3'	5.10	116.42	105.20
1	AA	2139	U	C2-N1-C1'	5.10	123.82	117.70
1	AA	2441	U	N3-C2-O2	-5.10	118.63	122.20
33	BA	758	C	N1-C2-O2	5.10	121.96	118.90
1	EA	1022	G	C5-C6-O6	-5.10	125.54	128.60
33	FA	16	A	N1-C6-N6	-5.10	115.54	118.60
1	GA	863	A	C8-N9-C4	-5.10	103.76	105.80
1	GA	1073	A	N1-C6-N6	5.10	121.66	118.60
1	GA	2585	U	P-O3'-C3'	5.10	125.82	119.70
1	AA	484	C	C6-N1-C2	5.10	122.34	120.30
1	AA	1534	U	N1-C2-O2	5.10	126.37	122.80
1	EA	2721	A	N9-C4-C5	5.10	107.84	105.80
1	GA	75	G	C6-C5-N7	-5.10	127.34	130.40
1	AA	636	G	C4-C5-N7	5.10	112.84	110.80
1	AA	741	U	OP1-P-O3'	5.10	116.42	105.20
1	AA	2518	A	OP1-P-O3'	5.10	116.42	105.20
33	DA	779	C	C6-N1-C2	-5.10	118.26	120.30
33	DA	821	G	N1-C6-O6	-5.10	116.84	119.90
1	EA	729	G	C4-N9-C1'	5.10	133.13	126.50
1	AA	447	A	C8-N9-C4	-5.10	103.76	105.80
33	DA	328	C	C6-N1-C1'	-5.10	114.68	120.80
1	EA	252	G	OP2-P-O3'	5.10	116.41	105.20
1	EA	2679	A	C6-N1-C2	-5.10	115.54	118.60
1	GA	200	U	C6-N1-C2	-5.10	117.94	121.00
1	EA	2731	G	N3-C4-N9	5.10	129.06	126.00
33	BA	845	A	C8-N9-C4	-5.09	103.76	105.80
33	DA	545	C	C6-N1-C2	-5.09	118.26	120.30
33	DA	902	G	N1-C6-O6	-5.09	116.84	119.90
1	GA	984	A	C5-C6-N1	-5.09	115.15	117.70
1	GA	1095	A	O5'-P-OP1	5.09	116.81	110.70
33	HA	530	G	N7-C8-N9	5.09	115.65	113.10
1	AA	404	A	OP2-P-O3'	5.09	116.40	105.20
1	AA	2719	G	C8-N9-C1'	-5.09	120.38	127.00
1	CA	246	C	OP2-P-O3'	5.09	116.40	105.20
1	CA	1157	G	C2-N3-C4	-5.09	109.35	111.90
33	DA	262	A	N1-C6-N6	-5.09	115.55	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	E2	43	THR	N-CA-C	5.09	124.75	111.00
1	AA	1969	A	N1-C6-N6	-5.09	115.55	118.60
33	BA	351	G	C5-N7-C8	-5.09	101.76	104.30
1	CA	1815	A	N1-C6-N6	-5.09	115.55	118.60
1	AA	2153	C	C5-C6-N1	5.09	123.54	121.00
1	CA	55	G	C8-N9-C4	-5.09	104.36	106.40
1	CA	2222	C	OP2-P-O3'	5.09	116.39	105.20
1	CA	2443	C	N3-C2-O2	-5.09	118.34	121.90
1	EA	965	C	C6-N1-C2	-5.09	118.27	120.30
1	GA	1925	C	C2-N3-C4	5.09	122.44	119.90
33	HA	486	U	N3-C2-O2	-5.09	118.64	122.20
6	GF	15	LEU	CA-CB-CG	-5.08	103.61	115.30
33	HA	1285	A	O4'-C1'-N9	5.08	112.27	108.20
1	AA	14	A	O5'-P-OP1	-5.08	101.12	105.70
1	AA	614	A	O4'-C1'-N9	-5.08	104.13	108.20
1	AA	1322	A	O5'-P-OP2	-5.08	101.12	105.70
33	FA	279	A	N7-C8-N9	5.08	116.34	113.80
1	GA	2307	G	N1-C6-O6	5.08	122.95	119.90
33	DA	701	U	P-O3'-C3'	5.08	125.80	119.70
1	EA	995	C	OP1-P-O3'	5.08	116.38	105.20
1	EA	2523	G	N7-C8-N9	5.08	115.64	113.10
1	GA	2071	A	P-O3'-C3'	5.08	125.80	119.70
33	DA	1178	G	C8-N9-C4	-5.08	104.37	106.40
33	FA	569	C	N3-C2-O2	-5.08	118.34	121.90
1	AA	564	C	C6-N1-C2	-5.08	118.27	120.30
1	AA	1190	G	C4-N9-C1'	-5.08	119.90	126.50
33	BA	702	A	O4'-C1'-N9	-5.08	104.14	108.20
1	CA	1983	G	OP2-P-O3'	5.08	116.37	105.20
33	HA	1362	A	C8-N9-C1'	5.08	136.84	127.70
1	AA	817	C	N3-C2-O2	-5.08	118.35	121.90
1	AA	1165	A	C8-N9-C4	-5.08	103.77	105.80
1	AA	1938	A	N1-C6-N6	-5.08	115.56	118.60
1	AA	2446	G	OP2-P-O3'	5.08	116.37	105.20
1	CA	271	G	OP1-P-O3'	5.08	116.36	105.20
1	CA	1073	A	O5'-P-OP2	5.08	116.79	110.70
2	EB	100	G	N1-C6-O6	5.08	122.94	119.90
1	AA	2867	G	O5'-P-OP1	-5.07	101.14	105.70
1	CA	1458	U	P-O3'-C3'	5.07	125.79	119.70
1	CA	1621	U	OP2-P-O3'	5.07	116.36	105.20
1	EA	1814	G	C5-C6-N1	-5.07	108.96	111.50
33	FA	1222	G	C5-C6-N1	-5.07	108.96	111.50
33	BA	684	U	N3-C2-O2	-5.07	118.65	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	FA	971	G	N3-C4-N9	5.07	129.04	126.00
33	FA	971	G	O4'-C1'-N9	5.07	112.26	108.20
1	AA	1532	A	C5-C6-N6	-5.07	119.64	123.70
33	BA	1201	A	P-O3'-C3'	5.07	125.78	119.70
1	EA	2512	C	N1-C2-O2	-5.07	115.86	118.90
33	FA	759	A	OP2-P-O3'	5.07	116.35	105.20
1	GA	528	A	N1-C2-N3	5.07	131.84	129.30
1	AA	635	C	C6-N1-C2	-5.07	118.27	120.30
2	AB	110	C	N3-C2-O2	-5.07	118.35	121.90
33	BA	328	C	C2-N3-C4	5.07	122.43	119.90
1	CA	2105	U	C2-N1-C1'	5.07	123.78	117.70
1	EA	625	G	C5-C6-O6	-5.07	125.56	128.60
1	GA	1005	C	O5'-P-OP2	-5.07	101.14	105.70
1	CA	1190	G	C6-C5-N7	-5.07	127.36	130.40
1	CA	1513	U	C5-C4-O4	5.07	128.94	125.90
1	GA	2152	G	N3-C4-C5	-5.07	126.07	128.60
1	CA	445	C	O5'-P-OP2	-5.06	101.14	105.70
1	EA	1763	G	N3-C4-C5	-5.06	126.07	128.60
1	EA	2023	C	O5'-P-OP2	-5.06	101.14	105.70
1	EA	2061	G	C8-N9-C1'	-5.06	120.42	127.00
1	GA	1063	G	C4-N9-C1'	5.06	133.08	126.50
1	GA	1825	U	O5'-P-OP2	-5.06	101.14	105.70
33	FA	351	G	C8-N9-C4	-5.06	104.38	106.40
1	GA	1022	G	C8-N9-C4	-5.06	104.38	106.40
33	HA	72	A	C8-N9-C4	-5.06	103.78	105.80
1	AA	1262	A	N1-C6-N6	5.06	121.64	118.60
1	AA	2251	G	O5'-P-OP1	-5.06	101.15	105.70
1	AA	2850	A	OP1-P-O3'	5.06	116.33	105.20
1	CA	2862	G	O5'-P-OP2	-5.06	101.15	105.70
1	EA	2510	C	C6-N1-C1'	5.06	126.87	120.80
1	EA	2581	G	N1-C2-N2	-5.06	111.65	116.20
1	GA	657	U	O5'-P-OP2	-5.06	101.15	105.70
1	GA	2599	G	C5-N7-C8	5.06	106.83	104.30
1	AA	2445	G	N3-C2-N2	-5.06	116.36	119.90
33	BA	468	A	C6-C5-N7	-5.06	128.76	132.30
33	DA	481	G	N9-C4-C5	-5.06	103.38	105.40
1	EA	871	U	N1-C2-O2	5.06	126.34	122.80
1	EA	2033	A	O5'-P-OP2	-5.06	101.15	105.70
33	FA	177	G	N3-C4-C5	-5.06	126.07	128.60
1	GA	1795	C	C6-N1-C2	-5.06	118.28	120.30
1	CA	1518	C	OP2-P-O3'	5.06	116.32	105.20
2	EB	100	G	C5-C6-O6	-5.06	125.57	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	1291	C	N1-C2-O2	5.06	121.93	118.90
1	AA	1945	G	C4-N9-C1'	5.05	133.07	126.50
13	AM	70	ASP	CB-CG-OD1	5.05	122.85	118.30
1	CA	704	G	N9-C4-C5	-5.05	103.38	105.40
1	CA	1355	G	N3-C2-N2	-5.05	116.36	119.90
1	EA	1469	A	C5-C6-N6	5.05	127.74	123.70
1	AA	1261	C	O5'-P-OP2	5.05	116.76	110.70
1	EA	336	C	C6-N1-C2	-5.05	118.28	120.30
1	EA	732	C	OP1-P-O3'	5.05	116.32	105.20
1	EA	1290	C	C6-N1-C2	-5.05	118.28	120.30
1	AA	770	G	C5-C6-O6	5.05	131.63	128.60
33	DA	85	U	N3-C2-O2	-5.05	118.66	122.20
1	EA	860	U	O5'-P-OP2	-5.05	101.15	105.70
1	GA	200	U	N3-C2-O2	-5.05	118.67	122.20
1	AA	923	G	N1-C2-N2	-5.05	111.66	116.20
1	AA	2719	G	C4-C5-C6	5.05	121.83	118.80
1	CA	954	G	N3-C2-N2	-5.05	116.37	119.90
1	EA	2561	U	N3-C4-O4	5.05	122.94	119.40
1	GA	142	A	C4-C5-C6	5.05	119.53	117.00
1	GA	2031	A	C8-N9-C4	-5.05	103.78	105.80
1	EA	910	A	O5'-P-OP2	-5.05	101.16	105.70
1	EA	1983	G	N1-C6-O6	-5.05	116.87	119.90
33	FA	903	G	N1-C6-O6	5.05	122.93	119.90
1	AA	455	C	C6-N1-C2	-5.05	118.28	120.30
1	AA	2578	G	O5'-P-OP1	-5.05	101.16	105.70
1	AA	2640	G	OP2-P-O3'	5.05	116.30	105.20
33	BA	319	G	C8-N9-C1'	5.05	133.56	127.00
1	EA	197	A	C5-C6-N6	-5.05	119.66	123.70
1	EA	1061	U	N3-C2-O2	-5.05	118.67	122.20
1	GA	2067	G	N9-C4-C5	5.05	107.42	105.40
1	GA	249	C	C5-C4-N4	-5.04	116.67	120.20
1	AA	578	G	N3-C4-N9	5.04	129.03	126.00
1	AA	750	A	O5'-P-OP2	5.04	116.75	110.70
1	CA	2719	G	C4-N9-C1'	5.04	133.06	126.50
1	EA	801	G	OP2-P-O3'	5.04	116.29	105.20
1	EA	1224	U	C2-N1-C1'	-5.04	111.65	117.70
1	GA	195	A	C5-N7-C8	-5.04	101.38	103.90
33	HA	779	C	C6-N1-C2	-5.04	118.28	120.30
1	AA	16	C	C6-N1-C2	5.04	122.32	120.30
1	EA	204	A	C8-N9-C4	5.04	107.82	105.80
33	DA	1370	G	C8-N9-C4	-5.04	104.38	106.40
1	AA	1989	G	C5-C6-O6	5.04	131.62	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	BA	108	G	C4-C5-N7	5.04	112.82	110.80
1	EA	665	U	N3-C2-O2	5.04	125.73	122.20
1	GA	1088	A	P-O3'-C3'	5.04	125.75	119.70
1	AA	792	A	C5-N7-C8	-5.04	101.38	103.90
1	AA	931	U	C6-N1-C2	-5.04	117.98	121.00
1	AA	2250	G	O5'-P-OP2	-5.04	101.17	105.70
1	CA	2583	G	C6-C5-N7	-5.04	127.38	130.40
1	EA	1507	C	C6-N1-C2	-5.04	118.29	120.30
1	GA	639	U	C5-C4-O4	5.04	128.92	125.90
1	AA	466	A	C6-C5-N7	-5.03	128.78	132.30
1	AA	2585	U	C6-N1-C2	-5.03	117.98	121.00
2	EB	101	A	C2-N3-C4	-5.03	108.08	110.60
1	GA	2140	G	C5'-C4'-O4'	5.03	115.14	109.10
33	HA	1332	A	N9-C1'-C2'	5.03	120.54	114.00
1	AA	75	G	OP2-P-O3'	5.03	116.26	105.20
1	AA	995	C	O4'-C1'-N1	-5.03	104.18	108.20
1	EA	1565	C	N1-C2-O2	5.03	121.92	118.90
33	FA	1519	A	N1-C6-N6	-5.03	115.58	118.60
33	DA	1530	G	O4'-C1'-N9	5.03	112.22	108.20
1	EA	1132	U	C5-C6-N1	5.03	125.21	122.70
33	HA	1087	G	N1-C2-N3	5.03	126.92	123.90
1	EA	2606	C	C2-N1-C1'	-5.02	113.27	118.80
24	CX	63	ILE	CB-CA-C	-5.02	101.55	111.60
1	EA	613	A	N7-C8-N9	5.02	116.31	113.80
33	HA	947	G	C5-C6-O6	-5.02	125.59	128.60
1	CA	1407	G	N1-C6-O6	5.02	122.91	119.90
33	HA	1322	C	N3-C2-O2	-5.02	118.39	121.90
1	AA	197	A	N1-C6-N6	5.02	121.61	118.60
1	AA	1189	A	C2-N3-C4	-5.02	108.09	110.60
1	CA	404	A	OP2-P-O3'	5.02	116.24	105.20
1	EA	834	G	C5-C6-N1	-5.02	108.99	111.50
1	EA	907	G	OP2-P-O3'	5.02	116.24	105.20
1	EA	1263	U	C5-C4-O4	5.02	128.91	125.90
32	E5	92	ALA	N-CA-C	5.02	124.55	111.00
1	GA	1989	G	N1-C6-O6	-5.02	116.89	119.90
1	AA	1796	U	OP2-P-O3'	5.02	116.24	105.20
1	CA	2437	G	C6-C5-N7	-5.02	127.39	130.40
2	CB	98	G	C2-N3-C4	-5.02	109.39	111.90
1	EA	1403	A	N1-C6-N6	5.02	121.61	118.60
1	EA	1419	A	O4'-C1'-N9	5.02	112.21	108.20
33	FA	946	A	O5'-P-OP2	5.02	116.72	110.70
33	DA	503	C	C6-N1-C2	-5.02	118.29	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	GA	1666	G	C5-C6-O6	-5.02	125.59	128.60
1	AA	2358	A	N9-C4-C5	5.01	107.81	105.80
1	AA	2447	G	N3-C2-N2	-5.01	116.39	119.90
33	BA	495	A	N9-C4-C5	5.01	107.81	105.80
1	EA	805	G	OP2-P-O3'	5.01	116.23	105.20
1	EA	1245	G	N1-C2-N2	-5.01	111.69	116.20
1	EA	1694	C	O5'-P-OP2	5.01	116.72	110.70
20	ET	7	LEU	CB-CG-CD2	-5.01	102.48	111.00
1	GA	404	A	C6-C5-N7	-5.01	128.79	132.30
1	AA	192	C	C6-N1-C2	-5.01	118.30	120.30
1	EA	404	A	OP2-P-O3'	5.01	116.23	105.20
1	EA	793	A	N1-C2-N3	5.01	131.81	129.30
1	AA	2508	G	N1-C6-O6	5.01	122.91	119.90
1	CA	725	G	C6-C5-N7	-5.01	127.39	130.40
1	CA	2060	A	N1-C6-N6	-5.01	115.59	118.60
33	DA	1178	G	N3-C4-C5	-5.01	126.09	128.60
1	EA	518	G	N3-C4-C5	-5.01	126.09	128.60
1	EA	1225	G	O5'-P-OP1	-5.01	101.19	105.70
1	EA	1252	G	C8-N9-C4	-5.01	104.39	106.40
1	EA	1597	A	OP1-P-O3'	5.01	116.22	105.20
1	GA	1247	A	P-O3'-C3'	5.01	125.71	119.70
1	GA	2795	C	C6-N1-C2	-5.01	118.30	120.30
33	BA	1370	G	C5-C6-N1	-5.01	109.00	111.50
1	CA	570	G	C5-C6-N1	-5.01	109.00	111.50
1	CA	805	G	C6-C5-N7	-5.01	127.39	130.40
1	CA	1478	G	N1-C6-O6	5.01	122.91	119.90
1	CA	2607	G	C8-N9-C4	-5.01	104.40	106.40
33	DA	406	G	N3-C4-N9	5.01	129.00	126.00
1	EA	413	C	O5'-P-OP1	-5.01	101.19	105.70
1	EA	821	A	O5'-P-OP1	5.01	116.71	110.70
1	EA	2864	G	O5'-P-OP2	-5.01	101.19	105.70
33	FA	1202	U	O5'-P-OP1	-5.01	101.19	105.70
1	CA	196	A	O4'-C1'-N9	5.01	112.20	108.20
1	CA	1825	U	N1-C2-O2	-5.01	119.30	122.80
1	EA	374	A	C8-N9-C4	5.01	107.80	105.80
33	DA	34	C	N1-C2-O2	-5.00	115.90	118.90
1	EA	808	G	OP1-P-OP2	5.00	127.11	119.60
1	GA	2503	A	C2-N3-C4	5.00	113.10	110.60
1	AA	2252	G	N1-C6-O6	5.00	122.90	119.90
1	EA	187	G	N3-C4-C5	-5.00	126.10	128.60
1	EA	268	C	N1-C2-O2	-5.00	115.90	118.90
1	EA	1694	C	N3-C2-O2	-5.00	118.40	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	FA	947	G	O5'-P-OP2	5.00	116.70	110.70
1	GA	1142	A	C5-N7-C8	-5.00	101.40	103.90
1	GA	1180	U	N3-C2-O2	-5.00	118.70	122.20
1	GA	2067	G	C8-N9-C4	-5.00	104.40	106.40
1	CA	948	C	OP2-P-O3'	5.00	116.20	105.20
1	EA	1002	G	O5'-P-OP1	-5.00	101.20	105.70
1	EA	2584	U	N1-C2-O2	-5.00	119.30	122.80

There are no chirality outliers.

All (23) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
32	A5	130	PRO	Peptide
32	A5	134	GLU	Peptide
44	BL	23	ALA	Peptide
54	BV	218	TRP	Peptide
54	BV	304	ASP	Peptide
3	CC	139	THR	Peptide
4	CD	10	GLY	Peptide
4	CD	9	VAL	Peptide
44	DL	23	ALA	Peptide
54	DV	218	TRP	Peptide
54	DV	304	ASP	Peptide
3	EC	139	THR	Peptide
4	ED	10	GLY	Peptide
41	FI	41	ARG	Peptide
44	FL	23	ALA	Peptide
54	FV	218	TRP	Peptide
54	FV	304	ASP	Peptide
3	GC	139	THR	Peptide
4	GD	10	GLY	Peptide
44	HL	23	ALA	Peptide
54	HV	218	TRP	Peptide
54	HV	304	ASP	Peptide
54	HV	588	SER	Peptide

5.2 Too-close contacts

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

the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	61274	0	30818	1057	0
1	CA	61274	0	30819	919	0
1	EA	61274	0	30819	835	0
1	GA	61274	0	30819	917	3
2	AB	2529	0	1281	36	0
2	CB	2529	0	1281	34	0
2	EB	2529	0	1281	35	0
2	GB	2529	0	1281	37	0
3	AC	2082	0	2157	67	0
3	CC	2082	0	2157	68	0
3	EC	2082	0	2157	65	0
3	GC	2082	0	2157	57	0
4	AD	1565	0	1616	78	0
4	CD	1565	0	1616	75	0
4	ED	1565	0	1616	72	0
4	GD	1565	0	1616	77	0
5	AE	1552	0	1619	63	0
5	CE	1552	0	1619	34	0
5	EE	1552	0	1619	42	0
5	GE	1552	0	1619	56	0
6	AF	1410	0	1447	133	0
6	CF	1410	0	1447	53	0
6	EF	1410	0	1447	60	0
6	GF	1410	0	1447	92	1
7	AG	1323	0	1374	65	0
7	CG	1323	0	1374	65	0
7	EG	1323	0	1374	48	0
7	GG	1323	0	1374	58	0
8	AH	384	0	405	12	0
8	CH	384	0	405	18	0
8	EH	384	0	405	15	0
8	GH	384	0	405	11	0
9	AI	1032	0	1088	70	0
9	CI	1032	0	1088	62	0
9	EI	1032	0	1088	48	0
9	GI	1032	0	1088	82	0
10	AJ	1129	0	1162	49	0
10	CJ	1129	0	1162	58	0
10	EJ	1129	0	1162	76	0
10	GJ	1129	0	1162	57	0
11	AK	938	0	1012	40	0
11	CK	938	0	1012	57	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	EK	938	0	1012	49	0
11	GK	938	0	1012	42	0
12	AL	1045	0	1117	51	0
12	CL	1045	0	1117	38	0
12	EL	1045	0	1117	35	0
12	GL	1045	0	1117	50	0
13	AM	1074	0	1157	29	0
13	CM	1074	0	1157	33	0
13	EM	1074	0	1157	29	0
13	GM	1074	0	1157	24	0
14	AN	960	0	1000	35	0
14	CN	960	0	1000	44	0
14	EN	960	0	1000	33	0
14	GN	960	0	1000	36	0
15	AO	892	0	923	41	0
15	CO	892	0	923	32	0
15	EO	892	0	923	21	0
15	GO	892	0	923	29	0
16	AP	917	0	965	63	0
16	CP	917	0	965	58	0
16	EP	917	0	965	52	0
16	GP	917	0	965	49	0
17	AQ	947	0	1022	53	0
17	CQ	947	0	1022	56	0
17	EQ	947	0	1022	58	0
17	GQ	947	0	1022	56	0
18	AR	816	0	839	41	0
18	CR	816	0	839	49	0
18	ER	816	0	839	46	0
18	GR	816	0	839	34	0
19	AS	857	0	922	21	0
19	CS	857	0	922	27	0
19	ES	857	0	922	26	0
19	GS	857	0	922	30	0
20	AT	738	0	807	51	0
20	CT	738	0	807	54	0
20	ET	738	0	807	34	0
20	GT	738	0	807	47	0
21	AU	779	0	834	31	0
21	CU	779	0	834	19	0
21	EU	779	0	834	28	0
21	GU	779	0	834	27	1

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	AV	753	0	780	10	0
22	CV	753	0	780	16	0
22	EV	753	0	780	16	0
22	GV	753	0	780	25	0
23	AW	596	0	610	83	0
23	CW	596	0	610	78	0
23	EW	596	0	610	100	0
23	GW	596	0	610	85	0
24	AX	625	0	655	21	0
24	CX	625	0	655	20	0
24	EX	625	0	655	26	0
24	GX	625	0	655	24	0
25	AY	509	0	543	12	0
25	CY	509	0	543	16	0
25	EY	509	0	543	17	0
25	GY	509	0	543	11	0
26	AZ	449	0	491	6	0
26	CZ	449	0	491	11	0
26	EZ	449	0	491	15	0
26	GZ	449	0	491	14	0
27	A0	444	0	461	20	0
27	C0	444	0	461	15	0
27	E0	444	0	461	6	0
27	G0	444	0	461	12	0
28	A1	409	0	440	18	0
28	C1	409	0	440	23	0
28	E1	409	0	440	14	0
28	G1	409	0	440	13	0
29	A2	377	0	418	12	0
29	C2	377	0	418	9	0
29	E2	377	0	418	15	0
29	G2	377	0	418	8	0
30	A3	504	0	574	20	0
30	C3	504	0	574	16	0
30	E3	504	0	574	14	0
30	G3	504	0	574	21	0
31	A4	302	0	340	14	0
31	C4	302	0	340	17	0
31	E4	302	0	340	14	0
31	G4	302	0	340	13	0
32	A5	1117	0	1155	135	0
32	E5	1092	0	1134	122	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
33	BA	32895	0	16553	571	0
33	DA	32895	0	16553	534	0
33	FA	32895	0	16553	435	3
33	HA	32895	0	16553	430	0
34	BB	1704	0	1732	67	0
34	DB	1704	0	1732	87	0
34	FB	1704	0	1732	79	0
34	HB	1704	0	1732	72	0
35	BC	1624	0	1696	52	0
35	DC	1624	0	1696	40	0
35	FC	1624	0	1696	38	0
35	HC	1624	0	1696	50	0
36	BD	1643	0	1707	80	0
36	DD	1643	0	1707	83	0
36	FD	1643	0	1707	73	0
36	HD	1643	0	1707	72	0
37	BE	1105	0	1148	61	0
37	DE	1105	0	1148	33	0
37	FE	1105	0	1148	50	0
37	HE	1105	0	1148	37	0
38	BF	817	0	808	51	0
38	DF	817	0	808	28	0
38	FF	817	0	808	28	0
38	HF	817	0	808	25	0
39	BG	1181	0	1238	25	0
39	DG	1181	0	1238	31	0
39	FG	1181	0	1238	35	0
39	HG	1181	0	1238	38	0
40	BH	979	0	1031	50	0
40	DH	979	0	1031	28	0
40	FH	979	0	1031	34	0
40	HH	979	0	1031	28	0
41	BI	1022	0	1070	58	0
41	DI	1022	0	1070	53	0
41	FI	1022	0	1070	44	0
41	HI	1022	0	1070	59	0
42	BJ	786	0	828	26	0
42	DJ	786	0	828	34	0
42	FJ	786	0	828	43	0
42	HJ	786	0	828	34	0
43	BK	877	0	887	75	0
43	DK	877	0	887	45	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	FK	877	0	887	38	0
43	HK	877	0	887	75	0
44	BL	955	0	1016	55	0
44	DL	955	0	1016	52	0
44	FL	955	0	1016	51	0
44	HL	955	0	1016	39	0
45	BM	883	0	941	26	0
45	DM	883	0	941	25	0
45	FM	883	0	941	34	0
45	HM	883	0	941	53	0
46	BN	774	0	824	32	0
46	DN	774	0	824	21	0
46	FN	774	0	824	30	0
46	HN	774	0	824	29	0
47	BO	714	0	734	18	0
47	DO	714	0	734	13	0
47	FO	714	0	734	17	0
47	HO	714	0	734	21	0
48	BP	649	0	666	29	0
48	DP	649	0	666	25	0
48	FP	649	0	666	18	0
48	HP	649	0	666	19	0
49	BQ	648	0	691	19	0
49	DQ	648	0	691	21	0
49	FQ	648	0	691	16	0
49	HQ	648	0	691	21	0
50	BR	455	0	478	19	0
50	DR	455	0	478	16	0
50	FR	455	0	478	16	0
50	HR	455	0	478	15	0
51	BS	637	0	665	23	0
51	DS	637	0	665	17	0
51	FS	637	0	665	30	0
51	HS	637	0	665	21	0
52	BT	665	0	714	30	0
52	DT	665	0	714	26	0
52	FT	665	0	714	30	0
52	HT	665	0	714	19	0
53	BU	425	0	449	40	0
53	DU	425	0	449	28	0
53	FU	425	0	449	24	0
53	HU	425	0	449	36	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
54	BV	5319	0	5228	105	0
54	DV	5319	0	5228	113	0
54	FV	5319	0	5229	111	0
54	HV	5319	0	5227	145	0
55	BW	48	0	41	7	0
55	DW	48	0	41	8	0
55	FW	48	0	39	9	0
56	A3	1	0	0	0	0
56	AA	130	0	0	0	0
56	AB	4	0	0	0	0
56	AC	3	0	0	0	0
56	AD	1	0	0	0	0
56	AE	1	0	0	0	0
56	AT	1	0	0	0	0
56	BA	40	0	0	0	0
56	BE	1	0	0	0	0
56	BL	1	0	0	0	0
56	BU	1	0	0	0	0
56	BV	1	0	0	0	0
56	C4	1	0	0	0	0
56	CA	134	0	0	0	0
56	CB	4	0	0	0	0
56	CD	1	0	0	0	0
56	CE	1	0	0	0	0
56	DA	42	0	0	0	0
56	DU	1	0	0	0	0
56	DV	1	0	0	0	0
56	EA	133	0	0	0	0
56	EB	4	0	0	0	0
56	EC	1	0	0	0	0
56	ED	2	0	0	0	0
56	EQ	1	0	0	0	0
56	FA	41	0	0	0	0
56	FE	1	0	0	0	0
56	FU	1	0	0	0	0
56	FV	1	0	0	0	0
56	GA	134	0	0	0	0
56	GB	4	0	0	0	0
56	GC	1	0	0	0	0
56	GL	1	0	0	0	0
56	GS	1	0	0	0	0
56	HA	40	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	HC	1	0	0	0	0
56	HE	1	0	0	0	0
56	HT	1	0	0	0	0
56	HV	1	0	0	0	0
57	A4	1	0	0	0	0
57	C4	1	0	0	0	0
57	E4	1	0	0	0	0
57	G4	1	0	0	0	0
58	BV	32	0	14	2	0
58	DV	32	0	14	1	0
58	FV	32	0	14	5	0
58	HV	32	0	14	1	0
59	A0	1	0	0	0	0
59	A3	1	0	0	0	0
59	A4	2	0	0	0	0
59	AA	608	0	0	111	0
59	AB	19	0	0	1	0
59	AC	10	0	0	0	0
59	AD	3	0	0	0	0
59	AE	1	0	0	0	0
59	AJ	1	0	0	1	0
59	AL	7	0	0	1	0
59	AN	4	0	0	0	0
59	AP	1	0	0	0	0
59	AQ	1	0	0	0	0
59	AS	1	0	0	0	0
59	AU	1	0	0	0	0
59	BA	197	0	0	36	0
59	BC	1	0	0	0	0
59	BD	1	0	0	0	0
59	BI	1	0	0	0	0
59	BK	1	0	0	0	0
59	BN	3	0	0	0	0
59	BT	2	0	0	0	0
59	BU	1	0	0	0	0
59	BV	1	0	0	1	0
59	C2	1	0	0	0	0
59	C3	1	0	0	0	0
59	C4	2	0	0	0	0
59	CA	604	0	0	104	0
59	CB	20	0	0	2	0
59	CC	11	0	0	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
59	CD	3	0	0	0	0
59	CE	1	0	0	0	0
59	CF	1	0	0	0	0
59	CJ	3	0	0	2	0
59	CL	6	0	0	1	0
59	CN	4	0	0	0	0
59	CS	1	0	0	0	0
59	CT	2	0	0	0	0
59	DA	193	0	0	32	0
59	DC	1	0	0	0	0
59	DE	2	0	0	0	0
59	DG	1	0	0	0	0
59	DK	1	0	0	0	0
59	DL	1	0	0	0	0
59	DN	6	0	0	0	0
59	DQ	1	0	0	0	0
59	DT	1	0	0	1	0
59	DU	1	0	0	0	0
59	DV	1	0	0	1	0
59	E0	2	0	0	0	0
59	E3	2	0	0	0	0
59	E4	1	0	0	0	0
59	EA	617	0	0	88	0
59	EB	20	0	0	1	0
59	EC	8	0	0	0	0
59	ED	1	0	0	0	0
59	EL	4	0	0	0	0
59	EN	2	0	0	0	0
59	ER	1	0	0	0	0
59	ET	1	0	0	0	0
59	EU	1	0	0	0	0
59	FA	198	0	0	21	0
59	FE	1	0	0	0	0
59	FK	1	0	0	0	0
59	FN	3	0	0	0	0
59	FQ	1	0	0	0	0
59	FT	4	0	0	1	0
59	FV	1	0	0	1	0
59	G2	2	0	0	0	0
59	G3	1	0	0	0	0
59	G4	1	0	0	0	0
59	GA	607	0	0	87	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
59	GB	19	0	0	1	0
59	GC	9	0	0	2	0
59	GD	4	0	0	0	0
59	GE	2	0	0	0	0
59	GL	4	0	0	1	0
59	GN	3	0	0	0	0
59	GQ	1	0	0	0	0
59	GR	2	0	0	0	0
59	GS	1	0	0	0	0
59	GT	1	0	0	0	0
59	GU	2	0	0	0	0
59	GV	1	0	0	1	0
59	HA	197	0	0	33	0
59	HD	1	0	0	0	0
59	HE	3	0	0	0	0
59	HN	5	0	0	0	0
59	HT	1	0	0	0	0
59	HU	1	0	0	0	0
59	HV	1	0	0	1	0
All	All	590573	0	402393	12569	4

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

All (12569) 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)
32:A5:117:LEU:CD2	32:A5:120:ALA:HA	1.56	1.35
32:A5:24:SER:CB	32:A5:116:GLU:HG2	1.59	1.32
32:A5:24:SER:O	32:A5:116:GLU:HB3	1.37	1.24
32:E5:117:LEU:CD2	32:E5:120:ALA:HA	1.70	1.20
32:E5:24:SER:CB	32:E5:116:GLU:HG2	1.75	1.16
32:E5:24:SER:HB2	32:E5:116:GLU:HG2	1.08	1.08
32:E5:117:LEU:HD22	32:E5:120:ALA:HA	1.08	1.07
32:E5:24:SER:O	32:E5:116:GLU:HB3	1.54	1.07
32:A5:117:LEU:HD22	32:A5:120:ALA:HA	1.08	1.05
32:A5:24:SER:HB2	32:A5:116:GLU:CG	1.87	1.03
1:GA:1154:G:OP2	17:GQ:57:ARG:NH1	1.96	0.98
33:FA:411:A:OP1	36:FD:26:ARG:NH2	1.97	0.97
43:FK:126:LYS:O	53:FU:34:ARG:NH1	1.97	0.96
1:AA:1332:G:OP1	59:AA:3752:HOH:O	1.84	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1818:U:OP2	3:EC:155:ARG:NH1	1.98	0.95
1:GA:254:G:N7	30:G3:4:LYS:NZ	2.14	0.95
1:CA:1820:U:OP1	3:CC:176:ARG:NH2	2.00	0.95
9:AI:89:SER:OG	9:AI:135:MET:SD	2.26	0.94
1:AA:1670:C:OP2	59:AA:3715:HOH:O	1.85	0.94
1:EA:996:A:OP2	17:EQ:91:ARG:NH2	2.01	0.94
54:HV:55:GLN:NE2	54:HV:471:ASP:OD2	2.01	0.94
1:EA:2499:C:OP2	59:EA:3681:HOH:O	1.85	0.94
32:A5:24:SER:CB	32:A5:116:GLU:CG	2.43	0.93
1:EA:2503:A:OP1	59:EA:3667:HOH:O	1.87	0.93
32:E5:26:VAL:HG21	32:E5:115:GLY:H	1.34	0.93
32:A5:129:LEU:O	32:A5:131:THR:N	2.03	0.92
1:AA:1669:A:OP2	59:AA:3715:HOH:O	1.86	0.92
32:E5:103:ASN:ND2	32:E5:107:GLU:O	2.03	0.92
32:A5:71:CYS:HB3	32:A5:117:LEU:HD12	1.52	0.91
1:GA:996:A:OP2	17:GQ:91:ARG:NH2	2.03	0.91
32:E5:26:VAL:CG2	32:E5:115:GLY:H	1.82	0.91
32:A5:24:SER:O	32:A5:116:GLU:CB	2.18	0.91
32:A5:117:LEU:CD2	32:A5:120:ALA:CA	2.47	0.91
1:EA:1024:G:OP2	59:EA:3705:HOH:O	1.88	0.91
33:DA:547:A:OP1	59:DA:1727:HOH:O	1.90	0.90
32:A5:24:SER:HB2	32:A5:116:GLU:HG2	0.91	0.90
1:EA:2428:G:OP1	59:EA:3696:HOH:O	1.88	0.90
34:BB:119:GLN:OE1	34:BB:136:ARG:NH2	2.04	0.90
1:CA:2720:U:OP1	16:CP:52:ARG:NH2	2.04	0.90
43:DK:14:LYS:O	39:HG:130:ASN:ND2	2.04	0.90
1:CA:973:A:OP2	18:CR:81:LYS:NZ	2.04	0.90
1:EA:2025:C:OP2	59:EA:3474:HOH:O	1.89	0.90
1:AA:1606:C:N4	59:AA:3409:HOH:O	2.04	0.90
36:BD:58:LYS:NZ	36:BD:59:GLN:OE1	2.06	0.89
39:FG:68:ASN:OD1	39:FG:130:ASN:ND2	2.06	0.89
41:FI:57:MET:SD	41:FI:58:VAL:N	2.46	0.89
32:A5:71:CYS:HA	32:A5:117:LEU:CD1	2.02	0.89
33:FA:510:A:OP2	59:FA:1724:HOH:O	1.90	0.89
1:CA:996:A:OP2	17:CQ:91:ARG:NH2	2.07	0.88
6:AF:125:GLY:O	6:AF:157:THR:OG1	1.89	0.88
1:AA:2499:C:OP2	59:AA:3676:HOH:O	1.92	0.88
1:AA:2298:A:OP1	6:AF:70:ARG:NH2	2.06	0.88
32:E5:26:VAL:HG21	32:E5:115:GLY:N	1.89	0.88
1:GA:1172:C:N4	1:GA:1177:G:O6	2.06	0.88
33:BA:1309:G:OP1	45:BM:87:ARG:NH1	2.07	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1153:C:OP2	59:EA:3358:HOH:O	1.91	0.88
33:FA:181:A:N7	59:FA:1876:HOH:O	2.06	0.88
1:EA:1669:A:OP2	59:EA:3719:HOH:O	1.90	0.87
1:GA:827:U:OP1	59:GA:3341:HOH:O	1.92	0.87
1:AA:1417:C:HO2'	1:AA:1587:G:HO2'	1.10	0.87
32:E5:30:SER:O	32:E5:31:ARG:HB2	1.72	0.87
1:CA:912:C:OP1	13:CM:8:LYS:NZ	2.08	0.87
1:AA:1456:G:OP2	59:AA:3415:HOH:O	1.93	0.87
1:GA:2448:A:OP2	59:GA:3678:HOH:O	1.91	0.87
1:CA:1380:G:OP2	59:CA:3741:HOH:O	1.91	0.86
32:A5:117:LEU:HD22	32:A5:120:ALA:CA	2.00	0.86
33:BA:1505:G:N1	59:BA:1867:HOH:O	2.07	0.86
3:CC:68:ARG:NH2	3:CC:126:GLY:O	2.08	0.86
43:HK:127:ARG:O	53:HU:34:ARG:NH1	2.08	0.86
1:CA:2499:C:OP2	59:CA:3676:HOH:O	1.93	0.86
1:EA:1025:G:O2'	59:EA:3706:HOH:O	1.93	0.86
41:FI:42:GLU:O	41:FI:44:ALA:N	2.08	0.86
33:HA:946:A:HO2'	33:HA:1333:A:HO2'	1.10	0.86
1:AA:1025:G:O2'	59:AA:3701:HOH:O	1.94	0.86
1:AA:558:U:OP1	10:AJ:111:LYS:NZ	2.07	0.86
1:AA:954:G:OP2	13:AM:16:ARG:NH2	2.09	0.86
1:EA:783:A:OP2	59:EA:3314:HOH:O	1.92	0.86
10:GJ:4:PHE:N	10:GJ:44:TYR:OH	2.09	0.86
54:FV:92:HIS:O	54:FV:122:GLN:NE2	2.09	0.86
33:HA:770:C:N4	59:HA:1755:HOH:O	2.09	0.86
32:A5:33:VAL:N	32:A5:36:ASP:OD2	2.09	0.86
36:DD:100:ASN:OD1	36:DD:111:ARG:NH1	2.09	0.86
1:GA:973:A:OP2	18:GR:81:LYS:NZ	2.08	0.86
1:AA:2574:G:OP1	59:AA:3703:HOH:O	1.92	0.85
1:CA:1358:G:N7	59:CA:3401:HOH:O	2.08	0.85
33:DA:823:C:HO2'	40:DH:2:SER:N	1.75	0.85
1:AA:1307:A:OP2	59:AA:3409:HOH:O	1.94	0.85
1:AA:2204:G:OP2	3:AC:146:LYS:NZ	2.08	0.85
1:CA:31:C:OP1	59:CA:3694:HOH:O	1.94	0.85
33:BA:978:A:OP2	33:BA:1362:A:N6	2.08	0.85
1:CA:1604:C:OP2	59:CA:3407:HOH:O	1.94	0.85
54:DV:219:HIS:O	54:DV:222:LEU:N	2.10	0.85
1:GA:783:A:OP2	59:GA:3313:HOH:O	1.93	0.85
1:AA:818:G:OP2	59:AA:3571:HOH:O	1.94	0.85
1:AA:923:G:H1'	23:AW:23:LYS:HD3	1.57	0.85
1:GA:1774:C:OP1	59:GA:3441:HOH:O	1.93	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1774:C:OP1	59:EA:3446:HOH:O	1.93	0.85
11:CK:78:ARG:NH1	16:CP:70:GLU:OE2	2.10	0.85
44:FL:75:GLN:O	44:FL:77:HIS:N	2.10	0.85
32:A5:30:SER:O	32:A5:31:ARG:HB2	1.74	0.85
33:DA:978:A:HO2'	33:DA:1322:C:H5	1.25	0.85
1:AA:576:U:OP1	59:AA:3663:HOH:O	1.94	0.85
1:AA:996:A:OP2	17:AQ:91:ARG:NH2	2.10	0.85
1:GA:2499:C:OP2	59:GA:3678:HOH:O	1.94	0.84
1:EA:2430:A:O5'	59:EA:3343:HOH:O	1.93	0.84
1:GA:1253:A:N7	59:GA:3330:HOH:O	2.11	0.84
43:BK:127:ARG:O	53:BU:34:ARG:NH1	2.11	0.84
34:HB:57:ASN:ND2	34:HB:219:THR:O	2.11	0.84
1:GA:945:A:OP1	59:GA:3346:HOH:O	1.96	0.83
54:HV:526:GLU:O	54:HV:528:GLY:N	2.09	0.83
33:BA:1504:G:N3	59:BA:1867:HOH:O	2.10	0.83
32:E5:26:VAL:HG11	32:E5:77:VAL:CG1	2.07	0.83
1:AA:2324:U:H3'	1:AA:2325:G:H5''	1.59	0.83
33:FA:195:A:OP1	52:FT:60:ARG:NH1	2.10	0.83
33:FA:1433:A:OP2	59:FA:1836:HOH:O	1.95	0.83
1:CA:1783:A:OP1	59:CA:3687:HOH:O	1.96	0.83
1:GA:819:A:OP2	1:GA:1187:G:N2	2.10	0.83
1:AA:2884:U:O2	27:A0:49:ARG:NE	2.10	0.83
1:CA:731:C:OP2	59:CA:3293:HOH:O	1.97	0.83
33:BA:1130:A:OP1	41:BI:18:ARG:NH2	2.11	0.83
33:DA:684:U:O2'	43:DK:40:ASN:O	1.96	0.83
2:EB:43:C:O2	6:EF:91:ARG:NH2	2.12	0.83
1:GA:2009:A:OP1	19:GS:41:LYS:NZ	2.11	0.83
22:GV:18:ARG:NE	59:GV:101:HOH:O	2.11	0.83
1:EA:2743:U:OP2	59:EA:3816:HOH:O	1.96	0.83
32:A5:103:ASN:ND2	32:A5:107:GLU:O	2.12	0.83
1:EA:570:G:O6	59:EA:3684:HOH:O	1.97	0.82
35:FC:36:ASP:OD1	35:FC:59:ARG:NH1	2.13	0.82
1:CA:2324:U:H3'	1:CA:2325:G:H5''	1.60	0.82
32:E5:33:VAL:HG12	32:E5:34:THR:H	1.44	0.82
3:AC:69:ASN:O	3:AC:71:ASP:N	2.13	0.82
9:CI:72:THR:OG1	9:CI:112:LYS:NZ	2.11	0.82
1:EA:1371:G:N7	59:EA:3401:HOH:O	2.10	0.82
33:HA:1116:U:O2'	41:HI:110:GLN:NE2	2.12	0.82
16:AP:35:SER:OG	33:BA:345:C:OP1	1.96	0.82
36:BD:100:ASN:OD1	36:BD:111:ARG:NH1	2.12	0.82
1:EA:2248:C:OP2	59:EA:3507:HOH:O	1.96	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2707:U:O2	14:AN:71:ARG:NH1	2.12	0.82
12:CL:102:GLY:N	59:CL:202:HOH:O	2.13	0.82
43:HK:18:ASP:O	43:HK:37:ARG:NE	2.13	0.82
33:DA:83:C:N3	33:DA:87:C:N4	2.28	0.82
1:EA:1395:A:OP1	59:EA:3411:HOH:O	1.97	0.82
1:EA:2005:A:OP1	59:EA:3380:HOH:O	1.95	0.82
33:FA:1532:U:O4	53:FU:47:ARG:NH1	2.12	0.82
32:A5:71:CYS:CB	32:A5:117:LEU:HD12	2.10	0.82
1:EA:954:G:OP2	13:EM:16:ARG:NH2	2.13	0.82
33:FA:533:A:OP1	59:FA:1845:HOH:O	1.97	0.82
1:AA:1509:A:O2'	1:AA:1510:G:OP2	1.97	0.81
32:A5:33:VAL:HG12	32:A5:34:THR:H	1.44	0.81
1:CA:990:A:OP2	59:CA:3593:HOH:O	1.97	0.81
54:FV:203:GLU:O	54:FV:205:GLU:N	2.13	0.81
1:GA:923:G:H1'	23:GW:23:LYS:HD3	1.62	0.81
43:HK:108:THR:O	43:HK:109:ASN:ND2	2.12	0.81
13:AM:83:GLY:O	13:AM:85:GLY:N	2.12	0.81
1:GA:2503:A:OP1	59:GA:3662:HOH:O	1.98	0.81
1:EA:2575:C:OP2	59:EA:3709:HOH:O	1.97	0.81
1:GA:2247:A:OP1	59:GA:3505:HOH:O	1.96	0.81
1:GA:1157:G:OP1	59:GA:3593:HOH:O	1.98	0.81
1:CA:2269:G:OP1	59:CA:3506:HOH:O	1.99	0.81
39:DG:2:PRO:O	39:DG:4:ARG:N	2.14	0.81
33:HA:1366:C:O2'	42:HJ:62:ARG:NH2	2.14	0.81
1:CA:1395:A:OP1	59:CA:3409:HOH:O	1.99	0.81
43:DK:127:ARG:O	53:DU:34:ARG:NH1	2.14	0.81
2:AB:57:A:O2'	6:AF:160:LYS:NZ	2.14	0.81
1:EA:1509:A:O2'	1:EA:1510:G:OP2	1.99	0.81
1:EA:1998:A:OP2	4:ED:141:ARG:NH2	2.14	0.81
33:HA:1003:G:O6	33:HA:1036:A:N6	2.14	0.80
1:AA:1014:A:OP2	59:AA:3593:HOH:O	1.99	0.80
1:CA:299:A:OP2	59:CA:3549:HOH:O	1.98	0.80
1:EA:1676:A:OP2	59:EA:3762:HOH:O	1.98	0.80
12:GL:33:ARG:O	59:GL:304:HOH:O	1.99	0.80
1:AA:1268:A:OP1	59:AA:3375:HOH:O	1.99	0.80
41:DI:57:MET:SD	41:DI:58:VAL:N	2.54	0.80
54:HV:93:VAL:O	54:HV:95:PHE:N	2.14	0.80
1:AA:2499:C:O2	59:AA:3528:HOH:O	1.99	0.80
1:CA:1509:A:O2'	1:CA:1510:G:OP2	1.99	0.80
1:EA:2331:G:O2'	23:EW:39:GLN:O	2.00	0.80
34:FB:14:HIS:ND1	34:FB:14:HIS:O	2.14	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1818:U:OP2	3:AC:155:ARG:NH1	2.15	0.80
54:BV:92:HIS:O	54:BV:122:GLN:NE2	2.15	0.80
54:BV:219:HIS:O	54:BV:222:LEU:N	2.15	0.80
33:HA:937:A:OP2	59:HA:1773:HOH:O	2.00	0.80
16:AP:50:ARG:NE	16:AP:57:ALA:O	2.13	0.80
33:DA:951:G:OP2	45:DM:101:ARG:NH2	2.15	0.80
34:FB:20:ARG:HA	34:FB:20:ARG:NE	1.97	0.80
1:CA:1153:C:OP2	59:CA:3354:HOH:O	1.98	0.79
1:CA:2884:U:O2	27:C0:39:ARG:NH2	2.13	0.79
1:GA:1820:U:OP1	3:GC:176:ARG:NH2	2.15	0.79
16:GP:4:ILE:O	16:GP:6:GLN:N	2.15	0.79
1:CA:1998:A:OP2	4:CD:141:ARG:NH2	2.15	0.79
1:CA:2503:A:OP1	59:CA:3663:HOH:O	1.98	0.79
1:GA:2428:G:OP1	59:GA:3690:HOH:O	1.99	0.79
1:AA:761:A:N7	59:AA:3292:HOH:O	2.15	0.79
32:A5:26:VAL:HG11	32:A5:77:VAL:CG1	2.11	0.79
33:DA:1125:U:OP2	33:DA:1145:A:N6	2.15	0.79
1:CA:1774:C:OP1	59:CA:3440:HOH:O	1.99	0.79
43:DK:126:LYS:O	53:DU:34:ARG:NH1	2.16	0.79
1:AA:2503:A:OP1	59:AA:3662:HOH:O	2.01	0.79
14:CN:117:ASP:O	14:CN:119:SER:N	2.16	0.79
1:EA:137:U:O2'	1:EA:138:U:OP2	2.01	0.79
1:EA:1106:G:OP1	32:E5:62:ARG:NH2	2.15	0.79
33:FA:1320:C:N3	51:FS:36:ARG:NH1	2.30	0.79
16:CP:50:ARG:NE	16:CP:57:ALA:O	2.16	0.79
1:EA:2204:G:OP2	3:EC:146:LYS:NZ	2.15	0.79
1:EA:163:C:O2'	1:EA:164:C:O5'	2.01	0.79
1:AA:1227:G:OP2	17:AQ:15:LYS:NZ	2.15	0.78
1:EA:250:G:OP2	30:E3:12:ARG:NH1	2.17	0.78
33:HA:1095:U:OP2	59:HA:1862:HOH:O	2.01	0.78
46:HN:91:GLY:O	46:HN:93:ILE:N	2.15	0.78
1:CA:1265:A:OP2	59:CA:3737:HOH:O	2.01	0.78
1:CA:1798:U:OP2	3:CC:270:ARG:NH2	2.16	0.78
1:CA:2136:G:O6	1:CA:2155:U:N3	2.15	0.78
1:CA:2139:U:O2'	1:CA:2152:G:O6	2.01	0.78
12:CL:93:ASN:O	12:CL:95:LEU:N	2.17	0.78
4:ED:91:THR:OG1	4:ED:92:VAL:N	2.12	0.78
54:HV:422:PRO:O	54:HV:424:THR:N	2.17	0.78
1:GA:85:G:OP1	21:GU:6:ARG:N	2.16	0.78
5:GE:21:ARG:O	5:GE:114:ARG:NH2	2.16	0.78
33:FA:516:U:O4	59:FA:1845:HOH:O	2.01	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:43:GLU:O	10:AJ:45:THR:N	2.17	0.78
1:CA:923:G:H1'	23:CW:23:LYS:HD3	1.66	0.78
1:EA:923:G:H1'	23:EW:23:LYS:HD3	1.63	0.78
1:GA:450:G:O6	59:GA:3243:HOH:O	1.99	0.78
1:AA:863:A:OP2	59:AA:3718:HOH:O	2.00	0.78
3:EC:68:ARG:NH2	3:EC:126:GLY:O	2.17	0.78
1:GA:504:A:O2'	1:GA:505:A:OP1	2.00	0.78
33:HA:460:A:N6	33:HA:471:U:O4	2.15	0.78
36:DD:35:GLU:O	36:DD:37:ALA:N	2.16	0.78
13:EM:83:GLY:O	13:EM:85:GLY:N	2.16	0.78
1:GA:1604:C:OP2	59:GA:3410:HOH:O	2.01	0.78
35:HC:49:LYS:O	35:HC:72:ARG:NH2	2.17	0.78
10:AJ:39:LYS:O	59:AJ:201:HOH:O	2.01	0.78
33:BA:1376:U:OP2	39:BG:25:LYS:NZ	2.15	0.78
33:DA:411:A:OP1	36:DD:26:ARG:NH2	2.16	0.78
33:DA:578:C:OP1	59:DA:1740:HOH:O	2.01	0.78
14:EN:73:ASN:HA	14:EN:76:VAL:HG12	1.64	0.78
1:CA:1938:A:OP2	59:CA:3719:HOH:O	2.01	0.78
1:EA:946:C:OP2	59:EA:3347:HOH:O	2.02	0.78
32:E5:73:LYS:HB2	32:E5:117:LEU:HD11	1.66	0.78
54:FV:23:LYS:NZ	58:FV:801:GCP:O2G	2.17	0.78
54:HV:62:THR:O	59:HV:901:HOH:O	2.01	0.78
1:CA:954:G:OP2	13:CM:16:ARG:NH2	2.17	0.78
1:GA:526:A:OP1	59:GA:3247:HOH:O	2.01	0.78
1:GA:621:A:OP2	59:GA:3292:HOH:O	2.01	0.77
1:GA:2592:G:OP1	59:GA:3465:HOH:O	2.01	0.77
1:AA:410:G:OP2	59:AA:3557:HOH:O	2.00	0.77
54:DV:93:VAL:O	54:DV:95:PHE:N	2.18	0.77
13:EM:1:MET:HB2	13:EM:47:GLU:HG3	1.67	0.77
1:AA:1272:A:OP1	59:AA:3382:HOH:O	2.01	0.77
1:AA:2142:A:N6	1:AA:2148:G:N7	2.32	0.77
33:BA:1095:U:OP2	59:BA:1859:HOH:O	2.01	0.77
54:FV:645:GLN:O	54:FV:647:SER:N	2.17	0.77
1:AA:799:G:N7	59:AA:3319:HOH:O	2.18	0.77
54:BV:93:VAL:O	54:BV:95:PHE:N	2.18	0.77
1:EA:1023:U:OP2	59:EA:3706:HOH:O	2.03	0.77
54:FV:93:VAL:O	54:FV:95:PHE:N	2.18	0.77
1:GA:2016:U:OP1	59:GA:3275:HOH:O	2.00	0.77
44:HL:75:GLN:O	44:HL:77:HIS:N	2.18	0.77
1:AA:576:U:OP1	59:AA:3662:HOH:O	2.02	0.77
3:AC:68:ARG:NH2	3:AC:126:GLY:O	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:43:C:O2	6:CF:91:ARG:NH2	2.17	0.77
1:EA:31:C:OP1	59:EA:3701:HOH:O	2.01	0.77
33:HA:1134:G:N2	33:HA:1140:C:N3	2.31	0.77
1:AA:1998:A:OP2	4:AD:141:ARG:NH2	2.18	0.77
1:CA:733:G:N7	59:CA:3294:HOH:O	2.18	0.77
43:HK:81:ASN:ND2	43:HK:108:THR:OG1	2.17	0.77
17:CQ:91:ARG:NH1	18:CR:11:GLN:O	2.17	0.77
4:CD:46:ARG:NH2	4:CD:88:GLU:OE2	2.18	0.77
1:EA:1658:C:OP1	59:EA:3804:HOH:O	2.02	0.77
32:E5:117:LEU:CD2	32:E5:120:ALA:CA	2.59	0.77
10:GJ:43:GLU:O	10:GJ:45:THR:N	2.18	0.77
1:AA:1076:C:O2'	9:AI:93:ASN:ND2	2.18	0.77
1:AA:2483:C:N3	13:AM:123:LYS:NZ	2.33	0.77
32:A5:117:LEU:HD23	32:A5:120:ALA:HA	1.66	0.77
33:BA:691:G:O6	43:BK:53:ARG:NH2	2.18	0.77
1:EA:2588:G:OP1	59:EA:3797:HOH:O	2.03	0.77
1:AA:1187:G:OP2	59:AA:3366:HOH:O	2.02	0.76
1:CA:2849:U:OP2	16:CP:92:ARG:NH1	2.18	0.76
53:BU:4:ILE:O	53:BU:17:ARG:NH1	2.16	0.76
1:EA:411:G:OP1	59:EA:3559:HOH:O	2.02	0.76
1:GA:2139:U:O2'	1:GA:2152:G:N7	2.18	0.76
1:AA:962:G:OP1	59:AA:3353:HOH:O	2.02	0.76
5:AE:170:ARG:NH2	5:AE:176:ASP:OD1	2.18	0.76
1:CA:1153:C:OP2	59:CA:3356:HOH:O	2.03	0.76
33:DA:323:U:OP2	59:DA:1837:HOH:O	2.02	0.76
1:AA:2743:U:O4	59:AA:3779:HOH:O	2.03	0.76
1:CA:1824:G:OP2	59:CA:3648:HOH:O	2.03	0.76
1:EA:963:U:OP1	59:EA:3354:HOH:O	2.02	0.76
46:FN:91:GLY:O	46:FN:93:ILE:N	2.18	0.76
1:GA:2243:U:OP1	59:GA:3729:HOH:O	2.02	0.76
17:AQ:63:ARG:NH1	17:AQ:95:ALA:O	2.17	0.76
9:CI:89:SER:OG	9:CI:135:MET:SD	2.43	0.76
46:DN:91:GLY:O	46:DN:93:ILE:N	2.19	0.76
1:GA:1001:A:OP2	59:GA:3726:HOH:O	2.04	0.76
1:CA:945:A:OP2	59:CA:3342:HOH:O	2.03	0.76
54:FV:219:HIS:O	54:FV:222:LEU:N	2.18	0.76
9:GI:73:PRO:O	9:GI:112:LYS:NZ	2.13	0.76
20:GT:39:THR:O	20:GT:41:ALA:N	2.18	0.76
39:HG:113:ASP:OD2	39:HG:122:ASN:ND2	2.18	0.76
1:EA:826:U:OP1	59:EA:3696:HOH:O	2.03	0.76
1:GA:2306:C:N4	6:GF:38:GLY:O	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2589:A:OP1	59:GA:3312:HOH:O	2.02	0.76
33:HA:723:U:O2'	33:HA:724:G:OP1	2.03	0.76
1:CA:1913:A:H62	33:DA:1494:G:H5'	1.51	0.76
33:DA:1130:A:OP1	41:DI:18:ARG:NH2	2.19	0.76
1:EA:2582:G:OP2	59:EA:3702:HOH:O	2.04	0.76
1:GA:2324:U:H3'	1:GA:2325:G:H5''	1.67	0.76
1:GA:2427:C:OP1	59:GA:3690:HOH:O	2.03	0.76
33:HA:1266:G:N2	33:HA:1269:A:OP2	2.19	0.76
33:HA:1304:G:O2'	33:HA:1333:A:N6	2.18	0.76
1:GA:2498:C:OP2	59:GA:3678:HOH:O	2.04	0.76
33:HA:537:G:OP2	59:HA:1894:HOH:O	2.04	0.76
1:AA:1799:G:OP2	3:AC:269:ARG:NH2	2.19	0.75
12:AL:36:LYS:O	59:AL:207:HOH:O	2.03	0.75
1:CA:1444:G:OP2	59:CA:3629:HOH:O	2.04	0.75
1:EA:2592:G:OP1	59:EA:3464:HOH:O	2.04	0.75
33:FA:913:A:OP1	44:FL:44:LYS:NZ	2.19	0.75
23:GW:7:GLY:O	23:GW:10:ARG:NH1	2.19	0.75
54:BV:79:TYR:OH	54:BV:284:ASP:OD1	2.03	0.75
1:CA:2356:U:H4'	23:CW:16:GLU:HG3	1.67	0.75
54:DV:92:HIS:O	54:DV:122:GLN:NE2	2.19	0.75
33:BA:362:G:N7	59:BA:1714:HOH:O	2.19	0.75
10:CJ:6:ALA:HB3	10:CJ:45:THR:HG21	1.69	0.75
1:AA:1265:A:OP2	59:AA:3741:HOH:O	2.05	0.75
32:E5:26:VAL:HG11	32:E5:77:VAL:HG13	1.68	0.75
1:CA:862:G:OP2	59:CA:3714:HOH:O	2.05	0.75
1:CA:1913:A:H2'	55:DW:4:SER:HA	1.68	0.75
33:DA:1137:C:O2	33:DA:1138:G:N2	2.20	0.75
33:FA:537:G:OP1	44:FL:110:ARG:NH2	2.19	0.75
54:FV:313:ASP:OD2	54:FV:378:ARG:NH1	2.20	0.75
33:HA:980:C:OP2	59:HA:1832:HOH:O	2.04	0.75
1:AA:991:C:OP2	59:AA:3592:HOH:O	2.05	0.75
41:BI:57:MET:HA	41:BI:60:LYS:HG2	1.67	0.75
33:DA:572:A:OP2	59:DA:1738:HOH:O	2.04	0.75
1:AA:1012:U:OP2	17:AQ:69:ARG:NH1	2.19	0.75
33:DA:204:G:H3'	33:DA:205:A:H5''	1.67	0.75
40:DH:9:ASP:OD1	40:DH:13:ARG:NH1	2.19	0.75
1:GA:1783:A:OP1	59:GA:3687:HOH:O	2.03	0.75
16:GP:104:GLY:O	16:GP:106:ALA:N	2.20	0.75
33:BA:320:A:OP2	59:BA:1709:HOH:O	2.03	0.75
50:BR:26:ILE:HG21	50:BR:67:LEU:HB3	1.68	0.75
1:EA:2448:A:OP2	59:EA:3681:HOH:O	2.03	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2714:G:OP2	59:GA:3545:HOH:O	2.03	0.75
33:HA:1050:G:O2'	54:HV:542:GLY:O	2.02	0.75
1:CA:2588:G:OP2	59:CA:3542:HOH:O	2.03	0.75
35:DC:19:ASN:O	35:DC:40:ARG:NH2	2.20	0.75
1:EA:2062:A:OP1	59:EA:3495:HOH:O	2.04	0.75
1:GA:607:U:OP1	59:GA:3287:HOH:O	2.05	0.75
6:GF:23:SER:OG	6:GF:26:GLN:N	2.18	0.75
48:BP:28:ARG:NH2	48:BP:29:ASN:OD1	2.19	0.74
2:CB:58:A:OP2	59:CB:1308:HOH:O	2.03	0.74
33:BA:483:C:O2	48:BP:13:LYS:NZ	2.21	0.74
33:BA:689:C:HO2'	33:BA:705:G:HO2'	1.36	0.74
43:BK:126:LYS:O	53:BU:34:ARG:NH1	2.21	0.74
35:FC:85:GLU:OE1	35:FC:88:ARG:NH1	2.20	0.74
23:GW:35:ILE:O	23:GW:37:VAL:N	2.20	0.74
14:CN:73:ASN:HA	14:CN:76:VAL:HG12	1.69	0.74
1:GA:971:G:OP2	1:GA:974:G:N2	2.21	0.74
47:BO:64:ARG:NH1	47:BO:68:ASP:OD1	2.20	0.74
36:FD:85:ASN:ND2	37:FE:101:GLU:OE1	2.20	0.74
42:FJ:59:LYS:O	42:FJ:62:ARG:NH1	2.21	0.74
1:GA:587:C:OP2	12:GL:21:ARG:NH1	2.19	0.74
1:CA:2270:A:OP1	59:CA:3510:HOH:O	2.05	0.74
1:GA:1395:A:OP2	59:GA:3408:HOH:O	2.04	0.74
1:GA:1664:A:OP1	59:GA:3423:HOH:O	2.05	0.74
1:GA:1926:U:O4	1:GA:1929:G:N1	2.19	0.74
1:GA:2430:A:OP2	59:GA:3341:HOH:O	2.06	0.74
23:GW:36:ILE:O	23:GW:39:GLN:NE2	2.21	0.74
33:HA:1433:A:OP2	59:HA:1837:HOH:O	2.05	0.74
1:EA:1153:C:OP2	59:EA:3359:HOH:O	2.04	0.74
46:BN:91:GLY:O	46:BN:93:ILE:N	2.21	0.74
1:CA:1010:A:OP2	59:CA:3767:HOH:O	2.04	0.74
34:DB:14:HIS:ND1	34:DB:14:HIS:O	2.20	0.74
33:HA:1416:G:N7	59:HA:1793:HOH:O	2.21	0.74
34:BB:20:ARG:O	34:BB:22:TRP:N	2.21	0.74
4:CD:39:ASP:OD1	4:CD:40:LEU:N	2.20	0.74
23:EW:23:LYS:HE2	23:EW:24:ARG:HB3	1.69	0.74
1:GA:1063:G:H21	1:GA:1064:C:H1'	1.51	0.74
39:BG:113:ASP:OD2	39:BG:122:ASN:ND2	2.21	0.74
1:CA:1774:C:OP1	59:CA:3444:HOH:O	2.05	0.74
37:DE:155:ALA:HB1	40:DH:66:PHE:CZ	2.23	0.74
23:EW:35:ILE:O	23:EW:37:VAL:N	2.21	0.74
24:AX:1:SER:O	24:AX:49:ARG:NH2	2.21	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:1033:G:H2'	33:DA:1034:G:H5'	1.69	0.74
48:DP:63:GLN:OE1	48:DP:63:GLN:N	2.21	0.74
34:HB:14:HIS:ND1	34:HB:14:HIS:O	2.20	0.74
54:DV:560:GLN:OE1	54:DV:560:GLN:N	2.20	0.73
33:HA:978:A:OP2	33:HA:1362:A:N6	2.20	0.73
33:DA:1052:U:OP1	59:DA:1823:HOH:O	2.06	0.73
1:EA:2324:U:H3'	1:EA:2325:G:H5''	1.70	0.73
1:GA:2755:C:O2	59:GA:3805:HOH:O	2.05	0.73
9:GI:109:ALA:HB1	9:GI:124:MET:HB2	1.70	0.73
1:AA:1824:G:OP2	59:AA:3651:HOH:O	2.06	0.73
33:FA:1303:C:OP1	59:FA:1791:HOH:O	2.05	0.73
1:GA:1998:A:OP2	4:GD:141:ARG:NH2	2.20	0.73
33:HA:1220:G:OP1	51:HS:37:ARG:NE	2.22	0.73
1:AA:999:U:OP2	59:AA:3356:HOH:O	2.06	0.73
2:AB:59:A:O2'	15:AO:3:LYS:NZ	2.14	0.73
1:CA:509:C:O3'	59:CA:3757:HOH:O	2.06	0.73
1:CA:567:U:OP1	59:CA:3254:HOH:O	2.07	0.73
52:DT:78:ASN:ND2	59:DT:101:HOH:O	2.18	0.73
33:FA:1522:U:OP1	43:FK:128:ARG:NH2	2.22	0.73
1:CA:2588:G:OP1	59:CA:3313:HOH:O	2.06	0.73
20:CT:9:LYS:O	20:CT:12:ARG:NH1	2.22	0.73
1:EA:1658:C:OP1	59:EA:3648:HOH:O	2.05	0.73
32:E5:71:CYS:HA	32:E5:117:LEU:CD1	2.19	0.73
1:AA:990:A:OP2	59:AA:3590:HOH:O	2.05	0.73
1:CA:197:A:OP1	59:CA:3747:HOH:O	2.06	0.73
42:DJ:32:THR:OG1	42:DJ:82:LYS:O	2.07	0.73
1:EA:410:G:OP2	59:EA:3561:HOH:O	2.05	0.73
1:AA:1551:A:N6	59:AA:3625:HOH:O	2.21	0.73
41:BI:50:GLN:OE1	41:BI:80:ARG:NH1	2.22	0.73
1:EA:1380:G:N2	1:EA:1570:A:N1	2.35	0.73
21:EU:98:ASN:O	21:EU:100:GLU:N	2.20	0.73
1:GA:1617:C:OP1	59:GA:3416:HOH:O	2.06	0.73
33:HA:1180:A:OP2	41:HI:99:ARG:NH2	2.22	0.73
54:HV:219:HIS:O	54:HV:222:LEU:N	2.21	0.73
1:AA:762:U:OP1	59:AA:3685:HOH:O	2.06	0.73
1:AA:945:A:OP1	59:AA:3347:HOH:O	2.06	0.73
33:BA:204:G:H3'	33:BA:205:A:H5''	1.70	0.73
43:BK:20:VAL:HG23	43:BK:37:ARG:HA	1.70	0.73
1:EA:883:G:N3	1:EA:893:C:N4	2.37	0.73
33:HA:1108:G:O6	59:HA:1862:HOH:O	2.06	0.73
21:AU:98:ASN:O	21:AU:100:GLU:N	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:537:G:OP1	44:BL:110:ARG:NH2	2.22	0.72
33:BA:964:A:OP1	59:BA:1828:HOH:O	2.07	0.72
33:DA:100:G:OP2	59:DA:1870:HOH:O	2.07	0.72
33:FA:1345:U:OP2	59:FA:1766:HOH:O	2.06	0.72
32:A5:103:ASN:ND2	32:A5:109:LYS:O	2.21	0.72
41:BI:57:MET:SD	41:BI:58:VAL:N	2.61	0.72
1:EA:1782:U:OP1	59:EA:3687:HOH:O	2.06	0.72
33:FA:934:C:OP1	59:FA:1768:HOH:O	2.06	0.72
37:FE:111:MET:HB2	37:FE:140:THR:HG21	1.71	0.72
1:CA:163:C:O2'	1:CA:164:C:O5'	2.06	0.72
1:EA:982:C:O3'	59:EA:3563:HOH:O	2.06	0.72
1:GA:1636:U:OP2	59:GA:3642:HOH:O	2.06	0.72
17:GQ:91:ARG:NH1	18:GR:11:GLN:O	2.22	0.72
12:AL:93:ASN:O	12:AL:95:LEU:N	2.22	0.72
33:BA:687:A:N6	33:BA:703:G:N3	2.37	0.72
1:CA:1780:A:OP1	59:CA:3683:HOH:O	2.07	0.72
3:EC:69:ASN:O	3:EC:71:ASP:N	2.22	0.72
1:GA:963:U:OP1	59:GA:3351:HOH:O	2.05	0.72
1:GA:1263:U:OP1	27:G0:12:ARG:NH1	2.23	0.72
4:ED:118:PHE:O	4:ED:120:GLY:N	2.21	0.72
10:EJ:6:ALA:HB3	10:EJ:45:THR:HG21	1.72	0.72
12:EL:93:ASN:OD1	12:EL:94:THR:N	2.23	0.72
1:AA:1186:G:OP2	59:AA:3591:HOH:O	2.07	0.72
1:EA:1376:C:OP1	59:EA:3398:HOH:O	2.07	0.72
1:GA:2025:C:OP2	59:GA:3473:HOH:O	2.06	0.72
1:GA:2744:G:N2	7:GG:142:GLN:OE1	2.23	0.72
33:HA:1194:U:H5'	37:HE:27:GLY:HA2	1.72	0.72
1:AA:2477:U:O2	31:A4:4:ARG:NH2	2.23	0.72
1:CA:576:U:OP1	59:CA:3661:HOH:O	2.06	0.72
33:HA:521:G:OP2	44:HL:51:LYS:NZ	2.23	0.72
32:A5:1:MET:SD	32:A5:2:ALA:N	2.58	0.72
37:BE:82:GLN:HG2	37:BE:150:PRO:HD3	1.71	0.72
1:CA:2102:G:N2	1:CA:2188:U:H3	1.88	0.72
44:DL:75:GLN:O	44:DL:77:HIS:N	2.22	0.72
1:EA:254:G:N7	30:E3:4:LYS:NZ	2.38	0.72
1:EA:2243:U:OP1	59:EA:3736:HOH:O	2.08	0.72
33:FA:1417:G:O6	59:FA:1794:HOH:O	2.08	0.72
16:GP:63:ILE:HA	16:GP:68:GLY:HA2	1.70	0.72
1:AA:250:G:OP2	30:A3:12:ARG:NH1	2.22	0.72
1:AA:731:C:OP2	59:AA:3295:HOH:O	2.07	0.72
23:AW:36:ILE:O	23:AW:39:GLN:NE2	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:195:A:OP2	59:HA:1876:HOH:O	2.07	0.72
1:AA:1352:U:OP2	59:AA:3397:HOH:O	2.08	0.72
23:CW:7:GLY:O	23:CW:10:ARG:NH1	2.22	0.72
1:EA:1970:A:OP2	59:EA:3468:HOH:O	2.07	0.72
1:GA:572:A:OP1	59:GA:3563:HOH:O	2.08	0.72
1:CA:818:G:OP2	59:CA:3572:HOH:O	2.07	0.71
1:CA:1913:A:N6	33:DA:1493:A:H2'	2.05	0.71
35:FC:40:ARG:NH1	35:FC:55:ILE:O	2.23	0.71
9:AI:73:PRO:O	9:AI:112:LYS:NZ	2.21	0.71
11:AK:70:ARG:NH1	11:AK:74:GLY:O	2.23	0.71
23:AW:9:THR:HG23	23:AW:10:ARG:HD3	1.72	0.71
36:HD:25:VAL:HG23	36:HD:26:ARG:H	1.56	0.71
33:DA:1303:C:OP1	59:DA:1788:HOH:O	2.08	0.71
1:EA:1248:G:OP2	5:EE:44:ARG:NH1	2.23	0.71
32:A5:24:SER:HB3	32:A5:116:GLU:CD	2.10	0.71
33:BA:803:G:OP1	59:BA:1749:HOH:O	2.09	0.71
1:EA:1077:A:H4'	9:EI:93:ASN:HB2	1.73	0.71
1:GA:910:A:OP1	59:GA:3714:HOH:O	2.08	0.71
33:HA:782:A:OP1	59:HA:1812:HOH:O	2.07	0.71
54:BV:309:ARG:NH2	54:BV:402:ALA:O	2.24	0.71
33:BA:1007:U:H2'	33:BA:1008:U:H5'	1.71	0.71
23:CW:37:VAL:HG13	23:CW:55:ASP:O	1.91	0.71
1:AA:2547:A:H2'	1:AA:2548:U:C6	2.26	0.71
20:AT:39:THR:O	20:AT:41:ALA:N	2.23	0.71
54:BV:203:GLU:O	54:BV:205:GLU:N	2.24	0.71
1:GA:1088:A:O2'	1:GA:1089:A:OP1	2.08	0.71
46:HN:27:LEU:O	46:HN:31:ILE:N	2.24	0.71
32:A5:30:SER:O	32:A5:31:ARG:CB	2.39	0.71
1:CA:2331:G:O2'	23:CW:39:GLN:O	2.07	0.71
33:FA:1524:C:OP2	59:FA:1897:HOH:O	2.08	0.71
1:GA:15:G:OP2	59:GA:3549:HOH:O	2.08	0.71
1:AA:784:G:OP2	59:AA:3312:HOH:O	2.08	0.71
1:AA:2874:C:OP1	59:AA:3791:HOH:O	2.08	0.71
53:DU:44:GLU:OE2	53:DU:45:ARG:NH1	2.24	0.71
1:EA:789:A:N1	59:EA:3312:HOH:O	2.23	0.71
1:EA:2550:G:OP1	59:EA:3719:HOH:O	2.08	0.71
44:FL:44:LYS:HB3	44:FL:45:PRO:HD3	1.70	0.71
1:GA:1079:C:O2'	1:GA:1080:A:OP1	2.08	0.71
1:GA:1095:A:C6	54:HV:628:THR:HA	2.25	0.71
1:GA:1163:G:OP1	18:GR:24:LYS:NZ	2.19	0.71
1:GA:1268:A:OP1	59:GA:3376:HOH:O	2.08	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GC:68:ARG:NH2	3:GC:126:GLY:O	2.23	0.71
24:GX:32:LEU:O	24:GX:33:HIS:ND1	2.24	0.71
33:HA:404:G:O6	36:HD:2:ALA:N	2.24	0.71
33:HA:404:G:O2'	33:HA:498:A:N1	2.21	0.71
54:HV:508:GLN:NE2	54:HV:508:GLN:O	2.24	0.71
1:AA:945:A:OP2	59:AA:3345:HOH:O	2.08	0.71
1:AA:990:A:OP2	59:AA:3592:HOH:O	2.09	0.71
1:AA:1187:G:O6	59:AA:3571:HOH:O	2.08	0.71
33:BA:1502:A:N7	59:BA:1867:HOH:O	2.23	0.71
23:EW:9:THR:OG1	23:EW:10:ARG:N	2.23	0.71
36:FD:35:GLU:O	36:FD:37:ALA:N	2.24	0.71
1:GA:276:U:O2'	1:GA:278:A:N6	2.24	0.71
1:AA:981:A:OP1	59:AA:3587:HOH:O	2.08	0.70
1:AA:1186:G:OP2	59:AA:3592:HOH:O	2.08	0.70
1:AA:1322:A:OP1	19:AS:11:ARG:NE	2.24	0.70
10:AJ:131:ASN:OD1	10:AJ:131:ASN:N	2.23	0.70
21:AU:6:ARG:NH2	21:AU:7:ASP:OD1	2.24	0.70
1:CA:557:C:OP1	59:CA:3246:HOH:O	2.09	0.70
1:CA:962:G:OP1	59:CA:3352:HOH:O	2.09	0.70
12:EL:93:ASN:O	12:EL:95:LEU:N	2.24	0.70
32:E5:24:SER:O	32:E5:116:GLU:CB	2.37	0.70
32:E5:94:ARG:O	32:E5:97:LYS:N	2.24	0.70
1:GA:800:A:OP1	59:GA:3323:HOH:O	2.09	0.70
1:GA:1774:C:OP1	59:GA:3443:HOH:O	2.08	0.70
1:EA:1604:C:OP2	59:EA:3409:HOH:O	2.08	0.70
29:E2:43:THR:O	29:E2:44:VAL:HB	1.90	0.70
33:FA:934:C:OP1	59:FA:1765:HOH:O	2.09	0.70
45:FM:11:ASP:OD1	45:FM:12:HIS:N	2.24	0.70
54:FV:79:TYR:OH	54:FV:284:ASP:OD1	2.06	0.70
33:HA:858:G:N7	59:HA:1819:HOH:O	2.24	0.70
39:HG:126:ASP:O	39:HG:130:ASN:N	2.24	0.70
43:DK:125:LYS:HE3	53:DU:35:ARG:HE	1.56	0.70
1:EA:2269:G:O2'	23:EW:18:LYS:HG2	1.91	0.70
1:AA:1670:C:OP1	59:AA:3434:HOH:O	2.07	0.70
1:AA:2387:U:O2'	23:AW:38:ARG:NH2	2.23	0.70
1:AA:2592:G:OP1	59:AA:3462:HOH:O	2.09	0.70
38:BF:91:ARG:HG2	38:BF:92:THR:H	1.55	0.70
1:CA:675:A:OP2	59:CA:3327:HOH:O	2.10	0.70
17:CQ:91:ARG:HE	17:CQ:93:ILE:CG2	2.04	0.70
33:DA:533:A:O2'	33:DA:535:A:OP2	2.05	0.70
33:DA:1007:U:H2'	33:DA:1008:U:H5'	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:EK:78:ARG:NH1	16:EP:70:GLU:OE2	2.25	0.70
33:FA:1152:A:OP1	42:FJ:70:HIS:ND1	2.24	0.70
33:HA:1296:C:O3'	33:HA:1302:C:N4	2.25	0.70
1:AA:730:A:OP2	59:AA:3687:HOH:O	2.10	0.70
1:AA:787:C:OP1	59:AA:3746:HOH:O	2.09	0.70
1:AA:1336:A:OP1	20:AT:68:LYS:NZ	2.24	0.70
32:E5:26:VAL:CG2	32:E5:115:GLY:N	2.48	0.70
12:GL:93:ASN:OD1	12:GL:94:THR:N	2.23	0.70
43:HK:114:THR:OG1	53:HU:24:GLU:OE1	2.09	0.70
17:EQ:63:ARG:NH1	17:EQ:95:ALA:O	2.25	0.70
44:FL:34:CYS:HA	44:FL:55:VAL:HA	1.72	0.70
33:HA:490:C:OP1	36:HD:146:ARG:NH2	2.24	0.70
33:HA:937:A:OP2	59:HA:1775:HOH:O	2.09	0.70
54:HV:509:SER:OG	54:HV:512:ARG:O	2.10	0.70
38:BF:23:GLU:O	38:BF:27:ALA:N	2.24	0.70
16:CP:50:ARG:HG2	16:CP:57:ALA:H	1.56	0.70
33:DA:881:G:OP2	44:DL:9:ARG:NH2	2.25	0.70
1:EA:1031:G:H4'	31:E4:6:SER:HB2	1.74	0.70
1:GA:803:U:OP2	59:GA:3321:HOH:O	2.09	0.70
45:HM:23:TYR:N	45:HM:66:GLU:OE2	2.24	0.70
51:HS:35:SER:HG	51:HS:38:SER:HG	1.36	0.70
52:HT:3:ASN:O	52:HT:5:LYS:N	2.21	0.70
1:AA:975:A:OP2	59:AA:3583:HOH:O	2.10	0.70
1:AA:1267:U:OP2	59:AA:3368:HOH:O	2.10	0.70
6:AF:11:VAL:HG13	6:AF:171:ALA:HB3	1.72	0.70
33:BA:2:A:N6	33:BA:3:A:N1	2.40	0.70
45:DM:114:LYS:HB2	45:DM:115:PRO:HD3	1.74	0.70
39:FG:57:SER:OG	39:FG:58:GLU:N	2.25	0.70
33:DA:1296:C:O3'	33:DA:1302:C:N4	2.25	0.70
1:EA:622:G:OP2	59:EA:3806:HOH:O	2.09	0.70
10:EJ:64:VAL:O	10:EJ:65:THR:HB	1.90	0.70
37:FE:45:ARG:HA	37:FE:72:ILE:O	1.92	0.70
54:FV:422:PRO:O	54:FV:424:THR:N	2.25	0.70
1:AA:450:G:OP2	59:AA:3237:HOH:O	2.10	0.70
33:BA:558:G:OP1	59:BA:1837:HOH:O	2.10	0.70
1:EA:2136:G:OP2	1:EA:2155:U:N3	2.24	0.70
1:GA:1248:G:OP2	5:GE:44:ARG:NH1	2.25	0.70
33:HA:1027:C:O2'	33:HA:1034:G:N2	2.24	0.70
1:AA:1069:A:C5	1:AA:1073:A:N7	2.59	0.69
34:BB:14:HIS:ND1	34:BB:14:HIS:O	2.25	0.69
54:BV:422:PRO:O	54:BV:424:THR:N	2.24	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:CH:27:ARG:NH1	24:CX:63:ILE:HG12	2.07	0.69
34:FB:132:GLU:OE2	34:FB:136:ARG:NH1	2.25	0.69
34:FB:140:LEU:O	34:FB:144:GLU:N	2.23	0.69
1:GA:1676:A:OP2	59:GA:3753:HOH:O	2.10	0.69
9:GI:33:ASN:ND2	9:GI:64:ARG:O	2.24	0.69
1:AA:1813:G:H1'	3:AC:49:THR:HG21	1.73	0.69
6:AF:49:LEU:HD11	6:AF:86:CYS:SG	2.32	0.69
33:FA:1304:G:OP2	59:FA:1791:HOH:O	2.10	0.69
16:CP:33:GLU:OE2	16:CP:38:ARG:NH2	2.26	0.69
1:EA:1670:C:OP1	59:EA:3436:HOH:O	2.11	0.69
23:EW:37:VAL:HG12	23:EW:38:ARG:H	1.57	0.69
33:FA:1366:C:O2'	42:FJ:62:ARG:NH2	2.24	0.69
1:GA:948:C:O2	1:GA:984:A:O2'	2.10	0.69
1:AA:122:G:N7	59:AA:3213:HOH:O	2.25	0.69
33:BA:1500:A:OP2	59:BA:1869:HOH:O	2.09	0.69
45:BM:5:ALA:HB2	45:BM:60:VAL:HG13	1.74	0.69
1:CA:1913:A:N7	33:DA:1494:G:H4'	2.07	0.69
17:CQ:91:ARG:HB2	17:CQ:94:LEU:HB2	1.75	0.69
47:DO:47:LYS:O	47:DO:53:ARG:NH2	2.25	0.69
1:EA:1938:A:OP2	59:EA:3727:HOH:O	2.10	0.69
32:E5:71:CYS:HB3	32:E5:117:LEU:HD12	1.75	0.69
32:E5:93:ALA:HA	32:E5:130:PRO:HG2	1.74	0.69
9:GI:29:GLN:OE1	54:HV:647:SER:OG	2.10	0.69
46:HN:64:CYS:SG	46:HN:67:THR:OG1	2.50	0.69
1:AA:142:A:C2	20:AT:2:ILE:HG23	2.28	0.69
1:AA:769:U:OP1	59:AA:3712:HOH:O	2.11	0.69
1:AA:783:A:OP2	59:AA:3312:HOH:O	2.09	0.69
33:BA:1500:A:OP1	59:BA:1797:HOH:O	2.10	0.69
6:EF:139:GLU:N	6:EF:139:GLU:OE1	2.26	0.69
23:EW:9:THR:HG23	23:EW:10:ARG:HD3	1.74	0.69
32:E5:30:SER:O	32:E5:31:ARG:CB	2.40	0.69
1:GA:784:G:OP2	59:GA:3313:HOH:O	2.10	0.69
1:AA:1456:G:O6	59:AA:3412:HOH:O	2.10	0.69
33:BA:689:C:OP1	43:BK:46:THR:OG1	2.10	0.69
45:BM:11:ASP:OD1	45:BM:12:HIS:N	2.24	0.69
1:CA:2711:A:OP1	59:CA:3543:HOH:O	2.11	0.69
33:DA:1524:C:OP2	43:DK:125:LYS:NZ	2.24	0.69
1:EA:480:A:OP2	21:EU:43:LYS:NZ	2.24	0.69
23:GW:9:THR:OG1	23:GW:10:ARG:N	2.26	0.69
33:HA:808:C:OP2	47:HO:48:LYS:NZ	2.19	0.69
41:HI:92:GLU:O	41:HI:96:SER:OG	2.09	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:509:A:OP2	59:BA:1721:HOH:O	2.10	0.69
33:BA:978:A:HO2'	33:BA:1322:C:H5	1.38	0.69
1:CA:276:U:O2'	1:CA:278:A:N7	2.25	0.69
1:AA:2353:G:H1'	23:AW:30:VAL:CG1	2.22	0.69
15:AO:2:ASP:OD2	15:AO:3:LYS:HG2	1.92	0.69
33:BA:1468:A:H2'	33:BA:1469:C:H5'	1.75	0.69
33:BA:1499:A:OP2	59:BA:1869:HOH:O	2.10	0.69
36:BD:35:GLU:O	36:BD:37:ALA:N	2.25	0.69
20:CT:37:ASP:N	20:CT:37:ASP:OD1	2.24	0.69
20:CT:44:LYS:HG3	20:CT:55:VAL:HG11	1.75	0.69
1:EA:192:C:N3	59:EA:3325:HOH:O	2.26	0.69
33:FA:315:A:OP2	59:FA:1708:HOH:O	2.10	0.69
34:FB:20:ARG:HA	34:FB:20:ARG:CZ	2.23	0.69
1:GA:572:A:OP2	18:GR:80:ARG:NH2	2.26	0.69
43:HK:16:VAL:O	43:HK:37:ARG:NH2	2.26	0.69
1:AA:564:C:O2	1:AA:578:G:N2	2.26	0.69
1:CA:2022:U:OP1	59:CA:3656:HOH:O	2.10	0.69
54:DV:645:GLN:O	54:DV:647:SER:N	2.26	0.69
41:FI:36:GLU:HA	41:FI:40:GLY:HA3	1.75	0.69
14:CN:117:ASP:OD1	14:CN:118:ARG:N	2.26	0.69
17:CQ:63:ARG:NH1	17:CQ:95:ALA:O	2.25	0.69
18:CR:46:GLU:N	18:CR:46:GLU:OE2	2.26	0.69
1:AA:1223:G:OP1	18:AR:68:ARG:NH1	2.25	0.68
34:BB:115:ASP:O	34:BB:119:GLN:NE2	2.25	0.68
1:CA:635:C:OP2	12:CL:126:ARG:NH1	2.26	0.68
1:CA:2707:U:O2	14:CN:71:ARG:NH1	2.26	0.68
33:DA:1304:G:O6	59:DA:1785:HOH:O	2.09	0.68
1:EA:2522:U:O2'	1:EA:2647:U:OP1	2.11	0.68
1:GA:990:A:OP2	59:GA:3592:HOH:O	2.10	0.68
1:AA:1079:C:H2'	1:AA:1080:A:H5'	1.75	0.68
1:AA:2331:G:O2'	23:AW:39:GLN:O	2.10	0.68
1:CA:948:C:O2	1:CA:984:A:O2'	2.12	0.68
18:CR:42:ALA:HA	18:CR:46:GLU:HB2	1.75	0.68
28:C1:3:GLY:O	28:C1:5:ARG:N	2.25	0.68
37:FE:159:LYS:O	40:FH:64:LYS:NZ	2.24	0.68
1:GA:1010:A:OP2	59:GA:3766:HOH:O	2.10	0.68
10:GJ:81:ILE:HG13	10:GJ:82:GLY:N	2.09	0.68
23:AW:38:ARG:N	23:AW:38:ARG:HD2	2.08	0.68
58:BV:801:GCP:O3G	59:BV:901:HOH:O	2.11	0.68
33:HA:1222:G:O6	59:HA:1832:HOH:O	2.09	0.68
1:AA:629:G:N3	1:AA:639:U:O2'	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1009:A:OP2	59:AA:3771:HOH:O	2.10	0.68
4:AD:33:ARG:NH1	4:AD:53:GLY:O	2.26	0.68
41:BI:57:MET:O	41:BI:59:GLU:N	2.24	0.68
1:CA:1670:C:OP1	59:CA:3433:HOH:O	2.10	0.68
1:CA:2429:G:OP1	59:CA:3339:HOH:O	2.11	0.68
7:EG:165:ASP:OD1	7:EG:165:ASP:N	2.25	0.68
54:FV:23:LYS:HB3	58:FV:801:GCP:O1B	1.94	0.68
1:AA:2006:C:OP1	59:AA:3375:HOH:O	2.10	0.68
17:AQ:81:GLY:HA2	17:AQ:116:LEU:HD13	1.74	0.68
39:BG:15:ASP:OD1	39:BG:44:TYR:OH	2.11	0.68
1:AA:621:A:OP2	59:AA:3291:HOH:O	2.12	0.68
1:AA:2503:A:OP1	59:AA:3663:HOH:O	2.12	0.68
1:CA:1353:A:O3'	3:CC:35:LYS:NZ	2.27	0.68
33:DA:1505:G:OP2	59:DA:1866:HOH:O	2.10	0.68
1:GA:2387:U:O2'	23:GW:38:ARG:NH2	2.27	0.68
33:HA:401:C:O2'	33:HA:621:A:O2'	2.02	0.68
1:AA:1272:A:OP1	59:AA:3383:HOH:O	2.10	0.68
6:CF:139:GLU:OE1	6:CF:139:GLU:N	2.26	0.68
33:FA:1033:G:H2'	33:FA:1034:G:H5'	1.74	0.68
35:FC:3:GLN:OE1	35:FC:3:GLN:N	2.27	0.68
33:HA:1198:G:OP2	59:HA:1831:HOH:O	2.12	0.68
1:CA:826:U:OP1	59:CA:3339:HOH:O	2.11	0.68
33:DA:1412:C:OP1	44:DL:54:ARG:NH1	2.27	0.68
54:FV:309:ARG:NH2	54:FV:402:ALA:O	2.27	0.68
32:A5:54:VAL:HG22	32:A5:83:ALA:HB1	1.76	0.68
35:BC:71:ALA:HA	35:BC:106:VAL:HG22	1.76	0.68
51:BS:36:ARG:NH2	51:BS:75:ALA:O	2.25	0.68
53:BU:6:VAL:HG13	53:BU:17:ARG:HD3	1.76	0.68
41:BI:57:MET:HA	41:BI:60:LYS:CG	2.23	0.68
33:DA:1468:A:H2'	33:DA:1469:C:H5'	1.76	0.68
33:FA:116:A:OP2	59:FA:1885:HOH:O	2.12	0.68
1:GA:567:U:OP1	59:GA:3258:HOH:O	2.12	0.68
1:GA:2204:G:OP2	3:GC:146:LYS:NZ	2.26	0.68
7:GG:46:ASP:OD1	7:GG:47:ASN:N	2.26	0.68
43:HK:88:GLY:H	43:HK:114:THR:HG22	1.58	0.68
1:AA:616:A:H4'	5:AE:101:TYR:CE2	2.29	0.67
2:AB:87:U:H3'	2:AB:88:C:H5'	1.74	0.67
33:BA:689:C:O2'	33:BA:705:G:O2'	2.09	0.67
1:CA:981:A:OP1	59:CA:3588:HOH:O	2.10	0.67
1:EA:2110:G:OP1	1:EA:2148:G:N1	2.26	0.67
1:GA:616:A:H4'	5:GE:101:TYR:CE2	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:GP:50:ARG:HG2	16:GP:57:ALA:H	1.59	0.67
1:AA:1371:G:N7	59:AA:3400:HOH:O	2.27	0.67
20:AT:50:LEU:H	20:AT:50:LEU:HD12	1.57	0.67
46:BN:27:LEU:HA	46:BN:31:ILE:HD13	1.77	0.67
1:CA:621:A:OP2	59:CA:3292:HOH:O	2.10	0.67
1:CA:2105:U:H3	1:CA:2107:G:H5''	1.60	0.67
1:CA:2700:A:N1	59:CA:3674:HOH:O	2.27	0.67
10:CJ:81:ILE:HG13	10:CJ:82:GLY:N	2.09	0.67
23:CW:24:ARG:HH12	23:CW:82:GLU:HB2	1.59	0.67
46:DN:49:GLN:OE1	46:DN:49:GLN:N	2.26	0.67
32:E5:57:ASN:O	32:E5:59:LEU:N	2.27	0.67
33:FA:1007:U:H2'	33:FA:1008:U:H5'	1.75	0.67
52:FT:60:ARG:NH2	59:FT:104:HOH:O	2.27	0.67
1:GA:1509:A:O2'	1:GA:1510:G:OP2	2.10	0.67
33:BA:264:C:OP2	59:BA:1801:HOH:O	2.10	0.67
1:CA:818:G:OP2	59:CA:3575:HOH:O	2.11	0.67
33:DA:608:A:OP2	59:DA:1849:HOH:O	2.12	0.67
1:GA:2356:U:H4'	23:GW:16:GLU:HG3	1.77	0.67
1:AA:2685:G:OP1	11:AK:78:ARG:NH2	2.27	0.67
16:AP:52:ARG:HH11	16:AP:52:ARG:HG3	1.59	0.67
22:CV:4:ILE:HD11	22:CV:50:MET:SD	2.34	0.67
1:EA:1695:G:N7	3:EC:13:ARG:NH2	2.42	0.67
39:FG:15:ASP:OD1	39:FG:44:TYR:OH	2.12	0.67
54:HV:92:HIS:O	54:HV:122:GLN:NE2	2.26	0.67
47:BO:26:GLU:OE2	47:BO:77:ARG:NH1	2.26	0.67
1:CA:761:A:OP1	59:CA:3293:HOH:O	2.13	0.67
14:CN:42:LYS:O	14:CN:45:ARG:NH1	2.26	0.67
23:CW:9:THR:OG1	23:CW:10:ARG:N	2.27	0.67
33:DA:414:A:OP2	59:DA:1717:HOH:O	2.13	0.67
33:DA:1199:U:OP1	59:DA:1824:HOH:O	2.13	0.67
54:FV:560:GLN:OE1	54:FV:560:GLN:N	2.27	0.67
1:GA:1784:A:OP2	59:GA:3687:HOH:O	2.13	0.67
9:GI:23:VAL:HG23	9:GI:24:GLY:H	1.59	0.67
33:BA:35:G:O2'	44:BL:115:SER:O	2.09	0.67
54:DV:500:ASP:N	54:DV:521:ASP:OD1	2.27	0.67
1:AA:1780:A:OP1	59:AA:3683:HOH:O	2.13	0.67
43:BK:108:THR:O	43:BK:109:ASN:ND2	2.27	0.67
1:GA:137:U:O2'	1:GA:138:U:OP2	2.11	0.67
1:GA:2800:A:H3'	1:GA:2801:G:C5'	2.24	0.67
20:GT:37:ASP:OD1	20:GT:37:ASP:N	2.27	0.67
1:AA:2057:G:OP2	59:AA:3484:HOH:O	2.11	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:148:GLN:HB2	4:AD:152:PRO:HG2	1.77	0.67
20:AT:19:LYS:O	20:AT:23:ALA:N	2.28	0.67
33:BA:1119:C:OP2	41:BI:11:ARG:NH2	2.27	0.67
54:BV:313:ASP:OD2	54:BV:378:ARG:NH1	2.27	0.67
1:GA:1253:A:N7	59:GA:3329:HOH:O	2.28	0.67
1:AA:30:G:N7	59:AA:3212:HOH:O	2.28	0.67
23:AW:35:ILE:O	23:AW:37:VAL:N	2.27	0.67
33:DA:723:U:H2'	53:DU:49:LYS:HG2	1.76	0.67
33:DA:1003:G:N2	33:DA:1005:A:OP1	2.28	0.67
51:DS:36:ARG:NH2	51:DS:75:ALA:O	2.27	0.67
1:EA:297:G:OP2	59:EA:3227:HOH:O	2.12	0.67
3:EC:131:MET:O	3:EC:166:ARG:NH1	2.28	0.67
42:FJ:35:GLN:HG2	42:FJ:77:VAL:H	1.60	0.67
54:FV:78:GLN:NE2	54:FV:280:ASP:OD2	2.28	0.67
1:GA:1361:G:OP2	59:GA:3611:HOH:O	2.12	0.67
30:G3:23:HIS:ND1	30:G3:24:LYS:O	2.26	0.67
33:HA:181:A:N7	59:HA:1878:HOH:O	2.26	0.67
33:HA:1522:U:OP1	43:HK:128:ARG:NH2	2.28	0.67
1:CA:2324:U:H3'	1:CA:2325:G:C5'	2.24	0.67
14:CN:118:ARG:O	14:CN:120:GLU:N	2.28	0.67
46:DN:21:PHE:HA	46:DN:25:ALA:HB3	1.76	0.67
1:EA:790:U:O5'	59:EA:3752:HOH:O	2.12	0.67
32:E5:24:SER:HB3	32:E5:116:GLU:HG2	1.77	0.67
33:FA:509:A:OP2	59:FA:1724:HOH:O	2.12	0.67
33:FA:1279:G:H2'	33:FA:1279:G:N3	2.10	0.67
33:FA:1468:A:H2'	33:FA:1469:C:H5'	1.77	0.67
40:FH:53:GLY:HA3	40:FH:57:PRO:HA	1.74	0.67
33:HA:1166:G:N1	33:HA:1169:A:OP2	2.28	0.67
1:AA:1327:A:OP1	59:AA:3605:HOH:O	2.13	0.66
33:BA:1225:A:H2'	33:BA:1226:C:C5	2.30	0.66
44:BL:75:GLN:O	44:BL:77:HIS:N	2.29	0.66
47:BO:39:LEU:O	47:BO:42:HIS:N	2.27	0.66
3:CC:52:HIS:ND1	59:CC:306:HOH:O	2.25	0.66
6:CF:162:ASP:OD1	6:CF:162:ASP:N	2.28	0.66
23:CW:37:VAL:HG12	23:CW:38:ARG:H	1.60	0.66
37:DE:82:GLN:HG2	37:DE:150:PRO:HD3	1.77	0.66
1:EA:1664:A:OP1	59:EA:3424:HOH:O	2.12	0.66
1:EA:2502:G:OP2	59:EA:3490:HOH:O	2.11	0.66
1:GA:1279:G:H4'	14:GN:31:HIS:HD2	1.60	0.66
37:HE:70:ASN:O	37:HE:70:ASN:ND2	2.27	0.66
32:A5:26:VAL:HG11	32:A5:77:VAL:HG11	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:740:C:OP2	59:CA:3688:HOH:O	2.12	0.66
1:CA:1914:C:OP2	55:DW:5:UAL:N2	2.27	0.66
35:DC:34:ASP:OD2	46:DN:65:ARG:NH1	2.28	0.66
33:HA:579:A:O2'	47:HO:54:ARG:NH1	2.27	0.66
43:BK:33:THR:HA	43:BK:44:TRP:HB3	1.76	0.66
1:CA:560:C:O3'	59:CA:3592:HOH:O	2.13	0.66
46:DN:20:TYR:O	46:DN:24:ARG:N	2.28	0.66
53:DU:10:GLU:OE2	39:HG:149:LYS:NZ	2.27	0.66
1:GA:2109:U:H2'	1:GA:2110:G:H5''	1.75	0.66
33:HA:71:A:O2'	33:HA:72:A:O4'	2.12	0.66
1:AA:218:A:OP2	59:AA:3226:HOH:O	2.13	0.66
1:AA:945:A:OP2	59:AA:3343:HOH:O	2.13	0.66
1:AA:1176:U:O2'	1:AA:1177:G:O4'	2.13	0.66
5:AE:46:GLN:HG3	5:AE:87:ALA:HB3	1.77	0.66
44:BL:34:CYS:HA	44:BL:55:VAL:HA	1.77	0.66
36:DD:99:ASP:OD1	36:DD:100:ASN:N	2.29	0.66
1:EA:2429:G:OP2	59:EA:3344:HOH:O	2.12	0.66
23:GW:51:GLY:HA3	23:GW:59:PHE:CE1	2.30	0.66
40:HH:9:ASP:OD1	40:HH:13:ARG:NH1	2.29	0.66
21:AU:98:ASN:ND2	21:AU:100:GLU:HB2	2.11	0.66
43:BK:101:ASN:ND2	53:BU:13:ASP:O	2.28	0.66
54:BV:78:GLN:NE2	54:BV:280:ASP:OD2	2.28	0.66
1:CA:2448:A:OP2	59:CA:3676:HOH:O	2.13	0.66
46:HN:54:ASP:OD1	46:HN:59:ARG:NH1	2.28	0.66
1:AA:411:G:OP2	1:AA:2406:A:O2'	2.12	0.66
1:AA:2312:U:H4'	6:AF:84:ILE:HG23	1.77	0.66
2:AB:43:C:O2	6:AF:91:ARG:NH2	2.28	0.66
18:AR:10:LYS:NZ	18:AR:23:GLU:OE1	2.29	0.66
34:BB:140:LEU:O	34:BB:144:GLU:N	2.27	0.66
54:BV:8:ALA:O	54:BV:288:SER:OG	2.14	0.66
1:CA:802:A:OP1	59:CA:3326:HOH:O	2.12	0.66
10:CJ:19:ASP:OD1	10:CJ:58:ASN:ND2	2.28	0.66
13:CM:30:SER:OG	13:CM:106:ASP:OD1	2.12	0.66
1:EA:958:U:OP2	13:EM:14:LYS:NZ	2.28	0.66
1:GA:624:C:O2'	1:GA:657:U:OP1	2.13	0.66
1:GA:1327:A:OP2	59:GA:3606:HOH:O	2.13	0.66
3:GC:257:ARG:NH1	3:GC:263:ASP:OD1	2.29	0.66
33:HA:769:G:H4'	33:HA:1513:A:H4'	1.77	0.66
33:HA:1508:A:OP1	59:HA:1800:HOH:O	2.13	0.66
1:AA:1174:U:O2'	1:AA:1176:U:O4'	2.13	0.66
33:BA:1166:G:N1	33:BA:1169:A:OP2	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:CJ:110:PRO:HB2	10:CJ:111:LYS:HG2	1.78	0.66
1:EA:652:U:OP1	1:EA:654:A:N6	2.28	0.66
1:EA:2353:G:H1'	23:EW:30:VAL:CG1	2.26	0.66
34:FB:32:GLY:HA3	34:FB:39:ILE:H	1.59	0.66
33:HA:7:A:N3	59:HA:1838:HOH:O	2.28	0.66
15:AO:56:LYS:O	15:AO:60:GLU:N	2.28	0.66
23:AW:37:VAL:HG12	23:AW:38:ARG:H	1.61	0.66
32:A5:57:ASN:O	32:A5:59:LEU:N	2.29	0.66
1:CA:761:A:N7	59:CA:3294:HOH:O	2.29	0.66
1:CA:1279:G:H4'	14:CN:31:HIS:CD2	2.30	0.66
2:CB:87:U:H3'	2:CB:88:C:H5'	1.77	0.66
33:DA:532:A:N6	35:DC:192:THR:O	2.29	0.66
41:DI:7:TYR:HE1	41:DI:18:ARG:HB2	1.59	0.66
33:FA:263:A:OP1	52:FT:74:ARG:NH1	2.28	0.66
6:GF:3:LEU:O	6:GF:7:TYR:N	2.28	0.66
15:GO:2:ASP:O	15:GO:5:SER:N	2.28	0.66
33:HA:352:C:OP2	59:HA:1892:HOH:O	2.14	0.66
4:AD:118:PHE:HD1	4:AD:119:ALA:H	1.42	0.66
39:BG:146:GLU:HA	39:BG:149:LYS:HE2	1.78	0.66
1:CA:1153:C:OP2	59:CA:3355:HOH:O	2.14	0.66
1:CA:2033:A:OP1	59:CA:3476:HOH:O	2.14	0.66
5:EE:44:ARG:HG3	5:EE:44:ARG:HH21	1.61	0.66
33:FA:33:A:O2'	44:FL:29:GLN:OE1	2.05	0.66
33:FA:608:A:OP2	59:FA:1852:HOH:O	2.13	0.66
1:GA:1808:A:N1	24:GX:27:ARG:HD2	2.11	0.66
1:EA:1789:A:OP2	3:EC:220:ARG:NH1	2.27	0.66
32:E5:33:VAL:N	32:E5:36:ASP:OD2	2.29	0.66
32:E5:73:LYS:HG2	32:E5:117:LEU:HD21	1.77	0.66
33:FA:1491:G:H2'	55:FW:6:5OH:HA	1.78	0.66
34:FB:182:VAL:N	34:FB:196:ASP:OD2	2.29	0.66
1:AA:370:G:OP2	59:AA:3552:HOH:O	2.14	0.65
23:AW:49:ASN:ND2	23:AW:50:VAL:O	2.29	0.65
55:BW:3:SER:O	55:BW:5:UAL:N	2.29	0.65
33:DA:515:G:N7	59:DA:1844:HOH:O	2.29	0.65
46:FN:52:PRO:O	46:FN:53:ARG:HB2	1.96	0.65
1:GA:1239:G:OP1	59:GA:3692:HOH:O	2.14	0.65
1:GA:2062:A:OP1	59:GA:3492:HOH:O	2.13	0.65
23:GW:49:ASN:ND2	23:GW:79:ILE:O	2.28	0.65
33:HA:1468:A:H2'	33:HA:1469:C:H5'	1.77	0.65
1:AA:2676:C:O2	1:AA:2732:G:N2	2.29	0.65
33:BA:1126:U:O4	42:BJ:9:ARG:NH1	2.28	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BV:560:GLN:N	54:BV:560:GLN:OE1	2.30	0.65
1:CA:2306:C:N4	6:CF:38:GLY:O	2.28	0.65
21:CU:98:ASN:O	21:CU:100:GLU:N	2.29	0.65
23:CW:9:THR:HG23	23:CW:10:ARG:HD3	1.76	0.65
1:EA:1187:G:H5''	18:ER:83:TYR:CE2	2.30	0.65
2:EB:87:U:H3'	2:EB:88:C:H5'	1.77	0.65
6:EF:28:PRO:HB2	6:EF:168:LEU:HD23	1.77	0.65
33:FA:483:C:O2	48:FP:13:LYS:NZ	2.28	0.65
43:FK:127:ARG:O	53:FU:34:ARG:NH1	2.29	0.65
45:FM:114:LYS:HB2	45:FM:115:PRO:HD3	1.77	0.65
1:GA:328:U:O2'	21:GU:68:ASN:OD1	2.11	0.65
1:GA:2269:G:OP1	59:GA:3507:HOH:O	2.14	0.65
4:GD:118:PHE:O	4:GD:120:GLY:N	2.29	0.65
15:GO:49:VAL:HG21	15:GO:82:ALA:HA	1.78	0.65
52:BT:30:THR:HA	52:BT:33:LYS:HG3	1.77	0.65
1:CA:450:G:OP2	59:CA:3238:HOH:O	2.13	0.65
1:CA:2438:U:O2'	1:CA:2440:C:OP1	2.12	0.65
37:FE:115:LEU:HD23	37:FE:123:VAL:HG21	1.78	0.65
44:FL:63:VAL:HG21	44:FL:95:TYR:CE1	2.31	0.65
1:GA:823:C:N3	1:GA:834:G:N2	2.38	0.65
1:GA:963:U:OP2	59:GA:3352:HOH:O	2.13	0.65
14:GN:73:ASN:HA	14:GN:76:VAL:HG12	1.78	0.65
17:GQ:91:ARG:HE	17:GQ:93:ILE:CG2	2.10	0.65
33:HA:1505:G:OP1	59:HA:1800:HOH:O	2.12	0.65
1:AA:624:C:O2'	1:AA:657:U:OP1	2.15	0.65
33:BA:878:A:OP2	40:BH:80:ARG:NH1	2.30	0.65
33:BA:1197:A:OP1	59:BA:1829:HOH:O	2.13	0.65
33:DA:1433:A:OP2	59:DA:1829:HOH:O	2.13	0.65
33:FA:351:G:OP1	52:FT:3:ASN:N	2.29	0.65
33:FA:553:A:O2'	44:FL:26:ALA:O	2.14	0.65
33:FA:1310:G:OP2	45:FM:87:ARG:NH2	2.29	0.65
33:HA:922:G:H4'	37:HE:25:VAL:HA	1.79	0.65
43:HK:125:LYS:O	53:HU:34:ARG:NH2	2.29	0.65
10:AJ:81:ILE:HG13	10:AJ:82:GLY:N	2.12	0.65
43:BK:25:ALA:N	43:BK:87:LYS:O	2.27	0.65
1:CA:1262:A:OP2	19:CS:99:ARG:NH2	2.29	0.65
53:DU:12:PHE:CE1	53:DU:16:LEU:HD12	2.30	0.65
1:EA:1655:A:H5'	4:ED:118:PHE:CD1	2.31	0.65
40:FH:3:MET:HE1	40:FH:6:PRO:HA	1.79	0.65
1:GA:136:G:H1	1:GA:143:C:H42	1.42	0.65
1:GA:2058:A:OP1	59:GA:3273:HOH:O	2.14	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:GT:12:ARG:HG2	20:GT:12:ARG:HH11	1.61	0.65
44:HL:34:CYS:HA	44:HL:55:VAL:HA	1.79	0.65
1:AA:587:C:OP2	12:AL:21:ARG:NH1	2.29	0.65
1:CA:2469:A:O3'	13:CM:55:ARG:NH1	2.30	0.65
1:CA:2547:A:H2'	1:CA:2548:U:C6	2.31	0.65
5:CE:15:SER:N	5:CE:197:GLU:OE2	2.30	0.65
33:DA:204:G:H3'	33:DA:205:A:C5'	2.26	0.65
33:FA:491:G:OP1	36:FD:148:LYS:NZ	2.30	0.65
33:FA:1229:A:OP2	45:FM:113:ARG:NH1	2.29	0.65
3:GC:255:LYS:O	3:GC:257:ARG:N	2.30	0.65
33:HA:1033:G:H2'	33:HA:1034:G:H5'	1.78	0.65
1:AA:1248:G:OP2	5:AE:44:ARG:NH1	2.29	0.65
1:AA:1437:C:H2'	1:AA:1438:U:C6	2.31	0.65
55:DW:5:UAL:O	55:DW:6:5OH:NP	2.29	0.65
23:EW:70:VAL:C	23:EW:71:LYS:HD2	2.17	0.65
17:GQ:65:ASN:OD1	17:GQ:69:ARG:NH2	2.28	0.65
36:HD:30:THR:HG22	36:HD:31:LYS:H	1.60	0.65
1:AA:1913:A:O2'	55:BW:3:SER:O	2.13	0.65
5:CE:29:HIS:HD2	12:CL:8:PRO:CA	2.09	0.65
1:EA:2478:A:H5'	31:E4:32:LYS:HD3	1.79	0.65
33:FA:363:A:OP2	59:FA:1892:HOH:O	2.13	0.65
33:FA:981:U:OP1	46:FN:9:ARG:NH1	2.29	0.65
1:AA:1332:G:OP1	59:AA:3754:HOH:O	2.14	0.65
1:AA:1444:G:OP2	59:AA:3628:HOH:O	2.15	0.65
1:CA:2016:U:H2'	1:CA:2017:U:C6	2.32	0.65
33:DA:131:A:H2'	33:DA:132:C:C6	2.32	0.65
37:DE:41:ASP:OD1	37:DE:42:GLY:N	2.30	0.65
2:EB:101:A:N7	59:EB:1318:HOH:O	2.29	0.65
4:ED:91:THR:O	4:ED:93:GLY:N	2.29	0.65
44:FL:68:GLY:O	44:FL:99:ARG:NH1	2.29	0.65
1:AA:2356:U:H4'	23:AW:16:GLU:HG3	1.79	0.65
14:AN:20:MET:HE1	14:AN:40:LYS:HG2	1.79	0.65
33:BA:1513:A:H2'	33:BA:1514:G:C8	2.31	0.65
1:CA:2757:A:N1	7:CG:66:THR:HG21	2.12	0.65
12:EL:110:VAL:O	12:EL:111:ILE:HB	1.97	0.65
41:FI:40:GLY:HA2	41:FI:45:ARG:HD3	1.79	0.65
46:FN:30:ILE:O	46:FN:35:ASN:ND2	2.30	0.65
54:HV:512:ARG:HD3	54:HV:589:SER:HB3	1.79	0.65
1:CA:1332:G:OP1	59:CA:3750:HOH:O	2.15	0.64
54:DV:505:HIS:HB3	54:DV:516:GLY:H	1.61	0.64
15:EO:76:LYS:NZ	15:EO:80:GLU:OE2	2.29	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:141:G:N2	20:GT:1:MET:O	2.30	0.64
46:HN:49:GLN:OE1	46:HN:49:GLN:N	2.29	0.64
19:AS:24:ILE:HG22	19:AS:71:VAL:HG21	1.79	0.64
33:BA:1256:A:O2'	33:BA:1278:G:O6	2.11	0.64
41:BI:89:GLU:HG3	41:BI:90:TYR:N	2.12	0.64
16:CP:52:ARG:HH11	16:CP:52:ARG:HG3	1.60	0.64
29:C2:1:MET:SD	29:C2:2:LYS:N	2.64	0.64
50:DR:41:PRO:HB2	50:DR:43:ARG:HG2	1.79	0.64
1:GA:822:G:OP1	59:GA:3338:HOH:O	2.14	0.64
7:GG:82:PHE:O	7:GG:84:LYS:NZ	2.26	0.64
33:HA:814:A:OP2	59:HA:1756:HOH:O	2.15	0.64
33:HA:1101:A:H4'	33:HA:1102:A:O5'	1.98	0.64
53:HU:41:PRO:O	53:HU:45:ARG:N	2.26	0.64
1:AA:1271:G:OP2	59:AA:3382:HOH:O	2.13	0.64
32:A5:24:SER:HB3	32:A5:116:GLU:OE2	1.97	0.64
1:CA:862:G:OP2	59:CA:3712:HOH:O	2.15	0.64
33:DA:324:G:O6	59:DA:1840:HOH:O	2.13	0.64
33:DA:579:A:O2'	47:DO:54:ARG:NH1	2.31	0.64
1:EA:141:G:N1	20:ET:1:MET:O	2.31	0.64
1:EA:161:A:H3'	1:EA:162:U:H5''	1.80	0.64
1:EA:787:C:OP1	59:EA:3751:HOH:O	2.15	0.64
1:EA:2714:G:OP2	59:EA:3546:HOH:O	2.15	0.64
1:GA:100:U:H4'	1:GA:101:A:O5'	1.98	0.64
1:GA:517:C:OP2	27:G0:9:ARG:NH2	2.30	0.64
1:GA:876:C:H4'	1:GA:877:A:OP1	1.96	0.64
54:HV:8:ALA:O	54:HV:288:SER:OG	2.14	0.64
5:AE:128:ALA:O	5:AE:130:LYS:N	2.30	0.64
16:AP:50:ARG:HG2	16:AP:57:ALA:N	2.12	0.64
1:CA:2661:G:C6	1:CA:2662:A:C2	2.85	0.64
11:EK:108:ARG:NH2	16:EP:33:GLU:O	2.30	0.64
23:EW:39:GLN:HB2	23:EW:41:GLY:O	1.98	0.64
1:AA:1970:A:OP2	59:AA:3470:HOH:O	2.14	0.64
7:AG:1:SER:O	7:AG:4:ALA:N	2.28	0.64
1:CA:572:A:OP2	18:CR:80:ARG:NH2	2.29	0.64
23:CW:35:ILE:O	23:CW:37:VAL:N	2.30	0.64
1:EA:1845:G:OP1	3:EC:255:LYS:NZ	2.30	0.64
1:EA:2145:C:H3'	1:EA:2146:C:H5''	1.80	0.64
4:GD:46:ARG:NH2	4:GD:88:GLU:OE2	2.29	0.64
33:HA:1152:A:OP1	42:HJ:70:HIS:ND1	2.30	0.64
42:HJ:8:ILE:HG12	42:HJ:100:ILE:HG12	1.78	0.64
1:AA:2365:G:H4'	23:AW:59:PHE:CZ	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AO:3:LYS:HG3	15:AO:4:LYS:H	1.62	0.64
17:AQ:91:ARG:HE	17:AQ:93:ILE:CG2	2.11	0.64
1:CA:2353:G:H1'	23:CW:30:VAL:CG1	2.27	0.64
1:EA:2346:A:H3'	1:EA:2347:C:H5''	1.80	0.64
32:E5:26:VAL:HG11	32:E5:77:VAL:HG11	1.79	0.64
10:GJ:80:HIS:O	10:GJ:82:GLY:N	2.30	0.64
33:HA:516:U:O2'	33:HA:519:C:N3	2.29	0.64
24:AX:70:LEU:O	24:AX:74:GLY:N	2.30	0.64
32:A5:100:ALA:HB2	32:A5:125:ARG:HE	1.63	0.64
33:BA:58:C:O2'	33:BA:388:G:N7	2.25	0.64
33:BA:1492:A:OP2	55:BW:1:KBE:NZ	2.31	0.64
1:CA:1782:U:OP1	59:CA:3682:HOH:O	2.14	0.64
16:EP:50:ARG:HG3	16:EP:57:ALA:O	1.98	0.64
32:E5:93:ALA:HB3	32:E5:95:LEU:HD23	1.79	0.64
16:GP:50:ARG:NE	16:GP:57:ALA:O	2.28	0.64
1:AA:42:A:H2'	1:AA:43:G:H5'	1.79	0.64
1:AA:1828:G:OP2	59:AA:3792:HOH:O	2.15	0.64
23:AW:9:THR:OG1	23:AW:10:ARG:N	2.28	0.64
32:A5:56:ARG:O	32:A5:57:ASN:ND2	2.30	0.64
44:BL:83:ARG:HB2	44:BL:98:VAL:HG23	1.79	0.64
48:BP:4:ILE:HG13	48:BP:21:VAL:CG1	2.28	0.64
1:CA:512:G:N7	59:CA:3758:HOH:O	2.30	0.64
1:CA:1813:G:H1'	3:CC:49:THR:HG21	1.79	0.64
1:CA:2478:A:H5'	31:C4:32:LYS:HD3	1.80	0.64
16:CP:50:ARG:HG2	16:CP:57:ALA:N	2.12	0.64
1:EA:1658:C:OP1	59:EA:3651:HOH:O	2.14	0.64
3:EC:16:VAL:H	3:EC:203:VAL:HG12	1.62	0.64
11:EK:70:ARG:NH1	11:EK:74:GLY:O	2.31	0.64
17:EQ:63:ARG:HH12	17:EQ:96:ASP:HA	1.63	0.64
33:FA:880:C:OP1	44:FL:5:ASN:ND2	2.31	0.64
34:FB:57:ASN:ND2	34:FB:219:THR:O	2.31	0.64
54:FV:24:THR:HB	58:FV:801:GCP:O2B	1.98	0.64
1:GA:1080:A:O2'	9:GI:126:ARG:NE	2.31	0.64
1:AA:2289:G:N2	1:AA:2344:U:O2	2.31	0.64
1:AA:2311:A:H1'	6:AF:84:ILE:HD11	1.80	0.64
6:CF:35:LEU:HB3	6:CF:153:ILE:HG22	1.79	0.64
1:EA:1154:G:OP2	17:EQ:57:ARG:NH1	2.30	0.64
1:EA:2478:A:OP2	31:E4:2:LYS:NZ	2.28	0.64
33:FA:204:G:H3'	33:FA:205:A:H5''	1.79	0.64
23:GW:19:ARG:HA	23:GW:34:SER:HA	1.79	0.64
1:AA:948:C:O2	1:AA:984:A:O2'	2.16	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1088:A:O2'	1:AA:1089:A:OP1	2.15	0.64
1:AA:1568:G:OP2	3:AC:62:ARG:NH1	2.31	0.64
1:AA:2346:A:H3'	1:AA:2347:C:H5''	1.80	0.64
7:AG:118:ALA:O	7:AG:120:ILE:N	2.28	0.64
1:CA:1805:A:N3	3:CC:49:THR:OG1	2.30	0.64
1:CA:2499:C:OP1	59:CA:3678:HOH:O	2.15	0.64
16:CP:50:ARG:CG	16:CP:57:ALA:H	2.11	0.64
44:DL:34:CYS:HA	44:DL:55:VAL:HA	1.79	0.64
1:EA:2518:A:OP2	59:EA:3533:HOH:O	2.15	0.64
6:EF:33:ILE:HG23	6:EF:153:ILE:HD11	1.79	0.64
33:FA:1031:C:O2'	33:FA:1032:G:N3	2.28	0.64
1:GA:2478:A:H5'	31:G4:32:LYS:HD3	1.79	0.64
1:AA:1131:G:OP1	10:AJ:82:GLY:HA2	1.98	0.63
1:AA:1723:G:O6	1:AA:1737:G:O2'	2.09	0.63
32:A5:27:VAL:HG13	32:A5:83:ALA:HB3	1.79	0.63
54:BV:526:GLU:O	54:BV:528:GLY:N	2.31	0.63
1:CA:161:A:H3'	1:CA:162:U:H5''	1.79	0.63
33:DA:38:G:N1	33:DA:397:A:OP1	2.28	0.63
1:EA:2205:A:OP1	3:EC:67:LYS:NZ	2.29	0.63
36:FD:116:GLN:O	36:FD:120:HIS:ND1	2.31	0.63
20:GT:8:LEU:HD12	20:GT:46:ALA:HA	1.79	0.63
1:AA:1010:A:OP2	59:AA:3771:HOH:O	2.15	0.63
1:AA:2103:C:H2'	1:AA:2104:C:H5'	1.79	0.63
43:BK:24:HIS:HB3	43:BK:31:ILE:HG13	1.81	0.63
1:CA:685:A:O2'	1:CA:773:U:O4	2.11	0.63
11:EK:113:MET:SD	11:EK:116:ILE:HD11	2.37	0.63
1:GA:161:A:H3'	1:GA:162:U:H5''	1.81	0.63
1:GA:189:G:O6	1:GA:205:G:O2'	2.09	0.63
17:GQ:63:ARG:NH1	17:GQ:95:ALA:O	2.29	0.63
33:HA:143:A:H5'	33:HA:144:G:H5'	1.79	0.63
52:BT:3:ASN:OD1	52:BT:4:ILE:N	2.31	0.63
1:CA:1187:G:H5''	18:CR:83:TYR:CE2	2.33	0.63
19:GS:18:ARG:O	19:GS:19:LEU:HB2	1.97	0.63
45:BM:11:ASP:HA	45:BM:45:ILE:HB	1.81	0.63
3:CC:257:ARG:NH1	3:CC:263:ASP:OD1	2.31	0.63
7:CG:1:SER:O	7:CG:3:VAL:N	2.32	0.63
1:GA:163:C:O2'	1:GA:164:C:O5'	2.16	0.63
45:HM:3:ARG:HD2	45:HM:9:ILE:HG22	1.81	0.63
16:AP:50:ARG:HG2	16:AP:57:ALA:H	1.63	0.63
54:DV:422:PRO:O	54:DV:424:THR:N	2.32	0.63
11:EK:80:ASP:OD2	16:EP:61:ARG:NH1	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:EP:63:ILE:HA	16:EP:68:GLY:HA2	1.81	0.63
28:E1:3:GLY:O	28:E1:5:ARG:N	2.32	0.63
26:GZ:40:THR:HG23	26:GZ:43:ILE:H	1.62	0.63
45:HM:33:ILE:HA	45:HM:59:GLU:HG2	1.80	0.63
1:AA:2406:A:N3	12:AL:69:ARG:NH2	2.46	0.63
33:BA:417:G:OP2	59:BA:1717:HOH:O	2.15	0.63
1:CA:2270:A:OP1	59:CA:3512:HOH:O	2.16	0.63
1:CA:2387:U:O2'	23:CW:38:ARG:NH2	2.31	0.63
20:ET:8:LEU:HD12	20:ET:46:ALA:HA	1.80	0.63
23:EW:37:VAL:HA	23:EW:39:GLN:HG2	1.79	0.63
54:FV:538:ASN:ND2	54:FV:550:ILE:HG21	2.13	0.63
1:GA:2346:A:H3'	1:GA:2347:C:H5''	1.80	0.63
9:GI:122:GLU:HG2	9:GI:126:ARG:HH12	1.63	0.63
35:HC:71:ALA:HA	35:HC:106:VAL:HG22	1.81	0.63
48:HP:46:LYS:HG3	48:HP:47:GLU:H	1.64	0.63
1:AA:27:G:O2'	1:AA:28:A:OP2	2.17	0.63
1:AA:1079:C:C2'	1:AA:1080:A:H5'	2.29	0.63
16:AP:19:PHE:N	16:AP:19:PHE:CD1	2.67	0.63
33:BA:684:U:O2	43:BK:41:ALA:HB3	1.99	0.63
33:BA:811:C:O2'	33:BA:901:A:N1	2.30	0.63
3:CC:68:ARG:O	3:CC:188:ARG:NH2	2.31	0.63
24:CX:70:LEU:O	24:CX:74:GLY:N	2.31	0.63
33:DA:1101:A:H4'	33:DA:1102:A:O5'	1.98	0.63
33:DA:1229:A:OP2	45:DM:113:ARG:NH1	2.32	0.63
33:FA:1376:U:OP2	39:FG:25:LYS:NZ	2.29	0.63
48:FP:10:GLY:HA3	48:FP:15:PRO:HA	1.81	0.63
5:GE:149:ILE:HD11	5:GE:172:ALA:HA	1.81	0.63
9:AI:14:ALA:HB3	9:AI:50:LYS:HA	1.81	0.63
23:AW:28:GLU:O	23:AW:30:VAL:N	2.31	0.63
1:CA:2109:U:H2'	1:CA:2110:G:H5''	1.79	0.63
1:EA:1913:A:C6	54:FV:591:LEU:HG	2.34	0.63
4:ED:106:LYS:HB3	4:ED:206:ALA:HB3	1.81	0.63
10:EJ:80:HIS:O	10:EJ:82:GLY:N	2.32	0.63
23:EW:37:VAL:HG13	23:EW:55:ASP:O	1.98	0.63
23:EW:39:GLN:HG3	23:EW:40:ARG:H	1.64	0.63
33:FA:88:U:H2'	33:FA:89:U:C6	2.33	0.63
33:FA:1452:C:H4'	33:FA:1453:G:O5'	1.99	0.63
37:HE:111:MET:HB2	37:HE:140:THR:HG21	1.80	0.63
1:AA:301:G:OP2	21:AU:81:ARG:NH1	2.29	0.63
33:BA:1522:U:OP1	43:BK:128:ARG:NH2	2.32	0.63
38:DF:81:ASN:OD1	38:DF:83:ALA:N	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:572:A:OP2	18:ER:80:ARG:NH2	2.31	0.63
1:EA:2547:A:H2'	1:EA:2548:U:C6	2.33	0.63
3:EC:80:LEU:HD11	3:EC:109:LEU:HG	1.81	0.63
54:FV:62:THR:O	59:FV:901:HOH:O	2.16	0.63
37:HE:82:GLN:HG2	37:HE:150:PRO:HD3	1.81	0.63
1:AA:100:U:H4'	1:AA:101:A:O5'	1.99	0.62
21:AU:98:ASN:O	21:AU:98:ASN:ND2	2.24	0.62
43:BK:35:THR:HA	43:BK:42:LEU:HG	1.81	0.62
1:CA:141:G:N2	20:CT:1:MET:O	2.32	0.62
10:EJ:64:VAL:CG1	10:EJ:68:LYS:HB2	2.29	0.62
17:EQ:91:ARG:HH21	17:EQ:93:ILE:HG21	1.64	0.62
46:FN:49:GLN:N	46:FN:49:GLN:OE1	2.32	0.62
42:BJ:35:GLN:HG3	42:BJ:36:VAL:H	1.63	0.62
1:CA:411:G:OP2	1:CA:2406:A:O2'	2.15	0.62
1:CA:2009:A:OP1	19:CS:41:LYS:NZ	2.29	0.62
23:EW:18:LYS:HA	23:EW:36:ILE:HB	1.82	0.62
1:GA:244:A:OP2	30:G3:7:ARG:NH2	2.30	0.62
4:AD:149:ASN:OD1	4:AD:150:GLN:N	2.31	0.62
33:BA:276:G:OP1	49:BQ:14:SER:OG	2.13	0.62
33:BA:702:A:H5''	33:BA:703:G:N7	2.13	0.62
12:CL:82:LEU:HB2	12:CL:90:VAL:HG21	1.80	0.62
33:DA:1296:C:H4'	33:DA:1302:C:N3	2.14	0.62
36:DD:65:TYR:O	36:DD:115:ARG:NH1	2.33	0.62
16:EP:50:ARG:CB	16:EP:57:ALA:H	2.13	0.62
33:FA:451:A:H4'	33:FA:452:A:O5'	1.99	0.62
52:FT:68:HIS:O	52:FT:69:LYS:NZ	2.33	0.62
33:BA:933:G:O6	39:BG:3:ARG:NH1	2.32	0.62
1:CA:1279:G:H4'	14:CN:31:HIS:HD2	1.64	0.62
26:CZ:8:GLN:O	26:CZ:10:ARG:N	2.32	0.62
33:DA:41:G:H2'	33:DA:42:G:C8	2.35	0.62
34:DB:53:LEU:HA	34:DB:56:LEU:HB3	1.81	0.62
1:EA:555:G:O2'	1:EA:556:A:OP2	2.16	0.62
1:EA:1918:A:O2'	1:EA:1920:C:N4	2.32	0.62
17:EQ:91:ARG:HH11	18:ER:11:GLN:N	1.97	0.62
1:GA:1268:A:C2	1:GA:2013:A:C4	2.86	0.62
10:GJ:64:VAL:HG11	10:GJ:69:ARG:HB2	1.81	0.62
33:HA:416:G:OP2	59:HA:1717:HOH:O	2.16	0.62
6:AF:11:VAL:HA	6:AF:14:LYS:HG2	1.81	0.62
6:AF:27:VAL:O	6:AF:29:ARG:NH1	2.33	0.62
28:A1:26:LYS:HD3	28:A1:52:LYS:HE2	1.82	0.62
36:BD:3:ARG:CZ	36:BD:115:ARG:HD3	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BD:65:TYR:O	36:BD:115:ARG:NH1	2.32	0.62
7:CG:46:ASP:OD1	7:CG:47:ASN:N	2.32	0.62
1:AA:250:G:C6	1:AA:251:A:C6	2.88	0.62
1:AA:275:C:H3'	1:AA:276:U:H5''	1.82	0.62
32:A5:94:ARG:O	32:A5:97:LYS:N	2.33	0.62
42:BJ:5:ARG:HB3	42:BJ:77:VAL:HA	1.82	0.62
3:CC:69:ASN:O	3:CC:71:ASP:N	2.32	0.62
15:CO:2:ASP:OD1	15:CO:3:LYS:N	2.32	0.62
36:DD:116:GLN:HG2	36:DD:120:HIS:CD2	2.35	0.62
1:EA:726:G:O2'	1:EA:727:A:OP2	2.16	0.62
1:EA:1131:G:OP1	10:EJ:82:GLY:HA2	2.00	0.62
4:ED:102:ALA:HA	4:ED:180:VAL:HG11	1.80	0.62
33:FA:158:G:H2'	33:FA:159:G:H5'	1.81	0.62
1:GA:1857:G:O2'	1:GA:1858:A:OP2	2.15	0.62
16:GP:50:ARG:CD	16:GP:51:ASN:N	2.62	0.62
33:HA:202:G:HO2'	33:HA:468:A:H8	1.45	0.62
20:AT:50:LEU:HD23	25:AY:26:PHE:CE2	2.35	0.62
43:BK:23:ILE:HG13	43:BK:86:VAL:HA	1.81	0.62
45:BM:54:ASP:HA	45:BM:57:ARG:HB3	1.82	0.62
33:DA:971:G:O6	33:DA:1364:U:O2'	2.13	0.62
1:EA:1824:G:OP2	59:EA:3653:HOH:O	2.16	0.62
35:FC:83:ASP:O	35:FC:86:LYS:HG2	2.00	0.62
1:GA:855:G:N3	23:GW:23:LYS:HD2	2.14	0.62
41:HI:57:MET:N	41:HI:57:MET:SD	2.73	0.62
1:AA:748:G:C8	1:AA:750:A:C8	2.87	0.62
1:AA:1378:A:O2'	1:AA:1380:G:N7	2.30	0.62
33:BA:1313:U:P	51:BS:6:LYS:HG2	2.40	0.62
19:CS:69:LEU:HG	19:CS:107:VAL:HG22	1.82	0.62
37:DE:111:MET:CE	37:DE:125:ALA:HB1	2.29	0.62
40:DH:53:GLY:HA3	40:DH:57:PRO:HA	1.81	0.62
37:FE:97:GLN:HB2	37:FE:124:LEU:HB2	1.81	0.62
33:HA:1010:U:H2'	33:HA:1011:C:C6	2.35	0.62
37:HE:41:ASP:OD1	37:HE:42:GLY:N	2.33	0.62
54:HV:203:GLU:O	54:HV:205:GLU:N	2.33	0.62
4:AD:106:LYS:HB3	4:AD:206:ALA:HB3	1.82	0.62
1:CA:654:A:H3'	1:CA:654:A:N3	2.14	0.62
35:DC:77:ILE:HA	35:DC:84:VAL:HG23	1.80	0.62
32:E5:26:VAL:O	32:E5:27:VAL:HB	1.98	0.62
32:E5:26:VAL:CG1	32:E5:77:VAL:HG11	2.30	0.62
42:FJ:53:ILE:HG12	42:FJ:61:ALA:HB1	1.82	0.62
33:HA:1239:A:H61	33:HA:1299:A:H61	1.47	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:1239:A:N6	33:HA:1299:A:H61	1.98	0.62
37:HE:111:MET:CB	37:HE:140:THR:HG21	2.30	0.62
43:HK:125:LYS:O	53:HU:34:ARG:NE	2.33	0.62
1:AA:2543:G:H2'	1:AA:2544:G:C8	2.35	0.62
43:BK:15:GLN:HA	43:BK:77:TYR:O	2.00	0.62
1:EA:100:U:H4'	1:EA:101:A:O5'	1.99	0.62
1:EA:1107:G:H5''	32:E5:58:THR:CG2	2.29	0.62
16:GP:50:ARG:CG	16:GP:57:ALA:H	2.13	0.62
33:HA:1329:A:OP1	45:HM:26:GLY:N	2.32	0.62
43:HK:111:THR:HG22	53:HU:5:LYS:HB2	1.81	0.62
6:AF:36:ASN:O	6:AF:151:LEU:HB2	2.00	0.61
33:BA:195:A:OP1	52:BT:60:ARG:NH1	2.33	0.61
33:BA:1033:G:H2'	33:BA:1034:G:H5'	1.81	0.61
11:EK:71:ARG:HG3	11:EK:105:ARG:NH2	2.15	0.61
35:FC:17:PRO:O	35:FC:18:TRP:HB2	2.00	0.61
38:BF:81:ASN:OD1	38:BF:83:ALA:N	2.33	0.61
33:DA:1119:C:OP1	41:DI:85:ARG:NH1	2.33	0.61
35:DC:7:PRO:O	35:DC:11:ARG:NH1	2.32	0.61
1:EA:2429:G:OP2	59:EA:3342:HOH:O	2.16	0.61
34:FB:99:MET:HA	34:FB:106:VAL:HG21	1.82	0.61
23:GW:37:VAL:HB	23:GW:38:ARG:HH11	1.64	0.61
1:AA:450:G:O6	59:AA:3243:HOH:O	2.14	0.61
3:AC:255:LYS:O	3:AC:257:ARG:N	2.33	0.61
6:CF:1:ALA:HB3	6:CF:4:HIS:HB3	1.83	0.61
16:CP:50:ARG:CD	16:CP:51:ASN:N	2.64	0.61
16:EP:50:ARG:HB3	16:EP:57:ALA:H	1.65	0.61
11:GK:78:ARG:NH1	16:GP:70:GLU:OE2	2.33	0.61
5:AE:4:VAL:HG12	5:AE:6:LYS:H	1.65	0.61
44:BL:44:LYS:HB3	44:BL:45:PRO:HD3	1.81	0.61
44:BL:72:HIS:ND1	44:BL:73:ASN:O	2.33	0.61
39:DG:113:ASP:OD2	39:DG:122:ASN:ND2	2.33	0.61
1:EA:1665:A:OP2	59:EA:3426:HOH:O	2.16	0.61
1:EA:1784:A:N6	59:EA:3688:HOH:O	2.26	0.61
1:EA:1913:A:C6	33:FA:1494:G:H5'	2.36	0.61
3:EC:144:GLU:HA	3:EC:151:GLY:HA2	1.80	0.61
1:AA:2481:G:HO2'	1:AA:2482:A:H8	1.47	0.61
5:AE:150:THR:HG21	5:AE:153:LEU:HA	1.82	0.61
32:A5:91:ALA:C	32:A5:93:ALA:H	2.03	0.61
49:BQ:48:ASP:OD2	49:BQ:52:GLU:N	2.33	0.61
54:BV:190:ALA:N	54:BV:205:GLU:O	2.32	0.61
1:CA:2742:G:OP2	31:C4:24:ARG:NH1	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:CY:51:ALA:O	25:CY:55:THR:N	2.33	0.61
36:DD:58:LYS:NZ	36:DD:69:GLU:OE1	2.32	0.61
17:EQ:63:ARG:HH22	17:EQ:96:ASP:N	1.98	0.61
23:EW:18:LYS:CA	23:EW:36:ILE:HB	2.30	0.61
23:EW:36:ILE:O	23:EW:39:GLN:NE2	2.34	0.61
31:E4:36:ARG:HG2	31:E4:37:GLN:H	1.64	0.61
1:GA:1301:A:OP1	59:GA:3640:HOH:O	2.16	0.61
9:GI:79:LEU:HA	9:GI:83:ALA:HB3	1.83	0.61
14:GN:12:ARG:NE	14:GN:20:MET:HE3	2.15	0.61
1:AA:983:A:OP2	59:AA:3580:HOH:O	2.16	0.61
32:A5:44:ALA:O	32:A5:49:GLY:N	2.33	0.61
1:CA:1266:G:OP1	27:C0:15:ARG:NE	2.30	0.61
1:CA:1913:A:N7	33:DA:1494:G:H5'	2.15	0.61
1:CA:2683:C:O2	11:CK:70:ARG:NH2	2.32	0.61
2:CB:5:U:O2'	2:CB:27:C:O2	2.17	0.61
14:CN:29:VAL:HG11	14:CN:75:ILE:HG23	1.80	0.61
12:EL:109:LYS:HG2	12:EL:126:ARG:HB3	1.83	0.61
33:FA:73:C:H6	33:FA:73:C:H5'	1.65	0.61
33:FA:1182:G:H4'	33:FA:1183:U:C5'	2.31	0.61
44:FL:110:ARG:NH1	44:FL:112:GLN:O	2.33	0.61
1:GA:1080:A:H4'	9:GI:126:ARG:HD2	1.83	0.61
1:GA:1778:U:H2'	1:GA:1784:A:N6	2.16	0.61
6:GF:15:LEU:HD11	6:GF:168:LEU:HA	1.83	0.61
33:HA:73:C:H6	33:HA:73:C:H5'	1.66	0.61
33:HA:1277:C:HO2'	33:HA:1279:G:H8	1.49	0.61
33:HA:1306:A:H1'	33:HA:1332:A:C4	2.36	0.61
1:CA:2297:A:N1	1:CA:2321:U:H5	1.98	0.61
2:CB:42:C:OP1	6:CF:63:LYS:NZ	2.26	0.61
23:CW:39:GLN:NE2	23:CW:56:HIS:O	2.34	0.61
10:EJ:4:PHE:N	10:EJ:44:TYR:OH	2.34	0.61
46:FN:61:ARG:O	46:FN:62:ASN:HB2	1.99	0.61
5:GE:128:ALA:O	5:GE:130:LYS:N	2.34	0.61
10:GJ:39:LYS:HA	10:GJ:43:GLU:HG3	1.83	0.61
40:BH:10:MET:HE1	40:BH:33:LYS:HA	1.83	0.61
1:CA:1731:G:H1'	1:CA:1733:G:C8	2.36	0.61
22:CV:72:VAL:HG12	22:CV:93:ARG:HA	1.82	0.61
1:EA:84:A:H4'	1:EA:85:G:O5'	2.01	0.61
6:EF:33:ILE:CG2	6:EF:153:ILE:HD11	2.29	0.61
33:FA:461:A:H3'	33:FA:461:A:N3	2.15	0.61
1:GA:558:U:H5''	10:GJ:111:LYS:HE3	1.82	0.61
1:GA:1440:U:H2'	1:GA:1441:G:H8	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:GF:105:ILE:HG12	6:GF:138:PRO:HG3	1.83	0.61
34:HB:20:ARG:O	34:HB:22:TRP:N	2.33	0.61
37:HE:104:GLY:CA	37:HE:122:ASN:HA	2.31	0.61
17:AQ:4:LYS:HG3	17:AQ:5:ARG:H	1.66	0.61
1:CA:2346:A:H3'	1:CA:2347:C:H5''	1.82	0.61
33:DA:814:A:OP2	59:DA:1759:HOH:O	2.16	0.61
1:EA:2448:A:OP1	59:EA:3683:HOH:O	2.16	0.61
32:E5:59:LEU:HD23	32:E5:62:ARG:HE	1.66	0.61
34:FB:69:VAL:HG23	34:FB:162:VAL:HB	1.82	0.61
9:GI:12:VAL:HG22	9:GI:23:VAL:HG13	1.81	0.61
1:AA:1336:A:P	20:AT:68:LYS:NZ	2.74	0.61
16:AP:50:ARG:CD	16:AP:57:ALA:H	2.13	0.61
17:AQ:91:ARG:HH21	17:AQ:93:ILE:HG21	1.66	0.61
33:BA:922:G:H4'	37:BE:25:VAL:HA	1.83	0.61
33:BA:1029:U:O2'	33:BA:1033:G:N2	2.34	0.61
37:BE:104:GLY:CA	37:BE:122:ASN:HA	2.31	0.61
38:BF:38:ARG:HB3	38:BF:63:ASN:HB2	1.82	0.61
38:BF:74:LEU:O	38:BF:77:THR:OG1	2.17	0.61
44:BL:110:ARG:NH1	44:BL:112:GLN:O	2.34	0.61
54:DV:156:ASN:O	54:DV:160:THR:OG1	2.19	0.61
36:FD:66:GLY:O	36:FD:115:ARG:NH2	2.34	0.61
1:GA:1003:G:O2'	1:GA:1010:A:N1	2.26	0.61
1:GA:2324:U:H3'	1:GA:2325:G:C5'	2.31	0.61
42:HJ:73:LEU:O	42:HJ:75:ASP:N	2.34	0.61
50:HR:54:GLN:HA	50:HR:57:ARG:HD3	1.81	0.61
14:AN:73:ASN:HA	14:AN:76:VAL:HG12	1.82	0.60
32:A5:24:SER:C	32:A5:116:GLU:HB3	2.20	0.60
33:BA:1279:G:N3	33:BA:1279:G:H2'	2.16	0.60
1:CA:1901:A:OP2	3:CC:252:LYS:NZ	2.27	0.60
31:C4:36:ARG:HG2	31:C4:37:GLN:H	1.66	0.60
33:DA:429:U:O3'	36:DD:22:LYS:NZ	2.34	0.60
42:DJ:37:ARG:NH1	42:DJ:75:ASP:OD2	2.34	0.60
54:DV:79:TYR:OH	54:DV:284:ASP:OD1	2.13	0.60
6:EF:10:GLU:O	6:EF:12:VAL:N	2.34	0.60
10:EJ:128:ASN:ND2	10:EJ:129:GLU:OE2	2.34	0.60
42:FJ:32:THR:HG21	42:FJ:83:THR:HA	1.82	0.60
33:HA:324:G:N7	59:HA:1842:HOH:O	2.31	0.60
42:HJ:37:ARG:CZ	42:HJ:76:ILE:HA	2.31	0.60
5:AE:148:ILE:HA	5:AE:187:VAL:HB	1.81	0.60
32:A5:25:ALA:C	32:A5:116:GLU:OE1	2.39	0.60
33:BA:460:A:N6	33:BA:472:U:O4	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BI:57:MET:CA	41:BI:60:LYS:HG2	2.31	0.60
1:CA:1425:G:H2'	1:CA:1426:G:C8	2.36	0.60
33:DA:299:G:O6	59:DA:1836:HOH:O	2.15	0.60
1:EA:2707:U:O2	14:EN:71:ARG:NH1	2.34	0.60
1:EA:2757:A:N1	7:EG:66:THR:HG21	2.16	0.60
7:EG:84:LYS:HG3	7:EG:132:LEU:N	2.16	0.60
54:FV:538:ASN:HD22	54:FV:550:ILE:HG21	1.65	0.60
1:GA:2450:A:OP2	59:GA:3677:HOH:O	2.15	0.60
1:GA:2478:A:OP2	31:G4:2:LYS:NZ	2.34	0.60
2:GB:87:U:H3'	2:GB:88:C:H5'	1.83	0.60
4:GD:4:LEU:HD23	4:GD:101:PHE:CE2	2.36	0.60
16:GP:50:ARG:CZ	16:GP:56:SER:HB3	2.30	0.60
40:HH:5:ASP:OD2	40:HH:77:ARG:NH1	2.34	0.60
46:HN:61:ARG:O	46:HN:62:ASN:HB2	2.01	0.60
32:A5:24:SER:HB3	32:A5:116:GLU:CG	2.25	0.60
33:BA:204:G:H3'	33:BA:205:A:C5'	2.31	0.60
54:BV:221:ASN:HA	54:BV:224:GLU:HB3	1.83	0.60
7:CG:8:VAL:HG13	7:CG:9:VAL:H	1.66	0.60
23:CW:24:ARG:NH1	23:CW:65:LYS:HB2	2.16	0.60
1:EA:1064:C:H4'	9:EI:90:GLY:H	1.66	0.60
3:EC:16:VAL:N	3:EC:203:VAL:HG12	2.17	0.60
12:EL:77:ILE:HD11	12:EL:108:ALA:HB1	1.84	0.60
34:FB:163:ILE:HG23	34:FB:164:ASP:H	1.66	0.60
38:FF:91:ARG:O	38:FF:92:THR:OG1	2.18	0.60
1:GA:875:G:H2'	1:GA:876:C:H5'	1.82	0.60
4:GD:124:ARG:HD2	4:GD:125:TRP:NE1	2.16	0.60
1:AA:2550:G:OP1	59:AA:3715:HOH:O	2.16	0.60
33:BA:1166:G:O2'	33:BA:1169:A:N6	2.34	0.60
33:BA:1417:G:O6	59:BA:1795:HOH:O	2.12	0.60
6:CF:35:LEU:CD1	6:CF:88:VAL:HB	2.32	0.60
1:EA:2352:A:C6	23:EW:30:VAL:HG11	2.37	0.60
26:EZ:8:GLN:O	26:EZ:9:THR:HG22	2.01	0.60
33:FA:1228:C:P	45:FM:107:ARG:HH22	2.24	0.60
1:GA:1088:A:O2'	1:GA:1089:A:P	2.59	0.60
1:GA:1279:G:H4'	14:GN:31:HIS:CD2	2.35	0.60
16:GP:50:ARG:HG2	16:GP:57:ALA:N	2.16	0.60
24:GX:42:GLU:OE2	24:GX:77:TYR:OH	2.20	0.60
54:HV:560:GLN:OE1	54:HV:560:GLN:N	2.32	0.60
54:HV:632:ILE:HD12	54:HV:642:LEU:HD22	1.83	0.60
1:AA:161:A:H2	1:AA:2217:G:HO2'	1.49	0.60
33:BA:660:C:H2'	33:BA:661:G:O4'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CI:25:PRO:HB3	54:DV:649:VAL:HA	1.84	0.60
36:DD:13:ARG:NH1	36:DD:37:ALA:O	2.34	0.60
54:DV:222:LEU:O	54:DV:226:ALA:N	2.35	0.60
17:EQ:60:TRP:CE2	17:EQ:93:ILE:HB	2.36	0.60
32:E5:127:ALA:HA	32:E5:129:LEU:HG	1.82	0.60
33:FA:880:C:OP2	44:FL:3:THR:HG21	2.01	0.60
1:GA:137:U:HO2'	1:GA:138:U:P	2.24	0.60
1:GA:528:A:C2	1:GA:2043:C:H4'	2.37	0.60
1:GA:833:A:H2'	1:GA:834:G:C8	2.36	0.60
43:HK:26:SER:OG	43:HK:29:ASN:O	2.18	0.60
38:BF:47:LEU:HD11	38:BF:51:ILE:HG22	1.82	0.60
4:CD:118:PHE:HD1	4:CD:119:ALA:H	1.49	0.60
25:CY:6:LEU:CD1	25:CY:56:LEU:HD11	2.32	0.60
34:DB:22:TRP:CG	34:DB:23:ASN:N	2.69	0.60
33:FA:62:U:O2'	33:FA:379:C:O2	2.18	0.60
47:FO:39:LEU:O	47:FO:42:HIS:N	2.35	0.60
1:GA:1828:G:OP1	59:GA:3789:HOH:O	2.16	0.60
3:GC:69:ASN:O	3:GC:71:ASP:N	2.34	0.60
33:HA:1304:G:OP2	59:HA:1790:HOH:O	2.16	0.60
9:AI:19:PRO:CG	9:AI:23:VAL:HG23	2.31	0.60
14:AN:56:LYS:HD2	14:AN:88:ALA:HA	1.83	0.60
33:BA:335:C:O2'	33:BA:1433:A:N3	2.33	0.60
33:BA:1264:U:H2'	33:BA:1265:C:C6	2.36	0.60
33:DA:518:C:H2'	33:DA:530:G:C8	2.36	0.60
54:DV:78:GLN:NE2	54:DV:280:ASP:OD2	2.35	0.60
1:EA:855:G:N3	23:EW:23:LYS:HD2	2.17	0.60
1:EA:1028:A:N6	1:EA:1125:G:H2'	2.16	0.60
1:EA:2742:G:OP1	31:E4:36:ARG:HD3	2.01	0.60
4:ED:29:VAL:HB	4:ED:98:VAL:HG22	1.84	0.60
11:EK:105:ARG:H	11:EK:105:ARG:HD3	1.67	0.60
23:EW:37:VAL:HB	23:EW:38:ARG:HH11	1.65	0.60
12:GL:93:ASN:O	12:GL:95:LEU:N	2.34	0.60
33:HA:1147:C:O2	41:HI:18:ARG:NH1	2.34	0.60
34:HB:32:GLY:HA3	34:HB:39:ILE:H	1.65	0.60
1:AA:654:A:H3'	1:AA:654:A:N3	2.17	0.60
19:CS:24:ILE:HG13	19:CS:36:LEU:HD11	1.82	0.60
33:DA:1182:G:H4'	33:DA:1183:U:C5'	2.31	0.60
1:EA:1084:A:N6	1:EA:1085:A:N1	2.50	0.60
1:EA:1386:C:H2'	1:EA:1387:A:C8	2.36	0.60
1:GA:1779:U:H5	1:GA:1784:A:N7	1.99	0.60
1:GA:2353:G:H1'	23:GW:30:VAL:CG1	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:GY:32:ALA:HB2	25:GY:37:LEU:HD12	1.83	0.60
49:HQ:12:VAL:O	49:HQ:14:SER:N	2.32	0.60
1:AA:85:G:OP1	21:AU:6:ARG:N	2.35	0.60
1:AA:2016:U:H2'	1:AA:2017:U:C6	2.37	0.60
33:BA:1320:C:O2	51:BS:36:ARG:NH1	2.35	0.60
47:BO:75:VAL:O	47:BO:79:THR:OG1	2.19	0.60
1:CA:666:A:H4'	12:CL:48:ARG:HD2	1.84	0.60
1:CA:1156:A:OP2	59:CA:3359:HOH:O	2.17	0.60
1:CA:1913:A:N7	33:DA:1494:G:C4'	2.64	0.60
3:CC:91:ALA:HB3	3:CC:103:ILE:HG22	1.83	0.60
9:CI:91:LYS:O	9:CI:135:MET:HE1	2.02	0.60
33:DA:363:A:H1'	44:DL:29:GLN:NE2	2.17	0.60
53:DU:4:ILE:N	53:DU:20:LYS:HZ1	1.99	0.60
3:EC:110:LYS:NZ	3:EC:113:ASP:OD1	2.24	0.60
32:E5:91:ALA:HB1	32:E5:130:PRO:HB3	1.84	0.60
33:FA:1468:A:C2'	33:FA:1469:C:H5'	2.32	0.60
1:GA:450:G:O6	59:GA:3238:HOH:O	2.13	0.60
1:GA:1181:U:H2'	1:GA:1182:G:C8	2.36	0.60
1:GA:1804:C:OP1	3:GC:256:THR:OG1	2.20	0.60
10:AJ:44:TYR:CD1	17:AQ:59:LEU:HD11	2.37	0.60
16:AP:50:ARG:CD	16:AP:51:ASN:N	2.65	0.60
1:CA:1248:G:C5	17:CQ:2:ARG:HG3	2.37	0.60
19:CS:24:ILE:HG22	19:CS:71:VAL:HG21	1.84	0.60
20:CT:39:THR:O	20:CT:41:ALA:N	2.34	0.60
28:C1:47:ILE:H	28:C1:47:ILE:HD12	1.67	0.60
33:DA:977:A:OP2	59:DA:1775:HOH:O	2.17	0.60
50:DR:22:ASP:OD1	50:DR:24:LYS:N	2.31	0.60
18:ER:42:ALA:HA	18:ER:46:GLU:CB	2.32	0.60
1:GA:2674:G:H4'	11:GK:30:ARG:HG3	1.84	0.60
4:GD:13:ARG:NH1	11:GK:73:ASP:O	2.35	0.60
9:GI:78:LEU:HA	9:GI:82:ALA:HB3	1.82	0.60
33:HA:677:U:H3	33:HA:713:G:H22	1.50	0.60
1:AA:568:U:O4	18:AR:81:LYS:NZ	2.35	0.59
1:AA:1594:U:H2'	1:AA:1595:C:C6	2.37	0.59
32:A5:71:CYS:CA	32:A5:117:LEU:CD1	2.77	0.59
32:A5:106:PHE:O	32:A5:108:VAL:N	2.35	0.59
33:BA:1412:C:OP1	44:BL:54:ARG:NH1	2.33	0.59
42:BJ:35:GLN:HG2	42:BJ:77:VAL:HB	1.85	0.59
54:BV:222:LEU:O	54:BV:226:ALA:N	2.33	0.59
1:CA:2269:G:O2'	23:CW:18:LYS:HG2	2.02	0.59
10:CJ:39:LYS:HA	10:CJ:43:GLU:HG3	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CQ:29:ARG:HG3	17:CQ:29:ARG:HH11	1.67	0.59
17:CQ:63:ARG:NH1	17:CQ:96:ASP:HA	2.18	0.59
33:DA:207:C:H2'	33:DA:208:U:C5	2.37	0.59
39:FG:70:ARG:HG3	39:FG:96:ARG:HG2	1.83	0.59
33:HA:1513:A:H2'	33:HA:1514:G:C8	2.37	0.59
45:HM:57:ARG:HA	45:HM:60:VAL:HG12	1.84	0.59
1:AA:1069:A:N3	1:AA:1073:A:N6	2.49	0.59
4:AD:62:LYS:HB2	4:AD:63:PRO:HD3	1.83	0.59
6:AF:51:ASN:O	6:AF:54:ALA:N	2.35	0.59
13:AM:33:LEU:HD22	13:AM:128:THR:HB	1.84	0.59
33:BA:1124:G:H3'	33:BA:1145:A:H62	1.66	0.59
4:CD:149:ASN:OD1	4:CD:150:GLN:N	2.35	0.59
54:DV:58:GLU:OE1	54:DV:475:ARG:NH2	2.32	0.59
10:EJ:3:THR:HB	10:EJ:44:TYR:OH	2.02	0.59
17:EQ:65:ASN:OD1	17:EQ:69:ARG:NH2	2.35	0.59
33:FA:1101:A:H4'	33:FA:1102:A:O5'	2.01	0.59
33:FA:1494:G:N7	55:FW:2:DPP:N	2.50	0.59
2:GB:2:G:H1	2:GB:119:A:HO3'	1.47	0.59
28:G1:3:GLY:O	28:G1:5:ARG:N	2.29	0.59
47:HO:46:HIS:C	47:HO:48:LYS:H	2.06	0.59
1:AA:34:U:O2'	1:AA:35:G:OP1	2.19	0.59
1:AA:526:A:OP1	59:AA:3246:HOH:O	2.16	0.59
1:AA:1135:C:OP2	59:AA:3701:HOH:O	2.15	0.59
1:AA:1300:G:H4'	1:AA:1301:A:H5'	1.83	0.59
9:AI:80:LYS:HG3	9:AI:86:LYS:HG2	1.84	0.59
12:AL:85:VAL:HG22	12:AL:94:THR:HG22	1.85	0.59
32:A5:24:SER:C	32:A5:116:GLU:CB	2.71	0.59
33:BA:451:A:N6	33:BA:480:U:H2'	2.17	0.59
33:BA:831:A:OP1	34:BB:20:ARG:NE	2.35	0.59
1:CA:1913:A:C2'	55:DW:4:SER:HA	2.32	0.59
3:CC:255:LYS:O	3:CC:257:ARG:N	2.34	0.59
5:CE:149:ILE:HD11	5:CE:172:ALA:HA	1.84	0.59
7:CG:23:ILE:HG21	7:CG:71:LEU:HD11	1.85	0.59
9:CI:80:LYS:HG3	9:CI:86:LYS:HA	1.84	0.59
34:DB:163:ILE:HG23	34:DB:164:ASP:H	1.67	0.59
1:EA:1820:U:OP1	3:EC:176:ARG:NH2	2.34	0.59
4:ED:68:PHE:HB3	4:ED:73:VAL:HG12	1.83	0.59
20:ET:50:LEU:H	20:ET:50:LEU:HD12	1.67	0.59
33:FA:131:A:H2'	33:FA:132:C:C6	2.37	0.59
33:FA:1316:G:N2	33:FA:1318:A:H3'	2.17	0.59
33:FA:1318:A:N3	51:FS:37:ARG:NH1	2.49	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:277:G:H1'	1:GA:361:G:H1	1.66	0.59
33:HA:461:A:H2'	33:HA:462:G:H5'	1.85	0.59
33:HA:1306:A:N3	33:HA:1332:A:H1'	2.18	0.59
36:HD:13:ARG:NH1	36:HD:37:ALA:O	2.35	0.59
18:AR:49:ILE:HD12	18:AR:52:PRO:HA	1.84	0.59
33:BA:717:U:O2'	33:BA:734:G:O4'	2.15	0.59
44:BL:14:ARG:NH1	44:BL:15:LYS:HG2	2.18	0.59
54:BV:645:GLN:O	54:BV:647:SER:N	2.35	0.59
1:CA:302:C:O3'	21:CU:78:LYS:NZ	2.34	0.59
33:DA:70:U:HO2'	33:DA:71:A:H8	1.49	0.59
2:EB:41:G:N7	6:EF:68:LYS:NZ	2.50	0.59
17:EQ:63:ARG:NH1	17:EQ:96:ASP:HA	2.17	0.59
19:ES:18:ARG:O	19:ES:19:LEU:CB	2.49	0.59
33:FA:1319:A:P	51:FS:5:LEU:HD11	2.43	0.59
1:GA:248:G:H5'	1:GA:250:G:N7	2.17	0.59
1:GA:2346:A:H3'	1:GA:2347:C:C5'	2.32	0.59
33:HA:747:A:C6	33:HA:748:G:C5	2.91	0.59
33:HA:1203:C:OP1	59:HA:1777:HOH:O	2.17	0.59
36:HD:15:GLU:OE2	36:HD:56:ARG:NH2	2.35	0.59
36:HD:116:GLN:O	36:HD:120:HIS:ND1	2.35	0.59
1:AA:523:C:O2	1:AA:554:U:O2'	2.21	0.59
34:BB:153:MET:O	34:BB:155:GLY:N	2.35	0.59
36:BD:116:GLN:HG2	36:BD:120:HIS:CD2	2.37	0.59
1:CA:1131:G:OP1	10:CJ:82:GLY:HA2	2.02	0.59
1:CA:1790:C:OP2	59:CA:3771:HOH:O	2.17	0.59
1:CA:2248:C:OP2	59:CA:3502:HOH:O	2.16	0.59
1:EA:1014:A:OP2	59:EA:3597:HOH:O	2.17	0.59
1:EA:1378:A:H4'	1:EA:1379:U:OP1	2.02	0.59
6:EF:134:GLN:HG3	6:EF:140:ILE:HG12	1.82	0.59
7:EG:46:ASP:OD1	7:EG:47:ASN:N	2.34	0.59
7:EG:104:LEU:HD12	7:EG:112:VAL:HG21	1.84	0.59
17:EQ:91:ARG:HE	17:EQ:93:ILE:CG2	2.14	0.59
54:FV:221:ASN:OD1	54:FV:221:ASN:N	2.36	0.59
1:GA:1070:A:H5'	1:GA:1072:C:OP2	2.02	0.59
1:GA:1187:G:H5''	18:GR:83:TYR:CE2	2.38	0.59
2:GB:59:A:OP2	59:GB:1309:HOH:O	2.17	0.59
6:GF:169:LEU:HB3	6:GF:176:PHE:CZ	2.38	0.59
33:HA:489:C:H5''	36:HD:128:ARG:HH22	1.66	0.59
33:HA:1391:U:H2'	33:HA:1392:G:C8	2.37	0.59
48:HP:43:ALA:O	48:HP:46:LYS:HG2	2.03	0.59
20:AT:2:ILE:HG22	20:AT:3:ARG:HD2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:21:G:OP1	59:BA:1815:HOH:O	2.17	0.59
41:BI:22:LYS:O	41:BI:62:ASP:N	2.30	0.59
2:CB:90:C:H5'	13:CM:18:ARG:HG2	1.83	0.59
7:CG:97:VAL:HG11	7:CG:122:ALA:O	2.03	0.59
43:DK:35:THR:OG1	43:DK:40:ASN:N	2.32	0.59
1:EA:2584:U:O4	59:EA:3702:HOH:O	2.13	0.59
6:EF:41:GLU:HB2	6:EF:48:LEU:HD23	1.83	0.59
33:FA:677:U:H3	33:FA:713:G:H22	1.49	0.59
43:FK:24:HIS:HB3	43:FK:31:ILE:HG13	1.83	0.59
4:GD:5:VAL:H	4:GD:32:ASN:HD21	1.50	0.59
16:GP:50:ARG:HH11	16:GP:75:THR:HG21	1.68	0.59
18:GR:49:ILE:HD12	18:GR:52:PRO:HA	1.85	0.59
33:HA:1468:A:C2'	33:HA:1469:C:H5'	2.33	0.59
33:HA:1495:U:H2'	33:HA:1496:C:O2	2.03	0.59
37:HE:111:MET:HE1	37:HE:125:ALA:HB1	1.85	0.59
39:HG:126:ASP:O	39:HG:130:ASN:HA	2.02	0.59
32:A5:26:VAL:HG11	32:A5:77:VAL:HG13	1.84	0.59
28:C1:7:LYS:HE3	30:C3:33:THR:HG21	1.84	0.59
33:DA:826:C:O2	40:DH:16:ASN:ND2	2.35	0.59
46:DN:30:ILE:O	46:DN:35:ASN:ND2	2.35	0.59
32:E5:116:GLU:HG3	32:E5:117:LEU:H	1.67	0.59
33:FA:1493:A:OP2	55:FW:6:5OH:NP	2.36	0.59
34:FB:115:ASP:O	34:FB:119:GLN:NE2	2.36	0.59
37:FE:126:LYS:HG2	37:FE:128:TYR:CZ	2.38	0.59
38:FF:38:ARG:HG2	38:FF:39:LEU:N	2.18	0.59
1:GA:2502:G:H5'	1:GA:2503:A:H5''	1.84	0.59
4:GD:118:PHE:CD1	4:GD:119:ALA:N	2.71	0.59
33:HA:401:C:OP2	36:HD:70:ARG:NH1	2.35	0.59
1:AA:1084:A:H5'	32:A5:55:VAL:HG13	1.83	0.59
46:BN:20:TYR:O	46:BN:24:ARG:N	2.36	0.59
53:BU:41:PRO:O	53:BU:44:GLU:N	2.36	0.59
1:CA:100:U:H4'	1:CA:101:A:O5'	2.03	0.59
1:CA:1335:C:OP2	59:CA:3385:HOH:O	2.17	0.59
18:CR:39:LEU:HA	18:CR:49:ILE:HG21	1.85	0.59
23:CW:17:ALA:O	23:CW:18:LYS:HB2	2.03	0.59
43:DK:88:GLY:H	43:DK:114:THR:HG22	1.67	0.59
23:EW:28:GLU:O	23:EW:30:VAL:N	2.35	0.59
32:E5:64:VAL:O	32:E5:68:PRO:HD2	2.02	0.59
33:FA:922:G:H4'	37:FE:25:VAL:HA	1.84	0.59
45:FM:107:ARG:O	45:FM:111:GLY:N	2.34	0.59
1:GA:140:C:H4'	1:GA:141:G:H21	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:579:G:C2	1:GA:1262:A:C5	2.90	0.59
6:GF:134:GLN:HG3	6:GF:140:ILE:HD13	1.85	0.59
33:HA:547:A:OP1	59:HA:1730:HOH:O	2.17	0.59
36:HD:188:ARG:NE	36:HD:197:GLU:OE2	2.36	0.59
1:AA:242:G:H5''	30:A3:63:TYR:CE2	2.38	0.59
1:AA:2478:A:H5'	31:A4:32:LYS:HD3	1.85	0.59
1:CA:752:A:H62	1:CA:2609:U:H3	1.51	0.59
1:CA:2105:U:H2'	1:CA:2106:U:H6	1.68	0.59
18:CR:66:HIS:CD2	18:CR:94:THR:HG22	2.38	0.59
33:DA:1192:C:OP2	35:DC:4:LYS:NZ	2.32	0.59
7:EG:38:ASP:N	7:EG:38:ASP:OD1	2.36	0.59
23:EW:7:GLY:O	23:EW:10:ARG:NH1	2.35	0.59
36:FD:100:ASN:OD1	36:FD:111:ARG:NH1	2.35	0.59
37:FE:41:ASP:OD1	37:FE:42:GLY:N	2.35	0.59
1:GA:666:A:H4'	12:GL:48:ARG:HD2	1.83	0.59
1:GA:1450:G:C6	1:GA:1451:C:N4	2.70	0.59
1:GA:1993:U:H4'	4:GD:133:THR:HG21	1.84	0.59
20:GT:19:LYS:O	20:GT:23:ALA:N	2.35	0.59
29:G2:34:ARG:NH1	29:G2:41:ARG:O	2.36	0.59
40:HH:3:MET:HE1	40:HH:6:PRO:HA	1.84	0.59
1:AA:469:G:O6	29:A2:37:LYS:NZ	2.35	0.59
13:AM:1:MET:HB2	13:AM:47:GLU:HG3	1.84	0.59
1:CA:999:U:OP1	59:CA:3357:HOH:O	2.17	0.59
4:CD:106:LYS:HB3	4:CD:206:ALA:HB3	1.84	0.59
16:CP:38:ARG:NH1	33:DA:346:G:H4'	2.17	0.59
34:DB:117:GLU:HA	34:DB:120:SER:HB2	1.84	0.59
41:DI:51:PRO:HB3	41:DI:84:THR:CG2	2.33	0.59
1:EA:975:A:OP2	59:EA:3587:HOH:O	2.16	0.59
1:EA:1913:A:N6	54:FV:591:LEU:HG	2.18	0.59
34:FB:81:ASP:O	34:FB:84:LEU:N	2.34	0.59
12:GL:95:LEU:HD22	12:GL:100:ILE:HD11	1.83	0.59
35:HC:40:ARG:NH1	35:HC:55:ILE:O	2.36	0.59
1:AA:1728:C:O2	1:AA:1731:G:N2	2.36	0.58
1:AA:1789:A:OP2	3:AC:220:ARG:NH1	2.36	0.58
4:AD:46:ARG:NH2	4:AD:87:GLY:O	2.35	0.58
1:CA:1080:A:H1'	9:CI:127:SER:HA	1.84	0.58
1:CA:1654:A:O2'	4:CD:118:PHE:CG	2.55	0.58
1:CA:2800:A:H3'	1:CA:2801:G:C5'	2.32	0.58
54:DV:8:ALA:O	54:DV:288:SER:OG	2.16	0.58
9:EI:135:MET:N	9:EI:135:MET:SD	2.76	0.58
16:EP:50:ARG:CD	16:EP:51:ASN:H	2.16	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:35:G:O2'	44:HL:115:SER:O	2.16	0.58
54:HV:697:ALA:O	54:HV:699:ILE:N	2.36	0.58
1:AA:161:A:H3'	1:AA:162:U:H5''	1.84	0.58
1:AA:2210:U:H4'	1:AA:2211:A:H5'	1.84	0.58
7:AG:46:ASP:OD1	7:AG:47:ASN:N	2.34	0.58
44:BL:87:VAL:O	44:BL:89:ASP:N	2.37	0.58
1:CA:856:G:H1'	23:CW:23:LYS:HB3	1.85	0.58
1:CA:2211:A:O2'	1:CA:2212:A:OP1	2.17	0.58
1:CA:2831:G:N7	4:CD:59:ARG:NH1	2.50	0.58
33:DA:770:C:OP2	59:DA:1754:HOH:O	2.17	0.58
33:DA:980:C:OP1	59:DA:1827:HOH:O	2.17	0.58
1:EA:1913:A:C5	33:FA:1494:G:H4'	2.38	0.58
1:EA:2311:A:N3	6:EF:84:ILE:HD11	2.17	0.58
6:EF:71:LYS:HD3	6:EF:72:SER:N	2.18	0.58
32:E5:44:ALA:HB1	32:E5:52:MET:HB2	1.83	0.58
1:GA:1031:G:H4'	31:G4:6:SER:HB2	1.85	0.58
5:GE:170:ARG:NH2	5:GE:176:ASP:OD2	2.36	0.58
23:GW:9:THR:HG23	23:GW:10:ARG:HD3	1.83	0.58
26:GZ:8:GLN:O	26:GZ:10:ARG:N	2.35	0.58
35:HC:79:LYS:N	35:HC:82:GLU:OE1	2.34	0.58
49:HQ:17:MET:SD	49:HQ:20:SER:OG	2.50	0.58
52:HT:82:GLN:HA	52:HT:85:LYS:HB2	1.83	0.58
1:AA:2593:U:O4	59:AA:3775:HOH:O	2.16	0.58
6:AF:55:ASP:O	6:AF:59:ILE:N	2.33	0.58
33:BA:706:A:H2'	33:BA:707:U:H5'	1.85	0.58
33:DA:1108:G:C5	33:DA:1109:C:C5	2.91	0.58
36:DD:30:THR:HG22	36:DD:31:LYS:H	1.68	0.58
1:EA:287:G:H2'	1:EA:288:U:C6	2.38	0.58
10:EJ:110:PRO:HB2	10:EJ:111:LYS:HG2	1.85	0.58
25:EY:56:LEU:O	25:EY:57:LEU:HB3	2.02	0.58
1:GA:2141:G:C6	1:GA:2151:U:H1'	2.39	0.58
7:GG:38:ASP:N	7:GG:38:ASP:OD1	2.36	0.58
22:GV:4:ILE:HD11	22:GV:50:MET:SD	2.43	0.58
25:GY:56:LEU:O	25:GY:57:LEU:HB3	2.02	0.58
39:HG:106:GLU:HA	39:HG:109:ARG:HE	1.68	0.58
1:AA:78:U:H2'	1:AA:79:C:C6	2.37	0.58
1:AA:137:U:O2'	1:AA:138:U:OP2	2.20	0.58
1:AA:2253:G:OP1	59:AA:3504:HOH:O	2.17	0.58
1:AA:2314:A:H2'	1:AA:2315:G:C8	2.37	0.58
1:AA:2683:C:O2	11:AK:70:ARG:NH2	2.37	0.58
4:AD:110:THR:HB	4:AD:202:ILE:HG22	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CI:71:LYS:H	9:CI:71:LYS:HD2	1.69	0.58
33:DA:462:G:N2	33:DA:470:C:N3	2.45	0.58
1:EA:1125:G:O6	59:EA:3603:HOH:O	2.14	0.58
17:EQ:63:ARG:HH12	17:EQ:96:ASP:CA	2.16	0.58
33:FA:1158:C:O3'	34:FB:131:LYS:NZ	2.32	0.58
37:FE:82:GLN:HG2	37:FE:150:PRO:HD3	1.85	0.58
6:AF:135:ILE:HG12	6:AF:140:ILE:HG21	1.85	0.58
9:CI:14:ALA:HA	9:CI:45:THR:CG2	2.34	0.58
23:CW:37:VAL:HB	23:CW:38:ARG:HH11	1.69	0.58
46:DN:54:ASP:OD1	46:DN:59:ARG:NH1	2.35	0.58
1:EA:84:A:P	21:EU:5:ARG:NH2	2.77	0.58
1:EA:654:A:H3'	1:EA:654:A:N3	2.18	0.58
23:EW:51:GLY:HA3	23:EW:59:PHE:CE1	2.39	0.58
32:E5:91:ALA:O	32:E5:93:ALA:N	2.36	0.58
32:E5:106:PHE:O	32:E5:108:VAL:N	2.36	0.58
1:GA:1277:G:H5'	14:GN:20:MET:HE2	1.86	0.58
48:HP:46:LYS:HG3	48:HP:47:GLU:N	2.19	0.58
54:HV:453:SER:O	54:HV:455:GLN:N	2.36	0.58
1:AA:1288:G:C4	1:AA:1327:A:C2	2.92	0.58
1:AA:2849:U:H4'	1:AA:2868:A:C2	2.38	0.58
10:AJ:80:HIS:O	10:AJ:82:GLY:N	2.37	0.58
18:AR:42:ALA:HA	18:AR:46:GLU:HB2	1.86	0.58
43:BK:23:ILE:HG22	43:BK:32:VAL:HG22	1.85	0.58
44:BL:24:LEU:HG	44:BL:25:GLU:H	1.67	0.58
6:CF:72:SER:HB2	6:CF:80:GLN:HB2	1.84	0.58
17:CQ:91:ARG:HH11	18:CR:11:GLN:N	2.01	0.58
23:CW:19:ARG:CZ	23:CW:22:VAL:HB	2.34	0.58
33:DA:457:G:N2	33:DA:476:U:O2	2.36	0.58
1:EA:528:A:C2	1:EA:2043:C:H4'	2.39	0.58
1:EA:1313:U:H2'	1:EA:1610:A:C2	2.38	0.58
1:EA:2328:A:H2'	1:EA:2329:U:C6	2.38	0.58
51:FS:5:LEU:HD12	51:FS:5:LEU:N	2.18	0.58
33:HA:1116:U:H4'	41:HI:110:GLN:HE22	1.69	0.58
1:AA:2330:G:C2	1:AA:2386:A:C2	2.92	0.58
6:AF:52:ALA:HB2	6:AF:149:ARG:HD3	1.86	0.58
9:AI:98:GLY:CA	9:AI:137:LEU:HD22	2.33	0.58
16:AP:50:ARG:CG	16:AP:57:ALA:H	2.17	0.58
9:CI:14:ALA:HB3	9:CI:50:LYS:HA	1.84	0.58
46:DN:52:PRO:O	46:DN:55:SER:HB3	2.04	0.58
1:EA:84:A:N1	1:EA:98:G:O2'	2.28	0.58
23:EW:41:GLY:O	23:EW:43:LYS:N	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:EX:29:LEU:HD23	24:EX:29:LEU:H	1.68	0.58
33:FA:1166:G:N1	33:FA:1169:A:OP2	2.36	0.58
44:FL:123:LYS:NZ	54:FV:301:ASP:OD2	2.27	0.58
49:FQ:15:ASP:HA	49:FQ:21:ILE:CD1	2.33	0.58
50:FR:22:ASP:OD1	50:FR:24:LYS:N	2.34	0.58
1:GA:1437:C:H2'	1:GA:1438:U:C6	2.39	0.58
41:HI:45:ARG:HG3	41:HI:46:MET:SD	2.44	0.58
43:HK:34:ILE:CD1	43:HK:70:CYS:HB2	2.33	0.58
1:AA:163:C:O2'	1:AA:164:C:O5'	2.20	0.58
1:AA:191:A:H2'	1:AA:192:C:C6	2.38	0.58
6:AF:53:ALA:HA	6:AF:64:PRO:HG2	1.85	0.58
9:AI:23:VAL:HB	9:AI:27:LEU:HB3	1.86	0.58
33:BA:1329:A:H5'	45:BM:29:ARG:HD3	1.86	0.58
5:CE:119:ILE:HD13	5:CE:187:VAL:HA	1.86	0.58
11:CK:70:ARG:HD3	11:CK:76:VAL:HG22	1.86	0.58
23:CW:49:ASN:HA	23:CW:61:LYS:HB2	1.86	0.58
32:E5:60:LEU:O	32:E5:64:VAL:HB	2.04	0.58
36:FD:192:SER:OG	36:FD:193:ALA:N	2.36	0.58
3:GC:91:ALA:HB3	3:GC:103:ILE:HG22	1.86	0.58
33:HA:131:A:H2'	33:HA:132:C:C6	2.39	0.58
33:HA:1229:A:OP2	45:HM:113:ARG:NH1	2.37	0.58
1:AA:2025:C:OP2	59:AA:3474:HOH:O	2.17	0.58
1:AA:2324:U:H3'	1:AA:2325:G:C5'	2.32	0.58
7:AG:162:ARG:CZ	7:AG:168:VAL:HG21	2.34	0.58
20:AT:50:LEU:HD23	25:AY:26:PHE:CD2	2.38	0.58
33:BA:746:A:H2'	33:BA:747:A:C8	2.39	0.58
44:BL:99:ARG:HB2	44:BL:117:TYR:HA	1.86	0.58
46:BN:27:LEU:HA	46:BN:31:ILE:CD1	2.34	0.58
54:BV:697:ALA:O	54:BV:699:ILE:N	2.37	0.58
3:CC:29:PHE:CE2	3:CC:31:PRO:HG2	2.38	0.58
3:CC:140:VAL:HG13	3:CC:189:ALA:HB1	1.86	0.58
33:DA:524:G:H2'	33:DA:525:C:C6	2.39	0.58
34:DB:69:VAL:HG23	34:DB:162:VAL:HB	1.86	0.58
24:EX:69:GLU:O	24:EX:71:ARG:N	2.37	0.58
37:FE:36:LEU:HD21	37:FE:137:VAL:CG1	2.34	0.58
1:GA:265:A:H4'	1:GA:266:G:OP1	2.04	0.58
54:HV:23:LYS:O	54:HV:24:THR:OG1	2.22	0.58
1:AA:983:A:C6	1:AA:984:A:C2	2.92	0.58
6:AF:59:ILE:HG22	6:AF:98:PHE:CE1	2.39	0.58
7:AG:25:ILE:HG22	7:AG:78:VAL:HG21	1.86	0.58
9:AI:72:THR:OG1	9:AI:112:LYS:NZ	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:1124:G:H2'	33:BA:1145:A:N6	2.19	0.58
54:BV:500:ASP:N	54:BV:521:ASP:OD1	2.36	0.58
4:CD:133:THR:HG23	4:CD:134:HIS:N	2.19	0.58
18:CR:16:GLU:HA	18:CR:98:ILE:HG22	1.86	0.58
36:DD:154:ARG:O	36:DD:158:ALA:N	2.37	0.58
1:EA:34:U:O2'	1:EA:35:G:OP1	2.18	0.58
1:GA:42:A:H2'	1:GA:43:G:H5'	1.85	0.58
1:GA:783:A:C8	1:GA:784:G:H4'	2.39	0.58
1:GA:1205:A:C5	5:GE:165:HIS:NE2	2.71	0.58
1:GA:1805:A:N3	3:GC:49:THR:HG23	2.19	0.58
4:GD:33:ARG:NH1	4:GD:53:GLY:O	2.36	0.58
4:GD:133:THR:HG23	4:GD:134:HIS:N	2.19	0.58
7:GG:22:VAL:HG23	7:GG:22:VAL:O	2.03	0.58
35:HC:42:TYR:CE2	35:HC:90:VAL:HG21	2.39	0.58
39:HG:57:SER:OG	39:HG:58:GLU:N	2.30	0.58
40:HH:106:THR:HG21	40:HH:121:LEU:HD13	1.84	0.58
1:AA:996:A:H4'	17:AQ:91:ARG:CD	2.34	0.57
14:AN:29:VAL:HG11	14:AN:75:ILE:HG23	1.85	0.57
33:BA:568:G:O6	44:BL:2:ALA:N	2.37	0.57
33:BA:994:A:C5	33:BA:1216:A:H4'	2.38	0.57
33:BA:1028:C:N4	33:BA:1029:U:O2	2.36	0.57
1:CA:528:A:C2	1:CA:2043:C:H4'	2.38	0.57
7:CG:88:LEU:HD11	7:CG:95:ALA:HB2	1.86	0.57
33:DA:922:G:H4'	37:DE:25:VAL:HA	1.85	0.57
33:DA:1525:G:OP1	43:DK:122:ARG:NH2	2.37	0.57
34:DB:10:LYS:O	34:DB:12:GLY:N	2.35	0.57
1:EA:126:A:O5'	29:E2:19:ARG:HG3	2.03	0.57
1:EA:2578:G:H1'	4:ED:144:GLY:HA2	1.85	0.57
34:FB:112:ARG:CZ	34:FB:116:LEU:HD21	2.34	0.57
4:GD:97:SER:OG	4:GD:98:VAL:N	2.37	0.57
1:AA:572:A:OP2	18:AR:80:ARG:NH2	2.37	0.57
1:AA:579:G:O2'	1:AA:2019:A:OP1	2.21	0.57
1:AA:1798:U:OP2	3:AC:270:ARG:NH2	2.37	0.57
1:AA:1938:A:OP2	59:AA:3722:HOH:O	2.18	0.57
6:AF:139:GLU:OE1	6:AF:139:GLU:N	2.37	0.57
33:BA:885:G:OP1	44:BL:15:LYS:NZ	2.37	0.57
34:BB:81:ASP:O	34:BB:84:LEU:N	2.37	0.57
1:CA:963:U:OP1	59:CA:3351:HOH:O	2.17	0.57
1:CA:1534:U:H3'	1:CA:1536:C:C5	2.39	0.57
9:CI:107:GLU:HA	9:CI:110:GLN:HB3	1.85	0.57
33:DA:83:C:HO2'	33:DA:84:U:H5	1.51	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:178:C:OP2	59:DA:1873:HOH:O	2.17	0.57
33:DA:1152:A:OP1	42:DJ:70:HIS:ND1	2.37	0.57
1:EA:242:G:H5''	30:E3:63:TYR:CE2	2.39	0.57
1:EA:1730:C:N4	35:HC:103:ILE:HB	2.19	0.57
33:FA:1323:G:O6	51:FS:4:SER:OG	2.22	0.57
1:GA:2365:G:H4'	23:GW:59:PHE:CZ	2.39	0.57
6:GF:15:LEU:CD1	6:GF:168:LEU:HA	2.34	0.57
10:GJ:25:LEU:HB2	10:GJ:62:VAL:HG21	1.87	0.57
15:GO:51:ALA:HB3	15:GO:78:VAL:HG13	1.86	0.57
36:HD:72:PHE:CZ	36:HD:200:ILE:HD11	2.40	0.57
1:AA:2800:A:H3'	1:AA:2801:G:C5'	2.34	0.57
4:AD:120:GLY:HA2	4:AD:162:ALA:HA	1.86	0.57
23:AW:40:ARG:HG3	23:AW:56:HIS:CD2	2.39	0.57
33:BA:1004:A:O2'	33:BA:1036:A:N1	2.33	0.57
37:BE:110:ALA:O	37:BE:111:MET:HB3	2.04	0.57
1:CA:1723:G:O6	1:CA:1737:G:O2'	2.12	0.57
1:CA:1869:G:H3'	1:CA:1870:C:H5''	1.87	0.57
1:CA:2427:C:H5''	1:CA:2428:G:OP1	2.03	0.57
1:CA:2886:A:C2	1:CA:2887:A:H1'	2.38	0.57
20:CT:50:LEU:H	20:CT:50:LEU:HD12	1.69	0.57
43:DK:13:ARG:HG2	43:DK:14:LYS:N	2.19	0.57
1:EA:1439:A:OP2	59:EA:3627:HOH:O	2.16	0.57
33:FA:402:G:N7	59:FA:1727:HOH:O	2.33	0.57
53:FU:34:ARG:HH21	53:FU:35:ARG:HD2	1.68	0.57
1:GA:2334:U:O3'	15:GO:13:ARG:NH1	2.36	0.57
33:HA:629:A:H2'	33:HA:630:A:O4'	2.04	0.57
1:AA:572:A:OP1	59:AA:3562:HOH:O	2.17	0.57
1:AA:2375:G:N2	1:AA:2378:A:OP2	2.33	0.57
33:BA:250:A:H4'	33:BA:251:G:O5'	2.04	0.57
33:BA:259:G:OP2	59:BA:1704:HOH:O	2.16	0.57
36:BD:136:GLN:HA	36:BD:136:GLN:HE21	1.69	0.57
37:BE:24:THR:HA	37:BE:29:ARG:HA	1.85	0.57
37:BE:111:MET:HE1	37:BE:125:ALA:HB1	1.86	0.57
1:CA:172:A:H2'	1:CA:173:A:C8	2.40	0.57
1:CA:1913:A:C2	54:DV:591:LEU:HG	2.40	0.57
6:CF:51:ASN:O	6:CF:54:ALA:N	2.38	0.57
33:DA:143:A:H5'	33:DA:144:G:H5'	1.85	0.57
37:DE:24:THR:HA	37:DE:29:ARG:HA	1.87	0.57
37:DE:97:GLN:HB2	37:DE:124:LEU:HB2	1.86	0.57
23:EW:55:ASP:O	23:EW:57:THR:N	2.37	0.57
32:E5:26:VAL:CG1	32:E5:77:VAL:CG1	2.80	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:FC:159:GLY:HA2	35:FC:193:TYR:CE1	2.38	0.57
37:FE:157:ARG:HD3	40:FH:45:PHE:CZ	2.39	0.57
41:FI:6:TYR:CD1	41:FI:89:GLU:HB2	2.39	0.57
23:GW:46:ALA:HB3	23:GW:79:ILE:O	2.04	0.57
25:GY:61:ALA:O	25:GY:63:ALA:N	2.35	0.57
33:HA:844:G:H2'	33:HA:845:A:H5''	1.87	0.57
34:HB:82:ALA:O	34:HB:88:GLN:NE2	2.38	0.57
41:HI:25:ASN:HB2	41:HI:27:LYS:HE3	1.85	0.57
45:HM:14:HIS:O	45:HM:18:ALA:N	2.34	0.57
33:BA:143:A:H5'	33:BA:144:G:H5'	1.87	0.57
52:BT:44:LYS:HA	52:BT:87:ALA:HB1	1.87	0.57
1:CA:76:C:OP1	25:CY:48:ARG:NH1	2.36	0.57
1:CA:242:G:H5''	30:C3:63:TYR:CE2	2.39	0.57
3:CC:237:ARG:NH2	59:CC:309:HOH:O	2.38	0.57
4:CD:97:SER:OG	4:CD:98:VAL:N	2.38	0.57
18:CR:49:ILE:HD12	18:CR:52:PRO:HA	1.85	0.57
1:EA:684:G:OP1	29:E2:16:HIS:ND1	2.34	0.57
17:EQ:97:ILE:HD11	17:EQ:105:PHE:HA	1.87	0.57
32:E5:56:ARG:O	32:E5:57:ASN:ND2	2.38	0.57
32:E5:93:ALA:HB3	32:E5:95:LEU:CD2	2.35	0.57
33:FA:204:G:H3'	33:FA:205:A:C5'	2.35	0.57
36:FD:151:LYS:HA	36:FD:155:VAL:HG13	1.85	0.57
1:GA:1938:A:OP2	59:GA:3719:HOH:O	2.17	0.57
2:GB:26:C:H1'	2:GB:117:G:H1'	1.85	0.57
17:GQ:84:LYS:O	17:GQ:86:SER:N	2.38	0.57
43:HK:55:SER:HA	43:HK:57:LYS:HE3	1.85	0.57
1:AA:2537:U:H2'	1:AA:2538:C:C6	2.39	0.57
1:CA:1786:A:H1'	1:CA:1938:A:N6	2.20	0.57
1:CA:2707:U:O4	59:CA:3674:HOH:O	2.17	0.57
24:CX:30:PRO:HB2	24:CX:32:LEU:CD1	2.35	0.57
33:DA:409:U:H2'	33:DA:410:G:O4'	2.04	0.57
41:DI:94:LEU:O	41:DI:96:SER:N	2.31	0.57
54:DV:100:GLU:OE1	54:DV:132:LYS:NZ	2.33	0.57
16:EP:50:ARG:CG	16:EP:57:ALA:O	2.51	0.57
54:FV:171:LEU:O	54:FV:183:VAL:N	2.36	0.57
33:HA:844:G:C3'	33:HA:845:A:H5''	2.34	0.57
1:AA:1105:U:H2'	1:AA:1106:G:C8	2.40	0.57
4:AD:99:GLU:HG3	4:AD:100:LEU:N	2.20	0.57
20:AT:28:ASN:HA	20:AT:91:GLN:OE1	2.04	0.57
33:BA:33:A:O2'	44:BL:29:GLN:OE1	2.15	0.57
33:BA:626:G:OP1	48:BP:35:ARG:NH2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BB:90:PHE:N	34:BB:149:GLY:O	2.37	0.57
35:BC:115:LEU:O	35:BC:119:SER:N	2.33	0.57
42:BJ:10:LEU:HB2	42:BJ:72:ARG:HB2	1.86	0.57
1:CA:250:G:OP2	30:C3:12:ARG:NH1	2.38	0.57
1:CA:2101:A:C2	1:CA:2102:G:C2	2.93	0.57
4:CD:68:PHE:C	4:CD:73:VAL:HG12	2.25	0.57
5:CE:112:LEU:HD13	5:CE:186:VAL:HG11	1.85	0.57
17:CQ:91:ARG:HH21	17:CQ:93:ILE:HG21	1.69	0.57
34:DB:98:GLY:C	34:DB:100:LEU:H	2.08	0.57
34:FB:46:VAL:HA	34:FB:49:PHE:CE2	2.39	0.57
11:GK:18:ARG:HD3	11:GK:45:GLU:HG3	1.86	0.57
17:GQ:64:ILE:HD11	17:GQ:92:LYS:O	2.04	0.57
33:HA:523:A:H61	44:HL:89:ASP:HB2	1.70	0.57
54:HV:591:LEU:O	54:HV:594:LYS:N	2.37	0.57
10:AJ:111:LYS:CD	10:AJ:112:GLY:H	2.16	0.57
12:AL:110:VAL:O	12:AL:111:ILE:HB	2.05	0.57
33:BA:1101:A:H4'	33:BA:1102:A:O5'	2.04	0.57
1:CA:1800:C:OP2	3:CC:181:ARG:NH1	2.37	0.57
1:CA:2013:A:N3	19:CS:88:ARG:NH1	2.52	0.57
17:CQ:91:ARG:HE	17:CQ:93:ILE:HG21	1.69	0.57
18:CR:49:ILE:HB	18:CR:51:VAL:O	2.05	0.57
33:DA:1033:G:H2'	33:DA:1034:G:C5'	2.35	0.57
1:EA:2103:C:H2'	1:EA:2104:C:H5'	1.86	0.57
9:EI:28:GLY:HA2	9:EI:32:VAL:HB	1.86	0.57
33:FA:1194:U:H5'	37:FE:27:GLY:HA2	1.85	0.57
1:AA:84:A:H4'	1:AA:85:G:O5'	2.05	0.57
1:AA:276:U:O2'	1:AA:278:A:N7	2.37	0.57
1:AA:335:C:O5'	59:AA:3549:HOH:O	2.16	0.57
1:AA:1106:G:OP1	32:A5:62:ARG:NH2	2.32	0.57
1:AA:2834:G:O6	1:AA:2879:A:H2'	2.04	0.57
11:AK:17:ARG:HB2	11:AK:45:GLU:HB3	1.87	0.57
12:AL:85:VAL:CG2	12:AL:94:THR:HG22	2.34	0.57
33:BA:618:C:N3	33:BA:622:A:N6	2.53	0.57
1:CA:34:U:O2'	1:CA:35:G:OP1	2.20	0.57
33:DA:39:G:H2'	33:DA:40:C:C6	2.40	0.57
53:DU:34:ARG:NE	53:DU:35:ARG:HG3	2.19	0.57
1:EA:1078:U:O2'	1:EA:1088:A:OP1	2.17	0.57
10:EJ:43:GLU:O	10:EJ:45:THR:N	2.38	0.57
33:FA:1181:G:O2'	33:FA:1182:G:C8	2.58	0.57
1:GA:84:A:H4'	1:GA:85:G:O5'	2.05	0.57
1:GA:2331:G:O2'	1:GA:2336:A:N1	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:GP:50:ARG:HD2	16:GP:51:ASN:N	2.19	0.57
17:GQ:91:ARG:HE	17:GQ:93:ILE:HG21	1.68	0.57
20:GT:27:SER:O	20:GT:28:ASN:ND2	2.38	0.57
23:GW:55:ASP:O	23:GW:57:THR:N	2.37	0.57
3:AC:161:VAL:HG11	3:AC:173:LEU:HD23	1.85	0.57
32:A5:70:GLU:N	32:A5:70:GLU:OE1	2.38	0.57
32:A5:129:LEU:HB3	32:A5:130:PRO:HD2	1.87	0.57
33:BA:117:G:N7	59:BA:1886:HOH:O	2.33	0.57
33:BA:906:A:N1	59:BA:1762:HOH:O	2.33	0.57
33:BA:946:A:H2'	33:BA:947:G:C8	2.40	0.57
1:CA:2539:C:H5'	31:C4:3:VAL:HG21	1.87	0.57
1:CA:2657:A:O3'	7:CG:159:LYS:NZ	2.37	0.57
1:EA:645:C:O2	1:EA:645:C:O2'	2.14	0.57
1:EA:731:C:N4	59:EA:3691:HOH:O	2.38	0.57
1:EA:1327:A:N6	1:EA:1328:A:C2	2.73	0.57
18:ER:49:ILE:HD12	18:ER:52:PRO:HA	1.87	0.57
32:E5:43:LYS:NZ	32:E5:98:GLU:HB2	2.20	0.57
1:GA:1070:A:H5'	1:GA:1072:C:P	2.45	0.57
17:GQ:4:LYS:HG3	17:GQ:5:ARG:H	1.69	0.57
42:HJ:5:ARG:HG3	42:HJ:6:ILE:HG13	1.85	0.57
1:AA:517:C:OP2	27:A0:9:ARG:NH2	2.38	0.56
1:AA:1176:U:H2'	1:AA:1177:G:C8	2.40	0.56
1:AA:1263:U:OP1	27:A0:12:ARG:NH1	2.36	0.56
4:AD:97:SER:OG	4:AD:98:VAL:N	2.38	0.56
11:AK:73:ASP:OD1	11:AK:74:GLY:N	2.36	0.56
18:AR:49:ILE:HB	18:AR:51:VAL:O	2.05	0.56
33:BA:1182:G:H4'	33:BA:1183:U:C5'	2.35	0.56
33:BA:1218:C:H2'	33:BA:1219:A:C8	2.40	0.56
40:BH:53:GLY:HA3	40:BH:57:PRO:HA	1.86	0.56
50:BR:37:GLY:O	50:BR:63:ARG:NH2	2.38	0.56
20:CT:54:GLU:HB2	20:CT:88:LYS:HG3	1.87	0.56
41:DI:11:ARG:H	41:DI:81:HIS:HD2	1.53	0.56
44:DL:43:LYS:HG2	44:DL:44:LYS:H	1.70	0.56
1:EA:1107:G:H4'	32:E5:81:LEU:HA	1.85	0.56
7:EG:174:LYS:O	7:EG:176:LYS:N	2.36	0.56
16:EP:108:ARG:NH1	33:FA:1464:U:OP2	2.37	0.56
33:FA:250:A:H4'	33:FA:251:G:O5'	2.05	0.56
1:GA:2800:A:H3'	1:GA:2801:G:H5'	1.86	0.56
23:GW:37:VAL:HG12	23:GW:38:ARG:H	1.69	0.56
34:HB:114:LYS:HA	34:HB:117:GLU:HG2	1.87	0.56
38:HF:38:ARG:HB3	38:HF:63:ASN:HB2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:HK:75:LYS:O	43:HK:78:GLY:N	2.37	0.56
1:AA:528:A:C2	1:AA:2043:C:H4'	2.40	0.56
1:AA:1078:U:H5''	1:AA:1079:C:OP1	2.05	0.56
9:AI:123:ALA:HA	9:AI:126:ARG:CZ	2.34	0.56
12:AL:95:LEU:HD23	12:AL:100:ILE:HD11	1.87	0.56
15:AO:51:ALA:HB3	15:AO:78:VAL:HG13	1.87	0.56
33:BA:158:G:H2'	33:BA:159:G:H5'	1.87	0.56
36:BD:73:ARG:HD3	36:BD:204:TYR:CE2	2.40	0.56
37:BE:45:ARG:HA	37:BE:72:ILE:O	2.05	0.56
1:CA:1378:A:H4'	1:CA:1379:U:OP1	2.05	0.56
1:CA:1669:A:OP2	59:CA:3711:HOH:O	2.18	0.56
1:CA:1938:A:OP2	59:CA:3718:HOH:O	2.18	0.56
1:CA:2346:A:H3'	1:CA:2347:C:C5'	2.35	0.56
15:CO:31:THR:HG23	15:CO:32:PRO:HD2	1.86	0.56
33:DA:414:A:H2'	33:DA:415:A:O4'	2.04	0.56
33:DA:619:U:N3	36:DD:131:ASN:HB3	2.19	0.56
33:DA:620:C:H1'	36:DD:132:ILE:CD1	2.35	0.56
37:DE:16:ILE:HG23	37:DE:110:ALA:HB2	1.87	0.56
1:EA:1421:G:C2	1:EA:1422:G:C8	2.93	0.56
1:GA:1064:C:N4	1:GA:1065:U:O4	2.38	0.56
1:GA:1205:A:C4	5:GE:165:HIS:NE2	2.73	0.56
1:GA:1383:A:N7	1:GA:1384:A:C6	2.73	0.56
1:GA:2611:C:OP2	59:GA:3537:HOH:O	2.17	0.56
33:HA:518:C:H2'	33:HA:530:G:C8	2.40	0.56
35:HC:142:MET:HE1	35:HC:171:GLY:HA3	1.86	0.56
43:HK:34:ILE:HD11	43:HK:70:CYS:HB2	1.86	0.56
1:AA:1824:G:N3	3:AC:251:THR:HG21	2.20	0.56
1:AA:2505:G:HO2'	1:AA:2506:U:H6	1.53	0.56
1:AA:2518:A:OP2	59:AA:3531:HOH:O	2.18	0.56
1:AA:2627:G:O2'	1:AA:2781:A:N1	2.35	0.56
2:AB:34:A:N6	2:AB:44:G:O2'	2.37	0.56
37:BE:46:VAL:HG12	37:BE:47:GLY:N	2.19	0.56
45:BM:20:THR:HA	45:BM:25:VAL:HG23	1.87	0.56
46:BN:61:ARG:O	46:BN:62:ASN:HB2	2.05	0.56
49:BQ:12:VAL:HG12	49:BQ:13:VAL:N	2.21	0.56
50:BR:63:ARG:HB3	50:BR:70:TYR:CZ	2.40	0.56
1:CA:271:G:H4'	1:CA:272:A:OP1	2.05	0.56
1:CA:1007:C:OP1	10:CJ:37:ARG:NH2	2.37	0.56
4:CD:12:THR:HG22	4:CD:13:ARG:N	2.21	0.56
8:CH:10:ALA:O	8:CH:12:LEU:N	2.35	0.56
12:CL:87:GLY:O	12:CL:89:VAL:N	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CT:54:GLU:HG3	20:CT:88:LYS:HB2	1.87	0.56
33:DA:108:G:N2	33:DA:108:G:OP2	2.38	0.56
33:DA:202:G:O2'	33:DA:468:A:H2'	2.05	0.56
40:DH:106:THR:HG21	40:DH:121:LEU:HD22	1.86	0.56
41:DI:10:GLY:HA2	41:DI:81:HIS:CD2	2.41	0.56
44:DL:72:HIS:ND1	44:DL:73:ASN:O	2.37	0.56
54:DV:313:ASP:OD2	54:DV:378:ARG:NH1	2.39	0.56
54:DV:338:VAL:HG21	54:DV:377:VAL:HG12	1.88	0.56
1:EA:2062:A:N7	1:EA:2503:A:N6	2.53	0.56
1:EA:2387:U:O2'	23:EW:38:ARG:NH2	2.38	0.56
19:ES:63:GLY:O	19:ES:64:ALA:HB3	2.05	0.56
26:EZ:8:GLN:O	26:EZ:10:ARG:N	2.38	0.56
33:FA:17:U:H2'	33:FA:18:C:C6	2.40	0.56
33:FA:1192:C:OP2	35:FC:4:LYS:NZ	2.31	0.56
34:FB:79:VAL:O	34:FB:83:ALA:HB3	2.05	0.56
38:FF:64:VAL:HG12	38:FF:65:GLU:N	2.20	0.56
44:FL:44:LYS:HB3	44:FL:45:PRO:CD	2.36	0.56
1:GA:45:G:H5''	1:GA:46:G:H5'	1.86	0.56
1:GA:1174:U:H5'	1:GA:1175:A:OP2	2.06	0.56
1:GA:1226:A:OP1	17:GQ:15:LYS:NZ	2.34	0.56
1:GA:1605:C:H2'	1:GA:1606:C:H5'	1.87	0.56
1:GA:1779:U:C5	1:GA:1784:A:N7	2.73	0.56
1:GA:2107:G:H1	1:GA:2182:U:H2'	1.70	0.56
1:GA:2304:G:H4'	6:GF:129:MET:HA	1.87	0.56
4:GD:39:ASP:OD1	4:GD:40:LEU:N	2.37	0.56
31:G4:36:ARG:HG2	31:G4:37:GLN:H	1.70	0.56
33:HA:51:A:H4'	33:HA:52:C:O5'	2.05	0.56
41:HI:52:LEU:HA	41:HI:57:MET:HG3	1.86	0.56
43:HK:15:GLN:NE2	43:HK:78:GLY:O	2.38	0.56
43:HK:107:ILE:HG23	53:HU:12:PHE:HE2	1.70	0.56
43:HK:125:LYS:O	53:HU:34:ARG:CZ	2.54	0.56
45:HM:20:THR:HA	45:HM:25:VAL:HG23	1.87	0.56
45:HM:114:LYS:CB	45:HM:115:PRO:HD3	2.36	0.56
49:HQ:50:ASN:O	49:HQ:52:GLU:N	2.38	0.56
54:HV:195:ASP:OD1	54:HV:196:ALA:N	2.38	0.56
1:AA:384:A:H2'	1:AA:385:C:H5'	1.87	0.56
6:AF:15:LEU:HA	6:AF:18:GLU:HB2	1.87	0.56
6:AF:37:MET:SD	6:AF:52:ALA:HB1	2.46	0.56
14:AN:26:GLY:CA	14:AN:75:ILE:HD13	2.34	0.56
16:AP:52:ARG:HG3	16:AP:52:ARG:NH1	2.20	0.56
17:AQ:93:ILE:O	17:AQ:96:ASP:N	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AQ:94:LEU:HD22	18:AR:11:GLN:HB2	1.88	0.56
32:A5:116:GLU:CG	32:A5:117:LEU:H	2.19	0.56
1:CA:195:A:N7	59:CA:3747:HOH:O	2.33	0.56
1:CA:855:G:H1'	23:CW:23:LYS:HE3	1.88	0.56
1:CA:1045:C:O2	1:CA:1047:G:N1	2.37	0.56
33:DA:135:C:O2	48:DP:1:MET:N	2.38	0.56
33:DA:1098:C:OP2	34:DB:142:LYS:NZ	2.33	0.56
45:DM:114:LYS:CB	45:DM:115:PRO:HD3	2.35	0.56
1:EA:2107:G:N2	1:EA:2108:A:H1'	2.21	0.56
9:EI:79:LEU:HA	9:EI:83:ALA:HB3	1.87	0.56
17:EQ:91:ARG:HH11	18:ER:11:GLN:H	1.51	0.56
33:FA:210:C:H4'	33:FA:211:G:C2	2.40	0.56
33:FA:971:G:O6	33:FA:1364:U:O2'	2.21	0.56
1:GA:2325:G:C6	1:GA:2326:C:N4	2.73	0.56
33:HA:1244:G:H2'	33:HA:1245:C:C6	2.40	0.56
54:HV:309:ARG:NH2	54:HV:402:ALA:O	2.38	0.56
1:AA:1088:A:HO2'	1:AA:1089:A:P	2.28	0.56
12:AL:79:LEU:HA	12:AL:82:LEU:HD11	1.88	0.56
33:BA:885:G:O2'	33:BA:914:A:N1	2.36	0.56
33:BA:1299:A:H2'	33:BA:1299:A:N3	2.19	0.56
49:BQ:12:VAL:HG13	49:BQ:21:ILE:CG1	2.36	0.56
54:BV:221:ASN:HA	54:BV:224:GLU:CB	2.36	0.56
1:CA:2365:G:H4'	23:CW:59:PHE:CE2	2.40	0.56
23:CW:23:LYS:HE2	23:CW:24:ARG:HB3	1.88	0.56
33:DA:8:A:N6	36:DD:202:GLU:O	2.39	0.56
33:DA:260:G:N2	33:DA:265:G:N7	2.54	0.56
33:DA:1299:A:N3	33:DA:1299:A:H2'	2.20	0.56
54:DV:203:GLU:O	54:DV:205:GLU:N	2.39	0.56
1:EA:1069:A:N7	1:EA:1073:A:N6	2.53	0.56
11:EK:121:GLU:OE2	16:EP:64:SER:OG	2.23	0.56
20:ET:40:LYS:CA	20:ET:43:ILE:HG23	2.36	0.56
36:FD:150:LYS:HG2	36:FD:178:MET:SD	2.45	0.56
36:FD:188:ARG:NE	36:FD:197:GLU:OE2	2.38	0.56
1:GA:1789:A:OP2	3:GC:220:ARG:NH1	2.39	0.56
1:GA:2714:G:OP2	59:GA:3544:HOH:O	2.18	0.56
5:GE:131:THR:HG23	5:GE:164:LEU:CD2	2.36	0.56
16:GP:105:LYS:HA	16:GP:108:ARG:HD3	1.87	0.56
23:GW:28:GLU:O	23:GW:30:VAL:N	2.38	0.56
23:GW:41:GLY:C	23:GW:43:LYS:H	2.07	0.56
43:HK:74:VAL:HG23	43:HK:79:ILE:HD12	1.86	0.56
12:AL:93:ASN:OD1	12:AL:94:THR:N	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AN:38:LEU:HB3	14:AN:39:PRO:HD3	1.87	0.56
33:BA:408:A:OP1	36:BD:110:THR:HG21	2.06	0.56
1:CA:229:C:OP2	59:CA:3236:HOH:O	2.17	0.56
1:CA:1437:C:H2'	1:CA:1438:U:C6	2.40	0.56
1:CA:1913:A:H62	33:DA:1493:A:H2'	1.69	0.56
3:CC:14:HIS:O	3:CC:203:VAL:HG11	2.05	0.56
10:CJ:80:HIS:O	10:CJ:82:GLY:N	2.39	0.56
33:DA:607:A:C2	33:DA:608:A:C4	2.94	0.56
33:DA:722:G:O2'	33:DA:724:G:OP1	2.16	0.56
43:DK:13:ARG:HG2	43:DK:14:LYS:H	1.69	0.56
1:EA:2356:U:H5''	23:EW:16:GLU:HG2	1.88	0.56
19:ES:17:VAL:C	19:ES:18:ARG:O	2.39	0.56
54:FV:418:ILE:HG21	54:FV:466:LEU:HD23	1.87	0.56
3:GC:68:ARG:NE	3:GC:103:ILE:HD11	2.21	0.56
7:GG:30:GLY:O	7:GG:32:LEU:N	2.37	0.56
16:GP:50:ARG:CD	16:GP:51:ASN:H	2.18	0.56
17:GQ:86:SER:O	17:GQ:88:GLU:N	2.38	0.56
42:HJ:91:ASP:OD1	42:HJ:92:LEU:N	2.34	0.56
1:AA:534:U:O2'	17:AQ:48:ASP:OD2	2.23	0.56
9:AI:23:VAL:HG23	9:AI:24:GLY:H	1.70	0.56
15:AO:66:GLY:HA2	15:AO:102:ARG:NH1	2.20	0.56
54:BV:142:ASN:OD1	54:BV:143:LYS:N	2.34	0.56
1:CA:1300:G:H4'	1:CA:1301:A:H5'	1.88	0.56
1:CA:1779:U:H5	1:CA:1784:A:N7	2.04	0.56
1:CA:2354:C:H4'	23:CW:31:LEU:HD22	1.87	0.56
16:CP:83:ILE:O	16:CP:83:ILE:HG12	2.04	0.56
23:CW:72:GLY:O	23:CW:74:LYS:N	2.35	0.56
37:DE:45:ARG:HA	37:DE:72:ILE:O	2.05	0.56
54:DV:190:ALA:N	54:DV:205:GLU:O	2.39	0.56
1:EA:1605:C:C2'	1:EA:1606:C:H5'	2.35	0.56
1:EA:1993:U:H4'	4:ED:133:THR:HG21	1.86	0.56
3:EC:107:LYS:N	3:EC:193:GLU:O	2.35	0.56
49:FQ:48:ASP:HB2	49:FQ:75:LEU:HD23	1.87	0.56
1:GA:453:A:OP1	59:GA:3238:HOH:O	2.17	0.56
1:GA:931:U:OP1	26:GZ:29:ARG:NH1	2.38	0.56
6:GF:134:GLN:O	6:GF:136:ILE:N	2.33	0.56
7:GG:84:LYS:HZ3	7:GG:133:LYS:HG2	1.71	0.56
10:GJ:110:PRO:HB2	10:GJ:111:LYS:HG2	1.88	0.56
36:HD:58:LYS:NZ	36:HD:69:GLU:OE2	2.38	0.56
43:HK:81:ASN:CB	43:HK:106:ARG:O	2.54	0.56
54:HV:586:VAL:HG22	54:HV:587:ASP:N	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:98:VAL:HG12	4:AD:180:VAL:HG13	1.87	0.56
4:AD:186:LEU:HD11	16:AP:3:ILE:HG21	1.87	0.56
11:AK:98:ARG:HA	11:AK:118:LEU:HD23	1.87	0.56
15:AO:77:ALA:HB1	15:AO:81:ARG:HH22	1.70	0.56
17:AQ:60:TRP:CE2	17:AQ:93:ILE:HB	2.41	0.56
1:CA:468:G:N7	29:C2:39:ARG:NH2	2.54	0.56
15:CO:31:THR:HG22	15:CO:34:HIS:H	1.71	0.56
23:CW:24:ARG:CZ	23:CW:65:LYS:HB2	2.36	0.56
1:EA:527:C:H4'	1:EA:528:A:O5'	2.05	0.56
1:EA:2803:G:H2'	1:EA:2804:U:C6	2.40	0.56
9:EI:7:TYR:HA	9:EI:58:ILE:HB	1.87	0.56
21:EU:53:GLN:N	21:EU:54:PRO:HD2	2.20	0.56
33:FA:143:A:H5'	33:FA:144:G:H5'	1.88	0.56
1:GA:2557:G:H2'	1:GA:2558:C:C6	2.41	0.56
1:GA:2766:A:C2	1:GA:2767:C:C6	2.93	0.56
15:GO:2:ASP:O	15:GO:4:LYS:N	2.39	0.56
33:HA:769:G:O6	59:HA:1755:HOH:O	2.17	0.56
54:HV:190:ALA:N	54:HV:205:GLU:O	2.38	0.56
1:AA:2834:G:H2'	1:AA:2879:A:N6	2.21	0.56
12:AL:77:ILE:CD1	12:AL:108:ALA:HB1	2.36	0.56
19:AS:71:VAL:HG23	19:AS:71:VAL:O	2.05	0.56
36:BD:65:TYR:CE2	36:BD:94:LEU:HB3	2.41	0.56
44:BL:44:LYS:CB	44:BL:45:PRO:HD3	2.36	0.56
52:BT:81:ALA:O	52:BT:85:LYS:NZ	2.36	0.56
8:CH:9:VAL:HG11	8:CH:12:LEU:HD12	1.86	0.56
21:CU:1:ALA:HB1	21:CU:84:PHE:CZ	2.41	0.56
33:DA:41:G:H2'	33:DA:42:G:H8	1.70	0.56
33:DA:263:A:OP1	52:DT:74:ARG:NH1	2.39	0.56
33:DA:1049:U:C2	33:DA:1201:A:C2	2.93	0.56
49:DQ:12:VAL:HG22	49:DQ:21:ILE:HD11	1.87	0.56
49:DQ:50:ASN:O	49:DQ:52:GLU:N	2.38	0.56
1:EA:1425:G:H2'	1:EA:1426:G:C8	2.41	0.56
14:EN:100:CYS:SG	14:EN:101:GLY:N	2.78	0.56
32:E5:93:ALA:CA	32:E5:130:PRO:HG2	2.35	0.56
33:FA:1530:G:H2'	33:FA:1531:A:C8	2.41	0.56
44:FL:72:HIS:ND1	44:FL:73:ASN:O	2.35	0.56
1:GA:1095:A:C4	54:HV:632:ILE:CG1	2.89	0.56
1:GA:1095:A:C4	54:HV:632:ILE:HG13	2.41	0.56
1:GA:2275:C:O2'	13:GM:83:GLY:O	2.22	0.56
1:GA:2311:A:H3'	1:GA:2312:U:C6	2.41	0.56
3:GC:14:HIS:O	3:GC:203:VAL:HG11	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:HK:14:LYS:O	43:HK:15:GLN:HB3	2.06	0.56
43:HK:21:ALA:CB	43:HK:82:LEU:HD13	2.36	0.56
43:HK:74:VAL:CG2	43:HK:79:ILE:HD12	2.36	0.56
1:AA:172:A:H2'	1:AA:173:A:C8	2.40	0.56
15:AO:53:THR:HB	15:AO:65:THR:CG2	2.36	0.56
23:AW:51:GLY:HA3	23:AW:59:PHE:CE1	2.41	0.56
33:BA:880:C:OP2	44:BL:3:THR:HG21	2.06	0.56
41:BI:21:ILE:HG23	41:BI:61:LEU:HD13	1.87	0.56
42:BJ:35:GLN:HG3	42:BJ:36:VAL:N	2.21	0.56
54:BV:217:GLU:O	54:BV:220:GLN:N	2.38	0.56
1:CA:85:G:OP1	21:CU:6:ARG:N	2.39	0.56
36:DD:27:ALA:O	36:DD:31:LYS:NZ	2.37	0.56
47:DO:39:LEU:O	47:DO:42:HIS:N	2.38	0.56
53:DU:34:ARG:HH21	53:DU:35:ARG:HD2	1.71	0.56
1:EA:882:G:H2'	1:EA:883:G:H5'	1.88	0.56
1:EA:1533:C:C4	1:EA:1534:U:C5	2.94	0.56
1:EA:2016:U:H2'	1:EA:2017:U:C6	2.41	0.56
1:EA:2019:A:H4'	17:EQ:33:VAL:HG21	1.87	0.56
1:EA:2821:A:OP2	14:EN:3:HIS:NE2	2.39	0.56
5:EE:77:ILE:HG12	5:EE:78:TRP:CE3	2.41	0.56
5:EE:149:ILE:HD11	5:EE:172:ALA:HA	1.88	0.56
26:EZ:23:LEU:HD21	26:EZ:53:MET:HE1	1.88	0.56
32:E5:24:SER:CB	32:E5:116:GLU:CG	2.67	0.56
33:FA:844:G:C2'	33:FA:845:A:H5''	2.36	0.56
33:FA:1124:G:H3'	33:FA:1145:A:H62	1.71	0.56
33:FA:1277:C:O2'	33:FA:1279:G:H8	1.89	0.56
1:GA:1926:U:H2'	1:GA:1927:A:C8	2.41	0.56
9:GI:2:LYS:HG3	9:GI:3:LYS:H	1.71	0.56
33:HA:1243:C:OP1	59:HA:1792:HOH:O	2.18	0.56
38:HF:3:HIS:H	38:HF:92:THR:HG23	1.70	0.56
39:HG:15:ASP:HB3	39:HG:20:SER:H	1.71	0.56
1:AA:597:G:C2	1:AA:661:A:C2	2.94	0.55
1:AA:1722:A:C6	1:AA:1739:A:C4	2.94	0.55
11:AK:15:GLY:O	11:AK:46:ALA:HA	2.06	0.55
33:BA:577:G:C8	33:BA:816:A:C6	2.94	0.55
41:BI:44:ALA:HB1	41:BI:76:ALA:CB	2.36	0.55
1:CA:1277:G:H5'	14:CN:20:MET:HE2	1.86	0.55
1:CA:1605:C:H2'	1:CA:1606:C:H5'	1.88	0.55
12:CL:110:VAL:O	12:CL:111:ILE:HB	2.07	0.55
27:C0:24:VAL:O	27:C0:25:THR:OG1	2.22	0.55
33:DA:381:C:H2'	33:DA:382:A:O4'	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:572:A:OP1	59:DA:1736:HOH:O	2.18	0.55
54:DV:382:ILE:HD12	54:DV:382:ILE:O	2.06	0.55
1:EA:2362:C:OP1	30:E3:39:ARG:NH1	2.39	0.55
9:EI:20:SER:HB3	9:EI:21:PRO:HD3	1.89	0.55
16:EP:13:LYS:NZ	16:EP:80:VAL:HG12	2.20	0.55
21:EU:85:ARG:HD3	21:EU:86:PHE:N	2.21	0.55
36:FD:48:LEU:HD21	36:FD:53:VAL:N	2.21	0.55
15:GO:34:HIS:O	15:GO:102:ARG:NH1	2.37	0.55
33:HA:1313:U:H3	33:HA:1324:A:H61	1.53	0.55
1:AA:855:G:N3	23:AW:23:LYS:HD2	2.21	0.55
1:AA:2821:A:H4'	4:AD:167:ASN:OD1	2.05	0.55
3:AC:176:ARG:HH21	3:AC:176:ARG:CG	2.19	0.55
6:AF:2:LYS:HG2	6:AF:3:LEU:HD22	1.88	0.55
7:AG:12:ALA:HB2	1:EA:2790:U:H2'	1.87	0.55
18:AR:68:ARG:HD3	18:AR:92:TRP:CE2	2.41	0.55
23:AW:17:ALA:HA	23:AW:35:ILE:HG23	1.89	0.55
23:AW:37:VAL:HB	23:AW:38:ARG:HD2	1.88	0.55
23:AW:76:ARG:HH21	23:AW:76:ARG:CG	2.19	0.55
32:A5:26:VAL:O	32:A5:27:VAL:HB	2.06	0.55
33:BA:131:A:H2'	33:BA:132:C:C6	2.42	0.55
33:BA:600:A:H2'	33:BA:601:G:H8	1.71	0.55
33:BA:701:U:H5''	33:BA:703:G:C4	2.42	0.55
33:BA:1413:A:C2	33:BA:1488:G:C2	2.94	0.55
35:BC:8:ASN:OD1	35:BC:16:LYS:NZ	2.37	0.55
54:BV:127:TRP:HH2	54:BV:262:ILE:HD13	1.70	0.55
54:BV:414:PRO:HA	54:BV:461:MET:SD	2.45	0.55
54:BV:545:ILE:HD11	54:BV:581:GLY:HA3	1.87	0.55
7:CG:84:LYS:HG2	7:CG:85:LYS:H	1.71	0.55
22:CV:36:ALA:O	22:CV:93:ARG:NH1	2.37	0.55
34:DB:187:ASP:HB2	34:DB:203:ASP:HB3	1.88	0.55
45:DM:4:ILE:O	45:DM:6:GLY:N	2.40	0.55
51:DS:36:ARG:HH12	51:DS:77:THR:HG22	1.70	0.55
32:E5:47:GLU:HG2	32:E5:95:LEU:HD21	1.86	0.55
33:FA:1299:A:H2'	33:FA:1299:A:N3	2.22	0.55
51:FS:3:ARG:O	51:FS:4:SER:OG	2.23	0.55
54:FV:418:ILE:HG12	54:FV:483:VAL:HG12	1.88	0.55
1:GA:653:U:H3'	1:GA:654:A:H5''	1.88	0.55
4:GD:55:LYS:NZ	4:GD:60:VAL:HA	2.21	0.55
4:GD:106:LYS:O	4:GD:107:VAL:HB	2.05	0.55
20:GT:50:LEU:HD12	20:GT:50:LEU:H	1.71	0.55
33:HA:411:A:OP1	36:HD:26:ARG:NH2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:1003:G:N2	33:HA:1005:A:H5'	2.21	0.55
33:HA:1192:C:OP2	35:HC:4:LYS:NZ	2.32	0.55
44:HL:24:LEU:O	44:HL:26:ALA:N	2.39	0.55
1:AA:666:A:H4'	12:AL:48:ARG:HD2	1.87	0.55
1:AA:2884:U:H5	27:A0:39:ARG:CZ	2.19	0.55
4:AD:11:MET:HE1	4:AD:192:ALA:HA	1.88	0.55
4:AD:82:PHE:CE2	4:AD:202:ILE:HD11	2.41	0.55
23:AW:18:LYS:HG3	23:AW:19:ARG:H	1.71	0.55
31:A4:36:ARG:HG2	31:A4:37:GLN:H	1.71	0.55
32:A5:26:VAL:CG2	32:A5:115:GLY:H	2.19	0.55
1:CA:528:A:H2	1:CA:2043:C:H4'	1.69	0.55
1:CA:2134:A:H2'	1:CA:2135:A:C8	2.41	0.55
1:EA:528:A:OP2	10:EJ:116:ARG:NH2	2.37	0.55
1:EA:833:A:H2'	1:EA:834:G:C8	2.42	0.55
1:EA:998:C:OP2	17:EQ:57:ARG:NH2	2.39	0.55
5:EE:148:ILE:HA	5:EE:187:VAL:HB	1.87	0.55
11:EK:18:ARG:HB2	11:EK:45:GLU:CG	2.37	0.55
17:EQ:60:TRP:CZ2	17:EQ:93:ILE:HB	2.41	0.55
28:E1:32:LYS:HA	28:E1:51:ALA:HB3	1.89	0.55
33:FA:1491:G:H2'	55:FW:6:5OH:CA	2.35	0.55
54:FV:679:SER:OG	54:FV:680:TYR:N	2.39	0.55
1:GA:2145:C:H3'	1:GA:2146:C:H5''	1.89	0.55
1:GA:2362:C:OP1	30:G3:39:ARG:NH1	2.38	0.55
4:GD:12:THR:HG22	4:GD:13:ARG:N	2.22	0.55
12:GL:101:ILE:HG23	12:GL:105:ILE:HG13	1.88	0.55
1:AA:646:U:C4	1:AA:2368:C:H1'	2.41	0.55
1:AA:933:A:OP2	59:AA:3575:HOH:O	2.18	0.55
1:AA:2336:A:C6	23:AW:40:ARG:HD2	2.42	0.55
4:AD:133:THR:HG23	4:AD:134:HIS:N	2.21	0.55
4:AD:186:LEU:HD21	16:AP:7:LEU:HD21	1.87	0.55
22:AV:6:ALA:HB1	22:AV:40:ILE:CG2	2.36	0.55
25:AY:56:LEU:O	25:AY:57:LEU:HB3	2.04	0.55
26:AZ:8:GLN:O	26:AZ:10:ARG:N	2.39	0.55
33:BA:769:G:H4'	33:BA:1513:A:H4'	1.89	0.55
34:BB:209:VAL:HG23	34:BB:210:THR:H	1.70	0.55
38:BF:64:VAL:HG12	38:BF:65:GLU:N	2.22	0.55
2:CB:11:C:O2'	2:CB:15:A:N6	2.39	0.55
11:CK:5:GLN:HA	11:CK:20:MET:SD	2.46	0.55
25:CY:6:LEU:HD12	25:CY:56:LEU:HD11	1.87	0.55
34:DB:83:ALA:O	34:DB:88:GLN:HG3	2.06	0.55
35:DC:147:LYS:HB2	35:DC:203:PHE:CD2	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DD:107:PHE:CD2	36:DD:145:ILE:HD11	2.41	0.55
1:EA:2138:G:H1'	1:EA:2154:A:C6	2.41	0.55
1:EA:2387:U:H1'	23:EW:38:ARG:NE	2.22	0.55
3:EC:14:HIS:O	3:EC:203:VAL:HG11	2.07	0.55
10:EJ:64:VAL:HG11	10:EJ:68:LYS:HB2	1.89	0.55
39:FG:50:LEU:CD1	39:FG:61:ALA:HB1	2.36	0.55
1:GA:752:A:N6	1:GA:2609:U:H3	2.04	0.55
6:GF:25:MET:O	6:GF:29:ARG:NH1	2.40	0.55
18:GR:10:LYS:NZ	18:GR:23:GLU:OE1	2.31	0.55
35:HC:42:TYR:CZ	35:HC:90:VAL:HG21	2.42	0.55
36:HD:99:ASP:OD1	36:HD:100:ASN:N	2.39	0.55
6:AF:27:VAL:HG13	6:AF:29:ARG:HH11	1.72	0.55
11:AK:99:ILE:HG21	11:AK:119:ALA:HB2	1.89	0.55
33:BA:26:A:N6	33:BA:558:G:O2'	2.35	0.55
33:BA:890:G:O2'	33:BA:906:A:N6	2.39	0.55
33:BA:1033:G:H2'	33:BA:1034:G:C5'	2.37	0.55
40:BH:25:VAL:HG23	40:BH:63:LEU:HD21	1.88	0.55
50:BR:22:ASP:OD1	50:BR:24:LYS:N	2.32	0.55
1:CA:2325:G:C6	1:CA:2326:C:N4	2.73	0.55
3:CC:144:GLU:HA	3:CC:151:GLY:HA2	1.87	0.55
7:CG:112:VAL:HG23	7:CG:113:ASP:N	2.22	0.55
1:EA:644:A:H2'	1:EA:645:C:O4'	2.07	0.55
1:EA:1105:U:H2'	1:EA:1106:G:C8	2.42	0.55
1:EA:1605:C:H2'	1:EA:1606:C:H5'	1.89	0.55
21:EU:39:ASN:HB3	21:EU:62:ALA:O	2.07	0.55
1:GA:1141:U:H4'	1:GA:1142:A:O4'	2.06	0.55
1:GA:1440:U:H2'	1:GA:1441:G:C8	2.42	0.55
9:GI:101:SER:HA	9:GI:140:GLU:HG2	1.89	0.55
33:HA:483:C:O2	48:HP:13:LYS:NZ	2.39	0.55
33:HA:1030:U:H4'	33:HA:1031:C:OP1	2.06	0.55
46:HN:21:PHE:HA	46:HN:25:ALA:HB3	1.88	0.55
54:HV:11:ARG:HE	54:HV:283:ILE:HA	1.72	0.55
1:AA:644:A:H2'	1:AA:645:C:O4'	2.07	0.55
1:AA:846:U:HO2'	1:AA:847:U:P	2.30	0.55
1:AA:1820:U:OP1	3:AC:176:ARG:NH2	2.39	0.55
18:AR:66:HIS:CG	18:AR:94:THR:HG22	2.42	0.55
40:BH:112:THR:HG23	40:BH:115:ALA:H	1.71	0.55
46:BN:31:ILE:HD12	46:BN:31:ILE:N	2.20	0.55
54:BV:223:ILE:O	54:BV:227:ALA:N	2.38	0.55
1:CA:958:U:OP2	13:CM:14:LYS:NZ	2.37	0.55
4:CD:36:GLN:HB3	4:CD:49:GLN:HE21	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:CH:2:GLN:HB2	8:CH:39:ALA:HB3	1.89	0.55
11:CK:105:ARG:HD3	11:CK:105:ARG:N	2.22	0.55
33:DA:73:C:H6	33:DA:73:C:H5'	1.71	0.55
41:DI:44:ALA:HA	41:DI:47:VAL:HG13	1.87	0.55
1:EA:2331:G:O2'	1:EA:2336:A:N1	2.40	0.55
1:EA:2531:A:OP1	7:EG:174:LYS:HE3	2.07	0.55
37:FE:104:GLY:CA	37:FE:122:ASN:HA	2.37	0.55
1:GA:2331:G:O2'	23:GW:39:GLN:O	2.15	0.55
1:GA:2520:C:C6	1:GA:2567:G:H1'	2.41	0.55
6:GF:60:SER:HB2	6:GF:88:VAL:HG11	1.89	0.55
11:GK:107:LEU:O	11:GK:109:SER:N	2.37	0.55
18:GR:66:HIS:CG	18:GR:94:THR:HG22	2.42	0.55
43:HK:87:LYS:HA	43:HK:114:THR:HG22	1.89	0.55
45:HM:11:ASP:OD1	45:HM:12:HIS:N	2.37	0.55
49:HQ:21:ILE:HG23	49:HQ:46:VAL:HB	1.87	0.55
33:BA:685:G:H4'	43:BK:41:ALA:O	2.06	0.55
37:BE:46:VAL:CG2	37:BE:118:ALA:HA	2.36	0.55
33:DA:1279:G:H2'	33:DA:1279:G:N3	2.20	0.55
1:EA:994:C:H3'	17:EQ:53:LYS:HE2	1.89	0.55
1:EA:1607:C:H4'	1:EA:1608:A:O5'	2.06	0.55
5:EE:4:VAL:HG12	5:EE:6:LYS:H	1.72	0.55
32:E5:29:ASP:HA	32:E5:108:VAL:HG11	1.89	0.55
39:FG:4:ARG:HG3	39:FG:5:ARG:N	2.22	0.55
1:GA:1441:G:H2'	1:GA:1442:U:H6	1.71	0.55
1:GA:1938:A:OP2	59:GA:3718:HOH:O	2.18	0.55
1:GA:2406:A:C2	12:GL:69:ARG:NH2	2.75	0.55
33:HA:1491:G:H5'	33:HA:1492:A:OP1	2.06	0.55
34:HB:40:ILE:HG21	34:HB:201:GLY:HA2	1.88	0.55
36:HD:145:ILE:CD1	36:HD:155:VAL:HG21	2.37	0.55
37:HE:45:ARG:HA	37:HE:72:ILE:O	2.06	0.55
43:HK:19:GLY:HA2	43:HK:37:ARG:HG3	1.89	0.55
44:HL:72:HIS:ND1	44:HL:73:ASN:O	2.39	0.55
1:AA:142:A:H2	20:AT:2:ILE:HG23	1.72	0.55
1:AA:1753:G:OP1	16:AP:92:ARG:NE	2.32	0.55
21:AU:73:ASN:OD1	21:AU:76:THR:N	2.29	0.55
35:BC:34:ASP:OD2	46:BN:65:ARG:NH1	2.40	0.55
54:BV:497:LYS:HG2	54:BV:523:TYR:HB2	1.88	0.55
1:CA:265:A:H4'	1:CA:266:G:OP1	2.07	0.55
1:CA:527:C:H4'	1:CA:528:A:O5'	2.06	0.55
33:DA:212:G:H2'	33:DA:213:G:H8	1.71	0.55
42:DJ:7:ARG:NH1	42:DJ:75:ASP:OD2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:DV:697:ALA:O	54:DV:699:ILE:N	2.40	0.55
1:EA:28:A:H1'	1:EA:513:A:C2	2.42	0.55
1:EA:85:G:P	21:EU:27:VAL:HG11	2.47	0.55
19:ES:33:LEU:HD13	19:ES:51:LEU:HD23	1.89	0.55
23:EW:37:VAL:HG12	23:EW:38:ARG:N	2.21	0.55
33:FA:401:C:OP2	36:FD:70:ARG:NH1	2.37	0.55
33:FA:429:U:O3'	36:FD:22:LYS:NZ	2.39	0.55
33:FA:707:U:H2'	33:FA:708:C:C6	2.42	0.55
1:GA:654:A:H3'	1:GA:654:A:N3	2.21	0.55
1:GA:1064:C:H4'	9:GI:89:SER:HB2	1.89	0.55
3:GC:16:VAL:H	3:GC:203:VAL:HG12	1.71	0.55
5:GE:46:GLN:HG3	5:GE:87:ALA:H	1.70	0.55
23:GW:40:ARG:HG3	23:GW:56:HIS:CG	2.42	0.55
28:G1:8:ILE:HD12	28:G1:52:LYS:HB2	1.89	0.55
37:HE:104:GLY:HA2	37:HE:122:ASN:HA	1.88	0.55
1:AA:38:A:O2'	5:AE:43:THR:HA	2.07	0.55
1:AA:42:A:H2'	1:AA:43:G:C5'	2.37	0.55
1:AA:443:A:N7	5:AE:40:ARG:HD2	2.21	0.55
1:AA:460:A:P	29:A2:41:ARG:HH12	2.30	0.55
1:AA:527:C:H4'	1:AA:528:A:O5'	2.07	0.55
1:AA:1458:U:H4'	1:AA:1459:G:O5'	2.07	0.55
1:AA:2328:A:H2'	1:AA:2329:U:C6	2.42	0.55
23:AW:17:ALA:O	23:AW:18:LYS:HB2	2.06	0.55
32:A5:33:VAL:HG12	32:A5:34:THR:N	2.20	0.55
33:BA:1468:A:C2'	33:BA:1469:C:H5'	2.36	0.55
37:BE:111:MET:CE	37:BE:125:ALA:HB1	2.37	0.55
53:BU:41:PRO:O	53:BU:45:ARG:HD3	2.06	0.55
1:CA:586:A:C2	1:CA:1254:A:C2	2.95	0.55
1:CA:1731:G:O2'	1:CA:1732:C:H3'	2.06	0.55
12:CL:77:ILE:HD11	12:CL:108:ALA:HB1	1.88	0.55
33:DA:844:G:H2'	33:DA:845:A:H5''	1.88	0.55
33:DA:1478:U:H2'	33:DA:1479:C:C6	2.42	0.55
54:DV:164:ALA:HB1	54:DV:262:ILE:HD11	1.89	0.55
16:EP:21:PRO:HD3	16:EP:49:ILE:HD12	1.89	0.55
33:FA:1180:A:OP2	41:FI:99:ARG:NH2	2.40	0.55
45:FM:29:ARG:NH2	45:FM:63:PHE:HB2	2.22	0.55
53:FU:40:LYS:N	53:FU:41:PRO:CD	2.69	0.55
3:GC:143:VAL:HB	3:GC:153:LEU:HB2	1.87	0.55
25:GY:23:ARG:HA	25:GY:23:ARG:HE	1.72	0.55
43:HK:80:LYS:O	43:HK:106:ARG:N	2.34	0.55
44:HL:44:LYS:CB	44:HL:45:PRO:HD3	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:HM:74:SER:HA	45:HM:77:ILE:HD12	1.89	0.55
1:AA:279:A:N6	1:AA:361:G:H1'	2.22	0.55
1:AA:1515:A:HO2'	1:AA:1556:C:HO2'	1.43	0.55
1:AA:2724:U:P	4:AD:116:LYS:HZ2	2.30	0.55
16:AP:50:ARG:HD2	16:AP:51:ASN:N	2.22	0.55
33:BA:71:A:O2'	33:BA:72:A:O4'	2.24	0.55
1:CA:858:G:N2	1:CA:919:U:O4	2.39	0.55
4:CD:118:PHE:HZ	14:CN:1:MET:HB2	1.71	0.55
17:CQ:97:ILE:HD13	17:CQ:104:ALA:HB3	1.88	0.55
1:EA:594:U:H2'	1:EA:595:C:C6	2.41	0.55
1:EA:1808:A:N1	24:EX:27:ARG:HD2	2.22	0.55
1:EA:2593:U:O4	59:EA:3781:HOH:O	2.16	0.55
17:EQ:29:ARG:HH11	17:EQ:29:ARG:HG3	1.72	0.55
32:E5:116:GLU:CG	32:E5:117:LEU:H	2.20	0.55
43:FK:88:GLY:H	43:FK:114:THR:CG2	2.20	0.55
46:FN:45:VAL:HG23	46:FN:46:LEU:H	1.72	0.55
1:GA:1059:G:H21	9:GI:127:SER:HA	1.72	0.55
1:GA:1072:C:N4	1:GA:1094:U:N3	2.55	0.55
1:GA:1095:A:C8	54:HV:632:ILE:HB	2.41	0.55
1:GA:1925:C:N3	1:GA:1926:U:C4	2.75	0.55
12:GL:127:VAL:HG11	12:GL:142:ILE:HG21	1.89	0.55
18:GR:42:ALA:HA	18:GR:46:GLU:HB2	1.89	0.55
1:AA:655:A:H4'	1:AA:656:G:OP1	2.05	0.54
32:A5:60:LEU:O	32:A5:64:VAL:HB	2.06	0.54
1:CA:545:U:H3'	1:CA:546:U:H4'	1.89	0.54
1:CA:577:G:O2'	1:CA:1254:A:OP1	2.25	0.54
1:CA:2103:C:H2'	1:CA:2104:C:H5'	1.89	0.54
1:CA:2287:A:C8	1:CA:2289:G:C8	2.94	0.54
23:CW:37:VAL:HB	23:CW:38:ARG:NH1	2.22	0.54
33:DA:573:A:OP2	59:DA:1737:HOH:O	2.18	0.54
34:DB:71:THR:HG22	34:DB:72:LYS:H	1.71	0.54
46:DN:61:ARG:O	46:DN:62:ASN:HB2	2.06	0.54
1:EA:1654:A:O2'	4:ED:118:PHE:CD2	2.60	0.54
4:ED:149:ASN:OD1	4:ED:150:GLN:N	2.40	0.54
16:EP:28:LYS:O	16:EP:80:VAL:O	2.25	0.54
32:E5:71:CYS:CB	32:E5:117:LEU:HD12	2.36	0.54
32:E5:95:LEU:H	32:E5:95:LEU:HD22	1.72	0.54
33:FA:35:G:N3	44:FL:115:SER:OG	2.40	0.54
34:FB:49:PHE:HB2	34:FB:212:TYR:CZ	2.42	0.54
35:FC:77:ILE:HA	35:FC:84:VAL:HG23	1.88	0.54
36:FD:30:THR:HG22	36:FD:31:LYS:H	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:FV:697:ALA:O	54:FV:699:ILE:N	2.40	0.54
1:GA:163:C:O2'	1:GA:164:C:P	2.65	0.54
1:GA:1327:A:N6	1:GA:1328:A:C2	2.74	0.54
1:GA:2589:A:OP1	59:GA:3313:HOH:O	2.18	0.54
15:GO:66:GLY:HA2	15:GO:102:ARG:NH1	2.22	0.54
29:G2:1:MET:SD	29:G2:2:LYS:N	2.77	0.54
38:HF:91:ARG:HG3	38:HF:92:THR:H	1.71	0.54
1:AA:523:C:H4'	1:AA:540:C:O2	2.07	0.54
1:AA:1028:A:N6	1:AA:1125:G:H2'	2.22	0.54
1:AA:1722:A:H2'	1:AA:1723:G:O4'	2.08	0.54
32:A5:25:ALA:N	32:A5:116:GLU:OE1	2.40	0.54
32:A5:25:ALA:CA	32:A5:116:GLU:OE1	2.55	0.54
33:BA:590:U:H2'	33:BA:591:U:C6	2.42	0.54
33:BA:675:A:C6	33:BA:676:A:C5	2.94	0.54
33:BA:725:G:OP1	33:BA:833:G:N2	2.39	0.54
34:BB:19:THR:OG1	34:BB:20:ARG:N	2.40	0.54
35:BC:111:LEU:HD13	35:BC:144:LEU:HD11	1.88	0.54
36:BD:151:LYS:HA	36:BD:155:VAL:HG13	1.89	0.54
50:BR:57:ARG:HE	50:BR:61:ARG:NH2	2.05	0.54
53:BU:26:ALA:HA	53:BU:29:LEU:HB3	1.87	0.54
1:CA:1053:C:C2	1:CA:1054:A:C8	2.94	0.54
1:CA:1731:G:N2	1:CA:1733:G:O6	2.36	0.54
11:CK:99:ILE:HG21	11:CK:119:ALA:HB2	1.89	0.54
33:DA:769:G:H4'	33:DA:1513:A:H4'	1.89	0.54
33:DA:1077:G:N2	33:DA:1080:A:OP2	2.37	0.54
38:DF:64:VAL:HG12	38:DF:65:GLU:N	2.21	0.54
39:DG:57:SER:OG	39:DG:58:GLU:N	2.37	0.54
42:DJ:16:ARG:HA	42:DJ:19:ASP:OD1	2.07	0.54
42:DJ:25:ILE:HG21	42:DJ:74:VAL:HG13	1.88	0.54
1:EA:443:A:N7	5:EE:40:ARG:HD3	2.22	0.54
1:EA:971:G:O2'	1:EA:983:A:N3	2.37	0.54
3:EC:68:ARG:HD3	3:EC:103:ILE:HD11	1.89	0.54
10:EJ:76:HIS:CE1	10:EJ:85:LYS:HB2	2.42	0.54
11:EK:71:ARG:CG	11:EK:105:ARG:NH2	2.71	0.54
16:EP:50:ARG:HG2	16:EP:57:ALA:N	2.22	0.54
32:E5:58:THR:HB	32:E5:82:ILE:HB	1.89	0.54
55:FW:3:SER:O	55:FW:3:SER:OG	2.21	0.54
1:GA:1012:U:OP2	17:GQ:69:ARG:NH1	2.40	0.54
1:GA:2210:U:H4'	1:GA:2211:A:H5'	1.89	0.54
13:GM:50:ARG:HD3	13:GM:65:ILE:HD11	1.88	0.54
36:HD:58:LYS:HG3	36:HD:59:GLN:N	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:191:A:H2'	1:AA:192:C:H6	1.72	0.54
1:AA:1532:A:N6	1:AA:1534:U:O4	2.41	0.54
1:AA:1805:A:N3	3:AC:49:THR:OG1	2.39	0.54
1:AA:2365:G:H4'	23:AW:59:PHE:CE1	2.42	0.54
1:AA:2406:A:C4	12:AL:69:ARG:NH2	2.76	0.54
17:AQ:63:ARG:NH1	17:AQ:96:ASP:HA	2.22	0.54
33:BA:263:A:OP1	52:BT:74:ARG:NH1	2.38	0.54
33:BA:564:C:N4	59:BA:1733:HOH:O	2.26	0.54
33:BA:706:A:C2'	33:BA:707:U:H5'	2.37	0.54
33:BA:1181:G:O2'	33:BA:1182:G:C8	2.60	0.54
33:BA:1198:G:O6	59:BA:1781:HOH:O	2.18	0.54
36:BD:105:MET:SD	36:BD:143:VAL:CG1	2.96	0.54
36:BD:110:THR:HG23	36:BD:113:GLU:H	1.71	0.54
36:BD:156:LYS:NZ	1:CA:1541:C:OP1	2.40	0.54
1:CA:1271:G:OP2	59:CA:3382:HOH:O	2.18	0.54
1:CA:2466:C:OP1	31:C4:4:ARG:HG2	2.07	0.54
4:CD:124:ARG:NH1	4:CD:164:GLN:O	2.40	0.54
8:CH:5:LEU:HD21	8:CH:12:LEU:HD13	1.89	0.54
10:CJ:17:VAL:HG23	10:CJ:137:PRO:HB2	1.88	0.54
35:DC:123:GLN:HB3	35:DC:128:VAL:HG11	1.90	0.54
54:DV:142:ASN:OD1	54:DV:143:LYS:N	2.39	0.54
1:EA:1731:G:H1'	1:EA:1733:G:O4'	2.07	0.54
1:EA:2110:G:O3'	1:EA:2148:G:N2	2.34	0.54
1:EA:2557:G:H2'	1:EA:2558:C:C6	2.42	0.54
4:ED:118:PHE:CD1	4:ED:119:ALA:N	2.75	0.54
5:EE:128:ALA:O	5:EE:130:LYS:N	2.41	0.54
8:EH:2:GLN:O	8:EH:3:VAL:HG22	2.07	0.54
13:EM:24:THR:O	13:EM:24:THR:OG1	2.25	0.54
33:FA:9:G:H5'	37:FE:108:GLY:HA3	1.89	0.54
35:FC:11:ARG:NH2	35:FC:182:ILE:HG13	2.23	0.54
39:FG:18:PHE:CE1	39:FG:58:GLU:HG2	2.42	0.54
48:FP:54:LEU:HD22	48:FP:80:LYS:HD2	1.88	0.54
50:FR:27:ALA:HA	50:FR:30:LYS:HE3	1.89	0.54
1:GA:1385:A:H1'	1:GA:1386:C:C6	2.43	0.54
1:GA:1607:C:H4'	1:GA:1608:A:O5'	2.07	0.54
3:GC:115:ILE:HG22	3:GC:116:GLN:N	2.22	0.54
33:HA:9:G:H5'	37:HE:108:GLY:HA3	1.89	0.54
33:HA:1126:U:N3	33:HA:1280:A:OP1	2.39	0.54
33:HA:1368:A:OP1	41:HI:113:ARG:NH2	2.39	0.54
45:HM:66:GLU:O	45:HM:69:LEU:N	2.40	0.54
50:HR:34:THR:OG1	50:HR:35:GLU:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:37:C:O2'	5:AE:45:ALA:HA	2.08	0.54
1:AA:2152:G:H2'	1:AA:2153:C:O4'	2.07	0.54
1:AA:2615:U:C2	27:A0:3:GLN:HA	2.42	0.54
6:AF:105:ILE:HD11	6:AF:138:PRO:HG2	1.90	0.54
7:AG:84:LYS:HG3	7:AG:131:VAL:HA	1.87	0.54
17:AQ:78:PHE:CZ	17:AQ:82:LEU:HD11	2.43	0.54
33:BA:71:A:C2	33:BA:72:A:C4	2.96	0.54
1:CA:1428:C:C5	1:CA:1569:A:H5''	2.43	0.54
1:CA:2742:G:OP1	31:C4:36:ARG:HD3	2.07	0.54
11:CK:105:ARG:HD3	11:CK:105:ARG:H	1.73	0.54
16:CP:63:ILE:HA	16:CP:68:GLY:HA2	1.89	0.54
33:DA:482:A:C2	33:DA:483:C:H1'	2.42	0.54
33:DA:1084:G:C5	33:DA:1085:U:C4	2.96	0.54
52:DT:70:ASN:OD1	52:DT:70:ASN:N	2.41	0.54
1:EA:666:A:H4'	12:EL:48:ARG:HD2	1.89	0.54
1:EA:2146:C:H4'	1:EA:2147:A:OP1	2.06	0.54
11:EK:70:ARG:O	11:EK:71:ARG:HB2	2.08	0.54
16:EP:19:PHE:N	16:EP:19:PHE:CD1	2.76	0.54
17:EQ:91:ARG:HB2	17:EQ:94:LEU:HB2	1.89	0.54
33:FA:263:A:P	52:FT:74:ARG:NH1	2.81	0.54
1:GA:1079:C:C2'	1:GA:1080:A:H5''	2.38	0.54
1:GA:1442:U:H2'	1:GA:1443:U:C6	2.42	0.54
1:GA:2205:A:OP1	3:GC:67:LYS:NZ	2.40	0.54
3:GC:255:LYS:O	3:GC:256:THR:HG22	2.07	0.54
12:GL:87:GLY:O	12:GL:89:VAL:N	2.41	0.54
33:HA:392:C:OP1	48:HP:8:ARG:NH2	2.40	0.54
1:AA:1080:A:H1'	9:AI:127:SER:HA	1.88	0.54
1:AA:1722:A:C6	1:AA:1723:G:C4	2.96	0.54
2:AB:41:G:H2'	6:AF:65:LEU:HD13	1.89	0.54
9:AI:102:ARG:H	9:AI:102:ARG:HD2	1.72	0.54
10:AJ:4:PHE:CG	10:AJ:5:THR:N	2.75	0.54
18:AR:60:LYS:H	18:AR:100:GLY:HA3	1.72	0.54
20:AT:32:LEU:H	20:AT:83:ALA:HB3	1.73	0.54
34:BB:69:VAL:HG23	34:BB:162:VAL:HB	1.89	0.54
50:BR:25:ASP:O	50:BR:28:THR:N	2.41	0.54
1:CA:1993:U:H4'	4:CD:133:THR:HG21	1.88	0.54
23:CW:18:LYS:HA	23:CW:36:ILE:HB	1.90	0.54
33:DA:962:C:H1'	33:DA:1201:A:H62	1.71	0.54
34:DB:67:LEU:HD21	34:DB:91:VAL:HG23	1.88	0.54
38:DF:75:GLU:O	38:DF:78:PHE:N	2.38	0.54
54:DV:591:LEU:O	54:DV:594:LYS:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:479:A:N3	1:EA:481:G:H5''	2.21	0.54
1:EA:518:G:H4'	19:ES:18:ARG:NH1	2.22	0.54
1:EA:958:U:H2'	2:EB:89:U:C6	2.43	0.54
1:EA:1654:A:O2'	4:ED:118:PHE:CG	2.60	0.54
1:EA:2155:U:H2'	1:EA:2156:G:H5'	1.90	0.54
1:EA:2447:G:N2	59:EA:3680:HOH:O	2.03	0.54
3:EC:68:ARG:NE	3:EC:103:ILE:HD11	2.22	0.54
20:ET:54:GLU:HB2	20:ET:88:LYS:HG3	1.90	0.54
24:EX:70:LEU:HD13	24:EX:75:GLU:CB	2.38	0.54
32:E5:23:LEU:H	32:E5:87:GLU:HB2	1.73	0.54
37:FE:111:MET:HE1	37:FE:125:ALA:HB1	1.90	0.54
41:FI:54:LEU:HD21	41:FI:101:ALA:CB	2.37	0.54
52:FT:62:ALA:HA	52:FT:67:ILE:HG22	1.88	0.54
1:GA:1386:C:H2'	1:GA:1387:A:C8	2.42	0.54
1:GA:1794:A:H2'	1:GA:1795:C:C6	2.42	0.54
6:GF:3:LEU:HA	6:GF:6:TYR:HB2	1.88	0.54
6:GF:101:ARG:HA	6:GF:104:THR:HG22	1.89	0.54
9:GI:18:ASN:N	9:GI:19:PRO:HD3	2.21	0.54
22:GV:2:PHE:HB3	22:GV:50:MET:HE1	1.90	0.54
33:HA:1123:U:H4'	42:HJ:39:PRO:HD2	1.88	0.54
43:HK:70:CYS:SG	43:HK:71:ALA:N	2.81	0.54
1:AA:84:A:N1	1:AA:98:G:O2'	2.36	0.54
1:AA:1779:U:H5	1:AA:1784:A:N7	2.05	0.54
5:AE:108:ILE:HD12	12:AL:2:ARG:NH2	2.23	0.54
33:BA:710:G:OP1	38:BF:53:LYS:NZ	2.34	0.54
36:BD:197:GLU:O	36:BD:200:ILE:N	2.40	0.54
43:BK:35:THR:HG21	43:BK:39:GLY:HA2	1.89	0.54
49:BQ:50:ASN:O	49:BQ:52:GLU:N	2.40	0.54
1:CA:138:U:OP1	1:CA:139:U:H3'	2.07	0.54
1:CA:323:C:N4	1:CA:333:G:N7	2.56	0.54
1:CA:475:C:C4	1:CA:481:G:O6	2.60	0.54
1:CA:1031:G:H4'	31:C4:6:SER:HB2	1.89	0.54
1:CA:1485:U:H2'	1:CA:1486:U:C6	2.42	0.54
10:CJ:4:PHE:CG	10:CJ:5:THR:N	2.76	0.54
24:CX:36:ARG:HG2	24:CX:47:THR:HG22	1.89	0.54
33:DA:250:A:H4'	33:DA:251:G:O5'	2.06	0.54
33:DA:446:G:N2	33:DA:489:C:C2	2.75	0.54
1:EA:1025:G:H4'	1:EA:1026:G:OP2	2.07	0.54
11:EK:76:VAL:HB	16:EP:72:VAL:HG22	1.89	0.54
16:EP:4:ILE:HG22	16:EP:5:LYS:H	1.72	0.54
41:FI:45:ARG:O	41:FI:47:VAL:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:FL:24:LEU:O	44:FL:26:ALA:N	2.40	0.54
1:GA:322:A:H5'	1:GA:340:A:H1'	1.88	0.54
1:GA:1067:A:N3	54:HV:645:GLN:NE2	2.56	0.54
2:GB:78:A:OP2	22:GV:18:ARG:NH2	2.34	0.54
12:GL:74:THR:HG22	12:GL:107:PHE:HB2	1.89	0.54
33:HA:1478:U:H2'	33:HA:1479:C:C6	2.43	0.54
1:AA:495:G:N3	19:AS:61:ASN:ND2	2.49	0.54
1:AA:523:C:O3'	1:AA:539:G:N2	2.41	0.54
1:AA:594:U:H2'	1:AA:595:C:C6	2.43	0.54
1:AA:1297:C:O2	1:AA:1643:G:N2	2.31	0.54
1:AA:1336:A:P	20:AT:68:LYS:HZ2	2.31	0.54
1:AA:1509:A:HO2'	1:AA:1510:G:P	2.31	0.54
1:AA:2880:C:H1'	14:AN:92:GLY:H	1.73	0.54
10:AJ:6:ALA:HB3	10:AJ:45:THR:HG21	1.89	0.54
13:AM:35:ALA:O	13:AM:37:GLY:N	2.37	0.54
23:AW:37:VAL:HG13	23:AW:55:ASP:C	2.28	0.54
38:BF:9:MET:HG3	38:BF:85:ILE:HG13	1.90	0.54
49:BQ:12:VAL:HG12	49:BQ:13:VAL:H	1.72	0.54
1:CA:2101:A:C2	1:CA:2102:G:N2	2.76	0.54
4:CD:151:THR:HG22	4:CD:152:PRO:HD3	1.88	0.54
7:CG:84:LYS:N	7:CG:84:LYS:HD2	2.22	0.54
20:CT:29:THR:CA	20:CT:86:THR:HA	2.38	0.54
1:EA:170:U:H2'	1:EA:171:U:C6	2.43	0.54
4:ED:68:PHE:C	4:ED:73:VAL:HG12	2.27	0.54
33:FA:913:A:H4'	33:FA:914:A:O5'	2.07	0.54
47:FO:71:LYS:HD3	47:FO:78:TYR:CZ	2.43	0.54
1:GA:823:C:H42	1:GA:834:G:H1	1.56	0.54
1:GA:1079:C:H2'	1:GA:1080:A:H5''	1.89	0.54
1:GA:1869:G:H3'	1:GA:1870:C:H5''	1.90	0.54
1:GA:2135:A:N6	1:GA:2156:G:O2'	2.41	0.54
50:HR:32:TYR:CD2	50:HR:55:LEU:HD21	2.43	0.54
54:HV:127:TRP:HH2	54:HV:262:ILE:HD13	1.72	0.54
1:AA:945:A:C5	1:AA:2448:A:C2	2.95	0.54
1:AA:2280:G:C2	1:AA:2281:A:C8	2.96	0.54
9:AI:20:SER:HB3	9:AI:21:PRO:HD3	1.89	0.54
12:AL:79:LEU:H	12:AL:113:ALA:HB3	1.73	0.54
14:AN:37:THR:OG1	14:AN:40:LYS:HD2	2.08	0.54
32:A5:71:CYS:HA	32:A5:117:LEU:HD11	1.87	0.54
53:BU:44:GLU:O	53:BU:48:ALA:N	2.40	0.54
1:CA:324:A:N6	1:CA:338:G:O2'	2.41	0.54
1:CA:983:A:N6	1:CA:984:A:N1	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:C1:50:GLU:HG2	28:C1:51:ALA:N	2.22	0.54
33:DA:1086:U:O2'	33:DA:1087:G:H5'	2.08	0.54
39:DG:15:ASP:OD1	39:DG:44:TYR:OH	2.24	0.54
1:EA:2324:U:H3'	1:EA:2325:G:C5'	2.36	0.54
7:EG:39:ALA:HA	7:EG:57:TYR:CD2	2.43	0.54
9:EI:89:SER:HA	9:EI:97:VAL:HG21	1.90	0.54
23:EW:23:LYS:CE	23:EW:24:ARG:HB3	2.38	0.54
33:FA:951:G:OP2	45:FM:101:ARG:NH2	2.41	0.54
33:FA:972:C:P	42:FJ:59:LYS:HD3	2.47	0.54
34:FB:46:VAL:HA	34:FB:49:PHE:CZ	2.43	0.54
34:FB:57:ASN:HB2	34:FB:219:THR:CG2	2.37	0.54
52:FT:68:HIS:C	52:FT:69:LYS:HG3	2.28	0.54
1:GA:996:A:H4'	17:GQ:91:ARG:NE	2.23	0.54
6:GF:39:VAL:HG13	6:GF:40:GLY:H	1.73	0.54
33:HA:204:G:H3'	33:HA:205:A:H5''	1.90	0.54
33:HA:409:U:H5''	36:HD:25:VAL:CG2	2.38	0.54
36:HD:72:PHE:CE2	36:HD:200:ILE:HD11	2.42	0.54
37:HE:81:LEU:CD2	37:HE:123:VAL:HG12	2.37	0.54
38:HF:51:ILE:HG21	38:HF:85:ILE:HD12	1.90	0.54
54:HV:221:ASN:HA	54:HV:224:GLU:HB3	1.90	0.54
1:AA:265:A:H4'	1:AA:266:G:OP1	2.07	0.54
1:AA:383:C:N3	1:AA:391:A:N6	2.56	0.54
1:AA:460:A:OP1	29:A2:41:ARG:NH1	2.41	0.54
1:AA:645:C:O2	1:AA:645:C:O2'	2.21	0.54
1:AA:855:G:C2	23:AW:23:LYS:HD2	2.43	0.54
1:AA:2313:C:H2'	1:AA:2314:A:H8	1.73	0.54
16:AP:63:ILE:HA	16:AP:68:GLY:HA2	1.90	0.54
17:AQ:81:GLY:HA2	17:AQ:116:LEU:CD1	2.38	0.54
41:BI:29:VAL:HB	41:BI:64:TYR:HA	1.89	0.54
41:BI:96:SER:O	41:BI:100:LYS:HG3	2.07	0.54
43:BK:111:THR:HA	53:BU:4:ILE:O	2.07	0.54
1:CA:1028:A:N6	1:CA:1125:G:H2'	2.23	0.54
1:CA:1386:C:H2'	1:CA:1387:A:C8	2.43	0.54
1:CA:1604:C:H5'	59:CA:3404:HOH:O	2.08	0.54
3:CC:63:ILE:HG22	3:CC:64:VAL:N	2.22	0.54
23:CW:39:GLN:HG3	23:CW:41:GLY:O	2.07	0.54
24:CX:34:SER:O	24:CX:34:SER:OG	2.26	0.54
34:DB:13:VAL:HG23	34:DB:207:ARG:NH1	2.23	0.54
1:EA:910:A:N3	1:EA:2264:C:O2'	2.38	0.54
1:EA:2582:G:C2	1:EA:2583:G:C8	2.95	0.54
5:EE:150:THR:HG21	5:EE:153:LEU:HA	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:EF:175:PRO:O	6:EF:176:PHE:CG	2.60	0.54
39:FG:97:ASN:OD1	39:FG:97:ASN:N	2.41	0.54
54:FV:556:GLY:HA3	54:FV:597:ALA:HB3	1.88	0.54
12:GL:110:VAL:O	12:GL:111:ILE:HB	2.07	0.54
33:HA:451:A:H4'	33:HA:452:A:O5'	2.08	0.54
33:HA:954:G:H2'	33:HA:955:U:C6	2.42	0.54
33:HA:1053:G:N7	33:HA:1200:C:H5''	2.23	0.54
35:HC:7:PRO:HG2	35:HC:184:TYR:CG	2.43	0.54
43:HK:53:ARG:NH2	43:HK:54:GLY:O	2.41	0.54
54:HV:646:GLU:O	54:HV:647:SER:HB2	2.08	0.54
1:AA:192:C:OP1	59:AA:3733:HOH:O	2.19	0.54
6:AF:35:LEU:N	6:AF:35:LEU:HD22	2.23	0.54
33:BA:600:A:H2'	33:BA:601:G:C8	2.43	0.54
33:BA:1237:C:O2	33:BA:1334:G:O2'	2.24	0.54
33:BA:1316:G:N2	33:BA:1318:A:H3'	2.23	0.54
37:BE:44:GLY:HA2	37:BE:76:LEU:HD13	1.90	0.54
39:BG:57:SER:OG	39:BG:58:GLU:N	2.37	0.54
49:BQ:50:ASN:O	49:BQ:50:ASN:ND2	2.41	0.54
53:BU:44:GLU:HA	53:BU:47:ARG:HB3	1.90	0.54
1:CA:597:G:O2'	12:CL:11:GLY:O	2.25	0.54
1:CA:1272:A:OP1	59:CA:3382:HOH:O	2.18	0.54
1:CA:1354:A:OP1	3:CC:35:LYS:NZ	2.40	0.54
1:CA:1936:A:H2	1:CA:1943:U:C5	2.26	0.54
1:CA:2502:G:H5'	1:CA:2503:A:H5''	1.89	0.54
4:CD:106:LYS:HB3	4:CD:206:ALA:CB	2.38	0.54
33:DA:426:U:H5''	36:DD:37:ALA:HB1	1.90	0.54
33:DA:652:U:O2'	33:DA:653:U:OP2	2.21	0.54
33:DA:1417:G:O6	59:DA:1792:HOH:O	2.18	0.54
44:DL:24:LEU:O	44:DL:26:ALA:N	2.41	0.54
1:EA:2800:A:H3'	1:EA:2801:G:C5'	2.38	0.54
20:ET:32:LEU:H	20:ET:83:ALA:HB3	1.73	0.54
33:FA:484:G:H4'	33:FA:485:U:O5'	2.08	0.54
44:FL:3:THR:HG22	44:FL:5:ASN:N	2.23	0.54
1:GA:1070:A:C2	9:GI:8:VAL:HA	2.42	0.54
1:GA:1095:A:H61	54:HV:623:THR:HG21	1.72	0.54
1:GA:2547:A:H2'	1:GA:2548:U:C6	2.42	0.54
4:GD:62:LYS:HB2	4:GD:63:PRO:HD3	1.89	0.54
10:GJ:64:VAL:HG13	10:GJ:65:THR:N	2.23	0.54
12:GL:77:ILE:CD1	12:GL:108:ALA:HB1	2.38	0.54
21:GU:98:ASN:O	21:GU:100:GLU:N	2.39	0.54
33:HA:211:G:H3'	33:HA:211:G:N3	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:1077:G:N2	33:HA:1080:A:OP2	2.38	0.54
41:HI:10:GLY:HA2	41:HI:81:HIS:CD2	2.43	0.54
42:HJ:35:GLN:CG	42:HJ:37:ARG:HE	2.21	0.54
1:AA:271:G:H4'	1:AA:272:A:OP1	2.08	0.53
1:AA:322:A:H5'	1:AA:340:A:H1'	1.90	0.53
1:AA:2061:G:OP2	59:AA:3490:HOH:O	2.18	0.53
15:AO:108:ASP:HA	15:AO:111:ARG:HG3	1.91	0.53
33:BA:51:A:H4'	33:BA:52:C:O5'	2.08	0.53
33:BA:1331:G:O2'	33:BA:1332:A:P	2.65	0.53
43:BK:82:LEU:HD22	43:BK:105:PHE:CD1	2.43	0.53
1:CA:2311:A:N3	6:CF:84:ILE:HD11	2.23	0.53
20:CT:39:THR:HB	20:CT:42:GLU:HB2	1.88	0.53
33:DA:509:A:C6	33:DA:510:A:N1	2.76	0.53
34:DB:209:VAL:HG23	34:DB:210:THR:H	1.73	0.53
51:DS:47:LEU:HD23	51:DS:48:THR:H	1.72	0.53
1:EA:558:U:H5''	10:EJ:111:LYS:HE3	1.90	0.53
32:E5:27:VAL:HG13	32:E5:83:ALA:HB3	1.90	0.53
33:FA:501:C:H2'	33:FA:502:A:H8	1.73	0.53
1:GA:1603:A:OP1	59:GA:3408:HOH:O	2.18	0.53
1:GA:2886:A:C2	1:GA:2887:A:H1'	2.43	0.53
5:GE:46:GLN:HG3	5:GE:87:ALA:HB3	1.89	0.53
33:HA:859:G:OP2	33:HA:869:G:N1	2.38	0.53
33:HA:1011:C:H2'	33:HA:1012:A:H5'	1.90	0.53
34:HB:67:LEU:HD21	34:HB:91:VAL:HG23	1.88	0.53
41:HI:44:ALA:HA	41:HI:47:VAL:HG13	1.90	0.53
1:AA:171:U:H2'	1:AA:172:A:H8	1.73	0.53
1:AA:1141:U:H4'	1:AA:1142:A:O4'	2.08	0.53
1:AA:1857:G:C2	1:AA:1884:G:N3	2.76	0.53
6:AF:137:PHE:CD1	6:AF:138:PRO:HD2	2.43	0.53
32:A5:15:VAL:HG22	32:A5:66:GLY:HA3	1.89	0.53
32:A5:95:LEU:HD22	32:A5:95:LEU:H	1.74	0.53
33:BA:668:G:H4'	47:BO:48:LYS:HB2	1.89	0.53
33:BA:1493:A:H3'	55:BW:3:SER:HB2	1.90	0.53
34:BB:107:ARG:HG2	34:BB:111:LYS:HE3	1.90	0.53
43:BK:22:HIS:O	43:BK:32:VAL:HA	2.07	0.53
43:BK:63:ALA:HB2	43:BK:92:GLY:HA3	1.90	0.53
1:CA:546:U:O2'	1:CA:547:A:H4'	2.08	0.53
1:CA:716:A:P	47:DO:89:ARG:HH12	2.31	0.53
1:CA:2353:G:H1'	23:CW:30:VAL:HG12	1.89	0.53
16:CP:108:ARG:NH1	33:DA:1464:U:OP2	2.38	0.53
39:DG:145:ALA:C	39:DG:147:ALA:H	2.10	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1288:G:C4	1:EA:1327:A:C2	2.97	0.53
3:EC:2:VAL:HG11	3:EC:201:LEU:HD23	1.88	0.53
7:EG:10:VAL:HG23	7:EG:10:VAL:O	2.08	0.53
8:EH:8:LYS:O	8:EH:13:GLY:HA3	2.09	0.53
12:EL:95:LEU:HD22	12:EL:100:ILE:HD11	1.89	0.53
32:E5:93:ALA:N	32:E5:130:PRO:HG2	2.23	0.53
33:FA:881:G:OP2	44:FL:9:ARG:NH2	2.41	0.53
34:FB:83:ALA:HA	34:FB:88:GLN:NE2	2.23	0.53
1:GA:566:U:OP1	59:GA:3331:HOH:O	2.18	0.53
1:GA:966:G:O6	59:GA:3333:HOH:O	2.17	0.53
1:GA:1582:C:O2'	1:GA:1585:C:N3	2.32	0.53
1:GA:1605:C:C2'	1:GA:1606:C:H5'	2.37	0.53
1:GA:1906:G:H5'	1:GA:1906:G:H8	1.72	0.53
1:GA:2354:C:H4'	23:GW:31:LEU:HD22	1.89	0.53
10:GJ:64:VAL:HG22	10:GJ:68:LYS:HB2	1.89	0.53
12:GL:90:VAL:HG13	12:GL:95:LEU:HD21	1.91	0.53
19:GS:2:GLU:HA	19:GS:108:SER:CB	2.38	0.53
34:HB:46:VAL:HB	34:HB:47:PRO:HD3	1.89	0.53
54:HV:585:ASP:O	54:HV:586:VAL:HB	2.09	0.53
6:AF:33:ILE:O	6:AF:90:LEU:N	2.41	0.53
12:AL:87:GLY:O	12:AL:89:VAL:N	2.42	0.53
16:AP:33:GLU:OE2	33:BA:345:C:H4'	2.08	0.53
29:A2:1:MET:SD	29:A2:2:LYS:N	2.82	0.53
33:BA:981:U:H5	33:BA:982:U:HO2'	1.55	0.53
33:BA:1452:C:H4'	33:BA:1453:G:O5'	2.09	0.53
34:BB:46:VAL:HB	34:BB:47:PRO:HD3	1.90	0.53
44:BL:44:LYS:CB	44:BL:45:PRO:CD	2.86	0.53
11:CK:66:LYS:HA	11:CK:79:PHE:O	2.09	0.53
20:CT:1:MET:HG2	20:CT:2:ILE:N	2.23	0.53
1:EA:861:A:C2	1:EA:917:A:C4	2.97	0.53
1:EA:2720:U:OP1	16:EP:52:ARG:NH2	2.38	0.53
14:EN:12:ARG:NE	14:EN:20:MET:HE3	2.23	0.53
15:EO:34:HIS:O	15:EO:102:ARG:NH1	2.41	0.53
29:E2:44:VAL:O	29:E2:44:VAL:HG12	2.09	0.53
33:FA:756:C:HO2'	40:FH:2:SER:N	2.07	0.53
34:FB:82:ALA:O	34:FB:88:GLN:NE2	2.41	0.53
42:FJ:19:ASP:HA	42:FJ:22:THR:HG22	1.90	0.53
45:FM:54:ASP:HA	45:FM:57:ARG:HB3	1.89	0.53
52:FT:28:MET:HE1	52:FT:32:ILE:HD11	1.89	0.53
1:GA:1105:U:H2'	1:GA:1106:G:C8	2.44	0.53
1:GA:1627:G:C2	1:GA:1628:G:C8	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2101:A:N6	1:GA:2187:U:O4	2.40	0.53
1:GA:2269:G:O2'	23:GW:18:LYS:HG2	2.08	0.53
1:GA:2849:U:OP2	16:GP:92:ARG:NH1	2.41	0.53
6:GF:3:LEU:HD13	6:GF:6:TYR:CD2	2.44	0.53
16:GP:58:PHE:CD1	16:GP:75:THR:HG22	2.43	0.53
33:HA:129:A:H1'	33:HA:130:A:C8	2.43	0.53
34:HB:20:ARG:HA	34:HB:20:ARG:HH11	1.72	0.53
36:HD:3:ARG:CZ	36:HD:115:ARG:NE	2.71	0.53
1:AA:945:A:C4	1:AA:2448:A:C2	2.96	0.53
1:AA:1069:A:C4	1:AA:1073:A:N7	2.76	0.53
1:AA:1447:C:H2'	1:AA:1448:G:C8	2.44	0.53
7:AG:104:LEU:HB2	7:AG:112:VAL:HG21	1.88	0.53
9:AI:131:THR:O	9:AI:134:SER:OG	2.27	0.53
25:AY:28:LEU:HD21	25:AY:42:LEU:HD23	1.91	0.53
28:A1:7:LYS:HA	28:A1:23:THR:HG22	1.91	0.53
33:BA:299:G:O6	59:BA:1838:HOH:O	2.19	0.53
33:BA:880:C:OP1	44:BL:5:ASN:ND2	2.37	0.53
33:BA:1297:G:OP1	33:BA:1302:C:N4	2.41	0.53
35:BC:60:PRO:HB3	35:BC:65:ARG:NH2	2.23	0.53
37:BE:106:ILE:HD11	37:BE:124:LEU:CD2	2.38	0.53
39:BG:145:ALA:C	39:BG:147:ALA:H	2.12	0.53
42:BJ:88:MET:O	42:BJ:90:LEU:N	2.42	0.53
48:BP:36:VAL:HG11	48:BP:57:ILE:HG12	1.89	0.53
49:BQ:59:VAL:HG11	49:BQ:75:LEU:HD23	1.91	0.53
52:BT:83:ILE:O	52:BT:87:ALA:HB3	2.08	0.53
1:CA:42:A:H2'	1:CA:43:G:H5'	1.91	0.53
1:CA:2698:U:H2'	1:CA:2699:C:C6	2.43	0.53
13:CM:1:MET:O	13:CM:2:LEU:HB2	2.08	0.53
33:DA:1099:G:H2'	33:DA:1100:C:C6	2.43	0.53
34:DB:53:LEU:HD22	34:DB:56:LEU:HD23	1.91	0.53
43:DK:24:HIS:HB3	43:DK:31:ILE:HG13	1.89	0.53
1:EA:85:G:OP1	21:EU:6:ARG:N	2.40	0.53
1:EA:1088:A:O2'	1:EA:1089:A:P	2.67	0.53
3:EC:255:LYS:O	3:EC:257:ARG:N	2.41	0.53
23:EW:41:GLY:C	23:EW:43:LYS:H	2.09	0.53
33:FA:1228:C:OP1	45:FM:107:ARG:NH2	2.42	0.53
33:FA:1238:A:H5'	33:FA:1336:C:H41	1.73	0.53
35:FC:118:ASP:O	35:FC:121:THR:HG22	2.08	0.53
1:GA:967:U:H2'	1:GA:968:C:C6	2.43	0.53
1:GA:1568:G:H4'	3:GC:58:LYS:HB3	1.91	0.53
1:GA:2393:U:H5'	12:GL:60:ARG:O	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GC:16:VAL:N	3:GC:203:VAL:HG12	2.22	0.53
3:GC:104:LEU:O	3:GC:105:ALA:HB3	2.09	0.53
4:GD:106:LYS:HD3	4:GD:206:ALA:HB3	1.89	0.53
12:GL:85:VAL:CG2	12:GL:94:THR:HG22	2.39	0.53
33:HA:1496:C:C5	33:HA:1497:G:C5	2.96	0.53
1:AA:451:U:C2	1:AA:453:A:N7	2.77	0.53
1:AA:1913:A:H4'	1:AA:1914:C:H5''	1.91	0.53
1:AA:2314:A:OP1	6:AF:87:LYS:NZ	2.38	0.53
2:AB:116:G:H4'	15:AO:54:VAL:HG12	1.89	0.53
21:AU:39:ASN:HD22	21:AU:64:ILE:CG2	2.22	0.53
33:BA:1527:U:OP2	53:BU:39:GLU:HG2	2.08	0.53
40:BH:44:GLY:O	40:BH:64:LYS:NZ	2.41	0.53
1:CA:570:G:O6	59:CA:3678:HOH:O	2.16	0.53
1:CA:2039:U:H2'	1:CA:2040:G:C8	2.44	0.53
3:CC:172:THR:HG22	3:CC:182:LYS:HG2	1.90	0.53
8:CH:27:ARG:HH12	24:CX:63:ILE:HG12	1.72	0.53
33:DA:389:A:C6	33:DA:390:U:H1'	2.44	0.53
35:DC:156:ARG:H	35:DC:163:ALA:HA	1.74	0.53
1:EA:322:A:H5'	1:EA:340:A:H1'	1.91	0.53
1:EA:2375:G:N2	1:EA:2378:A:OP2	2.41	0.53
22:EV:75:GLN:HB2	22:EV:92:VAL:HG23	1.90	0.53
54:FV:281:ALA:HA	54:FV:284:ASP:HB2	1.90	0.53
1:GA:2305:U:H1'	6:GF:132:ARG:HA	1.91	0.53
21:GU:73:ASN:HA	21:GU:95:PHE:HE2	1.73	0.53
33:HA:975:A:H8	33:HA:1357:A:HO2'	1.55	0.53
35:HC:36:ASP:OD1	35:HC:59:ARG:NH1	2.32	0.53
36:HD:105:MET:SD	36:HD:143:VAL:CG1	2.96	0.53
38:HF:18:VAL:HG11	38:HF:58:HIS:CD2	2.43	0.53
43:HK:57:LYS:H	43:HK:57:LYS:HD2	1.74	0.53
1:AA:1913:A:H4'	1:AA:1914:C:C5'	2.39	0.53
2:AB:60:C:C2	2:AB:61:G:C8	2.97	0.53
3:AC:144:GLU:HA	3:AC:151:GLY:HA2	1.89	0.53
15:AO:36:TYR:N	15:AO:36:TYR:CD1	2.75	0.53
18:AR:39:LEU:HA	18:AR:49:ILE:HG21	1.89	0.53
33:BA:405:U:O4	36:BD:2:ALA:N	2.41	0.53
36:BD:170:TRP:CD2	36:BD:186:PRO:HB3	2.44	0.53
37:BE:95:PHE:CD1	37:BE:95:PHE:C	2.82	0.53
40:BH:18:GLN:NE2	40:BH:70:ALA:HB1	2.24	0.53
43:BK:107:ILE:CG2	53:BU:8:GLU:HB2	2.38	0.53
46:BN:49:GLN:HA	46:BN:51:LEU:CD2	2.38	0.53
49:BQ:19:LYS:O	49:BQ:47:HIS:ND1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:CJ:43:GLU:O	10:CJ:45:THR:N	2.42	0.53
11:CK:76:VAL:HB	16:CP:72:VAL:HG22	1.90	0.53
33:DA:129:A:H1'	33:DA:130:A:C8	2.44	0.53
33:DA:404:G:C2	33:DA:405:U:C2	2.97	0.53
33:DA:484:G:H4'	33:DA:485:U:O5'	2.09	0.53
34:DB:46:VAL:HA	34:DB:49:PHE:CE2	2.43	0.53
51:DS:36:ARG:HH12	51:DS:77:THR:CG2	2.22	0.53
1:EA:573:U:O2'	1:EA:574:A:H3'	2.07	0.53
1:EA:2038:G:H2'	1:EA:2039:U:O4'	2.08	0.53
1:EA:2267:A:H5''	1:EA:2268:A:H5'	1.90	0.53
1:EA:2286:G:OP2	28:E1:5:ARG:NH2	2.42	0.53
2:EB:37:C:C5	2:EB:38:C:C4	2.96	0.53
23:EW:49:ASN:OD1	23:EW:49:ASN:C	2.46	0.53
34:FB:70:GLY:HA2	34:FB:163:ILE:HG22	1.89	0.53
37:FE:114:VAL:CG1	37:FE:137:VAL:HG23	2.39	0.53
42:FJ:37:ARG:CZ	42:FJ:77:VAL:HG21	2.37	0.53
1:GA:1198:U:O3'	17:GQ:4:LYS:HE3	2.08	0.53
11:GK:24:VAL:HG12	11:GK:30:ARG:HD2	1.91	0.53
1:AA:672:C:C2	1:AA:809:G:N2	2.77	0.53
3:AC:16:VAL:N	3:AC:203:VAL:HG12	2.24	0.53
6:AF:33:ILE:HB	6:AF:90:LEU:HB2	1.91	0.53
6:AF:34:THR:HG22	6:AF:89:THR:HG23	1.90	0.53
20:AT:49:LYS:HB2	20:AT:50:LEU:HD12	1.91	0.53
43:BK:23:ILE:HD11	43:BK:86:VAL:HG22	1.90	0.53
1:CA:971:G:OP2	1:CA:974:G:N2	2.42	0.53
17:CQ:4:LYS:HG3	17:CQ:5:ARG:H	1.74	0.53
28:C1:39:ASP:OD1	28:C1:41:VAL:HG22	2.08	0.53
33:DA:600:A:H2'	33:DA:601:G:H8	1.74	0.53
33:DA:1468:A:C2'	33:DA:1469:C:H5'	2.38	0.53
36:DD:48:LEU:HD21	36:DD:53:VAL:N	2.23	0.53
48:DP:8:ARG:O	48:DP:29:ASN:ND2	2.42	0.53
1:EA:1300:G:H4'	1:EA:1301:A:H5'	1.90	0.53
1:EA:1478:G:H1	1:EA:1513:U:H3	1.56	0.53
1:EA:2152:G:H2'	1:EA:2153:C:H5'	1.91	0.53
7:EG:84:LYS:HG3	7:EG:132:LEU:H	1.72	0.53
20:ET:44:LYS:HG3	20:ET:55:VAL:HG11	1.89	0.53
23:EW:49:ASN:OD1	23:EW:50:VAL:N	2.42	0.53
31:E4:22:VAL:HG11	31:E4:24:ARG:NH1	2.24	0.53
33:FA:643:C:H5''	40:FH:32:LEU:HD22	1.90	0.53
1:GA:243:U:OP1	30:G3:5:THR:OG1	2.20	0.53
1:GA:1508:A:H4'	1:GA:1508:A:OP1	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:GD:151:THR:CG2	4:GD:152:PRO:HD3	2.39	0.53
31:G4:22:VAL:HG21	31:G4:36:ARG:HG2	1.89	0.53
42:HJ:6:ILE:O	42:HJ:76:ILE:HB	2.09	0.53
43:HK:98:ARG:NH2	53:HU:15:ALA:HB3	2.24	0.53
47:HO:87:LEU:C	47:HO:89:ARG:H	2.12	0.53
54:HV:124:GLU:OE2	54:HV:677:ARG:NH1	2.42	0.53
54:HV:535:GLU:O	54:HV:576:ILE:N	2.37	0.53
1:AA:1508:A:H2'	1:AA:1509:A:C8	2.44	0.53
11:AK:16:ALA:HB2	11:AK:86:LEU:HD11	1.91	0.53
39:BG:65:ALA:HA	39:BG:128:ALA:HA	1.91	0.53
44:BL:27:CYS:HB2	44:BL:28:PRO:CD	2.39	0.53
1:CA:45:G:H5'	1:CA:46:G:H5'	1.91	0.53
1:CA:846:U:HO2'	1:CA:847:U:P	2.32	0.53
1:CA:975:A:H1'	1:CA:990:A:C2	2.44	0.53
1:CA:995:C:H6	1:CA:995:C:H5'	1.74	0.53
1:CA:1936:A:N6	1:CA:1963:U:N3	2.57	0.53
11:CK:24:VAL:HG13	11:CK:33:ALA:HB2	1.90	0.53
22:CV:62:THR:HA	22:CV:71:LYS:HA	1.91	0.53
26:CZ:22:THR:O	26:CZ:25:GLY:N	2.42	0.53
36:DD:12:SER:HA	36:DD:19:LEU:HD13	1.90	0.53
1:EA:747:U:C5	1:EA:2613:U:C5	2.96	0.53
1:EA:2155:U:H2'	1:EA:2156:G:C5'	2.39	0.53
3:EC:254:LYS:O	3:EC:256:THR:N	2.41	0.53
4:ED:133:THR:HG23	4:ED:134:HIS:N	2.24	0.53
7:EG:73:SER:HA	7:EG:76:ILE:HG23	1.89	0.53
9:EI:60:VAL:HG22	9:EI:66:PHE:CG	2.44	0.53
48:FP:55:ASP:OD1	48:FP:56:ARG:N	2.41	0.53
1:GA:885:C:OP1	51:HS:56:GLN:NE2	2.41	0.53
1:GA:1073:A:N7	1:GA:1074:G:N2	2.55	0.53
1:GA:1478:G:H1	1:GA:1513:U:H3	1.57	0.53
6:GF:139:GLU:OE1	6:GF:139:GLU:N	2.42	0.53
12:GL:58:TYR:O	30:G3:12:ARG:NE	2.42	0.53
34:HB:163:ILE:HG23	34:HB:164:ASP:H	1.73	0.53
46:HN:10:GLU:OE2	46:HN:61:ARG:N	2.42	0.53
1:AA:686:U:H2'	1:AA:788:A:N1	2.24	0.53
1:AA:1022:G:O2'	59:AA:3702:HOH:O	2.07	0.53
1:AA:1132:U:H5'	10:AJ:84:ILE:HD13	1.91	0.53
4:AD:39:ASP:OD1	4:AD:40:LEU:N	2.42	0.53
9:AI:19:PRO:HG2	9:AI:23:VAL:HG23	1.91	0.53
10:AJ:4:PHE:HB3	10:AJ:44:TYR:CZ	2.44	0.53
16:AP:50:ARG:CD	16:AP:51:ASN:H	2.22	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AR:61:ALA:HB2	18:AR:98:ILE:HA	1.91	0.53
32:A5:74:ASP:OD1	32:A5:77:VAL:HG21	2.08	0.53
33:BA:791:G:C6	33:BA:792:A:N7	2.77	0.53
33:BA:1317:C:C1'	46:BN:49:GLN:HG2	2.39	0.53
40:BH:29:SER:OG	40:BH:30:SER:N	2.42	0.53
42:BJ:54:SER:O	46:BN:81:ARG:NH1	2.38	0.53
43:BK:33:THR:HA	43:BK:44:TRP:CB	2.39	0.53
52:BT:5:LYS:HE3	52:BT:7:ALA:H	1.74	0.53
1:CA:42:A:H2'	1:CA:43:G:C5'	2.39	0.53
4:CD:29:VAL:HB	4:CD:98:VAL:HG22	1.90	0.53
9:CI:46:ASP:HA	9:CI:50:LYS:HD2	1.90	0.53
13:CM:24:THR:O	13:CM:24:THR:OG1	2.27	0.53
33:DA:964:A:OP1	59:DA:1824:HOH:O	2.19	0.53
1:EA:747:U:C4	1:EA:2613:U:C4	2.97	0.53
1:EA:1993:U:H4'	4:ED:133:THR:CG2	2.39	0.53
14:EN:33:ILE:HD11	14:EN:118:ARG:CD	2.38	0.53
49:FQ:50:ASN:O	49:FQ:50:ASN:ND2	2.42	0.53
54:FV:221:ASN:HA	54:FV:224:GLU:HB3	1.89	0.53
1:GA:1288:G:C4	1:GA:1327:A:C2	2.97	0.53
1:GA:2591:C:OP1	3:GC:237:ARG:HG3	2.09	0.53
10:GJ:81:ILE:HG13	10:GJ:82:GLY:H	1.72	0.53
34:HB:19:THR:O	34:HB:20:ARG:NH1	2.41	0.53
34:HB:71:THR:O	34:HB:72:LYS:HG2	2.09	0.53
36:HD:73:ARG:O	36:HD:76:TYR:N	2.41	0.53
41:HI:21:ILE:CD1	41:HI:86:ALA:HB3	2.39	0.53
1:AA:583:G:N7	59:AA:3282:HOH:O	2.34	0.53
1:AA:1360:G:OP2	59:AA:3609:HOH:O	2.18	0.53
4:AD:116:LYS:O	4:AD:118:PHE:CE2	2.62	0.53
7:AG:38:ASP:N	7:AG:38:ASP:OD1	2.42	0.53
14:AN:55:ALA:O	14:AN:57:THR:N	2.41	0.53
19:AS:20:VAL:HG21	19:AS:44:ALA:HA	1.91	0.53
22:AV:42:LEU:HD23	22:AV:42:LEU:N	2.24	0.53
23:AW:19:ARG:HD3	23:AW:22:VAL:HB	1.91	0.53
34:BB:89:PHE:HB3	34:BB:149:GLY:O	2.08	0.53
40:BH:18:GLN:NE2	40:BH:72:VAL:H	2.06	0.53
43:BK:31:ILE:HA	43:BK:46:THR:HB	1.91	0.53
53:BU:9:ASN:HB2	53:BU:11:PRO:HD2	1.90	0.53
1:CA:1219:U:H2'	1:CA:1220:G:H8	1.73	0.53
1:CA:1605:C:C2'	1:CA:1606:C:H5'	2.39	0.53
1:CA:2423:U:H6	1:CA:2423:U:H5'	1.73	0.53
11:CK:71:ARG:HB2	11:CK:105:ARG:NH2	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CT:92:ASN:HB3	20:CT:93:LEU:HD13	1.90	0.53
33:DA:1033:G:C2'	33:DA:1034:G:H5'	2.39	0.53
33:DA:1530:G:H2'	33:DA:1531:A:C8	2.44	0.53
54:DV:4:THR:CG2	54:DV:378:ARG:CZ	2.87	0.53
1:EA:224:U:O4	1:EA:419:U:O2'	2.27	0.53
1:EA:674:G:H1'	5:EE:69:ARG:CD	2.38	0.53
1:EA:1076:C:H1'	9:EI:92:PRO:HB3	1.90	0.53
1:EA:1084:A:OP2	32:E5:55:VAL:HA	2.09	0.53
4:ED:99:GLU:HG3	4:ED:100:LEU:N	2.24	0.53
9:EI:6:ALA:HB3	9:EI:60:VAL:HB	1.90	0.53
9:EI:19:PRO:HG2	9:EI:23:VAL:HG22	1.91	0.53
17:EQ:94:LEU:C	17:EQ:96:ASP:H	2.12	0.53
21:EU:81:ARG:O	21:EU:96:LYS:HG2	2.09	0.53
32:E5:118:ILE:HB	32:E5:119:PRO:CD	2.39	0.53
1:GA:1300:G:H4'	1:GA:1301:A:H5'	1.90	0.53
8:GH:24:GLY:O	8:GH:28:ASN:HB2	2.09	0.53
18:GR:49:ILE:HB	18:GR:51:VAL:O	2.09	0.53
33:HA:995:C:N3	33:HA:1046:A:O2'	2.40	0.53
33:HA:1279:G:N3	33:HA:1279:G:H2'	2.23	0.53
34:HB:209:VAL:HG23	34:HB:210:THR:H	1.74	0.53
1:AA:783:A:C8	1:AA:784:G:H4'	2.44	0.52
1:AA:1107:G:H4'	32:A5:81:LEU:HA	1.90	0.52
23:AW:55:ASP:O	23:AW:57:THR:N	2.41	0.52
32:A5:26:VAL:CG1	32:A5:77:VAL:HG11	2.38	0.52
33:BA:591:U:H2'	33:BA:592:G:H8	1.73	0.52
33:BA:881:G:P	44:BL:9:ARG:HH22	2.32	0.52
33:BA:1181:G:O2'	33:BA:1182:G:C5	2.63	0.52
1:CA:84:A:H4'	1:CA:85:G:O5'	2.09	0.52
1:CA:1342:A:O2'	1:CA:1344:U:OP2	2.21	0.52
18:CR:66:HIS:CG	18:CR:94:THR:HG22	2.44	0.52
33:DA:1411:C:H2'	33:DA:1412:C:C6	2.45	0.52
34:DB:140:LEU:O	34:DB:144:GLU:N	2.41	0.52
38:DF:38:ARG:HG2	38:DF:39:LEU:N	2.23	0.52
42:DJ:5:ARG:HG3	42:DJ:6:ILE:HG13	1.90	0.52
42:DJ:71:LEU:O	42:DJ:72:ARG:NH1	2.42	0.52
43:DK:52:PHE:HE2	43:DK:65:VAL:HG11	1.74	0.52
1:EA:118:A:C8	1:EA:119:A:C8	2.97	0.52
1:EA:2305:U:H5''	6:EF:130:GLY:HA3	1.91	0.52
9:EI:23:VAL:CG2	9:EI:27:LEU:HD23	2.38	0.52
11:EK:72:PRO:O	11:EK:74:GLY:N	2.39	0.52
16:EP:92:ARG:O	16:EP:93:LYS:HB2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:FA:1492:A:C2'	33:FA:1493:A:H5''	2.40	0.52
39:FG:66:LEU:HD11	39:FG:101:MET:HG3	1.91	0.52
44:FL:44:LYS:CB	44:FL:45:PRO:CD	2.87	0.52
1:GA:491:G:O6	19:GS:49:LYS:NZ	2.38	0.52
1:GA:2502:G:C5'	1:GA:2503:A:H5''	2.39	0.52
21:GU:52:ASN:C	21:GU:54:PRO:HD2	2.28	0.52
23:GW:67:LYS:HG3	23:GW:69:GLU:HG3	1.91	0.52
30:G3:49:VAL:CG2	30:G3:54:LEU:HD13	2.39	0.52
35:HC:11:ARG:NH2	35:HC:182:ILE:HG13	2.23	0.52
1:AA:1388:G:H2'	1:AA:1389:G:H8	1.74	0.52
5:AE:40:ARG:HG3	5:AE:40:ARG:HH11	1.75	0.52
7:AG:120:ILE:HD11	7:AG:139:VAL:HG12	1.91	0.52
15:AO:7:ARG:HA	15:AO:10:ARG:NH2	2.24	0.52
32:A5:131:THR:O	32:A5:134:GLU:N	2.43	0.52
33:BA:1432:G:O2'	59:BA:1835:HOH:O	2.10	0.52
35:BC:11:ARG:NH2	35:BC:182:ILE:HG13	2.24	0.52
42:BJ:57:VAL:HG12	42:BJ:58:ASN:N	2.23	0.52
43:BK:35:THR:OG1	43:BK:36:ASP:N	2.42	0.52
1:CA:545:U:C2	1:CA:547:A:H5'	2.44	0.52
4:CD:48:ILE:HG23	4:CD:84:LEU:HD11	1.91	0.52
7:CG:104:LEU:HB2	7:CG:112:VAL:HG21	1.92	0.52
14:CN:48:VAL:O	14:CN:51:LEU:N	2.42	0.52
20:CT:67:VAL:HG12	20:CT:76:ARG:HG3	1.91	0.52
33:DA:59:A:C5	33:DA:354:G:C6	2.98	0.52
34:DB:81:ASP:O	34:DB:84:LEU:N	2.42	0.52
49:DQ:14:SER:HB3	49:DQ:22:VAL:HG22	1.90	0.52
1:EA:381:G:OP1	24:EX:17:ARG:NH2	2.43	0.52
1:EA:974:G:H8	1:EA:990:A:H62	1.54	0.52
1:EA:1913:A:H4'	1:EA:1914:C:C5'	2.39	0.52
7:EG:85:LYS:HG2	7:EG:131:VAL:HG12	1.91	0.52
13:EM:74:THR:HG22	13:EM:89:VAL:HA	1.90	0.52
22:EV:6:ALA:HB1	22:EV:40:ILE:HG22	1.91	0.52
32:E5:23:LEU:HD11	32:E5:96:PHE:CZ	2.44	0.52
33:FA:684:U:O2'	43:FK:40:ASN:O	2.18	0.52
34:FB:46:VAL:HB	34:FB:47:PRO:HD3	1.91	0.52
36:FD:34:ILE:O	36:FD:35:GLU:HB3	2.08	0.52
1:GA:460:A:OP1	29:G2:41:ARG:NH1	2.40	0.52
1:GA:1062:G:H2'	1:GA:1063:G:C8	2.45	0.52
1:GA:2582:G:C2	1:GA:2583:G:C8	2.97	0.52
1:GA:2654:A:N1	1:GA:2665:A:H5''	2.24	0.52
2:GB:50:A:OP2	15:GO:67:ASN:HA	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:GE:161:ALA:HA	5:GE:164:LEU:HB2	1.91	0.52
13:GM:64:TRP:HZ3	13:GM:106:ASP:HB2	1.73	0.52
16:GP:108:ARG:HH12	33:HA:1464:U:P	2.32	0.52
37:HE:24:THR:HA	37:HE:29:ARG:HA	1.90	0.52
1:AA:616:A:H4'	5:AE:101:TYR:CZ	2.45	0.52
1:AA:2103:C:N4	1:AA:2186:G:H1	2.08	0.52
1:AA:2757:A:N1	7:AG:66:THR:HG21	2.24	0.52
33:BA:81:A:H2'	33:BA:82:G:H5''	1.91	0.52
33:BA:1401:G:C2	33:BA:1402:C:H1'	2.44	0.52
36:BD:192:SER:OG	36:BD:193:ALA:N	2.43	0.52
51:BS:31:LEU:O	51:BS:50:ALA:N	2.40	0.52
7:CG:83:THR:HA	7:CG:84:LYS:NZ	2.23	0.52
12:CL:109:LYS:HG2	12:CL:126:ARG:HB2	1.90	0.52
16:CP:50:ARG:HD3	16:CP:51:ASN:H	1.74	0.52
33:DA:619:U:H3	36:DD:131:ASN:HB3	1.73	0.52
1:EA:271:G:H4'	1:EA:272:A:OP1	2.10	0.52
11:EK:76:VAL:HB	16:EP:72:VAL:CG2	2.39	0.52
52:FT:6:SER:C	52:FT:8:LYS:H	2.13	0.52
1:GA:598:U:H4'	12:GL:12:SER:HB2	1.90	0.52
1:GA:1057:A:N6	1:GA:1087:G:OP2	2.39	0.52
1:GA:1064:C:H4'	9:GI:89:SER:CB	2.38	0.52
1:GA:2304:G:H22	1:GA:2312:U:H3	1.57	0.52
6:GF:3:LEU:HA	6:GF:6:TYR:CB	2.40	0.52
16:GP:50:ARG:CD	16:GP:57:ALA:H	2.22	0.52
33:HA:373:A:H1'	33:HA:481:G:H1'	1.91	0.52
33:HA:981:U:O4	59:HA:1832:HOH:O	2.19	0.52
42:HJ:37:ARG:NH2	42:HJ:76:ILE:HG23	2.23	0.52
54:HV:494:ILE:HA	54:HV:610:PRO:HA	1.90	0.52
1:AA:2327:A:H2'	1:AA:2328:A:C8	2.44	0.52
3:AC:91:ALA:HB3	3:AC:103:ILE:HG22	1.91	0.52
14:AN:78:LYS:HG2	14:AN:83:LEU:HD23	1.92	0.52
15:AO:107:ALA:O	15:AO:111:ARG:HG2	2.08	0.52
16:AP:52:ARG:HH11	16:AP:52:ARG:CG	2.20	0.52
18:AR:66:HIS:CD2	18:AR:94:THR:HG22	2.44	0.52
23:AW:40:ARG:HG3	23:AW:56:HIS:CG	2.45	0.52
33:BA:560:A:C5	37:BE:128:TYR:CE2	2.96	0.52
36:BD:30:THR:HG22	36:BD:31:LYS:H	1.75	0.52
1:CA:1288:G:C4	1:CA:1327:A:C2	2.98	0.52
1:CA:1602:U:OP2	20:CT:64:LYS:NZ	2.41	0.52
1:CA:2105:U:N3	1:CA:2107:G:H5''	2.24	0.52
6:CF:10:GLU:O	6:CF:12:VAL:N	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CI:88:GLY:O	9:CI:89:SER:OG	2.26	0.52
12:CL:85:VAL:HG22	12:CL:94:THR:HG22	1.90	0.52
16:CP:50:ARG:CD	16:CP:51:ASN:H	2.23	0.52
16:CP:52:ARG:HH11	16:CP:52:ARG:CG	2.22	0.52
22:CV:2:PHE:HB2	22:CV:61:LEU:HG	1.90	0.52
25:CY:56:LEU:O	25:CY:57:LEU:HB3	2.08	0.52
33:DA:374:A:C5	33:DA:375:U:C5	2.98	0.52
33:DA:407:U:C2	33:DA:408:A:C8	2.97	0.52
33:DA:618:C:H1'	48:DP:14:ARG:CZ	2.39	0.52
41:DI:34:SER:HB3	41:DI:37:GLN:CG	2.39	0.52
43:DK:23:ILE:HG21	43:DK:96:THR:HG21	1.91	0.52
1:EA:163:C:O2'	1:EA:164:C:P	2.67	0.52
1:EA:577:G:O2'	1:EA:1254:A:OP1	2.28	0.52
4:ED:4:LEU:HD23	4:ED:101:PHE:CE2	2.43	0.52
9:EI:27:LEU:HD13	9:EI:34:ILE:HD12	1.91	0.52
12:EL:74:THR:HG22	12:EL:107:PHE:HB2	1.92	0.52
20:ET:39:THR:O	20:ET:41:ALA:N	2.43	0.52
33:FA:181:A:N6	33:FA:195:A:C8	2.77	0.52
36:FD:27:ALA:C	36:FD:29:ASP:N	2.59	0.52
47:FO:15:PHE:CE2	47:FO:85:LEU:HD11	2.44	0.52
1:GA:142:A:H2'	1:GA:143:C:C6	2.45	0.52
2:GB:95:U:H2'	2:GB:96:G:H8	1.75	0.52
16:GP:96:LEU:HB3	16:GP:99:LEU:HD23	1.92	0.52
33:HA:1505:G:H4'	33:HA:1506:U:H5''	1.91	0.52
36:HD:29:ASP:O	36:HD:31:LYS:NZ	2.26	0.52
1:AA:470:A:C2	1:AA:471:A:C4	2.97	0.52
1:AA:2333:A:OP1	23:AW:76:ARG:NH1	2.38	0.52
1:AA:2478:A:P	31:A4:2:LYS:HZ1	2.32	0.52
3:AC:12:ARG:HH11	3:AC:12:ARG:HG2	1.74	0.52
5:AE:150:THR:HG21	5:AE:153:LEU:CA	2.40	0.52
10:AJ:44:TYR:CE2	17:AQ:99:VAL:HG21	2.45	0.52
18:AR:49:ILE:HG22	18:AR:53:PHE:C	2.30	0.52
23:AW:18:LYS:HG3	23:AW:19:ARG:N	2.25	0.52
23:AW:39:GLN:HG2	23:AW:41:GLY:H	1.74	0.52
23:AW:71:LYS:HB2	23:AW:78:PHE:CE2	2.44	0.52
34:BB:88:GLN:OE1	34:BB:220:VAL:HG21	2.09	0.52
43:BK:107:ILE:HG21	53:BU:8:GLU:HB2	1.90	0.52
54:BV:4:THR:HG21	54:BV:378:ARG:HG3	1.92	0.52
1:CA:374:A:N6	1:CA:400:G:O2'	2.42	0.52
1:CA:384:A:H2'	1:CA:385:C:H5'	1.92	0.52
1:CA:996:A:H4'	17:CQ:91:ARG:HG2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2853:C:C2	1:CA:2854:G:C8	2.97	0.52
4:CD:62:LYS:HB2	4:CD:63:PRO:HD3	1.90	0.52
33:DA:206:C:H2'	33:DA:207:C:O4'	2.09	0.52
33:DA:677:U:H3	33:DA:713:G:H22	1.58	0.52
36:DD:91:LEU:N	36:DD:91:LEU:HD12	2.25	0.52
42:DJ:74:VAL:HG12	42:DJ:75:ASP:N	2.24	0.52
44:DL:99:ARG:HA	44:DL:104:CYS:SG	2.49	0.52
58:DV:801:GCP:O3G	59:DV:901:HOH:O	2.19	0.52
1:EA:784:G:OP1	59:EA:3797:HOH:O	2.17	0.52
1:EA:2232:C:P	24:EX:26:ARG:HH22	2.33	0.52
36:FD:105:MET:SD	36:FD:143:VAL:CG1	2.98	0.52
41:FI:129:LYS:HG3	41:FI:130:ARG:N	2.25	0.52
1:GA:1474:U:H2'	1:GA:1475:G:H5'	1.91	0.52
2:GB:39:A:O2'	2:GB:46:A:N1	2.39	0.52
17:GQ:91:ARG:NH2	17:GQ:93:ILE:HD13	2.25	0.52
18:GR:16:GLU:HA	18:GR:98:ILE:HG22	1.92	0.52
22:GV:75:GLN:HB2	22:GV:92:VAL:CG2	2.39	0.52
26:GZ:8:GLN:O	26:GZ:9:THR:HG22	2.08	0.52
33:HA:21:G:H2'	33:HA:22:G:C8	2.44	0.52
33:HA:70:U:HO2'	33:HA:71:A:H8	1.58	0.52
33:HA:202:G:O2'	33:HA:468:A:H2'	2.10	0.52
45:HM:74:SER:HA	45:HM:77:ILE:HB	1.92	0.52
49:HQ:48:ASP:HB2	49:HQ:75:LEU:HD23	1.92	0.52
54:HV:4:THR:CG2	54:HV:378:ARG:HG3	2.39	0.52
1:AA:236:C:H2'	1:AA:237:C:H6	1.75	0.52
1:AA:368:A:N6	1:AA:369:U:O4	2.43	0.52
1:AA:479:A:N3	1:AA:481:G:H5''	2.24	0.52
1:AA:684:G:C2	1:AA:794:A:C2	2.97	0.52
1:AA:1913:A:N7	33:BA:1494:G:H4'	2.25	0.52
5:AE:164:LEU:HB3	5:AE:167:VAL:HG13	1.91	0.52
7:AG:84:LYS:HG3	7:AG:132:LEU:H	1.74	0.52
9:AI:74:PRO:HG2	9:AI:77:VAL:HG21	1.91	0.52
15:AO:36:TYR:N	15:AO:36:TYR:HD1	2.08	0.52
20:AT:37:ASP:OD1	20:AT:37:ASP:N	2.40	0.52
34:BB:163:ILE:HG23	34:BB:164:ASP:H	1.73	0.52
37:BE:16:ILE:HD13	37:BE:137:VAL:HG21	1.90	0.52
1:CA:1614:A:N1	19:CS:93:ALA:HB2	2.25	0.52
1:CA:1872:A:H2'	1:CA:1873:G:O4'	2.10	0.52
1:CA:2867:G:O2'	1:CA:2868:A:OP2	2.27	0.52
33:DA:664:G:H22	33:DA:741:G:H1	1.58	0.52
33:DA:1147:C:H4'	41:DI:7:TYR:CE2	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:1148:U:O2'	41:DI:68:LYS:HE2	2.10	0.52
35:DC:36:ASP:OD1	35:DC:59:ARG:NH1	2.40	0.52
43:DK:82:LEU:HD22	43:DK:105:PHE:HB3	1.92	0.52
1:EA:653:U:H3'	1:EA:654:A:H5''	1.90	0.52
3:EC:16:VAL:N	3:EC:203:VAL:CG1	2.72	0.52
15:EO:34:HIS:CD2	15:EO:54:VAL:HG23	2.44	0.52
21:EU:94:PHE:HA	21:EU:101:THR:HA	1.92	0.52
23:EW:18:LYS:HG3	23:EW:19:ARG:N	2.24	0.52
33:FA:71:A:O2'	33:FA:72:A:O4'	2.27	0.52
34:FB:70:GLY:HA2	34:FB:163:ILE:CG2	2.40	0.52
43:FK:88:GLY:H	43:FK:114:THR:HG22	1.74	0.52
1:GA:994:C:H3'	17:GQ:53:LYS:HE2	1.91	0.52
1:GA:1341:G:C6	20:GT:84:TYR:CE1	2.98	0.52
10:GJ:4:PHE:HB3	10:GJ:44:TYR:CZ	2.44	0.52
18:GR:46:GLU:N	18:GR:46:GLU:OE2	2.39	0.52
45:HM:29:ARG:NH2	45:HM:60:VAL:HA	2.24	0.52
48:HP:10:GLY:HA3	48:HP:15:PRO:HA	1.91	0.52
1:AA:1088:A:O2'	1:AA:1089:A:P	2.67	0.52
1:AA:1386:C:H2'	1:AA:1387:A:C8	2.43	0.52
1:AA:2346:A:H3'	1:AA:2347:C:C5'	2.39	0.52
2:AB:4:C:H2'	2:AB:5:U:C6	2.44	0.52
17:AQ:29:ARG:HG2	17:AQ:29:ARG:HH11	1.75	0.52
32:A5:118:ILE:HB	32:A5:119:PRO:CD	2.40	0.52
33:BA:299:G:C6	33:BA:300:A:C6	2.98	0.52
33:BA:728:A:C6	33:BA:729:A:C6	2.98	0.52
33:BA:1150:A:N6	33:BA:1151:A:N6	2.58	0.52
45:BM:15:ALA:N	45:BM:41:GLU:O	2.42	0.52
1:CA:983:A:C6	1:CA:984:A:C2	2.97	0.52
1:CA:2134:A:H3'	1:CA:2135:A:H5''	1.92	0.52
3:CC:68:ARG:HD3	3:CC:103:ILE:HD11	1.90	0.52
8:CH:12:LEU:HB2	8:CH:19:VAL:HG11	1.91	0.52
13:CM:13:HIS:O	13:CM:14:LYS:HB2	2.09	0.52
16:CP:4:ILE:HG22	16:CP:5:LYS:H	1.75	0.52
17:CQ:65:ASN:HD22	17:CQ:75:TYR:HB2	1.75	0.52
18:CR:42:ALA:HA	18:CR:46:GLU:CB	2.39	0.52
33:DA:322:C:OP2	33:DA:328:C:N4	2.42	0.52
40:DH:96:MET:O	40:DH:99:LEU:HG	2.10	0.52
1:EA:811:U:C2	1:EA:1251:C:C5	2.97	0.52
1:EA:1001:A:OP2	59:EA:3732:HOH:O	2.18	0.52
33:FA:409:U:H2'	33:FA:410:G:O4'	2.09	0.52
34:FB:153:MET:O	34:FB:155:GLY:N	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:FH:125:ILE:HD11	40:FH:128:TYR:CE1	2.44	0.52
1:GA:1001:A:C8	1:GA:1002:G:C8	2.98	0.52
1:GA:1654:A:OP2	14:GN:1:MET:HA	2.10	0.52
1:GA:2427:C:H5''	1:GA:2428:G:OP1	2.10	0.52
17:GQ:63:ARG:NH1	17:GQ:96:ASP:HA	2.25	0.52
23:GW:37:VAL:HG13	23:GW:55:ASP:C	2.30	0.52
33:HA:553:A:O2'	44:HL:26:ALA:O	2.28	0.52
33:HA:1323:G:H2'	33:HA:1324:A:C8	2.44	0.52
42:HJ:28:THR:O	42:HJ:32:THR:HG22	2.10	0.52
54:HV:492:GLU:OE1	54:HV:567:ALA:N	2.38	0.52
1:AA:1053:C:C2	1:AA:1054:A:C8	2.98	0.52
1:AA:1306:C:H3'	59:AA:3409:HOH:O	2.09	0.52
1:AA:2305:U:H2'	1:AA:2306:C:O4'	2.09	0.52
2:AB:55:U:O3'	6:AF:23:SER:OG	2.18	0.52
23:AW:44:PHE:O	23:AW:78:PHE:HA	2.10	0.52
33:BA:1386:G:H2'	33:BA:1387:G:C8	2.45	0.52
38:BF:7:VAL:O	38:BF:7:VAL:HG22	2.10	0.52
45:BM:25:VAL:HG12	45:BM:29:ARG:HH12	1.73	0.52
51:BS:37:ARG:O	51:BS:70:LYS:HD2	2.09	0.52
51:BS:49:ILE:CD1	51:BS:71:LEU:HD22	2.40	0.52
54:BV:64:THR:OG1	54:BV:323:LYS:NZ	2.40	0.52
1:CA:55:G:H2'	1:CA:56:A:H8	1.75	0.52
1:CA:992:C:H4'	18:CR:74:ILE:HD13	1.90	0.52
1:CA:1012:U:OP2	17:CQ:69:ARG:NH1	2.43	0.52
1:CA:1022:G:N7	10:CJ:68:LYS:HE2	2.25	0.52
1:CA:1913:A:H62	33:DA:1494:G:C5'	2.21	0.52
1:CA:2331:G:N3	1:CA:2336:A:C2	2.78	0.52
1:CA:2529:G:H4'	7:CG:174:LYS:HD3	1.92	0.52
12:CL:85:VAL:CG2	12:CL:94:THR:HG22	2.39	0.52
17:CQ:97:ILE:CD1	17:CQ:104:ALA:HB3	2.40	0.52
33:DA:395:C:H2'	33:DA:396:C:C6	2.45	0.52
33:DA:495:A:C2	33:DA:496:A:C6	2.97	0.52
33:DA:1284:C:H3'	33:DA:1285:A:H8	1.75	0.52
44:DL:44:LYS:HB3	44:DL:45:PRO:HD3	1.92	0.52
1:EA:1452:G:H2'	1:EA:1457:U:O4	2.10	0.52
1:EA:2267:A:H5''	1:EA:2268:A:C5'	2.39	0.52
1:EA:2291:U:H2'	1:EA:2292:U:C6	2.44	0.52
12:EL:95:LEU:CD2	12:EL:100:ILE:HD11	2.40	0.52
14:EN:73:ASN:HA	14:EN:76:VAL:CG1	2.35	0.52
18:ER:49:ILE:HB	18:ER:51:VAL:O	2.10	0.52
20:ET:69:ARG:CD	20:ET:70:HIS:H	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:E5:91:ALA:CB	32:E5:130:PRO:HB3	2.40	0.52
33:FA:978:A:HO2'	33:FA:1322:C:H5	1.57	0.52
33:FA:1084:G:C5	33:FA:1085:U:C4	2.98	0.52
33:FA:1125:U:OP2	33:FA:1145:A:N6	2.42	0.52
33:FA:1216:A:H2'	33:FA:1217:C:H6	1.75	0.52
40:FH:106:THR:HG21	40:FH:121:LEU:HD22	1.92	0.52
42:FJ:91:ASP:OD1	42:FJ:92:LEU:N	2.43	0.52
54:FV:196:ALA:O	54:FV:198:GLN:N	2.42	0.52
1:GA:1188:U:H2'	1:GA:1189:A:H8	1.74	0.52
4:GD:4:LEU:HD12	4:GD:32:ASN:ND2	2.25	0.52
4:GD:124:ARG:HD2	4:GD:125:TRP:CD1	2.45	0.52
38:HF:20:GLY:O	38:HF:23:GLU:HB3	2.09	0.52
1:AA:947:A:HO2'	1:AA:984:A:H2	1.57	0.52
1:AA:1543:G:HO2'	1:AA:1544:A:H8	1.56	0.52
1:AA:2500:U:O2'	1:AA:2504:U:OP1	2.25	0.52
4:AD:92:VAL:O	4:AD:92:VAL:HG12	2.09	0.52
7:AG:84:LYS:HG3	7:AG:131:VAL:CA	2.40	0.52
9:AI:58:ILE:HG22	9:AI:60:VAL:HG23	1.91	0.52
11:AK:13:ASN:O	11:AK:15:GLY:N	2.41	0.52
16:AP:80:VAL:O	16:AP:82:SER:N	2.41	0.52
22:AV:72:VAL:HG12	22:AV:93:ARG:HA	1.91	0.52
33:BA:78:A:N7	33:BA:93:U:H4'	2.24	0.52
38:BF:7:VAL:HA	38:BF:60:VAL:O	2.10	0.52
33:DA:51:A:H4'	33:DA:52:C:O5'	2.10	0.52
52:DT:58:VAL:HG12	52:DT:72:ALA:HB1	1.92	0.52
1:EA:78:U:H2'	1:EA:79:C:C6	2.45	0.52
1:EA:1066:U:O2'	1:EA:1068:G:N7	2.35	0.52
1:EA:1141:U:H4'	1:EA:1142:A:O4'	2.10	0.52
1:EA:2025:C:OP2	59:EA:3475:HOH:O	2.19	0.52
6:EF:132:ARG:O	6:EF:133:GLU:HB3	2.10	0.52
18:ER:14:VAL:HG11	18:ER:98:ILE:HG13	1.92	0.52
34:FB:21:TYR:N	34:FB:21:TYR:CD1	2.78	0.52
35:FC:35:SER:OG	35:FC:59:ARG:NH2	2.42	0.52
51:FS:4:SER:O	51:FS:6:LYS:N	2.41	0.52
54:FV:159:LYS:HB2	54:FV:166:PRO:HG3	1.92	0.52
54:FV:227:ALA:HB1	54:FV:234:MET:CB	2.40	0.52
1:GA:1019:U:OP1	1:GA:1035:U:O2'	2.26	0.52
1:GA:2091:C:O2	24:GX:33:HIS:NE2	2.42	0.52
26:GZ:24:LEU:O	26:GZ:27:GLY:N	2.38	0.52
40:HH:106:THR:HG21	40:HH:121:LEU:HD22	1.92	0.52
46:HN:48:LEU:O	46:HN:51:LEU:HG	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:28:A:H1'	1:AA:513:A:C2	2.45	0.52
1:AA:1069:A:N7	1:AA:1074:G:C5	2.78	0.52
7:AG:17:LYS:HG3	1:EA:3:U:H4'	1.92	0.52
8:AH:12:LEU:HB2	8:AH:19:VAL:HG11	1.91	0.52
14:AN:26:GLY:HA2	14:AN:75:ILE:HD13	1.90	0.52
23:AW:18:LYS:CA	23:AW:36:ILE:HB	2.40	0.52
33:BA:210:C:H4'	33:BA:211:G:C2	2.45	0.52
33:BA:815:A:N7	33:BA:1509:C:O2'	2.34	0.52
1:CA:788:A:H3'	1:CA:790:U:H5	1.75	0.52
7:CG:84:LYS:CG	7:CG:85:LYS:H	2.23	0.52
17:CQ:29:ARG:HH11	17:CQ:29:ARG:CG	2.23	0.52
33:DA:475:C:H2'	33:DA:476:U:C6	2.45	0.52
41:DI:24:GLY:HA3	41:DI:62:ASP:HB2	1.92	0.52
49:DQ:21:ILE:HG23	49:DQ:46:VAL:HB	1.91	0.52
54:DV:151:PHE:CE1	54:DV:266:CYS:HB3	2.45	0.52
54:DV:505:HIS:HB3	54:DV:516:GLY:N	2.24	0.52
11:EK:121:GLU:HG2	11:EK:122:VAL:H	1.75	0.52
13:EM:47:GLU:OE1	13:EM:51:ARG:NH1	2.42	0.52
14:EN:58:ASP:OD2	14:EN:63:ARG:NH2	2.43	0.52
23:EW:16:GLU:O	23:EW:17:ALA:HB3	2.10	0.52
23:EW:19:ARG:HA	23:EW:34:SER:HA	1.92	0.52
29:E2:10:LEU:HD11	29:E2:14:ARG:HE	1.75	0.52
29:E2:34:ARG:NH1	29:E2:39:ARG:HD3	2.24	0.52
33:FA:51:A:H4'	33:FA:52:C:O5'	2.10	0.52
33:FA:1492:A:H2'	33:FA:1493:A:C5'	2.40	0.52
35:FC:60:PRO:HB3	42:FJ:94:ALA:HB2	1.92	0.52
40:FH:10:MET:HG3	40:FH:27:MET:SD	2.50	0.52
1:GA:443:A:N7	5:GE:40:ARG:HG2	2.25	0.52
1:GA:2199:A:H3'	1:GA:2200:C:H6	1.74	0.52
1:GA:2298:A:N1	1:GA:2321:U:C4	2.78	0.52
16:GP:19:PHE:O	16:GP:20:ARG:HB2	2.10	0.52
17:GQ:57:ARG:HA	17:GQ:60:TRP:CE3	2.45	0.52
33:HA:250:A:H4'	33:HA:251:G:O5'	2.10	0.52
34:HB:126:ASP:HB3	34:HB:130:LYS:HE3	1.92	0.52
42:HJ:35:GLN:HG3	42:HJ:37:ARG:NE	2.25	0.52
1:AA:111:A:C2	1:AA:112:U:C2	2.98	0.51
1:AA:1532:A:H3'	1:AA:1533:C:C6	2.45	0.51
1:AA:1800:C:OP2	3:AC:181:ARG:NH1	2.43	0.51
3:AC:12:ARG:HH11	3:AC:12:ARG:CG	2.22	0.51
3:AC:16:VAL:H	3:AC:203:VAL:HG12	1.74	0.51
5:AE:108:ILE:CD1	12:AL:2:ARG:NH1	2.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:113:MET:SD	11:AK:116:ILE:HD11	2.49	0.51
28:A1:8:ILE:HG12	28:A1:51:ALA:HA	1.92	0.51
30:A3:44:ARG:N	30:A3:45:PRO:HD2	2.24	0.51
33:BA:254:G:O3'	49:BQ:71:LYS:NZ	2.43	0.51
33:BA:1086:U:O2'	33:BA:1087:G:H5'	2.10	0.51
33:BA:1492:A:H2'	33:BA:1493:A:H5'	1.90	0.51
52:BT:3:ASN:O	52:BT:5:LYS:N	2.40	0.51
1:CA:2473:U:C4	1:CA:2474:U:C4	2.98	0.51
11:CK:23:LYS:HE2	11:CK:23:LYS:HA	1.91	0.51
14:CN:80:PHE:O	14:CN:85:PRO:HD3	2.10	0.51
16:CP:92:ARG:O	16:CP:93:LYS:HB2	2.10	0.51
23:CW:19:ARG:HA	23:CW:34:SER:HA	1.91	0.51
23:CW:24:ARG:HG3	23:CW:65:LYS:HD3	1.92	0.51
33:DA:890:G:O2'	33:DA:906:A:N6	2.43	0.51
41:DI:23:PRO:HA	41:DI:61:LEU:HA	1.90	0.51
44:DL:87:VAL:HG11	44:DL:90:LEU:HD23	1.91	0.51
1:EA:2615:U:C2	27:E0:3:GLN:HA	2.44	0.51
9:EI:58:ILE:HD13	9:EI:68:PHE:HB2	1.92	0.51
11:EK:1:MET:HG3	11:EK:67:LYS:HD3	1.91	0.51
11:EK:107:LEU:O	11:EK:109:SER:N	2.35	0.51
33:FA:1228:C:OP1	45:FM:107:ARG:NH1	2.43	0.51
36:FD:197:GLU:O	36:FD:200:ILE:N	2.42	0.51
1:GA:1061:U:C2	9:GI:9:LYS:HG3	2.45	0.51
2:GB:117:G:C6	2:GB:118:C:C4	2.98	0.51
4:GD:108:ASP:N	4:GD:204:LYS:O	2.43	0.51
20:GT:54:GLU:HB2	20:GT:88:LYS:HG3	1.91	0.51
30:G3:61:LEU:HB3	30:G3:64:ALA:HB2	1.92	0.51
42:HJ:37:ARG:HD2	42:HJ:75:ASP:O	2.10	0.51
1:AA:774:G:N2	1:AA:787:C:O2'	2.40	0.51
1:AA:2376:A:N1	15:AO:92:PHE:HB3	2.25	0.51
7:AG:51:PHE:CZ	7:AG:68:ARG:HA	2.45	0.51
23:AW:21:GLY:HA2	23:AW:25:PHE:CE2	2.45	0.51
33:BA:374:A:O4'	33:BA:481:G:N2	2.44	0.51
33:BA:658:C:C2	33:BA:749:A:C2	2.98	0.51
33:BA:681:A:N3	33:BA:710:G:N2	2.57	0.51
33:BA:780:A:H5''	43:BK:125:LYS:HD2	1.91	0.51
33:BA:844:G:H2'	33:BA:845:A:H5''	1.91	0.51
33:BA:993:G:H2'	33:BA:993:G:N3	2.25	0.51
1:CA:1206:G:C5	1:CA:1207:C:C5	2.99	0.51
1:CA:2820:A:OP2	14:CN:2:ARG:NH2	2.44	0.51
12:CL:127:VAL:HG23	12:CL:131:ALA:HB3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CQ:63:ARG:HH22	17:CQ:96:ASP:N	2.09	0.51
33:DA:416:G:O6	59:DA:1720:HOH:O	2.18	0.51
33:DA:1228:C:OP1	45:DM:107:ARG:NH1	2.43	0.51
34:DB:115:ASP:O	34:DB:119:GLN:NE2	2.43	0.51
53:DU:41:PRO:O	53:DU:45:ARG:HD3	2.11	0.51
54:DV:195:ASP:OD1	54:DV:196:ALA:N	2.44	0.51
1:EA:1474:U:H2'	1:EA:1475:G:H5'	1.92	0.51
1:EA:2134:A:O2'	1:EA:2156:G:N2	2.42	0.51
7:EG:106:LEU:O	7:EG:151:ARG:NH1	2.40	0.51
16:EP:50:ARG:HG2	16:EP:57:ALA:H	1.75	0.51
24:EX:36:ARG:HG2	24:EX:47:THR:CG2	2.40	0.51
40:FH:2:SER:OG	40:FH:3:MET:N	2.42	0.51
41:FI:57:MET:O	41:FI:60:LYS:N	2.38	0.51
1:GA:1181:U:H2'	1:GA:1182:G:H8	1.74	0.51
2:GB:78:A:C2	2:GB:99:A:C4	2.98	0.51
7:GG:29:ASN:OD1	7:GG:30:GLY:N	2.44	0.51
20:GT:55:VAL:HG12	20:GT:56:GLU:N	2.25	0.51
21:GU:85:ARG:HD3	21:GU:86:PHE:N	2.26	0.51
33:HA:98:A:H2'	33:HA:99:C:C6	2.45	0.51
33:HA:1306:A:H1'	33:HA:1332:A:N9	2.25	0.51
34:HB:83:ALA:O	34:HB:88:GLN:HG3	2.10	0.51
43:HK:68:GLU:O	43:HK:70:CYS:N	2.32	0.51
44:HL:44:LYS:HB3	44:HL:45:PRO:HD3	1.92	0.51
1:AA:323:C:H6	1:AA:1205:A:N1	2.07	0.51
1:AA:478:A:N1	1:AA:500:G:H4'	2.25	0.51
1:AA:871:U:H2'	1:AA:872:U:C6	2.45	0.51
9:AI:14:ALA:HB2	9:AI:54:ILE:HD11	1.93	0.51
16:AP:5:LYS:H	16:AP:8:GLU:HG3	1.75	0.51
23:AW:72:GLY:O	23:AW:74:LYS:N	2.37	0.51
33:BA:60:A:O2'	52:BT:5:LYS:HE2	2.10	0.51
33:BA:587:G:C2	33:BA:755:G:C6	2.98	0.51
34:BB:49:PHE:HB3	34:BB:212:TYR:OH	2.09	0.51
53:BU:34:ARG:HH21	53:BU:35:ARG:HD2	1.74	0.51
53:BU:37:PHE:CD2	53:BU:41:PRO:HB3	2.46	0.51
53:BU:37:PHE:HB3	53:BU:41:PRO:HD3	1.91	0.51
1:CA:1322:A:OP1	19:CS:11:ARG:NE	2.38	0.51
1:CA:2339:C:H2'	1:CA:2340:A:C8	2.45	0.51
13:CM:66:ARG:NH1	13:CM:104:GLU:OE1	2.43	0.51
35:DC:42:TYR:CE2	35:DC:90:VAL:HG21	2.46	0.51
36:DD:125:VAL:O	36:DD:127:GLY:N	2.42	0.51
1:EA:545:U:H2'	1:EA:546:U:O3'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:568:U:O4	18:ER:81:LYS:NZ	2.43	0.51
1:EA:1072:C:H5'	1:EA:1073:A:OP1	2.10	0.51
1:EA:1141:U:H6	10:EJ:65:THR:CG2	2.24	0.51
1:EA:1590:A:OP2	59:EA:3620:HOH:O	2.19	0.51
3:EC:109:LEU:HD23	3:EC:110:LYS:H	1.76	0.51
33:FA:1496:C:OP1	54:FV:509:SER:HB2	2.09	0.51
40:FH:106:THR:HG22	40:FH:107:SER:N	2.25	0.51
42:FJ:88:MET:O	42:FJ:90:LEU:N	2.43	0.51
43:FK:52:PHE:CE2	43:FK:65:VAL:HG11	2.45	0.51
1:GA:45:G:C5'	1:GA:46:G:H5'	2.40	0.51
1:GA:1061:U:N3	9:GI:9:LYS:HG3	2.25	0.51
1:GA:1258:U:H2'	1:GA:1259:G:C8	2.44	0.51
1:GA:1924:C:C4	1:GA:1925:C:N4	2.79	0.51
9:GI:19:PRO:HD2	9:GI:23:VAL:HG23	1.91	0.51
16:GP:33:GLU:OE1	33:HA:346:G:O4'	2.29	0.51
33:HA:404:G:N7	36:HD:2:ALA:HB3	2.25	0.51
33:BA:410:G:OP1	36:BD:26:ARG:NH1	2.31	0.51
33:BA:684:U:C4	33:BA:685:G:C5	2.98	0.51
33:BA:1007:U:H2'	33:BA:1008:U:C5'	2.38	0.51
43:BK:15:GLN:HG3	43:BK:16:VAL:N	2.26	0.51
1:CA:2502:G:C5'	1:CA:2503:A:H5''	2.40	0.51
2:CB:7:G:H4'	15:CO:29:HIS:CD2	2.45	0.51
11:CK:76:VAL:HB	16:CP:72:VAL:CG2	2.40	0.51
23:CW:18:LYS:HG3	23:CW:19:ARG:N	2.26	0.51
33:DA:382:A:H2'	33:DA:383:A:C8	2.46	0.51
34:DB:79:VAL:HG22	34:DB:213:LEU:HD21	1.91	0.51
35:DC:111:LEU:HD13	35:DC:144:LEU:HD11	1.91	0.51
44:DL:63:VAL:HG22	44:DL:64:THR:N	2.26	0.51
54:DV:591:LEU:HD11	54:DV:595:LEU:HG	1.92	0.51
1:EA:855:G:C2	23:EW:23:LYS:HD2	2.45	0.51
1:EA:996:A:H4'	17:EQ:91:ARG:NE	2.26	0.51
2:EB:41:G:H3'	2:EB:42:C:H5''	1.93	0.51
10:EJ:73:VAL:HG23	10:EJ:74:TYR:H	1.76	0.51
11:EK:105:ARG:HD3	11:EK:122:VAL:HG12	1.92	0.51
13:EM:40:ARG:HD3	13:EM:93:VAL:HG11	1.93	0.51
13:EM:55:ARG:O	13:EM:55:ARG:HD2	2.10	0.51
32:E5:54:VAL:HG22	32:E5:83:ALA:HB1	1.93	0.51
33:FA:451:A:C2	33:FA:481:G:C6	2.98	0.51
33:FA:791:G:C6	33:FA:792:A:N7	2.78	0.51
33:FA:846:G:OP1	50:FR:48:ARG:NH1	2.43	0.51
33:FA:1033:G:H2'	33:FA:1034:G:C5'	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:FD:22:LYS:C	36:FD:24:GLY:H	2.13	0.51
41:FI:38:TYR:HD1	41:FI:39:PHE:CD2	2.29	0.51
42:FJ:7:ARG:HB3	42:FJ:101:SER:HB2	1.93	0.51
46:FN:42:TRP:O	46:FN:45:VAL:HG22	2.10	0.51
1:GA:2339:C:H2'	1:GA:2340:A:C8	2.45	0.51
6:GF:3:LEU:CD2	6:GF:100:GLU:HB2	2.40	0.51
10:GJ:6:ALA:HB3	10:GJ:45:THR:HG21	1.91	0.51
14:GN:45:ARG:HD3	14:GN:97:ILE:HD11	1.93	0.51
16:GP:50:ARG:HD3	16:GP:51:ASN:H	1.75	0.51
20:GT:44:LYS:HG3	20:GT:55:VAL:HG11	1.92	0.51
33:HA:374:A:H5''	33:HA:452:A:C2	2.46	0.51
43:HK:24:HIS:HB3	43:HK:31:ILE:HG12	1.91	0.51
54:HV:414:PRO:HA	54:HV:461:MET:SD	2.50	0.51
1:AA:397:U:H2'	1:AA:398:C:C6	2.45	0.51
1:AA:1654:A:O2'	4:AD:118:PHE:CG	2.63	0.51
1:AA:1725:U:H2'	1:AA:1726:C:C6	2.45	0.51
1:AA:2336:A:N6	23:AW:40:ARG:CB	2.74	0.51
2:AB:28:C:OP1	15:AO:31:THR:HG21	2.10	0.51
3:AC:68:ARG:NE	3:AC:103:ILE:HD11	2.24	0.51
8:AH:9:VAL:O	8:AH:13:GLY:N	2.42	0.51
9:AI:100:ILE:HG22	9:AI:101:SER:N	2.25	0.51
24:AX:44:ARG:NH2	24:AX:77:TYR:HE1	2.09	0.51
32:A5:77:VAL:C	32:A5:79:PRO:HD2	2.30	0.51
34:BB:67:LEU:HD21	34:BB:91:VAL:HG23	1.92	0.51
37:BE:41:ASP:OD1	37:BE:42:GLY:N	2.43	0.51
1:CA:963:U:OP2	59:CA:3352:HOH:O	2.19	0.51
1:CA:1913:A:C2	54:DV:591:LEU:HD12	2.45	0.51
5:CE:23:PHE:CE1	5:CE:28:VAL:HG11	2.45	0.51
6:CF:39:VAL:H	6:CF:85:GLY:HA2	1.75	0.51
35:DC:115:LEU:O	35:DC:119:SER:N	2.40	0.51
50:DR:34:THR:OG1	50:DR:35:GLU:N	2.43	0.51
1:EA:1868:C:N4	1:EA:1869:G:O6	2.44	0.51
6:EF:3:LEU:HD11	6:EF:172:PHE:HD2	1.75	0.51
12:EL:132:ARG:HG3	12:EL:142:ILE:HD12	1.93	0.51
14:EN:33:ILE:HG12	14:EN:118:ARG:CZ	2.41	0.51
17:EQ:91:ARG:NH1	18:ER:11:GLN:O	2.44	0.51
34:FB:98:GLY:C	34:FB:100:LEU:H	2.14	0.51
40:FH:106:THR:HG21	40:FH:121:LEU:HD13	1.91	0.51
42:FJ:71:LEU:O	42:FJ:72:ARG:NH1	2.42	0.51
1:GA:875:G:C2'	1:GA:876:C:H5'	2.40	0.51
1:GA:1073:A:H3'	1:GA:1074:G:H5''	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:1202:G:C5	1:GA:1203:U:C4	2.98	0.51
1:GA:2619:C:H5'	4:GD:155:VAL:O	2.10	0.51
5:GE:178:VAL:O	5:GE:182:ALA:N	2.40	0.51
33:HA:1323:G:O6	51:HS:4:SER:OG	2.19	0.51
37:HE:106:ILE:HD11	37:HE:124:LEU:CD2	2.40	0.51
46:HN:41:ARG:HG2	46:HN:42:TRP:N	2.26	0.51
1:AA:1437:C:H2'	1:AA:1438:U:H6	1.73	0.51
1:AA:1782:U:OP1	59:AA:3683:HOH:O	2.19	0.51
1:AA:1993:U:H4'	4:AD:133:THR:HG21	1.92	0.51
1:AA:2297:A:N1	1:AA:2321:U:H5	2.08	0.51
1:AA:2834:G:H2'	1:AA:2879:A:H61	1.76	0.51
1:AA:2848:G:O2'	1:AA:2867:G:N2	2.40	0.51
13:AM:53:MET:HE3	13:AM:63:ILE:HD13	1.91	0.51
17:AQ:35:PHE:CZ	17:AQ:39:ILE:HD11	2.45	0.51
18:AR:16:GLU:HA	18:AR:98:ILE:HG22	1.92	0.51
18:AR:49:ILE:HG22	18:AR:54:VAL:N	2.25	0.51
24:AX:76:LYS:HG3	24:AX:77:TYR:H	1.74	0.51
33:BA:159:G:N2	33:BA:162:A:OP2	2.43	0.51
33:BA:754:C:OP1	47:BO:72:ARG:NH2	2.44	0.51
42:BJ:74:VAL:HG12	42:BJ:75:ASP:N	2.25	0.51
1:CA:45:G:H5''	1:CA:46:G:OP1	2.11	0.51
1:CA:45:G:C5'	1:CA:46:G:H5'	2.40	0.51
1:CA:2246:G:H2'	1:CA:2247:A:C8	2.46	0.51
1:CA:2314:A:OP1	6:CF:87:LYS:NZ	2.44	0.51
2:CB:79:G:O6	22:CV:14:LYS:NZ	2.31	0.51
4:CD:4:LEU:HD23	4:CD:101:PHE:CE2	2.45	0.51
22:CV:42:LEU:HD23	22:CV:47:VAL:HG21	1.93	0.51
23:CW:30:VAL:HG23	23:CW:60:ALA:O	2.10	0.51
33:DA:562:U:H1'	44:DL:12:ARG:HB3	1.92	0.51
1:EA:201:C:OP1	24:EX:17:ARG:NH1	2.44	0.51
1:EA:1256:G:C2'	5:EE:77:ILE:HD11	2.41	0.51
1:EA:2145:C:H3'	1:EA:2146:C:C5'	2.41	0.51
1:EA:2343:U:O2'	1:EA:2373:G:O2'	2.29	0.51
1:EA:2760:C:H2'	1:EA:2761:A:H5'	1.92	0.51
3:EC:244:VAL:HG12	3:EC:250:GLN:HA	1.92	0.51
9:EI:79:LEU:HA	9:EI:83:ALA:CB	2.41	0.51
11:EK:70:ARG:HD3	11:EK:76:VAL:HG22	1.91	0.51
28:E1:4:ILE:HD13	28:E1:27:ARG:NH1	2.26	0.51
51:FS:5:LEU:O	51:FS:6:LYS:HE3	2.11	0.51
1:GA:646:U:H3'	1:GA:647:G:H5''	1.93	0.51
1:GA:996:A:H4'	17:GQ:91:ARG:CD	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:1024:G:C8	1:GA:1025:G:H2'	2.46	0.51
1:GA:2098:U:C4	1:GA:2099:U:C4	2.99	0.51
1:GA:2358:A:C4	1:GA:2359:C:C6	2.98	0.51
9:GI:55:PRO:HB2	9:GI:71:LYS:HD2	1.92	0.51
11:GK:15:GLY:O	11:GK:46:ALA:HA	2.11	0.51
15:GO:34:HIS:CD2	15:GO:54:VAL:HG23	2.46	0.51
17:GQ:25:GLY:HA2	17:GQ:29:ARG:NH1	2.26	0.51
24:GX:52:ALA:O	24:GX:53:LYS:HB3	2.10	0.51
36:HD:193:ALA:HB3	36:HD:195:ILE:HG23	1.93	0.51
40:HH:10:MET:HE2	40:HH:33:LYS:HG2	1.92	0.51
43:HK:98:ARG:CZ	53:HU:15:ALA:HB3	2.41	0.51
1:AA:776:G:N1	1:AA:2072:C:OP1	2.38	0.51
1:AA:1535:A:H4'	1:AA:1536:C:OP2	2.10	0.51
1:AA:1808:A:O2'	24:AX:2:ARG:NH1	2.44	0.51
1:AA:2303:G:C6	1:AA:2304:G:N7	2.79	0.51
17:AQ:91:ARG:HH11	18:AR:11:GLN:H	1.59	0.51
32:A5:39:THR:HA	32:A5:42:ARG:HD2	1.93	0.51
35:BC:123:GLN:HB3	35:BC:128:VAL:HG11	1.93	0.51
36:BD:65:TYR:O	36:BD:115:ARG:NH2	2.43	0.51
37:BE:94:VAL:HG21	37:BE:140:THR:HG22	1.93	0.51
39:BG:59:LEU:O	39:BG:62:PHE:HB3	2.10	0.51
43:BK:84:VAL:HG21	43:BK:100:LEU:HD21	1.92	0.51
1:CA:372:G:O4'	24:CX:60:LYS:HE3	2.11	0.51
3:CC:79:ARG:NH2	3:CC:81:GLU:OE2	2.38	0.51
20:CT:48:GLN:O	20:CT:52:GLU:HA	2.10	0.51
25:CY:1:MET:H3	25:CY:2:LYS:HD2	1.76	0.51
28:C1:33:LEU:H	28:C1:51:ALA:HB3	1.75	0.51
33:DA:79:G:H3'	33:DA:80:A:C8	2.46	0.51
34:DB:49:PHE:HB2	34:DB:212:TYR:CE2	2.46	0.51
44:DL:38:TYR:OH	44:DL:54:ARG:HD2	2.10	0.51
48:DP:4:ILE:HD13	48:DP:67:ILE:HD13	1.92	0.51
53:DU:41:PRO:O	53:DU:45:ARG:N	2.40	0.51
20:ET:27:SER:O	20:ET:28:ASN:ND2	2.44	0.51
23:EW:34:SER:OG	23:EW:36:ILE:HG22	2.10	0.51
32:E5:91:ALA:HB3	32:E5:130:PRO:HB2	1.93	0.51
33:FA:8:A:C5	36:FD:206:LYS:HB3	2.46	0.51
33:FA:625:U:H4'	48:FP:16:PHE:CE2	2.46	0.51
36:FD:201:VAL:HG12	37:FE:103:THR:HG23	1.92	0.51
37:FE:46:VAL:CG1	37:FE:118:ALA:HA	2.41	0.51
1:GA:479:A:N3	1:GA:481:G:H5''	2.26	0.51
1:GA:2006:C:O5'	1:GA:2006:C:H6	1.94	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2472:G:H2'	1:GA:2475:C:H42	1.75	0.51
3:GC:131:MET:O	3:GC:166:ARG:NH1	2.43	0.51
11:GK:99:ILE:HG21	11:GK:119:ALA:HB2	1.92	0.51
17:GQ:65:ASN:HD22	17:GQ:75:TYR:CB	2.24	0.51
33:HA:1386:G:H2'	33:HA:1387:G:H8	1.75	0.51
1:AA:273:G:N2	1:AA:365:U:C2	2.78	0.51
1:AA:762:U:H4'	1:AA:763:G:O5'	2.11	0.51
1:AA:2423:U:H6	1:AA:2423:U:H5'	1.76	0.51
6:AF:69:ALA:N	6:AF:82:TYR:O	2.44	0.51
23:AW:41:GLY:HA2	23:AW:44:PHE:CE2	2.45	0.51
24:AX:34:SER:HA	24:AX:48:LEU:O	2.11	0.51
24:AX:39:VAL:HG22	24:AX:44:ARG:O	2.10	0.51
33:BA:1296:C:H4'	33:BA:1302:C:N3	2.26	0.51
33:BA:1411:C:H2'	33:BA:1412:C:C6	2.45	0.51
36:BD:139:PRO:HB3	36:BD:184:ARG:HA	1.91	0.51
37:BE:46:VAL:CG1	37:BE:47:GLY:N	2.73	0.51
37:BE:96:MET:HE3	37:BE:115:LEU:HD21	1.92	0.51
1:CA:127:A:H5''	1:CA:128:C:C6	2.45	0.51
1:CA:348:A:H2'	1:CA:349:U:O4'	2.11	0.51
1:CA:655:A:H4'	1:CA:656:G:OP1	2.11	0.51
1:CA:947:A:HO2'	1:CA:984:A:H2	1.57	0.51
1:CA:995:C:O2'	1:CA:996:A:OP2	2.23	0.51
1:CA:2318:G:C5	1:CA:2319:G:C6	2.99	0.51
11:CK:107:LEU:O	11:CK:109:SER:N	2.39	0.51
15:CO:51:ALA:HB3	15:CO:78:VAL:HG13	1.93	0.51
19:CS:63:GLY:O	19:CS:64:ALA:HB3	2.10	0.51
26:CZ:40:THR:HG23	26:CZ:43:ILE:H	1.75	0.51
33:DA:236:A:H2'	33:DA:237:G:C8	2.46	0.51
34:DB:141:GLU:HA	34:DB:144:GLU:HB2	1.93	0.51
39:DG:18:PHE:CD2	39:DG:59:LEU:HD21	2.46	0.51
52:DT:3:ASN:O	52:DT:5:LYS:N	2.29	0.51
1:EA:1256:G:O2'	5:EE:77:ILE:HD11	2.11	0.51
1:EA:1458:U:H4'	1:EA:1459:G:O5'	2.11	0.51
1:EA:1796:U:H2'	1:EA:1797:G:H8	1.75	0.51
1:EA:2243:U:H2'	1:EA:2244:U:C6	2.46	0.51
1:EA:2685:G:OP1	11:EK:78:ARG:NH2	2.44	0.51
7:EG:162:ARG:CZ	7:EG:168:VAL:HG21	2.40	0.51
10:EJ:44:TYR:CD1	10:EJ:44:TYR:C	2.83	0.51
14:EN:24:MET:HG2	14:EN:44:LEU:HD22	1.92	0.51
20:ET:40:LYS:O	20:ET:44:LYS:N	2.37	0.51
32:E5:103:ASN:ND2	32:E5:109:LYS:O	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:E5:131:THR:HB	32:E5:134:GLU:HG3	1.92	0.51
33:FA:620:C:H1'	36:FD:132:ILE:HG12	1.93	0.51
34:FB:183:PHE:CE2	34:FB:197:PHE:CD2	2.98	0.51
36:FD:25:VAL:HA	36:FD:161:LEU:CD2	2.41	0.51
43:FK:94:GLU:O	43:FK:97:ILE:HG22	2.10	0.51
1:GA:34:U:O2'	1:GA:35:G:OP1	2.26	0.51
1:GA:1289:C:O2'	1:GA:1330:C:H4'	2.10	0.51
5:GE:44:ARG:HG3	5:GE:44:ARG:HH21	1.75	0.51
6:GF:11:VAL:HA	6:GF:172:PHE:CE1	2.46	0.51
6:GF:141:ASP:HB3	6:GF:144:LYS:HB2	1.92	0.51
9:GI:14:ALA:HB2	9:GI:54:ILE:HD12	1.91	0.51
18:GR:66:HIS:CD2	18:GR:94:THR:HG22	2.45	0.51
21:GU:92:VAL:CG2	21:GU:101:THR:HG23	2.41	0.51
28:G1:16:THR:HB	28:G1:41:VAL:HG21	1.93	0.51
34:HB:70:GLY:HA2	34:HB:163:ILE:HG22	1.93	0.51
50:HR:41:PRO:HB2	50:HR:43:ARG:HG2	1.91	0.51
1:AA:248:G:H5'	1:AA:250:G:N7	2.26	0.51
1:AA:2815:C:C2	1:AA:2816:G:C8	2.99	0.51
2:AB:81:G:C5	2:AB:82:U:C5	2.99	0.51
6:AF:134:GLN:HG2	6:AF:135:ILE:HG13	1.92	0.51
20:AT:89:GLU:O	20:AT:91:GLN:N	2.41	0.51
22:AV:31:TYR:O	22:AV:93:ARG:N	2.36	0.51
23:AW:63:ASP:N	23:AW:63:ASP:OD1	2.43	0.51
28:A1:7:LYS:HE3	30:A3:33:THR:HG21	1.93	0.51
32:A5:23:LEU:H	32:A5:87:GLU:HB2	1.76	0.51
33:BA:73:C:H5'	33:BA:73:C:H6	1.76	0.51
33:BA:642:A:C6	33:BA:643:C:C4	2.98	0.51
33:BA:1386:G:H2'	33:BA:1387:G:H8	1.75	0.51
38:BF:42:TRP:HB2	38:BF:59:TYR:HB2	1.93	0.51
54:BV:441:GLU:OE1	54:BV:472:ARG:NH2	2.42	0.51
1:CA:27:G:C4	1:CA:512:G:N2	2.79	0.51
1:CA:747:U:C5	1:CA:2613:U:C5	2.99	0.51
1:CA:783:A:C8	1:CA:784:G:H4'	2.46	0.51
1:CA:1857:G:O2'	1:CA:1858:A:OP2	2.28	0.51
1:CA:2104:C:H41	1:CA:2183:A:H61	1.59	0.51
1:CA:2311:A:H3'	1:CA:2312:U:C6	2.46	0.51
1:CA:2636:C:H2'	1:CA:2637:U:C6	2.46	0.51
7:CG:84:LYS:CG	7:CG:132:LEU:H	2.24	0.51
33:DA:35:G:H2'	33:DA:36:C:C6	2.46	0.51
36:DD:9:LEU:HD21	36:DD:22:LYS:HG3	1.93	0.51
39:DG:51:ALA:O	39:DG:55:GLY:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:DI:7:TYR:CG	41:DI:8:GLY:N	2.78	0.51
54:DV:217:GLU:O	54:DV:220:GLN:N	2.43	0.51
1:EA:1869:G:H3'	1:EA:1870:C:H5''	1.92	0.51
1:EA:2657:A:O3'	7:EG:159:LYS:NZ	2.43	0.51
10:EJ:135:GLN:CD	10:EJ:135:GLN:N	2.63	0.51
11:EK:17:ARG:HB2	11:EK:45:GLU:HB2	1.93	0.51
15:EO:49:VAL:HG21	15:EO:82:ALA:HA	1.93	0.51
18:ER:21:ARG:NH2	18:ER:93:PHE:CZ	2.79	0.51
18:ER:39:LEU:HA	18:ER:49:ILE:HG21	1.92	0.51
19:ES:69:LEU:HG	19:ES:107:VAL:HG13	1.92	0.51
33:FA:1414:U:O2	33:FA:1487:G:N2	2.43	0.51
51:FS:37:ARG:O	51:FS:70:LYS:HD2	2.09	0.51
1:GA:1723:G:H3'	1:GA:1724:G:C8	2.45	0.51
1:GA:1993:U:H4'	4:GD:133:THR:CG2	2.40	0.51
1:GA:2423:U:H5'	1:GA:2423:U:H6	1.76	0.51
1:GA:2898:U:O2'	10:GJ:134:ALA:O	2.25	0.51
3:GC:16:VAL:N	3:GC:203:VAL:CG1	2.74	0.51
3:GC:29:PHE:CE2	3:GC:31:PRO:HG2	2.45	0.51
6:GF:1:ALA:HB3	6:GF:4:HIS:HB2	1.92	0.51
14:GN:117:ASP:OD1	14:GN:118:ARG:N	2.44	0.51
23:GW:9:THR:HG23	23:GW:10:ARG:CD	2.40	0.51
33:HA:461:A:H3'	33:HA:461:A:N3	2.26	0.51
33:HA:1003:G:N2	33:HA:1037:C:O2	2.43	0.51
41:HI:55:VAL:O	41:HI:94:LEU:CD2	2.59	0.51
43:HK:15:GLN:OE1	43:HK:78:GLY:HA3	2.10	0.51
54:HV:488:VAL:HB	54:HV:490:TYR:CE2	2.46	0.51
1:AA:404:A:H1'	1:AA:405:U:OP2	2.11	0.51
3:AC:259:ASN:OD1	3:AC:262:THR:N	2.40	0.51
9:AI:107:GLU:HA	9:AI:110:GLN:HB3	1.93	0.51
16:AP:19:PHE:N	16:AP:19:PHE:HD1	2.09	0.51
33:BA:847:G:H2'	33:BA:848:C:C6	2.46	0.51
33:BA:1004:A:H2'	33:BA:1005:A:O4'	2.11	0.51
33:BA:1156:G:O2'	33:BA:1180:A:N6	2.39	0.51
52:BT:9:LYS:HA	52:BT:12:ILE:HG23	1.91	0.51
12:CL:123:ARG:HA	12:CL:143:GLU:O	2.11	0.51
23:CW:17:ALA:HA	23:CW:35:ILE:HG23	1.92	0.51
33:DA:1294:G:C6	33:DA:1295:U:C4	2.99	0.51
35:DC:193:TYR:N	35:DC:193:TYR:CD1	2.78	0.51
37:DE:157:ARG:HG2	40:DH:43:GLU:O	2.11	0.51
39:DG:4:ARG:HG3	39:DG:5:ARG:N	2.25	0.51
44:DL:81:LEU:HB3	44:DL:98:VAL:CG1	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:DQ:12:VAL:O	49:DQ:13:VAL:HB	2.10	0.51
54:DV:196:ALA:O	54:DV:198:GLN:N	2.44	0.51
1:EA:272:A:O2'	1:EA:273:G:O5'	2.26	0.51
16:EP:42:PHE:CE1	16:EP:62:LYS:HD2	2.46	0.51
26:EZ:8:GLN:HB3	26:EZ:31:ILE:HA	1.91	0.51
33:FA:524:G:H2'	33:FA:525:C:C6	2.45	0.51
33:FA:574:A:HO2'	33:FA:882:C:HO2'	1.57	0.51
33:FA:660:C:H2'	33:FA:661:G:O4'	2.11	0.51
42:FJ:35:GLN:HG3	42:FJ:36:VAL:H	1.75	0.51
42:FJ:85:ASP:OD2	42:FJ:89:ARG:NH2	2.44	0.51
51:FS:7:LYS:HA	51:FS:7:LYS:HE2	1.93	0.51
51:FS:63:THR:HG22	51:FS:64:ASP:N	2.26	0.51
1:GA:639:U:H2'	1:GA:640:C:C6	2.46	0.51
1:GA:1321:A:O2'	19:GS:11:ARG:NH2	2.44	0.51
1:GA:2665:A:C2	1:GA:2666:C:C6	2.99	0.51
41:HI:95:ARG:HA	41:HI:98:LEU:HB3	1.93	0.51
42:HJ:50:THR:HG21	42:HJ:64:GLN:HE21	1.76	0.51
44:HL:44:LYS:CB	44:HL:45:PRO:CD	2.89	0.51
50:HR:36:SER:HB3	53:HU:4:ILE:HG12	1.92	0.51
1:AA:1080:A:H2'	1:AA:1081:U:O4'	2.11	0.50
1:AA:2804:U:H2'	1:AA:2805:C:C6	2.46	0.50
4:AD:151:THR:HG22	4:AD:152:PRO:HD3	1.92	0.50
5:AE:108:ILE:HD11	12:AL:2:ARG:NH1	2.26	0.50
19:AS:18:ARG:O	19:AS:19:LEU:CB	2.59	0.50
21:AU:53:GLN:N	21:AU:54:PRO:HD2	2.26	0.50
21:AU:91:LYS:O	21:AU:92:VAL:HG12	2.11	0.50
32:A5:74:ASP:HA	32:A5:77:VAL:HG23	1.93	0.50
1:CA:141:G:N1	20:CT:1:MET:O	2.44	0.50
1:CA:1998:A:P	4:CD:141:ARG:HH22	2.34	0.50
1:CA:2314:A:H2'	1:CA:2315:G:C8	2.45	0.50
1:CA:2745:C:C4	1:CA:2746:U:C4	2.99	0.50
11:CK:61:VAL:CG2	11:CK:87:LEU:HD11	2.41	0.50
33:DA:71:A:O2'	33:DA:72:A:O4'	2.29	0.50
33:DA:1391:U:H2'	33:DA:1392:G:C8	2.46	0.50
42:DJ:28:THR:O	42:DJ:32:THR:HG22	2.11	0.50
48:DP:52:LEU:HD23	48:DP:75:ILE:HG22	1.92	0.50
54:DV:114:CYS:SG	54:DV:143:LYS:HD2	2.51	0.50
1:EA:45:G:C5'	1:EA:46:G:H5'	2.41	0.50
1:EA:1107:G:OP1	32:E5:59:LEU:N	2.43	0.50
1:EA:2683:C:O2	11:EK:70:ARG:NH2	2.44	0.50
9:EI:31:GLY:O	9:EI:60:VAL:HG11	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:EJ:6:ALA:CB	10:EJ:45:THR:HG21	2.41	0.50
10:EJ:36:LEU:O	10:EJ:121:LYS:NZ	2.44	0.50
19:ES:69:LEU:HG	19:ES:107:VAL:CG1	2.41	0.50
32:E5:43:LYS:HZ3	32:E5:98:GLU:HB2	1.75	0.50
49:FQ:76:VAL:HG23	49:FQ:77:ARG:H	1.77	0.50
1:GA:631:A:N3	1:GA:2415:G:O2'	2.40	0.50
1:GA:1924:C:H2'	1:GA:1925:C:C6	2.47	0.50
6:GF:134:GLN:HG2	6:GF:135:ILE:N	2.26	0.50
10:GJ:3:THR:HB	10:GJ:44:TYR:OH	2.10	0.50
23:GW:45:HIS:HB2	23:GW:50:VAL:HG13	1.93	0.50
33:HA:844:G:C2'	33:HA:845:A:H5''	2.41	0.50
33:HA:1007:U:H2'	33:HA:1008:U:H5'	1.94	0.50
33:HA:1083:U:H5''	33:HA:1086:U:C5	2.46	0.50
33:HA:1330:U:H5''	45:HM:23:TYR:CZ	2.45	0.50
46:HN:51:LEU:HB3	46:HN:52:PRO:CD	2.41	0.50
3:AC:28:PRO:HG2	3:AC:33:LEU:HD11	1.93	0.50
5:AE:46:GLN:HG3	5:AE:87:ALA:H	1.76	0.50
7:AG:39:ALA:HB1	7:AG:57:TYR:CD2	2.46	0.50
9:AI:98:GLY:HA3	9:AI:137:LEU:HD13	1.92	0.50
17:AQ:26:ALA:HB1	17:AQ:30:VAL:CG2	2.41	0.50
17:AQ:63:ARG:HH12	17:AQ:95:ALA:C	2.14	0.50
19:AS:69:LEU:HG	19:AS:107:VAL:HG22	1.93	0.50
32:A5:29:ASP:HA	32:A5:108:VAL:HG11	1.91	0.50
33:BA:451:A:H4'	33:BA:452:A:O5'	2.10	0.50
52:BT:6:SER:C	52:BT:8:LYS:H	2.14	0.50
54:BV:552:ALA:O	54:BV:556:GLY:N	2.40	0.50
1:CA:163:C:O2'	1:CA:164:C:P	2.69	0.50
1:CA:279:A:N6	1:CA:361:G:H1'	2.26	0.50
1:CA:668:A:H2'	1:CA:670:A:H62	1.76	0.50
1:CA:1607:C:H4'	1:CA:1608:A:O5'	2.10	0.50
10:CJ:81:ILE:HG13	10:CJ:82:GLY:H	1.76	0.50
21:CU:6:ARG:NH2	21:CU:25:LYS:O	2.44	0.50
22:CV:6:ALA:HB1	22:CV:40:ILE:CG2	2.41	0.50
33:DA:386:C:C4	33:DA:387:U:C5	2.99	0.50
33:DA:1010:U:H2'	33:DA:1011:C:C6	2.46	0.50
36:DD:91:LEU:HD21	36:DD:195:ILE:HD11	1.92	0.50
37:DE:90:THR:HB	37:DE:135:ASN:ND2	2.26	0.50
37:DE:110:ALA:O	37:DE:111:MET:HB3	2.11	0.50
38:DF:5:GLU:OE1	50:DR:24:LYS:HE2	2.12	0.50
51:DS:31:LEU:HD13	51:DS:47:LEU:HD21	1.93	0.50
51:DS:45:ILE:HA	51:DS:62:VAL:CG1	2.40	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1647:U:H3'	1:EA:1647:U:P	2.51	0.50
1:EA:2661:G:C6	1:EA:2662:A:C2	2.99	0.50
4:ED:70:LYS:O	4:ED:71:ALA:CB	2.58	0.50
6:EF:39:VAL:HG13	6:EF:40:GLY:H	1.76	0.50
24:EX:39:VAL:HG22	24:EX:44:ARG:O	2.11	0.50
33:FA:21:G:H2'	33:FA:22:G:C8	2.46	0.50
37:FE:106:ILE:HD11	37:FE:124:LEU:CD2	2.41	0.50
39:FG:146:GLU:HA	39:FG:149:LYS:HE2	1.93	0.50
42:FJ:32:THR:CG2	42:FJ:83:THR:HA	2.42	0.50
52:FT:30:THR:HA	52:FT:33:LYS:HG3	1.94	0.50
1:GA:2075:U:C4	1:GA:2238:G:C6	3.00	0.50
3:GC:77:VAL:HG23	3:GC:111:ALA:HA	1.94	0.50
9:GI:99:LYS:HA	9:GI:137:LEU:HD11	1.94	0.50
11:GK:114:LYS:HE3	11:GK:118:LEU:HD11	1.93	0.50
20:GT:67:VAL:O	20:GT:68:LYS:HG3	2.11	0.50
39:HG:107:ALA:HB2	39:HG:133:THR:HG23	1.92	0.50
45:HM:106:ALA:HB3	45:HM:110:LYS:HD2	1.93	0.50
51:HS:51:VAL:HG22	51:HS:71:LEU:HD21	1.92	0.50
1:AA:545:U:H3'	1:AA:546:U:H4'	1.93	0.50
1:AA:620:G:H4'	1:AA:621:A:O5'	2.12	0.50
1:AA:1799:G:O2'	3:AC:179:GLU:OE2	2.28	0.50
1:AA:2134:A:O2'	1:AA:2135:A:O4'	2.29	0.50
3:AC:93:VAL:HG21	3:AC:115:ILE:HD11	1.93	0.50
10:AJ:73:VAL:HG23	10:AJ:74:TYR:H	1.76	0.50
11:AK:36:GLY:HA2	11:AK:62:VAL:O	2.12	0.50
15:AO:35:ILE:HG21	15:AO:71:ALA:HA	1.94	0.50
18:AR:48:LYS:HE2	18:AR:48:LYS:O	2.11	0.50
33:BA:978:A:O2'	33:BA:1322:C:H5	1.93	0.50
36:BD:58:LYS:HE2	36:BD:69:GLU:OE2	2.11	0.50
54:BV:169:LEU:HB2	54:BV:263:LEU:HB3	1.94	0.50
1:CA:788:A:H3'	1:CA:790:U:C5	2.46	0.50
1:CA:876:C:C2'	1:CA:877:A:O5'	2.59	0.50
1:CA:1474:U:H2'	1:CA:1475:G:H5'	1.93	0.50
1:CA:2327:A:H2'	1:CA:2328:A:C8	2.46	0.50
6:CF:38:GLY:HA2	6:CF:85:GLY:HA3	1.94	0.50
10:CJ:38:GLY:O	10:CJ:43:GLU:HB2	2.11	0.50
23:CW:41:GLY:C	23:CW:43:LYS:H	2.13	0.50
1:EA:400:G:N7	24:EX:56:ARG:NH1	2.59	0.50
9:EI:72:THR:OG1	9:EI:112:LYS:NZ	2.45	0.50
10:EJ:81:ILE:HG23	10:EJ:82:GLY:H	1.76	0.50
13:EM:11:LYS:HE2	13:EM:87:GLY:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:FD:72:PHE:CZ	36:FD:200:ILE:HD11	2.47	0.50
36:FD:125:VAL:O	36:FD:127:GLY:N	2.44	0.50
43:FK:52:PHE:HE2	43:FK:65:VAL:HG11	1.76	0.50
44:FL:114:ARG:HB3	44:FL:119:VAL:HB	1.94	0.50
48:FP:19:VAL:HG12	48:FP:37:GLY:C	2.32	0.50
50:FR:27:ALA:O	50:FR:30:LYS:HG2	2.12	0.50
54:FV:663:MET:HG2	54:FV:682:MET:SD	2.50	0.50
1:GA:1063:G:C6	1:GA:1076:C:N3	2.79	0.50
1:GA:1835:G:H1'	1:GA:1931:U:C2	2.46	0.50
1:GA:1847:A:H5''	1:GA:1848:A:N7	2.26	0.50
1:GA:2537:U:H2'	1:GA:2538:C:C6	2.46	0.50
3:GC:144:GLU:HA	3:GC:151:GLY:HA2	1.92	0.50
4:GD:151:THR:HG22	4:GD:152:PRO:HD3	1.92	0.50
10:GJ:73:VAL:HG23	10:GJ:74:TYR:H	1.75	0.50
16:GP:92:ARG:O	16:GP:93:LYS:HB2	2.11	0.50
54:HV:85:ASN:HD22	54:HV:382:ILE:HG13	1.76	0.50
1:AA:613:A:HO2'	1:AA:614:A:P	2.34	0.50
1:AA:772:C:N4	59:AA:3711:HOH:O	2.27	0.50
1:AA:1198:U:H2'	1:AA:1199:U:C6	2.46	0.50
1:AA:1477:A:N6	1:AA:1514:G:O2'	2.43	0.50
1:AA:1605:C:C2'	1:AA:1606:C:H5'	2.42	0.50
1:AA:1607:C:H4'	1:AA:1608:A:O5'	2.12	0.50
1:AA:1789:A:P	3:AC:220:ARG:HH11	2.35	0.50
6:AF:57:ALA:HA	6:AF:62:GLN:O	2.11	0.50
16:AP:13:LYS:NZ	16:AP:80:VAL:HB	2.26	0.50
16:AP:50:ARG:CZ	16:AP:56:SER:HB3	2.41	0.50
32:A5:24:SER:C	32:A5:116:GLU:CG	2.79	0.50
37:BE:133:PRO:HA	37:BE:136:VAL:CG1	2.42	0.50
52:BT:62:ALA:HA	52:BT:67:ILE:HG22	1.92	0.50
1:CA:61:C:OP2	25:CY:47:ARG:NH2	2.38	0.50
1:CA:1970:A:OP2	59:CA:3469:HOH:O	2.20	0.50
11:CK:18:ARG:HB2	11:CK:45:GLU:HG3	1.94	0.50
12:CL:92:LEU:HA	12:CL:125:LEU:HD21	1.94	0.50
18:CR:24:LYS:HA	18:CR:94:THR:HG23	1.94	0.50
34:DB:22:TRP:HB3	34:DB:38:HIS:NE2	2.26	0.50
34:DB:72:LYS:NZ	34:DB:204:ASP:HB3	2.27	0.50
34:DB:125:PHE:O	34:DB:125:PHE:CG	2.64	0.50
39:DG:70:ARG:HG3	39:DG:96:ARG:HG2	1.93	0.50
44:DL:99:ARG:HD2	44:DL:104:CYS:SG	2.51	0.50
52:DT:6:SER:C	52:DT:8:LYS:H	2.14	0.50
54:DV:497:LYS:HG2	54:DV:523:TYR:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:2104:C:H2'	1:EA:2105:U:C4'	2.41	0.50
1:EA:2427:C:H5''	1:EA:2428:G:OP1	2.11	0.50
4:ED:70:LYS:O	4:ED:71:ALA:HB3	2.11	0.50
7:EG:75:VAL:O	7:EG:79:THR:HG22	2.10	0.50
33:FA:78:A:HO2'	33:FA:79:G:H8	1.59	0.50
33:FA:224:U:C2	33:FA:225:C:C5	2.99	0.50
33:FA:946:A:H2'	33:FA:947:G:C8	2.46	0.50
34:FB:86:CYS:SG	34:FB:88:GLN:NE2	2.85	0.50
1:GA:42:A:H2'	1:GA:43:G:C5'	2.41	0.50
1:GA:1006:C:C2	1:GA:1138:G:N2	2.79	0.50
1:GA:1177:G:H2'	1:GA:1178:C:O4'	2.11	0.50
1:GA:2232:C:P	24:GX:26:ARG:HH22	2.34	0.50
33:HA:71:A:N6	33:HA:100:G:C8	2.80	0.50
41:HI:21:ILE:CD1	41:HI:87:LEU:HD12	2.42	0.50
43:HK:53:ARG:HH12	43:HK:57:LYS:HB3	1.76	0.50
45:HM:114:LYS:HB2	45:HM:115:PRO:HD3	1.93	0.50
3:AC:140:VAL:CG2	3:AC:189:ALA:HB1	2.42	0.50
3:AC:166:ARG:HB3	3:AC:171:VAL:HG12	1.93	0.50
9:AI:18:ASN:N	9:AI:19:PRO:HD3	2.27	0.50
20:AT:69:ARG:HG3	20:AT:70:HIS:H	1.76	0.50
24:AX:29:LEU:HD23	24:AX:29:LEU:N	2.27	0.50
33:BA:687:A:C6	33:BA:703:G:N3	2.79	0.50
33:BA:1279:G:OP2	42:BJ:11:LYS:NZ	2.44	0.50
33:BA:1444:U:H1'	33:BA:1459:G:N2	2.26	0.50
46:BN:21:PHE:HA	46:BN:25:ALA:HB3	1.92	0.50
1:CA:778:G:C6	1:CA:779:U:N3	2.80	0.50
1:CA:833:A:H2'	1:CA:834:G:C8	2.47	0.50
1:CA:959:A:C6	1:CA:960:A:C6	3.00	0.50
1:CA:1378:A:C4	1:CA:1380:G:N7	2.80	0.50
3:CC:123:ILE:O	3:CC:123:ILE:HG13	2.12	0.50
9:CI:98:GLY:HA3	9:CI:137:LEU:HD22	1.94	0.50
12:CL:93:ASN:OD1	12:CL:94:THR:N	2.44	0.50
33:DA:444:G:C6	33:DA:491:G:C6	3.00	0.50
33:DA:448:A:H3'	33:DA:449:G:C8	2.47	0.50
33:DA:1513:A:H2'	33:DA:1514:G:C8	2.47	0.50
37:DE:46:VAL:HG11	37:DE:118:ALA:HB2	1.93	0.50
40:DH:106:THR:HG21	40:DH:121:LEU:HD13	1.94	0.50
43:DK:81:ASN:HB3	43:DK:106:ARG:HB3	1.94	0.50
52:DT:62:ALA:HB1	52:DT:69:LYS:H	1.75	0.50
1:EA:460:A:OP1	29:E2:41:ARG:NH1	2.38	0.50
1:EA:527:C:OP1	59:EA:3249:HOH:O	2.19	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:2481:G:HO2'	1:EA:2482:A:H8	1.60	0.50
1:EA:2705:A:H2'	1:EA:2706:A:O4'	2.11	0.50
2:EB:41:G:H3'	2:EB:42:C:C5'	2.41	0.50
4:ED:118:PHE:HZ	14:EN:1:MET:HB3	1.77	0.50
17:EQ:97:ILE:HD11	17:EQ:105:PHE:CA	2.41	0.50
32:E5:35:VAL:HA	32:E5:38:MET:SD	2.52	0.50
33:FA:451:A:H8	33:FA:452:A:C5	2.30	0.50
33:FA:747:A:N6	33:FA:748:G:C6	2.79	0.50
45:FM:49:SER:HB2	45:FM:52:GLN:HB2	1.92	0.50
1:GA:201:C:OP1	24:GX:17:ARG:NH1	2.45	0.50
1:GA:1476:U:OP2	1:GA:1514:G:N1	2.40	0.50
2:GB:43:C:O2	6:GF:91:ARG:NH2	2.44	0.50
16:GP:92:ARG:O	16:GP:92:ARG:HG2	2.12	0.50
16:GP:105:LYS:HA	16:GP:108:ARG:CD	2.41	0.50
23:GW:23:LYS:HE2	23:GW:24:ARG:HB3	1.92	0.50
33:HA:502:A:H2'	33:HA:503:C:O4'	2.11	0.50
33:HA:778:G:C6	33:HA:779:C:N3	2.80	0.50
33:HA:1296:C:H4'	33:HA:1302:C:N3	2.27	0.50
41:HI:21:ILE:HG12	41:HI:63:LEU:CD1	2.42	0.50
43:HK:55:SER:HA	43:HK:57:LYS:CE	2.42	0.50
49:HQ:17:MET:HB3	49:HQ:20:SER:HB3	1.92	0.50
1:AA:394:C:N3	1:AA:395:U:C4	2.80	0.50
1:AA:747:U:OP2	19:AS:90:LYS:NZ	2.44	0.50
1:AA:996:A:H4'	17:AQ:91:ARG:HG2	1.93	0.50
1:AA:1025:G:H4'	1:AA:1026:G:OP2	2.11	0.50
1:AA:1605:C:H2'	1:AA:1606:C:H5'	1.93	0.50
1:AA:2849:U:N3	1:AA:2867:G:O4'	2.37	0.50
21:AU:82:VAL:HG12	21:AU:83:GLY:N	2.26	0.50
33:BA:324:G:N2	33:BA:326:G:H3'	2.27	0.50
37:BE:136:VAL:O	37:BE:138:ARG:N	2.44	0.50
39:BG:88:PRO:HD2	39:BG:151:PHE:O	2.11	0.50
41:BI:120:LYS:O	41:BI:121:ALA:HB3	2.12	0.50
44:BL:33:VAL:HG21	54:BV:429:GLU:HG3	1.93	0.50
1:CA:875:G:C2'	1:CA:876:C:H5'	2.41	0.50
1:CA:1025:G:N2	59:CA:3700:HOH:O	2.29	0.50
1:CA:1088:A:C8	1:CA:1088:A:H5''	2.47	0.50
1:CA:1168:G:H3'	1:CA:1169:A:C8	2.47	0.50
1:CA:1220:G:C2	1:CA:1221:C:C2	2.99	0.50
1:CA:2331:G:O2'	1:CA:2336:A:N1	2.45	0.50
16:CP:9:GLN:HA	16:CP:12:MET:SD	2.52	0.50
23:CW:60:ALA:HA	23:CW:81:ILE:HD12	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:CY:3:ALA:HA	25:CY:6:LEU:CB	2.41	0.50
33:DA:1014:A:C2	51:DS:34:TRP:CZ2	2.99	0.50
33:DA:1277:C:O2'	33:DA:1279:G:H8	1.94	0.50
33:DA:1478:U:H2'	33:DA:1479:C:H6	1.77	0.50
34:DB:189:ASN:OD1	34:DB:190:SER:N	2.44	0.50
35:DC:42:TYR:CZ	35:DC:90:VAL:HG21	2.46	0.50
36:DD:12:SER:OG	36:DD:17:THR:O	2.22	0.50
38:DF:97:THR:O	38:DF:98:GLU:HB3	2.12	0.50
49:DQ:76:VAL:HG23	49:DQ:77:ARG:H	1.75	0.50
54:DV:345:SER:N	54:DV:375:LYS:O	2.32	0.50
1:EA:934:U:H2'	1:EA:935:C:C6	2.46	0.50
6:EF:39:VAL:HG11	6:EF:49:LEU:HB2	1.94	0.50
6:EF:137:PHE:HB2	6:EF:140:ILE:HD12	1.94	0.50
20:ET:48:GLN:O	20:ET:52:GLU:HA	2.11	0.50
33:FA:158:G:H2'	33:FA:159:G:C5'	2.42	0.50
36:FD:9:LEU:HD21	36:FD:22:LYS:HG3	1.94	0.50
49:FQ:27:ARG:HG2	49:FQ:40:ARG:O	2.11	0.50
1:GA:846:U:O2'	1:GA:847:U:O5'	2.28	0.50
1:GA:1071:G:N3	1:GA:1072:C:H1'	2.26	0.50
1:GA:2140:G:N7	1:GA:2152:G:H1'	2.27	0.50
1:GA:2680:U:H5'	4:GD:194:PRO:HA	1.93	0.50
6:GF:174:PHE:CD2	6:GF:176:PHE:CE2	3.00	0.50
14:GN:38:LEU:HB3	14:GN:39:PRO:HD3	1.93	0.50
20:GT:54:GLU:HG3	20:GT:88:LYS:HB2	1.92	0.50
35:HC:127:ARG:HG3	35:HC:127:ARG:O	2.11	0.50
54:HV:164:ALA:HB1	54:HV:262:ILE:HD11	1.94	0.50
1:AA:1857:G:O2'	1:AA:1858:A:OP2	2.21	0.50
1:AA:2269:G:O2'	23:AW:18:LYS:HG2	2.12	0.50
1:AA:2415:G:H4'	12:AL:66:PHE:HB2	1.94	0.50
7:AG:4:ALA:HB2	7:AG:65:GLY:HA2	1.92	0.50
32:A5:45:GLY:HA2	32:A5:49:GLY:HA2	1.94	0.50
33:BA:210:C:N3	33:FA:211:G:OP2	2.45	0.50
33:BA:463:U:H5'	33:BA:464:U:OP2	2.11	0.50
34:BB:56:LEU:HD21	34:BB:216:VAL:HG13	1.93	0.50
40:BH:10:MET:HE2	40:BH:33:LYS:HG2	1.94	0.50
44:BL:34:CYS:HA	44:BL:54:ARG:O	2.12	0.50
1:CA:1009:A:OP2	59:CA:3766:HOH:O	2.20	0.50
1:CA:2107:G:N2	1:CA:2108:A:H1'	2.27	0.50
3:CC:16:VAL:H	3:CC:203:VAL:HG12	1.76	0.50
7:CG:25:ILE:HG22	7:CG:78:VAL:HG21	1.92	0.50
12:CL:57:LEU:HD11	12:CL:61:LEU:HD21	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CP:50:ARG:HD3	16:CP:51:ASN:N	2.27	0.50
21:CU:81:ARG:O	21:CU:96:LYS:HG2	2.12	0.50
33:DA:9:G:OP2	37:DE:126:LYS:NZ	2.30	0.50
33:DA:299:G:C6	33:DA:300:A:C6	3.00	0.50
33:DA:1237:C:O2	33:DA:1334:G:O2'	2.24	0.50
33:DA:1415:G:C6	33:DA:1486:G:C6	3.00	0.50
34:DB:67:LEU:HD22	34:DB:69:VAL:HG13	1.94	0.50
40:DH:112:THR:HG23	40:DH:115:ALA:H	1.77	0.50
43:DK:16:VAL:O	43:DK:17:SER:HB3	2.11	0.50
43:DK:88:GLY:H	43:DK:114:THR:CG2	2.24	0.50
54:DV:96:THR:O	54:DV:99:VAL:N	2.41	0.50
1:EA:996:A:H4'	17:EQ:91:ARG:HG2	1.93	0.50
1:EA:1253:A:OP1	17:EQ:32:ARG:NH1	2.44	0.50
1:EA:1930:G:O2'	1:EA:1968:G:O6	2.20	0.50
9:EI:11:GLN:HG3	9:EI:55:PRO:HA	1.94	0.50
10:EJ:43:GLU:O	10:EJ:44:TYR:C	2.49	0.50
11:EK:10:VAL:HG21	11:EK:16:ALA:HB3	1.92	0.50
25:EY:8:GLU:O	25:EY:12:GLU:HB2	2.12	0.50
33:FA:42:G:N2	33:FA:401:C:O2	2.45	0.50
33:FA:1242:G:C6	33:FA:1243:C:C4	2.99	0.50
35:FC:173:VAL:HG12	35:FC:175:LEU:HD13	1.93	0.50
37:FE:104:GLY:HA2	37:FE:122:ASN:HA	1.94	0.50
1:GA:2297:A:N1	1:GA:2321:U:H5	2.09	0.50
1:GA:2394:C:OP1	30:G3:29:ARG:NH2	2.44	0.50
1:GA:2531:A:H5'	7:GG:156:TYR:CE1	2.47	0.50
1:GA:2756:U:H1'	1:GA:2757:A:H5''	1.92	0.50
8:GH:40:THR:C	8:GH:42:LYS:H	2.14	0.50
9:GI:124:MET:O	9:GI:127:SER:OG	2.26	0.50
16:GP:103:THR:HG23	16:GP:103:THR:O	2.11	0.50
24:GX:76:LYS:HG3	24:GX:77:TYR:H	1.76	0.50
1:AA:585:G:C6	1:AA:1251:C:C2	3.00	0.50
1:AA:947:A:H2'	1:AA:948:C:C6	2.46	0.50
1:AA:1339:G:N2	1:AA:1603:A:H1'	2.27	0.50
1:AA:2062:A:OP1	59:AA:3491:HOH:O	2.20	0.50
1:AA:2106:U:H3	1:AA:2184:A:HO2'	1.55	0.50
1:AA:2106:U:N3	1:AA:2184:A:O2'	2.43	0.50
4:AD:86:GLU:CD	4:AD:86:GLU:N	2.65	0.50
6:AF:7:TYR:HD1	6:AF:172:PHE:HZ	1.60	0.50
10:AJ:30:THR:HG22	10:AJ:31:GLU:N	2.26	0.50
21:AU:85:ARG:HD3	21:AU:86:PHE:N	2.27	0.50
33:BA:409:U:OP1	36:BD:24:GLY:HA3	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:704:A:C4	33:BA:705:G:C8	2.99	0.50
33:BA:1084:G:C5	33:BA:1085:U:C4	3.00	0.50
33:BA:1246:A:C2	33:BA:1247:U:C2	3.00	0.50
37:BE:155:ALA:HB1	40:BH:66:PHE:CZ	2.46	0.50
1:CA:545:U:H2'	1:CA:546:U:O3'	2.11	0.50
1:CA:994:C:O2	18:CR:10:LYS:HE2	2.12	0.50
5:CE:29:HIS:HD2	12:CL:8:PRO:HA	1.75	0.50
11:CK:13:ASN:OD1	11:CK:13:ASN:N	2.42	0.50
16:CP:52:ARG:HG3	16:CP:52:ARG:NH1	2.26	0.50
20:CT:13:ALA:HB1	25:CY:33:ALA:HB1	1.94	0.50
33:DA:885:G:OP1	44:DL:15:LYS:NZ	2.37	0.50
34:DB:112:ARG:HG2	34:DB:116:LEU:HD23	1.94	0.50
1:EA:1737:G:C5'	1:EA:1738:G:P	3.00	0.50
1:EA:2352:A:C4	1:EA:2366:A:C2	3.00	0.50
1:EA:2804:U:H2'	1:EA:2805:C:C6	2.47	0.50
16:EP:96:LEU:HB3	16:EP:99:LEU:HD22	1.94	0.50
24:EX:39:VAL:HG21	24:EX:42:GLU:HB2	1.93	0.50
36:FD:39:GLY:H	36:FD:42:GLY:HA3	1.77	0.50
41:FI:57:MET:O	41:FI:59:GLU:N	2.45	0.50
2:GB:114:C:H1'	15:GO:47:VAL:HG11	1.93	0.50
7:GG:51:PHE:CE1	7:GG:68:ARG:HA	2.47	0.50
18:GR:24:LYS:HA	18:GR:94:THR:HG23	1.94	0.50
23:GW:18:LYS:HG3	23:GW:19:ARG:N	2.27	0.50
23:GW:56:HIS:N	23:GW:56:HIS:CD2	2.80	0.50
29:G2:35:ARG:HG2	29:G2:42:LEU:HD21	1.93	0.50
34:HB:67:LEU:HD22	34:HB:69:VAL:HG13	1.94	0.50
34:HB:69:VAL:HG23	34:HB:162:VAL:HB	1.93	0.50
1:AA:247:G:N7	1:AA:249:C:C2	2.80	0.50
1:AA:335:C:H5''	21:AU:81:ARG:HD3	1.94	0.50
1:AA:1378:A:H4'	1:AA:1379:U:OP1	2.12	0.50
1:AA:2054:A:H2'	27:A0:4:GLN:NE2	2.27	0.50
1:AA:2611:C:H2'	1:AA:2612:C:H6	1.77	0.50
5:AE:37:ALA:HA	5:AE:40:ARG:HD3	1.94	0.50
10:AJ:72:LYS:HE3	10:AJ:74:TYR:CE1	2.47	0.50
11:AK:80:ASP:HB2	16:AP:67:GLU:HG3	1.93	0.50
28:A1:36:LYS:HG3	28:A1:47:ILE:HD12	1.94	0.50
31:A4:7:VAL:HG23	31:A4:8:LYS:H	1.76	0.50
33:BA:420:U:C2'	33:BA:421:U:H5''	2.41	0.50
52:BT:18:ARG:O	52:BT:22:ALA:N	2.43	0.50
54:BV:550:ILE:N	54:BV:551:PRO:CD	2.75	0.50
1:CA:422:A:C2	1:CA:423:A:C4	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:653:U:H3'	1:CA:654:A:H5''	1.94	0.50
1:CA:1292:G:H2'	1:CA:1293:C:C6	2.47	0.50
1:CA:1509:A:HO2'	1:CA:1510:G:P	2.35	0.50
7:CG:59:ASP:HB3	7:CG:63:GLN:HG2	1.93	0.50
12:CL:77:ILE:CD1	12:CL:108:ALA:HB1	2.42	0.50
14:CN:26:GLY:CA	14:CN:75:ILE:HD13	2.42	0.50
33:DA:211:G:H3'	33:DA:211:G:N3	2.27	0.50
33:DA:481:G:H4'	33:DA:481:G:OP1	2.12	0.50
38:DF:91:ARG:NE	38:DF:93:LYS:HD3	2.26	0.50
44:DL:43:LYS:HG2	44:DL:44:LYS:HG3	1.93	0.50
1:EA:1078:U:H5''	1:EA:1079:C:OP1	2.12	0.50
1:EA:2337:G:C2	1:EA:2338:C:C6	3.00	0.50
1:EA:2724:U:P	4:ED:116:LYS:HZ2	2.35	0.50
4:ED:62:LYS:HB2	4:ED:63:PRO:HD3	1.92	0.50
10:EJ:65:THR:CG2	10:EJ:66:GLY:N	2.74	0.50
18:ER:1:MET:HA	18:ER:42:ALA:O	2.12	0.50
23:EW:40:ARG:HB2	23:EW:56:HIS:CD2	2.46	0.50
33:FA:1151:A:C2	33:FA:1152:A:C5	3.00	0.50
34:FB:18:GLN:HG2	34:FB:189:ASN:ND2	2.27	0.50
44:FL:34:CYS:HA	44:FL:54:ARG:O	2.12	0.50
1:GA:1655:A:H5'	4:GD:118:PHE:CD1	2.46	0.50
1:GA:2307:G:O6	6:GF:40:GLY:HA3	2.12	0.50
9:GI:23:VAL:HB	9:GI:27:LEU:HD23	1.94	0.50
14:GN:85:PRO:HA	14:GN:88:ALA:HB2	1.94	0.50
17:GQ:81:GLY:O	17:GQ:85:ALA:N	2.40	0.50
17:GQ:91:ARG:HH21	17:GQ:93:ILE:HG21	1.74	0.50
21:GU:64:ILE:HD11	21:GU:69:VAL:HG11	1.93	0.50
21:GU:82:VAL:HG12	21:GU:83:GLY:N	2.27	0.50
24:GX:17:ARG:N	24:GX:17:ARG:HD2	2.27	0.50
33:HA:409:U:H2'	33:HA:410:G:O4'	2.12	0.50
33:HA:463:U:H5'	33:HA:464:U:OP2	2.12	0.50
33:HA:1032:G:C2	33:HA:1033:G:H1'	2.47	0.50
33:HA:1218:C:H2'	33:HA:1219:A:C8	2.47	0.50
35:HC:71:ALA:HA	35:HC:106:VAL:CG2	2.42	0.50
36:HD:95:GLU:HG2	36:HD:186:PRO:HG3	1.93	0.50
42:HJ:54:SER:O	46:HN:81:ARG:NH1	2.43	0.50
52:HT:47:ALA:HB1	52:HT:83:ILE:HG22	1.93	0.50
7:AG:168:VAL:HG23	7:AG:168:VAL:O	2.12	0.49
9:AI:19:PRO:HG2	9:AI:24:GLY:H	1.76	0.49
10:AJ:25:LEU:HB2	10:AJ:62:VAL:HG21	1.94	0.49
12:AL:81:ASP:O	12:AL:83:ALA:N	2.38	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:A3:23:HIS:ND1	30:A3:24:LYS:O	2.38	0.49
33:BA:1317:C:OP2	46:BN:28:LYS:NZ	2.42	0.49
34:BB:49:PHE:HA	34:BB:52:ALA:HB3	1.93	0.49
54:BV:119:VAL:HB	54:BV:161:ARG:HD2	1.94	0.49
54:BV:345:SER:N	54:BV:375:LYS:O	2.36	0.49
54:BV:584:HIS:HB2	54:BV:587:ASP:HB2	1.94	0.49
1:CA:335:C:O2	21:CU:67:SER:OG	2.28	0.49
1:CA:2478:A:OP2	31:C4:2:LYS:NZ	2.42	0.49
9:CI:55:PRO:O	9:CI:71:LYS:HG3	2.12	0.49
20:CT:16:VAL:O	20:CT:17:SER:OG	2.28	0.49
33:DA:149:A:C2	33:DA:174:A:C2	2.99	0.49
33:DA:158:G:H2'	33:DA:159:G:C5'	2.42	0.49
33:DA:1491:G:H5'	33:DA:1492:A:OP1	2.12	0.49
35:DC:47:LEU:HB3	35:DC:50:ALA:HB3	1.93	0.49
38:DF:38:ARG:HB3	38:DF:63:ASN:HB2	1.93	0.49
41:DI:84:THR:HG21	41:DI:103:PHE:HB3	1.94	0.49
1:EA:2511:U:O2'	4:ED:143:PRO:O	2.24	0.49
6:EF:128:SER:HA	6:EF:154:THR:HA	1.94	0.49
9:EI:24:GLY:O	9:EI:27:LEU:HG	2.12	0.49
15:EO:53:THR:HB	15:EO:65:THR:CG2	2.42	0.49
18:ER:42:ALA:HA	18:ER:46:GLU:HB2	1.94	0.49
23:EW:30:VAL:O	23:EW:30:VAL:HG22	2.12	0.49
32:E5:130:PRO:C	32:E5:132:TYR:N	2.63	0.49
34:FB:14:HIS:O	34:FB:14:HIS:CG	2.65	0.49
36:FD:9:LEU:HD12	36:FD:32:CYS:SG	2.52	0.49
42:FJ:80:THR:O	42:FJ:83:THR:N	2.42	0.49
54:FV:95:PHE:CE1	54:FV:464:LEU:HD22	2.47	0.49
1:GA:76:C:OP1	25:GY:48:ARG:NH1	2.45	0.49
1:GA:301:G:H1'	1:GA:302:C:C6	2.47	0.49
1:GA:478:A:N1	1:GA:500:G:H4'	2.27	0.49
1:GA:545:U:H2'	1:GA:546:U:O3'	2.12	0.49
1:GA:898:C:H2'	1:GA:899:A:O4'	2.12	0.49
1:GA:1187:G:OP2	59:GA:3366:HOH:O	2.19	0.49
1:GA:1310:G:O6	1:GA:1311:G:N2	2.45	0.49
1:GA:2312:U:O2	6:GF:36:ASN:ND2	2.41	0.49
1:GA:2811:G:P	4:GD:62:LYS:HG2	2.52	0.49
4:GD:102:ALA:HA	4:GD:180:VAL:HG11	1.93	0.49
24:GX:69:GLU:O	24:GX:70:LEU:HB2	2.11	0.49
33:HA:144:G:H2'	33:HA:145:G:O4'	2.12	0.49
33:HA:158:G:H2'	33:HA:159:G:H5'	1.94	0.49
35:HC:97:VAL:HB	35:HC:98:PRO:HD2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:HH:29:SER:HB3	40:HH:57:PRO:HB2	1.94	0.49
43:HK:98:ARG:NH1	53:HU:15:ALA:HB3	2.27	0.49
1:AA:11:C:C2'	1:AA:12:U:H5'	2.42	0.49
1:AA:742:A:H2'	1:AA:743:A:C8	2.48	0.49
1:AA:857:G:H2'	1:AA:858:G:O4'	2.13	0.49
1:AA:1031:G:H4'	31:A4:6:SER:HB2	1.93	0.49
1:AA:1262:A:OP2	19:AS:99:ARG:NH2	2.45	0.49
1:AA:2661:G:H5'	54:BV:19:ILE:HG13	1.94	0.49
1:AA:2793:C:H2'	1:AA:2794:C:C6	2.47	0.49
10:AJ:88:THR:HG22	10:AJ:91:GLU:CD	2.32	0.49
13:AM:50:ARG:HA	13:AM:53:MET:HE2	1.92	0.49
17:AQ:91:ARG:HD3	18:AR:11:GLN:HB2	1.94	0.49
33:BA:913:A:H4'	33:BA:914:A:O5'	2.12	0.49
33:BA:1142:G:C2	33:BA:1143:G:H1'	2.47	0.49
33:BA:1144:G:N1	33:BA:1145:A:C2	2.80	0.49
34:BB:49:PHE:CD1	34:BB:49:PHE:C	2.86	0.49
37:BE:104:GLY:HA3	37:BE:122:ASN:HA	1.92	0.49
1:CA:590:A:H2'	1:CA:591:U:C6	2.46	0.49
1:CA:616:A:H4'	5:CE:101:TYR:CE2	2.47	0.49
1:CA:1647:U:P	1:CA:1647:U:H3'	2.52	0.49
10:CJ:41:LYS:C	10:CJ:43:GLU:H	2.15	0.49
10:CJ:64:VAL:CG1	10:CJ:68:LYS:HB2	2.41	0.49
16:CP:50:ARG:CD	16:CP:57:ALA:H	2.25	0.49
17:CQ:91:ARG:HD3	18:CR:11:GLN:HB2	1.94	0.49
19:CS:71:VAL:O	19:CS:71:VAL:HG23	2.13	0.49
33:DA:451:A:H4'	33:DA:452:A:O5'	2.12	0.49
33:DA:972:C:P	42:DJ:59:LYS:HD3	2.52	0.49
33:DA:1509:C:H2'	33:DA:1510:C:H6	1.77	0.49
35:DC:83:ASP:O	35:DC:86:LYS:HG2	2.12	0.49
52:DT:4:ILE:O	52:DT:4:ILE:HG22	2.13	0.49
1:EA:225:C:H2'	1:EA:226:A:O4'	2.11	0.49
1:EA:265:A:H4'	1:EA:266:G:OP1	2.11	0.49
1:EA:1590:A:H2'	1:EA:1591:A:H8	1.78	0.49
10:EJ:38:GLY:O	10:EJ:43:GLU:HB2	2.12	0.49
23:EW:37:VAL:HG13	23:EW:56:HIS:HB2	1.94	0.49
25:EY:18:LEU:O	25:EY:22:LEU:HB2	2.11	0.49
33:FA:1233:G:H2'	33:FA:1234:C:C6	2.47	0.49
33:FA:1492:A:H2'	33:FA:1493:A:H5''	1.93	0.49
36:FD:72:PHE:CE2	36:FD:200:ILE:HD11	2.47	0.49
1:GA:415:A:O2'	1:GA:1866:A:OP1	2.30	0.49
1:GA:1256:G:O2'	5:GE:77:ILE:HD11	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2785:C:O3'	4:GD:70:LYS:NZ	2.44	0.49
3:GC:93:VAL:HG22	3:GC:115:ILE:HD12	1.93	0.49
9:GI:25:PRO:HB2	54:HV:646:GLU:C	2.32	0.49
20:GT:61:LEU:C	20:GT:61:LEU:HD12	2.32	0.49
33:HA:746:A:C6	33:HA:747:A:N6	2.80	0.49
33:HA:1413:A:C2	33:HA:1488:G:C2	3.00	0.49
34:HB:20:ARG:NH2	34:HB:36:LYS:HD2	2.27	0.49
34:HB:30:ILE:HG23	34:HB:32:GLY:H	1.77	0.49
34:HB:49:PHE:CD1	34:HB:49:PHE:C	2.84	0.49
1:AA:572:A:C2	1:AA:2033:A:C2	3.00	0.49
1:AA:1684:G:H2'	1:AA:1685:C:C6	2.47	0.49
1:AA:2273:A:H2'	1:AA:2274:A:C8	2.48	0.49
5:AE:40:ARG:HH11	5:AE:40:ARG:CG	2.25	0.49
5:AE:160:ALA:O	5:AE:161:ALA:HB3	2.12	0.49
8:AH:14:SER:O	8:AH:16:GLY:N	2.44	0.49
33:BA:114:U:O2'	33:BA:115:G:H5'	2.12	0.49
37:BE:134:ILE:HD12	37:BE:134:ILE:H	1.77	0.49
44:BL:25:GLU:HB2	44:BL:27:CYS:SG	2.52	0.49
45:BM:8:ASN:OD1	45:BM:9:ILE:N	2.45	0.49
49:BQ:59:VAL:CG1	49:BQ:75:LEU:HD23	2.42	0.49
54:BV:105:VAL:O	54:BV:337:ARG:NH1	2.45	0.49
1:CA:729:G:C6	3:CC:206:LYS:HB2	2.47	0.49
1:CA:1458:U:H4'	1:CA:1459:G:O5'	2.12	0.49
1:CA:1729:U:H5'	1:CA:1730:C:O5'	2.13	0.49
1:CA:1737:G:C4	1:CA:1738:G:N2	2.81	0.49
1:CA:2740:A:H2'	1:CA:2741:A:C8	2.48	0.49
1:CA:2884:U:C5	27:C0:49:ARG:HG2	2.47	0.49
9:CI:71:LYS:HD2	9:CI:71:LYS:N	2.26	0.49
10:CJ:81:ILE:CG1	10:CJ:82:GLY:N	2.75	0.49
37:DE:104:GLY:CA	37:DE:122:ASN:HA	2.43	0.49
41:DI:50:GLN:OE1	41:DI:80:ARG:NH1	2.44	0.49
42:DJ:15:HIS:HB3	42:DJ:70:HIS:CE1	2.47	0.49
1:EA:248:G:H5'	1:EA:250:G:N7	2.27	0.49
1:EA:1186:G:O3'	59:EA:3573:HOH:O	2.19	0.49
7:EG:116:LEU:HD23	7:EG:120:ILE:HG22	1.94	0.49
22:EV:72:VAL:HG12	22:EV:93:ARG:HA	1.93	0.49
24:EX:34:SER:HA	24:EX:49:ARG:HA	1.94	0.49
32:E5:73:LYS:CB	32:E5:117:LEU:HD21	2.42	0.49
33:FA:56:U:H2'	33:FA:57:G:C8	2.46	0.49
36:FD:4:TYR:CZ	36:FD:11:LEU:HD11	2.47	0.49
48:FP:43:ALA:HB1	48:FP:46:LYS:HD3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:FS:3:ARG:HH12	51:FS:68:GLY:CA	2.26	0.49
54:FV:556:GLY:HA2	54:FV:594:LYS:HG2	1.93	0.49
1:GA:2639:A:C2	1:GA:2778:A:C8	3.00	0.49
7:GG:8:VAL:CG1	7:GG:49:LEU:H	2.25	0.49
7:GG:104:LEU:HB2	7:GG:112:VAL:HG21	1.94	0.49
13:GM:71:LYS:HB3	13:GM:93:VAL:O	2.11	0.49
17:GQ:4:LYS:HD2	17:GQ:7:VAL:HG12	1.94	0.49
33:HA:393:A:OP2	48:HP:12:LYS:HD2	2.12	0.49
35:HC:106:VAL:HG23	35:HC:106:VAL:O	2.13	0.49
1:AA:258:G:H1'	12:AL:104:GLN:NE2	2.27	0.49
1:AA:1188:U:H2'	1:AA:1189:A:H8	1.77	0.49
1:AA:1405:U:H2'	1:AA:1406:U:C6	2.47	0.49
1:AA:1853:A:N1	1:AA:2087:G:H1'	2.27	0.49
1:AA:1993:U:H4'	4:AD:133:THR:CG2	2.42	0.49
1:AA:2393:U:H5'	12:AL:60:ARG:O	2.13	0.49
6:AF:98:PHE:HA	6:AF:101:ARG:CZ	2.42	0.49
6:AF:169:LEU:O	6:AF:174:PHE:HB3	2.12	0.49
7:AG:10:VAL:HG23	7:AG:10:VAL:O	2.12	0.49
16:AP:50:ARG:HD3	16:AP:51:ASN:H	1.76	0.49
19:AS:4:ILE:HG12	19:AS:5:ALA:N	2.28	0.49
20:AT:69:ARG:CG	20:AT:70:HIS:H	2.25	0.49
32:A5:35:VAL:HA	32:A5:38:MET:SD	2.52	0.49
33:BA:510:A:OP2	59:BA:1722:HOH:O	2.19	0.49
33:BA:591:U:H2'	33:BA:592:G:C8	2.47	0.49
36:BD:95:GLU:OE2	36:BD:104:ARG:NE	2.39	0.49
37:BE:104:GLY:HA2	37:BE:122:ASN:HA	1.94	0.49
1:CA:792:A:C6	1:CA:2440:C:C6	3.00	0.49
1:CA:1219:U:C2	1:CA:1220:G:C8	3.01	0.49
1:CA:1526:C:H2'	1:CA:1527:G:O4'	2.12	0.49
1:CA:2204:G:H4'	3:CC:149:LYS:HG3	1.94	0.49
6:CF:132:ARG:O	6:CF:133:GLU:HB3	2.12	0.49
6:CF:134:GLN:O	6:CF:136:ILE:N	2.38	0.49
15:CO:111:ARG:NH2	15:CO:117:PHE:O	2.45	0.49
23:CW:17:ALA:O	23:CW:18:LYS:CB	2.60	0.49
33:DA:22:G:OP1	59:DA:1807:HOH:O	2.20	0.49
33:DA:292:G:N2	33:DA:309:A:C4	2.80	0.49
33:DA:731:G:H5'	33:DA:766:A:H4'	1.94	0.49
33:DA:745:G:O3'	33:DA:836:G:N2	2.44	0.49
35:DC:186:THR:HG22	35:DC:187:SER:N	2.26	0.49
54:DV:309:ARG:NE	54:DV:316:PRO:HG2	2.27	0.49
1:EA:532:A:N7	1:EA:2021:C:O2'	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:783:A:C8	1:EA:784:G:H4'	2.47	0.49
1:EA:996:A:H4'	17:EQ:91:ARG:CD	2.42	0.49
1:EA:1568:G:OP1	3:EC:62:ARG:NH1	2.45	0.49
1:EA:2013:A:N3	19:ES:88:ARG:NH1	2.61	0.49
1:EA:2143:C:H5''	1:EA:2146:C:H42	1.77	0.49
5:EE:192:ALA:O	5:EE:195:GLN:N	2.45	0.49
6:EF:43:ILE:HG21	6:EF:78:ILE:HG22	1.94	0.49
6:EF:66:ILE:HD13	6:EF:66:ILE:H	1.78	0.49
7:EG:79:THR:OG1	7:EG:80:GLU:N	2.41	0.49
9:EI:98:GLY:HA3	9:EI:137:LEU:HD22	1.94	0.49
10:EJ:45:THR:HG23	10:EJ:45:THR:O	2.13	0.49
16:EP:50:ARG:HG2	16:EP:56:SER:HB3	1.93	0.49
19:ES:18:ARG:C	19:ES:20:VAL:H	2.15	0.49
33:FA:1302:C:O2	45:FM:17:ILE:CD1	2.60	0.49
45:FM:20:THR:HA	45:FM:25:VAL:HG23	1.93	0.49
54:FV:382:ILE:O	54:FV:382:ILE:HD12	2.13	0.49
1:GA:28:A:H1'	1:GA:513:A:C2	2.47	0.49
1:GA:296:U:O3'	21:GU:91:LYS:NZ	2.45	0.49
1:GA:2336:A:H61	23:GW:40:ARG:CB	2.25	0.49
5:GE:138:LEU:HB3	5:GE:143:LEU:O	2.12	0.49
7:GG:16:VAL:HA	7:GG:24:THR:O	2.12	0.49
9:GI:82:ALA:HB1	9:GI:108:ILE:CD1	2.42	0.49
33:HA:934:C:OP1	59:HA:1766:HOH:O	2.20	0.49
1:AA:1287:A:N7	14:AN:105:GLY:HA3	2.27	0.49
1:AA:2070:A:O2'	1:AA:2071:A:H5'	2.13	0.49
1:AA:2270:A:OP2	59:AA:3513:HOH:O	2.19	0.49
1:AA:2748:A:H1'	7:AG:66:THR:CG2	2.42	0.49
6:AF:9:ASP:O	6:AF:10:GLU:HG3	2.12	0.49
16:AP:19:PHE:O	16:AP:20:ARG:CB	2.60	0.49
23:AW:38:ARG:N	23:AW:38:ARG:CD	2.75	0.49
32:A5:59:LEU:HD23	32:A5:62:ARG:HE	1.77	0.49
33:BA:843:U:N3	33:BA:844:G:N7	2.60	0.49
33:BA:1335:U:H5''	33:BA:1337:G:N2	2.28	0.49
1:CA:1725:U:H2'	1:CA:1726:C:C5	2.48	0.49
1:CA:2795:C:H2'	1:CA:2796:U:C6	2.48	0.49
3:CC:140:VAL:CG1	3:CC:189:ALA:HB1	2.42	0.49
4:CD:33:ARG:NH2	4:CD:74:GLU:O	2.46	0.49
18:CR:61:ALA:HB2	18:CR:98:ILE:HA	1.94	0.49
33:DA:1248:A:H2'	33:DA:1249:C:C6	2.48	0.49
33:DA:1296:C:H4'	33:DA:1302:C:C4	2.48	0.49
53:DU:40:LYS:N	53:DU:41:PRO:CD	2.74	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:45:G:H5''	1:EA:46:G:OP1	2.13	0.49
1:EA:545:U:O5'	1:EA:545:U:H6	1.95	0.49
1:EA:927:A:O2'	26:EZ:38:GLU:OE1	2.28	0.49
1:EA:2064:C:H2'	1:EA:2065:C:C6	2.47	0.49
1:EA:2148:G:P	1:EA:2149:U:H1'	2.51	0.49
1:EA:2771:C:O2'	4:ED:173:GLN:OE1	2.29	0.49
3:EC:109:LEU:HD23	3:EC:110:LYS:N	2.27	0.49
3:EC:251:THR:HG22	3:EC:252:LYS:H	1.78	0.49
4:ED:148:GLN:HB2	4:ED:152:PRO:HG2	1.94	0.49
6:EF:59:ILE:HD12	6:EF:140:ILE:HD11	1.94	0.49
7:EG:155:PRO:O	7:EG:170:THR:HA	2.13	0.49
9:EI:23:VAL:HG23	9:EI:24:GLY:H	1.78	0.49
17:EQ:29:ARG:HH11	17:EQ:29:ARG:CG	2.25	0.49
23:EW:67:LYS:O	23:EW:68:PHE:HB2	2.12	0.49
33:FA:80:A:C2	33:FA:90:C:N3	2.80	0.49
33:FA:530:G:H3'	33:FA:530:G:N3	2.27	0.49
33:FA:731:G:H5'	33:FA:766:A:H4'	1.93	0.49
34:FB:13:VAL:HG23	34:FB:207:ARG:HD2	1.93	0.49
34:FB:49:PHE:HB2	34:FB:212:TYR:OH	2.12	0.49
36:FD:29:ASP:OD1	36:FD:30:THR:N	2.39	0.49
37:FE:114:VAL:HG11	37:FE:137:VAL:HG23	1.94	0.49
39:FG:145:ALA:C	39:FG:147:ALA:H	2.15	0.49
54:FV:222:LEU:O	54:FV:226:ALA:N	2.42	0.49
1:GA:479:A:H4'	1:GA:480:A:OP1	2.11	0.49
1:GA:635:C:O2'	1:GA:639:U:OP1	2.28	0.49
1:GA:882:G:C2	1:GA:895:U:H1'	2.47	0.49
1:GA:2355:G:H4'	23:GW:20:LEU:CD1	2.42	0.49
36:HD:48:LEU:HD21	36:HD:53:VAL:N	2.27	0.49
36:HD:62:ARG:HH21	36:HD:68:LEU:HA	1.78	0.49
37:HE:95:PHE:CZ	37:HE:97:GLN:HG2	2.48	0.49
38:HF:66:ALA:HB1	38:HF:67:PRO:HD2	1.92	0.49
41:HI:11:ARG:HB2	41:HI:15:SER:O	2.12	0.49
1:AA:583:G:N2	1:AA:1258:U:C2	2.81	0.49
1:AA:996:A:H4'	17:AQ:91:ARG:NE	2.28	0.49
1:AA:1084:A:N6	1:AA:1085:A:N1	2.60	0.49
1:AA:1464:G:HO2'	1:AA:1528:A:HO2'	1.50	0.49
5:AE:24:ASN:O	5:AE:28:VAL:HG12	2.13	0.49
5:AE:108:ILE:CD1	12:AL:2:ARG:CZ	2.91	0.49
6:AF:103:ILE:HG21	6:AF:173:ASP:CB	2.42	0.49
7:AG:10:VAL:HB	7:AG:14:VAL:HG21	1.94	0.49
9:AI:56:VAL:HG21	9:AI:68:PHE:CE1	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:81:A:N6	33:BA:83:C:O2	2.43	0.49
33:BA:678:U:H2'	33:BA:679:C:C6	2.47	0.49
33:BA:1412:C:H2'	33:BA:1413:A:C8	2.47	0.49
37:BE:154:ALA:O	37:BE:158:GLY:N	2.38	0.49
41:BI:41:ARG:CA	41:BI:45:ARG:HD3	2.42	0.49
47:BO:69:TYR:CZ	47:BO:73:LYS:HG3	2.48	0.49
51:BS:44:MET:HA	51:BS:47:LEU:HD12	1.94	0.49
1:CA:573:U:O2'	1:CA:574:A:H3'	2.13	0.49
1:CA:1141:U:H4'	1:CA:1142:A:O4'	2.13	0.49
1:CA:1206:G:C6	1:CA:1207:C:C4	3.00	0.49
1:CA:1400:U:H2'	1:CA:1401:G:C8	2.48	0.49
1:CA:2392:A:C8	1:CA:2429:G:C2	3.01	0.49
3:CC:70:LYS:HD2	3:CC:73:ILE:HD13	1.95	0.49
3:CC:235:GLU:OE1	59:CC:308:HOH:O	2.20	0.49
7:CG:84:LYS:HG3	7:CG:132:LEU:O	2.12	0.49
13:CM:1:MET:O	13:CM:2:LEU:CB	2.61	0.49
15:CO:79:ALA:O	15:CO:83:LEU:HD22	2.12	0.49
21:CU:16:LYS:NZ	21:CU:40:LEU:O	2.46	0.49
23:CW:46:ALA:HB3	23:CW:79:ILE:O	2.13	0.49
23:CW:67:LYS:N	23:CW:80:SER:O	2.45	0.49
23:CW:67:LYS:O	23:CW:68:PHE:HB2	2.13	0.49
33:DA:40:C:H2'	33:DA:41:G:C8	2.46	0.49
33:DA:289:G:C6	33:DA:290:C:N4	2.81	0.49
54:DV:298:ILE:HG23	54:DV:304:ASP:HA	1.95	0.49
54:DV:455:GLN:NE2	54:DV:487:GLN:OE1	2.46	0.49
1:EA:443:A:C8	5:EE:40:ARG:HD3	2.47	0.49
1:EA:1107:G:H5''	32:E5:58:THR:HG23	1.95	0.49
4:ED:107:VAL:O	4:ED:174:SER:O	2.31	0.49
7:EG:84:LYS:HG2	7:EG:85:LYS:N	2.28	0.49
20:ET:40:LYS:N	20:ET:43:ILE:HG23	2.27	0.49
21:EU:73:ASN:HD22	21:EU:95:PHE:HD2	1.58	0.49
33:FA:8:A:C6	36:FD:206:LYS:HB3	2.48	0.49
33:FA:1108:G:C5	33:FA:1109:C:C5	3.01	0.49
33:FA:1296:C:O3'	33:FA:1302:C:N4	2.45	0.49
48:FP:4:ILE:HD12	48:FP:4:ILE:N	2.27	0.49
53:FU:12:PHE:CZ	53:FU:16:LEU:HD12	2.48	0.49
1:GA:1154:G:P	17:GQ:57:ARG:NH1	2.85	0.49
1:GA:2720:U:H5''	16:GP:52:ARG:HH21	1.77	0.49
16:GP:20:ARG:HD2	16:GP:112:ARG:NH1	2.28	0.49
33:HA:1007:U:H2'	33:HA:1008:U:C5'	2.43	0.49
33:HA:1181:G:C2	33:HA:1182:G:N2	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:HB:49:PHE:HB2	34:HB:212:TYR:OH	2.13	0.49
36:HD:107:PHE:HD2	36:HD:145:ILE:HD11	1.77	0.49
37:HE:74:VAL:HG12	37:HE:76:LEU:HD12	1.94	0.49
47:HO:9:ALA:HA	47:HO:12:VAL:HG12	1.94	0.49
54:HV:635:LEU:HD12	54:HV:658:VAL:HG11	1.93	0.49
1:AA:163:C:HO2'	1:AA:164:C:C5'	2.25	0.49
1:AA:247:G:H4'	1:AA:386:G:C5	2.47	0.49
1:AA:1041:G:H1	1:AA:1114:C:H42	1.61	0.49
1:AA:1532:A:H3'	1:AA:1533:C:H6	1.78	0.49
1:AA:1534:U:H3'	1:AA:1536:C:C4	2.48	0.49
1:AA:2311:A:N1	6:AF:43:ILE:HG21	2.27	0.49
1:AA:2835:A:C2	1:AA:2879:A:C5	3.00	0.49
20:AT:29:THR:HA	20:AT:86:THR:HA	1.94	0.49
23:AW:26:GLY:O	23:AW:27:GLY:C	2.51	0.49
23:AW:37:VAL:HG13	23:AW:55:ASP:O	2.13	0.49
33:BA:59:A:C5	33:BA:354:G:C6	3.01	0.49
33:BA:408:A:C2	33:BA:409:U:C2	3.00	0.49
33:BA:652:U:O2'	33:BA:653:U:OP2	2.23	0.49
33:BA:860:A:H2'	33:BA:861:G:O4'	2.12	0.49
44:BL:25:GLU:O	44:BL:26:ALA:C	2.51	0.49
44:BL:29:GLN:HB2	44:BL:82:ILE:O	2.13	0.49
49:BQ:12:VAL:CG1	49:BQ:21:ILE:HD11	2.43	0.49
1:CA:1232:G:C5	1:CA:1233:C:C5	3.01	0.49
1:CA:1268:A:OP2	59:CA:3379:HOH:O	2.20	0.49
3:CC:16:VAL:N	3:CC:203:VAL:HG12	2.28	0.49
5:CE:146:VAL:HG12	5:CE:185:LYS:HB2	1.95	0.49
12:CL:81:ASP:O	12:CL:83:ALA:N	2.44	0.49
16:CP:13:LYS:HE3	16:CP:76:HIS:HA	1.94	0.49
26:CZ:40:THR:CG2	26:CZ:43:ILE:HG23	2.43	0.49
33:DA:450:G:C5	33:DA:481:G:O6	2.66	0.49
33:DA:975:A:N1	33:DA:1366:C:O2'	2.43	0.49
33:DA:1033:G:C2'	33:DA:1034:G:C5'	2.90	0.49
35:DC:58:GLU:HG3	35:DC:65:ARG:HB3	1.95	0.49
39:DG:13:LEU:HD23	39:DG:14:PRO:O	2.12	0.49
1:EA:1163:G:C2	1:EA:1164:C:C5	3.00	0.49
1:EA:1288:G:C5	1:EA:1327:A:C2	3.01	0.49
1:EA:1857:G:O2'	1:EA:1858:A:OP2	2.29	0.49
1:EA:2346:A:H3'	1:EA:2347:C:C5'	2.43	0.49
1:EA:2760:C:C2'	1:EA:2761:A:H5'	2.43	0.49
3:EC:68:ARG:CD	3:EC:103:ILE:HD11	2.43	0.49
4:ED:22:ILE:HG23	4:ED:190:LYS:HD2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:EE:188:MET:CE	5:EE:196:VAL:HG21	2.42	0.49
7:EG:104:LEU:HB2	7:EG:112:VAL:CG2	2.43	0.49
16:EP:4:ILE:HG22	16:EP:8:GLU:HG3	1.95	0.49
20:ET:34:VAL:HG23	20:ET:34:VAL:O	2.11	0.49
31:E4:15:LYS:HB3	31:E4:26:ILE:HD13	1.95	0.49
33:FA:9:G:OP2	37:FE:126:LYS:NZ	2.41	0.49
33:FA:134:G:H1'	33:FA:325:A:C5	2.48	0.49
33:FA:960:U:O2'	33:FA:1223:C:H4'	2.13	0.49
33:FA:1296:C:H4'	33:FA:1302:C:N3	2.27	0.49
38:FF:3:HIS:H	38:FF:92:THR:HG23	1.77	0.49
48:FP:79:ASN:O	48:FP:80:LYS:CB	2.60	0.49
1:GA:2314:A:H2'	1:GA:2315:G:C8	2.48	0.49
1:GA:2336:A:N6	23:GW:40:ARG:CB	2.75	0.49
2:GB:51:G:H5''	15:GO:64:TYR:CD2	2.48	0.49
2:GB:95:U:H2'	2:GB:96:G:C8	2.48	0.49
7:GG:162:ARG:HD3	7:GG:166:GLU:HG2	1.94	0.49
10:GJ:76:HIS:CE1	10:GJ:85:LYS:HB2	2.47	0.49
33:HA:537:G:H5''	44:HL:110:ARG:NH1	2.28	0.49
39:HG:133:THR:HA	39:HG:136:LYS:HB3	1.95	0.49
41:HI:7:TYR:CG	41:HI:8:GLY:N	2.81	0.49
1:AA:813:U:H2'	1:AA:814:C:C6	2.48	0.49
1:AA:1122:G:H2'	1:AA:1122:G:N3	2.28	0.49
1:AA:1231:U:H2'	1:AA:1232:G:H8	1.78	0.49
4:AD:110:THR:HG23	4:AD:171:THR:HG22	1.95	0.49
16:AP:102:ARG:O	16:AP:103:THR:HG22	2.12	0.49
23:AW:24:ARG:HD2	23:AW:24:ARG:C	2.32	0.49
32:A5:110:ALA:HB1	32:A5:113:PHE:CE1	2.48	0.49
33:BA:655:A:C2	33:BA:754:C:N4	2.81	0.49
33:BA:746:A:C6	33:BA:747:A:N6	2.80	0.49
33:BA:865:A:H2'	33:BA:866:C:C6	2.47	0.49
33:BA:1095:U:OP2	59:BA:1860:HOH:O	2.20	0.49
33:BA:1101:A:H61	34:BB:101:THR:HG21	1.78	0.49
37:BE:87:GLY:O	37:BE:94:VAL:HG12	2.13	0.49
43:BK:82:LEU:O	43:BK:108:THR:HB	2.12	0.49
49:BQ:47:HIS:HB2	49:BQ:71:LYS:HE2	1.94	0.49
1:CA:84:A:P	21:CU:5:ARG:NH2	2.86	0.49
1:CA:481:G:C4	1:CA:507:A:C2	3.00	0.49
1:CA:878:A:N6	1:CA:899:A:O2'	2.46	0.49
1:CA:1088:A:O2'	1:CA:1089:A:P	2.70	0.49
1:CA:1378:A:O2'	1:CA:1380:G:OP2	2.31	0.49
1:CA:2478:A:P	31:C4:2:LYS:HZ1	2.35	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:86:G:H2'	2:CB:87:U:H5''	1.94	0.49
3:CC:24:HIS:HB2	3:CC:79:ARG:HG3	1.95	0.49
5:CE:148:ILE:HA	5:CE:187:VAL:HB	1.94	0.49
7:CG:68:ARG:NH1	7:CG:72:ASN:HD22	2.11	0.49
12:CL:18:ARG:O	12:CL:19:LEU:HB3	2.13	0.49
16:CP:35:SER:OG	33:DA:345:C:OP1	2.19	0.49
20:CT:24:MET:HG3	20:CT:29:THR:CG2	2.43	0.49
33:DA:562:U:O2	44:DL:13:ALA:N	2.45	0.49
36:DD:161:LEU:HD22	36:DD:161:LEU:H	1.77	0.49
54:DV:584:HIS:HB2	54:DV:587:ASP:HB2	1.94	0.49
1:EA:1024:G:H21	1:EA:1144:A:C4'	2.26	0.49
4:ED:106:LYS:HB3	4:ED:206:ALA:CB	2.43	0.49
16:EP:58:PHE:CD1	16:EP:75:THR:HG22	2.48	0.49
33:FA:414:A:H2'	33:FA:415:A:O4'	2.13	0.49
33:FA:489:C:H5''	36:FD:128:ARG:HH22	1.77	0.49
33:FA:1129:C:O2'	33:FA:1139:G:N7	2.30	0.49
39:FG:4:ARG:O	39:FG:6:VAL:N	2.45	0.49
42:FJ:7:ARG:HD2	42:FJ:73:LEU:HD11	1.94	0.49
46:FN:73:PHE:CZ	46:FN:78:GLY:HA2	2.46	0.49
1:GA:158:U:C2'	1:GA:159:G:H5'	2.43	0.49
1:GA:527:C:H4'	1:GA:528:A:O5'	2.12	0.49
1:GA:1028:A:N6	1:GA:1125:G:H2'	2.27	0.49
1:GA:1085:A:H1'	1:GA:1105:U:H1'	1.94	0.49
1:GA:1171:G:N2	1:GA:1178:C:N3	2.60	0.49
5:GE:16:GLU:O	5:GE:20:GLY:N	2.35	0.49
9:GI:18:ASN:ND2	9:GI:37:PHE:O	2.43	0.49
10:GJ:73:VAL:HB	10:GJ:75:TYR:CE2	2.48	0.49
21:GU:95:PHE:N	21:GU:95:PHE:CD1	2.79	0.49
34:HB:134:LEU:C	34:HB:136:ARG:H	2.16	0.49
53:HU:42:THR:O	53:HU:46:LYS:N	2.45	0.49
1:AA:419:U:H2'	1:AA:420:C:C6	2.47	0.49
1:AA:1534:U:O2	1:AA:1536:C:N3	2.46	0.49
1:AA:2724:U:OP1	4:AD:116:LYS:NZ	2.42	0.49
1:AA:2885:G:H2'	1:AA:2886:A:O4'	2.12	0.49
6:AF:49:LEU:HA	6:AF:52:ALA:HB3	1.95	0.49
6:AF:127:TYR:HB3	6:AF:155:ILE:HB	1.95	0.49
16:AP:4:ILE:HG22	16:AP:5:LYS:H	1.77	0.49
19:AS:4:ILE:HB	19:AS:106:VAL:HG22	1.94	0.49
23:AW:9:THR:HG23	23:AW:10:ARG:CD	2.43	0.49
24:AX:77:TYR:CD1	24:AX:77:TYR:C	2.87	0.49
27:A0:54:ILE:HG22	27:A0:56:LYS:H	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:803:G:C5	33:BA:804:U:C4	3.01	0.49
33:BA:1273:C:H2'	33:BA:1274:A:O4'	2.13	0.49
41:BI:30:ILE:HG12	41:BI:38:TYR:CD2	2.48	0.49
1:CA:545:U:N3	1:CA:547:A:H4'	2.28	0.49
1:CA:1913:A:N3	54:DV:591:LEU:CD1	2.76	0.49
1:CA:2415:G:H4'	12:CL:65:GLY:O	2.13	0.49
1:CA:2745:C:N4	1:CA:2746:U:O4	2.46	0.49
7:CG:175:LYS:O	7:CG:176:LYS:CB	2.60	0.49
14:CN:55:ALA:O	14:CN:57:THR:N	2.46	0.49
15:CO:36:TYR:CD1	15:CO:36:TYR:N	2.81	0.49
17:CQ:91:ARG:HH11	18:CR:11:GLN:H	1.60	0.49
33:DA:560:A:H5'	33:DA:566:G:N2	2.28	0.49
33:DA:1049:U:C2	33:DA:1201:A:H2	2.31	0.49
33:DA:1142:G:C2	33:DA:1143:G:H1'	2.47	0.49
33:DA:1507:A:C2	33:DA:1508:A:C5	3.01	0.49
34:DB:163:ILE:HG12	34:DB:164:ASP:N	2.28	0.49
38:DF:55:HIS:N	38:DF:55:HIS:ND1	2.61	0.49
40:DH:3:MET:CE	40:DH:6:PRO:HA	2.43	0.49
41:DI:57:MET:O	41:DI:59:GLU:N	2.44	0.49
45:DM:10:PRO:O	45:DM:11:ASP:HB2	2.13	0.49
1:EA:272:A:O2'	1:EA:273:G:P	2.71	0.49
1:EA:335:C:H5''	21:EU:81:ARG:HD3	1.94	0.49
1:EA:2358:A:C4	1:EA:2359:C:C6	3.01	0.49
1:EA:2885:G:H2'	1:EA:2886:A:O4'	2.13	0.49
3:EC:116:GLN:N	3:EC:127:ASN:OD1	2.45	0.49
13:EM:51:ARG:HH11	13:EM:51:ARG:CG	2.26	0.49
23:EW:18:LYS:N	23:EW:36:ILE:HB	2.28	0.49
24:EX:36:ARG:CG	24:EX:47:THR:HG22	2.43	0.49
33:FA:673:A:H1'	50:FR:64:TYR:HD2	1.77	0.49
40:FH:90:ASP:N	40:FH:90:ASP:OD1	2.34	0.49
44:FL:83:ARG:HB2	44:FL:98:VAL:HG23	1.95	0.49
46:FN:53:ARG:C	46:FN:55:SER:H	2.16	0.49
54:FV:418:ILE:HG12	54:FV:483:VAL:CG1	2.43	0.49
1:GA:742:A:H2'	1:GA:743:A:C8	2.48	0.49
7:GG:163:TYR:O	7:GG:164:ALA:CB	2.60	0.49
9:GI:20:SER:HB3	9:GI:21:PRO:HD3	1.94	0.49
33:HA:1144:G:N1	33:HA:1145:A:C2	2.81	0.49
37:HE:41:ASP:OD1	37:HE:43:ASN:N	2.38	0.49
45:HM:8:ASN:OD1	45:HM:9:ILE:N	2.43	0.49
1:AA:449:A:C6	1:AA:450:G:C5	3.01	0.49
1:AA:804:A:H5''	1:AA:805:G:OP1	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1197:G:H2'	1:AA:1198:U:H6	1.78	0.49
2:AB:3:C:H2'	2:AB:4:C:H6	1.78	0.49
2:AB:90:C:H5'	13:AM:18:ARG:HG2	1.94	0.49
5:AE:108:ILE:HG12	5:AE:181:ILE:HG12	1.93	0.49
9:AI:17:ALA:HB2	9:AI:41:PHE:CE2	2.47	0.49
9:AI:104:GLN:HG2	9:AI:108:ILE:HD12	1.95	0.49
33:BA:1134:G:N2	33:BA:1135:U:O2	2.46	0.49
42:BJ:14:ASP:HB3	42:BJ:17:LEU:HB3	1.95	0.49
1:CA:1405:U:H2'	1:CA:1406:U:C6	2.48	0.49
1:CA:2109:U:HO2'	1:CA:2180:U:C4'	2.26	0.49
1:CA:2557:G:H2'	1:CA:2558:C:C6	2.48	0.49
2:CB:28:C:OP1	15:CO:31:THR:HG21	2.13	0.49
6:CF:41:GLU:HB2	6:CF:48:LEU:HD23	1.95	0.49
6:CF:137:PHE:HB2	6:CF:140:ILE:HD12	1.94	0.49
7:CG:27:GLY:HA3	7:CG:78:VAL:HB	1.95	0.49
10:CJ:43:GLU:O	10:CJ:44:TYR:C	2.51	0.49
20:CT:32:LEU:H	20:CT:83:ALA:HB3	1.77	0.49
33:DA:624:C:H4'	48:DP:10:GLY:O	2.13	0.49
36:DD:98:LEU:HD23	36:DD:102:VAL:HG23	1.95	0.49
36:DD:105:MET:SD	36:DD:143:VAL:HG13	2.53	0.49
1:EA:198:C:OP2	59:EA:3755:HOH:O	2.20	0.49
1:EA:319:G:C4	1:EA:333:G:N2	2.81	0.49
1:EA:1799:G:O2'	3:EC:179:GLU:OE2	2.20	0.49
1:EA:1874:C:H2'	1:EA:1875:G:O4'	2.13	0.49
5:EE:51:GLU:OE2	5:EE:88:ARG:NH1	2.40	0.49
5:EE:70:SER:O	5:EE:70:SER:OG	2.30	0.49
9:EI:59:THR:O	9:EI:66:PHE:HB2	2.12	0.49
10:EJ:44:TYR:O	10:EJ:44:TYR:HD1	1.96	0.49
23:EW:17:ALA:O	23:EW:18:LYS:CB	2.60	0.49
23:EW:37:VAL:CA	23:EW:39:GLN:HG2	2.43	0.49
33:FA:471:U:H2'	33:FA:472:U:H6	1.78	0.49
34:FB:213:LEU:O	34:FB:216:VAL:HG22	2.13	0.49
36:FD:197:GLU:HA	36:FD:200:ILE:HG22	1.95	0.49
38:FF:42:TRP:HB2	38:FF:59:TYR:HB2	1.95	0.49
43:FK:34:ILE:HD11	43:FK:70:CYS:SG	2.52	0.49
1:GA:1095:A:N6	54:HV:628:THR:HA	2.28	0.49
1:GA:1926:U:C6	1:GA:1926:U:H3'	2.48	0.49
4:GD:97:SER:C	4:GD:99:GLU:HG2	2.33	0.49
4:GD:159:LYS:HD2	4:GD:160:LYS:N	2.27	0.49
6:GF:105:ILE:HG12	6:GF:138:PRO:CG	2.43	0.49
6:GF:137:PHE:CD1	6:GF:138:PRO:HD2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:GG:162:ARG:HB3	7:GG:166:GLU:HG2	1.94	0.49
12:GL:46:VAL:CG1	12:GL:50:PHE:HB3	2.43	0.49
12:GL:132:ARG:HG3	12:GL:142:ILE:HD12	1.95	0.49
20:GT:29:THR:HB	20:GT:86:THR:HG22	1.95	0.49
35:HC:23:PHE:CD1	35:HC:24:ALA:N	2.81	0.49
35:HC:77:ILE:HA	35:HC:84:VAL:HG23	1.94	0.49
42:HJ:6:ILE:HG23	42:HJ:100:ILE:HG21	1.94	0.49
44:HL:43:LYS:HG2	44:HL:44:LYS:HG3	1.95	0.49
53:HU:4:ILE:N	53:HU:19:PHE:CE1	2.81	0.49
1:AA:1206:G:C6	1:AA:1207:C:C4	3.01	0.48
1:AA:1328:A:H2'	1:AA:1330:C:C4	2.48	0.48
6:AF:24:VAL:O	6:AF:27:VAL:HG12	2.13	0.48
7:AG:84:LYS:CG	7:AG:85:LYS:N	2.75	0.48
9:AI:37:PHE:CD1	9:AI:68:PHE:HE2	2.31	0.48
9:AI:57:VAL:HG23	9:AI:71:LYS:HE3	1.95	0.48
11:AK:39:ILE:HG13	11:AK:41:ILE:CD1	2.43	0.48
15:AO:106:LEU:HG	15:AO:107:ALA:N	2.27	0.48
25:AY:61:ALA:O	25:AY:63:ALA:N	2.41	0.48
33:BA:1477:U:H2'	33:BA:1478:U:C6	2.48	0.48
1:CA:485:C:C4	1:CA:496:G:N1	2.80	0.48
1:CA:730:A:OP2	59:CA:3686:HOH:O	2.20	0.48
1:CA:812:C:H4'	17:CQ:12:ARG:HH22	1.79	0.48
1:CA:945:A:C4	1:CA:2448:A:C2	3.01	0.48
1:CA:1079:C:C2'	1:CA:1080:A:H5'	2.42	0.48
1:CA:2585:U:O2'	1:CA:2586:U:P	2.71	0.48
4:CD:107:VAL:CG2	4:CD:203:VAL:HG23	2.42	0.48
7:CG:96:ALA:O	7:CG:97:VAL:HB	2.12	0.48
10:CJ:73:VAL:HG23	10:CJ:74:TYR:H	1.77	0.48
33:DA:324:G:N2	33:DA:326:G:H3'	2.28	0.48
42:DJ:7:ARG:HB3	42:DJ:101:SER:HB2	1.94	0.48
44:DL:3:THR:HG22	44:DL:5:ASN:N	2.28	0.48
1:EA:435:C:H2'	1:EA:436:C:H5'	1.95	0.48
1:EA:613:A:C8	1:EA:616:A:N1	2.80	0.48
1:EA:1360:G:O6	1:EA:1372:U:C2	2.66	0.48
4:ED:73:VAL:HG23	4:ED:74:GLU:H	1.77	0.48
21:EU:82:VAL:HG12	21:EU:83:GLY:N	2.27	0.48
32:E5:117:LEU:HD23	32:E5:121:SER:N	2.27	0.48
34:FB:209:VAL:HG23	34:FB:210:THR:H	1.78	0.48
35:FC:123:GLN:HB3	35:FC:128:VAL:CG1	2.43	0.48
39:FG:146:GLU:HA	39:FG:149:LYS:HB2	1.94	0.48
43:FK:99:ALA:HA	43:FK:102:ALA:HB3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:762:U:H4'	1:GA:763:G:O5'	2.13	0.48
1:GA:1353:A:C8	1:GA:1378:A:N6	2.81	0.48
1:GA:2779:U:C6	1:GA:2781:A:C2	3.01	0.48
6:GF:99:PHE:CZ	6:GF:172:PHE:HD2	2.31	0.48
7:GG:22:VAL:HG12	7:GG:36:LEU:CD1	2.43	0.48
33:HA:1237:C:O2	33:HA:1334:G:O2'	2.30	0.48
43:HK:93:ARG:HH22	53:HU:20:LYS:CD	2.26	0.48
1:AA:1151:A:OP1	17:AQ:84:LYS:NZ	2.46	0.48
1:AA:2330:G:H1'	23:AW:38:ARG:HB3	1.95	0.48
4:AD:110:THR:HB	4:AD:202:ILE:CG2	2.42	0.48
7:AG:108:PHE:HE1	7:AG:151:ARG:NH1	2.11	0.48
9:AI:41:PHE:HD1	9:AI:68:PHE:CZ	2.30	0.48
11:AK:10:VAL:HG11	11:AK:16:ALA:HB3	1.95	0.48
12:AL:56:PRO:HD2	12:AL:59:ARG:HB2	1.95	0.48
40:BH:64:LYS:HB3	40:BH:71:VAL:HG21	1.95	0.48
43:BK:94:GLU:O	43:BK:97:ILE:HG22	2.13	0.48
43:BK:107:ILE:HG21	53:BU:12:PHE:CD1	2.48	0.48
54:BV:28:GLU:CD	54:BV:49:THR:HA	2.33	0.48
1:CA:247:G:N7	1:CA:249:C:C2	2.81	0.48
1:CA:1069:A:N7	1:CA:1073:A:N6	2.61	0.48
1:CA:1124:G:H1'	31:C4:38:GLY:OXT	2.13	0.48
1:CA:1187:G:H5''	18:CR:83:TYR:CZ	2.48	0.48
1:CA:2024:G:O3'	4:CD:154:LYS:NZ	2.34	0.48
2:CB:114:C:H1'	15:CO:47:VAL:HG11	1.95	0.48
3:CC:68:ARG:NE	3:CC:103:ILE:HD11	2.28	0.48
3:CC:171:VAL:HG12	3:CC:173:LEU:CD1	2.43	0.48
4:CD:120:GLY:HA2	4:CD:162:ALA:CB	2.43	0.48
9:CI:14:ALA:HB2	9:CI:54:ILE:HD11	1.94	0.48
10:CJ:43:GLU:O	10:CJ:45:THR:HG22	2.13	0.48
16:CP:33:GLU:OE1	33:DA:345:C:H4'	2.12	0.48
20:CT:1:MET:HG2	20:CT:2:ILE:H	1.76	0.48
33:DA:495:A:C2	33:DA:496:A:N6	2.81	0.48
33:DA:932:C:H5'	39:DG:4:ARG:HE	1.78	0.48
34:DB:94:ARG:H	34:DB:94:ARG:HD3	1.78	0.48
36:DD:54:GLN:HB3	36:DD:203:LEU:HD13	1.95	0.48
41:DI:48:VAL:HG12	41:DI:79:ILE:CG2	2.42	0.48
42:DJ:56:HIS:O	42:DJ:57:VAL:HG12	2.12	0.48
54:DV:9:ARG:NH1	54:DV:80:GLU:HG3	2.27	0.48
1:EA:422:A:C2	1:EA:423:A:C4	3.02	0.48
1:EA:639:U:H2'	1:EA:640:C:C6	2.48	0.48
1:EA:858:G:C4	1:EA:2268:A:C2	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1509:A:C2	1:EA:1510:G:C4	3.02	0.48
9:EI:12:VAL:HG11	9:EI:22:PRO:HB3	1.95	0.48
26:EZ:38:GLU:O	26:EZ:43:ILE:HG12	2.13	0.48
33:FA:811:C:O2'	33:FA:901:A:N1	2.41	0.48
41:FI:120:LYS:O	41:FI:121:ALA:HB3	2.13	0.48
44:FL:50:ARG:HG3	44:FL:90:LEU:HD11	1.95	0.48
48:FP:22:ALA:HA	48:FP:33:ILE:HG13	1.94	0.48
1:GA:69:C:O2	1:GA:73:A:O2'	2.24	0.48
1:GA:1258:U:H2'	1:GA:1259:G:H8	1.78	0.48
1:GA:1458:U:H4'	1:GA:1459:G:O5'	2.13	0.48
3:GC:254:LYS:O	3:GC:256:THR:N	2.46	0.48
13:GM:62:LYS:HD3	13:GM:64:TRP:CH2	2.48	0.48
15:GO:92:PHE:CZ	15:GO:107:ALA:HB2	2.48	0.48
17:GQ:63:ARG:HH22	17:GQ:96:ASP:N	2.11	0.48
20:GT:35:ALA:HB3	20:GT:38:ALA:HB2	1.94	0.48
22:GV:2:PHE:HB2	22:GV:61:LEU:HD12	1.94	0.48
23:GW:37:VAL:HG22	23:GW:55:ASP:O	2.13	0.48
36:HD:37:ALA:HA	36:HD:42:GLY:HA3	1.95	0.48
39:HG:145:ALA:O	39:HG:147:ALA:N	2.47	0.48
48:HP:4:ILE:HG13	48:HP:21:VAL:CG1	2.43	0.48
54:HV:261:ILE:HD11	54:HV:263:LEU:CD2	2.43	0.48
1:AA:123:G:OP2	59:AA:3218:HOH:O	2.20	0.48
1:AA:482:A:H1'	1:AA:498:G:N2	2.28	0.48
1:AA:1082:U:O2'	32:A5:41:LEU:HD13	2.13	0.48
1:AA:2599:G:C2	1:AA:2600:A:C4	3.01	0.48
3:AC:140:VAL:HG21	3:AC:189:ALA:HB1	1.96	0.48
4:AD:4:LEU:HD23	4:AD:101:PHE:CE2	2.48	0.48
5:AE:108:ILE:CD1	5:AE:181:ILE:HG12	2.44	0.48
6:AF:134:GLN:HG3	6:AF:140:ILE:HG12	1.95	0.48
9:AI:135:MET:HB3	9:AI:137:LEU:HD21	1.95	0.48
23:AW:37:VAL:HB	23:AW:38:ARG:HH11	1.78	0.48
25:AY:45:GLN:O	25:AY:47:ARG:N	2.46	0.48
32:A5:41:LEU:O	32:A5:45:GLY:N	2.45	0.48
32:A5:60:LEU:HD23	32:A5:78:GLY:HA3	1.95	0.48
36:BD:174:ASP:OD2	36:BD:176:GLY:N	2.45	0.48
43:BK:24:HIS:HB3	43:BK:31:ILE:CG1	2.43	0.48
54:BV:9:ARG:NH1	54:BV:80:GLU:HG3	2.27	0.48
1:CA:167:A:C2	1:CA:168:G:H1'	2.48	0.48
1:CA:996:A:H4'	17:CQ:91:ARG:NE	2.28	0.48
1:CA:1205:A:N1	5:CE:165:HIS:HB2	2.28	0.48
1:CA:2880:C:H1'	14:CN:92:GLY:H	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CE:128:ALA:O	5:CE:130:LYS:N	2.46	0.48
11:CK:17:ARG:HD3	11:CK:47:ILE:CD1	2.43	0.48
20:CT:50:LEU:HD23	25:CY:26:PHE:CD2	2.48	0.48
25:CY:3:ALA:HA	25:CY:6:LEU:HB3	1.95	0.48
33:DA:158:G:H2'	33:DA:159:G:H5'	1.94	0.48
33:DA:1239:A:H62	33:DA:1299:A:N6	2.11	0.48
33:DA:1408:A:H61	55:DW:1:KBE:HA	1.78	0.48
35:DC:150:LYS:HG3	35:DC:201:TRP:CE3	2.48	0.48
36:DD:37:ALA:HA	36:DD:42:GLY:HA3	1.94	0.48
36:DD:146:ARG:CZ	36:DD:148:LYS:HD2	2.43	0.48
37:DE:106:ILE:HD11	37:DE:124:LEU:CD2	2.43	0.48
1:EA:716:A:OP1	47:FO:89:ARG:NH1	2.45	0.48
1:EA:2326:C:H4'	1:EA:2327:A:OP1	2.13	0.48
1:EA:2394:C:OP1	30:E3:29:ARG:NH2	2.46	0.48
6:EF:79:ARG:O	6:EF:82:TYR:HB2	2.13	0.48
12:EL:18:ARG:O	12:EL:19:LEU:HB3	2.12	0.48
23:EW:23:LYS:HE2	23:EW:24:ARG:CB	2.39	0.48
33:FA:381:C:H2'	33:FA:382:A:O4'	2.13	0.48
33:FA:471:U:H2'	33:FA:472:U:C6	2.48	0.48
42:FJ:35:GLN:CD	42:FJ:77:VAL:HB	2.33	0.48
1:GA:866:A:C8	1:GA:914:G:C2	3.00	0.48
1:GA:2267:A:H5''	1:GA:2268:A:C5'	2.44	0.48
1:GA:2845:U:H5''	16:GP:51:ASN:O	2.13	0.48
4:GD:29:VAL:HB	4:GD:98:VAL:HG22	1.95	0.48
16:GP:5:LYS:NZ	16:GP:9:GLN:OE1	2.47	0.48
20:GT:29:THR:CA	20:GT:86:THR:HA	2.43	0.48
33:HA:756:C:HO2'	40:HH:2:SER:N	2.11	0.48
37:HE:97:GLN:HB2	37:HE:124:LEU:HB2	1.94	0.48
42:HJ:32:THR:HG23	42:HJ:83:THR:OG1	2.13	0.48
43:HK:96:THR:HG22	43:HK:97:ILE:N	2.28	0.48
1:AA:573:U:O2'	1:AA:574:A:H3'	2.14	0.48
1:AA:980:A:C6	1:AA:981:A:N1	2.81	0.48
1:AA:1315:C:O2'	1:AA:1316:U:H5'	2.13	0.48
1:AA:1842:G:H2'	1:AA:1843:C:C6	2.49	0.48
1:AA:2354:C:H4'	23:AW:31:LEU:HD22	1.94	0.48
32:A5:122:GLN:CG	32:A5:123:ILE:H	2.25	0.48
33:BA:465:A:H2'	33:BA:466:A:C8	2.48	0.48
33:BA:697:U:O2	33:BA:798:U:H1'	2.14	0.48
33:BA:1284:C:H3'	33:BA:1285:A:H8	1.79	0.48
33:BA:1492:A:H2'	33:BA:1493:A:C5'	2.44	0.48
41:BI:51:PRO:HB3	41:BI:84:THR:HG22	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BK:107:ILE:HD12	53:BU:8:GLU:HB2	1.95	0.48
45:BM:29:ARG:HH21	45:BM:63:PHE:CB	2.27	0.48
1:CA:674:G:H1'	5:CE:69:ARG:CD	2.44	0.48
1:CA:1088:A:H5''	1:CA:1088:A:H8	1.78	0.48
1:CA:1296:G:OP1	1:CA:2709:G:O2'	2.23	0.48
1:CA:2484:G:C2	1:CA:2485:G:C8	3.02	0.48
1:CA:2677:G:H2'	1:CA:2678:C:C6	2.48	0.48
3:CC:80:LEU:HD11	3:CC:109:LEU:HG	1.96	0.48
6:CF:71:LYS:HD3	6:CF:72:SER:N	2.28	0.48
8:CH:9:VAL:HG12	8:CH:10:ALA:N	2.27	0.48
9:CI:72:THR:HB	9:CI:115:ASP:CG	2.33	0.48
23:CW:51:GLY:HA3	23:CW:59:PHE:CE2	2.49	0.48
28:C1:33:LEU:N	28:C1:51:ALA:HB3	2.29	0.48
34:DB:183:PHE:CE2	34:DB:197:PHE:CD2	3.00	0.48
39:DG:88:PRO:HG3	39:DG:149:LYS:HA	1.95	0.48
40:DH:86:TYR:CE1	40:DH:124:GLU:HB2	2.48	0.48
54:DV:196:ALA:C	54:DV:198:GLN:N	2.67	0.48
54:DV:309:ARG:NH2	54:DV:402:ALA:HB1	2.29	0.48
1:EA:620:G:H4'	1:EA:621:A:O5'	2.13	0.48
1:EA:846:U:O2'	1:EA:847:U:OP2	2.31	0.48
1:EA:1824:G:O2'	3:EC:245:THR:HG22	2.14	0.48
1:EA:2075:U:H2'	1:EA:2238:G:N2	2.28	0.48
9:EI:58:ILE:HG23	9:EI:66:PHE:CE1	2.48	0.48
10:EJ:25:LEU:HB2	10:EJ:62:VAL:HG21	1.96	0.48
13:EM:41:LEU:HG	13:EM:96:ILE:HD13	1.95	0.48
17:EQ:91:ARG:HD3	18:ER:11:GLN:HB2	1.95	0.48
23:EW:23:LYS:HE2	23:EW:24:ARG:N	2.28	0.48
26:EZ:40:THR:CG2	26:EZ:43:ILE:HG23	2.43	0.48
47:FO:30:ALA:HA	47:FO:85:LEU:HD21	1.95	0.48
1:GA:929:U:H4'	26:GZ:37:ARG:NH2	2.28	0.48
1:GA:1060:U:H4'	9:GI:9:LYS:HZ1	1.77	0.48
4:GD:98:VAL:HG12	4:GD:180:VAL:HG23	1.95	0.48
12:GL:62:PRO:HG2	30:G3:24:LYS:HD3	1.94	0.48
23:GW:17:ALA:O	23:GW:18:LYS:HB2	2.14	0.48
33:HA:413:G:N2	33:HA:428:G:H1'	2.28	0.48
33:HA:922:G:H2'	33:HA:923:A:C8	2.49	0.48
37:HE:80:THR:OG1	37:HE:81:LEU:N	2.46	0.48
50:HR:22:ASP:OD1	50:HR:24:LYS:HE3	2.13	0.48
1:AA:833:A:H2'	1:AA:834:G:C8	2.48	0.48
8:AH:31:VAL:HB	8:AH:32:PRO:CD	2.43	0.48
20:AT:28:ASN:HB3	20:AT:91:GLN:HE22	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A5:48:ALA:HB3	32:A5:51:TYR:HB3	1.94	0.48
33:BA:381:C:H2'	33:BA:382:A:O4'	2.13	0.48
33:BA:674:G:H4'	50:BR:70:TYR:CE2	2.49	0.48
33:BA:763:G:H2'	33:BA:764:C:C6	2.48	0.48
33:BA:1174:G:C2	33:BA:1175:G:C8	3.01	0.48
34:BB:32:GLY:HA3	34:BB:39:ILE:H	1.77	0.48
37:BE:159:LYS:HE2	40:BH:64:LYS:HE3	1.95	0.48
54:BV:11:ARG:HE	54:BV:283:ILE:HA	1.78	0.48
1:CA:2154:A:H3'	1:CA:2155:U:H4'	1.94	0.48
1:CA:2345:G:N3	1:CA:2381:A:H2'	2.28	0.48
1:CA:2364:C:H4'	23:CW:55:ASP:OD1	2.14	0.48
1:CA:2499:C:O2	59:CA:3526:HOH:O	2.20	0.48
4:CD:34:VAL:HG22	4:CD:94:GLN:H	1.79	0.48
6:CF:32:LYS:HD3	6:CF:91:ARG:NH1	2.28	0.48
25:CY:18:LEU:O	25:CY:22:LEU:HB2	2.13	0.48
33:DA:652:U:O3'	40:DH:56:LYS:NZ	2.43	0.48
33:DA:653:U:H5'	40:DH:56:LYS:HE2	1.95	0.48
33:DA:1412:C:H2'	33:DA:1413:A:C8	2.48	0.48
1:EA:1131:G:N2	1:EA:2024:G:H21	2.11	0.48
1:EA:1727:C:H2'	1:EA:1728:C:O4'	2.13	0.48
2:EB:35:C:H5'	2:EB:35:C:H6	1.78	0.48
11:EK:19:VAL:CG2	11:EK:41:ILE:HG23	2.44	0.48
20:ET:29:THR:CA	20:ET:86:THR:HA	2.43	0.48
20:ET:44:LYS:HG3	20:ET:55:VAL:CG1	2.44	0.48
21:EU:90:LYS:HA	21:EU:90:LYS:HE3	1.96	0.48
23:EW:21:GLY:HA2	23:EW:25:PHE:CE2	2.49	0.48
33:FA:33:A:H2'	33:FA:34:C:C6	2.48	0.48
33:FA:949:A:C1'	33:FA:1364:U:H5	2.27	0.48
36:FD:193:ALA:HB3	36:FD:195:ILE:HG23	1.95	0.48
54:FV:142:ASN:OD1	54:FV:143:LYS:N	2.42	0.48
54:FV:167:VAL:HG21	54:FV:261:ILE:CD1	2.44	0.48
1:GA:1726:C:N3	1:GA:1735:A:C2	2.82	0.48
1:GA:1925:C:O5'	1:GA:1925:C:H6	1.97	0.48
1:GA:2043:C:O2'	59:GA:3248:HOH:O	2.20	0.48
1:GA:2846:G:H2'	1:GA:2847:U:O4'	2.14	0.48
3:GC:259:ASN:OD1	3:GC:262:THR:N	2.39	0.48
8:GH:27:ARG:HH22	24:GX:58:ILE:HG22	1.78	0.48
20:GT:51:PHE:C	20:GT:52:GLU:HG2	2.33	0.48
33:HA:134:G:H1'	33:HA:325:A:C5	2.49	0.48
33:HA:484:G:H4'	33:HA:485:U:O5'	2.12	0.48
33:HA:872:A:C8	33:HA:874:G:C8	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:1264:U:H2'	33:HA:1265:C:C6	2.48	0.48
34:HB:11:ALA:HB1	34:HB:14:HIS:CD2	2.48	0.48
37:HE:154:ALA:O	37:HE:158:GLY:N	2.46	0.48
38:HF:55:HIS:ND1	38:HF:55:HIS:N	2.60	0.48
54:HV:550:ILE:HA	54:HV:553:VAL:HG12	1.95	0.48
1:AA:716:A:OP1	47:BO:89:ARG:NH1	2.46	0.48
1:AA:1027:A:H2'	1:AA:1126:A:N6	2.28	0.48
1:AA:1857:G:N2	1:AA:1884:G:O2'	2.42	0.48
1:AA:2103:C:H42	1:AA:2186:G:H1	1.61	0.48
5:AE:112:LEU:HD13	5:AE:186:VAL:HG11	1.96	0.48
7:AG:60:GLY:O	7:AG:61:TRP:HB2	2.14	0.48
7:AG:112:VAL:HG23	7:AG:113:ASP:N	2.28	0.48
28:A1:36:LYS:CG	28:A1:47:ILE:HD12	2.44	0.48
29:A2:34:ARG:NH1	29:A2:41:ARG:O	2.47	0.48
30:A3:44:ARG:N	30:A3:45:PRO:CD	2.76	0.48
32:A5:71:CYS:HA	32:A5:117:LEU:HD13	1.92	0.48
33:BA:676:A:C6	33:BA:677:U:C4	3.01	0.48
33:BA:1306:A:C2	33:BA:1332:A:H1'	2.47	0.48
33:BA:1505:G:H4'	33:BA:1506:U:H5''	1.96	0.48
35:BC:159:GLY:HA2	35:BC:193:TYR:CE1	2.49	0.48
38:BF:49:TYR:CE2	50:BR:66:SER:HA	2.49	0.48
40:BH:46:ILE:HD12	40:BH:61:LEU:HD22	1.95	0.48
41:BI:20:PHE:HD2	41:BI:64:TYR:HD2	1.59	0.48
43:BK:109:ASN:HD21	53:BU:7:ARG:HD2	1.79	0.48
51:BS:23:VAL:O	51:BS:26:GLY:N	2.46	0.48
1:CA:143:C:O2'	20:CT:3:ARG:NH1	2.46	0.48
1:CA:716:A:OP1	47:DO:89:ARG:NH1	2.47	0.48
1:CA:725:G:C6	1:CA:726:G:N1	2.82	0.48
1:CA:834:G:H5'	30:C3:56:LEU:HD21	1.96	0.48
1:CA:1021:A:H3'	1:CA:1021:A:N3	2.28	0.48
3:CC:16:VAL:HB	3:CC:203:VAL:HB	1.94	0.48
3:CC:94:LEU:HD22	3:CC:100:ARG:NH1	2.29	0.48
3:CC:238:ASN:OD1	59:CC:310:HOH:O	2.20	0.48
10:CJ:102:GLU:CG	10:CJ:124:VAL:HG21	2.43	0.48
22:CV:75:GLN:HB2	22:CV:92:VAL:HG23	1.95	0.48
50:DR:23:TYR:HA	50:DR:58:ALA:HB1	1.95	0.48
1:EA:1248:G:C4	17:EQ:2:ARG:HD2	2.49	0.48
1:EA:2020:A:H5'	27:E0:8:THR:CG2	2.44	0.48
3:EC:68:ARG:HD3	3:EC:103:ILE:CD1	2.43	0.48
3:EC:106:PRO:O	3:EC:109:LEU:HD13	2.14	0.48
8:EH:21:VAL:HG21	8:EH:25:TYR:CD2	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:ES:84:ARG:HB2	19:ES:96:ILE:HG23	1.95	0.48
31:E4:15:LYS:HB3	31:E4:26:ILE:CD1	2.44	0.48
32:E5:51:TYR:CD1	32:E5:51:TYR:C	2.86	0.48
33:FA:66:A:C2	33:FA:67:C:C6	3.01	0.48
33:FA:554:A:H5'	44:FL:26:ALA:HB1	1.94	0.48
42:FJ:40:ILE:HB	42:FJ:73:LEU:HB3	1.95	0.48
44:FL:83:ARG:NH2	44:FL:96:HIS:CD2	2.82	0.48
1:GA:563:A:O5'	17:GQ:40:LYS:NZ	2.43	0.48
1:GA:748:G:OP2	19:GS:88:ARG:HG3	2.13	0.48
1:GA:994:C:H1'	18:GR:10:LYS:HE2	1.96	0.48
1:GA:1747:U:H2'	1:GA:1748:C:C6	2.48	0.48
1:GA:2019:A:H4'	17:GQ:33:VAL:HG21	1.96	0.48
1:GA:2108:A:H62	1:GA:2180:U:C2'	2.25	0.48
1:GA:2305:U:H5''	6:GF:130:GLY:HA3	1.96	0.48
1:GA:2415:G:H4'	12:GL:66:PHE:HB2	1.95	0.48
4:GD:120:GLY:HA2	4:GD:162:ALA:CB	2.43	0.48
11:GK:5:GLN:O	11:GK:6:THR:HB	2.14	0.48
22:GV:5:ASN:OD1	22:GV:5:ASN:N	2.34	0.48
33:HA:836:G:C6	33:HA:837:U:N3	2.82	0.48
33:HA:881:G:P	44:HL:9:ARG:HH22	2.37	0.48
33:HA:1304:G:H2'	33:HA:1332:A:N1	2.28	0.48
33:HA:1330:U:O4	33:HA:1331:G:N1	2.47	0.48
41:HI:41:ARG:CA	41:HI:45:ARG:HD3	2.43	0.48
41:HI:112:GLU:OE2	41:HI:115:LYS:NZ	2.35	0.48
49:HQ:46:VAL:HG21	49:HQ:61:ILE:HD13	1.95	0.48
51:HS:49:ILE:HD13	51:HS:71:LEU:HD21	1.95	0.48
54:HV:255:ARG:CG	54:HV:260:GLU:HB2	2.44	0.48
1:AA:163:C:O2'	1:AA:164:C:P	2.72	0.48
1:AA:1131:G:C4	10:AJ:77:HIS:ND1	2.78	0.48
1:AA:2229:U:H2'	1:AA:2230:G:H8	1.78	0.48
1:AA:2814:A:C5	1:AA:2815:C:C5	3.02	0.48
4:AD:70:LYS:O	4:AD:71:ALA:HB3	2.14	0.48
6:AF:106:ALA:O	6:AF:136:ILE:HD12	2.14	0.48
11:AK:9:ASN:O	11:AK:83:ALA:HA	2.14	0.48
33:BA:79:G:O2'	33:BA:80:A:O5'	2.31	0.48
33:BA:685:G:C4'	43:BK:41:ALA:O	2.62	0.48
33:BA:1319:A:OP1	51:BS:70:LYS:NZ	2.46	0.48
1:CA:1324:G:C4	1:CA:1328:A:N6	2.82	0.48
1:CA:1715:G:N2	1:CA:1744:A:OP2	2.41	0.48
1:CA:1723:G:H3'	1:CA:1724:G:C8	2.49	0.48
1:CA:1831:G:C4	1:CA:1975:G:N2	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2267:A:H5''	1:CA:2268:A:H5'	1.95	0.48
1:CA:2755:C:O2'	1:CA:2756:U:H2'	2.14	0.48
1:CA:2884:U:C6	27:C0:49:ARG:HG2	2.48	0.48
2:CB:72:G:O2'	2:CB:104:A:N6	2.43	0.48
6:CF:39:VAL:HG13	6:CF:40:GLY:N	2.29	0.48
6:CF:110:ILE:O	6:CF:112:ASP:N	2.47	0.48
10:CJ:15:TRP:C	10:CJ:16:TYR:CD1	2.86	0.48
11:CK:18:ARG:H	11:CK:45:GLU:HB2	1.78	0.48
11:CK:80:ASP:HB2	16:CP:67:GLU:HG3	1.95	0.48
15:CO:51:ALA:CB	15:CO:78:VAL:HG13	2.44	0.48
29:C2:1:MET:CG	29:C2:2:LYS:N	2.77	0.48
33:DA:1295:U:H5''	8:GH:15:LEU:HD13	1.95	0.48
43:DK:15:GLN:HG2	39:HG:139:GLU:OE2	2.14	0.48
44:DL:33:VAL:HG21	54:DV:429:GLU:HG3	1.94	0.48
44:DL:44:LYS:CB	44:DL:45:PRO:HD3	2.43	0.48
54:DV:320:LEU:HD23	54:DV:321:ALA:N	2.29	0.48
54:DV:526:GLU:O	54:DV:528:GLY:N	2.46	0.48
1:EA:118:A:N3	1:EA:178:G:H1'	2.27	0.48
1:EA:1079:C:C2'	1:EA:1080:A:H5'	2.43	0.48
1:EA:1405:U:H2'	1:EA:1406:U:C6	2.49	0.48
1:EA:2502:G:C5'	1:EA:2503:A:H5''	2.43	0.48
11:EK:61:VAL:HG22	11:EK:87:LEU:HD11	1.96	0.48
23:EW:37:VAL:HG13	23:EW:55:ASP:C	2.34	0.48
33:FA:426:U:H4'	36:FD:40:GLN:HA	1.94	0.48
33:FA:1054:C:OP2	59:FA:1780:HOH:O	2.20	0.48
33:FA:1150:A:H1'	33:FA:1280:A:N6	2.29	0.48
33:FA:1391:U:H2'	33:FA:1392:G:C8	2.49	0.48
40:FH:99:LEU:HD23	40:FH:99:LEU:H	1.79	0.48
41:FI:34:SER:HB3	41:FI:37:GLN:HG2	1.94	0.48
1:GA:139:U:O2'	20:GT:1:MET:HA	2.13	0.48
1:GA:1095:A:N1	54:HV:654:ILE:HD11	2.28	0.48
1:GA:1176:U:O2'	1:GA:1177:G:C8	2.66	0.48
1:GA:2307:G:H4'	1:GA:2308:G:C5'	2.43	0.48
7:GG:97:VAL:HG11	7:GG:123:GLU:HA	1.95	0.48
11:GK:80:ASP:OD1	16:GP:61:ARG:NH1	2.46	0.48
13:GM:13:HIS:O	13:GM:14:LYS:HB3	2.11	0.48
16:GP:98:TYR:CE1	16:GP:99:LEU:HD22	2.49	0.48
17:GQ:39:ILE:O	17:GQ:43:GLN:HG3	2.14	0.48
19:GS:63:GLY:O	19:GS:64:ALA:HB3	2.12	0.48
20:GT:69:ARG:CD	20:GT:70:HIS:H	2.27	0.48
33:HA:60:A:O2'	52:HT:5:LYS:HD2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:656:G:H4'	47:HO:62:GLN:HE22	1.78	0.48
33:HA:1004:A:H5'	33:HA:1024:G:N2	2.28	0.48
34:HB:27:LYS:N	34:HB:28:PRO:CD	2.77	0.48
39:HG:126:ASP:O	39:HG:130:ASN:CA	2.61	0.48
43:HK:109:ASN:ND2	53:HU:8:GLU:HB2	2.29	0.48
54:HV:625:GLU:HA	54:HV:628:THR:HG23	1.95	0.48
1:AA:11:C:H2'	1:AA:12:U:H5'	1.95	0.48
1:AA:138:U:OP1	1:AA:139:U:H3'	2.14	0.48
1:AA:852:U:H2'	1:AA:853:C:H6	1.78	0.48
1:AA:975:A:C2	1:AA:990:A:C8	3.01	0.48
1:AA:1250:G:OP2	12:AL:21:ARG:NH2	2.47	0.48
1:AA:2336:A:H61	23:AW:40:ARG:CB	2.26	0.48
3:AC:109:LEU:HD23	3:AC:110:LYS:N	2.29	0.48
5:AE:149:ILE:O	5:AE:188:MET:HA	2.14	0.48
9:AI:116:MET:SD	9:AI:124:MET:HE3	2.53	0.48
10:AJ:81:ILE:CG1	10:AJ:82:GLY:N	2.76	0.48
14:AN:98:LEU:HD22	27:A0:42:ILE:HD11	1.96	0.48
33:BA:727:G:C2	33:BA:731:G:C2	3.02	0.48
33:BA:767:A:C2	33:BA:768:A:C4	3.02	0.48
33:BA:776:G:N2	33:BA:802:A:OP2	2.44	0.48
33:BA:1009:U:H3	33:BA:1020:G:H1	1.60	0.48
35:BC:77:ILE:HA	35:BC:84:VAL:HG23	1.96	0.48
40:BH:83:LEU:HD23	44:BL:4:VAL:HG11	1.96	0.48
45:BM:4:ILE:HA	45:BM:57:ARG:HG3	1.94	0.48
54:BV:497:LYS:HG2	54:BV:524:PRO:HD2	1.94	0.48
1:CA:137:U:H5	1:CA:140:C:H1'	1.78	0.48
1:CA:995:C:H5'	1:CA:995:C:C6	2.49	0.48
1:CA:1174:U:H5'	1:CA:1175:A:OP2	2.13	0.48
4:CD:151:THR:CG2	4:CD:152:PRO:HD3	2.43	0.48
9:CI:106:GLN:HG2	9:CI:107:GLU:N	2.28	0.48
14:CN:26:GLY:HA2	14:CN:75:ILE:HD13	1.96	0.48
28:C1:50:GLU:O	28:C1:51:ALA:HB2	2.14	0.48
33:DA:42:G:HO2'	33:DA:622:A:H2	1.55	0.48
33:DA:600:A:H2'	33:DA:601:G:C8	2.49	0.48
33:DA:645:G:C2	33:DA:646:G:C8	3.02	0.48
34:DB:67:LEU:HD13	34:DB:160:LEU:HD11	1.95	0.48
34:DB:70:GLY:CA	34:DB:163:ILE:HG22	2.44	0.48
34:DB:99:MET:HA	34:DB:106:VAL:HG21	1.95	0.48
44:DL:63:VAL:HG21	44:DL:95:TYR:CE1	2.49	0.48
54:DV:259:ASN:O	54:DV:259:ASN:ND2	2.37	0.48
1:EA:95:A:C2	1:EA:96:C:H1'	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:846:U:O2'	1:EA:847:U:P	2.71	0.48
1:EA:1022:G:N2	1:EA:1142:A:C2	2.81	0.48
3:EC:231:HIS:HA	3:EC:241:LYS:HE3	1.96	0.48
10:EJ:99:ARG:O	10:EJ:103:ILE:HG23	2.14	0.48
23:EW:17:ALA:O	23:EW:18:LYS:HB2	2.14	0.48
29:E2:43:THR:O	29:E2:44:VAL:CB	2.59	0.48
33:FA:1092:A:C6	33:FA:1093:A:C6	3.02	0.48
41:FI:88:MET:SD	41:FI:89:GLU:N	2.87	0.48
44:FL:44:LYS:CB	44:FL:45:PRO:HD3	2.41	0.48
1:GA:1172:C:C5	1:GA:1173:U:H1'	2.48	0.48
1:GA:2108:A:N1	1:GA:2181:U:H5	2.12	0.48
1:GA:2307:G:H4'	1:GA:2308:G:O4'	2.14	0.48
1:GA:2461:A:H1'	1:GA:2492:U:C2	2.48	0.48
1:GA:2684:U:C4	1:GA:2685:G:N7	2.82	0.48
6:GF:39:VAL:HG13	6:GF:40:GLY:N	2.28	0.48
9:GI:76:ALA:O	9:GI:78:LEU:N	2.46	0.48
17:GQ:93:ILE:O	17:GQ:96:ASP:N	2.46	0.48
26:GZ:3:THR:HA	26:GZ:37:ARG:O	2.14	0.48
33:HA:685:G:C2	33:HA:686:U:C4	3.02	0.48
33:HA:1283:U:H2'	33:HA:1284:C:C6	2.49	0.48
39:HG:106:GLU:HA	39:HG:109:ARG:NE	2.28	0.48
45:HM:4:ILE:HB	45:HM:57:ARG:NH2	2.28	0.48
54:HV:200:VAL:HG23	54:HV:201:THR:HG23	1.96	0.48
1:AA:215:G:H4'	1:AA:216:A:H4'	1.95	0.48
1:AA:475:C:O2	1:AA:479:A:N6	2.46	0.48
1:AA:958:U:H5''	1:AA:959:A:O5'	2.14	0.48
1:AA:974:G:H8	1:AA:990:A:H62	1.61	0.48
1:AA:1223:G:C6	1:AA:1227:G:C6	3.02	0.48
1:AA:1344:U:H4'	1:AA:1384:A:C5	2.49	0.48
1:AA:1537:G:C2	1:AA:1538:G:H1'	2.49	0.48
1:AA:2622:U:O2'	1:AA:2825:G:N7	2.46	0.48
9:AI:14:ALA:HA	9:AI:45:THR:CG2	2.43	0.48
9:AI:20:SER:HA	9:AI:24:GLY:HA3	1.94	0.48
10:AJ:60:ASP:HB3	10:AJ:97:PRO:HG2	1.95	0.48
12:AL:2:ARG:O	12:AL:5:THR:HG22	2.14	0.48
23:AW:23:LYS:HE2	23:AW:24:ARG:CB	2.44	0.48
32:A5:43:LYS:NZ	32:A5:98:GLU:OE1	2.43	0.48
32:A5:71:CYS:CA	32:A5:117:LEU:HD12	2.42	0.48
33:BA:224:U:C2	33:BA:225:C:C5	3.02	0.48
33:BA:340:U:H2'	33:BA:341:C:C6	2.49	0.48
33:BA:716:A:C5	33:BA:717:U:C4	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:926:G:C6	33:BA:1505:G:C5	3.01	0.48
35:BC:47:LEU:HB3	35:BC:50:ALA:HB3	1.96	0.48
35:BC:129:MET:HB2	35:BC:132:ARG:HG3	1.96	0.48
1:CA:558:U:H5''	10:CJ:111:LYS:HE3	1.95	0.48
1:CA:945:A:OP1	59:CA:3347:HOH:O	2.20	0.48
1:CA:1857:G:N2	1:CA:1884:G:O2'	2.39	0.48
1:CA:2419:U:H2'	1:CA:2420:C:C6	2.49	0.48
1:CA:2834:G:H2'	1:CA:2879:A:N6	2.29	0.48
3:CC:251:THR:HG22	3:CC:252:LYS:H	1.79	0.48
3:CC:259:ASN:O	3:CC:260:LYS:HB2	2.14	0.48
6:CF:15:LEU:HA	6:CF:18:GLU:HB2	1.95	0.48
6:CF:39:VAL:HG13	6:CF:40:GLY:H	1.79	0.48
7:CG:18:ILE:HD12	7:CG:19:ASN:N	2.29	0.48
7:CG:51:PHE:CD1	7:CG:68:ARG:HG2	2.49	0.48
9:CI:52:LEU:N	9:CI:52:LEU:HD12	2.28	0.48
17:CQ:91:ARG:NH2	17:CQ:93:ILE:HD13	2.29	0.48
18:CR:27:ILE:HG13	18:CR:33:VAL:CG1	2.44	0.48
22:CV:4:ILE:HD12	22:CV:47:VAL:HG22	1.95	0.48
33:DA:212:G:H2'	33:DA:213:G:C8	2.49	0.48
35:DC:11:ARG:NH2	35:DC:182:ILE:HG13	2.29	0.48
43:DK:24:HIS:HB3	43:DK:31:ILE:CG1	2.44	0.48
43:DK:127:ARG:O	53:DU:34:ARG:CZ	2.61	0.48
1:EA:1012:U:OP2	17:EQ:69:ARG:NH1	2.47	0.48
1:EA:1853:A:N1	1:EA:2087:G:H1'	2.29	0.48
21:EU:41:VAL:O	21:EU:59:GLU:HA	2.14	0.48
29:E2:31:LEU:HD22	29:E2:42:LEU:HD13	1.94	0.48
33:FA:945:G:C6	33:FA:1337:G:C5	3.02	0.48
36:FD:174:ASP:OD2	36:FD:177:LYS:N	2.37	0.48
41:FI:42:GLU:C	41:FI:44:ALA:H	2.16	0.48
47:FO:4:SER:OG	47:FO:6:GLU:HG2	2.14	0.48
1:GA:1258:U:O4'	5:GE:79:ARG:HD2	2.14	0.48
1:GA:2020:A:H5'	27:G0:8:THR:CG2	2.44	0.48
1:GA:2142:A:C5	1:GA:2144:G:H8	2.31	0.48
1:GA:2547:A:C2	1:GA:2562:U:C2	3.01	0.48
4:GD:35:THR:OG1	4:GD:49:GLN:OE1	2.31	0.48
10:GJ:45:THR:HG21	10:GJ:50:THR:HG21	1.95	0.48
17:GQ:65:ASN:HD22	17:GQ:75:TYR:HB3	1.79	0.48
21:GU:95:PHE:N	21:GU:95:PHE:HD1	2.12	0.48
33:HA:977:A:N6	33:HA:1224:U:O5'	2.46	0.48
41:HI:21:ILE:HG12	41:HI:63:LEU:HD12	1.96	0.48
1:AA:546:U:O2'	1:AA:547:A:H4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1475:G:H1'	1:AA:1476:U:OP2	2.14	0.48
1:AA:1737:G:C2	1:AA:1738:G:N2	2.82	0.48
1:AA:2311:A:C2	6:AF:76:PHE:HB3	2.49	0.48
1:AA:2330:G:N2	1:AA:2386:A:N3	2.62	0.48
2:AB:73:A:C4	2:AB:104:A:C2	3.02	0.48
5:AE:146:VAL:HG12	5:AE:185:LYS:HB2	1.96	0.48
7:AG:84:LYS:HG3	7:AG:132:LEU:N	2.29	0.48
7:AG:88:LEU:HD11	7:AG:95:ALA:HB2	1.95	0.48
9:AI:60:VAL:HG22	9:AI:66:PHE:CB	2.44	0.48
11:AK:2:ILE:HD12	11:AK:8:LEU:HD11	1.96	0.48
11:AK:61:VAL:HG11	11:AK:112:PHE:CE1	2.49	0.48
13:AM:46:ILE:HD13	13:AM:47:GLU:N	2.29	0.48
14:AN:112:TYR:HE1	27:A0:56:LYS:HZ1	1.61	0.48
17:AQ:91:ARG:NH1	18:AR:11:GLN:O	2.47	0.48
20:AT:9:LYS:O	20:AT:12:ARG:NH1	2.45	0.48
33:BA:922:G:H2'	33:BA:923:A:C8	2.49	0.48
33:BA:945:G:C6	33:BA:1337:G:C5	3.02	0.48
33:BA:1375:A:P	39:BG:28:ASN:HD22	2.37	0.48
33:BA:1417:G:N2	33:BA:1482:G:H2'	2.29	0.48
35:BC:106:VAL:HG23	35:BC:106:VAL:O	2.14	0.48
40:BH:54:ASP:CG	40:BH:55:THR:H	2.18	0.48
43:BK:44:TRP:HA	43:BK:70:CYS:SG	2.54	0.48
44:BL:87:VAL:C	44:BL:89:ASP:H	2.17	0.48
48:BP:4:ILE:HG13	48:BP:21:VAL:HG12	1.94	0.48
54:BV:20:ASP:N	58:BV:801:GCP:H3B1	2.29	0.48
54:BV:430:LYS:HG2	54:BV:479:VAL:CG2	2.43	0.48
1:CA:819:A:OP2	1:CA:1187:G:N2	2.30	0.48
1:CA:1088:A:O2'	1:CA:1089:A:OP1	2.32	0.48
11:CK:10:VAL:HG21	11:CK:16:ALA:CB	2.44	0.48
12:CL:12:SER:O	12:CL:12:SER:OG	2.32	0.48
13:CM:77:PRO:HD2	13:CM:80:VAL:HG11	1.95	0.48
33:DA:926:G:C6	33:DA:1505:G:C5	3.02	0.48
1:EA:580:U:O3'	17:EQ:30:VAL:CG1	2.61	0.48
1:EA:994:C:O2	18:ER:10:LYS:HE3	2.13	0.48
1:EA:2105:U:H2'	1:EA:2106:U:O4'	2.14	0.48
6:EF:61:GLY:HA3	6:EF:94:ARG:NH1	2.29	0.48
10:EJ:39:LYS:HA	10:EJ:43:GLU:HG3	1.96	0.48
17:EQ:91:ARG:NH1	18:ER:10:LYS:HB3	2.29	0.48
26:EZ:39:ASP:OD2	26:EZ:44:ARG:NH1	2.46	0.48
33:FA:554:A:C5'	44:FL:26:ALA:HB1	2.43	0.48
33:FA:794:A:C6	33:FA:795:C:N3	2.82	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:FA:1493:A:H8	55:FW:3:SER:OG	1.97	0.48
34:FB:40:ILE:HG21	34:FB:201:GLY:HA2	1.96	0.48
38:FF:18:VAL:HA	38:FF:21:MET:SD	2.54	0.48
43:FK:35:THR:HB	43:FK:40:ASN:H	1.78	0.48
54:FV:536:PHE:CZ	54:FV:578:LEU:HD23	2.49	0.48
1:GA:576:U:OP1	59:GA:3661:HOH:O	2.20	0.48
1:GA:651:G:H5'	30:G3:18:LYS:HG3	1.95	0.48
1:GA:1013:C:OP2	59:GA:3595:HOH:O	2.19	0.48
1:GA:1656:C:OP1	4:GD:141:ARG:NH1	2.46	0.48
1:GA:1715:G:N2	1:GA:1744:A:OP2	2.46	0.48
1:GA:1782:U:C6	1:GA:2609:U:C5	3.02	0.48
1:GA:2287:A:C4	1:GA:2289:G:N7	2.81	0.48
1:GA:2705:A:OP2	59:GA:3670:HOH:O	2.20	0.48
1:GA:2773:C:OP1	4:GD:171:THR:HG23	2.13	0.48
4:GD:190:LYS:HG3	4:GD:190:LYS:O	2.14	0.48
5:GE:181:ILE:HG12	12:GL:2:ARG:HH21	1.77	0.48
10:GJ:30:THR:HG22	10:GJ:31:GLU:N	2.28	0.48
33:HA:461:A:C2'	33:HA:462:G:H5'	2.43	0.48
33:HA:656:G:H4'	47:HO:62:GLN:NE2	2.29	0.48
33:HA:1011:C:H2'	33:HA:1012:A:C5'	2.44	0.48
34:HB:20:ARG:HA	34:HB:20:ARG:NH1	2.29	0.48
36:HD:26:ARG:NH1	36:HD:31:LYS:HE3	2.28	0.48
38:HF:3:HIS:HB2	38:HF:92:THR:HG23	1.96	0.48
41:HI:129:LYS:HG3	41:HI:130:ARG:H	1.78	0.48
1:AA:160:A:C6	1:AA:161:A:C6	3.02	0.47
1:AA:1187:G:H5''	18:AR:83:TYR:CE2	2.49	0.47
1:AA:2230:G:H2'	1:AA:2231:U:C6	2.48	0.47
1:AA:2303:G:C4	1:AA:2304:G:C8	3.02	0.47
1:AA:2864:G:C5	1:AA:2865:U:C4	3.02	0.47
5:AE:46:GLN:HG3	5:AE:87:ALA:CB	2.44	0.47
6:AF:10:GLU:HG2	6:AF:13:LYS:CD	2.44	0.47
9:AI:19:PRO:HG3	9:AI:23:VAL:HG23	1.95	0.47
12:AL:74:THR:HG22	12:AL:107:PHE:HB2	1.96	0.47
18:AR:39:LEU:HB3	18:AR:49:ILE:HD13	1.95	0.47
21:AU:52:ASN:C	21:AU:54:PRO:HD2	2.34	0.47
33:BA:75:G:H3'	33:BA:76:G:H8	1.79	0.47
33:BA:373:A:H1'	33:BA:481:G:H1'	1.96	0.47
33:BA:575:G:C5	33:BA:881:G:C2	3.02	0.47
33:BA:1512:U:H2'	33:BA:1513:A:H8	1.79	0.47
35:BC:88:ARG:HB2	35:BC:101:ILE:HG21	1.95	0.47
39:BG:50:LEU:CD1	39:BG:61:ALA:HB1	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BJ:25:ILE:HG21	42:BJ:74:VAL:HG11	1.96	0.47
43:BK:16:VAL:HG12	43:BK:79:ILE:HG12	1.96	0.47
1:CA:1000:A:N6	1:CA:1001:A:N1	2.62	0.47
1:CA:1069:A:C4	1:CA:1073:A:N7	2.82	0.47
1:CA:1079:C:H2'	1:CA:1080:A:H5'	1.95	0.47
1:CA:1770:G:C5	1:CA:1983:G:C6	3.01	0.47
4:CD:193:VAL:HB	4:CD:194:PRO:HD2	1.96	0.47
7:CG:84:LYS:CG	7:CG:85:LYS:N	2.77	0.47
7:CG:96:ALA:HB3	7:CG:103:ASN:HB3	1.96	0.47
11:CK:24:VAL:HG12	11:CK:30:ARG:HD3	1.95	0.47
19:CS:59:GLU:HA	19:CS:64:ALA:HB2	1.95	0.47
23:CW:40:ARG:H	23:CW:56:HIS:HB3	1.78	0.47
34:DB:185:ILE:HA	34:DB:199:ILE:HB	1.95	0.47
54:DV:219:HIS:NE2	54:DV:221:ASN:HB2	2.29	0.47
1:EA:725:G:C6	1:EA:726:G:N1	2.82	0.47
1:EA:846:U:H1'	1:EA:847:U:C5	2.49	0.47
1:EA:1011:G:OP1	17:EQ:76:SER:OG	2.25	0.47
1:EA:1142:A:C2	1:EA:1144:A:C1'	2.97	0.47
1:EA:1770:G:C5	1:EA:1983:G:C6	3.02	0.47
1:EA:2358:A:C5	1:EA:2359:C:C5	3.02	0.47
1:EA:2741:A:H2'	1:EA:2742:G:O4'	2.14	0.47
1:EA:2849:U:P	16:EP:92:ARG:HH12	2.37	0.47
6:EF:111:ARG:NE	45:FM:75:MET:SD	2.86	0.47
10:EJ:12:LYS:O	10:EJ:13:ARG:HB2	2.14	0.47
14:EN:37:THR:OG1	14:EN:40:LYS:HD2	2.14	0.47
16:EP:50:ARG:CD	16:EP:51:ASN:N	2.77	0.47
18:ER:98:ILE:HG22	18:ER:98:ILE:O	2.14	0.47
32:E5:33:VAL:HG12	32:E5:34:THR:N	2.21	0.47
32:E5:58:THR:CB	32:E5:82:ILE:HB	2.44	0.47
33:FA:542:G:OP1	36:FD:10:LYS:HE3	2.14	0.47
33:FA:1478:U:H2'	33:FA:1479:C:C6	2.50	0.47
37:FE:38:VAL:HG11	37:FE:114:VAL:HA	1.96	0.47
41:FI:25:ASN:HA	41:FI:59:GLU:O	2.14	0.47
54:FV:113:TYR:O	54:FV:142:ASN:N	2.47	0.47
1:GA:1083:U:C6	1:GA:1085:A:OP2	2.67	0.47
1:GA:1536:C:H1'	1:GA:1537:G:N2	2.29	0.47
2:GB:28:C:H2'	2:GB:29:A:C8	2.49	0.47
4:GD:110:THR:HG23	4:GD:171:THR:HG22	1.95	0.47
6:GF:21:TYR:CE2	6:GF:28:PRO:HD3	2.48	0.47
6:GF:134:GLN:HG3	6:GF:140:ILE:CG1	2.43	0.47
10:GJ:12:LYS:O	10:GJ:13:ARG:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:GK:61:VAL:CG2	11:GK:87:LEU:HD11	2.44	0.47
14:GN:26:GLY:HA2	14:GN:75:ILE:HD13	1.95	0.47
17:GQ:4:LYS:HE2	17:GQ:7:VAL:CG1	2.43	0.47
22:GV:63:ILE:HD12	22:GV:72:VAL:HG21	1.94	0.47
33:HA:715:A:H2'	33:HA:716:A:C8	2.49	0.47
33:HA:736:C:OP1	50:HR:61:ARG:NE	2.47	0.47
33:HA:1309:G:C6	33:HA:1329:A:C2	3.02	0.47
36:HD:61:VAL:HA	36:HD:64:ILE:HD12	1.96	0.47
38:HF:22:ILE:O	38:HF:26:THR:OG1	2.21	0.47
44:HL:87:VAL:O	44:HL:89:ASP:N	2.47	0.47
1:AA:136:G:H1	1:AA:143:C:H42	1.61	0.47
1:AA:363:G:H2'	1:AA:364:C:C6	2.49	0.47
1:AA:2302:U:H2'	1:AA:2303:G:H8	1.79	0.47
1:AA:2773:C:OP1	4:AD:171:THR:HG23	2.14	0.47
1:AA:2841:C:C2	1:AA:2877:G:N2	2.82	0.47
1:AA:2884:U:O2	1:AA:2884:U:O4'	2.32	0.47
4:AD:193:VAL:HB	4:AD:194:PRO:HD2	1.96	0.47
6:AF:121:PHE:CE1	6:AF:166:ARG:HD3	2.49	0.47
6:AF:133:GLU:H	6:AF:150:GLY:CA	2.27	0.47
10:AJ:111:LYS:HD2	10:AJ:112:GLY:H	1.77	0.47
13:AM:106:ASP:O	13:AM:108:VAL:N	2.47	0.47
14:AN:71:ARG:HH21	14:AN:71:ARG:CG	2.27	0.47
35:BC:23:PHE:CD1	35:BC:24:ALA:N	2.82	0.47
36:BD:105:MET:HG2	36:BD:171:LEU:HD22	1.95	0.47
37:BE:114:VAL:HG21	37:BE:141:ILE:CD1	2.44	0.47
37:BE:151:GLU:HG2	37:BE:152:MET:HG2	1.96	0.47
38:BF:97:THR:O	38:BF:98:GLU:HB3	2.12	0.47
39:BG:70:ARG:CG	39:BG:96:ARG:HG2	2.44	0.47
41:BI:91:ASP:HB2	41:BI:93:SER:H	1.79	0.47
48:BP:52:LEU:HD13	48:BP:78:VAL:HG21	1.96	0.47
52:BT:55:GLN:N	52:BT:56:PRO:HD2	2.29	0.47
1:CA:419:U:H2'	1:CA:420:C:H6	1.78	0.47
1:CA:597:G:C2	1:CA:661:A:C2	3.02	0.47
1:CA:1083:U:C6	1:CA:1085:A:OP2	2.67	0.47
1:CA:1613:G:C2	1:CA:1619:G:C5	3.02	0.47
1:CA:2340:A:H2'	1:CA:2341:G:C8	2.49	0.47
7:CG:38:ASP:OD1	7:CG:38:ASP:N	2.47	0.47
15:CO:111:ARG:HD3	15:CO:117:PHE:CE1	2.48	0.47
23:CW:39:GLN:CG	23:CW:41:GLY:O	2.62	0.47
33:DA:796:C:OP1	43:DK:128:ARG:HB3	2.13	0.47
33:DA:1132:C:H2'	33:DA:1133:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:DN:42:TRP:O	46:DN:45:VAL:HG22	2.14	0.47
1:EA:284:U:H2'	1:EA:285:G:C8	2.49	0.47
1:EA:1079:C:C2	1:EA:1088:A:C6	3.02	0.47
1:EA:2137:U:O4	1:EA:2155:U:O2'	2.22	0.47
1:EA:2360:G:O4'	12:EL:60:ARG:NH2	2.47	0.47
1:EA:2835:A:N7	1:EA:2878:U:C5	2.82	0.47
8:EH:3:VAL:CG2	8:EH:36:ALA:HB1	2.44	0.47
9:EI:33:ASN:ND2	9:EI:65:SER:OG	2.47	0.47
23:EW:65:LYS:O	23:EW:81:ILE:HA	2.13	0.47
33:FA:98:A:H2'	33:FA:99:C:C6	2.49	0.47
33:FA:1379:G:N7	39:FG:2:PRO:HB2	2.29	0.47
36:FD:13:ARG:NH1	36:FD:37:ALA:O	2.44	0.47
37:FE:81:LEU:HD12	37:FE:147:MET:SD	2.54	0.47
54:FV:24:THR:CB	58:FV:801:GCP:O2B	2.60	0.47
1:GA:1004:U:O2'	1:GA:1005:C:OP2	2.32	0.47
1:GA:1073:A:H3'	1:GA:1074:G:C5'	2.44	0.47
1:GA:1087:G:O2'	1:GA:1088:A:P	2.72	0.47
1:GA:1223:G:N2	1:GA:1226:A:OP2	2.38	0.47
1:GA:1773:A:C5	1:GA:1829:A:H1'	2.50	0.47
9:GI:57:VAL:HG12	9:GI:58:ILE:N	2.29	0.47
17:GQ:91:ARG:NE	17:GQ:93:ILE:HG21	2.29	0.47
23:GW:18:LYS:N	23:GW:36:ILE:HB	2.28	0.47
37:HE:80:THR:HB	37:HE:122:ASN:ND2	2.30	0.47
38:HF:17:GLN:O	38:HF:21:MET:N	2.46	0.47
43:HK:84:VAL:N	43:HK:109:ASN:O	2.47	0.47
44:HL:38:TYR:HB2	44:HL:52:VAL:HG23	1.95	0.47
46:HN:35:ASN:HB2	46:HN:41:ARG:HD3	1.96	0.47
51:HS:51:VAL:CG2	51:HS:71:LEU:HD21	2.43	0.47
1:AA:608:A:C6	1:AA:609:A:C6	3.02	0.47
1:AA:1219:U:H2'	1:AA:1220:G:H8	1.79	0.47
1:AA:1970:A:H4'	1:AA:1971:U:OP1	2.14	0.47
1:AA:2452:C:C4	1:AA:2453:A:C6	3.03	0.47
1:AA:2682:A:C8	4:AD:11:MET:CG	2.97	0.47
7:AG:84:LYS:HG2	7:AG:85:LYS:N	2.29	0.47
12:AL:82:LEU:HB2	12:AL:90:VAL:HG21	1.97	0.47
15:AO:38:GLN:HB3	15:AO:47:VAL:HG21	1.96	0.47
20:AT:28:ASN:OD1	20:AT:29:THR:HB	2.14	0.47
22:AV:76:ASP:OD1	22:AV:77:VAL:N	2.48	0.47
25:AY:6:LEU:CD1	25:AY:56:LEU:HD11	2.45	0.47
26:AZ:38:GLU:HG3	26:AZ:43:ILE:HD12	1.96	0.47
33:BA:483:C:H5''	33:BA:484:G:OP2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:490:C:H2'	33:BA:491:G:H8	1.79	0.47
33:BA:874:G:C5	33:BA:875:U:C5	3.02	0.47
33:BA:993:G:H22	33:BA:996:A:H62	1.63	0.47
33:BA:1162:C:H2'	33:BA:1163:A:C8	2.49	0.47
54:BV:195:ASP:OD1	54:BV:196:ALA:N	2.46	0.47
1:CA:78:U:H2'	1:CA:79:C:C6	2.50	0.47
1:CA:273:G:N2	1:CA:365:U:C2	2.82	0.47
1:CA:979:A:H2'	1:CA:982:C:H42	1.78	0.47
1:CA:2332:C:H5'	1:CA:2336:A:N6	2.29	0.47
1:CA:2537:U:H2'	1:CA:2538:C:C6	2.49	0.47
1:CA:2577:A:H5''	1:CA:2578:G:H5'	1.96	0.47
1:CA:2899:A:H2'	1:CA:2900:A:C8	2.49	0.47
4:CD:172:VAL:HG23	4:CD:194:PRO:HD3	1.96	0.47
10:CJ:44:TYR:O	10:CJ:44:TYR:HD1	1.97	0.47
23:CW:8:SER:O	23:CW:9:THR:HG22	2.14	0.47
33:DA:562:U:C4	33:DA:884:U:C5	3.02	0.47
33:DA:995:C:N3	33:DA:1046:A:O2'	2.45	0.47
33:DA:1366:C:O2'	42:DJ:62:ARG:NH2	2.47	0.47
34:DB:209:VAL:HG23	34:DB:210:THR:N	2.29	0.47
35:DC:118:ASP:O	35:DC:121:THR:HG22	2.14	0.47
41:DI:11:ARG:HG3	41:DI:106:ARG:HE	1.79	0.47
1:EA:404:A:H1'	1:EA:405:U:OP2	2.14	0.47
1:EA:1885:A:H2'	1:EA:1886:U:O4'	2.14	0.47
1:EA:2071:A:H2'	1:EA:2072:C:C6	2.49	0.47
2:EB:28:C:OP1	15:EO:31:THR:HG21	2.14	0.47
5:EE:76:PRO:HA	5:EE:82:GLY:HA3	1.96	0.47
6:EF:30:VAL:HA	6:EF:157:THR:HG22	1.96	0.47
6:EF:39:VAL:HG13	6:EF:40:GLY:N	2.29	0.47
6:EF:134:GLN:HE22	6:EF:149:ARG:HB3	1.80	0.47
10:EJ:43:GLU:O	10:EJ:45:THR:HG22	2.14	0.47
25:EY:15:ASN:O	25:EY:19:LEU:HB2	2.14	0.47
33:FA:832:G:C2	33:FA:833:G:C8	3.03	0.47
33:FA:1021:A:C2'	33:FA:1022:A:H5'	2.44	0.47
41:FI:6:TYR:CD1	41:FI:89:GLU:CB	2.97	0.47
1:GA:481:G:C4	1:GA:507:A:C2	3.01	0.47
1:GA:806:C:C2	1:GA:807:U:C5	3.02	0.47
1:GA:901:C:O2'	1:GA:902:C:P	2.73	0.47
1:GA:1720:U:H2'	1:GA:1721:G:O4'	2.15	0.47
1:GA:2059:A:C2	1:GA:2503:A:C6	3.02	0.47
3:GC:28:PRO:HG2	3:GC:33:LEU:HD11	1.97	0.47
7:GG:10:VAL:HG23	7:GG:10:VAL:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:GG:97:VAL:HG23	7:GG:124:CYS:SG	2.54	0.47
9:GI:55:PRO:HB2	9:GI:71:LYS:CD	2.44	0.47
10:GJ:4:PHE:N	10:GJ:44:TYR:HH	2.10	0.47
10:GJ:4:PHE:CG	10:GJ:5:THR:N	2.82	0.47
10:GJ:64:VAL:O	10:GJ:65:THR:HG22	2.14	0.47
10:GJ:73:VAL:HG23	10:GJ:74:TYR:N	2.30	0.47
17:GQ:91:ARG:HH11	18:GR:11:GLN:N	2.12	0.47
23:GW:23:LYS:HE2	23:GW:24:ARG:CB	2.44	0.47
31:G4:2:LYS:HD3	31:G4:4:ARG:HH22	1.79	0.47
33:HA:701:U:H5''	33:HA:703:G:O4'	2.14	0.47
33:HA:880:C:OP1	44:HL:5:ASN:ND2	2.45	0.47
36:HD:3:ARG:NH2	36:HD:115:ARG:HE	2.12	0.47
40:HH:78:VAL:HG11	40:HH:125:ILE:HD11	1.95	0.47
45:HM:106:ALA:HB3	45:HM:110:LYS:CD	2.44	0.47
48:HP:63:GLN:N	48:HP:63:GLN:OE1	2.47	0.47
52:HT:28:MET:HE1	52:HT:67:ILE:CD1	2.44	0.47
54:HV:221:ASN:HA	54:HV:224:GLU:CB	2.45	0.47
1:AA:20:C:O2'	1:AA:21:A:H5'	2.14	0.47
1:AA:39:G:N2	1:AA:441:U:C2	2.82	0.47
1:AA:1285:A:N6	1:AA:1329:U:C6	2.82	0.47
1:AA:2615:U:H1'	27:A0:3:GLN:HB3	1.96	0.47
1:AA:2661:G:H2'	1:AA:2662:A:O4'	2.14	0.47
18:AR:54:VAL:CG2	18:AR:57:GLY:HA3	2.44	0.47
33:BA:76:G:H1	33:BA:93:U:H3	1.61	0.47
33:BA:86:G:H21	33:BA:87:C:H41	1.62	0.47
33:BA:1181:G:C2	33:BA:1182:G:N2	2.83	0.47
35:BC:123:GLN:HB3	35:BC:128:VAL:CG1	2.44	0.47
40:BH:10:MET:CE	40:BH:33:LYS:HA	2.45	0.47
43:BK:82:LEU:HD13	43:BK:105:PHE:CE1	2.48	0.47
44:BL:7:LEU:HD23	49:BQ:34:TYR:CE1	2.49	0.47
1:CA:419:U:H2'	1:CA:420:C:C6	2.49	0.47
1:CA:684:G:OP1	29:C2:21:ARG:NH1	2.47	0.47
1:CA:1485:U:H3	1:CA:1504:A:H61	1.61	0.47
1:CA:2031:A:N3	1:CA:2455:G:O2'	2.33	0.47
1:CA:2070:A:O2'	1:CA:2071:A:H5'	2.14	0.47
1:CA:2622:U:O2'	1:CA:2825:G:N7	2.47	0.47
1:CA:2698:U:H2'	1:CA:2699:C:H6	1.79	0.47
2:CB:7:G:H5''	15:CO:29:HIS:CD2	2.49	0.47
2:CB:12:C:C5	23:CW:72:GLY:HA3	2.49	0.47
20:CT:4:GLU:N	20:CT:4:GLU:OE1	2.48	0.47
26:CZ:40:THR:OG1	26:CZ:41:PRO:HD2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:C3:41:ARG:HG3	30:C3:44:ARG:NH2	2.29	0.47
33:DA:597:G:C2	33:DA:644:U:C2	3.03	0.47
33:DA:1002:G:C2	33:DA:1003:G:C4	3.03	0.47
41:DI:120:LYS:O	41:DI:121:ALA:HB3	2.13	0.47
50:DR:22:ASP:OD1	50:DR:24:LYS:HE3	2.14	0.47
54:DV:223:ILE:O	54:DV:227:ALA:N	2.47	0.47
54:DV:514:GLN:HA	54:DV:587:ASP:O	2.14	0.47
1:EA:1079:C:H2'	1:EA:1080:A:H5'	1.95	0.47
1:EA:1239:G:P	59:EA:3699:HOH:O	2.72	0.47
1:EA:1323:C:OP1	19:ES:98:LYS:NZ	2.39	0.47
1:EA:1800:C:OP2	3:EC:181:ARG:NH1	2.47	0.47
1:EA:2505:G:HO2'	1:EA:2506:U:H6	1.61	0.47
9:EI:48:ILE:HG13	9:EI:49:GLU:H	1.78	0.47
17:EQ:91:ARG:NH2	17:EQ:93:ILE:HD13	2.29	0.47
20:ET:40:LYS:HA	20:ET:43:ILE:HG23	1.97	0.47
26:EZ:26:LEU:O	26:EZ:37:ARG:NH1	2.44	0.47
33:FA:70:U:HO2'	33:FA:71:A:H8	1.62	0.47
33:FA:842:U:H3'	33:FA:843:U:C5'	2.44	0.47
36:FD:73:ARG:HD3	36:FD:204:TYR:CE2	2.49	0.47
49:FQ:62:ARG:HG2	49:FQ:76:VAL:HG13	1.96	0.47
1:GA:48:G:N2	1:GA:177:G:H21	2.12	0.47
1:GA:142:A:C2	20:GT:2:ILE:HG12	2.49	0.47
1:GA:307:G:N2	1:GA:310:A:C8	2.82	0.47
1:GA:1061:U:N1	9:GI:9:LYS:HD2	2.30	0.47
1:GA:1383:A:N7	1:GA:1384:A:C5	2.82	0.47
1:GA:2336:A:H61	23:GW:40:ARG:HB2	1.79	0.47
6:GF:114:ARG:HD2	6:GF:114:ARG:N	2.29	0.47
9:GI:79:LEU:HD22	9:GI:85:ILE:HD11	1.96	0.47
10:GJ:3:THR:HG21	17:GQ:60:TRP:HE1	1.79	0.47
11:GK:24:VAL:HG13	11:GK:33:ALA:HB2	1.96	0.47
23:GW:51:GLY:HA3	23:GW:59:PHE:CZ	2.49	0.47
27:G0:33:SER:OG	27:G0:35:GLU:HG3	2.15	0.47
33:HA:399:G:H2'	33:HA:400:C:C6	2.49	0.47
34:HB:67:LEU:HD12	34:HB:157:PRO:CG	2.44	0.47
35:HC:42:TYR:CZ	35:HC:46:GLU:HG3	2.50	0.47
41:HI:11:ARG:H	41:HI:81:HIS:HD2	1.61	0.47
41:HI:41:ARG:HA	41:HI:45:ARG:HD3	1.97	0.47
52:HT:62:ALA:HA	52:HT:67:ILE:HG22	1.96	0.47
54:HV:169:LEU:HB2	54:HV:263:LEU:HB3	1.96	0.47
1:AA:553:G:H2'	1:AA:554:U:O4'	2.15	0.47
4:AD:46:ARG:HB3	4:AD:84:LEU:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:39:VAL:HG21	6:AF:42:ALA:HB2	1.97	0.47
14:AN:24:MET:HG2	14:AN:44:LEU:HD22	1.96	0.47
33:BA:234:C:H2'	33:BA:235:C:H6	1.80	0.47
33:BA:590:U:H2'	33:BA:591:U:H6	1.79	0.47
33:BA:1025:U:H5''	33:BA:1026:G:H5'	1.97	0.47
33:BA:1119:C:OP1	41:BI:85:ARG:NH1	2.45	0.47
33:BA:1402:C:H2'	33:BA:1403:C:O4'	2.14	0.47
45:BM:4:ILE:O	45:BM:6:GLY:N	2.46	0.47
50:BR:71:THR:HG23	50:BR:74:HIS:H	1.79	0.47
1:CA:84:A:N1	1:CA:98:G:O2'	2.34	0.47
1:CA:301:G:H4'	1:CA:302:C:OP1	2.15	0.47
1:CA:1380:G:N2	1:CA:1570:A:N1	2.62	0.47
1:CA:1936:A:H2	1:CA:1943:U:H5	1.61	0.47
7:CG:68:ARG:HH12	7:CG:72:ASN:HD22	1.63	0.47
21:CU:88:ASP:OD2	21:CU:89:GLY:N	2.48	0.47
33:DA:17:U:H2'	33:DA:18:C:C6	2.49	0.47
34:DB:32:GLY:O	34:DB:33:ALA:CB	2.63	0.47
38:DF:68:GLN:HA	38:DF:71:ILE:CG2	2.45	0.47
39:DG:53:ARG:NH2	39:DG:122:ASN:OD1	2.45	0.47
1:EA:819:A:C4	1:EA:1189:A:C2	3.03	0.47
1:EA:857:G:H1'	23:EW:19:ARG:HD3	1.96	0.47
1:EA:1416:G:C4	1:EA:1417:C:C5	3.02	0.47
1:EA:1437:C:H2'	1:EA:1438:U:C6	2.48	0.47
1:EA:2330:G:O2'	23:EW:38:ARG:O	2.25	0.47
1:EA:2376:A:H2'	1:EA:2377:A:O4'	2.15	0.47
4:ED:182:ALA:O	4:ED:184:ARG:N	2.47	0.47
16:EP:72:VAL:HG23	16:EP:72:VAL:O	2.15	0.47
20:ET:19:LYS:O	20:ET:20:ALA:C	2.52	0.47
32:E5:123:ILE:HG12	32:E5:124:ASP:N	2.30	0.47
33:FA:76:G:C2	33:FA:77:A:H1'	2.50	0.47
33:FA:489:C:H5''	36:FD:128:ARG:NH2	2.30	0.47
39:FG:106:GLU:HA	39:FG:109:ARG:NE	2.30	0.47
44:FL:40:THR:HG22	44:FL:41:THR:N	2.29	0.47
45:FM:29:ARG:NH2	45:FM:63:PHE:CB	2.77	0.47
51:FS:3:ARG:O	51:FS:4:SER:CB	2.61	0.47
54:FV:130:ALA:HB1	54:FV:137:ARG:CZ	2.44	0.47
1:GA:381:G:OP1	24:GX:17:ARG:NH2	2.47	0.47
1:GA:1317:G:C2	1:GA:1336:A:C2	3.03	0.47
1:GA:1392:A:N7	20:GT:19:LYS:HD2	2.29	0.47
1:GA:2286:G:P	28:G1:29:LYS:CE	3.02	0.47
5:GE:12:LEU:HD21	5:GE:193:VAL:HB	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:GS:26:GLY:H	19:GS:71:VAL:HG23	1.80	0.47
20:GT:13:ALA:HB1	25:GY:33:ALA:HB1	1.96	0.47
33:HA:748:G:C6	33:HA:749:A:C5	3.03	0.47
33:HA:1197:A:OP1	59:HA:1831:HOH:O	2.20	0.47
34:HB:187:ASP:OD2	34:HB:202:ASN:HA	2.14	0.47
39:HG:130:ASN:HB2	39:HG:135:VAL:HG21	1.96	0.47
54:HV:217:GLU:O	54:HV:220:GLN:N	2.48	0.47
1:AA:112:U:H2'	1:AA:113:U:H5'	1.96	0.47
1:AA:1091:G:H1'	31:A4:12:ARG:NH1	2.30	0.47
1:AA:2523:G:C2'	1:AA:2524:G:H5'	2.44	0.47
16:AP:91:VAL:O	16:AP:92:ARG:HG2	2.14	0.47
32:A5:117:LEU:CD2	32:A5:120:ALA:C	2.83	0.47
33:BA:1248:A:C4	33:BA:1290:G:N2	2.83	0.47
33:BA:1493:A:N1	54:BV:591:LEU:HB2	2.29	0.47
38:BF:1:MET:HG3	38:BF:67:PRO:HA	1.96	0.47
43:BK:71:ALA:HB1	43:BK:105:PHE:CE2	2.50	0.47
44:BL:3:THR:HG22	44:BL:5:ASN:N	2.29	0.47
46:BN:26:GLU:HG2	46:BN:27:LEU:HD12	1.95	0.47
48:BP:74:LEU:O	48:BP:78:VAL:HG23	2.15	0.47
50:BR:34:THR:OG1	50:BR:35:GLU:N	2.48	0.47
53:BU:42:THR:HA	53:BU:45:ARG:HB2	1.96	0.47
54:BV:93:VAL:HG22	54:BV:94:ASP:H	1.80	0.47
1:CA:2787:C:H1'	4:CD:63:PRO:HG3	1.97	0.47
3:CC:68:ARG:CD	3:CC:103:ILE:HD11	2.45	0.47
9:CI:89:SER:CB	9:CI:135:MET:SD	3.02	0.47
12:CL:57:LEU:CD2	30:C3:53:ASP:HB3	2.45	0.47
12:CL:74:THR:HG22	12:CL:107:PHE:HB2	1.95	0.47
13:CM:47:GLU:OE2	13:CM:51:ARG:NH2	2.47	0.47
18:CR:39:LEU:HD23	18:CR:53:PHE:HD1	1.80	0.47
18:CR:60:LYS:H	18:CR:100:GLY:HA3	1.79	0.47
33:DA:391:G:C6	33:DA:392:C:C4	3.02	0.47
33:DA:973:G:H3'	33:DA:974:A:H5''	1.97	0.47
33:DA:1452:C:H4'	33:DA:1453:G:O5'	2.15	0.47
34:DB:71:THR:HG23	34:DB:93:HIS:C	2.34	0.47
36:DD:72:PHE:CE2	36:DD:200:ILE:HD11	2.50	0.47
37:DE:112:ARG:O	37:DE:116:GLU:N	2.40	0.47
40:DH:29:SER:HB2	40:DH:59:LEU:HB2	1.95	0.47
43:DK:35:THR:HG1	43:DK:40:ASN:H	1.59	0.47
46:DN:45:VAL:HG23	46:DN:46:LEU:N	2.29	0.47
1:EA:754:U:H2'	1:EA:755:U:C6	2.50	0.47
1:EA:1219:U:H2'	1:EA:1220:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1487:U:H5''	33:HA:412:A:C8	2.49	0.47
4:ED:77:ARG:NH2	4:ED:200:ASP:OD1	2.41	0.47
6:EF:42:ALA:HB1	6:EF:46:LYS:HA	1.96	0.47
33:FA:67:C:H2'	33:FA:68:G:C8	2.50	0.47
33:FA:184:G:H2'	33:FA:185:U:C6	2.49	0.47
33:FA:408:A:OP1	36:FD:110:THR:HG21	2.14	0.47
33:FA:995:C:N3	33:FA:1046:A:O2'	2.46	0.47
39:FG:53:ARG:NH2	39:FG:122:ASN:OD1	2.40	0.47
44:FL:25:GLU:HB2	44:FL:27:CYS:SG	2.54	0.47
44:FL:82:ILE:HG23	44:FL:95:TYR:HB3	1.97	0.47
1:GA:26:G:C6	1:GA:27:G:N1	2.83	0.47
1:GA:547:A:H3'	1:GA:548:G:C5'	2.44	0.47
1:GA:655:A:H4'	1:GA:656:G:OP1	2.14	0.47
1:GA:995:C:N3	10:GJ:3:THR:OG1	2.48	0.47
1:GA:1813:G:N3	3:GC:49:THR:CG2	2.78	0.47
2:GB:37:C:C5	2:GB:38:C:C4	3.02	0.47
6:GF:78:ILE:HG21	6:GF:84:ILE:CD1	2.45	0.47
6:GF:151:LEU:HD13	6:GF:153:ILE:HG23	1.96	0.47
9:GI:12:VAL:HG22	9:GI:23:VAL:CG1	2.43	0.47
9:GI:57:VAL:HB	9:GI:69:VAL:HB	1.97	0.47
22:GV:72:VAL:HG12	22:GV:93:ARG:HA	1.96	0.47
30:G3:23:HIS:CD2	30:G3:49:VAL:HG12	2.50	0.47
30:G3:44:ARG:N	30:G3:45:PRO:HD2	2.30	0.47
33:HA:685:G:N1	33:HA:686:U:O4	2.47	0.47
33:HA:690:G:H2'	33:HA:691:G:O4'	2.14	0.47
33:HA:1142:G:C2	33:HA:1143:G:H1'	2.50	0.47
44:HL:63:VAL:HG21	44:HL:95:TYR:HE1	1.79	0.47
1:AA:118:A:N3	1:AA:178:G:H1'	2.29	0.47
1:AA:219:A:N3	1:AA:234:U:O2'	2.45	0.47
1:AA:279:A:H2'	1:AA:280:U:H5'	1.97	0.47
1:AA:422:A:C2	1:AA:423:A:C4	3.02	0.47
1:AA:547:A:H5''	1:AA:548:G:C8	2.49	0.47
1:AA:714:U:H5'	1:AA:715:A:OP2	2.14	0.47
1:AA:961:C:C4	1:AA:2031:A:C5	3.03	0.47
1:AA:980:A:C4	1:AA:1136:G:O4'	2.68	0.47
1:AA:1000:A:OP1	59:AA:3726:HOH:O	2.21	0.47
1:AA:1084:A:OP2	32:A5:55:VAL:HA	2.14	0.47
1:AA:1555:G:C2	1:AA:1556:C:C6	3.02	0.47
1:AA:1753:G:N2	1:AA:1755:A:H3'	2.30	0.47
1:AA:2336:A:N6	23:AW:40:ARG:HB3	2.30	0.47
1:AA:2390:U:P	30:A3:34:LYS:HZ1	2.37	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2406:A:OP1	59:AA:3558:HOH:O	2.19	0.47
1:AA:2742:G:OP1	31:A4:36:ARG:HD3	2.15	0.47
5:AE:164:LEU:CB	5:AE:167:VAL:HG13	2.45	0.47
6:AF:11:VAL:CG1	6:AF:171:ALA:HB3	2.43	0.47
6:AF:49:LEU:HD11	6:AF:86:CYS:HB3	1.96	0.47
6:AF:64:PRO:HG3	6:AF:88:VAL:CG2	2.44	0.47
7:AG:39:ALA:HA	7:AG:57:TYR:CE2	2.49	0.47
9:AI:14:ALA:HB1	9:AI:45:THR:HG22	1.95	0.47
16:AP:4:ILE:O	16:AP:6:GLN:N	2.48	0.47
16:AP:57:ALA:O	16:AP:58:PHE:HB3	2.13	0.47
21:AU:70:ALA:CB	21:AU:79:ALA:HB1	2.44	0.47
23:AW:45:HIS:HB2	23:AW:50:VAL:HG13	1.97	0.47
32:A5:88:HIS:CB	32:A5:89:PRO:HD3	2.44	0.47
33:BA:1348:U:H4'	41:BI:122:ARG:HG3	1.96	0.47
34:BB:69:VAL:CG2	34:BB:162:VAL:HB	2.45	0.47
36:BD:64:ILE:HG22	36:BD:65:TYR:CD1	2.49	0.47
37:BE:156:LYS:HB3	40:BH:71:VAL:HG13	1.95	0.47
38:BF:24:ARG:HA	38:BF:27:ALA:HB3	1.96	0.47
38:BF:46:GLN:OE1	38:BF:55:HIS:HB3	2.15	0.47
41:BI:7:TYR:CG	41:BI:8:GLY:N	2.81	0.47
48:BP:77:GLU:C	48:BP:79:ASN:H	2.18	0.47
52:BT:81:ALA:O	52:BT:85:LYS:CG	2.62	0.47
54:BV:31:LEU:HA	54:BV:34:THR:HG22	1.96	0.47
54:BV:236:LYS:HE2	54:BV:241:GLU:HG3	1.96	0.47
54:BV:539:ASP:OD2	54:BV:577:ARG:NE	2.41	0.47
1:CA:855:G:N3	23:CW:23:LYS:HD2	2.30	0.47
1:CA:996:A:H4'	17:CQ:91:ARG:CD	2.44	0.47
1:CA:1178:C:N4	1:CA:1179:G:O6	2.48	0.47
1:CA:1205:A:C5	5:CE:165:HIS:CD2	3.03	0.47
1:CA:1392:A:C6	1:CA:1393:A:C6	3.02	0.47
1:CA:1936:A:C2	1:CA:1943:U:H5	2.33	0.47
2:CB:53:A:O5'	2:CB:53:A:H8	1.98	0.47
4:CD:22:ILE:HG23	4:CD:190:LYS:HD2	1.96	0.47
6:CF:10:GLU:HA	6:CF:13:LYS:HB2	1.97	0.47
6:CF:131:VAL:HG22	6:CF:151:LEU:H	1.79	0.47
7:CG:163:TYR:O	7:CG:164:ALA:HB3	2.14	0.47
9:CI:104:GLN:HA	9:CI:108:ILE:HD12	1.97	0.47
9:CI:109:ALA:CB	9:CI:128:ILE:HG13	2.43	0.47
14:CN:24:MET:HE2	14:CN:44:LEU:HD13	1.97	0.47
15:CO:35:ILE:HB	15:CO:102:ARG:NH1	2.29	0.47
16:CP:4:ILE:O	16:CP:5:LYS:HB3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:CR:39:LEU:HB3	18:CR:49:ILE:HD13	1.96	0.47
19:CS:84:ARG:HB2	19:CS:96:ILE:HG23	1.96	0.47
20:CT:49:LYS:O	20:CT:52:GLU:N	2.48	0.47
26:CZ:8:GLN:O	26:CZ:9:THR:HG22	2.14	0.47
33:DA:164:G:C2	33:DA:165:G:C8	3.03	0.47
33:DA:1130:A:H1'	33:DA:1146:A:C2	2.49	0.47
33:DA:1492:A:C2'	33:DA:1493:A:H5''	2.45	0.47
34:DB:46:VAL:HB	34:DB:47:PRO:HD3	1.96	0.47
34:DB:72:LYS:HZ2	34:DB:204:ASP:HB3	1.80	0.47
38:DF:61:LEU:HD12	38:DF:62:MET:H	1.79	0.47
41:DI:91:ASP:CG	41:DI:93:SER:HB3	2.35	0.47
48:DP:46:LYS:CE	48:DP:48:GLU:H	2.27	0.47
54:DV:200:VAL:HG23	54:DV:201:THR:HG23	1.95	0.47
1:EA:283:G:C2	1:EA:284:U:H1'	2.50	0.47
1:EA:528:A:C2	1:EA:2042:A:H2'	2.49	0.47
1:EA:612:G:O2'	1:EA:613:A:C8	2.68	0.47
1:EA:2039:U:H2'	1:EA:2040:G:C8	2.50	0.47
1:EA:2311:A:H3'	1:EA:2312:U:C6	2.49	0.47
1:EA:2711:A:OP2	59:EA:3545:HOH:O	2.20	0.47
10:EJ:4:PHE:CG	10:EJ:5:THR:N	2.82	0.47
12:EL:85:VAL:HG22	12:EL:94:THR:HG22	1.96	0.47
16:EP:17:PRO:HG3	16:EP:83:ILE:O	2.15	0.47
17:EQ:56:PHE:O	17:EQ:59:LEU:N	2.48	0.47
17:EQ:93:ILE:HG23	17:EQ:94:LEU:N	2.28	0.47
23:EW:37:VAL:CG1	23:EW:38:ARG:H	2.19	0.47
23:EW:49:ASN:HB2	23:EW:60:ALA:HA	1.96	0.47
24:EX:36:ARG:HG2	24:EX:47:THR:HG22	1.95	0.47
32:E5:110:ALA:HB1	32:E5:113:PHE:CE1	2.49	0.47
33:FA:104:G:OP2	52:FT:13:GLN:NE2	2.42	0.47
33:FA:279:A:H5'	33:FA:279:A:H8	1.80	0.47
33:FA:658:C:H2'	33:FA:659:U:H6	1.79	0.47
33:FA:1232:U:N3	33:FA:1233:G:C8	2.82	0.47
33:FA:1331:G:O2'	33:FA:1332:A:P	2.72	0.47
33:FA:1375:A:P	39:FG:28:ASN:HD22	2.38	0.47
34:FB:170:ILE:HD12	34:FB:170:ILE:H	1.80	0.47
37:FE:46:VAL:HG11	37:FE:118:ALA:HB2	1.97	0.47
41:FI:26:GLY:N	41:FI:59:GLU:OE1	2.44	0.47
42:FJ:80:THR:O	42:FJ:83:THR:HG22	2.15	0.47
43:FK:88:GLY:N	43:FK:114:THR:HG22	2.28	0.47
45:FM:43:VAL:HG13	45:FM:47:GLU:HG2	1.97	0.47
51:FS:5:LEU:O	51:FS:7:LYS:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:FV:420:VAL:HG12	54:FV:483:VAL:HG13	1.96	0.47
1:GA:271:G:H4'	1:GA:272:A:OP1	2.15	0.47
1:GA:1760:C:H2'	1:GA:1761:C:O4'	2.14	0.47
1:GA:1996:C:OP1	11:GK:31:ARG:NE	2.47	0.47
1:GA:2636:C:H2'	1:GA:2637:U:C6	2.49	0.47
1:GA:2757:A:N1	7:GG:66:THR:HG21	2.29	0.47
5:GE:28:VAL:HG23	12:GL:6:LEU:HD21	1.96	0.47
7:GG:8:VAL:HG11	7:GG:49:LEU:HB2	1.97	0.47
9:GI:56:VAL:N	9:GI:71:LYS:HD2	2.30	0.47
12:GL:56:PRO:HD2	12:GL:59:ARG:HB2	1.97	0.47
14:GN:67:PHE:O	14:GN:71:ARG:HD2	2.15	0.47
15:GO:81:ARG:O	15:GO:84:GLU:HB3	2.14	0.47
17:GQ:91:ARG:HD3	18:GR:11:GLN:HB2	1.96	0.47
18:GR:49:ILE:O	18:GR:49:ILE:HG13	2.14	0.47
19:GS:71:VAL:HG23	19:GS:71:VAL:O	2.15	0.47
22:GV:60:VAL:O	22:GV:61:LEU:HD13	2.15	0.47
23:GW:72:GLY:N	23:GW:73:PRO:CD	2.78	0.47
24:GX:70:LEU:HD23	24:GX:73:ARG:HH11	1.78	0.47
33:HA:791:G:C6	33:HA:792:A:N7	2.82	0.47
41:HI:57:MET:HG2	41:HI:58:VAL:H	1.80	0.47
41:HI:83:ILE:O	41:HI:87:LEU:HD13	2.14	0.47
45:HM:11:ASP:OD1	45:HM:45:ILE:HD13	2.14	0.47
52:HT:6:SER:C	52:HT:8:LYS:H	2.17	0.47
54:HV:430:LYS:HG2	54:HV:479:VAL:CG2	2.45	0.47
54:HV:557:ILE:HG21	54:HV:576:ILE:CD1	2.45	0.47
1:AA:1441:G:H2'	1:AA:1442:U:C6	2.50	0.47
1:AA:1474:U:H2'	1:AA:1475:G:H5'	1.95	0.47
1:AA:1654:A:O2'	4:AD:118:PHE:CD2	2.66	0.47
1:AA:2352:A:N1	23:AW:30:VAL:HG11	2.30	0.47
1:AA:2481:G:O2'	1:AA:2482:A:H8	1.97	0.47
1:AA:2509:G:C5	1:AA:2510:C:C5	3.03	0.47
1:AA:2632:A:C2	1:AA:2633:G:C5	3.03	0.47
10:AJ:77:HIS:CD2	10:AJ:79:GLY:H	2.33	0.47
13:AM:23:GLY:O	13:AM:101:VAL:HG12	2.15	0.47
23:AW:8:SER:O	23:AW:9:THR:HG22	2.15	0.47
33:BA:652:U:O3'	40:BH:56:LYS:NZ	2.44	0.47
34:BB:125:PHE:CG	34:BB:125:PHE:O	2.67	0.47
35:BC:54:ARG:HB3	35:BC:69:HIS:HB2	1.97	0.47
35:BC:184:TYR:OH	35:BC:199:LYS:HD3	2.14	0.47
36:BD:36:GLN:O	36:BD:37:ALA:HB2	2.14	0.47
43:BK:13:ARG:O	43:BK:15:GLN:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BK:34:ILE:HB	43:BK:74:VAL:HG11	1.96	0.47
45:BM:49:SER:HB2	45:BM:52:GLN:HB2	1.96	0.47
48:BP:28:ARG:HH21	48:BP:28:ARG:HG2	1.80	0.47
54:BV:525:LEU:HD21	54:BV:535:GLU:HB2	1.96	0.47
1:CA:221:A:C4	1:CA:266:G:N7	2.83	0.47
1:CA:511:U:C5	1:CA:512:G:C5	3.02	0.47
1:CA:1916:A:H2'	1:CA:1917:U:O4'	2.14	0.47
1:CA:2901:C:N4	1:CA:2902:C:N4	2.63	0.47
2:CB:94:A:OP2	59:CB:1314:HOH:O	2.21	0.47
9:CI:12:VAL:HG21	9:CI:41:PHE:HE1	1.80	0.47
33:DA:512:U:H2'	33:DA:513:C:C6	2.49	0.47
33:DA:1451:U:O2'	33:DA:1452:C:OP1	2.26	0.47
34:DB:207:ARG:HG3	34:DB:208:ALA:N	2.30	0.47
35:DC:106:VAL:O	35:DC:106:VAL:HG23	2.15	0.47
36:DD:174:ASP:O	36:DD:175:ALA:HB2	2.14	0.47
41:DI:38:TYR:HD2	41:DI:39:PHE:CD2	2.33	0.47
54:DV:31:LEU:HA	54:DV:34:THR:HG22	1.95	0.47
1:EA:42:A:H2'	1:EA:43:G:H5'	1.97	0.47
1:EA:995:C:H5'	1:EA:995:C:H6	1.80	0.47
1:EA:1913:A:H4'	1:EA:1914:C:H5''	1.97	0.47
1:EA:2287:A:C8	1:EA:2289:G:C8	3.02	0.47
9:EI:33:ASN:CB	9:EI:65:SER:HA	2.44	0.47
12:EL:122:VAL:HG22	12:EL:142:ILE:HG12	1.96	0.47
15:EO:36:TYR:N	15:EO:36:TYR:CD1	2.83	0.47
19:ES:59:GLU:HA	19:ES:64:ALA:CB	2.45	0.47
23:EW:37:VAL:HB	23:EW:38:ARG:NH1	2.29	0.47
33:FA:255:G:C6	33:FA:256:U:C4	3.03	0.47
33:FA:976:G:H2'	33:FA:1362:A:N1	2.29	0.47
34:FB:70:GLY:CA	34:FB:163:ILE:HG22	2.45	0.47
37:FE:157:ARG:HD2	40:FH:43:GLU:O	2.15	0.47
39:FG:9:GLN:OE1	39:FG:9:GLN:N	2.48	0.47
49:FQ:59:VAL:CG2	49:FQ:75:LEU:CD1	2.93	0.47
1:GA:553:G:H2'	1:GA:554:U:O4'	2.14	0.47
1:GA:747:U:C4	1:GA:2613:U:C4	3.02	0.47
1:GA:834:G:H8	1:GA:834:G:O5'	1.97	0.47
1:GA:1131:G:C5	10:GJ:77:HIS:CE1	3.03	0.47
1:GA:1283:G:N2	1:GA:1285:A:H3'	2.30	0.47
1:GA:1681:G:O2'	1:GA:1762:A:N3	2.41	0.47
1:GA:2267:A:H5''	1:GA:2268:A:H5'	1.95	0.47
9:GI:85:ILE:HD12	9:GI:100:ILE:HG21	1.95	0.47
33:HA:51:A:N7	33:HA:114:U:O2'	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:747:A:C6	33:HA:748:G:C6	3.03	0.47
33:HA:982:U:H4'	33:HA:983:A:O5'	2.14	0.47
33:HA:1513:A:H2'	33:HA:1514:G:H8	1.80	0.47
45:HM:95:LEU:C	45:HM:109:ARG:HG2	2.34	0.47
54:HV:382:ILE:HD12	54:HV:382:ILE:O	2.15	0.47
54:HV:494:ILE:HD13	54:HV:494:ILE:H	1.79	0.47
1:AA:71:A:C2	1:AA:73:A:C2	3.03	0.47
1:AA:570:G:H2'	1:AA:2030:A:N7	2.30	0.47
1:AA:1070:A:H5'	1:AA:1072:C:OP2	2.14	0.47
1:AA:1476:U:C5	1:AA:1514:G:N2	2.82	0.47
1:AA:1796:U:H2'	1:AA:1797:G:C8	2.50	0.47
1:AA:1808:A:N1	24:AX:27:ARG:HD2	2.29	0.47
1:AA:2787:C:H1'	4:AD:63:PRO:HG3	1.96	0.47
2:AB:78:A:H2'	2:AB:79:G:O4'	2.14	0.47
3:AC:78:GLU:OE1	3:AC:100:ARG:NH1	2.47	0.47
5:AE:113:VAL:HG12	5:AE:118:LEU:HD12	1.97	0.47
6:AF:90:LEU:HB3	6:AF:95:MET:HA	1.97	0.47
6:AF:121:PHE:HB3	6:AF:162:ASP:OD2	2.15	0.47
11:AK:66:LYS:HA	11:AK:79:PHE:O	2.15	0.47
12:AL:23:ILE:HD12	18:AR:84:ARG:NE	2.30	0.47
14:AN:55:ALA:HB2	14:AN:79:LEU:HB3	1.97	0.47
20:AT:54:GLU:HG3	20:AT:88:LYS:HB2	1.96	0.47
22:AV:75:GLN:HB2	22:AV:92:VAL:HG22	1.97	0.47
23:AW:44:PHE:CE2	23:AW:76:ARG:HD3	2.50	0.47
30:A3:33:THR:HG23	30:A3:34:LYS:N	2.29	0.47
33:BA:8:A:C5	36:BD:206:LYS:HB3	2.50	0.47
33:BA:481:G:HO2'	33:BA:482:A:H8	1.59	0.47
33:BA:720:C:N4	33:BA:721:G:C2	2.83	0.47
33:BA:1216:A:H5''	46:BN:5:SER:HB3	1.97	0.47
33:BA:1401:G:C6	33:BA:1402:C:C2	3.03	0.47
46:BN:73:PHE:CZ	46:BN:78:GLY:HA2	2.49	0.47
48:BP:46:LYS:HG3	48:BP:47:GLU:N	2.30	0.47
1:CA:1387:A:H5'	1:CA:1469:A:H1'	1.97	0.47
1:CA:1447:C:H2'	1:CA:1448:G:C8	2.49	0.47
1:CA:1993:U:H4'	4:CD:133:THR:CG2	2.45	0.47
1:CA:2105:U:H2'	1:CA:2106:U:C6	2.49	0.47
1:CA:2210:U:H4'	1:CA:2211:A:H5'	1.97	0.47
4:CD:70:LYS:O	4:CD:71:ALA:CB	2.63	0.47
10:CJ:32:LEU:O	10:CJ:36:LEU:HB2	2.14	0.47
11:CK:108:ARG:HH21	16:CP:34:GLY:HA3	1.78	0.47
14:CN:78:LYS:HE2	14:CN:83:LEU:HD11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CP:85:VAL:HG13	16:CP:86:LYS:N	2.30	0.47
24:CX:29:LEU:HD22	24:CX:29:LEU:H	1.80	0.47
33:DA:521:G:OP2	44:DL:51:LYS:NZ	2.40	0.47
33:DA:625:U:H4'	48:DP:16:PHE:CE2	2.50	0.47
33:DA:841:C:N3	33:DA:843:U:C6	2.83	0.47
33:DA:927:G:N2	33:DA:1391:U:H1'	2.30	0.47
34:DB:9:LEU:HG	34:DB:42:LEU:HD13	1.97	0.47
35:DC:97:VAL:HB	35:DC:98:PRO:HD2	1.97	0.47
54:DV:36:VAL:HG12	54:DV:37:ASN:H	1.79	0.47
54:DV:138:ILE:HG12	54:DV:286:LEU:HD21	1.97	0.47
10:EJ:118:MET:HA	10:EJ:121:LYS:HE2	1.97	0.47
11:EK:14:SER:HB2	11:EK:95:ILE:HD11	1.96	0.47
12:EL:87:GLY:O	12:EL:89:VAL:N	2.48	0.47
19:ES:24:ILE:HG22	19:ES:71:VAL:HG21	1.97	0.47
30:E3:22:LYS:HA	30:E3:47:ALA:O	2.15	0.47
33:FA:1428:A:H2'	33:FA:1429:A:O4'	2.15	0.47
34:FB:83:ALA:HA	34:FB:88:GLN:HE21	1.80	0.47
38:FF:86:ARG:NH2	50:FR:64:TYR:HB3	2.30	0.47
39:FG:113:ASP:OD1	39:FG:113:ASP:N	2.46	0.47
42:FJ:10:LEU:HG	42:FJ:98:VAL:HG22	1.96	0.47
42:FJ:35:GLN:HG2	42:FJ:78:GLU:N	2.30	0.47
53:FU:10:GLU:H	53:FU:11:PRO:HD3	1.80	0.47
1:GA:644:A:H2'	1:GA:645:C:O4'	2.15	0.47
1:GA:1056:G:H5''	1:GA:1057:A:O4'	2.15	0.47
1:GA:1069:A:O2'	1:GA:1070:A:OP2	2.30	0.47
1:GA:1164:C:H2'	1:GA:1165:A:H8	1.79	0.47
6:GF:11:VAL:HG11	6:GF:96:TRP:CH2	2.50	0.47
6:GF:112:ASP:O	6:GF:114:ARG:NE	2.47	0.47
9:GI:58:ILE:HG23	9:GI:66:PHE:CE2	2.50	0.47
11:GK:108:ARG:NH1	11:GK:113:MET:HE1	2.29	0.47
23:GW:40:ARG:HG3	23:GW:56:HIS:CD2	2.50	0.47
33:HA:451:A:C2	33:HA:480:U:C4	3.02	0.47
33:HA:668:G:HO2'	47:HO:46:HIS:HD1	1.62	0.47
33:HA:1113:C:H4'	35:HC:14:ILE:HG21	1.97	0.47
41:HI:44:ALA:O	41:HI:47:VAL:HG22	2.14	0.47
43:HK:46:THR:OG1	43:HK:47:ALA:N	2.40	0.47
45:HM:34:LEU:HD22	45:HM:39:ILE:HB	1.96	0.47
54:HV:544:VAL:HG12	54:HV:545:ILE:N	2.29	0.47
1:AA:221:A:C4	1:AA:266:G:N7	2.83	0.47
1:AA:563:A:C4	1:AA:2018:G:C2	3.03	0.47
1:AA:674:G:H1'	5:AE:69:ARG:CD	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:834:G:C6	1:AA:835:C:C4	3.03	0.47
1:AA:927:A:O2'	26:AZ:38:GLU:OE1	2.27	0.47
1:AA:971:G:OP2	1:AA:974:G:N2	2.48	0.47
1:AA:1486:U:H2'	1:AA:1487:U:C6	2.50	0.47
1:AA:1747:U:H2'	1:AA:1748:C:C6	2.50	0.47
1:AA:2211:A:O2'	1:AA:2212:A:OP1	2.25	0.47
1:AA:2352:A:C6	23:AW:30:VAL:HG11	2.50	0.47
2:AB:3:C:H2'	2:AB:4:C:C6	2.50	0.47
6:AF:107:VAL:HG11	6:AF:175:PRO:HG2	1.95	0.47
7:AG:12:ALA:CB	1:EA:2790:U:H2'	2.45	0.47
7:AG:25:ILE:HD12	7:AG:74:MET:HB2	1.97	0.47
7:AG:72:ASN:OD1	7:AG:76:ILE:HD11	2.15	0.47
10:AJ:73:VAL:HG23	10:AJ:74:TYR:N	2.30	0.47
18:AR:8:GLY:O	18:AR:10:LYS:HE3	2.14	0.47
19:AS:13:SER:O	19:AS:14:ALA:CB	2.62	0.47
23:AW:49:ASN:ND2	23:AW:59:PHE:O	2.46	0.47
32:A5:51:TYR:C	32:A5:51:TYR:CD1	2.89	0.47
33:BA:1296:C:O3'	33:BA:1302:C:N4	2.48	0.47
35:BC:175:LEU:HD11	35:BC:201:TRP:HD1	1.79	0.47
38:BF:3:HIS:H	38:BF:92:THR:HG23	1.80	0.47
41:BI:94:LEU:O	41:BI:96:SER:N	2.42	0.47
45:BM:4:ILE:O	45:BM:4:ILE:HG13	2.15	0.47
54:BV:33:TYR:CE1	54:BV:199:GLY:HA3	2.50	0.47
1:CA:980:A:C6	1:CA:981:A:N1	2.83	0.47
1:CA:1223:G:N2	1:CA:1226:A:OP2	2.39	0.47
1:CA:2064:C:H2'	1:CA:2065:C:C6	2.49	0.47
1:CA:2286:G:H5''	1:CA:2287:A:O4'	2.15	0.47
2:CB:53:A:H2'	2:CB:54:G:O4'	2.15	0.47
2:CB:98:G:N1	22:CV:14:LYS:HE3	2.30	0.47
14:CN:71:ARG:HH21	14:CN:71:ARG:CG	2.28	0.47
20:CT:29:THR:HA	20:CT:86:THR:HA	1.97	0.47
23:CW:75:ASN:OD1	23:CW:76:ARG:N	2.48	0.47
33:DA:254:G:O3'	49:DQ:71:LYS:NZ	2.48	0.47
33:DA:402:G:H5'	36:DD:71:GLN:NE2	2.30	0.47
33:DA:919:A:O2'	33:DA:920:U:H5'	2.15	0.47
38:DF:92:THR:O	38:DF:93:LYS:HG2	2.15	0.47
43:DK:38:GLN:NE2	39:HG:67:GLU:OE2	2.46	0.47
45:DM:4:ILE:HA	45:DM:57:ARG:HG3	1.97	0.47
46:DN:6:MET:SD	46:DN:9:ARG:CZ	3.03	0.47
52:DT:44:LYS:HB2	52:DT:87:ALA:HB1	1.97	0.47
54:DV:11:ARG:HE	54:DV:283:ILE:HA	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1381:G:H2'	1:EA:1382:G:H5'	1.97	0.47
1:EA:1486:U:H2'	1:EA:1487:U:C6	2.50	0.47
1:EA:1854:A:H2	1:EA:2087:G:N3	2.13	0.47
1:EA:1964:G:H4'	1:EA:1965:C:OP2	2.15	0.47
1:EA:2478:A:P	31:E4:2:LYS:HZ1	2.37	0.47
1:EA:2773:C:H2'	1:EA:2774:C:H6	1.80	0.47
4:ED:108:ASP:N	4:ED:204:LYS:O	2.48	0.47
7:EG:18:ILE:HD12	7:EG:19:ASN:N	2.30	0.47
22:EV:9:ARG:NH2	22:EV:12:GLN:HA	2.30	0.47
23:EW:18:LYS:H	23:EW:36:ILE:N	2.13	0.47
26:EZ:35:VAL:HG22	26:EZ:37:ARG:CZ	2.45	0.47
32:E5:51:TYR:HE2	32:E5:90:GLY:HA3	1.79	0.47
44:FL:94:ARG:HB2	44:FL:95:TYR:CE1	2.50	0.47
52:FT:28:MET:HG3	52:FT:29:ARG:N	2.30	0.47
54:FV:450:ASP:O	54:FV:454:ASN:ND2	2.48	0.47
1:GA:27:G:N2	1:GA:512:G:H1'	2.30	0.47
1:GA:864:G:C6	1:GA:865:C:N4	2.83	0.47
1:GA:1095:A:C4	54:HV:628:THR:O	2.68	0.47
1:GA:1257:C:O2'	5:GE:79:ARG:N	2.48	0.47
9:GI:91:LYS:HB2	9:GI:95:ASP:OD1	2.15	0.47
12:GL:66:PHE:CD1	12:GL:66:PHE:C	2.87	0.47
23:GW:40:ARG:HG2	23:GW:52:CYS:SG	2.55	0.47
23:GW:67:LYS:O	23:GW:68:PHE:HB2	2.15	0.47
44:HL:24:LEU:HG	44:HL:25:GLU:N	2.30	0.47
1:AA:47:C:C4	1:AA:48:G:N7	2.83	0.46
1:AA:171:U:H2'	1:AA:172:A:C8	2.49	0.46
1:AA:235:U:H2'	1:AA:236:C:C6	2.50	0.46
1:AA:320:A:C4	5:AE:131:THR:HG21	2.50	0.46
1:AA:1057:A:C6	1:AA:1086:A:C2	3.02	0.46
1:AA:1328:A:H2'	1:AA:1330:C:C5	2.50	0.46
1:AA:1534:U:H5'	1:AA:1535:A:P	2.54	0.46
1:AA:2312:U:C4	1:AA:2313:C:C5	3.03	0.46
3:AC:16:VAL:N	3:AC:203:VAL:CG1	2.78	0.46
6:AF:7:TYR:HD1	6:AF:172:PHE:CZ	2.33	0.46
6:AF:11:VAL:HG12	6:AF:15:LEU:HD12	1.96	0.46
12:AL:57:LEU:CD1	30:A3:53:ASP:HB3	2.46	0.46
14:AN:52:ILE:HB	14:AN:94:TYR:CD2	2.50	0.46
17:AQ:63:ARG:HH12	17:AQ:96:ASP:CA	2.28	0.46
23:AW:35:ILE:HA	23:AW:57:THR:HG23	1.97	0.46
24:AX:52:ALA:O	24:AX:53:LYS:HB3	2.15	0.46
26:AZ:26:LEU:O	26:AZ:37:ARG:NH1	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:449:G:H2'	33:BA:450:G:C8	2.49	0.46
35:BC:175:LEU:HD11	35:BC:201:TRP:CD1	2.50	0.46
39:BG:74:GLU:O	39:BG:89:VAL:N	2.42	0.46
41:BI:24:GLY:H	41:BI:61:LEU:HA	1.79	0.46
44:BL:44:LYS:HB3	44:BL:45:PRO:CD	2.45	0.46
44:BL:63:VAL:HG22	44:BL:64:THR:N	2.30	0.46
46:BN:9:ARG:HB3	46:BN:13:ARG:NH1	2.30	0.46
46:BN:45:VAL:HG23	46:BN:46:LEU:H	1.79	0.46
51:BS:80:TYR:CD1	51:BS:81:ARG:N	2.84	0.46
52:BT:4:ILE:HG22	52:BT:4:ILE:O	2.15	0.46
1:CA:1226:A:OP1	17:CQ:15:LYS:NZ	2.36	0.46
1:CA:1248:G:OP2	5:CE:44:ARG:NH1	2.44	0.46
1:CA:1913:A:N6	33:DA:1494:G:H5'	2.26	0.46
1:CA:2280:G:C2	1:CA:2281:A:C8	3.03	0.46
4:CD:14:ILE:HG13	4:CD:14:ILE:O	2.14	0.46
4:CD:99:GLU:HG3	4:CD:100:LEU:N	2.30	0.46
7:CG:22:VAL:HG22	7:CG:36:LEU:CD1	2.45	0.46
20:CT:50:LEU:O	20:CT:51:PHE:HB2	2.15	0.46
24:CX:52:ALA:O	24:CX:53:LYS:HB3	2.15	0.46
33:DA:376:G:H2'	33:DA:377:G:H8	1.79	0.46
33:DA:1194:U:H5'	37:DE:27:GLY:HA2	1.95	0.46
1:EA:336:C:H2'	1:EA:337:C:H6	1.80	0.46
1:EA:570:G:OP1	1:EA:972:A:O2'	2.20	0.46
1:EA:875:G:C2'	1:EA:876:C:H5'	2.45	0.46
1:EA:1183:U:H2'	1:EA:1184:U:C6	2.50	0.46
1:EA:1257:C:O2'	5:EE:79:ARG:N	2.48	0.46
1:EA:1664:A:C2	1:EA:2726:A:C8	3.03	0.46
1:EA:2392:A:C8	1:EA:2429:G:C2	3.03	0.46
1:EA:2576:G:O2'	1:EA:2579:C:OP2	2.22	0.46
4:ED:107:VAL:H	4:ED:206:ALA:H	1.62	0.46
9:EI:19:PRO:HD2	9:EI:23:VAL:HG21	1.96	0.46
23:EW:18:LYS:H	23:EW:36:ILE:CA	2.28	0.46
23:EW:23:LYS:HE2	23:EW:24:ARG:CA	2.45	0.46
33:FA:1305:G:HO2'	33:FA:1306:A:H8	1.62	0.46
34:FB:49:PHE:HB2	34:FB:212:TYR:CE2	2.50	0.46
34:FB:117:GLU:HA	34:FB:120:SER:HB2	1.97	0.46
36:FD:3:ARG:CZ	36:FD:115:ARG:NE	2.78	0.46
36:FD:110:THR:HG23	36:FD:113:GLU:H	1.80	0.46
39:FG:59:LEU:O	39:FG:62:PHE:HB3	2.15	0.46
40:FH:29:SER:HB2	40:FH:59:LEU:HB2	1.97	0.46
41:FI:91:ASP:OD1	41:FI:94:LEU:HD13	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:FL:114:ARG:NH2	44:FL:121:ARG:HA	2.31	0.46
1:GA:883:G:N2	1:GA:894:U:H1'	2.30	0.46
1:GA:1659:G:C6	1:GA:2002:G:C6	3.03	0.46
1:GA:1926:U:C6	1:GA:1926:U:C3'	2.98	0.46
1:GA:2804:U:H2'	1:GA:2805:C:C6	2.49	0.46
8:GH:41:LYS:HA	8:GH:44:ILE:HG12	1.97	0.46
13:GM:1:MET:O	13:GM:2:LEU:HB2	2.16	0.46
16:GP:19:PHE:CE1	16:GP:83:ILE:HD11	2.50	0.46
24:GX:29:LEU:HD23	24:GX:29:LEU:H	1.80	0.46
33:HA:60:A:OP1	33:HA:111:G:N2	2.37	0.46
33:HA:420:U:C2'	33:HA:421:U:H5''	2.45	0.46
33:HA:1107:C:C4	33:HA:1108:G:C8	3.03	0.46
36:HD:124:MET:HG3	36:HD:144:SER:OG	2.15	0.46
42:HJ:7:ARG:HG3	42:HJ:75:ASP:HA	1.97	0.46
53:HU:40:LYS:N	53:HU:41:PRO:CD	2.79	0.46
1:AA:287:G:H2'	1:AA:288:U:C6	2.50	0.46
1:AA:1722:A:N6	1:AA:1723:G:C6	2.83	0.46
1:AA:1725:U:N3	1:AA:1726:C:N4	2.63	0.46
1:AA:1936:A:H2	1:AA:1943:U:C5	2.34	0.46
1:AA:2304:G:H4'	6:AF:129:MET:HA	1.97	0.46
1:AA:2312:U:H5'	6:AF:84:ILE:HD13	1.96	0.46
1:AA:2425:A:C5'	1:AA:2427:C:O4'	2.63	0.46
4:AD:106:LYS:HB3	4:AD:206:ALA:H	1.80	0.46
11:AK:61:VAL:HG13	11:AK:87:LEU:HD11	1.97	0.46
15:AO:111:ARG:NH2	15:AO:117:PHE:O	2.48	0.46
32:A5:58:THR:HG21	32:A5:82:ILE:N	2.30	0.46
33:BA:448:A:C4	33:BA:487:A:C2	3.03	0.46
33:BA:598:U:H4'	40:BH:86:TYR:CG	2.50	0.46
33:BA:958:A:N6	51:BS:77:THR:O	2.48	0.46
35:BC:119:SER:O	35:BC:123:GLN:HG3	2.16	0.46
36:BD:26:ARG:NH2	36:BD:31:LYS:HG2	2.31	0.46
38:BF:40:GLU:CD	38:BF:61:LEU:HD23	2.36	0.46
39:BG:139:GLU:O	39:BG:143:ARG:HB2	2.15	0.46
41:BI:55:VAL:HG11	41:BI:87:LEU:HD21	1.96	0.46
41:BI:91:ASP:CG	41:BI:93:SER:HB3	2.36	0.46
52:BT:85:LYS:O	52:BT:86:LEU:HB2	2.15	0.46
54:BV:266:CYS:SG	54:BV:267:GLY:N	2.89	0.46
1:CA:388:G:N7	1:CA:390:U:H2'	2.30	0.46
1:CA:1076:C:O2'	9:CI:93:ASN:HB3	2.15	0.46
1:CA:1614:A:OP1	59:CA:3308:HOH:O	2.21	0.46
1:CA:2017:U:H5''	1:CA:2018:G:P	2.55	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2193:G:H2'	1:CA:2194:U:H6	1.80	0.46
4:CD:11:MET:HA	4:CD:24:VAL:O	2.14	0.46
9:CI:52:LEU:HD11	9:CI:81:LYS:HE2	1.97	0.46
9:CI:98:GLY:CA	9:CI:137:LEU:HD22	2.45	0.46
9:CI:109:ALA:HB2	9:CI:128:ILE:HG13	1.97	0.46
33:DA:110:C:N4	33:DA:111:G:C6	2.83	0.46
33:DA:454:G:N2	33:DA:479:U:O2	2.44	0.46
41:DI:28:ILE:HG13	41:DI:63:LEU:HD21	1.97	0.46
41:DI:33:ARG:HD2	41:DI:38:TYR:HD1	1.81	0.46
48:DP:67:ILE:HG21	48:DP:72:ALA:HA	1.96	0.46
1:EA:752:A:H62	1:EA:2609:U:H3	1.63	0.46
1:EA:1531:C:H2'	1:EA:1532:A:O4'	2.15	0.46
1:EA:1737:G:H5''	1:EA:1738:G:OP2	2.14	0.46
1:EA:1786:A:H1'	1:EA:1938:A:N6	2.30	0.46
1:EA:1882:U:O2'	1:EA:1883:U:H5'	2.15	0.46
5:EE:160:ALA:O	5:EE:161:ALA:HB3	2.14	0.46
7:EG:8:VAL:CG1	7:EG:49:LEU:HB2	2.44	0.46
18:ER:39:LEU:O	18:ER:49:ILE:HG23	2.16	0.46
21:EU:53:GLN:N	21:EU:54:PRO:CD	2.78	0.46
23:EW:72:GLY:N	23:EW:73:PRO:CD	2.79	0.46
32:E5:29:ASP:OD1	32:E5:29:ASP:N	2.49	0.46
32:E5:73:LYS:CG	32:E5:117:LEU:HD21	2.43	0.46
32:E5:98:GLU:HA	32:E5:101:LYS:HB2	1.96	0.46
33:FA:598:U:H4'	40:FH:86:TYR:CD2	2.51	0.46
33:FA:1060:U:OP1	46:FN:85:ARG:NH2	2.43	0.46
33:FA:1505:G:H4'	33:FA:1506:U:H5''	1.97	0.46
36:FD:3:ARG:NE	36:FD:115:ARG:HD3	2.31	0.46
52:FT:55:GLN:N	52:FT:56:PRO:HD2	2.30	0.46
1:GA:1234:U:H2'	1:GA:1235:G:O4'	2.15	0.46
1:GA:1267:U:O3'	59:GA:3375:HOH:O	2.20	0.46
1:GA:2352:A:C6	1:GA:2366:A:C4	3.03	0.46
2:GB:119:A:OP2	2:GB:119:A:H4'	2.15	0.46
3:GC:166:ARG:O	3:GC:166:ARG:HG3	2.16	0.46
5:GE:45:ALA:C	5:GE:46:GLN:HG2	2.35	0.46
6:GF:146:ASP:OD1	45:HM:71:ARG:NE	2.44	0.46
7:GG:112:VAL:HG23	7:GG:113:ASP:N	2.29	0.46
7:GG:175:LYS:O	7:GG:176:LYS:CB	2.63	0.46
10:GJ:135:GLN:CD	10:GJ:135:GLN:N	2.68	0.46
12:GL:18:ARG:O	12:GL:19:LEU:HB3	2.14	0.46
28:G1:7:LYS:HE3	30:G3:33:THR:HG21	1.97	0.46
33:HA:260:G:H2'	33:HA:261:U:C6	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:368:U:C6	54:HV:362:ARG:HD3	2.50	0.46
33:HA:1044:A:C5	33:HA:1045:C:H1'	2.50	0.46
34:HB:183:PHE:CE2	34:HB:197:PHE:CD2	3.03	0.46
37:HE:81:LEU:HB3	37:HE:147:MET:HE2	1.97	0.46
53:HU:34:ARG:HG3	53:HU:35:ARG:H	1.80	0.46
1:AA:321:U:N1	5:AE:159:LEU:HD23	2.30	0.46
1:AA:479:A:H4'	1:AA:480:A:OP1	2.14	0.46
1:AA:1307:A:C5	1:AA:1308:A:N7	2.84	0.46
1:AA:1568:G:H4'	3:AC:58:LYS:HB3	1.97	0.46
1:AA:1605:C:O4'	1:AA:1610:A:C6	2.69	0.46
1:AA:1651:G:N2	1:AA:2007:U:C2	2.83	0.46
1:AA:2267:A:H5''	1:AA:2268:A:H5'	1.97	0.46
1:AA:2287:A:C4	1:AA:2289:G:N7	2.83	0.46
1:AA:2884:U:C5	27:A0:39:ARG:CZ	2.98	0.46
3:AC:65:ASP:OD2	3:AC:101:ARG:NH1	2.46	0.46
13:AM:1:MET:O	13:AM:2:LEU:HB3	2.15	0.46
16:AP:30:TRP:CE3	16:AP:39:LEU:HD12	2.50	0.46
33:BA:780:A:C2	33:BA:803:G:C6	3.03	0.46
33:BA:1493:A:OP1	55:BW:1:KBE:NZ	2.48	0.46
39:BG:27:VAL:HG12	39:BG:43:VAL:HG21	1.97	0.46
54:BV:4:THR:HG21	54:BV:378:ARG:CZ	2.45	0.46
1:CA:26:G:OP1	19:CS:80:PRO:HB3	2.16	0.46
1:CA:460:A:OP1	29:C2:41:ARG:NH1	2.48	0.46
1:CA:1672:A:N6	1:CA:1673:G:C6	2.83	0.46
4:CD:8:LYS:HB2	4:CD:201:LEU:CD2	2.45	0.46
4:CD:117:GLY:C	4:CD:118:PHE:CD2	2.89	0.46
5:CE:3:LEU:O	5:CE:11:ALA:HA	2.16	0.46
9:CI:59:THR:O	9:CI:66:PHE:HB2	2.15	0.46
10:CJ:73:VAL:HG23	10:CJ:74:TYR:N	2.30	0.46
11:CK:2:ILE:O	11:CK:6:THR:OG1	2.25	0.46
14:CN:56:LYS:HD2	14:CN:88:ALA:HA	1.97	0.46
19:CS:75:PHE:CE1	19:CS:104:THR:HB	2.51	0.46
20:CT:93:LEU:HD13	20:CT:93:LEU:N	2.30	0.46
24:CX:39:VAL:HG22	24:CX:44:ARG:O	2.15	0.46
33:DA:292:G:C2	33:DA:309:A:C2	3.03	0.46
33:DA:608:A:O5'	59:DA:1850:HOH:O	2.21	0.46
33:DA:1078:U:H4'	37:DE:138:ARG:CZ	2.46	0.46
33:DA:1144:G:N2	33:DA:1146:A:H62	2.13	0.46
36:DD:4:TYR:O	36:DD:5:LEU:HB2	2.15	0.46
37:DE:80:THR:HB	37:DE:122:ASN:OD1	2.15	0.46
42:DJ:80:THR:O	42:DJ:83:THR:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:DN:9:ARG:HB3	46:DN:13:ARG:NH1	2.30	0.46
1:EA:526:A:O2'	1:EA:2043:C:O2	2.30	0.46
1:EA:1060:U:H4'	1:EA:1061:U:H5''	1.97	0.46
1:EA:1314:C:OP1	59:EA:3758:HOH:O	2.21	0.46
1:EA:2349:G:OP2	30:E3:41:ARG:HD3	2.15	0.46
6:EF:72:SER:HB2	6:EF:80:GLN:HB3	1.96	0.46
14:EN:117:ASP:OD1	14:EN:118:ARG:N	2.48	0.46
15:EO:2:ASP:HB3	15:EO:5:SER:HB2	1.98	0.46
17:EQ:78:PHE:CE1	17:EQ:82:LEU:HD11	2.49	0.46
20:ET:35:ALA:HB3	20:ET:38:ALA:HB2	1.98	0.46
33:FA:533:A:O2'	33:FA:535:A:OP2	2.24	0.46
43:FK:126:LYS:O	43:FK:127:ARG:HB2	2.16	0.46
45:FM:10:PRO:O	45:FM:11:ASP:HB2	2.15	0.46
45:FM:43:VAL:CG1	45:FM:47:GLU:HG2	2.45	0.46
46:FN:54:ASP:OD1	46:FN:59:ARG:NH1	2.46	0.46
1:GA:301:G:H4'	1:GA:302:C:OP1	2.15	0.46
1:GA:379:G:C6	1:GA:380:G:C5	3.03	0.46
1:GA:640:C:C4	1:GA:641:U:C4	3.03	0.46
1:GA:1171:G:C2	1:GA:1172:C:C5	3.03	0.46
1:GA:2105:U:H3'	1:GA:2106:U:H5''	1.97	0.46
1:GA:2283:C:H5''	1:GA:2389:G:O2'	2.16	0.46
1:GA:2569:G:C2	1:GA:2570:G:C8	3.03	0.46
10:GJ:17:VAL:HG13	10:GJ:57:LEU:CD2	2.46	0.46
19:GS:69:LEU:HG	19:GS:107:VAL:HG22	1.96	0.46
26:GZ:3:THR:H	26:GZ:38:GLU:HA	1.81	0.46
33:HA:328:C:O2	33:HA:328:C:C2'	2.63	0.46
33:HA:1092:A:H5''	39:HG:4:ARG:NH2	2.31	0.46
33:HA:1276:G:N3	33:HA:1282:C:O2'	2.45	0.46
34:HB:67:LEU:HD12	34:HB:157:PRO:HG2	1.97	0.46
51:HS:36:ARG:HB3	51:HS:72:GLY:CA	2.45	0.46
1:AA:237:C:H2'	1:AA:238:C:C6	2.50	0.46
1:AA:792:A:C6	1:AA:2440:C:C6	3.03	0.46
1:AA:856:G:H1'	23:AW:23:LYS:HB3	1.97	0.46
1:AA:1937:A:N7	1:AA:1939:U:H2'	2.31	0.46
1:AA:2305:U:H1'	6:AF:132:ARG:HA	1.98	0.46
1:AA:2860:A:N7	1:AA:2861:U:H1'	2.31	0.46
2:AB:12:C:C4	23:AW:72:GLY:HA3	2.50	0.46
4:AD:106:LYS:HB3	4:AD:206:ALA:CB	2.45	0.46
6:AF:39:VAL:HG13	6:AF:40:GLY:H	1.79	0.46
7:AG:27:GLY:N	7:AG:78:VAL:HG13	2.31	0.46
15:AO:51:ALA:CB	15:AO:78:VAL:HG13	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AQ:63:ARG:HH12	17:AQ:96:ASP:HA	1.81	0.46
17:AQ:91:ARG:HH11	18:AR:11:GLN:N	2.12	0.46
33:BA:202:G:O2'	33:BA:468:A:C8	2.68	0.46
33:BA:236:A:H2'	33:BA:237:G:C8	2.50	0.46
33:BA:1013:G:N2	33:BA:1016:A:OP2	2.48	0.46
35:BC:140:ASN:HA	35:BC:143:ARG:HB2	1.97	0.46
38:BF:91:ARG:CG	38:BF:92:THR:H	2.25	0.46
42:BJ:40:ILE:HD12	42:BJ:73:LEU:HD23	1.98	0.46
42:BJ:57:VAL:CG1	42:BJ:58:ASN:N	2.78	0.46
44:BL:43:LYS:HG2	44:BL:44:LYS:H	1.80	0.46
48:BP:4:ILE:N	48:BP:4:ILE:HD12	2.29	0.46
49:BQ:12:VAL:HG23	49:BQ:57:ASP:O	2.16	0.46
1:CA:95:A:C2	1:CA:96:C:H1'	2.50	0.46
1:CA:559:G:OP1	10:CJ:111:LYS:HD3	2.15	0.46
1:CA:1353:A:C8	1:CA:1378:A:N6	2.83	0.46
1:CA:2892:G:H5''	1:CA:2894:G:N2	2.30	0.46
4:CD:149:ASN:CG	4:CD:150:GLN:H	2.16	0.46
17:CQ:91:ARG:NE	17:CQ:93:ILE:CG2	2.75	0.46
33:DA:454:G:H1	33:DA:479:U:H3	1.63	0.46
33:DA:1004:A:O2'	33:DA:1036:A:N1	2.42	0.46
33:DA:1492:A:C2	33:DA:1493:A:C4	3.02	0.46
34:DB:206:ILE:H	34:DB:206:ILE:HD12	1.80	0.46
36:DD:41:HIS:CD2	36:DD:44:ARG:HH21	2.33	0.46
36:DD:168:PRO:CB	36:DD:171:LEU:CD1	2.94	0.46
37:DE:134:ILE:H	37:DE:134:ILE:HD12	1.80	0.46
43:DK:128:ARG:HG2	43:DK:128:ARG:HH11	1.80	0.46
46:DN:21:PHE:C	46:DN:23:LYS:H	2.18	0.46
48:DP:71:VAL:O	48:DP:75:ILE:HG23	2.15	0.46
49:DQ:30:LYS:HB3	49:DQ:37:PHE:CE2	2.51	0.46
1:EA:795:C:O5'	1:EA:795:C:H6	1.97	0.46
1:EA:1060:U:H4'	1:EA:1061:U:C5'	2.44	0.46
1:EA:2542:A:H4'	1:EA:2543:G:H8	1.80	0.46
18:ER:48:LYS:HE2	18:ER:48:LYS:O	2.15	0.46
28:E1:22:THR:OG1	28:E1:23:THR:N	2.46	0.46
32:E5:67:THR:C	32:E5:69:PHE:N	2.69	0.46
33:FA:159:G:N2	33:FA:162:A:OP2	2.49	0.46
35:FC:130:PHE:CE2	35:FC:157:LEU:HD23	2.50	0.46
45:FM:54:ASP:HA	45:FM:57:ARG:CB	2.45	0.46
54:FV:119:VAL:O	54:FV:123:SER:OG	2.31	0.46
1:GA:566:U:H2'	1:GA:567:U:O4'	2.15	0.46
1:GA:1070:A:N1	9:GI:8:VAL:HA	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:1432:G:H2'	1:GA:1433:A:C8	2.50	0.46
1:GA:2250:G:OP1	1:GA:2275:C:O2'	2.15	0.46
1:GA:2830:C:O3'	4:GD:56:LYS:NZ	2.46	0.46
3:GC:209:ALA:HA	3:GC:212:TRP:NE1	2.30	0.46
5:GE:3:LEU:O	5:GE:11:ALA:HA	2.15	0.46
8:GH:31:VAL:HB	8:GH:32:PRO:HD3	1.97	0.46
24:GX:34:SER:HA	24:GX:48:LEU:O	2.15	0.46
33:HA:1005:A:H2'	33:HA:1006:G:O4'	2.16	0.46
33:HA:1533:C:H3'	33:HA:1534:A:C5'	2.46	0.46
41:HI:12:ARG:HH11	41:HI:13:LYS:HB2	1.80	0.46
43:HK:126:LYS:HE3	43:HK:127:ARG:HH21	1.81	0.46
44:HL:79:VAL:HG12	44:HL:102:LEU:HD23	1.97	0.46
44:HL:87:VAL:C	44:HL:89:ASP:H	2.19	0.46
45:HM:68:ASP:HA	45:HM:71:ARG:HD3	1.97	0.46
1:AA:43:G:H5'	1:AA:43:G:H8	1.81	0.46
1:AA:633:A:OP1	12:AL:68:SER:OG	2.29	0.46
1:AA:634:C:H2'	1:AA:635:C:C6	2.50	0.46
1:AA:802:A:C5	1:AA:803:U:C4	3.04	0.46
1:AA:1024:G:C8	1:AA:1025:G:H2'	2.51	0.46
4:AD:69:ALA:HA	4:AD:73:VAL:CG1	2.45	0.46
5:AE:197:GLU:O	5:AE:201:ALA:N	2.48	0.46
10:AJ:17:VAL:HG23	10:AJ:139:VAL:HA	1.98	0.46
18:AR:14:VAL:HG22	18:AR:20:VAL:HG11	1.98	0.46
20:AT:31:VAL:HA	20:AT:83:ALA:HB3	1.98	0.46
28:A1:16:THR:HG21	28:A1:42:VAL:HG23	1.97	0.46
33:BA:202:G:O2'	33:BA:468:A:H2'	2.15	0.46
33:BA:292:G:O2'	33:BA:608:A:N6	2.49	0.46
33:BA:681:A:N3	33:BA:710:G:C2	2.83	0.46
33:BA:1322:C:OP1	51:BS:78:ARG:NH2	2.49	0.46
33:BA:1493:A:OP2	55:BW:6:5OH:NQ	2.46	0.46
33:BA:1527:U:O4	59:BA:1863:HOH:O	2.20	0.46
34:BB:209:VAL:HG23	34:BB:210:THR:N	2.30	0.46
35:BC:150:LYS:HG3	35:BC:201:TRP:CE3	2.50	0.46
37:BE:110:ALA:O	37:BE:111:MET:CB	2.64	0.46
54:BV:193:TRP:CH2	54:BV:276:GLN:HB2	2.50	0.46
1:CA:134:G:O6	1:CA:144:A:N6	2.49	0.46
1:CA:564:C:O2	1:CA:578:G:N2	2.49	0.46
1:CA:1077:A:H4'	9:CI:93:ASN:HD22	1.80	0.46
1:CA:1709:U:H2'	1:CA:1710:G:H8	1.81	0.46
1:CA:1869:G:N2	1:CA:1873:G:C6	2.83	0.46
1:CA:2584:U:O4	59:CA:3697:HOH:O	2.21	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:CM:33:LEU:CD2	13:CM:128:THR:HB	2.46	0.46
14:CN:98:LEU:HB3	27:C0:42:ILE:HD11	1.98	0.46
20:CT:69:ARG:CG	20:CT:70:HIS:H	2.29	0.46
24:CX:69:GLU:O	24:CX:70:LEU:HB2	2.15	0.46
33:DA:490:C:C2	33:DA:491:G:C8	3.04	0.46
33:DA:601:G:C2	33:DA:602:A:C4	3.03	0.46
33:DA:913:A:H4'	33:DA:914:A:O5'	2.16	0.46
33:DA:924:C:O2'	33:DA:1502:A:N1	2.37	0.46
34:DB:162:VAL:HG22	34:DB:184:ALA:CB	2.46	0.46
38:DF:46:GLN:HA	38:DF:56:LYS:HG2	1.97	0.46
44:DL:3:THR:HG22	44:DL:5:ASN:H	1.79	0.46
1:EA:579:G:H2'	1:EA:580:U:C6	2.50	0.46
1:EA:856:G:H1'	23:EW:23:LYS:HB3	1.97	0.46
1:EA:1076:C:H2'	1:EA:1077:A:O4'	2.15	0.46
1:EA:1341:G:C6	20:ET:84:TYR:CE1	3.03	0.46
6:EF:110:ILE:O	6:EF:112:ASP:N	2.48	0.46
7:EG:112:VAL:HG23	7:EG:113:ASP:N	2.30	0.46
10:EJ:49:ASP:HB2	10:EJ:114:LEU:HD21	1.97	0.46
20:ET:54:GLU:HG3	20:ET:88:LYS:HB2	1.98	0.46
21:EU:84:PHE:O	21:EU:85:ARG:HB3	2.15	0.46
23:EW:9:THR:HG1	23:EW:10:ARG:H	1.62	0.46
23:EW:37:VAL:CG1	23:EW:55:ASP:O	2.62	0.46
25:EY:6:LEU:O	25:EY:7:ARG:HB3	2.14	0.46
33:FA:627:G:H2'	33:FA:628:G:O4'	2.16	0.46
33:FA:1118:U:C5'	41:FI:106:ARG:HD2	2.46	0.46
35:FC:130:PHE:CG	35:FC:131:ARG:N	2.84	0.46
47:FO:35:GLN:HB3	47:FO:59:MET:HE1	1.96	0.46
54:FV:19:ILE:CD1	54:FV:92:HIS:H	2.29	0.46
54:FV:24:THR:OG1	54:FV:88:ASP:OD2	2.34	0.46
1:GA:1378:A:H4'	1:GA:1379:U:OP1	2.16	0.46
1:GA:1857:G:O2'	1:GA:1858:A:P	2.74	0.46
1:GA:2556:C:H2'	1:GA:2557:G:O4'	2.15	0.46
4:GD:77:ARG:NH2	4:GD:200:ASP:OD1	2.43	0.46
11:GK:18:ARG:HB2	11:GK:45:GLU:CG	2.45	0.46
12:GL:79:LEU:H	12:GL:113:ALA:HB3	1.81	0.46
20:GT:28:ASN:HA	20:GT:91:GLN:HE22	1.80	0.46
33:HA:22:G:C6	33:HA:23:C:C4	3.04	0.46
33:HA:398:U:H2'	33:HA:399:G:C8	2.50	0.46
33:HA:539:A:H2'	33:HA:540:G:C8	2.50	0.46
33:HA:843:U:O4	33:HA:844:G:N2	2.49	0.46
33:HA:1182:G:H4'	33:HA:1183:U:C5'	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:HN:51:LEU:HB3	46:HN:52:PRO:HD2	1.98	0.46
54:HV:298:ILE:HG23	54:HV:304:ASP:HA	1.97	0.46
1:AA:852:U:H2'	1:AA:853:C:C6	2.50	0.46
1:AA:945:A:C4	1:AA:2448:A:N3	2.84	0.46
1:AA:1060:U:H4'	1:AA:1061:U:C5'	2.46	0.46
1:AA:1479:G:C2	1:AA:1480:C:C2	3.04	0.46
1:AA:1666:G:N7	59:AA:3425:HOH:O	2.36	0.46
1:AA:2687:U:H2'	1:AA:2688:G:O4'	2.14	0.46
1:AA:2747:G:O2'	7:AG:66:THR:HG22	2.15	0.46
12:AL:2:ARG:C	12:AL:5:THR:HG22	2.36	0.46
12:AL:19:LEU:HB2	12:AL:27:LEU:HD13	1.98	0.46
15:AO:57:ALA:O	15:AO:61:GLN:NE2	2.48	0.46
32:A5:88:HIS:CB	32:A5:89:PRO:CD	2.94	0.46
33:BA:395:C:H2'	33:BA:396:C:C6	2.50	0.46
33:BA:1022:A:H2'	33:BA:1023:U:O4'	2.15	0.46
36:BD:95:GLU:O	36:BD:100:ASN:ND2	2.49	0.46
37:BE:96:MET:CE	37:BE:115:LEU:HD11	2.45	0.46
40:BH:8:ALA:HA	40:BH:77:ARG:HD3	1.98	0.46
1:CA:250:G:C6	1:CA:251:A:C6	3.04	0.46
1:CA:287:G:H2'	1:CA:288:U:C6	2.51	0.46
1:CA:746:U:O4	59:CA:3306:HOH:O	2.17	0.46
1:CA:869:G:C5	1:CA:870:U:C5	3.04	0.46
1:CA:1615:C:C5	1:CA:1617:C:C4	3.03	0.46
1:CA:2886:A:C6	27:C0:39:ARG:CZ	2.98	0.46
7:CG:59:ASP:HB3	7:CG:63:GLN:CG	2.46	0.46
17:CQ:35:PHE:CZ	17:CQ:39:ILE:HD11	2.51	0.46
17:CQ:91:ARG:NH2	17:CQ:93:ILE:HG21	2.31	0.46
30:C3:23:HIS:ND1	30:C3:24:LYS:O	2.43	0.46
33:DA:843:U:H2'	33:DA:844:G:H5'	1.97	0.46
36:DD:3:ARG:CZ	36:DD:115:ARG:HD3	2.46	0.46
36:DD:72:PHE:CZ	36:DD:200:ILE:HD11	2.50	0.46
39:DG:79:ARG:HD2	39:DG:83:SER:O	2.15	0.46
52:DT:68:HIS:C	52:DT:69:LYS:HG3	2.36	0.46
1:EA:1778:U:H2'	1:EA:1784:A:H62	1.81	0.46
1:EA:2145:C:C3'	1:EA:2146:C:H5''	2.46	0.46
1:EA:2326:C:H3'	1:EA:2326:C:C6	2.51	0.46
1:EA:2443:C:H2'	1:EA:2444:G:H8	1.80	0.46
1:EA:2776:A:C6	1:EA:2778:A:C6	3.04	0.46
3:EC:156:SER:O	3:EC:194:VAL:HG21	2.16	0.46
3:EC:259:ASN:O	3:EC:260:LYS:HB2	2.15	0.46
5:EE:168:ASP:OD2	5:EE:170:ARG:NE	2.38	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:EJ:2:LYS:H	10:EJ:2:LYS:CD	2.28	0.46
10:EJ:17:VAL:HG22	10:EJ:137:PRO:HB2	1.96	0.46
21:EU:71:ILE:HD11	21:EU:81:ARG:N	2.31	0.46
32:E5:125:ARG:CZ	32:E5:125:ARG:HA	2.45	0.46
32:E5:129:LEU:C	32:E5:131:THR:H	2.19	0.46
33:FA:236:A:H2'	33:FA:237:G:C8	2.51	0.46
33:FA:579:A:O2'	47:FO:54:ARG:NH1	2.49	0.46
33:FA:1489:G:C2'	33:FA:1490:U:H5'	2.45	0.46
34:FB:148:GLY:C	34:FB:150:ILE:H	2.18	0.46
35:FC:175:LEU:HD11	35:FC:201:TRP:CD1	2.50	0.46
39:FG:104:ILE:HG21	39:FG:124:LEU:CD1	2.45	0.46
41:FI:57:MET:O	41:FI:60:LYS:HG2	2.16	0.46
1:GA:577:G:O2'	1:GA:1254:A:OP1	2.33	0.46
1:GA:1025:G:H4'	1:GA:1026:G:OP2	2.14	0.46
1:GA:1392:A:C6	1:GA:1393:A:C6	3.04	0.46
1:GA:1395:A:P	59:GA:3406:HOH:O	2.73	0.46
1:GA:2013:A:N3	19:GS:88:ARG:NH1	2.64	0.46
1:GA:2028:U:C4	1:GA:2029:G:C6	3.03	0.46
1:GA:2847:U:C5	1:GA:2848:G:C5	3.03	0.46
4:GD:119:ALA:HB1	4:GD:124:ARG:HB2	1.96	0.46
18:GR:39:LEU:HA	18:GR:49:ILE:HG21	1.98	0.46
33:HA:7:A:H1'	59:HA:1838:HOH:O	2.15	0.46
33:HA:289:G:OP2	59:HA:1887:HOH:O	2.20	0.46
33:HA:972:C:P	42:HJ:59:LYS:HD3	2.55	0.46
37:HE:46:VAL:HG22	37:HE:118:ALA:HA	1.97	0.46
37:HE:114:VAL:HG11	37:HE:137:VAL:HG23	1.97	0.46
43:HK:80:LYS:O	43:HK:105:PHE:HA	2.15	0.46
51:HS:36:ARG:HE	51:HS:72:GLY:HA2	1.81	0.46
54:HV:586:VAL:HG13	54:HV:587:ASP:H	1.80	0.46
1:AA:45:G:H5''	1:AA:46:G:H5'	1.97	0.46
1:AA:1638:C:H4'	1:AA:2710:C:O2	2.15	0.46
1:AA:2390:U:OP2	30:A3:34:LYS:NZ	2.48	0.46
1:AA:2748:A:H1'	7:AG:66:THR:HG22	1.98	0.46
3:AC:51:ARG:HB3	3:AC:52:HIS:CD2	2.50	0.46
7:AG:108:PHE:CE1	7:AG:151:ARG:CZ	2.98	0.46
10:AJ:64:VAL:CG2	10:AJ:89:PHE:CZ	2.99	0.46
20:AT:4:GLU:OE1	20:AT:4:GLU:N	2.48	0.46
20:AT:39:THR:HB	20:AT:42:GLU:HB2	1.97	0.46
26:AZ:40:THR:HG23	26:AZ:43:ILE:H	1.80	0.46
33:BA:17:U:H2'	33:BA:18:C:C6	2.51	0.46
33:BA:164:G:C2	33:BA:165:G:C8	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:621:A:H2'	33:BA:622:A:C8	2.51	0.46
33:BA:714:G:H21	33:BA:777:A:H1'	1.81	0.46
33:BA:815:A:C2	33:BA:1529:G:C4	3.04	0.46
34:BB:18:GLN:HG2	34:BB:189:ASN:ND2	2.30	0.46
37:BE:97:GLN:HB2	37:BE:124:LEU:HB2	1.98	0.46
43:BK:122:ARG:CZ	53:BU:36:GLU:HB2	2.46	0.46
54:BV:382:ILE:HD12	54:BV:382:ILE:O	2.15	0.46
1:CA:593:U:H2'	1:CA:594:U:C6	2.51	0.46
1:CA:1072:C:H5'	1:CA:1073:A:OP1	2.16	0.46
1:CA:1077:A:H4'	9:CI:93:ASN:ND2	2.30	0.46
1:CA:1439:A:OP2	59:CA:3626:HOH:O	2.21	0.46
1:CA:1796:U:H2'	1:CA:1797:G:C8	2.51	0.46
1:CA:1874:C:H2'	1:CA:1875:G:O4'	2.16	0.46
1:CA:2105:U:H3'	1:CA:2105:U:C6	2.50	0.46
1:CA:2305:U:H5''	6:CF:130:GLY:HA3	1.96	0.46
7:CG:85:LYS:HG2	7:CG:131:VAL:HG12	1.97	0.46
12:CL:132:ARG:HG3	12:CL:142:ILE:HD12	1.98	0.46
23:CW:29:SER:OG	23:CW:30:VAL:HG12	2.16	0.46
33:DA:860:A:H2'	33:DA:861:G:O4'	2.16	0.46
46:DN:51:LEU:HB3	46:DN:52:PRO:CD	2.46	0.46
48:DP:52:LEU:CD2	48:DP:75:ILE:HG22	2.45	0.46
49:DQ:12:VAL:HG23	49:DQ:57:ASP:O	2.15	0.46
51:DS:11:ILE:HG22	51:DS:38:SER:HB3	1.97	0.46
51:DS:36:ARG:HE	51:DS:72:GLY:CA	2.29	0.46
1:EA:137:U:HO2'	1:EA:138:U:P	2.36	0.46
1:EA:616:A:H4'	5:EE:101:TYR:CE2	2.51	0.46
9:EI:6:ALA:CB	9:EI:60:VAL:HB	2.46	0.46
10:EJ:64:VAL:HG12	10:EJ:68:LYS:HB2	1.97	0.46
11:EK:105:ARG:O	11:EK:108:ARG:HB2	2.15	0.46
12:EL:57:LEU:CD2	30:E3:53:ASP:HB3	2.45	0.46
14:EN:12:ARG:HD3	14:EN:16:HIS:CD2	2.51	0.46
16:EP:19:PHE:O	16:EP:20:ARG:CB	2.62	0.46
33:FA:375:U:H4'	48:FP:17:TYR:CE2	2.51	0.46
33:FA:652:U:O2'	33:FA:653:U:OP2	2.24	0.46
33:FA:983:A:C2'	33:FA:983:A:N3	2.79	0.46
33:FA:1297:G:P	33:FA:1302:C:H42	2.38	0.46
44:FL:87:VAL:HG11	44:FL:90:LEU:HD22	1.96	0.46
44:FL:99:ARG:HB2	44:FL:117:TYR:HA	1.98	0.46
1:GA:26:G:C5	1:GA:27:G:C6	3.03	0.46
1:GA:277:G:C8	1:GA:360:U:O4	2.69	0.46
1:GA:880:G:N2	1:GA:898:C:H1'	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:1019:U:C5	1:GA:1020:A:N7	2.84	0.46
3:GC:16:VAL:HG23	3:GC:203:VAL:HG11	1.98	0.46
5:GE:109:LEU:O	5:GE:112:LEU:N	2.48	0.46
6:GF:78:ILE:HG21	6:GF:84:ILE:HD11	1.97	0.46
6:GF:110:ILE:HD12	6:GF:113:PHE:CD1	2.51	0.46
12:GL:2:ARG:HA	12:GL:5:THR:HG21	1.97	0.46
16:GP:13:LYS:HE3	16:GP:76:HIS:HA	1.97	0.46
16:GP:58:PHE:HD1	16:GP:75:THR:HG22	1.80	0.46
19:GS:59:GLU:HA	19:GS:64:ALA:HB2	1.98	0.46
33:HA:747:A:N6	33:HA:748:G:O6	2.49	0.46
34:HB:16:GLY:HA3	34:HB:40:ILE:HG23	1.98	0.46
34:HB:117:GLU:HA	34:HB:120:SER:HB2	1.96	0.46
35:HC:7:PRO:CG	35:HC:184:TYR:CG	2.99	0.46
36:HD:76:TYR:HE2	36:HD:201:VAL:HG13	1.80	0.46
40:HH:106:THR:CG2	40:HH:121:LEU:HD13	2.45	0.46
44:HL:59:ASN:H	44:HL:59:ASN:HD22	1.64	0.46
46:HN:41:ARG:NH1	46:HN:45:VAL:HG21	2.31	0.46
47:HO:45:GLU:O	47:HO:46:HIS:HB2	2.15	0.46
54:HV:177:GLU:OE1	54:HV:177:GLU:N	2.45	0.46
1:AA:533:G:C6	1:AA:534:U:C4	3.04	0.46
1:AA:587:C:O2'	12:AL:19:LEU:HD22	2.16	0.46
1:AA:1021:A:C5	1:AA:1023:U:C5	3.03	0.46
1:AA:1494:A:C2	1:AA:1495:A:C4	3.04	0.46
1:AA:1772:A:N1	1:AA:1980:G:C6	2.84	0.46
1:AA:2100:G:N7	1:AA:2190:G:N1	2.63	0.46
1:AA:2326:C:H4'	1:AA:2327:A:OP1	2.16	0.46
1:AA:2336:A:H61	23:AW:40:ARG:HB2	1.80	0.46
1:AA:2886:A:C5	27:A0:39:ARG:CZ	2.99	0.46
15:AO:53:THR:HB	15:AO:65:THR:HG21	1.98	0.46
21:AU:39:ASN:HB3	21:AU:62:ALA:O	2.16	0.46
33:BA:681:A:C2	33:BA:710:G:N1	2.84	0.46
33:BA:842:U:H3'	33:BA:843:U:C5'	2.46	0.46
33:BA:1283:U:H2'	33:BA:1284:C:C6	2.51	0.46
36:BD:31:LYS:HD3	36:BD:31:LYS:N	2.31	0.46
37:BE:15:LEU:HD22	37:BE:60:ILE:HG21	1.98	0.46
40:BH:94:LYS:HG2	40:BH:98:GLY:N	2.31	0.46
40:BH:102:ALA:O	40:BH:104:VAL:HG12	2.16	0.46
43:BK:98:ARG:O	43:BK:100:LEU:N	2.49	0.46
45:BM:11:ASP:HB2	45:BM:45:ILE:HG21	1.97	0.46
1:CA:53:A:C8	1:CA:54:G:C8	3.04	0.46
1:CA:370:G:O2'	1:CA:424:G:OP1	2.26	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:528:A:H2	1:CA:2043:C:C5'	2.29	0.46
1:CA:784:G:O2'	1:CA:785:G:OP2	2.31	0.46
1:CA:1107:G:C5	1:CA:1108:U:C5	3.04	0.46
1:CA:1500:G:H2'	1:CA:1501:G:H8	1.81	0.46
1:CA:1517:G:C2	1:CA:1518:C:C2	3.04	0.46
1:CA:1853:A:N1	1:CA:2087:G:H1'	2.30	0.46
1:CA:2318:G:C6	1:CA:2319:G:N1	2.84	0.46
1:CA:2605:U:H2'	1:CA:2606:C:C6	2.51	0.46
3:CC:33:LEU:CD2	3:CC:62:ARG:HD3	2.46	0.46
8:CH:9:VAL:CG1	8:CH:12:LEU:HD12	2.45	0.46
9:CI:48:ILE:HG13	9:CI:49:GLU:H	1.81	0.46
11:CK:10:VAL:HG21	11:CK:16:ALA:HB3	1.97	0.46
11:CK:34:GLY:O	11:CK:36:GLY:N	2.47	0.46
30:C3:33:THR:HG23	30:C3:34:LYS:N	2.31	0.46
31:C4:36:ARG:HG2	31:C4:37:GLN:N	2.30	0.46
33:DA:435:A:C5	33:DA:436:C:C5	3.03	0.46
33:DA:1007:U:H2'	33:DA:1008:U:C5'	2.42	0.46
33:DA:1289:A:N1	33:DA:1371:G:O2'	2.41	0.46
35:DC:42:TYR:CZ	35:DC:46:GLU:HG3	2.51	0.46
41:DI:38:TYR:CD2	41:DI:39:PHE:CD2	3.03	0.46
41:DI:48:VAL:HG12	41:DI:79:ILE:HG21	1.97	0.46
42:DJ:32:THR:CG2	42:DJ:83:THR:HA	2.45	0.46
44:DL:24:LEU:HG	44:DL:25:GLU:H	1.81	0.46
44:DL:44:LYS:CB	44:DL:45:PRO:CD	2.94	0.46
53:DU:4:ILE:N	53:DU:19:PHE:HE2	2.14	0.46
1:EA:657:U:H2'	1:EA:658:U:C6	2.50	0.46
1:EA:2105:U:H3'	1:EA:2106:U:H5''	1.98	0.46
1:EA:2783:U:H2'	1:EA:2784:U:C6	2.51	0.46
1:EA:2849:U:OP2	16:EP:92:ARG:NH1	2.49	0.46
5:EE:111:GLU:OE1	5:EE:115:GLN:NE2	2.49	0.46
10:EJ:73:VAL:HG23	10:EJ:74:TYR:N	2.31	0.46
11:EK:17:ARG:HB2	11:EK:45:GLU:CB	2.46	0.46
14:EN:79:LEU:O	14:EN:80:PHE:HB2	2.15	0.46
22:EV:70:ILE:O	22:EV:71:LYS:HB2	2.15	0.46
23:EW:51:GLY:HA3	23:EW:59:PHE:CZ	2.51	0.46
24:EX:63:ILE:HG22	24:EX:67:LEU:CD2	2.46	0.46
25:EY:52:ARG:O	25:EY:56:LEU:HD22	2.15	0.46
33:FA:16:A:C2'	33:FA:17:U:H5'	2.46	0.46
37:FE:156:LYS:HA	40:FH:66:PHE:CD2	2.51	0.46
54:FV:85:ASN:HD22	54:FV:382:ILE:HG13	1.81	0.46
54:FV:427:ASP:O	54:FV:430:LYS:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:910:A:C4	13:GM:13:HIS:CE1	3.03	0.46
1:GA:1059:G:C6	1:GA:1080:A:N1	2.84	0.46
1:GA:1171:G:H1'	1:GA:1179:G:H1	1.80	0.46
2:GB:117:G:P	15:GO:56:LYS:HE2	2.56	0.46
6:GF:43:ILE:CD1	6:GF:77:LYS:HD2	2.45	0.46
11:GK:66:LYS:HA	11:GK:79:PHE:O	2.15	0.46
18:GR:49:ILE:HG22	18:GR:53:PHE:C	2.36	0.46
19:GS:2:GLU:HA	19:GS:108:SER:HB2	1.96	0.46
21:GU:60:LYS:HG3	21:GU:61:GLU:H	1.80	0.46
22:GV:14:LYS:HG3	22:GV:15:GLY:N	2.31	0.46
33:HA:141:G:C4	33:HA:142:G:C8	3.04	0.46
33:HA:625:U:H4'	48:HP:16:PHE:CE2	2.51	0.46
33:HA:668:G:O2'	47:HO:46:HIS:ND1	2.46	0.46
33:HA:1129:C:H5''	41:HI:18:ARG:NH2	2.31	0.46
36:HD:31:LYS:HD3	36:HD:31:LYS:N	2.31	0.46
36:HD:98:LEU:O	36:HD:101:VAL:HG12	2.15	0.46
37:HE:83:HIS:CG	40:HH:96:MET:HE2	2.51	0.46
46:HN:31:ILE:HG23	46:HN:45:VAL:HB	1.96	0.46
47:HO:14:GLU:O	47:HO:84:ARG:NH2	2.49	0.46
51:HS:63:THR:HG22	51:HS:64:ASP:N	2.30	0.46
54:HV:127:TRP:CH2	54:HV:262:ILE:HD13	2.51	0.46
1:AA:483:A:C8	21:AU:44:HIS:HD2	2.34	0.46
1:AA:761:A:OP1	59:AA:3295:HOH:O	2.20	0.46
1:AA:923:G:C1'	23:AW:23:LYS:HD3	2.39	0.46
1:AA:1107:G:H5''	32:A5:58:THR:CG2	2.46	0.46
1:AA:1161:C:H1'	18:AR:8:GLY:O	2.16	0.46
1:AA:1533:C:O2	1:AA:1534:U:C6	2.69	0.46
1:AA:1734:G:H2'	1:AA:1735:A:H8	1.80	0.46
1:AA:1735:A:C2	1:AA:1736:U:N1	2.84	0.46
2:AB:53:A:H2'	2:AB:54:G:O4'	2.16	0.46
5:AE:131:THR:HG23	5:AE:164:LEU:HD13	1.98	0.46
6:AF:35:LEU:HD21	6:AF:90:LEU:HG	1.98	0.46
6:AF:153:ILE:HD12	6:AF:154:THR:N	2.30	0.46
7:AG:163:TYR:O	7:AG:164:ALA:HB3	2.16	0.46
16:AP:92:ARG:O	16:AP:93:LYS:HB2	2.16	0.46
20:AT:29:THR:CA	20:AT:86:THR:HA	2.45	0.46
25:AY:17:GLU:HB2	25:AY:53:VAL:HG11	1.98	0.46
32:A5:108:VAL:HG12	32:A5:109:LYS:N	2.31	0.46
33:BA:629:A:H2'	33:BA:630:A:O4'	2.15	0.46
33:BA:926:G:C6	33:BA:1505:G:C6	3.03	0.46
33:BA:986:U:H2'	33:BA:987:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:1074:G:OP1	37:BE:69:ARG:NH2	2.49	0.46
35:BC:108:LYS:HD3	35:BC:144:LEU:HD13	1.97	0.46
44:BL:14:ARG:CZ	44:BL:15:LYS:HG2	2.46	0.46
54:BV:127:TRP:CH2	54:BV:262:ILE:HD13	2.51	0.46
1:CA:142:A:C2	20:CT:2:ILE:HG23	2.51	0.46
1:CA:163:C:HO2'	1:CA:164:C:C5'	2.27	0.46
1:CA:958:U:H5''	1:CA:959:A:O5'	2.16	0.46
1:CA:1726:C:N4	1:CA:1735:A:C2	2.84	0.46
7:CG:118:ALA:O	7:CG:120:ILE:N	2.44	0.46
11:CK:121:GLU:HG2	11:CK:122:VAL:H	1.81	0.46
18:CR:49:ILE:HG13	18:CR:49:ILE:O	2.16	0.46
19:CS:96:ILE:HD13	19:CS:96:ILE:C	2.35	0.46
33:DA:811:C:O2'	33:DA:901:A:N1	2.46	0.46
33:DA:950:U:H2'	33:DA:951:G:C8	2.51	0.46
36:DD:124:MET:HA	36:DD:129:VAL:HA	1.97	0.46
45:DM:114:LYS:HB2	45:DM:115:PRO:CD	2.44	0.46
54:DV:497:LYS:HG2	54:DV:524:PRO:HD2	1.96	0.46
1:EA:362:A:C5	1:EA:363:G:C8	3.03	0.46
1:EA:636:G:C6	12:EL:111:ILE:HD11	2.51	0.46
1:EA:923:G:C1'	23:EW:23:LYS:HD3	2.40	0.46
1:EA:945:A:OP2	59:EA:3346:HOH:O	2.21	0.46
1:EA:1535:A:H4'	1:EA:1536:C:OP2	2.16	0.46
1:EA:1654:A:O2'	4:ED:118:PHE:CB	2.64	0.46
1:EA:2061:G:H5''	1:EA:2503:A:C2	2.50	0.46
1:EA:2093:G:N7	1:EA:2225:A:H2'	2.31	0.46
1:EA:2138:G:N3	1:EA:2154:A:N6	2.63	0.46
1:EA:2355:G:H4'	23:EW:20:LEU:HD12	1.97	0.46
1:EA:2484:G:C2	1:EA:2485:G:C8	3.04	0.46
2:EB:78:A:H2'	2:EB:79:G:O4'	2.16	0.46
4:ED:119:ALA:CB	4:ED:124:ARG:HB2	2.46	0.46
6:EF:118:ALA:HB1	6:EF:166:ARG:HD2	1.98	0.46
10:EJ:65:THR:HG23	10:EJ:66:GLY:N	2.31	0.46
10:EJ:69:ARG:HH11	10:EJ:69:ARG:HG3	1.81	0.46
11:EK:103:VAL:O	11:EK:122:VAL:HB	2.16	0.46
13:EM:31:PHE:CZ	13:EM:110:GLU:HA	2.51	0.46
25:EY:46:VAL:O	25:EY:50:VAL:HG23	2.15	0.46
33:FA:131:A:C2	33:FA:132:C:C4	3.04	0.46
33:FA:390:U:H2'	33:FA:391:G:C8	2.51	0.46
33:FA:843:U:H2'	33:FA:844:G:H5'	1.97	0.46
38:FF:21:MET:HA	38:FF:24:ARG:HH21	1.81	0.46
41:FI:33:ARG:HD2	41:FI:38:TYR:HD2	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:FV:221:ASN:HA	54:FV:224:GLU:CB	2.46	0.46
1:GA:384:A:H2'	1:GA:385:C:H5'	1.98	0.46
1:GA:594:U:H3	1:GA:663:G:H1	1.63	0.46
1:GA:996:A:H4'	17:GQ:91:ARG:HG2	1.97	0.46
1:GA:1149:G:H2'	1:GA:1150:C:C6	2.51	0.46
1:GA:1405:U:H2'	1:GA:1406:U:C6	2.51	0.46
3:GC:232:GLY:CA	59:GC:402:HOH:O	2.63	0.46
5:GE:4:VAL:HG12	5:GE:6:LYS:H	1.81	0.46
7:GG:84:LYS:HE2	7:GG:133:LYS:HG2	1.97	0.46
9:GI:83:ALA:HB2	9:GI:105:LEU:CD2	2.45	0.46
10:GJ:43:GLU:O	10:GJ:44:TYR:C	2.54	0.46
13:GM:34:LYS:HD2	13:GM:131:VAL:HG11	1.98	0.46
19:GS:33:LEU:HD12	19:GS:51:LEU:HD23	1.97	0.46
20:GT:40:LYS:O	20:GT:44:LYS:N	2.46	0.46
23:GW:41:GLY:C	23:GW:43:LYS:N	2.69	0.46
33:HA:409:U:H5''	36:HD:25:VAL:HG22	1.97	0.46
34:HB:123:GLY:O	34:HB:125:PHE:N	2.49	0.46
37:HE:104:GLY:HA3	37:HE:122:ASN:HA	1.97	0.46
43:HK:16:VAL:HG13	43:HK:17:SER:N	2.31	0.46
43:HK:70:CYS:O	43:HK:74:VAL:HG22	2.16	0.46
49:HQ:76:VAL:HG23	49:HQ:77:ARG:H	1.79	0.46
54:HV:507:LYS:NZ	54:HV:591:LEU:HD12	2.31	0.46
54:HV:583:TYR:CE1	54:HV:585:ASP:HA	2.51	0.46
1:AA:725:G:C6	1:AA:726:G:N1	2.84	0.46
1:AA:2133:G:H5'	1:AA:2133:G:N3	2.31	0.46
5:AE:108:ILE:HD12	12:AL:2:ARG:HH22	1.81	0.46
17:AQ:63:ARG:NH2	17:AQ:92:LYS:O	2.49	0.46
33:BA:181:A:H1'	33:BA:194:C:N4	2.31	0.46
33:BA:642:A:N7	40:BH:107:SER:HA	2.31	0.46
33:BA:705:G:H2'	33:BA:706:A:H5'	1.98	0.46
33:BA:780:A:C2	33:BA:803:G:N1	2.83	0.46
34:BB:70:GLY:HA2	34:BB:163:ILE:HG22	1.98	0.46
34:BB:79:VAL:O	34:BB:83:ALA:HB3	2.16	0.46
34:BB:112:ARG:NE	34:BB:116:LEU:HD21	2.31	0.46
38:BF:11:HIS:ND1	38:BF:12:PRO:HD2	2.31	0.46
38:BF:18:VAL:O	38:BF:22:ILE:HG13	2.16	0.46
38:BF:77:THR:O	38:BF:81:ASN:HB2	2.16	0.46
40:BH:29:SER:HB3	40:BH:57:PRO:HB2	1.97	0.46
52:BT:29:ARG:O	52:BT:33:LYS:HG2	2.16	0.46
1:CA:39:G:H2'	1:CA:40:U:C6	2.51	0.46
1:CA:580:U:H2'	1:CA:581:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:657:U:H2'	1:CA:658:U:C6	2.52	0.46
1:CA:995:C:HO2'	1:CA:996:A:P	2.37	0.46
1:CA:1294:U:O2	14:CN:23:ASN:ND2	2.49	0.46
1:CA:2038:G:H2'	1:CA:2039:U:O4'	2.16	0.46
1:CA:2803:G:H2'	1:CA:2804:U:C6	2.51	0.46
6:CF:43:ILE:HG22	6:CF:78:ILE:HG22	1.97	0.46
7:CG:23:ILE:HG22	7:CG:24:THR:N	2.31	0.46
18:CR:21:ARG:NH2	18:CR:93:PHE:CE2	2.85	0.46
21:CU:73:ASN:HA	21:CU:95:PHE:CE2	2.51	0.46
23:CW:18:LYS:CA	23:CW:36:ILE:HB	2.46	0.46
33:DA:255:G:H2'	33:DA:256:U:C6	2.51	0.46
33:DA:1116:U:O3'	41:DI:110:GLN:NE2	2.48	0.46
34:DB:22:TRP:CH2	34:DB:24:PRO:HA	2.51	0.46
42:DJ:10:LEU:HB2	42:DJ:72:ARG:HB2	1.98	0.46
44:DL:83:ARG:HH11	44:DL:83:ARG:HG2	1.81	0.46
54:DV:337:ARG:HA	54:DV:382:ILE:HG22	1.97	0.46
1:EA:517:C:OP2	27:E0:9:ARG:NH2	2.48	0.46
1:EA:566:U:H2'	1:EA:567:U:O4'	2.16	0.46
1:EA:574:A:OP2	59:EA:3266:HOH:O	2.20	0.46
1:EA:609:A:H2'	1:EA:610:C:O4'	2.16	0.46
1:EA:626:A:C2	12:EL:78:ARG:HD3	2.51	0.46
1:EA:1056:G:H5''	1:EA:1057:A:O4'	2.16	0.46
1:EA:1141:U:C6	10:EJ:65:THR:CG2	2.99	0.46
1:EA:1319:C:O2	1:EA:1334:G:C2	2.69	0.46
1:EA:2074:U:H2'	1:EA:2075:U:C6	2.51	0.46
6:EF:113:PHE:CZ	6:EF:115:GLY:HA2	2.51	0.46
7:EG:162:ARG:NH1	7:EG:168:VAL:HG21	2.31	0.46
10:EJ:20:ALA:O	10:EJ:23:LYS:N	2.46	0.46
10:EJ:44:TYR:O	10:EJ:45:THR:HG22	2.15	0.46
13:EM:35:ALA:HB2	13:EM:102:LEU:HD21	1.98	0.46
28:E1:47:ILE:N	28:E1:47:ILE:HD12	2.31	0.46
29:E2:12:ARG:NH1	29:E2:44:VAL:HG13	2.31	0.46
33:FA:16:A:O2'	33:FA:17:U:H5'	2.16	0.46
33:FA:1346:A:N1	33:FA:1374:A:H5''	2.31	0.46
35:FC:7:PRO:HG2	35:FC:184:TYR:CG	2.51	0.46
40:FH:78:VAL:HG21	40:FH:125:ILE:HD11	1.98	0.46
54:FV:104:ARG:HD2	54:FV:104:ARG:C	2.37	0.46
1:GA:83:A:H2'	1:GA:84:A:N7	2.31	0.46
1:GA:278:A:H2'	1:GA:278:A:N3	2.30	0.46
1:GA:571:U:H3'	18:GR:80:ARG:NH2	2.30	0.46
1:GA:793:A:OP2	1:GA:2071:A:O2'	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:846:U:O2'	1:GA:847:U:P	2.73	0.46
1:GA:1071:G:C2	1:GA:1072:C:H1'	2.51	0.46
1:GA:1970:A:OP2	59:GA:3467:HOH:O	2.21	0.46
1:GA:2291:U:H2'	1:GA:2292:U:C6	2.51	0.46
4:GD:116:LYS:O	4:GD:118:PHE:CD2	2.68	0.46
4:GD:186:LEU:HD21	16:GP:7:LEU:HD21	1.98	0.46
6:GF:61:GLY:CA	6:GF:94:ARG:HD2	2.46	0.46
11:GK:16:ALA:O	11:GK:17:ARG:HB2	2.15	0.46
11:GK:19:VAL:HG13	11:GK:41:ILE:HB	1.98	0.46
13:GM:64:TRP:CZ3	13:GM:106:ASP:HB2	2.51	0.46
15:GO:58:ILE:O	15:GO:61:GLN:NE2	2.49	0.46
21:GU:85:ARG:HD2	21:GU:87:GLU:HA	1.98	0.46
22:GV:80:HIS:CD2	22:GV:82:TYR:H	2.34	0.46
33:HA:428:G:C5	33:HA:430:A:C6	3.04	0.46
33:HA:746:A:H2'	33:HA:747:A:C8	2.51	0.46
33:HA:942:G:O2'	33:HA:943:U:H5'	2.16	0.46
34:HB:72:LYS:HZ2	34:HB:204:ASP:HB3	1.81	0.46
39:HG:54:SER:O	39:HG:56:LYS:N	2.48	0.46
54:HV:62:THR:OG1	58:HV:801:GCP:O1G	2.33	0.46
1:AA:582:A:C2	1:AA:1259:G:C2	3.05	0.45
1:AA:659:G:H4'	5:AE:95:LYS:HD3	1.98	0.45
1:AA:1722:A:N6	1:AA:1739:A:C8	2.84	0.45
1:AA:1723:G:H3'	1:AA:1724:G:C8	2.51	0.45
1:AA:2241:A:H2'	1:AA:2242:G:C8	2.51	0.45
1:AA:2269:G:H4'	23:AW:18:LYS:HE2	1.98	0.45
1:AA:2478:A:OP2	31:A4:2:LYS:NZ	2.48	0.45
6:AF:109:ARG:HE	6:AF:136:ILE:HA	1.80	0.45
9:AI:48:ILE:HG13	9:AI:49:GLU:H	1.81	0.45
20:AT:44:LYS:HG3	20:AT:55:VAL:HG11	1.98	0.45
33:BA:76:G:N2	33:BA:77:A:HO2'	2.14	0.45
33:BA:234:C:H2'	33:BA:235:C:C6	2.51	0.45
33:BA:399:G:H2'	33:BA:400:C:C6	2.50	0.45
33:BA:484:G:H4'	33:BA:485:U:O5'	2.15	0.45
37:BE:13:GLU:CB	37:BE:39:VAL:HG12	2.46	0.45
47:BO:6:GLU:HG3	47:BO:7:ALA:N	2.31	0.45
48:BP:22:ALA:HA	48:BP:33:ILE:HG13	1.98	0.45
1:CA:523:C:H4'	1:CA:540:C:O2	2.16	0.45
1:CA:669:G:N2	1:CA:670:A:C2	2.84	0.45
1:CA:974:G:C4	1:CA:1186:G:C2	3.03	0.45
1:CA:1161:C:H1'	18:CR:8:GLY:O	2.16	0.45
1:CA:1441:G:H2'	1:CA:1442:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1790:C:H2'	1:CA:1791:A:C5	2.51	0.45
3:CC:20:ASN:OD1	3:CC:22:GLU:HG2	2.15	0.45
6:CF:39:VAL:C	6:CF:41:GLU:H	2.20	0.45
8:CH:31:VAL:HB	8:CH:32:PRO:CD	2.46	0.45
10:CJ:25:LEU:HB2	10:CJ:62:VAL:HG21	1.98	0.45
23:CW:37:VAL:HG13	23:CW:55:ASP:C	2.36	0.45
33:DA:260:G:H2'	33:DA:261:U:C6	2.51	0.45
34:DB:70:GLY:HA2	34:DB:163:ILE:HG22	1.98	0.45
34:DB:150:ILE:O	34:DB:152:ASP:N	2.50	0.45
43:DK:31:ILE:HA	43:DK:46:THR:HA	1.98	0.45
45:DM:5:ALA:HB2	45:DM:60:VAL:HG13	1.98	0.45
49:DQ:12:VAL:HG12	49:DQ:13:VAL:H	1.80	0.45
52:DT:67:ILE:HD11	52:DT:71:LYS:HE2	1.98	0.45
1:EA:356:G:H2'	1:EA:357:C:C6	2.51	0.45
1:EA:384:A:H2'	1:EA:385:C:H5'	1.97	0.45
1:EA:475:C:C4	1:EA:481:G:O6	2.69	0.45
1:EA:1079:C:C2	1:EA:1088:A:N6	2.84	0.45
1:EA:2602:A:H4'	1:EA:2603:G:OP2	2.16	0.45
1:EA:2636:C:H2'	1:EA:2637:U:C6	2.51	0.45
1:EA:2682:A:H8	4:ED:11:MET:HG2	1.81	0.45
10:EJ:4:PHE:O	10:EJ:44:TYR:OH	2.28	0.45
11:EK:10:VAL:HG11	11:EK:16:ALA:HB3	1.98	0.45
12:EL:62:PRO:HG2	30:E3:24:LYS:HD3	1.98	0.45
12:EL:78:ARG:CZ	12:EL:113:ALA:HB1	2.46	0.45
13:EM:73:ILE:HG21	13:EM:91:TYR:CZ	2.51	0.45
16:EP:49:ILE:HG22	16:EP:50:ARG:N	2.31	0.45
17:EQ:91:ARG:HE	17:EQ:93:ILE:HG21	1.80	0.45
20:ET:50:LEU:O	20:ET:51:PHE:HB2	2.16	0.45
23:EW:24:ARG:CG	23:EW:65:LYS:HD3	2.46	0.45
28:E1:16:THR:HG21	28:E1:41:VAL:CG2	2.45	0.45
34:FB:20:ARG:HH22	34:FB:38:HIS:CD2	2.34	0.45
42:FJ:35:GLN:CG	42:FJ:77:VAL:H	2.27	0.45
46:FN:46:LEU:HG	46:FN:46:LEU:O	2.16	0.45
54:FV:227:ALA:HB1	54:FV:234:MET:HB2	1.98	0.45
1:GA:277:G:C2'	1:GA:278:A:OP2	2.64	0.45
1:GA:1073:A:OP1	1:GA:1074:G:N2	2.49	0.45
1:GA:1173:U:C2'	1:GA:1174:U:O5'	2.65	0.45
1:GA:1266:G:N7	19:GS:16:LYS:HE3	2.31	0.45
1:GA:1394:U:H4'	1:GA:1603:A:H4'	1.97	0.45
1:GA:1507:C:C4	1:GA:1508:A:H2	2.34	0.45
1:GA:2345:G:N3	1:GA:2381:A:H2'	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:GE:48:THR:HG22	5:GE:86:ALA:HB3	1.99	0.45
7:GG:84:LYS:HG3	7:GG:132:LEU:N	2.31	0.45
11:GK:10:VAL:HG11	11:GK:16:ALA:CB	2.47	0.45
21:GU:78:LYS:HG2	21:GU:79:ALA:N	2.31	0.45
33:HA:368:U:C5	54:HV:362:ARG:HD3	2.51	0.45
33:HA:481:G:OP1	33:HA:481:G:H4'	2.14	0.45
33:HA:502:A:H2'	33:HA:503:C:C6	2.51	0.45
33:HA:986:U:H2'	33:HA:987:G:O4'	2.16	0.45
35:HC:83:ASP:O	35:HC:87:LEU:HG	2.16	0.45
40:HH:38:ASN:HA	40:HH:49:PHE:HE1	1.81	0.45
41:HI:55:VAL:CA	41:HI:94:LEU:HD23	2.46	0.45
54:HV:515:TYR:O	54:HV:593:PHE:CZ	2.69	0.45
54:HV:553:VAL:HG23	54:HV:597:ALA:HB2	1.97	0.45
1:AA:42:A:C2'	1:AA:43:G:C5'	2.94	0.45
1:AA:250:G:P	30:A3:12:ARG:HH12	2.39	0.45
1:AA:593:U:H2'	1:AA:594:U:C6	2.52	0.45
1:AA:709:U:H2'	1:AA:710:U:O4'	2.16	0.45
1:AA:1464:G:O2'	1:AA:1528:A:O2'	2.22	0.45
1:AA:1500:G:C6	1:AA:1501:G:N7	2.84	0.45
1:AA:1719:G:N2	1:AA:1742:U:H1'	2.31	0.45
1:AA:2267:A:H5''	1:AA:2268:A:C5'	2.47	0.45
1:AA:2376:A:C2	15:AO:92:PHE:HB3	2.51	0.45
6:AF:10:GLU:HG2	6:AF:13:LYS:HD3	1.98	0.45
13:AM:33:LEU:CD2	13:AM:128:THR:HB	2.46	0.45
24:AX:69:GLU:O	24:AX:70:LEU:HB2	2.16	0.45
33:BA:705:G:C2'	33:BA:706:A:H5'	2.46	0.45
33:BA:1028:C:N4	33:BA:1034:G:C2	2.85	0.45
33:BA:1113:C:H2'	33:BA:1114:C:H6	1.81	0.45
33:BA:1331:G:HO2'	33:BA:1332:A:P	2.38	0.45
37:BE:56:VAL:N	37:BE:57:PRO:HD2	2.31	0.45
41:BI:15:SER:HB2	41:BI:78:ALA:HB2	1.98	0.45
48:BP:40:ASN:O	48:BP:42:ILE:N	2.49	0.45
54:BV:453:SER:O	54:BV:455:GLN:N	2.49	0.45
1:CA:634:C:H2'	1:CA:635:C:C6	2.51	0.45
1:CA:878:A:C2	1:CA:900:A:C4	3.04	0.45
1:CA:929:U:H4'	26:CZ:37:ARG:NH2	2.31	0.45
1:CA:1098:A:C5	1:CA:1099:G:C8	3.04	0.45
1:CA:1327:A:N6	1:CA:1328:A:C2	2.84	0.45
1:CA:1341:G:H1	20:CT:24:MET:HE2	1.81	0.45
1:CA:1381:G:H2'	1:CA:1382:G:H5'	1.98	0.45
1:CA:1736:U:N3	1:CA:1737:G:H1'	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1760:C:H2'	1:CA:1761:C:O4'	2.16	0.45
1:CA:2107:G:H2'	1:CA:2108:A:O5'	2.16	0.45
1:CA:2273:A:H2'	1:CA:2274:A:C8	2.52	0.45
1:CA:2790:U:C5	1:CA:2893:A:C2	3.05	0.45
5:CE:16:GLU:O	5:CE:20:GLY:N	2.50	0.45
7:CG:174:LYS:NZ	7:CG:176:LYS:OXT	2.33	0.45
33:DA:109:A:H2'	33:DA:326:G:N2	2.31	0.45
33:DA:374:A:C6	33:DA:375:U:C4	3.04	0.45
38:DF:91:ARG:HG2	38:DF:92:THR:H	1.82	0.45
42:DJ:81:GLU:HA	42:DJ:84:VAL:HG12	1.97	0.45
45:DM:54:ASP:HA	45:DM:57:ARG:HB3	1.98	0.45
54:DV:188:MET:HE1	54:DV:218:TRP:CD1	2.52	0.45
1:EA:613:A:O2'	1:EA:614:A:OP1	2.33	0.45
1:EA:1161:C:H1'	18:ER:8:GLY:O	2.15	0.45
59:EA:3653:HOH:O	3:EC:52:HIS:ND1	2.27	0.45
4:ED:39:ASP:OD1	4:ED:40:LEU:N	2.48	0.45
5:EE:146:VAL:HG12	5:EE:185:LYS:HB2	1.97	0.45
8:EH:21:VAL:HG21	8:EH:25:TYR:HD2	1.80	0.45
18:ER:98:ILE:O	18:ER:98:ILE:CG2	2.63	0.45
23:EW:49:ASN:HA	23:EW:61:LYS:HB2	1.98	0.45
33:FA:61:G:H2'	33:FA:62:U:O4'	2.16	0.45
33:FA:71:A:C6	33:FA:100:G:C8	3.04	0.45
33:FA:89:U:O2'	33:FA:90:C:OP2	2.33	0.45
33:FA:97:G:C5	33:FA:98:A:H1'	2.51	0.45
33:FA:295:C:H2'	33:FA:296:U:C6	2.51	0.45
33:FA:653:U:H5'	40:FH:56:LYS:CE	2.47	0.45
33:FA:1159:U:C4	33:FA:1182:G:C5	3.04	0.45
34:FB:45:THR:HG22	34:FB:49:PHE:HD2	1.80	0.45
38:FF:98:GLU:HG3	38:FF:99:ALA:N	2.31	0.45
40:FH:5:ASP:HB2	40:FH:81:PRO:HG3	1.97	0.45
41:FI:45:ARG:HG3	41:FI:46:MET:N	2.31	0.45
44:FL:25:GLU:O	44:FL:26:ALA:C	2.54	0.45
51:FS:34:TRP:HD1	51:FS:52:HIS:CD2	2.34	0.45
51:FS:49:ILE:HD11	51:FS:62:VAL:CG2	2.47	0.45
1:GA:26:G:C6	1:GA:27:G:C6	3.04	0.45
1:GA:36:G:C6	1:GA:37:C:C5	3.05	0.45
1:GA:980:A:C4	1:GA:1136:G:O4'	2.70	0.45
1:GA:1548:A:H2'	1:GA:1549:A:C8	2.51	0.45
3:GC:104:LEU:O	3:GC:105:ALA:CB	2.64	0.45
7:GG:59:ASP:HB3	7:GG:63:GLN:HG2	1.99	0.45
23:GW:16:GLU:OE1	23:GW:16:GLU:HA	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:G2:12:ARG:HH11	29:G2:44:VAL:HG11	1.82	0.45
33:HA:730:G:O6	47:HO:51:HIS:NE2	2.47	0.45
33:HA:1123:U:O2'	42:HJ:39:PRO:O	2.32	0.45
34:HB:206:ILE:HD13	34:HB:206:ILE:N	2.31	0.45
44:HL:3:THR:HG22	44:HL:5:ASN:H	1.80	0.45
46:HN:27:LEU:HB3	46:HN:31:ILE:HD12	1.97	0.45
1:AA:428:A:H2'	1:AA:429:A:C8	2.51	0.45
1:AA:760:G:O6	1:AA:761:A:C2	2.69	0.45
1:AA:849:A:H2'	1:AA:850:U:C6	2.51	0.45
1:AA:1723:G:H2'	1:AA:1724:G:C8	2.51	0.45
1:AA:1801:A:OP2	3:AC:149:LYS:NZ	2.48	0.45
1:AA:1843:C:H5'	3:AC:250:GLN:OE1	2.16	0.45
1:AA:2298:A:C6	1:AA:2321:U:C4	3.05	0.45
1:AA:2461:A:H2'	1:AA:2462:C:C6	2.51	0.45
1:AA:2674:G:H4'	11:AK:30:ARG:HG3	1.97	0.45
3:AC:59:GLN:NE2	3:AC:84:PRO:O	2.49	0.45
4:AD:149:ASN:CG	4:AD:150:GLN:H	2.19	0.45
7:AG:29:ASN:OD1	7:AG:30:GLY:N	2.49	0.45
9:AI:42:ASN:HA	9:AI:45:THR:HB	1.98	0.45
9:AI:46:ASP:HA	9:AI:50:LYS:HD2	1.98	0.45
10:AJ:81:ILE:HG13	10:AJ:82:GLY:H	1.79	0.45
12:AL:87:GLY:C	12:AL:89:VAL:H	2.19	0.45
17:AQ:30:VAL:HG23	17:AQ:33:VAL:HB	1.97	0.45
20:AT:32:LEU:N	20:AT:83:ALA:HB3	2.31	0.45
24:AX:31:ASN:OD1	24:AX:33:HIS:NE2	2.50	0.45
36:BD:91:LEU:HA	36:BD:94:LEU:HD12	1.99	0.45
38:BF:18:VAL:HB	38:BF:19:PRO:CD	2.46	0.45
42:BJ:22:THR:OG1	42:BJ:72:ARG:HG3	2.17	0.45
43:BK:31:ILE:HG22	43:BK:46:THR:HB	1.98	0.45
48:BP:4:ILE:HD13	48:BP:67:ILE:HD13	1.98	0.45
54:BV:218:TRP:CZ3	54:BV:223:ILE:HB	2.51	0.45
54:BV:224:GLU:HG3	54:BV:237:TYR:CE2	2.51	0.45
1:CA:649:G:H2'	1:CA:650:C:O4'	2.17	0.45
1:CA:744:U:O4	1:CA:745:G:C6	2.70	0.45
1:CA:2019:A:H4'	17:CQ:33:VAL:HG21	1.98	0.45
1:CA:2193:G:H2'	1:CA:2194:U:C6	2.52	0.45
7:CG:10:VAL:O	7:CG:10:VAL:HG23	2.15	0.45
33:DA:293:G:C6	33:DA:294:U:C4	3.05	0.45
33:DA:844:G:C2'	33:DA:845:A:H5''	2.47	0.45
33:DA:1144:G:N1	33:DA:1145:A:C2	2.85	0.45
33:DA:1376:U:H2'	33:DA:1377:A:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DB:11:ALA:HB1	34:DB:14:HIS:CD2	2.51	0.45
34:DB:40:ILE:HG21	34:DB:201:GLY:HA2	1.98	0.45
34:DB:45:THR:HA	34:DB:200:PRO:HG2	1.97	0.45
43:DK:35:THR:OG1	43:DK:41:ALA:N	2.50	0.45
44:DL:29:GLN:HB2	44:DL:82:ILE:O	2.17	0.45
53:DU:47:ARG:HA	53:DU:50:ALA:HB3	1.98	0.45
54:DV:318:SER:HB3	54:DV:404:ILE:HD11	1.98	0.45
1:EA:372:G:O4'	24:EX:60:LYS:HE3	2.16	0.45
1:EA:911:A:C5	13:EM:9:PHE:CD2	3.04	0.45
1:EA:1526:C:H2'	1:EA:1527:G:O4'	2.15	0.45
1:EA:2333:A:OP2	23:EW:76:ARG:NH1	2.48	0.45
1:EA:2824:C:C4	1:EA:2825:G:C5	3.04	0.45
2:EB:109:A:H2'	2:EB:110:C:C6	2.51	0.45
3:EC:16:VAL:HB	3:EC:203:VAL:HB	1.98	0.45
6:EF:107:VAL:HG12	6:EF:113:PHE:CE2	2.51	0.45
10:EJ:44:TYR:HD2	17:EQ:63:ARG:HG2	1.79	0.45
33:FA:918:A:H2'	33:FA:919:A:C8	2.51	0.45
33:FA:1021:A:H2'	33:FA:1022:A:H5'	1.98	0.45
33:FA:1376:U:H2'	33:FA:1377:A:C8	2.52	0.45
1:GA:27:G:C2	1:GA:512:G:N3	2.85	0.45
1:GA:326:G:N2	1:GA:336:C:O2	2.47	0.45
1:GA:783:A:H8	1:GA:784:G:H4'	1.80	0.45
1:GA:2246:G:H1'	1:GA:2426:A:C2	2.51	0.45
1:GA:2531:A:OP1	7:GG:174:LYS:CE	2.65	0.45
3:GC:104:LEU:HD23	3:GC:142:ASN:HB2	1.99	0.45
7:GG:53:PRO:HD3	7:GG:61:TRP:CE3	2.52	0.45
15:GO:3:LYS:HG3	15:GO:4:LYS:H	1.81	0.45
20:GT:29:THR:HA	20:GT:86:THR:HA	1.98	0.45
20:GT:55:VAL:O	20:GT:56:GLU:HB3	2.16	0.45
22:GV:2:PHE:HB2	22:GV:61:LEU:HG	1.99	0.45
23:GW:24:ARG:HD3	23:GW:65:LYS:HG2	1.98	0.45
33:HA:723:U:O2'	33:HA:724:G:P	2.74	0.45
35:HC:22:TRP:NE1	35:HC:36:ASP:OD2	2.47	0.45
36:HD:20:PHE:HB3	36:HD:23:SER:OG	2.16	0.45
43:HK:71:ALA:HB1	43:HK:75:LYS:HD2	1.98	0.45
45:HM:68:ASP:O	45:HM:71:ARG:HB2	2.17	0.45
54:HV:602:LYS:O	54:HV:603:GLU:HB3	2.17	0.45
1:AA:1714:U:H5'	1:AA:1715:G:H5'	1.99	0.45
1:AA:2023:C:OP1	59:AA:3658:HOH:O	2.21	0.45
1:AA:2287:A:C8	1:AA:2289:G:C8	3.04	0.45
7:AG:27:GLY:HA3	7:AG:78:VAL:HG13	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:30:TRP:CE2	16:AP:39:LEU:HD11	2.50	0.45
17:AQ:91:ARG:HH21	17:AQ:93:ILE:HD13	1.82	0.45
18:AR:90:ARG:O	18:AR:91:GLN:HB3	2.16	0.45
33:BA:973:G:H2'	33:BA:974:A:OP1	2.17	0.45
33:BA:1239:A:H62	33:BA:1299:A:N6	2.14	0.45
38:BF:40:GLU:HB2	38:BF:42:TRP:HE1	1.81	0.45
42:BJ:35:GLN:HG2	42:BJ:77:VAL:CB	2.47	0.45
45:BM:29:ARG:NH2	45:BM:63:PHE:HB3	2.31	0.45
1:CA:489:G:C6	1:CA:491:G:C2	3.04	0.45
1:CA:570:G:H2'	1:CA:2030:A:N7	2.31	0.45
1:CA:765:C:H2'	1:CA:766:U:C6	2.51	0.45
1:CA:1165:A:H2'	1:CA:1166:G:H8	1.81	0.45
1:CA:1783:A:H5'	1:CA:2608:G:H4'	1.99	0.45
1:CA:2046:G:H1'	27:C0:18:HIS:CE1	2.51	0.45
1:CA:2071:A:C2	1:CA:2072:C:C2	3.04	0.45
1:CA:2286:G:P	28:C1:29:LYS:HE2	2.56	0.45
1:CA:2328:A:H2'	1:CA:2329:U:C6	2.52	0.45
1:CA:2457:U:C4	1:CA:2458:G:C6	3.04	0.45
1:CA:2834:G:O6	1:CA:2879:A:H2'	2.16	0.45
1:CA:2846:G:H2'	1:CA:2847:U:O4'	2.17	0.45
3:CC:109:LEU:CG	3:CC:110:LYS:H	2.29	0.45
5:CE:134:LEU:CD2	5:CE:161:ALA:HB2	2.47	0.45
6:CF:107:VAL:HG11	6:CF:116:LEU:HD21	1.99	0.45
16:CP:96:LEU:HB3	16:CP:99:LEU:CD2	2.46	0.45
19:CS:13:SER:O	19:CS:14:ALA:CB	2.64	0.45
31:C4:2:LYS:HD3	31:C4:4:ARG:NH2	2.31	0.45
33:DA:202:G:O2'	33:DA:468:A:C8	2.70	0.45
33:DA:979:C:H1'	33:DA:1317:C:N4	2.32	0.45
33:DA:1004:A:H2'	33:DA:1005:A:O4'	2.15	0.45
48:DP:36:VAL:HG11	48:DP:57:ILE:HG12	1.98	0.45
53:DU:10:GLU:O	53:DU:12:PHE:N	2.47	0.45
1:EA:181:A:C2	1:EA:182:A:C4	3.04	0.45
1:EA:1279:G:H4'	14:EN:31:HIS:CD2	2.52	0.45
4:ED:148:GLN:OE1	4:ED:152:PRO:HG2	2.16	0.45
13:EM:31:PHE:CE1	13:EM:110:GLU:HG3	2.50	0.45
17:EQ:91:ARG:NH2	17:EQ:93:ILE:HG21	2.29	0.45
33:FA:643:C:H5'	40:FH:32:LEU:HD13	1.98	0.45
33:FA:736:C:H2'	33:FA:737:C:C6	2.52	0.45
38:FF:45:ARG:O	38:FF:56:LYS:HA	2.16	0.45
38:FF:66:ALA:HB1	38:FF:67:PRO:HD2	1.98	0.45
50:FR:63:ARG:HB3	50:FR:70:TYR:CE1	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:FS:56:GLN:CD	51:FS:57:HIS:H	2.20	0.45
54:FV:96:THR:HG22	54:FV:129:GLN:HE22	1.81	0.45
54:FV:317:PHE:HA	54:FV:341:GLY:HA3	1.99	0.45
1:GA:24:G:H1'	19:GS:77:ASP:HB3	1.99	0.45
1:GA:646:U:C4	1:GA:2368:C:H1'	2.52	0.45
1:GA:1032:A:H1'	31:G4:23:ILE:HD13	1.97	0.45
3:GC:232:GLY:HA2	59:GC:402:HOH:O	2.16	0.45
5:GE:150:THR:HG21	5:GE:153:LEU:HA	1.98	0.45
7:GG:162:ARG:NH1	7:GG:168:VAL:HG21	2.31	0.45
11:GK:69:VAL:HG21	11:GK:106:GLU:CD	2.36	0.45
14:GN:8:ARG:HB3	14:GN:10:LEU:HD22	1.98	0.45
14:GN:33:ILE:HD11	14:GN:112:TYR:CD1	2.51	0.45
28:G1:8:ILE:HG21	28:G1:51:ALA:HA	1.98	0.45
30:G3:49:VAL:HG23	30:G3:54:LEU:HD13	1.99	0.45
33:HA:72:A:H2'	33:HA:73:C:C5'	2.46	0.45
33:HA:1014:A:N7	33:HA:1015:G:C6	2.84	0.45
36:HD:107:PHE:CE2	36:HD:145:ILE:HG13	2.51	0.45
36:HD:124:MET:CE	36:HD:146:ARG:HG2	2.46	0.45
38:HF:64:VAL:HG12	38:HF:65:GLU:N	2.32	0.45
54:HV:105:VAL:HG23	54:HV:106:LEU:N	2.32	0.45
1:AA:705:A:C6	1:AA:706:A:C5	3.05	0.45
1:AA:2297:A:C2	1:AA:2321:U:H5	2.35	0.45
6:AF:49:LEU:HD12	6:AF:52:ALA:HB3	1.97	0.45
13:AM:13:HIS:O	13:AM:14:LYS:CB	2.64	0.45
15:AO:115:LEU:HD12	15:AO:116:GLN:H	1.81	0.45
33:BA:64:G:C8	33:BA:99:C:N4	2.84	0.45
33:BA:76:G:H2'	33:BA:76:G:N3	2.32	0.45
33:BA:722:G:O3'	33:BA:723:U:H2'	2.17	0.45
33:BA:993:G:H2'	33:BA:995:C:H41	1.82	0.45
33:BA:1058:G:H2'	33:BA:1059:C:O4'	2.16	0.45
33:BA:1346:A:N1	33:BA:1374:A:H5''	2.31	0.45
36:BD:25:VAL:HG23	36:BD:26:ARG:H	1.81	0.45
37:BE:38:VAL:HG21	37:BE:114:VAL:HG23	1.98	0.45
37:BE:38:VAL:HG11	37:BE:114:VAL:HA	1.98	0.45
37:BE:76:LEU:N	37:BE:76:LEU:HD12	2.31	0.45
38:BF:4:TYR:HB3	38:BF:89:VAL:HG23	1.99	0.45
38:BF:12:PRO:HA	38:BF:44:ARG:HD3	1.99	0.45
43:BK:34:ILE:HG13	43:BK:70:CYS:SG	2.57	0.45
45:BM:56:LEU:O	45:BM:60:VAL:HG12	2.17	0.45
48:BP:46:LYS:HG3	48:BP:47:GLU:H	1.81	0.45
1:CA:334:C:OP1	1:CA:336:C:N4	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1176:U:H2'	1:CA:1177:G:C8	2.51	0.45
1:CA:2744:G:C2	1:CA:2761:A:C4	3.05	0.45
3:CC:145:MET:SD	3:CC:153:LEU:HD11	2.56	0.45
4:CD:110:THR:HG23	4:CD:171:THR:HG22	1.98	0.45
5:CE:149:ILE:HG23	5:CE:188:MET:HA	1.98	0.45
11:CK:15:GLY:O	11:CK:46:ALA:HA	2.16	0.45
13:CM:50:ARG:CD	13:CM:65:ILE:HD11	2.47	0.45
20:CT:29:THR:CB	20:CT:86:THR:HA	2.47	0.45
20:CT:61:LEU:C	20:CT:61:LEU:HD12	2.36	0.45
33:DA:16:A:N1	33:DA:919:A:H2	2.14	0.45
33:DA:57:G:C6	33:DA:58:C:N3	2.84	0.45
33:DA:209:U:H5'	33:DA:210:C:O5'	2.15	0.45
33:DA:276:G:C6	33:DA:277:C:C5	3.04	0.45
33:DA:298:A:H2'	33:DA:299:G:C8	2.51	0.45
33:DA:1311:A:C6	33:DA:1312:G:N7	2.85	0.45
34:DB:53:LEU:HD23	34:DB:53:LEU:N	2.31	0.45
37:DE:81:LEU:HD11	37:DE:144:LEU:HD22	1.97	0.45
38:DF:23:GLU:O	38:DF:27:ALA:N	2.47	0.45
38:DF:98:GLU:HG3	38:DF:99:ALA:N	2.32	0.45
41:DI:47:VAL:CG2	41:DI:76:ALA:HB1	2.46	0.45
43:DK:126:LYS:C	53:DU:34:ARG:HH12	2.19	0.45
51:DS:49:ILE:CD1	51:DS:71:LEU:HD22	2.46	0.45
54:DV:492:GLU:OE1	54:DV:567:ALA:N	2.44	0.45
1:EA:995:C:H42	10:EJ:2:LYS:HB2	1.80	0.45
1:EA:1083:U:C6	1:EA:1085:A:OP2	2.70	0.45
1:EA:1353:A:C8	1:EA:1378:A:N6	2.84	0.45
1:EA:1439:A:C2	1:EA:1553:A:C4	3.03	0.45
1:EA:1770:G:C6	1:EA:1983:G:C6	3.04	0.45
1:EA:1773:A:N7	1:EA:1829:A:H1'	2.32	0.45
2:EB:38:C:O4'	15:EO:100:HIS:NE2	2.50	0.45
6:EF:151:LEU:HD12	6:EF:152:ASP:N	2.31	0.45
9:EI:19:PRO:HD2	9:EI:23:VAL:CG2	2.47	0.45
12:EL:95:LEU:HB2	12:EL:101:ILE:HD12	1.99	0.45
14:EN:103:ARG:HB2	14:EN:110:MET:HE2	1.97	0.45
21:EU:53:GLN:HG2	21:EU:54:PRO:HD3	1.98	0.45
26:EZ:24:LEU:O	26:EZ:27:GLY:N	2.47	0.45
32:E5:4:ASN:O	32:E5:5:LEU:C	2.54	0.45
32:E5:93:ALA:HA	32:E5:130:PRO:CG	2.45	0.45
33:FA:202:G:HO2'	33:FA:468:A:H8	1.64	0.45
36:FD:10:LYS:NZ	36:FD:38:PRO:O	2.47	0.45
38:FF:21:MET:HB3	38:FF:25:TYR:CE2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:FT:51:PHE:CD1	52:FT:51:PHE:C	2.90	0.45
54:FV:113:TYR:O	54:FV:141:VAL:HA	2.17	0.45
1:GA:273:G:N2	1:GA:365:U:C2	2.84	0.45
1:GA:374:A:H2'	1:GA:375:G:O4'	2.17	0.45
1:GA:855:G:C2	23:GW:23:LYS:HD2	2.51	0.45
1:GA:2017:U:H5''	1:GA:2018:G:P	2.56	0.45
1:GA:2661:G:H5'	54:HV:19:ILE:HG13	1.99	0.45
5:GE:23:PHE:CG	5:GE:111:GLU:HG3	2.52	0.45
6:GF:134:GLN:HG3	6:GF:140:ILE:CD1	2.45	0.45
6:GF:147:ARG:HG3	6:GF:148:VAL:N	2.31	0.45
19:GS:19:LEU:HB3	27:G0:21:LEU:HG	1.99	0.45
23:GW:28:GLU:OE2	23:GW:29:SER:OG	2.31	0.45
33:HA:64:G:OP1	33:HA:382:A:N6	2.50	0.45
33:HA:375:U:C4	33:HA:376:G:N7	2.85	0.45
33:HA:436:C:O2'	36:HD:154:ARG:HG3	2.17	0.45
33:HA:532:A:N7	35:HC:192:THR:OG1	2.34	0.45
33:HA:575:G:C6	33:HA:821:G:N7	2.85	0.45
1:AA:141:G:C5	20:AT:2:ILE:HD11	2.51	0.45
1:AA:1005:C:H1'	1:AA:1012:U:C4	2.52	0.45
1:AA:1060:U:H4'	1:AA:1061:U:H5''	1.97	0.45
1:AA:1340:U:H4'	1:AA:1341:G:OP2	2.17	0.45
1:AA:1724:G:H2'	1:AA:1725:U:C6	2.51	0.45
1:AA:2051:A:H2'	1:AA:2578:G:OP1	2.17	0.45
6:AF:19:PHE:HB2	6:AF:21:TYR:CE1	2.51	0.45
8:AH:28:ASN:C	8:AH:32:PRO:HG2	2.37	0.45
13:AM:8:LYS:HE3	13:AM:9:PHE:CE2	2.52	0.45
34:BB:27:LYS:N	34:BB:28:PRO:CD	2.80	0.45
37:BE:106:ILE:HD11	37:BE:124:LEU:HD22	1.99	0.45
38:BF:10:VAL:HB	38:BF:58:HIS:HB3	1.97	0.45
38:BF:67:PRO:HB2	38:BF:69:GLU:HG2	1.99	0.45
46:BN:53:ARG:NH2	51:BS:37:ARG:HH21	2.15	0.45
48:BP:48:GLU:HG3	48:BP:49:GLY:H	1.80	0.45
54:BV:468:ILE:HA	54:BV:471:ASP:HB3	1.99	0.45
54:BV:532:LYS:HD3	54:BV:534:TYR:H	1.81	0.45
1:CA:137:U:O2'	1:CA:138:U:OP2	2.33	0.45
1:CA:1232:G:C6	1:CA:1233:C:C4	3.05	0.45
1:CA:2109:U:H4'	1:CA:2180:U:H1'	1.99	0.45
1:CA:2293:G:OP1	15:CO:94:ARG:NH2	2.50	0.45
2:CB:118:C:H2'	2:CB:119:A:H8	1.82	0.45
4:CD:45:TYR:N	4:CD:45:TYR:CD1	2.84	0.45
16:CP:13:LYS:NZ	16:CP:80:VAL:HB	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CQ:63:ARG:HH22	17:CQ:95:ALA:C	2.20	0.45
20:CT:7:LEU:O	20:CT:10:VAL:HG13	2.16	0.45
22:CV:80:HIS:HD2	22:CV:83:LYS:N	2.14	0.45
33:DA:18:C:H1'	33:DA:1079:G:H21	1.81	0.45
33:DA:83:C:H2'	33:DA:84:U:C6	2.51	0.45
33:DA:513:C:H2'	33:DA:514:C:C6	2.52	0.45
33:DA:1151:A:C2	33:DA:1152:A:C5	3.04	0.45
34:DB:207:ARG:HG3	34:DB:208:ALA:H	1.80	0.45
36:DD:24:GLY:O	36:DD:26:ARG:N	2.49	0.45
48:DP:4:ILE:HD12	48:DP:4:ILE:N	2.32	0.45
48:DP:46:LYS:HE2	48:DP:48:GLU:H	1.82	0.45
49:DQ:47:HIS:HB2	49:DQ:71:LYS:HE2	1.97	0.45
53:DU:37:PHE:HA	53:DU:40:LYS:HE2	1.99	0.45
1:EA:340:A:H2'	1:EA:341:C:H5'	1.98	0.45
1:EA:558:U:O3'	10:EJ:111:LYS:HE3	2.17	0.45
1:EA:1637:A:H5'	1:EA:1760:C:O2'	2.16	0.45
1:EA:1712:U:H3	1:EA:1746:A:H61	1.63	0.45
1:EA:1784:A:H4'	1:EA:1785:A:O5'	2.17	0.45
6:EF:33:ILE:HG13	6:EF:95:MET:SD	2.57	0.45
33:FA:658:C:O4'	47:FO:22:THR:OG1	2.34	0.45
33:FA:844:G:H2'	33:FA:845:A:H5''	1.97	0.45
33:FA:1178:G:OP1	41:FI:95:ARG:NH2	2.50	0.45
33:FA:1356:G:H2'	33:FA:1357:A:C8	2.51	0.45
36:FD:151:LYS:HA	36:FD:155:VAL:CG1	2.46	0.45
38:FF:81:ASN:OD1	38:FF:83:ALA:N	2.43	0.45
54:FV:53:MET:HB2	54:FV:56:GLU:CG	2.46	0.45
54:FV:155:VAL:HG22	54:FV:264:VAL:HG11	1.99	0.45
1:GA:27:G:C4	1:GA:512:G:N2	2.85	0.45
1:GA:38:A:C2	1:GA:39:G:C4	3.05	0.45
1:GA:65:U:H2'	1:GA:66:C:C6	2.52	0.45
1:GA:477:A:N6	1:GA:500:G:O2'	2.49	0.45
1:GA:833:A:C6	1:GA:834:G:C6	3.05	0.45
1:GA:979:A:H2'	1:GA:982:C:H42	1.82	0.45
1:GA:1072:C:N4	1:GA:1094:U:C2	2.85	0.45
1:GA:1665:A:OP2	59:GA:3424:HOH:O	2.21	0.45
1:GA:1683:U:H2'	1:GA:1684:G:C8	2.51	0.45
4:GD:33:ARG:NH2	4:GD:51:THR:HG23	2.32	0.45
6:GF:141:ASP:O	6:GF:145:VAL:HG13	2.16	0.45
7:GG:35:THR:HG22	7:GG:36:LEU:N	2.32	0.45
9:GI:17:ALA:HB3	9:GI:42:ASN:HD21	1.82	0.45
10:GJ:38:GLY:O	10:GJ:43:GLU:HB2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:GW:8:SER:O	23:GW:9:THR:HG22	2.17	0.45
23:GW:21:GLY:HA2	23:GW:25:PHE:CE2	2.52	0.45
33:HA:105:G:H2'	33:HA:106:C:C6	2.52	0.45
33:HA:449:G:N1	33:HA:450:G:C6	2.85	0.45
33:HA:560:A:H5'	33:HA:566:G:N2	2.31	0.45
35:HC:155:GLY:O	35:HC:156:ARG:HB2	2.17	0.45
39:HG:54:SER:C	39:HG:56:LYS:H	2.19	0.45
39:HG:111:ARG:HD2	39:HG:119:ARG:HA	1.98	0.45
39:HG:147:ALA:HB1	43:HK:61:PHE:CE1	2.51	0.45
41:HI:26:GLY:N	41:HI:59:GLU:O	2.50	0.45
41:HI:57:MET:CE	41:HI:58:VAL:H	2.29	0.45
48:HP:23:ASP:OD2	48:HP:25:ARG:NE	2.47	0.45
1:AA:236:C:H2'	1:AA:237:C:C6	2.52	0.45
1:AA:729:G:H2'	1:AA:1775:U:H1'	1.99	0.45
1:AA:1021:A:C6	1:AA:1023:U:C5	3.05	0.45
1:AA:1233:C:C4	1:AA:1234:U:C5	3.05	0.45
2:AB:21:G:N7	59:AB:1305:HOH:O	2.36	0.45
6:AF:55:ASP:O	6:AF:59:ILE:HG12	2.17	0.45
9:AI:28:GLY:C	9:AI:32:VAL:HB	2.37	0.45
14:AN:98:LEU:HB3	27:A0:42:ILE:CD1	2.47	0.45
30:A3:41:ARG:HG3	30:A3:44:ARG:NH2	2.32	0.45
33:BA:740:U:H4'	47:BO:39:LEU:CD1	2.47	0.45
33:BA:771:G:C6	33:BA:809:G:N1	2.85	0.45
33:BA:1085:U:O4'	33:BA:1094:G:C6	2.69	0.45
43:BK:31:ILE:HB	43:BK:46:THR:CG2	2.47	0.45
47:BO:52:SER:O	47:BO:55:GLY:N	2.49	0.45
49:BQ:27:ARG:HG3	49:BQ:40:ARG:HB2	1.99	0.45
54:BV:85:ASN:HD22	54:BV:382:ILE:HG13	1.82	0.45
54:BV:660:LEU:O	54:BV:662:GLU:N	2.46	0.45
1:CA:995:C:H42	10:CJ:2:LYS:HB2	1.82	0.45
1:CA:996:A:C6	1:CA:1160:G:C2	3.04	0.45
1:CA:1913:A:N7	33:DA:1494:G:C5'	2.79	0.45
1:CA:2199:A:C8	1:CA:2200:C:C5	3.05	0.45
1:CA:2700:A:N6	59:CA:3674:HOH:O	2.50	0.45
1:CA:2707:U:C4	59:CA:3674:HOH:O	2.65	0.45
7:CG:145:ALA:O	7:CG:149:ALA:N	2.45	0.45
13:CM:70:ASP:C	13:CM:70:ASP:OD1	2.55	0.45
14:CN:78:LYS:HG2	14:CN:83:LEU:CD1	2.46	0.45
15:CO:66:GLY:HA2	15:CO:102:ARG:NH1	2.31	0.45
16:CP:17:PRO:HD2	16:CP:83:ILE:HD13	1.99	0.45
18:CR:53:PHE:CD1	18:CR:53:PHE:N	2.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:C1:24:LYS:HZ3	28:C1:51:ALA:HB1	1.82	0.45
33:DA:323:U:H4'	52:DT:17:ALA:HB3	1.99	0.45
33:DA:399:G:C2	33:DA:400:C:C2	3.05	0.45
33:DA:1084:G:P	33:DA:1086:U:C5	3.10	0.45
35:DC:3:GLN:OE1	35:DC:3:GLN:N	2.49	0.45
36:DD:65:TYR:O	36:DD:115:ARG:NH2	2.50	0.45
50:DR:33:ILE:HA	50:DR:40:VAL:HG23	1.99	0.45
1:EA:58:G:N2	1:EA:70:G:C4	2.85	0.45
1:EA:102:U:N3	25:EY:2:LYS:HB2	2.32	0.45
1:EA:714:U:H5'	1:EA:715:A:OP2	2.16	0.45
1:EA:855:G:H1'	23:EW:23:LYS:HE3	1.98	0.45
1:EA:1019:U:H3	1:EA:1142:A:H62	1.65	0.45
1:EA:2639:A:C2	1:EA:2778:A:C8	3.04	0.45
1:EA:2682:A:C8	4:ED:11:MET:HG2	2.51	0.45
2:EB:106:G:H2'	2:EB:107:G:O4'	2.17	0.45
5:EE:42:GLY:O	5:EE:43:THR:OG1	2.35	0.45
7:EG:163:TYR:O	7:EG:164:ALA:HB3	2.17	0.45
14:EN:1:MET:O	14:EN:2:ARG:CB	2.64	0.45
16:EP:49:ILE:CG2	16:EP:50:ARG:N	2.79	0.45
20:ET:32:LEU:N	20:ET:83:ALA:HB3	2.31	0.45
38:FF:86:ARG:HH21	50:FR:64:TYR:HB3	1.82	0.45
40:FH:89:LYS:HG3	40:FH:90:ASP:N	2.31	0.45
41:FI:6:TYR:CG	41:FI:89:GLU:CB	3.00	0.45
43:FK:17:SER:O	43:FK:80:LYS:N	2.48	0.45
53:FU:10:GLU:CG	53:FU:11:PRO:HD3	2.47	0.45
53:FU:40:LYS:N	53:FU:41:PRO:HD2	2.32	0.45
54:FV:427:ASP:HB3	54:FV:479:VAL:HG13	1.99	0.45
54:FV:430:LYS:HG2	54:FV:479:VAL:CG2	2.47	0.45
1:GA:64:A:H2'	1:GA:65:U:C6	2.50	0.45
1:GA:832:U:H2'	1:GA:833:A:C8	2.52	0.45
1:GA:1421:G:C2	1:GA:1422:G:C8	3.05	0.45
1:GA:1555:G:C2	1:GA:1556:C:C6	3.05	0.45
1:GA:1936:A:C2	1:GA:1945:G:C4	3.05	0.45
1:GA:2526:G:C5	1:GA:2527:C:C5	3.05	0.45
10:GJ:114:LEU:O	10:GJ:117:ALA:N	2.50	0.45
17:GQ:60:TRP:CE2	17:GQ:93:ILE:HB	2.52	0.45
20:GT:4:GLU:O	20:GT:8:LEU:HD23	2.17	0.45
20:GT:55:VAL:O	20:GT:56:GLU:CB	2.64	0.45
33:HA:42:G:N2	33:HA:401:C:C2	2.84	0.45
33:HA:204:G:H3'	33:HA:205:A:C5'	2.47	0.45
33:HA:913:A:H4'	33:HA:914:A:O5'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:1237:C:H1'	33:HA:1334:G:O2'	2.16	0.45
34:HB:72:LYS:NZ	34:HB:204:ASP:HB3	2.32	0.45
34:HB:140:LEU:O	34:HB:143:LEU:N	2.49	0.45
34:HB:209:VAL:HG23	34:HB:210:THR:N	2.31	0.45
42:HJ:48:ARG:NH1	42:HJ:66:GLU:OE1	2.50	0.45
43:HK:43:GLY:HA3	43:HK:74:VAL:HG11	1.99	0.45
43:HK:75:LYS:HE2	43:HK:79:ILE:O	2.16	0.45
54:HV:104:ARG:NH2	54:HV:408:ARG:H	2.15	0.45
1:AA:45:G:H5''	1:AA:46:G:OP1	2.17	0.45
1:AA:422:A:C6	1:AA:423:A:C5	3.05	0.45
1:AA:1847:A:H2'	1:AA:1847:A:N3	2.32	0.45
1:AA:1857:G:O2'	1:AA:1858:A:P	2.74	0.45
1:AA:2246:G:H2'	1:AA:2247:A:C8	2.51	0.45
1:AA:2455:G:H2'	1:AA:2456:C:C6	2.52	0.45
3:AC:93:VAL:HG12	3:AC:101:ARG:H	1.81	0.45
5:AE:170:ARG:NH2	5:AE:179:SER:OG	2.50	0.45
6:AF:74:ALA:O	6:AF:77:LYS:N	2.48	0.45
8:AH:2:GLN:C	8:AH:3:VAL:HG13	2.37	0.45
10:AJ:77:HIS:HD2	10:AJ:78:THR:N	2.15	0.45
14:AN:33:ILE:HD11	27:A0:54:ILE:CD1	2.47	0.45
16:AP:33:GLU:OE1	16:AP:38:ARG:NH2	2.46	0.45
18:AR:74:ILE:N	18:AR:74:ILE:HD12	2.31	0.45
21:AU:81:ARG:O	21:AU:96:LYS:HG2	2.16	0.45
28:A1:8:ILE:HD11	28:A1:50:GLU:HG3	1.98	0.45
32:A5:91:ALA:C	32:A5:93:ALA:N	2.70	0.45
33:BA:367:U:C6	33:BA:394:G:N2	2.85	0.45
33:BA:892:A:C6	33:BA:893:C:C4	3.05	0.45
33:BA:1097:C:H2'	33:BA:1098:C:O4'	2.17	0.45
33:BA:1331:G:O2'	33:BA:1332:A:O5'	2.34	0.45
34:BB:41:ASN:ND2	34:BB:44:LYS:HB2	2.32	0.45
36:BD:64:ILE:HG22	36:BD:65:TYR:HD1	1.82	0.45
36:BD:125:VAL:O	36:BD:127:GLY:N	2.44	0.45
41:BI:63:LEU:HD13	41:BI:63:LEU:N	2.32	0.45
43:BK:107:ILE:HG23	43:BK:107:ILE:O	2.17	0.45
44:BL:73:ASN:O	44:BL:74:LEU:HB2	2.17	0.45
45:BM:6:GLY:HA3	45:BM:66:GLU:HG3	1.98	0.45
48:BP:10:GLY:HA3	48:BP:15:PRO:HA	1.98	0.45
48:BP:36:VAL:O	48:BP:36:VAL:HG12	2.16	0.45
51:BS:49:ILE:HD11	51:BS:71:LEU:HD22	1.99	0.45
53:BU:40:LYS:N	53:BU:41:PRO:CD	2.80	0.45
1:CA:2105:U:H2'	1:CA:2106:U:H5''	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2326:C:H4'	1:CA:2327:A:OP1	2.17	0.45
2:CB:104:A:H2'	2:CB:105:G:O4'	2.17	0.45
3:CC:116:GLN:NE2	3:CC:120:ASP:OD1	2.48	0.45
6:CF:172:PHE:O	6:CF:174:PHE:N	2.50	0.45
10:CJ:72:LYS:HD2	10:CJ:74:TYR:CZ	2.52	0.45
17:CQ:97:ILE:HD12	17:CQ:101:ASP:O	2.17	0.45
19:CS:33:LEU:HD12	19:CS:48:LYS:HE3	1.99	0.45
33:DA:60:A:C3'	52:DT:5:LYS:HD2	2.47	0.45
33:DA:1306:A:N6	33:DA:1331:G:H1'	2.32	0.45
34:DB:49:PHE:CD1	34:DB:49:PHE:C	2.89	0.45
34:DB:70:GLY:HA2	34:DB:163:ILE:CG2	2.47	0.45
46:DN:45:VAL:HG23	46:DN:46:LEU:H	1.82	0.45
53:DU:37:PHE:CD1	53:DU:40:LYS:HE2	2.51	0.45
1:EA:443:A:C5	5:EE:40:ARG:HD3	2.52	0.45
1:EA:1050:A:C4	1:EA:2751:G:C2	3.05	0.45
1:EA:1174:U:H5'	1:EA:1175:A:OP2	2.16	0.45
1:EA:1206:G:C6	1:EA:1207:C:C4	3.04	0.45
1:EA:2246:G:H2'	1:EA:2247:A:C8	2.52	0.45
3:EC:203:VAL:O	3:EC:205:GLY:N	2.49	0.45
13:EM:20:LEU:HD22	13:EM:20:LEU:N	2.31	0.45
13:EM:41:LEU:HD21	13:EM:126:ILE:HD11	1.98	0.45
14:EN:8:ARG:HB3	14:EN:10:LEU:HD22	1.99	0.45
14:EN:98:LEU:HD22	27:E0:42:ILE:HD11	1.99	0.45
21:EU:98:ASN:ND2	21:EU:100:GLU:OE1	2.50	0.45
22:EV:51:GLN:HA	22:EV:56:PHE:CG	2.52	0.45
24:EX:44:ARG:HG2	24:EX:45:PHE:N	2.32	0.45
32:E5:4:ASN:O	32:E5:7:ASP:N	2.49	0.45
32:E5:117:LEU:CD2	32:E5:120:ALA:C	2.85	0.45
33:FA:686:U:O2'	33:FA:687:A:OP2	2.23	0.45
33:FA:1218:C:H2'	33:FA:1219:A:C8	2.51	0.45
34:FB:27:LYS:N	34:FB:28:PRO:CD	2.80	0.45
37:FE:39:VAL:HG22	37:FE:67:ALA:HB1	1.99	0.45
37:FE:80:THR:CB	37:FE:122:ASN:OD1	2.64	0.45
54:FV:414:PRO:HA	54:FV:461:MET:SD	2.57	0.45
54:FV:638:ARG:NH2	54:FV:669:GLN:OE1	2.50	0.45
1:GA:1252:G:C4	1:GA:1253:A:C2	3.05	0.45
1:GA:2839:G:C5	1:GA:2840:C:C5	3.04	0.45
2:GB:82:U:N3	2:GB:83:G:N7	2.64	0.45
5:GE:117:ARG:NH2	5:GE:183:PHE:O	2.47	0.45
5:GE:176:ASP:OD1	5:GE:178:VAL:N	2.50	0.45
6:GF:58:ALA:HB3	6:GF:139:GLU:HG2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:GF:58:ALA:HB3	6:GF:139:GLU:CG	2.47	0.45
10:GJ:64:VAL:CG2	10:GJ:68:LYS:HB2	2.46	0.45
11:GK:108:ARG:HD2	11:GK:116:ILE:CD1	2.47	0.45
14:GN:46:ARG:O	14:GN:50:PRO:HG2	2.17	0.45
20:GT:69:ARG:HG3	20:GT:70:HIS:ND1	2.32	0.45
21:GU:73:ASN:HA	21:GU:95:PHE:CE2	2.52	0.45
33:HA:1002:G:N2	33:HA:1003:G:N3	2.64	0.45
33:HA:1331:G:O2'	33:HA:1332:A:P	2.74	0.45
35:HC:20:SER:OG	35:HC:40:ARG:NH2	2.49	0.45
37:HE:39:VAL:HG22	37:HE:67:ALA:HB1	1.99	0.45
42:HJ:56:HIS:O	42:HJ:57:VAL:HG12	2.16	0.45
45:HM:29:ARG:NH2	45:HM:33:ILE:HD11	2.31	0.45
51:HS:34:TRP:CE2	51:HS:57:HIS:HE1	2.35	0.45
53:HU:19:PHE:O	53:HU:19:PHE:CD1	2.70	0.45
1:AA:1276:A:N7	1:AA:1645:G:C2	2.85	0.45
1:AA:1477:A:C2	1:AA:1515:A:C5	3.05	0.45
1:AA:1500:G:C4	1:AA:1501:G:C8	3.05	0.45
1:AA:1613:G:C2	1:AA:1619:G:C5	3.04	0.45
1:AA:1817:G:H2'	1:AA:1818:U:H5'	1.98	0.45
1:AA:2296:U:C2	1:AA:2333:A:C2	3.04	0.45
1:AA:2318:G:C5	1:AA:2319:G:C6	3.05	0.45
1:AA:2887:A:C5	1:AA:2888:C:C5	3.05	0.45
3:AC:259:ASN:O	3:AC:260:LYS:HB2	2.17	0.45
4:AD:70:LYS:NZ	7:EG:31:GLU:OE2	2.50	0.45
4:AD:121:THR:HB	4:AD:127:PHE:CD2	2.52	0.45
5:AE:147:LEU:HB3	5:AE:186:VAL:HG23	1.99	0.45
6:AF:12:VAL:HG22	6:AF:16:MET:HG3	1.98	0.45
6:AF:39:VAL:HG11	6:AF:42:ALA:HB2	1.98	0.45
6:AF:49:LEU:HD11	6:AF:86:CYS:CB	2.47	0.45
10:AJ:36:LEU:CD1	10:AJ:54:ILE:HG22	2.47	0.45
16:AP:49:ILE:HG22	16:AP:50:ARG:N	2.31	0.45
20:AT:50:LEU:H	20:AT:50:LEU:CD1	2.28	0.45
32:A5:51:TYR:CD1	32:A5:52:MET:HG2	2.52	0.45
33:BA:77:A:H2	33:BA:92:U:N3	2.15	0.45
34:BB:116:LEU:HD12	34:BB:140:LEU:HD11	1.99	0.45
36:BD:26:ARG:C	36:BD:26:ARG:HD3	2.36	0.45
54:BV:188:MET:HE1	54:BV:218:TRP:CD1	2.52	0.45
1:CA:42:A:C2'	1:CA:43:G:H5''	2.47	0.45
1:CA:479:A:H4'	1:CA:480:A:OP1	2.17	0.45
1:CA:1078:U:H5''	1:CA:1079:C:OP1	2.16	0.45
1:CA:2591:C:H2'	1:CA:2592:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2704:C:N4	1:CA:2705:A:C6	2.85	0.45
6:CF:152:ASP:OD1	6:CF:152:ASP:N	2.50	0.45
17:CQ:84:LYS:O	17:CQ:86:SER:N	2.50	0.45
23:CW:45:HIS:HB2	23:CW:50:VAL:HG13	1.99	0.45
33:DA:72:A:H2'	33:DA:73:C:C5'	2.47	0.45
33:DA:1228:C:P	45:DM:107:ARG:HH22	2.39	0.45
33:DA:1305:G:N2	33:DA:1331:G:O2'	2.50	0.45
39:DG:113:ASP:HB2	39:DG:119:ARG:HG3	1.98	0.45
49:DQ:77:ARG:NH2	49:DQ:79:VAL:HG22	2.32	0.45
1:EA:84:A:P	21:EU:5:ARG:HH21	2.39	0.45
1:EA:223:A:C5	1:EA:422:A:C8	3.05	0.45
1:EA:784:G:OP2	59:EA:3314:HOH:O	2.20	0.45
1:EA:1256:G:H2'	5:EE:77:ILE:HD11	1.99	0.45
1:EA:2849:U:N3	1:EA:2867:G:O4'	2.48	0.45
17:EQ:57:ARG:HA	17:EQ:60:TRP:CE3	2.52	0.45
19:ES:45:VAL:HG22	19:ES:46:LEU:HD23	1.97	0.45
22:EV:55:GLU:OE1	22:EV:55:GLU:N	2.39	0.45
33:FA:690:G:H2'	33:FA:691:G:O4'	2.17	0.45
33:FA:1166:G:N2	33:FA:1171:A:N6	2.64	0.45
34:FB:32:GLY:HA2	34:FB:39:ILE:HB	1.99	0.45
34:FB:125:PHE:CG	34:FB:125:PHE:O	2.70	0.45
51:FS:3:ARG:HH12	51:FS:68:GLY:HA3	1.81	0.45
52:FT:62:ALA:HB1	52:FT:69:LYS:H	1.81	0.45
53:FU:51:SER:O	53:FU:53:VAL:N	2.43	0.45
54:FV:557:ILE:HG21	54:FV:576:ILE:HD12	1.98	0.45
1:GA:277:G:H1'	1:GA:361:G:N1	2.31	0.45
1:GA:350:G:H2'	1:GA:351:C:O4'	2.16	0.45
1:GA:792:A:N3	1:GA:2072:C:O2'	2.45	0.45
1:GA:996:A:C5	1:GA:1160:G:C2	3.05	0.45
4:GD:124:ARG:CD	4:GD:125:TRP:CE2	3.00	0.45
9:GI:33:ASN:HB2	9:GI:60:VAL:HG11	1.99	0.45
22:GV:75:GLN:HB2	22:GV:92:VAL:HG22	1.99	0.45
28:G1:8:ILE:HG23	28:G1:52:LYS:HB2	1.98	0.45
28:G1:39:ASP:OD1	28:G1:41:VAL:HG22	2.17	0.45
33:HA:1087:G:H8	33:HA:1087:G:O5'	1.99	0.45
33:HA:1181:G:O2'	33:HA:1182:G:N7	2.50	0.45
33:HA:1277:C:O2'	33:HA:1279:G:H8	1.99	0.45
35:HC:118:ASP:O	35:HC:121:THR:HG22	2.17	0.45
39:HG:83:SER:HB2	39:HG:85:TYR:CE2	2.52	0.45
42:HJ:19:ASP:HA	42:HJ:22:THR:HG22	1.98	0.45
43:HK:35:THR:HG23	43:HK:36:ASP:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:HK:79:ILE:HG23	43:HK:81:ASN:O	2.17	0.45
43:HK:81:ASN:HB2	43:HK:106:ARG:O	2.17	0.45
43:HK:101:ASN:HA	43:HK:105:PHE:O	2.16	0.45
45:HM:2:ALA:CA	45:HM:53:ILE:HD13	2.47	0.45
49:HQ:55:ILE:C	49:HQ:55:ILE:HD12	2.37	0.45
1:AA:1019:U:H3	1:AA:1142:A:H62	1.65	0.45
1:AA:1183:U:H2'	1:AA:1184:U:C6	2.52	0.45
1:AA:1807:G:H2'	1:AA:1808:A:H5'	2.00	0.45
1:AA:2104:C:H2'	1:AA:2105:U:O4'	2.17	0.45
2:AB:5:U:O2'	2:AB:27:C:O2	2.32	0.45
4:AD:107:VAL:HA	4:AD:204:LYS:O	2.16	0.45
4:AD:107:VAL:O	4:AD:174:SER:O	2.35	0.45
9:AI:98:GLY:HA3	9:AI:137:LEU:CD1	2.46	0.45
13:AM:34:LYS:HE2	22:AV:81:PRO:O	2.17	0.45
20:AT:34:VAL:O	20:AT:34:VAL:HG23	2.17	0.45
20:AT:43:ILE:CD1	20:AT:58:VAL:HG21	2.47	0.45
33:BA:473:U:C2	33:BA:474:G:C8	3.05	0.45
33:BA:1010:U:H2'	33:BA:1011:C:C6	2.52	0.45
35:BC:134:MET:O	35:BC:138:VAL:HG23	2.16	0.45
41:BI:51:PRO:HB3	41:BI:84:THR:CG2	2.47	0.45
44:BL:25:GLU:CB	44:BL:27:CYS:SG	3.05	0.45
54:BV:298:ILE:HG23	54:BV:304:ASP:HA	1.99	0.45
1:CA:141:G:H5''	1:CA:142:A:C5	2.52	0.45
1:CA:547:A:H5''	1:CA:548:G:N7	2.31	0.45
1:CA:778:G:C6	1:CA:779:U:C4	3.05	0.45
1:CA:1027:A:C6	1:CA:1126:A:N3	2.85	0.45
1:CA:1060:U:H4'	1:CA:1061:U:H5''	1.98	0.45
1:CA:1271:G:O2'	1:CA:1618:A:OP1	2.31	0.45
1:CA:1870:C:H3'	1:CA:1871:A:C8	2.51	0.45
1:CA:1913:A:C2	54:DV:514:GLN:NE2	2.85	0.45
1:CA:2020:A:H5'	27:C0:8:THR:CG2	2.47	0.45
1:CA:2489:U:O2	1:CA:2491:U:C4	2.70	0.45
4:CD:186:LEU:HD21	16:CP:3:ILE:CG2	2.46	0.45
5:CE:118:LEU:HD23	5:CE:186:VAL:HG13	1.99	0.45
10:CJ:117:ALA:HA	10:CJ:120:ARG:HH21	1.82	0.45
11:CK:88:ASN:N	11:CK:95:ILE:CG2	2.80	0.45
11:CK:118:LEU:O	11:CK:119:ALA:HB3	2.17	0.45
33:DA:327:A:O2'	33:DA:328:C:O4'	2.26	0.45
33:DA:1239:A:C2	33:DA:1297:G:C2	3.05	0.45
33:DA:1319:A:OP1	51:DS:70:LYS:NZ	2.43	0.45
34:DB:79:VAL:O	34:DB:83:ALA:HB3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DD:37:ALA:H	36:DD:38:PRO:HD3	1.82	0.45
36:DD:98:LEU:N	36:DD:135:TYR:O	2.49	0.45
36:DD:124:MET:HB3	36:DD:129:VAL:HA	1.99	0.45
37:DE:74:VAL:HG12	37:DE:76:LEU:HD12	1.98	0.45
40:DH:47:GLU:HB3	40:DH:62:THR:OG1	2.17	0.45
41:DI:42:GLU:C	41:DI:44:ALA:H	2.19	0.45
46:DN:41:ARG:NH1	46:DN:45:VAL:HG21	2.32	0.45
48:DP:20:VAL:CG2	48:DP:32:PHE:HB2	2.47	0.45
54:DV:591:LEU:HD13	54:DV:591:LEU:C	2.37	0.45
1:EA:102:U:O4	25:EY:3:ALA:N	2.41	0.45
1:EA:118:A:H3'	1:EA:119:A:H5''	1.99	0.45
1:EA:1381:G:C2'	1:EA:1382:G:H5'	2.47	0.45
1:EA:1479:G:C2	1:EA:1480:C:C2	3.05	0.45
1:EA:1913:A:H1'	55:FW:4:SER:HA	1.99	0.45
1:EA:2052:A:OP1	4:ED:145:SER:HA	2.17	0.45
1:EA:2210:U:H4'	1:EA:2211:A:H5'	1.99	0.45
6:EF:33:ILE:HD12	6:EF:95:MET:HG3	1.99	0.45
7:EG:39:ALA:CB	7:EG:57:TYR:CD2	2.99	0.45
11:EK:10:VAL:HG21	11:EK:17:ARG:H	1.82	0.45
23:EW:50:VAL:HG12	23:EW:51:GLY:N	2.31	0.45
29:E2:31:LEU:HD22	29:E2:42:LEU:CD1	2.47	0.45
32:E5:23:LEU:HD11	32:E5:96:PHE:CE2	2.52	0.45
32:E5:87:GLU:OE2	32:E5:95:LEU:HD23	2.17	0.45
33:FA:374:A:H5''	33:FA:452:A:C2	2.52	0.45
33:FA:649:A:H2'	33:FA:650:G:O4'	2.17	0.45
33:FA:1125:U:C5	33:FA:1127:G:C5	3.05	0.45
40:FH:3:MET:CE	40:FH:6:PRO:HA	2.47	0.45
41:FI:120:LYS:O	41:FI:121:ALA:CB	2.65	0.45
45:FM:23:TYR:CD2	45:FM:69:LEU:HD23	2.52	0.45
46:FN:41:ARG:HG3	46:FN:42:TRP:CE3	2.52	0.45
46:FN:42:TRP:CD1	46:FN:45:VAL:HG13	2.52	0.45
53:FU:12:PHE:CZ	53:FU:16:LEU:CD1	3.00	0.45
53:FU:34:ARG:NH2	53:FU:35:ARG:HD2	2.32	0.45
1:GA:428:A:H2'	1:GA:429:A:C8	2.52	0.45
1:GA:828:U:H2'	1:GA:829:A:C8	2.52	0.45
1:GA:980:A:O3'	59:GA:3587:HOH:O	2.21	0.45
1:GA:2307:G:N2	1:GA:2311:A:H2'	2.32	0.45
1:GA:2599:G:N7	3:GC:234:GLY:O	2.50	0.45
1:GA:2679:A:O2'	1:GA:2680:U:H5'	2.16	0.45
6:GF:140:ILE:CG2	6:GF:145:VAL:HG12	2.46	0.45
10:GJ:44:TYR:O	10:GJ:44:TYR:HD1	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:GJ:58:ASN:N	10:GJ:127:GLY:O	2.44	0.45
12:GL:101:ILE:HG22	12:GL:102:GLY:N	2.31	0.45
12:GL:110:VAL:HB	12:GL:127:VAL:HG23	1.99	0.45
17:GQ:91:ARG:NE	17:GQ:93:ILE:CG2	2.79	0.45
18:GR:41:ILE:O	18:GR:46:GLU:HB2	2.17	0.45
22:GV:2:PHE:H	22:GV:61:LEU:HD12	1.82	0.45
23:GW:18:LYS:HE3	23:GW:19:ARG:CG	2.47	0.45
23:GW:19:ARG:CZ	23:GW:22:VAL:HB	2.47	0.45
33:HA:173:U:H6	33:HA:198:G:HO2'	1.64	0.45
33:HA:747:A:N6	33:HA:748:G:C6	2.85	0.45
33:HA:753:A:H4'	33:HA:754:C:O5'	2.17	0.45
33:HA:929:G:C6	33:HA:930:C:C4	3.05	0.45
33:HA:1070:U:H2'	33:HA:1071:C:C6	2.51	0.45
33:HA:1088:G:H21	33:HA:1167:A:N6	2.15	0.45
33:HA:1171:A:C2	33:HA:1172:C:C2	3.05	0.45
34:HB:57:ASN:HB2	34:HB:219:THR:CG2	2.46	0.45
46:HN:73:PHE:CZ	46:HN:78:GLY:HA2	2.52	0.45
54:HV:72:TRP:HB2	54:HV:84:ILE:HD11	2.00	0.45
1:AA:276:U:C2	1:AA:277:G:C2	3.05	0.44
1:AA:788:A:OP1	1:AA:791:C:N4	2.42	0.44
1:AA:1060:U:N3	1:AA:1088:A:H2	2.15	0.44
1:AA:1179:G:H2'	1:AA:1180:U:O4'	2.17	0.44
1:AA:1247:A:H1'	1:AA:1248:G:OP1	2.17	0.44
1:AA:1411:U:H2'	1:AA:1412:U:O4'	2.17	0.44
1:AA:2337:G:N2	1:AA:2338:C:C2	2.85	0.44
6:AF:12:VAL:HG22	6:AF:16:MET:SD	2.57	0.44
6:AF:64:PRO:HG3	6:AF:88:VAL:HG23	1.98	0.44
6:AF:90:LEU:HD11	6:AF:98:PHE:HB3	1.99	0.44
6:AF:110:ILE:HB	6:AF:113:PHE:HB2	1.99	0.44
7:AG:22:VAL:CG1	7:AG:34:ARG:HB3	2.47	0.44
9:AI:58:ILE:HG22	9:AI:59:THR:N	2.32	0.44
9:AI:75:ALA:HB2	9:AI:112:LYS:HE2	2.00	0.44
16:AP:33:GLU:CD	16:AP:38:ARG:HH22	2.21	0.44
16:AP:111:GLU:OE1	16:AP:111:GLU:N	2.50	0.44
22:AV:38:LEU:HD21	22:AV:65:VAL:HG21	1.98	0.44
23:AW:60:ALA:CB	23:AW:81:ILE:CD1	2.96	0.44
32:A5:27:VAL:HG23	32:A5:110:ALA:HA	1.99	0.44
33:BA:66:A:C2	33:BA:67:C:C6	3.04	0.44
33:BA:515:G:N7	59:BA:1848:HOH:O	2.36	0.44
33:BA:578:C:O2'	33:BA:728:A:N3	2.42	0.44
33:BA:705:G:C4	33:BA:706:A:C8	3.04	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:1060:U:C4	35:BC:2:GLY:N	2.85	0.44
34:BB:98:GLY:HA2	34:BB:101:THR:HG22	1.99	0.44
40:BH:106:THR:HG22	40:BH:107:SER:N	2.32	0.44
41:BI:20:PHE:O	41:BI:63:LEU:HA	2.17	0.44
44:BL:24:LEU:O	44:BL:26:ALA:N	2.50	0.44
50:BR:21:ILE:HD12	50:BR:22:ASP:N	2.32	0.44
54:BV:56:GLU:HB2	54:BV:61:ILE:O	2.17	0.44
1:CA:612:G:N2	59:CA:3288:HOH:O	2.50	0.44
1:CA:1105:U:H2'	1:CA:1106:G:C8	2.51	0.44
1:CA:1733:G:N7	1:CA:1734:G:C8	2.86	0.44
1:CA:2199:A:H3'	1:CA:2200:C:H6	1.82	0.44
3:CC:143:VAL:O	3:CC:151:GLY:HA2	2.17	0.44
7:CG:8:VAL:HG11	7:CG:49:LEU:HB2	1.99	0.44
8:CH:5:LEU:O	8:CH:6:LEU:HD12	2.17	0.44
9:CI:132:ALA:O	9:CI:137:LEU:HB2	2.17	0.44
10:CJ:118:MET:HA	10:CJ:121:LYS:HE2	1.99	0.44
15:CO:24:THR:HG22	15:CO:42:PRO:HD3	1.99	0.44
16:CP:33:GLU:OE1	33:DA:346:G:O4'	2.35	0.44
20:CT:35:ALA:HB3	20:CT:38:ALA:HB2	1.99	0.44
21:CU:73:ASN:HA	21:CU:95:PHE:HE2	1.82	0.44
33:DA:393:A:C2	33:DA:394:G:C8	3.05	0.44
33:DA:448:A:N6	33:DA:487:A:H1'	2.32	0.44
36:DD:170:TRP:CD2	36:DD:186:PRO:HB3	2.53	0.44
39:DG:125:SER:O	39:DG:128:ALA:N	2.48	0.44
52:DT:30:THR:HA	52:DT:33:LYS:HG3	1.99	0.44
1:EA:301:G:C6	1:EA:317:G:C6	3.05	0.44
1:EA:348:A:H2'	1:EA:349:U:O4'	2.16	0.44
1:EA:734:A:C5	1:EA:735:A:C8	3.05	0.44
1:EA:855:G:H21	23:EW:23:LYS:HG2	1.82	0.44
1:EA:1067:A:C8	54:FV:642:LEU:HB2	2.52	0.44
2:EB:16:G:C5	2:EB:69:G:C2	3.05	0.44
5:EE:112:LEU:HD13	5:EE:186:VAL:HG11	1.99	0.44
6:EF:24:VAL:O	6:EF:27:VAL:HG12	2.16	0.44
6:EF:107:VAL:N	6:EF:108:PRO:CD	2.80	0.44
9:EI:66:PHE:CE1	9:EI:68:PHE:HD2	2.36	0.44
18:ER:53:PHE:N	18:ER:53:PHE:CD1	2.84	0.44
21:EU:86:PHE:CE1	21:EU:101:THR:HG21	2.52	0.44
22:EV:43:ASP:C	22:EV:43:ASP:OD1	2.55	0.44
26:EZ:5:LYS:N	26:EZ:5:LYS:HD2	2.32	0.44
32:E5:2:ALA:HB3	32:E5:6:GLN:HB2	1.99	0.44
33:FA:60:A:O3'	52:FT:5:LYS:HE3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:FA:328:C:O2	33:FA:328:C:C2'	2.65	0.44
33:FA:502:A:H2'	33:FA:503:C:O4'	2.17	0.44
40:FH:59:LEU:HD21	40:FH:61:LEU:HD21	1.99	0.44
49:FQ:75:LEU:HD11	49:FQ:77:ARG:O	2.17	0.44
52:FT:5:LYS:O	52:FT:7:ALA:N	2.50	0.44
53:FU:19:PHE:O	53:FU:19:PHE:HD1	1.99	0.44
54:FV:5:THR:HG23	54:FV:6:PRO:HD3	1.99	0.44
54:FV:137:ARG:CG	54:FV:262:ILE:HG12	2.47	0.44
1:GA:397:U:H2'	1:GA:398:C:C6	2.51	0.44
1:GA:882:G:N2	1:GA:895:U:H1'	2.32	0.44
1:GA:1011:G:C4	1:GA:1151:A:C2	3.05	0.44
1:GA:1665:A:H5''	11:GK:66:LYS:HG3	2.00	0.44
1:GA:1796:U:H2'	1:GA:1797:G:C8	2.52	0.44
1:GA:2286:G:P	28:G1:29:LYS:HE2	2.57	0.44
1:GA:2407:A:OP1	59:GA:3558:HOH:O	2.21	0.44
1:GA:2840:C:C2	1:GA:2841:C:C5	3.05	0.44
2:GB:80:U:H2'	2:GB:81:G:C8	2.51	0.44
6:GF:38:GLY:HA2	6:GF:85:GLY:HA3	1.98	0.44
6:GF:117:SER:O	6:GF:127:TYR:OH	2.35	0.44
7:GG:59:ASP:HB3	7:GG:63:GLN:CG	2.47	0.44
10:GJ:88:THR:O	10:GJ:91:GLU:N	2.50	0.44
12:GL:2:ARG:HA	12:GL:5:THR:CG2	2.47	0.44
14:GN:71:ARG:HG3	14:GN:71:ARG:HH21	1.82	0.44
23:GW:17:ALA:O	23:GW:18:LYS:CB	2.64	0.44
25:GY:44:LYS:HE3	25:GY:48:ARG:NH2	2.32	0.44
33:HA:441:A:H61	33:HA:494:G:H22	1.64	0.44
40:HH:105:SER:HB2	40:HH:126:ILE:HD11	1.99	0.44
42:HJ:59:LYS:HG3	42:HJ:60:ASP:N	2.32	0.44
46:HN:20:TYR:O	46:HN:23:LYS:HB3	2.16	0.44
49:HQ:6:ARG:HB3	49:HQ:6:ARG:CZ	2.47	0.44
49:HQ:62:ARG:HG2	49:HQ:76:VAL:HG13	1.98	0.44
50:HR:33:ILE:HA	50:HR:40:VAL:HG23	1.99	0.44
54:HV:63:ILE:HG21	54:HV:468:ILE:HD12	1.99	0.44
54:HV:197:ASP:O	54:HV:199:GLY:N	2.50	0.44
1:AA:880:G:N2	1:AA:898:C:C2	2.85	0.44
1:AA:1252:G:N3	17:AQ:32:ARG:HD2	2.32	0.44
1:AA:1279:G:H4'	14:AN:31:HIS:CD2	2.52	0.44
1:AA:1386:C:H1'	1:AA:1470:A:H1'	1.98	0.44
1:AA:1813:G:H1'	3:AC:49:THR:CG2	2.45	0.44
1:AA:1878:G:H2'	1:AA:1879:C:C6	2.53	0.44
1:AA:1996:C:H4'	1:AA:1997:C:OP1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2138:G:N2	1:AA:2151:U:OP2	2.50	0.44
1:AA:2311:A:N1	6:AF:43:ILE:CG2	2.80	0.44
1:AA:2344:U:H4'	1:AA:2345:G:OP1	2.17	0.44
4:AD:151:THR:CG2	4:AD:152:PRO:HD3	2.46	0.44
12:AL:2:ARG:HA	12:AL:5:THR:HG22	1.98	0.44
16:AP:92:ARG:O	16:AP:92:ARG:CG	2.65	0.44
20:AT:29:THR:HB	20:AT:86:THR:HG22	1.99	0.44
21:AU:6:ARG:HG3	21:AU:7:ASP:N	2.31	0.44
32:A5:108:VAL:CG1	32:A5:109:LYS:N	2.80	0.44
33:BA:76:G:N2	33:BA:77:A:O2'	2.50	0.44
33:BA:756:C:HO2'	40:BH:2:SER:N	2.14	0.44
33:BA:1383:C:OP1	59:BA:1822:HOH:O	2.21	0.44
34:BB:209:VAL:O	34:BB:213:LEU:HB2	2.18	0.44
35:BC:172:ARG:NH1	35:BC:174:PRO:HG3	2.32	0.44
37:BE:110:ALA:HB1	37:BE:137:VAL:CG2	2.47	0.44
42:BJ:85:ASP:OD1	42:BJ:89:ARG:NH2	2.49	0.44
44:BL:66:TYR:CE2	44:BL:68:GLY:HA2	2.52	0.44
44:BL:82:ILE:HG23	44:BL:95:TYR:HB3	1.99	0.44
48:BP:52:LEU:HD23	48:BP:75:ILE:HG12	1.99	0.44
1:CA:528:A:OP2	10:CJ:116:ARG:NH2	2.47	0.44
1:CA:594:U:H2'	1:CA:595:C:C6	2.51	0.44
1:CA:2297:A:C2	1:CA:2321:U:H5	2.36	0.44
1:CA:2543:G:H2'	1:CA:2544:G:C8	2.53	0.44
7:CG:24:THR:HG23	7:CG:34:ARG:HG2	1.99	0.44
9:CI:20:SER:H	9:CI:21:PRO:CD	2.30	0.44
10:CJ:12:LYS:O	10:CJ:13:ARG:HB2	2.17	0.44
11:CK:71:ARG:CG	11:CK:105:ARG:NH2	2.80	0.44
16:CP:28:LYS:HB2	16:CP:82:SER:HB3	1.99	0.44
16:CP:64:SER:OG	16:CP:65:ASN:ND2	2.49	0.44
33:DA:451:A:C8	33:DA:452:A:C6	3.04	0.44
33:DA:487:A:C5	33:DA:488:C:C2	3.06	0.44
33:DA:880:C:OP2	44:DL:3:THR:HG21	2.17	0.44
33:DA:1022:A:H2'	33:DA:1023:U:O4'	2.18	0.44
36:DD:105:MET:SD	36:DD:143:VAL:CG1	3.06	0.44
42:DJ:80:THR:HB	42:DJ:82:LYS:HB2	1.99	0.44
42:DJ:85:ASP:OD2	42:DJ:89:ARG:NH2	2.50	0.44
1:EA:42:A:H2'	1:EA:43:G:C5'	2.47	0.44
1:EA:674:G:H1'	5:EE:69:ARG:HD2	1.97	0.44
1:EA:1171:G:N2	1:EA:1179:G:C4	2.86	0.44
16:EP:50:ARG:CG	16:EP:57:ALA:H	2.29	0.44
18:ER:64:VAL:O	18:ER:65:ALA:HB3	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:EW:19:ARG:NE	23:EW:22:VAL:HB	2.33	0.44
23:EW:24:ARG:HG3	23:EW:65:LYS:HD3	1.99	0.44
33:FA:819:A:H4'	33:FA:820:U:OP2	2.18	0.44
33:FA:1007:U:C2'	33:FA:1008:U:H5'	2.45	0.44
33:FA:1386:G:H2'	33:FA:1387:G:H8	1.82	0.44
33:FA:1513:A:H2'	33:FA:1514:G:C8	2.52	0.44
34:FB:29:PHE:HD1	34:FB:200:PRO:HG3	1.83	0.44
34:FB:100:LEU:HD23	34:FB:178:LEU:CD2	2.47	0.44
37:FE:137:VAL:HG13	37:FE:137:VAL:O	2.17	0.44
42:FJ:35:GLN:HG2	42:FJ:77:VAL:N	2.30	0.44
42:FJ:74:VAL:HG12	42:FJ:75:ASP:N	2.32	0.44
44:FL:63:VAL:HG22	44:FL:64:THR:N	2.31	0.44
45:FM:91:HIS:HA	45:FM:109:ARG:HH22	1.83	0.44
54:FV:350:LEU:HD13	54:FV:357:ARG:HG3	1.98	0.44
1:GA:32:C:N4	1:GA:33:C:N4	2.65	0.44
1:GA:317:G:C6	1:GA:318:C:C4	3.05	0.44
1:GA:371:A:O2'	24:GX:60:LYS:NZ	2.50	0.44
1:GA:1131:G:OP1	10:GJ:82:GLY:HA2	2.17	0.44
1:GA:1477:A:C2	1:GA:1515:A:C5	3.05	0.44
1:GA:1626:A:C2'	1:GA:1627:G:OP2	2.65	0.44
2:GB:111:U:H2'	2:GB:112:G:H8	1.82	0.44
6:GF:98:PHE:HA	6:GF:101:ARG:HG2	1.99	0.44
14:GN:53:THR:HA	14:GN:56:LYS:HG3	1.99	0.44
20:GT:34:VAL:HG23	20:GT:34:VAL:O	2.16	0.44
23:GW:17:ALA:HA	23:GW:35:ILE:HG23	1.98	0.44
33:HA:1038:C:H2'	33:HA:1039:G:C8	2.52	0.44
33:HA:1526:G:OP1	53:HU:39:GLU:HB2	2.17	0.44
36:HD:193:ALA:C	36:HD:195:ILE:H	2.21	0.44
37:HE:111:MET:HA	37:HE:114:VAL:HG13	1.99	0.44
40:HH:96:MET:SD	40:HH:130:ALA:HB1	2.56	0.44
41:HI:34:SER:O	41:HI:37:GLN:N	2.50	0.44
43:HK:20:VAL:O	43:HK:35:THR:HG22	2.18	0.44
50:HR:63:ARG:HB3	50:HR:70:TYR:CZ	2.52	0.44
1:AA:493:G:H2'	1:AA:494:G:O4'	2.18	0.44
1:AA:657:U:H2'	1:AA:658:U:C6	2.52	0.44
1:AA:1068:G:C3'	1:AA:1069:A:H5''	2.48	0.44
1:AA:1327:A:OP2	59:AA:3604:HOH:O	2.20	0.44
1:AA:1389:G:C2	1:AA:1390:U:C2	3.04	0.44
1:AA:1519:G:C6	1:AA:1520:U:C4	3.06	0.44
1:AA:2071:A:H2'	1:AA:2072:C:C6	2.52	0.44
1:AA:2199:A:H3'	1:AA:2200:C:H6	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2291:U:H2'	1:AA:2292:U:C6	2.52	0.44
1:AA:2333:A:O4'	1:AA:2335:A:H1'	2.17	0.44
1:AA:2849:U:OP2	16:AP:92:ARG:HB2	2.17	0.44
3:AC:68:ARG:HD3	3:AC:103:ILE:HD11	2.00	0.44
15:AO:88:LYS:O	15:AO:89:ASP:HB2	2.16	0.44
17:AQ:84:LYS:O	17:AQ:86:SER:N	2.51	0.44
20:AT:48:GLN:O	20:AT:52:GLU:HA	2.17	0.44
33:BA:43:C:H2'	33:BA:44:A:O4'	2.17	0.44
33:BA:49:U:O4	33:BA:365:U:H5	2.00	0.44
33:BA:160:A:H2'	33:BA:161:A:O4'	2.16	0.44
33:BA:613:C:P	36:BD:81:ARG:HH11	2.41	0.44
33:BA:687:A:C2	33:BA:704:A:C5	3.04	0.44
33:BA:723:U:O2'	33:BA:724:G:H5'	2.16	0.44
33:BA:844:G:C3'	33:BA:845:A:H5''	2.46	0.44
33:BA:881:G:OP2	44:BL:9:ARG:NH2	2.51	0.44
33:BA:1116:U:HO2'	41:BI:110:GLN:CD	2.17	0.44
48:BP:6:LEU:HG	48:BP:17:TYR:HB3	1.99	0.44
1:CA:275:C:H3'	1:CA:276:U:H5''	2.00	0.44
1:CA:1286:A:C6	1:CA:1329:U:C2	3.05	0.44
1:CA:2267:A:H5''	1:CA:2268:A:C5'	2.47	0.44
1:CA:2297:A:N1	1:CA:2321:U:C5	2.82	0.44
2:CB:13:G:N2	2:CB:16:G:N3	2.65	0.44
3:CC:122:ALA:O	3:CC:127:ASN:ND2	2.45	0.44
3:CC:123:ILE:HG12	38:DF:80:PHE:CD1	2.53	0.44
4:CD:121:THR:O	4:CD:122:VAL:HB	2.18	0.44
6:CF:128:SER:HA	6:CF:154:THR:HA	1.99	0.44
10:CJ:76:HIS:CE1	10:CJ:85:LYS:HB2	2.52	0.44
15:CO:34:HIS:CD2	15:CO:54:VAL:HG23	2.53	0.44
19:CS:18:ARG:HG3	19:CS:76:VAL:HG13	1.99	0.44
20:CT:29:THR:HB	20:CT:86:THR:HA	1.98	0.44
23:CW:14:ASP:OD2	23:CW:16:GLU:OE1	2.35	0.44
33:DA:354:G:C4	33:DA:355:C:C5	3.05	0.44
33:DA:636:U:H5'	49:DQ:6:ARG:HH12	1.82	0.44
33:DA:797:C:OP1	43:DK:126:LYS:HD2	2.17	0.44
33:DA:857:C:OP2	59:DA:1814:HOH:O	2.21	0.44
33:DA:1421:G:C2	33:DA:1480:A:N3	2.85	0.44
37:DE:111:MET:O	37:DE:115:LEU:HB2	2.17	0.44
38:DF:49:TYR:HB3	50:DR:74:HIS:CG	2.52	0.44
40:DH:11:LEU:CD1	40:DH:77:ARG:HG2	2.48	0.44
43:DK:52:PHE:CE2	43:DK:65:VAL:HG11	2.53	0.44
54:DV:660:LEU:O	54:DV:662:GLU:N	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:21:A:O2'	1:EA:22:C:H5'	2.17	0.44
1:EA:138:U:H5'	1:EA:139:U:H5''	1.99	0.44
1:EA:581:C:H2'	1:EA:582:A:C8	2.53	0.44
1:EA:1223:G:C6	1:EA:1227:G:C6	3.06	0.44
1:EA:1312:U:C2	1:EA:1603:A:C2	3.06	0.44
1:EA:2529:G:O6	31:E4:32:LYS:NZ	2.51	0.44
1:EA:2657:A:N7	1:EA:2658:C:C5	2.85	0.44
1:EA:2661:G:H5'	54:FV:19:ILE:HG13	1.99	0.44
1:EA:2800:A:H3'	1:EA:2801:G:H5''	2.00	0.44
3:EC:196:ASN:O	3:EC:197:ALA:HB3	2.17	0.44
5:EE:111:GLU:HA	5:EE:114:ARG:NH1	2.33	0.44
6:EF:100:GLU:O	6:EF:104:THR:HG22	2.18	0.44
6:EF:142:TYR:OH	45:FM:71:ARG:HG3	2.17	0.44
7:EG:108:PHE:CZ	7:EG:151:ARG:NH1	2.86	0.44
9:EI:85:ILE:H	9:EI:85:ILE:HD12	1.81	0.44
10:EJ:55:ILE:HG13	10:EJ:56:VAL:N	2.32	0.44
23:EW:8:SER:O	23:EW:9:THR:HG22	2.17	0.44
23:EW:23:LYS:HE2	23:EW:24:ARG:H	1.83	0.44
27:E0:24:VAL:O	27:E0:26:SER:N	2.40	0.44
33:FA:295:C:H2'	33:FA:296:U:H6	1.83	0.44
33:FA:949:A:H1'	33:FA:1364:U:H5	1.82	0.44
34:FB:128:LEU:O	34:FB:129:THR:HG23	2.18	0.44
35:FC:123:GLN:HB3	35:FC:128:VAL:HG13	2.00	0.44
35:FC:140:ASN:HA	35:FC:143:ARG:HB3	1.99	0.44
41:FI:129:LYS:HE2	41:FI:130:ARG:HG2	1.99	0.44
54:FV:23:LYS:O	54:FV:24:THR:OG1	2.32	0.44
1:GA:515:A:H2	1:GA:1260:A:N3	2.14	0.44
1:GA:1394:U:C4	1:GA:1395:A:C6	3.06	0.44
1:GA:1746:A:H2'	1:GA:1747:U:C6	2.52	0.44
1:GA:2220:U:H2'	1:GA:2221:G:C8	2.52	0.44
1:GA:2543:G:C6	1:GA:2544:G:C6	3.05	0.44
1:GA:2615:U:C2	27:G0:3:GLN:HA	2.51	0.44
1:GA:2840:C:H2'	1:GA:2841:C:H6	1.82	0.44
4:GD:70:LYS:O	4:GD:71:ALA:HB3	2.18	0.44
6:GF:43:ILE:HD12	6:GF:77:LYS:HD2	1.99	0.44
16:GP:4:ILE:HG22	16:GP:8:GLU:HG3	1.99	0.44
16:GP:50:ARG:NE	16:GP:57:ALA:H	2.15	0.44
20:GT:50:LEU:O	20:GT:51:PHE:HB2	2.17	0.44
24:GX:2:ARG:CD	24:GX:29:LEU:HD12	2.47	0.44
33:HA:68:G:C6	33:HA:69:G:H1'	2.52	0.44
33:HA:81:A:H5'	33:HA:90:C:N4	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:408:A:OP1	36:HD:110:THR:HG21	2.17	0.44
33:HA:620:C:H1'	36:HD:132:ILE:CD1	2.47	0.44
33:HA:1244:G:C6	33:HA:1245:C:N4	2.86	0.44
33:HA:1413:A:H2'	33:HA:1414:U:O4'	2.17	0.44
34:HB:49:PHE:HB2	34:HB:212:TYR:CE1	2.53	0.44
34:HB:89:PHE:HB3	34:HB:149:GLY:O	2.17	0.44
35:HC:123:GLN:HB3	35:HC:128:VAL:HG11	1.99	0.44
36:HD:161:LEU:H	36:HD:161:LEU:HD22	1.82	0.44
39:HG:23:LEU:HD21	39:HG:47:LEU:HD21	1.99	0.44
40:HH:78:VAL:HG11	40:HH:125:ILE:CD1	2.47	0.44
46:HN:6:MET:HE2	46:HN:63:ARG:HH22	1.82	0.44
46:HN:41:ARG:CG	46:HN:42:TRP:N	2.80	0.44
47:HO:35:GLN:HB3	47:HO:59:MET:HE1	2.00	0.44
52:HT:58:VAL:HG13	52:HT:72:ALA:HA	1.99	0.44
1:AA:463:G:N2	1:AA:465:G:H3'	2.31	0.44
1:AA:471:A:OP1	5:AE:79:ARG:NH1	2.43	0.44
1:AA:1063:G:H2'	1:AA:1064:C:O4'	2.16	0.44
1:AA:1187:G:HO2'	1:AA:1188:U:H6	1.66	0.44
1:AA:1256:G:C6	1:AA:1257:C:N4	2.85	0.44
1:AA:1394:U:H4'	1:AA:1603:A:H4'	2.00	0.44
1:AA:2311:A:C2	6:AF:43:ILE:CG2	3.01	0.44
1:AA:2758:A:C2'	1:AA:2759:G:H5'	2.48	0.44
2:AB:56:G:OP1	6:AF:23:SER:HB2	2.17	0.44
4:AD:91:THR:O	4:AD:93:GLY:N	2.42	0.44
5:AE:164:LEU:HB3	5:AE:167:VAL:CG1	2.47	0.44
6:AF:3:LEU:HD12	6:AF:172:PHE:CD1	2.53	0.44
6:AF:36:ASN:CG	6:AF:37:MET:N	2.71	0.44
13:AM:4:PRO:CG	13:AM:70:ASP:HA	2.47	0.44
13:AM:133:LYS:O	13:AM:134:THR:HB	2.16	0.44
14:AN:73:ASN:HA	14:AN:76:VAL:CG1	2.46	0.44
34:BB:134:LEU:O	34:BB:138:ARG:HG2	2.17	0.44
36:BD:97:ARG:HB3	36:BD:99:ASP:OD1	2.17	0.44
1:CA:138:U:H5'	1:CA:139:U:H5''	1.98	0.44
1:CA:283:G:C2	1:CA:284:U:H1'	2.52	0.44
1:CA:315:G:H2'	1:CA:316:C:C6	2.52	0.44
1:CA:686:U:OP2	59:CA:3708:HOH:O	2.20	0.44
1:CA:1754:A:O3'	16:CP:102:ARG:NH2	2.50	0.44
1:CA:2105:U:C6	1:CA:2105:U:C3'	3.00	0.44
1:CA:2365:G:H4'	23:CW:59:PHE:CZ	2.53	0.44
6:CF:24:VAL:O	6:CF:27:VAL:HG12	2.17	0.44
9:CI:41:PHE:HA	9:CI:68:PHE:CZ	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:CM:67:VAL:HG11	13:CM:102:LEU:HD12	2.00	0.44
15:CO:107:ALA:O	15:CO:111:ARG:HG2	2.18	0.44
16:CP:82:SER:C	16:CP:83:ILE:HG22	2.38	0.44
19:CS:18:ARG:HA	19:CS:21:ALA:HB3	1.99	0.44
28:C1:8:ILE:HD11	28:C1:22:THR:HG23	1.99	0.44
28:C1:50:GLU:CG	28:C1:51:ALA:N	2.80	0.44
31:C4:7:VAL:HG23	31:C4:8:LYS:H	1.83	0.44
33:DA:413:G:H1'	33:DA:428:G:H21	1.82	0.44
33:DA:543:U:C2	33:DA:544:G:C8	3.05	0.44
33:DA:1377:A:C6	39:DG:7:ILE:CD1	3.01	0.44
34:DB:9:LEU:CD1	34:DB:42:LEU:HD13	2.47	0.44
36:DD:197:GLU:HA	36:DD:200:ILE:CG2	2.48	0.44
37:DE:35:ALA:CB	37:DE:60:ILE:HA	2.47	0.44
41:DI:89:GLU:HG3	41:DI:90:TYR:N	2.33	0.44
45:DM:20:THR:HA	45:DM:25:VAL:HG23	1.99	0.44
50:DR:27:ALA:HA	50:DR:30:LYS:HE3	1.99	0.44
54:DV:669:GLN:O	54:DV:672:SER:N	2.51	0.44
1:EA:481:G:C4	1:EA:507:A:C2	3.05	0.44
1:EA:752:A:P	29:E2:3:ARG:HH12	2.40	0.44
1:EA:881:G:C2	1:EA:882:G:C8	3.05	0.44
1:EA:1073:A:C2	1:EA:1074:G:H1'	2.52	0.44
1:EA:1239:G:H2'	1:EA:1240:U:O4'	2.17	0.44
1:EA:1913:A:N7	33:FA:1494:G:H4'	2.31	0.44
1:EA:2478:A:C8	1:EA:2479:U:C5	3.06	0.44
11:EK:18:ARG:HB2	11:EK:45:GLU:HG2	1.97	0.44
12:EL:95:LEU:HD13	12:EL:101:ILE:HD11	1.98	0.44
22:EV:2:PHE:CD1	22:EV:50:MET:HE3	2.52	0.44
23:EW:25:PHE:O	23:EW:65:LYS:HA	2.17	0.44
24:EX:34:SER:O	24:EX:34:SER:OG	2.36	0.44
28:E1:33:LEU:H	28:E1:51:ALA:HB2	1.81	0.44
30:E3:26:ALA:O	30:E3:27:ASN:HB2	2.18	0.44
33:FA:1314:C:OP2	51:FS:6:LYS:HD2	2.18	0.44
36:FD:62:ARG:HH21	36:FD:68:LEU:HA	1.82	0.44
39:FG:70:ARG:CG	39:FG:96:ARG:HG2	2.46	0.44
45:FM:4:ILE:O	45:FM:6:GLY:N	2.46	0.44
46:FN:21:PHE:HA	46:FN:25:ALA:HB3	1.98	0.44
54:FV:100:GLU:OE1	54:FV:132:LYS:NZ	2.51	0.44
1:GA:142:A:H5''	1:GA:142:A:H8	1.82	0.44
1:GA:630:G:N2	1:GA:632:A:H3'	2.32	0.44
1:GA:974:G:H8	1:GA:990:A:H62	1.66	0.44
1:GA:983:A:N6	1:GA:984:A:C2	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:1027:A:C6	1:GA:1126:A:C4	3.05	0.44
1:GA:1262:A:OP2	19:GS:99:ARG:NH2	2.51	0.44
1:GA:2578:G:H1'	4:GD:144:GLY:HA2	2.00	0.44
1:GA:2819:G:H2'	1:GA:2821:A:N7	2.31	0.44
1:GA:2834:G:H2'	1:GA:2879:A:N6	2.33	0.44
5:GE:118:LEU:HA	5:GE:186:VAL:HG13	2.00	0.44
8:GH:14:SER:OG	8:GH:17:ASP:OD2	2.28	0.44
8:GH:31:VAL:HB	8:GH:32:PRO:CD	2.48	0.44
10:GJ:44:TYR:CD2	17:GQ:63:ARG:HG2	2.53	0.44
14:GN:10:LEU:HD22	14:GN:10:LEU:N	2.33	0.44
18:GR:42:ALA:HA	18:GR:46:GLU:CB	2.47	0.44
33:HA:77:A:H2'	33:HA:78:A:H5'	1.99	0.44
33:HA:598:U:H4'	40:HH:86:TYR:CD2	2.53	0.44
33:HA:602:A:H2'	33:HA:603:U:C6	2.53	0.44
33:HA:1193:G:OP2	35:HC:167:TRP:HH2	2.01	0.44
33:HA:1273:C:H2'	33:HA:1274:A:O4'	2.17	0.44
33:HA:1314:C:OP2	51:HS:6:LYS:HD2	2.17	0.44
38:HF:5:GLU:OE2	50:HR:24:LYS:HE2	2.17	0.44
38:HF:38:ARG:HG2	38:HF:39:LEU:N	2.32	0.44
39:HG:95:ARG:NH2	39:HG:99:LEU:HD21	2.33	0.44
45:HM:57:ARG:CA	45:HM:60:VAL:HG12	2.47	0.44
51:HS:64:ASP:N	51:HS:64:ASP:OD1	2.50	0.44
1:AA:655:A:N3	1:AA:656:G:H1'	2.33	0.44
1:AA:843:G:H2'	1:AA:844:A:C8	2.52	0.44
1:AA:2031:A:C6	1:AA:2498:C:H1'	2.51	0.44
1:AA:2081:U:H2'	1:AA:2082:A:C8	2.53	0.44
1:AA:2313:C:H4'	6:AF:36:ASN:CG	2.38	0.44
1:AA:2376:A:N1	15:AO:92:PHE:HD2	2.16	0.44
1:AA:2548:U:C4	1:AA:2549:G:N7	2.86	0.44
4:AD:169:ARG:O	4:AD:170:VAL:HG13	2.18	0.44
7:AG:23:ILE:HG22	7:AG:24:THR:N	2.33	0.44
7:AG:155:PRO:O	7:AG:170:THR:HA	2.18	0.44
10:AJ:44:TYR:HB2	17:AQ:63:ARG:HB3	1.99	0.44
12:AL:122:VAL:HG22	12:AL:142:ILE:HG12	1.99	0.44
15:AO:40:ILE:HA	15:AO:47:VAL:HA	1.99	0.44
32:A5:51:TYR:CE1	32:A5:52:MET:HG2	2.52	0.44
33:BA:436:C:H2'	33:BA:437:U:H6	1.81	0.44
33:BA:511:C:C2	33:BA:512:U:C5	3.05	0.44
33:BA:1191:A:OP1	35:BC:4:LYS:NZ	2.42	0.44
33:BA:1513:A:H2'	33:BA:1514:G:H8	1.79	0.44
36:BD:65:TYR:CD1	36:BD:65:TYR:N	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BI:38:TYR:CD1	41:BI:39:PHE:HD2	2.36	0.44
43:BK:42:LEU:HD13	43:BK:77:TYR:HD2	1.82	0.44
43:BK:111:THR:HG22	53:BU:5:LYS:HG2	2.00	0.44
43:BK:127:ARG:O	53:BU:34:ARG:CZ	2.64	0.44
53:BU:41:PRO:O	53:BU:45:ARG:N	2.50	0.44
1:CA:1069:A:C5	1:CA:1073:A:C5	3.06	0.44
1:CA:1913:A:H2'	55:DW:4:SER:CA	2.42	0.44
1:CA:2294:G:P	15:CO:94:ARG:HH12	2.40	0.44
2:CB:65:U:C4	2:CB:108:A:C4	3.05	0.44
2:CB:116:G:H4'	15:CO:54:VAL:O	2.18	0.44
5:CE:12:LEU:HD13	5:CE:12:LEU:O	2.17	0.44
6:CF:151:LEU:C	6:CF:151:LEU:HD12	2.38	0.44
9:CI:107:GLU:HA	9:CI:110:GLN:CB	2.47	0.44
22:CV:80:HIS:CD2	22:CV:83:LYS:HB2	2.53	0.44
23:CW:35:ILE:O	23:CW:36:ILE:C	2.56	0.44
27:C0:38:LEU:HB2	27:C0:41:HIS:HB2	1.98	0.44
33:DA:210:C:O2'	33:DA:211:G:N2	2.50	0.44
33:DA:621:A:C6	33:DA:622:A:C6	3.06	0.44
33:DA:1316:G:N2	33:DA:1318:A:H3'	2.33	0.44
36:DD:20:PHE:CD1	36:DD:20:PHE:N	2.84	0.44
36:DD:26:ARG:O	36:DD:27:ALA:HB2	2.17	0.44
36:DD:65:TYR:CE2	36:DD:94:LEU:HB3	2.53	0.44
36:DD:192:SER:OG	36:DD:193:ALA:N	2.46	0.44
37:DE:110:ALA:O	37:DE:111:MET:CB	2.65	0.44
40:DH:46:ILE:HD12	40:DH:61:LEU:HD22	2.00	0.44
54:DV:112:VAL:HG12	54:DV:113:TYR:N	2.32	0.44
1:EA:60:G:C6	1:EA:74:A:C6	3.06	0.44
1:EA:945:A:C4	1:EA:2448:A:C2	3.05	0.44
1:EA:2037:A:H2'	1:EA:2038:G:C8	2.52	0.44
4:ED:68:PHE:CE1	4:ED:75:ALA:HA	2.53	0.44
7:EG:60:GLY:O	7:EG:61:TRP:HB2	2.18	0.44
7:EG:118:ALA:O	7:EG:120:ILE:N	2.44	0.44
10:EJ:12:LYS:O	10:EJ:13:ARG:CB	2.66	0.44
11:EK:61:VAL:CG2	11:EK:87:LEU:HD11	2.47	0.44
11:EK:99:ILE:C	11:EK:100:PHE:HD1	2.21	0.44
13:EM:132:THR:HG23	13:EM:133:LYS:N	2.33	0.44
16:EP:91:VAL:O	16:EP:92:ARG:HG2	2.17	0.44
23:EW:41:GLY:C	23:EW:43:LYS:N	2.70	0.44
32:E5:106:PHE:CG	32:E5:107:GLU:N	2.86	0.44
33:FA:681:A:C2	33:FA:710:G:C2	3.05	0.44
33:FA:982:U:H4'	33:FA:983:A:O5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:FA:1033:G:C2'	33:FA:1034:G:C5'	2.95	0.44
33:FA:1033:G:C2'	33:FA:1034:G:H5'	2.46	0.44
33:FA:1039:G:H2'	33:FA:1040:U:H6	1.82	0.44
34:FB:9:LEU:HD23	34:FB:9:LEU:O	2.17	0.44
34:FB:195:VAL:HG11	34:FB:198:VAL:HA	2.00	0.44
36:FD:17:THR:HG22	36:FD:18:ASP:N	2.33	0.44
36:FD:139:PRO:O	36:FD:140:ASN:HB2	2.18	0.44
38:FF:18:VAL:HB	38:FF:19:PRO:CD	2.47	0.44
51:FS:49:ILE:H	51:FS:49:ILE:HD12	1.83	0.44
54:FV:20:ASP:O	54:FV:22:GLY:N	2.44	0.44
1:GA:29:U:H2'	1:GA:30:G:C8	2.51	0.44
1:GA:56:A:C2	1:GA:57:C:C2	3.06	0.44
1:GA:504:A:O2'	1:GA:505:A:P	2.75	0.44
1:GA:1053:C:C2	1:GA:1054:A:C8	3.06	0.44
1:GA:1482:G:H1	1:GA:1508:A:N6	2.15	0.44
1:GA:1684:G:H2'	1:GA:1685:C:C6	2.52	0.44
1:GA:1865:U:C5	1:GA:1875:G:C2	3.05	0.44
1:GA:1916:A:H2'	1:GA:1917:U:O4'	2.18	0.44
1:GA:2614:A:C4	27:G0:1:ALA:HB1	2.53	0.44
1:GA:2705:A:H2'	1:GA:2706:A:O4'	2.18	0.44
3:GC:109:LEU:O	3:GC:110:LYS:HB3	2.18	0.44
3:GC:140:VAL:CG1	3:GC:189:ALA:HB1	2.47	0.44
5:GE:10:SER:O	5:GE:11:ALA:HB3	2.17	0.44
6:GF:7:TYR:HA	6:GF:11:VAL:CG2	2.47	0.44
7:GG:1:SER:O	7:GG:3:VAL:N	2.50	0.44
7:GG:27:GLY:HA3	7:GG:78:VAL:HG12	1.99	0.44
9:GI:13:ALA:H	9:GI:23:VAL:HG13	1.83	0.44
9:GI:57:VAL:O	9:GI:68:PHE:HB2	2.18	0.44
9:GI:79:LEU:HD11	9:GI:131:THR:HG22	2.00	0.44
23:GW:39:GLN:HG2	23:GW:40:ARG:N	2.32	0.44
33:HA:1463:U:H2'	33:HA:1464:U:C6	2.52	0.44
35:HC:42:TYR:HD2	35:HC:43:LEU:HD12	1.82	0.44
37:HE:132:ASN:O	37:HE:136:VAL:HG12	2.17	0.44
38:HF:10:VAL:HG12	38:HF:11:HIS:N	2.33	0.44
43:HK:68:GLU:C	43:HK:70:CYS:H	2.15	0.44
54:HV:227:ALA:HB1	54:HV:234:MET:CB	2.48	0.44
54:HV:464:LEU:O	54:HV:467:ASP:HB3	2.17	0.44
54:HV:632:ILE:HG23	54:HV:642:LEU:CD2	2.47	0.44
1:AA:121:G:C2	1:AA:131:A:C5	3.06	0.44
1:AA:273:G:H2'	1:AA:274:C:C6	2.52	0.44
1:AA:692:C:C2	1:AA:771:G:C2	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:720:U:H2'	1:AA:721:A:C8	2.52	0.44
1:AA:1197:G:H2'	1:AA:1198:U:C6	2.53	0.44
1:AA:2108:A:O2'	1:AA:2109:U:O5'	2.29	0.44
1:AA:2325:G:C6	1:AA:2326:C:N4	2.85	0.44
1:AA:2472:G:H2'	1:AA:2475:C:H42	1.82	0.44
1:AA:2727:A:C6	1:AA:2728:U:C4	3.06	0.44
2:AB:43:C:H4'	6:AF:62:GLN:HE21	1.82	0.44
5:AE:108:ILE:HD12	12:AL:2:ARG:CZ	2.48	0.44
5:AE:178:VAL:CG2	5:AE:179:SER:N	2.81	0.44
6:AF:18:GLU:HB3	6:AF:19:PHE:CD1	2.53	0.44
6:AF:126:ASN:ND2	6:AF:157:THR:H	2.16	0.44
12:AL:109:LYS:HB3	12:AL:111:ILE:CD1	2.48	0.44
18:AR:5:PHE:HE1	18:AR:14:VAL:HG21	1.83	0.44
20:AT:50:LEU:O	20:AT:51:PHE:HB2	2.18	0.44
32:A5:88:HIS:HB3	32:A5:89:PRO:HD3	1.98	0.44
33:BA:108:G:OP2	33:BA:108:G:N2	2.49	0.44
33:BA:129:A:H1'	33:BA:130:A:C8	2.52	0.44
33:BA:561:U:OP2	59:BA:1814:HOH:O	2.21	0.44
33:BA:707:U:H5''	43:BK:22:HIS:ND1	2.32	0.44
33:BA:858:G:O2'	33:BA:859:G:H5'	2.17	0.44
33:BA:1037:C:C2	33:BA:1038:C:C5	3.06	0.44
33:BA:1314:C:C2	33:BA:1315:U:C5	3.06	0.44
34:BB:30:ILE:HG23	34:BB:32:GLY:H	1.82	0.44
34:BB:86:CYS:SG	34:BB:88:GLN:NE2	2.90	0.44
34:BB:98:GLY:C	34:BB:100:LEU:H	2.21	0.44
36:BD:151:LYS:HB3	36:BD:178:MET:SD	2.58	0.44
41:BI:7:TYR:HE1	41:BI:18:ARG:HB2	1.83	0.44
44:BL:38:TYR:HE1	44:BL:54:ARG:HG3	1.83	0.44
54:BV:200:VAL:HG23	54:BV:201:THR:HG23	2.00	0.44
1:CA:1866:A:H2'	1:CA:1867:G:O4'	2.18	0.44
1:CA:2141:G:N1	1:CA:2150:C:O2	2.46	0.44
1:CA:2799:A:N6	1:CA:2801:G:C6	2.86	0.44
7:CG:132:LEU:N	7:CG:132:LEU:HD23	2.32	0.44
11:CK:47:ILE:HG23	11:CK:48:PRO:N	2.33	0.44
15:CO:24:THR:HG22	15:CO:42:PRO:CD	2.48	0.44
17:CQ:63:ARG:HH12	17:CQ:96:ASP:CA	2.31	0.44
23:CW:49:ASN:ND2	23:CW:50:VAL:O	2.50	0.44
24:CX:52:ALA:O	24:CX:53:LYS:CB	2.66	0.44
26:CZ:7:THR:O	26:CZ:54:VAL:HA	2.17	0.44
33:DA:60:A:O3'	52:DT:5:LYS:NZ	2.44	0.44
33:DA:282:A:C8	33:DA:283:U:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:487:A:C6	33:DA:488:C:C2	3.05	0.44
33:DA:495:A:N1	33:DA:496:A:N6	2.65	0.44
33:DA:982:U:H4'	33:DA:983:A:O5'	2.18	0.44
37:DE:56:VAL:O	37:DE:60:ILE:HG13	2.17	0.44
38:DF:18:VAL:HG21	38:DF:58:HIS:CD2	2.52	0.44
41:DI:51:PRO:HB3	41:DI:84:THR:HG22	1.98	0.44
42:DJ:88:MET:O	42:DJ:90:LEU:N	2.49	0.44
44:DL:24:LEU:HG	44:DL:25:GLU:N	2.33	0.44
54:DV:124:GLU:OE2	54:DV:677:ARG:NH1	2.51	0.44
54:DV:532:LYS:HD3	54:DV:534:TYR:H	1.83	0.44
54:DV:591:LEU:O	54:DV:591:LEU:HD13	2.17	0.44
1:EA:44:A:C2	1:EA:45:G:C4	3.05	0.44
1:EA:545:U:H3'	1:EA:546:U:H4'	1.99	0.44
1:EA:1090:A:C2	1:EA:1102:C:H1'	2.53	0.44
1:EA:1198:U:O3'	17:EQ:4:LYS:HE3	2.17	0.44
1:EA:1857:G:O2'	1:EA:1858:A:P	2.76	0.44
1:EA:2281:A:O2'	1:EA:2282:G:H5'	2.18	0.44
1:EA:2485:G:H5''	13:EM:45:GLN:HE21	1.80	0.44
1:EA:2855:C:H2'	1:EA:2856:A:H8	1.82	0.44
59:EA:3237:HOH:O	5:EE:81:GLY:HA2	2.18	0.44
6:EF:118:ALA:HB1	6:EF:166:ARG:CD	2.47	0.44
9:EI:5:GLN:NE2	9:EI:61:TYR:HA	2.32	0.44
18:ER:1:MET:SD	18:ER:101:ILE:HG21	2.58	0.44
20:ET:19:LYS:O	20:ET:23:ALA:N	2.49	0.44
24:EX:70:LEU:HD13	24:EX:75:GLU:HB2	1.98	0.44
32:E5:31:ARG:HB3	32:E5:108:VAL:HG22	1.99	0.44
33:FA:619:U:N3	36:FD:131:ASN:HB3	2.32	0.44
33:FA:706:A:H4'	43:FK:31:ILE:HD11	2.00	0.44
41:FI:94:LEU:O	41:FI:96:SER:N	2.48	0.44
44:FL:74:LEU:HA	44:FL:78:SER:OG	2.17	0.44
46:FN:53:ARG:C	46:FN:55:SER:N	2.71	0.44
47:FO:46:HIS:O	47:FO:48:LYS:N	2.46	0.44
48:FP:43:ALA:HB1	48:FP:46:LYS:HZ2	1.82	0.44
1:GA:714:U:H5'	1:GA:715:A:OP2	2.17	0.44
1:GA:1328:A:H2'	1:GA:1330:C:C4	2.53	0.44
1:GA:1486:U:H2'	1:GA:1487:U:C6	2.52	0.44
1:GA:1773:A:N7	1:GA:1829:A:H1'	2.32	0.44
1:GA:2038:G:H2'	1:GA:2039:U:O4'	2.18	0.44
1:GA:2292:U:H2'	1:GA:2293:G:C8	2.53	0.44
1:GA:2336:A:N6	23:GW:40:ARG:HB3	2.32	0.44
1:GA:2594:C:C2	1:GA:2600:A:C2	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2783:U:H2'	1:GA:2784:U:C6	2.53	0.44
1:GA:2820:A:OP2	14:GN:2:ARG:NH2	2.51	0.44
5:GE:43:THR:O	5:GE:43:THR:OG1	2.36	0.44
6:GF:110:ILE:HG12	6:GF:136:ILE:HG21	2.00	0.44
13:GM:50:ARG:HA	13:GM:53:MET:HE2	1.99	0.44
17:GQ:81:GLY:HA2	17:GQ:116:LEU:CD1	2.47	0.44
33:HA:880:C:P	44:HL:5:ASN:HD22	2.40	0.44
33:HA:1375:A:OP1	39:HG:12:ILE:CD1	2.65	0.44
36:HD:13:ARG:HG2	36:HD:34:ILE:HA	2.00	0.44
39:HG:49:THR:O	39:HG:53:ARG:HB2	2.17	0.44
39:HG:145:ALA:C	39:HG:147:ALA:H	2.20	0.44
41:HI:120:LYS:O	41:HI:121:ALA:HB3	2.17	0.44
53:HU:14:VAL:HG23	53:HU:16:LEU:HG	1.99	0.44
54:HV:200:VAL:HG23	54:HV:201:THR:N	2.32	0.44
1:AA:2207:C:H2'	1:AA:2208:C:H6	1.83	0.44
1:AA:2318:G:C6	1:AA:2319:G:C6	3.06	0.44
6:AF:7:TYR:OH	6:AF:27:VAL:CG1	2.65	0.44
6:AF:65:LEU:HD12	6:AF:66:ILE:N	2.32	0.44
8:AH:27:ARG:HH12	24:AX:63:ILE:CG1	2.31	0.44
9:AI:96:LYS:HG3	9:AI:136:GLY:HA3	2.00	0.44
10:AJ:25:LEU:HB2	10:AJ:62:VAL:CG2	2.48	0.44
14:AN:94:TYR:CD1	14:AN:94:TYR:N	2.85	0.44
15:AO:111:ARG:HD3	15:AO:117:PHE:CE1	2.52	0.44
18:AR:28:ALA:HB3	18:AR:31:GLU:HG2	2.00	0.44
20:AT:14:PRO:HA	20:AT:32:LEU:HB3	2.00	0.44
22:AV:62:THR:HA	22:AV:71:LYS:HA	1.99	0.44
24:AX:39:VAL:HG13	24:AX:46:VAL:HG23	1.98	0.44
33:BA:74:A:C2	33:BA:97:G:C4	3.06	0.44
33:BA:320:A:C2	33:BA:334:C:N3	2.85	0.44
33:BA:677:U:C4	33:BA:678:U:C4	3.05	0.44
33:BA:680:C:C2	33:BA:711:G:N2	2.86	0.44
33:BA:1001:C:H2'	33:BA:1002:G:H8	1.82	0.44
33:BA:1133:G:N2	33:BA:1142:G:H1'	2.33	0.44
33:BA:1314:C:N4	51:BS:4:SER:HA	2.32	0.44
33:BA:1524:C:H2'	33:BA:1525:G:C8	2.52	0.44
34:BB:82:ALA:HB1	34:BB:217:ALA:CB	2.48	0.44
34:BB:161:PHE:HA	34:BB:183:PHE:O	2.17	0.44
38:BF:29:ILE:HG21	38:BF:36:ILE:HG23	1.99	0.44
40:BH:3:MET:HE1	40:BH:6:PRO:HA	1.99	0.44
41:BI:103:PHE:N	41:BI:103:PHE:CD1	2.85	0.44
43:BK:87:LYS:HE2	43:BK:113:VAL:HG23	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BS:33:THR:HB	51:BS:35:SER:H	1.82	0.44
1:CA:880:G:H1	1:CA:897:C:N4	2.15	0.44
1:CA:1817:G:H2'	1:CA:1818:U:H5'	2.00	0.44
1:CA:1983:G:O2'	1:CA:1984:G:H5'	2.18	0.44
1:CA:2315:G:H2'	1:CA:2316:G:H8	1.81	0.44
1:CA:2582:G:C2	1:CA:2583:G:C8	3.05	0.44
1:CA:2760:C:C2'	1:CA:2761:A:H5'	2.47	0.44
7:CG:25:ILE:CG2	7:CG:78:VAL:HG21	2.47	0.44
14:CN:51:LEU:HD21	14:CN:70:THR:HG22	1.98	0.44
15:CO:79:ALA:HB2	15:CO:110:ALA:HA	1.98	0.44
16:CP:50:ARG:NH1	16:CP:75:THR:HG21	2.32	0.44
17:CQ:91:ARG:NE	17:CQ:93:ILE:HG21	2.32	0.44
22:CV:30:ILE:HD11	22:CV:63:ILE:HD13	1.99	0.44
28:C1:9:LYS:N	28:C1:9:LYS:HD2	2.32	0.44
31:C4:19:ARG:O	31:C4:22:VAL:HG12	2.18	0.44
33:DA:375:U:H4'	48:DP:17:TYR:CE2	2.53	0.44
33:DA:376:G:H5''	48:DP:5:ARG:HB2	1.99	0.44
33:DA:922:G:H2'	33:DA:923:A:C8	2.53	0.44
33:DA:1477:U:H2'	33:DA:1478:U:C6	2.52	0.44
36:DD:168:PRO:HB2	36:DD:171:LEU:CD1	2.48	0.44
41:DI:11:ARG:HB2	41:DI:15:SER:O	2.18	0.44
41:DI:34:SER:HB3	41:DI:37:GLN:HG2	1.99	0.44
44:DL:110:ARG:HB3	44:DL:119:VAL:HG21	1.99	0.44
1:EA:181:A:H2'	1:EA:182:A:C8	2.53	0.44
1:EA:419:U:H2'	1:EA:420:C:H6	1.82	0.44
1:EA:476:G:H4'	1:EA:502:A:N1	2.33	0.44
1:EA:708:G:N2	1:EA:724:U:H1'	2.33	0.44
1:EA:790:U:P	59:EA:3752:HOH:O	2.74	0.44
1:EA:1057:A:C6	1:EA:1086:A:C2	3.05	0.44
1:EA:2297:A:C2	1:EA:2298:A:C8	3.06	0.44
1:EA:2489:U:O2	1:EA:2491:U:C4	2.71	0.44
1:EA:2508:G:H2'	1:EA:2509:G:H8	1.83	0.44
3:EC:20:ASN:OD1	3:EC:22:GLU:HG2	2.16	0.44
9:EI:34:ILE:HA	9:EI:37:PHE:CD2	2.52	0.44
13:EM:1:MET:O	13:EM:2:LEU:HB3	2.18	0.44
15:EO:3:LYS:HG3	15:EO:4:LYS:H	1.83	0.44
17:EQ:86:SER:O	17:EQ:87:VAL:C	2.56	0.44
23:EW:17:ALA:HA	23:EW:35:ILE:HG23	1.98	0.44
23:EW:19:ARG:HE	23:EW:22:VAL:HB	1.82	0.44
32:E5:88:HIS:CB	32:E5:89:PRO:CD	2.96	0.44
33:FA:481:G:OP1	33:FA:481:G:H4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:FA:968:A:H4'	33:FA:969:A:OP2	2.18	0.44
33:FA:1492:A:C3'	33:FA:1493:A:C5'	2.95	0.44
34:FB:209:VAL:HG23	34:FB:210:THR:N	2.33	0.44
35:FC:107:ARG:O	35:FC:108:LYS:HB2	2.18	0.44
40:FH:7:ILE:HD11	40:FH:32:LEU:HD23	2.00	0.44
43:FK:31:ILE:HB	43:FK:46:THR:HG22	1.99	0.44
43:FK:96:THR:HG23	43:FK:97:ILE:N	2.33	0.44
53:FU:18:ARG:O	53:FU:21:ARG:N	2.51	0.44
54:FV:255:ARG:HG2	54:FV:261:ILE:HG22	2.00	0.44
1:GA:335:C:H5''	21:GU:81:ARG:HD3	1.99	0.44
1:GA:1188:U:H4'	18:GR:81:LYS:O	2.17	0.44
1:GA:1535:A:H4'	1:GA:1536:C:OP2	2.16	0.44
6:GF:59:ILE:HD13	6:GF:137:PHE:CE2	2.53	0.44
7:GG:165:ASP:OD1	7:GG:165:ASP:N	2.46	0.44
11:GK:70:ARG:O	11:GK:71:ARG:HB2	2.18	0.44
20:GT:3:ARG:HH21	20:GT:7:LEU:HD21	1.83	0.44
33:HA:72:A:C2'	33:HA:73:C:H5''	2.48	0.44
33:HA:636:U:H2'	33:HA:637:C:C6	2.53	0.44
33:HA:1006:G:H2'	33:HA:1007:U:C6	2.53	0.44
33:HA:1347:G:N2	33:HA:1373:G:H2'	2.33	0.44
34:HB:30:ILE:CG2	34:HB:32:GLY:H	2.31	0.44
34:HB:212:TYR:HA	34:HB:215:ALA:HB3	2.00	0.44
41:HI:94:LEU:O	41:HI:96:SER:N	2.45	0.44
42:HJ:6:ILE:HB	42:HJ:76:ILE:HB	2.00	0.44
44:HL:40:THR:HG22	44:HL:41:THR:N	2.32	0.44
54:HV:90:PRO:HG2	54:HV:98:GLU:HB2	2.00	0.44
54:HV:110:VAL:HG11	54:HV:278:MET:SD	2.58	0.44
1:AA:669:G:N3	1:AA:669:G:C2'	2.80	0.44
1:AA:681:G:C2	1:AA:797:G:C2	3.06	0.44
1:AA:760:G:H2'	1:AA:761:A:O4'	2.18	0.44
1:AA:974:G:O2'	1:AA:989:G:N2	2.49	0.44
1:AA:1064:C:C2'	1:AA:1065:U:H5'	2.48	0.44
1:AA:1327:A:C2'	1:AA:1328:A:H5'	2.48	0.44
1:AA:1387:A:H5'	1:AA:1469:A:H1'	2.00	0.44
1:AA:1401:G:C5	1:AA:1402:U:C5	3.06	0.44
1:AA:1705:A:C5	1:AA:1706:C:C4	3.05	0.44
1:AA:2819:G:H2'	1:AA:2821:A:N7	2.33	0.44
1:AA:2821:A:OP2	14:AN:3:HIS:NE2	2.51	0.44
1:AA:2886:A:C6	27:A0:39:ARG:CZ	3.01	0.44
2:AB:119:A:N3	2:AB:119:A:H2'	2.33	0.44
4:AD:33:ARG:NH2	4:AD:74:GLU:O	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:61:GLY:HA3	6:AF:94:ARG:CZ	2.48	0.44
11:AK:118:LEU:HD12	11:AK:118:LEU:N	2.32	0.44
17:AQ:97:ILE:HD13	17:AQ:98:ALA:N	2.33	0.44
18:AR:64:VAL:O	18:AR:65:ALA:HB3	2.17	0.44
19:AS:17:VAL:HG11	19:AS:103:ILE:HG12	1.99	0.44
28:A1:8:ILE:HD12	28:A1:9:LYS:H	1.83	0.44
32:A5:51:TYR:HE1	32:A5:52:MET:SD	2.39	0.44
33:BA:72:A:H2'	33:BA:73:C:C5'	2.48	0.44
33:BA:109:A:H2'	33:BA:326:G:N2	2.33	0.44
33:BA:176:C:H4'	52:BT:24:ARG:NH2	2.33	0.44
33:BA:659:U:C2	33:BA:747:A:N1	2.86	0.44
33:BA:681:A:H2'	33:BA:682:G:C8	2.52	0.44
34:BB:103:TRP:CZ3	34:BB:107:ARG:HD3	2.53	0.44
34:BB:116:LEU:HB3	34:BB:140:LEU:HD11	2.00	0.44
36:BD:4:TYR:O	36:BD:5:LEU:HB2	2.17	0.44
36:BD:4:TYR:CZ	36:BD:6:GLY:HA3	2.53	0.44
36:BD:102:VAL:HG21	36:BD:123:ILE:CD1	2.47	0.44
37:BE:115:LEU:HG	37:BE:120:VAL:HG21	1.99	0.44
43:BK:93:ARG:NH2	53:BU:20:LYS:CB	2.81	0.44
46:BN:67:THR:CG2	46:BN:83:LYS:HE3	2.48	0.44
48:BP:19:VAL:HG12	48:BP:37:GLY:C	2.38	0.44
54:BV:219:HIS:C	54:BV:221:ASN:N	2.70	0.44
54:BV:416:ILE:HG12	54:BV:667:ALA:HB3	1.98	0.44
54:BV:514:GLN:CA	54:BV:514:GLN:HE21	2.30	0.44
1:CA:352:A:H3'	1:CA:353:C:H6	1.83	0.44
1:CA:416:U:H2'	1:CA:417:C:O4'	2.18	0.44
1:CA:479:A:N3	1:CA:481:G:H5''	2.33	0.44
1:CA:784:G:C2'	1:CA:785:G:OP2	2.66	0.44
1:CA:1030:C:OP2	13:CM:127:LYS:NZ	2.35	0.44
1:CA:1248:G:OP2	5:CE:44:ARG:NH2	2.50	0.44
6:CF:18:GLU:HB3	6:CF:19:PHE:CD1	2.53	0.44
9:CI:42:ASN:HA	9:CI:45:THR:HB	2.00	0.44
10:CJ:44:TYR:O	10:CJ:45:THR:HG22	2.18	0.44
10:CJ:64:VAL:O	10:CJ:65:THR:HG22	2.18	0.44
11:CK:63:VAL:HG12	11:CK:64:ARG:HG3	2.00	0.44
17:CQ:61:ILE:HG23	17:CQ:75:TYR:CE2	2.53	0.44
19:CS:63:GLY:O	19:CS:64:ALA:CB	2.65	0.44
22:CV:11:GLU:HB3	22:CV:16:ALA:HB2	1.99	0.44
33:DA:57:G:C6	33:DA:58:C:C4	3.06	0.44
33:DA:399:G:H2'	33:DA:400:C:C6	2.52	0.44
33:DA:426:U:H2'	33:DA:427:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:448:A:C4	33:DA:487:A:C2	3.05	0.44
33:DA:1054:C:O2	33:DA:1196:A:C5	2.71	0.44
33:DA:1087:G:C2	33:DA:1088:G:N7	2.86	0.44
33:DA:1285:A:H4'	33:DA:1286:U:C5	2.53	0.44
33:DA:1331:G:HO2'	33:DA:1332:A:P	2.41	0.44
33:DA:1423:G:C6	33:DA:1424:U:C4	3.06	0.44
34:DB:56:LEU:HD21	34:DB:216:VAL:HG11	2.00	0.44
34:DB:209:VAL:O	34:DB:213:LEU:HB2	2.18	0.44
40:DH:103:VAL:HG12	40:DH:126:ILE:HD13	2.00	0.44
41:DI:78:ALA:O	41:DI:82:GLY:N	2.51	0.44
42:DJ:6:ILE:HB	42:DJ:76:ILE:HB	1.98	0.44
49:DQ:75:LEU:HD11	49:DQ:77:ARG:O	2.17	0.44
52:DT:51:PHE:CZ	52:DT:76:LYS:HB2	2.52	0.44
54:DV:94:ASP:O	54:DV:461:MET:HB2	2.18	0.44
54:DV:218:TRP:CD1	54:DV:218:TRP:N	2.85	0.44
1:EA:102:U:C4	25:EY:2:LYS:HB2	2.53	0.44
1:EA:419:U:H2'	1:EA:420:C:C6	2.53	0.44
1:EA:518:G:C4	1:EA:519:U:C5	3.06	0.44
1:EA:687:C:H5''	29:E2:2:LYS:HE2	2.00	0.44
1:EA:933:A:H5'	1:EA:934:U:OP2	2.17	0.44
1:EA:1141:U:H6	10:EJ:65:THR:HG21	1.83	0.44
1:EA:1579:A:H2'	1:EA:1580:A:C8	2.53	0.44
1:EA:2766:A:H2'	1:EA:2766:A:N3	2.33	0.44
1:EA:2835:A:C2	1:EA:2879:A:C5	3.06	0.44
2:EB:98:G:H1	22:EV:14:LYS:HB2	1.81	0.44
2:EB:116:G:H4'	15:EO:54:VAL:CG1	2.48	0.44
3:EC:80:LEU:CD1	3:EC:109:LEU:HG	2.48	0.44
7:EG:84:LYS:CG	7:EG:85:LYS:N	2.80	0.44
9:EI:27:LEU:CD1	9:EI:34:ILE:HD12	2.48	0.44
9:EI:100:ILE:HG22	9:EI:101:SER:N	2.33	0.44
10:EJ:44:TYR:O	10:EJ:45:THR:HB	2.18	0.44
11:EK:120:PRO:HB2	16:EP:65:ASN:ND2	2.32	0.44
14:EN:69:ARG:O	14:EN:71:ARG:N	2.47	0.44
16:EP:105:LYS:O	16:EP:108:ARG:HD3	2.18	0.44
22:EV:25:LYS:O	22:EV:26:PHE:HB3	2.18	0.44
26:EZ:40:THR:HG23	26:EZ:43:ILE:H	1.83	0.44
33:FA:293:G:C6	33:FA:294:U:C4	3.06	0.44
33:FA:901:A:N7	33:FA:902:G:H1'	2.33	0.44
33:FA:972:C:OP1	42:FJ:59:LYS:NZ	2.47	0.44
33:FA:1110:A:N6	33:FA:1111:A:C6	2.86	0.44
33:FA:1294:G:C6	33:FA:1295:U:C4	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:FB:67:LEU:HD12	34:FB:157:PRO:HG2	2.00	0.44
34:FB:71:THR:O	34:FB:72:LYS:HG2	2.17	0.44
42:FJ:57:VAL:CG1	42:FJ:58:ASN:N	2.80	0.44
44:FL:90:LEU:HB3	44:FL:93:VAL:CG2	2.48	0.44
45:FM:79:ARG:NH1	51:FS:65:GLU:HG2	2.32	0.44
53:FU:34:ARG:CG	53:FU:35:ARG:H	2.30	0.44
54:FV:317:PHE:CE2	54:FV:349:VAL:HG11	2.53	0.44
1:GA:383:C:N3	1:GA:391:A:N6	2.66	0.44
1:GA:620:G:H4'	1:GA:621:A:O5'	2.18	0.44
1:GA:675:A:N3	1:GA:2443:C:O2'	2.46	0.44
1:GA:932:U:O2'	1:GA:934:U:O4	2.35	0.44
1:GA:1079:C:C3'	1:GA:1080:A:H5''	2.48	0.44
1:GA:1565:C:C5	1:GA:1567:G:C6	3.06	0.44
1:GA:1996:C:H4'	1:GA:1997:C:OP1	2.18	0.44
5:GE:46:GLN:HG3	5:GE:87:ALA:CB	2.48	0.44
9:GI:79:LEU:HA	9:GI:85:ILE:HD13	1.99	0.44
10:GJ:17:VAL:HG23	10:GJ:137:PRO:HB2	1.99	0.44
15:GO:35:ILE:HB	15:GO:102:ARG:HH11	1.82	0.44
17:GQ:86:SER:HB3	18:GR:51:VAL:HG12	1.98	0.44
22:GV:6:ALA:HB1	22:GV:40:ILE:CG2	2.48	0.44
23:GW:50:VAL:HG12	23:GW:51:GLY:N	2.33	0.44
24:GX:34:SER:O	24:GX:34:SER:OG	2.31	0.44
33:HA:114:U:O2'	33:HA:115:G:H5'	2.17	0.44
33:HA:909:A:H2'	33:HA:910:C:O4'	2.18	0.44
35:HC:129:MET:SD	35:HC:132:ARG:HD2	2.58	0.44
37:HE:114:VAL:CG1	37:HE:137:VAL:HG23	2.48	0.44
39:HG:130:ASN:HB2	39:HG:135:VAL:CG2	2.48	0.44
45:HM:114:LYS:CB	45:HM:115:PRO:CD	2.96	0.44
54:HV:19:ILE:HD12	54:HV:92:HIS:HA	1.99	0.44
54:HV:666:TYR:CE2	54:HV:670:LEU:HD22	2.52	0.44
1:AA:953:G:N2	1:AA:964:C:O2	2.46	0.44
1:AA:1022:G:N2	1:AA:1142:A:C2	2.86	0.44
1:AA:1683:U:H2'	1:AA:1684:G:C8	2.52	0.44
1:AA:1913:A:N3	55:BW:4:SER:CA	2.81	0.44
1:AA:2376:A:H2'	1:AA:2377:A:O4'	2.18	0.44
1:AA:2444:G:C6	1:AA:2445:G:N7	2.86	0.44
1:AA:2849:U:C4	1:AA:2867:G:N3	2.86	0.44
6:AF:2:LYS:HD3	6:AF:3:LEU:HD23	1.99	0.44
12:AL:2:ARG:O	12:AL:2:ARG:HG2	2.18	0.44
16:AP:42:PHE:CE1	16:AP:62:LYS:HG3	2.52	0.44
21:AU:8:ASP:H	21:AU:23:LYS:HG3	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AW:18:LYS:HA	23:AW:36:ILE:HB	2.00	0.44
33:BA:671:G:C6	33:BA:672:U:C4	3.06	0.44
33:BA:1366:C:O2'	42:BJ:62:ARG:NH2	2.51	0.44
33:BA:1478:U:H2'	33:BA:1479:C:C6	2.52	0.44
36:BD:136:GLN:HA	36:BD:136:GLN:NE2	2.32	0.44
42:BJ:92:LEU:O	42:BJ:93:ALA:HB3	2.18	0.44
44:BL:97:THR:O	44:BL:97:THR:HG22	2.18	0.44
1:CA:152:A:C2	1:CA:175:G:C2	3.06	0.44
1:CA:1733:G:C8	1:CA:1734:G:C8	3.06	0.44
1:CA:2136:G:N3	1:CA:2136:G:H2'	2.33	0.44
9:CI:23:VAL:HG23	9:CI:24:GLY:H	1.83	0.44
10:CJ:3:THR:CB	10:CJ:44:TYR:OH	2.66	0.44
16:CP:96:LEU:HB3	16:CP:99:LEU:HD22	2.00	0.44
17:CQ:91:ARG:CB	17:CQ:94:LEU:HB2	2.45	0.44
21:CU:82:VAL:HG12	21:CU:83:GLY:N	2.33	0.44
33:DA:483:C:O2	48:DP:13:LYS:NZ	2.50	0.44
33:DA:620:C:H1'	36:DD:132:ILE:HG12	2.00	0.44
33:DA:1021:A:C2'	33:DA:1022:A:H5'	2.48	0.44
33:DA:1314:C:C6	51:DS:6:LYS:HD3	2.53	0.44
34:DB:150:ILE:O	34:DB:153:MET:N	2.49	0.44
40:DH:10:MET:HE1	40:DH:33:LYS:HA	2.00	0.44
42:DJ:9:ARG:HB2	42:DJ:99:GLN:HB2	1.99	0.44
45:DM:3:ARG:HA	45:DM:8:ASN:O	2.18	0.44
54:DV:553:VAL:HG23	54:DV:597:ALA:HB2	2.00	0.44
1:EA:86:G:C2	1:EA:87:U:C5	3.06	0.44
1:EA:947:A:O2'	1:EA:984:A:H2	2.01	0.44
1:EA:1730:C:H4'	1:EA:1730:C:OP1	2.18	0.44
1:EA:2869:G:C6	1:EA:2870:C:C4	3.05	0.44
3:EC:75:ALA:HB2	3:EC:95:TYR:CD2	2.53	0.44
4:ED:91:THR:O	4:ED:92:VAL:C	2.55	0.44
4:ED:107:VAL:HA	4:ED:204:LYS:O	2.18	0.44
4:ED:111:GLY:HA3	4:ED:194:PRO:HG2	1.99	0.44
6:EF:4:HIS:ND1	6:EF:96:TRP:NE1	2.66	0.44
8:EH:8:LYS:O	8:EH:13:GLY:CA	2.66	0.44
9:EI:132:ALA:HA	9:EI:135:MET:CE	2.48	0.44
10:EJ:44:TYR:O	10:EJ:45:THR:CB	2.66	0.44
10:EJ:44:TYR:CD2	17:EQ:63:ARG:HG2	2.52	0.44
10:EJ:58:ASN:N	10:EJ:127:GLY:O	2.44	0.44
11:EK:13:ASN:O	11:EK:15:GLY:N	2.37	0.44
11:EK:92:GLU:O	11:EK:93:GLN:HB2	2.18	0.44
14:EN:103:ARG:HB2	14:EN:110:MET:CE	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:EP:50:ARG:CD	16:EP:56:SER:HB3	2.48	0.44
16:EP:92:ARG:O	16:EP:92:ARG:HG2	2.18	0.44
18:ER:5:PHE:HE1	18:ER:14:VAL:HG21	1.82	0.44
18:ER:49:ILE:HG22	18:ER:54:VAL:N	2.33	0.44
19:ES:13:SER:O	19:ES:14:ALA:CB	2.66	0.44
32:E5:88:HIS:CB	32:E5:89:PRO:HD3	2.48	0.44
32:E5:88:HIS:HB3	32:E5:89:PRO:HD3	2.00	0.44
33:FA:192:A:N3	52:FT:55:GLN:NE2	2.65	0.44
34:FB:101:THR:HB	34:FB:174:GLU:HG3	2.00	0.44
37:FE:147:MET:HG3	37:FE:147:MET:O	2.17	0.44
39:FG:111:ARG:HE	39:FG:123:GLU:HG2	1.83	0.44
42:FJ:10:LEU:CD2	42:FJ:22:THR:HA	2.48	0.44
44:FL:116:LYS:O	44:FL:117:TYR:HB2	2.17	0.44
1:GA:674:G:H1'	5:GE:69:ARG:CD	2.48	0.44
1:GA:2199:A:H3'	1:GA:2200:C:C6	2.52	0.44
1:GA:2776:A:C6	1:GA:2778:A:C6	3.06	0.44
1:GA:2868:A:C2	1:GA:2869:G:C4	3.06	0.44
2:GB:32:U:C1'	2:GB:53:A:H61	2.31	0.44
6:GF:110:ILE:HG21	6:GF:114:ARG:NH2	2.33	0.44
6:GF:174:PHE:CD2	6:GF:175:PRO:HD2	2.53	0.44
9:GI:32:VAL:HG12	9:GI:33:ASN:H	1.83	0.44
9:GI:78:LEU:HD13	9:GI:105:LEU:HD22	1.99	0.44
20:GT:7:LEU:O	20:GT:10:VAL:HG13	2.18	0.44
20:GT:67:VAL:HB	20:GT:76:ARG:HG3	1.99	0.44
20:GT:69:ARG:O	20:GT:74:ILE:HD12	2.18	0.44
33:HA:460:A:H2'	33:HA:460:A:N3	2.33	0.44
33:HA:1026:G:H2'	33:HA:1027:C:H5'	1.98	0.44
33:HA:1116:U:C4'	41:HI:110:GLN:HE22	2.30	0.44
33:HA:1530:G:H2'	33:HA:1531:A:C8	2.53	0.44
34:HB:13:VAL:H	34:HB:207:ARG:CZ	2.31	0.44
34:HB:67:LEU:CD2	34:HB:69:VAL:HG13	2.48	0.44
34:HB:86:CYS:C	34:HB:88:GLN:H	2.21	0.44
39:HG:51:ALA:HB1	39:HG:57:SER:O	2.17	0.44
40:HH:116:ALA:HA	40:HH:121:LEU:HD11	2.00	0.44
45:HM:13:LYS:HE3	45:HM:17:ILE:HG22	1.99	0.44
48:HP:20:VAL:HG21	48:HP:32:PHE:CG	2.53	0.44
52:HT:67:ILE:HG13	52:HT:71:LYS:HD3	2.00	0.44
1:AA:223:A:C6	1:AA:422:A:C5	3.06	0.43
1:AA:358:U:H2'	1:AA:359:G:C8	2.53	0.43
1:AA:721:A:H2'	1:AA:722:A:C8	2.53	0.43
1:AA:809:G:C6	1:AA:810:U:C4	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1511:G:H2'	1:AA:1512:C:C6	2.53	0.43
1:AA:1957:C:H2'	1:AA:1958:C:C6	2.53	0.43
1:AA:2303:G:C5	1:AA:2304:G:N7	2.86	0.43
1:AA:2431:U:O2	1:AA:2433:A:C8	2.71	0.43
1:AA:2554:U:H2'	1:AA:2555:U:C6	2.53	0.43
1:AA:2676:C:P	11:AK:31:ARG:HH12	2.41	0.43
1:AA:2690:U:N3	14:AN:6:SER:O	2.47	0.43
4:AD:118:PHE:CD1	4:AD:119:ALA:N	2.82	0.43
6:AF:12:VAL:HG21	6:AF:24:VAL:HG23	1.99	0.43
6:AF:94:ARG:HA	6:AF:97:GLU:HB2	1.99	0.43
30:A3:14:LYS:HB3	30:A3:22:LYS:HE2	2.00	0.43
32:A5:67:THR:C	32:A5:69:PHE:N	2.71	0.43
33:BA:202:G:HO2'	33:BA:468:A:H8	1.62	0.43
33:BA:426:U:H2'	33:BA:427:U:C6	2.52	0.43
33:BA:676:A:C4	33:BA:677:U:C5	3.06	0.43
33:BA:1244:G:C6	33:BA:1245:C:C4	3.06	0.43
33:BA:1317:C:OP1	46:BN:21:PHE:CE2	2.71	0.43
37:BE:156:LYS:O	40:BH:64:LYS:NZ	2.42	0.43
40:BH:13:ARG:NH1	40:BH:27:MET:HB2	2.31	0.43
43:BK:21:ALA:HA	43:BK:34:ILE:HG12	2.00	0.43
54:BV:217:GLU:O	54:BV:220:GLN:CA	2.65	0.43
1:CA:569:U:C4	1:CA:570:G:C6	3.06	0.43
1:CA:760:G:H2'	1:CA:761:A:O4'	2.18	0.43
1:CA:1028:A:H61	1:CA:1125:G:H2'	1.83	0.43
1:CA:1164:C:H2'	1:CA:1165:A:H8	1.82	0.43
1:CA:1572:A:OP2	59:CA:3619:HOH:O	2.21	0.43
1:CA:2037:A:H2'	1:CA:2038:G:C8	2.53	0.43
2:CB:66:A:H61	2:CB:107:G:H2'	1.83	0.43
4:CD:9:VAL:HG13	4:CD:26:VAL:HB	2.00	0.43
5:CE:160:ALA:O	5:CE:161:ALA:HB3	2.18	0.43
6:CF:43:ILE:CG2	6:CF:78:ILE:HG22	2.48	0.43
8:CH:28:ASN:C	8:CH:32:PRO:HG2	2.38	0.43
9:CI:5:GLN:NE2	9:CI:61:TYR:CD1	2.86	0.43
9:CI:23:VAL:HG23	9:CI:27:LEU:HD23	2.00	0.43
9:CI:100:ILE:HG22	9:CI:101:SER:N	2.32	0.43
10:CJ:44:TYR:O	10:CJ:45:THR:CB	2.66	0.43
11:CK:103:VAL:O	11:CK:122:VAL:HB	2.18	0.43
14:CN:52:ILE:HA	14:CN:79:LEU:HD23	2.00	0.43
18:CR:9:GLY:C	18:CR:10:LYS:HG3	2.39	0.43
23:CW:23:LYS:HE2	23:CW:24:ARG:CB	2.48	0.43
33:DA:79:G:H3'	33:DA:80:A:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:340:U:H2'	33:DA:341:C:C6	2.53	0.43
33:DA:658:C:O4'	47:DO:22:THR:OG1	2.36	0.43
38:DF:91:ARG:HD2	50:DR:57:ARG:HH21	1.83	0.43
41:DI:57:MET:HA	41:DI:60:LYS:CG	2.48	0.43
46:DN:53:ARG:NH2	51:DS:37:ARG:HH21	2.16	0.43
50:DR:57:ARG:HE	50:DR:61:ARG:HH12	1.66	0.43
1:EA:26:G:C6	1:EA:27:G:C6	3.05	0.43
1:EA:483:A:C8	21:EU:44:HIS:HD2	2.35	0.43
1:EA:764:A:N1	1:EA:1789:A:O2'	2.47	0.43
1:EA:1532:A:C6	1:EA:1533:C:C4	3.06	0.43
1:EA:1665:A:H5''	11:EK:66:LYS:HG3	2.00	0.43
1:EA:1789:A:P	3:EC:220:ARG:HH11	2.40	0.43
3:EC:75:ALA:HB2	3:EC:95:TYR:HA	2.00	0.43
5:EE:147:LEU:O	5:EE:168:ASP:O	2.36	0.43
6:EF:55:ASP:O	6:EF:58:ALA:N	2.51	0.43
10:EJ:101:ILE:O	10:EJ:105:VAL:HG13	2.18	0.43
11:EK:5:GLN:O	11:EK:6:THR:HB	2.18	0.43
19:ES:40:ASN:OD1	19:ES:40:ASN:N	2.51	0.43
21:EU:5:ARG:HH11	21:EU:93:ARG:HG3	1.83	0.43
22:EV:6:ALA:HB1	22:EV:40:ILE:CG2	2.48	0.43
33:FA:70:U:O2'	33:FA:71:A:H8	2.01	0.43
33:FA:448:A:N6	33:FA:449:G:C2	2.86	0.43
33:FA:502:A:C2	33:FA:503:C:C2	3.06	0.43
33:FA:1272:G:C6	33:FA:1273:C:C4	3.06	0.43
34:FB:53:LEU:CD2	34:FB:216:VAL:HG12	2.48	0.43
37:FE:99:ALA:O	37:FE:122:ASN:ND2	2.51	0.43
1:GA:84:A:P	21:GU:5:ARG:NH2	2.91	0.43
1:GA:375:G:H1	1:GA:399:U:H3	1.66	0.43
1:GA:570:G:C4	1:GA:2030:A:N7	2.86	0.43
1:GA:897:C:H2'	1:GA:898:C:C6	2.53	0.43
1:GA:1607:C:N4	1:GA:1622:G:OP2	2.39	0.43
1:GA:1885:A:H2'	1:GA:1886:U:O4'	2.18	0.43
1:GA:2051:A:N6	1:GA:2614:A:C8	2.86	0.43
1:GA:2070:A:C2	1:GA:2071:A:C4	3.06	0.43
1:GA:2105:U:C4	1:GA:2106:U:C5	3.06	0.43
1:GA:2108:A:H62	1:GA:2180:U:H2'	1.83	0.43
1:GA:2409:G:H2'	1:GA:2410:G:O4'	2.18	0.43
2:GB:33:G:O2'	2:GB:34:A:H5'	2.18	0.43
4:GD:121:THR:O	4:GD:122:VAL:HB	2.17	0.43
8:GH:2:GLN:C	8:GH:3:VAL:HG13	2.38	0.43
9:GI:29:GLN:NE2	54:HV:625:GLU:OE1	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:GQ:91:ARG:NH2	17:GQ:93:ILE:HG21	2.32	0.43
19:GS:13:SER:O	19:GS:14:ALA:HB2	2.17	0.43
20:GT:32:LEU:H	20:GT:83:ALA:HB3	1.83	0.43
22:GV:80:HIS:HD2	22:GV:83:LYS:N	2.16	0.43
33:HA:661:G:C2	33:HA:745:G:C2	3.06	0.43
33:HA:827:U:C4	33:HA:870:U:C2	3.06	0.43
34:HB:79:VAL:O	34:HB:83:ALA:HB3	2.18	0.43
34:HB:148:GLY:C	34:HB:150:ILE:H	2.22	0.43
35:HC:175:LEU:HD11	35:HC:201:TRP:CD1	2.53	0.43
36:HD:29:ASP:OD1	36:HD:30:THR:N	2.42	0.43
36:HD:60:LYS:HD2	36:HD:195:ILE:HG22	2.00	0.43
36:HD:107:PHE:CD2	36:HD:145:ILE:HG13	2.53	0.43
38:HF:26:THR:HG22	38:HF:62:MET:HE3	2.00	0.43
39:HG:113:ASP:O	39:HG:119:ARG:NH2	2.50	0.43
40:HH:3:MET:CE	40:HH:6:PRO:HA	2.48	0.43
45:HM:49:SER:HB2	45:HM:52:GLN:HB2	2.00	0.43
45:HM:57:ARG:HG3	45:HM:60:VAL:CG1	2.48	0.43
48:HP:43:ALA:O	48:HP:44:SER:C	2.56	0.43
49:HQ:14:SER:HB3	49:HQ:22:VAL:HG22	1.99	0.43
54:HV:29:ARG:NH1	54:HV:29:ARG:HA	2.33	0.43
1:AA:45:G:C5'	1:AA:46:G:H5'	2.48	0.43
1:AA:356:G:C6	1:AA:357:C:C4	3.05	0.43
1:AA:1062:G:C6	1:AA:1077:A:N1	2.86	0.43
1:AA:1522:A:O4'	1:AA:1524:G:C8	2.71	0.43
1:AA:1568:G:P	3:AC:62:ARG:NH1	2.91	0.43
3:AC:68:ARG:HD3	3:AC:103:ILE:CD1	2.48	0.43
4:AD:48:ILE:HG23	4:AD:84:LEU:HD11	2.01	0.43
4:AD:78:GLY:C	4:AD:79:LEU:HD12	2.39	0.43
4:AD:118:PHE:HZ	14:AN:1:MET:HB3	1.84	0.43
6:AF:107:VAL:CG1	6:AF:113:PHE:CZ	3.01	0.43
7:AG:126:THR:HG22	7:AG:127:GLN:N	2.33	0.43
11:AK:5:GLN:O	11:AK:6:THR:HB	2.18	0.43
15:AO:74:VAL:O	15:AO:77:ALA:HB3	2.18	0.43
16:AP:33:GLU:HB2	16:AP:38:ARG:HH22	1.82	0.43
16:AP:50:ARG:NE	16:AP:57:ALA:H	2.16	0.43
33:BA:570:G:H1'	33:BA:820:U:C4	2.53	0.43
33:BA:652:U:O4	33:BA:752:G:O2'	2.30	0.43
33:BA:671:G:C2	33:BA:672:U:C2	3.06	0.43
33:BA:1095:U:OP2	59:BA:1862:HOH:O	2.21	0.43
42:BJ:6:ILE:HD11	42:BJ:79:PRO:HB3	1.99	0.43
1:CA:588:U:H1'	5:CE:85:PHE:CD1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:947:A:O2'	1:CA:984:A:H2	2.01	0.43
1:CA:1062:G:C2	1:CA:1063:G:C4	3.06	0.43
1:CA:1354:A:H2'	1:CA:1355:G:O4'	2.18	0.43
1:CA:1937:A:N7	1:CA:1939:U:H2'	2.33	0.43
1:CA:2139:U:C2'	1:CA:2152:G:O6	2.65	0.43
1:CA:2307:G:N2	1:CA:2311:A:H2'	2.33	0.43
1:CA:2313:C:H2'	1:CA:2314:A:H8	1.83	0.43
1:CA:2485:G:H5''	13:CM:45:GLN:HE21	1.83	0.43
1:CA:2521:C:H42	1:CA:2544:G:H1	1.65	0.43
1:CA:2884:U:O2	1:CA:2884:U:C2'	2.66	0.43
2:CB:78:A:H2'	2:CB:79:G:O4'	2.18	0.43
6:CF:134:GLN:HG2	6:CF:135:ILE:N	2.34	0.43
6:CF:148:VAL:HG23	6:CF:149:ARG:N	2.33	0.43
9:CI:20:SER:N	9:CI:21:PRO:CD	2.81	0.43
10:CJ:4:PHE:C	10:CJ:44:TYR:CE1	2.91	0.43
10:CJ:26:GLY:HA2	10:CJ:29:ALA:HB3	1.99	0.43
13:CM:136:MET:HE2	13:CM:136:MET:HB3	1.88	0.43
15:CO:11:ALA:HB2	15:CO:96:GLY:N	2.33	0.43
16:CP:50:ARG:HD2	16:CP:51:ASN:N	2.32	0.43
18:CR:49:ILE:HG22	18:CR:54:VAL:HG23	1.99	0.43
24:CX:40:GLU:O	24:CX:43:LYS:HD2	2.18	0.43
24:CX:70:LEU:HB3	24:CX:75:GLU:HB2	2.00	0.43
33:DA:441:A:H5''	33:DA:442:G:OP2	2.18	0.43
33:DA:444:G:C4	33:DA:445:G:C8	3.06	0.43
33:DA:463:U:H5'	33:DA:464:U:OP2	2.18	0.43
33:DA:1005:A:H2'	33:DA:1006:G:O4'	2.18	0.43
33:DA:1525:G:P	43:DK:122:ARG:HH22	2.41	0.43
34:DB:49:PHE:HB2	34:DB:212:TYR:HE2	1.83	0.43
34:DB:107:ARG:HG2	34:DB:111:LYS:HE3	2.00	0.43
35:DC:22:TRP:HB3	35:DC:59:ARG:H	1.84	0.43
39:DG:57:SER:HB3	39:DG:60:GLU:CG	2.48	0.43
41:DI:11:ARG:HG3	41:DI:106:ARG:NE	2.33	0.43
41:DI:120:LYS:O	41:DI:121:ALA:CB	2.66	0.43
43:DK:27:PHE:CE2	43:DK:89:PRO:HG2	2.53	0.43
44:DL:27:CYS:HB2	44:DL:28:PRO:CD	2.48	0.43
53:DU:40:LYS:N	53:DU:41:PRO:HD2	2.32	0.43
1:EA:27:G:N2	1:EA:512:G:H1'	2.33	0.43
1:EA:45:G:H5''	1:EA:46:G:H5'	2.00	0.43
1:EA:613:A:N7	1:EA:616:A:N1	2.66	0.43
1:EA:973:A:H5''	18:ER:81:LYS:HG3	1.98	0.43
1:EA:1006:C:C2	1:EA:1138:G:N2	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1446:C:H2'	1:EA:1447:C:C6	2.53	0.43
1:EA:1476:U:H4'	1:EA:1732:C:H2'	2.00	0.43
1:EA:2415:G:H4'	12:EL:66:PHE:HB2	2.00	0.43
2:EB:51:G:H5''	15:EO:64:TYR:CD2	2.54	0.43
6:EF:142:TYR:C	6:EF:142:TYR:CD1	2.91	0.43
16:EP:80:VAL:O	16:EP:81:ASP:HB3	2.18	0.43
18:ER:90:ARG:O	18:ER:91:GLN:HB3	2.18	0.43
22:EV:64:VAL:HG12	22:EV:67:GLY:HA2	1.99	0.43
25:EY:15:ASN:O	25:EY:19:LEU:N	2.50	0.43
28:E1:47:ILE:HD12	28:E1:47:ILE:H	1.82	0.43
33:FA:224:U:N3	33:FA:225:C:C5	2.86	0.43
33:FA:407:U:C2	33:FA:408:A:C8	3.06	0.43
33:FA:929:G:C6	33:FA:930:C:C4	3.06	0.43
33:FA:1098:C:C4	33:FA:1099:G:N7	2.86	0.43
44:FL:90:LEU:HB3	44:FL:93:VAL:HG21	2.00	0.43
50:FR:34:THR:OG1	50:FR:35:GLU:N	2.52	0.43
1:GA:102:U:C4	25:GY:2:LYS:HB2	2.53	0.43
1:GA:613:A:O2'	1:GA:614:A:OP1	2.31	0.43
1:GA:1447:C:H1'	1:GA:1545:A:H1'	2.00	0.43
1:GA:2310:C:N3	6:GF:75:GLY:HA3	2.33	0.43
5:GE:172:ALA:O	5:GE:175:ILE:HG22	2.18	0.43
6:GF:10:GLU:OE1	6:GF:14:LYS:NZ	2.50	0.43
6:GF:107:VAL:HB	6:GF:108:PRO:HD3	1.99	0.43
11:GK:10:VAL:HG21	11:GK:16:ALA:HB3	2.00	0.43
13:GM:47:GLU:OE1	13:GM:51:ARG:NH2	2.51	0.43
16:GP:25:VAL:HG12	16:GP:46:VAL:HG23	2.00	0.43
17:GQ:94:LEU:HD22	18:GR:11:GLN:HB2	1.99	0.43
19:GS:28:LYS:HG2	19:GS:70:LYS:HG3	2.00	0.43
26:GZ:11:SER:OG	26:GZ:12:ALA:N	2.52	0.43
33:HA:373:A:C1'	33:HA:481:G:H1'	2.49	0.43
33:HA:746:A:N1	33:HA:747:A:N6	2.66	0.43
33:HA:842:U:H3'	33:HA:843:U:C5'	2.47	0.43
33:HA:1240:U:H3'	33:HA:1241:G:C5'	2.48	0.43
39:HG:122:ASN:O	39:HG:126:ASP:HB2	2.18	0.43
41:HI:30:ILE:CD1	41:HI:79:ILE:HD11	2.48	0.43
43:HK:24:HIS:O	43:HK:31:ILE:HG23	2.18	0.43
43:HK:75:LYS:C	43:HK:78:GLY:H	2.21	0.43
48:HP:48:GLU:OE1	48:HP:49:GLY:N	2.47	0.43
53:HU:34:ARG:CG	53:HU:35:ARG:H	2.31	0.43
54:HV:12:ASN:ND2	54:HV:107:ASP:OD2	2.47	0.43
1:AA:834:G:C5	1:AA:835:C:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:962:G:H21	1:AA:2250:G:H1	1.67	0.43
1:AA:1017:G:C2	1:AA:1146:C:C2	3.07	0.43
1:AA:1403:A:C2	1:AA:1404:C:C2	3.06	0.43
1:AA:1424:G:H2'	1:AA:1425:G:O4'	2.18	0.43
1:AA:2421:G:OP2	28:A1:7:LYS:NZ	2.50	0.43
4:AD:120:GLY:HA2	4:AD:162:ALA:CB	2.47	0.43
6:AF:10:GLU:O	6:AF:12:VAL:N	2.47	0.43
7:AG:23:ILE:H	7:AG:23:ILE:HD12	1.84	0.43
7:AG:84:LYS:CG	7:AG:85:LYS:H	2.30	0.43
7:AG:165:ASP:OD1	7:AG:165:ASP:N	2.39	0.43
14:AN:95:THR:CG2	14:AN:113:ILE:HG13	2.48	0.43
17:AQ:63:ARG:HH22	17:AQ:96:ASP:N	2.16	0.43
28:A1:9:LYS:HD2	28:A1:9:LYS:N	2.34	0.43
30:A3:31:ILE:O	30:A3:31:ILE:HG13	2.17	0.43
32:A5:64:VAL:O	32:A5:68:PRO:HD2	2.18	0.43
33:BA:373:A:O2'	33:BA:374:A:H5'	2.18	0.43
33:BA:429:U:O3'	36:BD:22:LYS:NZ	2.49	0.43
33:BA:707:U:H5''	43:BK:22:HIS:CE1	2.52	0.43
33:BA:763:G:H2'	33:BA:764:C:H6	1.83	0.43
33:BA:811:C:N4	33:BA:812:G:C6	2.86	0.43
33:BA:1391:U:H2'	33:BA:1392:G:C8	2.53	0.43
35:BC:72:ARG:HB3	35:BC:75:ILE:HG22	1.99	0.43
37:BE:86:LYS:HG3	37:BE:94:VAL:O	2.17	0.43
40:BH:6:PRO:O	40:BH:9:ASP:N	2.51	0.43
43:BK:113:VAL:HG12	50:BR:73:ARG:NH1	2.33	0.43
54:BV:200:VAL:HG23	54:BV:201:THR:N	2.33	0.43
54:BV:231:GLU:O	54:BV:235:GLU:N	2.46	0.43
1:CA:2556:C:H2'	1:CA:2557:G:O4'	2.18	0.43
4:CD:25:THR:HG21	4:CD:193:VAL:HG22	2.00	0.43
4:CD:106:LYS:HB3	4:CD:206:ALA:H	1.83	0.43
9:CI:19:PRO:HD3	9:CI:41:PHE:CE2	2.53	0.43
9:CI:33:ASN:HD22	9:CI:64:ARG:HG3	1.84	0.43
10:CJ:45:THR:O	10:CJ:45:THR:HG23	2.17	0.43
33:DA:116:A:H61	33:DA:313:A:H1'	1.84	0.43
33:DA:1191:A:OP1	35:DC:4:LYS:NZ	2.41	0.43
34:DB:116:LEU:O	34:DB:119:GLN:HG2	2.18	0.43
38:DF:68:GLN:HA	38:DF:71:ILE:HG22	1.99	0.43
39:DG:74:GLU:OE2	39:DG:95:ARG:NE	2.48	0.43
41:DI:7:TYR:CD1	41:DI:20:PHE:HE1	2.36	0.43
48:DP:22:ALA:HA	48:DP:33:ILE:HG13	2.00	0.43
54:DV:23:LYS:O	54:DV:24:THR:OG1	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:DV:360:PHE:CD2	54:DV:363:ILE:HD11	2.53	0.43
1:EA:102:U:C2	25:EY:2:LYS:HD3	2.54	0.43
1:EA:163:C:O2'	1:EA:164:C:C5'	2.66	0.43
1:EA:1077:A:C4'	9:EI:93:ASN:HB2	2.44	0.43
1:EA:1613:G:C2	1:EA:1619:G:C5	3.07	0.43
1:EA:1716:U:H3	1:EA:1744:A:H62	1.66	0.43
1:EA:1779:U:H5	1:EA:1784:A:N7	2.15	0.43
1:EA:1950:G:N2	1:EA:1956:U:O4	2.50	0.43
1:EA:2365:G:H4'	23:EW:59:PHE:CZ	2.53	0.43
1:EA:2423:U:H5'	1:EA:2423:U:H6	1.83	0.43
1:EA:2769:U:OP1	10:EJ:95:ARG:NH2	2.51	0.43
2:EB:9:G:HO2'	15:EO:45:SER:HG	1.62	0.43
5:EE:23:PHE:HB2	5:EE:111:GLU:HG2	2.00	0.43
5:EE:77:ILE:O	5:EE:77:ILE:HG13	2.16	0.43
11:EK:19:VAL:HG22	11:EK:41:ILE:HG13	2.00	0.43
12:EL:56:PRO:O	12:EL:60:ARG:HG3	2.17	0.43
17:EQ:93:ILE:O	17:EQ:96:ASP:N	2.51	0.43
32:E5:40:GLU:O	32:E5:40:GLU:CG	2.66	0.43
33:FA:327:A:O3'	33:FA:328:C:H4'	2.17	0.43
33:FA:607:A:C2	33:FA:608:A:C4	3.06	0.43
33:FA:1175:G:H2'	33:FA:1176:A:H8	1.84	0.43
36:FD:191:LEU:HD12	36:FD:191:LEU:O	2.17	0.43
38:FF:78:PHE:N	38:FF:78:PHE:CD1	2.87	0.43
40:FH:25:VAL:HG23	40:FH:63:LEU:HD21	2.00	0.43
41:FI:43:THR:O	41:FI:44:ALA:HB3	2.19	0.43
42:FJ:40:ILE:O	42:FJ:72:ARG:HA	2.18	0.43
42:FJ:49:PHE:CD2	46:FN:77:PHE:HZ	2.36	0.43
49:FQ:31:HIS:CE1	49:FQ:34:TYR:CD2	3.07	0.43
54:FV:491:ARG:HG2	54:FV:687:TYR:CZ	2.53	0.43
54:FV:560:GLN:NE2	54:FV:598:SER:HA	2.33	0.43
1:GA:570:G:H2'	1:GA:2030:A:N7	2.33	0.43
1:GA:1392:A:N6	1:GA:1393:A:N6	2.66	0.43
1:GA:1783:A:H5'	1:GA:2608:G:H4'	2.00	0.43
1:GA:1791:A:H5''	3:GC:204:LEU:HD23	2.01	0.43
1:GA:2093:G:O2'	1:GA:2094:A:H5'	2.19	0.43
1:GA:2352:A:C6	23:GW:30:VAL:HG11	2.53	0.43
1:GA:2563:U:H1'	1:GA:2566:A:N6	2.33	0.43
1:GA:2766:A:N3	1:GA:2766:A:H2'	2.33	0.43
2:GB:116:G:H4'	15:GO:54:VAL:HG12	2.00	0.43
3:GC:166:ARG:HB3	3:GC:171:VAL:HG12	2.00	0.43
13:GM:132:THR:CG2	13:GM:133:LYS:N	2.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:GS:75:PHE:N	19:GS:75:PHE:CD1	2.86	0.43
24:GX:30:PRO:HB2	24:GX:32:LEU:CD1	2.48	0.43
33:HA:267:C:OP2	49:HQ:69:LYS:NZ	2.45	0.43
33:HA:922:G:C6	33:HA:923:A:C6	3.06	0.43
34:HB:14:HIS:O	34:HB:14:HIS:CG	2.71	0.43
36:HD:139:PRO:O	36:HD:140:ASN:HB2	2.18	0.43
41:HI:56:ASP:N	41:HI:57:MET:SD	2.91	0.43
1:AA:257:C:H2'	1:AA:258:G:O4'	2.19	0.43
1:AA:303:G:H2'	1:AA:304:U:O4'	2.17	0.43
1:AA:577:G:O2'	1:AA:1254:A:OP1	2.36	0.43
1:AA:609:A:H2'	1:AA:610:C:O4'	2.17	0.43
1:AA:959:A:C6	1:AA:960:A:C6	3.07	0.43
1:AA:1309:G:H4'	29:A2:7:PRO:HG2	2.01	0.43
1:AA:1670:C:OP1	59:AA:3432:HOH:O	2.21	0.43
1:AA:1796:U:H2'	1:AA:1797:G:H8	1.83	0.43
1:AA:2065:C:H1'	1:AA:2449:U:H3	1.83	0.43
1:AA:2207:C:H2'	1:AA:2208:C:C6	2.54	0.43
1:AA:2305:U:C4	1:AA:2306:C:C4	3.06	0.43
1:AA:2531:A:OP1	7:AG:174:LYS:CE	2.66	0.43
5:AE:12:LEU:CD1	5:AE:120:VAL:HG21	2.48	0.43
9:AI:29:GLN:O	9:AI:30:GLN:HB3	2.17	0.43
11:AK:19:VAL:CG1	11:AK:41:ILE:HG13	2.48	0.43
11:AK:35:VAL:HG12	11:AK:36:GLY:N	2.32	0.43
12:AL:2:ARG:HA	12:AL:5:THR:CG2	2.48	0.43
16:AP:50:ARG:NH2	16:AP:51:ASN:OD1	2.51	0.43
24:AX:29:LEU:HD23	24:AX:29:LEU:H	1.83	0.43
24:AX:52:ALA:O	24:AX:53:LYS:CB	2.66	0.43
32:A5:121:SER:HG	32:A5:122:GLN:H	1.65	0.43
33:BA:414:A:H2'	33:BA:415:A:C8	2.54	0.43
33:BA:829:G:H4'	34:BB:24:PRO:HG3	1.99	0.43
37:BE:72:ILE:HG12	37:BE:73:ASN:N	2.33	0.43
37:BE:95:PHE:C	37:BE:95:PHE:HD1	2.21	0.43
38:BF:38:ARG:HG2	38:BF:39:LEU:N	2.33	0.43
38:BF:70:VAL:O	38:BF:74:LEU:N	2.51	0.43
43:BK:67:ALA:HB2	43:BK:96:THR:OG1	2.19	0.43
44:BL:87:VAL:HG11	44:BL:90:LEU:HD22	1.99	0.43
45:BM:40:ALA:HB3	45:BM:43:VAL:HG23	2.00	0.43
50:BR:63:ARG:HB3	50:BR:70:TYR:CE2	2.54	0.43
51:BS:55:ARG:HH22	51:BS:79:THR:HG21	1.83	0.43
54:BV:36:VAL:HG12	54:BV:37:ASN:N	2.34	0.43
54:BV:342:VAL:CG2	54:BV:378:ARG:HD2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BV:553:VAL:HG23	54:BV:597:ALA:HB2	2.00	0.43
1:CA:309:A:C5	1:CA:330:A:C6	3.06	0.43
1:CA:493:G:H2'	1:CA:494:G:O4'	2.18	0.43
1:CA:580:U:H2'	1:CA:581:C:H6	1.84	0.43
1:CA:760:G:O6	1:CA:761:A:C2	2.71	0.43
1:CA:846:U:O2'	1:CA:847:U:P	2.75	0.43
1:CA:1081:U:O3'	9:CI:118:GLY:HA2	2.18	0.43
1:CA:1714:U:H5'	1:CA:1715:G:H5'	1.99	0.43
1:CA:1815:A:C8	1:CA:1817:G:C4	3.07	0.43
1:CA:2211:A:O2'	1:CA:2212:A:P	2.76	0.43
1:CA:2352:A:N1	23:CW:30:VAL:HG11	2.33	0.43
1:CA:2567:G:H2'	1:CA:2568:U:C6	2.53	0.43
1:CA:2677:G:H2'	1:CA:2678:C:H6	1.83	0.43
4:CD:12:THR:CG2	4:CD:13:ARG:N	2.81	0.43
4:CD:118:PHE:CD1	4:CD:119:ALA:N	2.84	0.43
4:CD:119:ALA:HB1	4:CD:123:LYS:HB3	1.99	0.43
7:CG:29:ASN:OD1	7:CG:78:VAL:HA	2.18	0.43
7:CG:84:LYS:HE2	7:CG:132:LEU:C	2.38	0.43
7:CG:163:TYR:O	7:CG:164:ALA:CB	2.67	0.43
10:CJ:32:LEU:CD2	10:CJ:54:ILE:HG12	2.48	0.43
13:CM:40:ARG:HD3	13:CM:93:VAL:HG21	1.99	0.43
17:CQ:63:ARG:HH12	17:CQ:96:ASP:HA	1.82	0.43
23:CW:24:ARG:NH1	23:CW:82:GLU:HB2	2.30	0.43
33:DA:270:A:H2'	33:DA:271:C:C6	2.54	0.43
33:DA:441:A:H61	33:DA:494:G:H22	1.66	0.43
33:DA:484:G:C5	33:DA:486:U:H1'	2.53	0.43
33:DA:505:G:C8	33:DA:535:A:C4	3.07	0.43
33:DA:1349:A:P	41:DI:120:LYS:HE2	2.57	0.43
54:DV:5:THR:HG23	54:DV:6:PRO:CD	2.48	0.43
54:DV:342:VAL:HG13	54:DV:378:ARG:HD3	2.00	0.43
1:EA:27:G:C2	1:EA:512:G:N3	2.86	0.43
1:EA:61:C:H2'	1:EA:62:U:H5'	2.00	0.43
1:EA:108:G:O2'	1:EA:347:A:N3	2.37	0.43
1:EA:172:A:H2'	1:EA:173:A:C8	2.53	0.43
1:EA:1083:U:H4'	32:E5:37:LYS:HE2	1.99	0.43
1:EA:1450:G:C6	1:EA:1451:C:N4	2.87	0.43
1:EA:1693:U:O2'	3:EC:13:ARG:NH2	2.51	0.43
1:EA:2138:G:N3	1:EA:2154:A:N1	2.66	0.43
1:EA:2636:C:HO2'	4:ED:45:TYR:HH	1.61	0.43
1:EA:2698:U:H2'	1:EA:2699:C:C6	2.54	0.43
3:EC:140:VAL:HG13	3:EC:189:ALA:HB1	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:ED:107:VAL:HA	4:ED:205:PRO:HA	2.00	0.43
11:EK:47:ILE:HG23	11:EK:48:PRO:N	2.34	0.43
14:EN:98:LEU:HB2	14:EN:112:TYR:HB2	2.00	0.43
17:EQ:88:GLU:HG2	18:ER:49:ILE:HG13	2.00	0.43
23:EW:72:GLY:N	23:EW:73:PRO:HD2	2.32	0.43
30:E3:23:HIS:ND1	30:E3:24:LYS:O	2.45	0.43
31:E4:2:LYS:HD3	31:E4:4:ARG:HH22	1.83	0.43
31:E4:33:HIS:O	31:E4:35:GLN:HG3	2.18	0.43
33:FA:373:A:H1'	33:FA:481:G:H1'	2.00	0.43
33:FA:735:C:H5'	50:FR:60:LYS:HD3	2.00	0.43
33:FA:1239:A:H4'	33:FA:1240:U:H5''	2.01	0.43
33:FA:1297:G:OP1	33:FA:1302:C:N4	2.45	0.43
36:FD:188:ARG:NH2	36:FD:197:GLU:OE2	2.49	0.43
38:FF:38:ARG:HG2	38:FF:39:LEU:H	1.84	0.43
38:FF:38:ARG:NH1	38:FF:61:LEU:HD21	2.34	0.43
39:FG:107:ALA:HB1	39:FG:133:THR:HG23	2.00	0.43
43:FK:35:THR:HG22	43:FK:41:ALA:HA	2.00	0.43
45:FM:4:ILE:HA	45:FM:57:ARG:CZ	2.49	0.43
45:FM:95:LEU:C	45:FM:109:ARG:HG2	2.39	0.43
46:FN:28:LYS:HD2	46:FN:29:ALA:HA	2.01	0.43
48:FP:42:ILE:HG22	48:FP:43:ALA:N	2.33	0.43
53:FU:37:PHE:O	53:FU:38:TYR:CB	2.66	0.43
54:FV:519:VAL:HB	54:FV:580:PHE:HB2	2.01	0.43
1:GA:320:A:OP2	5:GE:132:LYS:HD3	2.18	0.43
1:GA:404:A:H1'	1:GA:405:U:OP2	2.19	0.43
1:GA:1268:A:H2'	1:GA:1269:A:O4'	2.18	0.43
1:GA:1441:G:H2'	1:GA:1442:U:C6	2.53	0.43
1:GA:1448:G:C2	1:GA:1464:G:C2	3.07	0.43
1:GA:1652:A:C2	1:GA:2006:C:N3	2.87	0.43
1:GA:1864:U:O3'	1:GA:2409:G:N2	2.51	0.43
1:GA:2478:A:P	31:G4:2:LYS:HZ1	2.41	0.43
1:GA:2637:U:H2'	1:GA:2638:G:H5'	2.01	0.43
2:GB:82:U:C2	2:GB:83:G:C8	3.06	0.43
6:GF:72:SER:HB2	6:GF:80:GLN:HB3	2.01	0.43
7:GG:106:LEU:HB3	7:GG:151:ARG:HD3	2.00	0.43
9:GI:104:GLN:O	9:GI:105:LEU:HB2	2.19	0.43
11:GK:105:ARG:H	11:GK:105:ARG:HD3	1.83	0.43
14:GN:76:VAL:O	14:GN:80:PHE:HD2	2.00	0.43
33:HA:69:G:O6	33:HA:98:A:N6	2.52	0.43
33:HA:543:U:P	36:HD:14:ARG:HH21	2.42	0.43
33:HA:792:A:H4'	33:HA:793:U:O5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:988:G:H1'	33:HA:1015:G:H22	1.84	0.43
33:HA:1119:C:OP1	41:HI:85:ARG:NH1	2.52	0.43
33:HA:1181:G:O2'	33:HA:1182:G:C8	2.72	0.43
33:HA:1330:U:O4	33:HA:1331:G:C6	2.71	0.43
34:HB:187:ASP:HB2	34:HB:203:ASP:HB3	2.01	0.43
38:HF:26:THR:HG22	38:HF:62:MET:CE	2.48	0.43
41:HI:55:VAL:O	41:HI:56:ASP:HB3	2.18	0.43
44:HL:24:LEU:HD22	44:HL:59:ASN:HB2	2.01	0.43
1:AA:80:G:C2	1:AA:81:G:C8	3.07	0.43
1:AA:208:C:H2'	1:AA:209:C:H6	1.83	0.43
1:AA:274:C:C4	1:AA:275:C:C4	3.06	0.43
1:AA:322:A:OP2	5:AE:163:ASN:HB2	2.18	0.43
1:AA:1171:G:N2	1:AA:1179:G:C5	2.86	0.43
1:AA:1654:A:O2'	4:AD:118:PHE:CB	2.66	0.43
1:AA:1693:U:C4	1:AA:1977:A:C4	3.06	0.43
1:AA:2603:G:C6	1:AA:2604:U:C4	3.06	0.43
1:AA:2705:A:H2'	1:AA:2706:A:O4'	2.18	0.43
2:AB:60:C:H2'	2:AB:61:G:O4'	2.19	0.43
4:AD:11:MET:H	4:AD:26:VAL:H	1.66	0.43
6:AF:152:ASP:OD1	6:AF:152:ASP:N	2.49	0.43
7:AG:18:ILE:HG12	7:AG:23:ILE:HG13	1.99	0.43
7:AG:35:THR:OG1	7:AG:36:LEU:N	2.51	0.43
9:AI:74:PRO:HG2	9:AI:77:VAL:CG2	2.49	0.43
11:AK:24:VAL:CG1	11:AK:30:ARG:HD3	2.48	0.43
13:AM:1:MET:O	13:AM:2:LEU:CB	2.66	0.43
14:AN:30:ARG:NH2	14:AN:72:ASP:OD2	2.51	0.43
17:AQ:65:ASN:OD1	17:AQ:69:ARG:NH2	2.51	0.43
18:AR:51:VAL:HB	18:AR:52:PRO:CD	2.48	0.43
19:AS:63:GLY:O	19:AS:64:ALA:HB3	2.17	0.43
26:AZ:5:LYS:HD2	26:AZ:5:LYS:N	2.33	0.43
31:A4:7:VAL:O	31:A4:8:LYS:HG2	2.18	0.43
32:A5:100:ALA:CB	32:A5:125:ARG:HE	2.28	0.43
33:BA:72:A:C2'	33:BA:73:C:H5''	2.49	0.43
33:BA:522:C:N4	33:BA:523:A:C6	2.87	0.43
33:BA:675:A:N6	33:BA:676:A:C6	2.87	0.43
33:BA:680:C:H2'	33:BA:681:A:C8	2.54	0.43
33:BA:701:U:H4'	33:BA:702:A:O5'	2.19	0.43
33:BA:1227:A:H3'	33:BA:1227:A:N3	2.33	0.43
33:BA:1502:A:H5'	33:BA:1504:G:N7	2.34	0.43
34:BB:128:LEU:O	34:BB:129:THR:HG23	2.19	0.43
35:BC:13:GLY:HA3	46:BN:97:LYS:HE3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BI:44:ALA:HB1	41:BI:76:ALA:HB3	2.00	0.43
41:BI:67:VAL:O	41:BI:67:VAL:HG13	2.19	0.43
41:BI:89:GLU:HG3	41:BI:90:TYR:H	1.81	0.43
44:BL:74:LEU:CD1	44:BL:80:ILE:HG21	2.49	0.43
45:BM:22:ILE:HG23	45:BM:66:GLU:HG2	1.99	0.43
1:CA:182:A:C6	1:CA:183:C:C4	3.07	0.43
1:CA:608:A:C6	1:CA:609:A:C6	3.06	0.43
1:CA:1153:C:OP1	17:CQ:75:TYR:OH	2.30	0.43
1:CA:1385:A:H1'	1:CA:1386:C:C6	2.53	0.43
1:CA:2024:G:C4	1:CA:2040:G:N2	2.86	0.43
1:CA:2283:C:H5''	1:CA:2389:G:O2'	2.18	0.43
1:CA:2311:A:H3'	1:CA:2312:U:C5	2.53	0.43
1:CA:2406:A:OP1	59:CA:3561:HOH:O	2.21	0.43
2:CB:111:U:H2'	2:CB:112:G:H8	1.84	0.43
7:CG:60:GLY:O	7:CG:61:TRP:HB2	2.19	0.43
7:CG:112:VAL:HG23	7:CG:113:ASP:H	1.80	0.43
11:CK:14:SER:HB2	11:CK:95:ILE:HD11	1.99	0.43
11:CK:18:ARG:HB2	11:CK:45:GLU:CG	2.48	0.43
11:CK:19:VAL:CG1	11:CK:41:ILE:CG1	2.97	0.43
17:CQ:65:ASN:ND2	17:CQ:75:TYR:HB2	2.32	0.43
18:CR:68:ARG:HD3	18:CR:92:TRP:CZ2	2.54	0.43
20:CT:32:LEU:O	20:CT:34:VAL:HG13	2.18	0.43
33:DA:374:A:O2'	33:DA:451:A:OP2	2.27	0.43
33:DA:1105:A:H2'	33:DA:1106:G:H8	1.84	0.43
33:DA:1110:A:OP2	59:DA:1855:HOH:O	2.21	0.43
33:DA:1124:G:H3'	33:DA:1145:A:N6	2.33	0.43
33:DA:1130:A:N6	33:DA:1131:G:O6	2.51	0.43
33:DA:1201:A:H1'	33:DA:1202:U:OP2	2.18	0.43
33:DA:1272:G:H2'	33:DA:1273:C:C6	2.54	0.43
33:DA:1305:G:H21	33:DA:1332:A:H2	1.67	0.43
33:DA:1481:U:O4	59:DA:1793:HOH:O	2.21	0.43
34:DB:14:HIS:O	34:DB:14:HIS:CG	2.70	0.43
34:DB:86:CYS:SG	34:DB:221:ARG:HA	2.59	0.43
35:DC:126:ARG:O	35:DC:127:ARG:HB3	2.19	0.43
1:EA:565:C:H2'	1:EA:566:U:O4'	2.19	0.43
1:EA:747:U:C4	1:EA:2613:U:C5	3.06	0.43
1:EA:948:C:O2	1:EA:984:A:O2'	2.37	0.43
1:EA:1068:G:H21	1:EA:1096:A:H5'	1.83	0.43
1:EA:1198:U:H4'	17:EQ:4:LYS:NZ	2.34	0.43
7:EG:22:VAL:HG22	7:EG:36:LEU:CD1	2.49	0.43
10:EJ:64:VAL:CG2	10:EJ:89:PHE:CZ	3.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:ER:51:VAL:HB	18:ER:52:PRO:HD2	2.00	0.43
30:E3:49:VAL:CG2	30:E3:54:LEU:CD1	2.96	0.43
33:FA:375:U:C4	33:FA:376:G:N7	2.86	0.43
33:FA:719:C:O2'	50:FR:38:LYS:HB3	2.19	0.43
33:FA:977:A:H2'	33:FA:978:A:H5''	2.00	0.43
33:FA:1244:G:H2'	33:FA:1245:C:C6	2.54	0.43
36:FD:36:GLN:O	36:FD:37:ALA:HB2	2.18	0.43
37:FE:111:MET:O	37:FE:115:LEU:HD22	2.18	0.43
39:FG:15:ASP:HB3	39:FG:20:SER:H	1.83	0.43
41:FI:7:TYR:CG	41:FI:8:GLY:N	2.86	0.43
44:FL:102:LEU:N	44:FL:102:LEU:CD1	2.82	0.43
1:GA:1838:C:C5	1:GA:1899:A:C5	3.06	0.43
1:GA:2387:U:H1'	23:GW:38:ARG:NE	2.33	0.43
1:GA:2720:U:OP1	16:GP:52:ARG:NH2	2.51	0.43
4:GD:14:ILE:HG23	4:GD:22:ILE:HB	2.01	0.43
5:GE:44:ARG:HG3	5:GE:44:ARG:NH2	2.33	0.43
12:GL:91:ASP:HB3	12:GL:94:THR:OG1	2.18	0.43
15:GO:66:GLY:HA2	15:GO:102:ARG:CZ	2.49	0.43
16:GP:9:GLN:HA	16:GP:12:MET:HG3	2.01	0.43
23:GW:49:ASN:HA	23:GW:61:LYS:HB2	2.01	0.43
33:HA:390:U:H4'	48:HP:28:ARG:NH2	2.33	0.43
33:HA:978:A:C6	33:HA:1318:A:C6	3.06	0.43
33:HA:1051:C:C4	33:HA:1052:U:C4	3.07	0.43
33:HA:1163:A:C2	33:HA:1174:G:C2	3.07	0.43
34:HB:119:GLN:HA	34:HB:122:ASP:HB2	2.00	0.43
37:HE:46:VAL:HG21	37:HE:118:ALA:HB2	2.01	0.43
37:HE:80:THR:HB	37:HE:122:ASN:HD21	1.84	0.43
38:HF:70:VAL:O	38:HF:74:LEU:N	2.52	0.43
53:HU:19:PHE:O	53:HU:22:SER:HB3	2.18	0.43
1:AA:122:G:H8	1:AA:122:G:O5'	2.02	0.43
1:AA:340:A:H2'	1:AA:341:C:H5'	2.01	0.43
1:AA:684:G:OP1	29:A2:21:ARG:NH1	2.49	0.43
1:AA:1285:A:N7	1:AA:1329:U:C4	2.86	0.43
1:AA:1425:G:H2'	1:AA:1426:G:C8	2.53	0.43
1:AA:1444:G:N2	1:AA:1548:A:C4	2.86	0.43
4:AD:32:ASN:N	4:AD:32:ASN:HD22	2.16	0.43
6:AF:97:GLU:O	6:AF:101:ARG:HG2	2.19	0.43
7:AG:26:LYS:CG	7:AG:27:GLY:N	2.81	0.43
15:AO:31:THR:CG2	15:AO:34:HIS:H	2.32	0.43
17:AQ:46:TYR:CZ	17:AQ:50:ARG:CZ	3.02	0.43
20:AT:19:LYS:O	20:AT:23:ALA:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A5:68:PRO:HA	32:A5:72:LEU:CG	2.47	0.43
33:BA:376:G:H2'	33:BA:377:G:H8	1.83	0.43
33:BA:1144:G:C2	33:BA:1145:A:C2	3.07	0.43
33:BA:1181:G:O2'	33:BA:1182:G:N7	2.47	0.43
33:BA:1512:U:H2'	33:BA:1513:A:C8	2.53	0.43
34:BB:32:GLY:O	34:BB:33:ALA:CB	2.66	0.43
35:BC:186:THR:HG22	35:BC:187:SER:N	2.34	0.43
36:BD:105:MET:SD	36:BD:143:VAL:HG13	2.58	0.43
38:BF:61:LEU:HG	38:BF:62:MET:H	1.84	0.43
42:BJ:57:VAL:CG1	42:BJ:58:ASN:H	2.32	0.43
46:BN:42:TRP:CD1	46:BN:45:VAL:HG13	2.54	0.43
54:BV:396:THR:HG21	54:BV:406:LEU:HD13	2.00	0.43
54:BV:546:PRO:HD3	54:BV:583:TYR:CE2	2.53	0.43
1:CA:356:G:C6	1:CA:357:C:C4	3.07	0.43
1:CA:1025:G:H4'	1:CA:1026:G:OP2	2.18	0.43
1:CA:1164:C:H2'	1:CA:1165:A:C8	2.54	0.43
1:CA:1901:A:H2'	1:CA:1902:C:C6	2.53	0.43
1:CA:2133:G:H5''	1:CA:2155:U:C5	2.53	0.43
1:CA:2263:C:N4	23:CW:11:ASN:OD1	2.51	0.43
1:CA:2661:G:H5'	54:DV:19:ILE:HG13	1.99	0.43
3:CC:199:HIS:O	3:CC:202:ARG:HG3	2.19	0.43
4:CD:14:ILE:HD11	4:CD:178:VAL:CG1	2.48	0.43
9:CI:10:LEU:HD23	9:CI:23:VAL:CG1	2.48	0.43
14:CN:51:LEU:HD21	14:CN:70:THR:CG2	2.48	0.43
20:CT:69:ARG:CD	20:CT:70:HIS:H	2.31	0.43
26:CZ:37:ARG:HH11	26:CZ:37:ARG:HG3	1.83	0.43
30:C3:44:ARG:N	30:C3:45:PRO:HD2	2.33	0.43
33:DA:469:C:C5	33:DA:470:C:C5	3.06	0.43
33:DA:597:G:C8	33:DA:598:U:C5	3.06	0.43
33:DA:755:G:N2	33:DA:756:C:C2	2.86	0.43
33:DA:1244:G:H2'	33:DA:1245:C:C6	2.54	0.43
33:DA:1331:G:O2'	33:DA:1332:A:P	2.77	0.43
36:DD:163:GLU:HA	36:DD:167:LYS:HE2	2.01	0.43
40:DH:63:LEU:HD22	40:DH:63:LEU:N	2.34	0.43
45:DM:22:ILE:HB	45:DM:25:VAL:HG22	1.99	0.43
54:DV:500:ASP:HA	54:DV:520:ILE:O	2.19	0.43
1:EA:96:C:H2'	1:EA:97:C:C6	2.53	0.43
1:EA:100:U:C2	1:EA:101:A:N6	2.86	0.43
1:EA:272:A:O2'	1:EA:273:G:H8	2.02	0.43
1:EA:996:A:C6	1:EA:1160:G:C2	3.06	0.43
1:EA:1099:G:C2	1:EA:1100:C:C6	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1478:G:H2'	1:EA:1479:G:H8	1.84	0.43
1:EA:1509:A:O2'	1:EA:1510:G:P	2.76	0.43
1:EA:2024:G:O3'	4:ED:154:LYS:NZ	2.38	0.43
1:EA:2364:C:H4'	23:EW:55:ASP:OD1	2.19	0.43
1:EA:2722:G:H2'	1:EA:2723:C:C6	2.54	0.43
3:EC:172:THR:HG22	3:EC:182:LYS:HG2	2.01	0.43
12:EL:77:ILE:O	12:EL:110:VAL:O	2.37	0.43
26:EZ:39:ASP:CG	26:EZ:44:ARG:HH11	2.22	0.43
28:E1:46:VAL:HG12	28:E1:47:ILE:N	2.34	0.43
31:E4:36:ARG:HG2	31:E4:37:GLN:N	2.32	0.43
33:FA:1179:A:H2'	33:FA:1180:A:O4'	2.18	0.43
33:FA:1182:G:H4'	33:FA:1183:U:H5''	2.00	0.43
34:FB:15:PHE:O	34:FB:40:ILE:HG12	2.19	0.43
34:FB:53:LEU:HD22	34:FB:216:VAL:HG12	2.01	0.43
36:FD:124:MET:HG2	36:FD:129:VAL:HA	2.00	0.43
39:FG:79:ARG:NH2	39:FG:82:GLY:HA2	2.33	0.43
43:FK:122:ARG:HG3	53:FU:36:GLU:HB2	2.00	0.43
43:FK:125:LYS:HB2	53:FU:35:ARG:HG2	2.01	0.43
54:FV:177:GLU:OE1	54:FV:177:GLU:N	2.50	0.43
54:FV:416:ILE:CD1	54:FV:665:GLY:HA2	2.48	0.43
1:GA:142:A:C2	20:GT:2:ILE:HG23	2.53	0.43
1:GA:1857:G:C2	1:GA:1884:G:N3	2.86	0.43
1:GA:2270:A:N6	59:GA:3509:HOH:O	2.41	0.43
1:GA:2336:A:N6	23:GW:40:ARG:HB2	2.33	0.43
1:GA:2347:C:HO2'	28:G1:20:TYR:HH	1.60	0.43
1:GA:2577:A:H5''	1:GA:2578:G:H5'	2.01	0.43
2:GB:51:G:H21	2:GB:53:A:N6	2.16	0.43
6:GF:134:GLN:C	6:GF:136:ILE:N	2.72	0.43
9:GI:19:PRO:HD2	9:GI:24:GLY:H	1.84	0.43
14:GN:75:ILE:O	14:GN:79:LEU:HD12	2.19	0.43
14:GN:79:LEU:O	14:GN:80:PHE:HB2	2.17	0.43
17:GQ:65:ASN:ND2	17:GQ:75:TYR:CB	2.81	0.43
19:GS:63:GLY:O	19:GS:64:ALA:CB	2.65	0.43
33:HA:122:G:C5	33:HA:123:U:C5	3.07	0.43
33:HA:1226:C:P	45:HM:90:ARG:HH12	2.42	0.43
33:HA:1306:A:H8	33:HA:1306:A:O5'	2.02	0.43
34:HB:32:GLY:HA2	34:HB:39:ILE:HB	2.00	0.43
34:HB:99:MET:HA	34:HB:106:VAL:HG21	1.99	0.43
37:HE:83:HIS:CD2	40:HH:96:MET:CE	3.02	0.43
54:HV:18:HIS:ND1	54:HV:122:GLN:HB2	2.33	0.43
54:HV:505:HIS:O	54:HV:506:ALA:HB3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:HV:583:TYR:HD1	54:HV:584:HIS:C	2.22	0.43
1:AA:728:G:H4'	3:AC:12:ARG:HD3	1.99	0.43
1:AA:775:G:C2	1:AA:777:G:O6	2.72	0.43
1:AA:1072:C:H5'	1:AA:1073:A:OP1	2.19	0.43
1:AA:2353:G:H1'	23:AW:30:VAL:HG12	1.99	0.43
1:AA:2637:U:H2'	1:AA:2638:G:H5'	1.99	0.43
1:AA:2720:U:H2'	1:AA:2721:A:C8	2.53	0.43
1:AA:2760:C:C2'	1:AA:2761:A:H5'	2.49	0.43
1:AA:2810:A:H2'	1:AA:2811:G:O4'	2.18	0.43
4:AD:115:GLY:O	14:AN:3:HIS:NE2	2.49	0.43
5:AE:120:VAL:CG2	5:AE:193:VAL:HG21	2.49	0.43
6:AF:105:ILE:CD1	6:AF:138:PRO:HG2	2.48	0.43
8:AH:4:ILE:HG21	8:AH:47:PHE:HB2	2.00	0.43
9:AI:57:VAL:HG23	9:AI:71:LYS:CE	2.49	0.43
9:AI:77:VAL:C	9:AI:79:LEU:H	2.22	0.43
10:AJ:111:LYS:CE	10:AJ:112:GLY:H	2.30	0.43
12:AL:82:LEU:CB	12:AL:90:VAL:HG21	2.48	0.43
16:AP:33:GLU:OE1	16:AP:38:ARG:NH1	2.48	0.43
30:A3:27:ASN:O	30:A3:35:LYS:NZ	2.49	0.43
32:A5:51:TYR:HD1	32:A5:52:MET:N	2.15	0.43
33:BA:301:G:O2'	59:BA:1733:HOH:O	2.21	0.43
33:BA:539:A:H2'	33:BA:540:G:C8	2.53	0.43
33:BA:939:G:C6	33:BA:940:C:N4	2.87	0.43
33:BA:1059:C:O3'	46:BN:85:ARG:NH2	2.52	0.43
35:BC:151:VAL:O	35:BC:167:TRP:HA	2.19	0.43
36:BD:132:ILE:HD12	36:BD:134:SER:N	2.34	0.43
40:BH:5:ASP:OD2	40:BH:8:ALA:HB2	2.19	0.43
40:BH:50:LYS:HE3	40:BH:52:GLU:OE1	2.19	0.43
41:BI:38:TYR:CD1	41:BI:39:PHE:CD2	3.07	0.43
48:BP:42:ILE:HG22	48:BP:43:ALA:N	2.34	0.43
1:CA:565:C:H4'	1:CA:1253:A:N6	2.34	0.43
1:CA:990:A:H1'	1:CA:1156:A:N3	2.33	0.43
1:CA:1006:C:C2	1:CA:1138:G:N2	2.86	0.43
1:CA:1057:A:C2	1:CA:1058:U:C5	3.06	0.43
1:CA:1093:G:C6	1:CA:1094:U:C4	3.07	0.43
1:CA:1139:G:O2'	1:CA:1143:A:N1	2.31	0.43
1:CA:1478:G:H22	1:CA:1513:U:H3	1.65	0.43
1:CA:1719:G:H2'	1:CA:1720:U:O4'	2.18	0.43
1:CA:2259:U:C4	1:CA:2427:C:N4	2.87	0.43
1:CA:2783:U:H2'	1:CA:2784:U:H6	1.84	0.43
9:CI:66:PHE:HE2	9:CI:68:PHE:HB3	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CK:5:GLN:O	11:CK:6:THR:HB	2.18	0.43
13:CM:42:THR:O	13:CM:45:GLN:N	2.49	0.43
17:CQ:87:VAL:HB	18:CR:52:PRO:HD3	2.00	0.43
28:C1:35:LEU:CD2	28:C1:35:LEU:N	2.82	0.43
30:C3:44:ARG:N	30:C3:45:PRO:CD	2.81	0.43
33:DA:202:G:HO2'	33:DA:468:A:H8	1.63	0.43
33:DA:223:A:H2'	33:DA:224:U:H6	1.83	0.43
33:DA:484:G:N7	33:DA:486:U:H1'	2.34	0.43
33:DA:643:C:H5''	40:DH:32:LEU:HD22	2.00	0.43
33:DA:1036:A:H3'	33:DA:1037:C:C6	2.53	0.43
41:DI:51:PRO:HB3	41:DI:84:THR:HG23	1.99	0.43
43:DK:82:LEU:CD2	43:DK:105:PHE:HB3	2.49	0.43
43:DK:112:ASP:O	53:DU:4:ILE:HG23	2.18	0.43
44:DL:99:ARG:HB2	44:DL:117:TYR:HA	2.00	0.43
45:DM:95:LEU:HB3	45:DM:96:PRO:HD2	2.00	0.43
49:DQ:19:LYS:HA	49:DQ:48:ASP:O	2.18	0.43
54:DV:317:PHE:CE1	54:DV:343:VAL:CG2	3.02	0.43
54:DV:333:LEU:CD2	54:DV:386:ILE:HG12	2.49	0.43
54:DV:495:ARG:O	54:DV:524:PRO:HG3	2.17	0.43
1:EA:138:U:OP1	1:EA:139:U:H3'	2.19	0.43
1:EA:587:C:O2	12:EL:33:ARG:NH2	2.51	0.43
1:EA:995:C:H42	10:EJ:2:LYS:CB	2.32	0.43
1:EA:1314:C:O2	1:EA:1314:C:H2'	2.19	0.43
1:EA:1385:A:C6	1:EA:1403:A:C5	3.07	0.43
1:EA:1868:C:N4	1:EA:1869:G:C6	2.86	0.43
1:EA:2142:A:N7	1:EA:2147:A:C4	2.87	0.43
1:EA:2297:A:N1	1:EA:2321:U:H5	2.17	0.43
1:EA:2353:G:H1'	23:EW:30:VAL:HG13	2.00	0.43
2:EB:90:C:H5'	13:EM:18:ARG:HG2	2.01	0.43
10:EJ:114:LEU:O	10:EJ:117:ALA:N	2.51	0.43
18:ER:27:ILE:HG13	18:ER:33:VAL:CG1	2.48	0.43
18:ER:60:LYS:H	18:ER:100:GLY:HA3	1.83	0.43
23:EW:35:ILE:HA	23:EW:57:THR:HG23	2.00	0.43
33:FA:142:G:H2'	33:FA:142:G:N3	2.33	0.43
33:FA:1164:G:C6	33:FA:1165:U:C4	3.07	0.43
33:FA:1308:U:OP1	45:FM:97:VAL:N	2.40	0.43
33:FA:1486:G:H2'	33:FA:1487:G:O4'	2.18	0.43
35:FC:22:TRP:HB3	35:FC:59:ARG:HB2	2.00	0.43
40:FH:89:LYS:HG3	40:FH:90:ASP:H	1.84	0.43
54:FV:559:GLU:HB3	54:FV:560:GLN:OE1	2.18	0.43
1:GA:573:U:O2'	1:GA:574:A:H3'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:807:U:OP2	12:GL:41:ARG:NH1	2.52	0.43
1:GA:1322:A:C6	1:GA:1323:C:C4	3.07	0.43
1:GA:1669:A:H5''	1:GA:2550:G:OP1	2.19	0.43
1:GA:2421:G:P	28:G1:7:LYS:NZ	2.92	0.43
13:GM:50:ARG:CD	13:GM:65:ILE:HD11	2.48	0.43
13:GM:77:PRO:HD2	13:GM:80:VAL:HG11	1.99	0.43
15:GO:104:GLN:O	15:GO:107:ALA:HB3	2.19	0.43
18:GR:36:ALA:HA	18:GR:58:VAL:HA	2.00	0.43
21:GU:41:VAL:O	21:GU:59:GLU:HA	2.19	0.43
23:GW:51:GLY:CA	23:GW:59:PHE:CZ	3.01	0.43
27:G0:37:HIS:HB3	27:G0:43:THR:HG22	2.01	0.43
33:HA:79:G:P	33:HA:79:G:O4'	2.77	0.43
34:HB:32:GLY:O	34:HB:33:ALA:CB	2.66	0.43
36:HD:34:ILE:O	36:HD:35:GLU:HB3	2.19	0.43
50:HR:57:ARG:O	50:HR:61:ARG:HD2	2.18	0.43
54:HV:151:PHE:CE1	54:HV:264:VAL:HG12	2.54	0.43
54:HV:255:ARG:HG2	54:HV:260:GLU:HB2	2.01	0.43
54:HV:338:VAL:HG21	54:HV:377:VAL:HG12	2.00	0.43
54:HV:660:LEU:O	54:HV:662:GLU:N	2.46	0.43
1:AA:244:A:H2'	1:AA:245:G:O4'	2.19	0.43
1:AA:807:U:OP1	12:AL:36:LYS:NZ	2.27	0.43
1:AA:868:U:C4	1:AA:869:G:N7	2.86	0.43
1:AA:1205:A:N1	5:AE:165:HIS:HB2	2.34	0.43
1:AA:1565:C:C5	1:AA:1567:G:C6	3.07	0.43
1:AA:1710:G:H2'	1:AA:1711:A:C8	2.54	0.43
1:AA:2314:A:C2	1:AA:2315:G:C4	3.07	0.43
5:AE:108:ILE:HG23	5:AE:109:LEU:N	2.32	0.43
6:AF:47:LYS:HA	6:AF:50:ASP:OD2	2.18	0.43
6:AF:101:ARG:CG	6:AF:137:PHE:HZ	2.32	0.43
6:AF:172:PHE:O	6:AF:174:PHE:N	2.52	0.43
9:AI:130:GLY:HA2	9:AI:133:ARG:HB3	2.01	0.43
31:A4:33:HIS:O	31:A4:35:GLN:HG3	2.18	0.43
32:A5:105:LYS:HB2	32:A5:107:GLU:OE2	2.19	0.43
33:BA:126:G:C2'	33:BA:127:G:O5'	2.67	0.43
33:BA:185:U:O2	52:BT:76:LYS:NZ	2.52	0.43
33:BA:309:A:H2'	33:BA:310:G:H8	1.84	0.43
33:BA:502:A:H2'	33:BA:503:C:O4'	2.19	0.43
33:BA:714:G:C6	33:BA:715:A:C6	3.06	0.43
33:BA:1291:U:H4'	41:BI:42:GLU:HG3	2.01	0.43
34:BB:16:GLY:HA3	34:BB:40:ILE:HG23	2.01	0.43
39:BG:18:PHE:CZ	39:BG:58:GLU:HG2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BG:118:LEU:O	39:BG:122:ASN:N	2.44	0.43
41:BI:28:ILE:HG23	41:BI:63:LEU:HD23	2.00	0.43
43:BK:73:ALA:HA	43:BK:76:GLU:HG3	2.00	0.43
48:BP:36:VAL:HG11	48:BP:57:ILE:CG1	2.48	0.43
54:BV:34:THR:HG21	54:BV:70:ALA:CB	2.48	0.43
1:CA:2708:G:H1'	14:CN:71:ARG:CZ	2.48	0.43
1:CA:2799:A:C6	1:CA:2801:G:C4	3.07	0.43
4:CD:91:THR:C	4:CD:93:GLY:H	2.22	0.43
8:CH:27:ARG:NH1	24:CX:63:ILE:CG1	2.80	0.43
9:CI:25:PRO:CB	54:DV:649:VAL:HA	2.48	0.43
9:CI:74:PRO:HG2	9:CI:77:VAL:HG21	2.01	0.43
10:CJ:31:GLU:HG3	10:CJ:142:ILE:HG22	2.01	0.43
12:CL:62:PRO:HG2	30:C3:24:LYS:HD3	1.99	0.43
13:CM:22:GLN:O	13:CM:24:THR:N	2.51	0.43
16:CP:92:ARG:O	16:CP:92:ARG:HG2	2.18	0.43
18:CR:4:VAL:HG23	18:CR:39:LEU:HB2	2.00	0.43
21:CU:86:PHE:HB2	21:CU:92:VAL:CG1	2.48	0.43
36:DD:4:TYR:CZ	36:DD:11:LEU:HD11	2.54	0.43
36:DD:36:GLN:O	36:DD:37:ALA:HB2	2.18	0.43
36:DD:91:LEU:HD12	36:DD:91:LEU:H	1.84	0.43
36:DD:146:ARG:CZ	36:DD:148:LYS:CD	2.97	0.43
41:DI:11:ARG:HA	41:DI:78:ALA:HB1	2.00	0.43
42:DJ:53:ILE:HG23	42:DJ:62:ARG:HA	2.01	0.43
43:DK:88:GLY:N	43:DK:114:THR:HG22	2.32	0.43
44:DL:87:VAL:C	44:DL:89:ASP:H	2.22	0.43
45:DM:3:ARG:HG2	45:DM:9:ILE:CG2	2.49	0.43
52:DT:55:GLN:N	52:DT:56:PRO:HD2	2.33	0.43
1:EA:681:G:C2	1:EA:797:G:C2	3.07	0.43
1:EA:880:G:C2	1:EA:898:C:C2	3.07	0.43
1:EA:1088:A:O2'	1:EA:1089:A:OP1	2.34	0.43
1:EA:1172:C:N3	1:EA:1173:U:H1'	2.33	0.43
1:EA:1296:G:OP1	1:EA:2709:G:O2'	2.22	0.43
1:EA:2321:U:H5'	1:EA:2322:A:OP2	2.19	0.43
1:EA:2680:U:H5'	4:ED:194:PRO:HA	2.01	0.43
1:EA:2836:U:C4	1:EA:2883:A:N6	2.87	0.43
6:EF:43:ILE:CG2	6:EF:78:ILE:HG22	2.49	0.43
11:EK:105:ARG:HD2	11:EK:122:VAL:HG13	1.99	0.43
12:EL:127:VAL:HG11	12:EL:142:ILE:HG21	2.01	0.43
13:EM:1:MET:O	13:EM:2:LEU:CB	2.66	0.43
15:EO:71:ALA:O	15:EO:74:VAL:N	2.51	0.43
15:EO:88:LYS:O	15:EO:89:ASP:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:ES:71:VAL:O	19:ES:71:VAL:CG2	2.67	0.43
20:ET:3:ARG:NH2	20:ET:7:LEU:HD21	2.34	0.43
21:EU:91:LYS:O	21:EU:92:VAL:HG12	2.19	0.43
32:E5:54:VAL:O	32:E5:56:ARG:N	2.52	0.43
32:E5:110:ALA:CB	32:E5:113:PHE:CE2	3.02	0.43
33:FA:320:A:C2	33:FA:334:C:N3	2.86	0.43
33:FA:393:A:OP2	48:FP:12:LYS:HD2	2.18	0.43
33:FA:978:A:O2'	33:FA:1322:C:H5	2.01	0.43
33:FA:1060:U:H5''	42:FJ:53:ILE:HD12	2.01	0.43
33:FA:1109:C:OP1	59:FA:1856:HOH:O	2.21	0.43
33:FA:1492:A:H62	33:FA:1493:A:N6	2.17	0.43
34:FB:22:TRP:O	34:FB:22:TRP:CG	2.70	0.43
34:FB:46:VAL:HG22	34:FB:49:PHE:CZ	2.54	0.43
34:FB:67:LEU:HD13	34:FB:160:LEU:HD11	2.01	0.43
37:FE:16:ILE:HD12	37:FE:137:VAL:HG11	2.00	0.43
41:FI:91:ASP:CG	41:FI:93:SER:HB3	2.39	0.43
43:FK:79:ILE:CD1	43:FK:81:ASN:O	2.67	0.43
52:FT:81:ALA:O	52:FT:85:LYS:HG2	2.18	0.43
54:FV:217:GLU:O	54:FV:220:GLN:N	2.51	0.43
54:FV:255:ARG:HB3	54:FV:261:ILE:HG21	2.01	0.43
54:FV:364:VAL:CG2	54:FV:386:ILE:HD11	2.48	0.43
54:FV:552:ALA:HB1	54:FV:590:GLU:O	2.19	0.43
1:GA:53:A:C8	1:GA:54:G:C8	3.07	0.43
1:GA:266:G:C6	1:GA:267:C:C5	3.07	0.43
1:GA:558:U:H5''	10:GJ:111:LYS:CE	2.46	0.43
1:GA:686:U:O2	29:G2:11:LYS:HE3	2.17	0.43
1:GA:962:G:H2'	1:GA:963:U:H6	1.84	0.43
1:GA:1584:U:H2'	1:GA:1585:C:H5'	2.00	0.43
1:GA:2108:A:N1	1:GA:2181:U:C5	2.87	0.43
1:GA:2531:A:OP1	7:GG:174:LYS:HE3	2.18	0.43
1:GA:2787:C:H1'	4:GD:63:PRO:HG3	2.01	0.43
5:GE:65:THR:C	5:GE:67:ARG:H	2.21	0.43
9:GI:18:ASN:N	9:GI:19:PRO:CD	2.81	0.43
10:GJ:64:VAL:HG13	10:GJ:65:THR:O	2.19	0.43
16:GP:33:GLU:OE1	33:HA:345:C:H4'	2.19	0.43
33:HA:109:A:C6	33:HA:326:G:C6	3.07	0.43
33:HA:633:G:H2'	33:HA:634:C:C6	2.54	0.43
33:HA:688:G:C5	33:HA:700:G:C2	3.07	0.43
33:HA:987:G:N2	33:HA:1218:C:O2	2.46	0.43
33:HA:1305:G:O2'	33:HA:1306:A:C8	2.72	0.43
34:HB:58:LYS:NZ	34:HB:62:ARG:HG3	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:HB:98:GLY:C	34:HB:100:LEU:H	2.21	0.43
40:HH:106:THR:HG22	40:HH:107:SER:N	2.34	0.43
44:HL:24:LEU:HG	44:HL:25:GLU:H	1.84	0.43
48:HP:4:ILE:HD12	48:HP:4:ILE:N	2.34	0.43
54:HV:75:MET:HE1	54:HV:202:PHE:HZ	1.83	0.43
54:HV:549:TYR:CD2	54:HV:593:PHE:CD2	3.07	0.43
54:HV:657:GLU:OE1	54:HV:686:LYS:NZ	2.51	0.43
1:AA:170:U:H2'	1:AA:171:U:C6	2.54	0.43
1:AA:208:C:H2'	1:AA:209:C:C6	2.54	0.43
1:AA:277:G:H2'	1:AA:361:G:O6	2.19	0.43
1:AA:639:U:H2'	1:AA:640:C:C6	2.54	0.43
1:AA:846:U:O2'	1:AA:847:U:O5'	2.33	0.43
1:AA:1000:A:C6	1:AA:1001:A:C6	3.06	0.43
1:AA:1913:A:N6	54:BV:507:LYS:NZ	2.67	0.43
1:AA:1927:A:C6	1:AA:1928:A:C6	3.07	0.43
1:AA:2211:A:O2'	1:AA:2212:A:P	2.77	0.43
1:AA:2362:C:OP1	30:A3:39:ARG:NH1	2.52	0.43
1:AA:2823:A:C5	1:AA:2824:C:C5	3.07	0.43
2:AB:12:C:C5	23:AW:72:GLY:HA3	2.54	0.43
3:AC:141:HIS:H	3:AC:141:HIS:CD2	2.37	0.43
4:AD:91:THR:C	4:AD:93:GLY:H	2.21	0.43
5:AE:118:LEU:HD23	5:AE:186:VAL:HG13	2.00	0.43
5:AE:120:VAL:HG21	5:AE:193:VAL:HG21	2.01	0.43
6:AF:3:LEU:HD12	6:AF:172:PHE:HD1	1.83	0.43
6:AF:162:ASP:HB3	6:AF:166:ARG:NH1	2.32	0.43
7:AG:83:THR:HB	7:AG:84:LYS:HE2	1.99	0.43
9:AI:137:LEU:N	9:AI:137:LEU:HD23	2.34	0.43
10:AJ:38:GLY:O	10:AJ:43:GLU:HB2	2.19	0.43
12:AL:62:PRO:HG2	30:A3:24:LYS:HD3	2.01	0.43
13:AM:12:MET:HB2	13:AM:72:PRO:HD2	2.01	0.43
33:BA:670:G:C2	33:BA:737:C:C2	3.06	0.43
33:BA:1149:C:N3	33:BA:1150:A:C5	2.87	0.43
33:BA:1287:A:H2'	33:BA:1288:A:C8	2.54	0.43
33:BA:1295:U:N3	33:BA:1296:C:C4	2.86	0.43
33:BA:1376:U:P	39:BG:25:LYS:HZ1	2.34	0.43
36:BD:80:ALA:HA	36:BD:86:THR:CG2	2.48	0.43
36:BD:91:LEU:H	36:BD:91:LEU:HD12	1.83	0.43
37:BE:56:VAL:HG12	37:BE:60:ILE:CD1	2.49	0.43
40:BH:40:LEU:HB3	40:BH:46:ILE:HG12	2.01	0.43
42:BJ:19:ASP:HB3	42:BJ:72:ARG:HH21	1.83	0.43
43:BK:84:VAL:HG21	43:BK:100:LEU:CD2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BL:24:LEU:C	44:BL:26:ALA:H	2.22	0.43
52:BT:68:HIS:C	52:BT:69:LYS:HG3	2.39	0.43
53:BU:34:ARG:HH11	53:BU:34:ARG:CG	2.30	0.43
54:BV:105:VAL:HG23	54:BV:106:LEU:N	2.34	0.43
1:CA:119:A:H3'	59:CA:3800:HOH:O	2.19	0.43
1:CA:956:G:H5''	13:CM:76:LYS:HD2	2.00	0.43
1:CA:1279:G:C4'	14:CN:31:HIS:CD2	3.01	0.43
1:CA:1734:G:H2'	1:CA:1735:A:H8	1.83	0.43
1:CA:1764:C:O2'	1:CA:1765:U:H5'	2.19	0.43
1:CA:1838:C:N4	1:CA:1898:U:H2'	2.33	0.43
1:CA:1913:A:C2	54:DV:591:LEU:CD1	3.01	0.43
1:CA:2039:U:H2'	1:CA:2040:G:H8	1.84	0.43
1:CA:2104:C:H2'	1:CA:2105:U:O5'	2.19	0.43
1:CA:2402:U:O2'	1:CA:2403:C:O5'	2.35	0.43
1:CA:2544:G:H2'	1:CA:2545:G:H8	1.84	0.43
1:CA:2821:A:OP2	14:CN:3:HIS:CE1	2.72	0.43
5:CE:12:LEU:O	5:CE:13:THR:HB	2.18	0.43
6:CF:30:VAL:HA	6:CF:157:THR:HB	2.01	0.43
7:CG:35:THR:HG22	7:CG:36:LEU:N	2.33	0.43
19:CS:18:ARG:CG	19:CS:76:VAL:HG13	2.49	0.43
31:C4:33:HIS:O	31:C4:35:GLN:HG3	2.19	0.43
33:DA:202:G:H21	33:DA:466:A:H61	1.67	0.43
33:DA:206:C:H42	33:DA:213:G:H1	1.66	0.43
33:DA:367:U:C4	33:DA:394:G:N1	2.87	0.43
33:DA:435:A:C6	33:DA:436:C:C4	3.06	0.43
33:DA:843:U:OP1	33:DA:846:G:N2	2.52	0.43
36:DD:44:ARG:C	36:DD:46:PRO:HD3	2.39	0.43
39:DG:59:LEU:O	39:DG:62:PHE:HB3	2.19	0.43
41:DI:72:ILE:HG23	41:DI:73:SER:N	2.34	0.43
45:DM:3:ARG:HG2	45:DM:9:ILE:HG23	2.01	0.43
46:DN:20:TYR:HB2	46:DN:55:SER:OG	2.19	0.43
47:DO:3:LEU:HD23	47:DO:8:THR:HG22	2.00	0.43
53:DU:8:GLU:HG3	53:DU:12:PHE:CZ	2.54	0.43
1:EA:272:A:HO2'	1:EA:273:G:P	2.41	0.43
1:EA:1799:G:OP2	3:EC:269:ARG:NH2	2.52	0.43
1:EA:2272:U:H5''	1:EA:2273:A:OP1	2.19	0.43
1:EA:2577:A:H5''	1:EA:2578:G:H5'	2.00	0.43
3:EC:24:HIS:CE1	3:EC:79:ARG:NH2	2.87	0.43
3:EC:81:GLU:OE1	3:EC:102:TYR:OH	2.17	0.43
3:EC:203:VAL:O	3:EC:204:LEU:HB2	2.18	0.43
5:EE:54:GLY:N	5:EE:74:LYS:HE2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:EG:86:LEU:HB3	7:EG:162:ARG:O	2.19	0.43
23:EW:67:LYS:N	23:EW:80:SER:O	2.52	0.43
32:E5:91:ALA:CB	32:E5:130:PRO:CB	2.96	0.43
33:FA:376:G:H2'	33:FA:377:G:H8	1.84	0.43
33:FA:652:U:C2	33:FA:752:G:N2	2.87	0.43
33:FA:673:A:H2'	33:FA:674:G:C8	2.54	0.43
33:FA:694:A:N1	33:FA:787:A:O2'	2.50	0.43
34:FB:163:ILE:HG12	34:FB:164:ASP:N	2.33	0.43
35:FC:131:ARG:HA	35:FC:134:MET:HE2	2.00	0.43
36:FD:163:GLU:HG2	36:FD:167:LYS:HZ1	1.83	0.43
39:FG:126:ASP:OD1	39:FG:131:LYS:HG3	2.19	0.43
41:FI:34:SER:O	41:FI:37:GLN:N	2.51	0.43
51:FS:15:LEU:HD13	51:FS:33:THR:HG21	2.00	0.43
54:FV:200:VAL:HG23	54:FV:201:THR:HG23	2.01	0.43
54:FV:503:GLY:HA3	54:FV:600:ALA:HB2	2.01	0.43
1:GA:187:G:O2'	1:GA:1365:A:N3	2.43	0.43
1:GA:193:U:O3'	1:GA:803:U:H4'	2.18	0.43
1:GA:228:C:H4'	1:GA:229:C:H5''	2.00	0.43
1:GA:1064:C:C4	1:GA:1065:U:C4	3.07	0.43
1:GA:1647:U:H3'	1:GA:1647:U:P	2.59	0.43
1:GA:2231:U:OP1	24:GX:29:LEU:HD23	2.19	0.43
1:GA:2834:G:O6	1:GA:2879:A:H2'	2.19	0.43
4:GD:106:LYS:HB3	4:GD:206:ALA:CB	2.49	0.43
4:GD:124:ARG:HD2	4:GD:125:TRP:CE2	2.54	0.43
6:GF:151:LEU:CD1	6:GF:153:ILE:HG23	2.49	0.43
12:GL:109:LYS:HB3	12:GL:111:ILE:CD1	2.49	0.43
13:GM:135:VAL:HG11	22:GV:57:TYR:CD2	2.54	0.43
23:GW:23:LYS:O	23:GW:66:VAL:HB	2.19	0.43
25:GY:6:LEU:HD13	25:GY:56:LEU:HD11	2.00	0.43
33:HA:458:U:H2'	33:HA:459:A:C8	2.54	0.43
33:HA:689:C:OP1	43:HK:46:THR:CB	2.66	0.43
33:HA:930:C:O2'	33:HA:931:C:H5'	2.19	0.43
33:HA:1330:U:OP1	45:HM:24:GLY:N	2.51	0.43
33:HA:1496:C:C5	33:HA:1497:G:C4	3.07	0.43
34:HB:32:GLY:O	34:HB:33:ALA:HB3	2.19	0.43
34:HB:61:SER:C	34:HB:63:LYS:H	2.22	0.43
43:HK:14:LYS:NZ	43:HK:15:GLN:O	2.43	0.43
44:HL:44:LYS:HB2	44:HL:45:PRO:CD	2.49	0.43
44:HL:83:ARG:NH2	44:HL:96:HIS:CD2	2.87	0.43
45:HM:48:LEU:HG	45:HM:52:GLN:HB3	2.01	0.43
1:AA:393:C:H2'	1:AA:394:C:H6	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:498:G:C6	1:AA:499:U:C4	3.06	0.43
1:AA:565:C:H2'	1:AA:566:U:O4'	2.19	0.43
1:AA:571:U:C4	1:AA:2030:A:N1	2.87	0.43
1:AA:581:C:H2'	1:AA:582:A:C8	2.54	0.43
1:AA:617:G:OP1	5:AE:102:ARG:NE	2.47	0.43
1:AA:880:G:H1	1:AA:897:C:N4	2.16	0.43
1:AA:995:C:O2'	1:AA:996:A:P	2.77	0.43
1:AA:1783:A:OP2	59:AA:3683:HOH:O	2.21	0.43
1:AA:2376:A:O2'	15:AO:111:ARG:NH1	2.45	0.43
1:AA:2387:U:H1'	23:AW:38:ARG:HE	1.84	0.43
1:AA:2665:A:C2	1:AA:2666:C:C2	3.07	0.43
59:AA:3304:HOH:O	4:AD:138:LEU:HD11	2.18	0.43
6:AF:51:ASN:O	6:AF:55:ASP:N	2.51	0.43
10:AJ:37:ARG:HG3	10:AJ:118:MET:SD	2.59	0.43
12:AL:122:VAL:CG2	12:AL:142:ILE:HG12	2.49	0.43
16:AP:36:LYS:NZ	33:BA:346:G:N7	2.62	0.43
21:AU:53:GLN:N	21:AU:54:PRO:CD	2.82	0.43
23:AW:49:ASN:ND2	23:AW:50:VAL:N	2.66	0.43
31:A4:7:VAL:O	31:A4:35:GLN:NE2	2.44	0.43
32:A5:59:LEU:HG	32:A5:61:ARG:HG2	2.01	0.43
33:BA:176:C:H4'	52:BT:24:ARG:HH22	1.84	0.43
33:BA:747:A:H5'	33:BA:748:G:OP2	2.18	0.43
33:BA:842:U:H3'	33:BA:843:U:H5''	2.01	0.43
33:BA:1504:G:C2	59:BA:1867:HOH:O	2.61	0.43
34:BB:14:HIS:CB	34:BB:208:ALA:HB2	2.49	0.43
35:BC:153:VAL:CG2	35:BC:157:LEU:HD21	2.49	0.43
36:BD:171:LEU:HD12	36:BD:171:LEU:N	2.33	0.43
36:BD:173:VAL:HG22	36:BD:174:ASP:H	1.83	0.43
38:BF:42:TRP:HE3	38:BF:45:ARG:NE	2.16	0.43
40:BH:96:MET:O	40:BH:99:LEU:HG	2.19	0.43
54:BV:231:GLU:HA	54:BV:234:MET:HG2	2.00	0.43
1:CA:142:A:H2	20:CT:2:ILE:HG23	1.82	0.43
1:CA:1005:C:C2	1:CA:1143:A:C5	3.07	0.43
1:CA:2230:G:H2'	1:CA:2231:U:C6	2.54	0.43
3:CC:109:LEU:HG	3:CC:110:LYS:H	1.83	0.43
4:CD:68:PHE:HB3	4:CD:73:VAL:HG12	2.00	0.43
6:CF:151:LEU:CD1	6:CF:153:ILE:HG23	2.49	0.43
7:CG:23:ILE:H	7:CG:23:ILE:HD12	1.84	0.43
7:CG:35:THR:HG22	7:CG:36:LEU:H	1.84	0.43
7:CG:41:GLU:HG2	7:CG:52:GLY:O	2.19	0.43
10:CJ:64:VAL:HG11	10:CJ:68:LYS:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CK:72:PRO:O	11:CK:74:GLY:N	2.46	0.43
13:CM:64:TRP:CZ3	13:CM:106:ASP:HB2	2.54	0.43
15:CO:36:TYR:N	15:CO:36:TYR:HD1	2.17	0.43
20:CT:32:LEU:O	20:CT:83:ALA:HB2	2.19	0.43
23:CW:16:GLU:O	23:CW:17:ALA:HB3	2.19	0.43
23:CW:72:GLY:N	23:CW:73:PRO:CD	2.81	0.43
27:C0:24:VAL:C	27:C0:26:SER:H	2.22	0.43
28:C1:24:LYS:HE3	28:C1:29:LYS:O	2.18	0.43
33:DA:537:G:H5''	44:DL:110:ARG:NH1	2.33	0.43
33:DA:881:G:P	44:DL:9:ARG:HH22	2.41	0.43
33:DA:1003:G:O6	33:DA:1036:A:N6	2.51	0.43
33:DA:1086:U:O2	33:DA:1086:U:C2'	2.67	0.43
33:DA:1124:G:H3'	33:DA:1145:A:H62	1.83	0.43
33:DA:1453:G:H3'	33:DA:1453:G:N3	2.34	0.43
41:DI:22:LYS:O	41:DI:62:ASP:N	2.49	0.43
43:DK:71:ALA:CB	43:DK:105:PHE:HE2	2.32	0.43
47:DO:42:HIS:CE1	47:DO:46:HIS:HD2	2.37	0.43
48:DP:10:GLY:HA3	48:DP:15:PRO:HA	2.00	0.43
54:DV:336:PHE:HE2	54:DV:385:ALA:HB2	1.84	0.43
1:EA:79:C:C4	1:EA:80:G:N7	2.86	0.43
1:EA:996:A:C5	1:EA:1160:G:N2	2.87	0.43
1:EA:1568:G:H4'	3:EC:58:LYS:HB3	2.00	0.43
1:EA:2037:A:C6	1:EA:2038:G:C6	3.06	0.43
1:EA:2892:G:H5''	1:EA:2894:G:N2	2.34	0.43
7:EG:124:CYS:SG	7:EG:130:ILE:HG12	2.59	0.43
10:EJ:44:TYR:C	10:EJ:44:TYR:HD1	2.23	0.43
13:EM:4:PRO:CG	13:EM:70:ASP:HA	2.49	0.43
14:EN:56:LYS:HD2	14:EN:88:ALA:HA	2.00	0.43
16:EP:50:ARG:HD3	16:EP:51:ASN:H	1.83	0.43
22:EV:75:GLN:HA	22:EV:75:GLN:OE1	2.19	0.43
32:E5:110:ALA:HB1	32:E5:113:PHE:CZ	2.53	0.43
33:FA:142:G:H3'	33:FA:143:A:H8	1.84	0.43
33:FA:189:A:C6	33:FA:190:A:C6	3.07	0.43
33:FA:390:U:H2'	33:FA:391:G:H8	1.84	0.43
33:FA:404:G:O6	36:FD:2:ALA:N	2.51	0.43
33:FA:1034:G:O2'	33:FA:1035:A:H5'	2.18	0.43
33:FA:1130:A:OP1	41:FI:18:ARG:NH2	2.52	0.43
33:FA:1244:G:C4	33:FA:1294:G:N2	2.87	0.43
33:FA:1248:A:C4	33:FA:1290:G:N2	2.87	0.43
35:FC:150:LYS:HE3	35:FC:201:TRP:CZ3	2.54	0.43
39:FG:106:GLU:HA	39:FG:109:ARG:HE	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:FM:54:ASP:O	45:FM:58:ASP:HB2	2.19	0.43
1:GA:760:G:H2'	1:GA:761:A:O4'	2.19	0.43
1:GA:1095:A:OP1	54:HV:629:GLY:CA	2.67	0.43
1:GA:1196:C:O4'	1:GA:1226:A:C2	2.72	0.43
1:GA:1840:G:H2'	1:GA:1840:G:N3	2.33	0.43
1:GA:1906:G:OP1	1:GA:1930:G:N7	2.51	0.43
1:GA:2051:A:H61	1:GA:2614:A:C2'	2.31	0.43
4:GD:55:LYS:HE2	4:GD:60:VAL:HA	2.01	0.43
7:GG:118:ALA:O	7:GG:120:ILE:N	2.42	0.43
13:GM:1:MET:O	13:GM:2:LEU:CB	2.66	0.43
23:GW:23:LYS:HE2	23:GW:24:ARG:N	2.34	0.43
33:HA:327:A:O2'	33:HA:328:C:O4'	2.29	0.43
33:HA:1299:A:H2'	33:HA:1299:A:N3	2.33	0.43
35:HC:123:GLN:HB3	35:HC:128:VAL:CG1	2.49	0.43
35:HC:142:MET:HE2	35:HC:148:GLY:HA2	2.00	0.43
36:HD:73:ARG:NH1	36:HD:77:LYS:HE3	2.34	0.43
41:HI:9:THR:HG22	41:HI:10:GLY:N	2.34	0.43
41:HI:57:MET:HG2	41:HI:58:VAL:N	2.34	0.43
45:HM:10:PRO:O	45:HM:11:ASP:HB2	2.19	0.43
45:HM:48:LEU:HD21	45:HM:53:ILE:HA	2.01	0.43
47:HO:16:GLY:C	47:HO:18:ASP:H	2.22	0.43
47:HO:41:GLY:O	47:HO:44:ALA:HB2	2.19	0.43
54:HV:142:ASN:OD1	54:HV:143:LYS:N	2.45	0.43
1:AA:608:A:H2'	1:AA:609:A:C8	2.54	0.42
1:AA:631:A:N3	1:AA:2415:G:O2'	2.38	0.42
1:AA:740:C:H5'	1:AA:1784:A:H3'	2.01	0.42
1:AA:846:U:O2'	1:AA:847:U:P	2.77	0.42
1:AA:1006:C:C2	1:AA:1138:G:N2	2.87	0.42
1:AA:1591:A:H2'	1:AA:1592:C:C6	2.53	0.42
1:AA:1668:A:N1	1:AA:1675:C:N4	2.67	0.42
1:AA:2886:A:C2	27:A0:28:SER:HB3	2.54	0.42
2:AB:55:U:H2'	2:AB:56:G:C8	2.54	0.42
2:AB:65:U:C4	2:AB:108:A:C4	3.06	0.42
4:AD:142:VAL:HB	4:AD:143:PRO:CD	2.49	0.42
6:AF:35:LEU:N	6:AF:35:LEU:CD2	2.82	0.42
7:AG:104:LEU:HD12	7:AG:112:VAL:HG21	2.01	0.42
11:AK:62:VAL:CG1	11:AK:65:THR:HG22	2.48	0.42
16:AP:19:PHE:O	16:AP:20:ARG:HB2	2.19	0.42
20:AT:39:THR:HB	20:AT:42:GLU:CB	2.48	0.42
20:AT:59:ASN:O	20:AT:84:TYR:HB2	2.18	0.42
28:A1:7:LYS:HE3	30:A3:33:THR:CG2	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A5:54:VAL:HA	32:A5:84:TYR:O	2.19	0.42
33:BA:280:C:H4'	33:BA:281:G:OP2	2.19	0.42
33:BA:518:C:H2'	33:BA:530:G:C8	2.54	0.42
33:BA:1238:A:C8	33:BA:1303:C:H1'	2.54	0.42
35:BC:43:LEU:HD11	35:BC:91:VAL:CG2	2.48	0.42
36:BD:98:LEU:HB2	36:BD:135:TYR:HB3	2.01	0.42
40:BH:78:VAL:HG23	40:BH:127:CYS:HA	2.01	0.42
40:BH:99:LEU:N	40:BH:99:LEU:HD23	2.34	0.42
43:BK:97:ILE:HD11	43:BK:110:ILE:HD13	2.00	0.42
53:BU:46:LYS:O	53:BU:50:ALA:N	2.39	0.42
54:BV:30:ILE:O	54:BV:34:THR:HG22	2.19	0.42
1:CA:478:A:C6	1:CA:480:A:C6	3.07	0.42
1:CA:1316:U:H2'	1:CA:1317:G:C8	2.53	0.42
1:CA:2094:A:P	8:CH:22:LYS:HD2	2.59	0.42
3:CC:68:ARG:HD3	3:CC:103:ILE:CD1	2.48	0.42
6:CF:41:GLU:HB2	6:CF:48:LEU:CD2	2.49	0.42
9:CI:41:PHE:HA	9:CI:68:PHE:HZ	1.84	0.42
9:CI:87:SER:OG	9:CI:88:GLY:N	2.52	0.42
9:CI:99:LYS:HA	9:CI:137:LEU:HB3	1.99	0.42
10:CJ:44:TYR:O	10:CJ:45:THR:HB	2.19	0.42
11:CK:9:ASN:O	11:CK:83:ALA:HA	2.19	0.42
11:CK:118:LEU:HD12	11:CK:118:LEU:N	2.34	0.42
13:CM:20:LEU:HD22	13:CM:20:LEU:N	2.34	0.42
17:CQ:60:TRP:CE2	17:CQ:93:ILE:HB	2.54	0.42
19:CS:29:VAL:CG1	19:CS:55:ILE:HD11	2.48	0.42
19:CS:107:VAL:O	19:CS:107:VAL:HG13	2.19	0.42
29:C2:12:ARG:HH11	29:C2:44:VAL:HG11	1.83	0.42
29:C2:31:LEU:HD22	29:C2:42:LEU:CD1	2.49	0.42
33:DA:757:U:OP1	33:DA:822:U:O2'	2.26	0.42
39:DG:122:ASN:O	39:DG:126:ASP:HB2	2.18	0.42
52:DT:58:VAL:CG1	52:DT:72:ALA:HB1	2.48	0.42
54:DV:177:GLU:OE1	54:DV:177:GLU:N	2.46	0.42
1:EA:12:U:O2	1:EA:12:U:H2'	2.18	0.42
1:EA:1378:A:C4	1:EA:1380:G:N7	2.87	0.42
1:EA:2017:U:H5''	1:EA:2018:G:P	2.59	0.42
1:EA:2107:G:C6	1:EA:2108:A:C8	3.06	0.42
1:EA:2331:G:N3	1:EA:2336:A:C2	2.87	0.42
1:EA:2502:G:H5'	1:EA:2503:A:H5''	2.01	0.42
1:EA:2537:U:H2'	1:EA:2538:C:C6	2.54	0.42
1:EA:2665:A:C2	1:EA:2666:C:C6	3.06	0.42
1:EA:2747:G:O2'	7:EG:66:THR:HG22	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:2855:C:H2'	1:EA:2856:A:C8	2.54	0.42
2:EB:11:C:O2'	2:EB:15:A:N6	2.51	0.42
5:EE:117:ARG:HA	5:EE:185:LYS:HD3	2.01	0.42
10:EJ:18:VAL:HG22	10:EJ:140:LEU:HD13	2.00	0.42
33:FA:683:G:C6	33:FA:684:U:C4	3.07	0.42
33:FA:746:A:N1	33:FA:747:A:N6	2.67	0.42
33:FA:746:A:H2'	33:FA:747:A:C8	2.54	0.42
33:FA:1484:C:H2'	33:FA:1485:U:O4'	2.19	0.42
34:FB:53:LEU:HD21	34:FB:212:TYR:CE1	2.54	0.42
35:FC:77:ILE:HA	35:FC:84:VAL:CG2	2.48	0.42
36:FD:15:GLU:HG3	36:FD:19:LEU:HD11	2.01	0.42
37:FE:95:PHE:CZ	37:FE:97:GLN:HG2	2.54	0.42
38:FF:90:MET:SD	50:FR:61:ARG:NE	2.92	0.42
39:FG:145:ALA:O	39:FG:147:ALA:N	2.51	0.42
1:GA:548:G:H4'	1:GA:549:G:C2	2.54	0.42
1:GA:588:U:H1'	5:GE:85:PHE:CD1	2.54	0.42
1:GA:669:G:N1	1:GA:801:G:O6	2.52	0.42
1:GA:2379:G:H4'	15:GO:21:LEU:HD11	2.01	0.42
1:GA:2627:G:N2	1:GA:2777:G:OP2	2.51	0.42
2:GB:52:A:N7	15:GO:64:TYR:OH	2.43	0.42
2:GB:55:U:H2'	2:GB:56:G:C8	2.54	0.42
2:GB:86:G:H2'	2:GB:87:U:H5''	2.01	0.42
2:GB:110:C:C4	2:GB:111:U:C5	3.06	0.42
9:GI:55:PRO:HG2	9:GI:72:THR:O	2.18	0.42
10:GJ:111:LYS:CG	10:GJ:112:GLY:H	2.32	0.42
10:GJ:123:LYS:CD	10:GJ:123:LYS:N	2.81	0.42
11:GK:2:ILE:HD12	11:GK:8:LEU:HD11	2.01	0.42
21:GU:70:ALA:CB	21:GU:79:ALA:HB1	2.49	0.42
23:GW:40:ARG:HE	23:GW:56:HIS:CD2	2.37	0.42
24:GX:52:ALA:O	24:GX:53:LYS:CB	2.67	0.42
33:HA:981:U:O2'	46:HN:61:ARG:NE	2.52	0.42
33:HA:1193:G:P	35:HC:167:TRP:CH2	3.12	0.42
34:HB:70:GLY:HA2	34:HB:163:ILE:CG2	2.49	0.42
36:HD:102:VAL:HG13	36:HD:107:PHE:HB2	2.01	0.42
37:HE:111:MET:CE	37:HE:125:ALA:HB1	2.49	0.42
49:HQ:15:ASP:OD1	49:HQ:54:GLY:HA2	2.19	0.42
50:HR:36:SER:HB3	53:HU:4:ILE:CG1	2.50	0.42
54:HV:416:ILE:HG12	54:HV:667:ALA:HB3	2.00	0.42
54:HV:627:ASN:ND2	54:HV:674:THR:HA	2.34	0.42
1:AA:58:G:N2	1:AA:70:G:C4	2.88	0.42
1:AA:262:A:C2	1:AA:430:A:N3	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:308:G:N2	1:AA:477:A:C8	2.86	0.42
1:AA:400:G:N7	24:AX:56:ARG:NH1	2.68	0.42
1:AA:934:U:H2'	1:AA:935:C:C6	2.54	0.42
1:AA:1219:U:H2'	1:AA:1220:G:C8	2.53	0.42
1:AA:1341:G:OP1	1:AA:1397:U:N3	2.49	0.42
1:AA:2283:C:C2	1:AA:2389:G:C2	3.07	0.42
1:AA:2310:C:H2'	6:AF:76:PHE:CE2	2.53	0.42
1:AA:2331:G:O2'	1:AA:2336:A:N1	2.52	0.42
1:AA:2425:A:H5'	1:AA:2427:C:O4'	2.19	0.42
10:AJ:81:ILE:CG1	10:AJ:82:GLY:H	2.33	0.42
11:AK:107:LEU:HD21	11:AK:115:ILE:HG21	2.01	0.42
13:AM:73:ILE:HG21	13:AM:91:TYR:CZ	2.53	0.42
17:AQ:88:GLU:HG3	17:AQ:88:GLU:O	2.19	0.42
28:A1:31:GLU:OE2	28:A1:31:GLU:N	2.43	0.42
32:A5:17:GLU:HA	32:A5:88:HIS:CE1	2.55	0.42
32:A5:47:GLU:HG2	32:A5:95:LEU:HD21	2.01	0.42
32:A5:68:PRO:HA	32:A5:72:LEU:HD11	2.01	0.42
33:BA:232:G:H1'	33:BA:262:A:N1	2.34	0.42
33:BA:376:G:H5''	48:BP:5:ARG:HB2	2.02	0.42
33:BA:475:C:H2'	33:BA:476:U:C6	2.54	0.42
33:BA:1241:G:H2'	33:BA:1242:G:H8	1.83	0.42
33:BA:1266:G:C6	33:BA:1270:G:C6	3.08	0.42
33:BA:1404:C:H2'	33:BA:1405:G:C8	2.54	0.42
35:BC:11:ARG:O	35:BC:13:GLY:N	2.52	0.42
35:BC:39:VAL:CG2	35:BC:40:ARG:N	2.81	0.42
36:BD:188:ARG:HH12	36:BD:192:SER:HB2	1.84	0.42
37:BE:156:LYS:HD2	40:BH:71:VAL:HA	2.00	0.42
41:BI:42:GLU:O	41:BI:45:ARG:HG2	2.19	0.42
46:BN:26:GLU:C	46:BN:28:LYS:H	2.22	0.42
46:BN:33:ASP:O	46:BN:35:ASN:N	2.52	0.42
53:BU:34:ARG:CG	53:BU:35:ARG:H	2.32	0.42
54:BV:598:SER:O	54:BV:602:LYS:HD3	2.19	0.42
1:CA:171:U:H2'	1:CA:172:A:H8	1.84	0.42
1:CA:853:C:H2'	1:CA:854:C:C6	2.54	0.42
1:CA:1593:A:H2'	1:CA:1594:U:O4'	2.18	0.42
1:CA:1709:U:H2'	1:CA:1710:G:C8	2.54	0.42
1:CA:1824:G:OP2	3:CC:52:HIS:CE1	2.72	0.42
1:CA:2145:C:H3'	1:CA:2146:C:C5'	2.49	0.42
1:CA:2555:U:C5	1:CA:2556:C:C2	3.08	0.42
3:CC:200:MET:HE2	3:CC:200:MET:HB3	1.95	0.42
4:CD:8:LYS:HB2	4:CD:201:LEU:HD22	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CD:101:PHE:O	4:CD:104:VAL:N	2.51	0.42
20:CT:11:LEU:O	25:CY:29:ARG:NH1	2.47	0.42
23:CW:49:ASN:ND2	23:CW:49:ASN:C	2.71	0.42
24:CX:44:ARG:HG2	24:CX:45:PHE:N	2.34	0.42
33:DA:77:A:H8	33:DA:77:A:H5''	1.84	0.42
33:DA:354:G:C6	33:DA:355:C:N4	2.87	0.42
33:DA:674:G:H4'	50:DR:70:TYR:CE1	2.54	0.42
33:DA:690:G:H2'	33:DA:691:G:O4'	2.18	0.42
33:DA:922:G:C6	33:DA:923:A:C6	3.07	0.42
33:DA:1387:G:C6	33:DA:1388:C:N4	2.87	0.42
34:DB:67:LEU:HB3	34:DB:160:LEU:HD12	2.00	0.42
34:DB:150:ILE:HG13	34:DB:153:MET:HB3	2.00	0.42
36:DD:23:SER:H	36:DD:110:THR:HG22	1.84	0.42
37:DE:46:VAL:HG12	37:DE:118:ALA:HA	2.02	0.42
38:DF:52:ASN:O	38:DF:53:LYS:CB	2.67	0.42
43:DK:14:LYS:O	43:DK:15:GLN:HB3	2.19	0.42
52:DT:83:ILE:O	52:DT:87:ALA:HB3	2.19	0.42
1:EA:546:U:O2'	1:EA:547:A:H4'	2.18	0.42
1:EA:651:G:H5'	30:E3:18:LYS:HG3	2.01	0.42
1:EA:1591:A:H2'	1:EA:1592:C:C6	2.54	0.42
1:EA:1706:C:C2	1:EA:1757:A:H5'	2.54	0.42
1:EA:1817:G:H2'	1:EA:1818:U:H5'	1.99	0.42
1:EA:2579:C:OP1	59:EA:3540:HOH:O	2.22	0.42
1:EA:2724:U:OP1	4:ED:116:LYS:NZ	2.38	0.42
2:EB:51:G:C6	2:EB:52:A:C6	3.06	0.42
4:ED:32:ASN:HD22	4:ED:32:ASN:N	2.18	0.42
5:EE:145:ASP:HB3	5:EE:184:ASP:HB2	2.01	0.42
6:EF:41:GLU:HB2	6:EF:48:LEU:CD2	2.49	0.42
6:EF:134:GLN:OE1	6:EF:149:ARG:HB3	2.19	0.42
10:EJ:64:VAL:HG21	10:EJ:89:PHE:CZ	2.54	0.42
24:EX:28:PHE:CD1	24:EX:28:PHE:N	2.87	0.42
24:EX:38:TRP:NE1	24:EX:40:GLU:HB2	2.34	0.42
32:E5:113:PHE:O	32:E5:123:ILE:HB	2.20	0.42
32:E5:118:ILE:HB	32:E5:119:PRO:HD3	2.01	0.42
33:FA:451:A:N1	33:FA:481:G:C5	2.87	0.42
33:FA:1166:G:N2	33:FA:1171:A:C6	2.87	0.42
34:FB:20:ARG:HH12	34:FB:38:HIS:HD2	1.68	0.42
34:FB:20:ARG:O	34:FB:22:TRP:N	2.47	0.42
34:FB:132:GLU:HG2	34:FB:132:GLU:O	2.20	0.42
41:FI:11:ARG:HB2	41:FI:15:SER:O	2.19	0.42
1:GA:300:A:H2'	1:GA:334:C:H1'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:635:C:P	12:GL:126:ARG:NH1	2.92	0.42
1:GA:675:A:C6	1:GA:676:A:C6	3.07	0.42
1:GA:933:A:H5'	1:GA:934:U:OP2	2.19	0.42
1:GA:1019:U:C6	1:GA:1020:A:N7	2.88	0.42
1:GA:1045:C:O2	1:GA:1047:G:N1	2.52	0.42
1:GA:1088:A:HO2'	1:GA:1089:A:P	2.38	0.42
1:GA:2051:A:C6	1:GA:2614:A:C8	3.08	0.42
1:GA:2277:G:C6	1:GA:2278:A:N7	2.87	0.42
1:GA:2722:G:H4'	14:GN:4:ARG:HB2	2.01	0.42
1:GA:2885:G:H2'	1:GA:2886:A:O4'	2.19	0.42
2:GB:3:C:H2'	2:GB:4:C:C6	2.54	0.42
2:GB:32:U:H2'	2:GB:33:G:C8	2.54	0.42
4:GD:80:TRP:CD1	4:GD:202:ILE:HD11	2.55	0.42
4:GD:106:LYS:HB3	4:GD:206:ALA:HB3	2.01	0.42
9:GI:74:PRO:O	9:GI:77:VAL:HG13	2.19	0.42
10:GJ:114:LEU:O	10:GJ:117:ALA:HB3	2.19	0.42
11:GK:5:GLN:O	11:GK:6:THR:CB	2.66	0.42
14:GN:33:ILE:CG1	14:GN:114:GLU:HB3	2.49	0.42
21:GU:86:PHE:O	21:GU:87:GLU:HB3	2.20	0.42
23:GW:71:LYS:HB3	23:GW:72:GLY:H	1.69	0.42
33:HA:160:A:H2'	33:HA:161:A:O4'	2.18	0.42
33:HA:381:C:H2'	33:HA:382:A:O4'	2.19	0.42
33:HA:977:A:O2'	33:HA:979:C:OP2	2.35	0.42
33:HA:1059:C:O3'	46:HN:85:ARG:NH2	2.52	0.42
33:HA:1248:A:H4'	41:HI:33:ARG:HH12	1.84	0.42
35:HC:130:PHE:CG	35:HC:131:ARG:N	2.87	0.42
36:HD:147:GLU:HA	36:HD:150:LYS:HD2	2.01	0.42
38:HF:78:PHE:N	38:HF:78:PHE:CD1	2.86	0.42
43:HK:13:ARG:O	43:HK:14:LYS:HB3	2.19	0.42
43:HK:93:ARG:HH22	53:HU:20:LYS:HD2	1.83	0.42
43:HK:122:ARG:NH1	53:HU:36:GLU:HG3	2.34	0.42
51:HS:29:LYS:HB3	51:HS:30:PRO:HD2	2.01	0.42
53:HU:19:PHE:CD1	53:HU:19:PHE:C	2.92	0.42
54:HV:34:THR:HG21	54:HV:70:ALA:CB	2.49	0.42
54:HV:317:PHE:CE1	54:HV:343:VAL:CG2	3.02	0.42
1:AA:35:G:C4	1:AA:454:A:C2	3.08	0.42
1:AA:309:A:C2'	1:AA:329:G:HO2'	2.29	0.42
1:AA:320:A:H4'	1:AA:322:A:C8	2.54	0.42
1:AA:347:A:C2	1:AA:348:A:C4	3.07	0.42
1:AA:866:A:C8	1:AA:914:G:C2	3.07	0.42
1:AA:973:A:O4'	1:AA:1188:U:C6	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1533:C:H2'	1:AA:1534:U:H5''	2.02	0.42
1:AA:2269:G:C2	1:AA:2270:A:C8	3.07	0.42
1:AA:2897:U:H2'	1:AA:2898:U:C6	2.53	0.42
2:AB:58:A:C5	2:AB:59:A:C8	3.07	0.42
6:AF:90:LEU:CD1	6:AF:98:PHE:HB3	2.49	0.42
7:AG:38:ASP:CG	7:AG:39:ALA:H	2.22	0.42
8:AH:31:VAL:HB	8:AH:32:PRO:HD3	1.99	0.42
16:AP:58:PHE:HD1	16:AP:75:THR:HG22	1.84	0.42
19:AS:71:VAL:O	19:AS:71:VAL:CG2	2.66	0.42
33:BA:685:G:O2'	33:BA:686:U:H5'	2.19	0.42
33:BA:707:U:H2'	33:BA:708:C:C6	2.54	0.42
33:BA:1349:A:P	41:BI:120:LYS:HE2	2.59	0.42
33:BA:1406:U:C5	33:BA:1407:C:C5	3.07	0.42
34:BB:71:THR:O	34:BB:72:LYS:HG2	2.18	0.42
36:BD:9:LEU:CD2	36:BD:22:LYS:CG	2.97	0.42
40:BH:112:THR:CG2	40:BH:115:ALA:H	2.32	0.42
46:BN:53:ARG:C	46:BN:55:SER:H	2.22	0.42
52:BT:66:LEU:C	52:BT:66:LEU:HD12	2.39	0.42
54:BV:495:ARG:HD2	54:BV:611:VAL:HB	2.02	0.42
1:CA:528:A:H3'	1:CA:528:A:H8	1.83	0.42
1:CA:646:U:H3'	1:CA:647:G:H5''	2.01	0.42
1:CA:880:G:N2	1:CA:898:C:C2	2.87	0.42
1:CA:910:A:H2'	1:CA:911:A:C8	2.55	0.42
1:CA:1786:A:C4	1:CA:1938:A:C6	3.07	0.42
1:CA:2096:C:H2'	1:CA:2097:A:C8	2.53	0.42
1:CA:2101:A:N1	1:CA:2102:G:N1	2.68	0.42
1:CA:2742:G:N7	59:CA:3774:HOH:O	2.36	0.42
4:CD:22:ILE:HG23	4:CD:190:LYS:CD	2.49	0.42
12:CL:78:ARG:HA	12:CL:113:ALA:HB3	2.00	0.42
13:CM:2:LEU:HD12	13:CM:69:PRO:HD2	2.01	0.42
14:CN:30:ARG:HG2	14:CN:31:HIS:CE1	2.53	0.42
14:CN:55:ALA:HA	14:CN:80:PHE:CE1	2.55	0.42
15:CO:3:LYS:HG3	15:CO:4:LYS:H	1.82	0.42
15:CO:88:LYS:O	15:CO:89:ASP:HB2	2.19	0.42
18:CR:21:ARG:NH2	18:CR:93:PHE:CZ	2.88	0.42
33:DA:207:C:C2'	33:DA:208:U:C5	3.03	0.42
33:DA:454:G:C2'	33:DA:455:G:H5'	2.49	0.42
33:DA:513:C:H2'	33:DA:514:C:H6	1.85	0.42
33:DA:1055:A:C8	33:DA:1206:G:C2	3.07	0.42
33:DA:1253:G:N1	33:DA:1285:A:N6	2.68	0.42
34:DB:127:LYS:O	34:DB:129:THR:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DD:104:ARG:NH1	36:DD:111:ARG:HH22	2.17	0.42
43:DK:125:LYS:O	53:DU:34:ARG:CZ	2.68	0.42
52:DT:3:ASN:CG	52:DT:4:ILE:N	2.73	0.42
54:DV:105:VAL:HG23	54:DV:106:LEU:N	2.35	0.42
1:EA:215:G:H4'	1:EA:216:A:H4'	2.00	0.42
1:EA:843:G:C2	1:EA:936:A:C2	3.08	0.42
1:EA:983:A:C6	1:EA:984:A:C2	3.08	0.42
1:EA:2076:U:O2	1:EA:2076:U:O4'	2.38	0.42
1:EA:2148:G:OP2	1:EA:2149:U:H1'	2.19	0.42
1:EA:2325:G:C6	1:EA:2326:C:N4	2.88	0.42
5:EE:111:GLU:HG2	5:EE:114:ARG:NH1	2.34	0.42
6:EF:101:ARG:HA	6:EF:104:THR:HG22	2.00	0.42
7:EG:96:ALA:HB3	7:EG:103:ASN:HB3	2.00	0.42
8:EH:28:ASN:C	8:EH:32:PRO:HG2	2.39	0.42
11:EK:15:GLY:O	11:EK:47:ILE:N	2.48	0.42
14:EN:44:LEU:HD23	14:EN:113:ILE:HD13	2.01	0.42
16:EP:38:ARG:CZ	33:FA:345:C:H5'	2.49	0.42
16:EP:71:ARG:HD3	16:EP:73:PHE:CZ	2.54	0.42
17:EQ:67:ALA:HB1	17:EQ:105:PHE:CE2	2.54	0.42
26:EZ:9:THR:HG22	26:EZ:53:MET:O	2.18	0.42
27:E0:33:SER:OG	27:E0:35:GLU:HG3	2.20	0.42
32:E5:45:GLY:HA2	32:E5:49:GLY:HA2	2.01	0.42
33:FA:49:U:C2	33:FA:361:G:N2	2.87	0.42
33:FA:135:C:H2'	33:FA:136:C:H5'	2.00	0.42
33:FA:300:A:H1'	33:FA:565:U:O2	2.19	0.42
33:FA:941:G:H2'	33:FA:942:G:O5'	2.19	0.42
35:FC:22:TRP:HB3	35:FC:59:ARG:H	1.85	0.42
36:FD:98:LEU:N	36:FD:135:TYR:O	2.51	0.42
36:FD:107:PHE:HD2	36:FD:145:ILE:CG1	2.32	0.42
38:FF:42:TRP:N	38:FF:42:TRP:CD1	2.87	0.42
43:FK:16:VAL:HG13	43:FK:17:SER:N	2.34	0.42
43:FK:60:PRO:O	43:FK:95:SER:OG	2.18	0.42
47:FO:8:THR:O	47:FO:12:VAL:HG23	2.19	0.42
54:FV:330:VAL:HG21	54:FV:333:LEU:HD21	2.02	0.42
54:FV:493:THR:HG22	54:FV:613:LEU:HD21	1.99	0.42
54:FV:497:LYS:HG2	54:FV:523:TYR:HB2	2.01	0.42
1:GA:88:G:C2	1:GA:89:A:C8	3.07	0.42
1:GA:548:G:H4'	1:GA:549:G:N2	2.33	0.42
1:GA:574:A:H4'	1:GA:575:A:O5'	2.19	0.42
1:GA:634:C:H5''	12:GL:126:ARG:HH12	1.84	0.42
1:GA:753:A:H2'	1:GA:754:U:H6	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:1279:G:C6	1:GA:1292:G:C6	3.07	0.42
1:GA:1674:G:N2	1:GA:1677:A:N1	2.65	0.42
1:GA:2210:U:H4'	1:GA:2211:A:C5'	2.49	0.42
1:GA:2359:C:H2'	1:GA:2360:G:C8	2.55	0.42
1:GA:2526:G:C6	1:GA:2527:C:C4	3.08	0.42
1:GA:2840:C:H2'	1:GA:2841:C:C6	2.54	0.42
4:GD:119:ALA:CB	4:GD:124:ARG:HB2	2.49	0.42
14:GN:58:ASP:OD2	14:GN:63:ARG:NH2	2.52	0.42
18:GR:5:PHE:HE1	18:GR:14:VAL:HG21	1.85	0.42
20:GT:54:GLU:HG3	20:GT:88:LYS:H	1.85	0.42
33:HA:552:U:H5'	44:HL:83:ARG:HH11	1.84	0.42
34:HB:185:ILE:HA	34:HB:199:ILE:HG13	2.01	0.42
35:HC:120:ILE:HD11	35:HC:137:ALA:HB2	2.01	0.42
36:HD:145:ILE:HG22	36:HD:146:ARG:O	2.19	0.42
44:HL:30:LYS:O	44:HL:82:ILE:HG22	2.18	0.42
45:HM:50:GLU:HA	45:HM:53:ILE:HD12	2.01	0.42
46:HN:45:VAL:HG23	46:HN:46:LEU:H	1.84	0.42
49:HQ:75:LEU:HD11	49:HQ:77:ARG:O	2.19	0.42
54:HV:4:THR:CG2	54:HV:378:ARG:CZ	2.98	0.42
54:HV:272:ASN:O	54:HV:276:GLN:NE2	2.52	0.42
1:AA:42:A:C2'	1:AA:43:G:H5'	2.48	0.42
1:AA:65:U:O2'	20:AT:73:ARG:NH1	2.52	0.42
1:AA:138:U:H5'	1:AA:139:U:H5''	2.02	0.42
1:AA:443:A:H2	1:AA:1245:G:N3	2.17	0.42
1:AA:594:U:H2'	1:AA:595:C:H6	1.81	0.42
1:AA:1132:U:H5'	10:AJ:84:ILE:CD1	2.49	0.42
1:AA:1267:U:O3'	59:AA:3376:HOH:O	2.20	0.42
1:AA:1341:G:N2	1:AA:1398:C:H4'	2.35	0.42
1:AA:1601:G:P	20:AT:64:LYS:HZ1	2.42	0.42
1:AA:1906:G:N2	1:AA:1924:C:O2	2.38	0.42
1:AA:2533:U:H2'	1:AA:2534:A:H5'	2.01	0.42
4:AD:118:PHE:HD1	4:AD:119:ALA:N	2.11	0.42
5:AE:24:ASN:ND2	5:AE:27:LEU:HB2	2.34	0.42
7:AG:84:LYS:HZ2	7:AG:133:LYS:HE3	1.83	0.42
7:AG:108:PHE:HE1	7:AG:151:ARG:CZ	2.32	0.42
7:AG:114:HIS:HB2	7:AG:150:TYR:HE2	1.84	0.42
8:AH:21:VAL:CG2	8:AH:25:TYR:HD2	2.32	0.42
13:AM:64:TRP:HZ3	13:AM:106:ASP:HB2	1.84	0.42
17:AQ:29:ARG:HH11	17:AQ:29:ARG:CG	2.33	0.42
21:AU:94:PHE:HA	21:AU:101:THR:HA	2.00	0.42
32:A5:123:ILE:O	32:A5:124:ASP:CB	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:787:A:C2	33:BA:796:C:N3	2.87	0.42
36:BD:65:TYR:HD1	36:BD:65:TYR:N	2.16	0.42
36:BD:69:GLU:OE1	36:BD:73:ARG:NE	2.52	0.42
38:BF:55:HIS:ND1	38:BF:55:HIS:N	2.67	0.42
42:BJ:7:ARG:HA	42:BJ:75:ASP:HA	2.02	0.42
46:BN:41:ARG:NH1	46:BN:45:VAL:HG21	2.35	0.42
49:BQ:13:VAL:HA	49:BQ:55:ILE:HD13	2.02	0.42
53:BU:44:GLU:HG2	53:BU:47:ARG:HD2	2.01	0.42
1:CA:11:C:C2'	1:CA:12:U:H5'	2.49	0.42
1:CA:245:G:O6	30:C3:7:ARG:HD2	2.19	0.42
1:CA:608:A:H2'	1:CA:609:A:C8	2.55	0.42
1:CA:728:G:H4'	3:CC:12:ARG:HD3	2.00	0.42
1:CA:1663:G:C6	1:CA:1992:G:N7	2.88	0.42
1:CA:2145:C:H3'	1:CA:2146:C:H5''	1.99	0.42
1:CA:2599:G:C2	1:CA:2600:A:C4	3.07	0.42
1:CA:2686:G:C5	1:CA:2687:U:C4	3.07	0.42
4:CD:73:VAL:HG23	4:CD:74:GLU:H	1.83	0.42
9:CI:58:ILE:HG23	9:CI:66:PHE:CE2	2.54	0.42
10:CJ:13:ARG:HD3	10:CJ:51:GLY:O	2.19	0.42
11:CK:19:VAL:HG11	11:CK:41:ILE:HG12	2.01	0.42
11:CK:39:ILE:HG13	11:CK:41:ILE:CD1	2.49	0.42
16:CP:50:ARG:NE	16:CP:57:ALA:H	2.17	0.42
17:CQ:97:ILE:HD11	17:CQ:105:PHE:N	2.35	0.42
20:CT:8:LEU:HD12	20:CT:8:LEU:N	2.34	0.42
33:DA:66:A:C2	33:DA:67:C:C6	3.07	0.42
33:DA:714:G:H2'	33:DA:715:A:C8	2.54	0.42
33:DA:842:U:H3'	33:DA:843:U:C5'	2.49	0.42
33:DA:1053:G:N7	33:DA:1199:U:H3'	2.34	0.42
33:DA:1311:A:H2'	33:DA:1312:G:O5'	2.19	0.42
33:DA:1377:A:C5	39:DG:7:ILE:HD11	2.54	0.42
33:DA:1507:A:N1	33:DA:1508:A:C6	2.88	0.42
34:DB:103:TRP:CH2	34:DB:155:GLY:HA2	2.55	0.42
36:DD:116:GLN:O	36:DD:119:SER:HB3	2.20	0.42
42:DJ:11:LYS:HE2	42:DJ:71:LEU:HD21	2.02	0.42
42:DJ:40:ILE:HD12	42:DJ:73:LEU:HD23	2.01	0.42
42:DJ:53:ILE:HG12	42:DJ:62:ARG:H	1.84	0.42
44:DL:90:LEU:HB3	44:DL:93:VAL:CG2	2.48	0.42
54:DV:173:ILE:HD11	54:DV:183:VAL:HG23	2.01	0.42
54:DV:303:LYS:HA	54:DV:303:LYS:CE	2.49	0.42
1:EA:631:A:N6	1:EA:632:A:C2	2.87	0.42
1:EA:819:A:OP2	1:EA:1187:G:N2	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:973:A:OP2	18:ER:81:LYS:NZ	2.39	0.42
1:EA:1385:A:H1'	1:EA:1386:C:C6	2.54	0.42
1:EA:1714:U:H5'	1:EA:1715:G:H5'	1.99	0.42
1:EA:1783:A:H5'	1:EA:2608:G:H4'	2.02	0.42
2:EB:11:C:C4	2:EB:12:C:C4	3.07	0.42
2:EB:27:C:C5	2:EB:28:C:C5	3.08	0.42
8:EH:4:ILE:O	8:EH:36:ALA:HA	2.20	0.42
10:EJ:4:PHE:O	10:EJ:44:TYR:CE1	2.73	0.42
11:EK:28:SER:O	11:EK:29:HIS:HB2	2.20	0.42
11:EK:35:VAL:HG12	11:EK:36:GLY:N	2.34	0.42
16:EP:85:VAL:HG13	16:EP:86:LYS:N	2.35	0.42
18:ER:24:LYS:HA	18:ER:94:THR:HG23	2.01	0.42
19:ES:63:GLY:O	19:ES:64:ALA:CB	2.67	0.42
32:E5:108:VAL:HG12	32:E5:109:LYS:N	2.34	0.42
33:FA:144:G:C2	33:FA:145:G:C4	3.07	0.42
33:FA:675:A:O2'	43:FK:116:ILE:O	2.35	0.42
33:FA:1056:U:OP1	35:FC:163:ALA:N	2.36	0.42
33:FA:1219:A:H2'	33:FA:1220:G:C8	2.54	0.42
33:FA:1477:U:H2'	33:FA:1478:U:C6	2.54	0.42
33:FA:1486:G:C6	33:FA:1487:G:C6	3.07	0.42
36:FD:9:LEU:HD21	36:FD:22:LYS:CG	2.49	0.42
36:FD:202:GLU:OE2	37:FE:105:ILE:HG23	2.20	0.42
41:FI:129:LYS:HG3	41:FI:130:ARG:HG2	2.00	0.42
43:FK:16:VAL:O	43:FK:17:SER:HB3	2.19	0.42
43:FK:82:LEU:HD11	43:FK:105:PHE:CG	2.54	0.42
44:FL:3:THR:HG22	44:FL:6:GLN:H	1.84	0.42
1:GA:277:G:H2'	1:GA:278:A:OP2	2.19	0.42
1:GA:297:G:C6	1:GA:298:G:C4	3.07	0.42
1:GA:511:U:OP2	59:GA:3757:HOH:O	2.21	0.42
1:GA:535:G:C6	1:GA:559:G:C6	3.07	0.42
1:GA:634:C:H2'	1:GA:635:C:C6	2.54	0.42
1:GA:2429:G:H4'	59:GA:3339:HOH:O	2.20	0.42
4:GD:115:GLY:O	14:GN:3:HIS:NE2	2.51	0.42
5:GE:92:HIS:N	5:GE:92:HIS:CD2	2.87	0.42
5:GE:153:LEU:HD22	5:GE:171:ASP:HB3	2.01	0.42
6:GF:174:PHE:CD2	6:GF:176:PHE:CZ	3.07	0.42
12:GL:57:LEU:CD2	30:G3:53:ASP:HB3	2.49	0.42
14:GN:30:ARG:NH2	14:GN:72:ASP:OD2	2.52	0.42
18:GR:4:VAL:HG23	18:GR:39:LEU:HB2	2.01	0.42
33:HA:328:C:O2	33:HA:328:C:H2'	2.19	0.42
33:HA:648:A:H2'	33:HA:649:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:949:A:OP1	45:HM:100:GLN:HG2	2.19	0.42
33:HA:1124:G:H3'	33:HA:1145:A:N6	2.34	0.42
33:HA:1225:A:H2'	33:HA:1226:C:C5	2.54	0.42
33:HA:1492:A:N3	33:HA:1492:A:H5''	2.33	0.42
35:HC:126:ARG:O	35:HC:126:ARG:HG2	2.20	0.42
41:HI:129:LYS:HG3	41:HI:130:ARG:N	2.35	0.42
45:HM:10:PRO:O	45:HM:11:ASP:CB	2.67	0.42
1:AA:379:G:C6	1:AA:380:G:C5	3.08	0.42
1:AA:1069:A:C1'	1:AA:1073:A:H62	2.33	0.42
1:AA:1316:U:H2'	1:AA:1317:G:H8	1.85	0.42
1:AA:1341:G:C2	1:AA:1398:C:H4'	2.54	0.42
1:AA:1935:G:H1'	1:AA:1964:G:N2	2.34	0.42
1:AA:2017:U:H5''	1:AA:2018:G:P	2.59	0.42
1:AA:2283:C:H5''	1:AA:2389:G:O2'	2.19	0.42
1:AA:2837:A:C2	1:AA:2838:G:C5	3.07	0.42
2:AB:39:A:C2	2:AB:44:G:C2	3.07	0.42
6:AF:89:THR:HG21	6:AF:91:ARG:CZ	2.49	0.42
10:AJ:18:VAL:HG22	10:AJ:140:LEU:CD1	2.50	0.42
15:AO:49:VAL:HG21	15:AO:82:ALA:HA	2.01	0.42
17:AQ:91:ARG:HB2	17:AQ:94:LEU:HB2	2.02	0.42
20:AT:69:ARG:HG3	20:AT:70:HIS:N	2.34	0.42
21:AU:86:PHE:CG	21:AU:92:VAL:HG11	2.54	0.42
25:AY:23:ARG:HE	25:AY:23:ARG:HA	1.83	0.42
30:A3:22:LYS:HA	30:A3:47:ALA:O	2.19	0.42
33:BA:283:U:C4	33:BA:284:C:C4	3.07	0.42
33:BA:598:U:H4'	40:BH:86:TYR:CD2	2.55	0.42
33:BA:844:G:C2'	33:BA:845:A:H5''	2.48	0.42
33:BA:1000:A:C2	33:BA:1041:G:C2	3.08	0.42
33:BA:1033:G:C2'	33:BA:1034:G:H5''	2.50	0.42
33:BA:1102:A:H2'	33:BA:1103:C:C6	2.54	0.42
33:BA:1118:U:C5'	41:BI:106:ARG:HD2	2.50	0.42
33:BA:1251:A:H2'	33:BA:1252:A:C8	2.54	0.42
33:BA:1363:A:O2'	33:BA:1365:G:N7	2.42	0.42
34:BB:57:ASN:ND2	34:BB:219:THR:O	2.52	0.42
34:BB:67:LEU:HD12	34:BB:157:PRO:HG3	2.02	0.42
35:BC:88:ARG:CZ	35:BC:101:ILE:HG22	2.50	0.42
36:BD:4:TYR:CZ	36:BD:6:GLY:CA	3.03	0.42
39:BG:79:ARG:HD2	39:BG:83:SER:O	2.18	0.42
43:BK:71:ALA:HB1	43:BK:105:PHE:HE2	1.84	0.42
43:BK:126:LYS:HE3	43:BK:127:ARG:NH2	2.34	0.42
47:BO:39:LEU:O	47:BO:42:HIS:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BS:55:ARG:NH2	51:BS:79:THR:HG21	2.34	0.42
54:BV:89:THR:HB	54:BV:90:PRO:CD	2.50	0.42
54:BV:177:GLU:HG2	54:BV:178:HIS:CD2	2.54	0.42
54:BV:218:TRP:CD1	54:BV:218:TRP:N	2.88	0.42
54:BV:360:PHE:CD2	54:BV:363:ILE:HD11	2.54	0.42
1:CA:857:G:H2'	1:CA:858:G:O4'	2.19	0.42
1:CA:2243:U:H2'	1:CA:2244:U:C6	2.54	0.42
1:CA:2531:A:P	7:CG:174:LYS:HE3	2.59	0.42
1:CA:2590:A:H2'	1:CA:2591:C:C6	2.54	0.42
1:CA:2636:C:H2'	1:CA:2637:U:H6	1.83	0.42
1:CA:2758:A:C2'	1:CA:2759:G:H5'	2.49	0.42
3:CC:173:LEU:CD1	3:CC:173:LEU:N	2.82	0.42
10:CJ:111:LYS:N	59:CJ:202:HOH:O	2.52	0.42
17:CQ:93:ILE:O	17:CQ:96:ASP:N	2.50	0.42
18:CR:67:GLY:C	18:CR:93:PHE:CE1	2.93	0.42
33:DA:2:A:N6	33:DA:3:A:N1	2.68	0.42
33:DA:71:A:N1	33:DA:99:C:O2'	2.53	0.42
33:DA:661:G:N3	33:DA:745:G:N2	2.67	0.42
33:DA:1014:A:OP2	51:DS:18:LYS:CE	2.67	0.42
33:DA:1118:U:O4'	33:DA:1179:A:H1'	2.19	0.42
33:DA:1508:A:C2	33:DA:1509:C:C2	3.07	0.42
33:DA:1519:A:C8	33:DA:1520:C:H1'	2.54	0.42
34:DB:153:MET:O	34:DB:155:GLY:N	2.49	0.42
38:DF:97:THR:O	38:DF:98:GLU:CB	2.67	0.42
39:DG:9:GLN:OE1	39:DG:9:GLN:N	2.52	0.42
43:DK:128:ARG:HH11	43:DK:128:ARG:CG	2.32	0.42
44:DL:29:GLN:NE2	44:DL:29:GLN:N	2.68	0.42
44:DL:49:LEU:O	44:DL:51:LYS:HD2	2.19	0.42
1:EA:68:G:H2'	1:EA:69:C:O4'	2.19	0.42
1:EA:787:C:P	59:EA:3750:HOH:O	2.78	0.42
1:EA:1061:U:O2	1:EA:1061:U:O4'	2.38	0.42
1:EA:1290:C:H2'	1:EA:1291:C:C6	2.54	0.42
1:EA:1319:C:C2'	1:EA:1320:C:H5'	2.49	0.42
5:EE:12:LEU:O	5:EE:13:THR:HB	2.20	0.42
6:EF:37:MET:HG3	6:EF:56:LEU:HD11	2.00	0.42
7:EG:27:GLY:HA3	7:EG:78:VAL:HG12	2.01	0.42
14:EN:33:ILE:HD11	14:EN:118:ARG:HD3	2.01	0.42
18:ER:66:HIS:CD2	18:ER:94:THR:HG22	2.54	0.42
20:ET:26:LYS:O	20:ET:27:SER:CB	2.68	0.42
21:EU:39:ASN:HB2	21:EU:64:ILE:HG21	2.02	0.42
32:E5:108:VAL:CG1	32:E5:109:LYS:N	2.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:FA:263:A:H2'	33:FA:264:C:C6	2.54	0.42
33:FA:763:G:H2'	33:FA:764:C:C6	2.55	0.42
33:FA:845:A:H5'	33:FA:846:G:O4'	2.20	0.42
37:FE:134:ILE:H	37:FE:134:ILE:HD12	1.84	0.42
40:FH:89:LYS:HA	40:FH:92:LEU:HG	2.01	0.42
46:FN:20:TYR:O	46:FN:23:LYS:HB3	2.20	0.42
49:FQ:74:THR:HG22	49:FQ:75:LEU:N	2.34	0.42
53:FU:25:LYS:HG2	53:FU:26:ALA:H	1.84	0.42
1:GA:594:U:H2'	1:GA:595:C:C6	2.54	0.42
1:GA:1062:G:C2'	1:GA:1063:G:C8	3.02	0.42
1:GA:1091:G:O2'	31:G4:12:ARG:NH1	2.53	0.42
1:GA:1206:G:C6	1:GA:1207:C:C4	3.07	0.42
1:GA:1361:G:C6	1:GA:1362:C:N4	2.87	0.42
1:GA:1576:U:C2	1:GA:1577:C:C5	3.08	0.42
1:GA:2032:G:H21	4:GD:151:THR:HB	1.83	0.42
1:GA:2849:U:O4	16:GP:20:ARG:NH1	2.47	0.42
3:GC:231:HIS:HA	3:GC:241:LYS:HE3	2.01	0.42
5:GE:29:HIS:HA	12:GL:6:LEU:HD22	2.00	0.42
5:GE:76:PRO:HA	5:GE:82:GLY:HA3	2.01	0.42
7:GG:126:THR:HG22	7:GG:127:GLN:N	2.33	0.42
7:GG:162:ARG:CZ	7:GG:168:VAL:HG21	2.49	0.42
10:GJ:81:ILE:CG1	10:GJ:82:GLY:H	2.32	0.42
19:GS:107:VAL:HG13	19:GS:107:VAL:O	2.20	0.42
33:HA:293:G:C6	33:HA:294:U:C4	3.08	0.42
34:HB:41:ASN:ND2	34:HB:44:LYS:HB2	2.34	0.42
36:HD:174:ASP:O	36:HD:175:ALA:HB2	2.19	0.42
40:HH:106:THR:CG2	40:HH:121:LEU:HD22	2.49	0.42
43:HK:86:VAL:HG21	53:HU:17:ARG:HH22	1.84	0.42
45:HM:57:ARG:O	45:HM:60:VAL:HG12	2.19	0.42
45:HM:114:LYS:HB3	45:HM:115:PRO:HD3	2.02	0.42
54:HV:337:ARG:HA	54:HV:382:ILE:HG22	2.00	0.42
1:AA:228:C:O2	1:AA:418:C:H4'	2.19	0.42
1:AA:301:G:C4	1:AA:302:C:C5	3.08	0.42
1:AA:336:C:OP2	59:AA:3549:HOH:O	2.20	0.42
1:AA:422:A:C6	1:AA:423:A:C6	3.08	0.42
1:AA:934:U:C2	1:AA:935:C:C5	3.08	0.42
1:AA:954:G:O2'	1:AA:2274:A:N1	2.41	0.42
1:AA:1307:A:C5	1:AA:1308:A:C8	3.07	0.42
1:AA:1622:G:C2	1:AA:1623:G:C8	3.07	0.42
1:AA:1857:G:C4	1:AA:1884:G:N2	2.88	0.42
1:AA:2023:C:O2'	1:AA:2618:G:OP1	2.29	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2103:C:C2'	1:AA:2104:C:H5'	2.48	0.42
3:AC:169:ALA:O	3:AC:185:ALA:HB3	2.18	0.42
4:AD:118:PHE:O	4:AD:163:GLY:O	2.38	0.42
6:AF:39:VAL:HG13	6:AF:40:GLY:N	2.35	0.42
7:AG:84:LYS:CG	7:AG:132:LEU:H	2.32	0.42
9:AI:139:VAL:HG13	9:AI:141:ASP:HB2	2.00	0.42
32:A5:29:ASP:OD1	32:A5:29:ASP:N	2.52	0.42
33:BA:59:A:C2	33:BA:354:G:C8	3.08	0.42
33:BA:253:A:OP1	49:BQ:69:LYS:NZ	2.37	0.42
33:BA:414:A:H2'	33:BA:415:A:O4'	2.19	0.42
33:BA:533:A:C2	33:BA:536:C:C5	3.08	0.42
33:BA:676:A:H2'	33:BA:677:U:H6	1.84	0.42
33:BA:704:A:C5	33:BA:705:G:C5	3.07	0.42
33:BA:728:A:H2'	33:BA:729:A:C8	2.54	0.42
33:BA:741:G:H2'	33:BA:742:G:H8	1.84	0.42
33:BA:779:C:N4	33:BA:780:A:C6	2.88	0.42
33:BA:791:G:O6	33:BA:792:A:N6	2.45	0.42
33:BA:1458:G:H5'	52:BT:27:MET:HB2	2.02	0.42
35:BC:144:LEU:HD12	35:BC:144:LEU:O	2.19	0.42
36:BD:13:ARG:HG2	36:BD:35:GLU:H	1.85	0.42
37:BE:114:VAL:HG21	37:BE:141:ILE:HD11	2.02	0.42
38:BF:78:PHE:CD1	38:BF:78:PHE:N	2.88	0.42
41:BI:39:PHE:HB2	41:BI:42:GLU:HB2	2.02	0.42
43:BK:86:VAL:HG21	53:BU:17:ARG:NH2	2.34	0.42
52:BT:44:LYS:HB3	52:BT:87:ALA:HA	2.02	0.42
1:CA:26:G:C6	1:CA:27:G:N1	2.87	0.42
1:CA:528:A:H3'	1:CA:528:A:C8	2.55	0.42
1:CA:996:A:C5	1:CA:1160:G:C2	3.07	0.42
1:CA:1713:A:H61	1:CA:1745:A:H61	1.68	0.42
1:CA:1970:A:H4'	1:CA:1971:U:OP1	2.19	0.42
1:CA:2188:U:H2'	1:CA:2189:U:H5'	2.02	0.42
1:CA:2207:C:H2'	1:CA:2208:C:H6	1.85	0.42
1:CA:2246:G:H1'	1:CA:2426:A:C2	2.53	0.42
1:CA:2340:A:H2'	1:CA:2341:G:H8	1.85	0.42
1:CA:2518:A:H2'	1:CA:2518:A:N3	2.34	0.42
1:CA:2747:G:O6	1:CA:2755:C:H5''	2.20	0.42
1:CA:2804:U:H2'	1:CA:2805:C:C6	2.54	0.42
1:CA:2814:A:C5	1:CA:2815:C:C5	3.07	0.42
7:CG:51:PHE:CE1	7:CG:68:ARG:HG2	2.55	0.42
9:CI:91:LYS:O	9:CI:135:MET:CE	2.68	0.42
11:CK:19:VAL:CG1	11:CK:41:ILE:HG13	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CP:98:TYR:CE2	16:CP:99:LEU:HD13	2.54	0.42
18:CR:41:ILE:O	18:CR:46:GLU:HB2	2.19	0.42
22:CV:14:LYS:HG3	22:CV:15:GLY:N	2.34	0.42
33:DA:146:G:C2	33:DA:147:G:C4	3.07	0.42
33:DA:195:A:C5	33:DA:196:A:C6	3.08	0.42
33:DA:628:G:C2	33:DA:629:A:C4	3.08	0.42
33:DA:734:G:N2	50:DR:64:TYR:CE1	2.86	0.42
33:DA:925:G:C2	33:DA:927:G:C8	3.08	0.42
33:DA:1143:G:H2'	33:DA:1144:G:H8	1.85	0.42
33:DA:1264:U:H2'	33:DA:1265:C:C6	2.55	0.42
35:DC:116:VAL:O	35:DC:119:SER:HB3	2.20	0.42
45:DM:12:HIS:HA	45:DM:44:LYS:NZ	2.34	0.42
45:DM:114:LYS:CB	45:DM:115:PRO:CD	2.97	0.42
48:DP:67:ILE:HG23	48:DP:71:VAL:CG1	2.49	0.42
52:DT:67:ILE:HG13	52:DT:71:LYS:HD3	2.02	0.42
53:DU:12:PHE:CZ	53:DU:16:LEU:HB2	2.55	0.42
54:DV:691:PRO:HB2	54:DV:694:VAL:HG23	2.01	0.42
1:EA:60:G:O2'	1:EA:62:U:OP2	2.28	0.42
1:EA:594:U:H2'	1:EA:595:C:H6	1.85	0.42
1:EA:721:A:H2'	1:EA:722:A:C8	2.54	0.42
1:EA:1188:U:H4'	18:ER:81:LYS:O	2.20	0.42
1:EA:1230:A:H2'	1:EA:1231:U:O4'	2.19	0.42
1:EA:1676:A:N6	1:EA:1677:A:C6	2.88	0.42
1:EA:2553:G:C2	1:EA:2583:G:H1'	2.54	0.42
2:EB:58:A:N7	2:EB:59:A:N7	2.68	0.42
4:ED:174:SER:O	4:ED:175:LEU:HB2	2.19	0.42
15:EO:59:ALA:HA	15:EO:62:LEU:HD12	2.01	0.42
21:EU:71:ILE:HD12	21:EU:71:ILE:N	2.34	0.42
23:EW:23:LYS:CG	23:EW:24:ARG:N	2.83	0.42
32:E5:54:VAL:CG2	32:E5:83:ALA:HB1	2.50	0.42
33:FA:116:A:H61	33:FA:313:A:H1'	1.84	0.42
33:FA:149:A:C2	33:FA:174:A:C2	3.07	0.42
33:FA:501:C:H2'	33:FA:502:A:C8	2.54	0.42
33:FA:672:U:H2'	33:FA:673:A:C8	2.55	0.42
33:FA:803:G:C6	33:FA:804:U:C4	3.07	0.42
33:FA:1005:A:H2'	33:FA:1006:G:O4'	2.19	0.42
33:FA:1213:A:C5	33:FA:1215:G:C4	3.07	0.42
33:FA:1216:A:H2'	33:FA:1217:C:C6	2.54	0.42
33:FA:1313:U:H2'	33:FA:1314:C:C6	2.55	0.42
35:FC:14:ILE:HD13	35:FC:14:ILE:N	2.35	0.42
36:FD:157:ALA:O	36:FD:160:GLU:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:FI:57:MET:SD	41:FI:58:VAL:CA	3.07	0.42
44:FL:24:LEU:HG	44:FL:25:GLU:N	2.34	0.42
46:FN:73:PHE:HE1	46:FN:75:ARG:HA	1.85	0.42
49:FQ:8:LEU:HD22	49:FQ:73:TRP:CH2	2.55	0.42
49:FQ:27:ARG:NH1	49:FQ:29:VAL:HG11	2.34	0.42
51:FS:31:LEU:HD22	51:FS:49:ILE:HG23	2.00	0.42
52:FT:5:LYS:NZ	52:FT:7:ALA:HB2	2.34	0.42
1:GA:396:G:H1'	24:GX:28:PHE:HB3	2.02	0.42
1:GA:538:A:H4'	10:GJ:7:LYS:HG2	2.01	0.42
1:GA:1231:U:H2'	1:GA:1232:G:H8	1.84	0.42
1:GA:1784:A:H4'	1:GA:1785:A:O5'	2.19	0.42
1:GA:1901:A:H2'	1:GA:1902:C:C6	2.55	0.42
1:GA:2682:A:C8	4:GD:11:MET:CG	3.02	0.42
1:GA:2771:C:H2'	1:GA:2772:C:C6	2.55	0.42
5:GE:52:VAL:HG12	5:GE:53:THR:N	2.34	0.42
7:GG:86:LEU:HD12	7:GG:130:ILE:HB	2.02	0.42
14:GN:37:THR:OG1	14:GN:40:LYS:HD2	2.20	0.42
14:GN:52:ILE:O	14:GN:55:ALA:N	2.51	0.42
23:GW:30:VAL:O	23:GW:30:VAL:HG22	2.19	0.42
23:GW:35:ILE:O	23:GW:36:ILE:C	2.58	0.42
23:GW:76:ARG:HA	23:GW:76:ARG:HD3	1.88	0.42
33:HA:16:A:C2'	33:HA:17:U:H5'	2.50	0.42
33:HA:71:A:C2	33:HA:72:A:C4	3.08	0.42
33:HA:1059:C:O2'	42:HJ:53:ILE:O	2.34	0.42
33:HA:1116:U:C3'	41:HI:110:GLN:HE22	2.33	0.42
59:HA:1838:HOH:O	37:HE:126:LYS:HD2	2.20	0.42
36:HD:36:GLN:O	36:HD:37:ALA:HB2	2.20	0.42
40:HH:59:LEU:HD21	40:HH:61:LEU:HD21	2.02	0.42
41:HI:50:GLN:N	41:HI:51:PRO:HD2	2.35	0.42
47:HO:39:LEU:O	47:HO:42:HIS:N	2.53	0.42
51:HS:3:ARG:O	51:HS:4:SER:HB2	2.19	0.42
54:HV:586:VAL:HG22	54:HV:587:ASP:H	1.84	0.42
1:AA:69:C:H2'	1:AA:70:G:C8	2.54	0.42
1:AA:133:U:H3	1:AA:146:A:H61	1.66	0.42
1:AA:705:A:C2	1:AA:706:A:C4	3.07	0.42
1:AA:1316:U:H2'	1:AA:1317:G:C8	2.54	0.42
1:AA:1416:G:O2'	1:AA:1417:C:H6	2.02	0.42
1:AA:1754:A:C6	1:AA:1755:A:C6	3.06	0.42
1:AA:1764:C:C4	1:AA:1765:U:C5	3.07	0.42
1:AA:2720:U:OP1	16:AP:52:ARG:NH2	2.53	0.42
2:AB:86:G:H2'	2:AB:87:U:H5''	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:270:ARG:HG2	3:AC:270:ARG:HH11	1.84	0.42
15:AO:77:ALA:HB1	15:AO:81:ARG:NH2	2.34	0.42
16:AP:58:PHE:CD1	16:AP:75:THR:HG22	2.55	0.42
18:AR:4:VAL:HG23	18:AR:39:LEU:HB2	2.02	0.42
19:AS:17:VAL:C	19:AS:18:ARG:O	2.54	0.42
28:A1:22:THR:OG1	28:A1:23:THR:N	2.50	0.42
32:A5:81:LEU:C	32:A5:82:ILE:HG12	2.40	0.42
33:BA:77:A:C2	33:BA:92:U:N3	2.88	0.42
33:BA:553:A:O2'	44:BL:26:ALA:O	2.37	0.42
33:BA:592:G:C2	33:BA:593:U:C2	3.08	0.42
33:BA:664:G:N2	33:BA:742:G:C2	2.88	0.42
33:BA:716:A:C6	33:BA:717:U:C4	3.07	0.42
33:BA:1033:G:C2'	33:BA:1034:G:C5'	2.98	0.42
33:BA:1112:C:N3	35:BC:178:LEU:HB2	2.34	0.42
33:BA:1428:A:H2'	33:BA:1429:A:O4'	2.20	0.42
34:BB:67:LEU:HD12	34:BB:157:PRO:CG	2.49	0.42
35:BC:77:ILE:HA	35:BC:84:VAL:CG2	2.49	0.42
36:BD:146:ARG:NH2	36:BD:148:LYS:HD2	2.34	0.42
38:BF:38:ARG:CB	38:BF:63:ASN:HB2	2.49	0.42
38:BF:86:ARG:HD2	38:BF:87:SER:N	2.35	0.42
39:BG:22:LEU:CD1	39:BG:62:PHE:HE2	2.33	0.42
40:BH:105:SER:HB2	40:BH:126:ILE:HD11	2.02	0.42
43:BK:118:HIS:O	43:BK:119:ASN:HB2	2.20	0.42
54:BV:560:GLN:NE2	54:BV:598:SER:OG	2.52	0.42
1:CA:374:A:C2	1:CA:401:A:C4	3.07	0.42
1:CA:582:A:H2'	1:CA:583:G:C8	2.54	0.42
1:CA:1188:U:H4'	18:CR:81:LYS:O	2.20	0.42
1:CA:1857:G:O2'	1:CA:1858:A:P	2.77	0.42
1:CA:2313:C:H5''	6:CF:87:LYS:HD3	2.01	0.42
1:CA:2437:G:N2	1:CA:2438:U:C2	2.88	0.42
1:CA:2682:A:C8	4:CD:11:MET:CG	3.03	0.42
1:CA:2700:A:C6	59:CA:3674:HOH:O	2.71	0.42
2:CB:94:A:C5	2:CB:95:U:C5	3.08	0.42
3:CC:87:SER:O	3:CC:196:ASN:ND2	2.49	0.42
9:CI:36:GLU:HG3	9:CI:36:GLU:O	2.19	0.42
11:CK:61:VAL:HG21	11:CK:112:PHE:CE1	2.54	0.42
23:CW:39:GLN:HG2	23:CW:40:ARG:N	2.35	0.42
26:CZ:38:GLU:HG3	26:CZ:40:THR:HG22	2.01	0.42
28:C1:24:LYS:NZ	28:C1:51:ALA:HB1	2.34	0.42
33:DA:114:U:O2'	33:DA:115:G:H5'	2.20	0.42
33:DA:560:A:H4'	33:DA:561:U:H5''	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:1444:U:H3	33:DA:1458:G:H1	1.68	0.42
34:DB:86:CYS:C	34:DB:88:GLN:H	2.21	0.42
35:DC:131:ARG:HD2	35:DC:168:TYR:OH	2.19	0.42
38:DF:64:VAL:HG12	38:DF:65:GLU:H	1.83	0.42
40:DH:106:THR:HG22	40:DH:107:SER:N	2.35	0.42
44:DL:36:ARG:NH1	44:DL:38:TYR:HE1	2.18	0.42
44:DL:55:VAL:HG21	44:DL:80:ILE:HD11	2.01	0.42
45:DM:11:ASP:OD2	45:DM:46:SER:OG	2.37	0.42
54:DV:416:ILE:HG12	54:DV:667:ALA:HB3	2.00	0.42
1:EA:64:A:H2'	1:EA:65:U:C6	2.55	0.42
1:EA:531:C:C5	1:EA:2035:G:C2	3.08	0.42
1:EA:861:A:H2'	1:EA:862:G:O4'	2.20	0.42
1:EA:1021:A:C6	1:EA:1023:U:C5	3.07	0.42
1:EA:1324:G:C4	1:EA:1328:A:N6	2.87	0.42
1:EA:1519:G:C5	1:EA:1520:U:C5	3.08	0.42
1:EA:1585:C:H2'	1:EA:1586:A:O4'	2.20	0.42
1:EA:1906:G:C5	1:EA:1929:G:N2	2.88	0.42
1:EA:2425:A:C5'	1:EA:2427:C:O4'	2.68	0.42
1:EA:2556:C:H2'	1:EA:2557:G:O4'	2.20	0.42
1:EA:2854:G:H2'	1:EA:2855:C:C6	2.55	0.42
5:EE:149:ILE:O	5:EE:188:MET:HA	2.20	0.42
6:EF:118:ALA:HB2	6:EF:176:PHE:CD1	2.54	0.42
6:EF:152:ASP:N	6:EF:152:ASP:OD1	2.53	0.42
7:EG:9:VAL:O	7:EG:11:PRO:HD3	2.19	0.42
7:EG:23:ILE:HG12	7:EG:71:LEU:HD11	2.02	0.42
7:EG:39:ALA:HA	7:EG:57:TYR:CE2	2.55	0.42
7:EG:93:TYR:HA	7:EG:105:SER:O	2.20	0.42
9:EI:74:PRO:HG2	9:EI:77:VAL:HG21	2.01	0.42
16:EP:91:VAL:HG23	16:EP:92:ARG:N	2.35	0.42
17:EQ:86:SER:HB2	18:ER:50:GLY:O	2.20	0.42
28:E1:7:LYS:HA	28:E1:23:THR:HG22	2.01	0.42
32:E5:62:ARG:O	32:E5:65:GLU:N	2.53	0.42
33:FA:158:G:C2'	33:FA:159:G:H5'	2.48	0.42
33:FA:983:A:N3	33:FA:983:A:H2'	2.35	0.42
33:FA:1055:A:C6	33:FA:1206:G:C5	3.08	0.42
33:FA:1276:G:H2'	33:FA:1277:C:O4'	2.20	0.42
33:FA:1323:G:H2'	33:FA:1324:A:C8	2.54	0.42
34:FB:91:VAL:HG12	34:FB:93:HIS:O	2.19	0.42
35:FC:47:LEU:HB3	35:FC:50:ALA:HB3	2.01	0.42
36:FD:4:TYR:O	36:FD:5:LEU:HB2	2.18	0.42
38:FF:38:ARG:CZ	38:FF:96:VAL:HG23	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:FM:11:ASP:HA	45:FM:45:ILE:HB	2.01	0.42
52:FT:44:LYS:HE2	52:FT:87:ALA:HA	2.02	0.42
1:GA:171:U:H2'	1:GA:172:A:H8	1.85	0.42
1:GA:199:A:C8	1:GA:2433:A:N6	2.88	0.42
1:GA:242:G:H5''	30:G3:63:TYR:CE2	2.54	0.42
1:GA:854:C:H2'	1:GA:855:G:H8	1.85	0.42
1:GA:1078:U:O2	1:GA:1088:A:H2'	2.20	0.42
1:GA:1355:G:C2	1:GA:1356:G:C8	3.08	0.42
1:GA:1428:C:C5	1:GA:1569:A:H5''	2.55	0.42
1:GA:2140:G:C8	1:GA:2152:G:N3	2.88	0.42
1:GA:2355:G:H4'	23:GW:20:LEU:HD12	2.01	0.42
1:GA:2760:C:C2'	1:GA:2761:A:H5'	2.50	0.42
7:GG:14:VAL:HA	7:GG:26:LYS:O	2.19	0.42
7:GG:84:LYS:HG2	7:GG:85:LYS:N	2.35	0.42
7:GG:104:LEU:H	7:GG:112:VAL:HG22	1.84	0.42
9:GI:40:ALA:HB1	9:GI:68:PHE:CD2	2.54	0.42
33:HA:35:G:H2'	33:HA:36:C:C6	2.54	0.42
33:HA:42:G:HO2'	33:HA:622:A:H2	1.65	0.42
33:HA:142:G:N3	33:HA:142:G:H2'	2.34	0.42
33:HA:270:A:H2'	33:HA:271:C:C6	2.55	0.42
33:HA:689:C:OP1	43:HK:46:THR:OG1	2.37	0.42
33:HA:1151:A:C2	33:HA:1152:A:C5	3.07	0.42
33:HA:1284:C:C5	33:HA:1285:A:C8	3.08	0.42
33:HA:1343:G:H4'	41:HI:124:ARG:HB3	2.00	0.42
33:HA:1496:C:H2'	33:HA:1497:G:O4'	2.19	0.42
34:HB:18:GLN:HG2	34:HB:189:ASN:OD1	2.20	0.42
36:HD:106:GLY:HA3	36:HD:162:ALA:CB	2.50	0.42
36:HD:204:TYR:N	36:HD:204:TYR:CD1	2.86	0.42
41:HI:30:ILE:CD1	41:HI:79:ILE:CD1	2.98	0.42
43:HK:100:LEU:HG	43:HK:105:PHE:CB	2.50	0.42
44:HL:36:ARG:HD3	44:HL:38:TYR:HE1	1.84	0.42
45:HM:2:ALA:N	45:HM:53:ILE:HD13	2.34	0.42
45:HM:60:VAL:CG2	45:HM:65:VAL:HG12	2.49	0.42
54:HV:193:TRP:CH2	54:HV:276:GLN:HB2	2.55	0.42
54:HV:632:ILE:HG23	54:HV:642:LEU:HD22	2.01	0.42
1:AA:173:A:C6	1:AA:174:U:C4	3.08	0.42
1:AA:362:A:C5	1:AA:363:G:C8	3.07	0.42
1:AA:854:C:H2'	1:AA:855:G:H8	1.84	0.42
1:AA:1021:A:H3'	1:AA:1021:A:N3	2.35	0.42
1:AA:1288:G:C5	1:AA:1327:A:C2	3.08	0.42
1:AA:1783:A:OP1	59:AA:3690:HOH:O	2.21	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1814:G:C6	1:AA:1815:A:C6	3.07	0.42
1:AA:1831:G:C4	1:AA:1975:G:N2	2.87	0.42
1:AA:2355:G:H4'	23:AW:20:LEU:HD12	2.01	0.42
1:AA:2578:G:H2'	1:AA:2579:C:H6	1.83	0.42
1:AA:2888:C:H2'	1:AA:2889:C:H6	1.85	0.42
2:AB:59:A:H4'	15:AO:3:LYS:NZ	2.34	0.42
2:AB:81:G:C6	2:AB:82:U:C4	3.07	0.42
3:AC:143:VAL:O	3:AC:151:GLY:HA2	2.19	0.42
6:AF:135:ILE:H	6:AF:140:ILE:HG12	1.85	0.42
9:AI:60:VAL:HG22	9:AI:66:PHE:HB3	2.01	0.42
9:AI:123:ALA:HA	9:AI:126:ARG:NH1	2.35	0.42
14:AN:75:ILE:O	14:AN:79:LEU:HD12	2.19	0.42
31:A4:22:VAL:HG12	31:A4:24:ARG:HG3	2.01	0.42
32:A5:125:ARG:CZ	32:A5:125:ARG:HA	2.50	0.42
33:BA:71:A:N6	33:BA:100:G:N7	2.67	0.42
33:BA:72:A:C5	33:BA:73:C:C5	3.08	0.42
33:BA:511:C:C2	33:BA:512:U:C6	3.07	0.42
33:BA:512:U:H2'	33:BA:513:C:C6	2.55	0.42
33:BA:664:G:H22	33:BA:741:G:H1	1.68	0.42
33:BA:844:G:N2	33:BA:845:A:N3	2.68	0.42
33:BA:859:G:H2'	33:BA:860:A:C8	2.54	0.42
33:BA:1151:A:C2	33:BA:1152:A:C5	3.08	0.42
34:BB:40:ILE:HG21	34:BB:201:GLY:HA2	2.01	0.42
35:BC:128:VAL:HG22	35:BC:129:MET:N	2.35	0.42
41:BI:28:ILE:HA	41:BI:63:LEU:CD2	2.50	0.42
48:BP:6:LEU:HD13	48:BP:71:VAL:CG2	2.50	0.42
1:CA:155:A:H2'	1:CA:156:A:C8	2.54	0.42
1:CA:675:A:OP1	5:CE:58:LYS:HE2	2.20	0.42
1:CA:682:G:H5'	29:C2:26:ASN:ND2	2.35	0.42
1:CA:1989:G:H2'	1:CA:1990:C:O4'	2.20	0.42
1:CA:2103:C:N4	1:CA:2184:A:H2	2.18	0.42
1:CA:2751:G:H2'	1:CA:2751:G:N3	2.34	0.42
1:CA:2760:C:H2'	1:CA:2761:A:H5'	2.02	0.42
1:CA:2869:G:H2'	1:CA:2870:C:O4'	2.20	0.42
4:CD:182:ALA:O	4:CD:184:ARG:N	2.53	0.42
5:CE:29:HIS:CD2	12:CL:8:PRO:N	2.88	0.42
7:CG:101:VAL:HG12	7:CG:115:GLN:HA	2.01	0.42
7:CG:168:VAL:HG23	7:CG:168:VAL:O	2.19	0.42
8:CH:37:VAL:HG23	8:CH:38:PRO:HD2	2.02	0.42
26:CZ:38:GLU:O	26:CZ:43:ILE:HG12	2.20	0.42
33:DA:28:A:H2'	33:DA:29:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:448:A:H3'	33:DA:449:G:H8	1.83	0.42
33:DA:575:G:C5	33:DA:881:G:C2	3.08	0.42
33:DA:688:G:N3	33:DA:704:A:C2	2.87	0.42
33:DA:1239:A:H62	33:DA:1299:A:H62	1.67	0.42
33:DA:1302:C:OP1	33:DA:1302:C:C5	2.73	0.42
33:DA:1451:U:C2'	33:DA:1452:C:OP1	2.67	0.42
34:DB:89:PHE:HB3	34:DB:149:GLY:O	2.20	0.42
42:DJ:61:ALA:O	42:DJ:62:ARG:HB2	2.20	0.42
44:DL:90:LEU:HB3	44:DL:93:VAL:HG21	2.01	0.42
52:DT:85:LYS:O	52:DT:86:LEU:HB2	2.19	0.42
54:DV:75:MET:HE1	54:DV:202:PHE:HZ	1.85	0.42
54:DV:298:ILE:HG22	54:DV:299:LEU:N	2.34	0.42
1:EA:15:G:C6	1:EA:16:C:C4	3.08	0.42
1:EA:560:C:O2	17:EQ:47:ARG:NH1	2.52	0.42
1:EA:694:U:C2	1:EA:695:G:C8	3.08	0.42
1:EA:897:C:H2'	1:EA:898:C:C6	2.54	0.42
8:EH:15:LEU:N	8:EH:15:LEU:HD22	2.34	0.42
9:EI:18:ASN:N	9:EI:19:PRO:HD3	2.35	0.42
9:EI:91:LYS:HB2	9:EI:95:ASP:HB3	2.02	0.42
10:EJ:41:LYS:C	10:EJ:43:GLU:H	2.23	0.42
10:EJ:54:ILE:HD12	10:EJ:55:ILE:N	2.35	0.42
14:EN:8:ARG:CB	14:EN:10:LEU:HD22	2.50	0.42
16:EP:50:ARG:CG	16:EP:56:SER:HB3	2.50	0.42
18:ER:39:LEU:HB3	18:ER:49:ILE:HD13	2.02	0.42
32:E5:92:ALA:C	32:E5:130:PRO:HG3	2.39	0.42
36:FD:107:PHE:CD2	36:FD:145:ILE:HG12	2.55	0.42
36:FD:124:MET:HG3	36:FD:146:ARG:HG2	2.02	0.42
38:FF:6:ILE:HD11	38:FF:71:ILE:HD13	2.01	0.42
41:FI:6:TYR:CG	41:FI:89:GLU:HB3	2.55	0.42
42:FJ:35:GLN:HG3	42:FJ:36:VAL:N	2.34	0.42
43:FK:125:LYS:CB	53:FU:35:ARG:HG2	2.49	0.42
52:FT:59:ASP:OD1	52:FT:76:LYS:NZ	2.51	0.42
54:FV:227:ALA:HB1	54:FV:234:MET:HB3	2.02	0.42
1:GA:272:A:HO2'	1:GA:273:G:H8	1.68	0.42
1:GA:659:G:H4'	5:GE:95:LYS:HD3	2.02	0.42
1:GA:752:A:H62	1:GA:2609:U:H3	1.66	0.42
1:GA:1372:U:O2'	1:GA:2212:A:N3	2.44	0.42
1:GA:1430:G:H2'	1:GA:1431:A:O4'	2.20	0.42
1:GA:1770:G:C5	1:GA:1983:G:C6	3.07	0.42
1:GA:1798:U:OP1	3:GC:257:ARG:HB2	2.20	0.42
1:GA:2086:U:H2'	1:GA:2087:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2233:U:H2'	1:GA:2234:G:C8	2.54	0.42
1:GA:2584:U:O4	59:GA:3699:HOH:O	2.22	0.42
2:GB:42:C:C5	6:GF:65:LEU:HD22	2.55	0.42
3:GC:91:ALA:HB3	3:GC:103:ILE:CG2	2.50	0.42
3:GC:129:LEU:O	3:GC:134:ILE:HD11	2.19	0.42
4:GD:55:LYS:CE	4:GD:60:VAL:HA	2.50	0.42
7:GG:22:VAL:HG12	7:GG:36:LEU:HD12	2.02	0.42
7:GG:23:ILE:HG22	7:GG:24:THR:N	2.35	0.42
9:GI:59:THR:O	9:GI:66:PHE:HB2	2.19	0.42
9:GI:108:ILE:HG22	9:GI:108:ILE:O	2.20	0.42
10:GJ:36:LEU:O	10:GJ:121:LYS:NZ	2.52	0.42
11:GK:38:ILE:HD11	11:GK:112:PHE:HZ	1.84	0.42
14:GN:100:CYS:SG	14:GN:110:MET:HB3	2.60	0.42
17:GQ:26:ALA:HA	17:GQ:30:VAL:HG23	2.02	0.42
19:GS:24:ILE:HG22	19:GS:71:VAL:HG21	2.02	0.42
26:GZ:23:LEU:CD1	26:GZ:50:VAL:HG11	2.50	0.42
33:HA:31:G:H5'	33:HA:306:A:C2	2.54	0.42
33:HA:1216:A:H2'	33:HA:1217:C:H6	1.84	0.42
33:HA:1233:G:H2'	33:HA:1234:C:C6	2.54	0.42
36:HD:182:PHE:HZ	36:HD:186:PRO:HD3	1.84	0.42
39:HG:4:ARG:O	39:HG:6:VAL:N	2.50	0.42
39:HG:50:LEU:CD1	39:HG:61:ALA:HB1	2.50	0.42
41:HI:20:PHE:CD2	41:HI:64:TYR:HD2	2.37	0.42
47:HO:46:HIS:C	47:HO:48:LYS:N	2.72	0.42
49:HQ:65:ARG:HG3	49:HQ:66:PRO:HD2	2.02	0.42
53:HU:49:LYS:C	53:HU:51:SER:N	2.73	0.42
54:HV:342:VAL:HG22	54:HV:378:ARG:HD2	2.01	0.42
54:HV:627:ASN:C	54:HV:629:GLY:H	2.23	0.42
1:AA:279:A:N7	1:AA:361:G:C2	2.87	0.42
1:AA:681:G:H2'	1:AA:682:G:O4'	2.20	0.42
1:AA:1166:G:H2'	1:AA:1167:C:C6	2.54	0.42
1:AA:1400:U:H2'	1:AA:1401:G:C8	2.55	0.42
1:AA:1495:A:C6	1:AA:1496:A:C6	3.08	0.42
1:AA:2794:C:H42	1:AA:2802:G:H1	1.66	0.42
2:AB:35:C:H2'	2:AB:36:C:O4'	2.20	0.42
3:AC:216:ARG:HB3	3:AC:217:PRO:HD2	2.01	0.42
6:AF:24:VAL:O	6:AF:27:VAL:CG1	2.67	0.42
6:AF:103:ILE:HG21	6:AF:173:ASP:HB3	2.01	0.42
6:AF:124:ARG:HA	6:AF:160:LYS:O	2.19	0.42
12:AL:95:LEU:HD11	12:AL:125:LEU:HD11	2.02	0.42
18:AR:89:HIS:NE2	18:AR:91:GLN:HB2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A5:23:LEU:HG	32:A5:24:SER:N	2.34	0.42
32:A5:55:VAL:HG12	32:A5:57:ASN:HD21	1.85	0.42
33:BA:72:A:H2'	33:BA:73:C:H5'	2.02	0.42
33:BA:687:A:H2	33:BA:704:A:C5	2.38	0.42
33:BA:705:G:C5	33:BA:706:A:C8	3.07	0.42
33:BA:1223:C:P	51:BS:78:ARG:NH1	2.93	0.42
33:BA:1295:U:H2'	33:BA:1296:C:C6	2.55	0.42
33:BA:1302:C:O2	45:BM:17:ILE:CD1	2.68	0.42
33:BA:1347:G:C8	41:BI:109:ARG:HB3	2.54	0.42
34:BB:9:LEU:O	34:BB:9:LEU:HD23	2.20	0.42
34:BB:67:LEU:HD22	34:BB:69:VAL:HG13	2.01	0.42
35:BC:17:PRO:O	35:BC:18:TRP:CE3	2.73	0.42
35:BC:153:VAL:HG23	35:BC:157:LEU:HD21	2.01	0.42
36:BD:170:TRP:HA	36:BD:184:ARG:NE	2.35	0.42
37:BE:155:ALA:HB1	40:BH:66:PHE:CE1	2.55	0.42
43:BK:109:ASN:ND2	53:BU:7:ARG:HG2	2.35	0.42
46:BN:17:ALA:HA	46:BN:55:SER:O	2.19	0.42
53:BU:25:LYS:HG2	53:BU:26:ALA:H	1.84	0.42
1:CA:191:A:H2'	1:CA:192:C:C6	2.54	0.42
1:CA:323:C:C4	1:CA:333:G:C8	3.08	0.42
1:CA:404:A:H1'	1:CA:405:U:OP2	2.20	0.42
1:CA:692:C:C2	1:CA:771:G:C2	3.08	0.42
1:CA:744:U:C4	1:CA:745:G:C5	3.08	0.42
1:CA:1001:A:C8	1:CA:1002:G:C8	3.08	0.42
1:CA:1519:G:H2'	1:CA:1520:U:O4'	2.19	0.42
1:CA:1739:A:H2'	1:CA:1740:G:O4'	2.20	0.42
1:CA:1851:U:C4	1:CA:1852:U:C4	3.08	0.42
1:CA:2075:U:C4	1:CA:2238:G:C6	3.08	0.42
1:CA:2304:G:H22	1:CA:2312:U:H3	1.67	0.42
1:CA:2432:A:N6	1:CA:2433:A:N6	2.67	0.42
1:CA:2544:G:H8	1:CA:2544:G:O5'	2.02	0.42
1:CA:2823:A:C5	1:CA:2824:C:C5	3.08	0.42
2:CB:61:G:C6	2:CB:62:C:C4	3.07	0.42
3:CC:216:ARG:HB3	3:CC:217:PRO:HD2	2.01	0.42
4:CD:120:GLY:HA2	4:CD:162:ALA:HA	2.00	0.42
4:CD:182:ALA:C	4:CD:184:ARG:N	2.73	0.42
7:CG:83:THR:HA	7:CG:84:LYS:CE	2.49	0.42
12:CL:29:LYS:HG2	12:CL:30:THR:HG23	2.01	0.42
15:CO:79:ALA:HA	15:CO:115:LEU:HD22	2.01	0.42
16:CP:59:THR:OG1	16:CP:72:VAL:HG12	2.19	0.42
19:CS:32:ALA:O	19:CS:36:LEU:HD12	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CT:15:HIS:O	20:CT:17:SER:N	2.52	0.42
21:CU:95:PHE:N	21:CU:95:PHE:CD1	2.86	0.42
28:C1:22:THR:OG1	28:C1:23:THR:N	2.51	0.42
33:DA:165:G:H2'	33:DA:166:U:C6	2.55	0.42
33:DA:432:A:H2'	33:DA:433:G:O4'	2.20	0.42
33:DA:1314:C:O2'	33:DA:1315:U:H5'	2.20	0.42
35:DC:173:VAL:HG12	35:DC:175:LEU:HD13	2.01	0.42
36:DD:98:LEU:CD1	36:DD:130:VAL:HG11	2.50	0.42
38:DF:3:HIS:CD2	38:DF:94:HIS:HA	2.55	0.42
41:DI:57:MET:HB2	41:DI:57:MET:HE2	1.97	0.42
44:DL:54:ARG:HA	44:DL:64:THR:HA	2.01	0.42
47:DO:25:THR:HG21	47:DO:70:LEU:HG	2.01	0.42
54:DV:342:VAL:HG22	54:DV:378:ARG:HD2	2.01	0.42
1:EA:416:U:H2'	1:EA:417:C:C6	2.55	0.42
1:EA:586:A:C2	1:EA:1254:A:C2	3.08	0.42
1:EA:1602:U:OP2	20:ET:64:LYS:HE3	2.20	0.42
1:EA:1796:U:H2'	1:EA:1797:G:C8	2.53	0.42
1:EA:2002:G:C6	1:EA:2003:A:N7	2.87	0.42
1:EA:2461:A:H1'	1:EA:2492:U:C2	2.54	0.42
1:EA:2637:U:H2'	1:EA:2638:G:H5'	2.01	0.42
19:ES:13:SER:O	19:ES:14:ALA:HB2	2.19	0.42
25:EY:5:GLU:O	25:EY:8:GLU:HB2	2.20	0.42
32:E5:77:VAL:C	32:E5:79:PRO:HD2	2.40	0.42
33:FA:91:U:H2'	33:FA:92:U:C6	2.55	0.42
33:FA:224:U:H2'	33:FA:225:C:C6	2.55	0.42
33:FA:789:U:O2	33:FA:791:G:C8	2.73	0.42
33:FA:875:U:O2'	40:FH:15:ARG:NH1	2.50	0.42
33:FA:1008:U:H2'	33:FA:1009:U:O4'	2.20	0.42
34:FB:71:THR:HG22	34:FB:72:LYS:H	1.84	0.42
37:FE:80:THR:OG1	37:FE:81:LEU:N	2.52	0.42
39:FG:89:VAL:HG22	39:FG:90:GLU:N	2.35	0.42
53:FU:20:LYS:HE2	53:FU:20:LYS:N	2.35	0.42
54:FV:523:TYR:CE2	54:FV:525:LEU:HD11	2.55	0.42
1:GA:364:C:H2'	1:GA:365:U:C6	2.54	0.42
1:GA:565:C:H2'	1:GA:566:U:O4'	2.20	0.42
1:GA:572:A:H5''	1:GA:573:U:OP2	2.20	0.42
1:GA:626:A:C2	12:GL:78:ARG:HD3	2.55	0.42
1:GA:1084:A:N6	1:GA:1085:A:N1	2.67	0.42
1:GA:1097:U:C5	1:GA:1098:A:C8	3.08	0.42
1:GA:1381:G:H2'	1:GA:1382:G:H5'	2.01	0.42
1:GA:1654:A:O2'	4:GD:118:PHE:CB	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2741:A:H2'	1:GA:2742:G:O4'	2.20	0.42
1:GA:2773:C:H2'	1:GA:2774:C:H6	1.84	0.42
4:GD:47:ALA:HA	4:GD:84:LEU:HG	2.01	0.42
6:GF:1:ALA:HB1	6:GF:97:GLU:HG3	2.02	0.42
6:GF:105:ILE:HD13	6:GF:138:PRO:HG2	2.02	0.42
6:GF:148:VAL:HG23	6:GF:149:ARG:H	1.85	0.42
7:GG:88:LEU:N	7:GG:88:LEU:HD23	2.34	0.42
9:GI:29:GLN:HE22	54:HV:652:VAL:CG2	2.32	0.42
11:GK:34:GLY:O	11:GK:36:GLY:N	2.53	0.42
12:GL:92:LEU:HD21	12:GL:124:GLY:HA3	2.01	0.42
13:GM:108:VAL:HG13	13:GM:112:LEU:HB3	2.01	0.42
18:GR:64:VAL:O	18:GR:65:ALA:HB3	2.20	0.42
21:GU:100:GLU:O	21:GU:101:THR:HB	2.20	0.42
23:GW:49:ASN:HB3	23:GW:81:ILE:CD1	2.50	0.42
25:GY:51:ALA:O	25:GY:55:THR:N	2.49	0.42
33:HA:858:G:C2'	33:HA:859:G:H5'	2.49	0.42
33:HA:858:G:O2'	33:HA:859:G:H5'	2.20	0.42
33:HA:1035:A:C8	33:HA:1036:A:C8	3.07	0.42
33:HA:1057:G:O3'	35:HC:197:GLY:HA3	2.20	0.42
33:HA:1323:G:C6	33:HA:1324:A:N6	2.88	0.42
33:HA:1469:C:H2'	33:HA:1470:U:C5'	2.50	0.42
36:HD:87:GLY:HA2	36:HD:201:VAL:HG21	2.01	0.42
38:HF:98:GLU:HG3	38:HF:99:ALA:N	2.35	0.42
39:HG:46:ALA:O	39:HG:50:LEU:HB2	2.19	0.42
41:HI:129:LYS:CG	41:HI:130:ARG:H	2.31	0.42
54:HV:4:THR:HG21	54:HV:378:ARG:HG3	2.01	0.42
1:AA:160:A:C8	1:AA:167:A:C6	3.08	0.42
1:AA:277:G:O2'	1:AA:278:A:OP2	2.30	0.42
1:AA:464:U:H5'	29:A2:5:PHE:CD1	2.54	0.42
1:AA:613:A:O2'	1:AA:614:A:OP1	2.29	0.42
1:AA:724:U:H2'	1:AA:725:G:O4'	2.19	0.42
1:AA:1728:C:O2	1:AA:1731:G:C2	2.73	0.42
1:AA:1865:U:C5	1:AA:1875:G:C2	3.08	0.42
1:AA:2019:A:H4'	17:AQ:33:VAL:HG21	2.02	0.42
1:AA:2210:U:H4'	1:AA:2211:A:C5'	2.47	0.42
1:AA:2307:G:H4'	1:AA:2308:G:C5'	2.50	0.42
1:AA:2336:A:N6	23:AW:40:ARG:HB2	2.34	0.42
1:AA:2438:U:O2'	1:AA:2439:A:H5''	2.20	0.42
3:AC:16:VAL:HG23	3:AC:203:VAL:HG11	2.01	0.42
3:AC:20:ASN:OD1	3:AC:22:GLU:HG2	2.19	0.42
9:AI:93:ASN:HA	9:AI:135:MET:CE	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:35:ARG:HA	10:AJ:40:HIS:CE1	2.55	0.42
10:AJ:110:PRO:HB2	10:AJ:111:LYS:HG3	2.01	0.42
11:AK:107:LEU:O	11:AK:109:SER:N	2.45	0.42
13:AM:41:LEU:HD12	13:AM:96:ILE:HG21	2.02	0.42
15:AO:59:ALA:HA	15:AO:62:LEU:HD12	2.01	0.42
17:AQ:4:LYS:HD2	17:AQ:7:VAL:HG12	2.02	0.42
20:AT:10:VAL:HG21	20:AT:43:ILE:HA	2.01	0.42
20:AT:40:LYS:O	20:AT:44:LYS:N	2.49	0.42
23:AW:67:LYS:O	23:AW:68:PHE:HB2	2.19	0.42
23:AW:67:LYS:HG3	23:AW:69:GLU:HG3	2.00	0.42
28:A1:10:LEU:HB2	28:A1:20:TYR:HB2	2.02	0.42
32:A5:15:VAL:HG12	32:A5:15:VAL:O	2.19	0.42
33:BA:77:A:N7	33:BA:79:G:C4	2.88	0.42
33:BA:77:A:N7	33:BA:79:G:N3	2.68	0.42
33:BA:103:U:O4	59:BA:1870:HOH:O	2.21	0.42
33:BA:438:U:H4'	36:BD:120:HIS:ND1	2.35	0.42
33:BA:639:G:C2	33:BA:640:A:C8	3.07	0.42
34:BB:67:LEU:HB3	34:BB:160:LEU:HD12	2.01	0.42
35:BC:88:ARG:HB2	35:BC:101:ILE:CG2	2.50	0.42
36:BD:174:ASP:O	36:BD:175:ALA:HB2	2.19	0.42
41:BI:18:ARG:HE	41:BI:66:THR:HB	1.84	0.42
42:BJ:25:ILE:CG2	42:BJ:74:VAL:HG11	2.49	0.42
43:BK:52:PHE:CD1	43:BK:52:PHE:N	2.87	0.42
45:BM:45:ILE:N	45:BM:45:ILE:HD12	2.35	0.42
46:BN:42:TRP:O	46:BN:45:VAL:HG22	2.20	0.42
50:BR:35:GLU:HB2	53:BU:19:PHE:CE2	2.54	0.42
53:BU:44:GLU:HG2	53:BU:47:ARG:NH1	2.34	0.42
1:CA:450:G:OP2	59:CA:3239:HOH:O	2.22	0.42
1:CA:871:U:H4'	13:CM:68:PHE:CE2	2.55	0.42
1:CA:1054:A:C4	1:CA:1055:G:C8	3.08	0.42
1:CA:1084:A:N3	1:CA:1105:U:O2'	2.47	0.42
1:CA:1594:U:H2'	1:CA:1595:C:C6	2.54	0.42
1:CA:1654:A:O2'	4:CD:118:PHE:CB	2.68	0.42
1:CA:2728:U:O2'	1:CA:2729:G:OP2	2.33	0.42
1:CA:2884:U:H4'	27:C0:49:ARG:NH2	2.35	0.42
2:CB:116:G:H2'	2:CB:117:G:C8	2.55	0.42
4:CD:70:LYS:O	4:CD:71:ALA:HB3	2.20	0.42
5:CE:146:VAL:HG23	5:CE:167:VAL:HG13	2.02	0.42
6:CF:64:PRO:HA	6:CF:88:VAL:CG2	2.49	0.42
6:CF:107:VAL:N	6:CF:108:PRO:CD	2.83	0.42
10:CJ:74:TYR:HE1	10:CJ:103:ILE:HD11	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CK:20:MET:CE	11:CK:44:LYS:HE3	2.50	0.42
14:CN:33:ILE:HD11	27:C0:54:ILE:CD1	2.50	0.42
21:CU:21:ARG:CZ	21:CU:72:PHE:CE2	3.02	0.42
33:DA:135:C:H2'	33:DA:136:C:H5'	2.01	0.42
33:DA:1306:A:C5	33:DA:1307:U:C5	3.08	0.42
33:DA:1492:A:H2'	33:DA:1493:A:C5'	2.50	0.42
34:DB:79:VAL:HA	34:DB:213:LEU:HD21	2.02	0.42
35:DC:70:THR:C	35:DC:106:VAL:HG22	2.40	0.42
36:DD:147:GLU:HA	36:DD:150:LYS:HD2	2.02	0.42
41:DI:55:VAL:HG13	41:DI:94:LEU:HD22	2.02	0.42
42:DJ:80:THR:HB	42:DJ:83:THR:H	1.84	0.42
54:DV:30:ILE:O	54:DV:34:THR:HG22	2.20	0.42
55:DW:2:DPP:HA	55:DW:6:5OH:O	2.20	0.42
1:EA:320:A:OP1	5:EE:130:LYS:HE3	2.19	0.42
1:EA:994:C:H1'	18:ER:10:LYS:HE2	2.01	0.42
1:EA:1199:U:H2'	1:EA:1200:C:C6	2.55	0.42
1:EA:2336:A:N6	23:EW:40:ARG:HG2	2.35	0.42
4:ED:193:VAL:HB	4:ED:194:PRO:HD2	2.02	0.42
6:EF:147:ARG:HG3	6:EF:149:ARG:H	1.85	0.42
10:EJ:88:THR:HG23	10:EJ:91:GLU:H	1.84	0.42
12:EL:19:LEU:HD23	12:EL:19:LEU:C	2.41	0.42
19:ES:4:ILE:HG13	19:ES:5:ALA:N	2.34	0.42
20:ET:54:GLU:HG3	20:ET:88:LYS:N	2.35	0.42
22:EV:80:HIS:HD2	22:EV:83:LYS:H	1.66	0.42
33:FA:263:A:OP2	52:FT:74:ARG:NH1	2.53	0.42
33:FA:1039:G:C5	33:FA:1040:U:C5	3.07	0.42
34:FB:140:LEU:HA	34:FB:143:LEU:HD23	2.02	0.42
39:FG:27:VAL:HG12	39:FG:43:VAL:HG21	2.02	0.42
46:FN:26:GLU:CG	46:FN:27:LEU:HD12	2.50	0.42
51:FS:44:MET:HA	51:FS:47:LEU:HD12	2.01	0.42
54:FV:354:LYS:HE2	54:FV:395:ASP:OD2	2.20	0.42
1:GA:65:U:H2'	1:GA:66:C:H6	1.85	0.42
1:GA:564:C:C4	1:GA:565:C:C5	3.08	0.42
1:GA:822:G:H2'	1:GA:823:C:H6	1.84	0.42
1:GA:1283:G:N2	1:GA:1329:U:O4	2.52	0.42
1:GA:1745:A:H2'	1:GA:1746:A:O4'	2.20	0.42
1:GA:1926:U:H2'	1:GA:1927:A:N7	2.34	0.42
1:GA:2276:G:OP2	13:GM:85:GLY:N	2.50	0.42
1:GA:2286:G:H5''	1:GA:2287:A:O4'	2.20	0.42
3:GC:123:ILE:O	3:GC:123:ILE:HG13	2.19	0.42
9:GI:85:ILE:HD12	9:GI:85:ILE:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:GJ:45:THR:HG23	10:GJ:45:THR:O	2.19	0.42
12:GL:96:LYS:HD3	12:GL:103:ILE:HA	2.00	0.42
14:GN:87:PHE:CE1	14:GN:116:VAL:HG12	2.55	0.42
17:GQ:57:ARG:NH1	17:GQ:61:ILE:HD11	2.35	0.42
17:GQ:60:TRP:O	17:GQ:63:ARG:HG3	2.19	0.42
19:GS:17:VAL:HG11	19:GS:103:ILE:HG12	2.02	0.42
28:G1:7:LYS:HE3	30:G3:33:THR:CG2	2.49	0.42
30:G3:51:LYS:HA	30:G3:54:LEU:HD22	2.01	0.42
33:HA:270:A:C5	33:HA:271:C:C4	3.07	0.42
33:HA:1171:A:H2'	33:HA:1172:C:C6	2.54	0.42
33:HA:1264:U:H2'	33:HA:1265:C:H6	1.85	0.42
34:HB:52:ALA:O	34:HB:56:LEU:HB2	2.20	0.42
40:HH:106:THR:HG22	40:HH:108:LYS:H	1.85	0.42
43:HK:125:LYS:HZ1	53:HU:36:GLU:H	1.68	0.42
46:HN:9:ARG:O	46:HN:13:ARG:HG3	2.19	0.42
54:HV:218:TRP:N	54:HV:218:TRP:CD1	2.86	0.42
54:HV:227:ALA:HB1	54:HV:234:MET:HB2	2.01	0.42
1:AA:170:U:H2'	1:AA:171:U:H6	1.85	0.41
1:AA:545:U:O5'	1:AA:545:U:H6	2.03	0.41
1:AA:704:G:N2	1:AA:726:G:C4	2.88	0.41
1:AA:799:G:N1	1:AA:800:A:N6	2.68	0.41
1:AA:830:G:C4	1:AA:2448:A:C5	3.09	0.41
1:AA:1291:C:H4'	1:AA:1537:G:P	2.60	0.41
1:AA:1401:G:C6	1:AA:1402:U:C4	3.08	0.41
1:AA:2313:C:N4	59:AA:3518:HOH:O	2.51	0.41
3:AC:14:HIS:O	3:AC:203:VAL:HG11	2.19	0.41
3:AC:175:LEU:CD1	3:AC:175:LEU:N	2.83	0.41
6:AF:101:ARG:O	6:AF:137:PHE:CE2	2.73	0.41
9:AI:80:LYS:HG3	9:AI:86:LYS:CG	2.50	0.41
10:AJ:88:THR:HG22	10:AJ:91:GLU:CG	2.50	0.41
11:AK:80:ASP:OD2	16:AP:61:ARG:NH1	2.53	0.41
16:AP:105:LYS:O	16:AP:108:ARG:HD3	2.20	0.41
16:AP:105:LYS:HA	16:AP:108:ARG:HD2	2.02	0.41
19:AS:54:ALA:HB1	19:AS:107:VAL:HG12	2.02	0.41
21:AU:12:VAL:HA	21:AU:69:VAL:HG12	2.02	0.41
23:AW:39:GLN:HG3	23:AW:42:THR:H	1.85	0.41
27:A0:3:GLN:OE1	27:A0:7:PRO:HD3	2.20	0.41
27:A0:38:LEU:HB2	27:A0:41:HIS:HB2	2.00	0.41
33:BA:53:A:C2	33:BA:54:C:H1'	2.55	0.41
33:BA:109:A:C4	33:BA:327:A:C2	3.08	0.41
33:BA:619:U:H3	36:BD:131:ASN:HB3	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:653:U:H5'	40:BH:56:LYS:HE2	2.01	0.41
33:BA:677:U:C4	33:BA:678:U:C5	3.08	0.41
33:BA:880:C:P	44:BL:5:ASN:HD22	2.43	0.41
33:BA:1149:C:OP2	41:BI:11:ARG:NH1	2.53	0.41
37:BE:16:ILE:HD11	37:BE:38:VAL:HG21	2.01	0.41
40:BH:102:ALA:HB3	40:BH:113:ASP:HB3	2.02	0.41
43:BK:31:ILE:HB	43:BK:46:THR:HG22	2.02	0.41
43:BK:40:ASN:O	43:BK:41:ALA:O	2.38	0.41
44:BL:34:CYS:SG	44:BL:78:SER:HB2	2.60	0.41
1:CA:56:A:C6	1:CA:57:C:C4	3.07	0.41
1:CA:558:U:O3'	10:CJ:111:LYS:HE3	2.20	0.41
1:CA:622:G:OP2	59:CA:3795:HOH:O	2.22	0.41
1:CA:685:A:C2	1:CA:689:A:C6	3.08	0.41
1:CA:722:A:H2'	1:CA:723:C:C6	2.55	0.41
1:CA:796:C:H2'	1:CA:797:G:C8	2.55	0.41
1:CA:1060:U:H4'	1:CA:1061:U:C5'	2.50	0.41
1:CA:1062:G:C6	1:CA:1077:A:N1	2.88	0.41
1:CA:1268:A:C6	1:CA:2013:A:C8	3.07	0.41
1:CA:1867:G:C2'	1:CA:1868:C:H5'	2.49	0.41
1:CA:2136:G:H22	1:CA:2156:G:H5''	1.85	0.41
1:CA:2425:A:C5'	1:CA:2427:C:O4'	2.68	0.41
1:CA:2436:G:C2	1:CA:2437:G:C8	3.08	0.41
1:CA:2588:G:OP1	59:CA:3314:HOH:O	2.21	0.41
2:CB:64:G:H2'	2:CB:65:U:C6	2.54	0.41
2:CB:78:A:N6	2:CB:98:G:O2'	2.49	0.41
4:CD:78:GLY:C	4:CD:79:LEU:HD12	2.40	0.41
9:CI:71:LYS:NZ	9:CI:71:LYS:HB3	2.34	0.41
11:CK:64:ARG:HG2	11:CK:79:PHE:CE2	2.55	0.41
33:DA:429:U:H1'	33:DA:430:A:H5''	2.02	0.41
33:DA:434:U:H2'	33:DA:435:A:H8	1.85	0.41
33:DA:436:C:N3	33:DA:437:U:C5	2.88	0.41
33:DA:857:C:H2'	33:DA:858:G:O4'	2.20	0.41
33:DA:1060:U:C4	35:DC:2:GLY:N	2.88	0.41
36:DD:13:ARG:HG2	36:DD:35:GLU:H	1.85	0.41
36:DD:23:SER:HB2	36:DD:110:THR:HG22	2.02	0.41
36:DD:48:LEU:CD2	36:DD:53:VAL:HG12	2.49	0.41
36:DD:174:ASP:O	36:DD:175:ALA:CB	2.68	0.41
39:DG:70:ARG:CG	39:DG:96:ARG:HD3	2.50	0.41
41:DI:18:ARG:HG3	41:DI:66:THR:HB	2.02	0.41
47:DO:64:ARG:NH2	47:DO:88:ARG:HD3	2.35	0.41
54:DV:219:HIS:C	54:DV:221:ASN:N	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:73:A:OP1	25:EY:47:ARG:HD2	2.20	0.41
1:EA:137:U:O2'	1:EA:138:U:P	2.77	0.41
1:EA:221:A:N1	1:EA:265:A:O2'	2.46	0.41
1:EA:481:G:C2	1:EA:507:A:C4	3.08	0.41
1:EA:855:G:H21	23:EW:23:LYS:CG	2.33	0.41
1:EA:1639:C:C2'	1:EA:1640:A:H5'	2.50	0.41
1:EA:1935:G:H1'	1:EA:1964:G:N2	2.35	0.41
1:EA:2081:U:H2'	1:EA:2082:A:C8	2.55	0.41
1:EA:2365:G:H4'	23:EW:59:PHE:CE1	2.55	0.41
1:EA:2393:U:H5''	12:EL:62:PRO:HB3	2.02	0.41
1:EA:2461:A:H2'	1:EA:2462:C:C6	2.55	0.41
1:EA:2507:C:C2	1:EA:2508:G:C8	3.08	0.41
1:EA:2591:C:OP1	3:EC:237:ARG:HG3	2.19	0.41
1:EA:2786:U:H4'	4:ED:66:GLY:O	2.20	0.41
7:EG:162:ARG:HD3	7:EG:166:GLU:HG2	2.01	0.41
10:EJ:44:TYR:CZ	17:EQ:59:LEU:HD11	2.54	0.41
10:EJ:81:ILE:HG12	10:EJ:82:GLY:N	2.35	0.41
11:EK:106:GLU:OE1	11:EK:106:GLU:N	2.53	0.41
15:EO:110:ALA:HB1	15:EO:115:LEU:HD23	2.02	0.41
28:E1:39:ASP:OD1	28:E1:41:VAL:HG22	2.19	0.41
32:E5:43:LYS:O	32:E5:47:GLU:HB2	2.20	0.41
33:FA:139:A:H2'	33:FA:140:U:H6	1.84	0.41
33:FA:264:C:H4'	49:FQ:65:ARG:HD2	2.02	0.41
33:FA:1088:G:H21	33:FA:1167:A:N6	2.18	0.41
33:FA:1246:A:H2'	33:FA:1247:U:O4'	2.20	0.41
35:FC:70:THR:HG22	35:FC:72:ARG:H	1.84	0.41
35:FC:123:GLN:O	35:FC:128:VAL:HG13	2.20	0.41
37:FE:81:LEU:CD2	37:FE:123:VAL:HG12	2.50	0.41
40:FH:10:MET:HE1	40:FH:33:LYS:HA	2.02	0.41
42:FJ:10:LEU:HD11	42:FJ:25:ILE:HD12	2.01	0.41
44:FL:87:VAL:C	44:FL:89:ASP:H	2.23	0.41
49:FQ:59:VAL:CG2	49:FQ:75:LEU:HD13	2.49	0.41
51:FS:40:ILE:HD11	51:FS:71:LEU:HD23	2.02	0.41
52:FT:22:ALA:O	52:FT:26:SER:N	2.49	0.41
1:GA:171:U:H2'	1:GA:172:A:C8	2.55	0.41
1:GA:348:A:H2'	1:GA:349:U:O4'	2.20	0.41
1:GA:782:A:C2	3:GC:224:MET:SD	3.13	0.41
1:GA:966:G:C6	1:GA:967:U:C4	3.08	0.41
1:GA:1473:G:H2'	1:GA:1474:U:O4'	2.20	0.41
1:GA:2024:G:C4	1:GA:2040:G:N2	2.88	0.41
1:GA:2108:A:C4	1:GA:2182:U:O2	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2637:U:C2'	1:GA:2638:G:H5'	2.50	0.41
1:GA:2787:C:H2'	1:GA:2788:C:C6	2.55	0.41
5:GE:149:ILE:HG23	5:GE:188:MET:HG3	2.02	0.41
7:GG:88:LEU:HD11	7:GG:95:ALA:HB2	2.02	0.41
9:GI:100:ILE:O	9:GI:140:GLU:HG2	2.20	0.41
11:GK:71:ARG:HG2	11:GK:105:ARG:HH21	1.84	0.41
13:GM:23:GLY:O	13:GM:101:VAL:HG12	2.20	0.41
17:GQ:94:LEU:C	17:GQ:96:ASP:H	2.22	0.41
19:GS:45:VAL:CG2	19:GS:46:LEU:N	2.83	0.41
20:GT:57:VAL:HG22	20:GT:58:VAL:N	2.35	0.41
21:GU:78:LYS:CG	21:GU:79:ALA:N	2.83	0.41
22:GV:62:THR:HG22	22:GV:71:LYS:HG2	2.02	0.41
24:GX:39:VAL:HG21	24:GX:42:GLU:HB2	2.01	0.41
33:HA:938:A:C6	33:HA:939:G:C5	3.08	0.41
33:HA:946:A:O2'	33:HA:1333:A:O2'	1.95	0.41
33:HA:981:U:H5	33:HA:982:U:HO2'	1.63	0.41
36:HD:85:ASN:HA	37:HE:102:GLY:HA2	2.02	0.41
36:HD:105:MET:HG2	36:HD:171:LEU:HD13	2.01	0.41
40:HH:80:ARG:HH21	40:HH:83:LEU:CB	2.33	0.41
43:HK:55:SER:HA	43:HK:57:LYS:NZ	2.34	0.41
46:HN:26:GLU:HG3	46:HN:27:LEU:HD12	2.02	0.41
51:HS:15:LEU:HD13	51:HS:33:THR:HG21	2.02	0.41
51:HS:41:PHE:HB3	51:HS:42:PRO:HD2	2.02	0.41
52:HT:28:MET:O	52:HT:32:ILE:HG13	2.20	0.41
53:HU:14:VAL:CG2	53:HU:16:LEU:HG	2.50	0.41
54:HV:4:THR:HG22	54:HV:378:ARG:HG3	2.02	0.41
54:HV:20:ASP:O	54:HV:21:ALA:HB3	2.20	0.41
1:AA:215:G:C4'	1:AA:216:A:H4'	2.50	0.41
1:AA:240:C:O2'	1:AA:257:C:N4	2.47	0.41
1:AA:582:A:H2'	1:AA:583:G:C8	2.56	0.41
1:AA:1716:U:H2'	1:AA:1717:A:C8	2.55	0.41
1:AA:1739:A:H2'	1:AA:1740:G:O4'	2.19	0.41
1:AA:2093:G:O2'	1:AA:2094:A:H5'	2.20	0.41
1:AA:2097:A:C6	1:AA:2098:U:C4	3.08	0.41
1:AA:2292:U:H2'	1:AA:2293:G:C8	2.55	0.41
1:AA:2313:C:O4'	6:AF:36:ASN:ND2	2.53	0.41
1:AA:2641:G:H5''	10:AJ:78:THR:HG22	2.01	0.41
1:AA:2803:G:H2'	1:AA:2804:U:C6	2.55	0.41
6:AF:11:VAL:N	6:AF:13:LYS:HB3	2.35	0.41
9:AI:102:ARG:HG2	9:AI:141:ASP:HA	2.02	0.41
14:AN:20:MET:HE1	14:AN:40:LYS:CE	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AN:34:ILE:HG12	14:AN:113:ILE:HG23	2.01	0.41
15:AO:7:ARG:HD2	15:AO:97:PHE:CZ	2.55	0.41
16:AP:3:ILE:O	16:AP:7:LEU:HD23	2.20	0.41
16:AP:94:ALA:C	16:AP:95:LYS:HD2	2.39	0.41
18:AR:49:ILE:HG22	18:AR:54:VAL:HG12	2.02	0.41
19:AS:48:LYS:O	19:AS:51:LEU:N	2.53	0.41
23:AW:76:ARG:HH21	23:AW:76:ARG:HG2	1.85	0.41
28:A1:36:LYS:HG3	28:A1:47:ILE:CD1	2.48	0.41
33:BA:115:G:C2	33:BA:289:G:C5	3.08	0.41
33:BA:158:G:H2'	33:BA:159:G:C5'	2.49	0.41
33:BA:685:G:C2	33:BA:686:U:N3	2.89	0.41
37:BE:15:LEU:HD22	37:BE:60:ILE:CG2	2.51	0.41
38:BF:9:MET:O	38:BF:85:ILE:HG12	2.21	0.41
41:BI:119:ARG:O	41:BI:119:ARG:HG2	2.18	0.41
44:BL:24:LEU:HG	44:BL:25:GLU:N	2.32	0.41
45:BM:16:VAL:O	45:BM:20:THR:HG23	2.20	0.41
47:BO:42:HIS:CE1	47:BO:46:HIS:CD2	3.09	0.41
50:BR:51:TYR:O	50:BR:55:LEU:HD13	2.19	0.41
54:BV:322:PHE:O	54:BV:335:PHE:HB2	2.20	0.41
1:CA:714:U:H5'	1:CA:715:A:OP2	2.20	0.41
1:CA:878:A:C6	1:CA:900:A:C8	3.08	0.41
1:CA:992:C:H4'	18:CR:74:ILE:CD1	2.50	0.41
1:CA:1177:G:H2'	1:CA:1178:C:O4'	2.20	0.41
1:CA:1239:G:H2'	1:CA:1240:U:O4'	2.19	0.41
1:CA:1310:G:C2'	1:CA:1311:G:H5'	2.50	0.41
1:CA:1359:A:C8	1:CA:1373:A:C2	3.08	0.41
1:CA:1453:A:C8	14:CN:73:ASN:HB3	2.55	0.41
1:CA:1674:G:N2	1:CA:1677:A:N1	2.67	0.41
1:CA:1845:G:OP1	3:CC:255:LYS:NZ	2.49	0.41
1:CA:2393:U:H5'	12:CL:60:ARG:O	2.19	0.41
1:CA:2531:A:OP2	7:CG:174:LYS:HG2	2.20	0.41
1:CA:2838:G:C6	1:CA:2839:G:C5	3.08	0.41
2:CB:29:A:H2'	2:CB:30:C:C6	2.55	0.41
3:CC:255:LYS:O	3:CC:256:THR:OG1	2.28	0.41
4:CD:174:SER:O	4:CD:175:LEU:HB2	2.20	0.41
13:CM:13:HIS:O	13:CM:14:LYS:CB	2.68	0.41
13:CM:53:MET:HE3	13:CM:63:ILE:HD13	2.02	0.41
18:CR:39:LEU:O	18:CR:49:ILE:HG23	2.21	0.41
20:CT:30:ILE:HG13	20:CT:85:VAL:HB	2.02	0.41
20:CT:54:GLU:HG3	20:CT:88:LYS:N	2.35	0.41
21:CU:52:ASN:C	21:CU:54:PRO:HD2	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CW:23:LYS:HG3	23:CW:24:ARG:N	2.34	0.41
24:CX:32:LEU:O	24:CX:33:HIS:CG	2.73	0.41
33:DA:460:A:H61	33:DA:471:U:H3	1.68	0.41
42:DJ:14:ASP:HB3	42:DJ:17:LEU:HB3	2.02	0.41
42:DJ:102:LEU:H	42:DJ:102:LEU:HD13	1.85	0.41
44:DL:82:ILE:HG23	44:DL:95:TYR:HB3	2.02	0.41
46:DN:73:PHE:CZ	46:DN:78:GLY:HA2	2.54	0.41
49:DQ:59:VAL:CG2	49:DQ:75:LEU:CD1	2.98	0.41
1:EA:1780:A:OP1	59:EA:3687:HOH:O	2.22	0.41
1:EA:1866:A:C6	1:EA:1876:A:N7	2.88	0.41
1:EA:2682:A:C8	4:ED:11:MET:CG	3.03	0.41
1:EA:2747:G:H2'	1:EA:2748:A:C8	2.55	0.41
2:EB:20:G:C6	2:EB:21:G:C5	3.08	0.41
8:EH:31:VAL:HB	8:EH:32:PRO:CD	2.50	0.41
10:EJ:25:LEU:HB2	10:EJ:62:VAL:CG2	2.50	0.41
11:EK:16:ALA:O	11:EK:17:ARG:HB2	2.20	0.41
20:ET:61:LEU:C	20:ET:61:LEU:HD12	2.40	0.41
23:EW:10:ARG:O	23:EW:11:ASN:HB2	2.19	0.41
23:EW:23:LYS:HG3	23:EW:24:ARG:N	2.35	0.41
33:FA:38:G:C2	33:FA:397:A:C2	3.09	0.41
33:FA:129:A:H1'	33:FA:130:A:C8	2.55	0.41
33:FA:436:C:C2	33:FA:437:U:C5	3.07	0.41
33:FA:778:G:C6	33:FA:779:C:N3	2.88	0.41
33:FA:1079:G:C2	33:FA:1080:A:C2	3.08	0.41
33:FA:1102:A:H2'	33:FA:1103:C:C6	2.55	0.41
33:FA:1363:A:C8	33:FA:1365:G:C5	3.08	0.41
39:FG:140:ASP:O	39:FG:143:ARG:HB3	2.20	0.41
42:FJ:57:VAL:O	42:FJ:58:ASN:HB2	2.20	0.41
44:FL:27:CYS:HB2	44:FL:28:PRO:CD	2.49	0.41
46:FN:28:LYS:HG3	46:FN:29:ALA:N	2.35	0.41
48:FP:46:LYS:HB2	48:FP:47:GLU:H	1.74	0.41
52:FT:62:ALA:CA	52:FT:67:ILE:HG22	2.50	0.41
1:GA:11:C:C2'	1:GA:12:U:H5'	2.50	0.41
1:GA:126:A:C6	1:GA:127:A:N1	2.88	0.41
1:GA:595:C:H2'	1:GA:596:U:C6	2.55	0.41
1:GA:901:C:O2'	1:GA:902:C:O5'	2.34	0.41
1:GA:1059:G:N2	9:GI:127:SER:HA	2.35	0.41
1:GA:1095:A:C4	54:HV:632:ILE:HG12	2.54	0.41
1:GA:1843:C:H2'	1:GA:1844:C:C6	2.54	0.41
1:GA:2140:G:H5''	1:GA:2141:G:OP2	2.21	0.41
1:GA:2305:U:O3'	6:GF:132:ARG:NH1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:GA:3350:HOH:O	12:GL:53:GLY:N	2.35	0.41
4:GD:37:VAL:HG23	4:GD:91:THR:HB	2.02	0.41
6:GF:3:LEU:HD13	6:GF:6:TYR:CG	2.55	0.41
6:GF:106:ALA:HB2	6:GF:137:PHE:CD1	2.55	0.41
6:GF:134:GLN:CG	6:GF:135:ILE:N	2.83	0.41
8:GH:21:VAL:HG22	8:GH:22:LYS:H	1.85	0.41
9:GI:48:ILE:HG13	9:GI:49:GLU:H	1.85	0.41
10:GJ:25:LEU:HB2	10:GJ:62:VAL:CG2	2.49	0.41
19:GS:59:GLU:HA	19:GS:64:ALA:CB	2.50	0.41
31:G4:16:ILE:HA	31:G4:24:ARG:O	2.19	0.41
33:HA:264:C:H4'	49:HQ:65:ARG:HD2	2.02	0.41
33:HA:414:A:H2'	33:HA:415:A:O4'	2.20	0.41
33:HA:1102:A:H2'	33:HA:1103:C:C6	2.55	0.41
34:HB:119:GLN:NE2	34:HB:136:ARG:NH2	2.69	0.41
34:HB:199:ILE:HG13	34:HB:199:ILE:O	2.20	0.41
38:HF:81:ASN:OD1	38:HF:83:ALA:N	2.49	0.41
42:HJ:92:LEU:O	42:HJ:93:ALA:CB	2.68	0.41
49:HQ:14:SER:HB3	49:HQ:22:VAL:CG2	2.50	0.41
1:AA:498:G:C5	1:AA:499:U:C5	3.08	0.41
1:AA:666:A:H2'	1:AA:667:U:H6	1.85	0.41
1:AA:934:U:H2'	1:AA:935:C:H6	1.85	0.41
1:AA:983:A:N6	1:AA:984:A:C2	2.88	0.41
1:AA:1265:A:O4'	1:AA:1267:U:C6	2.73	0.41
1:AA:1713:A:H61	1:AA:1745:A:H61	1.67	0.41
4:AD:68:PHE:C	4:AD:73:VAL:HG12	2.41	0.41
5:AE:126:VAL:HG23	5:AE:137:LYS:HD2	2.01	0.41
6:AF:37:MET:HE2	6:AF:151:LEU:HB3	2.03	0.41
7:AG:23:ILE:HG21	7:AG:71:LEU:CD1	2.50	0.41
7:AG:85:LYS:HG2	7:AG:131:VAL:HG12	2.02	0.41
9:AI:52:LEU:HB3	9:AI:53:PRO:HD2	2.02	0.41
9:AI:123:ALA:HB2	9:AI:126:ARG:NH2	2.36	0.41
16:AP:1:SER:H2	16:AP:4:ILE:HG13	1.85	0.41
16:AP:23:ASP:OD1	16:AP:88:ARG:HA	2.20	0.41
16:AP:52:ARG:NH1	16:AP:52:ARG:CG	2.82	0.41
17:AQ:97:ILE:HD11	17:AQ:105:PHE:HA	2.03	0.41
19:AS:18:ARG:CG	19:AS:76:VAL:HG13	2.50	0.41
32:A5:60:LEU:HD23	32:A5:64:VAL:HG21	2.01	0.41
32:A5:67:THR:CG2	32:A5:72:LEU:HA	2.50	0.41
33:BA:453:G:C5	33:BA:454:G:N7	2.88	0.41
33:BA:751:U:H1'	47:BO:23:GLY:O	2.20	0.41
33:BA:792:A:C2	33:BA:794:A:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:1151:A:C4	33:BA:1152:A:N7	2.89	0.41
34:BB:70:GLY:HA2	34:BB:163:ILE:CG2	2.50	0.41
34:BB:74:ALA:O	34:BB:75:ALA:HB2	2.19	0.41
36:BD:72:PHE:CZ	36:BD:200:ILE:HD11	2.55	0.41
36:BD:139:PRO:HA	36:BD:182:PHE:HD2	1.85	0.41
37:BE:74:VAL:HG13	37:BE:144:LEU:HB3	2.00	0.41
38:BF:10:VAL:N	38:BF:58:HIS:O	2.53	0.41
38:BF:38:ARG:HG2	38:BF:39:LEU:H	1.84	0.41
39:BG:103:TRP:CH2	39:BG:141:VAL:HG21	2.56	0.41
46:BN:31:ILE:CD1	46:BN:31:ILE:N	2.82	0.41
47:BO:45:GLU:HG3	47:BO:46:HIS:N	2.35	0.41
50:BR:22:ASP:OD1	50:BR:24:LYS:HE3	2.21	0.41
1:CA:42:A:C2'	1:CA:43:G:C5'	2.98	0.41
1:CA:215:G:H4'	1:CA:216:A:H4'	2.02	0.41
1:CA:643:A:C8	28:C1:43:ARG:HD3	2.55	0.41
1:CA:855:G:C2	23:CW:23:LYS:HD2	2.56	0.41
1:CA:1392:A:N6	1:CA:1393:A:N6	2.68	0.41
1:CA:1622:G:C2	1:CA:1623:G:C8	3.08	0.41
1:CA:1726:C:N4	1:CA:1735:A:H2	2.18	0.41
1:CA:2052:A:C2	1:CA:2053:G:C8	3.08	0.41
1:CA:2517:C:C6	1:CA:2542:A:N7	2.88	0.41
1:CA:2685:G:OP1	11:CK:78:ARG:NH2	2.53	0.41
3:CC:16:VAL:N	3:CC:203:VAL:CG1	2.83	0.41
4:CD:172:VAL:CG2	4:CD:194:PRO:HD3	2.51	0.41
14:CN:38:LEU:HB3	14:CN:39:PRO:HD3	2.01	0.41
17:CQ:87:VAL:O	17:CQ:88:GLU:HB3	2.19	0.41
28:C1:6:GLU:OE1	28:C1:52:LYS:NZ	2.52	0.41
31:C4:3:VAL:O	31:C4:4:ARG:O	2.38	0.41
33:DA:376:G:C2	33:DA:377:G:N7	2.88	0.41
33:DA:497:G:H2'	33:DA:498:A:C8	2.55	0.41
33:DA:1313:U:H2'	33:DA:1314:C:C6	2.55	0.41
33:DA:1366:C:H2'	33:DA:1367:C:C6	2.54	0.41
33:DA:1428:A:H2'	33:DA:1429:A:O4'	2.20	0.41
34:DB:83:ALA:HA	34:DB:88:GLN:NE2	2.35	0.41
34:DB:182:VAL:N	34:DB:196:ASP:OD2	2.53	0.41
36:DD:161:LEU:HD13	36:DD:161:LEU:N	2.36	0.41
39:DG:53:ARG:HG3	1:GA:2096:C:O2'	2.20	0.41
44:DL:43:LYS:HG2	44:DL:44:LYS:N	2.34	0.41
1:EA:559:G:OP1	10:EJ:111:LYS:HD3	2.20	0.41
1:EA:879:G:C2	1:EA:880:G:C5	3.07	0.41
1:EA:1054:A:C2	1:EA:1055:G:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:EA:1447:C:O2'	1:EA:1544:A:N3	2.46	0.41
1:EA:1913:A:H1'	55:FW:4:SER:CA	2.50	0.41
1:EA:2187:U:H3'	1:EA:2188:U:C5	2.55	0.41
1:EA:2197:U:C5	1:EA:2224:G:C6	3.08	0.41
1:EA:2687:U:H2'	1:EA:2688:G:O4'	2.20	0.41
4:ED:89:GLU:HG2	4:ED:94:GLN:CD	2.40	0.41
12:EL:61:LEU:HD13	12:EL:61:LEU:N	2.35	0.41
14:EN:95:THR:CG2	14:EN:113:ILE:HG13	2.50	0.41
15:EO:53:THR:HB	15:EO:65:THR:HB	2.02	0.41
18:ER:28:ALA:O	18:ER:63:VAL:HG21	2.19	0.41
19:ES:29:VAL:O	19:ES:33:LEU:HD22	2.21	0.41
19:ES:82:MET:HB2	19:ES:98:LYS:HB2	2.02	0.41
32:E5:39:THR:HA	32:E5:42:ARG:HD2	2.02	0.41
32:E5:78:GLY:N	32:E5:79:PRO:HD2	2.35	0.41
33:FA:126:G:C2'	33:FA:127:G:O5'	2.69	0.41
33:FA:232:G:H1'	33:FA:262:A:N1	2.36	0.41
33:FA:454:G:C2'	33:FA:455:G:H5'	2.50	0.41
33:FA:836:G:C6	33:FA:851:G:C5	3.08	0.41
33:FA:959:A:C2	33:FA:1222:G:O4'	2.73	0.41
41:FI:63:LEU:N	41:FI:63:LEU:CD2	2.83	0.41
46:FN:43:ASN:O	46:FN:45:VAL:N	2.53	0.41
51:FS:12:ASP:HB3	51:FS:14:HIS:CE1	2.55	0.41
54:FV:36:VAL:HG12	54:FV:37:ASN:H	1.85	0.41
54:FV:330:VAL:CG2	54:FV:333:LEU:HD21	2.50	0.41
1:GA:36:G:C5	1:GA:37:C:C5	3.09	0.41
1:GA:524:G:C6	1:GA:525:U:C4	3.08	0.41
1:GA:560:C:N4	1:GA:561:G:C6	2.88	0.41
1:GA:806:C:N3	1:GA:807:U:C5	2.88	0.41
1:GA:966:G:H4'	1:GA:2272:U:O2	2.19	0.41
1:GA:1458:U:H5'	1:GA:1459:G:N3	2.35	0.41
1:GA:1703:G:HO2'	33:HA:1428:A:HO2'	1.68	0.41
1:GA:2024:G:H2'	1:GA:2025:C:O4'	2.20	0.41
1:GA:2364:C:H4'	23:GW:55:ASP:OD1	2.20	0.41
1:GA:2419:U:H2'	1:GA:2420:C:C6	2.55	0.41
1:GA:2728:U:O2'	1:GA:2729:G:H8	2.03	0.41
1:GA:2799:A:C6	1:GA:2801:G:C5	3.09	0.41
3:GC:204:LEU:HG	3:GC:209:ALA:HB1	2.02	0.41
7:GG:163:TYR:O	7:GG:164:ALA:HB3	2.20	0.41
15:GO:36:TYR:N	15:GO:36:TYR:CD1	2.88	0.41
17:GQ:86:SER:O	17:GQ:87:VAL:C	2.57	0.41
20:GT:14:PRO:HB2	20:GT:16:VAL:HG23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:GT:54:GLU:HG3	20:GT:88:LYS:CB	2.50	0.41
21:GU:70:ALA:HB3	21:GU:79:ALA:HB1	2.03	0.41
22:GV:76:ASP:OD1	22:GV:77:VAL:N	2.53	0.41
23:GW:23:LYS:HE2	23:GW:24:ARG:CA	2.51	0.41
27:G0:24:VAL:C	27:G0:26:SER:H	2.21	0.41
31:G4:31:PRO:C	31:G4:33:HIS:H	2.23	0.41
33:HA:570:G:H1'	33:HA:820:U:C4	2.55	0.41
33:HA:807:A:C5	33:HA:808:C:C4	3.08	0.41
33:HA:1157:A:C6	33:HA:1180:A:C6	3.08	0.41
40:HH:10:MET:HE1	40:HH:33:LYS:HA	2.00	0.41
42:HJ:8:ILE:CD1	42:HJ:76:ILE:HD11	2.49	0.41
45:HM:14:HIS:HB2	45:HM:17:ILE:HD12	2.01	0.41
50:HR:32:TYR:HE2	50:HR:47:THR:HG21	1.85	0.41
54:HV:320:LEU:HD23	54:HV:321:ALA:N	2.35	0.41
1:AA:42:A:C2'	1:AA:43:G:H5''	2.50	0.41
1:AA:910:A:C6	1:AA:911:A:C6	3.08	0.41
1:AA:1526:C:H2'	1:AA:1527:G:O4'	2.20	0.41
1:AA:1715:G:N2	1:AA:1744:A:OP2	2.45	0.41
1:AA:2294:G:H5''	15:AO:10:ARG:HD3	2.01	0.41
1:AA:2531:A:OP1	7:AG:174:LYS:HE3	2.21	0.41
3:AC:172:THR:HG22	3:AC:182:LYS:HG2	2.02	0.41
4:AD:21:SER:H	11:AK:73:ASP:H	1.67	0.41
4:AD:70:LYS:O	4:AD:71:ALA:CB	2.68	0.41
6:AF:62:GLN:HB2	6:AF:88:VAL:HG13	2.03	0.41
6:AF:103:ILE:HD13	6:AF:173:ASP:HB2	2.03	0.41
9:AI:24:GLY:O	9:AI:27:LEU:HG	2.20	0.41
10:AJ:12:LYS:O	10:AJ:13:ARG:CB	2.68	0.41
10:AJ:36:LEU:HD11	10:AJ:54:ILE:HG22	2.02	0.41
12:AL:51:GLU:OE1	12:AL:57:LEU:N	2.47	0.41
18:AR:24:LYS:HA	18:AR:94:THR:HG23	2.02	0.41
24:AX:37:PHE:CE2	24:AX:58:ILE:HG21	2.55	0.41
33:BA:575:G:C4	33:BA:881:G:C2	3.08	0.41
33:BA:704:A:C6	33:BA:705:G:C5	3.08	0.41
35:BC:140:ASN:HA	35:BC:143:ARG:CB	2.50	0.41
37:BE:80:THR:HG23	37:BE:81:LEU:O	2.21	0.41
52:BT:34:LYS:O	52:BT:37:ALA:HB3	2.21	0.41
1:CA:26:G:H1'	1:CA:514:A:N6	2.36	0.41
1:CA:510:C:H2'	1:CA:511:U:O4'	2.21	0.41
1:CA:1234:U:H2'	1:CA:1235:G:O4'	2.20	0.41
1:CA:1770:G:C6	1:CA:1983:G:C6	3.08	0.41
1:CA:1813:G:H1'	3:CC:49:THR:CG2	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2286:G:P	28:C1:29:LYS:CE	3.08	0.41
1:CA:2799:A:C6	1:CA:2801:G:C5	3.09	0.41
3:CC:255:LYS:C	3:CC:257:ARG:H	2.23	0.41
7:CG:162:ARG:CZ	7:CG:168:VAL:HG21	2.50	0.41
10:CJ:72:LYS:HD2	10:CJ:74:TYR:CE2	2.56	0.41
10:CJ:111:LYS:HA	59:CJ:202:HOH:O	2.19	0.41
11:CK:16:ALA:HB2	11:CK:86:LEU:HD11	2.02	0.41
11:CK:20:MET:HG3	11:CK:21:CYS:N	2.34	0.41
13:CM:31:PHE:CE2	13:CM:110:GLU:HA	2.55	0.41
17:CQ:65:ASN:OD1	17:CQ:69:ARG:NH2	2.54	0.41
33:DA:134:G:H2'	33:DA:135:C:O4'	2.20	0.41
33:DA:207:C:H2'	33:DA:208:U:C6	2.55	0.41
33:DA:820:U:H4'	33:DA:821:G:OP2	2.21	0.41
33:DA:926:G:C6	33:DA:1505:G:C6	3.09	0.41
33:DA:1295:U:H5''	8:GH:15:LEU:CD1	2.49	0.41
33:DA:1480:A:H2'	33:DA:1481:U:O4'	2.19	0.41
39:DG:106:GLU:O	39:DG:110:LYS:HG2	2.20	0.41
40:DH:89:LYS:HG3	40:DH:90:ASP:N	2.34	0.41
43:DK:50:SER:HA	43:DK:69:ARG:NH1	2.34	0.41
46:DN:20:TYR:N	46:DN:20:TYR:CD1	2.89	0.41
1:EA:544:C:N4	1:EA:548:G:OP1	2.52	0.41
1:EA:1061:U:H3'	1:EA:1062:G:C5'	2.50	0.41
1:EA:1250:G:N7	12:EL:18:ARG:NH1	2.51	0.41
1:EA:2394:C:H5''	12:EL:63:LYS:HE2	2.02	0.41
1:EA:2599:G:N7	3:EC:234:GLY:O	2.53	0.41
9:EI:87:SER:OG	9:EI:88:GLY:N	2.53	0.41
18:ER:66:HIS:CG	18:ER:94:THR:HG22	2.56	0.41
23:EW:50:VAL:HB	23:EW:61:LYS:CD	2.51	0.41
33:FA:439:U:H2'	33:FA:440:C:H5'	2.02	0.41
33:FA:678:U:O2	33:FA:713:G:N2	2.53	0.41
33:FA:1138:G:H2'	33:FA:1140:C:H6	1.84	0.41
35:FC:127:ARG:O	35:FC:127:ARG:HG3	2.20	0.41
49:FQ:46:VAL:HG12	49:FQ:47:HIS:N	2.35	0.41
54:FV:536:PHE:CE1	54:FV:578:LEU:HD23	2.56	0.41
1:GA:56:A:C6	1:GA:57:C:C4	3.08	0.41
1:GA:528:A:H2	1:GA:2043:C:C5'	2.33	0.41
1:GA:995:C:O2'	1:GA:996:A:P	2.79	0.41
1:GA:1256:G:C2'	5:GE:77:ILE:HD11	2.50	0.41
1:GA:1983:G:O2'	1:GA:1984:G:H5'	2.21	0.41
1:GA:2024:G:OP2	1:GA:2034:U:H4'	2.21	0.41
1:GA:2386:A:H4'	23:GW:54:ARG:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:GA:2869:G:C2	1:GA:2870:C:C2	3.08	0.41
2:GB:5:U:C2	2:GB:116:G:N2	2.88	0.41
2:GB:52:A:H61	15:GO:32:PRO:HB2	1.85	0.41
6:GF:11:VAL:HG11	6:GF:96:TRP:CZ2	2.55	0.41
6:GF:140:ILE:HG23	6:GF:145:VAL:HG12	2.01	0.41
9:GI:60:VAL:HG22	9:GI:66:PHE:CD1	2.55	0.41
10:GJ:41:LYS:C	10:GJ:43:GLU:H	2.24	0.41
10:GJ:72:LYS:HB2	10:GJ:89:PHE:HB2	2.02	0.41
14:GN:26:GLY:CA	14:GN:75:ILE:HD13	2.50	0.41
16:GP:86:LYS:O	16:GP:87:ARG:HB2	2.19	0.41
17:GQ:25:GLY:CA	17:GQ:29:ARG:NH1	2.84	0.41
19:GS:4:ILE:CG2	19:GS:106:VAL:HG22	2.49	0.41
21:GU:82:VAL:CG1	21:GU:83:GLY:N	2.84	0.41
23:GW:22:VAL:CG1	23:GW:25:PHE:CE1	3.03	0.41
23:GW:41:GLY:HA2	23:GW:44:PHE:CE2	2.56	0.41
33:HA:71:A:N6	33:HA:100:G:N7	2.68	0.41
33:HA:72:A:H2'	33:HA:73:C:H5'	2.02	0.41
33:HA:484:G:N7	33:HA:486:U:H1'	2.35	0.41
33:HA:658:C:O4'	47:HO:22:THR:OG1	2.38	0.41
33:HA:892:A:O2'	33:HA:1415:G:H4'	2.20	0.41
33:HA:1249:C:O2'	41:HI:75:GLN:OE1	2.33	0.41
33:HA:1404:C:H2'	33:HA:1405:G:C8	2.55	0.41
34:HB:166:ASP:OD2	34:HB:190:SER:HA	2.20	0.41
35:HC:130:PHE:CE1	35:HC:157:LEU:HD23	2.56	0.41
36:HD:168:PRO:HG2	36:HD:171:LEU:HD11	2.03	0.41
41:HI:34:SER:HB3	41:HI:37:GLN:HG2	2.02	0.41
43:HK:110:ILE:HG22	53:HU:17:ARG:NH1	2.35	0.41
47:HO:17:ARG:HH12	47:HO:77:ARG:NH1	2.18	0.41
54:HV:71:PHE:CE1	54:HV:83:ARG:HG3	2.55	0.41
54:HV:532:LYS:C	54:HV:534:TYR:H	2.23	0.41
1:AA:198:C:O2'	1:AA:199:A:H5''	2.20	0.41
1:AA:630:G:N2	1:AA:632:A:H3'	2.35	0.41
1:AA:729:G:C4	1:AA:1775:U:C2	3.08	0.41
1:AA:861:A:C2	1:AA:917:A:C4	3.08	0.41
1:AA:1500:G:C5	1:AA:1501:G:N7	2.89	0.41
1:AA:1619:G:O2'	29:A2:1:MET:N	2.38	0.41
1:AA:2291:U:OP1	1:AA:2380:C:O2'	2.23	0.41
4:AD:106:LYS:O	4:AD:107:VAL:HB	2.20	0.41
4:AD:202:ILE:C	4:AD:202:ILE:HD13	2.41	0.41
5:AE:109:LEU:O	5:AE:112:LEU:N	2.53	0.41
5:AE:149:ILE:HD12	5:AE:188:MET:SD	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:11:VAL:C	6:AF:13:LYS:N	2.70	0.41
9:AI:55:PRO:O	9:AI:71:LYS:HB2	2.21	0.41
29:A2:44:VAL:O	29:A2:44:VAL:HG12	2.21	0.41
32:A5:28:ALA:HA	32:A5:81:LEU:HD22	2.03	0.41
32:A5:58:THR:HG21	32:A5:82:ILE:H	1.86	0.41
33:BA:559:A:OP2	37:BE:126:LYS:NZ	2.52	0.41
33:BA:994:A:C4	33:BA:1216:A:H4'	2.56	0.41
33:BA:1108:G:C5	33:BA:1109:C:C5	3.08	0.41
33:BA:1305:G:H22	33:BA:1331:G:H2'	1.85	0.41
33:BA:1314:C:H41	51:BS:4:SER:HA	1.85	0.41
33:BA:1412:C:C2	33:BA:1489:G:N2	2.89	0.41
33:BA:1508:A:OP1	59:BA:1797:HOH:O	2.22	0.41
34:BB:83:ALA:O	34:BB:88:GLN:HG3	2.21	0.41
34:BB:99:MET:HA	34:BB:106:VAL:HG21	2.01	0.41
34:BB:134:LEU:C	34:BB:136:ARG:H	2.24	0.41
38:BF:2:ARG:HD2	38:BF:92:THR:OG1	2.20	0.41
38:BF:46:GLN:NE2	38:BF:56:LYS:HG3	2.35	0.41
39:BG:7:ILE:HD13	39:BG:7:ILE:N	2.36	0.41
41:BI:7:TYR:CD1	41:BI:20:PHE:CE1	3.08	0.41
41:BI:57:MET:HA	41:BI:60:LYS:HD3	2.02	0.41
50:BR:29:LEU:O	50:BR:31:ASN:N	2.54	0.41
52:BT:85:LYS:O	52:BT:86:LEU:CB	2.69	0.41
54:BV:227:ALA:HB1	54:BV:234:MET:HB3	2.03	0.41
1:CA:111:A:C2	1:CA:112:U:C2	3.09	0.41
1:CA:945:A:C5	1:CA:2448:A:C2	3.08	0.41
1:CA:1178:C:C4	1:CA:1179:G:N7	2.89	0.41
1:CA:1205:A:H4'	1:CA:1206:G:OP2	2.21	0.41
1:CA:1316:U:C2	1:CA:1337:G:N2	2.88	0.41
1:CA:1483:G:C6	1:CA:1484:U:C4	3.08	0.41
1:CA:1778:U:H2'	1:CA:1784:A:N6	2.35	0.41
1:CA:1828:G:OP1	59:CA:3453:HOH:O	2.21	0.41
1:CA:1857:G:C2	1:CA:1884:G:N3	2.89	0.41
1:CA:1872:A:C8	1:CA:1873:G:C8	3.07	0.41
1:CA:2666:C:C5	1:CA:2667:C:C5	3.09	0.41
9:CI:96:LYS:HG3	9:CI:136:GLY:HA3	2.02	0.41
10:CJ:81:ILE:CG1	10:CJ:82:GLY:H	2.31	0.41
14:CN:45:ARG:HH11	14:CN:45:ARG:CG	2.34	0.41
14:CN:51:LEU:O	14:CN:54:LEU:HB3	2.20	0.41
16:CP:102:ARG:O	16:CP:103:THR:HG22	2.20	0.41
18:CR:1:MET:HA	18:CR:42:ALA:O	2.20	0.41
18:CR:48:LYS:HE3	18:CR:48:LYS:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:CR:49:ILE:HG22	18:CR:54:VAL:N	2.35	0.41
30:C3:22:LYS:HA	30:C3:47:ALA:O	2.20	0.41
33:DA:223:A:C5	33:DA:224:U:C5	3.09	0.41
33:DA:332:G:OP2	52:DT:5:LYS:HB2	2.20	0.41
33:DA:354:G:N1	33:DA:355:C:C4	2.89	0.41
33:DA:363:A:C6	33:DA:364:A:C6	3.09	0.41
33:DA:407:U:H2'	33:DA:408:A:H8	1.86	0.41
33:DA:610:U:O4	59:DA:1847:HOH:O	2.21	0.41
33:DA:844:G:C3'	33:DA:845:A:H5''	2.50	0.41
33:DA:1015:G:H2'	33:DA:1016:A:O4'	2.21	0.41
33:DA:1087:G:C2	33:DA:1088:G:C5	3.08	0.41
33:DA:1492:A:H2'	33:DA:1492:A:N3	2.36	0.41
34:DB:71:THR:O	34:DB:72:LYS:HG2	2.20	0.41
34:DB:166:ASP:O	34:DB:169:HIS:HB2	2.20	0.41
35:DC:107:ARG:O	35:DC:108:LYS:HB2	2.20	0.41
36:DD:30:THR:HG22	36:DD:31:LYS:N	2.35	0.41
36:DD:91:LEU:HD11	36:DD:197:GLU:HG2	2.02	0.41
40:DH:47:GLU:N	40:DH:64:LYS:HG3	2.36	0.41
43:DK:29:ASN:OD1	43:DK:30:THR:N	2.54	0.41
50:DR:21:ILE:HD12	50:DR:22:ASP:N	2.35	0.41
1:EA:608:A:C2	1:EA:621:A:C2	3.08	0.41
1:EA:1313:U:C2'	1:EA:1610:A:C2	3.04	0.41
1:EA:1661:G:OP1	59:EA:3439:HOH:O	2.22	0.41
1:EA:2340:A:H2'	1:EA:2341:G:C8	2.55	0.41
1:EA:2400:G:C6	1:EA:2401:U:C4	3.09	0.41
1:EA:2443:C:O2'	1:EA:2444:G:H5'	2.20	0.41
1:EA:2464:G:H2'	1:EA:2465:C:O4'	2.21	0.41
1:EA:2655:G:HO2'	1:EA:2656:U:P	2.43	0.41
1:EA:2707:U:C2'	14:EN:71:ARG:HH11	2.34	0.41
2:EB:116:G:H4'	15:EO:54:VAL:HG12	2.02	0.41
3:EC:143:VAL:HB	3:EC:153:LEU:HB2	2.03	0.41
5:EE:124:PHE:CZ	5:EE:137:LYS:HD3	2.56	0.41
6:EF:35:LEU:HD12	6:EF:88:VAL:HB	2.01	0.41
10:EJ:30:THR:HG22	10:EJ:31:GLU:N	2.36	0.41
12:EL:77:ILE:HD12	12:EL:77:ILE:N	2.36	0.41
18:ER:21:ARG:NH2	18:ER:93:PHE:CE2	2.88	0.41
19:ES:32:ALA:O	19:ES:36:LEU:HD22	2.20	0.41
24:EX:63:ILE:HG22	24:EX:67:LEU:HD23	2.02	0.41
25:EY:23:ARG:HE	25:EY:23:ARG:HA	1.86	0.41
33:FA:22:G:H4'	33:FA:885:G:C8	2.55	0.41
33:FA:753:A:H4'	33:FA:754:C:O5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:FA:964:A:OP1	59:FA:1828:HOH:O	2.22	0.41
33:FA:1533:C:H3'	33:FA:1534:A:C5'	2.50	0.41
33:FA:1533:C:H3'	33:FA:1534:A:H5''	2.03	0.41
34:FB:86:CYS:C	34:FB:88:GLN:H	2.24	0.41
34:FB:116:LEU:O	34:FB:119:GLN:HG2	2.20	0.41
34:FB:174:GLU:O	34:FB:178:LEU:HB2	2.21	0.41
41:FI:47:VAL:CG2	41:FI:76:ALA:HB1	2.50	0.41
41:FI:52:LEU:HB3	41:FI:57:MET:HG2	2.03	0.41
42:FJ:101:SER:C	42:FJ:102:LEU:HD22	2.41	0.41
45:FM:87:ARG:HG2	45:FM:97:VAL:CG1	2.50	0.41
46:FN:21:PHE:HD1	46:FN:55:SER:HG	1.65	0.41
47:FO:43:PHE:CE2	47:FO:56:LEU:HD22	2.56	0.41
54:FV:364:VAL:HG23	54:FV:386:ILE:HD11	2.02	0.41
1:GA:241:A:O2'	30:G3:2:LYS:NZ	2.54	0.41
1:GA:943:A:N1	1:GA:944:C:C4	2.89	0.41
1:GA:983:A:C6	1:GA:984:A:C2	3.08	0.41
1:GA:1354:A:H2'	1:GA:1355:G:O4'	2.19	0.41
1:GA:1378:A:C2'	59:GA:3740:HOH:O	2.69	0.41
1:GA:1803:A:O2'	3:GC:256:THR:HG21	2.21	0.41
1:GA:2078:C:O2'	1:GA:2079:U:H5'	2.21	0.41
1:GA:2096:C:H2'	1:GA:2097:A:C8	2.55	0.41
1:GA:2355:G:C2	1:GA:2363:G:C4	3.07	0.41
1:GA:2485:G:H5''	13:GM:45:GLN:HE21	1.84	0.41
1:GA:2489:U:O2	1:GA:2491:U:C4	2.74	0.41
2:GB:117:G:C5	2:GB:118:C:C5	3.08	0.41
6:GF:3:LEU:HD13	6:GF:6:TYR:HB3	2.02	0.41
6:GF:131:VAL:HB	6:GF:136:ILE:HD11	2.01	0.41
6:GF:152:ASP:N	6:GF:152:ASP:OD1	2.54	0.41
7:GG:61:TRP:CE3	7:GG:61:TRP:HA	2.56	0.41
11:GK:24:VAL:CG1	11:GK:30:ARG:HD2	2.50	0.41
15:GO:11:ALA:HB2	15:GO:96:GLY:N	2.35	0.41
20:GT:22:THR:O	20:GT:25:GLU:N	2.51	0.41
22:GV:2:PHE:HB2	22:GV:61:LEU:CD1	2.51	0.41
22:GV:75:GLN:HB2	22:GV:92:VAL:HG23	2.01	0.41
33:HA:1008:U:H2'	33:HA:1009:U:H6	1.85	0.41
33:HA:1321:U:C4	33:HA:1322:C:C5	3.08	0.41
34:HB:20:ARG:C	34:HB:22:TRP:N	2.74	0.41
38:HF:51:ILE:CG2	38:HF:85:ILE:HD12	2.50	0.41
41:HI:91:ASP:CG	41:HI:93:SER:HB3	2.41	0.41
44:HL:38:TYR:HD2	44:HL:52:VAL:HG23	1.86	0.41
44:HL:73:ASN:ND2	44:HL:103:ASP:O	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:HM:48:LEU:HD21	45:HM:52:GLN:C	2.41	0.41
46:HN:52:PRO:O	46:HN:55:SER:HB3	2.21	0.41
48:HP:42:ILE:HG22	48:HP:43:ALA:N	2.34	0.41
49:HQ:59:VAL:CG2	49:HQ:75:LEU:CD1	2.98	0.41
51:HS:41:PHE:CE1	51:HS:67:VAL:O	2.73	0.41
52:HT:51:PHE:C	52:HT:51:PHE:CD1	2.94	0.41
54:HV:222:LEU:O	54:HV:226:ALA:N	2.50	0.41
54:HV:557:ILE:HG21	54:HV:576:ILE:HD12	2.01	0.41
1:AA:68:G:H2'	1:AA:69:C:O4'	2.20	0.41
1:AA:1452:G:H2'	1:AA:1457:U:O4	2.21	0.41
1:AA:1528:A:OP2	1:AA:1543:G:N2	2.53	0.41
1:AA:1532:A:H61	1:AA:1539:U:H3	1.69	0.41
1:AA:1710:G:H2'	1:AA:1711:A:H8	1.86	0.41
1:AA:2281:A:C2	1:AA:2282:G:C5	3.09	0.41
1:AA:2313:C:H4'	6:AF:36:ASN:OD1	2.21	0.41
1:AA:2837:A:H2'	1:AA:2838:G:H8	1.86	0.41
1:AA:2895:G:H2'	1:AA:2896:C:C6	2.56	0.41
3:AC:166:ARG:HG3	3:AC:166:ARG:O	2.20	0.41
5:AE:60:TRP:CE2	5:AE:70:SER:HB3	2.56	0.41
5:AE:117:ARG:HA	5:AE:185:LYS:HD3	2.01	0.41
7:AG:112:VAL:HG23	7:AG:113:ASP:H	1.86	0.41
9:AI:14:ALA:O	9:AI:45:THR:HG21	2.20	0.41
11:AK:34:GLY:O	11:AK:36:GLY:N	2.54	0.41
14:AN:29:VAL:CG1	14:AN:75:ILE:HG23	2.51	0.41
32:A5:118:ILE:CB	32:A5:119:PRO:CD	2.99	0.41
33:BA:127:G:N2	33:BA:235:C:C2	2.89	0.41
33:BA:590:U:OP1	40:BH:31:LYS:HG2	2.20	0.41
33:BA:784:A:C6	33:BA:799:G:C2	3.08	0.41
36:BD:167:LYS:HA	36:BD:168:PRO:HD3	1.88	0.41
36:BD:168:PRO:HB2	36:BD:171:LEU:CD1	2.50	0.41
38:BF:97:THR:O	38:BF:98:GLU:CB	2.69	0.41
43:BK:35:THR:HA	43:BK:42:LEU:CG	2.49	0.41
45:BM:114:LYS:H	45:BM:115:PRO:CD	2.33	0.41
51:BS:11:ILE:HB	51:BS:41:PHE:HE2	1.85	0.41
54:BV:29:ARG:HG3	54:BV:269:ALA:HB1	2.03	0.41
1:CA:1635:A:C6	1:CA:1636:U:C2	3.09	0.41
1:CA:2352:A:N1	23:CW:30:VAL:HG21	2.35	0.41
1:CA:2352:A:C6	23:CW:30:VAL:HG11	2.55	0.41
4:CD:1:MET:HG2	4:CD:205:PRO:HG3	2.03	0.41
6:CF:32:LYS:HA	6:CF:95:MET:SD	2.61	0.41
7:CG:25:ILE:O	7:CG:33:THR:OG1	2.37	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CI:85:ILE:HG22	9:CI:86:LYS:N	2.35	0.41
10:CJ:38:GLY:O	10:CJ:40:HIS:N	2.53	0.41
16:CP:48:ALA:CB	16:CP:95:LYS:HG3	2.51	0.41
18:CR:49:ILE:HG22	18:CR:53:PHE:C	2.40	0.41
18:CR:51:VAL:HB	18:CR:52:PRO:CD	2.51	0.41
20:CT:19:LYS:O	20:CT:23:ALA:HB3	2.20	0.41
20:CT:59:ASN:O	20:CT:83:ALA:O	2.38	0.41
33:DA:9:G:N7	33:DA:558:G:O2'	2.51	0.41
33:DA:21:G:N2	33:DA:22:G:C6	2.88	0.41
33:DA:53:A:C2	33:DA:359:G:C2	3.09	0.41
33:DA:419:C:C4	33:DA:420:U:C4	3.08	0.41
33:DA:590:U:H2'	33:DA:591:U:C6	2.55	0.41
33:DA:629:A:H2'	33:DA:630:A:O4'	2.21	0.41
33:DA:811:C:H4'	33:DA:900:A:N6	2.35	0.41
33:DA:1029:U:H1'	33:DA:1033:G:N2	2.36	0.41
33:DA:1415:G:C4	33:DA:1416:G:C8	3.08	0.41
36:DD:139:PRO:HB3	36:DD:184:ARG:HA	2.02	0.41
37:DE:70:ASN:O	37:DE:70:ASN:ND2	2.40	0.41
39:DG:103:TRP:CH2	39:DG:141:VAL:HG21	2.55	0.41
43:DK:72:ASP:O	43:DK:73:ALA:HB3	2.21	0.41
44:DL:24:LEU:C	44:DL:26:ALA:H	2.23	0.41
44:DL:86:ARG:HA	44:DL:94:ARG:HA	2.03	0.41
49:DQ:50:ASN:O	49:DQ:50:ASN:ND2	2.53	0.41
54:DV:4:THR:HG21	54:DV:378:ARG:CZ	2.50	0.41
1:EA:57:C:H2'	1:EA:58:G:O4'	2.21	0.41
1:EA:518:G:H4'	19:ES:18:ARG:CZ	2.51	0.41
1:EA:1366:A:C6	1:EA:1367:A:C4	3.09	0.41
1:EA:1440:U:H2'	1:EA:1441:G:H8	1.85	0.41
1:EA:2025:C:H2'	1:EA:2026:U:C6	2.56	0.41
1:EA:2899:A:H2'	1:EA:2900:A:C8	2.56	0.41
3:EC:91:ALA:HB3	3:EC:103:ILE:HG22	2.03	0.41
3:EC:163:ILE:HG12	3:EC:173:LEU:CD1	2.50	0.41
8:EH:31:VAL:HB	8:EH:32:PRO:HD3	2.02	0.41
10:EJ:44:TYR:HB2	17:EQ:63:ARG:HB3	2.03	0.41
13:EM:108:VAL:HG13	13:EM:109:PRO:HD2	2.02	0.41
23:EW:60:ALA:HA	23:EW:81:ILE:HD12	2.03	0.41
32:E5:31:ARG:HA	32:E5:31:ARG:HD3	1.80	0.41
33:FA:602:A:H2'	33:FA:603:U:C6	2.55	0.41
33:FA:694:A:OP1	43:FK:55:SER:HB3	2.21	0.41
33:FA:1287:A:H2'	33:FA:1288:A:C8	2.56	0.41
33:FA:1451:U:C2'	33:FA:1452:C:OP1	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:FE:77:ASN:HB2	37:FE:82:GLN:NE2	2.36	0.41
42:FJ:35:GLN:O	42:FJ:36:VAL:HB	2.20	0.41
44:FL:57:LEU:HD21	44:FL:82:ILE:HG13	2.02	0.41
46:FN:6:MET:HE2	46:FN:63:ARG:HH22	1.86	0.41
46:FN:26:GLU:HG2	46:FN:27:LEU:HD12	2.03	0.41
47:FO:19:ALA:O	47:FO:20:ASN:HB2	2.20	0.41
50:FR:71:THR:HG23	50:FR:73:ARG:H	1.86	0.41
52:FT:9:LYS:HA	52:FT:12:ILE:CG2	2.50	0.41
1:GA:84:A:H62	1:GA:101:A:H2	1.68	0.41
1:GA:414:C:O4'	1:GA:1863:G:N2	2.54	0.41
1:GA:511:U:C5	1:GA:512:G:C5	3.08	0.41
1:GA:801:G:O4'	5:GE:49:ARG:NE	2.53	0.41
1:GA:1021:A:H3'	1:GA:1021:A:N3	2.35	0.41
1:GA:1410:G:C6	1:GA:1411:U:C4	3.08	0.41
1:GA:2104:C:H2'	1:GA:2105:U:C4'	2.51	0.41
1:GA:2340:A:H2'	1:GA:2341:G:C8	2.56	0.41
1:GA:2346:A:O4'	1:GA:2383:G:C1'	2.69	0.41
6:GF:55:ASP:HB3	6:GF:140:ILE:HD11	2.03	0.41
6:GF:141:ASP:O	6:GF:144:LYS:N	2.50	0.41
9:GI:34:ILE:HA	9:GI:37:PHE:CD1	2.56	0.41
9:GI:85:ILE:HA	9:GI:100:ILE:HD12	2.01	0.41
9:GI:122:GLU:HG2	9:GI:126:ARG:NH1	2.33	0.41
11:GK:13:ASN:OD1	11:GK:13:ASN:N	2.48	0.41
13:GM:21:ALA:CB	13:GM:100:LYS:N	2.84	0.41
22:GV:31:TYR:HB3	22:GV:37:PRO:HB3	2.03	0.41
33:HA:591:U:C2	33:HA:592:G:C8	3.09	0.41
33:HA:1012:A:C6	33:HA:1013:G:C6	3.09	0.41
33:HA:1083:U:C5	33:HA:1084:G:C6	3.09	0.41
35:HC:162:ILE:HD12	35:HC:162:ILE:O	2.21	0.41
36:HD:192:SER:O	36:HD:193:ALA:HB2	2.21	0.41
41:HI:94:LEU:O	41:HI:98:LEU:N	2.48	0.41
42:HJ:11:LYS:CG	42:HJ:97:ASP:HB3	2.50	0.41
43:HK:81:ASN:HB3	43:HK:106:ARG:O	2.18	0.41
49:HQ:5:ILE:O	49:HQ:5:ILE:HG13	2.20	0.41
52:HT:42:GLY:O	52:HT:44:LYS:N	2.53	0.41
52:HT:62:ALA:CA	52:HT:67:ILE:HG22	2.51	0.41
54:HV:645:GLN:O	54:HV:646:GLU:C	2.59	0.41
1:AA:76:C:OP1	25:AY:48:ARG:NH1	2.53	0.41
1:AA:102:U:C4	25:AY:2:LYS:HB2	2.56	0.41
1:AA:189:G:P	24:AX:13:THR:HG21	2.61	0.41
1:AA:195:A:H3'	1:AA:196:A:H4'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:438:G:H2'	1:AA:439:A:C8	2.56	0.41
1:AA:1056:G:OP1	32:A5:34:THR:OG1	2.34	0.41
1:AA:1107:G:H5''	32:A5:58:THR:HG23	2.02	0.41
1:AA:1482:G:C4	1:AA:1483:G:C8	3.09	0.41
1:AA:1843:C:O2'	3:AC:253:GLY:O	2.27	0.41
1:AA:2720:U:H4'	1:AA:2845:U:O2'	2.21	0.41
1:AA:2862:G:C5	1:AA:2863:C:C5	3.09	0.41
1:AA:2875:C:O2'	1:AA:2876:G:H5'	2.20	0.41
1:AA:2899:A:H2'	1:AA:2900:A:C8	2.55	0.41
2:AB:94:A:H2'	2:AB:95:U:C6	2.56	0.41
6:AF:73:VAL:HG22	6:AF:78:ILE:HD11	2.03	0.41
6:AF:121:PHE:CZ	6:AF:166:ARG:N	2.88	0.41
17:AQ:94:LEU:C	17:AQ:96:ASP:H	2.24	0.41
20:AT:54:GLU:HG3	20:AT:88:LYS:N	2.35	0.41
21:AU:39:ASN:HD22	21:AU:64:ILE:HG21	1.85	0.41
32:A5:129:LEU:CB	32:A5:130:PRO:HD2	2.50	0.41
33:BA:109:A:C6	33:BA:327:A:C6	3.09	0.41
33:BA:126:G:OP1	33:BA:605:U:O2'	2.28	0.41
33:BA:673:A:C4	33:BA:734:G:N2	2.89	0.41
33:BA:784:A:H2'	33:BA:785:G:H8	1.85	0.41
33:BA:1077:G:N2	33:BA:1080:A:OP2	2.43	0.41
33:BA:1179:A:H2'	33:BA:1180:A:O4'	2.21	0.41
33:BA:1317:C:O4'	46:BN:49:GLN:HG2	2.21	0.41
33:BA:1323:G:H2'	33:BA:1324:A:C8	2.55	0.41
38:BF:62:MET:HG3	38:BF:63:ASN:N	2.36	0.41
38:BF:92:THR:O	38:BF:93:LYS:HG2	2.20	0.41
39:BG:77:SER:N	39:BG:86:GLN:OE1	2.54	0.41
41:BI:39:PHE:HA	41:BI:42:GLU:OE1	2.21	0.41
54:BV:53:MET:HB2	54:BV:56:GLU:CG	2.50	0.41
54:BV:218:TRP:HZ3	54:BV:223:ILE:HB	1.86	0.41
1:CA:10:A:C5	1:CA:11:C:C5	3.09	0.41
1:CA:126:A:O5'	29:C2:19:ARG:HG3	2.21	0.41
1:CA:146:A:H2'	1:CA:147:C:C6	2.56	0.41
1:CA:898:C:H2'	1:CA:899:A:O4'	2.20	0.41
1:CA:1022:G:C5	1:CA:1140:C:C4	3.09	0.41
1:CA:2881:U:O2'	1:CA:2882:A:H5'	2.21	0.41
4:CD:61:THR:OG1	4:CD:63:PRO:HD2	2.21	0.41
4:CD:106:LYS:CB	4:CD:206:ALA:H	2.33	0.41
6:CF:3:LEU:HD12	6:CF:172:PHE:CD2	2.55	0.41
6:CF:112:ASP:OD1	6:CF:113:PHE:N	2.54	0.41
7:CG:92:GLY:HA2	54:DV:147:MET:CE	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:CJ:54:ILE:HD12	10:CJ:55:ILE:N	2.35	0.41
11:CK:98:ARG:HH21	33:DA:340:U:P	2.44	0.41
12:CL:23:ILE:N	12:CL:23:ILE:HD12	2.35	0.41
12:CL:57:LEU:HD22	30:C3:53:ASP:HB3	2.02	0.41
14:CN:1:MET:O	14:CN:2:ARG:CB	2.69	0.41
20:CT:26:LYS:O	20:CT:27:SER:CB	2.68	0.41
21:CU:70:ALA:CB	21:CU:79:ALA:HB1	2.50	0.41
23:CW:60:ALA:CB	23:CW:81:ILE:CD1	2.98	0.41
31:C4:19:ARG:O	31:C4:22:VAL:N	2.54	0.41
33:DA:409:U:H2'	33:DA:410:G:C8	2.56	0.41
33:DA:455:G:C2	33:DA:456:A:C4	3.09	0.41
33:DA:841:C:H42	33:DA:843:U:H5	1.68	0.41
33:DA:868:C:N4	33:DA:869:G:C2	2.89	0.41
33:DA:962:C:H2'	33:DA:963:G:O4'	2.21	0.41
33:DA:1225:A:H2'	33:DA:1226:C:C5	2.56	0.41
33:DA:1283:U:H2'	33:DA:1284:C:C6	2.56	0.41
34:DB:98:GLY:C	34:DB:100:LEU:N	2.73	0.41
35:DC:121:THR:CG2	35:DC:122:SER:N	2.84	0.41
36:DD:27:ALA:C	36:DD:29:ASP:N	2.74	0.41
36:DD:35:GLU:HG3	36:DD:36:GLN:N	2.35	0.41
37:DE:156:LYS:NZ	40:DH:71:VAL:O	2.43	0.41
41:DI:6:TYR:CG	41:DI:89:GLU:OE1	2.74	0.41
48:DP:43:ALA:HB1	48:DP:46:LYS:HD2	2.02	0.41
52:DT:66:LEU:HD12	52:DT:66:LEU:C	2.41	0.41
1:EA:277:G:C2'	1:EA:278:A:OP2	2.69	0.41
1:EA:714:U:H5''	47:FO:89:ARG:NH2	2.36	0.41
1:EA:820:A:H2'	1:EA:821:A:O4'	2.21	0.41
1:EA:2283:C:H5''	1:EA:2389:G:O2'	2.20	0.41
2:EB:11:C:N4	2:EB:12:C:N4	2.69	0.41
2:EB:66:A:C2	2:EB:108:A:C6	3.09	0.41
6:EF:57:ALA:HB2	6:EF:64:PRO:HD3	2.03	0.41
10:EJ:121:LYS:HE3	10:EJ:121:LYS:HB2	1.86	0.41
15:EO:106:LEU:HD23	15:EO:107:ALA:N	2.35	0.41
25:EY:44:LYS:O	25:EY:48:ARG:HG2	2.21	0.41
33:FA:145:G:N1	33:FA:146:G:C5	2.89	0.41
33:FA:604:G:C2	33:FA:635:A:C2	3.08	0.41
33:FA:820:U:H4'	33:FA:821:G:OP2	2.20	0.41
33:FA:981:U:H5	33:FA:982:U:HO2'	1.63	0.41
33:FA:1437:A:H2'	33:FA:1438:G:H8	1.86	0.41
34:FB:113:LEU:HD11	34:FB:144:GLU:HG2	2.01	0.41
38:FF:42:TRP:HH2	50:FR:24:LYS:HB3	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:FF:59:TYR:CE2	50:FR:67:LEU:HD21	2.55	0.41
48:FP:20:VAL:CG2	48:FP:32:PHE:HB2	2.51	0.41
52:FT:68:HIS:C	52:FT:69:LYS:HZ3	2.21	0.41
54:FV:118:GLY:CA	54:FV:157:GLN:OE1	2.69	0.41
54:FV:218:TRP:N	54:FV:218:TRP:CD1	2.89	0.41
1:GA:338:G:N2	1:GA:339:U:H1'	2.35	0.41
1:GA:396:G:C5	1:GA:397:U:C5	3.08	0.41
1:GA:468:G:N7	29:G2:39:ARG:NH2	2.68	0.41
1:GA:947:A:O2'	1:GA:984:A:H2	2.03	0.41
1:GA:1292:G:H2'	1:GA:1293:C:C6	2.56	0.41
1:GA:1471:G:C5	1:GA:1472:C:C5	3.09	0.41
1:GA:2056:G:H2'	1:GA:2056:G:N3	2.35	0.41
1:GA:2333:A:O4'	1:GA:2335:A:H1'	2.21	0.41
1:GA:2354:C:C4'	23:GW:31:LEU:HD22	2.51	0.41
1:GA:2420:C:H5''	28:G1:7:LYS:HZ3	1.85	0.41
3:GC:66:PHE:HB3	3:GC:150:GLY:O	2.20	0.41
5:GE:23:PHE:HB2	5:GE:111:GLU:HG2	2.02	0.41
5:GE:160:ALA:O	5:GE:161:ALA:HB3	2.21	0.41
9:GI:79:LEU:CA	9:GI:85:ILE:HD13	2.50	0.41
10:GJ:20:ALA:O	10:GJ:21:THR:C	2.58	0.41
10:GJ:81:ILE:CG1	10:GJ:82:GLY:N	2.76	0.41
11:GK:1:MET:HE2	11:GK:32:TYR:CE1	2.56	0.41
17:GQ:60:TRP:CZ2	17:GQ:93:ILE:HB	2.56	0.41
31:G4:36:ARG:HG2	31:G4:37:GLN:N	2.35	0.41
33:HA:56:U:H2'	33:HA:57:G:C8	2.56	0.41
33:HA:57:G:C6	33:HA:58:C:C4	3.09	0.41
33:HA:978:A:C4	33:HA:1319:A:C2	3.09	0.41
33:HA:1028:C:C5	33:HA:1029:U:C2	3.08	0.41
33:HA:1134:G:C2	33:HA:1135:U:C2	3.08	0.41
33:HA:1181:G:O2'	33:HA:1182:G:C5	2.69	0.41
33:HA:1236:A:H1'	33:HA:1333:A:N1	2.36	0.41
35:HC:7:PRO:HG2	35:HC:184:TYR:CD2	2.55	0.41
35:HC:14:ILE:O	35:HC:15:VAL:HG22	2.21	0.41
42:HJ:50:THR:CG2	42:HJ:64:GLN:HG2	2.50	0.41
43:HK:92:GLY:O	43:HK:96:THR:HB	2.21	0.41
44:HL:43:LYS:HG2	44:HL:44:LYS:H	1.84	0.41
47:HO:6:GLU:HG3	47:HO:7:ALA:N	2.36	0.41
48:HP:46:LYS:CG	48:HP:47:GLU:H	2.30	0.41
54:HV:5:THR:HG23	54:HV:6:PRO:HD3	2.03	0.41
54:HV:338:VAL:O	54:HV:380:GLY:N	2.39	0.41
1:AA:10:A:C5	1:AA:11:C:C5	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:84:A:P	21:AU:5:ARG:NH2	2.94	0.41
1:AA:611:C:C2	1:AA:618:G:N2	2.88	0.41
1:AA:666:A:H2'	1:AA:667:U:C6	2.56	0.41
1:AA:892:A:C2	1:AA:893:C:N3	2.89	0.41
1:AA:996:A:H4'	17:AQ:91:ARG:CG	2.51	0.41
1:AA:1111:A:N3	1:AA:1112:G:H1'	2.35	0.41
1:AA:1582:C:H2'	1:AA:1585:C:H42	1.85	0.41
1:AA:2364:C:H4'	23:AW:55:ASP:OD1	2.20	0.41
1:AA:2632:A:C2	1:AA:2633:G:N7	2.88	0.41
1:AA:2730:C:O3'	4:AD:174:SER:CB	2.69	0.41
1:AA:2902:C:C2'	1:AA:2903:U:O5'	2.68	0.41
3:AC:68:ARG:CD	3:AC:103:ILE:HD11	2.51	0.41
5:AE:130:LYS:HB3	5:AE:133:LEU:HG	2.02	0.41
6:AF:30:VAL:HG22	6:AF:95:MET:SD	2.60	0.41
7:AG:104:LEU:HB2	7:AG:112:VAL:CG2	2.51	0.41
9:AI:58:ILE:CG2	9:AI:60:VAL:HG23	2.50	0.41
10:AJ:84:ILE:HG23	10:AJ:84:ILE:O	2.21	0.41
23:AW:24:ARG:HD3	23:AW:65:LYS:HE2	2.02	0.41
28:A1:33:LEU:N	28:A1:51:ALA:HB3	2.36	0.41
32:A5:37:LYS:O	32:A5:38:MET:C	2.58	0.41
33:BA:21:G:H2'	33:BA:22:G:C8	2.55	0.41
33:BA:705:G:H2'	33:BA:706:A:O4'	2.20	0.41
33:BA:827:U:C2	33:BA:870:U:C4	3.09	0.41
33:BA:1137:C:O2	33:BA:1138:G:N2	2.54	0.41
34:BB:60:ALA:HB2	34:BB:220:VAL:HG12	2.02	0.41
34:BB:189:ASN:OD1	34:BB:190:SER:N	2.53	0.41
35:BC:144:LEU:H	35:BC:144:LEU:HG	1.78	0.41
36:BD:155:VAL:HA	36:BD:158:ALA:HB3	2.02	0.41
44:BL:114:ARG:HB3	44:BL:119:VAL:HB	2.03	0.41
48:BP:12:LYS:HG2	48:BP:13:LYS:HG2	2.02	0.41
1:CA:288:U:H3	1:CA:352:A:H61	1.68	0.41
1:CA:336:C:C2	1:CA:337:C:C5	3.08	0.41
1:CA:370:G:C6	1:CA:424:G:C8	3.09	0.41
1:CA:382:A:C2	1:CA:383:C:H1'	2.55	0.41
1:CA:563:A:C6	1:CA:2018:G:C4	3.09	0.41
1:CA:572:A:H5''	1:CA:573:U:OP2	2.21	0.41
1:CA:1089:A:O2'	1:CA:1090:A:N7	2.48	0.41
1:CA:1269:A:OP2	59:CA:3381:HOH:O	2.22	0.41
1:CA:1360:G:C6	1:CA:1372:U:C2	3.09	0.41
1:CA:1753:G:N1	1:CA:1756:G:OP2	2.48	0.41
1:CA:1831:G:C4	1:CA:1832:C:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2075:U:H2'	1:CA:2238:G:N2	2.35	0.41
1:CA:2746:U:C5	1:CA:2747:G:N7	2.89	0.41
1:CA:2832:U:C4	1:CA:2834:G:N2	2.88	0.41
16:CP:80:VAL:O	16:CP:81:ASP:HB3	2.21	0.41
21:CU:84:PHE:O	21:CU:85:ARG:HB3	2.21	0.41
33:DA:98:A:H2'	33:DA:99:C:C6	2.56	0.41
33:DA:425:G:H2'	33:DA:426:U:O4'	2.20	0.41
33:DA:436:C:C2	33:DA:437:U:C5	3.09	0.41
33:DA:540:G:C6	33:DA:541:G:C5	3.08	0.41
33:DA:747:A:C6	33:DA:748:G:C6	3.09	0.41
33:DA:1018:G:O6	33:DA:1019:A:N6	2.53	0.41
33:DA:1025:U:O5'	33:DA:1025:U:H6	2.04	0.41
33:DA:1043:G:C2	33:DA:1044:A:C5	3.09	0.41
33:DA:1182:G:H4'	33:DA:1183:U:H5'	2.02	0.41
33:DA:1375:A:H4'	39:DG:29:ILE:HD13	2.03	0.41
34:DB:162:VAL:HG22	34:DB:184:ALA:HB1	2.02	0.41
34:DB:187:ASP:CG	34:DB:188:THR:H	2.24	0.41
35:DC:23:PHE:CD1	35:DC:24:ALA:N	2.88	0.41
36:DD:26:ARG:HD2	36:DD:31:LYS:HD3	2.03	0.41
37:DE:81:LEU:HB3	37:DE:147:MET:HE1	2.03	0.41
39:DG:113:ASP:HB2	39:DG:119:ARG:CG	2.50	0.41
43:DK:113:VAL:HG12	50:DR:73:ARG:NH1	2.36	0.41
49:DQ:12:VAL:HG12	49:DQ:13:VAL:N	2.36	0.41
54:DV:310:HIS:O	54:DV:312:SER:N	2.53	0.41
54:DV:318:SER:CB	54:DV:404:ILE:HD11	2.51	0.41
54:DV:538:ASN:ND2	54:DV:550:ILE:HG21	2.36	0.41
1:EA:65:U:O2'	1:EA:456:C:N3	2.47	0.41
1:EA:603:A:C8	1:EA:655:A:C6	3.08	0.41
1:EA:857:G:H2'	1:EA:858:G:O4'	2.21	0.41
1:EA:1195:G:O2'	1:EA:1226:A:N1	2.40	0.41
1:EA:1340:U:H4'	1:EA:1341:G:OP2	2.20	0.41
1:EA:1532:A:H3'	1:EA:1533:C:H6	1.86	0.41
1:EA:1565:C:C5	1:EA:1567:G:C6	3.08	0.41
1:EA:1906:G:C6	1:EA:1929:G:N2	2.89	0.41
1:EA:1937:A:N7	1:EA:1939:U:H2'	2.36	0.41
1:EA:2139:U:H4'	1:EA:2151:U:O4	2.21	0.41
1:EA:2776:A:H4'	1:EA:2777:G:H5''	2.01	0.41
14:EN:82:GLU:O	14:EN:86:ARG:HB2	2.21	0.41
16:EP:80:VAL:HG12	16:EP:81:ASP:N	2.36	0.41
17:EQ:91:ARG:CB	17:EQ:94:LEU:HB2	2.50	0.41
32:E5:51:TYR:CE2	32:E5:90:GLY:HA3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:E5:136:ILE:H	32:E5:136:ILE:HD12	1.84	0.41
33:FA:587:G:C2'	33:FA:588:G:OP2	2.69	0.41
33:FA:625:U:H4'	48:FP:16:PHE:CD2	2.56	0.41
33:FA:674:G:N2	43:FK:118:HIS:HB2	2.36	0.41
33:FA:900:A:H2'	33:FA:901:A:O4'	2.21	0.41
33:FA:1074:G:N3	33:FA:1102:A:C2	2.89	0.41
33:FA:1239:A:C2	33:FA:1296:C:N3	2.89	0.41
33:FA:1371:G:C6	33:FA:1372:U:C4	3.09	0.41
33:FA:1446:A:N1	33:FA:1447:A:C6	2.89	0.41
37:FE:48:PHE:CD1	37:FE:48:PHE:C	2.93	0.41
37:FE:72:ILE:HD11	37:FE:145:GLU:HG3	2.03	0.41
37:FE:77:ASN:O	37:FE:80:THR:HG22	2.20	0.41
41:FI:6:TYR:CE1	41:FI:89:GLU:HB2	2.55	0.41
42:FJ:19:ASP:HA	42:FJ:22:THR:CG2	2.51	0.41
44:FL:3:THR:HG22	44:FL:5:ASN:H	1.86	0.41
44:FL:52:VAL:C	44:FL:67:ILE:CD1	2.89	0.41
48:FP:76:LYS:NZ	48:FP:81:ALA:HB3	2.36	0.41
1:GA:443:A:H1'	1:GA:1201:U:O4'	2.20	0.41
1:GA:1087:G:C2	1:GA:1103:A:N3	2.88	0.41
1:GA:1256:G:C6	1:GA:1257:C:N4	2.89	0.41
1:GA:1794:A:H2'	1:GA:1795:C:H6	1.85	0.41
1:GA:2755:C:HO2'	1:GA:2756:U:H6	1.68	0.41
1:GA:2755:C:O2'	1:GA:2756:U:H2'	2.21	0.41
1:GA:2821:A:O2'	1:GA:2826:A:N1	2.47	0.41
4:GD:112:THR:O	4:GD:195:GLY:HA2	2.20	0.41
6:GF:137:PHE:HD1	6:GF:138:PRO:HD2	1.86	0.41
7:GG:102:ILE:HD11	7:GG:116:LEU:HG	2.02	0.41
7:GG:132:LEU:N	7:GG:132:LEU:HD23	2.35	0.41
9:GI:12:VAL:H	9:GI:23:VAL:CG1	2.34	0.41
9:GI:57:VAL:HG22	9:GI:71:LYS:HE3	2.02	0.41
9:GI:78:LEU:HB3	9:GI:105:LEU:HD23	2.03	0.41
9:GI:126:ARG:HA	9:GI:129:GLU:HG3	2.03	0.41
10:GJ:65:THR:CG2	10:GJ:68:LYS:HE3	2.51	0.41
16:GP:57:ALA:O	16:GP:58:PHE:HB3	2.21	0.41
18:GR:51:VAL:HB	18:GR:52:PRO:CD	2.51	0.41
21:GU:84:PHE:O	21:GU:85:ARG:HB3	2.21	0.41
23:GW:30:VAL:HA	23:GW:60:ALA:HB3	2.03	0.41
23:GW:70:VAL:C	23:GW:71:LYS:HD2	2.41	0.41
33:HA:452:A:H3'	33:HA:452:A:C8	2.56	0.41
33:HA:1086:U:O2'	33:HA:1087:G:H5'	2.19	0.41
33:HA:1306:A:C6	33:HA:1331:G:H1'	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:HB:19:THR:HG23	34:HB:36:LYS:O	2.20	0.41
34:HB:44:LYS:HE3	34:HB:48:MET:HE2	2.03	0.41
36:HD:145:ILE:HD11	36:HD:155:VAL:HG21	2.03	0.41
42:HJ:57:VAL:HG22	42:HJ:58:ASN:H	1.85	0.41
43:HK:89:PRO:HB3	53:HU:29:LEU:HD13	2.03	0.41
47:HO:72:ARG:NH2	47:HO:73:LYS:HE2	2.35	0.41
51:HS:66:MET:SD	51:HS:74:PHE:HZ	2.42	0.41
54:HV:33:TYR:CE1	54:HV:199:GLY:HA3	2.56	0.41
1:AA:123:G:C6	1:AA:124:G:C5	3.08	0.41
1:AA:216:A:C8	1:AA:432:A:C6	3.09	0.41
1:AA:277:G:C2'	1:AA:278:A:OP2	2.69	0.41
1:AA:521:U:H2'	1:AA:522:A:C8	2.56	0.41
1:AA:643:A:N1	1:AA:2369:A:O2'	2.51	0.41
1:AA:690:G:H2'	1:AA:691:C:C6	2.56	0.41
1:AA:815:C:C2	1:AA:1193:G:C2	3.09	0.41
1:AA:858:G:H3'	1:AA:859:G:C8	2.55	0.41
1:AA:910:A:C4	13:AM:13:HIS:CD2	3.09	0.41
1:AA:919:U:H2'	1:AA:920:A:O4'	2.21	0.41
1:AA:1107:G:OP1	32:A5:59:LEU:N	2.54	0.41
1:AA:1140:C:P	10:AJ:68:LYS:HZ3	2.43	0.41
1:AA:1239:G:H2'	1:AA:1240:U:O4'	2.21	0.41
1:AA:1530:G:C6	1:AA:1531:C:C4	3.09	0.41
1:AA:1533:C:O2	1:AA:1533:C:H2'	2.20	0.41
1:AA:1537:G:C4	1:AA:1538:G:H1'	2.55	0.41
1:AA:1676:A:H2'	1:AA:1677:A:O4'	2.21	0.41
1:AA:1735:A:C6	1:AA:1736:U:C5	3.09	0.41
1:AA:1760:C:H2'	1:AA:1761:C:O4'	2.21	0.41
1:AA:2138:G:N2	1:AA:2151:U:P	2.94	0.41
1:AA:2259:U:C2	1:AA:2427:C:N3	2.89	0.41
1:AA:2636:C:H2'	1:AA:2637:U:C6	2.55	0.41
1:AA:2838:G:H2'	1:AA:2839:G:O4'	2.21	0.41
2:AB:74:U:O2	22:AV:29:ILE:HD13	2.20	0.41
3:AC:77:VAL:HG23	3:AC:111:ALA:HA	2.02	0.41
4:AD:14:ILE:O	4:AD:14:ILE:HG13	2.20	0.41
4:AD:34:VAL:HG22	4:AD:94:GLN:H	1.85	0.41
5:AE:147:LEU:HD12	5:AE:149:ILE:HG12	2.03	0.41
6:AF:50:ASP:OD1	6:AF:50:ASP:N	2.54	0.41
6:AF:102:LEU:O	6:AF:106:ALA:HB3	2.21	0.41
6:AF:121:PHE:HZ	6:AF:166:ARG:N	2.18	0.41
7:AG:100:ASN:HB3	4:ED:92:VAL:CG1	2.50	0.41
9:AI:18:ASN:N	9:AI:19:PRO:CD	2.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:12:LYS:O	10:AJ:13:ARG:HB2	2.21	0.41
10:AJ:64:VAL:HG11	10:AJ:68:LYS:HB2	2.02	0.41
11:AK:70:ARG:HD3	11:AK:76:VAL:HG22	2.03	0.41
13:AM:69:PRO:HA	13:AM:94:ALA:HB2	2.02	0.41
15:AO:33:ARG:HG2	15:AO:34:HIS:CE1	2.56	0.41
15:AO:41:ALA:O	15:AO:44:GLY:N	2.46	0.41
16:AP:90:ALA:HB2	16:AP:112:ARG:HA	2.01	0.41
20:AT:26:LYS:O	20:AT:27:SER:CB	2.68	0.41
21:AU:13:LEU:HD11	21:AU:70:ALA:HB2	2.02	0.41
21:AU:73:ASN:O	21:AU:74:ALA:HB3	2.21	0.41
23:AW:58:LEU:HD23	23:AW:79:ILE:HG13	2.02	0.41
25:AY:41:HIS:CD2	25:AY:42:LEU:HD12	2.56	0.41
32:A5:39:THR:HA	32:A5:42:ARG:CD	2.51	0.41
32:A5:60:LEU:CD2	32:A5:64:VAL:HG21	2.51	0.41
33:BA:519:C:N4	33:BA:520:A:C6	2.89	0.41
33:BA:523:A:C2	33:BA:527:G:O6	2.74	0.41
33:BA:588:G:C8	33:BA:753:A:C2	3.09	0.41
33:BA:742:G:N2	33:BA:743:A:C4	2.89	0.41
33:BA:1250:A:C4	33:BA:1287:A:C6	3.09	0.41
33:BA:1302:C:OP1	33:BA:1302:C:C5	2.74	0.41
33:BA:1324:A:H4'	33:BA:1362:A:H4'	2.03	0.41
33:BA:1330:U:O4	33:BA:1331:G:N1	2.54	0.41
33:BA:1451:U:C2'	33:BA:1452:C:OP1	2.69	0.41
33:BA:1489:G:C5	33:BA:1490:U:C5	3.09	0.41
33:BA:1492:A:C2'	33:BA:1493:A:C5'	2.98	0.41
35:BC:17:PRO:HG2	35:BC:18:TRP:H	1.86	0.41
35:BC:97:VAL:HB	35:BC:98:PRO:HD2	2.02	0.41
36:BD:17:THR:HG22	36:BD:18:ASP:N	2.36	0.41
36:BD:91:LEU:HD12	36:BD:91:LEU:N	2.36	0.41
36:BD:158:ALA:O	36:BD:162:ALA:HB2	2.21	0.41
37:BE:57:PRO:O	37:BE:60:ILE:HG12	2.20	0.41
37:BE:132:ASN:HA	37:BE:133:PRO:HD2	1.92	0.41
37:BE:159:LYS:HE2	40:BH:64:LYS:CE	2.51	0.41
38:BF:68:GLN:HA	38:BF:71:ILE:HG22	2.03	0.41
40:BH:3:MET:CE	40:BH:6:PRO:HA	2.51	0.41
41:BI:11:ARG:HB3	41:BI:16:ALA:HA	2.01	0.41
43:BK:93:ARG:HH22	53:BU:20:LYS:HB2	1.85	0.41
44:BL:103:ASP:OD1	44:BL:103:ASP:N	2.52	0.41
47:BO:3:LEU:HD23	47:BO:8:THR:HG22	2.01	0.41
50:BR:34:THR:O	50:BR:37:GLY:N	2.54	0.41
51:BS:15:LEU:HD13	51:BS:33:THR:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BT:67:ILE:HD11	52:BT:71:LYS:CE	2.51	0.41
54:BV:196:ALA:C	54:BV:198:GLN:N	2.74	0.41
54:BV:236:LYS:O	54:BV:241:GLU:HB3	2.21	0.41
1:CA:65:U:H2'	1:CA:66:C:C6	2.56	0.41
1:CA:936:A:C6	1:CA:937:C:N4	2.89	0.41
1:CA:1053:C:N3	1:CA:1054:A:N7	2.69	0.41
1:CA:1142:A:C2	1:CA:1144:A:C1'	3.04	0.41
1:CA:1142:A:C4	1:CA:1144:A:C8	3.09	0.41
1:CA:1198:U:O3'	17:CQ:4:LYS:HE3	2.21	0.41
1:CA:1729:U:C5'	1:CA:1730:C:O5'	2.69	0.41
1:CA:1732:C:O2'	1:CA:1733:G:H5'	2.21	0.41
1:CA:1999:C:H2'	1:CA:2000:C:O4'	2.21	0.41
1:CA:2140:G:O6	1:CA:2152:G:C8	2.73	0.41
3:CC:160:TYR:CD1	3:CC:160:TYR:C	2.94	0.41
4:CD:68:PHE:CE2	4:CD:75:ALA:HB1	2.56	0.41
4:CD:118:PHE:O	4:CD:120:GLY:N	2.46	0.41
5:CE:2:GLU:OE1	5:CE:11:ALA:HB1	2.21	0.41
9:CI:12:VAL:HG21	9:CI:41:PHE:CE1	2.56	0.41
10:CJ:49:ASP:CG	10:CJ:121:LYS:HZ3	2.24	0.41
10:CJ:64:VAL:O	10:CJ:65:THR:CB	2.69	0.41
11:CK:5:GLN:O	11:CK:6:THR:CB	2.68	0.41
11:CK:105:ARG:O	11:CK:108:ARG:HB2	2.21	0.41
12:CL:23:ILE:N	12:CL:23:ILE:CD1	2.84	0.41
13:CM:50:ARG:HA	13:CM:53:MET:HE2	2.02	0.41
14:CN:10:LEU:N	14:CN:10:LEU:HD22	2.36	0.41
15:CO:7:ARG:HA	15:CO:10:ARG:NH2	2.36	0.41
15:CO:31:THR:HG23	15:CO:32:PRO:CD	2.49	0.41
16:CP:19:PHE:CZ	16:CP:83:ILE:CD1	3.04	0.41
16:CP:50:ARG:CD	16:CP:50:ARG:H	2.33	0.41
17:CQ:7:VAL:HG23	17:CQ:8:ILE:N	2.36	0.41
17:CQ:94:LEU:C	17:CQ:96:ASP:H	2.23	0.41
19:CS:29:VAL:HG13	19:CS:55:ILE:HD11	2.02	0.41
23:CW:18:LYS:HG3	23:CW:19:ARG:H	1.86	0.41
25:CY:17:GLU:HB2	25:CY:53:VAL:HG11	2.03	0.41
33:DA:57:G:C5	33:DA:58:C:C4	3.09	0.41
33:DA:69:G:H3'	33:DA:70:U:H6	1.86	0.41
33:DA:144:G:N2	33:DA:145:G:H1'	2.35	0.41
33:DA:410:G:P	36:DD:26:ARG:HE	2.44	0.41
33:DA:465:A:H2'	33:DA:466:A:C8	2.56	0.41
33:DA:473:U:C2	33:DA:474:G:C8	3.08	0.41
33:DA:591:U:H2'	33:DA:592:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:892:A:C6	33:DA:893:C:C4	3.09	0.41
33:DA:968:A:H4'	33:DA:969:A:OP2	2.21	0.41
33:DA:1006:G:H2'	33:DA:1007:U:C6	2.56	0.41
33:DA:1009:U:H3	33:DA:1020:G:H1	1.69	0.41
33:DA:1015:G:N2	33:DA:1218:C:O2	2.51	0.41
33:DA:1016:A:N7	33:DA:1017:U:H1'	2.36	0.41
33:DA:1156:G:HO2'	33:DA:1180:A:N6	2.18	0.41
33:DA:1245:C:C4	33:DA:1246:A:N7	2.89	0.41
33:DA:1493:A:O2'	33:DA:1494:G:OP1	2.32	0.41
34:DB:49:PHE:HD1	34:DB:212:TYR:HH	1.66	0.41
34:DB:170:ILE:H	34:DB:170:ILE:HD12	1.85	0.41
36:DD:151:LYS:HA	36:DD:155:VAL:HG13	2.03	0.41
39:DG:50:LEU:CD1	39:DG:61:ALA:HB1	2.50	0.41
41:DI:101:ALA:HB1	41:DI:103:PHE:CE1	2.56	0.41
42:DJ:57:VAL:HG22	42:DJ:58:ASN:H	1.85	0.41
43:DK:15:GLN:HG2	39:HG:139:GLU:CD	2.41	0.41
44:DL:102:LEU:N	44:DL:102:LEU:CD1	2.84	0.41
47:DO:26:GLU:OE2	47:DO:77:ARG:HD2	2.20	0.41
48:DP:36:VAL:O	48:DP:36:VAL:HG12	2.19	0.41
51:DS:40:ILE:HB	51:DS:66:MET:O	2.21	0.41
52:DT:62:ALA:HA	52:DT:67:ILE:HG22	2.02	0.41
54:DV:30:ILE:HG21	54:DV:86:ILE:HD11	2.03	0.41
1:EA:27:G:C4	1:EA:512:G:N2	2.89	0.41
1:EA:258:G:H1'	12:EL:104:GLN:NE2	2.36	0.41
1:EA:278:A:N1	1:EA:362:A:C8	2.89	0.41
1:EA:308:G:N2	1:EA:477:A:C8	2.89	0.41
1:EA:370:G:O2'	1:EA:424:G:OP1	2.33	0.41
1:EA:563:A:C6	1:EA:564:C:C4	3.09	0.41
1:EA:878:A:H3'	1:EA:879:G:C8	2.56	0.41
1:EA:884:U:H2'	1:EA:885:C:H5'	2.03	0.41
1:EA:979:A:H2'	1:EA:982:C:H42	1.86	0.41
1:EA:980:A:C4	1:EA:1136:G:O4'	2.74	0.41
1:EA:1105:U:H2'	1:EA:1106:G:H8	1.81	0.41
1:EA:1458:U:H5'	1:EA:1459:G:N3	2.35	0.41
1:EA:1697:G:OP2	1:EA:1698:A:O2'	2.35	0.41
1:EA:1786:A:C4	1:EA:1938:A:C6	3.09	0.41
1:EA:1854:A:C2	1:EA:2087:G:N3	2.89	0.41
1:EA:2201:G:H2'	1:EA:2202:U:O4'	2.20	0.41
1:EA:2467:C:H1'	13:EM:122:ALA:HB1	2.03	0.41
1:EA:2788:C:H2'	1:EA:2789:C:C6	2.56	0.41
2:EB:29:A:H2'	2:EB:30:C:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EC:184:GLU:O	3:EC:185:ALA:HB3	2.21	0.41
3:EC:234:GLY:O	3:EC:235:GLU:HB2	2.21	0.41
4:ED:118:PHE:HZ	14:EN:1:MET:CB	2.34	0.41
4:ED:121:THR:HB	4:ED:127:PHE:CD2	2.55	0.41
6:EF:30:VAL:CG1	6:EF:96:TRP:CH2	3.04	0.41
7:EG:84:LYS:HB2	7:EG:132:LEU:H	1.86	0.41
7:EG:102:ILE:CG1	7:EG:116:LEU:HD11	2.51	0.41
9:EI:70:THR:OG1	9:EI:71:LYS:N	2.54	0.41
10:EJ:102:GLU:HG3	10:EJ:124:VAL:HG21	2.02	0.41
14:EN:96:ARG:O	14:EN:113:ILE:HA	2.21	0.41
17:EQ:86:SER:O	17:EQ:88:GLU:N	2.54	0.41
21:EU:34:ILE:HG23	21:EU:61:GLU:HB3	2.02	0.41
22:EV:80:HIS:HD2	22:EV:83:LYS:N	2.18	0.41
23:EW:22:VAL:CG1	23:EW:25:PHE:CE1	3.04	0.41
29:E2:10:LEU:HD21	29:E2:14:ARG:NH1	2.36	0.41
29:E2:42:LEU:HB3	29:E2:43:THR:HG23	2.01	0.41
31:E4:4:ARG:O	31:E4:37:GLN:O	2.39	0.41
32:E5:32:GLY:HA2	32:E5:36:ASP:OD2	2.21	0.41
32:E5:47:GLU:CG	32:E5:95:LEU:HD21	2.48	0.41
32:E5:132:TYR:O	32:E5:133:GLU:HG3	2.21	0.41
33:FA:139:A:H2'	33:FA:140:U:C6	2.56	0.41
33:FA:200:G:N2	33:FA:218:U:C2	2.89	0.41
33:FA:250:A:C4'	33:FA:251:G:O5'	2.69	0.41
33:FA:335:C:H2'	33:FA:336:A:C8	2.55	0.41
33:FA:676:A:HI'	43:FK:117:PRO:HB3	2.02	0.41
33:FA:716:A:N3	43:FK:119:ASN:O	2.53	0.41
33:FA:728:A:N6	33:FA:729:A:N6	2.69	0.41
33:FA:880:C:P	44:FL:5:ASN:HD22	2.44	0.41
33:FA:1151:A:C2	33:FA:1152:A:C4	3.08	0.41
33:FA:1304:G:C6	33:FA:1305:G:N2	2.88	0.41
33:FA:1314:C:C5	51:FS:6:LYS:HD3	2.56	0.41
34:FB:9:LEU:HB2	34:FB:42:LEU:CD2	2.51	0.41
35:FC:23:PHE:CD1	35:FC:24:ALA:N	2.89	0.41
36:FD:116:GLN:NE2	36:FD:120:HIS:NE2	2.69	0.41
37:FE:94:VAL:HG11	37:FE:140:THR:CG2	2.50	0.41
38:FF:20:GLY:O	38:FF:23:GLU:HB3	2.21	0.41
42:FJ:49:PHE:CE2	46:FN:77:PHE:HZ	2.39	0.41
43:FK:23:ILE:HD11	43:FK:86:VAL:HG22	2.02	0.41
43:FK:45:ALA:HB3	43:FK:70:CYS:HB2	2.02	0.41
43:FK:72:ASP:O	43:FK:73:ALA:HB3	2.20	0.41
46:FN:21:PHE:C	46:FN:23:LYS:H	2.23	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:FO:15:PHE:CZ	47:FO:85:LEU:HD11	2.56	0.41
51:FS:40:ILE:HG12	51:FS:71:LEU:CD2	2.51	0.41
54:FV:22:GLY:HA2	58:FV:801:GCP:O1A	2.20	0.41
54:FV:127:TRP:CH2	54:FV:262:ILE:HD13	2.56	0.41
54:FV:266:CYS:SG	54:FV:267:GLY:N	2.94	0.41
1:GA:479:A:HO2'	1:GA:481:G:H8	1.63	0.41
1:GA:528:A:H2	1:GA:2043:C:H5'	1.85	0.41
1:GA:645:C:H2'	1:GA:647:G:N7	2.36	0.41
1:GA:941:A:H2'	1:GA:942:G:O4'	2.21	0.41
1:GA:960:A:H5''	1:GA:961:C:OP2	2.21	0.41
1:GA:1332:G:H2'	1:GA:1332:G:N3	2.35	0.41
1:GA:2098:U:H3	1:GA:2191:A:H61	1.67	0.41
1:GA:2447:G:C5	1:GA:2500:U:C5	3.08	0.41
1:GA:2482:A:C5	1:GA:2483:C:C5	3.08	0.41
1:GA:2539:C:H5'	31:G4:3:VAL:HG21	2.02	0.41
1:GA:2632:A:H61	1:GA:2786:U:H3	1.69	0.41
1:GA:2687:U:H2'	1:GA:2688:G:O4'	2.21	0.41
1:GA:2690:U:C4	1:GA:2873:A:N1	2.88	0.41
1:GA:2869:G:H2'	1:GA:2870:C:C6	2.56	0.41
2:GB:14:U:O2	2:GB:107:G:H4'	2.20	0.41
4:GD:21:SER:H	11:GK:73:ASP:H	1.68	0.41
4:GD:45:TYR:CD1	4:GD:45:TYR:N	2.89	0.41
4:GD:91:THR:O	4:GD:93:GLY:N	2.49	0.41
4:GD:148:GLN:HB2	4:GD:152:PRO:HG2	2.03	0.41
5:GE:60:TRP:NE1	5:GE:70:SER:HB3	2.36	0.41
6:GF:60:SER:CB	6:GF:88:VAL:HG11	2.51	0.41
9:GI:25:PRO:HB3	54:HV:647:SER:CA	2.50	0.41
11:GK:108:ARG:HD2	11:GK:116:ILE:HD11	2.02	0.41
11:GK:118:LEU:N	11:GK:118:LEU:HD12	2.35	0.41
12:GL:7:SER:HB2	12:GL:8:PRO:HD2	2.03	0.41
12:GL:110:VAL:CG2	12:GL:127:VAL:HB	2.51	0.41
14:GN:31:HIS:ND1	14:GN:31:HIS:N	2.69	0.41
14:GN:98:LEU:HD22	27:G0:42:ILE:HD11	2.03	0.41
15:GO:24:THR:HG22	15:GO:42:PRO:HD3	2.03	0.41
16:GP:80:VAL:O	16:GP:81:ASP:HB3	2.20	0.41
22:GV:62:THR:HA	22:GV:71:LYS:HA	2.03	0.41
26:GZ:5:LYS:HD2	26:GZ:5:LYS:N	2.36	0.41
26:GZ:38:GLU:HG3	26:GZ:40:THR:HG22	2.03	0.41
33:HA:200:G:N2	33:HA:218:U:C2	2.89	0.41
33:HA:429:U:O3'	36:HD:22:LYS:NZ	2.54	0.41
33:HA:460:A:N1	33:HA:462:G:C8	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:672:U:H2'	33:HA:673:A:C8	2.55	0.41
33:HA:868:C:N4	33:HA:869:G:C2	2.89	0.41
33:HA:949:A:H1'	33:HA:1364:U:C5	2.56	0.41
33:HA:1284:C:C5	33:HA:1285:A:H8	2.39	0.41
34:HB:217:ALA:O	34:HB:221:ARG:HB2	2.21	0.41
35:HC:22:TRP:HB3	35:HC:59:ARG:HB2	2.03	0.41
38:HF:21:MET:HB3	38:HF:21:MET:HE2	1.84	0.41
40:HH:10:MET:HG3	40:HH:27:MET:SD	2.60	0.41
41:HI:30:ILE:HA	41:HI:65:ILE:O	2.21	0.41
42:HJ:87:LEU:O	42:HJ:91:ASP:OD2	2.39	0.41
43:HK:23:ILE:HD11	43:HK:86:VAL:HG22	2.01	0.41
44:HL:63:VAL:HG21	44:HL:95:TYR:CE1	2.55	0.41
45:HM:29:ARG:HH22	45:HM:33:ILE:HD11	1.86	0.41
45:HM:29:ARG:NH1	45:HM:33:ILE:HD11	2.36	0.41
49:HQ:59:VAL:CG2	49:HQ:75:LEU:HD13	2.50	0.41
52:HT:68:HIS:HB3	52:HT:69:LYS:NZ	2.36	0.41
53:HU:14:VAL:CG2	53:HU:16:LEU:CD2	2.99	0.41
54:HV:85:ASN:ND2	54:HV:382:ILE:HG13	2.35	0.41
54:HV:488:VAL:HG21	54:HV:661:SER:HB3	2.02	0.41
54:HV:498:VAL:CG2	54:HV:608:ALA:HB2	2.51	0.41
54:HV:504:LYS:HA	54:HV:516:GLY:O	2.20	0.41
1:AA:722:A:H2'	1:AA:723:C:O4'	2.21	0.41
1:AA:751:A:C6	1:AA:789:A:C5	3.09	0.41
1:AA:1084:A:H5'	32:A5:55:VAL:HA	2.03	0.41
1:AA:1266:G:C8	19:AS:15:GLN:NE2	2.89	0.41
1:AA:2207:C:C2	1:AA:2208:C:C5	3.09	0.41
1:AA:2502:G:C5'	1:AA:2503:A:H5''	2.51	0.41
1:AA:2591:C:OP1	3:AC:237:ARG:HG3	2.21	0.41
1:AA:2615:U:P	59:AA:3740:HOH:O	2.79	0.41
1:AA:2845:U:O3'	16:AP:52:ARG:NH1	2.54	0.41
4:AD:105:LYS:HA	4:AD:177:VAL:HG13	2.02	0.41
6:AF:169:LEU:HG	6:AF:174:PHE:CD2	2.56	0.41
9:AI:91:LYS:HG2	9:AI:97:VAL:HG21	2.03	0.41
11:AK:80:ASP:CB	16:AP:67:GLU:HG3	2.51	0.41
12:AL:81:ASP:O	12:AL:82:LEU:HD22	2.21	0.41
18:AR:83:TYR:CD1	18:AR:83:TYR:C	2.95	0.41
20:AT:17:SER:H	20:AT:21:SER:CB	2.34	0.41
21:AU:95:PHE:HE1	21:AU:102:ILE:HB	1.86	0.41
32:A5:31:ARG:HD3	32:A5:31:ARG:HA	1.84	0.41
32:A5:58:THR:HB	32:A5:82:ILE:HB	2.03	0.41
32:A5:93:ALA:HB3	32:A5:95:LEU:HD23	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A5:123:ILE:HG12	32:A5:124:ASP:N	2.36	0.41
33:BA:601:G:C2	33:BA:602:A:C4	3.09	0.41
33:BA:686:U:C4	33:BA:687:A:N6	2.89	0.41
33:BA:722:G:O2'	33:BA:723:U:H2'	2.20	0.41
33:BA:724:G:N2	33:BA:725:G:H1'	2.36	0.41
33:BA:1041:G:C2	33:BA:1042:A:C5	3.08	0.41
33:BA:1251:A:H2'	33:BA:1252:A:O4'	2.21	0.41
33:BA:1469:C:H2'	33:BA:1470:U:O4'	2.21	0.41
36:BD:30:THR:HG22	36:BD:31:LYS:N	2.36	0.41
36:BD:89:ASN:O	36:BD:93:LEU:HD22	2.21	0.41
40:BH:13:ARG:HH11	40:BH:27:MET:CB	2.33	0.41
43:BK:72:ASP:O	43:BK:73:ALA:HB3	2.21	0.41
44:BL:86:ARG:NH2	44:BL:88:LYS:HG3	2.36	0.41
54:BV:407:GLU:O	54:BV:408:ARG:CB	2.69	0.41
1:CA:225:C:C4	1:CA:226:A:C8	3.09	0.41
1:CA:226:A:C6	1:CA:227:A:C6	3.09	0.41
1:CA:296:U:H2'	1:CA:297:G:C8	2.55	0.41
1:CA:738:G:C6	1:CA:739:A:C2	3.09	0.41
1:CA:973:A:C8	1:CA:1188:U:C2	3.09	0.41
1:CA:1240:U:P	59:CA:3695:HOH:O	2.79	0.41
1:CA:1341:G:OP1	1:CA:1397:U:N3	2.50	0.41
1:CA:1842:G:H2'	1:CA:1843:C:C6	2.56	0.41
1:CA:2070:A:C2'	1:CA:2071:A:H5'	2.51	0.41
1:CA:2105:U:H5'	1:CA:2105:U:H6	1.86	0.41
1:CA:2145:C:H5'	1:CA:2147:A:OP1	2.21	0.41
1:CA:2795:C:H2'	1:CA:2796:U:H6	1.85	0.41
2:CB:111:U:H2'	2:CB:112:G:C8	2.56	0.41
5:CE:143:LEU:HB3	5:CE:146:VAL:HG11	2.01	0.41
8:CH:2:GLN:CB	8:CH:39:ALA:HB3	2.51	0.41
9:CI:101:SER:CB	9:CI:140:GLU:HB3	2.51	0.41
17:CQ:5:ARG:HA	17:CQ:8:ILE:HD11	2.02	0.41
18:CR:14:VAL:HG11	18:CR:98:ILE:HG13	2.03	0.41
19:CS:29:VAL:HG21	19:CS:107:VAL:HG21	2.02	0.41
20:CT:8:LEU:HD23	20:CT:46:ALA:HA	2.02	0.41
20:CT:70:HIS:HB3	20:CT:73:ARG:O	2.20	0.41
23:CW:53:GLY:O	23:CW:56:HIS:N	2.53	0.41
25:CY:9:LYS:O	25:CY:12:GLU:HB2	2.21	0.41
28:C1:46:VAL:HG12	28:C1:47:ILE:N	2.36	0.41
33:DA:71:A:C2	33:DA:72:A:C4	3.09	0.41
33:DA:623:C:C4	33:DA:624:C:C5	3.09	0.41
33:DA:661:G:C2	33:DA:745:G:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:774:G:C6	33:DA:775:G:C5	3.09	0.41
33:DA:781:A:C3'	33:DA:782:A:H5'	2.51	0.41
33:DA:1028:C:C5	33:DA:1029:U:C4	3.08	0.41
33:DA:1218:C:H2'	33:DA:1219:A:C8	2.56	0.41
33:DA:1293:C:H2'	33:DA:1294:G:O4'	2.21	0.41
34:DB:70:GLY:CA	34:DB:163:ILE:CG2	2.98	0.41
35:DC:42:TYR:HE2	35:DC:87:LEU:HD22	1.86	0.41
36:DD:58:LYS:HD3	36:DD:203:LEU:HD23	2.03	0.41
36:DD:98:LEU:HB2	36:DD:135:TYR:HB3	2.03	0.41
41:DI:120:LYS:CG	41:DI:123:ARG:HB3	2.51	0.41
49:DQ:12:VAL:HG12	49:DQ:14:SER:H	1.85	0.41
53:DU:25:LYS:HG2	53:DU:26:ALA:H	1.86	0.41
54:DV:90:PRO:HG2	54:DV:98:GLU:HB2	2.02	0.41
54:DV:193:TRP:CH2	54:DV:276:GLN:HB2	2.56	0.41
1:EA:60:G:C6	1:EA:74:A:N6	2.89	0.41
1:EA:296:U:H2'	1:EA:297:G:C8	2.57	0.41
1:EA:958:U:H5''	1:EA:959:A:O5'	2.21	0.41
1:EA:1076:C:O2'	9:EI:92:PRO:HB3	2.21	0.41
1:EA:1149:G:H2'	1:EA:1150:C:C6	2.55	0.41
1:EA:1434:A:H2'	1:EA:1435:G:C8	2.55	0.41
1:EA:1730:C:N4	35:HC:103:ILE:O	2.49	0.41
1:EA:2184:A:H2'	1:EA:2185:U:C5	2.55	0.41
1:EA:2502:G:H5''	1:EA:2503:A:H5''	2.02	0.41
1:EA:2646:C:H2'	1:EA:2647:U:O4'	2.21	0.41
2:EB:32:U:C2	2:EB:51:G:N2	2.89	0.41
2:EB:33:G:C4	2:EB:50:A:C2	3.09	0.41
4:ED:45:TYR:CD1	4:ED:45:TYR:N	2.89	0.41
6:EF:33:ILE:CG2	6:EF:153:ILE:CD1	2.98	0.41
6:EF:147:ARG:HG3	6:EF:149:ARG:N	2.36	0.41
8:EH:15:LEU:N	8:EH:15:LEU:CD2	2.84	0.41
13:EM:67:VAL:HG11	13:EM:102:LEU:HD12	2.03	0.41
16:EP:24:THR:O	16:EP:24:THR:OG1	2.37	0.41
18:ER:49:ILE:HD12	18:ER:53:PHE:H	1.85	0.41
23:EW:50:VAL:HB	23:EW:61:LYS:HD2	2.03	0.41
24:EX:40:GLU:O	24:EX:43:LYS:HD2	2.20	0.41
33:FA:662:U:H2'	33:FA:663:A:C8	2.56	0.41
33:FA:1174:G:C2	33:FA:1175:G:C8	3.08	0.41
33:FA:1451:U:H5''	33:FA:1452:C:C5	2.55	0.41
34:FB:20:ARG:O	34:FB:21:TYR:HB2	2.21	0.41
34:FB:26:MET:HE3	34:FB:29:PHE:CD2	2.56	0.41
35:FC:77:ILE:O	35:FC:83:ASP:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:FE:24:THR:HA	37:FE:29:ARG:HA	2.03	0.41
38:FF:53:LYS:O	38:FF:54:LEU:HB2	2.20	0.41
38:FF:92:THR:O	38:FF:93:LYS:HG2	2.20	0.41
39:FG:103:TRP:CH2	39:FG:141:VAL:HG21	2.56	0.41
42:FJ:37:ARG:NH2	42:FJ:77:VAL:HG21	2.36	0.41
42:FJ:50:THR:HB	42:FJ:64:GLN:HG2	2.02	0.41
47:FO:35:GLN:NE2	47:FO:39:LEU:HD21	2.36	0.41
52:FT:69:LYS:HB2	52:FT:70:ASN:H	1.80	0.41
53:FU:12:PHE:CE2	53:FU:14:VAL:O	2.74	0.41
54:FV:29:ARG:NH1	54:FV:29:ARG:HA	2.36	0.41
54:FV:31:LEU:HA	54:FV:34:THR:HG22	2.02	0.41
1:GA:1180:U:O2	1:GA:1180:U:H2'	2.21	0.41
1:GA:1386:C:H2'	1:GA:1387:A:H8	1.82	0.41
1:GA:1616:A:H4'	1:GA:1617:C:OP2	2.20	0.41
1:GA:1954:G:N1	1:GA:1986:C:OP1	2.44	0.41
1:GA:2070:A:C2'	1:GA:2071:A:H5'	2.51	0.41
1:GA:2108:A:N7	1:GA:2180:U:O2	2.54	0.41
1:GA:2406:A:N3	12:GL:69:ARG:NH2	2.68	0.41
4:GD:142:VAL:HB	4:GD:143:PRO:HD2	2.04	0.41
5:GE:170:ARG:NH2	5:GE:179:SER:OG	2.54	0.41
6:GF:134:GLN:CG	6:GF:135:ILE:H	2.34	0.41
6:GF:134:GLN:OE1	6:GF:149:ARG:HB3	2.21	0.41
9:GI:82:ALA:HB1	9:GI:108:ILE:HD13	2.03	0.41
11:GK:7:MET:SD	11:GK:20:MET:HB2	2.61	0.41
12:GL:46:VAL:HG13	12:GL:50:PHE:HB3	2.03	0.41
13:GM:4:PRO:CG	13:GM:70:ASP:HA	2.51	0.41
18:GR:90:ARG:O	18:GR:91:GLN:HB3	2.21	0.41
27:G0:54:ILE:HG23	27:G0:56:LYS:HE3	2.03	0.41
33:HA:26:A:N6	33:HA:558:G:O2'	2.47	0.41
33:HA:33:A:H2'	33:HA:34:C:C6	2.56	0.41
33:HA:263:A:OP1	52:HT:74:ARG:NH1	2.49	0.41
33:HA:701:U:H4'	33:HA:702:A:O5'	2.20	0.41
33:HA:707:U:H2'	33:HA:708:C:C6	2.55	0.41
33:HA:1193:G:P	35:HC:167:TRP:HH2	2.45	0.41
36:HD:125:VAL:O	36:HD:127:GLY:N	2.49	0.41
38:HF:74:LEU:HG	38:HF:78:PHE:CZ	2.56	0.41
39:HG:75:VAL:HG11	39:HG:144:MET:HG3	2.01	0.41
41:HI:35:LEU:HG	41:HI:36:GLU:N	2.36	0.41
41:HI:57:MET:CG	41:HI:58:VAL:H	2.34	0.41
44:HL:25:GLU:HB2	44:HL:27:CYS:SG	2.61	0.41
44:HL:36:ARG:HD3	44:HL:38:TYR:CE1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:HS:63:THR:CG2	51:HS:64:ASP:N	2.84	0.41
54:HV:585:ASP:O	54:HV:586:VAL:CB	2.68	0.41
1:AA:178:G:C6	1:AA:179:C:C5	3.08	0.40
1:AA:741:U:C4	1:AA:757:G:N1	2.89	0.40
1:AA:979:A:H2'	1:AA:982:C:H42	1.86	0.40
1:AA:1196:C:H2'	1:AA:1197:G:C8	2.56	0.40
1:AA:1270:C:H5''	1:AA:1271:G:O5'	2.21	0.40
1:AA:1339:G:H21	1:AA:1603:A:H1'	1.86	0.40
1:AA:1341:G:C6	20:AT:84:TYR:CE1	3.10	0.40
1:AA:1623:G:C6	1:AA:1624:U:C4	3.09	0.40
1:AA:1740:G:H2'	1:AA:1741:C:O4'	2.21	0.40
1:AA:2425:A:H5''	1:AA:2427:C:O4'	2.20	0.40
3:AC:143:VAL:C	3:AC:151:GLY:HA2	2.42	0.40
3:AC:255:LYS:C	3:AC:257:ARG:H	2.24	0.40
4:AD:107:VAL:H	4:AD:206:ALA:H	1.69	0.40
5:AE:47:LYS:HB3	5:AE:51:GLU:HG3	2.03	0.40
6:AF:134:GLN:CG	6:AF:140:ILE:HG12	2.50	0.40
6:AF:151:LEU:HD12	6:AF:152:ASP:N	2.37	0.40
7:AG:22:VAL:HG22	7:AG:36:LEU:CD1	2.51	0.40
8:AH:4:ILE:HD11	8:AH:18:GLN:HE21	1.85	0.40
11:AK:1:MET:HE2	11:AK:32:TYR:CE1	2.56	0.40
13:AM:66:ARG:NH1	13:AM:104:GLU:OE1	2.53	0.40
15:AO:7:ARG:HA	15:AO:10:ARG:HH22	1.86	0.40
17:AQ:46:TYR:CZ	17:AQ:50:ARG:NH2	2.89	0.40
17:AQ:60:TRP:O	17:AQ:63:ARG:HG3	2.21	0.40
23:AW:30:VAL:HG22	23:AW:30:VAL:O	2.20	0.40
30:A3:3:ILE:HG21	30:A3:62:PRO:HG3	2.03	0.40
32:A5:62:ARG:O	32:A5:65:GLU:N	2.54	0.40
33:BA:8:A:N7	36:BD:206:LYS:HB3	2.35	0.40
33:BA:216:U:H2'	33:BA:217:C:C6	2.56	0.40
33:BA:704:A:C5	33:BA:705:G:N7	2.88	0.40
33:BA:716:A:C6	33:BA:717:U:N3	2.89	0.40
33:BA:727:G:N2	33:BA:731:G:C4	2.89	0.40
33:BA:1451:U:H5''	33:BA:1452:C:H5	1.86	0.40
36:BD:142:VAL:HG12	36:BD:181:THR:OG1	2.21	0.40
36:BD:165:ARG:O	36:BD:167:LYS:N	2.55	0.40
45:BM:95:LEU:C	45:BM:109:ARG:HG2	2.42	0.40
46:BN:93:ILE:HG21	46:BN:96:LEU:HD22	2.03	0.40
49:BQ:12:VAL:HG13	49:BQ:21:ILE:HG13	2.03	0.40
54:BV:75:MET:HG2	54:BV:280:ASP:OD2	2.21	0.40
54:BV:131:ASN:OD1	54:BV:137:ARG:NH2	2.46	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:484:C:H2'	1:CA:485:C:H6	1.87	0.40
1:CA:579:G:OP1	59:CA:3277:HOH:O	2.22	0.40
1:CA:936:A:H2'	1:CA:937:C:C6	2.56	0.40
1:CA:1279:G:O2'	1:CA:1280:G:H5'	2.20	0.40
1:CA:1354:A:C8	1:CA:1355:G:C8	3.09	0.40
1:CA:1486:U:H2'	1:CA:1487:U:C6	2.56	0.40
1:CA:1630:A:N1	1:CA:1637:A:C6	2.89	0.40
1:CA:2107:G:C2	1:CA:2108:A:H1'	2.57	0.40
1:CA:2687:U:H2'	1:CA:2688:G:O4'	2.22	0.40
1:CA:2747:G:O2'	7:CG:66:THR:HG22	2.21	0.40
6:CF:148:VAL:HG23	6:CF:149:ARG:H	1.86	0.40
8:CH:38:PRO:HB2	8:CH:40:THR:HG23	2.03	0.40
8:CH:41:LYS:O	8:CH:44:ILE:HG12	2.21	0.40
9:CI:104:GLN:O	9:CI:105:LEU:HB2	2.20	0.40
11:CK:71:ARG:HB3	11:CK:72:PRO:HD2	2.03	0.40
14:CN:71:ARG:HH21	14:CN:71:ARG:HG2	1.86	0.40
17:CQ:60:TRP:O	17:CQ:63:ARG:HG3	2.21	0.40
17:CQ:75:TYR:CD1	17:CQ:75:TYR:C	2.94	0.40
20:CT:54:GLU:HG3	20:CT:88:LYS:H	1.86	0.40
24:CX:6:VAL:HG22	24:CX:7:THR:HG23	2.03	0.40
24:CX:34:SER:HA	24:CX:48:LEU:O	2.20	0.40
24:CX:46:VAL:HG11	24:CX:77:TYR:CD1	2.56	0.40
28:C1:7:LYS:HE3	30:C3:33:THR:CG2	2.48	0.40
33:DA:276:G:C5	33:DA:277:C:C5	3.09	0.40
33:DA:844:G:H21	33:DA:845:A:N6	2.20	0.40
33:DA:1106:G:O3'	35:DC:172:ARG:HG3	2.22	0.40
33:DA:1244:G:C6	33:DA:1245:C:C4	3.08	0.40
33:DA:1491:G:H2'	55:DW:6:5OH:O	2.21	0.40
34:DB:42:LEU:HG	34:DB:43:GLU:N	2.37	0.40
39:DG:145:ALA:C	39:DG:147:ALA:N	2.74	0.40
41:DI:11:ARG:HA	41:DI:78:ALA:CB	2.51	0.40
54:DV:560:GLN:NE2	54:DV:598:SER:CB	2.84	0.40
1:EA:830:G:H4'	1:EA:831:G:OP2	2.22	0.40
1:EA:941:A:H2'	1:EA:942:G:O4'	2.21	0.40
1:EA:1001:A:H2'	1:EA:1002:G:O4'	2.21	0.40
1:EA:1446:C:H2'	1:EA:1447:C:H6	1.85	0.40
1:EA:1893:C:C5	1:EA:1894:C:C5	3.09	0.40
1:EA:2097:A:C6	1:EA:2098:U:C4	3.10	0.40
1:EA:2134:A:H3'	1:EA:2134:A:OP1	2.21	0.40
1:EA:2314:A:H2'	1:EA:2315:G:C8	2.56	0.40
7:EG:84:LYS:CB	7:EG:132:LEU:H	2.33	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:EI:33:ASN:HB3	9:EI:65:SER:HA	2.02	0.40
9:EI:58:ILE:HG22	9:EI:59:THR:N	2.36	0.40
10:EJ:44:TYR:CE1	17:EQ:59:LEU:HD11	2.56	0.40
16:EP:96:LEU:HB3	16:EP:99:LEU:CD2	2.50	0.40
18:ER:49:ILE:HG22	18:ER:53:PHE:C	2.41	0.40
20:ET:12:ARG:HH11	20:ET:12:ARG:HG2	1.86	0.40
20:ET:20:ALA:O	20:ET:24:MET:HB2	2.20	0.40
20:ET:28:ASN:HA	20:ET:91:GLN:OE1	2.21	0.40
20:ET:54:GLU:HB2	20:ET:88:LYS:HB2	2.02	0.40
25:EY:30:MET:O	25:EY:34:SER:N	2.51	0.40
28:E1:16:THR:HB	28:E1:41:VAL:HG21	2.02	0.40
28:E1:50:GLU:HG2	28:E1:51:ALA:N	2.37	0.40
33:FA:8:A:N6	36:FD:202:GLU:O	2.49	0.40
33:FA:9:G:OP2	37:FE:126:LYS:CE	2.69	0.40
33:FA:1118:U:H1'	33:FA:1179:A:C4	2.56	0.40
33:FA:1328:C:H5''	45:FM:28:THR:HG21	2.03	0.40
33:FA:1374:A:O3'	39:FG:28:ASN:ND2	2.51	0.40
33:FA:1464:U:H2'	33:FA:1465:A:C8	2.57	0.40
34:FB:32:GLY:O	34:FB:33:ALA:CB	2.69	0.40
35:FC:117:ALA:HB2	35:FC:200:VAL:CG1	2.50	0.40
36:FD:34:ILE:O	36:FD:35:GLU:CB	2.69	0.40
36:FD:72:PHE:CZ	36:FD:200:ILE:CD1	3.04	0.40
45:FM:80:LEU:HD11	45:FM:87:ARG:HH21	1.87	0.40
46:FN:25:ALA:O	46:FN:28:LYS:CG	2.69	0.40
1:GA:672:C:H42	1:GA:808:G:H1	1.68	0.40
1:GA:1081:U:O3'	9:GI:118:GLY:HA2	2.22	0.40
1:GA:1162:G:C6	1:GA:1163:G:N7	2.89	0.40
1:GA:1456:G:C5	1:GA:1457:U:C5	3.09	0.40
1:GA:1863:G:H4'	1:GA:2411:A:H4'	2.02	0.40
1:GA:1866:A:O5'	1:GA:1866:A:H8	2.04	0.40
1:GA:2025:C:H2'	1:GA:2026:U:C6	2.56	0.40
1:GA:2394:C:P	30:G3:29:ARG:HH21	2.44	0.40
1:GA:2580:U:C5	1:GA:2581:G:C6	3.08	0.40
1:GA:2843:G:C2	1:GA:2844:G:C4	3.09	0.40
3:GC:259:ASN:O	3:GC:260:LYS:HB2	2.21	0.40
4:GD:69:ALA:HA	4:GD:73:VAL:CG1	2.50	0.40
4:GD:121:THR:HB	4:GD:127:PHE:CD2	2.56	0.40
5:GE:175:ILE:HD11	5:GE:180:LEU:HD11	2.02	0.40
9:GI:85:ILE:H	9:GI:100:ILE:HD12	1.85	0.40
11:GK:52:VAL:CG1	11:GK:95:ILE:CD1	3.00	0.40
11:GK:80:ASP:HB2	16:GP:67:GLU:HG3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:GO:53:THR:HB	15:GO:65:THR:HG21	2.03	0.40
16:GP:85:VAL:HG13	16:GP:86:LYS:N	2.35	0.40
19:GS:36:LEU:HD23	19:GS:48:LYS:HA	2.03	0.40
23:GW:49:ASN:HB2	23:GW:60:ALA:HA	2.03	0.40
33:HA:920:U:H2'	33:HA:921:U:C6	2.56	0.40
33:HA:1185:G:C6	33:HA:1186:G:C5	3.09	0.40
44:HL:99:ARG:HB2	44:HL:117:TYR:HA	2.03	0.40
45:HM:9:ILE:HG13	45:HM:9:ILE:O	2.21	0.40
45:HM:33:ILE:HD13	45:HM:59:GLU:HB3	2.04	0.40
52:HT:62:ALA:HB1	52:HT:69:LYS:H	1.84	0.40
54:HV:188:MET:HE3	54:HV:218:TRP:CD1	2.57	0.40
1:AA:282:A:H2'	1:AA:283:G:C8	2.57	0.40
1:AA:627:A:O4'	1:AA:637:A:N6	2.55	0.40
1:AA:760:G:C6	1:AA:761:A:N3	2.89	0.40
1:AA:770:G:P	29:A2:11:LYS:HE3	2.61	0.40
1:AA:830:G:C4	1:AA:2448:A:C6	3.09	0.40
1:AA:1062:G:N2	1:AA:1063:G:C4	2.90	0.40
1:AA:2038:G:H2'	1:AA:2039:U:O4'	2.21	0.40
1:AA:2297:A:N1	1:AA:2321:U:C5	2.89	0.40
1:AA:2478:A:OP2	31:A4:2:LYS:HE3	2.22	0.40
6:AF:18:GLU:HB3	6:AF:19:PHE:CE1	2.56	0.40
6:AF:59:ILE:HD12	6:AF:139:GLU:HB2	2.03	0.40
8:AH:42:LYS:HE2	8:AH:46:PHE:CZ	2.57	0.40
9:AI:93:ASN:HB2	9:AI:135:MET:HE1	2.02	0.40
11:AK:71:ARG:HG3	11:AK:105:ARG:CZ	2.50	0.40
16:AP:32:VAL:HG22	16:AP:37:LYS:HD2	2.04	0.40
17:AQ:51:GLN:O	17:AQ:54:ARG:N	2.52	0.40
21:AU:82:VAL:CG1	21:AU:83:GLY:N	2.84	0.40
23:AW:23:LYS:HE2	23:AW:24:ARG:HB3	2.03	0.40
32:A5:54:VAL:O	32:A5:55:VAL:C	2.59	0.40
33:BA:144:G:H2'	33:BA:145:G:O4'	2.22	0.40
33:BA:675:A:N1	33:BA:676:A:C4	2.90	0.40
33:BA:1060:U:C5	35:BC:2:GLY:HA3	2.56	0.40
33:BA:1453:G:H3'	33:BA:1453:G:N3	2.35	0.40
33:BA:1491:G:H5'	33:BA:1492:A:OP1	2.21	0.40
34:BB:121:GLN:NE2	34:BB:122:ASP:OD1	2.55	0.40
35:BC:88:ARG:HG3	35:BC:99:ALA:O	2.21	0.40
40:BH:2:SER:OG	40:BH:3:MET:N	2.53	0.40
41:BI:48:VAL:HG22	41:BI:83:ILE:HD11	2.03	0.40
41:BI:129:LYS:HG3	41:BI:130:ARG:HG2	2.02	0.40
43:BK:96:THR:HG23	43:BK:97:ILE:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BU:12:PHE:CG	53:BU:13:ASP:N	2.88	0.40
54:BV:538:ASN:ND2	54:BV:550:ILE:HG21	2.36	0.40
1:CA:560:C:O2	17:CQ:47:ARG:NH1	2.52	0.40
1:CA:620:G:H4'	1:CA:621:A:O5'	2.22	0.40
1:CA:936:A:C6	1:CA:937:C:C4	3.09	0.40
1:CA:954:G:C2	1:CA:964:C:O2	2.75	0.40
1:CA:980:A:C5	1:CA:981:A:C6	3.09	0.40
1:CA:1027:A:C5	1:CA:1126:A:C2	3.09	0.40
1:CA:1100:C:C4	1:CA:1101:U:C5	3.09	0.40
1:CA:1269:A:H8	1:CA:1269:A:O5'	2.04	0.40
1:CA:2149:U:C5	1:CA:2150:C:H1'	2.56	0.40
1:CA:2526:G:C6	1:CA:2527:C:C4	3.10	0.40
1:CA:2840:C:C2	1:CA:2841:C:C5	3.09	0.40
9:CI:7:TYR:CD1	9:CI:7:TYR:O	2.74	0.40
11:CK:118:LEU:HD12	11:CK:118:LEU:H	1.85	0.40
14:CN:24:MET:HG2	14:CN:44:LEU:HD13	2.03	0.40
14:CN:65:LEU:O	14:CN:68:ALA:N	2.54	0.40
16:CP:19:PHE:O	16:CP:20:ARG:CB	2.69	0.40
25:CY:7:ARG:H	25:CY:60:LYS:HZ1	1.69	0.40
33:DA:127:G:C6	33:DA:128:G:N7	2.89	0.40
33:DA:141:G:C4	33:DA:142:G:C8	3.09	0.40
33:DA:142:G:H2'	33:DA:142:G:N3	2.37	0.40
33:DA:490:C:H2'	33:DA:491:G:H8	1.85	0.40
33:DA:656:G:H2'	33:DA:657:U:H6	1.86	0.40
33:DA:1438:G:C2'	33:DA:1439:G:H5'	2.52	0.40
34:DB:127:LYS:HG3	34:DB:128:LEU:N	2.35	0.40
34:DB:138:ARG:HA	34:DB:141:GLU:HG2	2.03	0.40
36:DD:35:GLU:C	36:DD:37:ALA:H	2.24	0.40
36:DD:102:VAL:HG12	36:DD:114:ALA:HB1	2.04	0.40
36:DD:139:PRO:O	36:DD:140:ASN:HB2	2.21	0.40
38:DF:86:ARG:HH21	50:DR:64:TYR:HB3	1.87	0.40
44:DL:87:VAL:HG11	44:DL:90:LEU:CD2	2.52	0.40
51:DS:36:ARG:HE	51:DS:72:GLY:HA3	1.87	0.40
54:DV:493:THR:HG22	54:DV:613:LEU:HD21	2.03	0.40
1:EA:488:G:N2	1:EA:493:G:O6	2.54	0.40
1:EA:1346:G:H2'	1:EA:1347:A:H8	1.85	0.40
2:EB:39:A:H2'	2:EB:40:U:C6	2.56	0.40
3:EC:29:PHE:CE2	3:EC:31:PRO:HG2	2.56	0.40
4:ED:68:PHE:O	4:ED:73:VAL:HG12	2.22	0.40
4:ED:193:VAL:HG21	4:ED:201:LEU:HD21	2.03	0.40
8:EH:21:VAL:CG2	8:EH:25:TYR:HD2	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:EH:41:LYS:O	8:EH:44:ILE:HG12	2.22	0.40
11:EK:43:ILE:HG13	11:EK:56:ASP:HB2	2.03	0.40
18:ER:29:THR:O	18:ER:29:THR:HG22	2.22	0.40
24:EX:68:ALA:C	24:EX:69:GLU:O	2.59	0.40
32:E5:15:VAL:HG22	32:E5:66:GLY:HA3	2.03	0.40
32:E5:59:LEU:HD23	32:E5:62:ARG:NE	2.32	0.40
33:FA:52:C:H2'	33:FA:53:A:H8	1.85	0.40
33:FA:636:U:H2'	33:FA:637:C:C6	2.55	0.40
33:FA:723:U:H2'	53:FU:49:LYS:HD3	2.03	0.40
33:FA:767:A:H2'	33:FA:768:A:O4'	2.21	0.40
33:FA:930:C:C4	33:FA:931:C:C5	3.09	0.40
33:FA:980:C:C5	33:FA:981:U:C2	3.10	0.40
33:FA:1037:C:N4	33:FA:1038:C:N4	2.69	0.40
36:FD:192:SER:O	36:FD:193:ALA:HB2	2.20	0.40
38:FF:42:TRP:HE3	38:FF:45:ARG:HH21	1.69	0.40
40:FH:86:TYR:CE1	40:FH:124:GLU:HB2	2.57	0.40
41:FI:13:LYS:O	41:FI:14:SER:HB3	2.21	0.40
42:FJ:35:GLN:O	42:FJ:36:VAL:CB	2.69	0.40
49:FQ:75:LEU:HD12	49:FQ:76:VAL:N	2.36	0.40
51:FS:63:THR:CG2	51:FS:64:ASP:N	2.84	0.40
54:FV:362:ARG:NH2	54:FV:373:GLU:OE2	2.46	0.40
1:GA:137:U:O2'	1:GA:138:U:P	2.74	0.40
1:GA:880:G:C2	1:GA:898:C:H1'	2.55	0.40
1:GA:923:G:C1'	23:GW:23:LYS:HD3	2.43	0.40
1:GA:945:A:C4	1:GA:2448:A:C2	3.10	0.40
1:GA:1058:U:H2'	1:GA:1059:G:H8	1.86	0.40
1:GA:1072:C:O2	1:GA:1072:C:H2'	2.19	0.40
1:GA:1297:C:OP1	1:GA:2710:C:H4'	2.21	0.40
1:GA:1614:A:N7	59:GA:3310:HOH:O	2.37	0.40
1:GA:1770:G:C6	1:GA:1983:G:C6	3.09	0.40
1:GA:1815:A:C8	1:GA:1817:G:C4	3.09	0.40
1:GA:2070:A:O2'	1:GA:2071:A:H5'	2.22	0.40
1:GA:2100:G:C6	1:GA:2190:G:C6	3.09	0.40
1:GA:2311:A:H1'	6:GF:84:ILE:HD11	2.04	0.40
1:GA:2422:C:H2'	1:GA:2424:C:C6	2.56	0.40
1:GA:2666:C:C5	1:GA:2667:C:C5	3.09	0.40
1:GA:2886:A:N6	27:G0:39:ARG:CD	2.84	0.40
4:GD:48:ILE:HD13	4:GD:89:GLU:OE2	2.20	0.40
11:GK:13:ASN:O	11:GK:14:SER:OG	2.32	0.40
11:GK:42:THR:HG23	11:GK:44:LYS:HE2	2.03	0.40
15:GO:2:ASP:OD1	15:GO:3:LYS:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:GR:38:VAL:O	18:GR:53:PHE:HA	2.21	0.40
19:GS:27:LYS:O	19:GS:71:VAL:HG22	2.20	0.40
20:GT:26:LYS:O	20:GT:27:SER:CB	2.69	0.40
33:HA:520:A:N1	33:HA:536:C:H1'	2.36	0.40
33:HA:959:A:O2'	33:HA:984:C:O2'	2.35	0.40
33:HA:1459:G:C6	33:HA:1460:C:C4	3.09	0.40
35:HC:134:MET:SD	35:HC:153:VAL:CG1	3.09	0.40
38:HF:97:THR:O	38:HF:98:GLU:HG2	2.21	0.40
39:HG:97:ASN:OD1	39:HG:97:ASN:N	2.55	0.40
40:HH:59:LEU:HD21	40:HH:61:LEU:CD2	2.52	0.40
40:HH:64:LYS:HB3	40:HH:71:VAL:HG21	2.02	0.40
41:HI:84:THR:HG21	41:HI:103:PHE:HB3	2.03	0.40
45:HM:57:ARG:O	45:HM:61:ALA:N	2.54	0.40
46:HN:20:TYR:O	46:HN:24:ARG:N	2.54	0.40
46:HN:28:LYS:HA	46:HN:31:ILE:HB	2.03	0.40
48:HP:78:VAL:O	48:HP:78:VAL:HG12	2.21	0.40
52:HT:85:LYS:C	52:HT:87:ALA:H	2.25	0.40
53:HU:29:LEU:C	53:HU:29:LEU:HD23	2.41	0.40
1:AA:372:G:O4'	24:AX:60:LYS:HE3	2.22	0.40
1:AA:787:C:P	59:AA:3745:HOH:O	2.80	0.40
1:AA:1066:U:H2'	1:AA:1068:G:N7	2.36	0.40
1:AA:1517:G:N2	1:AA:1732:C:C2	2.90	0.40
1:AA:1529:G:H2'	1:AA:1530:G:O4'	2.22	0.40
1:AA:1992:G:C2	1:AA:1997:C:N3	2.89	0.40
1:AA:2015:A:C2	27:A0:2:VAL:CG2	3.04	0.40
1:AA:2053:G:N2	1:AA:2616:C:O2	2.55	0.40
1:AA:2204:G:H4'	3:AC:149:LYS:HG3	2.04	0.40
1:AA:2220:U:H2'	1:AA:2221:G:H8	1.86	0.40
1:AA:2304:G:O2'	6:AF:152:ASP:HB3	2.20	0.40
1:AA:2607:G:H2'	1:AA:2608:G:O4'	2.21	0.40
1:AA:2637:U:C2'	1:AA:2638:G:H5'	2.52	0.40
1:AA:2730:C:O3'	4:AD:174:SER:HB3	2.20	0.40
4:AD:118:PHE:HZ	14:AN:1:MET:CB	2.34	0.40
9:AI:89:SER:OG	9:AI:135:MET:CE	2.69	0.40
9:AI:102:ARG:N	9:AI:139:VAL:CG2	2.85	0.40
10:AJ:98:GLU:HB3	10:AJ:124:VAL:HG23	2.04	0.40
13:AM:43:ALA:O	13:AM:46:ILE:HD13	2.21	0.40
13:AM:77:PRO:HD2	13:AM:80:VAL:HG11	2.04	0.40
20:AT:18:GLU:O	20:AT:21:SER:N	2.55	0.40
20:AT:43:ILE:HD13	20:AT:44:LYS:N	2.36	0.40
23:AW:10:ARG:O	23:AW:11:ASN:HB2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:79:G:O2'	33:BA:80:A:O4'	2.40	0.40
33:BA:138:G:C6	33:BA:226:G:C6	3.10	0.40
33:BA:322:C:OP2	33:BA:328:C:N4	2.55	0.40
33:BA:400:C:C2'	33:BA:401:C:H5'	2.52	0.40
33:BA:501:C:H1'	33:BA:549:C:H1'	2.03	0.40
33:BA:688:G:C5	33:BA:700:G:C2	3.09	0.40
33:BA:792:A:H4'	33:BA:793:U:O5'	2.21	0.40
33:BA:1492:A:C2'	33:BA:1493:A:H5''	2.51	0.40
34:BB:40:ILE:HG13	34:BB:41:ASN:N	2.36	0.40
36:BD:32:CYS:SG	36:BD:34:ILE:N	2.95	0.40
38:BF:99:ALA:O	38:BF:100:SER:HB2	2.22	0.40
48:BP:63:GLN:OE1	48:BP:63:GLN:N	2.54	0.40
51:BS:12:ASP:OD2	51:BS:37:ARG:HD2	2.22	0.40
1:CA:553:G:H2'	1:CA:554:U:O4'	2.22	0.40
1:CA:571:U:C4	1:CA:2030:A:C6	3.09	0.40
1:CA:659:G:H4'	5:CE:95:LYS:HD3	2.04	0.40
1:CA:754:U:O2'	1:CA:1272:A:N1	2.50	0.40
1:CA:812:C:OP1	17:CQ:12:ARG:NH2	2.54	0.40
1:CA:874:G:C4	1:CA:875:G:C8	3.09	0.40
1:CA:1002:G:C6	1:CA:1003:G:C5	3.09	0.40
1:CA:1522:A:H4'	1:CA:1524:G:C8	2.56	0.40
1:CA:1936:A:C2	1:CA:1945:G:C4	3.10	0.40
1:CA:2147:A:H3'	1:CA:2148:G:O4'	2.21	0.40
1:CA:2345:G:C5	1:CA:2381:A:C2	3.08	0.40
1:CA:2355:G:C6	1:CA:2356:U:C4	3.09	0.40
1:CA:2585:U:HO2'	1:CA:2586:U:P	2.44	0.40
3:CC:15:VAL:HA	3:CC:203:VAL:CG1	2.52	0.40
3:CC:166:ARG:HB3	3:CC:171:VAL:HG22	2.02	0.40
4:CD:91:THR:O	4:CD:93:GLY:N	2.48	0.40
7:CG:67:ALA:O	7:CG:71:LEU:HD23	2.21	0.40
11:CK:3:GLN:CG	11:CK:4:GLU:N	2.85	0.40
12:CL:61:LEU:O	30:C3:12:ARG:HD3	2.22	0.40
18:CR:5:PHE:HE1	18:CR:14:VAL:HG21	1.85	0.40
18:CR:10:LYS:NZ	18:CR:23:GLU:OE1	2.55	0.40
18:CR:64:VAL:N	18:CR:95:ASP:O	2.54	0.40
20:CT:69:ARG:CG	20:CT:70:HIS:N	2.85	0.40
33:DA:701:U:H4'	33:DA:702:A:O5'	2.21	0.40
33:DA:1410:A:H2'	33:DA:1411:C:C6	2.57	0.40
33:DA:1438:G:OP1	52:DT:29:ARG:HD3	2.22	0.40
33:DA:1476:A:H2'	33:DA:1477:U:O4'	2.21	0.40
33:DA:1486:G:H2'	33:DA:1487:G:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DC:130:PHE:CD2	35:DC:131:ARG:N	2.90	0.40
40:DH:105:SER:HB2	40:DH:126:ILE:HD11	2.03	0.40
41:DI:7:TYR:CD1	41:DI:20:PHE:CE1	3.09	0.40
43:DK:79:ILE:HB	43:DK:105:PHE:HE1	1.85	0.40
45:DM:54:ASP:HA	45:DM:57:ARG:CB	2.52	0.40
49:DQ:12:VAL:O	49:DQ:13:VAL:CB	2.69	0.40
49:DQ:65:ARG:HG3	49:DQ:66:PRO:HD2	2.03	0.40
53:DU:29:LEU:HD23	53:DU:29:LEU:C	2.42	0.40
53:DU:40:LYS:H	53:DU:41:PRO:CD	2.35	0.40
1:EA:107:G:C2	1:EA:108:G:C8	3.10	0.40
1:EA:303:G:N2	1:EA:315:G:C4	2.90	0.40
1:EA:635:C:O2'	1:EA:639:U:H5''	2.21	0.40
1:EA:1198:U:H4'	17:EQ:4:LYS:HZ2	1.86	0.40
1:EA:1652:A:C2	1:EA:2006:C:N3	2.89	0.40
1:EA:2442:C:H2'	1:EA:2443:C:H6	1.86	0.40
1:EA:2676:C:O2	1:EA:2732:G:N2	2.54	0.40
1:EA:2787:C:H1'	4:ED:63:PRO:HG3	2.03	0.40
4:ED:119:ALA:HB3	4:ED:124:ARG:HB2	2.03	0.40
6:EF:124:ARG:HA	6:EF:160:LYS:O	2.21	0.40
8:EH:2:GLN:C	8:EH:3:VAL:HG13	2.41	0.40
12:EL:2:ARG:HA	12:EL:5:THR:CG2	2.51	0.40
17:EQ:40:LYS:HB2	17:EQ:40:LYS:NZ	2.36	0.40
23:EW:52:CYS:SG	23:EW:56:HIS:HA	2.61	0.40
33:FA:730:G:C5	33:FA:731:G:H1'	2.57	0.40
33:FA:1239:A:H62	33:FA:1299:A:N6	2.19	0.40
33:FA:1494:G:N7	55:FW:1:KBE:CA	2.84	0.40
36:FD:20:PHE:CD1	36:FD:20:PHE:N	2.89	0.40
40:FH:44:GLY:O	40:FH:64:LYS:NZ	2.48	0.40
43:FK:26:SER:OG	43:FK:29:ASN:N	2.50	0.40
54:FV:33:TYR:CE1	54:FV:199:GLY:HA3	2.55	0.40
54:FV:442:ASP:OD1	54:FV:445:PHE:N	2.55	0.40
1:GA:782:A:H5'	1:GA:783:A:C2	2.57	0.40
1:GA:831:G:OP1	59:GA:3347:HOH:O	2.22	0.40
1:GA:994:C:OP1	17:GQ:52:ARG:NH1	2.49	0.40
1:GA:1343:G:H1'	1:GA:1597:A:C4	2.57	0.40
1:GA:1626:A:O2'	1:GA:1627:G:P	2.80	0.40
1:GA:2016:U:H2'	1:GA:2017:U:C6	2.57	0.40
1:GA:2144:G:N2	1:GA:2147:A:C2	2.89	0.40
1:GA:2358:A:C5	1:GA:2359:C:C5	3.10	0.40
1:GA:2591:C:P	3:GC:237:ARG:HG3	2.62	0.40
4:GD:5:VAL:HG21	4:GD:80:TRP:HB2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:GD:172:VAL:CG2	4:GD:194:PRO:HD3	2.51	0.40
7:GG:30:GLY:HA3	7:GG:78:VAL:HA	2.03	0.40
7:GG:104:LEU:HD12	7:GG:112:VAL:HG21	2.02	0.40
14:GN:33:ILE:HD11	14:GN:112:TYR:HD1	1.86	0.40
14:GN:78:LYS:HG2	14:GN:83:LEU:CD1	2.52	0.40
16:GP:28:LYS:O	16:GP:80:VAL:O	2.39	0.40
17:GQ:4:LYS:CE	17:GQ:7:VAL:CG1	3.00	0.40
17:GQ:40:LYS:O	17:GQ:43:GLN:N	2.55	0.40
20:GT:73:ARG:HB3	20:GT:73:ARG:NH2	2.36	0.40
23:GW:60:ALA:HA	23:GW:81:ILE:HD11	2.03	0.40
29:G2:29:GLN:HA	29:G2:32:ALA:HB3	2.03	0.40
33:HA:188:C:H2'	33:HA:189:A:O4'	2.21	0.40
33:HA:476:U:O2'	33:HA:477:C:H5'	2.22	0.40
33:HA:781:A:C4	33:HA:802:A:C2	3.09	0.40
33:HA:1033:G:C2'	33:HA:1034:G:H5'	2.49	0.40
33:HA:1051:C:H5''	54:HV:543:GLY:HA3	2.02	0.40
33:HA:1188:A:H2'	33:HA:1189:U:O4'	2.21	0.40
33:HA:1508:A:H2'	33:HA:1509:C:O4'	2.22	0.40
34:HB:32:GLY:CA	34:HB:39:ILE:H	2.31	0.40
35:HC:47:LEU:CD1	35:HC:68:ILE:HD13	2.51	0.40
36:HD:147:GLU:O	36:HD:148:LYS:C	2.59	0.40
43:HK:107:ILE:HG12	53:HU:12:PHE:HZ	1.87	0.40
45:HM:34:LEU:CD1	45:HM:41:GLU:HA	2.51	0.40
50:HR:55:LEU:O	50:HR:59:ILE:N	2.32	0.40
52:HT:20:HIS:CE1	52:HT:24:ARG:HD3	2.57	0.40
54:HV:212:VAL:O	54:HV:216:ASN:N	2.50	0.40
54:HV:407:GLU:O	54:HV:408:ARG:HB3	2.22	0.40
54:HV:421:GLU:O	54:HV:481:ALA:HB1	2.21	0.40
54:HV:578:LEU:HD13	54:HV:579:HIS:H	1.86	0.40
1:AA:29:U:H2'	1:AA:30:G:C8	2.57	0.40
1:AA:624:C:H1'	1:AA:657:U:H5''	2.03	0.40
1:AA:807:U:OP2	12:AL:36:LYS:HD3	2.21	0.40
1:AA:1088:A:H61	9:AI:130:GLY:HA3	1.85	0.40
1:AA:1248:G:C6	17:AQ:2:ARG:HD2	2.57	0.40
1:AA:1410:G:H2'	1:AA:1411:U:C6	2.55	0.40
1:AA:1736:U:H2'	1:AA:1737:G:O4'	2.22	0.40
1:AA:2233:U:H2'	1:AA:2234:G:C8	2.57	0.40
1:AA:2285:C:H5'	1:AA:2288:A:N6	2.37	0.40
1:AA:2427:C:H5''	1:AA:2428:G:OP1	2.21	0.40
3:AC:122:ALA:O	3:AC:127:ASN:ND2	2.52	0.40
3:AC:173:LEU:HD11	3:AC:183:VAL:HB	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:93:TYR:HA	7:AG:105:SER:O	2.22	0.40
9:AI:57:VAL:CG1	9:AI:58:ILE:N	2.84	0.40
11:AK:65:THR:HG1	11:AK:68:GLY:H	1.70	0.40
12:AL:90:VAL:HB	12:AL:122:VAL:HG12	2.03	0.40
23:AW:28:GLU:OE2	23:AW:29:SER:OG	2.37	0.40
27:A0:43:THR:HG23	27:A0:47:TYR:O	2.22	0.40
32:A5:100:ALA:HB3	32:A5:125:ARG:HD2	2.03	0.40
33:BA:337:G:H2'	33:BA:338:A:C8	2.56	0.40
33:BA:706:A:C6	33:BA:707:U:C2	3.09	0.40
33:BA:739:C:O2	47:BO:42:HIS:HE1	2.05	0.40
33:BA:827:U:C4	33:BA:870:U:C2	3.10	0.40
33:BA:973:G:C2'	33:BA:974:A:OP1	2.70	0.40
33:BA:1268:G:C6	33:BA:1269:A:N6	2.89	0.40
33:BA:1314:C:H2'	33:BA:1315:U:C6	2.56	0.40
34:BB:58:LYS:NZ	34:BB:62:ARG:HG3	2.37	0.40
36:BD:58:LYS:HB2	36:BD:200:ILE:HG13	2.04	0.40
38:BF:7:VAL:HG11	50:BR:23:TYR:OH	2.22	0.40
38:BF:44:ARG:HA	38:BF:58:HIS:HA	2.03	0.40
39:BG:65:ALA:HB2	39:BG:128:ALA:HB2	2.03	0.40
41:BI:97:GLU:HA	41:BI:100:LYS:HG3	2.03	0.40
47:BO:53:ARG:O	47:BO:57:LEU:HG	2.21	0.40
54:BV:227:ALA:HB1	54:BV:234:MET:CB	2.52	0.40
54:BV:304:ASP:O	54:BV:305:THR:HG22	2.20	0.40
54:BV:342:VAL:CG1	54:BV:378:ARG:HD3	2.52	0.40
1:CA:413:C:H2'	1:CA:414:C:C6	2.56	0.40
1:CA:574:A:H4'	1:CA:575:A:O5'	2.21	0.40
1:CA:783:A:H8	1:CA:784:G:H4'	1.86	0.40
1:CA:922:C:HO2'	23:CW:25:PHE:HE1	1.66	0.40
1:CA:1268:A:C2	1:CA:2013:A:C4	3.08	0.40
1:CA:1421:G:C2	1:CA:1422:G:C8	3.10	0.40
1:CA:1675:C:H2'	1:CA:1676:A:O4'	2.22	0.40
1:CA:1684:G:H2'	1:CA:1685:C:C6	2.57	0.40
1:CA:2020:A:H5'	27:C0:8:THR:HG22	2.03	0.40
1:CA:2704:C:C4	1:CA:2705:A:C5	3.10	0.40
1:CA:2831:G:O4'	1:CA:2883:A:C2	2.74	0.40
3:CC:128:THR:C	3:CC:129:LEU:HD12	2.42	0.40
4:CD:107:VAL:H	4:CD:206:ALA:H	1.69	0.40
5:CE:145:ASP:HA	5:CE:166:LYS:HB3	2.02	0.40
5:CE:150:THR:HG21	5:CE:153:LEU:HA	2.03	0.40
6:CF:9:ASP:O	6:CF:10:GLU:CB	2.70	0.40
7:CG:35:THR:C	7:CG:36:LEU:HD22	2.42	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:CG:83:THR:O	7:CG:84:LYS:HB3	2.21	0.40
10:CJ:44:TYR:HA	17:CQ:59:LEU:HD21	2.02	0.40
12:CL:82:LEU:HD21	12:CL:116:VAL:CG2	2.51	0.40
12:CL:101:ILE:HG22	12:CL:102:GLY:N	2.37	0.40
15:CO:31:THR:HG22	15:CO:33:ARG:H	1.87	0.40
16:CP:4:ILE:HG22	16:CP:8:GLU:HG3	2.02	0.40
23:CW:73:PRO:HG2	23:CW:76:ARG:CB	2.52	0.40
33:DA:187:G:O2'	33:DA:189:A:N7	2.42	0.40
33:DA:197:A:N1	33:DA:220:G:O2'	2.47	0.40
33:DA:449:G:H2'	33:DA:450:G:C8	2.56	0.40
33:DA:502:A:H2'	33:DA:503:C:C6	2.56	0.40
33:DA:992:U:H4'	33:DA:993:G:C5'	2.52	0.40
33:DA:1039:G:H2'	33:DA:1040:U:H6	1.86	0.40
33:DA:1102:A:H2'	33:DA:1103:C:C6	2.56	0.40
33:DA:1198:G:C6	33:DA:1199:U:C4	3.09	0.40
33:DA:1356:G:H2'	33:DA:1357:A:C8	2.56	0.40
33:DA:1507:A:H2'	33:DA:1508:A:C8	2.56	0.40
38:DF:85:ILE:O	38:DF:86:ARG:C	2.60	0.40
40:DH:7:ILE:HG23	40:DH:36:ILE:HD11	2.04	0.40
41:DI:33:ARG:HD2	41:DI:38:TYR:CD1	2.56	0.40
44:DL:40:THR:OG1	44:DL:41:THR:N	2.54	0.40
47:DO:63:ARG:HG2	47:DO:67:LEU:CD1	2.52	0.40
48:DP:6:LEU:HB3	48:DP:17:TYR:HB3	2.02	0.40
54:DV:15:ILE:HG22	54:DV:23:LYS:HG3	2.03	0.40
54:DV:92:HIS:HB3	54:DV:93:VAL:H	1.64	0.40
54:DV:93:VAL:HG22	54:DV:94:ASP:H	1.87	0.40
1:EA:31:C:O2'	1:EA:1238:G:H5'	2.21	0.40
1:EA:186:G:O2'	1:EA:187:G:H5'	2.22	0.40
1:EA:327:G:H2'	1:EA:328:U:C6	2.55	0.40
1:EA:634:C:H6	1:EA:634:C:O5'	2.04	0.40
1:EA:683:U:C2'	1:EA:684:G:O5'	2.69	0.40
1:EA:1082:U:N3	1:EA:1083:U:C2	2.90	0.40
1:EA:1262:A:OP2	19:ES:99:ARG:NH2	2.54	0.40
1:EA:2289:G:C2	1:EA:2290:G:C8	3.09	0.40
1:EA:2352:A:C6	1:EA:2366:A:C4	3.09	0.40
1:EA:2402:U:O2'	1:EA:2403:C:O5'	2.37	0.40
3:EC:70:LYS:HD2	3:EC:73:ILE:HD12	2.03	0.40
4:ED:68:PHE:CE2	4:ED:75:ALA:HB1	2.57	0.40
4:ED:139:SER:HB2	4:ED:142:VAL:HG21	2.03	0.40
9:EI:27:LEU:CD1	9:EI:34:ILE:CD1	2.98	0.40
14:EN:84:GLY:N	14:EN:85:PRO:HD2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:EP:50:ARG:O	16:EP:51:ASN:HB2	2.22	0.40
24:EX:32:LEU:O	24:EX:33:HIS:CG	2.74	0.40
24:EX:52:ALA:O	24:EX:53:LYS:HB3	2.22	0.40
33:FA:475:C:H2'	33:FA:476:U:H6	1.85	0.40
33:FA:548:G:H2'	33:FA:549:C:C6	2.57	0.40
33:FA:1138:G:H2'	33:FA:1140:C:C6	2.57	0.40
33:FA:1336:C:H4'	33:FA:1337:G:H5'	2.03	0.40
35:FC:172:ARG:NH1	35:FC:203:PHE:HE2	2.19	0.40
43:FK:118:HIS:O	43:FK:119:ASN:HB2	2.21	0.40
45:FM:90:ARG:NH2	45:FM:95:LEU:HB3	2.37	0.40
52:FT:68:HIS:HB3	52:FT:69:LYS:HZ2	1.87	0.40
54:FV:523:TYR:CZ	54:FV:575:GLY:HA3	2.56	0.40
54:FV:550:ILE:N	54:FV:551:PRO:CD	2.84	0.40
1:GA:483:A:C8	21:GU:44:HIS:HD2	2.39	0.40
1:GA:1394:U:C5	1:GA:1395:A:C5	3.09	0.40
1:GA:1471:G:C6	1:GA:1472:C:C4	3.10	0.40
1:GA:1482:G:O6	1:GA:1508:A:N1	2.55	0.40
1:GA:1872:A:C8	1:GA:1873:G:C1'	3.04	0.40
1:GA:2043:C:H1'	1:GA:2779:U:O4	2.22	0.40
1:GA:2364:C:H2'	1:GA:2365:G:O4'	2.21	0.40
1:GA:2511:U:O4	1:GA:2575:C:N3	2.55	0.40
1:GA:2585:U:O2'	1:GA:2586:U:P	2.80	0.40
1:GA:2788:C:H2'	1:GA:2789:C:C6	2.57	0.40
3:GC:57:HIS:CD2	3:GC:58:LYS:H	2.40	0.40
3:GC:93:VAL:CG2	3:GC:115:ILE:HD12	2.52	0.40
3:GC:181:ARG:NH2	3:GC:182:LYS:O	2.55	0.40
6:GF:3:LEU:HD13	6:GF:6:TYR:CB	2.52	0.40
6:GF:73:VAL:HG22	6:GF:78:ILE:HD11	2.04	0.40
6:GF:107:VAL:HG13	6:GF:113:PHE:CZ	2.56	0.40
6:GF:109:ARG:HG2	6:GF:109:ARG:O	2.22	0.40
7:GG:73:SER:HA	7:GG:76:ILE:HG22	2.04	0.40
7:GG:120:ILE:CD1	7:GG:139:VAL:HG12	2.51	0.40
9:GI:12:VAL:HG23	9:GI:13:ALA:N	2.36	0.40
9:GI:101:SER:HA	9:GI:140:GLU:CG	2.51	0.40
12:GL:30:THR:O	12:GL:33:ARG:HG2	2.21	0.40
13:GM:34:LYS:HE2	22:GV:81:PRO:O	2.21	0.40
18:GR:41:ILE:HG22	18:GR:42:ALA:N	2.36	0.40
23:GW:39:GLN:HG2	23:GW:41:GLY:H	1.86	0.40
23:GW:75:ASN:O	23:GW:76:ARG:CB	2.69	0.40
25:GY:45:GLN:O	25:GY:47:ARG:N	2.55	0.40
33:HA:654:G:C2	33:HA:753:A:C4	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:1193:G:OP1	35:HC:167:TRP:CH2	2.74	0.40
33:HA:1252:A:H61	33:HA:1285:A:N6	2.20	0.40
36:HD:59:GLN:O	36:HD:63:ARG:HG3	2.21	0.40
50:HR:34:THR:HG22	50:HR:38:LYS:O	2.22	0.40
1:AA:288:U:H2'	1:AA:289:G:H8	1.87	0.40
1:AA:491:G:C5	1:AA:492:A:C8	3.10	0.40
1:AA:532:A:N1	1:AA:2020:A:H1'	2.36	0.40
1:AA:685:A:O2'	1:AA:773:U:O4	2.36	0.40
1:AA:762:U:N3	1:AA:1431:A:OP1	2.48	0.40
1:AA:892:A:C2	1:AA:893:C:C2	3.10	0.40
1:AA:945:A:C2	1:AA:2448:A:C4	3.10	0.40
1:AA:1150:C:H2'	1:AA:1151:A:O5'	2.22	0.40
1:AA:1168:G:H3'	1:AA:1169:A:H8	1.87	0.40
1:AA:1906:G:H5'	1:AA:1929:G:O2'	2.22	0.40
1:AA:2153:C:H5''	1:AA:2154:A:P	2.62	0.40
1:AA:2294:G:H2'	1:AA:2295:C:H6	1.86	0.40
1:AA:2357:G:C2	1:AA:2361:G:C5	3.09	0.40
1:AA:2793:C:H2'	1:AA:2794:C:H6	1.83	0.40
4:AD:45:TYR:CD1	4:AD:45:TYR:N	2.89	0.40
5:AE:145:ASP:HA	5:AE:166:LYS:O	2.21	0.40
6:AF:87:LYS:O	6:AF:88:VAL:HG23	2.21	0.40
11:AK:8:LEU:CD1	11:AK:82:ASN:HB3	2.51	0.40
11:AK:71:ARG:HD3	11:AK:71:ARG:HA	1.94	0.40
16:AP:28:LYS:O	16:AP:80:VAL:O	2.39	0.40
18:AR:41:ILE:O	18:AR:46:GLU:HB2	2.20	0.40
19:AS:24:ILE:HD11	19:AS:36:LEU:HD13	2.02	0.40
21:AU:5:ARG:HH11	21:AU:93:ARG:CG	2.34	0.40
28:A1:38:PHE:CE1	28:A1:40:PRO:HA	2.57	0.40
29:A2:12:ARG:HH11	29:A2:44:VAL:HG11	1.87	0.40
32:A5:3:LEU:CD1	32:A5:5:LEU:HG	2.51	0.40
32:A5:58:THR:OG1	32:A5:82:ILE:HB	2.22	0.40
32:A5:78:GLY:N	32:A5:79:PRO:HD2	2.37	0.40
33:BA:135:C:H2'	33:BA:136:C:H5'	2.04	0.40
33:BA:188:C:H2'	33:BA:189:A:O4'	2.22	0.40
33:BA:369:G:C4	33:BA:393:A:C2	3.10	0.40
33:BA:393:A:OP2	48:BP:12:LYS:HD2	2.22	0.40
33:BA:710:G:H5''	38:BF:53:LYS:NZ	2.36	0.40
33:BA:763:G:N2	33:BA:764:C:C2	2.89	0.40
33:BA:925:G:C6	33:BA:927:G:N7	2.90	0.40
33:BA:959:A:H5''	33:BA:960:U:OP2	2.21	0.40
33:BA:1239:A:H62	33:BA:1299:A:H62	1.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BA:1248:A:H2'	33:BA:1249:C:C6	2.57	0.40
33:BA:1313:U:H2'	33:BA:1314:C:C6	2.57	0.40
33:BA:1527:U:H2'	33:BA:1528:U:C6	2.57	0.40
35:BC:16:LYS:HG3	35:BC:17:PRO:HD2	2.02	0.40
35:BC:112:ASP:O	35:BC:116:VAL:HG23	2.22	0.40
37:BE:159:LYS:HZ2	40:BH:66:PHE:HD2	1.70	0.40
41:BI:23:PRO:HA	41:BI:61:LEU:HA	2.03	0.40
42:BJ:71:LEU:O	42:BJ:72:ARG:NH1	2.51	0.40
44:BL:3:THR:HB	44:BL:6:GLN:CG	2.52	0.40
44:BL:14:ARG:HH12	44:BL:15:LYS:HG2	1.87	0.40
52:BT:39:ILE:HD12	52:BT:82:GLN:HB3	2.03	0.40
53:BU:4:ILE:HD13	53:BU:20:LYS:HD3	2.04	0.40
1:CA:1152:C:H3'	59:CA:3354:HOH:O	2.21	0.40
1:CA:1341:G:C6	20:CT:84:TYR:CE1	3.10	0.40
1:CA:1549:A:C6	1:CA:1550:C:C4	3.09	0.40
1:CA:1668:A:H4'	1:CA:1669:A:O5'	2.22	0.40
1:CA:1815:A:C5	1:CA:1817:G:C6	3.09	0.40
1:CA:2675:A:N1	1:CA:2676:C:C2	2.89	0.40
1:CA:2884:U:H3	27:C0:39:ARG:CZ	2.35	0.40
4:CD:14:ILE:HG12	4:CD:22:ILE:HB	2.03	0.40
5:CE:152:GLU:O	5:CE:153:LEU:HB3	2.22	0.40
6:CF:2:LYS:HG3	6:CF:3:LEU:HD22	2.02	0.40
6:CF:71:LYS:HE2	6:CF:71:LYS:HA	2.03	0.40
7:CG:85:LYS:HG2	7:CG:131:VAL:CB	2.51	0.40
9:CI:75:ALA:HB2	9:CI:112:LYS:HE2	2.02	0.40
11:CK:19:VAL:HG13	11:CK:41:ILE:HG23	2.04	0.40
13:CM:2:LEU:HD11	13:CM:68:PHE:CE2	2.57	0.40
14:CN:79:LEU:O	14:CN:80:PHE:HB2	2.21	0.40
15:CO:11:ALA:HB2	15:CO:96:GLY:CA	2.52	0.40
16:CP:49:ILE:HG22	16:CP:50:ARG:N	2.36	0.40
16:CP:57:ALA:O	16:CP:58:PHE:HB3	2.21	0.40
16:CP:91:VAL:O	16:CP:92:ARG:HG2	2.21	0.40
17:CQ:35:PHE:CE2	17:CQ:39:ILE:HD11	2.56	0.40
19:CS:76:VAL:HG23	19:CS:101:SER:HB2	2.04	0.40
20:CT:54:GLU:HB2	20:CT:88:LYS:CG	2.50	0.40
23:CW:18:LYS:N	23:CW:36:ILE:HB	2.36	0.40
23:CW:39:GLN:HG2	23:CW:41:GLY:H	1.85	0.40
23:CW:51:GLY:HA3	23:CW:59:PHE:CZ	2.56	0.40
23:CW:51:GLY:CA	23:CW:59:PHE:CZ	3.05	0.40
28:C1:16:THR:HG21	28:C1:41:VAL:HG23	2.03	0.40
33:DA:144:G:H2'	33:DA:145:G:O4'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DA:234:C:H2'	33:DA:235:C:H6	1.87	0.40
33:DA:383:A:C5	33:DA:384:G:H1'	2.57	0.40
33:DA:553:A:O2'	44:DL:26:ALA:O	2.39	0.40
33:DA:1038:C:H2'	33:DA:1039:G:C8	2.56	0.40
33:DA:1101:A:H61	34:DB:101:THR:HG21	1.86	0.40
33:DA:1505:G:H4'	33:DA:1506:U:H5''	2.03	0.40
37:DE:81:LEU:CD2	37:DE:123:VAL:HG12	2.52	0.40
37:DE:109:GLY:O	37:DE:110:ALA:HB3	2.22	0.40
38:DF:21:MET:HB3	38:DF:25:TYR:CE2	2.57	0.40
42:DJ:57:VAL:O	42:DJ:58:ASN:HB2	2.22	0.40
45:DM:34:LEU:HD23	45:DM:56:LEU:HD22	2.03	0.40
45:DM:79:ARG:HH11	51:DS:65:GLU:HG2	1.86	0.40
45:DM:86:TYR:CZ	45:DM:90:ARG:HD3	2.56	0.40
47:DO:30:ALA:HA	47:DO:85:LEU:HD21	2.03	0.40
54:DV:319:ALA:HB2	54:DV:338:VAL:HA	2.03	0.40
54:DV:532:LYS:C	54:DV:534:TYR:N	2.75	0.40
54:DV:545:ILE:HD11	54:DV:581:GLY:HA3	2.03	0.40
1:EA:65:U:H2'	1:EA:66:C:C6	2.56	0.40
1:EA:81:G:HO2'	1:EA:295:G:HO2'	1.67	0.40
1:EA:329:G:O4'	1:EA:477:A:H1'	2.21	0.40
1:EA:716:A:P	47:FO:89:ARG:NH1	2.94	0.40
1:EA:923:G:N3	23:EW:23:LYS:CD	2.85	0.40
1:EA:2352:A:N1	23:EW:30:VAL:HG11	2.36	0.40
1:EA:2391:G:H3'	30:E3:31:ILE:HD11	2.02	0.40
1:EA:2823:A:C5	1:EA:2824:C:C5	3.09	0.40
2:EB:7:G:C5'	15:EO:29:HIS:CE1	3.04	0.40
2:EB:24:G:N2	2:EB:28:C:C2	2.89	0.40
3:EC:30:ALA:N	3:EC:31:PRO:HD2	2.37	0.40
4:ED:55:LYS:HD3	4:ED:60:VAL:HG22	2.04	0.40
4:ED:107:VAL:HG13	4:ED:203:VAL:HG23	2.03	0.40
4:ED:121:THR:O	4:ED:122:VAL:HG23	2.21	0.40
4:ED:151:THR:HG22	4:ED:152:PRO:HD3	2.03	0.40
6:EF:172:PHE:O	6:EF:174:PHE:N	2.54	0.40
7:EG:30:GLY:HA3	7:EG:78:VAL:HG13	2.03	0.40
10:EJ:18:VAL:HG23	10:EJ:54:ILE:HD13	2.02	0.40
11:EK:108:ARG:HD2	11:EK:116:ILE:CD1	2.52	0.40
13:EM:50:ARG:HD3	13:EM:65:ILE:HD11	2.03	0.40
19:ES:73:LYS:HB3	19:ES:106:VAL:HB	2.03	0.40
20:ET:29:THR:HA	20:ET:86:THR:HA	2.03	0.40
23:EW:38:ARG:N	23:EW:38:ARG:HD3	2.37	0.40
33:FA:653:U:H5'	40:FH:56:LYS:HE3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:FA:671:G:N2	33:FA:672:U:H1'	2.37	0.40
33:FA:949:A:O4'	33:FA:1364:U:H5	2.04	0.40
33:FA:1113:C:C1'	35:FC:178:LEU:HD23	2.52	0.40
33:FA:1223:C:P	51:FS:78:ARG:NH1	2.95	0.40
33:FA:1293:C:H2'	33:FA:1294:G:O4'	2.22	0.40
33:FA:1348:U:C5	33:FA:1373:G:N2	2.90	0.40
33:FA:1411:C:O2'	33:FA:1412:C:H5'	2.21	0.40
37:FE:114:VAL:HG22	37:FE:115:LEU:HD13	2.02	0.40
37:FE:132:ASN:O	37:FE:136:VAL:HG23	2.22	0.40
37:FE:154:ALA:O	37:FE:158:GLY:HA3	2.21	0.40
41:FI:6:TYR:CG	41:FI:89:GLU:HB2	2.57	0.40
44:FL:24:LEU:C	44:FL:26:ALA:H	2.23	0.40
50:FR:55:LEU:O	50:FR:58:ALA:N	2.55	0.40
53:FU:12:PHE:CZ	53:FU:16:LEU:HG	2.57	0.40
54:FV:29:ARG:HA	54:FV:29:ARG:CZ	2.51	0.40
54:FV:51:ASP:HB3	54:FV:56:GLU:HG3	2.04	0.40
1:GA:613:A:HO2'	1:GA:614:A:P	2.43	0.40
1:GA:856:G:H2'	1:GA:857:G:C8	2.56	0.40
1:GA:1131:G:N2	1:GA:2024:G:H21	2.19	0.40
1:GA:1533:C:C4	1:GA:1534:U:C5	3.10	0.40
1:GA:2220:U:H2'	1:GA:2221:G:H8	1.86	0.40
1:GA:2287:A:C5	1:GA:2289:G:C8	3.10	0.40
1:GA:2550:G:C6	1:GA:2551:C:C4	3.10	0.40
1:GA:2748:A:H1'	7:GG:66:THR:HG22	2.04	0.40
1:GA:2748:A:H1'	7:GG:66:THR:CG2	2.52	0.40
1:GA:2821:A:H2'	1:GA:2822:G:O4'	2.21	0.40
4:GD:193:VAL:HB	4:GD:194:PRO:HD2	2.03	0.40
6:GF:3:LEU:HG	6:GF:100:GLU:HB2	2.03	0.40
9:GI:21:PRO:HB2	9:GI:22:PRO:HD3	2.04	0.40
10:GJ:45:THR:CG2	10:GJ:50:THR:HG21	2.51	0.40
12:GL:77:ILE:N	12:GL:77:ILE:HD12	2.37	0.40
12:GL:92:LEU:HA	12:GL:125:LEU:HD21	2.03	0.40
15:GO:11:ALA:HB2	15:GO:96:GLY:CA	2.51	0.40
20:GT:89:GLU:O	20:GT:91:GLN:N	2.50	0.40
24:GX:39:VAL:HG13	24:GX:46:VAL:HG12	2.03	0.40
26:GZ:15:ARG:N	26:GZ:15:ARG:HD2	2.36	0.40
26:GZ:40:THR:OG1	26:GZ:41:PRO:HD2	2.22	0.40
33:HA:158:G:H2'	33:HA:159:G:C5'	2.52	0.40
33:HA:661:G:N3	33:HA:745:G:N2	2.70	0.40
33:HA:662:U:H2'	33:HA:663:A:C8	2.56	0.40
33:HA:1034:G:N2	33:HA:1035:A:C6	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:HA:1392:G:C5	33:HA:1393:U:C5	3.10	0.40
35:HC:191:THR:HG21	35:HC:196:ILE:HD12	2.03	0.40
36:HD:105:MET:HB3	36:HD:107:PHE:HE1	1.85	0.40
39:HG:18:PHE:CE1	39:HG:58:GLU:HG2	2.56	0.40
42:HJ:40:ILE:HB	42:HJ:73:LEU:HB3	2.03	0.40
51:HS:36:ARG:C	51:HS:38:SER:H	2.25	0.40
52:HT:4:ILE:O	52:HT:4:ILE:HG22	2.21	0.40
54:HV:24:THR:OG1	54:HV:88:ASP:OD2	2.39	0.40
54:HV:30:ILE:O	54:HV:34:THR:HG22	2.21	0.40

All (4) 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)
33:FA:1029:U:O3'	1:GA:1508:A:N6[1_565]	2.13	0.07
33:FA:1029:U:OP2	1:GA:1509:A:N6[1_565]	2.16	0.04
33:FA:1029:U:O2'	1:GA:1508:A:N6[1_565]	2.16	0.04
6:GF:20:ASN:ND2	21:GU:52:ASN:OD1[2_556]	2.18	0.02

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	
3	AC	269/273 (98%)	220 (82%)	34 (13%)	15 (6%)	1	4
3	CC	269/273 (98%)	218 (81%)	35 (13%)	16 (6%)	1	4
3	EC	269/273 (98%)	219 (81%)	36 (13%)	14 (5%)	1	5
3	GC	269/273 (98%)	225 (84%)	30 (11%)	14 (5%)	1	5
4	AD	207/209 (99%)	161 (78%)	33 (16%)	13 (6%)	1	3
4	CD	207/209 (99%)	160 (77%)	33 (16%)	14 (7%)	1	3
4	ED	207/209 (99%)	155 (75%)	34 (16%)	18 (9%)	0	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	GD	207/209 (99%)	158 (76%)	34 (16%)	15 (7%)	1	2
5	AE	199/201 (99%)	163 (82%)	24 (12%)	12 (6%)	1	4
5	CE	199/201 (99%)	161 (81%)	26 (13%)	12 (6%)	1	4
5	EE	199/201 (99%)	162 (81%)	25 (13%)	12 (6%)	1	4
5	GE	199/201 (99%)	162 (81%)	25 (13%)	12 (6%)	1	4
6	AF	175/179 (98%)	128 (73%)	41 (23%)	6 (3%)	3	13
6	CF	175/179 (98%)	132 (75%)	37 (21%)	6 (3%)	3	13
6	EF	175/179 (98%)	139 (79%)	29 (17%)	7 (4%)	2	10
6	GF	175/179 (98%)	132 (75%)	40 (23%)	3 (2%)	7	27
7	AG	174/177 (98%)	124 (71%)	33 (19%)	17 (10%)	0	1
7	CG	174/177 (98%)	123 (71%)	37 (21%)	14 (8%)	1	2
7	EG	174/177 (98%)	120 (69%)	43 (25%)	11 (6%)	1	3
7	GG	174/177 (98%)	118 (68%)	41 (24%)	15 (9%)	0	1
8	AH	48/50 (96%)	24 (50%)	19 (40%)	5 (10%)	0	1
8	CH	48/50 (96%)	23 (48%)	19 (40%)	6 (12%)	0	0
8	EH	48/50 (96%)	24 (50%)	19 (40%)	5 (10%)	0	1
8	GH	48/50 (96%)	24 (50%)	21 (44%)	3 (6%)	1	3
9	AI	139/142 (98%)	87 (63%)	45 (32%)	7 (5%)	1	6
9	CI	139/142 (98%)	92 (66%)	37 (27%)	10 (7%)	1	2
9	EI	139/142 (98%)	90 (65%)	42 (30%)	7 (5%)	1	6
9	GI	139/142 (98%)	89 (64%)	38 (27%)	12 (9%)	0	1
10	AJ	140/142 (99%)	114 (81%)	18 (13%)	8 (6%)	1	4
10	CJ	140/142 (99%)	113 (81%)	19 (14%)	8 (6%)	1	4
10	EJ	140/142 (99%)	113 (81%)	19 (14%)	8 (6%)	1	4
10	GJ	140/142 (99%)	114 (81%)	17 (12%)	9 (6%)	1	3
11	AK	120/123 (98%)	93 (78%)	17 (14%)	10 (8%)	0	2
11	CK	120/123 (98%)	91 (76%)	21 (18%)	8 (7%)	1	3
11	EK	120/123 (98%)	92 (77%)	17 (14%)	11 (9%)	0	1
11	GK	120/123 (98%)	92 (77%)	19 (16%)	9 (8%)	1	2
12	AL	141/144 (98%)	107 (76%)	26 (18%)	8 (6%)	1	4
12	CL	141/144 (98%)	107 (76%)	27 (19%)	7 (5%)	1	6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	EL	141/144 (98%)	108 (77%)	26 (18%)	7 (5%)	1	6
12	GL	141/144 (98%)	109 (77%)	25 (18%)	7 (5%)	1	6
13	AM	134/136 (98%)	105 (78%)	22 (16%)	7 (5%)	1	5
13	CM	134/136 (98%)	111 (83%)	16 (12%)	7 (5%)	1	5
13	EM	134/136 (98%)	110 (82%)	18 (13%)	6 (4%)	2	8
13	GM	134/136 (98%)	112 (84%)	16 (12%)	6 (4%)	2	8
14	AN	118/127 (93%)	101 (86%)	15 (13%)	2 (2%)	7	27
14	CN	118/127 (93%)	98 (83%)	17 (14%)	3 (2%)	4	18
14	EN	118/127 (93%)	101 (86%)	14 (12%)	3 (2%)	4	18
14	GN	118/127 (93%)	98 (83%)	19 (16%)	1 (1%)	16	45
15	AO	114/117 (97%)	99 (87%)	14 (12%)	1 (1%)	14	43
15	CO	114/117 (97%)	96 (84%)	17 (15%)	1 (1%)	14	43
15	EO	114/117 (97%)	96 (84%)	18 (16%)	0	100	100
15	GO	114/117 (97%)	97 (85%)	13 (11%)	4 (4%)	3	12
16	AP	112/115 (97%)	83 (74%)	22 (20%)	7 (6%)	1	3
16	CP	112/115 (97%)	81 (72%)	22 (20%)	9 (8%)	1	2
16	EP	112/115 (97%)	83 (74%)	22 (20%)	7 (6%)	1	3
16	GP	112/115 (97%)	79 (70%)	21 (19%)	12 (11%)	0	1
17	AQ	115/118 (98%)	101 (88%)	9 (8%)	5 (4%)	2	8
17	CQ	115/118 (98%)	102 (89%)	9 (8%)	4 (4%)	3	12
17	EQ	115/118 (98%)	102 (89%)	8 (7%)	5 (4%)	2	8
17	GQ	115/118 (98%)	103 (90%)	7 (6%)	5 (4%)	2	8
18	AR	101/103 (98%)	83 (82%)	15 (15%)	3 (3%)	3	15
18	CR	101/103 (98%)	83 (82%)	15 (15%)	3 (3%)	3	15
18	ER	101/103 (98%)	83 (82%)	15 (15%)	3 (3%)	3	15
18	GR	101/103 (98%)	84 (83%)	13 (13%)	4 (4%)	2	10
19	AS	108/110 (98%)	93 (86%)	10 (9%)	5 (5%)	2	8
19	CS	108/110 (98%)	96 (89%)	8 (7%)	4 (4%)	2	11
19	ES	108/110 (98%)	91 (84%)	12 (11%)	5 (5%)	2	8
19	GS	108/110 (98%)	92 (85%)	11 (10%)	5 (5%)	2	8
20	AT	91/100 (91%)	59 (65%)	24 (26%)	8 (9%)	0	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
20	CT	91/100 (91%)	60 (66%)	23 (25%)	8 (9%)	0	1
20	ET	91/100 (91%)	59 (65%)	25 (28%)	7 (8%)	1	2
20	GT	91/100 (91%)	60 (66%)	22 (24%)	9 (10%)	0	1
21	AU	100/104 (96%)	73 (73%)	18 (18%)	9 (9%)	0	1
21	CU	100/104 (96%)	74 (74%)	16 (16%)	10 (10%)	0	1
21	EU	100/104 (96%)	74 (74%)	13 (13%)	13 (13%)	0	0
21	GU	100/104 (96%)	73 (73%)	18 (18%)	9 (9%)	0	1
22	AV	92/94 (98%)	82 (89%)	9 (10%)	1 (1%)	12	37
22	CV	92/94 (98%)	79 (86%)	12 (13%)	1 (1%)	12	37
22	EV	92/94 (98%)	82 (89%)	9 (10%)	1 (1%)	12	37
22	GV	92/94 (98%)	83 (90%)	8 (9%)	1 (1%)	12	37
23	AW	77/85 (91%)	41 (53%)	19 (25%)	17 (22%)	0	0
23	CW	77/85 (91%)	42 (54%)	21 (27%)	14 (18%)	0	0
23	EW	77/85 (91%)	42 (54%)	19 (25%)	16 (21%)	0	0
23	GW	77/85 (91%)	42 (54%)	21 (27%)	14 (18%)	0	0
24	AX	75/78 (96%)	65 (87%)	7 (9%)	3 (4%)	2	10
24	CX	75/78 (96%)	64 (85%)	8 (11%)	3 (4%)	2	10
24	EX	75/78 (96%)	64 (85%)	9 (12%)	2 (3%)	4	17
24	GX	75/78 (96%)	65 (87%)	9 (12%)	1 (1%)	10	33
25	AY	61/63 (97%)	40 (66%)	19 (31%)	2 (3%)	3	13
25	CY	61/63 (97%)	43 (70%)	17 (28%)	1 (2%)	8	28
25	EY	61/63 (97%)	38 (62%)	19 (31%)	4 (7%)	1	3
25	GY	61/63 (97%)	42 (69%)	17 (28%)	2 (3%)	3	13
26	AZ	56/59 (95%)	49 (88%)	5 (9%)	2 (4%)	3	12
26	CZ	56/59 (95%)	49 (88%)	5 (9%)	2 (4%)	3	12
26	EZ	56/59 (95%)	48 (86%)	6 (11%)	2 (4%)	3	12
26	GZ	56/59 (95%)	49 (88%)	5 (9%)	2 (4%)	3	12
27	A0	54/57 (95%)	45 (83%)	6 (11%)	3 (6%)	1	4
27	C0	54/57 (95%)	45 (83%)	6 (11%)	3 (6%)	1	4
27	E0	54/57 (95%)	45 (83%)	6 (11%)	3 (6%)	1	4
27	G0	54/57 (95%)	45 (83%)	6 (11%)	3 (6%)	1	4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	A1	48/55 (87%)	40 (83%)	5 (10%)	3 (6%)	1	3
28	C1	48/55 (87%)	40 (83%)	6 (12%)	2 (4%)	2	9
28	E1	48/55 (87%)	42 (88%)	5 (10%)	1 (2%)	5	22
28	G1	48/55 (87%)	41 (85%)	5 (10%)	2 (4%)	2	9
29	A2	44/46 (96%)	39 (89%)	4 (9%)	1 (2%)	5	20
29	C2	44/46 (96%)	39 (89%)	4 (9%)	1 (2%)	5	20
29	E2	44/46 (96%)	39 (89%)	4 (9%)	1 (2%)	5	20
29	G2	44/46 (96%)	39 (89%)	4 (9%)	1 (2%)	5	20
30	A3	62/65 (95%)	56 (90%)	4 (6%)	2 (3%)	3	13
30	C3	62/65 (95%)	56 (90%)	4 (6%)	2 (3%)	3	13
30	E3	62/65 (95%)	55 (89%)	5 (8%)	2 (3%)	3	13
30	G3	62/65 (95%)	56 (90%)	4 (6%)	2 (3%)	3	13
31	A4	36/38 (95%)	31 (86%)	2 (6%)	3 (8%)	0	2
31	C4	36/38 (95%)	31 (86%)	3 (8%)	2 (6%)	1	4
31	E4	36/38 (95%)	31 (86%)	2 (6%)	3 (8%)	0	2
31	G4	36/38 (95%)	30 (83%)	4 (11%)	2 (6%)	1	4
32	A5	146/165 (88%)	80 (55%)	44 (30%)	22 (15%)	0	0
32	E5	142/165 (86%)	80 (56%)	39 (28%)	23 (16%)	0	0
34	BB	216/241 (90%)	147 (68%)	57 (26%)	12 (6%)	1	4
34	DB	216/241 (90%)	145 (67%)	59 (27%)	12 (6%)	1	4
34	FB	216/241 (90%)	146 (68%)	60 (28%)	10 (5%)	2	8
34	HB	216/241 (90%)	149 (69%)	55 (26%)	12 (6%)	1	4
35	BC	204/233 (88%)	180 (88%)	16 (8%)	8 (4%)	2	10
35	DC	204/233 (88%)	177 (87%)	23 (11%)	4 (2%)	6	23
35	FC	204/233 (88%)	181 (89%)	17 (8%)	6 (3%)	3	15
35	HC	204/233 (88%)	183 (90%)	16 (8%)	5 (2%)	4	18
36	BD	203/206 (98%)	157 (77%)	34 (17%)	12 (6%)	1	4
36	DD	203/206 (98%)	157 (77%)	30 (15%)	16 (8%)	1	2
36	FD	203/206 (98%)	155 (76%)	34 (17%)	14 (7%)	1	2
36	HD	203/206 (98%)	159 (78%)	35 (17%)	9 (4%)	2	8
37	BE	148/167 (89%)	124 (84%)	19 (13%)	5 (3%)	3	13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	DE	148/167 (89%)	125 (84%)	18 (12%)	5 (3%)	3	13
37	FE	148/167 (89%)	122 (82%)	22 (15%)	4 (3%)	4	17
37	HE	148/167 (89%)	122 (82%)	22 (15%)	4 (3%)	4	17
38	BF	98/135 (73%)	73 (74%)	20 (20%)	5 (5%)	1	6
38	DF	98/135 (73%)	71 (72%)	20 (20%)	7 (7%)	1	2
38	FF	98/135 (73%)	72 (74%)	16 (16%)	10 (10%)	0	1
38	HF	98/135 (73%)	75 (76%)	18 (18%)	5 (5%)	1	6
39	BG	149/179 (83%)	126 (85%)	23 (15%)	0	100	100
39	DG	149/179 (83%)	123 (83%)	25 (17%)	1 (1%)	19	49
39	FG	149/179 (83%)	126 (85%)	23 (15%)	0	100	100
39	HG	149/179 (83%)	122 (82%)	25 (17%)	2 (1%)	10	33
40	BH	127/130 (98%)	108 (85%)	18 (14%)	1 (1%)	16	45
40	DH	127/130 (98%)	110 (87%)	15 (12%)	2 (2%)	8	28
40	FH	127/130 (98%)	113 (89%)	12 (9%)	2 (2%)	8	28
40	HH	127/130 (98%)	111 (87%)	16 (13%)	0	100	100
41	BI	125/130 (96%)	96 (77%)	21 (17%)	8 (6%)	1	3
41	DI	125/130 (96%)	99 (79%)	19 (15%)	7 (6%)	1	4
41	FI	125/130 (96%)	97 (78%)	22 (18%)	6 (5%)	2	7
41	HI	125/130 (96%)	98 (78%)	21 (17%)	6 (5%)	2	7
42	BJ	96/103 (93%)	73 (76%)	16 (17%)	7 (7%)	1	2
42	DJ	96/103 (93%)	72 (75%)	18 (19%)	6 (6%)	1	3
42	FJ	96/103 (93%)	73 (76%)	17 (18%)	6 (6%)	1	3
42	HJ	96/103 (93%)	73 (76%)	19 (20%)	4 (4%)	2	9
43	BK	115/129 (89%)	92 (80%)	17 (15%)	6 (5%)	1	5
43	DK	115/129 (89%)	90 (78%)	23 (20%)	2 (2%)	7	27
43	FK	115/129 (89%)	92 (80%)	20 (17%)	3 (3%)	4	17
43	HK	115/129 (89%)	87 (76%)	24 (21%)	4 (4%)	3	12
44	BL	121/124 (98%)	95 (78%)	17 (14%)	9 (7%)	1	2
44	DL	121/124 (98%)	95 (78%)	18 (15%)	8 (7%)	1	3
44	FL	121/124 (98%)	96 (79%)	17 (14%)	8 (7%)	1	3
44	HL	121/124 (98%)	97 (80%)	15 (12%)	9 (7%)	1	2

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	BM	112/118 (95%)	98 (88%)	8 (7%)	6 (5%)	1	5
45	DM	112/118 (95%)	99 (88%)	7 (6%)	6 (5%)	1	5
45	FM	112/118 (95%)	98 (88%)	9 (8%)	5 (4%)	2	8
45	HM	112/118 (95%)	91 (81%)	14 (12%)	7 (6%)	1	3
46	BN	92/101 (91%)	71 (77%)	18 (20%)	3 (3%)	3	13
46	DN	92/101 (91%)	71 (77%)	19 (21%)	2 (2%)	5	21
46	FN	92/101 (91%)	69 (75%)	20 (22%)	3 (3%)	3	13
46	HN	92/101 (91%)	70 (76%)	20 (22%)	2 (2%)	5	21
47	BO	86/89 (97%)	72 (84%)	12 (14%)	2 (2%)	5	20
47	DO	86/89 (97%)	73 (85%)	11 (13%)	2 (2%)	5	20
47	FO	86/89 (97%)	72 (84%)	12 (14%)	2 (2%)	5	20
47	HO	86/89 (97%)	70 (81%)	14 (16%)	2 (2%)	5	20
48	BP	80/82 (98%)	60 (75%)	16 (20%)	4 (5%)	1	6
48	DP	80/82 (98%)	62 (78%)	16 (20%)	2 (2%)	4	18
48	FP	80/82 (98%)	65 (81%)	13 (16%)	2 (2%)	4	18
48	HP	80/82 (98%)	61 (76%)	15 (19%)	4 (5%)	1	6
49	BQ	78/84 (93%)	54 (69%)	19 (24%)	5 (6%)	1	3
49	DQ	78/84 (93%)	56 (72%)	16 (20%)	6 (8%)	1	2
49	FQ	78/84 (93%)	57 (73%)	18 (23%)	3 (4%)	2	11
49	HQ	78/84 (93%)	57 (73%)	16 (20%)	5 (6%)	1	3
50	BR	53/75 (71%)	41 (77%)	12 (23%)	0	100	100
50	DR	53/75 (71%)	43 (81%)	10 (19%)	0	100	100
50	FR	53/75 (71%)	40 (76%)	13 (24%)	0	100	100
50	HR	53/75 (71%)	43 (81%)	10 (19%)	0	100	100
51	BS	77/92 (84%)	69 (90%)	7 (9%)	1 (1%)	10	33
51	DS	77/92 (84%)	70 (91%)	6 (8%)	1 (1%)	10	33
51	FS	77/92 (84%)	67 (87%)	6 (8%)	4 (5%)	1	5
51	HS	77/92 (84%)	68 (88%)	9 (12%)	0	100	100
52	BT	83/87 (95%)	66 (80%)	15 (18%)	2 (2%)	5	19
52	DT	83/87 (95%)	69 (83%)	11 (13%)	3 (4%)	3	12
52	FT	83/87 (95%)	66 (80%)	15 (18%)	2 (2%)	5	19

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
52	HT	83/87 (95%)	68 (82%)	14 (17%)	1 (1%)	11	35
53	BU	49/71 (69%)	25 (51%)	20 (41%)	4 (8%)	1	2
53	DU	49/71 (69%)	27 (55%)	20 (41%)	2 (4%)	2	9
53	FU	49/71 (69%)	28 (57%)	19 (39%)	2 (4%)	2	9
53	HU	49/71 (69%)	24 (49%)	22 (45%)	3 (6%)	1	4
54	BV	685/704 (97%)	559 (82%)	90 (13%)	36 (5%)	1	5
54	DV	685/704 (97%)	558 (82%)	92 (13%)	35 (5%)	1	6
54	FV	685/704 (97%)	556 (81%)	91 (13%)	38 (6%)	1	5
54	HV	685/704 (97%)	556 (81%)	91 (13%)	38 (6%)	1	5
55	BW	2/6 (33%)	0	0	2 (100%)	0	0
55	DW	2/6 (33%)	1 (50%)	1 (50%)	0	100	100
55	FW	2/6 (33%)	2 (100%)	0	0	100	100
All	All	25122/26708 (94%)	19751 (79%)	4073 (16%)	1298 (5%)	1	5

All (1298) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	AC	70	LYS
3	AC	104	LEU
3	AC	121	ALA
3	AC	140	VAL
3	AC	256	THR
4	AD	43	ASP
4	AD	73	VAL
4	AD	92	VAL
4	AD	118	PHE
4	AD	122	VAL
4	AD	170	VAL
5	AE	45	ALA
5	AE	80	SER
7	AG	2	ARG
7	AG	84	LYS
7	AG	168	VAL
8	AH	3	VAL
9	AI	30	GLN
10	AJ	13	ARG
10	AJ	21	THR
10	AJ	44	TYR

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Mol	Chain	Res	Type
10	AJ	45	THR
10	AJ	81	ILE
11	AK	35	VAL
12	AL	66	PHE
13	AM	69	PRO
13	AM	84	LYS
14	AN	119	SER
16	AP	20	ARG
16	AP	51	ASN
16	AP	93	LYS
16	AP	103	THR
19	AS	3	THR
19	AS	64	ALA
19	AS	96	ILE
20	AT	27	SER
20	AT	29	THR
20	AT	36	LYS
20	AT	86	THR
21	AU	6	ARG
21	AU	87	GLU
21	AU	92	VAL
21	AU	98	ASN
23	AW	9	THR
23	AW	14	ASP
23	AW	30	VAL
23	AW	34	SER
23	AW	36	ILE
24	AX	76	LYS
25	AY	62	GLY
27	A0	35	GLU
28	A1	51	ALA
30	A3	22	LYS
31	A4	4	ARG
32	A5	27	VAL
32	A5	33	VAL
32	A5	48	ALA
32	A5	54	VAL
32	A5	55	VAL
32	A5	69	PHE
32	A5	88	HIS
32	A5	93	ALA
32	A5	107	GLU

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Mol	Chain	Res	Type
32	A5	108	VAL
32	A5	120	ALA
32	A5	124	ASP
32	A5	130	PRO
34	BB	21	TYR
34	BB	33	ALA
34	BB	40	ILE
34	BB	72	LYS
34	BB	75	ALA
34	BB	128	LEU
35	BC	17	PRO
35	BC	18	TRP
35	BC	101	ILE
36	BD	24	GLY
36	BD	29	ASP
36	BD	36	GLN
36	BD	37	ALA
36	BD	175	ALA
36	BD	193	ALA
37	BE	99	ALA
38	BF	98	GLU
42	BJ	36	VAL
42	BJ	57	VAL
43	BK	14	LYS
43	BK	16	VAL
43	BK	41	ALA
43	BK	105	PHE
44	BL	3	THR
44	BL	24	LEU
44	BL	44	LYS
44	BL	76	GLU
45	BM	10	PRO
45	BM	47	GLU
45	BM	114	LYS
46	BN	52	PRO
46	BN	53	ARG
46	BN	92	GLU
49	BQ	12	VAL
49	BQ	13	VAL
49	BQ	14	SER
49	BQ	51	ASN
52	BT	86	LEU

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Mol	Chain	Res	Type
54	BV	5	THR
54	BV	24	THR
54	BV	93	VAL
54	BV	195	ASP
54	BV	197	ASP
54	BV	200	VAL
54	BV	204	TYR
54	BV	304	ASP
54	BV	423	LYS
54	BV	454	ASN
54	BV	529	SER
54	BV	646	GLU
54	BV	647	SER
54	BV	662	GLU
54	BV	698	VAL
55	BW	4	SER
3	CC	70	LYS
3	CC	104	LEU
3	CC	140	VAL
4	CD	43	ASP
4	CD	71	ALA
4	CD	73	VAL
4	CD	118	PHE
4	CD	122	VAL
4	CD	170	VAL
5	CE	175	ILE
6	CF	10	GLU
6	CF	111	ARG
7	CG	2	ARG
7	CG	8	VAL
7	CG	9	VAL
7	CG	84	LYS
8	CH	3	VAL
8	CH	9	VAL
8	CH	11	ASN
9	CI	20	SER
9	CI	89	SER
9	CI	92	PRO
10	CJ	13	ARG
10	CJ	21	THR
10	CJ	44	TYR
10	CJ	45	THR

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Mol	Chain	Res	Type
10	CJ	65	THR
10	CJ	81	ILE
11	CK	35	VAL
11	CK	108	ARG
12	CL	66	PHE
13	CM	2	LEU
13	CM	14	LYS
13	CM	69	PRO
14	CN	118	ARG
14	CN	119	SER
16	CP	51	ASN
16	CP	93	LYS
16	CP	103	THR
19	CS	3	THR
19	CS	14	ALA
19	CS	64	ALA
20	CT	27	SER
20	CT	29	THR
21	CU	6	ARG
21	CU	87	GLU
21	CU	88	ASP
21	CU	98	ASN
23	CW	9	THR
23	CW	14	ASP
23	CW	18	LYS
23	CW	30	VAL
23	CW	34	SER
23	CW	36	ILE
24	CX	76	LYS
26	CZ	9	THR
27	C0	23	ALA
27	C0	35	GLU
28	C1	4	ILE
28	C1	51	ALA
30	C3	22	LYS
31	C4	4	ARG
34	DB	21	TYR
34	DB	22	TRP
34	DB	33	ALA
34	DB	40	ILE
34	DB	72	LYS
34	DB	75	ALA

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Mol	Chain	Res	Type
34	DB	119	GLN
34	DB	127	LYS
35	DC	101	ILE
36	DD	25	VAL
36	DD	27	ALA
36	DD	29	ASP
36	DD	36	GLN
36	DD	37	ALA
36	DD	193	ALA
37	DE	138	ARG
38	DF	98	GLU
39	DG	3	ARG
41	DI	56	ASP
41	DI	121	ALA
41	DI	129	LYS
42	DJ	57	VAL
43	DK	41	ALA
44	DL	3	THR
44	DL	24	LEU
44	DL	34	CYS
44	DL	44	LYS
44	DL	76	GLU
44	DL	123	LYS
45	DM	4	ILE
45	DM	114	LYS
46	DN	92	GLU
49	DQ	6	ARG
49	DQ	12	VAL
49	DQ	13	VAL
49	DQ	51	ASN
52	DT	4	ILE
52	DT	86	LEU
54	DV	5	THR
54	DV	7	ILE
54	DV	24	THR
54	DV	93	VAL
54	DV	195	ASP
54	DV	197	ASP
54	DV	200	VAL
54	DV	204	TYR
54	DV	304	ASP
54	DV	423	LYS

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Mol	Chain	Res	Type
54	DV	454	ASN
54	DV	529	SER
54	DV	646	GLU
3	EC	70	LYS
3	EC	104	LEU
3	EC	121	ALA
3	EC	140	VAL
4	ED	43	ASP
4	ED	71	ALA
4	ED	73	VAL
4	ED	91	THR
4	ED	92	VAL
4	ED	119	ALA
4	ED	122	VAL
4	ED	170	VAL
4	ED	183	GLU
5	EE	79	ARG
5	EE	123	LYS
6	EF	10	GLU
6	EF	111	ARG
6	EF	113	PHE
6	EF	176	PHE
7	EG	84	LYS
7	EG	168	VAL
8	EH	3	VAL
8	EH	10	ALA
9	EI	12	VAL
9	EI	20	SER
9	EI	92	PRO
10	EJ	13	ARG
10	EJ	21	THR
10	EJ	44	TYR
10	EJ	45	THR
10	EJ	81	ILE
12	EL	66	PHE
13	EM	13	HIS
13	EM	69	PRO
13	EM	84	LYS
14	EN	118	ARG
16	EP	20	ARG
16	EP	93	LYS
16	EP	103	THR

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Mol	Chain	Res	Type
19	ES	3	THR
19	ES	14	ALA
20	ET	27	SER
20	ET	29	THR
21	EU	6	ARG
21	EU	92	VAL
21	EU	98	ASN
23	EW	9	THR
23	EW	14	ASP
23	EW	18	LYS
23	EW	34	SER
23	EW	36	ILE
23	EW	56	HIS
23	EW	74	LYS
24	EX	76	LYS
27	E0	35	GLU
28	E1	4	ILE
29	E2	44	VAL
30	E3	22	LYS
31	E4	4	ARG
32	E5	27	VAL
32	E5	31	ARG
32	E5	48	ALA
32	E5	54	VAL
32	E5	58	THR
32	E5	69	PHE
32	E5	88	HIS
32	E5	92	ALA
32	E5	93	ALA
32	E5	107	GLU
32	E5	108	VAL
32	E5	120	ALA
32	E5	124	ASP
34	FB	33	ALA
34	FB	40	ILE
34	FB	72	LYS
34	FB	75	ALA
34	FB	119	GLN
34	FB	128	LEU
35	FC	101	ILE
36	FD	29	ASP
36	FD	36	GLN

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Mol	Chain	Res	Type
36	FD	175	ALA
36	FD	193	ALA
37	FE	99	ALA
38	FF	91	ARG
38	FF	92	THR
38	FF	98	GLU
40	FH	89	LYS
41	FI	43	THR
41	FI	44	ALA
41	FI	121	ALA
42	FJ	36	VAL
42	FJ	57	VAL
43	FK	41	ALA
44	FL	3	THR
44	FL	24	LEU
44	FL	44	LYS
44	FL	76	GLU
44	FL	123	LYS
45	FM	47	GLU
46	FN	53	ARG
46	FN	92	GLU
49	FQ	51	ASN
51	FS	4	SER
53	FU	38	TYR
54	FV	6	PRO
54	FV	7	ILE
54	FV	24	THR
54	FV	93	VAL
54	FV	94	ASP
54	FV	195	ASP
54	FV	197	ASP
54	FV	200	VAL
54	FV	204	TYR
54	FV	409	MET
54	FV	423	LYS
54	FV	529	SER
54	FV	646	GLU
54	FV	662	GLU
3	GC	70	LYS
3	GC	105	ALA
3	GC	140	VAL
3	GC	256	THR

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Mol	Chain	Res	Type
4	GD	43	ASP
4	GD	73	VAL
4	GD	119	ALA
4	GD	122	VAL
4	GD	170	VAL
5	GE	123	LYS
6	GF	93	GLU
7	GG	2	ARG
7	GG	9	VAL
7	GG	32	LEU
7	GG	84	LYS
7	GG	164	ALA
7	GG	168	VAL
8	GH	3	VAL
9	GI	77	VAL
9	GI	85	ILE
9	GI	92	PRO
10	GJ	13	ARG
10	GJ	21	THR
10	GJ	44	TYR
10	GJ	45	THR
10	GJ	81	ILE
11	GK	35	VAL
12	GL	66	PHE
12	GL	88	GLY
13	GM	2	LEU
13	GM	69	PRO
15	GO	3	LYS
15	GO	113	ALA
16	GP	4	ILE
16	GP	5	LYS
16	GP	51	ASN
16	GP	93	LYS
19	GS	3	THR
19	GS	14	ALA
19	GS	64	ALA
20	GT	27	SER
20	GT	29	THR
20	GT	36	LYS
20	GT	55	VAL
20	GT	56	GLU
21	GU	6	ARG

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Mol	Chain	Res	Type
21	GU	88	ASP
21	GU	98	ASN
23	GW	9	THR
23	GW	14	ASP
23	GW	18	LYS
23	GW	34	SER
23	GW	36	ILE
23	GW	37	VAL
23	GW	56	HIS
25	GY	62	GLY
28	G1	4	ILE
30	G3	22	LYS
31	G4	4	ARG
34	HB	40	ILE
34	HB	72	LYS
34	HB	119	GLN
35	HC	101	ILE
36	HD	25	VAL
36	HD	29	ASP
36	HD	35	GLU
36	HD	175	ALA
36	HD	193	ALA
38	HF	98	GLU
39	HG	130	ASN
41	HI	121	ALA
41	HI	129	LYS
42	HJ	28	THR
42	HJ	57	VAL
42	HJ	93	ALA
43	HK	81	ASN
44	HL	24	LEU
44	HL	34	CYS
44	HL	44	LYS
44	HL	76	GLU
44	HL	78	SER
45	HM	4	ILE
45	HM	11	ASP
45	HM	66	GLU
45	HM	114	LYS
48	HP	44	SER
49	HQ	13	VAL
49	HQ	51	ASN

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Mol	Chain	Res	Type
49	HQ	53	CYS
52	HT	4	ILE
53	HU	11	PRO
54	HV	5	THR
54	HV	7	ILE
54	HV	24	THR
54	HV	93	VAL
54	HV	94	ASP
54	HV	195	ASP
54	HV	198	GLN
54	HV	200	VAL
54	HV	204	TYR
54	HV	300	ASP
54	HV	304	ASP
54	HV	409	MET
54	HV	423	LYS
54	HV	454	ASN
54	HV	506	ALA
54	HV	527	PRO
54	HV	544	VAL
54	HV	586	VAL
54	HV	647	SER
3	AC	64	VAL
3	AC	109	LEU
3	AC	142	ASN
3	AC	239	PHE
4	AD	107	VAL
4	AD	183	GLU
5	AE	129	PRO
7	AG	16	VAL
7	AG	31	GLU
7	AG	45	ALA
8	AH	10	ALA
9	AI	11	GLN
10	AJ	65	THR
11	AK	13	ASN
11	AK	50	GLY
11	AK	108	ARG
12	AL	88	GLY
12	AL	111	ILE
13	AM	14	LYS
13	AM	36	VAL

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Mol	Chain	Res	Type
16	AP	113	LEU
19	AS	14	ALA
20	AT	40	LYS
21	AU	85	ARG
23	AW	10	ARG
23	AW	18	LYS
23	AW	37	VAL
23	AW	50	VAL
23	AW	56	HIS
23	AW	74	LYS
26	AZ	9	THR
27	A0	23	ALA
28	A1	4	ILE
31	A4	8	LYS
32	A5	31	ARG
32	A5	58	THR
32	A5	92	ALA
34	BB	17	HIS
34	BB	119	GLN
35	BC	66	VAL
36	BD	25	VAL
36	BD	125	VAL
37	BE	138	ARG
41	BI	60	LYS
41	BI	121	ALA
44	BL	34	CYS
44	BL	88	LYS
44	BL	123	LYS
45	BM	4	ILE
45	BM	105	ASN
47	BO	18	ASP
52	BT	4	ILE
54	BV	7	ILE
54	BV	118	GLY
54	BV	198	GLN
54	BV	202	PHE
54	BV	300	ASP
54	BV	409	MET
54	BV	500	ASP
54	BV	649	VAL
3	CC	37	SER
3	CC	109	LEU

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Mol	Chain	Res	Type
3	CC	121	ALA
3	CC	142	ASN
4	CD	92	VAL
4	CD	107	VAL
5	CE	45	ALA
5	CE	79	ARG
5	CE	123	LYS
6	CF	113	PHE
6	CF	175	PRO
7	CG	45	ALA
7	CG	117	PRO
7	CG	164	ALA
7	CG	168	VAL
9	CI	30	GLN
9	CI	84	GLY
11	CK	13	ASN
11	CK	50	GLY
12	CL	29	LYS
12	CL	88	GLY
12	CL	111	ILE
14	CN	56	LYS
16	CP	113	LEU
19	CS	96	ILE
20	CT	36	LYS
20	CT	40	LYS
20	CT	86	THR
21	CU	92	VAL
23	CW	37	VAL
23	CW	56	HIS
23	CW	74	LYS
26	CZ	3	THR
36	DD	125	VAL
36	DD	175	ALA
38	DF	56	LYS
38	DF	63	ASN
42	DJ	74	VAL
45	DM	47	GLU
45	DM	105	ASN
49	DQ	53	CYS
49	DQ	82	ALA
54	DV	118	GLY
54	DV	198	GLN

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Mol	Chain	Res	Type
54	DV	202	PHE
54	DV	300	ASP
54	DV	409	MET
54	DV	500	ASP
54	DV	506	ALA
54	DV	649	VAL
54	DV	661	SER
54	DV	662	GLU
54	DV	698	VAL
3	EC	37	SER
3	EC	109	LEU
3	EC	142	ASN
3	EC	239	PHE
4	ED	99	GLU
4	ED	107	VAL
4	ED	118	PHE
5	EE	45	ALA
5	EE	80	SER
7	EG	2	ARG
7	EG	117	PRO
9	EI	19	PRO
9	EI	94	LYS
10	EJ	65	THR
11	EK	13	ASN
11	EK	35	VAL
11	EK	50	GLY
11	EK	108	ARG
12	EL	29	LYS
12	EL	88	GLY
12	EL	111	ILE
16	EP	51	ASN
17	EQ	87	VAL
19	ES	64	ALA
19	ES	96	ILE
20	ET	36	LYS
20	ET	86	THR
21	EU	51	LEU
21	EU	52	ASN
21	EU	85	ARG
21	EU	87	GLU
21	EU	88	ASP
23	EW	29	SER

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Mol	Chain	Res	Type
23	EW	30	VAL
23	EW	37	VAL
23	EW	50	VAL
25	EY	62	GLY
27	E0	23	ALA
32	E5	33	VAL
32	E5	55	VAL
32	E5	132	TYR
34	FB	154	GLY
34	FB	163	ILE
35	FC	61	ALA
36	FD	23	SER
36	FD	35	GLU
37	FE	138	ARG
38	FF	56	LYS
41	FI	46	MET
42	FJ	74	VAL
44	FL	34	CYS
45	FM	4	ILE
45	FM	105	ASN
48	FP	80	LYS
51	FS	5	LEU
54	FV	5	THR
54	FV	118	GLY
54	FV	198	GLN
54	FV	300	ASP
54	FV	304	ASP
54	FV	454	ASN
54	FV	506	ALA
54	FV	649	VAL
54	FV	698	VAL
3	GC	109	LEU
3	GC	121	ALA
3	GC	142	ASN
3	GC	270	ARG
4	GD	107	VAL
4	GD	118	PHE
5	GE	45	ALA
5	GE	79	ARG
5	GE	80	SER
5	GE	129	PRO
6	GF	175	PRO

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Mol	Chain	Res	Type
7	GG	16	VAL
7	GG	45	ALA
7	GG	117	PRO
9	GI	30	GLN
9	GI	78	LEU
9	GI	138	VAL
10	GJ	65	THR
10	GJ	74	TYR
11	GK	50	GLY
11	GK	108	ARG
12	GL	111	ILE
13	GM	14	LYS
14	GN	118	ARG
16	GP	103	THR
16	GP	104	GLY
16	GP	113	LEU
17	GQ	5	ARG
17	GQ	86	SER
19	GS	96	ILE
20	GT	40	LYS
20	GT	86	THR
21	GU	53	GLN
21	GU	54	PRO
21	GU	85	ARG
21	GU	87	GLU
23	GW	30	VAL
23	GW	50	VAL
23	GW	74	LYS
26	GZ	9	THR
27	G0	23	ALA
27	G0	35	GLU
34	HB	17	HIS
34	HB	33	ALA
34	HB	75	ALA
34	HB	163	ILE
36	HD	36	GLN
36	HD	125	VAL
37	HE	110	ALA
37	HE	138	ARG
37	HE	158	GLY
41	HI	58	VAL
43	HK	41	ALA

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Mol	Chain	Res	Type
43	HK	69	ARG
44	HL	3	THR
44	HL	88	LYS
46	HN	92	GLU
47	HO	18	ASP
47	HO	46	HIS
48	HP	42	ILE
54	HV	118	GLY
54	HV	197	ASP
54	HV	202	PHE
54	HV	509	SER
54	HV	649	VAL
54	HV	662	GLU
54	HV	698	VAL
3	AC	37	SER
3	AC	94	LEU
4	AD	71	ALA
5	AE	70	SER
5	AE	79	ARG
5	AE	123	LYS
6	AF	113	PHE
7	AG	97	VAL
7	AG	166	GLU
8	AH	9	VAL
9	AI	3	LYS
9	AI	20	SER
9	AI	64	ARG
10	AJ	111	LYS
11	AK	46	ALA
11	AK	119	ALA
12	AL	29	LYS
14	AN	56	LYS
17	AQ	5	ARG
21	AU	51	LEU
23	AW	76	ARG
26	AZ	3	THR
28	A1	50	GLU
32	A5	89	PRO
32	A5	118	ILE
32	A5	119	PRO
34	BB	163	ILE
35	BC	12	LEU

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Mol	Chain	Res	Type
35	BC	61	ALA
36	BD	166	GLU
37	BE	98	PRO
37	BE	110	ALA
38	BF	7	VAL
38	BF	56	LYS
38	BF	94	HIS
41	BI	129	LYS
42	BJ	74	VAL
42	BJ	89	ARG
44	BL	74	LEU
48	BP	42	ILE
53	BU	36	GLU
54	BV	6	PRO
54	BV	323	LYS
54	BV	408	ARG
54	BV	506	ALA
54	BV	527	PRO
3	CC	239	PHE
3	CC	256	THR
4	CD	183	GLU
5	CE	70	SER
5	CE	80	SER
7	CG	7	PRO
7	CG	16	VAL
9	CI	18	ASN
10	CJ	74	TYR
16	CP	20	ARG
17	CQ	5	ARG
21	CU	52	ASN
21	CU	85	ARG
23	CW	10	ARG
23	CW	50	VAL
23	CW	78	PHE
25	CY	24	GLU
34	DB	17	HIS
34	DB	128	LEU
34	DB	163	ILE
35	DC	61	ALA
35	DC	66	VAL
38	DF	62	MET
42	DJ	35	GLN

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Mol	Chain	Res	Type
42	DJ	58	ASN
44	DL	88	LYS
45	DM	11	ASP
47	DO	18	ASP
47	DO	46	HIS
54	DV	6	PRO
54	DV	94	ASP
54	DV	647	SER
3	EC	94	LEU
3	EC	256	THR
4	ED	145	SER
5	EE	6	LYS
7	EG	45	ALA
10	EJ	74	TYR
11	EK	46	ALA
12	EL	41	ARG
13	EM	14	LYS
16	EP	65	ASN
16	EP	113	LEU
17	EQ	86	SER
17	EQ	88	GLU
20	ET	40	LYS
21	EU	81	ARG
23	EW	78	PHE
24	EX	69	GLU
25	EY	24	GLU
26	EZ	3	THR
26	EZ	9	THR
30	E3	31	ILE
32	E5	90	GLY
32	E5	118	ILE
32	E5	119	PRO
34	FB	17	HIS
35	FC	17	PRO
35	FC	66	VAL
36	FD	125	VAL
37	FE	110	ALA
38	FF	63	ASN
38	FF	94	HIS
44	FL	74	LEU
44	FL	88	LYS
45	FM	11	ASP

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Mol	Chain	Res	Type
45	FM	114	LYS
47	FO	46	HIS
49	FQ	53	CYS
54	FV	202	PHE
54	FV	323	LYS
54	FV	408	ARG
54	FV	500	ASP
54	FV	647	SER
3	GC	37	SER
3	GC	94	LEU
3	GC	239	PHE
4	GD	145	SER
4	GD	183	GLU
7	GG	7	PRO
8	GH	9	VAL
9	GI	83	ALA
9	GI	87	SER
11	GK	13	ASN
12	GL	29	LYS
13	GM	134	THR
15	GO	60	GLU
16	GP	20	ARG
17	GQ	90	ASP
19	GS	19	LEU
23	GW	78	PHE
26	GZ	3	THR
30	G3	31	ILE
35	HC	61	ALA
38	HF	56	LYS
39	HG	146	GLU
44	HL	123	LYS
45	HM	105	ASN
48	HP	80	LYS
49	HQ	52	GLU
54	HV	500	ASP
3	AC	59	GLN
3	AC	196	ASN
6	AF	2	LYS
6	AF	10	GLU
7	AG	33	THR
7	AG	44	HIS
7	AG	117	PRO

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Mol	Chain	Res	Type
8	AH	8	LYS
8	AH	15	LEU
10	AJ	74	TYR
11	AK	93	GLN
17	AQ	87	VAL
19	AS	19	LEU
20	AT	84	TYR
23	AW	17	ALA
23	AW	29	SER
25	AY	24	GLU
27	A0	54	ILE
31	A4	16	ILE
36	BD	153	SER
41	BI	56	ASP
43	BK	15	GLN
43	BK	17	SER
47	BO	46	HIS
51	BS	6	LYS
53	BU	38	TYR
54	BV	305	THR
54	BV	311	ALA
54	BV	413	GLU
54	BV	648	GLU
55	BW	3	SER
3	CC	64	VAL
3	CC	94	LEU
4	CD	99	GLU
4	CD	109	VAL
4	CD	145	SER
5	CE	6	LYS
6	CF	2	LYS
7	CG	175	LYS
8	CH	8	LYS
9	CI	64	ARG
9	CI	110	GLN
11	CK	46	ALA
11	CK	93	GLN
13	CM	77	PRO
13	CM	134	THR
17	CQ	86	SER
17	CQ	87	VAL
17	CQ	90	ASP

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Mol	Chain	Res	Type
18	CR	98	ILE
20	CT	84	TYR
21	CU	81	ARG
22	CV	69	GLU
24	CX	17	ARG
24	CX	53	LYS
31	C4	16	ILE
36	DD	151	LYS
37	DE	12	GLN
37	DE	45	ARG
37	DE	110	ALA
38	DF	54	LEU
38	DF	94	HIS
41	DI	120	LYS
44	DL	74	LEU
45	DM	5	ALA
54	DV	305	THR
54	DV	323	LYS
54	DV	413	GLU
5	EE	70	SER
5	EE	129	PRO
6	EF	2	LYS
7	EG	16	VAL
7	EG	33	THR
7	EG	97	VAL
7	EG	151	ARG
7	EG	175	LYS
8	EH	8	LYS
8	EH	9	VAL
9	EI	64	ARG
11	EK	3	GLN
11	EK	93	GLN
13	EM	134	THR
14	EN	56	LYS
17	EQ	5	ARG
19	ES	18	ARG
21	EU	54	PRO
32	E5	135	ALA
34	FB	22	TRP
36	FD	85	ASN
38	FF	62	MET
46	FN	62	ASN

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Mol	Chain	Res	Type
47	FO	18	ASP
48	FP	46	LYS
51	FS	6	LYS
52	FT	6	SER
54	FV	305	THR
54	FV	345	SER
54	FV	413	GLU
3	GC	64	VAL
4	GD	71	ALA
4	GD	109	VAL
5	GE	153	LEU
7	GG	31	GLU
7	GG	118	ALA
8	GH	8	LYS
11	GK	46	ALA
11	GK	93	GLN
12	GL	41	ARG
15	GO	99	TYR
16	GP	92	ARG
20	GT	88	LYS
22	GV	71	LYS
23	GW	29	SER
25	GY	24	GLU
34	HB	21	TYR
34	HB	135	MET
35	HC	66	VAL
37	HE	102	GLY
38	HF	94	HIS
38	HF	99	ALA
41	HI	120	LYS
42	HJ	74	VAL
44	HL	74	LEU
45	HM	5	ALA
45	HM	47	GLU
49	HQ	6	ARG
53	HU	38	TYR
54	HV	305	THR
54	HV	323	LYS
54	HV	408	ARG
54	HV	413	GLU
54	HV	646	GLU
54	HV	648	GLU

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Mol	Chain	Res	Type
3	AC	232	GLY
4	AD	109	VAL
5	AE	6	LYS
5	AE	13	THR
5	AE	83	VAL
5	AE	96	VAL
6	AF	132	ARG
6	AF	149	ARG
6	AF	173	ASP
7	AG	113	ASP
7	AG	118	ALA
7	AG	164	ALA
9	AI	129	GLU
11	AK	6	THR
11	AK	118	LEU
12	AL	19	LEU
12	AL	41	ARG
12	AL	82	LEU
12	AL	94	THR
13	AM	73	ILE
13	AM	77	PRO
17	AQ	88	GLU
17	AQ	90	ASP
18	AR	40	MET
18	AR	91	GLN
18	AR	98	ILE
20	AT	55	VAL
21	AU	8	ASP
21	AU	81	ARG
21	AU	88	ASP
23	AW	78	PHE
24	AX	17	ARG
30	A3	31	ILE
32	A5	29	ASP
32	A5	80	THR
34	BB	154	GLY
38	BF	54	LEU
41	BI	96	SER
41	BI	120	LYS
42	BJ	93	ALA
44	BL	98	VAL
48	BP	79	ASN

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Mol	Chain	Res	Type
49	BQ	71	LYS
53	BU	37	PHE
54	BV	94	ASP
54	BV	308	GLU
54	BV	661	SER
3	CC	59	GLN
3	CC	200	MET
3	CC	238	ASN
4	CD	11	MET
5	CE	83	VAL
5	CE	96	VAL
7	CG	97	VAL
7	CG	166	GLU
9	CI	106	GLN
10	CJ	4	PHE
12	CL	19	LEU
12	CL	41	ARG
12	CL	94	THR
13	CM	73	ILE
15	CO	77	ALA
16	CP	92	ARG
16	CP	105	LYS
18	CR	91	GLN
20	CT	55	VAL
23	CW	52	CYS
27	C0	54	ILE
30	C3	31	ILE
34	DB	62	ARG
36	DD	33	LYS
36	DD	148	LYS
36	DD	154	ARG
51	DS	6	LYS
52	DT	7	ALA
53	DU	38	TYR
54	DV	311	ALA
54	DV	408	ARG
54	DV	527	PRO
54	DV	569	TYR
3	EC	59	GLN
3	EC	64	VAL
4	ED	109	VAL
4	ED	182	ALA

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Mol	Chain	Res	Type
5	EE	7	ASP
5	EE	83	VAL
5	EE	96	VAL
6	EF	133	GLU
7	EG	118	ALA
9	EI	89	SER
11	EK	6	THR
11	EK	118	LEU
11	EK	119	ALA
12	EL	40	SER
18	ER	40	MET
18	ER	98	ILE
20	ET	55	VAL
20	ET	84	TYR
21	EU	8	ASP
22	EV	69	GLU
23	EW	76	ARG
25	EY	9	LYS
27	E0	54	ILE
31	E4	8	LYS
31	E4	16	ILE
32	E5	36	ASP
32	E5	89	PRO
35	FC	18	TRP
35	FC	146	ALA
36	FD	166	GLU
36	FD	167	LYS
38	FF	99	ALA
41	FI	58	VAL
42	FJ	58	ASN
42	FJ	75	ASP
42	FJ	89	ARG
43	FK	126	LYS
43	FK	127	ARG
49	FQ	71	LYS
52	FT	68	HIS
54	FV	92	HIS
54	FV	196	ALA
54	FV	661	SER
3	GC	59	GLN
3	GC	196	ASN
4	GD	175	LEU

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Mol	Chain	Res	Type
5	GE	70	SER
5	GE	83	VAL
5	GE	96	VAL
7	GG	97	VAL
7	GG	170	THR
9	GI	20	SER
9	GI	89	SER
10	GJ	111	LYS
11	GK	6	THR
12	GL	19	LEU
13	GM	73	ILE
13	GM	77	PRO
17	GQ	85	ALA
18	GR	91	GLN
18	GR	98	ILE
20	GT	84	TYR
21	GU	81	ARG
23	GW	76	ARG
31	G4	16	ILE
34	HB	200	PRO
35	HC	146	ALA
36	HD	37	ALA
38	HF	7	VAL
41	HI	107	ASP
43	HK	17	SER
48	HP	77	GLU
54	HV	308	GLU
54	HV	550	ILE
3	AC	238	ASN
4	AD	11	MET
4	AD	95	SER
4	AD	145	SER
5	AE	11	ALA
5	AE	148	ILE
7	AG	151	ARG
11	AK	75	SER
13	AM	134	THR
15	AO	77	ALA
16	AP	63	ILE
17	AQ	86	SER
22	AV	71	LYS
24	AX	53	LYS

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Mol	Chain	Res	Type
32	A5	32	GLY
34	BB	32	GLY
36	BD	85	ASN
36	BD	192	SER
41	BI	39	PHE
42	BJ	58	ASN
42	BJ	75	ASP
45	BM	66	GLU
48	BP	43	ALA
53	BU	41	PRO
54	BV	569	TYR
3	CC	196	ASN
3	CC	232	GLY
8	CH	15	LEU
8	CH	28	ASN
11	CK	119	ALA
16	CP	63	ILE
20	CT	28	ASN
23	CW	76	ARG
35	DC	146	ALA
36	DD	32	CYS
36	DD	126	ASN
36	DD	192	SER
38	DF	7	VAL
40	DH	50	LYS
41	DI	9	THR
41	DI	96	SER
41	DI	107	ASP
42	DJ	36	VAL
42	DJ	75	ASP
43	DK	100	LEU
46	DN	62	ASN
48	DP	77	GLU
53	DU	9	ASN
3	EC	232	GLY
3	EC	238	ASN
4	ED	11	MET
5	EE	46	GLN
6	EF	132	ARG
10	EJ	111	LYS
12	EL	94	THR
13	EM	73	ILE

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Mol	Chain	Res	Type
14	EN	102	PHE
16	EP	63	ILE
17	EQ	90	ASP
18	ER	91	GLN
21	EU	99	SER
21	EU	101	THR
23	EW	10	ARG
23	EW	23	LYS
23	EW	47	GLY
25	EY	17	GLU
32	E5	32	GLY
36	FD	151	LYS
36	FD	153	SER
36	FD	192	SER
41	FI	13	LYS
54	FV	311	ALA
54	FV	527	PRO
54	FV	569	TYR
4	GD	99	GLU
5	GE	6	LYS
6	GF	40	GLY
9	GI	64	ARG
10	GJ	42	ALA
11	GK	118	LEU
11	GK	119	ALA
12	GL	15	ALA
16	GP	63	ILE
17	GQ	87	VAL
18	GR	40	MET
23	GW	16	GLU
24	GX	17	ARG
28	G1	50	GLU
41	HI	96	SER
46	HN	62	ASN
54	HV	6	PRO
9	AI	92	PRO
40	BH	78	VAL
5	CE	129	PRO
5	CE	174	GLY
7	GG	8	VAL
9	GI	22	PRO
34	HB	32	GLY

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Mol	Chain	Res	Type
16	AP	83	ILE
23	AW	41	GLY
37	BE	123	VAL
4	CD	144	GLY
16	CP	4	ILE
48	DP	42	ILE
5	EE	148	ILE
38	FF	7	VAL
5	GE	148	ILE
27	G0	54	ILE
35	HC	15	VAL
7	AG	119	GLY
20	AT	16	VAL
23	AW	47	GLY
35	BC	108	LYS
48	BP	49	GLY
5	CE	148	ILE
7	CG	60	GLY
9	CI	24	GLY
36	DD	168	PRO
37	DE	137	VAL
4	ED	143	PRO
4	ED	144	GLY
36	FD	168	PRO
38	FF	85	ILE
4	GD	144	GLY
5	GE	42	GLY
16	GP	83	ILE
21	GU	38	ILE
53	HU	27	GLY
29	A2	44	VAL
34	BB	148	GLY
41	BI	58	VAL
6	CF	40	GLY
11	CK	72	PRO
13	CM	23	GLY
18	CR	101	ILE
29	C2	44	VAL
8	EH	16	GLY
37	FE	51	GLY
53	FU	27	GLY
54	FV	91	GLY

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Mol	Chain	Res	Type
16	GP	34	GLY
18	GR	51	VAL
29	G2	44	VAL
34	HB	154	GLY
36	HD	168	PRO
7	AG	30	GLY
35	BC	15	VAL
21	CU	38	ILE
21	CU	54	PRO
40	DH	78	VAL
54	DV	120	GLN
11	EK	72	PRO
40	FH	78	VAL
51	FS	29	LYS
4	GD	92	VAL
54	HV	91	GLY
54	HV	120	GLN

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	AC	216/218 (99%)	203 (94%)	13 (6%)	16	44
3	CC	216/218 (99%)	201 (93%)	15 (7%)	13	37
3	EC	216/218 (99%)	200 (93%)	16 (7%)	11	34
3	GC	216/218 (99%)	198 (92%)	18 (8%)	9	28
4	AD	164/164 (100%)	153 (93%)	11 (7%)	13	39
4	CD	164/164 (100%)	156 (95%)	8 (5%)	21	53
4	ED	164/164 (100%)	155 (94%)	9 (6%)	18	48
4	GD	164/164 (100%)	156 (95%)	8 (5%)	21	53
5	AE	165/165 (100%)	154 (93%)	11 (7%)	13	39
5	CE	165/165 (100%)	158 (96%)	7 (4%)	25	59
5	EE	165/165 (100%)	153 (93%)	12 (7%)	11	34

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	GE	165/165 (100%)	160 (97%)	5 (3%)	36	71
6	AF	148/150 (99%)	140 (95%)	8 (5%)	18	49
6	CF	148/150 (99%)	139 (94%)	9 (6%)	15	43
6	EF	148/150 (99%)	138 (93%)	10 (7%)	13	38
6	GF	148/150 (99%)	144 (97%)	4 (3%)	40	73
7	AG	137/138 (99%)	126 (92%)	11 (8%)	10	30
7	CG	137/138 (99%)	126 (92%)	11 (8%)	10	30
7	EG	137/138 (99%)	125 (91%)	12 (9%)	8	26
7	GG	137/138 (99%)	130 (95%)	7 (5%)	20	51
8	AH	40/40 (100%)	38 (95%)	2 (5%)	20	52
8	CH	40/40 (100%)	39 (98%)	1 (2%)	42	75
8	EH	40/40 (100%)	36 (90%)	4 (10%)	6	20
8	GH	40/40 (100%)	36 (90%)	4 (10%)	6	20
9	AI	109/110 (99%)	105 (96%)	4 (4%)	29	64
9	CI	109/110 (99%)	108 (99%)	1 (1%)	75	92
9	EI	109/110 (99%)	108 (99%)	1 (1%)	75	92
9	GI	109/110 (99%)	108 (99%)	1 (1%)	75	92
10	AJ	116/116 (100%)	97 (84%)	19 (16%)	2	6
10	CJ	116/116 (100%)	102 (88%)	14 (12%)	4	13
10	EJ	116/116 (100%)	96 (83%)	20 (17%)	1	5
10	GJ	116/116 (100%)	103 (89%)	13 (11%)	5	16
11	AK	103/104 (99%)	93 (90%)	10 (10%)	6	22
11	CK	103/104 (99%)	94 (91%)	9 (9%)	8	27
11	EK	103/104 (99%)	95 (92%)	8 (8%)	10	31
11	GK	103/104 (99%)	96 (93%)	7 (7%)	13	38
12	AL	102/103 (99%)	96 (94%)	6 (6%)	16	45
12	CL	102/103 (99%)	96 (94%)	6 (6%)	16	45
12	EL	102/103 (99%)	97 (95%)	5 (5%)	21	53
12	GL	102/103 (99%)	94 (92%)	8 (8%)	10	31
13	AM	109/109 (100%)	94 (86%)	15 (14%)	3	9
13	CM	109/109 (100%)	96 (88%)	13 (12%)	4	13

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
13	EM	109/109 (100%)	100 (92%)	9 (8%)	9	28
13	GM	109/109 (100%)	102 (94%)	7 (6%)	14	41
14	AN	100/103 (97%)	94 (94%)	6 (6%)	16	44
14	CN	100/103 (97%)	93 (93%)	7 (7%)	12	36
14	EN	100/103 (97%)	98 (98%)	2 (2%)	50	79
14	GN	100/103 (97%)	96 (96%)	4 (4%)	27	61
15	AO	86/87 (99%)	81 (94%)	5 (6%)	17	46
15	CO	86/87 (99%)	80 (93%)	6 (7%)	12	36
15	EO	86/87 (99%)	79 (92%)	7 (8%)	9	29
15	GO	86/87 (99%)	83 (96%)	3 (4%)	31	66
16	AP	99/100 (99%)	85 (86%)	14 (14%)	3	9
16	CP	99/100 (99%)	88 (89%)	11 (11%)	5	16
16	EP	99/100 (99%)	91 (92%)	8 (8%)	9	29
16	GP	99/100 (99%)	88 (89%)	11 (11%)	5	16
17	AQ	89/90 (99%)	83 (93%)	6 (7%)	13	39
17	CQ	89/90 (99%)	82 (92%)	7 (8%)	10	30
17	EQ	89/90 (99%)	80 (90%)	9 (10%)	6	20
17	GQ	89/90 (99%)	86 (97%)	3 (3%)	32	67
18	AR	84/84 (100%)	79 (94%)	5 (6%)	16	44
18	CR	84/84 (100%)	78 (93%)	6 (7%)	12	36
18	ER	84/84 (100%)	77 (92%)	7 (8%)	9	28
18	GR	84/84 (100%)	80 (95%)	4 (5%)	21	54
19	AS	93/93 (100%)	85 (91%)	8 (9%)	8	27
19	CS	93/93 (100%)	86 (92%)	7 (8%)	11	33
19	ES	93/93 (100%)	84 (90%)	9 (10%)	6	22
19	GS	93/93 (100%)	86 (92%)	7 (8%)	11	33
20	AT	80/84 (95%)	71 (89%)	9 (11%)	4	15
20	CT	80/84 (95%)	77 (96%)	3 (4%)	28	63
20	ET	80/84 (95%)	73 (91%)	7 (9%)	8	26
20	GT	80/84 (95%)	76 (95%)	4 (5%)	20	52
21	AU	83/85 (98%)	79 (95%)	4 (5%)	21	54

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	CU	83/85 (98%)	80 (96%)	3 (4%)	30	65
21	EU	83/85 (98%)	76 (92%)	7 (8%)	9	28
21	GU	83/85 (98%)	80 (96%)	3 (4%)	30	65
22	AV	78/78 (100%)	73 (94%)	5 (6%)	14	41
22	CV	78/78 (100%)	75 (96%)	3 (4%)	28	63
22	EV	78/78 (100%)	76 (97%)	2 (3%)	41	74
22	GV	78/78 (100%)	75 (96%)	3 (4%)	28	63
23	AW	59/63 (94%)	49 (83%)	10 (17%)	1	5
23	CW	59/63 (94%)	51 (86%)	8 (14%)	3	9
23	EW	59/63 (94%)	52 (88%)	7 (12%)	4	13
23	GW	59/63 (94%)	53 (90%)	6 (10%)	6	19
24	AX	67/68 (98%)	61 (91%)	6 (9%)	8	25
24	CX	67/68 (98%)	60 (90%)	7 (10%)	5	18
24	EX	67/68 (98%)	60 (90%)	7 (10%)	5	18
24	GX	67/68 (98%)	61 (91%)	6 (9%)	8	25
25	AY	55/55 (100%)	49 (89%)	6 (11%)	5	17
25	CY	55/55 (100%)	53 (96%)	2 (4%)	30	65
25	EY	55/55 (100%)	49 (89%)	6 (11%)	5	17
25	GY	55/55 (100%)	51 (93%)	4 (7%)	11	34
26	AZ	48/49 (98%)	44 (92%)	4 (8%)	9	28
26	CZ	48/49 (98%)	43 (90%)	5 (10%)	5	18
26	EZ	48/49 (98%)	44 (92%)	4 (8%)	9	28
26	GZ	48/49 (98%)	43 (90%)	5 (10%)	5	18
27	A0	47/48 (98%)	47 (100%)	0	100	100
27	C0	47/48 (98%)	45 (96%)	2 (4%)	25	57
27	E0	47/48 (98%)	45 (96%)	2 (4%)	25	57
27	G0	47/48 (98%)	47 (100%)	0	100	100
28	A1	45/49 (92%)	42 (93%)	3 (7%)	13	39
28	C1	45/49 (92%)	41 (91%)	4 (9%)	8	26
28	E1	45/49 (92%)	43 (96%)	2 (4%)	24	57
28	G1	45/49 (92%)	44 (98%)	1 (2%)	47	78

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
29	A2	38/38 (100%)	37 (97%)	1 (3%)	41	74
29	C2	38/38 (100%)	35 (92%)	3 (8%)	10	30
29	E2	38/38 (100%)	33 (87%)	5 (13%)	3	10
29	G2	38/38 (100%)	34 (90%)	4 (10%)	5	18
30	A3	51/52 (98%)	49 (96%)	2 (4%)	27	62
30	C3	51/52 (98%)	50 (98%)	1 (2%)	50	79
30	E3	51/52 (98%)	47 (92%)	4 (8%)	10	31
30	G3	51/52 (98%)	47 (92%)	4 (8%)	10	31
31	A4	34/34 (100%)	32 (94%)	2 (6%)	16	45
31	C4	34/34 (100%)	32 (94%)	2 (6%)	16	45
31	E4	34/34 (100%)	32 (94%)	2 (6%)	16	45
31	G4	34/34 (100%)	31 (91%)	3 (9%)	8	26
32	A5	112/123 (91%)	95 (85%)	17 (15%)	2	7
32	E5	110/123 (89%)	96 (87%)	14 (13%)	3	11
34	BB	180/199 (90%)	171 (95%)	9 (5%)	20	52
34	DB	180/199 (90%)	171 (95%)	9 (5%)	20	52
34	FB	180/199 (90%)	172 (96%)	8 (4%)	24	57
34	HB	180/199 (90%)	170 (94%)	10 (6%)	17	47
35	BC	170/190 (90%)	167 (98%)	3 (2%)	54	82
35	DC	170/190 (90%)	166 (98%)	4 (2%)	44	76
35	FC	170/190 (90%)	158 (93%)	12 (7%)	12	36
35	HC	170/190 (90%)	164 (96%)	6 (4%)	31	66
36	BD	172/173 (99%)	163 (95%)	9 (5%)	19	50
36	DD	172/173 (99%)	162 (94%)	10 (6%)	17	46
36	FD	172/173 (99%)	162 (94%)	10 (6%)	17	46
36	HD	172/173 (99%)	163 (95%)	9 (5%)	19	50
37	BE	113/126 (90%)	107 (95%)	6 (5%)	19	49
37	DE	113/126 (90%)	110 (97%)	3 (3%)	40	73
37	FE	113/126 (90%)	104 (92%)	9 (8%)	10	30
37	HE	113/126 (90%)	106 (94%)	7 (6%)	15	43
38	BF	87/116 (75%)	83 (95%)	4 (5%)	23	55

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	DF	87/116 (75%)	85 (98%)	2 (2%)	45	77
38	FF	87/116 (75%)	84 (97%)	3 (3%)	32	67
38	HF	87/116 (75%)	85 (98%)	2 (2%)	45	77
39	BG	124/147 (84%)	122 (98%)	2 (2%)	58	84
39	DG	124/147 (84%)	121 (98%)	3 (2%)	44	76
39	FG	124/147 (84%)	120 (97%)	4 (3%)	34	69
39	HG	124/147 (84%)	123 (99%)	1 (1%)	79	93
40	BH	104/105 (99%)	98 (94%)	6 (6%)	17	46
40	DH	104/105 (99%)	97 (93%)	7 (7%)	13	39
40	FH	104/105 (99%)	97 (93%)	7 (7%)	13	39
40	HH	104/105 (99%)	98 (94%)	6 (6%)	17	46
41	BI	105/107 (98%)	96 (91%)	9 (9%)	8	27
41	DI	105/107 (98%)	102 (97%)	3 (3%)	37	72
41	FI	105/107 (98%)	98 (93%)	7 (7%)	13	39
41	HI	105/107 (98%)	99 (94%)	6 (6%)	17	47
42	BJ	86/90 (96%)	85 (99%)	1 (1%)	67	89
42	DJ	86/90 (96%)	80 (93%)	6 (7%)	12	36
42	FJ	86/90 (96%)	84 (98%)	2 (2%)	45	77
42	HJ	86/90 (96%)	83 (96%)	3 (4%)	31	66
43	BK	90/99 (91%)	87 (97%)	3 (3%)	33	68
43	DK	90/99 (91%)	88 (98%)	2 (2%)	47	78
43	FK	90/99 (91%)	85 (94%)	5 (6%)	17	47
43	HK	90/99 (91%)	82 (91%)	8 (9%)	8	26
44	BL	103/104 (99%)	100 (97%)	3 (3%)	37	72
44	DL	103/104 (99%)	101 (98%)	2 (2%)	52	81
44	FL	103/104 (99%)	97 (94%)	6 (6%)	17	46
44	HL	103/104 (99%)	94 (91%)	9 (9%)	8	27
45	BM	92/96 (96%)	89 (97%)	3 (3%)	33	68
45	DM	92/96 (96%)	92 (100%)	0	100	100
45	FM	92/96 (96%)	92 (100%)	0	100	100
45	HM	92/96 (96%)	92 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
46	BN	79/84 (94%)	79 (100%)	0	100	100
46	DN	79/84 (94%)	78 (99%)	1 (1%)	65	88
46	FN	79/84 (94%)	75 (95%)	4 (5%)	20	51
46	HN	79/84 (94%)	77 (98%)	2 (2%)	42	75
47	BO	76/77 (99%)	72 (95%)	4 (5%)	19	49
47	DO	76/77 (99%)	74 (97%)	2 (3%)	41	74
47	FO	76/77 (99%)	74 (97%)	2 (3%)	41	74
47	HO	76/77 (99%)	74 (97%)	2 (3%)	41	74
48	BP	65/65 (100%)	63 (97%)	2 (3%)	35	70
48	DP	65/65 (100%)	60 (92%)	5 (8%)	10	31
48	FP	65/65 (100%)	64 (98%)	1 (2%)	60	85
48	HP	65/65 (100%)	63 (97%)	2 (3%)	35	70
49	BQ	74/78 (95%)	70 (95%)	4 (5%)	18	49
49	DQ	74/78 (95%)	72 (97%)	2 (3%)	40	73
49	FQ	74/78 (95%)	73 (99%)	1 (1%)	62	86
49	HQ	74/78 (95%)	69 (93%)	5 (7%)	13	38
50	BR	48/65 (74%)	48 (100%)	0	100	100
50	DR	48/65 (74%)	48 (100%)	0	100	100
50	FR	48/65 (74%)	46 (96%)	2 (4%)	25	59
50	HR	48/65 (74%)	48 (100%)	0	100	100
51	BS	70/79 (89%)	69 (99%)	1 (1%)	62	86
51	DS	70/79 (89%)	67 (96%)	3 (4%)	25	57
51	FS	70/79 (89%)	64 (91%)	6 (9%)	8	27
51	HS	70/79 (89%)	67 (96%)	3 (4%)	25	57
52	BT	65/66 (98%)	60 (92%)	5 (8%)	10	31
52	DT	65/66 (98%)	58 (89%)	7 (11%)	5	17
52	FT	65/66 (98%)	60 (92%)	5 (8%)	10	31
52	HT	65/66 (98%)	60 (92%)	5 (8%)	10	31
53	BU	44/61 (72%)	42 (96%)	2 (4%)	23	56
53	DU	44/61 (72%)	41 (93%)	3 (7%)	13	38
53	FU	44/61 (72%)	41 (93%)	3 (7%)	13	38

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
53	HU	44/61 (72%)	42 (96%)	2 (4%)	23	56
54	BV	557/578 (96%)	503 (90%)	54 (10%)	6	22
54	DV	557/578 (96%)	508 (91%)	49 (9%)	8	26
54	FV	557/578 (96%)	508 (91%)	49 (9%)	8	26
54	HV	557/578 (96%)	507 (91%)	50 (9%)	8	25
55	BW	2/2 (100%)	1 (50%)	1 (50%)	0	0
55	DW	2/2 (100%)	1 (50%)	1 (50%)	0	0
55	FW	2/2 (100%)	2 (100%)	0	100	100
All	All	20824/21780 (96%)	19507 (94%)	1317 (6%)	15	42

All (1317) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	AC	8	THR
3	AC	12	ARG
3	AC	104	LEU
3	AC	109	LEU
3	AC	120	ASP
3	AC	140	VAL
3	AC	155	ARG
3	AC	176	ARG
3	AC	191	LEU
3	AC	212	TRP
3	AC	241	LYS
3	AC	251	THR
3	AC	270	ARG
4	AD	9	VAL
4	AD	25	THR
4	AD	103	ASP
4	AD	129	THR
4	AD	167	ASN
4	AD	170	VAL
4	AD	177	VAL
4	AD	183	GLU
4	AD	186	LEU
4	AD	202	ILE
4	AD	203	VAL
5	AE	12	LEU
5	AE	28	VAL

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Mol	Chain	Res	Type
5	AE	40	ARG
5	AE	44	ARG
5	AE	90	GLN
5	AE	109	LEU
5	AE	149	ILE
5	AE	164	LEU
5	AE	167	VAL
5	AE	176	ASP
5	AE	178	VAL
6	AF	35	LEU
6	AF	41	GLU
6	AF	50	ASP
6	AF	98	PHE
6	AF	114	ARG
6	AF	137	PHE
6	AF	142	TYR
6	AF	153	ILE
7	AG	3	VAL
7	AG	16	VAL
7	AG	21	GLN
7	AG	35	THR
7	AG	68	ARG
7	AG	84	LYS
7	AG	103	ASN
7	AG	132	LEU
7	AG	140	ILE
7	AG	151	ARG
7	AG	163	TYR
8	AH	3	VAL
8	AH	48	GLU
9	AI	7	TYR
9	AI	23	VAL
9	AI	94	LYS
9	AI	102	ARG
10	AJ	2	LYS
10	AJ	3	THR
10	AJ	17	VAL
10	AJ	24	THR
10	AJ	25	LEU
10	AJ	28	LEU
10	AJ	30	THR
10	AJ	36	LEU

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Mol	Chain	Res	Type
10	AJ	44	TYR
10	AJ	54	ILE
10	AJ	55	ILE
10	AJ	65	THR
10	AJ	69	ARG
10	AJ	80	HIS
10	AJ	95	ARG
10	AJ	105	VAL
10	AJ	111	LYS
10	AJ	131	ASN
10	AJ	140	LEU
11	AK	10	VAL
11	AK	13	ASN
11	AK	23	LYS
11	AK	45	GLU
11	AK	54	LYS
11	AK	61	VAL
11	AK	73	ASP
11	AK	92	GLU
11	AK	95	ILE
11	AK	105	ARG
12	AL	25	SER
12	AL	57	LEU
12	AL	59	ARG
12	AL	82	LEU
12	AL	121	THR
12	AL	127	VAL
13	AM	7	THR
13	AM	10	ARG
13	AM	12	MET
13	AM	13	HIS
13	AM	24	THR
13	AM	33	LEU
13	AM	46	ILE
13	AM	70	ASP
13	AM	78	LEU
13	AM	81	ARG
13	AM	90	GLU
13	AM	95	LEU
13	AM	96	ILE
13	AM	126	ILE
13	AM	134	THR

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Mol	Chain	Res	Type
14	AN	51	LEU
14	AN	63	ARG
14	AN	69	ARG
14	AN	71	ARG
14	AN	94	TYR
14	AN	118	ARG
15	AO	18	LEU
15	AO	28	VAL
15	AO	36	TYR
15	AO	106	LEU
15	AO	115	LEU
16	AP	16	VAL
16	AP	19	PHE
16	AP	29	VAL
16	AP	31	VAL
16	AP	50	ARG
16	AP	52	ARG
16	AP	62	LYS
16	AP	75	THR
16	AP	83	ILE
16	AP	92	ARG
16	AP	95	LYS
16	AP	96	LEU
16	AP	103	THR
16	AP	113	LEU
17	AQ	17	LEU
17	AQ	30	VAL
17	AQ	50	ARG
17	AQ	88	GLU
17	AQ	96	ASP
17	AQ	97	ILE
18	AR	6	GLN
18	AR	38	VAL
18	AR	46	GLU
18	AR	48	LYS
18	AR	55	ASP
19	AS	3	THR
19	AS	4	ILE
19	AS	36	LEU
19	AS	41	LYS
19	AS	45	VAL
19	AS	66	ILE

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Mol	Chain	Res	Type
19	AS	76	VAL
19	AS	96	ILE
20	AT	3	ARG
20	AT	18	GLU
20	AT	32	LEU
20	AT	37	ASP
20	AT	39	THR
20	AT	43	ILE
20	AT	54	GLU
20	AT	67	VAL
20	AT	69	ARG
21	AU	14	THR
21	AU	29	SER
21	AU	86	PHE
21	AU	98	ASN
22	AV	18	ARG
22	AV	31	TYR
22	AV	42	LEU
22	AV	61	LEU
22	AV	92	VAL
23	AW	10	ARG
23	AW	15	SER
23	AW	19	ARG
23	AW	24	ARG
23	AW	25	PHE
23	AW	38	ARG
23	AW	49	ASN
23	AW	63	ASP
23	AW	76	ARG
23	AW	79	ILE
24	AX	26	ARG
24	AX	29	LEU
24	AX	46	VAL
24	AX	47	THR
24	AX	65	THR
24	AX	77	TYR
25	AY	16	THR
25	AY	18	LEU
25	AY	21	LEU
25	AY	23	ARG
25	AY	37	LEU
25	AY	59	GLU

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Mol	Chain	Res	Type
26	AZ	8	GLN
26	AZ	23	LEU
26	AZ	37	ARG
26	AZ	40	THR
28	A1	16	THR
28	A1	35	LEU
28	A1	41	VAL
29	A2	42	LEU
30	A3	5	THR
30	A3	30	HIS
31	A4	2	LYS
31	A4	3	VAL
32	A5	1	MET
32	A5	26	VAL
32	A5	42	ARG
32	A5	43	LYS
32	A5	51	TYR
32	A5	59	LEU
32	A5	65	GLU
32	A5	69	PHE
32	A5	96	PHE
32	A5	106	PHE
32	A5	107	GLU
32	A5	116	GLU
32	A5	121	SER
32	A5	125	ARG
32	A5	130	PRO
32	A5	132	TYR
32	A5	143	MET
34	BB	37	VAL
34	BB	49	PHE
34	BB	53	LEU
34	BB	63	LYS
34	BB	71	THR
34	BB	94	ARG
34	BB	186	VAL
34	BB	212	TYR
34	BB	219	THR
35	BC	3	GLN
35	BC	18	TRP
35	BC	166	GLU
36	BD	26	ARG

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Mol	Chain	Res	Type
36	BD	32	CYS
36	BD	58	LYS
36	BD	93	LEU
36	BD	104	ARG
36	BD	136	GLN
36	BD	161	LEU
36	BD	171	LEU
36	BD	195	ILE
37	BE	60	ILE
37	BE	95	PHE
37	BE	114	VAL
37	BE	115	LEU
37	BE	148	ASN
37	BE	153	VAL
38	BF	7	VAL
38	BF	51	ILE
38	BF	55	HIS
38	BF	63	ASN
39	BG	5	ARG
39	BG	7	ILE
40	BH	55	THR
40	BH	67	GLN
40	BH	83	LEU
40	BH	99	LEU
40	BH	104	VAL
40	BH	121	LEU
41	BI	30	ILE
41	BI	38	TYR
41	BI	43	THR
41	BI	48	VAL
41	BI	57	MET
41	BI	63	LEU
41	BI	88	MET
41	BI	116	VAL
41	BI	123	ARG
42	BJ	59	LYS
43	BK	82	LEU
43	BK	107	ILE
43	BK	125	LYS
44	BL	29	GLN
44	BL	90	LEU
44	BL	102	LEU

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Mol	Chain	Res	Type
45	BM	19	LEU
45	BM	53	ILE
45	BM	87	ARG
47	BO	5	THR
47	BO	64	ARG
47	BO	79	THR
47	BO	87	LEU
48	BP	6	LEU
48	BP	31	ARG
49	BQ	4	LYS
49	BQ	22	VAL
49	BQ	28	PHE
49	BQ	48	ASP
51	BS	36	ARG
52	BT	5	LYS
52	BT	12	ILE
52	BT	49	LYS
52	BT	54	MET
52	BT	69	LYS
53	BU	34	ARG
53	BU	38	TYR
54	BV	5	THR
54	BV	19	ILE
54	BV	23	LYS
54	BV	29	ARG
54	BV	57	GLN
54	BV	77	LYS
54	BV	83	ARG
54	BV	95	PHE
54	BV	96	THR
54	BV	101	ARG
54	BV	103	MET
54	BV	104	ARG
54	BV	106	LEU
54	BV	160	THR
54	BV	182	VAL
54	BV	200	VAL
54	BV	202	PHE
54	BV	204	TYR
54	BV	220	GLN
54	BV	232	GLU
54	BV	254	GLN

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Mol	Chain	Res	Type
54	BV	266	CYS
54	BV	286	LEU
54	BV	291	ASP
54	BV	303	LYS
54	BV	320	LEU
54	BV	370	LYS
54	BV	409	MET
54	BV	418	ILE
54	BV	431	MET
54	BV	446	ARG
54	BV	480	GLU
54	BV	482	ASN
54	BV	487	GLN
54	BV	488	VAL
54	BV	494	ILE
54	BV	504	LYS
54	BV	508	GLN
54	BV	514	GLN
54	BV	522	MET
54	BV	532	LYS
54	BV	558	GLN
54	BV	594	LYS
54	BV	602	LYS
54	BV	612	LEU
54	BV	618	LYS
54	BV	646	GLU
54	BV	660	LEU
54	BV	675	LYS
54	BV	677	ARG
54	BV	681	THR
54	BV	683	GLU
54	BV	685	LEU
54	BV	699	ILE
55	BW	4	SER
3	CC	63	ILE
3	CC	79	ARG
3	CC	93	VAL
3	CC	100	ARG
3	CC	104	LEU
3	CC	109	LEU
3	CC	120	ASP
3	CC	173	LEU

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Mol	Chain	Res	Type
3	CC	176	ARG
3	CC	191	LEU
3	CC	194	VAL
3	CC	202	ARG
3	CC	212	TRP
3	CC	251	THR
3	CC	270	ARG
4	CD	89	GLU
4	CD	91	THR
4	CD	107	VAL
4	CD	124	ARG
4	CD	183	GLU
4	CD	186	LEU
4	CD	201	LEU
4	CD	203	VAL
5	CE	28	VAL
5	CE	40	ARG
5	CE	78	TRP
5	CE	109	LEU
5	CE	119	ILE
5	CE	149	ILE
5	CE	164	LEU
6	CF	14	LYS
6	CF	18	GLU
6	CF	35	LEU
6	CF	41	GLU
6	CF	104	THR
6	CF	114	ARG
6	CF	154	THR
6	CF	157	THR
6	CF	162	ASP
7	CG	18	ILE
7	CG	68	ARG
7	CG	78	VAL
7	CG	84	LYS
7	CG	86	LEU
7	CG	91	VAL
7	CG	126	THR
7	CG	132	LEU
7	CG	151	ARG
7	CG	163	TYR
7	CG	166	GLU

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Mol	Chain	Res	Type
8	CH	3	VAL
9	CI	71	LYS
10	CJ	2	LYS
10	CJ	25	LEU
10	CJ	30	THR
10	CJ	36	LEU
10	CJ	40	HIS
10	CJ	41	LYS
10	CJ	54	ILE
10	CJ	55	ILE
10	CJ	72	LYS
10	CJ	95	ARG
10	CJ	105	VAL
10	CJ	124	VAL
10	CJ	135	GLN
10	CJ	140	LEU
11	CK	13	ASN
11	CK	20	MET
11	CK	23	LYS
11	CK	47	ILE
11	CK	73	ASP
11	CK	92	GLU
11	CK	95	ILE
11	CK	97	THR
11	CK	105	ARG
12	CL	25	SER
12	CL	46	VAL
12	CL	50	PHE
12	CL	61	LEU
12	CL	82	LEU
12	CL	118	THR
13	CM	2	LEU
13	CM	33	LEU
13	CM	58	LYS
13	CM	70	ASP
13	CM	78	LEU
13	CM	81	ARG
13	CM	90	GLU
13	CM	95	LEU
13	CM	97	GLN
13	CM	102	LEU
13	CM	126	ILE

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Mol	Chain	Res	Type
13	CM	132	THR
13	CM	134	THR
14	CN	29	VAL
14	CN	30	ARG
14	CN	31	HIS
14	CN	45	ARG
14	CN	69	ARG
14	CN	70	THR
14	CN	71	ARG
15	CO	31	THR
15	CO	36	TYR
15	CO	39	VAL
15	CO	78	VAL
15	CO	94	ARG
15	CO	106	LEU
16	CP	16	VAL
16	CP	31	VAL
16	CP	50	ARG
16	CP	52	ARG
16	CP	75	THR
16	CP	83	ILE
16	CP	92	ARG
16	CP	96	LEU
16	CP	99	LEU
16	CP	103	THR
16	CP	113	LEU
17	CQ	29	ARG
17	CQ	50	ARG
17	CQ	59	LEU
17	CQ	63	ARG
17	CQ	94	LEU
17	CQ	96	ASP
17	CQ	97	ILE
18	CR	4	VAL
18	CR	6	GLN
18	CR	25	LEU
18	CR	38	VAL
18	CR	48	LYS
18	CR	53	PHE
19	CS	3	THR
19	CS	45	VAL
19	CS	66	ILE

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Mol	Chain	Res	Type
19	CS	68	ASP
19	CS	76	VAL
19	CS	88	ARG
19	CS	96	ILE
20	CT	37	ASP
20	CT	43	ILE
20	CT	93	LEU
21	CU	64	ILE
21	CU	86	PHE
21	CU	92	VAL
22	CV	18	ARG
22	CV	20	LEU
22	CV	24	ASN
23	CW	15	SER
23	CW	19	ARG
23	CW	25	PHE
23	CW	49	ASN
23	CW	54	ARG
23	CW	63	ASP
23	CW	76	ARG
23	CW	77	LYS
24	CX	6	VAL
24	CX	26	ARG
24	CX	27	ARG
24	CX	29	LEU
24	CX	34	SER
24	CX	65	THR
24	CX	77	TYR
25	CY	16	THR
25	CY	37	LEU
26	CZ	15	ARG
26	CZ	23	LEU
26	CZ	37	ARG
26	CZ	51	SER
26	CZ	58	GLU
27	C0	27	LEU
27	C0	53	VAL
28	C1	8	ILE
28	C1	24	LYS
28	C1	35	LEU
28	C1	47	ILE
29	C2	4	THR

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Mol	Chain	Res	Type
29	C2	8	SER
29	C2	42	LEU
30	C3	5	THR
31	C4	3	VAL
31	C4	23	ILE
34	DB	19	THR
34	DB	22	TRP
34	DB	49	PHE
34	DB	53	LEU
34	DB	94	ARG
34	DB	129	THR
34	DB	143	LEU
34	DB	174	GLU
34	DB	212	TYR
35	DC	3	GLN
35	DC	149	ILE
35	DC	153	VAL
35	DC	167	TRP
36	DD	29	ASP
36	DD	31	LYS
36	DD	32	CYS
36	DD	48	LEU
36	DD	101	VAL
36	DD	104	ARG
36	DD	161	LEU
36	DD	171	LEU
36	DD	195	ILE
36	DD	206	LYS
37	DE	70	ASN
37	DE	115	LEU
37	DE	153	VAL
38	DF	55	HIS
38	DF	72	ASP
39	DG	5	ARG
39	DG	22	LEU
39	DG	126	ASP
40	DH	77	ARG
40	DH	80	ARG
40	DH	83	LEU
40	DH	90	ASP
40	DH	99	LEU
40	DH	121	LEU

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Mol	Chain	Res	Type
40	DH	125	ILE
41	DI	48	VAL
41	DI	63	LEU
41	DI	88	MET
42	DJ	36	VAL
42	DJ	45	ARG
42	DJ	50	THR
42	DJ	57	VAL
42	DJ	80	THR
42	DJ	102	LEU
43	DK	82	LEU
43	DK	128	ARG
44	DL	29	GLN
44	DL	40	THR
46	DN	71	HIS
47	DO	64	ARG
47	DO	87	LEU
48	DP	31	ARG
48	DP	32	PHE
48	DP	46	LYS
48	DP	71	VAL
48	DP	75	ILE
49	DQ	28	PHE
49	DQ	48	ASP
51	DS	13	LEU
51	DS	61	PHE
51	DS	64	ASP
52	DT	5	LYS
52	DT	8	LYS
52	DT	12	ILE
52	DT	49	LYS
52	DT	54	MET
52	DT	69	LYS
52	DT	70	ASN
53	DU	20	LYS
53	DU	34	ARG
53	DU	40	LYS
54	DV	5	THR
54	DV	19	ILE
54	DV	23	LYS
54	DV	29	ARG
54	DV	77	LYS

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Mol	Chain	Res	Type
54	DV	83	ARG
54	DV	95	PHE
54	DV	96	THR
54	DV	103	MET
54	DV	104	ARG
54	DV	106	LEU
54	DV	116	VAL
54	DV	135	VAL
54	DV	160	THR
54	DV	182	VAL
54	DV	200	VAL
54	DV	202	PHE
54	DV	204	TYR
54	DV	220	GLN
54	DV	232	GLU
54	DV	254	GLN
54	DV	259	ASN
54	DV	266	CYS
54	DV	286	LEU
54	DV	303	LYS
54	DV	370	LYS
54	DV	409	MET
54	DV	431	MET
54	DV	446	ARG
54	DV	480	GLU
54	DV	487	GLN
54	DV	488	VAL
54	DV	494	ILE
54	DV	504	LYS
54	DV	522	MET
54	DV	532	LYS
54	DV	594	LYS
54	DV	602	LYS
54	DV	618	LYS
54	DV	646	GLU
54	DV	660	LEU
54	DV	663	MET
54	DV	675	LYS
54	DV	677	ARG
54	DV	681	THR
54	DV	683	GLU
54	DV	685	LEU

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Mol	Chain	Res	Type
54	DV	686	LYS
54	DV	699	ILE
55	DW	4	SER
3	EC	8	THR
3	EC	62	ARG
3	EC	93	VAL
3	EC	100	ARG
3	EC	109	LEU
3	EC	120	ASP
3	EC	123	ILE
3	EC	155	ARG
3	EC	175	LEU
3	EC	176	ARG
3	EC	191	LEU
3	EC	196	ASN
3	EC	204	LEU
3	EC	212	TRP
3	EC	251	THR
3	EC	252	LYS
4	ED	9	VAL
4	ED	32	ASN
4	ED	91	THR
4	ED	124	ARG
4	ED	151	THR
4	ED	171	THR
4	ED	172	VAL
4	ED	183	GLU
4	ED	203	VAL
5	EE	18	THR
5	EE	44	ARG
5	EE	70	SER
5	EE	77	ILE
5	EE	91	ASP
5	EE	113	VAL
5	EE	119	ILE
5	EE	147	LEU
5	EE	149	ILE
5	EE	164	LEU
5	EE	176	ASP
5	EE	178	VAL
6	EF	18	GLU
6	EF	35	LEU

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Mol	Chain	Res	Type
6	EF	41	GLU
6	EF	66	ILE
6	EF	80	GLN
6	EF	111	ARG
6	EF	114	ARG
6	EF	153	ILE
6	EF	154	THR
6	EF	168	LEU
7	EG	18	ILE
7	EG	28	LYS
7	EG	59	ASP
7	EG	76	ILE
7	EG	79	THR
7	EG	84	LYS
7	EG	86	LEU
7	EG	131	VAL
7	EG	132	LEU
7	EG	151	ARG
7	EG	163	TYR
7	EG	165	ASP
8	EH	3	VAL
8	EH	7	ASP
8	EH	15	LEU
8	EH	48	GLU
9	EI	135	MET
10	EJ	2	LYS
10	EJ	3	THR
10	EJ	17	VAL
10	EJ	24	THR
10	EJ	30	THR
10	EJ	34	ARG
10	EJ	36	LEU
10	EJ	40	HIS
10	EJ	44	TYR
10	EJ	54	ILE
10	EJ	55	ILE
10	EJ	65	THR
10	EJ	69	ARG
10	EJ	81	ILE
10	EJ	95	ARG
10	EJ	103	ILE
10	EJ	114	LEU

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Mol	Chain	Res	Type
10	EJ	135	GLN
10	EJ	139	VAL
10	EJ	140	LEU
11	EK	10	VAL
11	EK	23	LYS
11	EK	41	ILE
11	EK	51	LYS
11	EK	73	ASP
11	EK	92	GLU
11	EK	95	ILE
11	EK	105	ARG
12	EL	5	THR
12	EL	30	THR
12	EL	40	SER
12	EL	51	GLU
12	EL	61	LEU
13	EM	6	ARG
13	EM	70	ASP
13	EM	80	VAL
13	EM	81	ARG
13	EM	93	VAL
13	EM	96	ILE
13	EM	126	ILE
13	EM	132	THR
13	EM	134	THR
14	EN	69	ARG
14	EN	75	ILE
15	EO	31	THR
15	EO	36	TYR
15	EO	78	VAL
15	EO	94	ARG
15	EO	98	GLN
15	EO	102	ARG
15	EO	106	LEU
16	EP	5	LYS
16	EP	19	PHE
16	EP	65	ASN
16	EP	79	VAL
16	EP	80	VAL
16	EP	92	ARG
16	EP	96	LEU
16	EP	99	LEU

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Mol	Chain	Res	Type
17	EQ	7	VAL
17	EQ	29	ARG
17	EQ	40	LYS
17	EQ	50	ARG
17	EQ	89	ILE
17	EQ	93	ILE
17	EQ	94	LEU
17	EQ	96	ASP
17	EQ	97	ILE
18	ER	4	VAL
18	ER	25	LEU
18	ER	38	VAL
18	ER	46	GLU
18	ER	48	LYS
18	ER	81	LYS
18	ER	98	ILE
19	ES	3	THR
19	ES	4	ILE
19	ES	33	LEU
19	ES	36	LEU
19	ES	45	VAL
19	ES	46	LEU
19	ES	66	ILE
19	ES	68	ASP
19	ES	76	VAL
20	ET	12	ARG
20	ET	32	LEU
20	ET	37	ASP
20	ET	43	ILE
20	ET	54	GLU
20	ET	64	LYS
20	ET	68	LYS
21	EU	29	SER
21	EU	43	LYS
21	EU	64	ILE
21	EU	67	SER
21	EU	71	ILE
21	EU	86	PHE
21	EU	90	LYS
22	EV	24	ASN
22	EV	65	VAL
23	EW	19	ARG

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Mol	Chain	Res	Type
23	EW	24	ARG
23	EW	25	PHE
23	EW	49	ASN
23	EW	63	ASP
23	EW	70	VAL
23	EW	76	ARG
24	EX	6	VAL
24	EX	17	ARG
24	EX	26	ARG
24	EX	65	THR
24	EX	69	GLU
24	EX	70	LEU
24	EX	77	TYR
25	EY	16	THR
25	EY	18	LEU
25	EY	23	ARG
25	EY	37	LEU
25	EY	47	ARG
25	EY	56	LEU
26	EZ	37	ARG
26	EZ	40	THR
26	EZ	51	SER
26	EZ	56	VAL
27	E0	27	LEU
27	E0	53	VAL
28	E1	7	LYS
28	E1	35	LEU
29	E2	1	MET
29	E2	4	THR
29	E2	8	SER
29	E2	24	THR
29	E2	42	LEU
30	E3	7	ARG
30	E3	30	HIS
30	E3	49	VAL
30	E3	54	LEU
31	E4	3	VAL
31	E4	26	ILE
32	E5	1	MET
32	E5	26	VAL
32	E5	42	ARG
32	E5	51	TYR

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Mol	Chain	Res	Type
32	E5	59	LEU
32	E5	65	GLU
32	E5	69	PHE
32	E5	96	PHE
32	E5	106	PHE
32	E5	107	GLU
32	E5	116	GLU
32	E5	121	SER
32	E5	125	ARG
32	E5	143	MET
34	FB	19	THR
34	FB	20	ARG
34	FB	49	PHE
34	FB	58	LYS
34	FB	67	LEU
34	FB	94	ARG
34	FB	129	THR
34	FB	143	LEU
35	FC	3	GLN
35	FC	12	LEU
35	FC	14	ILE
35	FC	29	PHE
35	FC	36	ASP
35	FC	41	GLN
35	FC	89	LYS
35	FC	121	THR
35	FC	125	GLU
35	FC	128	VAL
35	FC	175	LEU
35	FC	200	VAL
36	FD	31	LYS
36	FD	32	CYS
36	FD	48	LEU
36	FD	55	LEU
36	FD	56	ARG
36	FD	101	VAL
36	FD	104	ARG
36	FD	132	ILE
36	FD	161	LEU
36	FD	195	ILE
37	FE	15	LEU
37	FE	54	ARG

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Mol	Chain	Res	Type
37	FE	81	LEU
37	FE	115	LEU
37	FE	120	VAL
37	FE	126	LYS
37	FE	131	THR
37	FE	148	ASN
37	FE	153	VAL
38	FF	55	HIS
38	FF	78	PHE
38	FF	97	THR
39	FG	22	LEU
39	FG	97	ASN
39	FG	126	ASP
39	FG	130	ASN
40	FH	66	PHE
40	FH	83	LEU
40	FH	90	ASP
40	FH	99	LEU
40	FH	104	VAL
40	FH	121	LEU
40	FH	125	ILE
41	FI	14	SER
41	FI	30	ILE
41	FI	63	LEU
41	FI	84	THR
41	FI	88	MET
41	FI	89	GLU
41	FI	123	ARG
42	FJ	50	THR
42	FJ	87	LEU
43	FK	34	ILE
43	FK	79	ILE
43	FK	82	LEU
43	FK	107	ILE
43	FK	125	LYS
44	FL	29	GLN
44	FL	33	VAL
44	FL	43	LYS
44	FL	58	THR
44	FL	64	THR
44	FL	90	LEU
46	FN	28	LYS

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Mol	Chain	Res	Type
46	FN	48	LEU
46	FN	49	GLN
46	FN	53	ARG
47	FO	64	ARG
47	FO	87	LEU
48	FP	55	ASP
49	FQ	28	PHE
50	FR	21	ILE
50	FR	28	THR
51	FS	6	LYS
51	FS	13	LEU
51	FS	49	ILE
51	FS	56	GLN
51	FS	58	VAL
51	FS	64	ASP
52	FT	12	ILE
52	FT	28	MET
52	FT	54	MET
52	FT	69	LYS
52	FT	82	GLN
53	FU	19	PHE
53	FU	20	LYS
53	FU	34	ARG
54	FV	5	THR
54	FV	19	ILE
54	FV	23	LYS
54	FV	29	ARG
54	FV	77	LYS
54	FV	83	ARG
54	FV	95	PHE
54	FV	96	THR
54	FV	101	ARG
54	FV	104	ARG
54	FV	106	LEU
54	FV	182	VAL
54	FV	200	VAL
54	FV	202	PHE
54	FV	204	TYR
54	FV	218	TRP
54	FV	221	ASN
54	FV	232	GLU
54	FV	254	GLN

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Mol	Chain	Res	Type
54	FV	266	CYS
54	FV	286	LEU
54	FV	303	LYS
54	FV	340	SER
54	FV	370	LYS
54	FV	374	ILE
54	FV	409	MET
54	FV	431	MET
54	FV	446	ARG
54	FV	478	ASN
54	FV	487	GLN
54	FV	488	VAL
54	FV	494	ILE
54	FV	504	LYS
54	FV	514	GLN
54	FV	532	LYS
54	FV	594	LYS
54	FV	602	LYS
54	FV	612	LEU
54	FV	618	LYS
54	FV	635	LEU
54	FV	646	GLU
54	FV	660	LEU
54	FV	663	MET
54	FV	675	LYS
54	FV	677	ARG
54	FV	681	THR
54	FV	683	GLU
54	FV	685	LEU
54	FV	699	ILE
3	GC	27	LYS
3	GC	35	LYS
3	GC	62	ARG
3	GC	93	VAL
3	GC	104	LEU
3	GC	109	LEU
3	GC	129	LEU
3	GC	172	THR
3	GC	173	LEU
3	GC	175	LEU
3	GC	194	VAL
3	GC	201	LEU

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Mol	Chain	Res	Type
3	GC	202	ARG
3	GC	212	TRP
3	GC	215	VAL
3	GC	235	GLU
3	GC	251	THR
3	GC	256	THR
4	GD	14	ILE
4	GD	29	VAL
4	GD	35	THR
4	GD	124	ARG
4	GD	129	THR
4	GD	159	LYS
4	GD	183	GLU
4	GD	203	VAL
5	GE	40	ARG
5	GE	77	ILE
5	GE	78	TRP
5	GE	118	LEU
5	GE	176	ASP
6	GF	3	LEU
6	GF	114	ARG
6	GF	137	PHE
6	GF	174	PHE
7	GG	68	ARG
7	GG	84	LYS
7	GG	86	LEU
7	GG	132	LEU
7	GG	151	ARG
7	GG	157	LYS
7	GG	163	TYR
8	GH	3	VAL
8	GH	5	LEU
8	GH	37	VAL
8	GH	48	GLU
9	GI	102	ARG
10	GJ	3	THR
10	GJ	24	THR
10	GJ	30	THR
10	GJ	36	LEU
10	GJ	40	HIS
10	GJ	54	ILE
10	GJ	55	ILE

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Mol	Chain	Res	Type
10	GJ	69	ARG
10	GJ	72	LYS
10	GJ	95	ARG
10	GJ	131	ASN
10	GJ	135	GLN
10	GJ	140	LEU
11	GK	3	GLN
11	GK	47	ILE
11	GK	58	LEU
11	GK	73	ASP
11	GK	98	ARG
11	GK	105	ARG
11	GK	111	LYS
12	GL	6	LEU
12	GL	19	LEU
12	GL	30	THR
12	GL	46	VAL
12	GL	61	LEU
12	GL	66	PHE
12	GL	67	THR
12	GL	118	THR
13	GM	70	ASP
13	GM	81	ARG
13	GM	96	ILE
13	GM	97	GLN
13	GM	102	LEU
13	GM	126	ILE
13	GM	134	THR
14	GN	14	SER
14	GN	31	HIS
14	GN	33	ILE
14	GN	69	ARG
15	GO	31	THR
15	GO	36	TYR
15	GO	106	LEU
16	GP	7	LEU
16	GP	20	ARG
16	GP	25	VAL
16	GP	36	LYS
16	GP	38	ARG
16	GP	39	LEU
16	GP	50	ARG

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Mol	Chain	Res	Type
16	GP	69	VAL
16	GP	92	ARG
16	GP	99	LEU
16	GP	113	LEU
17	GQ	50	ARG
17	GQ	56	PHE
17	GQ	96	ASP
18	GR	25	LEU
18	GR	38	VAL
18	GR	46	GLU
18	GR	48	LYS
19	GS	4	ILE
19	GS	7	HIS
19	GS	45	VAL
19	GS	68	ASP
19	GS	75	PHE
19	GS	88	ARG
19	GS	96	ILE
20	GT	12	ARG
20	GT	32	LEU
20	GT	37	ASP
20	GT	43	ILE
21	GU	8	ASP
21	GU	73	ASN
21	GU	86	PHE
22	GV	5	ASN
22	GV	20	LEU
22	GV	42	LEU
23	GW	19	ARG
23	GW	25	PHE
23	GW	49	ASN
23	GW	63	ASP
23	GW	70	VAL
23	GW	76	ARG
24	GX	6	VAL
24	GX	10	ARG
24	GX	26	ARG
24	GX	34	SER
24	GX	60	LYS
24	GX	77	TYR
25	GY	14	LEU
25	GY	16	THR

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Mol	Chain	Res	Type
25	GY	37	LEU
25	GY	56	LEU
26	GZ	2	LYS
26	GZ	8	GLN
26	GZ	15	ARG
26	GZ	37	ARG
26	GZ	40	THR
28	G1	35	LEU
29	G2	4	THR
29	G2	8	SER
29	G2	24	THR
29	G2	42	LEU
30	G3	7	ARG
30	G3	29	ARG
30	G3	30	HIS
30	G3	54	LEU
31	G4	1	MET
31	G4	3	VAL
31	G4	26	ILE
34	HB	49	PHE
34	HB	56	LEU
34	HB	63	LYS
34	HB	94	ARG
34	HB	124	THR
34	HB	143	LEU
34	HB	174	GLU
34	HB	186	VAL
34	HB	206	ILE
34	HB	207	ARG
35	HC	3	GLN
35	HC	14	ILE
35	HC	29	PHE
35	HC	121	THR
35	HC	144	LEU
35	HC	153	VAL
36	HD	32	CYS
36	HD	33	LYS
36	HD	48	LEU
36	HD	73	ARG
36	HD	93	LEU
36	HD	101	VAL
36	HD	146	ARG

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Mol	Chain	Res	Type
36	HD	161	LEU
36	HD	198	HIS
37	HE	70	ASN
37	HE	72	ILE
37	HE	114	VAL
37	HE	115	LEU
37	HE	136	VAL
37	HE	148	ASN
37	HE	153	VAL
38	HF	7	VAL
38	HF	55	HIS
39	HG	22	LEU
40	HH	67	GLN
40	HH	77	ARG
40	HH	90	ASP
40	HH	94	LYS
40	HH	99	LEU
40	HH	121	LEU
41	HI	14	SER
41	HI	38	TYR
41	HI	46	MET
41	HI	57	MET
41	HI	63	LEU
41	HI	88	MET
42	HJ	57	VAL
42	HJ	92	LEU
42	HJ	102	LEU
43	HK	31	ILE
43	HK	57	LYS
43	HK	70	CYS
43	HK	74	VAL
43	HK	82	LEU
43	HK	96	THR
43	HK	97	ILE
43	HK	125	LYS
44	HL	7	LEU
44	HL	14	ARG
44	HL	20	ASN
44	HL	29	GLN
44	HL	33	VAL
44	HL	59	ASN
44	HL	78	SER

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Mol	Chain	Res	Type
44	HL	90	LEU
44	HL	102	LEU
46	HN	31	ILE
46	HN	85	ARG
47	HO	64	ARG
47	HO	87	LEU
48	HP	1	MET
48	HP	6	LEU
49	HQ	28	PHE
49	HQ	33	ILE
49	HQ	38	ILE
49	HQ	55	ILE
49	HQ	61	ILE
51	HS	13	LEU
51	HS	23	VAL
51	HS	64	ASP
52	HT	12	ILE
52	HT	49	LYS
52	HT	51	PHE
52	HT	54	MET
52	HT	69	LYS
53	HU	20	LYS
53	HU	34	ARG
54	HV	5	THR
54	HV	19	ILE
54	HV	23	LYS
54	HV	29	ARG
54	HV	77	LYS
54	HV	83	ARG
54	HV	95	PHE
54	HV	96	THR
54	HV	101	ARG
54	HV	104	ARG
54	HV	106	LEU
54	HV	160	THR
54	HV	182	VAL
54	HV	200	VAL
54	HV	202	PHE
54	HV	204	TYR
54	HV	220	GLN
54	HV	232	GLU
54	HV	254	GLN

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Mol	Chain	Res	Type
54	HV	266	CYS
54	HV	286	LEU
54	HV	303	LYS
54	HV	336	PHE
54	HV	370	LYS
54	HV	409	MET
54	HV	418	ILE
54	HV	431	MET
54	HV	446	ARG
54	HV	482	ASN
54	HV	487	GLN
54	HV	488	VAL
54	HV	494	ILE
54	HV	504	LYS
54	HV	508	GLN
54	HV	512	ARG
54	HV	515	TYR
54	HV	522	MET
54	HV	532	LYS
54	HV	555	LYS
54	HV	578	LEU
54	HV	594	LYS
54	HV	602	LYS
54	HV	618	LYS
54	HV	646	GLU
54	HV	660	LEU
54	HV	675	LYS
54	HV	677	ARG
54	HV	681	THR
54	HV	685	LEU
54	HV	699	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (87) such sidechains are listed below:

Mol	Chain	Res	Type
3	AC	141	HIS
6	AF	62	GLN
9	AI	93	ASN
15	AO	29	HIS
15	AO	34	HIS
18	AR	66	HIS
21	AU	39	ASN

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Mol	Chain	Res	Type
22	AV	80	HIS
34	BB	88	GLN
40	BH	18	GLN
43	BK	109	ASN
47	BO	46	HIS
50	BR	31	ASN
54	BV	122	GLN
54	BV	178	HIS
54	BV	276	GLN
54	BV	465	HIS
54	BV	584	HIS
4	CD	49	GLN
5	CE	29	HIS
13	CM	13	HIS
15	CO	34	HIS
18	CR	66	HIS
21	CU	98	ASN
22	CV	80	HIS
23	CW	49	ASN
34	DB	57	ASN
37	DE	89	HIS
39	DG	130	ASN
41	DI	81	HIS
43	DK	109	ASN
44	DL	29	GLN
46	DN	35	ASN
47	DO	46	HIS
48	DP	18	GLN
54	DV	178	HIS
54	DV	276	GLN
54	DV	465	HIS
54	DV	584	HIS
7	EG	115	GLN
9	EI	33	ASN
15	EO	29	HIS
15	EO	34	HIS
21	EU	98	ASN
22	EV	80	HIS
23	EW	39	GLN
27	E0	18	HIS
34	FB	38	HIS
34	FB	57	ASN

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Mol	Chain	Res	Type
34	FB	88	GLN
36	FD	116	GLN
42	FJ	35	GLN
43	FK	109	ASN
46	FN	35	ASN
51	FS	14	HIS
51	FS	52	HIS
51	FS	56	GLN
54	FV	122	GLN
54	FV	276	GLN
54	FV	310	HIS
54	FV	367	HIS
54	FV	454	ASN
3	GC	24	HIS
3	GC	36	ASN
3	GC	141	HIS
4	GD	32	ASN
13	GM	13	HIS
15	GO	34	HIS
18	GR	66	HIS
20	GT	92	ASN
22	GV	80	HIS
34	HB	57	ASN
36	HD	116	GLN
41	HI	81	HIS
41	HI	110	GLN
42	HJ	56	HIS
43	HK	81	ASN
43	HK	109	ASN
44	HL	59	ASN
44	HL	96	HIS
51	HS	52	HIS
51	HS	57	HIS
52	HT	20	HIS
54	HV	55	GLN
54	HV	122	GLN
54	HV	465	HIS
54	HV	579	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	2850/2904 (98%)	472 (16%)	48 (1%)
1	CA	2850/2904 (98%)	470 (16%)	50 (1%)
1	EA	2850/2904 (98%)	471 (16%)	45 (1%)
1	GA	2850/2904 (98%)	471 (16%)	51 (1%)
2	AB	117/120 (97%)	17 (14%)	0
2	CB	117/120 (97%)	18 (15%)	1 (0%)
2	EB	117/120 (97%)	17 (14%)	0
2	GB	117/120 (97%)	19 (16%)	0
33	BA	1532/1542 (99%)	272 (17%)	18 (1%)
33	DA	1532/1542 (99%)	269 (17%)	18 (1%)
33	FA	1532/1542 (99%)	265 (17%)	17 (1%)
33	HA	1532/1542 (99%)	273 (17%)	18 (1%)
All	All	17996/18264 (98%)	3034 (16%)	266 (1%)

All (3034) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	10	A
1	AA	12	U
1	AA	15	G
1	AA	34	U
1	AA	35	G
1	AA	42	A
1	AA	43	G
1	AA	45	G
1	AA	46	G
1	AA	61	C
1	AA	71	A
1	AA	74	A
1	AA	75	G
1	AA	80	G
1	AA	82	U
1	AA	84	A
1	AA	96	C
1	AA	98	G
1	AA	101	A
1	AA	118	A
1	AA	119	A
1	AA	120	U
1	AA	131	A
1	AA	135	U
1	AA	136	G
1	AA	137	U

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Mol	Chain	Res	Type
1	AA	138	U
1	AA	139	U
1	AA	140	C
1	AA	141	G
1	AA	142	A
1	AA	143	C
1	AA	144	A
1	AA	149	A
1	AA	158	U
1	AA	159	G
1	AA	162	U
1	AA	163	C
1	AA	164	C
1	AA	166	U
1	AA	174	U
1	AA	181	A
1	AA	188	G
1	AA	196	A
1	AA	199	A
1	AA	215	G
1	AA	216	A
1	AA	222	A
1	AA	230	G
1	AA	248	G
1	AA	255	A
1	AA	264	C
1	AA	265	A
1	AA	266	G
1	AA	267	C
1	AA	272	A
1	AA	273	G
1	AA	276	U
1	AA	277	G
1	AA	278	A
1	AA	279	A
1	AA	281	C
1	AA	285	G
1	AA	302	C
1	AA	311	A
1	AA	329	G
1	AA	330	A
1	AA	346	A

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Mol	Chain	Res	Type
1	AA	347	A
1	AA	353	C
1	AA	355	U
1	AA	361	G
1	AA	362	A
1	AA	371	A
1	AA	372	G
1	AA	382	A
1	AA	383	C
1	AA	386	G
1	AA	396	G
1	AA	404	A
1	AA	405	U
1	AA	411	G
1	AA	412	A
1	AA	424	G
1	AA	455	C
1	AA	461	C
1	AA	480	A
1	AA	481	G
1	AA	490	C
1	AA	491	G
1	AA	504	A
1	AA	505	A
1	AA	509	C
1	AA	528	A
1	AA	529	A
1	AA	532	A
1	AA	533	G
1	AA	538	A
1	AA	543	G
1	AA	544	C
1	AA	546	U
1	AA	547	A
1	AA	548	G
1	AA	549	G
1	AA	550	C
1	AA	563	A
1	AA	573	U
1	AA	575	A
1	AA	586	A
1	AA	603	A

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Mol	Chain	Res	Type
1	AA	604	G
1	AA	613	A
1	AA	614	A
1	AA	615	U
1	AA	618	G
1	AA	622	G
1	AA	627	A
1	AA	631	A
1	AA	637	A
1	AA	645	C
1	AA	646	U
1	AA	647	G
1	AA	654	A
1	AA	655	A
1	AA	656	G
1	AA	686	U
1	AA	714	U
1	AA	715	A
1	AA	717	C
1	AA	722	A
1	AA	730	A
1	AA	738	G
1	AA	747	U
1	AA	775	G
1	AA	776	G
1	AA	782	A
1	AA	784	G
1	AA	785	G
1	AA	789	A
1	AA	805	G
1	AA	812	C
1	AA	819	A
1	AA	827	U
1	AA	828	U
1	AA	845	A
1	AA	846	U
1	AA	847	U
1	AA	859	G
1	AA	876	C
1	AA	877	A
1	AA	883	G
1	AA	884	U

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Mol	Chain	Res	Type
1	AA	896	A
1	AA	897	C
1	AA	910	A
1	AA	914	G
1	AA	915	C
1	AA	932	U
1	AA	941	A
1	AA	946	C
1	AA	959	A
1	AA	961	C
1	AA	974	G
1	AA	983	A
1	AA	985	C
1	AA	995	C
1	AA	996	A
1	AA	1005	C
1	AA	1012	U
1	AA	1013	C
1	AA	1021	A
1	AA	1022	G
1	AA	1023	U
1	AA	1026	G
1	AA	1033	U
1	AA	1045	C
1	AA	1046	A
1	AA	1047	G
1	AA	1051	G
1	AA	1053	C
1	AA	1059	G
1	AA	1060	U
1	AA	1061	U
1	AA	1062	G
1	AA	1069	A
1	AA	1070	A
1	AA	1072	C
1	AA	1078	U
1	AA	1080	A
1	AA	1083	U
1	AA	1084	A
1	AA	1088	A
1	AA	1089	A
1	AA	1094	U

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Mol	Chain	Res	Type
1	AA	1097	U
1	AA	1098	A
1	AA	1110	G
1	AA	1111	A
1	AA	1112	G
1	AA	1130	U
1	AA	1132	U
1	AA	1133	A
1	AA	1135	C
1	AA	1136	G
1	AA	1139	G
1	AA	1142	A
1	AA	1169	A
1	AA	1170	C
1	AA	1171	G
1	AA	1175	A
1	AA	1176	U
1	AA	1180	U
1	AA	1181	U
1	AA	1186	G
1	AA	1236	G
1	AA	1238	G
1	AA	1244	A
1	AA	1248	G
1	AA	1250	G
1	AA	1253	A
1	AA	1256	G
1	AA	1266	G
1	AA	1271	G
1	AA	1272	A
1	AA	1273	U
1	AA	1281	G
1	AA	1300	G
1	AA	1301	A
1	AA	1305	C
1	AA	1306	C
1	AA	1317	G
1	AA	1352	U
1	AA	1365	A
1	AA	1368	G
1	AA	1378	A
1	AA	1379	U

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Mol	Chain	Res	Type
1	AA	1383	A
1	AA	1386	C
1	AA	1395	A
1	AA	1397	U
1	AA	1416	G
1	AA	1419	A
1	AA	1420	A
1	AA	1427	A
1	AA	1428	C
1	AA	1434	A
1	AA	1435	G
1	AA	1452	G
1	AA	1459	G
1	AA	1476	U
1	AA	1482	G
1	AA	1493	C
1	AA	1504	A
1	AA	1508	A
1	AA	1510	G
1	AA	1512	C
1	AA	1515	A
1	AA	1524	G
1	AA	1531	C
1	AA	1533	C
1	AA	1535	A
1	AA	1536	C
1	AA	1566	A
1	AA	1569	A
1	AA	1578	U
1	AA	1581	G
1	AA	1583	A
1	AA	1584	U
1	AA	1585	C
1	AA	1607	C
1	AA	1608	A
1	AA	1610	A
1	AA	1616	A
1	AA	1627	G
1	AA	1647	U
1	AA	1648	U
1	AA	1649	G
1	AA	1652	A

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Mol	Chain	Res	Type
1	AA	1674	G
1	AA	1714	U
1	AA	1715	G
1	AA	1723	G
1	AA	1729	U
1	AA	1730	C
1	AA	1732	C
1	AA	1737	G
1	AA	1738	G
1	AA	1739	A
1	AA	1744	A
1	AA	1758	U
1	AA	1764	C
1	AA	1773	A
1	AA	1782	U
1	AA	1791	A
1	AA	1800	C
1	AA	1801	A
1	AA	1802	A
1	AA	1808	A
1	AA	1811	G
1	AA	1816	C
1	AA	1829	A
1	AA	1833	C
1	AA	1847	A
1	AA	1848	A
1	AA	1858	A
1	AA	1866	A
1	AA	1869	G
1	AA	1870	C
1	AA	1871	A
1	AA	1872	A
1	AA	1884	G
1	AA	1906	G
1	AA	1913	A
1	AA	1914	C
1	AA	1927	A
1	AA	1929	G
1	AA	1930	G
1	AA	1937	A
1	AA	1938	A
1	AA	1955	U

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Mol	Chain	Res	Type
1	AA	1967	C
1	AA	1970	A
1	AA	1971	U
1	AA	1972	G
1	AA	1991	U
1	AA	1993	U
1	AA	1997	C
1	AA	2017	U
1	AA	2020	A
1	AA	2022	U
1	AA	2023	C
1	AA	2027	G
1	AA	2031	A
1	AA	2033	A
1	AA	2043	C
1	AA	2055	C
1	AA	2056	G
1	AA	2060	A
1	AA	2061	G
1	AA	2062	A
1	AA	2069	G
1	AA	2072	C
1	AA	2104	C
1	AA	2106	U
1	AA	2107	G
1	AA	2108	A
1	AA	2109	U
1	AA	2110	G
1	AA	2134	A
1	AA	2135	A
1	AA	2137	U
1	AA	2138	G
1	AA	2139	U
1	AA	2140	G
1	AA	2142	A
1	AA	2143	C
1	AA	2144	G
1	AA	2145	C
1	AA	2146	C
1	AA	2147	A
1	AA	2148	G
1	AA	2149	U

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Mol	Chain	Res	Type
1	AA	2150	C
1	AA	2151	U
1	AA	2152	G
1	AA	2153	C
1	AA	2154	A
1	AA	2155	U
1	AA	2156	G
1	AA	2157	G
1	AA	2180	U
1	AA	2182	U
1	AA	2183	A
1	AA	2185	U
1	AA	2186	G
1	AA	2194	U
1	AA	2198	A
1	AA	2199	A
1	AA	2203	U
1	AA	2204	G
1	AA	2211	A
1	AA	2212	A
1	AA	2214	C
1	AA	2225	A
1	AA	2226	C
1	AA	2238	G
1	AA	2239	G
1	AA	2250	G
1	AA	2268	A
1	AA	2278	A
1	AA	2283	C
1	AA	2284	A
1	AA	2286	G
1	AA	2287	A
1	AA	2288	A
1	AA	2305	U
1	AA	2308	G
1	AA	2311	A
1	AA	2317	A
1	AA	2322	A
1	AA	2325	G
1	AA	2327	A
1	AA	2336	A
1	AA	2347	C

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Mol	Chain	Res	Type
1	AA	2354	C
1	AA	2361	G
1	AA	2383	G
1	AA	2385	C
1	AA	2396	G
1	AA	2402	U
1	AA	2403	C
1	AA	2406	A
1	AA	2423	U
1	AA	2424	C
1	AA	2425	A
1	AA	2426	A
1	AA	2428	G
1	AA	2429	G
1	AA	2430	A
1	AA	2435	A
1	AA	2441	U
1	AA	2448	A
1	AA	2469	A
1	AA	2476	A
1	AA	2484	G
1	AA	2491	U
1	AA	2498	C
1	AA	2502	G
1	AA	2505	G
1	AA	2506	U
1	AA	2507	C
1	AA	2518	A
1	AA	2529	G
1	AA	2554	U
1	AA	2566	A
1	AA	2567	G
1	AA	2573	C
1	AA	2582	G
1	AA	2585	U
1	AA	2602	A
1	AA	2603	G
1	AA	2609	U
1	AA	2613	U
1	AA	2629	U
1	AA	2663	G
1	AA	2671	G

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Mol	Chain	Res	Type
1	AA	2689	U
1	AA	2690	U
1	AA	2714	G
1	AA	2716	C
1	AA	2733	A
1	AA	2744	G
1	AA	2748	A
1	AA	2757	A
1	AA	2760	C
1	AA	2765	A
1	AA	2769	U
1	AA	2778	A
1	AA	2779	U
1	AA	2791	G
1	AA	2798	U
1	AA	2800	A
1	AA	2801	G
1	AA	2820	A
1	AA	2821	A
1	AA	2849	U
1	AA	2861	U
1	AA	2867	G
1	AA	2883	A
1	AA	2884	U
1	AA	2885	G
1	AA	2903	U
2	AB	3	C
2	AB	15	A
2	AB	16	G
2	AB	21	G
2	AB	24	G
2	AB	30	C
2	AB	35	C
2	AB	42	C
2	AB	44	G
2	AB	56	G
2	AB	84	G
2	AB	87	U
2	AB	88	C
2	AB	89	U
2	AB	90	C
2	AB	99	A

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Mol	Chain	Res	Type
2	AB	109	A
33	BA	5	U
33	BA	7	A
33	BA	9	G
33	BA	22	G
33	BA	32	A
33	BA	39	G
33	BA	40	C
33	BA	47	C
33	BA	48	C
33	BA	50	A
33	BA	51	A
33	BA	52	C
33	BA	70	U
33	BA	71	A
33	BA	72	A
33	BA	73	C
33	BA	75	G
33	BA	76	G
33	BA	77	A
33	BA	78	A
33	BA	79	G
33	BA	80	A
33	BA	81	A
33	BA	82	G
33	BA	83	C
33	BA	85	U
33	BA	86	G
33	BA	89	U
33	BA	90	C
33	BA	98	A
33	BA	116	A
33	BA	121	U
33	BA	122	G
33	BA	130	A
33	BA	131	A
33	BA	138	G
33	BA	141	G
33	BA	143	A
33	BA	144	G
33	BA	159	G
33	BA	163	C

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Mol	Chain	Res	Type
33	BA	164	G
33	BA	166	U
33	BA	173	U
33	BA	177	G
33	BA	182	A
33	BA	191	G
33	BA	205	A
33	BA	209	U
33	BA	210	C
33	BA	211	G
33	BA	240	G
33	BA	245	U
33	BA	247	G
33	BA	251	G
33	BA	258	G
33	BA	266	G
33	BA	267	C
33	BA	273	U
33	BA	285	C
33	BA	289	G
33	BA	321	A
33	BA	328	C
33	BA	329	A
33	BA	332	G
33	BA	344	A
33	BA	345	C
33	BA	346	G
33	BA	347	G
33	BA	352	C
33	BA	354	G
33	BA	367	U
33	BA	372	C
33	BA	373	A
33	BA	384	G
33	BA	392	C
33	BA	406	G
33	BA	408	A
33	BA	411	A
33	BA	412	A
33	BA	413	G
33	BA	421	U
33	BA	423	G

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Mol	Chain	Res	Type
33	BA	424	G
33	BA	429	U
33	BA	430	A
33	BA	435	A
33	BA	452	A
33	BA	455	G
33	BA	457	G
33	BA	458	U
33	BA	459	A
33	BA	461	A
33	BA	462	G
33	BA	463	U
33	BA	466	A
33	BA	467	U
33	BA	468	A
33	BA	479	U
33	BA	481	G
33	BA	482	A
33	BA	484	G
33	BA	485	U
33	BA	486	U
33	BA	498	A
33	BA	500	G
33	BA	508	U
33	BA	509	A
33	BA	511	C
33	BA	518	C
33	BA	521	G
33	BA	527	G
33	BA	532	A
33	BA	533	A
33	BA	547	A
33	BA	556	C
33	BA	559	A
33	BA	562	U
33	BA	564	C
33	BA	572	A
33	BA	573	A
33	BA	576	C
33	BA	577	G
33	BA	579	A
33	BA	588	G

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Mol	Chain	Res	Type
33	BA	596	A
33	BA	604	G
33	BA	650	G
33	BA	653	U
33	BA	665	A
33	BA	687	A
33	BA	702	A
33	BA	721	G
33	BA	723	U
33	BA	731	G
33	BA	747	A
33	BA	748	G
33	BA	755	G
33	BA	777	A
33	BA	793	U
33	BA	794	A
33	BA	802	A
33	BA	815	A
33	BA	817	C
33	BA	828	U
33	BA	829	G
33	BA	841	C
33	BA	843	U
33	BA	845	A
33	BA	846	G
33	BA	859	G
33	BA	902	G
33	BA	914	A
33	BA	926	G
33	BA	927	G
33	BA	932	C
33	BA	934	C
33	BA	935	A
33	BA	960	U
33	BA	966	G
33	BA	969	A
33	BA	971	G
33	BA	974	A
33	BA	975	A
33	BA	976	G
33	BA	977	A
33	BA	983	A

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Mol	Chain	Res	Type
33	BA	993	G
33	BA	1003	G
33	BA	1004	A
33	BA	1008	U
33	BA	1018	G
33	BA	1022	A
33	BA	1027	C
33	BA	1029	U
33	BA	1030	U
33	BA	1031	C
33	BA	1032	G
33	BA	1033	G
33	BA	1034	G
33	BA	1037	C
33	BA	1050	G
33	BA	1052	U
33	BA	1054	C
33	BA	1065	U
33	BA	1066	C
33	BA	1086	U
33	BA	1094	G
33	BA	1095	U
33	BA	1101	A
33	BA	1102	A
33	BA	1104	G
33	BA	1108	G
33	BA	1124	G
33	BA	1125	U
33	BA	1130	A
33	BA	1131	G
33	BA	1132	C
33	BA	1133	G
33	BA	1135	U
33	BA	1137	C
33	BA	1139	G
33	BA	1142	G
33	BA	1159	U
33	BA	1160	G
33	BA	1167	A
33	BA	1168	U
33	BA	1181	G
33	BA	1182	G

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Mol	Chain	Res	Type
33	BA	1183	U
33	BA	1196	A
33	BA	1197	A
33	BA	1202	U
33	BA	1212	U
33	BA	1213	A
33	BA	1226	C
33	BA	1227	A
33	BA	1240	U
33	BA	1249	C
33	BA	1250	A
33	BA	1253	G
33	BA	1256	A
33	BA	1279	G
33	BA	1280	A
33	BA	1286	U
33	BA	1287	A
33	BA	1293	C
33	BA	1297	G
33	BA	1299	A
33	BA	1302	C
33	BA	1303	C
33	BA	1305	G
33	BA	1316	G
33	BA	1317	C
33	BA	1318	A
33	BA	1322	C
33	BA	1323	G
33	BA	1332	A
33	BA	1336	C
33	BA	1337	G
33	BA	1338	G
33	BA	1346	A
33	BA	1353	G
33	BA	1364	U
33	BA	1371	G
33	BA	1380	U
33	BA	1398	A
33	BA	1406	U
33	BA	1411	C
33	BA	1412	C
33	BA	1419	G

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Mol	Chain	Res	Type
33	BA	1440	U
33	BA	1441	A
33	BA	1446	A
33	BA	1452	C
33	BA	1454	G
33	BA	1469	C
33	BA	1470	U
33	BA	1475	G
33	BA	1476	A
33	BA	1487	G
33	BA	1492	A
33	BA	1493	A
33	BA	1494	G
33	BA	1497	G
33	BA	1503	A
33	BA	1506	U
33	BA	1517	G
33	BA	1519	A
33	BA	1529	G
33	BA	1530	G
33	BA	1534	A
1	CA	10	A
1	CA	12	U
1	CA	15	G
1	CA	34	U
1	CA	35	G
1	CA	42	A
1	CA	43	G
1	CA	45	G
1	CA	46	G
1	CA	61	C
1	CA	71	A
1	CA	74	A
1	CA	75	G
1	CA	80	G
1	CA	82	U
1	CA	84	A
1	CA	96	C
1	CA	98	G
1	CA	101	A
1	CA	118	A
1	CA	119	A

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Mol	Chain	Res	Type
1	CA	120	U
1	CA	131	A
1	CA	135	U
1	CA	136	G
1	CA	137	U
1	CA	138	U
1	CA	139	U
1	CA	140	C
1	CA	141	G
1	CA	142	A
1	CA	143	C
1	CA	144	A
1	CA	149	A
1	CA	158	U
1	CA	159	G
1	CA	162	U
1	CA	163	C
1	CA	164	C
1	CA	166	U
1	CA	174	U
1	CA	181	A
1	CA	188	G
1	CA	196	A
1	CA	199	A
1	CA	215	G
1	CA	216	A
1	CA	222	A
1	CA	230	G
1	CA	248	G
1	CA	255	A
1	CA	264	C
1	CA	265	A
1	CA	266	G
1	CA	267	C
1	CA	272	A
1	CA	273	G
1	CA	276	U
1	CA	277	G
1	CA	278	A
1	CA	281	C
1	CA	285	G
1	CA	302	C

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Mol	Chain	Res	Type
1	CA	311	A
1	CA	329	G
1	CA	330	A
1	CA	346	A
1	CA	347	A
1	CA	353	C
1	CA	355	U
1	CA	361	G
1	CA	362	A
1	CA	371	A
1	CA	372	G
1	CA	382	A
1	CA	383	C
1	CA	386	G
1	CA	396	G
1	CA	404	A
1	CA	405	U
1	CA	411	G
1	CA	412	A
1	CA	424	G
1	CA	455	C
1	CA	461	C
1	CA	480	A
1	CA	481	G
1	CA	490	C
1	CA	491	G
1	CA	504	A
1	CA	505	A
1	CA	509	C
1	CA	528	A
1	CA	529	A
1	CA	532	A
1	CA	533	G
1	CA	538	A
1	CA	543	G
1	CA	544	C
1	CA	546	U
1	CA	547	A
1	CA	548	G
1	CA	549	G
1	CA	550	C
1	CA	563	A

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Mol	Chain	Res	Type
1	CA	573	U
1	CA	575	A
1	CA	586	A
1	CA	588	U
1	CA	603	A
1	CA	604	G
1	CA	613	A
1	CA	614	A
1	CA	615	U
1	CA	618	G
1	CA	622	G
1	CA	627	A
1	CA	631	A
1	CA	637	A
1	CA	645	C
1	CA	646	U
1	CA	647	G
1	CA	654	A
1	CA	655	A
1	CA	656	G
1	CA	686	U
1	CA	714	U
1	CA	715	A
1	CA	717	C
1	CA	722	A
1	CA	730	A
1	CA	738	G
1	CA	747	U
1	CA	775	G
1	CA	776	G
1	CA	782	A
1	CA	784	G
1	CA	785	G
1	CA	805	G
1	CA	812	C
1	CA	819	A
1	CA	827	U
1	CA	828	U
1	CA	845	A
1	CA	846	U
1	CA	847	U
1	CA	859	G

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Mol	Chain	Res	Type
1	CA	876	C
1	CA	877	A
1	CA	883	G
1	CA	896	A
1	CA	897	C
1	CA	910	A
1	CA	914	G
1	CA	915	C
1	CA	932	U
1	CA	941	A
1	CA	946	C
1	CA	959	A
1	CA	961	C
1	CA	974	G
1	CA	983	A
1	CA	984	A
1	CA	985	C
1	CA	995	C
1	CA	996	A
1	CA	1005	C
1	CA	1012	U
1	CA	1013	C
1	CA	1021	A
1	CA	1022	G
1	CA	1023	U
1	CA	1026	G
1	CA	1033	U
1	CA	1045	C
1	CA	1046	A
1	CA	1047	G
1	CA	1053	C
1	CA	1059	G
1	CA	1060	U
1	CA	1061	U
1	CA	1062	G
1	CA	1069	A
1	CA	1070	A
1	CA	1072	C
1	CA	1074	G
1	CA	1078	U
1	CA	1080	A
1	CA	1083	U

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Mol	Chain	Res	Type
1	CA	1084	A
1	CA	1088	A
1	CA	1089	A
1	CA	1094	U
1	CA	1097	U
1	CA	1098	A
1	CA	1110	G
1	CA	1111	A
1	CA	1112	G
1	CA	1130	U
1	CA	1132	U
1	CA	1133	A
1	CA	1135	C
1	CA	1136	G
1	CA	1139	G
1	CA	1142	A
1	CA	1169	A
1	CA	1170	C
1	CA	1171	G
1	CA	1175	A
1	CA	1176	U
1	CA	1180	U
1	CA	1181	U
1	CA	1186	G
1	CA	1236	G
1	CA	1238	G
1	CA	1244	A
1	CA	1248	G
1	CA	1250	G
1	CA	1253	A
1	CA	1256	G
1	CA	1266	G
1	CA	1271	G
1	CA	1272	A
1	CA	1273	U
1	CA	1281	G
1	CA	1300	G
1	CA	1301	A
1	CA	1305	C
1	CA	1306	C
1	CA	1317	G
1	CA	1352	U

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Mol	Chain	Res	Type
1	CA	1365	A
1	CA	1368	G
1	CA	1378	A
1	CA	1379	U
1	CA	1383	A
1	CA	1386	C
1	CA	1395	A
1	CA	1397	U
1	CA	1416	G
1	CA	1419	A
1	CA	1420	A
1	CA	1427	A
1	CA	1428	C
1	CA	1435	G
1	CA	1452	G
1	CA	1459	G
1	CA	1460	U
1	CA	1476	U
1	CA	1482	G
1	CA	1493	C
1	CA	1504	A
1	CA	1508	A
1	CA	1510	G
1	CA	1515	A
1	CA	1524	G
1	CA	1533	C
1	CA	1535	A
1	CA	1536	C
1	CA	1558	C
1	CA	1566	A
1	CA	1569	A
1	CA	1578	U
1	CA	1581	G
1	CA	1583	A
1	CA	1584	U
1	CA	1585	C
1	CA	1607	C
1	CA	1608	A
1	CA	1610	A
1	CA	1627	G
1	CA	1647	U
1	CA	1648	U

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Mol	Chain	Res	Type
1	CA	1649	G
1	CA	1652	A
1	CA	1674	G
1	CA	1714	U
1	CA	1715	G
1	CA	1723	G
1	CA	1729	U
1	CA	1730	C
1	CA	1731	G
1	CA	1732	C
1	CA	1737	G
1	CA	1738	G
1	CA	1739	A
1	CA	1744	A
1	CA	1758	U
1	CA	1764	C
1	CA	1773	A
1	CA	1776	G
1	CA	1782	U
1	CA	1791	A
1	CA	1800	C
1	CA	1801	A
1	CA	1802	A
1	CA	1808	A
1	CA	1811	G
1	CA	1816	C
1	CA	1829	A
1	CA	1833	C
1	CA	1847	A
1	CA	1848	A
1	CA	1858	A
1	CA	1866	A
1	CA	1869	G
1	CA	1870	C
1	CA	1871	A
1	CA	1872	A
1	CA	1884	G
1	CA	1906	G
1	CA	1913	A
1	CA	1914	C
1	CA	1927	A
1	CA	1929	G

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Mol	Chain	Res	Type
1	CA	1930	G
1	CA	1937	A
1	CA	1938	A
1	CA	1955	U
1	CA	1967	C
1	CA	1970	A
1	CA	1971	U
1	CA	1972	G
1	CA	1991	U
1	CA	1993	U
1	CA	1997	C
1	CA	2017	U
1	CA	2020	A
1	CA	2022	U
1	CA	2023	C
1	CA	2027	G
1	CA	2031	A
1	CA	2033	A
1	CA	2043	C
1	CA	2055	C
1	CA	2056	G
1	CA	2060	A
1	CA	2061	G
1	CA	2062	A
1	CA	2069	G
1	CA	2072	C
1	CA	2104	C
1	CA	2105	U
1	CA	2106	U
1	CA	2108	A
1	CA	2109	U
1	CA	2110	G
1	CA	2134	A
1	CA	2135	A
1	CA	2138	G
1	CA	2139	U
1	CA	2140	G
1	CA	2142	A
1	CA	2143	C
1	CA	2144	G
1	CA	2145	C
1	CA	2147	A

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Mol	Chain	Res	Type
1	CA	2148	G
1	CA	2150	C
1	CA	2151	U
1	CA	2153	C
1	CA	2154	A
1	CA	2155	U
1	CA	2156	G
1	CA	2157	G
1	CA	2180	U
1	CA	2182	U
1	CA	2183	A
1	CA	2185	U
1	CA	2186	G
1	CA	2194	U
1	CA	2198	A
1	CA	2199	A
1	CA	2203	U
1	CA	2204	G
1	CA	2211	A
1	CA	2212	A
1	CA	2214	C
1	CA	2225	A
1	CA	2226	C
1	CA	2238	G
1	CA	2239	G
1	CA	2250	G
1	CA	2268	A
1	CA	2273	A
1	CA	2278	A
1	CA	2283	C
1	CA	2284	A
1	CA	2286	G
1	CA	2287	A
1	CA	2288	A
1	CA	2305	U
1	CA	2308	G
1	CA	2311	A
1	CA	2322	A
1	CA	2325	G
1	CA	2327	A
1	CA	2335	A
1	CA	2336	A

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Mol	Chain	Res	Type
1	CA	2347	C
1	CA	2354	C
1	CA	2361	G
1	CA	2383	G
1	CA	2385	C
1	CA	2396	G
1	CA	2402	U
1	CA	2403	C
1	CA	2406	A
1	CA	2423	U
1	CA	2424	C
1	CA	2425	A
1	CA	2426	A
1	CA	2428	G
1	CA	2429	G
1	CA	2430	A
1	CA	2435	A
1	CA	2441	U
1	CA	2448	A
1	CA	2476	A
1	CA	2484	G
1	CA	2491	U
1	CA	2498	C
1	CA	2502	G
1	CA	2505	G
1	CA	2506	U
1	CA	2507	C
1	CA	2518	A
1	CA	2529	G
1	CA	2554	U
1	CA	2556	C
1	CA	2566	A
1	CA	2567	G
1	CA	2573	C
1	CA	2576	G
1	CA	2582	G
1	CA	2585	U
1	CA	2602	A
1	CA	2603	G
1	CA	2609	U
1	CA	2613	U
1	CA	2629	U

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Mol	Chain	Res	Type
1	CA	2663	G
1	CA	2671	G
1	CA	2689	U
1	CA	2690	U
1	CA	2714	G
1	CA	2716	C
1	CA	2733	A
1	CA	2744	G
1	CA	2748	A
1	CA	2757	A
1	CA	2760	C
1	CA	2765	A
1	CA	2769	U
1	CA	2778	A
1	CA	2779	U
1	CA	2791	G
1	CA	2798	U
1	CA	2799	A
1	CA	2800	A
1	CA	2801	G
1	CA	2820	A
1	CA	2821	A
1	CA	2849	U
1	CA	2861	U
1	CA	2867	G
1	CA	2883	A
1	CA	2884	U
1	CA	2885	G
1	CA	2903	U
2	CB	3	C
2	CB	15	A
2	CB	16	G
2	CB	21	G
2	CB	24	G
2	CB	25	U
2	CB	30	C
2	CB	35	C
2	CB	42	C
2	CB	44	G
2	CB	56	G
2	CB	84	G
2	CB	87	U

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Mol	Chain	Res	Type
2	CB	88	C
2	CB	89	U
2	CB	90	C
2	CB	99	A
2	CB	109	A
33	DA	5	U
33	DA	7	A
33	DA	9	G
33	DA	22	G
33	DA	32	A
33	DA	39	G
33	DA	40	C
33	DA	48	C
33	DA	50	A
33	DA	51	A
33	DA	52	C
33	DA	62	U
33	DA	63	C
33	DA	64	G
33	DA	70	U
33	DA	71	A
33	DA	72	A
33	DA	73	C
33	DA	75	G
33	DA	76	G
33	DA	77	A
33	DA	78	A
33	DA	80	A
33	DA	81	A
33	DA	82	G
33	DA	83	C
33	DA	84	U
33	DA	85	U
33	DA	86	G
33	DA	90	C
33	DA	98	A
33	DA	116	A
33	DA	121	U
33	DA	122	G
33	DA	130	A
33	DA	131	A
33	DA	141	G

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Mol	Chain	Res	Type
33	DA	143	A
33	DA	144	G
33	DA	159	G
33	DA	163	C
33	DA	164	G
33	DA	166	U
33	DA	173	U
33	DA	177	G
33	DA	182	A
33	DA	191	G
33	DA	205	A
33	DA	209	U
33	DA	210	C
33	DA	211	G
33	DA	240	G
33	DA	245	U
33	DA	247	G
33	DA	251	G
33	DA	258	G
33	DA	266	G
33	DA	267	C
33	DA	273	U
33	DA	285	C
33	DA	289	G
33	DA	321	A
33	DA	328	C
33	DA	329	A
33	DA	332	G
33	DA	344	A
33	DA	345	C
33	DA	346	G
33	DA	347	G
33	DA	352	C
33	DA	354	G
33	DA	367	U
33	DA	372	C
33	DA	373	A
33	DA	384	G
33	DA	392	C
33	DA	406	G
33	DA	408	A
33	DA	411	A

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Mol	Chain	Res	Type
33	DA	412	A
33	DA	413	G
33	DA	421	U
33	DA	423	G
33	DA	424	G
33	DA	429	U
33	DA	430	A
33	DA	435	A
33	DA	452	A
33	DA	455	G
33	DA	457	G
33	DA	458	U
33	DA	459	A
33	DA	461	A
33	DA	462	G
33	DA	463	U
33	DA	466	A
33	DA	467	U
33	DA	468	A
33	DA	479	U
33	DA	481	G
33	DA	482	A
33	DA	484	G
33	DA	485	U
33	DA	486	U
33	DA	497	G
33	DA	500	G
33	DA	508	U
33	DA	509	A
33	DA	511	C
33	DA	518	C
33	DA	521	G
33	DA	527	G
33	DA	532	A
33	DA	533	A
33	DA	547	A
33	DA	556	C
33	DA	559	A
33	DA	562	U
33	DA	564	C
33	DA	572	A
33	DA	573	A

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Mol	Chain	Res	Type
33	DA	576	C
33	DA	577	G
33	DA	579	A
33	DA	588	G
33	DA	596	A
33	DA	604	G
33	DA	650	G
33	DA	653	U
33	DA	665	A
33	DA	687	A
33	DA	702	A
33	DA	721	G
33	DA	723	U
33	DA	724	G
33	DA	731	G
33	DA	748	G
33	DA	755	G
33	DA	777	A
33	DA	793	U
33	DA	794	A
33	DA	802	A
33	DA	815	A
33	DA	817	C
33	DA	828	U
33	DA	829	G
33	DA	841	C
33	DA	843	U
33	DA	845	A
33	DA	846	G
33	DA	859	G
33	DA	902	G
33	DA	914	A
33	DA	926	G
33	DA	927	G
33	DA	932	C
33	DA	934	C
33	DA	935	A
33	DA	960	U
33	DA	966	G
33	DA	969	A
33	DA	971	G
33	DA	974	A

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Mol	Chain	Res	Type
33	DA	975	A
33	DA	976	G
33	DA	977	A
33	DA	983	A
33	DA	993	G
33	DA	1003	G
33	DA	1004	A
33	DA	1008	U
33	DA	1018	G
33	DA	1022	A
33	DA	1027	C
33	DA	1029	U
33	DA	1030	U
33	DA	1031	C
33	DA	1032	G
33	DA	1033	G
33	DA	1034	G
33	DA	1037	C
33	DA	1050	G
33	DA	1054	C
33	DA	1065	U
33	DA	1066	C
33	DA	1086	U
33	DA	1094	G
33	DA	1095	U
33	DA	1101	A
33	DA	1102	A
33	DA	1104	G
33	DA	1108	G
33	DA	1124	G
33	DA	1125	U
33	DA	1130	A
33	DA	1133	G
33	DA	1135	U
33	DA	1137	C
33	DA	1139	G
33	DA	1142	G
33	DA	1146	A
33	DA	1159	U
33	DA	1160	G
33	DA	1167	A
33	DA	1168	U

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Mol	Chain	Res	Type
33	DA	1181	G
33	DA	1182	G
33	DA	1183	U
33	DA	1196	A
33	DA	1197	A
33	DA	1202	U
33	DA	1212	U
33	DA	1213	A
33	DA	1226	C
33	DA	1227	A
33	DA	1238	A
33	DA	1240	U
33	DA	1249	C
33	DA	1253	G
33	DA	1256	A
33	DA	1279	G
33	DA	1280	A
33	DA	1286	U
33	DA	1287	A
33	DA	1293	C
33	DA	1299	A
33	DA	1302	C
33	DA	1303	C
33	DA	1305	G
33	DA	1316	G
33	DA	1317	C
33	DA	1318	A
33	DA	1322	C
33	DA	1323	G
33	DA	1332	A
33	DA	1336	C
33	DA	1337	G
33	DA	1338	G
33	DA	1346	A
33	DA	1353	G
33	DA	1364	U
33	DA	1371	G
33	DA	1380	U
33	DA	1398	A
33	DA	1406	U
33	DA	1411	C
33	DA	1412	C

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Mol	Chain	Res	Type
33	DA	1419	G
33	DA	1440	U
33	DA	1441	A
33	DA	1446	A
33	DA	1452	C
33	DA	1454	G
33	DA	1469	C
33	DA	1470	U
33	DA	1475	G
33	DA	1476	A
33	DA	1487	G
33	DA	1492	A
33	DA	1493	A
33	DA	1494	G
33	DA	1497	G
33	DA	1503	A
33	DA	1506	U
33	DA	1517	G
33	DA	1519	A
33	DA	1529	G
33	DA	1530	G
33	DA	1534	A
1	EA	10	A
1	EA	12	U
1	EA	15	G
1	EA	34	U
1	EA	35	G
1	EA	42	A
1	EA	43	G
1	EA	45	G
1	EA	46	G
1	EA	61	C
1	EA	71	A
1	EA	74	A
1	EA	75	G
1	EA	80	G
1	EA	82	U
1	EA	84	A
1	EA	96	C
1	EA	98	G
1	EA	101	A
1	EA	118	A

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Mol	Chain	Res	Type
1	EA	119	A
1	EA	120	U
1	EA	131	A
1	EA	135	U
1	EA	136	G
1	EA	137	U
1	EA	138	U
1	EA	139	U
1	EA	140	C
1	EA	141	G
1	EA	142	A
1	EA	143	C
1	EA	144	A
1	EA	149	A
1	EA	158	U
1	EA	159	G
1	EA	162	U
1	EA	163	C
1	EA	164	C
1	EA	166	U
1	EA	174	U
1	EA	181	A
1	EA	188	G
1	EA	196	A
1	EA	199	A
1	EA	215	G
1	EA	216	A
1	EA	222	A
1	EA	230	G
1	EA	248	G
1	EA	255	A
1	EA	264	C
1	EA	265	A
1	EA	266	G
1	EA	267	C
1	EA	272	A
1	EA	273	G
1	EA	276	U
1	EA	277	G
1	EA	278	A
1	EA	279	A
1	EA	281	C

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Mol	Chain	Res	Type
1	EA	285	G
1	EA	302	C
1	EA	311	A
1	EA	329	G
1	EA	330	A
1	EA	346	A
1	EA	347	A
1	EA	353	C
1	EA	355	U
1	EA	361	G
1	EA	362	A
1	EA	371	A
1	EA	372	G
1	EA	382	A
1	EA	383	C
1	EA	386	G
1	EA	396	G
1	EA	404	A
1	EA	405	U
1	EA	411	G
1	EA	412	A
1	EA	424	G
1	EA	455	C
1	EA	461	C
1	EA	480	A
1	EA	481	G
1	EA	490	C
1	EA	491	G
1	EA	504	A
1	EA	505	A
1	EA	509	C
1	EA	528	A
1	EA	529	A
1	EA	532	A
1	EA	533	G
1	EA	538	A
1	EA	543	G
1	EA	544	C
1	EA	546	U
1	EA	547	A
1	EA	548	G
1	EA	549	G

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Mol	Chain	Res	Type
1	EA	550	C
1	EA	563	A
1	EA	573	U
1	EA	575	A
1	EA	586	A
1	EA	588	U
1	EA	603	A
1	EA	604	G
1	EA	613	A
1	EA	614	A
1	EA	615	U
1	EA	618	G
1	EA	622	G
1	EA	627	A
1	EA	631	A
1	EA	637	A
1	EA	645	C
1	EA	646	U
1	EA	647	G
1	EA	654	A
1	EA	655	A
1	EA	656	G
1	EA	686	U
1	EA	714	U
1	EA	715	A
1	EA	717	C
1	EA	722	A
1	EA	730	A
1	EA	738	G
1	EA	747	U
1	EA	775	G
1	EA	776	G
1	EA	782	A
1	EA	784	G
1	EA	785	G
1	EA	805	G
1	EA	812	C
1	EA	819	A
1	EA	827	U
1	EA	828	U
1	EA	845	A
1	EA	846	U

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Mol	Chain	Res	Type
1	EA	847	U
1	EA	859	G
1	EA	876	C
1	EA	877	A
1	EA	883	G
1	EA	896	A
1	EA	897	C
1	EA	902	C
1	EA	910	A
1	EA	914	G
1	EA	915	C
1	EA	932	U
1	EA	941	A
1	EA	946	C
1	EA	959	A
1	EA	961	C
1	EA	974	G
1	EA	983	A
1	EA	995	C
1	EA	996	A
1	EA	1012	U
1	EA	1013	C
1	EA	1021	A
1	EA	1022	G
1	EA	1023	U
1	EA	1025	G
1	EA	1026	G
1	EA	1033	U
1	EA	1045	C
1	EA	1046	A
1	EA	1047	G
1	EA	1053	C
1	EA	1059	G
1	EA	1060	U
1	EA	1061	U
1	EA	1062	G
1	EA	1069	A
1	EA	1070	A
1	EA	1072	C
1	EA	1078	U
1	EA	1080	A
1	EA	1083	U

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Mol	Chain	Res	Type
1	EA	1084	A
1	EA	1088	A
1	EA	1089	A
1	EA	1097	U
1	EA	1098	A
1	EA	1110	G
1	EA	1111	A
1	EA	1112	G
1	EA	1130	U
1	EA	1132	U
1	EA	1133	A
1	EA	1135	C
1	EA	1136	G
1	EA	1139	G
1	EA	1142	A
1	EA	1155	A
1	EA	1169	A
1	EA	1170	C
1	EA	1171	G
1	EA	1174	U
1	EA	1175	A
1	EA	1176	U
1	EA	1177	G
1	EA	1180	U
1	EA	1181	U
1	EA	1186	G
1	EA	1236	G
1	EA	1238	G
1	EA	1244	A
1	EA	1248	G
1	EA	1250	G
1	EA	1253	A
1	EA	1256	G
1	EA	1266	G
1	EA	1271	G
1	EA	1272	A
1	EA	1273	U
1	EA	1281	G
1	EA	1300	G
1	EA	1301	A
1	EA	1305	C
1	EA	1306	C

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Mol	Chain	Res	Type
1	EA	1317	G
1	EA	1352	U
1	EA	1365	A
1	EA	1368	G
1	EA	1378	A
1	EA	1379	U
1	EA	1383	A
1	EA	1386	C
1	EA	1395	A
1	EA	1397	U
1	EA	1416	G
1	EA	1419	A
1	EA	1420	A
1	EA	1427	A
1	EA	1428	C
1	EA	1435	G
1	EA	1452	G
1	EA	1453	A
1	EA	1459	G
1	EA	1476	U
1	EA	1482	G
1	EA	1493	C
1	EA	1504	A
1	EA	1508	A
1	EA	1509	A
1	EA	1510	G
1	EA	1515	A
1	EA	1524	G
1	EA	1531	C
1	EA	1533	C
1	EA	1535	A
1	EA	1536	C
1	EA	1566	A
1	EA	1569	A
1	EA	1578	U
1	EA	1581	G
1	EA	1583	A
1	EA	1584	U
1	EA	1585	C
1	EA	1607	C
1	EA	1608	A
1	EA	1610	A

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Mol	Chain	Res	Type
1	EA	1627	G
1	EA	1647	U
1	EA	1648	U
1	EA	1649	G
1	EA	1652	A
1	EA	1674	G
1	EA	1714	U
1	EA	1715	G
1	EA	1723	G
1	EA	1729	U
1	EA	1730	C
1	EA	1732	C
1	EA	1733	G
1	EA	1737	G
1	EA	1738	G
1	EA	1739	A
1	EA	1744	A
1	EA	1758	U
1	EA	1764	C
1	EA	1773	A
1	EA	1776	G
1	EA	1782	U
1	EA	1791	A
1	EA	1800	C
1	EA	1801	A
1	EA	1802	A
1	EA	1808	A
1	EA	1811	G
1	EA	1816	C
1	EA	1829	A
1	EA	1833	C
1	EA	1847	A
1	EA	1848	A
1	EA	1858	A
1	EA	1869	G
1	EA	1870	C
1	EA	1871	A
1	EA	1872	A
1	EA	1884	G
1	EA	1906	G
1	EA	1913	A
1	EA	1914	C

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Mol	Chain	Res	Type
1	EA	1927	A
1	EA	1929	G
1	EA	1930	G
1	EA	1937	A
1	EA	1938	A
1	EA	1955	U
1	EA	1967	C
1	EA	1970	A
1	EA	1971	U
1	EA	1972	G
1	EA	1991	U
1	EA	1993	U
1	EA	1997	C
1	EA	2017	U
1	EA	2020	A
1	EA	2022	U
1	EA	2023	C
1	EA	2031	A
1	EA	2033	A
1	EA	2043	C
1	EA	2055	C
1	EA	2056	G
1	EA	2060	A
1	EA	2061	G
1	EA	2062	A
1	EA	2069	G
1	EA	2072	C
1	EA	2104	C
1	EA	2105	U
1	EA	2106	U
1	EA	2107	G
1	EA	2108	A
1	EA	2110	G
1	EA	2134	A
1	EA	2137	U
1	EA	2138	G
1	EA	2139	U
1	EA	2140	G
1	EA	2142	A
1	EA	2143	C
1	EA	2144	G
1	EA	2145	C

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Mol	Chain	Res	Type
1	EA	2146	C
1	EA	2147	A
1	EA	2148	G
1	EA	2149	U
1	EA	2150	C
1	EA	2151	U
1	EA	2152	G
1	EA	2153	C
1	EA	2154	A
1	EA	2156	G
1	EA	2180	U
1	EA	2181	U
1	EA	2182	U
1	EA	2183	A
1	EA	2185	U
1	EA	2186	G
1	EA	2187	U
1	EA	2194	U
1	EA	2198	A
1	EA	2199	A
1	EA	2203	U
1	EA	2204	G
1	EA	2211	A
1	EA	2212	A
1	EA	2214	C
1	EA	2225	A
1	EA	2226	C
1	EA	2238	G
1	EA	2239	G
1	EA	2250	G
1	EA	2268	A
1	EA	2273	A
1	EA	2278	A
1	EA	2283	C
1	EA	2284	A
1	EA	2286	G
1	EA	2287	A
1	EA	2305	U
1	EA	2308	G
1	EA	2311	A
1	EA	2317	A
1	EA	2322	A

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Mol	Chain	Res	Type
1	EA	2325	G
1	EA	2327	A
1	EA	2335	A
1	EA	2336	A
1	EA	2347	C
1	EA	2354	C
1	EA	2383	G
1	EA	2385	C
1	EA	2396	G
1	EA	2402	U
1	EA	2403	C
1	EA	2406	A
1	EA	2423	U
1	EA	2424	C
1	EA	2425	A
1	EA	2426	A
1	EA	2428	G
1	EA	2429	G
1	EA	2430	A
1	EA	2435	A
1	EA	2441	U
1	EA	2448	A
1	EA	2476	A
1	EA	2484	G
1	EA	2491	U
1	EA	2498	C
1	EA	2502	G
1	EA	2505	G
1	EA	2506	U
1	EA	2507	C
1	EA	2518	A
1	EA	2529	G
1	EA	2554	U
1	EA	2556	C
1	EA	2566	A
1	EA	2567	G
1	EA	2573	C
1	EA	2582	G
1	EA	2585	U
1	EA	2602	A
1	EA	2603	G
1	EA	2609	U

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Mol	Chain	Res	Type
1	EA	2613	U
1	EA	2629	U
1	EA	2663	G
1	EA	2671	G
1	EA	2689	U
1	EA	2690	U
1	EA	2714	G
1	EA	2716	C
1	EA	2733	A
1	EA	2744	G
1	EA	2748	A
1	EA	2757	A
1	EA	2760	C
1	EA	2765	A
1	EA	2769	U
1	EA	2778	A
1	EA	2779	U
1	EA	2791	G
1	EA	2798	U
1	EA	2799	A
1	EA	2800	A
1	EA	2801	G
1	EA	2820	A
1	EA	2821	A
1	EA	2849	U
1	EA	2861	U
1	EA	2867	G
1	EA	2883	A
1	EA	2884	U
1	EA	2885	G
1	EA	2903	U
2	EB	3	C
2	EB	15	A
2	EB	16	G
2	EB	21	G
2	EB	25	U
2	EB	30	C
2	EB	35	C
2	EB	42	C
2	EB	44	G
2	EB	56	G
2	EB	84	G

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Mol	Chain	Res	Type
2	EB	87	U
2	EB	88	C
2	EB	89	U
2	EB	90	C
2	EB	99	A
2	EB	109	A
33	FA	5	U
33	FA	7	A
33	FA	9	G
33	FA	32	A
33	FA	39	G
33	FA	40	C
33	FA	47	C
33	FA	48	C
33	FA	50	A
33	FA	51	A
33	FA	52	C
33	FA	70	U
33	FA	71	A
33	FA	72	A
33	FA	73	C
33	FA	75	G
33	FA	76	G
33	FA	77	A
33	FA	80	A
33	FA	81	A
33	FA	82	G
33	FA	83	C
33	FA	84	U
33	FA	85	U
33	FA	86	G
33	FA	89	U
33	FA	90	C
33	FA	92	U
33	FA	98	A
33	FA	116	A
33	FA	121	U
33	FA	122	G
33	FA	130	A
33	FA	131	A
33	FA	141	G
33	FA	143	A

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Mol	Chain	Res	Type
33	FA	144	G
33	FA	159	G
33	FA	163	C
33	FA	164	G
33	FA	166	U
33	FA	173	U
33	FA	177	G
33	FA	182	A
33	FA	191	G
33	FA	205	A
33	FA	206	C
33	FA	208	U
33	FA	209	U
33	FA	210	C
33	FA	211	G
33	FA	240	G
33	FA	245	U
33	FA	247	G
33	FA	251	G
33	FA	258	G
33	FA	266	G
33	FA	267	C
33	FA	273	U
33	FA	285	C
33	FA	289	G
33	FA	321	A
33	FA	328	C
33	FA	329	A
33	FA	332	G
33	FA	344	A
33	FA	345	C
33	FA	346	G
33	FA	347	G
33	FA	352	C
33	FA	354	G
33	FA	367	U
33	FA	372	C
33	FA	373	A
33	FA	384	G
33	FA	392	C
33	FA	406	G
33	FA	408	A

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Mol	Chain	Res	Type
33	FA	411	A
33	FA	412	A
33	FA	413	G
33	FA	421	U
33	FA	423	G
33	FA	424	G
33	FA	429	U
33	FA	430	A
33	FA	435	A
33	FA	452	A
33	FA	455	G
33	FA	457	G
33	FA	458	U
33	FA	459	A
33	FA	461	A
33	FA	462	G
33	FA	463	U
33	FA	467	U
33	FA	468	A
33	FA	479	U
33	FA	481	G
33	FA	482	A
33	FA	484	G
33	FA	485	U
33	FA	486	U
33	FA	497	G
33	FA	500	G
33	FA	508	U
33	FA	511	C
33	FA	518	C
33	FA	521	G
33	FA	527	G
33	FA	532	A
33	FA	533	A
33	FA	547	A
33	FA	556	C
33	FA	559	A
33	FA	562	U
33	FA	564	C
33	FA	572	A
33	FA	573	A
33	FA	576	C

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Mol	Chain	Res	Type
33	FA	577	G
33	FA	579	A
33	FA	588	G
33	FA	596	A
33	FA	604	G
33	FA	653	U
33	FA	665	A
33	FA	675	A
33	FA	702	A
33	FA	721	G
33	FA	723	U
33	FA	724	G
33	FA	731	G
33	FA	748	G
33	FA	755	G
33	FA	777	A
33	FA	793	U
33	FA	794	A
33	FA	802	A
33	FA	815	A
33	FA	817	C
33	FA	828	U
33	FA	829	G
33	FA	841	C
33	FA	843	U
33	FA	844	G
33	FA	845	A
33	FA	846	G
33	FA	859	G
33	FA	902	G
33	FA	914	A
33	FA	926	G
33	FA	927	G
33	FA	932	C
33	FA	934	C
33	FA	935	A
33	FA	960	U
33	FA	966	G
33	FA	969	A
33	FA	971	G
33	FA	974	A
33	FA	975	A

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Mol	Chain	Res	Type
33	FA	976	G
33	FA	977	A
33	FA	983	A
33	FA	993	G
33	FA	1003	G
33	FA	1004	A
33	FA	1008	U
33	FA	1018	G
33	FA	1022	A
33	FA	1027	C
33	FA	1029	U
33	FA	1030	U
33	FA	1031	C
33	FA	1032	G
33	FA	1033	G
33	FA	1034	G
33	FA	1037	C
33	FA	1050	G
33	FA	1052	U
33	FA	1054	C
33	FA	1065	U
33	FA	1066	C
33	FA	1086	U
33	FA	1094	G
33	FA	1095	U
33	FA	1101	A
33	FA	1102	A
33	FA	1104	G
33	FA	1108	G
33	FA	1124	G
33	FA	1125	U
33	FA	1130	A
33	FA	1133	G
33	FA	1135	U
33	FA	1137	C
33	FA	1139	G
33	FA	1142	G
33	FA	1159	U
33	FA	1160	G
33	FA	1167	A
33	FA	1168	U
33	FA	1181	G

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Mol	Chain	Res	Type
33	FA	1182	G
33	FA	1183	U
33	FA	1196	A
33	FA	1197	A
33	FA	1202	U
33	FA	1212	U
33	FA	1213	A
33	FA	1226	C
33	FA	1227	A
33	FA	1238	A
33	FA	1240	U
33	FA	1249	C
33	FA	1253	G
33	FA	1256	A
33	FA	1279	G
33	FA	1280	A
33	FA	1286	U
33	FA	1287	A
33	FA	1293	C
33	FA	1299	A
33	FA	1302	C
33	FA	1303	C
33	FA	1305	G
33	FA	1316	G
33	FA	1317	C
33	FA	1318	A
33	FA	1322	C
33	FA	1323	G
33	FA	1332	A
33	FA	1336	C
33	FA	1337	G
33	FA	1346	A
33	FA	1353	G
33	FA	1364	U
33	FA	1371	G
33	FA	1380	U
33	FA	1398	A
33	FA	1406	U
33	FA	1411	C
33	FA	1419	G
33	FA	1440	U
33	FA	1441	A

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Mol	Chain	Res	Type
33	FA	1446	A
33	FA	1452	C
33	FA	1454	G
33	FA	1469	C
33	FA	1470	U
33	FA	1476	A
33	FA	1487	G
33	FA	1492	A
33	FA	1493	A
33	FA	1494	G
33	FA	1497	G
33	FA	1499	A
33	FA	1503	A
33	FA	1506	U
33	FA	1517	G
33	FA	1519	A
33	FA	1529	G
33	FA	1530	G
33	FA	1534	A
1	GA	10	A
1	GA	12	U
1	GA	15	G
1	GA	34	U
1	GA	35	G
1	GA	42	A
1	GA	43	G
1	GA	45	G
1	GA	46	G
1	GA	61	C
1	GA	71	A
1	GA	74	A
1	GA	75	G
1	GA	80	G
1	GA	82	U
1	GA	84	A
1	GA	96	C
1	GA	98	G
1	GA	101	A
1	GA	118	A
1	GA	119	A
1	GA	120	U
1	GA	131	A

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Mol	Chain	Res	Type
1	GA	135	U
1	GA	136	G
1	GA	137	U
1	GA	138	U
1	GA	139	U
1	GA	140	C
1	GA	141	G
1	GA	142	A
1	GA	143	C
1	GA	144	A
1	GA	149	A
1	GA	158	U
1	GA	159	G
1	GA	162	U
1	GA	163	C
1	GA	164	C
1	GA	166	U
1	GA	174	U
1	GA	181	A
1	GA	188	G
1	GA	196	A
1	GA	199	A
1	GA	215	G
1	GA	216	A
1	GA	222	A
1	GA	230	G
1	GA	248	G
1	GA	255	A
1	GA	264	C
1	GA	265	A
1	GA	266	G
1	GA	267	C
1	GA	272	A
1	GA	273	G
1	GA	276	U
1	GA	277	G
1	GA	278	A
1	GA	281	C
1	GA	285	G
1	GA	302	C
1	GA	311	A
1	GA	329	G

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Mol	Chain	Res	Type
1	GA	330	A
1	GA	346	A
1	GA	353	C
1	GA	355	U
1	GA	361	G
1	GA	362	A
1	GA	371	A
1	GA	372	G
1	GA	382	A
1	GA	383	C
1	GA	386	G
1	GA	396	G
1	GA	404	A
1	GA	405	U
1	GA	411	G
1	GA	412	A
1	GA	424	G
1	GA	455	C
1	GA	461	C
1	GA	480	A
1	GA	481	G
1	GA	490	C
1	GA	491	G
1	GA	504	A
1	GA	505	A
1	GA	509	C
1	GA	528	A
1	GA	529	A
1	GA	532	A
1	GA	533	G
1	GA	538	A
1	GA	543	G
1	GA	544	C
1	GA	546	U
1	GA	547	A
1	GA	548	G
1	GA	549	G
1	GA	550	C
1	GA	563	A
1	GA	573	U
1	GA	575	A
1	GA	586	A

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Mol	Chain	Res	Type
1	GA	588	U
1	GA	603	A
1	GA	604	G
1	GA	613	A
1	GA	614	A
1	GA	615	U
1	GA	618	G
1	GA	622	G
1	GA	627	A
1	GA	631	A
1	GA	637	A
1	GA	645	C
1	GA	646	U
1	GA	647	G
1	GA	654	A
1	GA	655	A
1	GA	656	G
1	GA	686	U
1	GA	714	U
1	GA	715	A
1	GA	717	C
1	GA	722	A
1	GA	730	A
1	GA	738	G
1	GA	747	U
1	GA	775	G
1	GA	776	G
1	GA	782	A
1	GA	784	G
1	GA	785	G
1	GA	789	A
1	GA	805	G
1	GA	812	C
1	GA	819	A
1	GA	827	U
1	GA	828	U
1	GA	845	A
1	GA	846	U
1	GA	847	U
1	GA	859	G
1	GA	876	C
1	GA	877	A

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Mol	Chain	Res	Type
1	GA	878	A
1	GA	883	G
1	GA	884	U
1	GA	896	A
1	GA	897	C
1	GA	902	C
1	GA	910	A
1	GA	914	G
1	GA	932	U
1	GA	941	A
1	GA	946	C
1	GA	959	A
1	GA	961	C
1	GA	974	G
1	GA	983	A
1	GA	984	A
1	GA	985	C
1	GA	995	C
1	GA	996	A
1	GA	1005	C
1	GA	1012	U
1	GA	1013	C
1	GA	1021	A
1	GA	1022	G
1	GA	1023	U
1	GA	1025	G
1	GA	1026	G
1	GA	1033	U
1	GA	1045	C
1	GA	1046	A
1	GA	1047	G
1	GA	1053	C
1	GA	1059	G
1	GA	1060	U
1	GA	1061	U
1	GA	1062	G
1	GA	1067	A
1	GA	1069	A
1	GA	1070	A
1	GA	1072	C
1	GA	1074	G
1	GA	1078	U

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Mol	Chain	Res	Type
1	GA	1080	A
1	GA	1083	U
1	GA	1084	A
1	GA	1088	A
1	GA	1089	A
1	GA	1097	U
1	GA	1098	A
1	GA	1110	G
1	GA	1112	G
1	GA	1130	U
1	GA	1132	U
1	GA	1133	A
1	GA	1135	C
1	GA	1136	G
1	GA	1139	G
1	GA	1142	A
1	GA	1169	A
1	GA	1170	C
1	GA	1171	G
1	GA	1175	A
1	GA	1176	U
1	GA	1180	U
1	GA	1181	U
1	GA	1186	G
1	GA	1236	G
1	GA	1238	G
1	GA	1244	A
1	GA	1248	G
1	GA	1250	G
1	GA	1253	A
1	GA	1256	G
1	GA	1266	G
1	GA	1271	G
1	GA	1272	A
1	GA	1273	U
1	GA	1281	G
1	GA	1300	G
1	GA	1301	A
1	GA	1305	C
1	GA	1306	C
1	GA	1313	U
1	GA	1317	G

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Mol	Chain	Res	Type
1	GA	1352	U
1	GA	1365	A
1	GA	1368	G
1	GA	1378	A
1	GA	1379	U
1	GA	1383	A
1	GA	1386	C
1	GA	1395	A
1	GA	1397	U
1	GA	1416	G
1	GA	1419	A
1	GA	1420	A
1	GA	1427	A
1	GA	1428	C
1	GA	1434	A
1	GA	1435	G
1	GA	1452	G
1	GA	1459	G
1	GA	1476	U
1	GA	1482	G
1	GA	1493	C
1	GA	1503	A
1	GA	1504	A
1	GA	1508	A
1	GA	1510	G
1	GA	1512	C
1	GA	1515	A
1	GA	1524	G
1	GA	1531	C
1	GA	1533	C
1	GA	1535	A
1	GA	1536	C
1	GA	1566	A
1	GA	1569	A
1	GA	1578	U
1	GA	1581	G
1	GA	1583	A
1	GA	1584	U
1	GA	1585	C
1	GA	1607	C
1	GA	1608	A
1	GA	1610	A

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Mol	Chain	Res	Type
1	GA	1627	G
1	GA	1647	U
1	GA	1648	U
1	GA	1649	G
1	GA	1652	A
1	GA	1674	G
1	GA	1714	U
1	GA	1715	G
1	GA	1723	G
1	GA	1729	U
1	GA	1730	C
1	GA	1731	G
1	GA	1732	C
1	GA	1737	G
1	GA	1738	G
1	GA	1739	A
1	GA	1744	A
1	GA	1758	U
1	GA	1764	C
1	GA	1773	A
1	GA	1791	A
1	GA	1800	C
1	GA	1801	A
1	GA	1802	A
1	GA	1808	A
1	GA	1811	G
1	GA	1816	C
1	GA	1833	C
1	GA	1847	A
1	GA	1848	A
1	GA	1858	A
1	GA	1869	G
1	GA	1870	C
1	GA	1871	A
1	GA	1872	A
1	GA	1884	G
1	GA	1906	G
1	GA	1913	A
1	GA	1914	C
1	GA	1927	A
1	GA	1929	G
1	GA	1930	G

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Mol	Chain	Res	Type
1	GA	1937	A
1	GA	1938	A
1	GA	1955	U
1	GA	1967	C
1	GA	1970	A
1	GA	1971	U
1	GA	1972	G
1	GA	1991	U
1	GA	1993	U
1	GA	1997	C
1	GA	2017	U
1	GA	2020	A
1	GA	2022	U
1	GA	2023	C
1	GA	2031	A
1	GA	2033	A
1	GA	2043	C
1	GA	2055	C
1	GA	2056	G
1	GA	2060	A
1	GA	2061	G
1	GA	2062	A
1	GA	2069	G
1	GA	2072	C
1	GA	2104	C
1	GA	2105	U
1	GA	2106	U
1	GA	2107	G
1	GA	2108	A
1	GA	2109	U
1	GA	2110	G
1	GA	2134	A
1	GA	2135	A
1	GA	2137	U
1	GA	2138	G
1	GA	2140	G
1	GA	2141	G
1	GA	2142	A
1	GA	2143	C
1	GA	2144	G
1	GA	2145	C
1	GA	2147	A

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Mol	Chain	Res	Type
1	GA	2148	G
1	GA	2149	U
1	GA	2150	C
1	GA	2151	U
1	GA	2152	G
1	GA	2153	C
1	GA	2155	U
1	GA	2156	G
1	GA	2157	G
1	GA	2180	U
1	GA	2182	U
1	GA	2183	A
1	GA	2185	U
1	GA	2186	G
1	GA	2194	U
1	GA	2198	A
1	GA	2199	A
1	GA	2203	U
1	GA	2204	G
1	GA	2211	A
1	GA	2212	A
1	GA	2214	C
1	GA	2225	A
1	GA	2226	C
1	GA	2238	G
1	GA	2239	G
1	GA	2250	G
1	GA	2268	A
1	GA	2273	A
1	GA	2278	A
1	GA	2283	C
1	GA	2284	A
1	GA	2286	G
1	GA	2287	A
1	GA	2288	A
1	GA	2305	U
1	GA	2308	G
1	GA	2311	A
1	GA	2317	A
1	GA	2322	A
1	GA	2325	G
1	GA	2327	A

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Mol	Chain	Res	Type
1	GA	2335	A
1	GA	2336	A
1	GA	2347	C
1	GA	2354	C
1	GA	2361	G
1	GA	2383	G
1	GA	2385	C
1	GA	2396	G
1	GA	2402	U
1	GA	2403	C
1	GA	2406	A
1	GA	2423	U
1	GA	2424	C
1	GA	2425	A
1	GA	2426	A
1	GA	2428	G
1	GA	2429	G
1	GA	2430	A
1	GA	2435	A
1	GA	2441	U
1	GA	2448	A
1	GA	2476	A
1	GA	2484	G
1	GA	2491	U
1	GA	2498	C
1	GA	2502	G
1	GA	2505	G
1	GA	2506	U
1	GA	2507	C
1	GA	2518	A
1	GA	2529	G
1	GA	2554	U
1	GA	2566	A
1	GA	2567	G
1	GA	2573	C
1	GA	2585	U
1	GA	2602	A
1	GA	2603	G
1	GA	2609	U
1	GA	2613	U
1	GA	2629	U
1	GA	2663	G

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Mol	Chain	Res	Type
1	GA	2671	G
1	GA	2689	U
1	GA	2690	U
1	GA	2714	G
1	GA	2716	C
1	GA	2726	A
1	GA	2733	A
1	GA	2744	G
1	GA	2748	A
1	GA	2757	A
1	GA	2760	C
1	GA	2765	A
1	GA	2769	U
1	GA	2778	A
1	GA	2779	U
1	GA	2791	G
1	GA	2798	U
1	GA	2800	A
1	GA	2801	G
1	GA	2820	A
1	GA	2821	A
1	GA	2849	U
1	GA	2861	U
1	GA	2867	G
1	GA	2883	A
1	GA	2884	U
1	GA	2885	G
1	GA	2903	U
2	GB	3	C
2	GB	15	A
2	GB	16	G
2	GB	21	G
2	GB	24	G
2	GB	25	U
2	GB	30	C
2	GB	35	C
2	GB	42	C
2	GB	44	G
2	GB	56	G
2	GB	84	G
2	GB	87	U
2	GB	88	C

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Mol	Chain	Res	Type
2	GB	89	U
2	GB	90	C
2	GB	99	A
2	GB	109	A
2	GB	119	A
33	HA	4	U
33	HA	5	U
33	HA	7	A
33	HA	9	G
33	HA	32	A
33	HA	39	G
33	HA	40	C
33	HA	47	C
33	HA	48	C
33	HA	51	A
33	HA	52	C
33	HA	70	U
33	HA	71	A
33	HA	72	A
33	HA	73	C
33	HA	75	G
33	HA	76	G
33	HA	77	A
33	HA	78	A
33	HA	79	G
33	HA	80	A
33	HA	81	A
33	HA	82	G
33	HA	83	C
33	HA	85	U
33	HA	86	G
33	HA	89	U
33	HA	90	C
33	HA	92	U
33	HA	98	A
33	HA	116	A
33	HA	121	U
33	HA	122	G
33	HA	130	A
33	HA	131	A
33	HA	141	G
33	HA	143	A

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Mol	Chain	Res	Type
33	HA	144	G
33	HA	159	G
33	HA	163	C
33	HA	164	G
33	HA	166	U
33	HA	173	U
33	HA	177	G
33	HA	182	A
33	HA	183	C
33	HA	191	G
33	HA	205	A
33	HA	208	U
33	HA	209	U
33	HA	210	C
33	HA	211	G
33	HA	240	G
33	HA	245	U
33	HA	247	G
33	HA	251	G
33	HA	258	G
33	HA	266	G
33	HA	267	C
33	HA	273	U
33	HA	285	C
33	HA	289	G
33	HA	321	A
33	HA	328	C
33	HA	329	A
33	HA	330	C
33	HA	332	G
33	HA	344	A
33	HA	345	C
33	HA	346	G
33	HA	347	G
33	HA	352	C
33	HA	354	G
33	HA	367	U
33	HA	372	C
33	HA	373	A
33	HA	384	G
33	HA	392	C
33	HA	406	G

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Mol	Chain	Res	Type
33	HA	408	A
33	HA	411	A
33	HA	412	A
33	HA	413	G
33	HA	421	U
33	HA	423	G
33	HA	424	G
33	HA	429	U
33	HA	430	A
33	HA	435	A
33	HA	441	A
33	HA	452	A
33	HA	455	G
33	HA	457	G
33	HA	458	U
33	HA	459	A
33	HA	461	A
33	HA	462	G
33	HA	463	U
33	HA	466	A
33	HA	467	U
33	HA	468	A
33	HA	481	G
33	HA	482	A
33	HA	484	G
33	HA	485	U
33	HA	486	U
33	HA	497	G
33	HA	498	A
33	HA	500	G
33	HA	508	U
33	HA	509	A
33	HA	511	C
33	HA	518	C
33	HA	521	G
33	HA	527	G
33	HA	532	A
33	HA	533	A
33	HA	547	A
33	HA	556	C
33	HA	559	A
33	HA	562	U

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Mol	Chain	Res	Type
33	HA	564	C
33	HA	572	A
33	HA	573	A
33	HA	576	C
33	HA	577	G
33	HA	579	A
33	HA	588	G
33	HA	596	A
33	HA	604	G
33	HA	650	G
33	HA	653	U
33	HA	665	A
33	HA	675	A
33	HA	702	A
33	HA	721	G
33	HA	723	U
33	HA	724	G
33	HA	731	G
33	HA	748	G
33	HA	755	G
33	HA	777	A
33	HA	793	U
33	HA	794	A
33	HA	802	A
33	HA	815	A
33	HA	817	C
33	HA	828	U
33	HA	829	G
33	HA	841	C
33	HA	843	U
33	HA	845	A
33	HA	846	G
33	HA	859	G
33	HA	902	G
33	HA	914	A
33	HA	926	G
33	HA	927	G
33	HA	932	C
33	HA	934	C
33	HA	935	A
33	HA	960	U
33	HA	966	G

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Mol	Chain	Res	Type
33	HA	969	A
33	HA	971	G
33	HA	974	A
33	HA	975	A
33	HA	976	G
33	HA	977	A
33	HA	983	A
33	HA	993	G
33	HA	1003	G
33	HA	1004	A
33	HA	1008	U
33	HA	1018	G
33	HA	1022	A
33	HA	1027	C
33	HA	1029	U
33	HA	1030	U
33	HA	1031	C
33	HA	1033	G
33	HA	1034	G
33	HA	1037	C
33	HA	1050	G
33	HA	1054	C
33	HA	1065	U
33	HA	1066	C
33	HA	1086	U
33	HA	1094	G
33	HA	1095	U
33	HA	1101	A
33	HA	1102	A
33	HA	1104	G
33	HA	1108	G
33	HA	1124	G
33	HA	1125	U
33	HA	1130	A
33	HA	1133	G
33	HA	1135	U
33	HA	1136	C
33	HA	1137	C
33	HA	1139	G
33	HA	1142	G
33	HA	1159	U
33	HA	1160	G

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Mol	Chain	Res	Type
33	HA	1167	A
33	HA	1168	U
33	HA	1169	A
33	HA	1181	G
33	HA	1182	G
33	HA	1183	U
33	HA	1196	A
33	HA	1197	A
33	HA	1202	U
33	HA	1212	U
33	HA	1213	A
33	HA	1226	C
33	HA	1227	A
33	HA	1238	A
33	HA	1240	U
33	HA	1249	C
33	HA	1250	A
33	HA	1253	G
33	HA	1256	A
33	HA	1279	G
33	HA	1280	A
33	HA	1286	U
33	HA	1287	A
33	HA	1292	G
33	HA	1293	C
33	HA	1299	A
33	HA	1302	C
33	HA	1303	C
33	HA	1305	G
33	HA	1316	G
33	HA	1317	C
33	HA	1318	A
33	HA	1322	C
33	HA	1323	G
33	HA	1332	A
33	HA	1336	C
33	HA	1337	G
33	HA	1346	A
33	HA	1353	G
33	HA	1364	U
33	HA	1371	G
33	HA	1380	U

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Mol	Chain	Res	Type
33	HA	1398	A
33	HA	1406	U
33	HA	1411	C
33	HA	1412	C
33	HA	1419	G
33	HA	1441	A
33	HA	1446	A
33	HA	1452	C
33	HA	1453	G
33	HA	1454	G
33	HA	1469	C
33	HA	1470	U
33	HA	1476	A
33	HA	1487	G
33	HA	1492	A
33	HA	1493	A
33	HA	1494	G
33	HA	1497	G
33	HA	1499	A
33	HA	1503	A
33	HA	1506	U
33	HA	1517	G
33	HA	1519	A
33	HA	1529	G
33	HA	1530	G
33	HA	1534	A

All (266) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	100	U
1	AA	119	A
1	AA	137	U
1	AA	265	A
1	AA	271	G
1	AA	277	G
1	AA	301	G
1	AA	403	U
1	AA	404	A
1	AA	479	A
1	AA	503	A
1	AA	527	C

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Mol	Chain	Res	Type
1	AA	613	A
1	AA	655	A
1	AA	764	A
1	AA	784	G
1	AA	846	U
1	AA	882	G
1	AA	931	U
1	AA	960	A
1	AA	1020	A
1	AA	1025	G
1	AA	1083	U
1	AA	1088	A
1	AA	1247	A
1	AA	1378	A
1	AA	1458	U
1	AA	1475	G
1	AA	1509	A
1	AA	1535	A
1	AA	1626	A
1	AA	1738	G
1	AA	1757	A
1	AA	1847	A
1	AA	1857	G
1	AA	1870	C
1	AA	1939	U
1	AA	2108	A
1	AA	2142	A
1	AA	2153	C
1	AA	2211	A
1	AA	2286	G
1	AA	2326	C
1	AA	2423	U
1	AA	2585	U
1	AA	2756	U
1	AA	2873	A
1	AA	2902	C
33	BA	51	A
33	BA	79	G
33	BA	115	G
33	BA	250	A
33	BA	429	U
33	BA	484	G

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Mol	Chain	Res	Type
33	BA	499	A
33	BA	701	U
33	BA	913	A
33	BA	1049	U
33	BA	1086	U
33	BA	1101	A
33	BA	1136	C
33	BA	1201	A
33	BA	1302	C
33	BA	1331	G
33	BA	1336	C
33	BA	1451	U
1	CA	100	U
1	CA	119	A
1	CA	137	U
1	CA	265	A
1	CA	271	G
1	CA	277	G
1	CA	301	G
1	CA	403	U
1	CA	404	A
1	CA	479	A
1	CA	503	A
1	CA	527	C
1	CA	613	A
1	CA	655	A
1	CA	784	G
1	CA	846	U
1	CA	876	C
1	CA	882	G
1	CA	931	U
1	CA	960	A
1	CA	984	A
1	CA	1020	A
1	CA	1025	G
1	CA	1069	A
1	CA	1083	U
1	CA	1088	A
1	CA	1247	A
1	CA	1378	A
1	CA	1458	U
1	CA	1475	G

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Mol	Chain	Res	Type
1	CA	1509	A
1	CA	1535	A
1	CA	1626	A
1	CA	1738	G
1	CA	1757	A
1	CA	1847	A
1	CA	1857	G
1	CA	1870	C
1	CA	1913	A
1	CA	1939	U
1	CA	2154	A
1	CA	2211	A
1	CA	2286	G
1	CA	2321	U
1	CA	2326	C
1	CA	2423	U
1	CA	2585	U
1	CA	2756	U
1	CA	2873	A
1	CA	2902	C
2	CB	89	U
33	DA	51	A
33	DA	115	G
33	DA	209	U
33	DA	250	A
33	DA	429	U
33	DA	484	G
33	DA	499	A
33	DA	701	U
33	DA	913	A
33	DA	1049	U
33	DA	1101	A
33	DA	1136	C
33	DA	1145	A
33	DA	1201	A
33	DA	1302	C
33	DA	1331	G
33	DA	1336	C
33	DA	1451	U
1	EA	119	A
1	EA	137	U
1	EA	265	A

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Mol	Chain	Res	Type
1	EA	271	G
1	EA	277	G
1	EA	301	G
1	EA	403	U
1	EA	404	A
1	EA	479	A
1	EA	503	A
1	EA	527	C
1	EA	613	A
1	EA	655	A
1	EA	764	A
1	EA	784	G
1	EA	846	U
1	EA	882	G
1	EA	931	U
1	EA	960	A
1	EA	1020	A
1	EA	1025	G
1	EA	1083	U
1	EA	1088	A
1	EA	1176	U
1	EA	1247	A
1	EA	1378	A
1	EA	1458	U
1	EA	1475	G
1	EA	1509	A
1	EA	1535	A
1	EA	1626	A
1	EA	1737	G
1	EA	1757	A
1	EA	1847	A
1	EA	1857	G
1	EA	1870	C
1	EA	1913	A
1	EA	1939	U
1	EA	2146	C
1	EA	2286	G
1	EA	2321	U
1	EA	2326	C
1	EA	2423	U
1	EA	2756	U
1	EA	2873	A

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Mol	Chain	Res	Type
33	FA	51	A
33	FA	115	G
33	FA	250	A
33	FA	429	U
33	FA	484	G
33	FA	499	A
33	FA	701	U
33	FA	913	A
33	FA	1049	U
33	FA	1101	A
33	FA	1136	C
33	FA	1201	A
33	FA	1302	C
33	FA	1331	G
33	FA	1336	C
33	FA	1451	U
33	FA	1493	A
1	GA	100	U
1	GA	119	A
1	GA	137	U
1	GA	271	G
1	GA	301	G
1	GA	403	U
1	GA	404	A
1	GA	479	A
1	GA	503	A
1	GA	527	C
1	GA	613	A
1	GA	655	A
1	GA	764	A
1	GA	784	G
1	GA	846	U
1	GA	876	C
1	GA	877	A
1	GA	882	G
1	GA	901	C
1	GA	931	U
1	GA	960	A
1	GA	984	A
1	GA	1020	A
1	GA	1025	G
1	GA	1069	A

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Mol	Chain	Res	Type
1	GA	1079	C
1	GA	1083	U
1	GA	1087	G
1	GA	1088	A
1	GA	1095	A
1	GA	1247	A
1	GA	1378	A
1	GA	1458	U
1	GA	1475	G
1	GA	1509	A
1	GA	1535	A
1	GA	1626	A
1	GA	1738	G
1	GA	1757	A
1	GA	1847	A
1	GA	1857	G
1	GA	1870	C
1	GA	1939	U
1	GA	2211	A
1	GA	2286	G
1	GA	2326	C
1	GA	2423	U
1	GA	2585	U
1	GA	2756	U
1	GA	2873	A
1	GA	2902	C
33	HA	51	A
33	HA	80	A
33	HA	115	G
33	HA	250	A
33	HA	429	U
33	HA	484	G
33	HA	499	A
33	HA	701	U
33	HA	913	A
33	HA	1030	U
33	HA	1049	U
33	HA	1101	A
33	HA	1136	C
33	HA	1201	A
33	HA	1331	G
33	HA	1336	C

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Mol	Chain	Res	Type
33	HA	1451	U
33	HA	1452	C

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

12 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	$\# Z > 2$
55	5OH	DW	6	55	7,12,13	1.85	2 (28%)	4,16,18	1.41	1 (25%)
55	UAL	FW	5	55	6,8,9	2.41	3 (50%)	4,9,11	2.80	2 (50%)
55	5OH	BW	6	55	7,12,13	1.66	2 (28%)	4,16,18	1.00	0
55	UAL	DW	5	55	6,8,9	2.69	3 (50%)	4,9,11	4.44	1 (25%)
55	KBE	DW	1	55	8,8,9	0.91	0	6,8,10	1.14	1 (16%)
55	DPP	DW	2	55	4,5,6	0.83	0	1,5,7	0.29	0
55	DPP	BW	2	55	4,5,6	1.07	0	1,5,7	0.71	0
55	KBE	FW	1	55	8,8,9	0.96	0	6,8,10	1.91	1 (16%)
55	5OH	FW	6	55	7,12,13	1.98	2 (28%)	4,16,18	1.25	0
55	UAL	BW	5	55	6,8,9	2.90	3 (50%)	4,9,11	4.66	1 (25%)
55	KBE	BW	1	55	8,8,9	0.90	0	6,8,10	1.09	1 (16%)
55	DPP	FW	2	55	4,5,6	0.83	0	1,5,7	0.01	0

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
55	5OH	DW	6	55	-	1/2/18/20	0/1/1/1
55	UAL	FW	5	55	-	0/3/7/9	-
55	5OH	BW	6	55	-	2/2/18/20	0/1/1/1
55	UAL	DW	5	55	-	1/3/7/9	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
55	KBE	DW	1	55	-	4/7/7/8	-
55	DPP	DW	2	55	-	0/2/4/6	-
55	DPP	BW	2	55	-	0/2/4/6	-
55	KBE	FW	1	55	-	3/7/7/8	-
55	5OH	FW	6	55	-	0/2/18/20	0/1/1/1
55	UAL	BW	5	55	-	1/3/7/9	-
55	KBE	BW	1	55	-	3/7/7/8	-
55	DPP	FW	2	55	-	0/2/4/6	-

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	BW	5	UAL	CB-N1	4.25	1.46	1.35
55	DW	5	UAL	CB-N1	4.07	1.46	1.35
55	BW	5	UAL	C-CA	4.05	1.51	1.45
55	DW	5	UAL	C1-N1	3.84	1.46	1.40
55	FW	5	UAL	CB-N1	3.84	1.45	1.35
55	BW	5	UAL	C1-N1	3.73	1.45	1.40
55	FW	6	5OH	CQ-NQ	3.60	1.42	1.34
55	BW	6	5OH	CQ-NQ	3.46	1.42	1.34
55	FW	5	UAL	C1-N1	3.46	1.45	1.40
55	DW	5	UAL	C-CA	3.32	1.50	1.45
55	DW	6	5OH	CQ-NQ	3.31	1.41	1.34
55	FW	6	5OH	CR-CB	-3.11	1.48	1.53
55	DW	6	5OH	CR-CB	-3.04	1.48	1.53
55	FW	5	UAL	C-CA	2.63	1.49	1.45
55	BW	6	5OH	CR-CB	-2.02	1.50	1.53

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	BW	5	UAL	O-C-CA	-9.02	114.08	125.39
55	DW	5	UAL	O-C-CA	-8.62	114.58	125.39
55	FW	5	UAL	O-C-CA	-5.01	119.11	125.39
55	FW	1	KBE	CB-CA-C	4.19	118.93	112.17
55	BW	1	KBE	O-C-CA	-2.37	118.47	125.38
55	DW	1	KBE	O-C-CA	-2.23	118.88	125.38
55	DW	6	5OH	O-C-CA	-2.18	119.17	124.77
55	FW	5	UAL	N2-C1-N1	2.14	120.07	115.39

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
55	BW	1	KBE	O-C-CA-CB
55	BW	1	KBE	C-CA-CB-N
55	BW	1	KBE	C-CA-CB-CG
55	BW	6	5OH	C-CA-CB-CR
55	DW	1	KBE	N-CB-CG-CD
55	DW	6	5OH	C-CA-CB-CR
55	FW	1	KBE	C-CA-CB-N
55	FW	1	KBE	C-CA-CB-CG
55	BW	5	UAL	CA-CB-N1-C1
55	DW	5	UAL	CA-CB-N1-C1
55	DW	1	KBE	CG-CD-CE-NZ
55	DW	1	KBE	CE-CD-CG-CB
55	BW	6	5OH	O-C-CA-CB
55	DW	1	KBE	C-CA-CB-N
55	FW	1	KBE	O-C-CA-CB

There are no ring outliers.

10 monomers are involved in 14 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
55	DW	6	5OH	3	0
55	BW	6	5OH	1	0
55	DW	5	UAL	2	0
55	DW	1	KBE	1	0
55	DW	2	DPP	1	0
55	FW	1	KBE	1	0
55	FW	6	5OH	3	0
55	BW	5	UAL	1	0
55	BW	1	KBE	2	0
55	FW	2	DPP	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 748 ligands modelled in this entry, 744 are monoatomic - leaving 4 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
58	GCP	HV	801	56	27,34,34	2.23	7 (25%)	35,54,54	2.32	7 (20%)
58	GCP	BV	801	56	27,34,34	2.20	7 (25%)	35,54,54	2.79	11 (31%)
58	GCP	DV	801	56	27,34,34	2.23	6 (22%)	35,54,54	2.56	10 (28%)
58	GCP	FV	801	56	27,34,34	1.49	5 (18%)	35,54,54	1.89	8 (22%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	GCP	HV	801	56	-	3/15/38/38	0/3/3/3
58	GCP	BV	801	56	-	3/15/38/38	0/3/3/3
58	GCP	DV	801	56	-	2/15/38/38	0/3/3/3
58	GCP	FV	801	56	-	3/15/38/38	0/3/3/3

All (25) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	DV	801	GCP	C2-N2	5.85	1.45	1.33
58	DV	801	GCP	O4'-C1'	5.75	1.48	1.40
58	HV	801	GCP	O4'-C1'	5.70	1.48	1.40
58	HV	801	GCP	C2-N2	5.65	1.45	1.33
58	BV	801	GCP	C2-N2	5.63	1.45	1.33
58	BV	801	GCP	O4'-C1'	5.22	1.47	1.40
58	BV	801	GCP	C1'-N9	-4.16	1.39	1.49
58	FV	801	GCP	C5-C6	4.15	1.48	1.41
58	DV	801	GCP	C1'-N9	-4.15	1.39	1.49
58	BV	801	GCP	C2'-C3'	-4.12	1.42	1.53
58	DV	801	GCP	C2'-C3'	-4.07	1.42	1.53
58	HV	801	GCP	C2'-C3'	-3.94	1.42	1.53
58	HV	801	GCP	C1'-N9	-3.75	1.40	1.49
58	FV	801	GCP	PG-O3G	2.91	1.61	1.55
58	FV	801	GCP	PG-O2G	2.88	1.61	1.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	HV	801	GCP	C6-N1	2.77	1.37	1.33
58	DV	801	GCP	C3'-C4'	-2.77	1.46	1.53
58	FV	801	GCP	PB-O3A	2.71	1.61	1.58
58	HV	801	GCP	C3'-C4'	-2.66	1.46	1.53
58	BV	801	GCP	C3'-C4'	-2.64	1.46	1.53
58	DV	801	GCP	C6-N1	2.36	1.37	1.33
58	BV	801	GCP	PB-O3A	-2.26	1.55	1.58
58	BV	801	GCP	C6-N1	2.25	1.36	1.33
58	HV	801	GCP	O4'-C4'	2.15	1.49	1.45
58	FV	801	GCP	PB-O2B	2.09	1.61	1.56

All (36) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	BV	801	GCP	C4'-O4'-C1'	-10.65	100.17	109.92
58	DV	801	GCP	C4'-O4'-C1'	-9.24	101.47	109.92
58	HV	801	GCP	C4'-O4'-C1'	-7.53	103.03	109.92
58	DV	801	GCP	N3-C2-N1	-6.43	119.04	127.21
58	BV	801	GCP	N3-C2-N1	-6.13	119.41	127.21
58	HV	801	GCP	N3-C2-N1	-5.74	119.92	127.21
58	DV	801	GCP	C2-N3-C4	5.68	121.61	115.48
58	FV	801	GCP	C2-N3-C4	5.11	121.00	115.48
58	BV	801	GCP	C2-N3-C4	4.92	120.79	115.48
58	HV	801	GCP	C2-N3-C4	4.91	120.78	115.48
58	BV	801	GCP	O4'-C1'-N9	4.57	114.81	108.75
58	FV	801	GCP	C2-N1-C6	4.56	122.30	115.96
58	HV	801	GCP	PB-O3A-PA	-4.35	118.16	132.37
58	FV	801	GCP	C5-C6-N1	-4.05	118.01	123.42
58	BV	801	GCP	PB-O3A-PA	-3.74	120.17	132.37
58	FV	801	GCP	PB-O3A-PA	-3.63	120.54	132.37
58	FV	801	GCP	N3-C2-N1	-3.43	122.85	127.21
58	BV	801	GCP	C2-N1-C6	3.33	120.60	115.96
58	DV	801	GCP	PB-O3A-PA	-3.17	122.03	132.37
58	HV	801	GCP	C2-N1-C6	3.16	120.35	115.96
58	DV	801	GCP	C2-N1-C6	3.12	120.30	115.96
58	BV	801	GCP	C1'-N9-C4	-2.92	121.50	126.64
58	HV	801	GCP	O4'-C1'-N9	2.69	112.32	108.75
58	DV	801	GCP	C1'-N9-C4	-2.64	122.00	126.64
58	FV	801	GCP	C4-C5-N7	-2.61	106.58	109.34
58	HV	801	GCP	C5-C6-N1	-2.59	119.96	123.42
58	DV	801	GCP	N2-C2-N1	2.58	121.08	117.22
58	FV	801	GCP	C4-C5-C6	-2.57	117.30	121.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	BV	801	GCP	C5-C6-N1	-2.49	120.09	123.42
58	BV	801	GCP	N2-C2-N1	2.34	120.73	117.22
58	BV	801	GCP	O3G-PG-C3B	2.21	111.77	106.40
58	DV	801	GCP	C5-C6-N1	-2.20	120.48	123.42
58	BV	801	GCP	C4-C5-C6	-2.18	117.90	121.23
58	DV	801	GCP	C2'-C3'-C4'	2.16	106.78	102.61
58	DV	801	GCP	C4-C5-C6	-2.15	117.94	121.23
58	FV	801	GCP	C4'-O4'-C1'	2.00	111.76	109.92

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
58	BV	801	GCP	PB-C3B-PG-O1G
58	BV	801	GCP	PB-C3B-PG-O2G
58	BV	801	GCP	PB-C3B-PG-O3G
58	HV	801	GCP	PB-C3B-PG-O1G
58	HV	801	GCP	PB-C3B-PG-O3G
58	DV	801	GCP	PB-C3B-PG-O2G
58	DV	801	GCP	PB-C3B-PG-O3G
58	FV	801	GCP	PB-C3B-PG-O2G
58	FV	801	GCP	PB-C3B-PG-O3G
58	FV	801	GCP	C5'-O5'-PA-O3A
58	HV	801	GCP	PB-C3B-PG-O2G

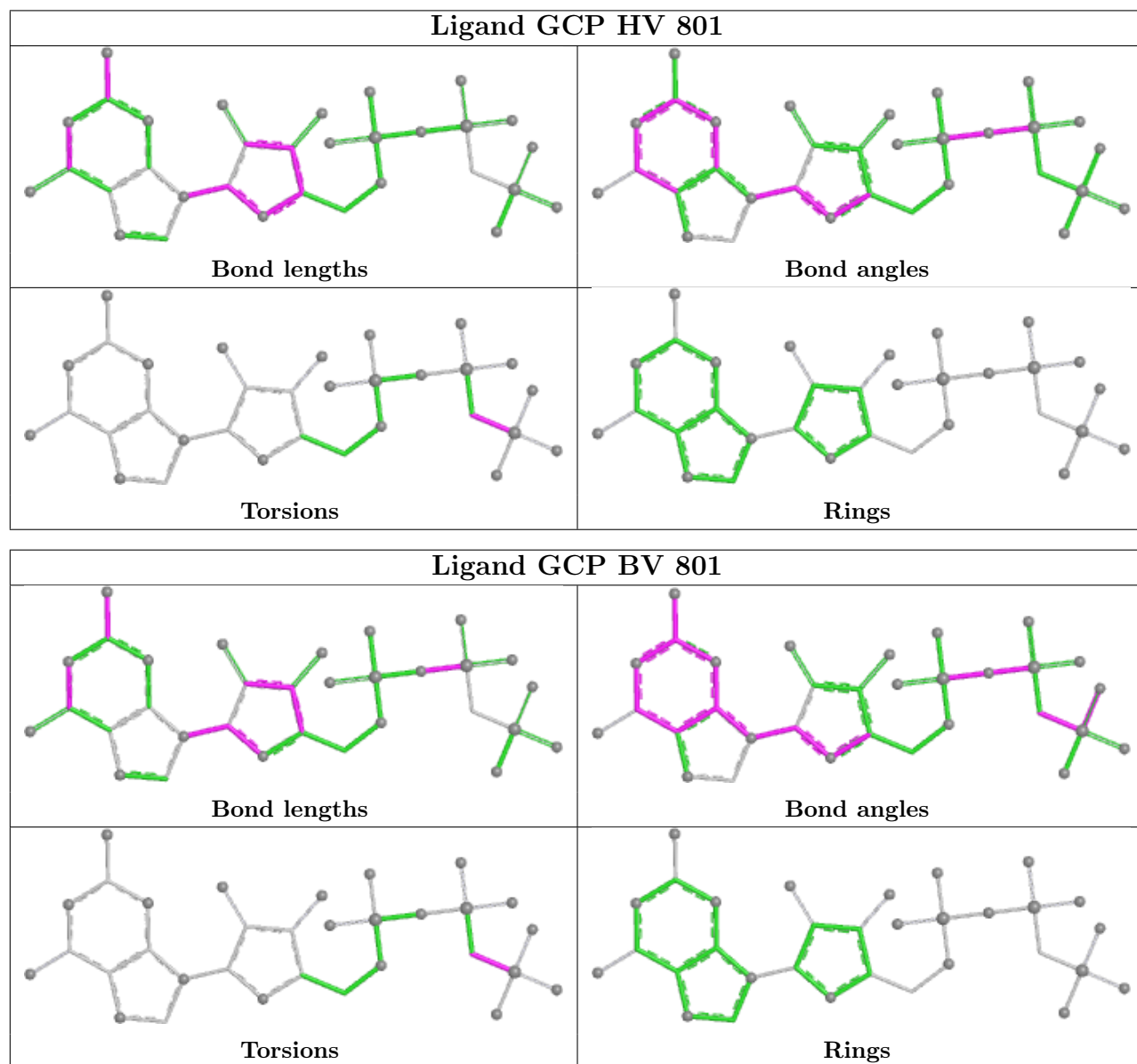
There are no ring outliers.

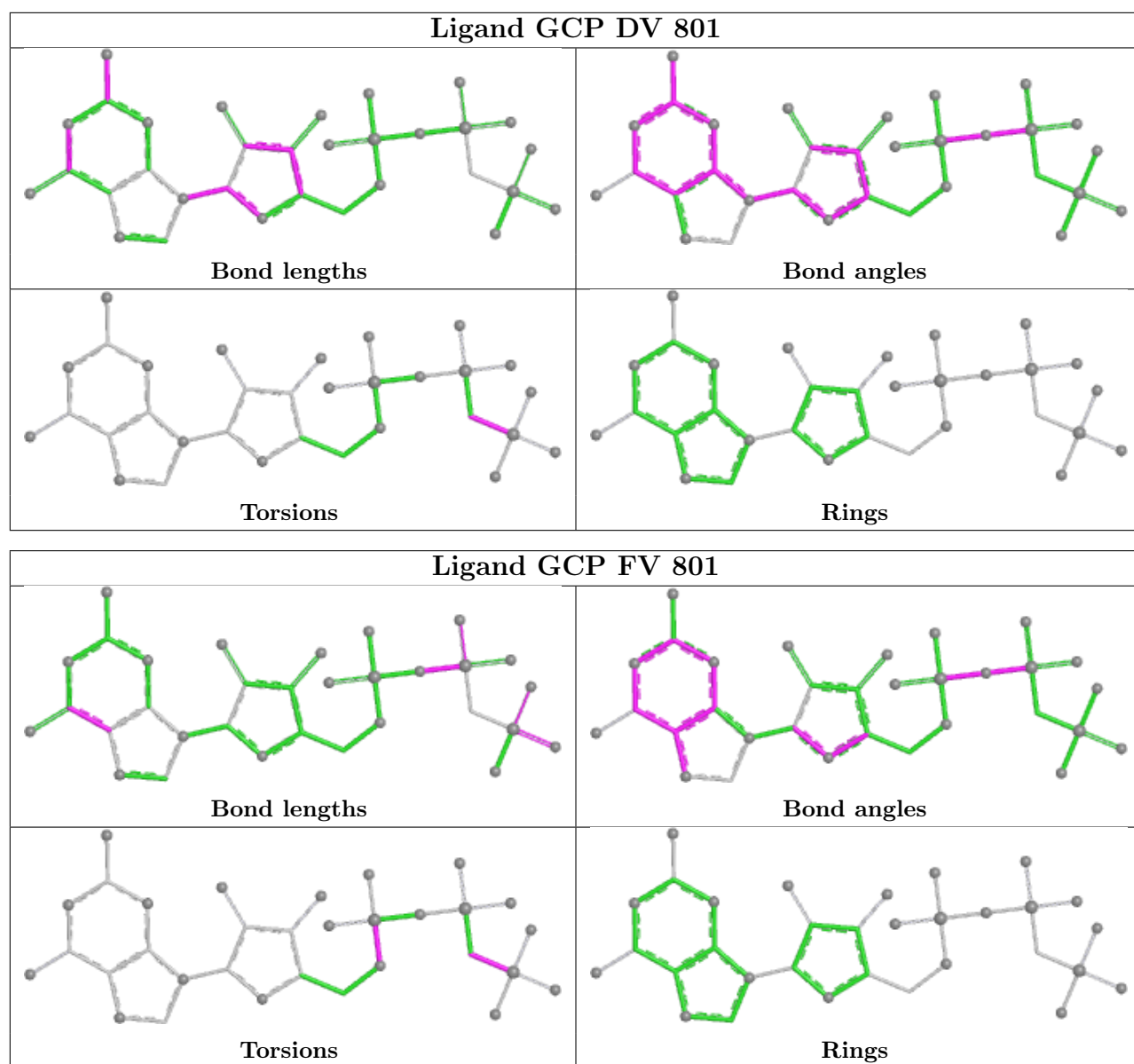
4 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	HV	801	GCP	1	0
58	BV	801	GCP	2	0
58	DV	801	GCP	1	0
58	FV	801	GCP	5	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the

average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

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

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

6.3 Carbohydrates

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

6.4 Ligands

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

6.5 Other polymers

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