Full wwPDB X-ray Structure Validation Report ⓘ

Mar 10, 2026 – 07:40 AM UTC

PDB ID	:	4V9O / pdb_00004v9o
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:

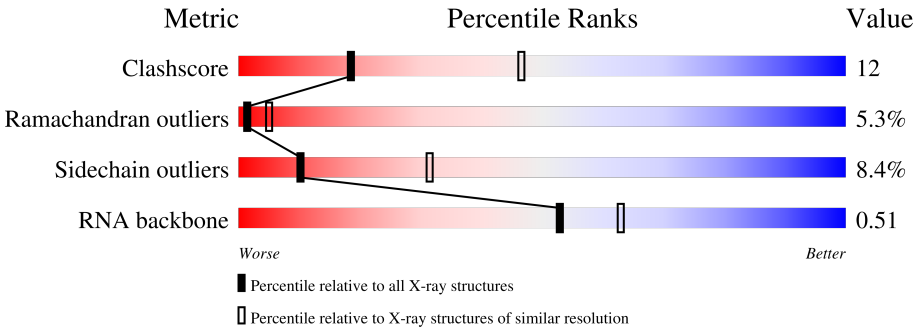
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	FAILED
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 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	190562	2690 (2.90-2.90)
Ramachandran outliers	187476	2623 (2.90-2.90)
Sidechain outliers	187428	2625 (2.90-2.90)
RNA backbone	3983	1120 (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 <=5%

Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	AB	120	68% 24% 7% ·
1	CB	120	61% 31% 7% ·
1	EB	120	64% 24% 10% ·
1	GB	120	38% 52% 9% ·
2	AC	273	67% 26% 5% ·
2	CC	273	67% 25% 6% ··

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Mol	Chain	Length	Quality of chain
2	EC	273	62% 32%
2	GC	273	64% 29% 5%
3	AA	2904	59% 32% 7%
3	CA	2904	57% 34% 8%
3	EA	2904	60% 30% 8%
3	GA	2904	48% 41% 9%
4	AD	209	61% 29% 8%
4	CD	209	61% 31% 8%
4	ED	209	62% 28% 10%
4	GD	209	65% 29% 6%
5	AE	201	67% 25% 7%
5	CE	201	68% 25% 6%
5	EE	201	67% 26% 7%
5	GE	201	52% 42% 5%
6	AF	179	64% 28% 7%
6	CF	179	67% 27% 5%
6	EF	179	55% 34% 9%
6	GF	179	54% 40% 6%
7	AG	177	63% 27% 8%
7	CG	177	60% 31% 8%
7	EG	177	58% 34% 6%
7	GG	177	59% 34% 6%
8	AH	50	54% 36% 10%
8	CH	50	48% 48%
8	EH	50	58% 34% 8%

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Mol	Chain	Length	Quality of chain
8	GH	50	74% 20% 6%
9	AI	142	49% 44% 6%
9	CI	142	53% 41% 5%
9	EI	142	56% 37% 6%
9	GI	142	51% 39% 10%
10	AJ	142	55% 32% 11%
10	CJ	142	60% 27% 13%
10	EJ	142	56% 30% 12%
10	GJ	142	54% 33% 13%
11	AK	123	54% 33% 11%
11	CK	123	58% 30% 11%
11	EK	123	56% 33% 9%
11	GK	123	58% 35% 7%
12	AL	144	65% 28% 6%
12	CL	144	65% 29% 5%
12	EL	144	62% 31% 6%
12	GL	144	59% 32% 8%
13	AM	136	62% 29% 9%
13	CM	136	62% 29% 8%
13	EM	136	60% 34% 7%
13	GM	136	68% 26%
14	AN	127	61% 28% 5% 6%
14	CN	127	65% 26% 6%
14	EN	127	66% 26% 6%
14	GN	127	66% 25% 6%

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Mol	Chain	Length	Quality of chain
15	AO	117	68% 28%
15	CO	117	65% 29% 5%
15	EO	117	71% 25%
15	GO	117	56% 41%
16	AP	115	58% 30% 9%
16	CP	115	57% 30% 11%
16	EP	115	56% 29% 13%
16	GP	115	59% 26% 12%
17	AQ	118	59% 34% 6%
17	CQ	118	70% 23% 6%
17	EQ	118	67% 27% 5%
17	GQ	118	50% 42% 7%
18	AR	103	61% 33% 6%
18	CR	103	59% 34% 6%
18	ER	103	60% 33% 6%
18	GR	103	53% 38% 9%
19	AS	110	65% 25% 8%
19	CS	110	68% 25% 6%
19	ES	110	69% 23% 7%
19	GS	110	63% 32% 5%
20	AT	100	52% 31% 9% 7%
20	CT	100	51% 33% 9% 7%
20	ET	100	47% 35% 10% 7%
20	GT	100	49% 35% 9% 7%
21	AU	104	59% 32% 7%

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Mol	Chain	Length	Quality of chain
21	CU	104	71% 22% 5%
21	EU	104	58% 29% 12%
21	GU	104	58% 35% 5%
22	AV	94	71% 26%
22	CV	94	69% 29%
22	EV	94	81% 18%
22	GV	94	76% 23%
23	AW	85	33% 32% 25% 7%
23	CW	85	32% 38% 22% 7%
23	EW	85	31% 39% 20% 7%
23	GW	85	31% 45% 15% 7%
24	AX	78	67% 24% 8%
24	CX	78	64% 31%
24	EX	78	54% 36% 9%
24	GX	78	56% 37% 5%
25	AY	63	56% 41%
25	CY	63	68% 25% 5%
25	EY	63	59% 29% 13%
25	GY	63	65% 29% 5%
26	AZ	59	49% 39% 10%
26	CZ	59	54% 29% 14%
26	EZ	59	75% 14% 10%
26	GZ	59	51% 39% 8%
27	A0	57	68% 26%
27	C0	57	65% 30%

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Mol	Chain	Length	Quality of chain
27	E0	57	70% 23%
27	G0	57	74% 23%
28	A1	55	55% 31% 5% 9%
28	C1	55	60% 27% 9%
28	E1	55	58% 27% 9%
28	G1	55	64% 24% 9%
29	A2	46	70% 26%
29	C2	46	65% 28%
29	E2	46	76% 20%
29	G2	46	63% 28% 9%
30	A3	65	74% 18% 6%
30	C3	65	77% 18%
30	E3	65	71% 22% 5%
30	G3	65	55% 38%
31	A4	38	50% 37% 11%
31	C4	38	58% 29% 11%
31	E4	38	68% 24% 5%
31	G4	38	71% 18% 8%
32	A5	165	22% 38% 22% 8% 10%
32	C5	165	27% 33% 24% 5% 10%
32	E5	165	24% 35% 23% 6% 12%
33	A6	121	14% 7% 75%
34	BB	241	53% 31% 6% 10%
34	DB	241	47% 37% 6% 10%
34	FB	241	48% 36% 6% 10%

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Mol	Chain	Length	Quality of chain
34	HB	241	52% 34% 10%
35	BA	1542	63% 29% 8%
35	DA	1542	53% 38% 8%
35	FA	1542	58% 34% 7%
35	HA	1542	48% 43% 8%
36	BC	233	61% 23% 12%
36	DC	233	58% 27% 12%
36	FC	233	60% 24% 12%
36	HC	233	64% 21% 12%
37	BD	206	60% 33% 7%
37	DD	206	60% 33% 6%
37	FD	206	57% 38%
37	HD	206	55% 39% 6%
38	BE	167	54% 32% 10%
38	DE	167	58% 28% 10%
38	FE	167	57% 25% 7% 10%
38	HE	167	55% 30% 5% 10%
39	BF	135	52% 17% 24%
39	DF	135	42% 27% 26%
39	FF	135	44% 22% 7% 26%
39	HF	135	40% 31% 26%
40	BG	179	63% 18% 16%
40	DG	179	58% 23% 16%
40	FG	179	66% 16% 16%
40	HG	179	50% 33% 16%

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Mol	Chain	Length	Quality of chain
41	BH	130	63% 32% 5%
41	DH	130	69% 26%
41	FH	130	69% 25% 5%
41	HH	130	62% 33% 5%
42	BI	130	51% 39% 8%
42	DI	130	56% 37% 5%
42	FI	130	55% 33% 8%
42	HI	130	62% 33%
43	BJ	103	61% 30% 5%
43	DJ	103	59% 29% 6% 5%
43	FJ	103	60% 32% 5%
43	HJ	103	56% 30% 9% 5%
44	BK	129	64% 22% 9%
44	DK	129	53% 33% 5% 9%
44	FK	129	52% 31% 8% 9%
44	HK	129	34% 45% 11% 9%
45	BL	124	64% 29% 6%
45	DL	124	65% 29% 5%
45	FL	124	63% 30% 5%
45	HL	124	59% 37%
46	BM	118	68% 24% 5%
46	DM	118	62% 30% 5%
46	FM	118	54% 39%
46	HM	118	49% 39% 8%
47	BN	101	54% 34% 7% 5%

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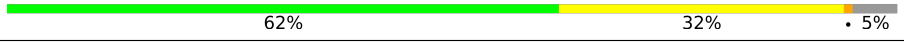
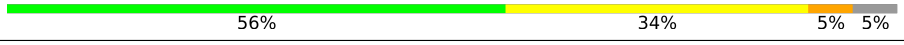
Mol	Chain	Length	Quality of chain
47	DN	101	
47	FN	101	
47	HN	101	
48	BO	89	
48	DO	89	
48	FO	89	
48	HO	89	
49	BP	82	
49	DP	82	
49	FP	82	
49	HP	82	
50	BQ	84	
50	DQ	84	
50	FQ	84	
50	HQ	84	
51	BR	75	
51	DR	75	
51	FR	75	
51	HR	75	
52	BS	92	
52	DS	92	
52	FS	92	
52	HS	92	
53	BT	87	
53	DT	87	

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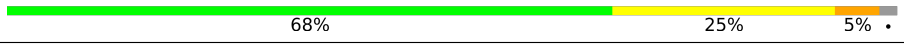
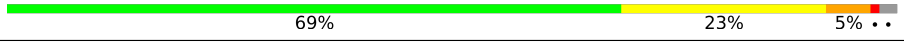
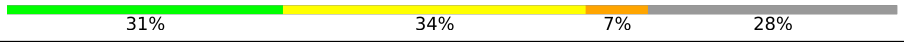
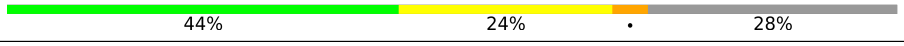
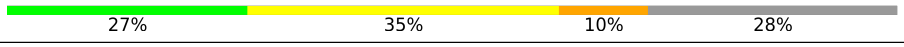
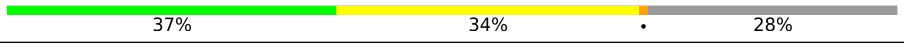
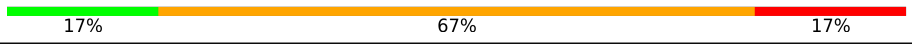
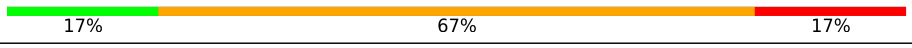
Mol	Chain	Length	Quality of chain
53	FT	87	
53	HT	87	
54	BU	71	
54	DU	71	
54	FU	71	
54	HU	71	
55	BV	704	
55	DV	704	
55	FV	704	
55	HV	704	
56	BW	6	
56	DW	6	
56	FW	6	
56	HW	6	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
56	KBE	BW	1	-	X	-	-

2 Entry composition (i)

There are 60 unique types of molecules in this entry. The entry contains 592086 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 5S rRNA.

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

- Molecule 2 is a protein called 50S ribosomal protein L2.

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

- Molecule 3 is a RNA chain called 23S rRNA.

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

- 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 960	C 593	N 196	O 166	S 5	0	0	0

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

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

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

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

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

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

- 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 779	C 492	N 146	O 141	0	0	0

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

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

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

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

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

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

- 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 409	C 263	N 75	O 71	0	0	0

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

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

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

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

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

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

- 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	C5	148	Total	C	N	O	S	0	0	0
			1117	705	196	209	7			
32	E5	145	Total	C	N	O	S	0	0	0
			1101	696	193	205	7			

- Molecule 33 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	A6	30	Total	C	N	O	S	0	0	0
			227	144	33	47	3			

- 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 RNA chain called 16S rRNA.

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

- Molecule 36 is a protein called 30S ribosomal protein S3.

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

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

- Molecule 37 is a protein called 30S ribosomal protein S4.

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

- Molecule 38 is a protein called 30S ribosomal protein S5.

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

- Molecule 39 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BF	102	Total	C	N	O	S	0	0	0
			832	525	150	150	7			
39	DF	100	Total	C	N	O	S	0	0	0
			817	515	148	148	6			
39	FF	100	Total	C	N	O	S	0	0	0
			817	515	148	148	6			
39	HF	100	Total	C	N	O	S	0	0	0
			817	515	148	148	6			

- Molecule 40 is a protein called 30S ribosomal protein S7.

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

- Molecule 41 is a protein called 30S ribosomal protein S8.

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

- Molecule 42 is a protein called 30S ribosomal protein S9.

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

- Molecule 43 is a protein called 30S ribosomal protein S10.

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

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

- Molecule 44 is a protein called 30S ribosomal protein S11.

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

- Molecule 45 is a protein called 30S ribosomal protein S12.

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

- Molecule 46 is a protein called 30S ribosomal protein S13.

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

- Molecule 47 is a protein called 30S ribosomal protein S14.

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

- Molecule 48 is a protein called 30S ribosomal protein S15.

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

- Molecule 49 is a protein called 30S ribosomal protein S16.

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

- Molecule 50 is a protein called 30S ribosomal protein S17.

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

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

- Molecule 51 is a protein called 30S ribosomal protein S18.

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

- Molecule 52 is a protein called 30S ribosomal protein S19.

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

- Molecule 53 is a protein called 30S ribosomal protein S20.

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

- Molecule 54 is a protein called 30S ribosomal protein S21.

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

- Molecule 55 is a protein called Elongation factor G.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	BV	690	Total	C	N	O	S	0	0	0
			5345	3369	920	1031	25			
55	DV	689	Total	C	N	O	S	0	0	0
			5340	3366	919	1030	25			
55	FV	689	Total	C	N	O	S	0	0	0
			5340	3366	919	1030	25			
55	HV	689	Total	C	N	O	S	0	0	0
			5340	3366	919	1030	25			

- Molecule 56 is a protein called Viomycin.

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

- Molecule 57 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	AB	4	Total	Mg	0	0
			4	4		
57	AC	1	Total	Mg	0	0
			1	1		
57	AA	136	Total	Mg	0	0
			136	136		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	AE	1	Total Mg 1 1	0	0
57	A4	1	Total Mg 1 1	0	0
57	BA	40	Total Mg 40 40	0	0
57	BE	1	Total Mg 1 1	0	0
57	BN	1	Total Mg 1 1	0	0
57	BU	1	Total Mg 1 1	0	0
57	BV	1	Total Mg 1 1	0	0
57	CB	4	Total Mg 4 4	0	0
57	CA	136	Total Mg 136 136	0	0
57	CE	1	Total Mg 1 1	0	0
57	CN	1	Total Mg 1 1	0	0
57	C4	1	Total Mg 1 1	0	0
57	DA	43	Total Mg 43 43	0	0
57	DV	1	Total Mg 1 1	0	0
57	EA	137	Total Mg 137 137	0	0
57	EB	4	Total Mg 4 4	0	0
57	ED	1	Total Mg 1 1	0	0
57	EE	1	Total Mg 1 1	0	0
57	FA	39	Total Mg 39 39	0	0
57	FE	1	Total Mg 1 1	0	0
57	FN	2	Total Mg 2 2	0	0

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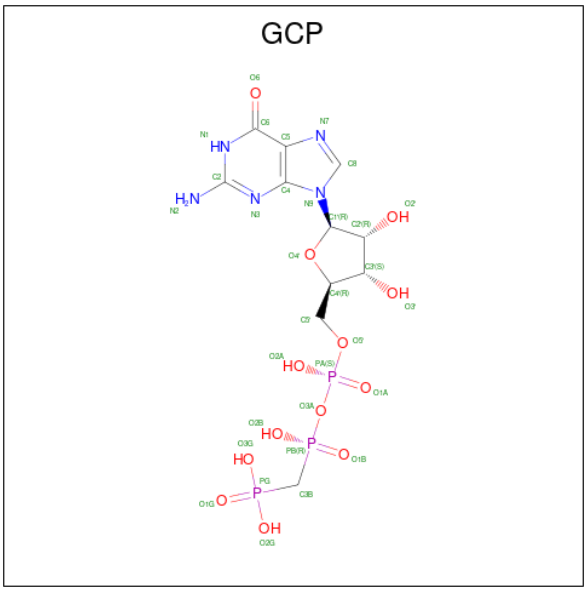
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	FU	1	Total Mg 1 1	0	0
57	FV	1	Total Mg 1 1	0	0
57	GB	4	Total Mg 4 4	0	0
57	GA	136	Total Mg 136 136	0	0
57	GC	2	Total Mg 2 2	0	0
57	GL	1	Total Mg 1 1	0	0
57	HA	41	Total Mg 41 41	0	0
57	HE	1	Total Mg 1 1	0	0
57	HK	1	Total Mg 1 1	0	0
57	HV	1	Total Mg 1 1	0	0

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

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

- Molecule 59 is PHOSPHOMETHYLPHOSPHONIC ACID GUANYLATE ESTER (CCD ID: GCP) (formula: $C_{11}H_{18}N_5O_{13}P_3$).



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

- Molecule 60 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
60	AB	18	Total	O	0	0
			18	18		
60	AC	6	Total	O	0	0
			6	6		
60	AA	614	Total	O	0	0
			614	614		
60	AD	4	Total	O	0	0
			4	4		
60	AE	1	Total	O	0	0
			1	1		
60	AF	1	Total	O	0	0
			1	1		
60	AJ	1	Total	O	0	0
			1	1		
60	AL	5	Total	O	0	0
			5	5		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
60	AN	2	Total O 2 2	0	0
60	AP	1	Total O 1 1	0	0
60	AQ	2	Total O 2 2	0	0
60	AS	1	Total O 1 1	0	0
60	A0	2	Total O 2 2	0	0
60	A2	1	Total O 1 1	0	0
60	A3	1	Total O 1 1	0	0
60	A4	1	Total O 1 1	0	0
60	BA	202	Total O 202 202	0	0
60	BL	1	Total O 1 1	0	0
60	BN	2	Total O 2 2	0	0
60	BT	2	Total O 2 2	0	0
60	BV	1	Total O 1 1	0	0
60	CB	21	Total O 21 21	0	0
60	CA	607	Total O 607 607	0	0
60	CC	8	Total O 8 8	0	0
60	CD	3	Total O 3 3	0	0
60	CE	1	Total O 1 1	0	0
60	CJ	2	Total O 2 2	0	0
60	CL	5	Total O 5 5	0	0
60	CN	2	Total O 2 2	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
60	CQ	1	Total O 1 1	0	0
60	CS	2	Total O 2 2	0	0
60	CT	2	Total O 2 2	0	0
60	CU	1	Total O 1 1	0	0
60	C0	1	Total O 1 1	0	0
60	C2	1	Total O 1 1	0	0
60	C3	1	Total O 1 1	0	0
60	C4	2	Total O 2 2	0	0
60	DA	186	Total O 186 186	0	0
60	DC	2	Total O 2 2	0	0
60	DD	1	Total O 1 1	0	0
60	DE	1	Total O 1 1	0	0
60	DG	1	Total O 1 1	0	0
60	DK	1	Total O 1 1	0	0
60	DL	2	Total O 2 2	0	0
60	DN	8	Total O 8 8	0	0
60	DQ	1	Total O 1 1	0	0
60	DT	4	Total O 4 4	0	0
60	DU	1	Total O 1 1	0	0
60	DV	1	Total O 1 1	0	0
60	EA	610	Total O 610 610	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
60	EB	18	Total O 18 18	0	0
60	EC	9	Total O 9 9	0	0
60	ED	3	Total O 3 3	0	0
60	EE	2	Total O 2 2	0	0
60	EL	4	Total O 4 4	0	0
60	EN	3	Total O 3 3	0	0
60	ER	1	Total O 1 1	0	0
60	ET	2	Total O 2 2	0	0
60	EV	2	Total O 2 2	0	0
60	E0	1	Total O 1 1	0	0
60	E2	1	Total O 1 1	0	0
60	E3	2	Total O 2 2	0	0
60	E4	2	Total O 2 2	0	0
60	FA	197	Total O 197 197	0	0
60	FC	1	Total O 1 1	0	0
60	FE	2	Total O 2 2	0	0
60	FN	3	Total O 3 3	0	0
60	FT	4	Total O 4 4	0	0
60	FU	1	Total O 1 1	0	0
60	FV	1	Total O 1 1	0	0
60	GB	19	Total O 19 19	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
60	GA	606	Total O 606 606	0	0
60	GC	10	Total O 10 10	0	0
60	GD	3	Total O 3 3	0	0
60	GE	2	Total O 2 2	0	0
60	GJ	1	Total O 1 1	0	0
60	GL	4	Total O 4 4	0	0
60	GN	4	Total O 4 4	0	0
60	GQ	1	Total O 1 1	0	0
60	GR	2	Total O 2 2	0	0
60	GS	2	Total O 2 2	0	0
60	GU	1	Total O 1 1	0	0
60	GV	1	Total O 1 1	0	0
60	G2	2	Total O 2 2	0	0
60	G3	1	Total O 1 1	0	0
60	G4	1	Total O 1 1	0	0
60	HA	193	Total O 193 193	0	0
60	HD	3	Total O 3 3	0	0
60	HE	3	Total O 3 3	0	0
60	HN	7	Total O 7 7	0	0
60	HQ	1	Total O 1 1	0	0
60	HT	1	Total O 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
60	HV	1	Total O 1 1	0	0

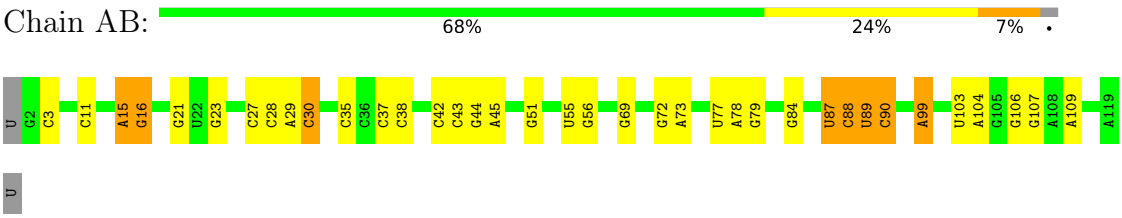
3 Residue-property plots

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

Note EDS failed to run properly.

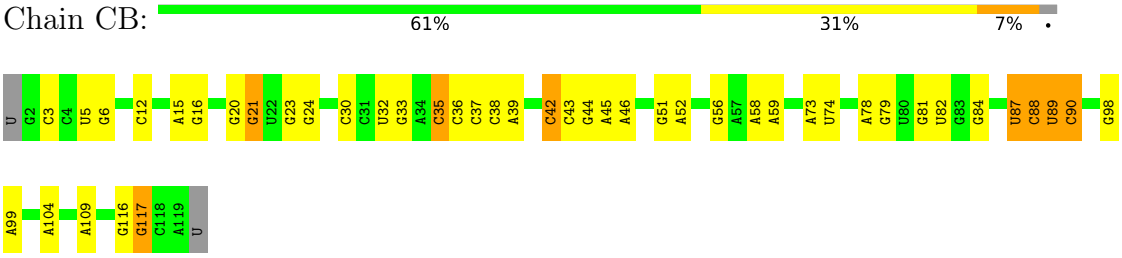
- Molecule 1: 5S rRNA

Chain AB:



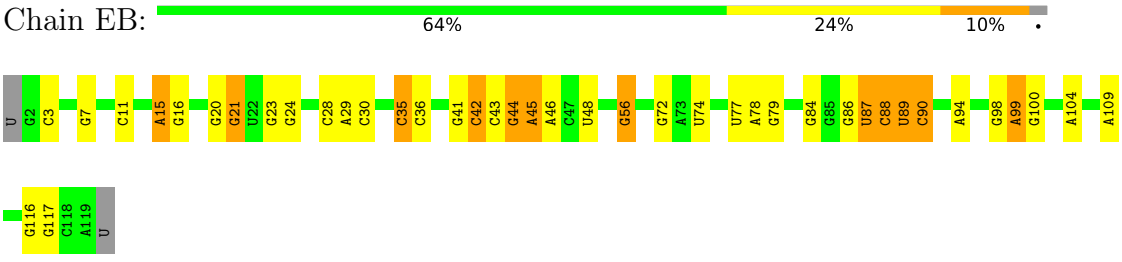
- Molecule 1: 5S rRNA

Chain CB:



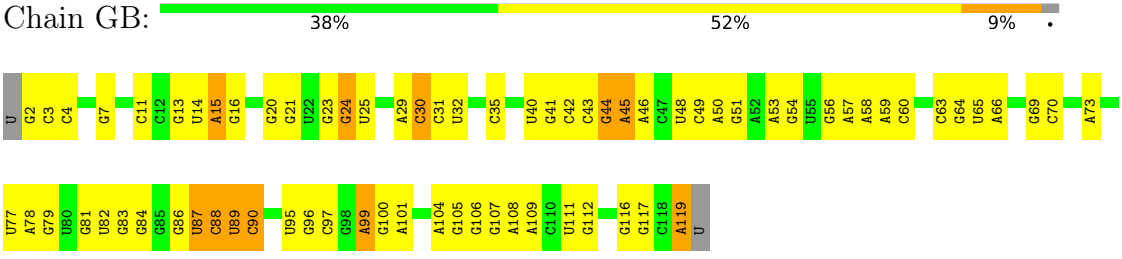
- Molecule 1: 5S rRNA

Chain EB:



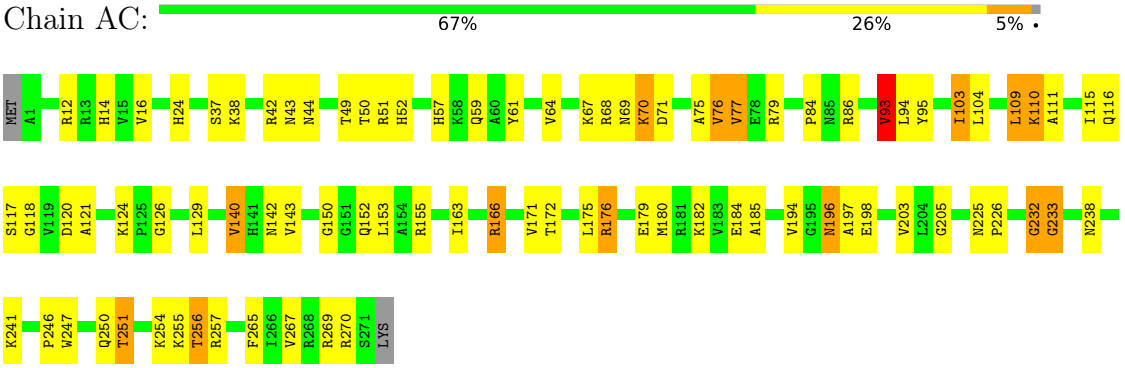
- Molecule 1: 5S rRNA

Chain GB:



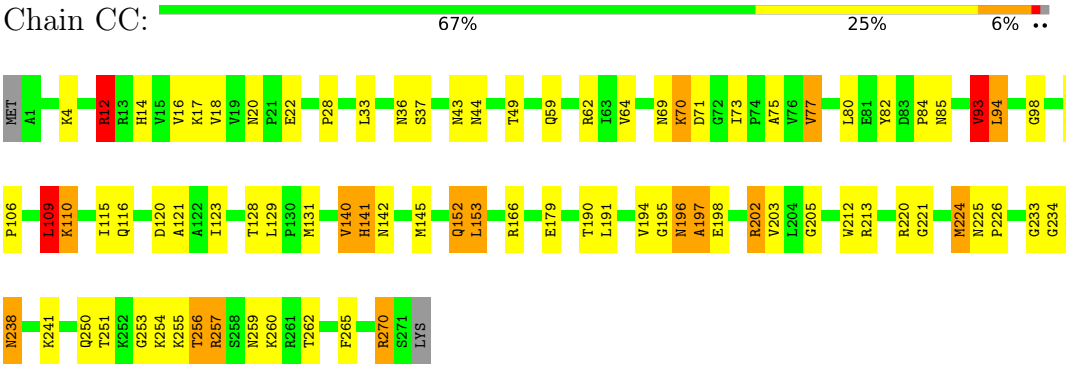
• Molecule 2: 50S ribosomal protein L2

Chain AC:



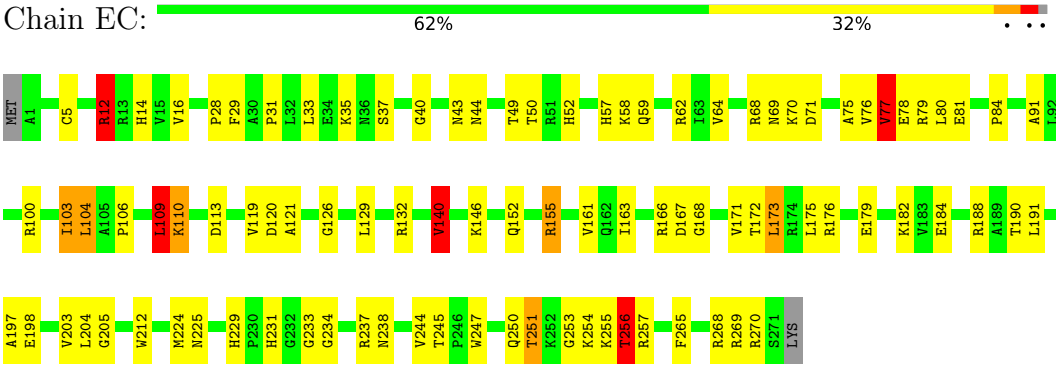
• Molecule 2: 50S ribosomal protein L2

Chain CC:



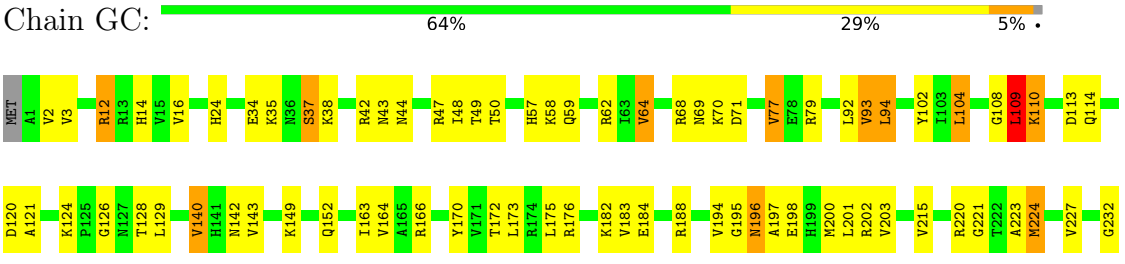
• Molecule 2: 50S ribosomal protein L2

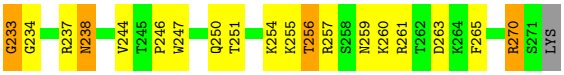
Chain EC:



• Molecule 2: 50S ribosomal protein L2

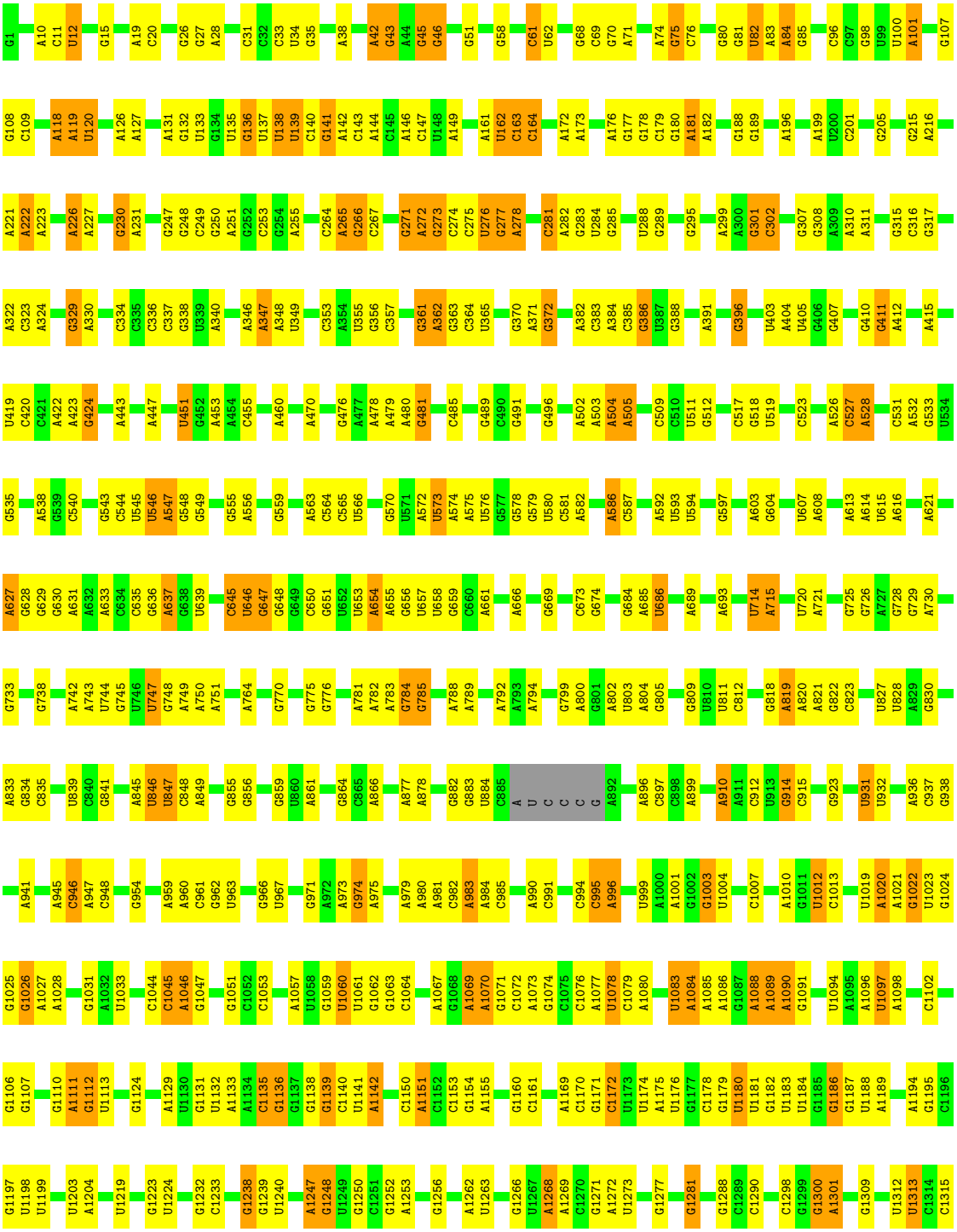
Chain GC:

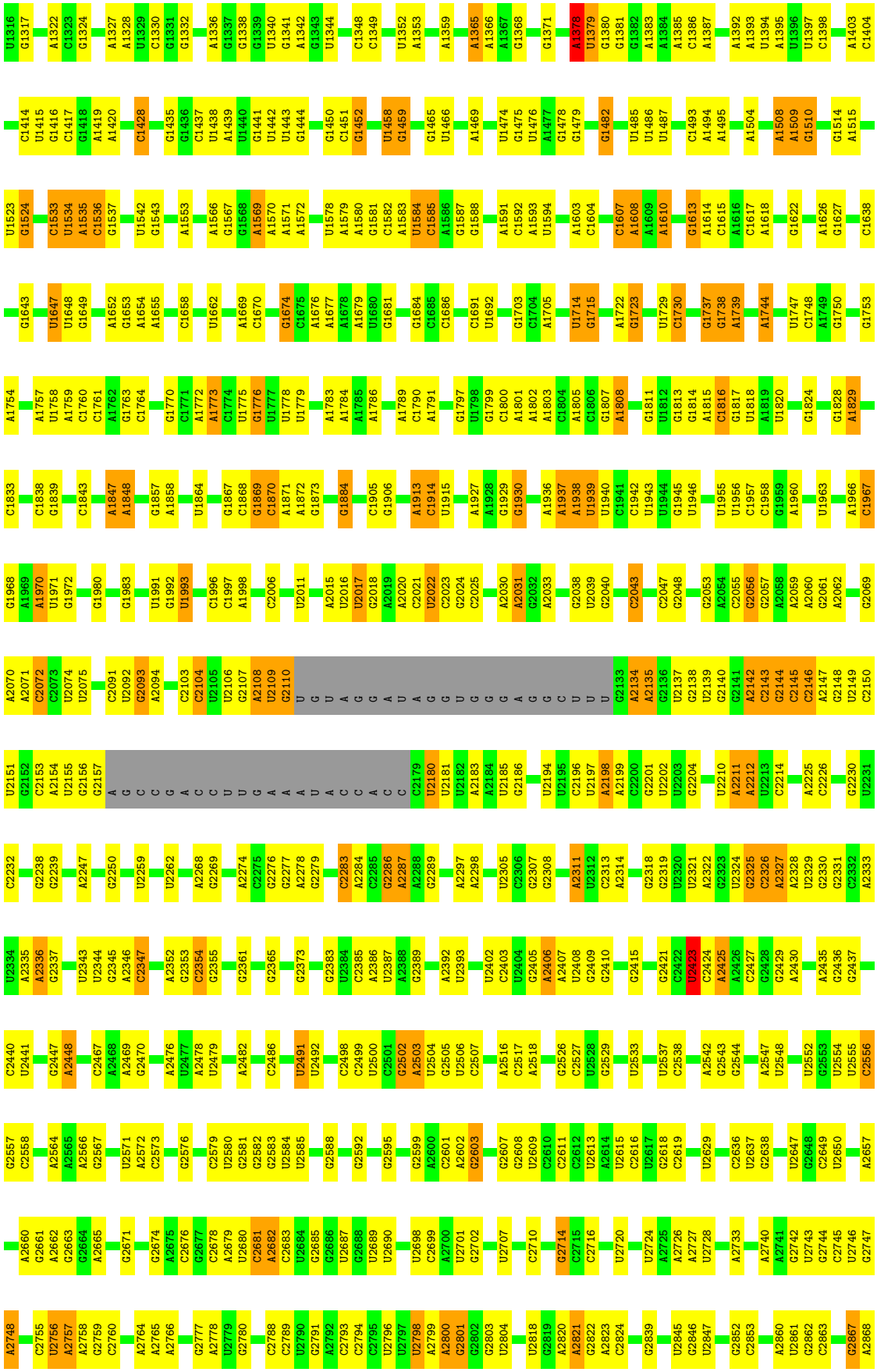


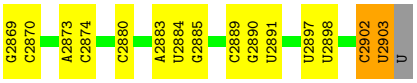


• Molecule 3: 23S rRNA

Chain AA:

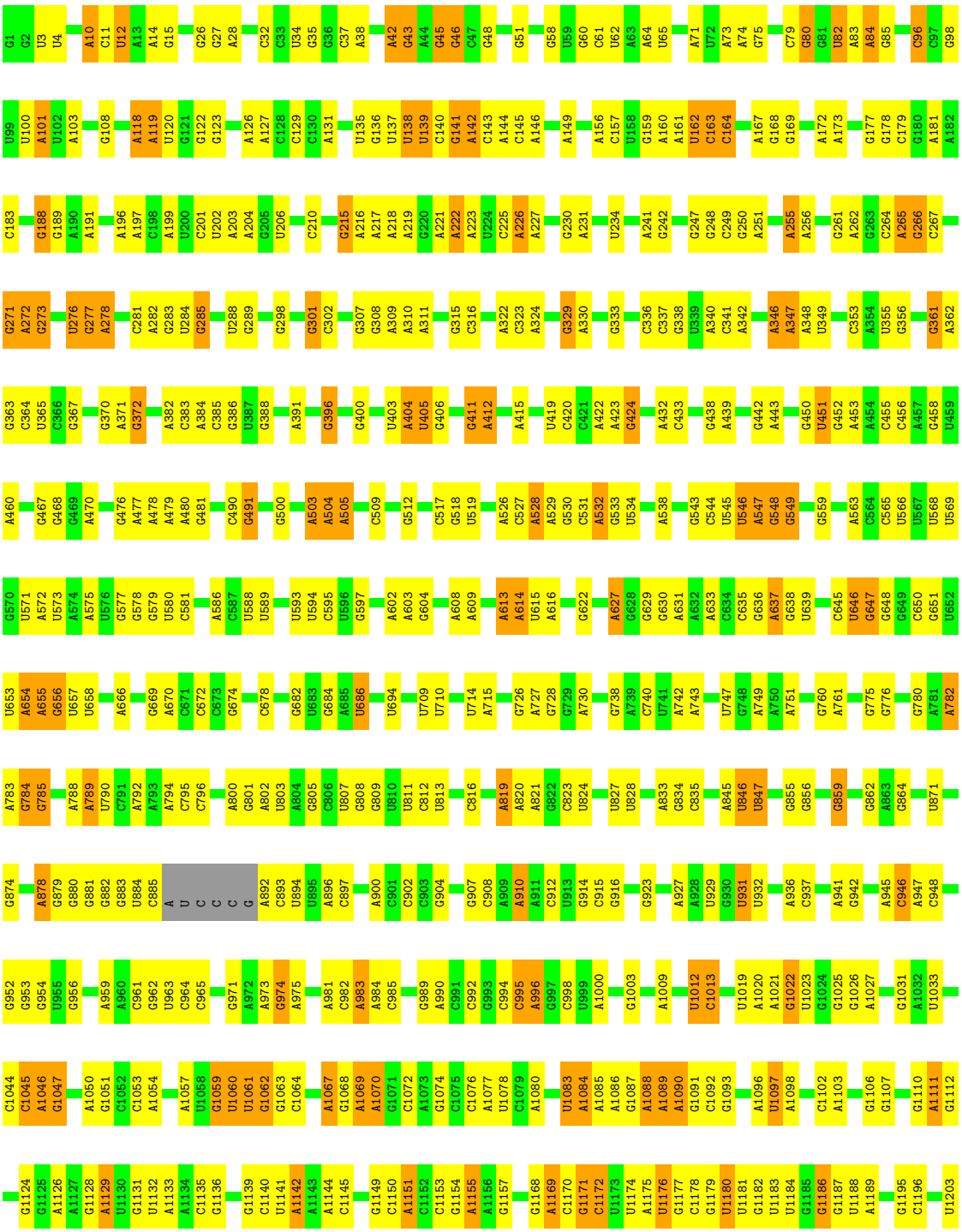






• Molecule 3: 23S rRNA

Chain CA:



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C1293 G1296 C1297 G1300 A1301 G1309 U1313 C1314 C1315 U1316 G1317 U1318 U1326 A1327 A1328 U1329 C1330 G1331 G1332 G1338 A1342 G1343 U1344 U1352 G1360 G1361 C1362 C1363 G1364 A1365 G1368 G1369 C1370 G1371 A1378 U1379 G1380 G1381 G1382 A1383 A1384 A1385 C1386 A1387 A1392 A1393 U1394 A1395
U1396 U1397 A1403 C1404 U1405 U1406 G1410 C1414 U1415 G1416 C1417 G1418 A1419 A1420 G1421 C1428 G1435 A1439 G1444 G1445 C1446 C1447 G1448 G1449 G1450 C1451 G1452 U1458 G1459 A1469 G1475 U1476 G1479 G1482 G1483 U1484 U1485 U1486 U1487 G1492 C1493 A1494 A1495 C1498 C1499 G1500
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G1613 A1616 C1617 A1618 A1626 G1627 G1628 U1629 C1638 A1641 G1642 U1647 U1648 G1649 A1652 G1653 A1654 A1655 C1658 A1664 A1668 A1669 G1673 G1674 G1675 A1676 A1677 G1681 G1684 C1685 G1707 C1708 A1713 U1714 G1715 A1722 G1723 C1727 C1728 U1729 C1730 G1731 C1732
G1733 G1734 G1737 G1738 A1739 A1744 A1745 A1746 U1747 C1748 G1753 U1758 A1759 C1760 C1761 A1762 G1763 C1764 A1773 C1774 U1775 G1776 U1779 A1780 U1781 U1782 A1783 A1784 A1785 A1786 A1789 C1790 A1791 A1794 C1795 U1796 G1797 U1798 G1799 C1800 A1801 A1805 A1808 A1809 A1810 G1811 U1812 G1813 C1816
G1817 U1818 A1819 A1829 C1833 C1837 C1838 G1839 G1840 U1841 G1842 C1843 A1847 A1848 A1858 U1864 U1865 G1869 C1870 A1871 A1872 G1873 C1874 G1875 U1883 G1884 A1899 G1906 A1913 C1914 U1915 A1916 A1927 A1928 G1929 G1930 U1931 A1932 A1937 A1938 U1939 G1945 U1946 C1947 G1948 G1949
G1950 U1951 A1952 A1953 G1954 U1955 U1956 A1960 A1966 C1967 G1968 A1969 A1970 U1971 G1972 G1973 C1974 G1975 U1976 A1977 A1978 G1983 C1989 C1990 U1991 C1992 U1993 C1997 A1998 C2006 G2010 U2011 G2012 A2015 U2016 U2017 G2018 A2019 A2020 C2021 U2022 C2023 G2024 C2025 A2030 A2031 G2032 A2033 U2034 G2035 C2036
A2037 G2038 U2039 C2043 A2051 C2055 G2056 A2060 G2061 A2062 C2063 C2064 C2065 G2069 A2070 A2071 C2072 U2079 A2080 U2081 C2091 U2092 G2093 A2094 A2095 C2096 A2097 A2101 G2102 C2103 C2104 U2105 U2106 G2107 A2108 U2109 G2110 U G U A C G G A U G
A G G C U U U G2133 A2134 A2135 G2136 U2137 G2138 U2139 G2140 G2141 A2142 C2143 G2144 C2145 C2146 A2147 G2148 U2149 C2150 U2151 G2152 C2153 A2154 U2155 G2156 G2157 A G C C G A C C U U G A A C C C C C C2179 A2180 U2181 U2182 A2183 A2184 U2185
U2188 U2194 A2198 A2199 G2204 G2209 U2210 A2211 A2212 U2213 C2214 C2215 G2216 U2219 U2220 G2221 A2225 C2226 U2233 G2234 G2235 U2236 G2237 G2238 G2239 G2250 U2262 A2268 G2269 A2273 G2277 A2278 G2279 C2283 A2284 C2285 G2286 A2287 U2291 G2294 A2297 U2305
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A2392 U2393 C2394 G2400 U2401 U2402 C2403 A2406 A2407 U2408 G2409 A2412 G2415 C2416 C2417 C2422 U2423 C2424 A2425 A2426 C2427 G2428 G2429 A2430 A2435 G2436 C2440 U2441 A2448 U2449 A2450 A2469 G2470 U2473 U2474 C2475 A2476 U2477 A2478 U2479 A2482 C2483 U2491 C2498 C2499 G2502
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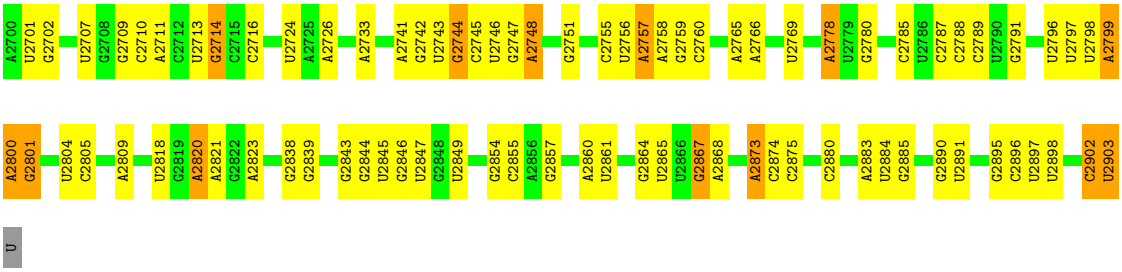
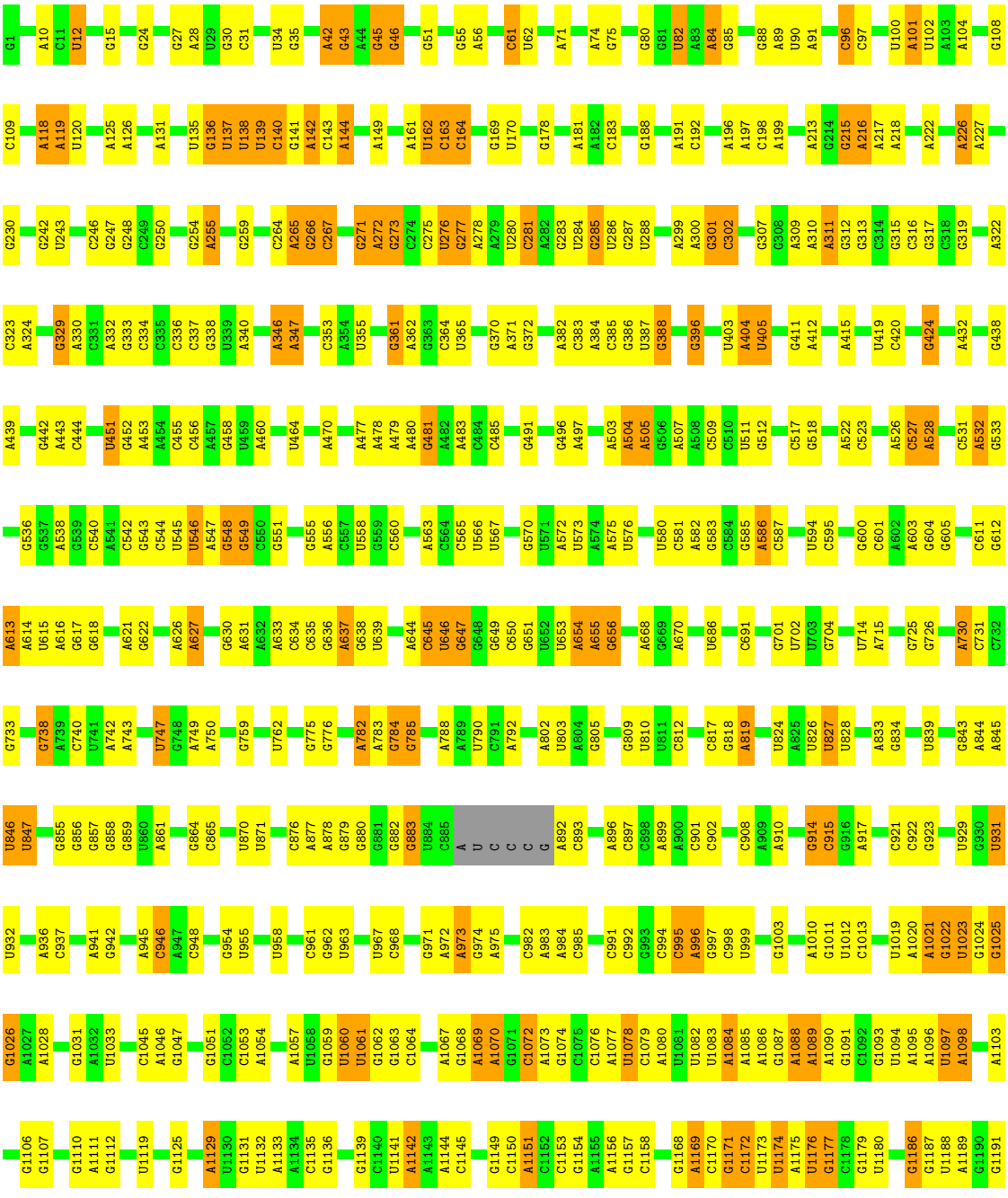
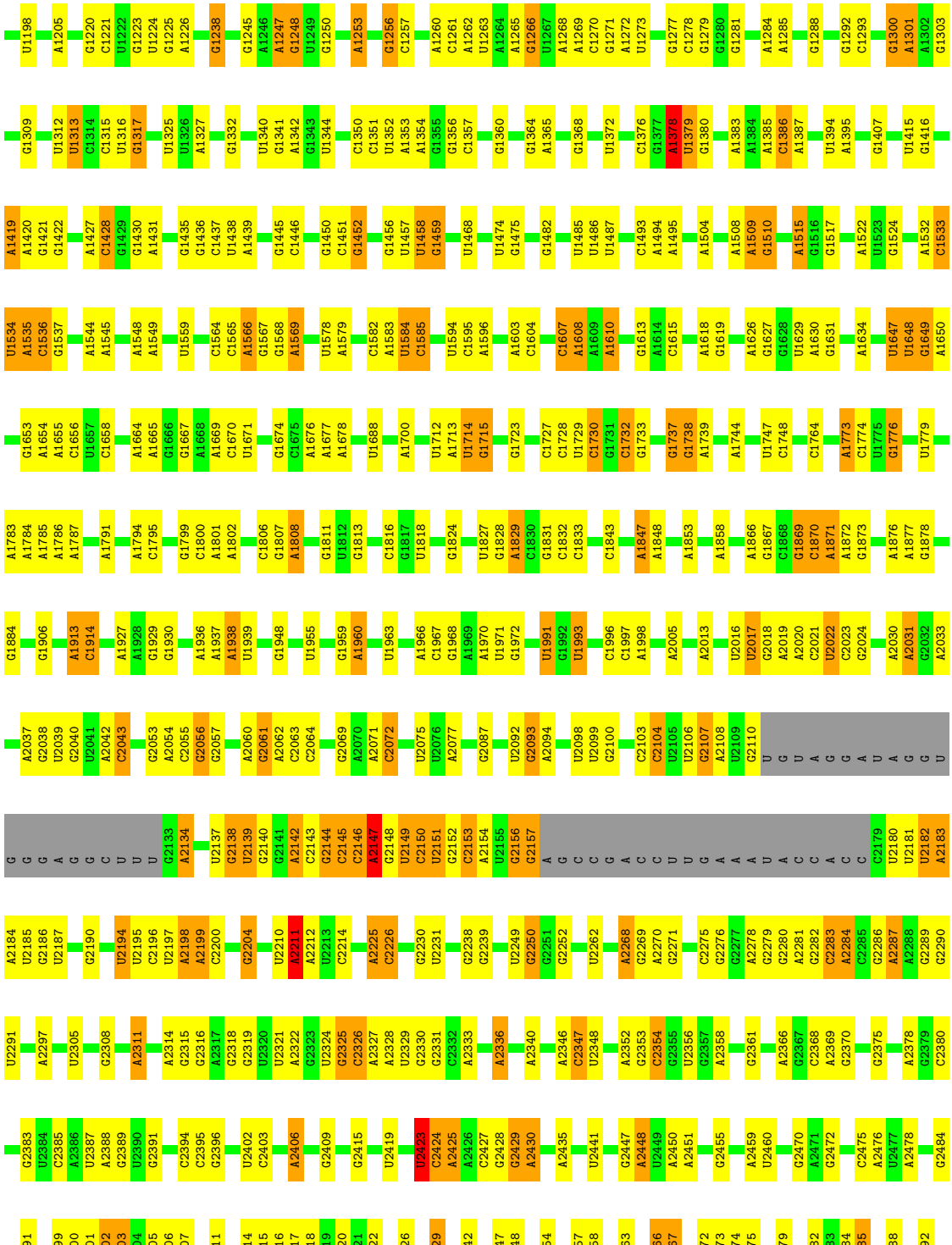
A2598 A2602 G2603 U2609 U2613 A2614 U2615 G2618 C2619 U2629 A2632 C2636 U2637 G2638 A2639 G2642 U2647 G2648 U2653 A2654 A2657 A2660 G2661 A2662 G2663 G2664 A2665 G2671 G2674 A2675 C2676 U2680 C2681 A2682 C2683 U2684 G2685 U2689 U2690 U2696 G2697 U2698 C2699

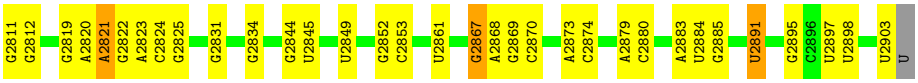


- Molecule 3: 23S rRNA

Chain EA:

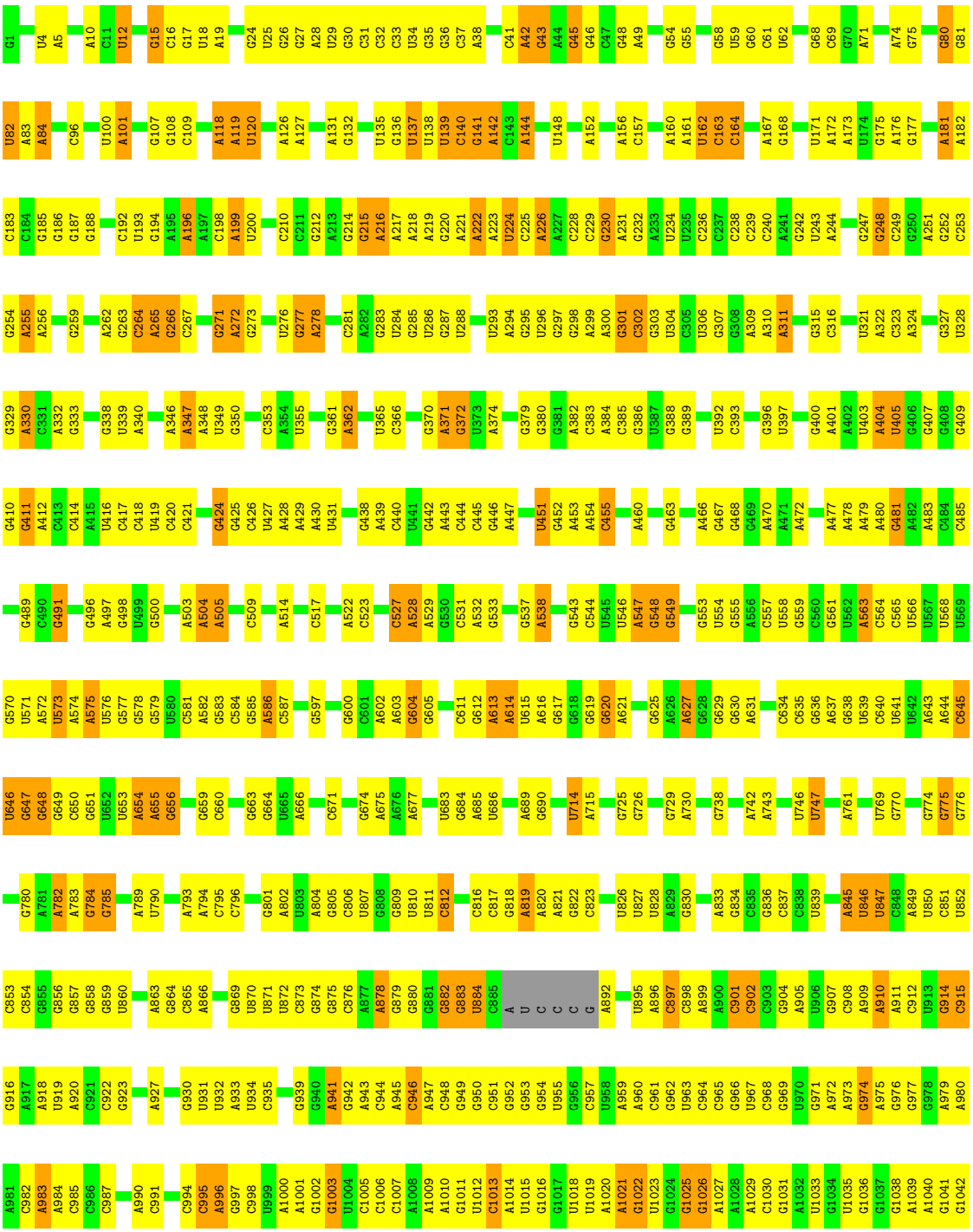


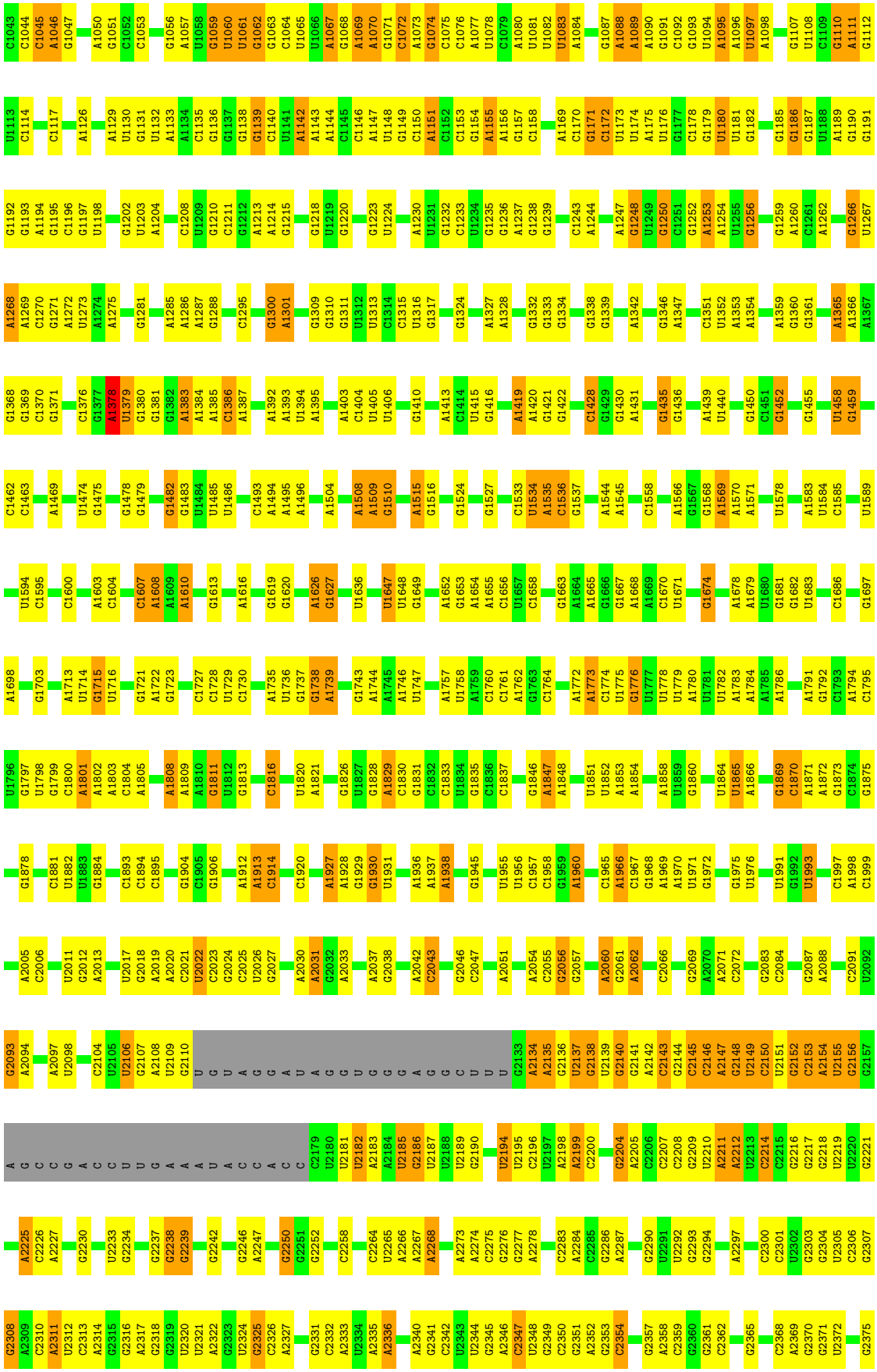




• Molecule 3: 23S rRNA

Chain GA:

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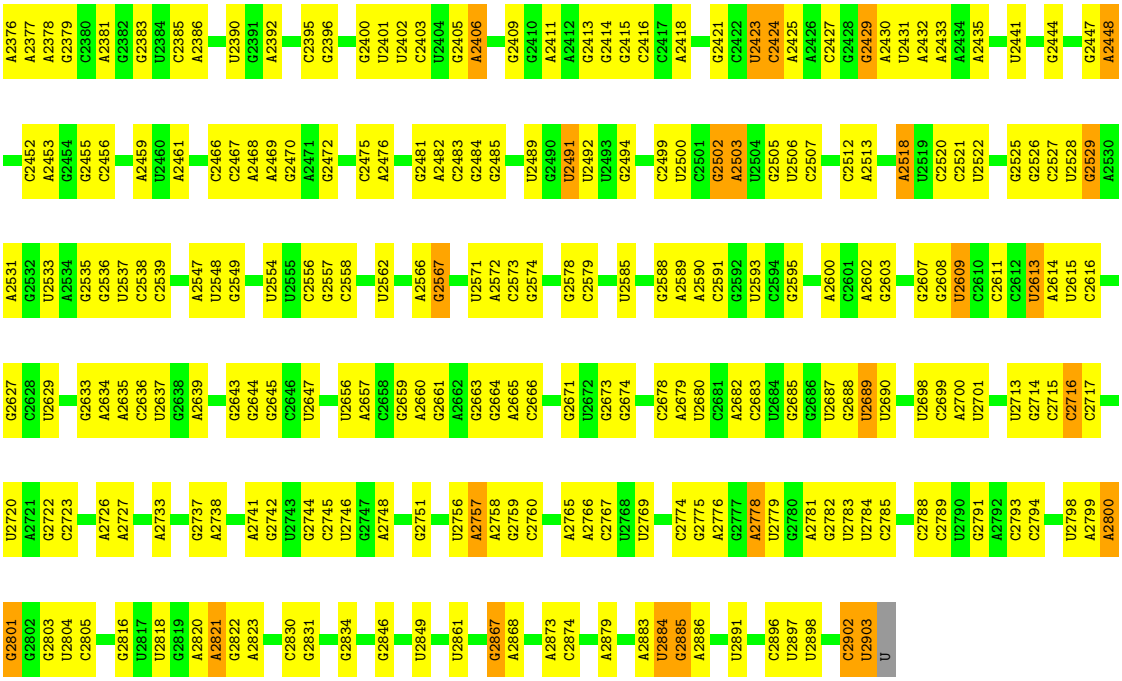
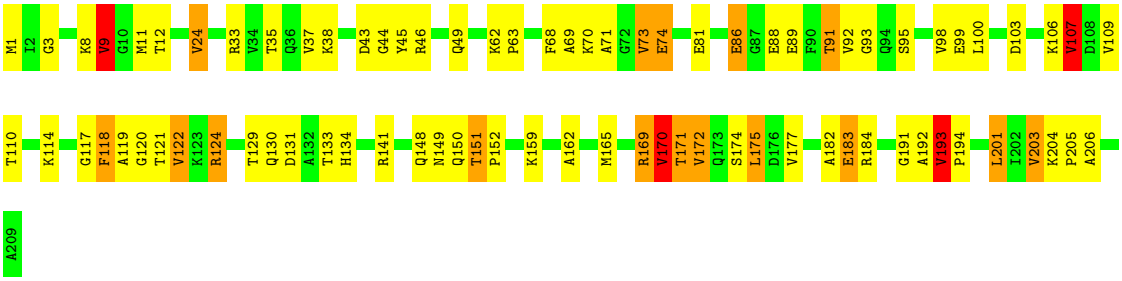


• Molecule 4: 50S ribosomal protein L3

Chain AD:

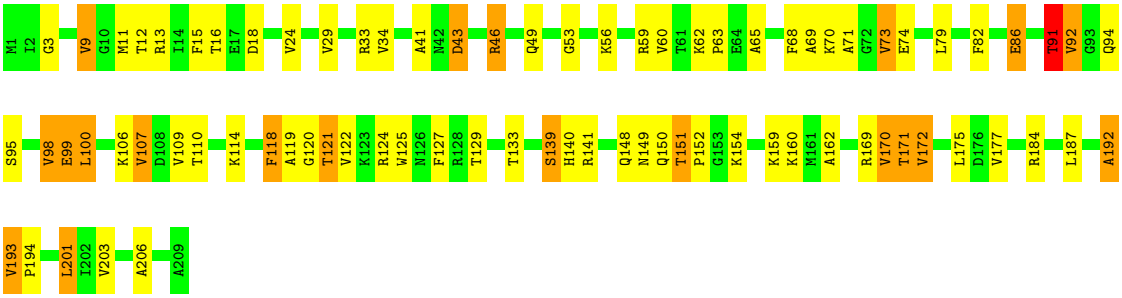


• Molecule 4: 50S ribosomal protein L3

Chain CD:

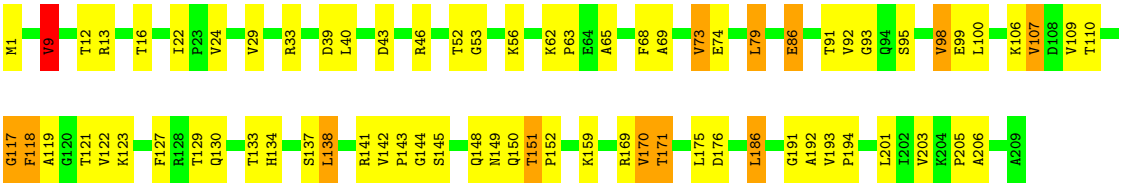
• Molecule 4: 50S ribosomal protein L3

Chain ED:



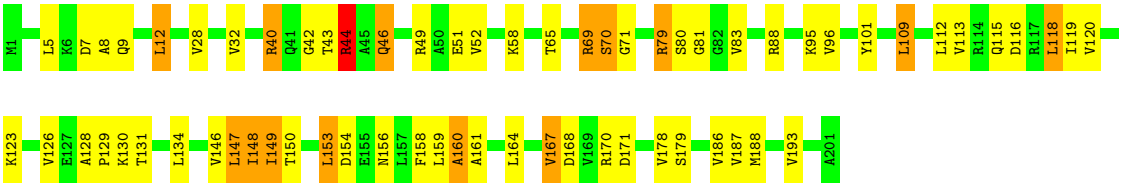
• Molecule 4: 50S ribosomal protein L3

Chain GD:



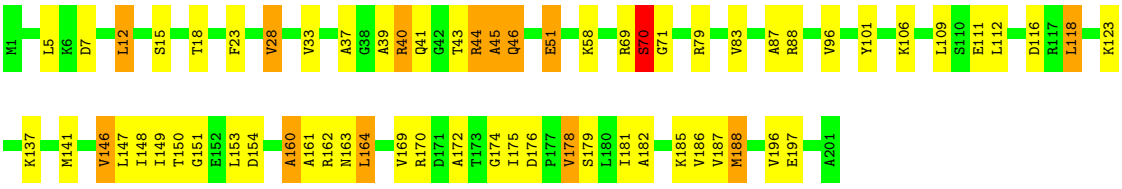
• Molecule 5: 50S ribosomal protein L4

Chain AE:



• Molecule 5: 50S ribosomal protein L4

Chain CE:



• Molecule 5: 50S ribosomal protein L4

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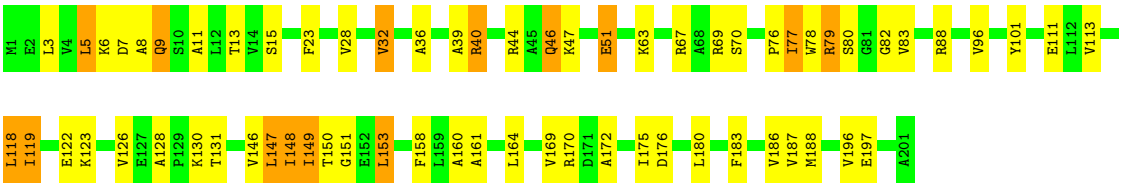
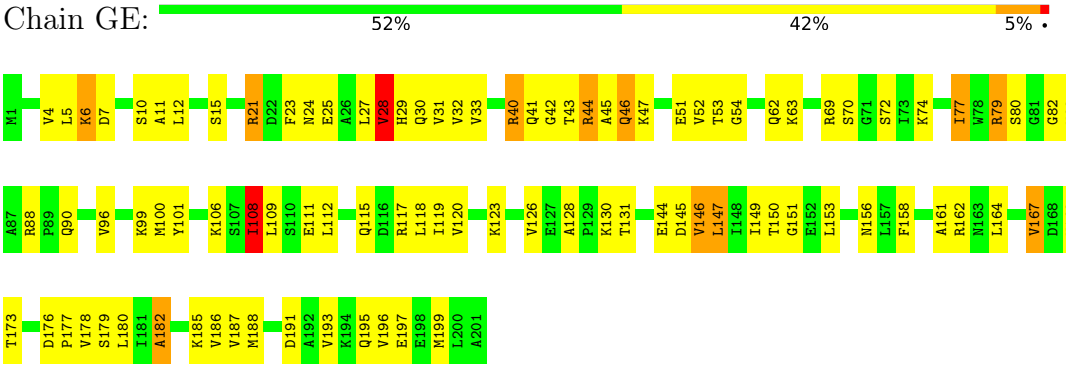


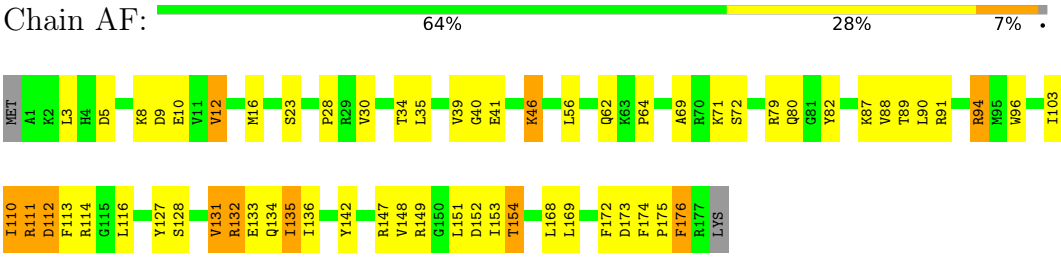
• Molecule 5: 50S ribosomal protein L4

Chain GE:



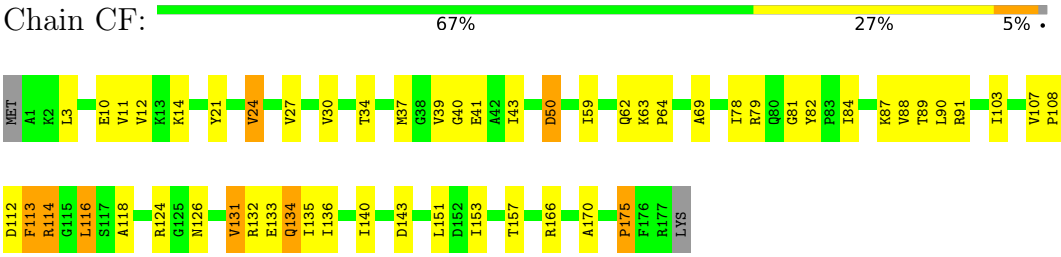
• Molecule 6: 50S ribosomal protein L5

Chain AF:



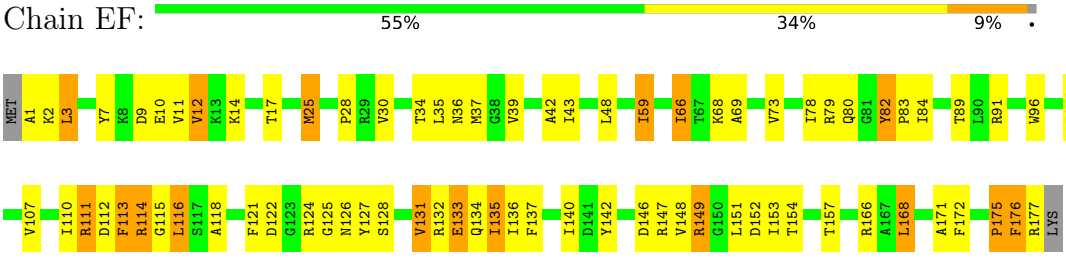
• Molecule 6: 50S ribosomal protein L5

Chain CF:



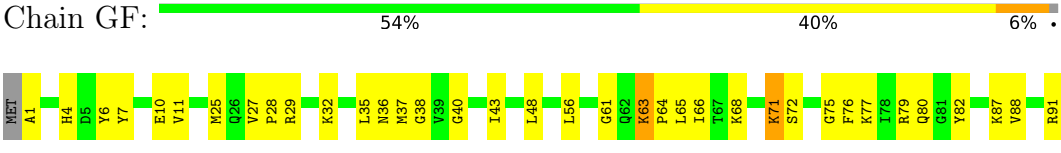
• Molecule 6: 50S ribosomal protein L5

Chain EF:



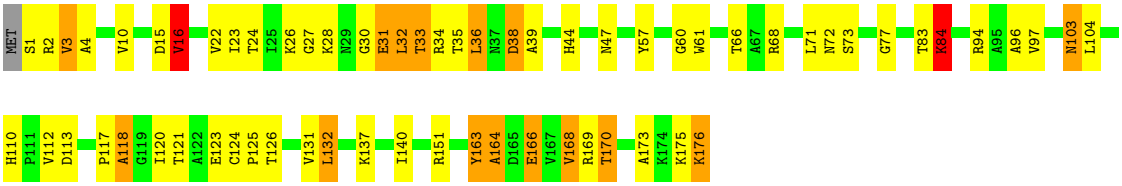
• Molecule 6: 50S ribosomal protein L5

Chain GF:



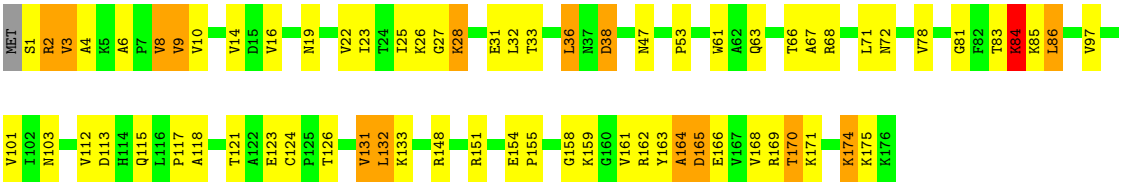
• Molecule 7: 50S ribosomal protein L6

Chain AG:



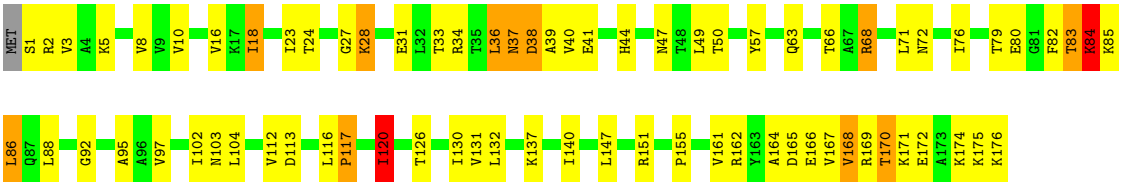
• Molecule 7: 50S ribosomal protein L6

Chain CG:



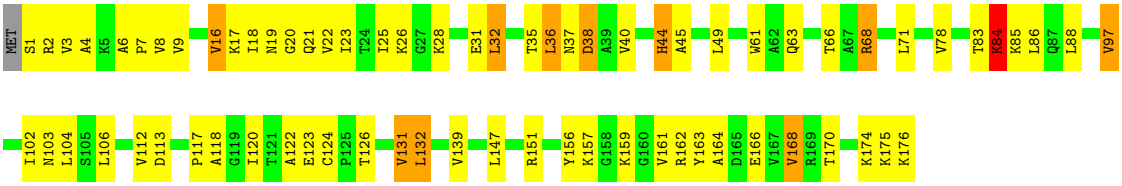
• Molecule 7: 50S ribosomal protein L6

Chain EG:



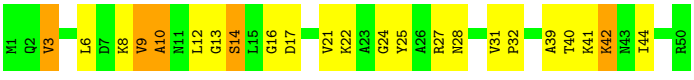
• Molecule 7: 50S ribosomal protein L6

Chain GG:



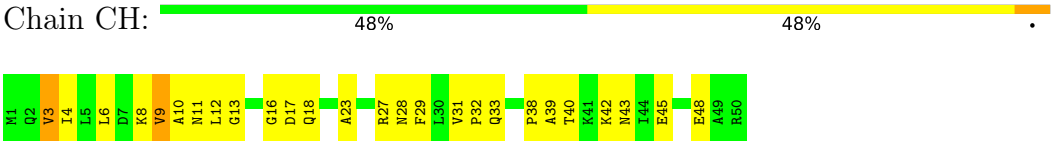
• Molecule 8: 50S ribosomal protein L9

Chain AH:



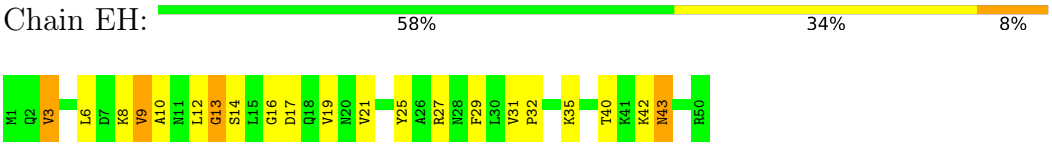
• Molecule 8: 50S ribosomal protein L9

Chain CH:



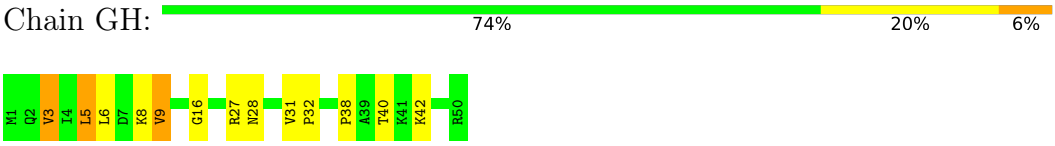
• Molecule 8: 50S ribosomal protein L9

Chain EH:



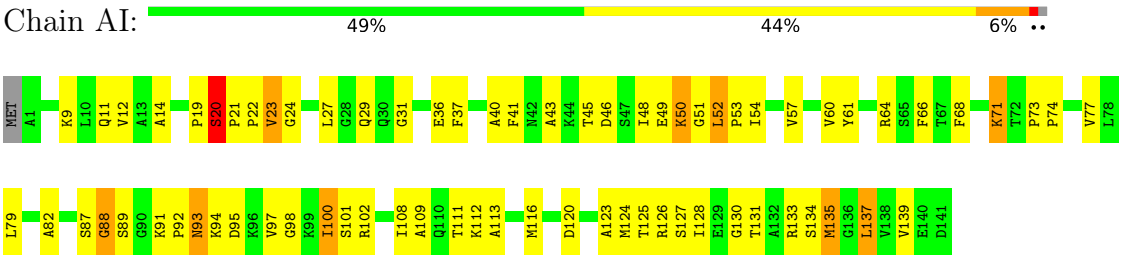
• Molecule 8: 50S ribosomal protein L9

Chain GH:



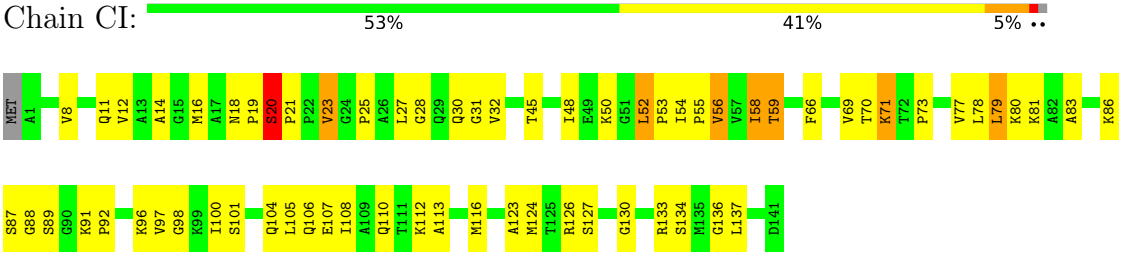
• Molecule 9: 50S ribosomal protein L11

Chain AI:



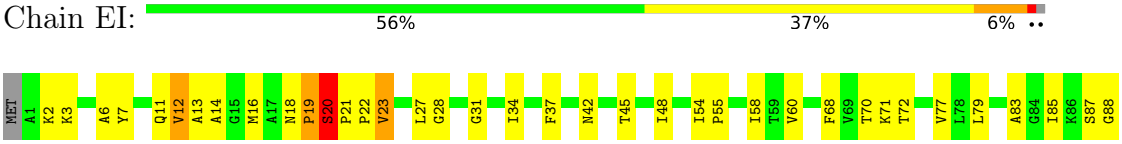
• Molecule 9: 50S ribosomal protein L11

Chain CI:



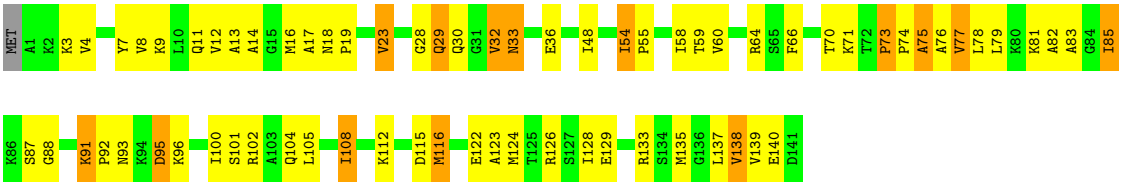
• Molecule 9: 50S ribosomal protein L11

Chain EI:



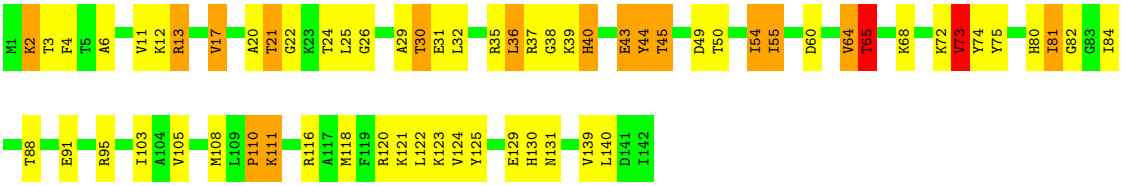
• Molecule 9: 50S ribosomal protein L11

Chain GI:



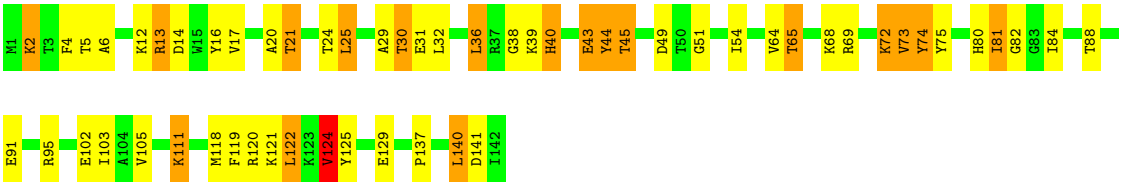
• Molecule 10: 50S ribosomal protein L13

Chain AJ:



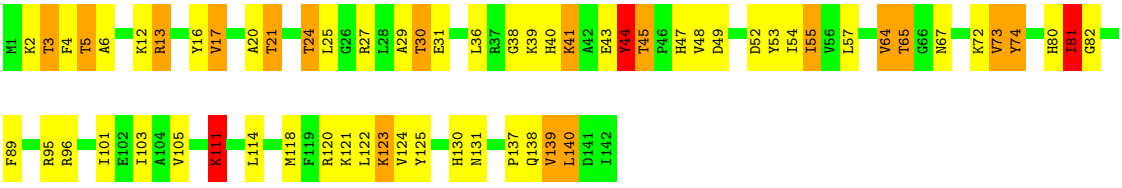
• Molecule 10: 50S ribosomal protein L13

Chain CJ:



• Molecule 10: 50S ribosomal protein L13

Chain EJ:



• Molecule 10: 50S ribosomal protein L13

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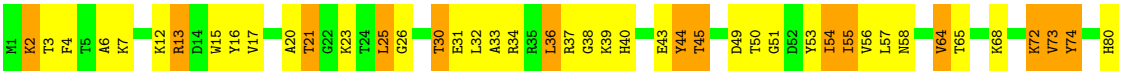
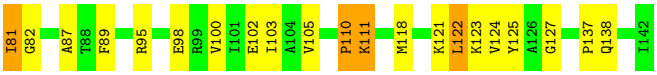
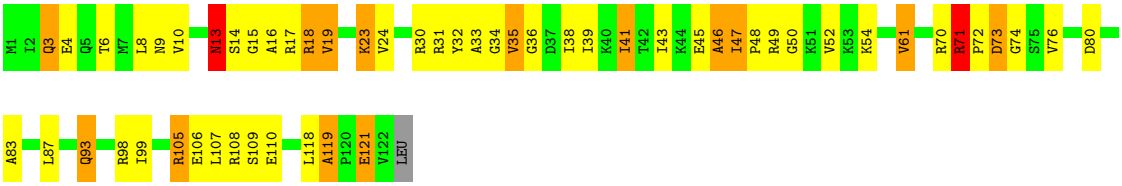




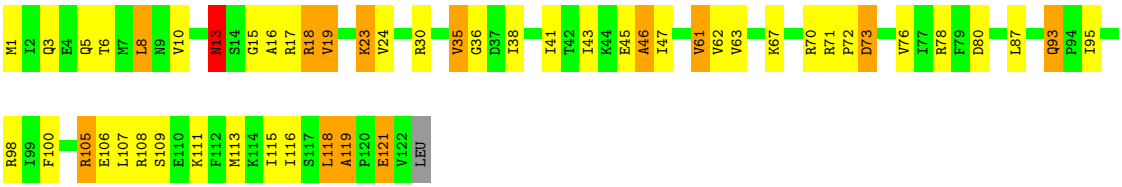
• Molecule 11: 50S ribosomal protein L14

Chain AK:



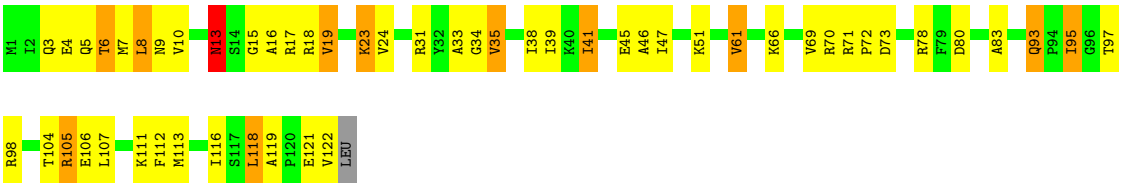
• Molecule 11: 50S ribosomal protein L14

Chain CK:



• Molecule 11: 50S ribosomal protein L14

Chain EK:



• Molecule 11: 50S ribosomal protein L14

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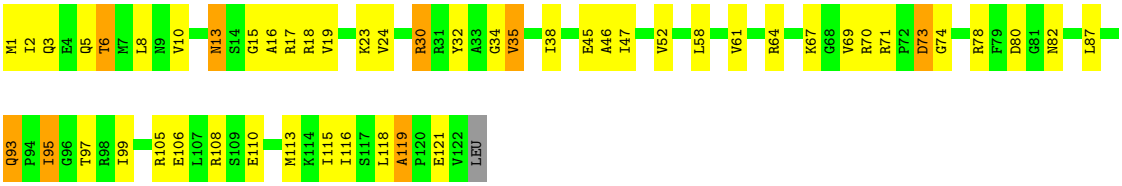
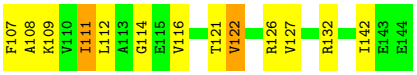


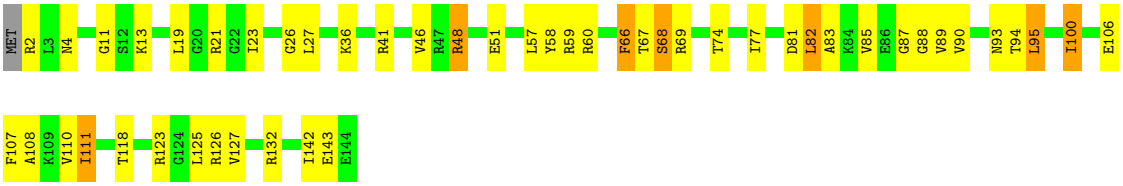
• Molecule 12: 50S ribosomal protein L15

Chain AL:



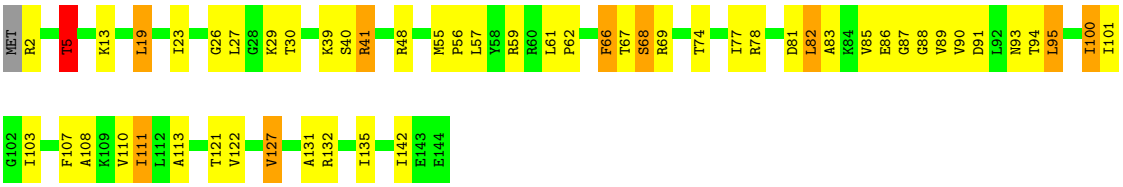
• Molecule 12: 50S ribosomal protein L15

Chain CL:



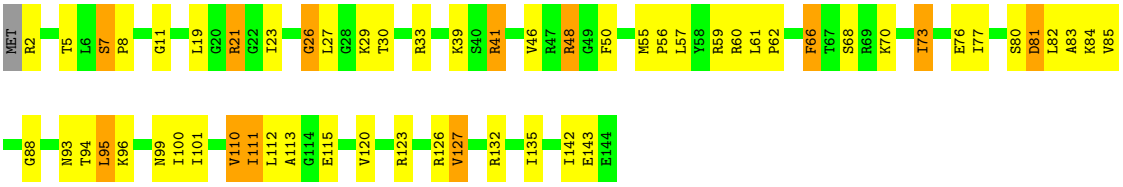
• Molecule 12: 50S ribosomal protein L15

Chain EL:



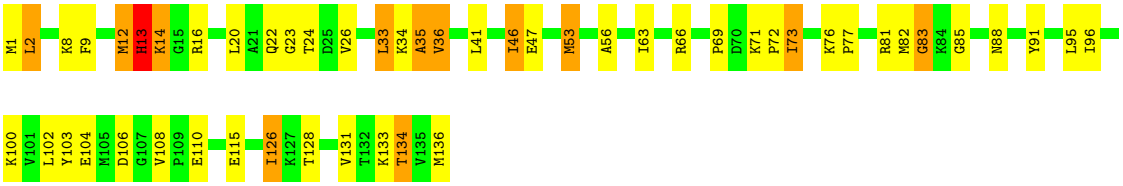
• Molecule 12: 50S ribosomal protein L15

Chain GL:



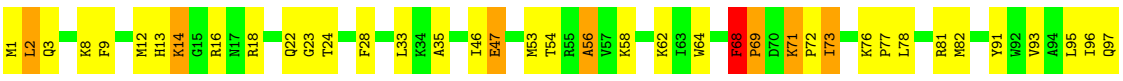
• Molecule 13: 50S ribosomal protein L16

Chain AM:



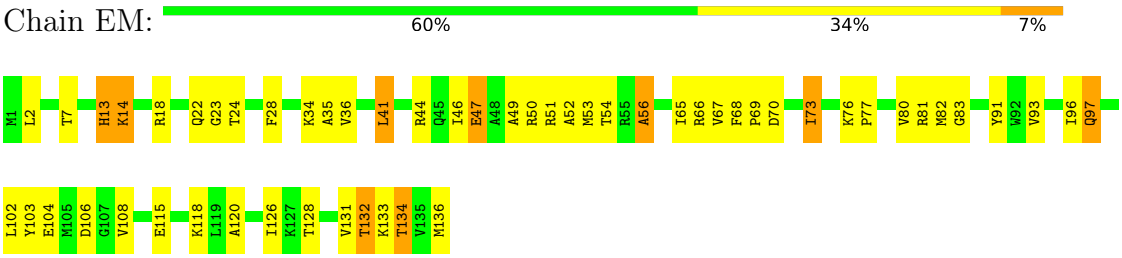
• Molecule 13: 50S ribosomal protein L16

Chain CM:



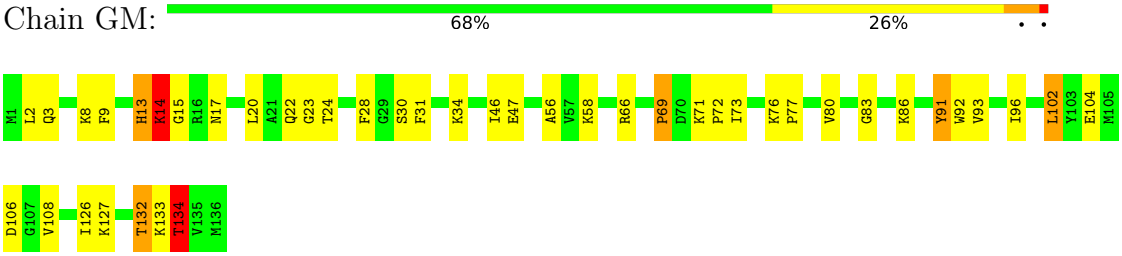
• Molecule 13: 50S ribosomal protein L16

Chain EM:



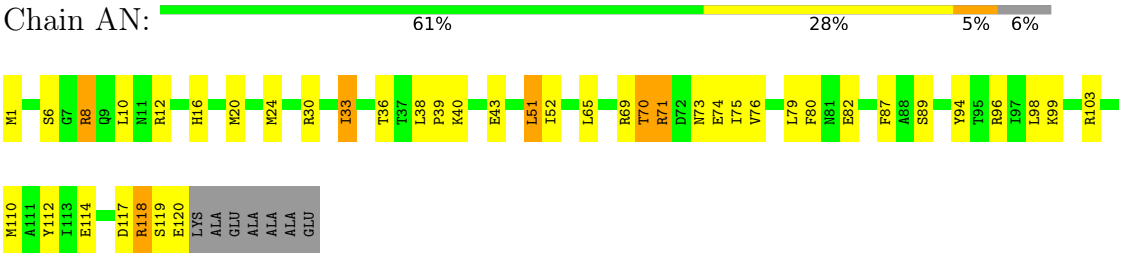
• Molecule 13: 50S ribosomal protein L16

Chain GM:



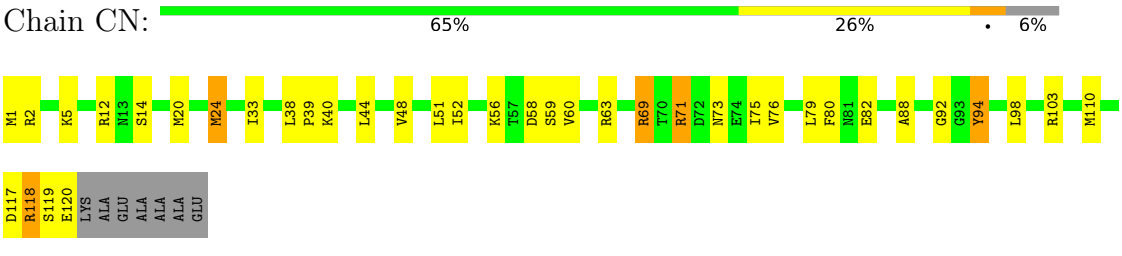
• Molecule 14: 50S ribosomal protein L17

Chain AN:



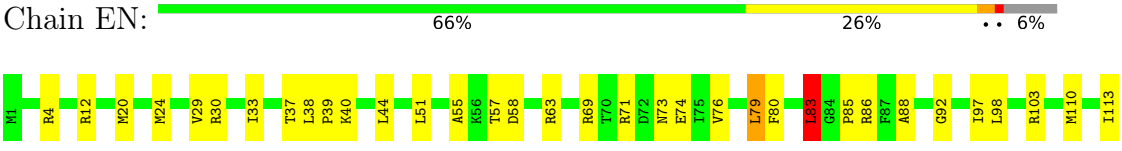
• Molecule 14: 50S ribosomal protein L17

Chain CN:



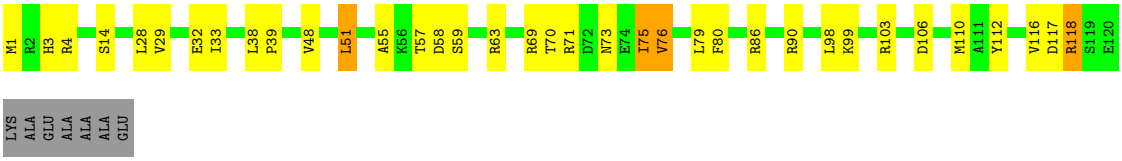
• Molecule 14: 50S ribosomal protein L17

Chain EN:



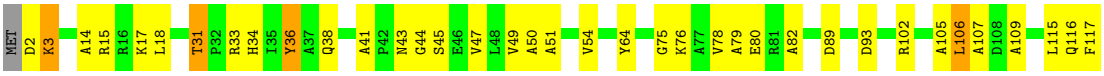
• Molecule 14: 50S ribosomal protein L17

Chain GN:



• Molecule 15: 50S ribosomal protein L18

Chain AO:

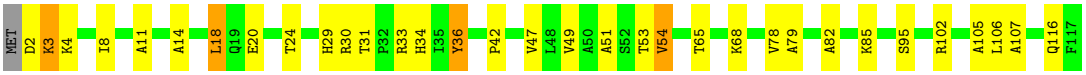


• Molecule 15: 50S ribosomal protein L18

Chain CO:

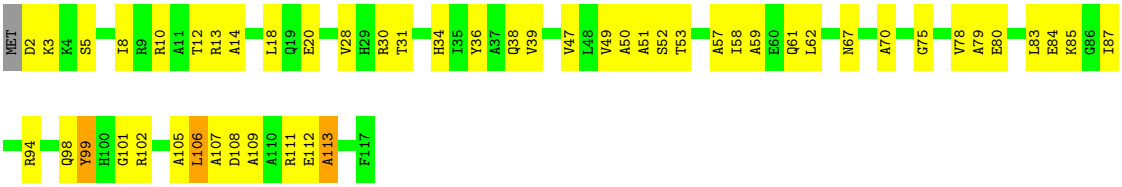
• Molecule 15: 50S ribosomal protein L18

Chain EO:



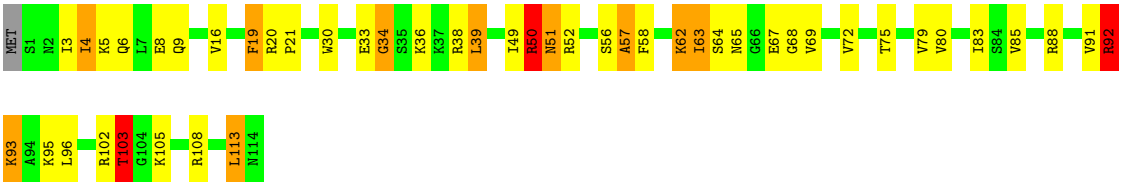
• Molecule 15: 50S ribosomal protein L18

Chain GO:



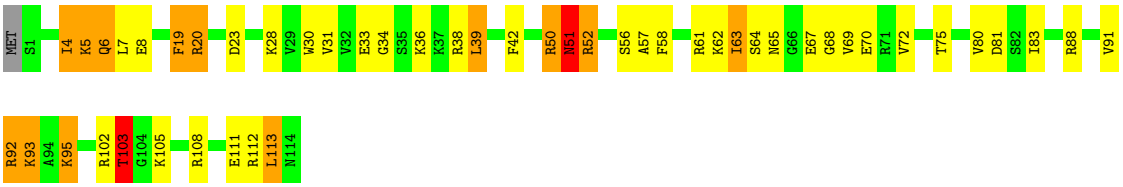
• Molecule 16: 50S ribosomal protein L19

Chain AP:



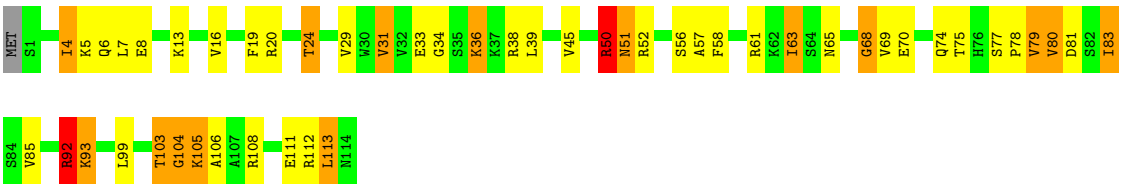
• Molecule 16: 50S ribosomal protein L19

Chain CP: 57% 30% 11%



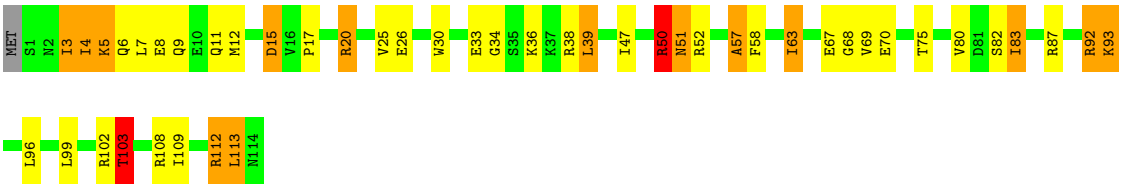
• Molecule 16: 50S ribosomal protein L19

Chain EP: 56% 29% 13%



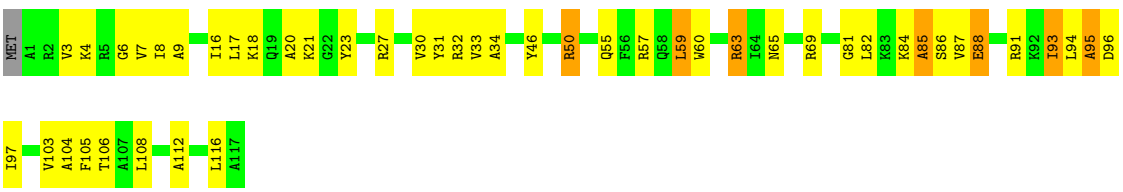
• Molecule 16: 50S ribosomal protein L19

Chain GP: 59% 26% 12%



• Molecule 17: 50S ribosomal protein L20

Chain AQ: 59% 34% 6%

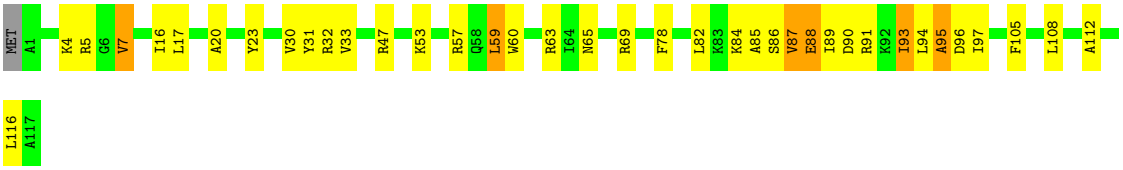


• Molecule 17: 50S ribosomal protein L20

Chain CQ: 70% 23% 6%

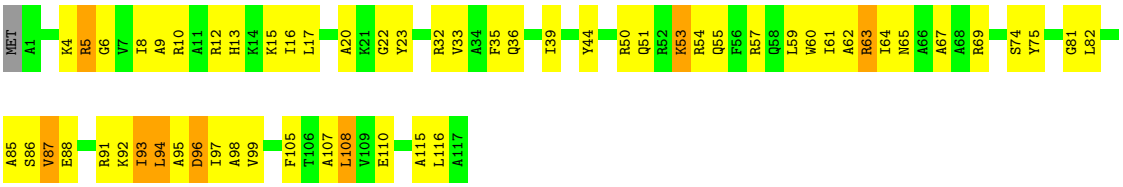
• Molecule 17: 50S ribosomal protein L20

Chain EQ:



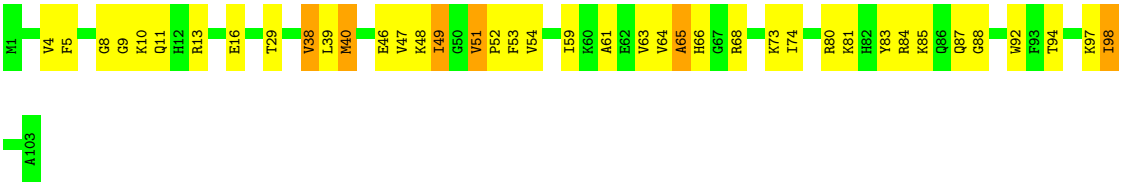
• Molecule 17: 50S ribosomal protein L20

Chain GQ:



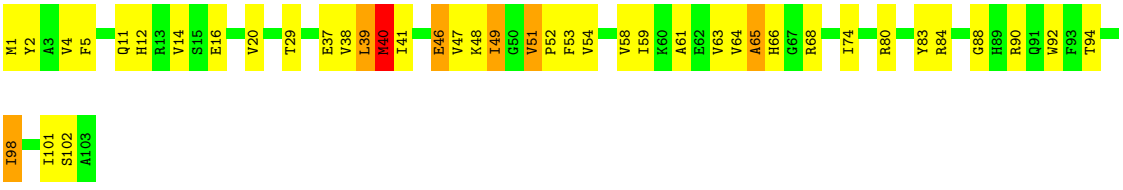
• Molecule 18: 50S ribosomal protein L21

Chain AR:



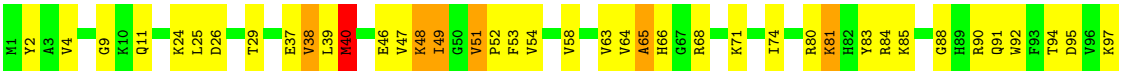
• Molecule 18: 50S ribosomal protein L21

Chain CR:



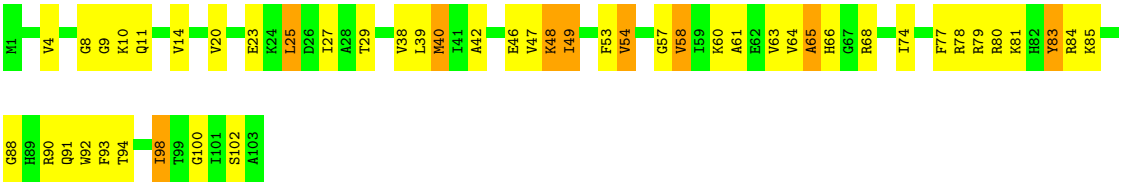
• Molecule 18: 50S ribosomal protein L21

Chain ER:



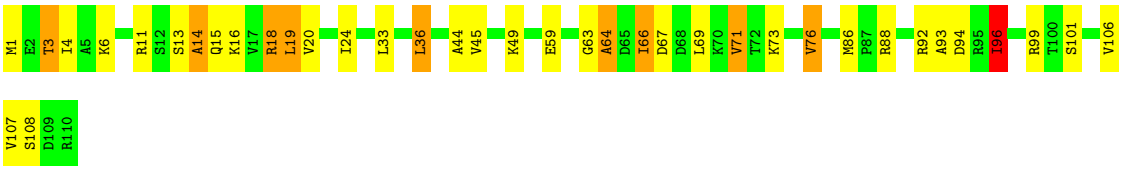
• Molecule 18: 50S ribosomal protein L21

Chain GR:



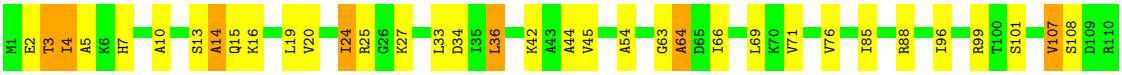
• Molecule 19: 50S ribosomal protein L22

Chain AS:



• Molecule 19: 50S ribosomal protein L22

Chain CS:

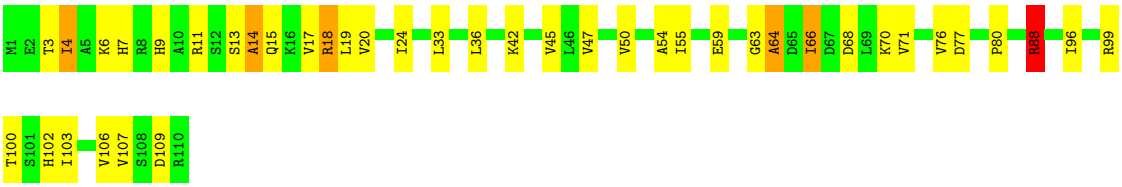


• Molecule 19: 50S ribosomal protein L22

Chain ES:

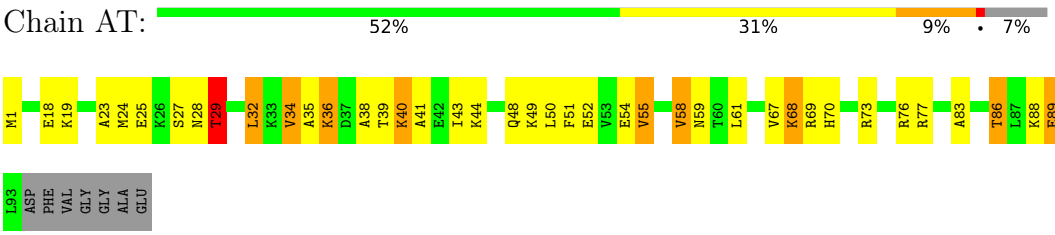
• Molecule 19: 50S ribosomal protein L22

Chain GS:



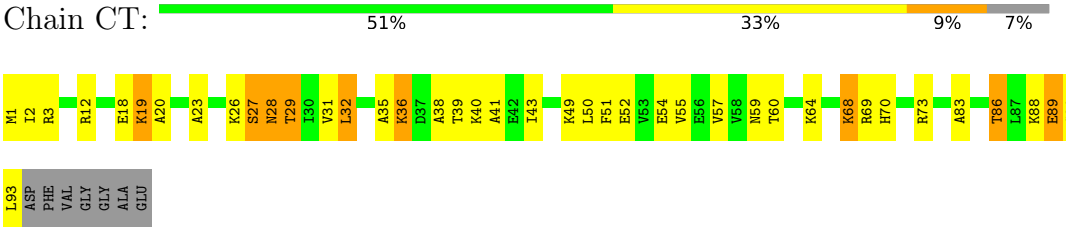
• Molecule 20: 50S ribosomal protein L23

Chain AT:



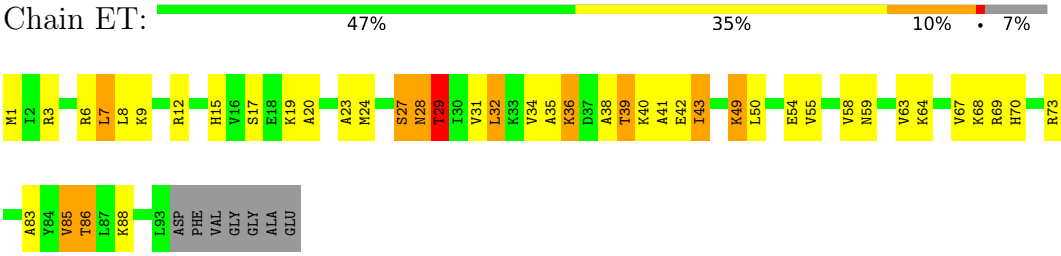
• Molecule 20: 50S ribosomal protein L23

Chain CT:



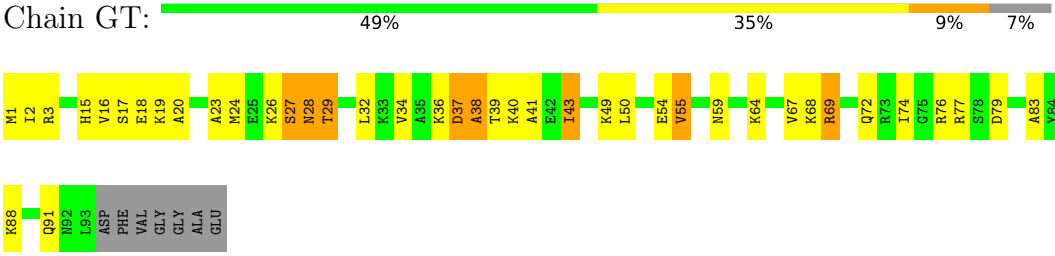
• Molecule 20: 50S ribosomal protein L23

Chain ET:



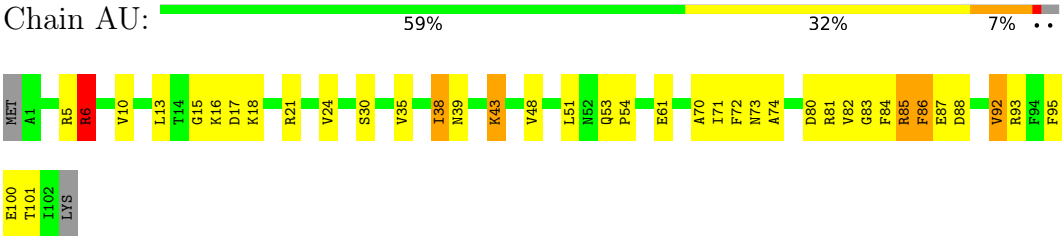
• Molecule 20: 50S ribosomal protein L23

Chain GT:



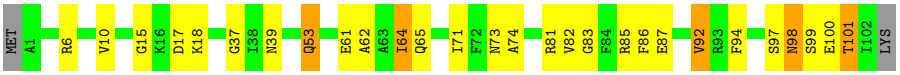
• Molecule 21: 50S ribosomal protein L24

Chain AU:



• Molecule 21: 50S ribosomal protein L24

Chain CU:

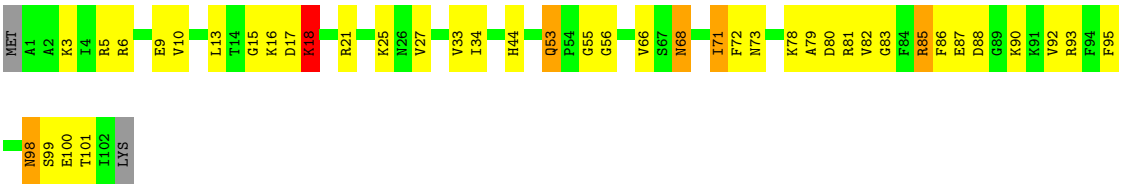


• Molecule 21: 50S ribosomal protein L24

Chain EU:

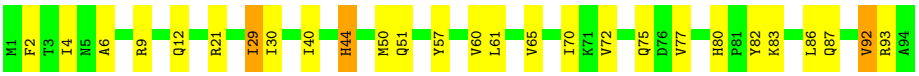
• Molecule 21: 50S ribosomal protein L24

Chain GU:



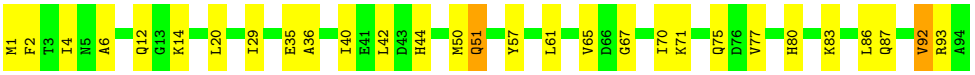
• Molecule 22: 50S ribosomal protein L25

Chain AV:



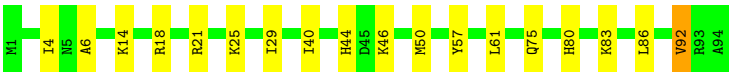
• Molecule 22: 50S ribosomal protein L25

Chain CV:



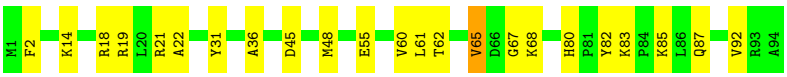
• Molecule 22: 50S ribosomal protein L25

Chain EV:



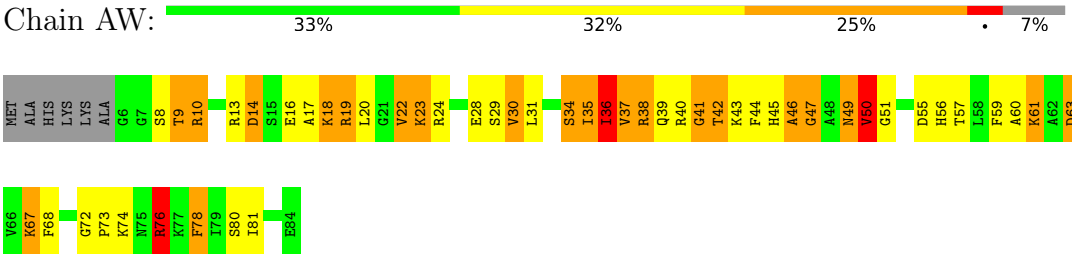
• Molecule 22: 50S ribosomal protein L25

Chain GV:



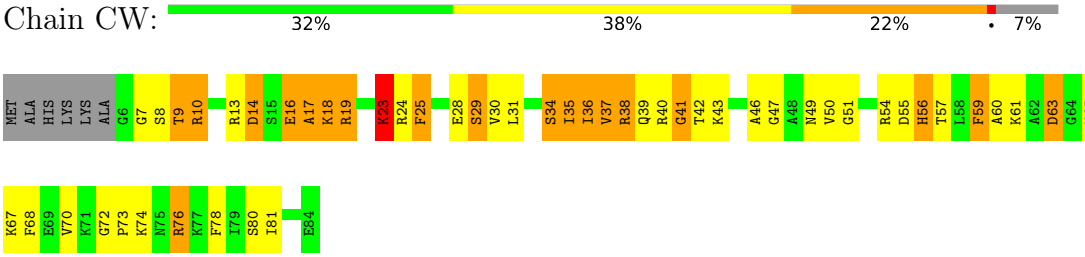
• Molecule 23: 50S ribosomal protein L27

Chain AW:



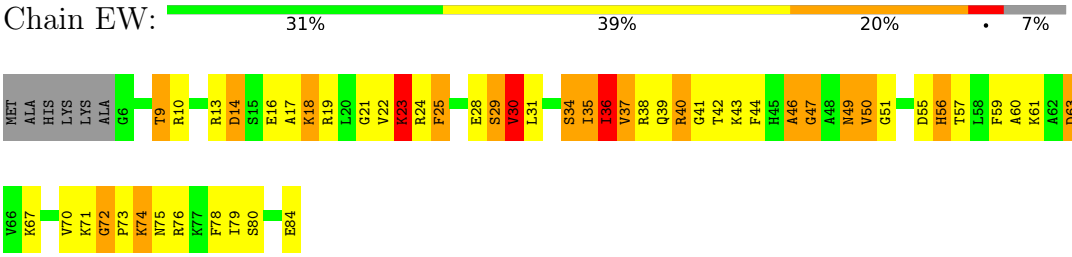
• Molecule 23: 50S ribosomal protein L27

Chain CW:



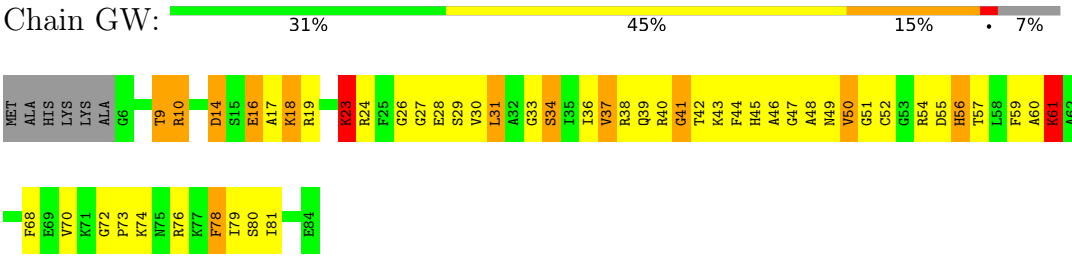
• Molecule 23: 50S ribosomal protein L27

Chain EW:



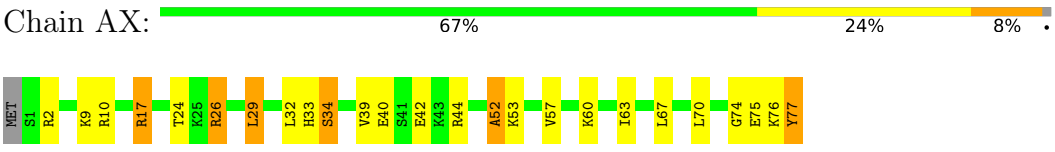
• Molecule 23: 50S ribosomal protein L27

Chain GW:



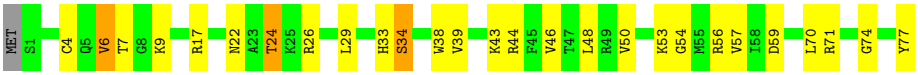
• Molecule 24: 50S ribosomal protein L28

Chain AX:



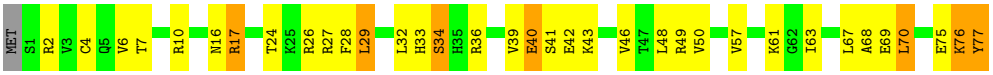
• Molecule 24: 50S ribosomal protein L28

Chain CX:



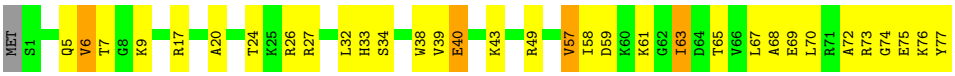
• Molecule 24: 50S ribosomal protein L28

Chain EX:



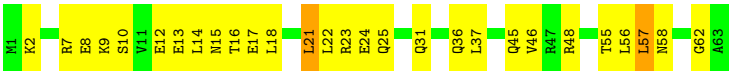
• Molecule 24: 50S ribosomal protein L28

Chain GX:



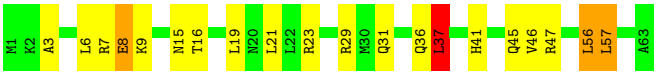
• Molecule 25: 50S ribosomal protein L29

Chain AY:



• Molecule 25: 50S ribosomal protein L29

Chain CY:

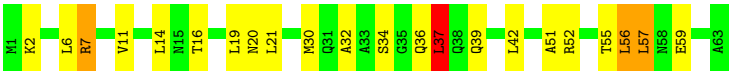


• Molecule 25: 50S ribosomal protein L29

Chain EY:

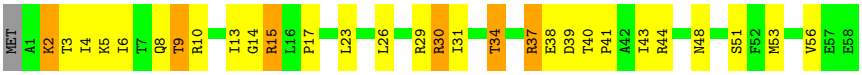
• Molecule 25: 50S ribosomal protein L29

Chain GY:



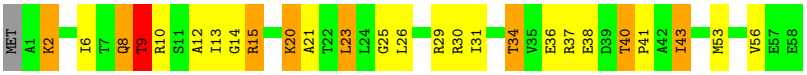
• Molecule 26: 50S ribosomal protein L30

Chain AZ:



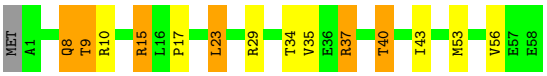
• Molecule 26: 50S ribosomal protein L30

Chain CZ:



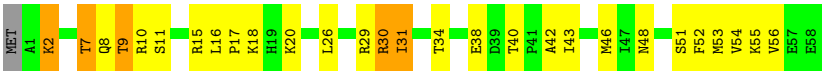
• Molecule 26: 50S ribosomal protein L30

Chain EZ:



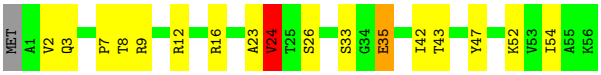
• Molecule 26: 50S ribosomal protein L30

Chain GZ:



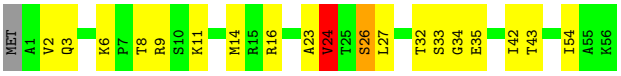
• Molecule 27: 50S ribosomal protein L32

Chain A0:



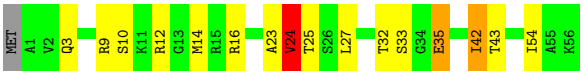
• Molecule 27: 50S ribosomal protein L32

Chain C0:



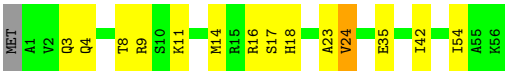
• Molecule 27: 50S ribosomal protein L32

Chain E0:



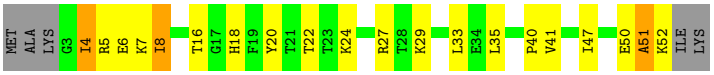
• Molecule 27: 50S ribosomal protein L32

Chain G0:



• Molecule 28: 50S ribosomal protein L33

Chain A1:

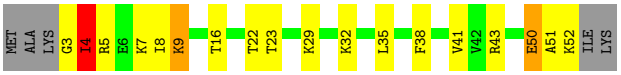


• Molecule 28: 50S ribosomal protein L33

Chain C1:

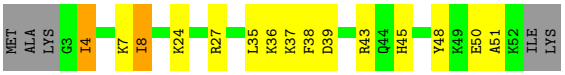
• Molecule 28: 50S ribosomal protein L33

Chain E1:



• Molecule 28: 50S ribosomal protein L33

Chain G1:

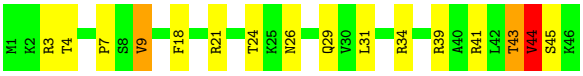


• Molecule 29: 50S ribosomal protein L34

Chain A2:

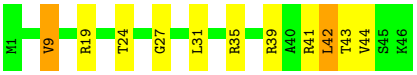
• Molecule 29: 50S ribosomal protein L34

Chain C2:



• Molecule 29: 50S ribosomal protein L34

Chain E2:

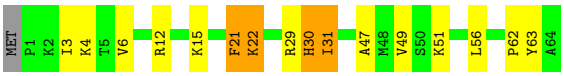


• Molecule 29: 50S ribosomal protein L34

Chain G2:

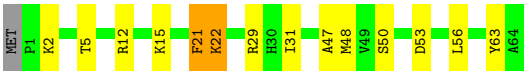
• Molecule 30: 50S ribosomal protein L35

Chain A3:



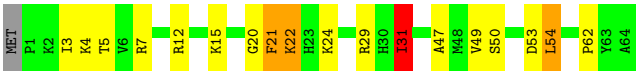
• Molecule 30: 50S ribosomal protein L35

Chain C3:



• Molecule 30: 50S ribosomal protein L35

Chain E3:



• Molecule 30: 50S ribosomal protein L35

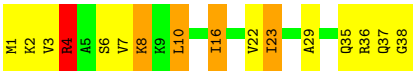
Chain G3:

• Molecule 31: 50S ribosomal protein L36

Chain A4:

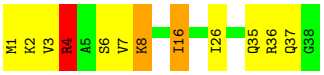
• Molecule 31: 50S ribosomal protein L36

Chain C4:



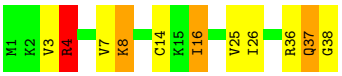
• Molecule 31: 50S ribosomal protein L36

Chain E4:



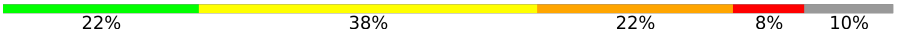
• Molecule 31: 50S ribosomal protein L36

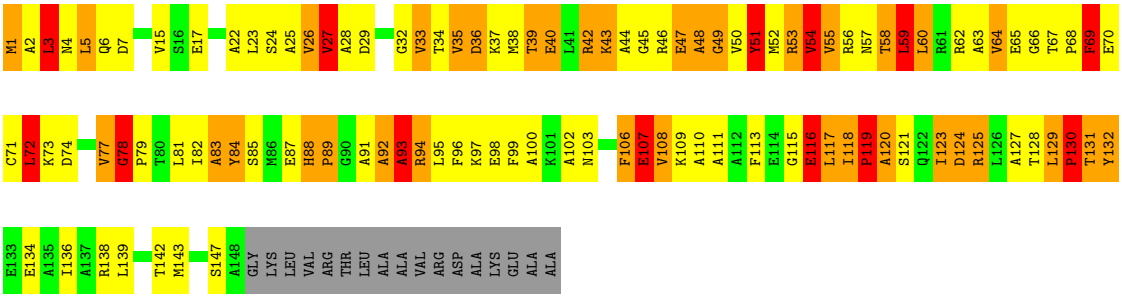
Chain G4:



• Molecule 32: 50S ribosomal protein L10

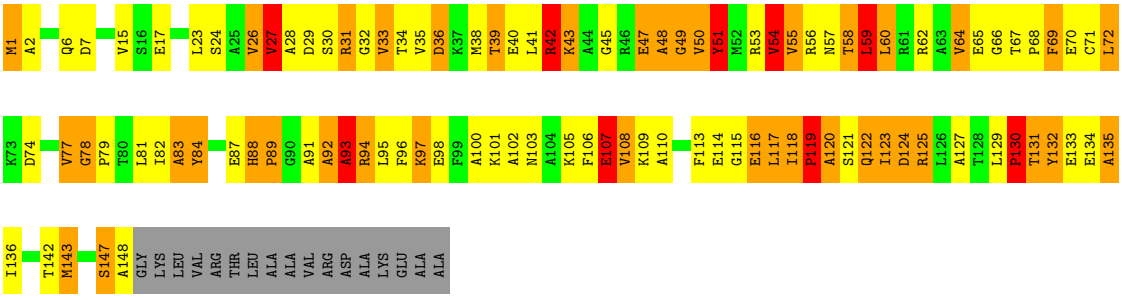
Chain A5:





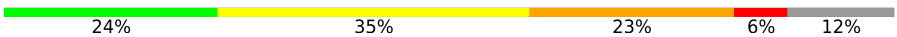
• Molecule 32: 50S ribosomal protein L10

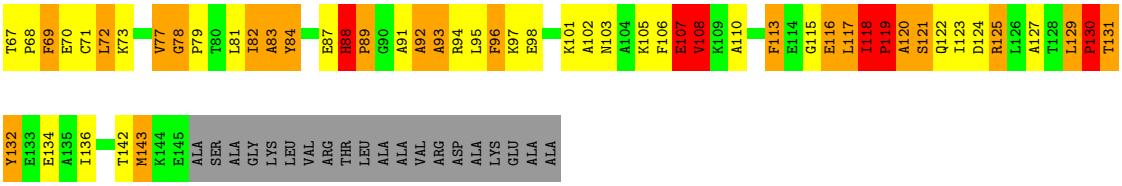
Chain C5:



• Molecule 32: 50S ribosomal protein L10

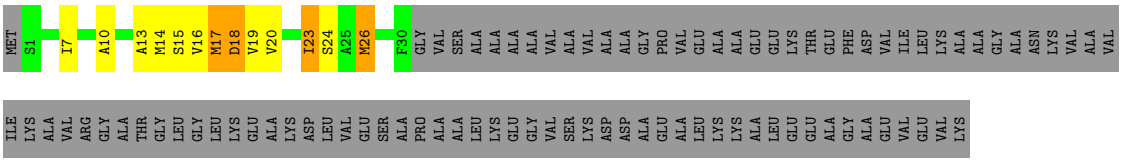
Chain E5:





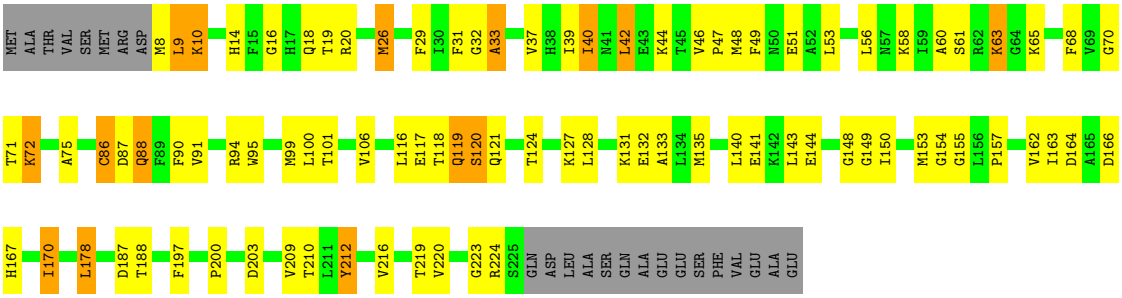
• Molecule 33: 50S ribosomal protein L7/L12

Chain A6:



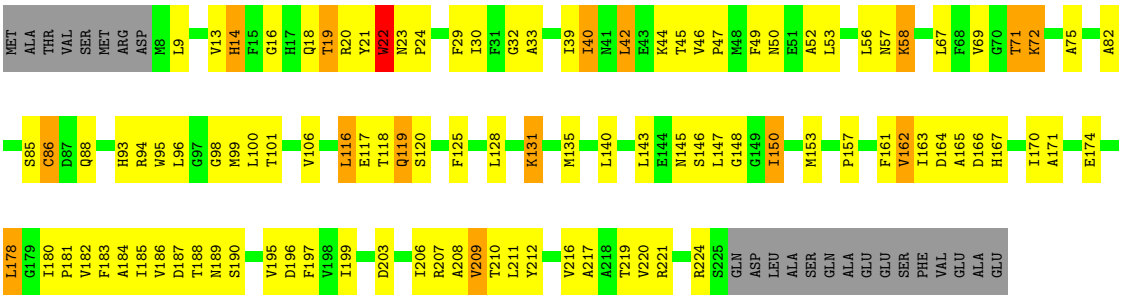
• Molecule 34: 30S ribosomal protein S2

Chain BB:



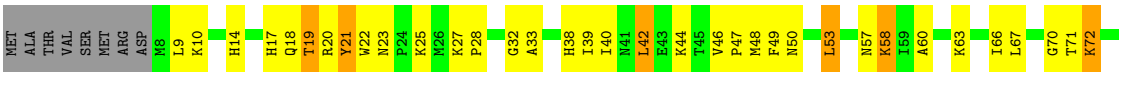
• Molecule 34: 30S ribosomal protein S2

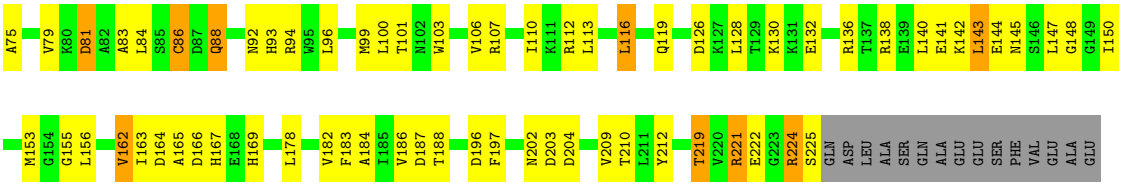
Chain DB:



• Molecule 34: 30S ribosomal protein S2

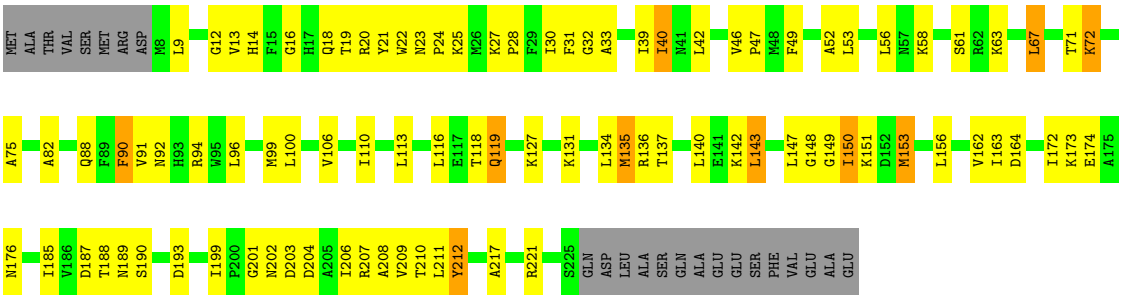
Chain FB:





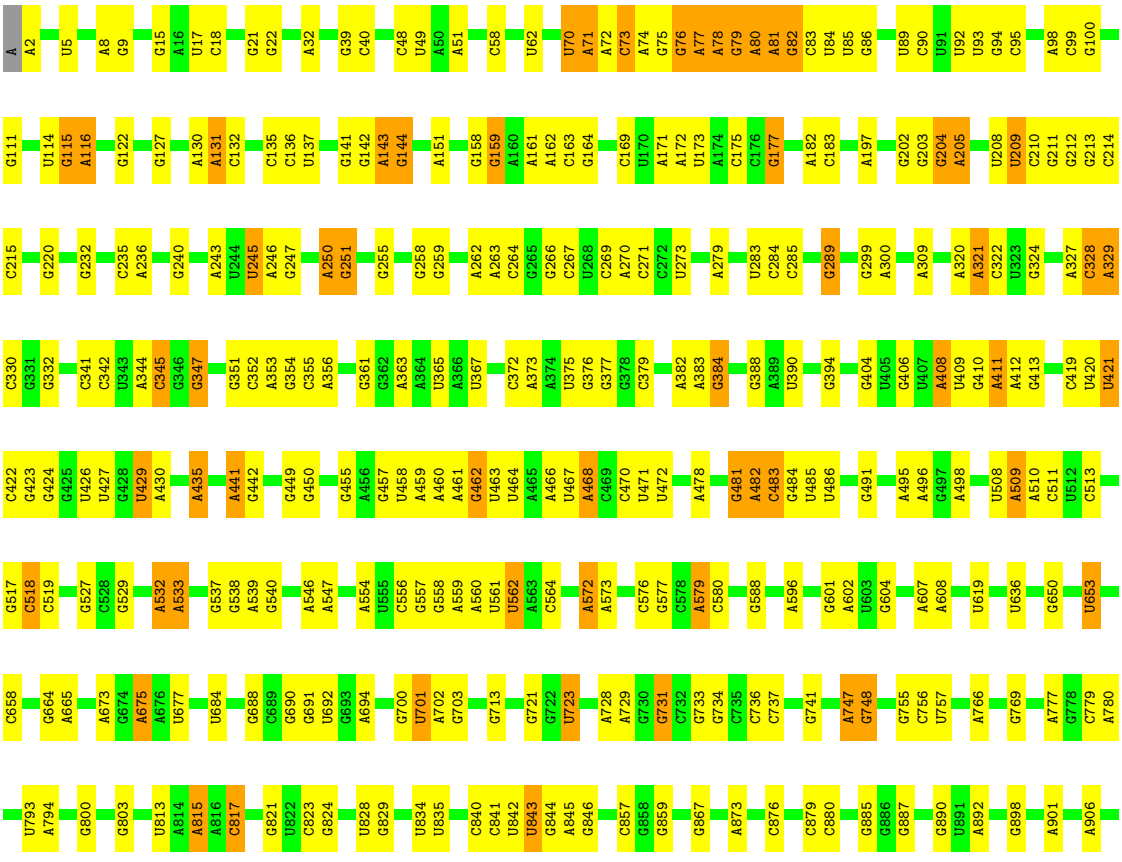
• Molecule 34: 30S ribosomal protein S2

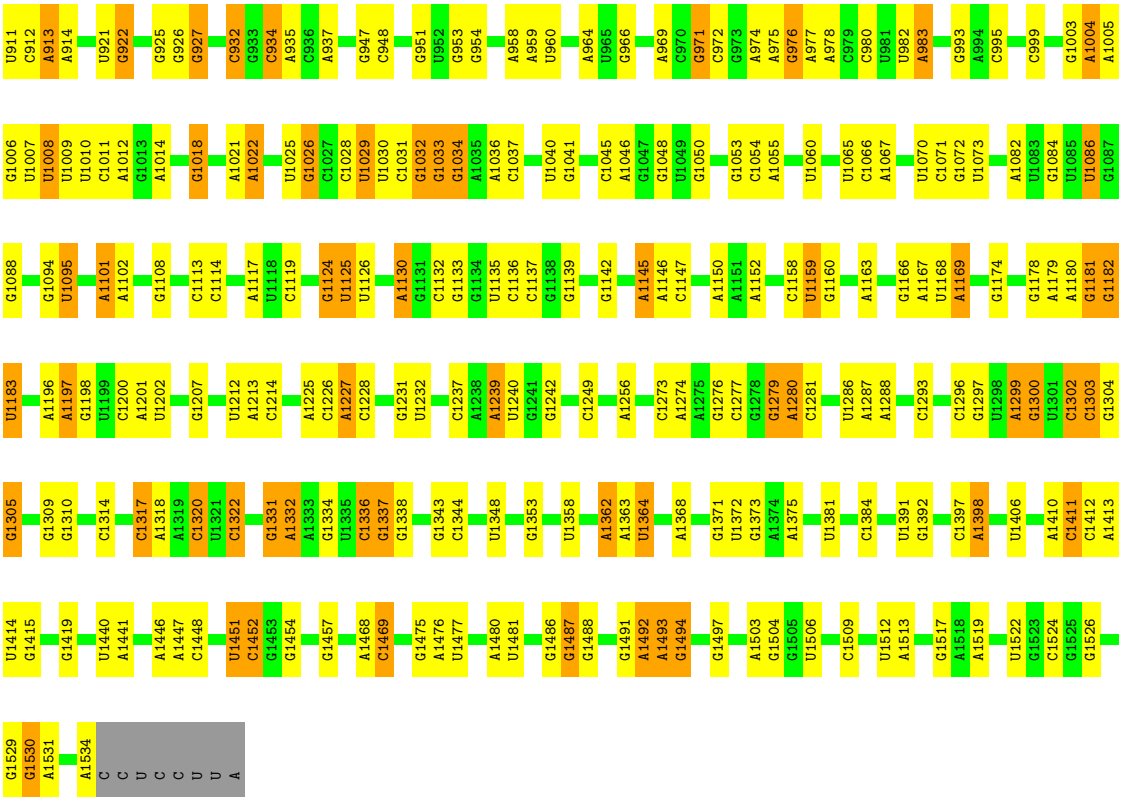
Chain HB:



• Molecule 35: 16S rRNA

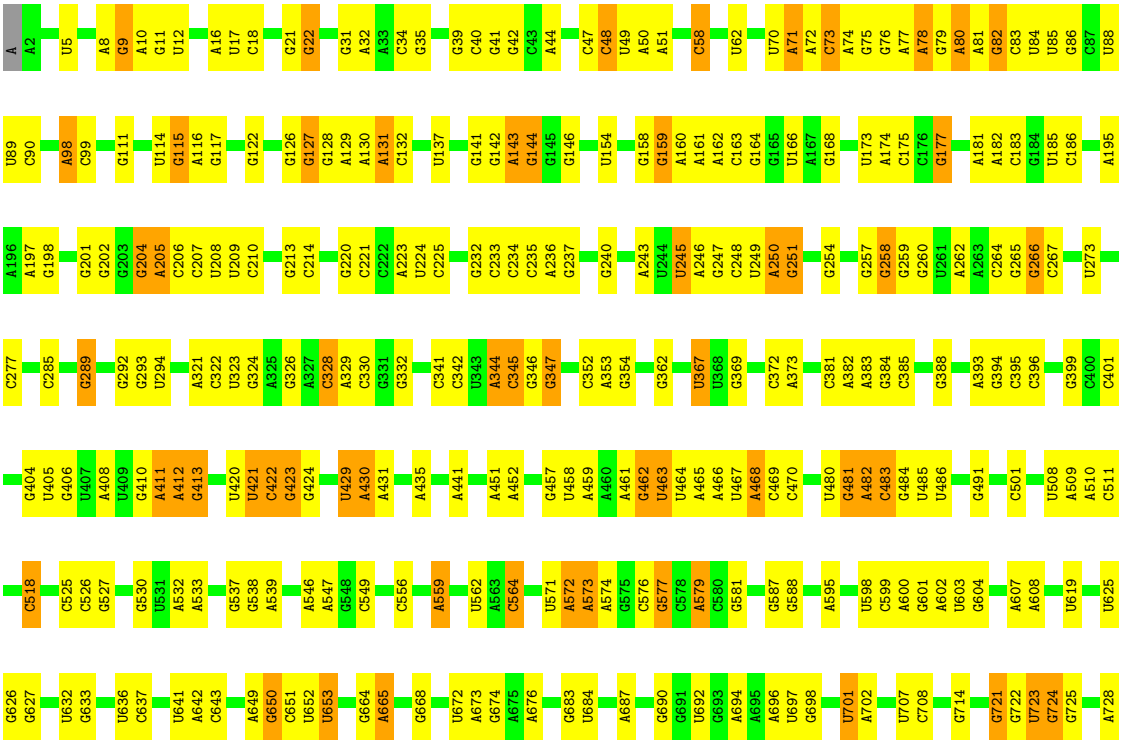
Chain BA:

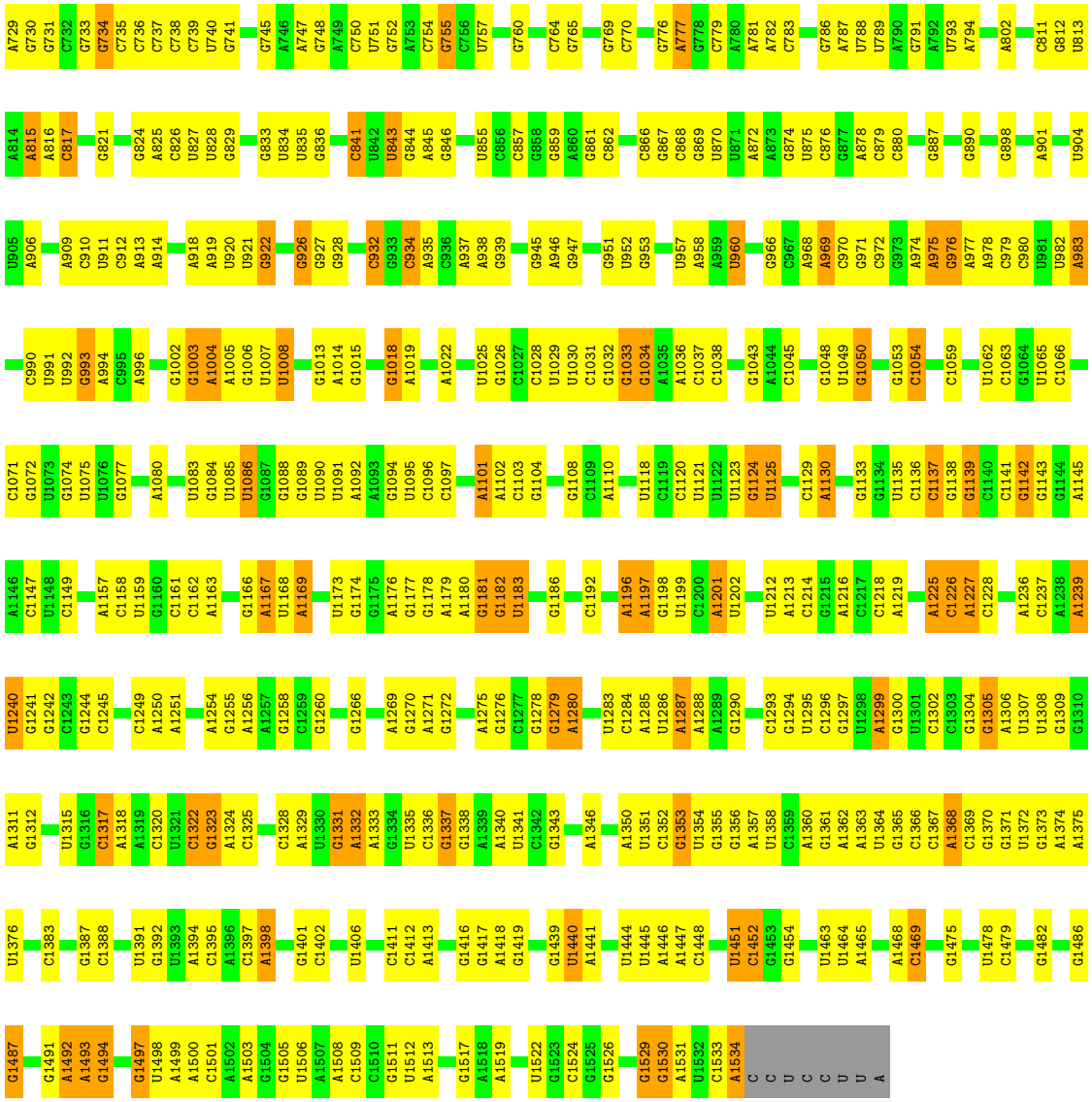




• Molecule 35: 16S rRNA

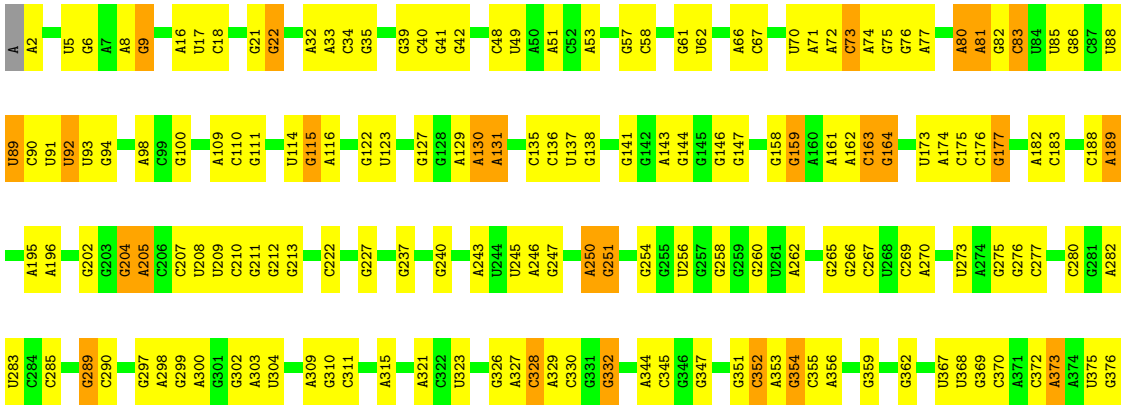
Chain DA:

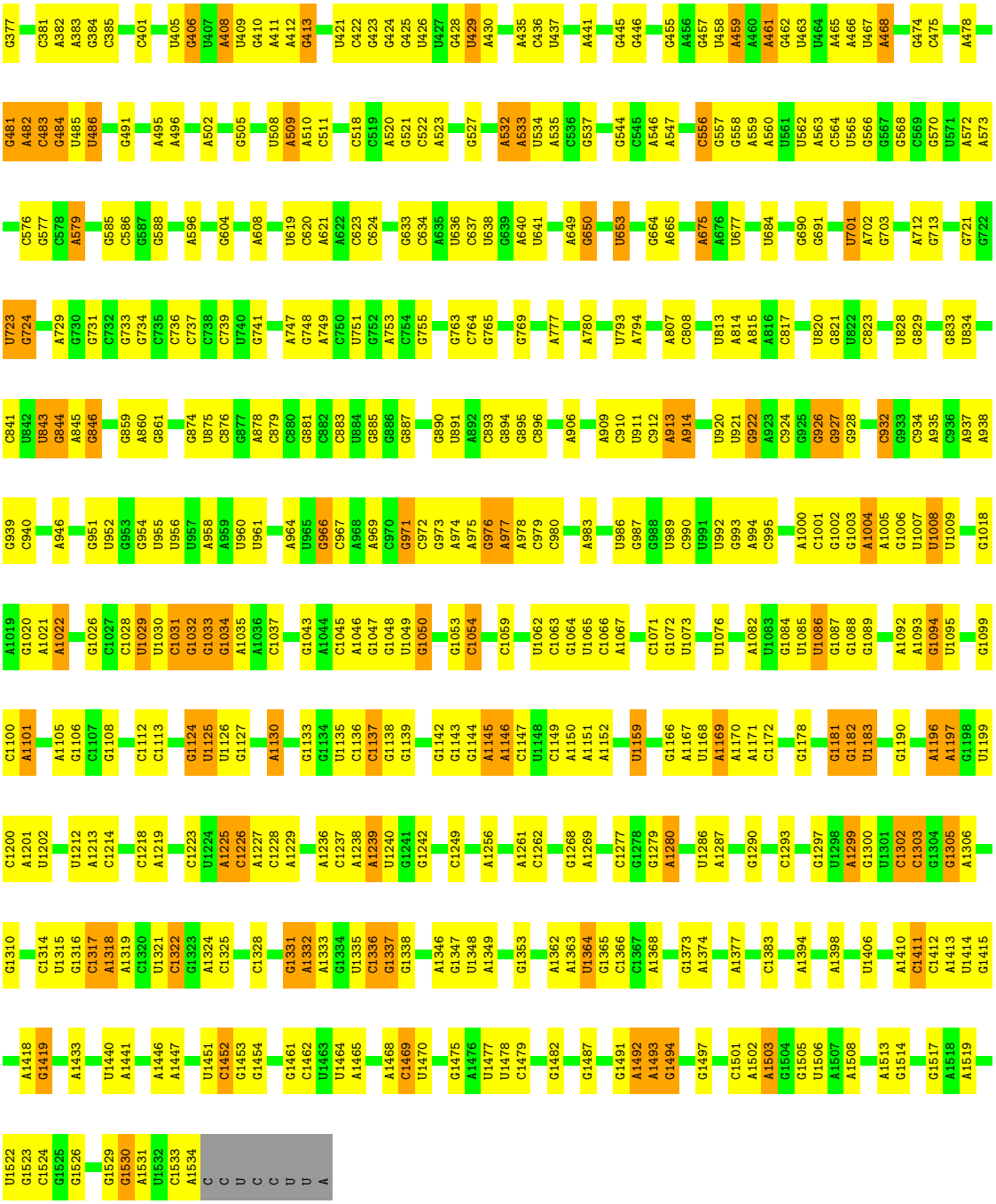




• Molecule 35: 16S rRNA

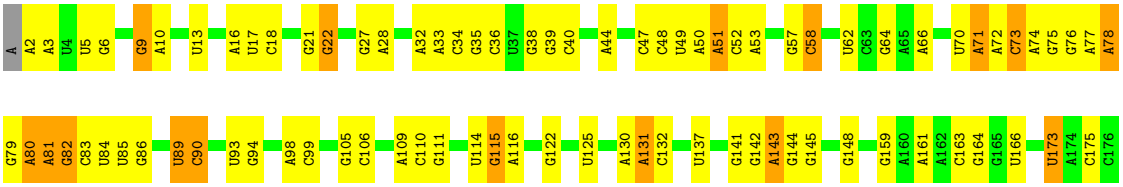
Chain FA:

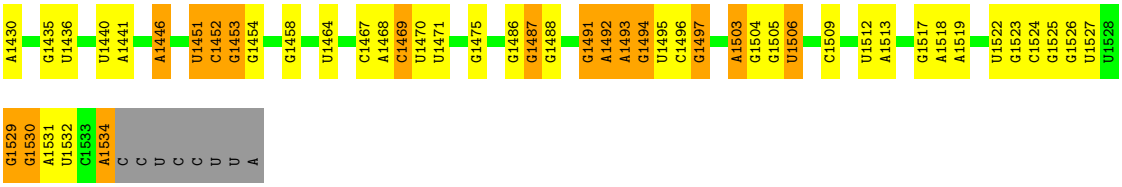




• Molecule 35: 16S rRNA

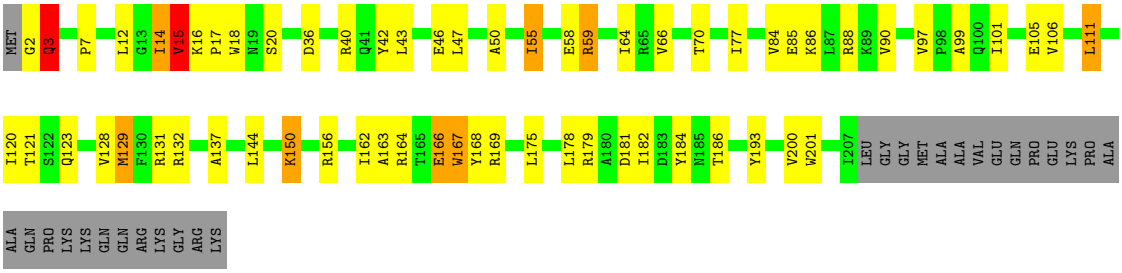
Chain HA:





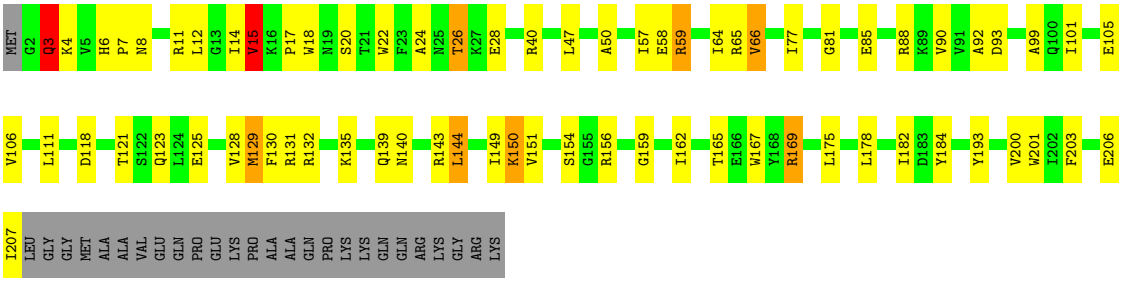
• Molecule 36: 30S ribosomal protein S3

Chain BC:



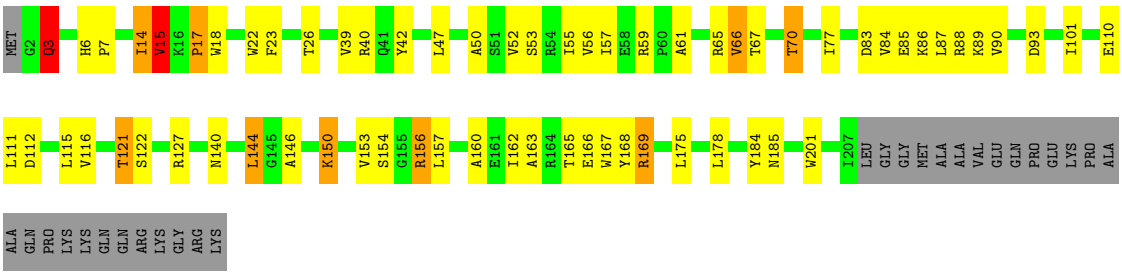
• Molecule 36: 30S ribosomal protein S3

Chain DC:



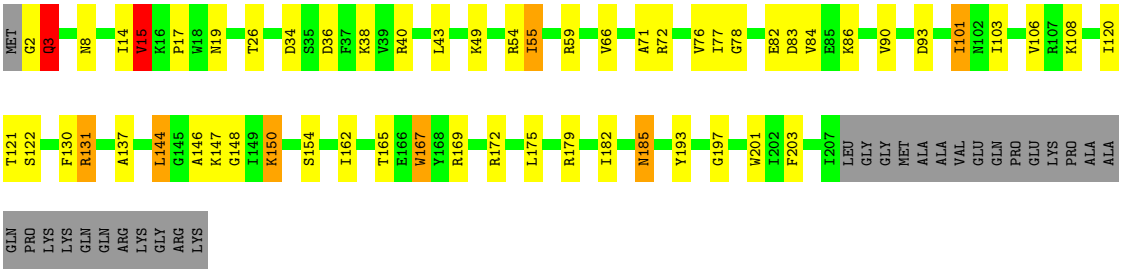
• Molecule 36: 30S ribosomal protein S3

Chain FC:



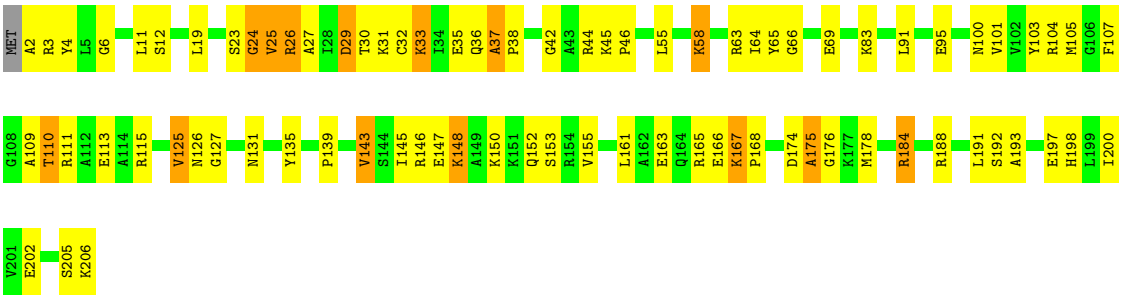
• Molecule 36: 30S ribosomal protein S3

Chain HC:



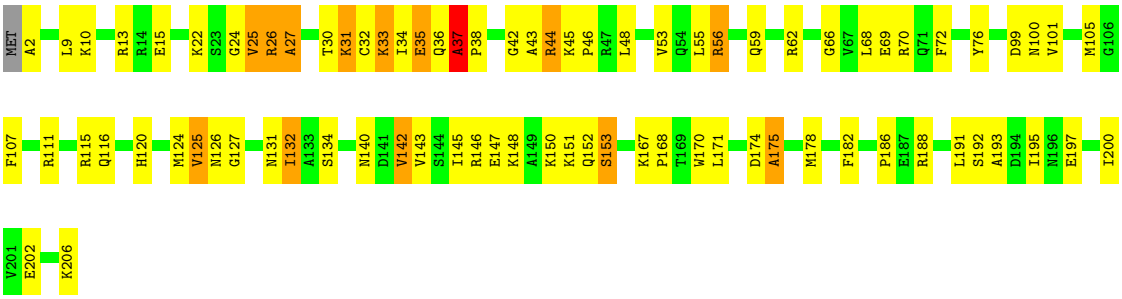
• Molecule 37: 30S ribosomal protein S4

Chain BD: 60% 33% 7%



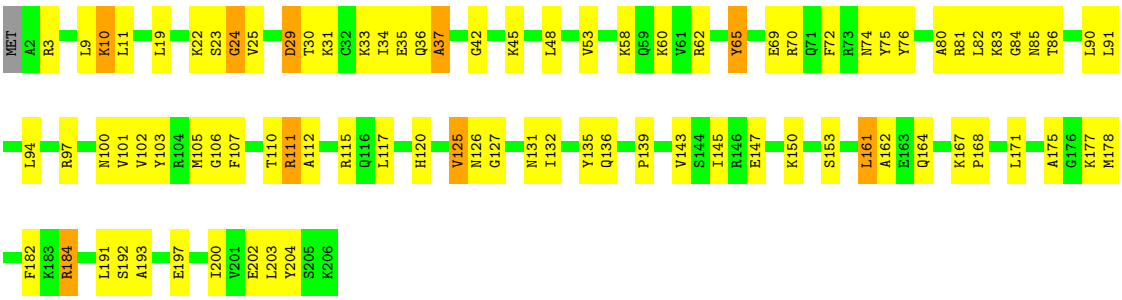
• Molecule 37: 30S ribosomal protein S4

Chain DD: 60% 33% 6%



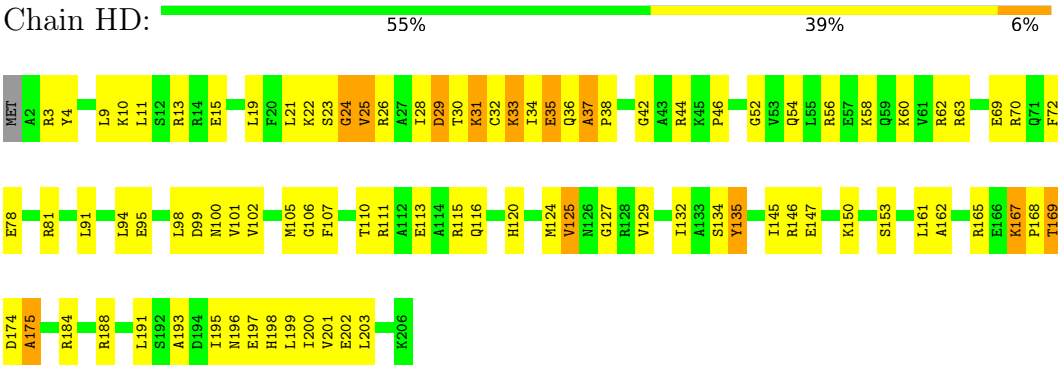
• Molecule 37: 30S ribosomal protein S4

Chain FD: 57% 38%



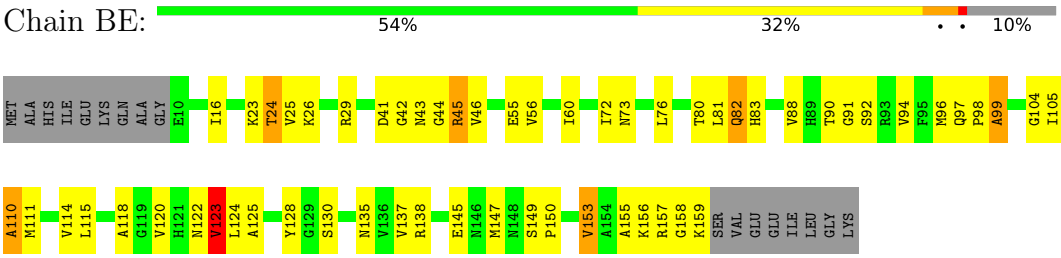
• Molecule 37: 30S ribosomal protein S4

Chain HD:



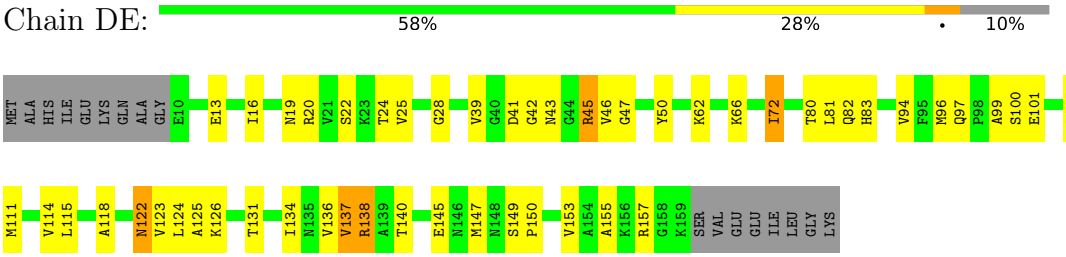
• Molecule 38: 30S ribosomal protein S5

Chain BE:



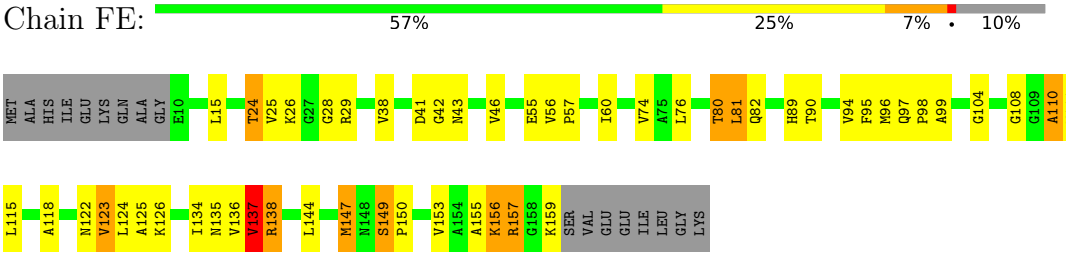
• Molecule 38: 30S ribosomal protein S5

Chain DE:



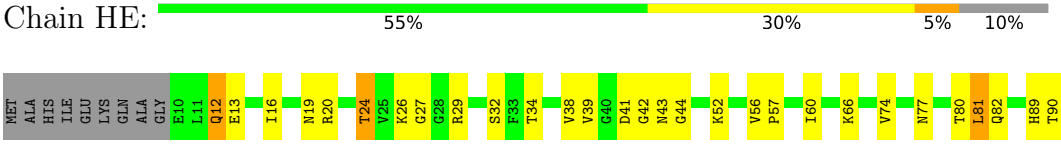
• Molecule 38: 30S ribosomal protein S5

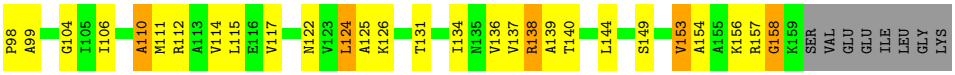
Chain FE:



• Molecule 38: 30S ribosomal protein S5

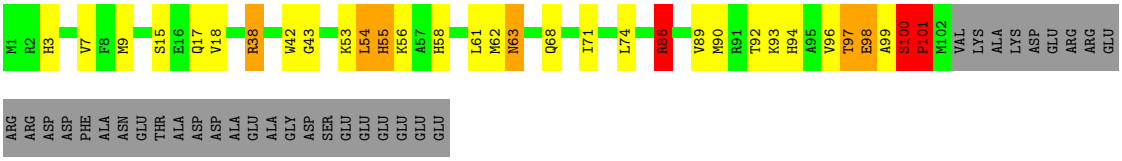
Chain HE:





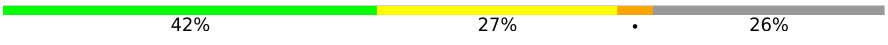
• Molecule 39: 30S ribosomal protein S6

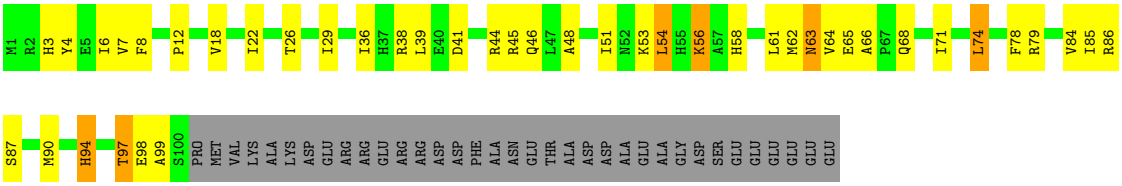
Chain BF:



• Molecule 39: 30S ribosomal protein S6

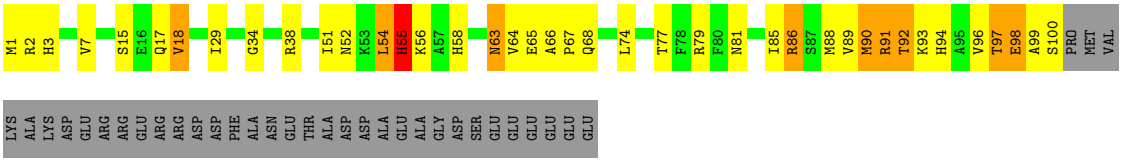
Chain DF:





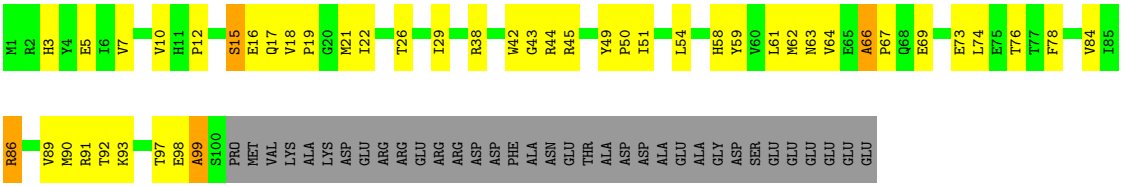
• Molecule 39: 30S ribosomal protein S6

Chain FF:



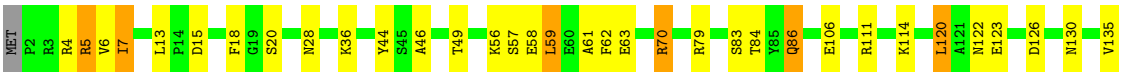
• Molecule 39: 30S ribosomal protein S6

Chain HF:



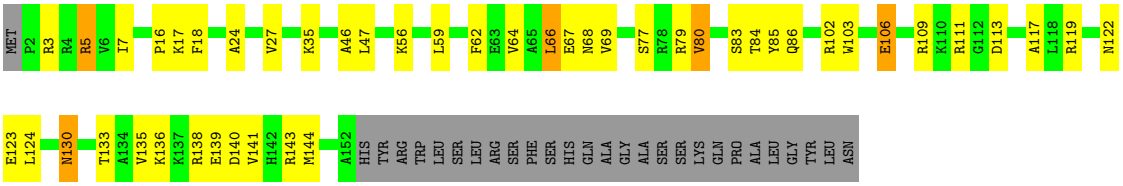
• Molecule 40: 30S ribosomal protein S7

Chain BG:



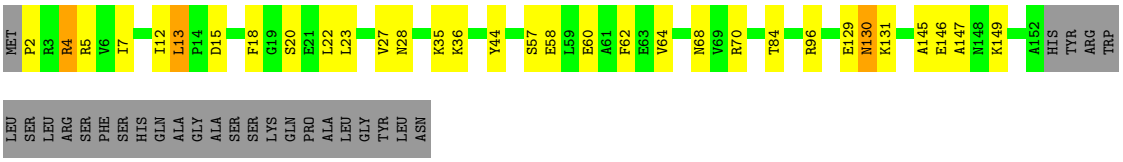
• Molecule 40: 30S ribosomal protein S7

Chain DG:



• Molecule 40: 30S ribosomal protein S7

Chain FG:

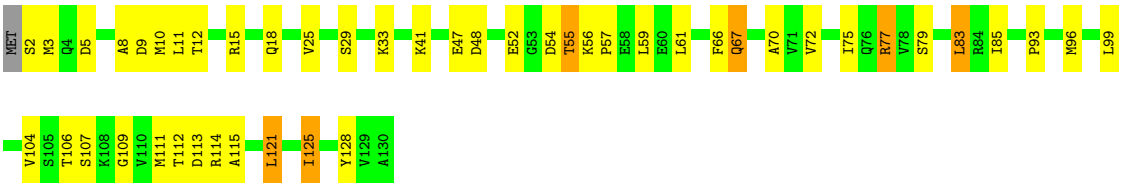


• Molecule 40: 30S ribosomal protein S7

Chain HG:

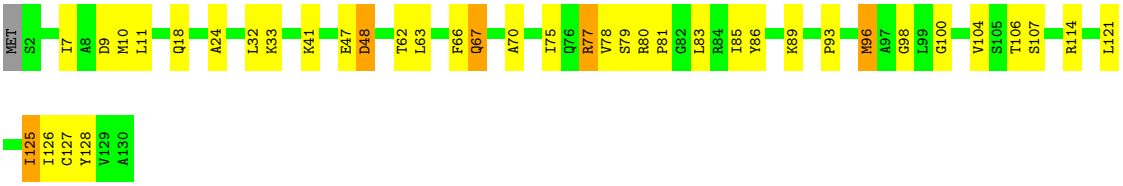
• Molecule 41: 30S ribosomal protein S8

Chain BH:



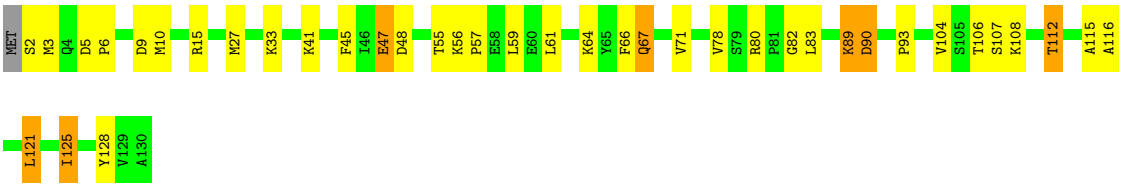
• Molecule 41: 30S ribosomal protein S8

Chain DH:



• Molecule 41: 30S ribosomal protein S8

Chain FH:



• Molecule 41: 30S ribosomal protein S8

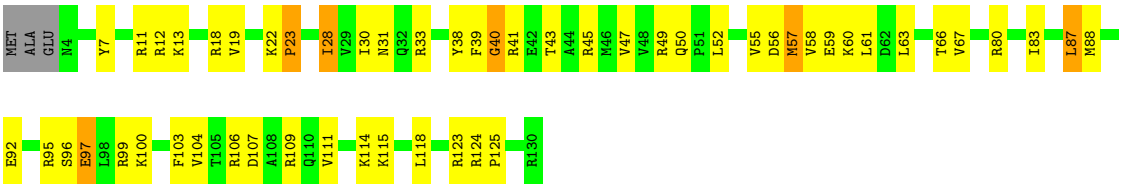
Chain HH:

• Molecule 42: 30S ribosomal protein S9

Chain BI:

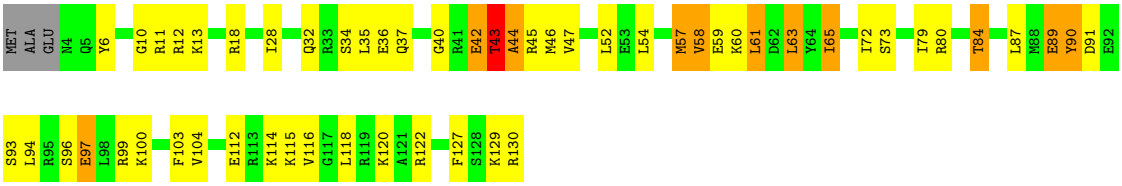
• Molecule 42: 30S ribosomal protein S9

Chain DI:



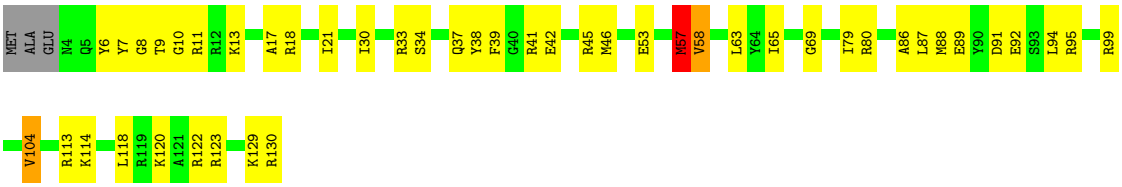
• Molecule 42: 30S ribosomal protein S9

Chain FI:



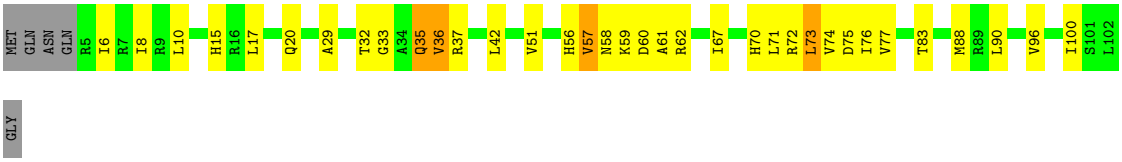
• Molecule 42: 30S ribosomal protein S9

Chain HI:



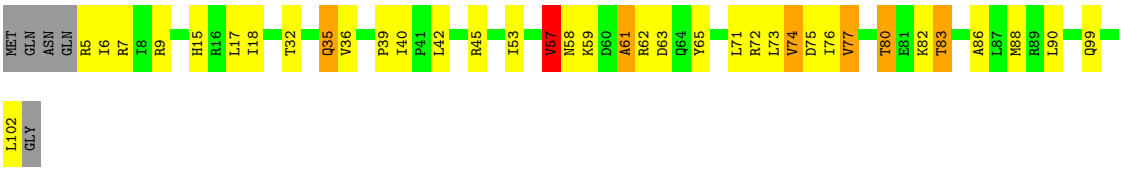
• Molecule 43: 30S ribosomal protein S10

Chain BJ:



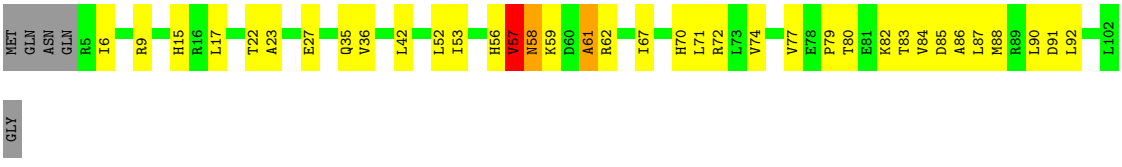
• Molecule 43: 30S ribosomal protein S10

Chain DJ:



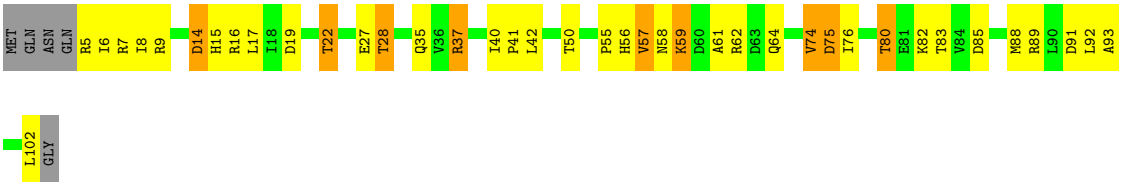
• Molecule 43: 30S ribosomal protein S10

Chain FJ:



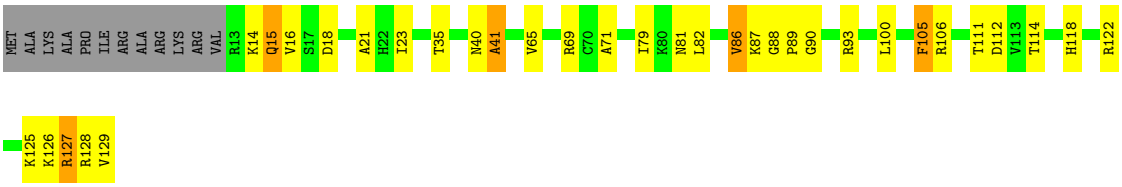
• Molecule 43: 30S ribosomal protein S10

Chain HJ:



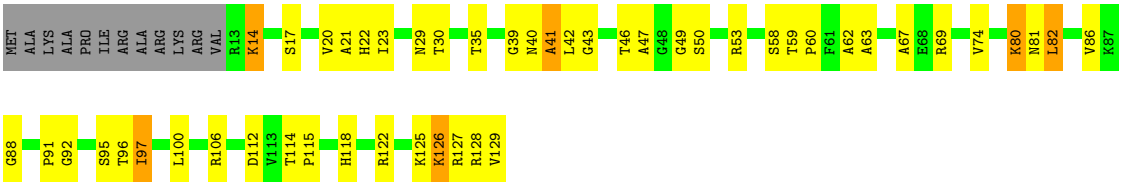
• Molecule 44: 30S ribosomal protein S11

Chain BK:



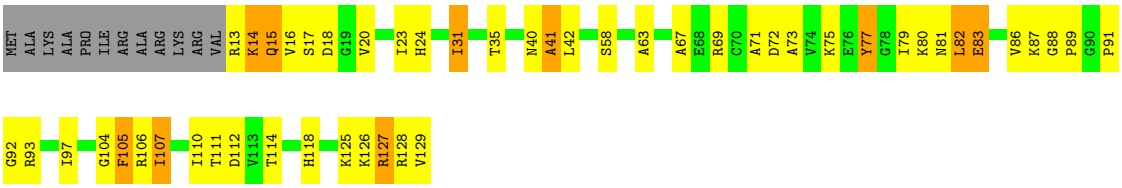
• Molecule 44: 30S ribosomal protein S11

Chain DK:



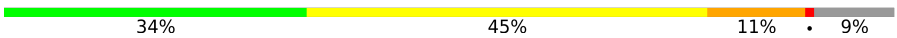
• Molecule 44: 30S ribosomal protein S11

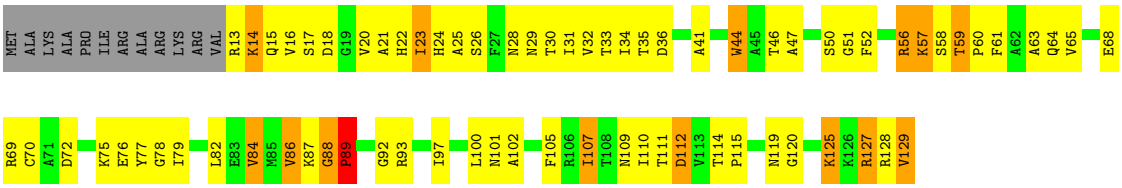
Chain FK:



• Molecule 44: 30S ribosomal protein S11

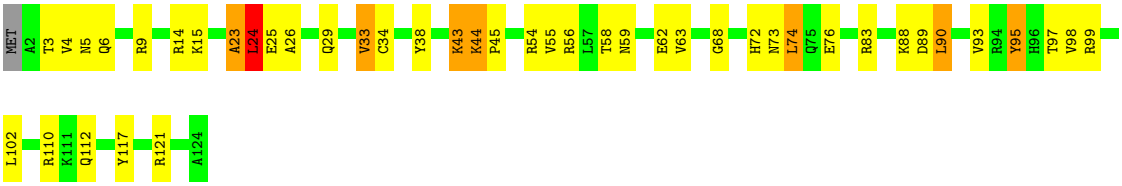
Chain HK:





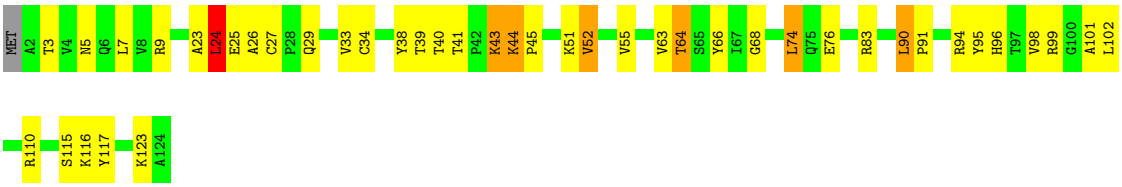
• Molecule 45: 30S ribosomal protein S12

Chain BL:



• Molecule 45: 30S ribosomal protein S12

Chain DL:

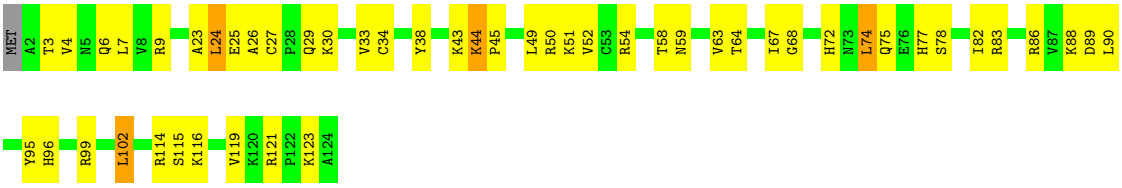


• Molecule 45: 30S ribosomal protein S12

Chain FL:

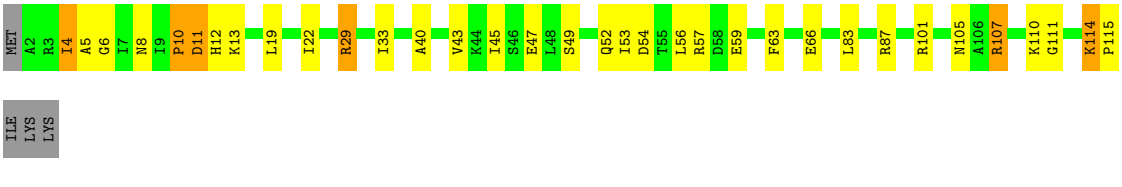
• Molecule 45: 30S ribosomal protein S12

Chain HL:



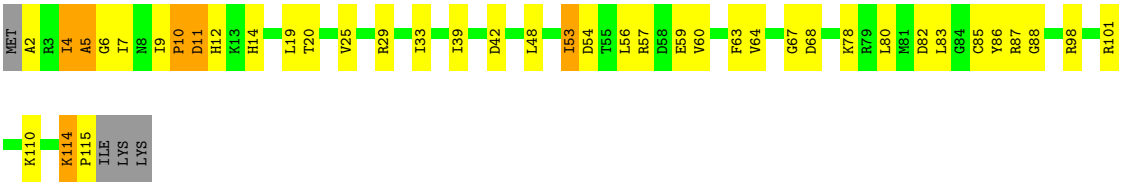
• Molecule 46: 30S ribosomal protein S13

Chain BM:



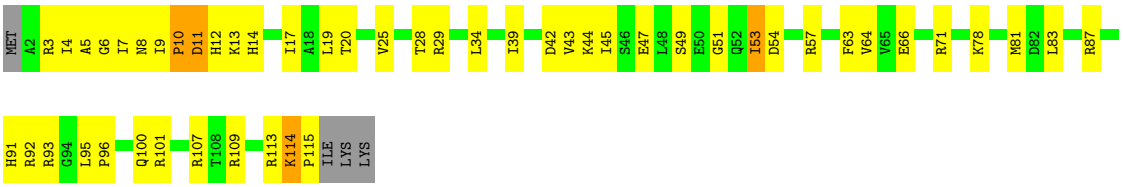
• Molecule 46: 30S ribosomal protein S13

Chain DM:



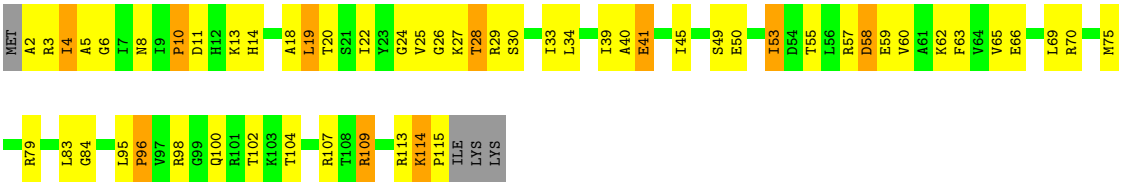
• Molecule 46: 30S ribosomal protein S13

Chain FM:



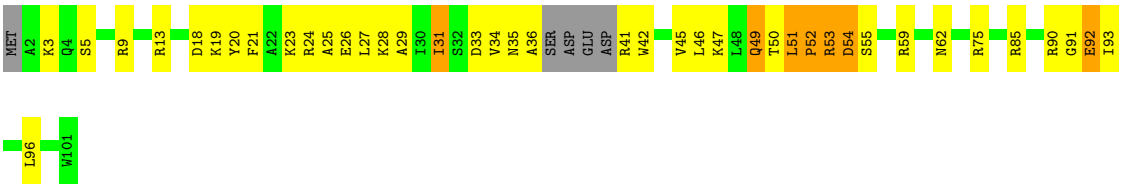
• Molecule 46: 30S ribosomal protein S13

Chain HM:



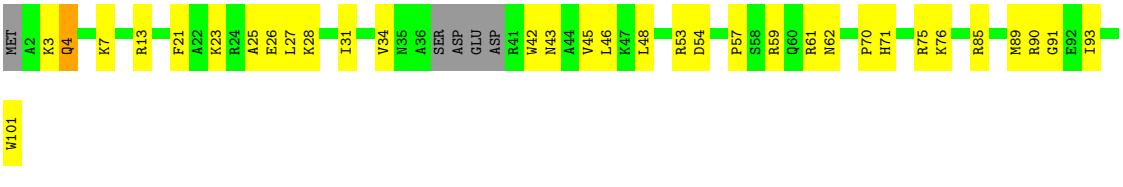
• Molecule 47: 30S ribosomal protein S14

Chain BN:



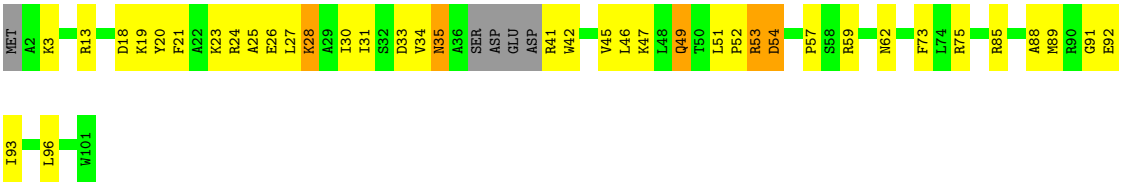
• Molecule 47: 30S ribosomal protein S14

Chain DN:



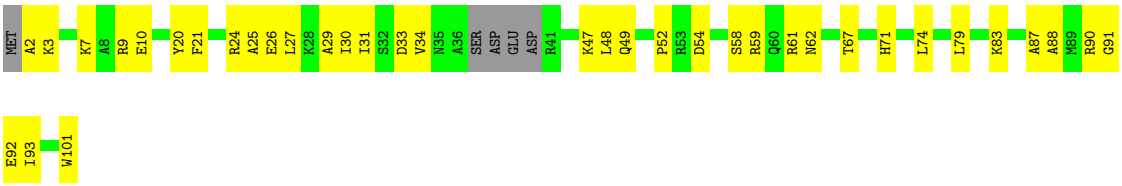
• Molecule 47: 30S ribosomal protein S14

Chain FN:



• Molecule 47: 30S ribosomal protein S14

Chain HN:



• Molecule 48: 30S ribosomal protein S15

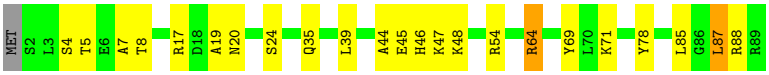
Chain BO:

• Molecule 48: 30S ribosomal protein S15

Chain DO:

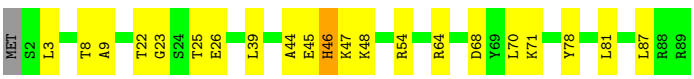
• Molecule 48: 30S ribosomal protein S15

Chain FO:



• Molecule 48: 30S ribosomal protein S15

Chain HO:

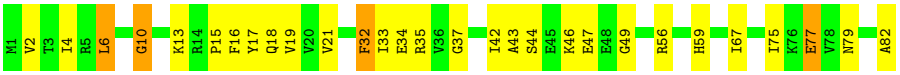


• Molecule 49: 30S ribosomal protein S16

Chain BP:

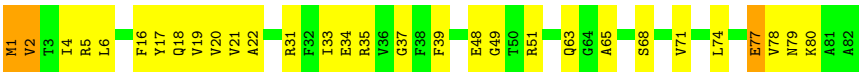
• Molecule 49: 30S ribosomal protein S16

Chain DP:



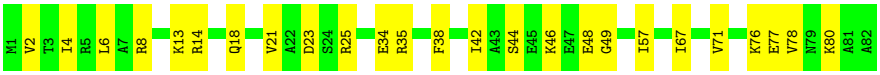
• Molecule 49: 30S ribosomal protein S16

Chain FP:



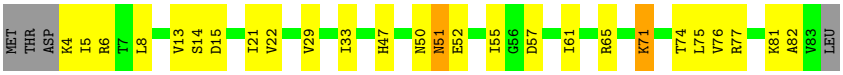
• Molecule 49: 30S ribosomal protein S16

Chain HP:



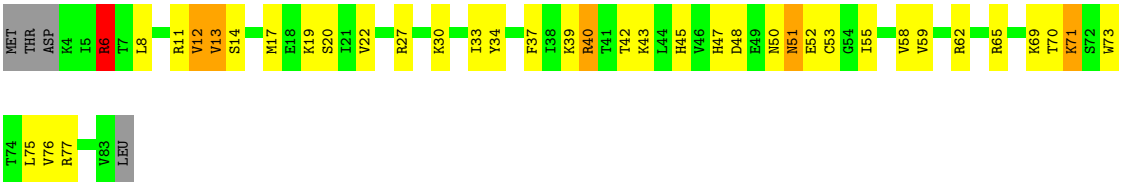
• Molecule 50: 30S ribosomal protein S17

Chain BQ:



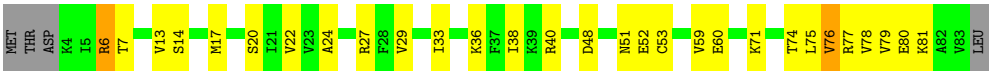
• Molecule 50: 30S ribosomal protein S17

Chain DQ:



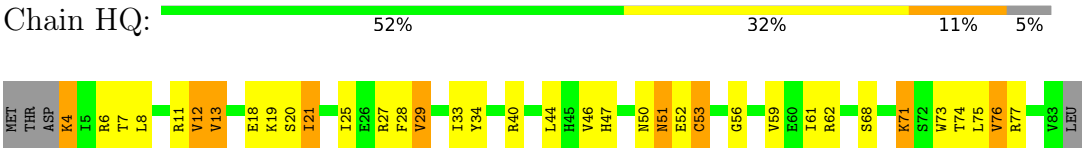
• Molecule 50: 30S ribosomal protein S17

Chain FQ:



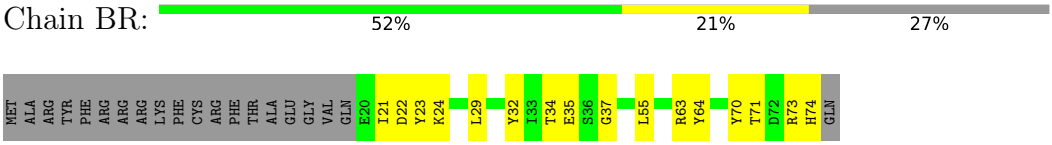
• Molecule 50: 30S ribosomal protein S17

Chain HQ:



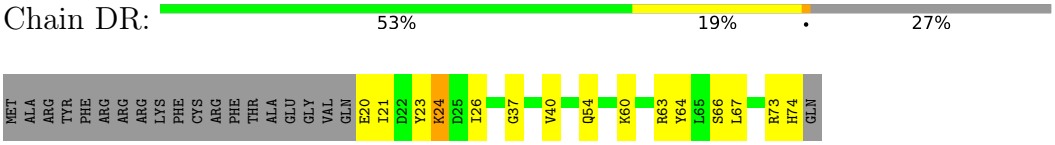
• Molecule 51: 30S ribosomal protein S18

Chain BR:



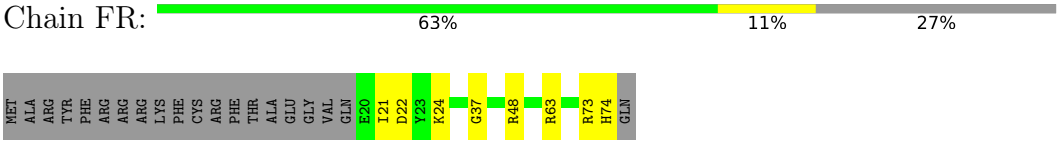
• Molecule 51: 30S ribosomal protein S18

Chain DR:



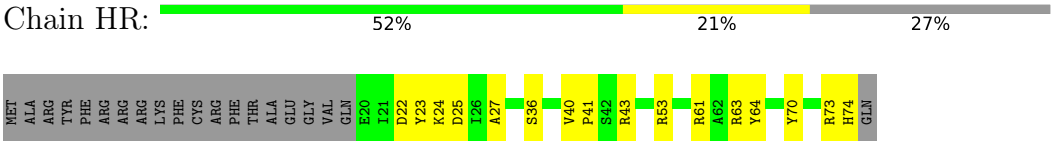
• Molecule 51: 30S ribosomal protein S18

Chain FR:



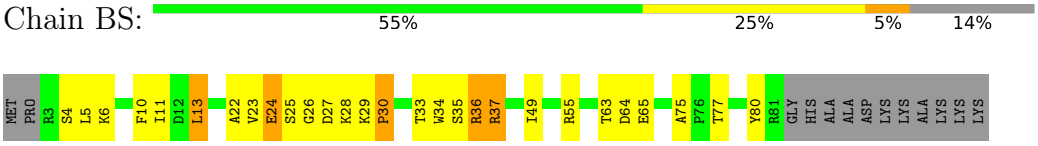
• Molecule 51: 30S ribosomal protein S18

Chain HR:



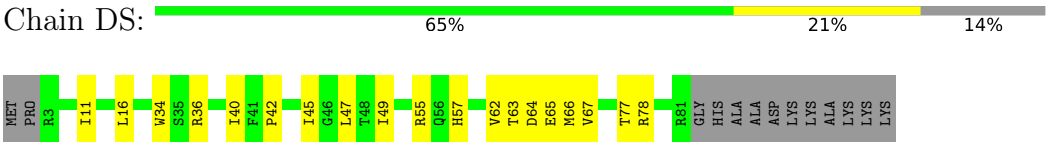
• Molecule 52: 30S ribosomal protein S19

Chain BS:



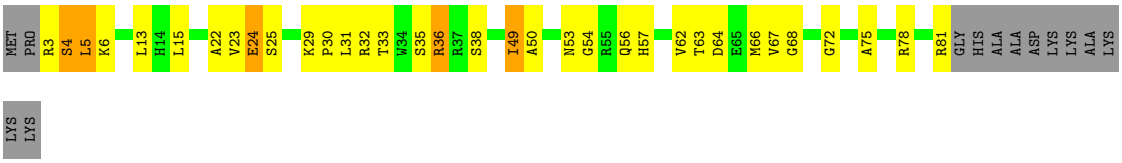
• Molecule 52: 30S ribosomal protein S19

Chain DS:



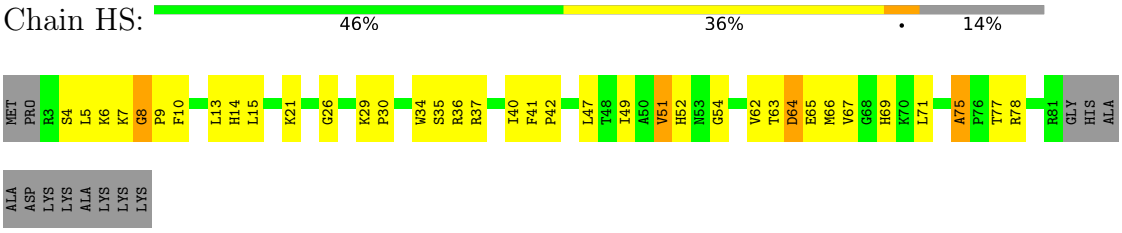
• Molecule 52: 30S ribosomal protein S19

Chain FS:



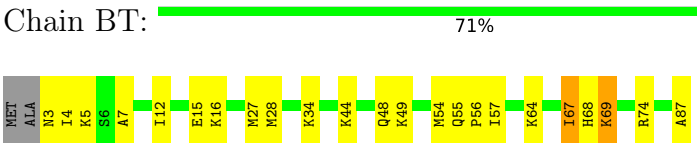
• Molecule 52: 30S ribosomal protein S19

Chain HS:



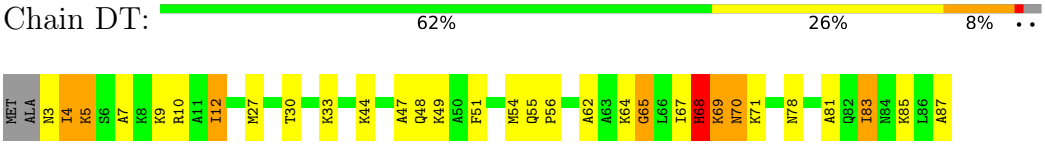
• Molecule 53: 30S ribosomal protein S20

Chain BT:



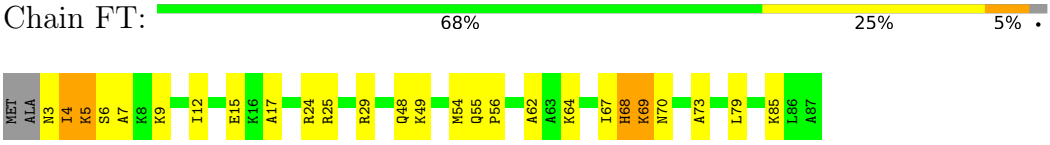
• Molecule 53: 30S ribosomal protein S20

Chain DT:



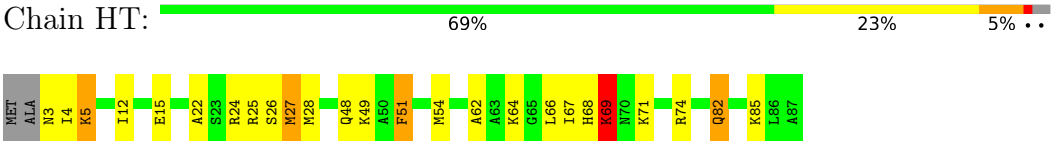
• Molecule 53: 30S ribosomal protein S20

Chain FT:



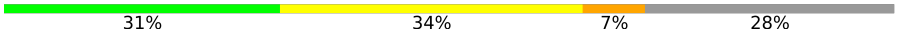
• Molecule 53: 30S ribosomal protein S20

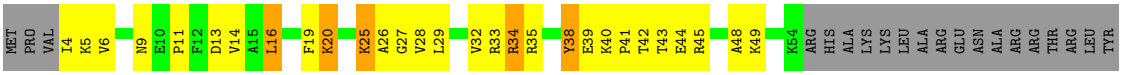
Chain HT:



• Molecule 54: 30S ribosomal protein S21

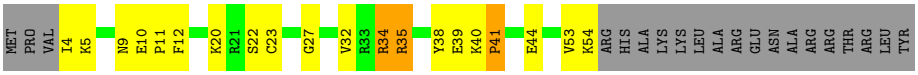
Chain BU:





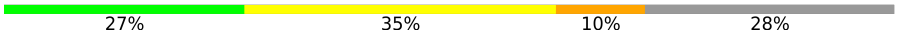
• Molecule 54: 30S ribosomal protein S21

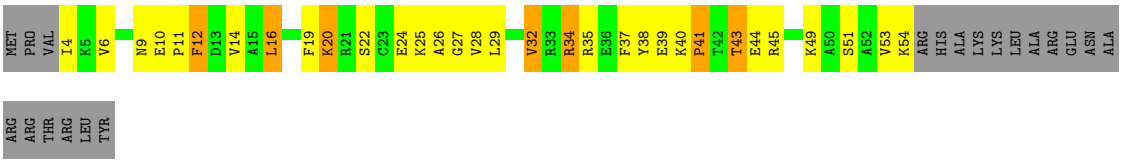
Chain DU:



• Molecule 54: 30S ribosomal protein S21

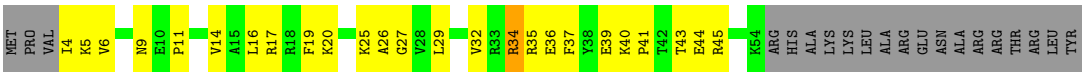
Chain FU:





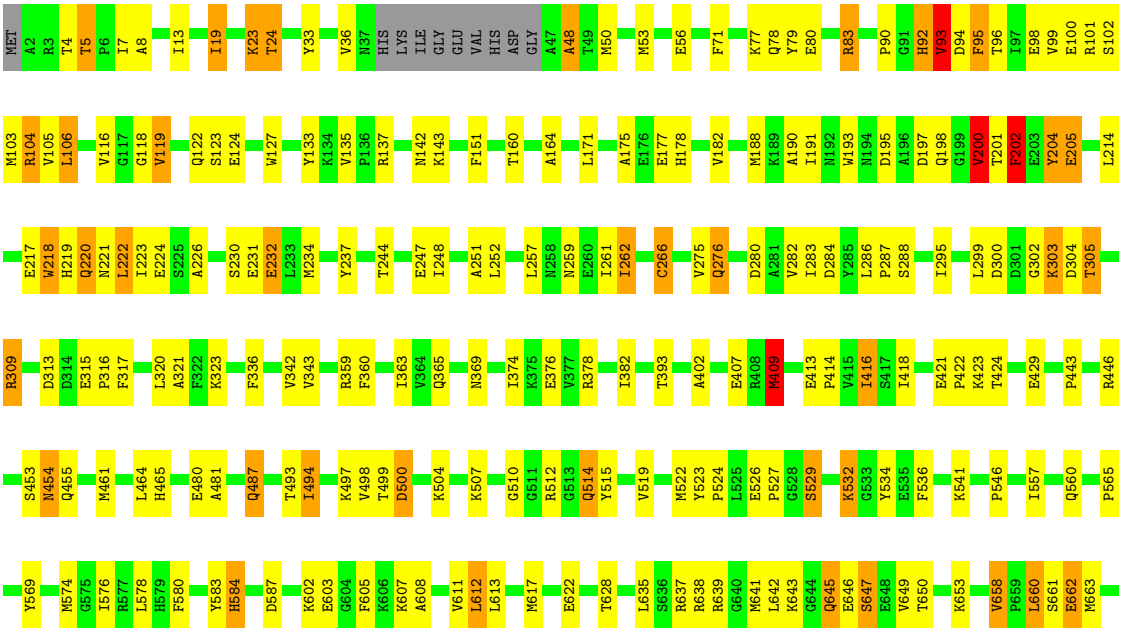
• Molecule 54: 30S ribosomal protein S21

Chain HU:



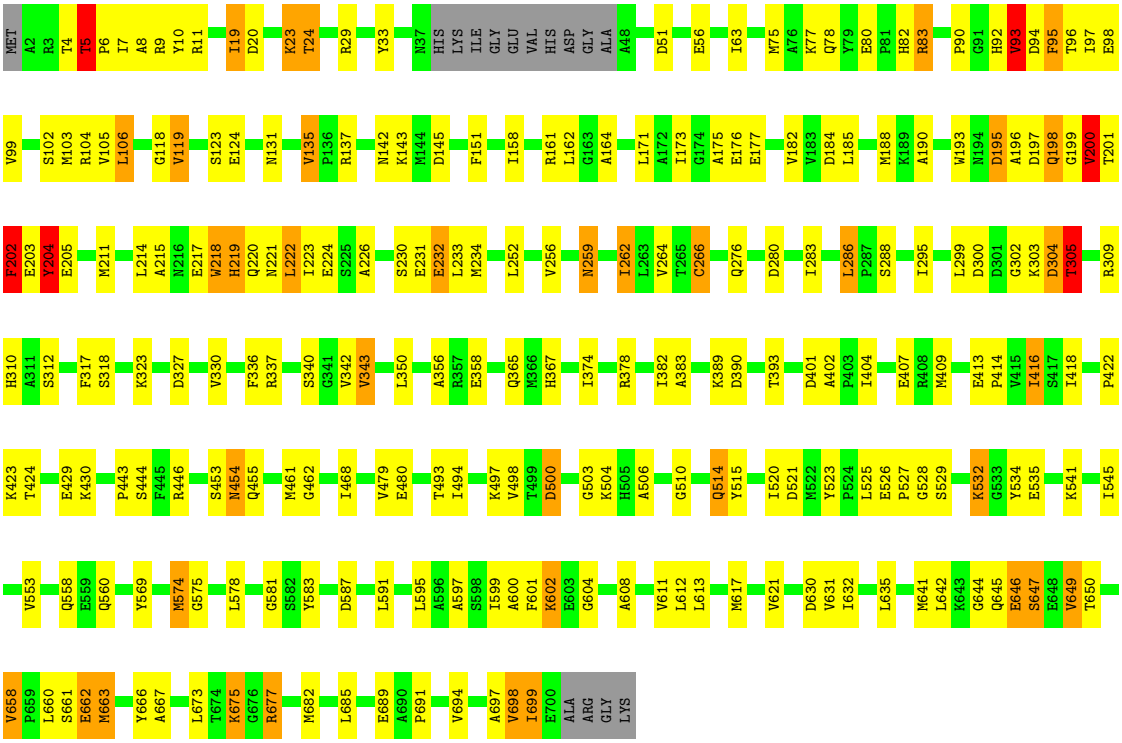
• Molecule 55: Elongation factor G

Chain BV:



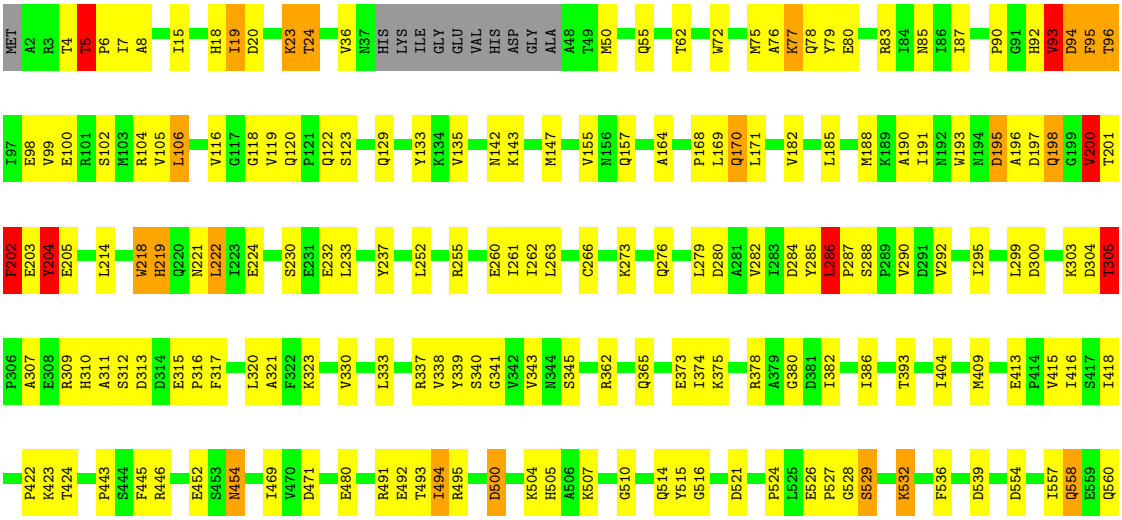
• Molecule 55: Elongation factor G

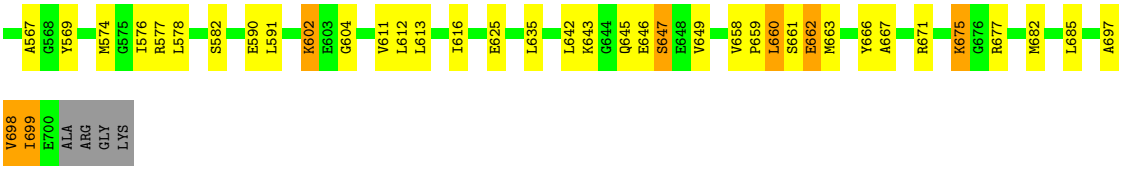
Chain DV:



• Molecule 55: Elongation factor G

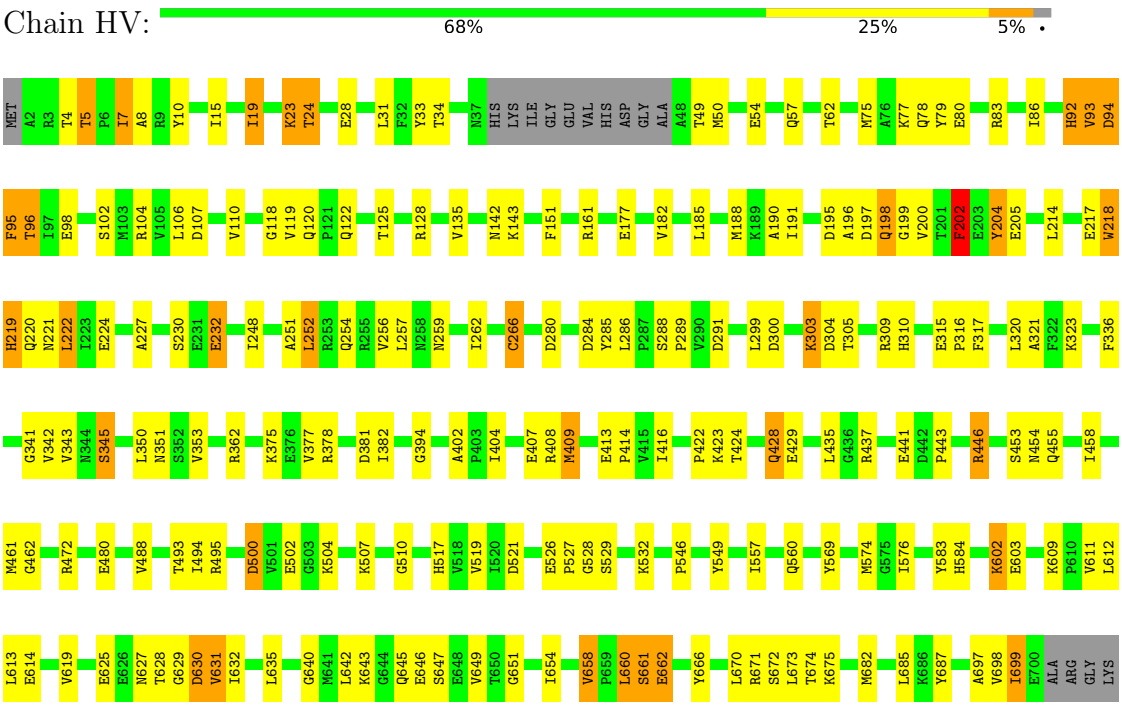
Chain FV:





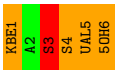
• Molecule 55: Elongation factor G

Chain HV:



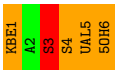
• Molecule 56: Viomycin

Chain BW:



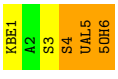
• Molecule 56: Viomycin

Chain DW:



• Molecule 56: Viomycin

Chain FW:



• Molecule 56: Viomycin

Chain HW:

4 Data and refinement statistics (i)

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	361.60Å 361.77Å 433.20Å 90.00° 103.57° 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
$< I/\sigma(I) >$ [1]	1.35 (at 2.91Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.223 , 0.272	Depositor
Wilson B-factor (Å^2)	73.3	Xtriage
Anisotropy	0.160	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	592086	wwPDB-VP
Average B, all atoms (Å^2)	32.0	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 29.65 % 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 1.4952e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

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

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	AB	0.37	0/2828	0.55	0/4410
1	CB	0.30	0/2828	0.52	0/4410
1	EB	0.35	0/2828	0.56	0/4410
1	GB	0.40	0/2828	0.57	0/4410
2	AC	0.71	0/2121	1.10	8/2852 (0.3%)
2	CC	0.60	0/2121	1.00	3/2852 (0.1%)
2	EC	0.69	0/2121	1.04	6/2852 (0.2%)
2	GC	0.59	0/2121	1.00	4/2852 (0.1%)
3	AA	0.44	0/68626	0.60	5/107056 (0.0%)
3	CA	0.34	0/68626	0.55	3/107056 (0.0%)
3	EA	0.41	0/68626	0.60	5/107056 (0.0%)
3	GA	0.35	0/68626	0.59	5/107056 (0.0%)
4	AD	0.74	0/1586	1.12	7/2134 (0.3%)
4	CD	0.66	0/1586	1.06	8/2134 (0.4%)
4	ED	0.71	0/1586	0.99	4/2134 (0.2%)
4	GD	0.62	0/1586	1.01	6/2134 (0.3%)
5	AE	0.69	0/1571	1.02	4/2113 (0.2%)
5	CE	0.54	0/1571	0.95	2/2113 (0.1%)
5	EE	0.69	0/1571	0.99	3/2113 (0.1%)
5	GE	0.72	1/1571 (0.1%)	1.04	4/2113 (0.2%)
6	AF	0.60	0/1434	0.99	5/1926 (0.3%)
6	CF	0.59	0/1434	1.07	2/1926 (0.1%)
6	EF	0.62	0/1434	1.05	3/1926 (0.2%)
6	GF	0.82	1/1434 (0.1%)	1.12	4/1926 (0.2%)
7	AG	0.69	0/1343	0.99	1/1816 (0.1%)
7	CG	0.61	0/1343	0.99	2/1816 (0.1%)
7	EG	0.66	1/1343 (0.1%)	1.03	4/1816 (0.2%)
7	GG	0.64	0/1343	0.96	1/1816 (0.1%)
8	AH	0.68	0/389	1.05	1/523 (0.2%)
8	CH	0.82	0/389	1.07	0/523
8	EH	0.61	0/389	1.09	1/523 (0.2%)
8	GH	0.68	0/389	0.99	0/523

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
9	AI	0.83	0/1046	1.23	13/1410 (0.9%)
9	CI	0.81	0/1046	1.19	15/1410 (1.1%)
9	EI	0.73	0/1046	1.12	7/1410 (0.5%)
9	GI	1.02	1/1046 (0.1%)	1.25	14/1410 (1.0%)
10	AJ	0.81	1/1152 (0.1%)	1.07	3/1551 (0.2%)
10	CJ	0.64	0/1152	1.00	4/1551 (0.3%)
10	EJ	0.80	1/1152 (0.1%)	1.08	5/1551 (0.3%)
10	GJ	0.61	0/1152	1.00	2/1551 (0.1%)
11	AK	0.83	0/947	1.02	1/1268 (0.1%)
11	CK	0.72	0/947	1.07	1/1268 (0.1%)
11	EK	0.72	1/947 (0.1%)	1.03	2/1268 (0.2%)
11	GK	0.66	0/947	1.05	2/1268 (0.2%)
12	AL	0.74	0/1054	1.01	0/1403
12	CL	0.57	0/1054	0.98	1/1403 (0.1%)
12	EL	0.74	0/1054	1.03	1/1403 (0.1%)
12	GL	0.71	0/1054	1.06	4/1403 (0.3%)
13	AM	0.79	0/1093	1.05	3/1460 (0.2%)
13	CM	0.62	0/1093	0.97	6/1460 (0.4%)
13	EM	0.71	0/1093	1.03	3/1460 (0.2%)
13	GM	0.59	0/1093	1.01	2/1460 (0.1%)
14	AN	0.68	0/973	0.91	0/1301
14	CN	0.57	0/973	0.89	0/1301
14	EN	0.64	0/973	0.94	2/1301 (0.2%)
14	GN	0.57	0/973	0.90	0/1301
15	AO	0.59	0/902	0.98	1/1209 (0.1%)
15	CO	0.49	0/902	0.97	0/1209
15	EO	0.57	0/902	1.03	0/1209
15	GO	0.67	0/902	1.19	3/1209 (0.2%)
16	AP	0.67	0/929	1.03	2/1242 (0.2%)
16	CP	0.62	0/929	1.07	3/1242 (0.2%)
16	EP	0.69	0/929	1.10	3/1242 (0.2%)
16	GP	0.64	0/929	1.08	3/1242 (0.2%)
17	AQ	0.79	0/960	0.96	1/1278 (0.1%)
17	CQ	0.63	0/960	0.95	0/1278
17	EQ	0.74	0/960	0.93	0/1278
17	GQ	0.60	0/960	0.98	1/1278 (0.1%)
18	AR	0.71	0/829	1.04	3/1107 (0.3%)
18	CR	0.60	0/829	0.98	3/1107 (0.3%)
18	ER	0.71	0/829	1.04	3/1107 (0.3%)
18	GR	0.74	0/829	1.03	4/1107 (0.4%)
19	AS	0.76	1/864 (0.1%)	0.99	2/1156 (0.2%)
19	CS	0.64	0/864	0.90	0/1156
19	ES	0.76	0/864	1.00	1/1156 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
19	GS	0.61	0/864	0.97	1/1156 (0.1%)
20	AT	0.73	0/744	1.11	3/994 (0.3%)
20	CT	0.65	0/744	1.02	2/994 (0.2%)
20	ET	0.79	0/744	1.12	3/994 (0.3%)
20	GT	0.71	0/744	1.03	1/994 (0.1%)
21	AU	0.69	0/787	1.08	0/1051
21	CU	0.55	0/787	1.01	2/1051 (0.2%)
21	EU	0.61	0/787	1.13	7/1051 (0.7%)
21	GU	0.74	0/787	1.09	2/1051 (0.2%)
22	AV	0.61	0/766	0.92	3/1025 (0.3%)
22	CV	0.53	0/766	0.86	0/1025
22	EV	0.63	0/766	0.91	1/1025 (0.1%)
22	GV	0.73	0/766	1.08	2/1025 (0.2%)
23	AW	0.95	2/603 (0.3%)	1.30	5/797 (0.6%)
23	CW	0.79	1/603 (0.2%)	1.22	6/797 (0.8%)
23	EW	0.94	1/603 (0.2%)	1.30	5/797 (0.6%)
23	GW	0.79	0/603	1.21	5/797 (0.6%)
24	AX	0.66	0/635	1.00	1/848 (0.1%)
24	CX	0.54	0/635	0.91	2/848 (0.2%)
24	EX	0.67	0/635	0.95	0/848
24	GX	0.55	0/635	0.92	1/848 (0.1%)
25	AY	0.55	0/510	0.98	0/677
25	CY	0.58	0/510	1.01	1/677 (0.1%)
25	EY	0.61	0/510	1.04	1/677 (0.1%)
25	GY	0.67	0/510	1.06	1/677 (0.1%)
26	AZ	0.74	0/453	1.08	0/605
26	CZ	0.69	0/453	1.09	2/605 (0.3%)
26	EZ	0.72	0/453	0.98	2/605 (0.3%)
26	GZ	0.78	0/453	1.17	2/605 (0.3%)
27	A0	0.69	0/450	0.91	0/599
27	C0	0.57	0/450	0.90	0/599
27	E0	0.67	0/450	0.89	0/599
27	G0	0.57	0/450	0.88	0/599
28	A1	0.68	0/416	1.01	2/554 (0.4%)
28	C1	0.64	0/416	0.99	0/554
28	E1	0.60	0/416	1.05	3/554 (0.5%)
28	G1	0.65	0/416	1.03	0/554
29	A2	0.72	0/380	1.00	0/498
29	C2	0.62	0/380	1.10	3/498 (0.6%)
29	E2	0.65	0/380	0.90	0/498
29	G2	0.56	0/380	0.90	0/498
30	A3	0.71	0/513	0.99	1/676 (0.1%)
30	C3	0.53	0/513	0.91	1/676 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
30	E3	0.71	0/513	1.03	2/676 (0.3%)
30	G3	0.62	0/513	0.96	1/676 (0.1%)
31	A4	0.86	1/303 (0.3%)	1.19	1/397 (0.3%)
31	C4	0.72	0/303	1.07	0/397
31	E4	0.83	0/303	1.10	0/397
31	G4	0.67	0/303	1.09	0/397
32	A5	0.90	1/1131 (0.1%)	2.04	51/1524 (3.3%)
32	C5	0.85	0/1131	2.06	54/1524 (3.5%)
32	E5	0.83	0/1115	2.07	56/1502 (3.7%)
33	A6	0.78	0/227	0.98	1/304 (0.3%)
34	BB	0.61	0/1735	0.98	4/2338 (0.2%)
34	DB	0.65	0/1735	0.99	5/2338 (0.2%)
34	FB	0.63	0/1735	1.07	5/2338 (0.2%)
34	HB	0.74	0/1735	1.00	5/2338 (0.2%)
35	BA	0.36	0/36834	0.57	1/57462 (0.0%)
35	DA	0.33	0/36834	0.55	0/57462
35	FA	0.34	0/36834	0.57	0/57462
35	HA	0.39	0/36834	0.57	0/57462
36	BC	0.58	0/1651	0.96	6/2225 (0.3%)
36	DC	0.55	0/1651	0.92	1/2225 (0.0%)
36	FC	0.63	0/1651	0.97	1/2225 (0.0%)
36	HC	0.73	0/1651	1.04	7/2225 (0.3%)
37	BD	0.66	0/1665	1.08	6/2227 (0.3%)
37	DD	0.63	0/1665	1.02	6/2227 (0.3%)
37	FD	0.64	0/1665	0.95	2/2227 (0.1%)
37	HD	0.67	0/1665	1.04	5/2227 (0.2%)
38	BE	0.66	0/1118	1.07	4/1504 (0.3%)
38	DE	0.58	0/1118	1.00	2/1504 (0.1%)
38	FE	0.61	0/1118	0.98	1/1504 (0.1%)
38	HE	0.62	0/1118	0.94	1/1504 (0.1%)
39	BF	0.64	0/851	0.92	0/1150
39	DF	0.70	0/835	1.09	2/1128 (0.2%)
39	FF	0.64	1/835 (0.1%)	1.04	8/1128 (0.7%)
39	HF	0.79	1/835 (0.1%)	1.14	4/1128 (0.4%)
40	BG	0.65	0/1195	0.93	0/1602
40	DG	0.65	1/1195 (0.1%)	1.05	3/1602 (0.2%)
40	FG	0.59	0/1195	1.01	2/1602 (0.1%)
40	HG	0.79	1/1195 (0.1%)	1.13	3/1602 (0.2%)
41	BH	0.62	0/989	0.95	2/1326 (0.2%)
41	DH	0.57	0/989	0.95	1/1326 (0.1%)
41	FH	0.57	0/989	0.92	1/1326 (0.1%)
41	HH	0.72	0/989	1.09	2/1326 (0.2%)
42	BI	0.70	0/1034	1.07	2/1375 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
42	DI	0.68	0/1034	1.01	3/1375 (0.2%)
42	FI	0.69	0/1034	1.02	3/1375 (0.2%)
42	HI	0.75	0/1034	1.00	2/1375 (0.1%)
43	BJ	0.73	0/796	1.05	1/1077 (0.1%)
43	DJ	0.76	0/796	0.96	0/1077
43	FJ	0.69	0/796	0.99	0/1077
43	HJ	0.87	1/796 (0.1%)	1.12	3/1077 (0.3%)
44	BK	0.66	0/893	1.07	2/1205 (0.2%)
44	DK	0.68	0/893	1.03	3/1205 (0.2%)
44	FK	0.68	0/893	1.08	1/1205 (0.1%)
44	HK	0.92	0/893	1.27	12/1205 (1.0%)
45	BL	0.69	0/969	1.08	4/1300 (0.3%)
45	DL	0.62	0/969	1.03	3/1300 (0.2%)
45	FL	0.61	0/969	1.10	3/1300 (0.2%)
45	HL	0.65	0/969	1.06	1/1300 (0.1%)
46	BM	0.62	0/892	1.06	0/1193
46	DM	0.70	0/892	1.05	2/1193 (0.2%)
46	FM	0.57	0/892	1.01	3/1193 (0.3%)
46	HM	0.97	0/892	1.23	6/1193 (0.5%)
47	BN	0.65	0/785	1.02	4/1043 (0.4%)
47	DN	0.58	0/785	0.97	1/1043 (0.1%)
47	FN	0.64	0/785	1.03	2/1043 (0.2%)
47	HN	0.70	0/785	1.08	2/1043 (0.2%)
48	BO	0.59	0/722	0.97	2/964 (0.2%)
48	DO	0.56	0/722	1.01	0/964
48	FO	0.56	0/722	0.88	1/964 (0.1%)
48	HO	0.68	0/722	1.03	0/964
49	BP	0.65	0/659	1.01	1/884 (0.1%)
49	DP	0.56	0/659	0.96	0/884
49	FP	0.63	0/659	0.98	2/884 (0.2%)
49	HP	0.59	0/659	0.96	3/884 (0.3%)
50	BQ	0.61	0/657	1.00	0/881
50	DQ	0.59	0/657	0.99	0/881
50	FQ	0.57	0/657	0.91	0/881
50	HQ	0.66	0/657	1.03	0/881
51	BR	0.55	0/462	0.86	0/621
51	DR	0.70	1/462 (0.2%)	1.02	1/621 (0.2%)
51	FR	0.59	0/462	0.87	0/621
51	HR	0.73	0/462	1.11	0/621
52	BS	0.59	0/652	1.14	4/877 (0.5%)
52	DS	0.62	0/652	1.03	0/877
52	FS	0.58	0/652	0.95	2/877 (0.2%)
52	HS	0.97	0/652	1.30	9/877 (1.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
53	BT	0.60	0/671	0.88	0/888
53	DT	0.65	0/671	0.99	1/888 (0.1%)
53	FT	0.53	0/671	1.02	4/888 (0.5%)
53	HT	0.56	0/671	1.00	2/888 (0.2%)
54	BU	0.82	0/430	1.12	2/570 (0.4%)
54	DU	0.93	1/430 (0.2%)	1.12	0/570
54	FU	0.87	1/430 (0.2%)	1.24	2/570 (0.4%)
54	HU	0.85	0/430	0.96	0/570
55	BV	0.58	0/5444	0.94	7/7367 (0.1%)
55	DV	0.56	0/5439	0.94	9/7360 (0.1%)
55	FV	0.59	0/5439	0.93	9/7360 (0.1%)
55	HV	0.62	0/5439	0.97	9/7360 (0.1%)
56	BW	3.15	1/11 (9.1%)	1.47	0/13
56	DW	3.31	1/11 (9.1%)	1.60	0/13
56	FW	3.34	1/11 (9.1%)	1.80	0/13
56	HW	3.51	1/11 (9.1%)	1.65	0/13
All	All	0.49	26/636829 (0.0%)	0.74	685/948879 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	AC	0	1
2	GC	0	1
4	AD	0	1
4	CD	0	2
4	ED	0	1
4	GD	0	1
10	AJ	0	1
10	GJ	0	1
11	AK	0	1
32	A5	0	1
39	BF	0	1
39	FF	0	1
42	DI	0	1
45	BL	0	1
45	DL	0	1
45	HL	0	1
53	DT	0	1
55	BV	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
55	DV	0	1
55	FV	0	1
55	HV	0	1
All	All	0	22

All (26) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	HW	3	SER	C-N	10.99	1.48	1.33
56	DW	3	SER	C-N	10.13	1.47	1.33
56	FW	3	SER	C-N	10.12	1.47	1.33
56	BW	3	SER	C-N	9.26	1.46	1.33
23	AW	35	ILE	CA-CB	7.23	1.62	1.54
6	GF	107	VAL	CA-CB	7.08	1.58	1.54
54	DU	38	TYR	CA-C	6.88	1.61	1.52
23	CW	35	ILE	CA-CB	6.50	1.61	1.54
23	EW	35	ILE	CA-CB	6.34	1.62	1.54
9	GI	75	ALA	CA-CB	-6.24	1.45	1.54
31	A4	3	VAL	CA-CB	-5.97	1.49	1.55
7	EG	18	ILE	CA-CB	5.63	1.60	1.54
23	AW	50	VAL	CA-CB	5.61	1.62	1.54
5	GE	108	ILE	CA-CB	5.50	1.61	1.54
10	AJ	43	GLU	CA-C	-5.32	1.45	1.52
19	AS	96	ILE	CA-CB	5.28	1.61	1.54
54	FU	32	VAL	CA-CB	5.22	1.61	1.54
51	DR	40	VAL	CA-C	5.18	1.57	1.53
43	HJ	91	ASP	CA-C	5.13	1.54	1.52
40	DG	80	VAL	CA-CB	5.13	1.60	1.54
10	EJ	81	ILE	CA-CB	5.11	1.61	1.54
39	HF	18	VAL	CA-CB	5.09	1.56	1.54
32	A5	50	VAL	CA-CB	5.08	1.61	1.54
11	EK	70	ARG	CA-C	5.08	1.56	1.52
39	FF	51	ILE	CA-CB	5.05	1.60	1.54
40	HG	70	ARG	CA-C	5.02	1.59	1.52

All (685) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	C5	122	GLN	N-CA-C	15.21	121.25	108.78
4	AD	151	THR	CA-C-N	-14.34	103.99	119.19
4	AD	151	THR	C-N-CA	-14.34	103.99	119.19
32	A5	131	THR	N-CA-C	-13.37	96.71	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	E5	72	LEU	CA-C-N	12.97	140.15	120.17
32	E5	72	LEU	C-N-CA	12.97	140.15	120.17
32	E5	92	ALA	CA-C-N	12.93	142.17	121.74
32	E5	92	ALA	C-N-CA	12.93	142.17	121.74
32	A5	92	ALA	CA-C-N	12.65	145.71	121.54
32	A5	92	ALA	C-N-CA	12.65	145.71	121.54
4	CD	151	THR	CA-C-N	-12.45	105.99	119.19
4	CD	151	THR	C-N-CA	-12.45	105.99	119.19
32	A5	93	ALA	CA-C-N	11.95	144.36	121.54
32	A5	93	ALA	C-N-CA	11.95	144.36	121.54
32	C5	92	ALA	CA-C-N	11.92	144.30	121.54
32	C5	92	ALA	C-N-CA	11.92	144.30	121.54
32	E5	93	ALA	CA-C-N	11.72	143.93	121.54
32	E5	93	ALA	C-N-CA	11.72	143.93	121.54
32	C5	72	LEU	CA-C-N	11.66	140.31	121.18
32	C5	72	LEU	C-N-CA	11.66	140.31	121.18
32	A5	72	LEU	CA-C-N	11.56	140.15	121.18
32	A5	72	LEU	C-N-CA	11.56	140.15	121.18
32	E5	77	VAL	CA-C-N	11.31	139.62	121.87
32	E5	77	VAL	C-N-CA	11.31	139.62	121.87
32	C5	93	ALA	CA-C-N	11.19	142.91	121.54
32	C5	93	ALA	C-N-CA	11.19	142.91	121.54
4	GD	151	THR	CA-C-N	-11.02	107.50	119.19
4	GD	151	THR	C-N-CA	-11.02	107.50	119.19
32	E5	119	PRO	CA-C-N	10.67	141.91	121.54
32	E5	119	PRO	C-N-CA	10.67	141.91	121.54
32	A5	59	LEU	CA-C-N	10.66	136.82	120.82
32	A5	59	LEU	C-N-CA	10.66	136.82	120.82
32	C5	119	PRO	CA-C-N	10.65	141.88	121.54
32	C5	119	PRO	C-N-CA	10.65	141.88	121.54
32	C5	84	TYR	CA-C-N	10.63	137.99	123.00
32	C5	84	TYR	C-N-CA	10.63	137.99	123.00
32	C5	59	LEU	CA-C-N	10.58	136.69	120.82
32	C5	59	LEU	C-N-CA	10.58	136.69	120.82
32	C5	49	GLY	CA-C-N	10.57	141.00	121.97
32	C5	49	GLY	C-N-CA	10.57	141.00	121.97
32	A5	84	TYR	CA-C-N	10.55	137.88	123.00
32	A5	84	TYR	C-N-CA	10.55	137.88	123.00
32	A5	49	GLY	CA-C-N	10.47	140.82	121.97
32	A5	49	GLY	C-N-CA	10.47	140.82	121.97
32	E5	59	LEU	CA-C-N	10.43	136.46	120.82
32	E5	59	LEU	C-N-CA	10.43	136.46	120.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	C5	39	THR	CA-C-N	10.36	140.25	120.99
32	C5	39	THR	C-N-CA	10.36	140.25	120.99
32	E5	50	VAL	CA-C-N	10.20	140.29	121.52
32	E5	50	VAL	C-N-CA	10.20	140.29	121.52
32	C5	50	VAL	CA-C-N	10.05	140.02	121.52
32	C5	50	VAL	C-N-CA	10.05	140.02	121.52
32	E5	117	LEU	CA-C-N	10.01	140.65	122.13
32	E5	117	LEU	C-N-CA	10.01	140.65	122.13
32	E5	84	TYR	CA-C-N	10.00	137.10	123.00
32	E5	84	TYR	C-N-CA	10.00	137.10	123.00
32	A5	51	TYR	CA-C-N	9.99	140.92	122.74
32	A5	51	TYR	C-N-CA	9.99	140.92	122.74
32	A5	119	PRO	CA-C-N	9.97	140.58	121.54
32	A5	119	PRO	C-N-CA	9.97	140.58	121.54
32	A5	83	ALA	N-CA-C	9.96	122.59	108.54
32	E5	49	GLY	CA-C-N	9.91	139.80	121.97
32	E5	49	GLY	C-N-CA	9.91	139.80	121.97
32	C5	131	THR	N-CA-C	-9.80	100.68	111.36
32	C5	64	VAL	N-CA-C	-9.76	103.20	112.96
32	C5	51	TYR	CA-C-N	9.73	140.44	122.74
32	C5	51	TYR	C-N-CA	9.73	140.44	122.74
32	C5	147	SER	CA-C-N	9.61	139.00	121.70
32	C5	147	SER	C-N-CA	9.61	139.00	121.70
23	EW	40	ARG	N-CA-C	-9.55	98.31	111.30
32	C5	47	GLU	CA-C-N	9.53	139.75	121.54
32	C5	47	GLU	C-N-CA	9.53	139.75	121.54
55	HV	630	ASP	N-CA-C	9.49	123.48	111.24
42	BI	90	TYR	N-CA-C	-9.47	100.65	110.97
11	GK	121	GLU	N-CA-C	9.43	120.69	108.24
32	A5	28	ALA	CA-C-N	9.40	139.50	121.54
32	A5	28	ALA	C-N-CA	9.40	139.50	121.54
4	CD	9	VAL	N-CA-C	-9.39	103.74	111.81
42	FI	90	TYR	N-CA-C	-9.30	100.70	111.03
32	E5	47	GLU	CA-C-N	9.30	139.30	121.54
32	E5	47	GLU	C-N-CA	9.30	139.30	121.54
32	A5	47	GLU	CA-C-N	9.29	139.28	121.54
32	A5	47	GLU	C-N-CA	9.29	139.28	121.54
32	C5	40	GLU	CA-C-N	9.22	138.21	122.36
32	C5	40	GLU	C-N-CA	9.22	138.21	122.36
32	E5	51	TYR	CA-C-N	9.09	139.29	122.74
32	E5	51	TYR	C-N-CA	9.09	139.29	122.74
32	C5	28	ALA	CA-C-N	9.03	138.78	121.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	C5	28	ALA	C-N-CA	9.03	138.78	121.54
55	DV	222	LEU	N-CA-C	-8.98	100.74	112.68
32	A5	147	SER	CA-C-N	8.97	137.85	121.70
32	A5	147	SER	C-N-CA	8.97	137.85	121.70
11	CK	121	GLU	N-CA-C	8.95	119.72	107.73
32	C5	116	GLU	N-CA-C	8.86	120.30	108.07
32	A5	40	GLU	CA-C-N	8.78	137.81	122.09
32	A5	40	GLU	C-N-CA	8.78	137.81	122.09
32	A5	39	THR	CA-C-N	8.75	137.26	120.99
32	A5	39	THR	C-N-CA	8.75	137.26	120.99
32	A5	50	VAL	CA-C-N	8.74	137.60	121.52
32	A5	50	VAL	C-N-CA	8.74	137.60	121.52
10	CJ	73	VAL	N-CA-C	8.74	118.69	110.74
32	C5	83	ALA	N-CA-C	8.72	120.84	108.54
10	EJ	73	VAL	N-CA-C	8.70	118.66	110.74
55	FV	222	LEU	N-CA-C	-8.70	101.11	112.68
32	E5	53	ARG	CA-C-N	8.69	137.62	121.97
32	E5	53	ARG	C-N-CA	8.69	137.62	121.97
32	E5	39	THR	CA-C-N	8.68	137.13	120.99
32	E5	39	THR	C-N-CA	8.68	137.13	120.99
23	AW	42	THR	N-CA-C	-8.67	101.74	111.71
23	GW	61	LYS	N-CA-C	-8.67	102.72	113.38
32	C5	53	ARG	CA-C-N	8.51	137.28	121.97
32	C5	53	ARG	C-N-CA	8.51	137.28	121.97
11	EK	121	GLU	N-CA-C	8.46	119.07	107.73
32	E5	116	GLU	N-CA-C	8.43	119.07	108.45
11	AK	121	GLU	N-CA-C	8.42	119.01	107.73
10	CJ	124	VAL	N-CA-C	8.40	120.97	112.90
32	E5	40	GLU	CA-C-N	8.38	137.08	122.09
32	E5	40	GLU	C-N-CA	8.38	137.08	122.09
32	E5	131	THR	N-CA-C	-8.33	102.13	111.71
8	AH	42	LYS	N-CA-C	-8.33	103.64	113.88
21	CU	53	GLN	CA-C-N	-8.18	109.62	119.84
21	CU	53	GLN	C-N-CA	-8.18	109.62	119.84
44	HK	23	ILE	N-CA-C	8.16	119.85	107.77
9	AI	97	VAL	N-CA-C	8.14	119.02	111.45
32	E5	28	ALA	CA-C-N	8.14	139.07	122.55
32	E5	28	ALA	C-N-CA	8.14	139.07	122.55
32	A5	53	ARG	CA-C-N	8.10	136.56	121.97
32	A5	53	ARG	C-N-CA	8.10	136.56	121.97
32	A5	60	LEU	N-CA-C	-8.08	98.04	111.37
32	A5	64	VAL	N-CA-C	-8.07	104.89	112.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	E5	121	SER	N-CA-C	8.06	118.58	108.19
29	C2	43	THR	N-CA-C	8.05	120.89	107.20
34	FB	66	ILE	N-CA-C	8.05	119.05	111.48
18	AR	51	VAL	CA-C-N	-8.00	112.11	120.03
18	AR	51	VAL	C-N-CA	-8.00	112.11	120.03
7	EG	169	ARG	N-CA-C	8.00	119.63	111.07
3	GA	1865	U	OP2-P-O3'	-7.91	84.28	108.00
2	AC	93	VAL	N-CA-C	7.89	118.90	111.48
2	CC	140	VAL	N-CA-C	7.89	125.76	109.34
10	EJ	124	VAL	N-CA-C	7.89	120.47	112.90
44	HK	88	GLY	CA-C-N	7.88	129.69	119.84
44	HK	88	GLY	C-N-CA	7.88	129.69	119.84
2	EC	12	ARG	N-CA-C	-7.87	104.28	114.04
2	CC	12	ARG	N-CA-C	-7.83	104.33	114.04
32	C5	121	SER	N-CA-C	7.82	118.28	108.19
52	HS	65	GLU	N-CA-C	7.82	126.25	113.89
44	HK	59	THR	CA-C-N	7.81	127.45	119.56
44	HK	59	THR	C-N-CA	7.81	127.45	119.56
9	EI	91	LYS	CA-C-N	7.77	129.55	119.84
9	EI	91	LYS	C-N-CA	7.77	129.55	119.84
4	AD	9	VAL	N-CA-C	-7.76	105.13	111.81
10	GJ	64	VAL	N-CA-C	7.76	118.64	112.12
23	EW	23	LYS	CB-CA-C	-7.75	106.57	115.79
55	BV	222	LEU	N-CA-C	-7.73	101.06	111.96
55	DV	305	THR	CA-C-N	-7.72	111.49	119.83
55	DV	305	THR	C-N-CA	-7.72	111.49	119.83
3	GA	1865	U	OP1-P-O3'	-7.65	85.06	108.00
5	CE	146	VAL	N-CA-C	7.64	118.44	108.35
5	AE	146	VAL	N-CA-C	7.63	118.43	108.35
9	CI	91	LYS	CA-C-N	7.62	129.36	119.84
9	CI	91	LYS	C-N-CA	7.62	129.36	119.84
9	GI	91	LYS	CA-C-N	7.59	129.33	119.84
9	GI	91	LYS	C-N-CA	7.59	129.33	119.84
37	FD	45	LYS	CA-C-N	-7.58	110.91	120.23
37	FD	45	LYS	C-N-CA	-7.58	110.91	120.23
32	E5	64	VAL	N-CA-C	-7.56	105.40	112.96
32	E5	93	ALA	N-CA-C	7.55	121.16	109.60
55	HV	631	VAL	N-CA-C	7.55	118.29	110.36
29	C2	43	THR	CB-CA-C	-7.54	102.09	111.43
9	AI	133	ARG	N-CA-C	-7.49	102.37	112.26
32	A5	117	LEU	CA-C-N	7.48	135.96	122.13
32	A5	117	LEU	C-N-CA	7.48	135.96	122.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
52	BS	28	LYS	N-CA-C	7.41	117.79	108.45
2	GC	233	GLY	N-CA-C	-7.41	95.61	113.18
39	DF	66	ALA	CA-C-N	-7.40	112.36	119.76
39	DF	66	ALA	C-N-CA	-7.40	112.36	119.76
44	HK	84	VAL	N-CA-C	7.37	119.21	108.53
52	BS	23	VAL	N-CA-C	-7.36	105.81	111.62
7	CG	174	LYS	N-CA-C	7.33	119.98	110.53
20	ET	85	VAL	N-CA-C	7.33	120.28	112.96
32	C5	117	LEU	CA-C-N	7.32	135.67	122.13
32	C5	117	LEU	C-N-CA	7.32	135.67	122.13
26	CZ	40	THR	CA-C-N	-7.30	112.35	120.45
26	CZ	40	THR	C-N-CA	-7.30	112.35	120.45
6	AF	110	ILE	N-CA-C	7.29	117.89	108.12
9	GI	29	GLN	N-CA-C	7.28	120.16	107.49
13	GM	3	GLN	N-CA-C	7.27	114.67	108.13
18	ER	51	VAL	CA-C-N	-7.25	112.53	119.85
18	ER	51	VAL	C-N-CA	-7.25	112.53	119.85
36	HC	78	GLY	N-CA-C	7.21	123.88	111.47
55	FV	286	LEU	CA-C-N	7.21	127.64	119.92
55	FV	286	LEU	C-N-CA	7.21	127.64	119.92
46	HM	41	GLU	N-CA-C	7.21	118.92	111.14
2	EC	234	GLY	N-CA-C	7.16	123.59	115.08
32	E5	83	ALA	N-CA-C	7.15	118.62	108.54
44	DK	126	LYS	N-CA-C	7.12	119.49	110.24
32	E5	60	LEU	N-CA-C	-7.10	99.65	111.37
55	HV	462	GLY	N-CA-C	7.08	120.51	111.09
55	BV	305	THR	CA-C-N	-7.08	112.19	119.83
55	BV	305	THR	C-N-CA	-7.08	112.19	119.83
52	HS	69	HIS	N-CA-C	7.08	119.66	110.53
40	HG	70	ARG	CA-C-N	7.07	128.54	120.98
40	HG	70	ARG	C-N-CA	7.07	128.54	120.98
37	BD	45	LYS	CA-C-N	-7.05	111.03	119.84
37	BD	45	LYS	C-N-CA	-7.05	111.03	119.84
2	AC	166	ARG	N-CA-C	7.02	118.69	110.41
34	BB	133	ALA	N-CA-C	-7.00	100.18	111.04
5	EE	69	ARG	N-CA-C	6.99	118.59	110.97
2	AC	233	GLY	N-CA-C	-6.99	96.62	113.18
37	DD	37	ALA	CA-C-N	-6.98	112.51	119.56
37	DD	37	ALA	C-N-CA	-6.98	112.51	119.56
15	GO	84	GLU	N-CA-C	6.97	118.87	111.28
34	FB	126	ASP	N-CA-C	6.93	120.62	112.72
41	DH	48	ASP	N-CA-C	6.92	118.66	108.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	ED	151	THR	CA-C-N	-6.91	111.87	119.19
4	ED	151	THR	C-N-CA	-6.91	111.87	119.19
32	E5	78	GLY	CA-C-N	-6.90	112.88	119.85
32	E5	78	GLY	C-N-CA	-6.90	112.88	119.85
18	AR	9	GLY	N-CA-C	-6.86	103.09	114.48
10	AJ	124	VAL	N-CA-C	6.83	119.46	112.90
33	A6	23	ILE	N-CA-C	-6.82	105.84	111.91
32	C5	60	LEU	N-CA-C	-6.81	100.13	111.37
20	GT	85	VAL	N-CA-C	6.79	119.75	112.96
22	AV	44	HIS	N-CA-C	6.78	118.36	110.97
3	AA	1378	A	C4'-C3'-O3'	6.77	119.55	109.40
24	AX	52	ALA	N-CA-C	-6.76	101.15	110.35
20	ET	29	THR	N-CA-C	6.74	125.16	110.80
43	HJ	40	ILE	N-CA-C	6.73	115.31	107.77
28	E1	4	ILE	N-CA-C	6.73	123.34	109.34
3	EA	1378	A	C4'-C3'-O3'	6.71	119.46	109.40
2	EC	93	VAL	N-CA-C	6.68	117.30	111.56
9	CI	52	LEU	CA-C-N	6.67	127.07	119.93
9	CI	52	LEU	C-N-CA	6.67	127.07	119.93
5	EE	146	VAL	N-CA-C	6.66	117.95	108.42
20	AT	68	LYS	N-CA-C	6.64	117.34	108.38
4	AD	172	VAL	N-CA-C	6.64	117.69	112.12
55	BV	302	GLY	N-CA-C	-6.63	97.47	113.18
32	A5	28	ALA	N-CA-C	6.62	120.65	107.62
49	FP	20	VAL	N-CA-C	6.61	117.00	107.88
32	C5	122	GLN	CA-C-O	6.61	121.77	117.94
6	EF	148	VAL	N-CA-C	-6.60	104.09	110.42
48	BO	19	ALA	N-CA-C	-6.58	101.85	110.33
32	E5	27	VAL	CG1-CB-CG2	6.57	125.26	110.80
16	GP	50	ARG	CB-CG-CD	6.57	126.40	111.30
32	E5	82	ILE	N-CA-C	6.55	119.42	108.81
42	HI	65	ILE	N-CA-C	6.54	117.54	108.12
23	CW	41	GLY	N-CA-C	-6.54	101.15	110.63
32	E5	39	THR	N-CA-C	6.53	118.08	110.97
53	FT	4	ILE	N-CA-C	6.52	117.99	109.58
6	GF	145	VAL	N-CA-C	6.51	119.06	108.97
52	HS	75	ALA	CA-C-N	6.50	126.53	119.90
52	HS	75	ALA	C-N-CA	6.50	126.53	119.90
13	CM	133	LYS	N-CA-C	6.50	118.91	111.11
30	E3	21	PHE	N-CA-C	6.49	122.80	114.56
36	HC	26	THR	N-CA-C	6.48	118.34	111.28
9	CI	56	VAL	N-CA-C	6.48	116.94	107.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	GV	36	ALA	CA-C-N	6.47	126.42	120.21
22	GV	36	ALA	C-N-CA	6.47	126.42	120.21
20	AT	29	THR	N-CA-C	6.46	124.56	110.80
41	BH	55	THR	N-CA-C	-6.44	105.44	113.55
18	ER	9	GLY	N-CA-C	-6.44	103.80	114.48
54	BU	25	LYS	CB-CA-C	-6.43	109.14	116.54
28	E1	29	LYS	CA-C-N	6.43	126.00	119.19
28	E1	29	LYS	C-N-CA	6.43	126.00	119.19
32	E5	28	ALA	N-CA-C	6.42	119.70	107.75
16	CP	91	VAL	CB-CA-C	-6.42	105.33	111.05
44	DK	82	LEU	N-CA-C	6.42	118.53	108.96
9	GI	116	MET	N-CA-C	6.41	119.06	108.99
18	CR	51	VAL	CA-C-N	-6.41	113.69	120.03
18	CR	51	VAL	C-N-CA	-6.41	113.69	120.03
21	GU	53	GLN	CA-C-N	-6.41	111.83	119.84
21	GU	53	GLN	C-N-CA	-6.41	111.83	119.84
46	HM	58	ASP	N-CA-C	-6.41	104.34	111.71
15	AO	54	VAL	N-CA-C	-6.41	105.34	113.22
25	EY	47	ARG	N-CA-C	-6.35	104.27	111.07
10	AJ	73	VAL	N-CA-C	6.34	116.51	110.74
10	EJ	124	VAL	CB-CA-C	-6.34	103.34	111.20
34	FB	130	LYS	N-CA-C	-6.33	105.49	113.72
34	DB	131	LYS	N-CA-C	-6.32	105.05	112.89
28	A1	29	LYS	CA-C-N	6.31	125.93	119.56
28	A1	29	LYS	C-N-CA	6.31	125.93	119.56
26	GZ	2	LYS	N-CA-C	-6.29	103.51	112.13
52	BS	80	TYR	N-CA-C	6.29	119.74	109.24
12	GL	7	SER	N-CA-C	6.28	116.21	108.11
19	ES	18	ARG	N-CA-C	-6.27	101.14	110.23
32	A5	129	LEU	CA-C-N	6.26	127.67	119.84
32	A5	129	LEU	C-N-CA	6.26	127.67	119.84
37	BD	6	GLY	CA-C-N	6.26	126.63	119.93
37	BD	6	GLY	C-N-CA	6.26	126.63	119.93
23	GW	41	GLY	N-CA-C	-6.26	101.56	110.63
39	HF	66	ALA	CA-C-N	6.24	126.15	119.85
39	HF	66	ALA	C-N-CA	6.24	126.15	119.85
16	EP	68	GLY	N-CA-C	6.21	122.00	112.51
51	DR	67	LEU	N-CA-C	-6.18	105.23	112.89
42	FI	97	GLU	N-CA-C	-6.17	105.02	112.54
37	DD	45	LYS	CA-C-N	-6.15	112.16	119.84
37	DD	45	LYS	C-N-CA	-6.15	112.16	119.84
23	AW	35	ILE	N-CA-C	-6.15	107.14	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
54	FU	24	GLU	N-CA-C	6.14	114.65	108.75
32	C5	28	ALA	N-CA-C	6.14	119.71	107.62
32	C5	117	LEU	N-CA-C	6.13	119.82	109.76
9	EI	107	GLU	N-CA-C	-6.13	104.66	111.71
23	CW	38	ARG	N-CA-C	-6.13	103.47	111.74
34	DB	217	ALA	N-CA-C	-6.12	104.61	111.28
40	DG	139	GLU	N-CA-C	-6.12	104.69	111.36
3	AA	2423	U	C2'-C3'-O3'	6.09	118.63	109.50
45	FL	41	THR	CA-C-N	6.08	127.42	120.85
45	FL	41	THR	C-N-CA	6.08	127.42	120.85
26	GZ	54	VAL	N-CA-C	6.08	116.60	108.27
47	HN	10	GLU	N-CA-C	6.08	117.78	111.03
46	HM	28	THR	N-CA-C	-6.06	104.01	111.40
19	AS	6	LYS	N-CA-C	6.04	118.04	108.79
23	CW	7	GLY	N-CA-C	-6.04	106.91	115.43
10	CJ	124	VAL	CB-CA-C	-6.04	103.71	111.20
47	FN	35	ASN	N-CA-C	-6.04	103.20	110.44
9	CI	20	SER	CA-C-N	-6.03	114.17	120.38
9	CI	20	SER	C-N-CA	-6.03	114.17	120.38
53	HT	24	ARG	N-CA-C	-6.01	104.73	111.28
39	HF	29	ILE	N-CA-C	6.00	116.17	110.53
6	AF	110	ILE	CB-CA-C	-6.00	104.81	111.35
7	EG	120	ILE	N-CA-C	6.00	116.27	108.35
32	A5	27	VAL	CG1-CB-CG2	6.00	123.99	110.80
2	GC	234	GLY	N-CA-C	6.00	122.22	115.08
55	BV	93	VAL	N-CA-C	-6.00	96.87	109.34
21	EU	80	ASP	N-CA-C	5.99	122.16	114.56
31	A4	7	VAL	N-CA-C	5.98	117.10	111.48
6	CF	134	GLN	N-CA-C	5.98	117.88	111.36
52	FS	24	GLU	N-CA-C	-5.98	104.76	111.28
19	GS	88	ARG	NE-CZ-NH2	5.98	124.58	119.20
36	HC	185	ASN	N-CA-C	5.98	117.33	108.60
32	E5	123	ILE	CG1-CB-CG2	5.97	128.61	110.70
13	CM	68	PHE	CA-C-N	5.97	127.30	119.84
13	CM	68	PHE	C-N-CA	5.97	127.30	119.84
35	BA	1362	A	C4-N9-C1'	-5.95	108.45	126.30
45	BL	24	LEU	N-CA-C	5.95	123.47	110.80
39	FF	79	ARG	CA-C-N	5.95	128.17	120.44
39	FF	79	ARG	C-N-CA	5.95	128.17	120.44
32	E5	129	LEU	CA-C-N	5.94	127.27	119.84
32	E5	129	LEU	C-N-CA	5.94	127.27	119.84
9	GI	95	ASP	N-CA-C	5.94	118.58	108.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	DB	22	TRP	N-CA-C	5.94	123.45	110.80
16	CP	91	VAL	N-CA-C	5.92	116.30	111.62
21	EU	100	GLU	N-CA-C	5.92	119.76	112.54
46	FM	78	LYS	N-CA-C	-5.92	104.41	111.69
55	HV	222	LEU	N-CA-C	-5.91	104.82	112.68
9	CI	81	LYS	N-CA-C	-5.91	106.05	113.20
34	DB	224	ARG	N-CA-C	-5.91	106.03	113.18
32	A5	77	VAL	CA-C-N	5.89	131.12	121.87
32	A5	77	VAL	C-N-CA	5.89	131.12	121.87
9	GI	73	PRO	CA-C-N	5.89	126.23	119.92
9	GI	73	PRO	C-N-CA	5.89	126.23	119.92
53	FT	79	LEU	N-CA-C	-5.89	104.78	111.14
44	HK	112	ASP	N-CA-C	5.89	118.12	108.52
13	CM	71	LYS	CA-C-N	5.88	127.19	119.84
13	CM	71	LYS	C-N-CA	5.88	127.19	119.84
2	AC	118	GLY	N-CA-C	5.88	117.53	111.95
4	GD	9	VAL	N-CA-C	-5.87	106.76	111.81
9	AI	31	GLY	N-CA-C	-5.87	106.89	115.63
24	CX	54	GLY	N-CA-C	-5.86	105.68	112.83
18	CR	90	ARG	N-CA-C	5.86	120.22	112.72
39	FF	55	HIS	N-CA-C	-5.85	101.35	110.42
18	GR	27	ILE	N-CA-C	5.85	116.30	108.11
45	BL	97	THR	N-CA-C	5.85	119.48	112.93
3	GA	1378	A	C4'-C3'-O3'	5.84	118.17	109.40
37	HD	31	LYS	N-CA-C	-5.84	103.85	111.74
45	DL	116	LYS	N-CA-C	-5.84	102.27	110.50
18	GR	9	GLY	N-CA-C	-5.83	105.92	114.90
2	GC	12	ARG	N-CA-C	-5.83	106.81	114.04
23	GW	31	LEU	N-CA-C	5.83	117.58	110.41
36	BC	86	LYS	N-CA-C	-5.82	104.93	111.28
34	FB	10	LYS	N-CA-C	-5.82	106.14	113.18
2	EC	184	GLU	N-CA-C	5.82	120.12	113.19
32	A5	123	ILE	CG1-CB-CG2	5.82	128.15	110.70
9	CI	97	VAL	N-CA-C	5.82	116.46	110.82
32	C5	77	VAL	CA-C-N	5.81	131.00	121.87
32	C5	77	VAL	C-N-CA	5.81	131.00	121.87
53	FT	85	LYS	N-CA-C	-5.81	105.85	113.17
9	GI	73	PRO	N-CA-C	5.80	117.78	110.70
5	GE	182	ALA	N-CA-C	5.80	117.28	111.07
53	FT	9	LYS	N-CA-C	-5.80	105.04	111.71
23	CW	25	PHE	N-CA-C	-5.80	100.54	109.52
44	HK	107	ILE	N-CA-C	5.80	117.09	109.21

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	AD	91	THR	N-CA-C	5.79	119.61	112.54
24	GX	57	VAL	N-CA-C	-5.79	105.09	110.53
7	CG	81	GLY	N-CA-C	-5.79	105.39	112.68
16	GP	112	ARG	N-CA-C	-5.79	104.94	112.23
3	CA	1378	A	C4'-C3'-O3'	5.78	118.08	109.40
55	FV	93	VAL	N-CA-C	-5.78	97.32	109.34
36	FC	17	PRO	N-CA-C	5.78	123.42	114.98
38	BE	158	GLY	N-CA-C	-5.78	105.65	112.64
47	DN	48	LEU	N-CA-C	-5.76	106.22	113.20
44	BK	90	GLY	CA-C-N	5.76	126.56	120.11
44	BK	90	GLY	C-N-CA	5.76	126.56	120.11
13	EM	36	VAL	N-CA-C	-5.76	104.92	113.39
9	AI	20	SER	CA-C-N	-5.75	114.45	120.38
9	AI	20	SER	C-N-CA	-5.75	114.45	120.38
52	BS	27	ASP	N-CA-C	-5.75	103.33	110.41
2	EC	233	GLY	N-CA-C	-5.75	99.56	113.18
5	GE	28	VAL	N-CA-C	-5.75	104.92	110.72
36	BC	14	ILE	N-CA-C	5.75	116.34	107.78
47	BN	26	GLU	N-CA-C	-5.74	105.02	111.28
5	CE	160	ALA	N-CA-C	-5.74	102.41	110.50
4	AD	193	VAL	CA-C-N	5.74	125.71	120.03
4	AD	193	VAL	C-N-CA	5.74	125.71	120.03
22	EV	25	LYS	N-CA-C	-5.74	101.51	110.17
4	GD	117	GLY	N-CA-C	5.74	122.98	115.47
4	CD	172	VAL	N-CA-C	5.73	116.94	112.12
12	EL	68	SER	N-CA-C	5.73	117.20	111.07
5	AE	44	ARG	N-CA-C	5.72	117.97	108.99
26	EZ	40	THR	CA-C-N	-5.72	114.10	120.45
26	EZ	40	THR	C-N-CA	-5.72	114.10	120.45
40	FG	4	ARG	N-CA-C	-5.72	105.33	112.93
44	HK	36	ASP	N-CA-C	5.71	118.24	110.35
46	HM	84	GLY	N-CA-C	5.71	123.96	114.48
2	EC	140	VAL	N-CA-C	5.71	121.20	109.34
32	C5	122	GLN	CB-CA-C	-5.69	108.88	117.07
8	EH	13	GLY	N-CA-C	5.68	118.01	111.36
19	AS	18	ARG	N-CA-C	-5.68	102.86	110.24
37	BD	37	ALA	CA-C-N	-5.67	113.77	119.56
37	BD	37	ALA	C-N-CA	-5.67	113.77	119.56
13	GM	58	LYS	CB-CA-C	-5.67	110.06	116.63
9	CI	134	SER	N-CA-C	-5.67	105.86	112.89
43	HJ	14	ASP	N-CA-C	5.66	117.75	108.52
2	AC	76	VAL	N-CA-C	5.64	118.61	113.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	BE	123	VAL	N-CA-C	5.62	121.03	109.34
32	A5	78	GLY	CA-C-N	-5.61	114.19	119.85
32	A5	78	GLY	C-N-CA	-5.61	114.19	119.85
9	EI	139	VAL	N-CA-C	5.61	116.02	108.17
47	BN	35	ASN	N-CA-C	5.61	118.08	110.06
47	BN	50	THR	N-CA-C	-5.60	106.27	114.39
48	FO	44	ALA	N-CA-C	-5.59	104.58	111.40
44	FK	75	LYS	N-CA-C	-5.59	106.42	113.18
16	EP	85	VAL	N-CA-C	5.58	117.50	111.58
46	DM	9	ILE	CA-C-N	5.57	126.80	119.84
46	DM	9	ILE	C-N-CA	5.57	126.80	119.84
55	FV	305	THR	CA-C-N	-5.57	113.82	119.83
55	FV	305	THR	C-N-CA	-5.57	113.82	119.83
32	C5	123	ILE	CG1-CB-CG2	5.56	127.39	110.70
45	BL	43	LYS	N-CA-C	5.56	117.25	110.41
32	E5	123	ILE	N-CA-C	-5.56	101.72	109.45
12	GL	23	ILE	N-CA-C	-5.56	105.11	110.72
9	CI	31	GLY	N-CA-C	-5.56	106.90	116.01
34	HB	221	ARG	N-CA-C	5.55	117.33	111.28
5	AE	160	ALA	N-CA-C	-5.55	102.68	110.50
14	EN	79	LEU	N-CA-C	-5.55	103.16	110.43
49	BP	78	VAL	N-CA-C	-5.55	106.05	112.98
4	GD	22	ILE	CA-C-N	-5.55	114.08	119.90
4	GD	22	ILE	C-N-CA	-5.55	114.08	119.90
39	HF	66	ALA	N-CA-C	5.55	114.68	108.25
54	FU	24	GLU	CB-CA-C	-5.54	108.39	116.53
36	HC	108	LYS	CA-C-N	5.53	126.26	120.12
36	HC	108	LYS	C-N-CA	5.53	126.26	120.12
55	HV	78	GLN	N-CA-C	5.53	118.83	111.75
40	FG	130	ASN	N-CA-C	5.52	118.96	111.17
46	FM	51	GLY	N-CA-C	-5.51	107.06	115.66
32	A5	130	PRO	CA-N-CD	-5.50	104.29	112.00
9	CI	52	LEU	N-CA-C	5.50	116.91	110.31
12	GL	110	VAL	N-CA-C	5.50	116.36	111.90
23	CW	67	LYS	N-CA-C	5.50	119.53	111.34
3	GA	1095	A	N9-C1'-C2'	5.50	120.24	112.00
34	HB	31	PHE	N-CA-C	-5.50	106.48	114.12
9	EI	106	GLN	N-CA-C	-5.49	106.25	113.12
34	HB	137	THR	N-CA-C	5.49	117.35	111.36
21	EU	53	GLN	CA-C-N	-5.49	112.98	119.84
21	EU	53	GLN	C-N-CA	-5.49	112.98	119.84
38	FE	156	LYS	N-CA-C	5.49	118.19	111.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	AV	70	ILE	N-CA-C	-5.48	107.10	111.81
49	HP	14	ARG	CA-C-N	5.48	125.78	119.92
49	HP	14	ARG	C-N-CA	5.48	125.78	119.92
18	GR	29	THR	N-CA-C	5.48	118.01	111.71
14	EN	83	LEU	N-CA-C	5.48	117.25	111.28
40	HG	125	SER	N-CA-C	-5.48	105.31	111.28
42	DI	28	ILE	N-CA-C	5.48	115.78	108.11
41	HH	89	LYS	N-CA-C	-5.47	105.72	112.72
55	BV	119	VAL	N-CA-C	-5.47	105.77	110.74
5	GE	146	VAL	N-CA-C	5.46	115.56	108.35
23	GW	23	LYS	CB-CA-C	-5.46	109.29	115.79
6	AF	12	VAL	N-CA-C	-5.46	104.22	111.05
39	FF	96	VAL	N-CA-C	5.46	116.04	108.23
9	AI	54	ILE	CA-C-N	-5.46	114.08	119.92
9	AI	54	ILE	C-N-CA	-5.46	114.08	119.92
13	CM	3	GLN	N-CA-C	5.46	113.04	108.13
55	DV	286	LEU	CA-C-N	5.46	125.76	119.92
55	DV	286	LEU	C-N-CA	5.46	125.76	119.92
32	A5	117	LEU	N-CA-C	5.45	118.34	108.69
45	BL	89	ASP	N-CA-C	-5.45	107.28	114.31
23	AW	76	ARG	NE-CZ-NH2	5.45	124.10	119.20
48	BO	8	THR	N-CA-C	-5.45	105.24	111.07
46	FM	9	ILE	N-CA-C	5.44	113.26	107.76
6	CF	78	ILE	N-CA-C	5.44	115.72	108.11
20	CT	68	LYS	N-CA-C	5.43	115.72	108.38
16	AP	57	ALA	N-CA-C	5.43	117.51	109.69
55	FV	120	GLN	CA-C-N	5.43	124.88	119.24
55	FV	120	GLN	C-N-CA	5.43	124.88	119.24
7	AG	168	VAL	N-CA-C	5.42	120.61	109.34
32	A5	39	THR	N-CA-C	5.42	116.87	110.97
32	C5	42	ARG	N-CA-C	-5.42	105.54	111.82
13	EM	68	PHE	CA-C-N	5.42	126.61	119.84
13	EM	68	PHE	C-N-CA	5.42	126.61	119.84
6	AF	112	ASP	N-CA-C	-5.42	105.98	113.18
32	C5	130	PRO	CA-N-CD	-5.41	104.42	112.00
32	E5	108	VAL	CG1-CB-CG2	5.41	122.71	110.80
44	HK	72	ASP	N-CA-C	5.41	117.55	109.59
41	BH	109	GLY	N-CA-C	5.41	118.62	111.70
38	DE	122	ASN	N-CA-C	5.40	116.74	107.28
4	ED	121	THR	N-CA-C	-5.40	103.36	110.33
15	GO	34	HIS	N-CA-C	5.40	116.19	108.74
55	HV	96	THR	N-CA-C	-5.39	105.84	112.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	EG	82	PHE	N-CA-C	5.39	118.49	110.14
36	BC	46	GLU	N-CA-C	5.38	116.84	110.97
16	AP	50	ARG	CB-CG-CD	5.38	123.67	111.30
20	AT	25	GLU	N-CA-C	-5.38	103.33	111.56
38	BE	109	GLY	N-CA-C	-5.37	105.08	111.36
16	CP	51	ASN	N-CA-C	-5.37	99.37	110.80
2	CC	93	VAL	N-CA-C	5.36	116.52	111.48
5	AE	44	ARG	NE-CZ-NH2	5.35	124.02	119.20
52	HS	21	LYS	N-CA-C	5.35	116.80	110.97
6	GF	48	LEU	N-CA-C	5.35	117.80	111.33
21	EU	32	LYS	N-CA-C	-5.34	102.55	110.46
47	FN	54	ASP	N-CA-C	-5.34	106.84	113.19
16	EP	50	ARG	CB-CG-CD	5.33	123.57	111.30
41	HH	127	CYS	N-CA-C	5.33	116.64	108.42
42	FI	65	ILE	N-CA-C	5.33	116.40	108.46
6	EF	59	ILE	CB-CA-C	-5.33	104.95	112.14
43	HJ	59	LYS	N-CA-C	5.32	117.83	111.71
52	HS	64	ASP	N-CA-C	5.32	118.56	111.75
12	GL	26	GLY	N-CA-C	-5.32	108.75	115.08
6	GF	32	LYS	N-CA-C	5.31	116.21	108.14
37	HD	196	ASN	N-CA-C	-5.31	103.03	110.35
25	GY	11	VAL	N-CA-C	-5.30	105.36	110.72
36	BC	99	ALA	N-CA-C	5.30	117.05	108.26
3	CA	1378	A	P-O3'-C3'	5.30	128.15	120.20
23	EW	72	GLY	N-CA-C	5.30	123.14	112.34
32	E5	108	VAL	CA-CB-CG1	5.29	119.40	110.40
20	ET	39	THR	N-CA-C	5.29	116.00	108.54
18	GR	14	VAL	N-CA-C	5.29	116.28	108.45
34	HB	156	LEU	CA-C-N	-5.29	114.11	119.83
34	HB	156	LEU	C-N-CA	-5.29	114.11	119.83
24	CX	71	ARG	N-CA-C	-5.29	105.59	111.36
9	CI	133	ARG	N-CA-C	-5.29	105.53	112.41
34	DB	125	PHE	N-CA-C	-5.29	106.78	113.18
3	AA	1247	A	C2'-C3'-O3'	5.29	117.43	109.50
23	AW	38	ARG	N-CA-C	-5.28	104.61	111.74
45	FL	42	PRO	N-CA-C	5.28	120.44	111.03
45	HL	116	LYS	N-CA-C	-5.28	103.05	110.50
37	HD	169	THR	N-CA-C	-5.28	106.16	113.18
38	HE	112	ARG	N-CA-C	-5.28	105.17	111.03
30	C3	21	PHE	N-CA-C	5.27	121.26	114.56
9	CI	30	GLN	N-CA-C	5.27	116.63	110.41
34	BB	31	PHE	N-CA-C	-5.27	106.79	114.12

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
44	HK	109	ASN	N-CA-C	5.27	117.99	109.40
44	HK	86	VAL	N-CA-C	5.26	116.87	108.87
3	EA	2211	A	C2'-C3'-O3'	5.26	117.39	109.50
37	HD	37	ALA	CA-C-N	-5.26	113.50	119.28
37	HD	37	ALA	C-N-CA	-5.26	113.50	119.28
7	EG	172	GLU	N-CA-C	-5.26	102.12	109.96
47	BN	54	ASP	N-CA-C	-5.26	106.94	113.19
32	C5	27	VAL	CG1-CB-CG2	5.26	122.36	110.80
3	AA	2423	U	P-O3'-C3'	5.25	128.08	120.20
3	EA	2147	A	O4'-C1'-N9	5.25	116.08	108.20
36	BC	59	ARG	CA-C-N	5.25	126.40	119.84
36	BC	59	ARG	C-N-CA	5.25	126.40	119.84
15	GO	52	SER	N-CA-C	5.25	116.50	108.42
55	HV	256	VAL	N-CA-C	-5.25	105.38	110.42
22	AV	60	VAL	N-CA-C	-5.25	102.82	109.80
10	GJ	73	VAL	N-CA-C	5.24	115.51	110.74
4	CD	88	GLU	N-CA-C	5.24	117.36	109.23
40	DG	66	LEU	N-CA-C	5.24	116.68	111.07
52	FS	53	ASN	N-CA-C	-5.23	104.70	111.71
23	GW	16	GLU	CB-CA-C	-5.23	110.11	117.23
9	AI	52	LEU	CA-C-N	5.23	125.53	119.93
9	AI	52	LEU	C-N-CA	5.23	125.53	119.93
47	HN	79	LEU	N-CA-C	5.23	117.22	109.69
34	FB	204	ASP	N-CA-C	5.22	116.57	110.41
32	A5	35	VAL	N-CA-C	-5.22	104.53	111.05
3	EA	1247	A	C2'-C3'-O3'	5.22	117.33	109.50
6	AF	107	VAL	CB-CA-C	-5.22	108.82	114.35
23	CW	16	GLU	CB-CA-C	-5.22	110.14	117.23
42	DI	23	PRO	N-CA-C	5.21	119.39	111.15
55	HV	54	GLU	N-CA-C	-5.21	105.51	111.14
6	GF	7	TYR	N-CA-C	5.21	117.04	111.36
20	CT	19	LYS	N-CA-C	-5.21	105.72	111.71
9	GI	54	ILE	CA-C-N	5.21	125.21	120.21
9	GI	54	ILE	C-N-CA	5.21	125.21	120.21
55	DV	462	GLY	N-CA-C	5.21	118.01	111.09
10	EJ	111	LYS	N-CA-C	5.20	121.88	110.80
32	E5	27	VAL	N-CA-C	5.20	120.15	109.34
11	GK	110	GLU	N-CA-C	-5.19	105.52	111.07
11	EK	70	ARG	N-CA-C	5.19	118.91	111.02
2	GC	3	VAL	N-CA-C	5.19	115.51	107.78
53	DT	65	GLY	N-CA-C	5.18	123.58	115.08
23	EW	21	GLY	N-CA-C	-5.18	102.67	112.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	AI	100	ILE	N-CA-C	5.18	117.07	108.99
40	DG	130	ASN	N-CA-C	5.18	118.47	111.17
4	CD	22	ILE	CA-C-N	-5.18	114.47	119.90
4	CD	22	ILE	C-N-CA	-5.18	114.47	119.90
32	C5	54	VAL	CG1-CB-CG2	5.17	122.18	110.80
10	EJ	64	VAL	N-CA-C	5.17	116.46	112.12
52	HS	8	GLY	CA-C-N	5.17	126.30	119.84
52	HS	8	GLY	C-N-CA	5.17	126.30	119.84
32	C5	50	VAL	CA-CB-CG1	5.17	119.19	110.40
55	HV	110	VAL	N-CA-C	5.17	114.64	106.32
55	DV	93	VAL	N-CA-C	-5.16	98.60	109.34
5	GE	193	VAL	N-CA-C	5.16	115.78	110.36
36	HC	131	ARG	N-CA-C	5.16	116.59	111.07
10	CJ	43	GLU	O-C-N	5.16	127.45	122.09
43	BJ	32	THR	N-CA-C	-5.16	106.53	114.16
16	GP	57	ALA	N-CA-C	5.15	117.11	109.69
39	FF	34	GLY	N-CA-C	-5.15	104.72	112.60
4	CD	170	VAL	N-CA-C	5.15	120.05	109.34
49	HP	57	ILE	CB-CA-C	-5.15	105.29	111.88
13	AM	83	GLY	CA-C-N	-5.15	114.72	122.24
13	AM	83	GLY	C-N-CA	-5.15	114.72	122.24
30	E3	20	GLY	N-CA-C	-5.14	104.13	112.31
39	FF	66	ALA	CA-C-N	-5.14	114.62	119.76
39	FF	66	ALA	C-N-CA	-5.14	114.62	119.76
17	AQ	3	VAL	N-CA-C	5.14	114.15	106.85
3	AA	1378	A	P-O3'-C3'	5.14	127.91	120.20
44	DK	29	ASN	N-CA-C	5.14	116.22	108.46
10	AJ	64	VAL	N-CA-C	5.14	120.02	109.34
55	BV	645	GLN	N-CA-C	5.14	121.74	110.80
55	DV	407	GLU	N-CA-C	5.14	116.69	111.14
32	A5	54	VAL	CG1-CB-CG2	5.13	122.09	110.80
21	EU	96	LYS	N-CA-C	-5.13	103.76	110.53
37	DD	44	ARG	N-CA-C	5.13	117.20	109.41
32	C5	97	LYS	N-CA-C	5.12	116.55	111.07
9	GI	17	ALA	N-CA-C	5.12	117.01	107.99
41	FH	90	ASP	N-CA-C	-5.12	106.29	112.54
42	HI	91	ASP	N-CA-C	5.12	115.92	108.14
30	G3	22	LYS	N-CA-C	5.12	121.70	110.80
2	AC	42	ARG	N-CA-C	5.11	117.82	109.59
2	AC	140	VAL	N-CA-C	5.11	119.96	109.34
49	FP	78	VAL	N-CA-C	-5.10	106.60	112.98
3	EA	2423	U	C2'-C3'-O3'	5.10	117.15	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	GQ	53	LYS	N-CA-C	-5.10	105.90	111.82
36	DC	125	GLU	N-CA-C	-5.10	105.85	111.71
3	GA	1866	A	OP1-P-OP2	5.10	134.90	119.60
53	HT	82	GLN	N-CA-C	5.09	119.53	112.45
54	BU	38	TYR	N-CA-C	5.09	121.64	110.80
9	GI	101	SER	N-CA-C	5.09	117.87	109.72
46	HM	96	PRO	N-CA-C	5.09	119.31	111.21
32	E5	88	HIS	CA-C-N	-5.08	113.49	119.84
32	E5	88	HIS	C-N-CA	-5.08	113.49	119.84
39	FF	18	VAL	CB-CA-C	-5.08	107.34	114.00
5	EE	32	VAL	N-CA-C	-5.08	105.44	110.62
52	HS	65	GLU	N-CA-CB	-5.08	103.64	110.95
2	AC	86	ARG	N-CA-C	5.08	116.01	108.60
23	EW	35	ILE	N-CA-C	-5.08	108.34	113.47
36	HC	93	ASP	N-CA-C	-5.08	105.93	111.82
30	A3	21	PHE	N-CA-C	5.07	121.00	114.56
9	GI	29	GLN	CB-CA-C	-5.07	104.44	110.94
45	DL	24	LEU	N-CA-C	5.07	121.60	110.80
6	EF	172	PHE	N-CA-C	-5.07	103.24	110.59
9	AI	50	LYS	N-CA-C	5.07	117.67	109.06
55	DV	302	GLY	N-CA-C	-5.06	101.18	113.18
9	EI	20	SER	CA-C-N	-5.06	115.17	120.38
9	EI	20	SER	C-N-CA	-5.06	115.17	120.38
9	CI	79	LEU	N-CA-C	-5.06	106.42	112.59
55	FV	287	PRO	N-CA-C	5.06	119.18	111.34
42	DI	97	GLU	N-CA-C	-5.06	106.94	113.01
38	DE	72	ILE	N-CA-C	5.05	115.93	108.45
32	E5	118	ILE	CA-C-N	-5.05	113.52	119.84
32	E5	118	ILE	C-N-CA	-5.05	113.52	119.84
9	AI	100	ILE	CB-CA-C	-5.05	103.63	110.90
7	GG	147	LEU	N-CA-C	-5.05	105.78	111.28
9	GI	28	GLY	N-CA-C	5.05	125.15	113.18
29	C2	44	VAL	N-CA-C	5.05	119.83	109.34
42	BI	92	GLU	N-CA-C	-5.04	107.19	113.19
32	A5	93	ALA	N-CA-C	5.04	121.54	110.80
12	CL	68	SER	N-CA-C	5.04	116.77	111.28
21	EU	5	ARG	N-CA-C	5.04	115.18	108.38
46	HM	70	ARG	N-CA-C	5.03	117.15	111.11
3	CA	2423	U	C2'-C3'-O3'	5.03	117.04	109.50
34	BB	121	GLN	N-CA-C	-5.03	106.74	112.92
4	ED	172	VAL	N-CA-C	5.02	116.34	112.12
23	AW	67	LYS	N-CA-C	5.02	118.82	111.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
37	DD	132	ILE	N-CA-C	5.02	115.91	108.23
34	BB	10	LYS	N-CA-C	-5.01	107.11	113.18
45	DL	43	LYS	N-CA-C	5.01	116.58	110.41
32	C5	78	GLY	CA-C-N	-5.01	114.79	119.85
32	C5	78	GLY	C-N-CA	-5.01	114.79	119.85
38	BE	92	SER	N-CA-C	5.01	117.42	109.96
13	AM	85	GLY	CA-C-O	-5.01	118.77	122.23
25	CY	16	THR	N-CA-C	-5.01	105.82	111.28
9	AI	135	MET	N-CA-C	-5.01	107.12	113.43

There are no chirality outliers.

All (22) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
32	A5	130	PRO	Peptide
2	AC	233	GLY	Peptide
4	AD	9	VAL	Peptide
10	AJ	110	PRO	Peptide
11	AK	71	ARG	Peptide
39	BF	101	PRO	Peptide
45	BL	23	ALA	Peptide
55	BV	218	TRP	Peptide
4	CD	10	GLY	Peptide
4	CD	9	VAL	Peptide
42	DI	40	GLY	Peptide
45	DL	23	ALA	Peptide
53	DT	68	HIS	Peptide
55	DV	218	TRP	Peptide
4	ED	9	VAL	Peptide
39	FF	90	MET	Peptide
55	FV	218	TRP	Peptide
2	GC	233	GLY	Peptide
4	GD	9	VAL	Peptide
10	GJ	110	PRO	Peptide
45	HL	23	ALA	Peptide
55	HV	218	TRP	Peptide

5.2 Too-close contacts (i)

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

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AB	2529	0	1281	20	0
1	CB	2529	0	1281	30	0
1	EB	2529	0	1281	32	0
1	GB	2529	0	1281	59	0
2	AC	2082	0	2157	53	0
2	CC	2082	0	2157	70	0
2	EC	2082	0	2157	67	0
2	GC	2082	0	2157	73	0
3	AA	61274	0	30819	794	0
3	CA	61274	0	30819	837	0
3	EA	61274	0	30819	744	0
3	GA	61274	0	30817	1246	2
4	AD	1565	0	1616	57	0
4	CD	1565	0	1616	53	0
4	ED	1565	0	1616	52	0
4	GD	1565	0	1616	52	0
5	AE	1552	0	1619	40	0
5	CE	1552	0	1619	44	0
5	EE	1552	0	1619	35	0
5	GE	1552	0	1619	72	0
6	AF	1410	0	1447	43	0
6	CF	1410	0	1447	40	0
6	EF	1410	0	1447	51	0
6	GF	1410	0	1447	62	0
7	AG	1323	0	1374	42	0
7	CG	1323	0	1374	52	0
7	EG	1323	0	1374	46	0
7	GG	1323	0	1374	56	0
8	AH	384	0	405	15	0
8	CH	384	0	405	21	0
8	EH	384	0	405	11	0
8	GH	384	0	405	8	0
9	AI	1032	0	1088	58	0
9	CI	1032	0	1088	47	0
9	EI	1032	0	1088	48	0
9	GI	1032	0	1088	63	0
10	AJ	1129	0	1162	60	0
10	CJ	1129	0	1162	59	0
10	EJ	1129	0	1162	53	0
10	GJ	1129	0	1162	56	0
11	AK	938	0	1012	43	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	CK	938	0	1012	38	0
11	EK	938	0	1012	32	0
11	GK	938	0	1012	28	0
12	AL	1045	0	1117	41	0
12	CL	1045	0	1116	35	0
12	EL	1045	0	1117	37	0
12	GL	1045	0	1117	53	0
13	AM	1074	0	1157	29	0
13	CM	1074	0	1157	35	0
13	EM	1074	0	1157	29	0
13	GM	1074	0	1157	27	0
14	AN	960	0	1000	30	0
14	CN	960	0	1000	34	0
14	EN	960	0	1000	26	0
14	GN	960	0	1000	26	0
15	AO	892	0	923	20	0
15	CO	892	0	923	27	0
15	EO	892	0	923	19	0
15	GO	892	0	923	33	0
16	AP	917	0	965	47	0
16	CP	917	0	965	42	0
16	EP	917	0	965	45	0
16	GP	917	0	965	39	0
17	AQ	947	0	1022	57	0
17	CQ	947	0	1022	53	0
17	EQ	947	0	1022	46	0
17	GQ	947	0	1022	60	0
18	AR	816	0	839	35	0
18	CR	816	0	839	38	0
18	ER	816	0	839	36	0
18	GR	816	0	839	47	0
19	AS	857	0	922	30	0
19	CS	857	0	922	19	0
19	ES	857	0	922	20	0
19	GS	857	0	922	32	0
20	AT	738	0	807	38	0
20	CT	738	0	807	30	0
20	ET	738	0	807	33	0
20	GT	738	0	807	32	0
21	AU	779	0	834	30	0
21	CU	779	0	834	13	0
21	EU	779	0	834	23	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
21	GU	779	0	834	30	0
22	AV	753	0	780	16	0
22	CV	753	0	780	20	0
22	EV	753	0	780	12	0
22	GV	753	0	780	14	0
23	AW	596	0	610	80	0
23	CW	596	0	610	63	0
23	EW	596	0	610	77	0
23	GW	596	0	610	61	0
24	AX	625	0	655	17	0
24	CX	625	0	655	14	0
24	EX	625	0	655	23	0
24	GX	625	0	655	19	0
25	AY	509	0	543	16	0
25	CY	509	0	543	10	0
25	EY	509	0	543	18	0
25	GY	509	0	543	11	0
26	AZ	449	0	491	18	0
26	CZ	449	0	491	22	0
26	EZ	449	0	491	10	0
26	GZ	449	0	491	28	0
27	A0	444	0	461	20	0
27	C0	444	0	461	17	0
27	E0	444	0	461	13	0
27	G0	444	0	461	8	0
28	A1	409	0	440	15	0
28	C1	409	0	440	11	0
28	E1	409	0	440	15	0
28	G1	409	0	440	16	0
29	A2	377	0	418	8	0
29	C2	377	0	418	11	0
29	E2	377	0	418	9	0
29	G2	377	0	418	18	0
30	A3	504	0	574	11	0
30	C3	504	0	574	7	0
30	E3	504	0	574	15	0
30	G3	504	0	574	27	0
31	A4	302	0	340	18	0
31	C4	302	0	340	13	0
31	E4	302	0	340	9	0
31	G4	302	0	340	10	0
32	A5	1117	0	1155	133	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	C5	1117	0	1155	148	0
32	E5	1101	0	1140	140	0
33	A6	227	0	237	7	0
34	BB	1704	0	1732	56	0
34	DB	1704	0	1732	66	0
34	FB	1704	0	1732	80	0
34	HB	1704	0	1732	59	0
35	BA	32895	0	16553	337	0
35	DA	32895	0	16553	476	0
35	FA	32895	0	16553	402	1
35	HA	32895	0	16552	579	0
36	BC	1624	0	1696	34	0
36	DC	1624	0	1696	43	0
36	FC	1624	0	1696	44	0
36	HC	1624	0	1696	34	0
37	BD	1643	0	1707	73	0
37	DD	1643	0	1707	65	0
37	FD	1643	0	1707	66	0
37	HD	1643	0	1707	77	0
38	BE	1105	0	1148	45	0
38	DE	1105	0	1148	36	0
38	FE	1105	0	1148	37	0
38	HE	1105	0	1148	37	0
39	BF	832	0	824	24	0
39	DF	817	0	808	38	0
39	FF	817	0	808	24	0
39	HF	817	0	808	37	0
40	BG	1181	0	1238	23	0
40	DG	1181	0	1238	31	0
40	FG	1181	0	1238	21	0
40	HG	1181	0	1238	51	0
41	BH	979	0	1031	31	0
41	DH	979	0	1031	27	0
41	FH	979	0	1031	33	0
41	HH	979	0	1031	34	0
42	BI	1022	0	1070	47	0
42	DI	1022	0	1070	40	0
42	FI	1022	0	1070	48	0
42	HI	1022	0	1070	39	0
43	BJ	786	0	828	23	0
43	DJ	786	0	828	29	0
43	FJ	786	0	828	19	1

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	HJ	786	0	828	29	0
44	BK	877	0	887	32	0
44	DK	877	0	887	39	0
44	FK	877	0	887	41	0
44	HK	877	0	887	60	0
45	BL	955	0	1016	40	0
45	DL	955	0	1016	39	0
45	FL	955	0	1016	37	0
45	HL	955	0	1016	46	0
46	BM	883	0	941	22	0
46	DM	883	0	941	34	0
46	FM	883	0	941	34	0
46	HM	883	0	941	44	0
47	BN	774	0	824	27	0
47	DN	774	0	824	35	0
47	FN	774	0	824	28	0
47	HN	774	0	824	28	0
48	BO	714	0	734	9	0
48	DO	714	0	734	15	0
48	FO	714	0	734	12	0
48	HO	714	0	734	18	0
49	BP	649	0	666	13	0
49	DP	649	0	666	17	0
49	FP	649	0	666	18	0
49	HP	649	0	666	13	0
50	BQ	648	0	691	12	0
50	DQ	648	0	691	34	0
50	FQ	648	0	691	23	0
50	HQ	648	0	691	27	0
51	BR	455	0	478	11	0
51	DR	455	0	478	10	0
51	FR	455	0	478	4	0
51	HR	455	0	478	25	0
52	BS	637	0	665	20	0
52	DS	637	0	665	13	0
52	FS	637	0	665	28	0
52	HS	637	0	665	34	0
53	BT	665	0	714	15	0
53	DT	665	0	714	25	0
53	FT	665	0	714	16	0
53	HT	665	0	714	15	0
54	BU	425	0	449	32	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
54	DU	425	0	449	18	0
54	FU	425	0	449	41	0
54	HU	425	0	449	28	0
55	BV	5345	0	5311	124	0
55	DV	5340	0	5306	137	0
55	FV	5340	0	5306	114	0
55	HV	5340	0	5307	121	0
56	BW	48	0	41	5	0
56	DW	48	0	41	5	0
56	FW	48	0	41	3	0
56	HW	48	0	40	6	0
57	A4	1	0	0	0	0
57	AA	136	0	0	0	0
57	AB	4	0	0	0	0
57	AC	1	0	0	0	0
57	AE	1	0	0	0	0
57	BA	40	0	0	0	0
57	BE	1	0	0	0	0
57	BN	1	0	0	0	0
57	BU	1	0	0	0	0
57	BV	1	0	0	0	0
57	C4	1	0	0	0	0
57	CA	136	0	0	0	0
57	CB	4	0	0	0	0
57	CE	1	0	0	0	0
57	CN	1	0	0	0	0
57	DA	43	0	0	0	0
57	DV	1	0	0	0	0
57	EA	137	0	0	0	0
57	EB	4	0	0	0	0
57	ED	1	0	0	0	0
57	EE	1	0	0	0	0
57	FA	39	0	0	0	0
57	FE	1	0	0	0	0
57	FN	2	0	0	0	0
57	FU	1	0	0	0	0
57	FV	1	0	0	0	0
57	GA	136	0	0	0	0
57	GB	4	0	0	0	0
57	GC	2	0	0	0	0
57	GL	1	0	0	0	0
57	HA	41	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	HE	1	0	0	0	0
57	HK	1	0	0	0	0
57	HV	1	0	0	0	0
58	A4	1	0	0	0	0
58	C4	1	0	0	0	0
58	E4	1	0	0	0	0
58	G4	1	0	0	0	0
59	BV	32	0	14	1	0
59	DV	32	0	14	1	0
59	FV	32	0	14	2	0
59	HV	32	0	14	1	0
60	A0	2	0	0	0	0
60	A2	1	0	0	0	0
60	A3	1	0	0	0	0
60	A4	1	0	0	0	0
60	AA	614	0	0	102	0
60	AB	18	0	0	1	0
60	AC	6	0	0	1	0
60	AD	4	0	0	0	0
60	AE	1	0	0	0	0
60	AF	1	0	0	0	0
60	AJ	1	0	0	0	0
60	AL	5	0	0	1	0
60	AN	2	0	0	0	0
60	AP	1	0	0	0	0
60	AQ	2	0	0	0	0
60	AS	1	0	0	0	0
60	BA	202	0	0	31	0
60	BL	1	0	0	0	0
60	BN	2	0	0	0	0
60	BT	2	0	0	0	0
60	BV	1	0	0	1	0
60	C0	1	0	0	0	0
60	C2	1	0	0	0	0
60	C3	1	0	0	0	0
60	C4	2	0	0	0	0
60	CA	607	0	0	84	0
60	CB	21	0	0	2	0
60	CC	8	0	0	0	0
60	CD	3	0	0	0	0
60	CE	1	0	0	0	0
60	CJ	2	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
60	CL	5	0	0	0	0
60	CN	2	0	0	0	0
60	CQ	1	0	0	1	0
60	CS	2	0	0	1	0
60	CT	2	0	0	1	0
60	CU	1	0	0	0	0
60	DA	186	0	0	27	0
60	DC	2	0	0	0	0
60	DD	1	0	0	0	0
60	DE	1	0	0	0	0
60	DG	1	0	0	0	0
60	DK	1	0	0	0	0
60	DL	2	0	0	0	0
60	DN	8	0	0	3	0
60	DQ	1	0	0	0	0
60	DT	4	0	0	1	0
60	DU	1	0	0	0	0
60	DV	1	0	0	0	0
60	E0	1	0	0	0	0
60	E2	1	0	0	0	0
60	E3	2	0	0	0	0
60	E4	2	0	0	0	0
60	EA	610	0	0	105	0
60	EB	18	0	0	3	0
60	EC	9	0	0	1	0
60	ED	3	0	0	0	0
60	EE	2	0	0	1	0
60	EL	4	0	0	0	0
60	EN	3	0	0	0	0
60	ER	1	0	0	0	0
60	ET	2	0	0	0	0
60	EV	2	0	0	0	0
60	FA	197	0	0	24	0
60	FC	1	0	0	0	0
60	FE	2	0	0	0	0
60	FN	3	0	0	0	0
60	FT	4	0	0	0	0
60	FU	1	0	0	0	0
60	FV	1	0	0	0	0
60	G2	2	0	0	0	0
60	G3	1	0	0	0	0
60	G4	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
60	GA	606	0	0	137	0
60	GB	19	0	0	9	0
60	GC	10	0	0	0	0
60	GD	3	0	0	0	0
60	GE	2	0	0	1	0
60	GJ	1	0	0	0	0
60	GL	4	0	0	1	0
60	GN	4	0	0	0	0
60	GQ	1	0	0	0	0
60	GR	2	0	0	1	0
60	GS	2	0	0	0	0
60	GU	1	0	0	0	0
60	GV	1	0	0	0	0
60	HA	193	0	0	31	0
60	HD	3	0	0	2	0
60	HE	3	0	0	0	0
60	HN	7	0	0	3	0
60	HQ	1	0	0	0	0
60	HT	1	0	0	0	0
60	HV	1	0	0	0	0
All	All	592086	0	404164	11482	2

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 12.

All (11482) 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:C5:24:SER:CB	32:C5:116:GLU:HG2	1.46	1.44
32:C5:24:SER:O	32:C5:116:GLU:HB3	1.41	1.16
32:C5:24:SER:HB2	32:C5:116:GLU:CG	1.76	1.14
32:E5:24:SER:HB2	32:E5:116:GLU:HG2	1.27	1.14
3:AA:912:C:OP1	13:AM:8:LYS:NZ	1.79	1.12
32:A5:71:CYS:HB3	32:A5:117:LEU:HD12	1.33	1.10
32:C5:24:SER:HB2	32:C5:116:GLU:HG2	1.10	1.09
32:E5:117:LEU:HD22	32:E5:120:ALA:HA	1.25	1.09
32:E5:117:LEU:CD2	32:E5:120:ALA:HA	1.82	1.09
32:E5:26:VAL:HG21	32:E5:115:GLY:H	1.12	1.09
32:E5:26:VAL:CG2	32:E5:115:GLY:H	1.67	1.07
32:E5:24:SER:CB	32:E5:116:GLU:HG2	1.84	1.06
32:A5:26:VAL:HG21	32:A5:115:GLY:H	1.23	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:C5:24:SER:CB	32:C5:116:GLU:CG	2.35	1.00
32:C5:24:SER:HB3	32:C5:116:GLU:HG2	1.42	1.00
32:A5:3:LEU:O	32:A5:7:ASP:OD1	1.79	1.00
3:CA:1248:G:OP2	5:CE:44:ARG:NH1	1.95	1.00
42:HI:57:MET:N	42:HI:57:MET:SD	2.35	0.99
32:E5:26:VAL:HG21	32:E5:115:GLY:N	1.76	0.99
3:CA:996:A:OP2	17:CQ:91:ARG:NH2	1.95	0.99
3:AA:576:U:OP1	60:AA:3660:HOH:O	1.85	0.95
3:AA:1913:A:N7	55:BV:507:LYS:NZ	2.14	0.95
2:EC:78:GLU:OE1	2:EC:100:ARG:NH1	2.00	0.94
32:A5:117:LEU:CD2	32:A5:120:ALA:HA	1.97	0.94
3:EA:826:U:OP1	60:EA:3694:HOH:O	1.86	0.93
17:EQ:91:ARG:NH1	18:ER:11:GLN:O	2.02	0.93
32:A5:71:CYS:HB3	32:A5:117:LEU:CD1	1.98	0.92
35:DA:1178:G:O6	42:DI:99:ARG:NH2	2.03	0.92
3:AA:1154:G:OP2	17:AQ:57:ARG:NH1	2.03	0.91
32:C5:26:VAL:HG21	32:C5:115:GLY:H	1.33	0.91
32:E5:73:LYS:HG2	32:E5:117:LEU:HD21	1.52	0.91
8:CH:27:ARG:NH2	24:CX:59:ASP:OD1	2.03	0.91
35:BA:1493:A:OP1	56:BW:1:KBE:N	2.03	0.91
32:A5:71:CYS:CB	32:A5:117:LEU:HD12	2.00	0.91
3:EA:883:G:N2	3:EA:892:A:N7	2.18	0.90
3:AA:2279:G:N7	23:AW:10:ARG:NH2	2.20	0.90
3:GA:2306:C:N4	6:GF:38:GLY:O	2.04	0.90
3:CA:1154:G:OP2	17:CQ:57:ARG:NH1	2.05	0.90
1:AB:43:C:O2	6:AF:91:ARG:NH2	2.04	0.90
3:AA:1248:G:OP2	5:AE:44:ARG:NH1	2.03	0.90
32:A5:24:SER:HB2	32:A5:116:GLU:HG2	1.54	0.90
35:BA:1412:C:OP1	45:BL:54:ARG:NH1	2.05	0.90
1:CB:43:C:O2	6:CF:91:ARG:NH2	2.05	0.90
3:GA:2816:G:O3'	14:GN:99:LYS:NZ	2.05	0.90
3:AA:576:U:OP1	60:AA:3661:HOH:O	1.90	0.89
2:EC:5:CYS:SG	2:EC:12:ARG:NH1	2.46	0.89
3:AA:415:A:N7	60:AA:3556:HOH:O	2.04	0.89
32:A5:71:CYS:CB	32:A5:117:LEU:CD1	2.50	0.89
3:EA:1658:C:OP1	60:EA:3798:HOH:O	1.88	0.89
3:GA:2057:G:OP2	60:GA:3484:HOH:O	1.90	0.89
3:EA:973:A:OP2	18:ER:81:LYS:NZ	2.06	0.89
21:AU:98:ASN:O	21:AU:100:GLU:N	2.06	0.89
3:AA:1336:A:OP2	20:AT:68:LYS:NZ	2.06	0.88
40:DG:111:ARG:O	40:DG:119:ARG:NH2	2.06	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:E5:30:SER:O	32:E5:31:ARG:HB2	1.73	0.88
3:GA:504:A:O2'	3:GA:505:A:OP1	1.92	0.88
35:HA:1493:A:OP1	56:HW:1:KBE:N	2.05	0.88
6:GF:134:GLN:O	6:GF:136:ILE:N	2.05	0.88
35:HA:429:U:OP2	37:HD:13:ARG:NH2	2.06	0.88
35:FA:823:C:HO2'	41:FH:2:SER:N	1.72	0.87
3:CA:948:C:O2	3:CA:984:A:O2'	1.92	0.87
3:GA:2499:C:OP2	60:GA:3673:HOH:O	1.92	0.87
32:C5:26:VAL:CG2	32:C5:115:GLY:H	1.87	0.87
37:HD:70:ARG:NH2	60:HD:303:HOH:O	2.07	0.87
3:AA:996:A:OP2	17:AQ:91:ARG:NH2	2.07	0.87
35:BA:1178:G:O6	42:BI:99:ARG:NH2	2.08	0.87
3:GA:878:A:N6	3:GA:899:A:O2'	2.07	0.87
3:GA:2448:A:OP2	60:GA:3675:HOH:O	1.92	0.87
52:BS:24:GLU:OE2	52:BS:24:GLU:N	2.07	0.87
35:HA:815:A:N7	35:HA:1509:C:O2'	2.07	0.87
32:A5:77:VAL:C	32:A5:79:PRO:HD2	2.00	0.86
3:GA:1828:G:OP2	60:GA:3729:HOH:O	1.94	0.86
55:HV:309:ARG:NH2	55:HV:402:ALA:O	2.08	0.86
1:EB:43:C:O2	6:EF:91:ARG:NH2	2.09	0.86
32:C5:71:CYS:HB3	32:C5:117:LEU:HD12	1.57	0.86
36:FC:156:ARG:NH1	36:FC:160:ALA:O	2.08	0.86
3:GA:991:C:OP2	60:GA:3588:HOH:O	1.93	0.86
35:FA:1178:G:O6	42:FI:99:ARG:NH2	2.09	0.86
42:BI:57:MET:O	42:BI:59:GLU:N	2.09	0.85
3:AA:1723:G:O6	3:AA:1737:G:O2'	1.94	0.85
32:E5:29:ASP:HA	32:E5:108:VAL:HG11	1.57	0.85
3:GA:1837:C:O2'	3:GA:1927:A:N3	2.06	0.85
35:HA:1288:A:N3	35:HA:1352:C:O2'	2.08	0.85
20:AT:39:THR:O	20:AT:41:ALA:N	2.09	0.85
35:HA:78:A:OP2	35:HA:80:A:N6	2.09	0.85
3:CA:1395:A:OP1	60:CA:3406:HOH:O	1.95	0.85
3:GA:2057:G:OP2	60:GA:3657:HOH:O	1.93	0.85
3:GA:804:A:N6	60:GA:3323:HOH:O	2.09	0.85
3:EA:1509:A:O2'	3:EA:1510:G:OP2	1.95	0.85
35:BA:978:A:OP2	35:BA:1362:A:N6	2.09	0.84
3:EA:733:G:N7	60:EA:3295:HOH:O	2.08	0.84
3:EA:2451:A:OP1	60:EA:3522:HOH:O	1.94	0.84
3:CA:975:A:OP2	60:CA:3582:HOH:O	1.94	0.84
3:GA:223:A:N1	3:GA:407:G:O2'	2.11	0.84
26:GZ:11:SER:O	26:GZ:15:ARG:NH1	2.10	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:981:A:OP1	60:AA:3587:HOH:O	1.95	0.84
3:CA:2308:G:O6	3:CA:2311:A:N6	2.10	0.84
35:DA:362:G:N7	60:DA:1709:HOH:O	2.10	0.84
3:EA:2331:G:O2'	23:EW:39:GLN:O	1.95	0.84
3:AA:1069:A:N3	3:AA:1073:A:N6	2.26	0.84
3:AA:2053:G:N2	3:AA:2616:C:N3	2.24	0.84
3:CA:504:A:O2'	3:CA:505:A:OP1	1.96	0.84
32:C5:30:SER:O	32:C5:31:ARG:HB2	1.78	0.84
35:DA:934:C:OP1	60:DA:1763:HOH:O	1.94	0.84
3:GA:2720:U:OP1	16:GP:52:ARG:NH2	2.11	0.84
35:HA:995:C:N3	35:HA:1046:A:O2'	2.10	0.84
10:EJ:49:ASP:OD1	10:EJ:121:LYS:NZ	2.10	0.84
3:GA:17:G:OP2	60:GA:3202:HOH:O	1.95	0.84
42:FI:57:MET:O	42:FI:59:GLU:N	2.11	0.83
47:FN:30:ILE:O	47:FN:35:ASN:ND2	2.11	0.83
55:DV:219:HIS:O	55:DV:222:LEU:N	2.11	0.83
3:GA:1369:G:N7	60:GA:3397:HOH:O	2.09	0.83
3:GA:2265:U:OP2	3:GA:2266:A:O2'	1.93	0.83
55:BV:219:HIS:O	55:BV:222:LEU:N	2.11	0.83
35:FA:1505:G:OP1	60:FA:1799:HOH:O	1.97	0.83
3:EA:995:C:O2	10:EJ:3:THR:OG1	1.97	0.83
40:DG:113:ASP:OD2	40:DG:122:ASN:ND2	2.11	0.83
3:GA:2502:G:OP1	60:GA:3487:HOH:O	1.97	0.83
3:CA:990:A:OP2	60:CA:3589:HOH:O	1.96	0.83
35:DA:1129:C:O2'	35:DA:1139:G:N7	2.10	0.83
32:E5:26:VAL:HG11	32:E5:77:VAL:HG13	1.60	0.83
32:E5:73:LYS:HB2	32:E5:117:LEU:HD11	1.61	0.83
34:FB:83:ALA:O	34:FB:88:GLN:NE2	2.11	0.83
35:HA:1064:G:O6	35:HA:1192:C:N4	2.12	0.83
35:HA:1187:G:O2'	42:HI:113:ARG:NH1	2.11	0.83
2:AC:196:ASN:O	2:AC:198:GLU:N	2.12	0.83
3:GA:263:G:O2'	3:GA:429:A:N3	2.12	0.82
32:A5:71:CYS:HA	32:A5:117:LEU:CD1	2.10	0.82
3:GA:1022:G:O2'	3:GA:1025:G:N2	2.12	0.82
3:AA:991:C:OP2	60:AA:3592:HOH:O	1.98	0.82
35:FA:362:G:N7	60:FA:1714:HOH:O	2.12	0.82
35:HA:579:A:O2'	48:HO:54:ARG:NH1	2.10	0.82
32:A5:33:VAL:N	32:A5:36:ASP:OD2	2.12	0.82
3:CA:1009:A:OP2	60:CA:3763:HOH:O	1.98	0.82
3:GA:192:C:N3	60:GA:3320:HOH:O	2.12	0.82
3:AA:526:A:OP1	60:AA:3246:HOH:O	1.98	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1371:G:N7	60:AA:3397:HOH:O	2.13	0.82
3:AA:1824:G:OP2	60:AA:3650:HOH:O	1.95	0.82
35:HA:33:A:O2'	45:HL:29:GLN:NE2	2.12	0.82
35:HA:913:A:OP1	45:HL:43:LYS:NZ	2.11	0.82
35:BA:324:G:N7	60:BA:1845:HOH:O	2.13	0.82
32:A5:91:ALA:C	32:A5:93:ALA:H	1.87	0.82
32:E5:24:SER:O	32:E5:116:GLU:HB3	1.80	0.82
3:AA:504:A:O2'	3:AA:505:A:OP1	1.98	0.81
20:CT:39:THR:O	20:CT:41:ALA:N	2.14	0.81
32:E5:26:VAL:CG2	32:E5:115:GLY:N	2.38	0.81
36:FC:40:ARG:NH1	36:FC:55:ILE:O	2.14	0.81
35:HA:1405:G:N2	35:HA:1518:A:N3	2.27	0.81
3:AA:1647:U:OP2	60:AA:3415:HOH:O	1.98	0.81
32:A5:71:CYS:HA	32:A5:117:LEU:HD13	1.60	0.81
3:GA:2242:G:OP2	60:GA:3497:HOH:O	1.97	0.81
3:GA:2331:G:O2'	23:GW:39:GLN:O	1.98	0.81
35:HA:692:U:O4	44:HK:57:LYS:NZ	2.13	0.81
3:AA:1012:U:OP2	17:AQ:69:ARG:NH1	2.14	0.81
15:AO:34:HIS:O	15:AO:102:ARG:NH1	2.14	0.81
16:AP:50:ARG:HB3	16:AP:57:ALA:H	1.43	0.81
37:BD:100:ASN:OD1	37:BD:111:ARG:NH1	2.13	0.81
35:DA:869:G:OP2	60:DA:1812:HOH:O	1.99	0.81
3:EA:1671:U:O4	60:EA:3716:HOH:O	1.96	0.81
7:EG:1:SER:O	7:EG:3:VAL:N	2.13	0.81
3:CA:84:A:N1	3:CA:98:G:O2'	2.14	0.81
4:CD:91:THR:O	4:CD:93:GLY:N	2.14	0.81
35:HA:581:G:N2	35:HA:760:G:N7	2.28	0.81
37:DD:27:ALA:O	37:DD:31:LYS:NZ	2.14	0.81
21:GU:73:ASN:ND2	21:GU:80:ASP:OD2	2.14	0.81
3:EA:826:U:O3'	60:EA:3344:HOH:O	1.97	0.80
35:HA:1001:C:O2	35:HA:1039:G:N1	2.13	0.80
3:AA:1268:A:OP1	60:AA:3372:HOH:O	1.99	0.80
32:A5:103:ASN:ND2	32:A5:107:GLU:O	2.13	0.80
3:CA:1509:A:O2'	3:CA:1510:G:OP2	1.99	0.80
3:EA:622:G:OP2	60:EA:3800:HOH:O	1.98	0.80
35:BA:1029:U:O2'	35:BA:1033:G:N2	2.14	0.80
10:EJ:43:GLU:O	10:EJ:45:THR:N	2.14	0.80
55:HV:422:PRO:O	55:HV:424:THR:N	2.14	0.80
15:GO:85:LYS:HB2	15:GO:87:ILE:HG12	1.61	0.80
35:HA:961:U:O2	35:HA:1201:A:N6	2.15	0.80
35:HA:1229:A:OP2	46:HM:113:ARG:NH1	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1783:A:OP1	60:AA:3688:HOH:O	1.98	0.80
3:CA:946:C:OP2	60:CA:3339:HOH:O	1.98	0.80
3:GA:1011:G:OP2	17:GQ:65:ASN:ND2	2.15	0.80
35:DA:483:C:O2	49:DP:13:LYS:NZ	2.14	0.80
37:HD:197:GLU:O	37:HD:200:ILE:N	2.14	0.80
3:EA:1153:C:OP2	60:EA:3358:HOH:O	2.00	0.80
3:GA:675:A:O5'	60:GA:3323:HOH:O	1.99	0.80
3:GA:1960:A:OP2	60:GA:3453:HOH:O	1.99	0.80
55:BV:93:VAL:O	55:BV:95:PHE:N	2.15	0.79
3:CA:982:C:OP1	60:CA:3562:HOH:O	1.99	0.79
3:AA:2720:U:OP1	16:AP:52:ARG:NH2	2.15	0.79
3:AA:2448:A:OP2	60:AA:3676:HOH:O	2.00	0.79
3:CA:1998:A:OP2	4:CD:141:ARG:NH2	2.15	0.79
3:CA:1782:U:O3'	60:CA:3686:HOH:O	2.00	0.79
3:EA:2352:A:N1	23:EW:30:VAL:HG11	1.97	0.79
3:AA:975:A:OP2	60:AA:3583:HOH:O	2.00	0.79
3:CA:927:A:O2'	26:CZ:38:GLU:OE1	2.01	0.79
35:FA:913:A:OP1	45:FL:43:LYS:NZ	2.14	0.79
3:GA:941:A:O2'	3:GA:1190:G:O3'	2.00	0.79
3:AA:733:G:OP1	60:AA:3293:HOH:O	2.01	0.79
3:AA:945:A:OP2	60:AA:3341:HOH:O	1.98	0.79
3:EA:2057:G:OP2	60:EA:3487:HOH:O	2.00	0.79
32:A5:33:VAL:HG12	32:A5:34:THR:H	1.48	0.79
32:A5:43:LYS:NZ	32:A5:98:GLU:OE1	2.16	0.79
35:BA:964:A:OP1	60:BA:1830:HOH:O	2.01	0.79
35:FA:891:U:OP2	60:FA:1764:HOH:O	1.97	0.79
55:BV:422:PRO:O	55:BV:424:THR:N	2.14	0.79
35:HA:1262:C:N4	35:HA:1273:C:N3	2.30	0.79
11:AK:105:ARG:NH1	11:AK:106:GLU:OE2	2.16	0.79
35:BA:8:A:N6	37:BD:202:GLU:O	2.16	0.79
35:BA:934:C:OP1	60:BA:1767:HOH:O	2.01	0.79
2:CC:196:ASN:O	2:CC:198:GLU:N	2.15	0.79
26:CZ:26:LEU:O	26:CZ:37:ARG:NH1	2.16	0.79
32:C5:77:VAL:C	32:C5:79:PRO:HD2	2.07	0.79
55:DV:93:VAL:O	55:DV:95:PHE:N	2.16	0.79
3:GA:684:G:OP1	29:G2:16:HIS:ND1	2.16	0.79
55:DV:78:GLN:NE2	55:DV:280:ASP:OD2	2.16	0.78
3:EA:1054:A:OP1	32:E5:31:ARG:NH2	2.16	0.78
60:GA:3492:HOH:O	5:GE:63:LYS:NZ	2.15	0.78
3:CA:1669:A:OP2	60:CA:3709:HOH:O	2.01	0.78
21:EU:98:ASN:O	21:EU:100:GLU:N	2.17	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:E5:33:VAL:HG12	32:E5:34:THR:H	1.46	0.78
36:FC:89:LYS:NZ	36:FC:93:ASP:OD1	2.16	0.78
3:GA:1938:A:OP2	60:GA:3715:HOH:O	2.02	0.78
3:AA:579:G:OP1	60:AA:3270:HOH:O	2.01	0.78
35:BA:1197:A:OP1	60:BA:1833:HOH:O	2.01	0.78
32:C5:24:SER:O	32:C5:116:GLU:CB	2.27	0.78
32:C5:33:VAL:HG12	32:C5:34:THR:H	1.47	0.78
13:EM:22:GLN:O	13:EM:24:THR:N	2.17	0.78
32:C5:29:ASP:HA	32:C5:108:VAL:HG11	1.64	0.78
35:DA:880:C:OP1	45:DL:9:ARG:NH1	2.17	0.78
3:EA:2107:G:N1	3:EA:2182:U:O2'	2.15	0.78
55:FV:79:TYR:OH	55:FV:284:ASP:OD1	2.01	0.78
3:GA:1156:A:O4'	17:GQ:50:ARG:NH1	2.15	0.78
35:HA:362:G:N7	60:HA:1711:HOH:O	2.16	0.78
23:EW:41:GLY:O	23:EW:43:LYS:N	2.16	0.78
39:HF:38:ARG:NH1	39:HF:63:ASN:OD1	2.17	0.78
3:CA:981:A:OP1	60:CA:3584:HOH:O	2.01	0.78
3:EA:731:C:OP2	60:EA:3688:HOH:O	2.02	0.78
3:GA:1647:U:OP2	60:GA:3415:HOH:O	2.01	0.78
3:AA:1509:A:O2'	3:AA:1510:G:OP2	2.01	0.78
35:BA:1028:C:N4	35:BA:1029:U:O2	2.17	0.78
35:FA:1468:A:H2'	35:FA:1469:C:H5'	1.66	0.78
3:GA:1772:A:O3'	60:GA:3439:HOH:O	2.02	0.78
35:HA:939:G:O2'	35:HA:1375:A:N3	2.16	0.78
3:AA:946:C:OP2	60:AA:3341:HOH:O	2.02	0.78
4:AD:184:ARG:NH1	16:AP:6:GLN:OE1	2.17	0.78
3:CA:1265:A:OP2	60:CA:3734:HOH:O	2.02	0.78
3:GA:1095:A:N7	55:HV:631:VAL:N	2.31	0.78
35:HA:415:A:N7	60:HA:1718:HOH:O	2.17	0.78
3:AA:1828:G:OP1	60:AA:3451:HOH:O	2.02	0.78
3:GA:839:U:O2'	3:GA:1191:G:N3	2.17	0.78
10:GJ:34:ARG:NH1	10:GJ:39:LYS:O	2.17	0.78
35:BA:1033:G:H2'	35:BA:1034:G:H5'	1.64	0.77
3:GA:410:G:OP2	60:GA:3556:HOH:O	2.02	0.77
25:AY:18:LEU:O	25:AY:22:LEU:N	2.17	0.77
35:BA:21:G:OP1	60:BA:1817:HOH:O	2.01	0.77
37:BD:35:GLU:O	37:BD:37:ALA:N	2.17	0.77
3:GA:572:A:OP1	60:GA:3559:HOH:O	2.01	0.77
2:AC:269:ARG:NH2	3:AA:1799:G:OP2	2.16	0.77
23:CW:41:GLY:O	23:CW:43:LYS:N	2.16	0.77
35:DA:289:G:OP2	60:DA:1876:HOH:O	2.03	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:964:C:O2'	3:GA:2273:A:N3	2.16	0.77
3:GA:2529:G:OP1	7:GG:174:LYS:NZ	2.16	0.77
35:BA:1095:U:OP2	60:BA:1860:HOH:O	2.01	0.77
44:FK:125:LYS:O	54:FU:34:ARG:NH2	2.16	0.77
3:GA:1782:U:O2	3:GA:2608:G:O2'	2.02	0.77
42:HI:114:LYS:NZ	42:HI:118:LEU:O	2.17	0.77
2:AC:69:ASN:O	2:AC:71:ASP:N	2.18	0.77
32:A5:117:LEU:HD23	32:A5:120:ALA:HA	1.65	0.77
35:DA:754:C:OP1	48:DO:72:ARG:NH2	2.18	0.77
3:EA:1664:A:OP2	60:EA:3423:HOH:O	2.01	0.77
35:FA:964:A:OP1	60:FA:1829:HOH:O	2.03	0.77
3:EA:1669:A:OP2	60:EA:3716:HOH:O	2.03	0.77
37:DD:13:ARG:NH1	37:DD:37:ALA:O	2.17	0.77
3:EA:975:A:OP2	60:EA:3588:HOH:O	2.01	0.77
41:FH:82:GLY:O	50:FQ:36:LYS:NZ	2.17	0.77
3:GA:1062:G:O6	3:GA:1076:C:N4	2.18	0.77
32:A5:71:CYS:CA	32:A5:117:LEU:CD1	2.62	0.77
14:GN:58:ASP:OD2	14:GN:63:ARG:NH2	2.18	0.77
32:A5:35:VAL:HA	32:A5:38:MET:SD	2.24	0.76
3:GA:2011:U:OP1	19:GS:42:LYS:NZ	2.17	0.76
44:HK:26:SER:OG	44:HK:29:ASN:O	2.01	0.76
55:HV:98:GLU:O	55:HV:102:SER:OG	2.01	0.76
3:AA:526:A:OP1	60:AA:3248:HOH:O	2.02	0.76
3:EA:2503:A:OP1	60:EA:3664:HOH:O	2.02	0.76
3:GA:1044:C:O2'	3:GA:1111:A:N1	2.18	0.76
35:HA:1310:G:OP1	46:HM:79:ARG:NH2	2.19	0.76
42:FI:42:GLU:O	42:FI:44:ALA:N	2.18	0.76
3:GA:1270:C:N4	60:GA:3377:HOH:O	2.19	0.76
2:AC:68:ARG:NH2	2:AC:126:GLY:O	2.18	0.76
3:CA:2279:G:N7	23:CW:10:ARG:NH2	2.33	0.76
35:DA:1074:G:O2'	35:DA:1101:A:N1	2.16	0.76
32:E5:73:LYS:CG	32:E5:117:LEU:HD21	2.16	0.76
55:FV:100:GLU:OE2	55:FV:133:TYR:OH	2.03	0.76
35:DA:683:G:N2	44:DK:39:GLY:O	2.18	0.76
3:AA:410:G:OP2	60:AA:3557:HOH:O	2.03	0.76
3:CA:1723:G:O6	3:CA:1737:G:O2'	2.03	0.76
15:CO:111:ARG:NH2	15:CO:115:LEU:O	2.19	0.76
49:DP:4:ILE:HG13	49:DP:21:VAL:HG12	1.68	0.76
3:EA:740:C:OP2	60:EA:3690:HOH:O	2.04	0.76
3:AA:1380:G:OP2	60:AA:3740:HOH:O	2.03	0.76
35:FA:1522:U:OP1	44:FK:128:ARG:NH2	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:301:G:OP2	21:GU:81:ARG:NH1	2.19	0.76
35:HA:1245:C:O2	35:HA:1292:G:N2	2.18	0.76
38:HE:41:ASP:OD2	38:HE:43:ASN:N	2.19	0.76
3:AA:1186:G:OP2	60:AA:3591:HOH:O	2.04	0.76
35:BA:1522:U:OP1	44:BK:128:ARG:NH2	2.19	0.76
3:CA:2146:C:N4	3:GA:2143:C:O2'	2.18	0.76
3:CA:2589:A:OP1	60:CA:3309:HOH:O	2.04	0.76
34:FB:14:HIS:ND1	34:FB:14:HIS:O	2.19	0.76
3:GA:1938:A:OP2	60:GA:3714:HOH:O	2.04	0.76
38:DE:41:ASP:OD1	38:DE:43:ASN:N	2.19	0.75
46:DM:85:CYS:SG	46:DM:88:GLY:N	2.59	0.75
51:DR:37:GLY:O	51:DR:63:ARG:NH2	2.18	0.75
3:EA:301:G:OP2	21:EU:81:ARG:NH1	2.18	0.75
3:GA:636:G:N1	12:GL:76:GLU:OE2	2.19	0.75
35:HA:781:A:O2'	35:HA:1522:U:O2	2.04	0.75
35:HA:905:U:OP2	60:HA:1757:HOH:O	2.04	0.75
35:DA:1492:A:H2'	35:DA:1493:A:H5'	1.69	0.75
15:GO:108:ASP:OD1	15:GO:111:ARG:NH2	2.18	0.75
2:CC:259:ASN:OD1	2:CC:262:THR:N	2.18	0.75
3:AA:1153:C:OP2	60:AA:3353:HOH:O	2.04	0.75
3:AA:2006:C:OP1	60:AA:3372:HOH:O	2.05	0.75
3:AA:2025:C:OP2	60:AA:3470:HOH:O	2.03	0.75
36:DC:20:SER:OG	36:DC:40:ARG:NH2	2.19	0.75
3:EA:2428:G:OP1	60:EA:3694:HOH:O	2.03	0.75
32:E5:43:LYS:NZ	32:E5:98:GLU:OE1	2.19	0.75
35:HA:1166:G:N1	35:HA:1169:A:OP2	2.18	0.75
35:BA:980:C:OP2	60:BA:1835:HOH:O	2.04	0.75
42:BI:56:ASP:O	42:BI:60:LYS:NZ	2.19	0.75
1:AB:23:G:O6	60:AB:1307:HOH:O	2.05	0.75
36:BC:36:ASP:OD1	36:BC:59:ARG:NH1	2.19	0.75
3:CA:761:A:N7	60:CA:3292:HOH:O	2.18	0.75
3:EA:31:C:OP1	60:EA:3699:HOH:O	2.03	0.75
3:EA:2447:G:N3	60:EA:3678:HOH:O	2.18	0.75
35:FA:1064:G:O2'	35:FA:1190:G:N2	2.19	0.75
45:FL:44:LYS:HB3	45:FL:45:PRO:HD3	1.69	0.75
37:DD:197:GLU:O	37:DD:200:ILE:N	2.20	0.75
3:EA:2503:A:OP1	60:EA:3665:HOH:O	2.04	0.75
3:GA:1658:C:OP1	60:GA:3643:HOH:O	2.04	0.75
3:EA:1534:U:O2'	3:EA:1537:G:O6	2.03	0.75
3:EA:1783:A:OP1	60:EA:3691:HOH:O	2.05	0.75
16:EP:50:ARG:HB3	16:EP:57:ALA:H	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:FA:1508:A:OP1	60:FA:1799:HOH:O	2.05	0.75
55:HV:93:VAL:O	55:HV:95:PHE:N	2.20	0.75
3:CA:1265:A:OP2	60:CA:3735:HOH:O	2.04	0.75
3:CA:1332:G:OP1	60:CA:3747:HOH:O	2.05	0.75
3:EA:548:G:O2'	3:EA:549:G:N2	2.20	0.75
3:EA:975:A:OP2	60:EA:3585:HOH:O	2.03	0.75
3:EA:2005:A:OP1	60:EA:3381:HOH:O	2.04	0.75
6:EF:1:ALA:O	6:EF:3:LEU:N	2.20	0.75
32:E5:35:VAL:HA	32:E5:38:MET:SD	2.27	0.75
1:GB:95:U:O4	60:GB:1312:HOH:O	2.04	0.75
3:GA:2503:A:OP1	60:GA:3483:HOH:O	2.05	0.75
47:BN:31:ILE:H	47:BN:31:ILE:HD12	1.50	0.74
3:CA:816:C:OP2	60:CA:3362:HOH:O	2.05	0.74
3:CA:1153:C:OP2	60:CA:3352:HOH:O	2.04	0.74
3:EA:2575:C:OP2	60:EA:3706:HOH:O	2.05	0.74
35:HA:1243:C:O2	35:HA:1294:G:N1	2.20	0.74
55:BV:142:ASN:OD1	55:BV:143:LYS:N	2.19	0.74
3:CA:945:A:OP2	60:CA:3339:HOH:O	2.05	0.74
1:GB:23:G:O6	60:GB:1310:HOH:O	2.05	0.74
3:GA:990:A:OP2	60:GA:3588:HOH:O	2.05	0.74
35:BA:1524:C:OP1	44:BK:125:LYS:NZ	2.20	0.74
3:CA:2499:C:OP2	60:CA:3672:HOH:O	2.04	0.74
3:EA:572:A:OP2	18:ER:80:ARG:NH2	2.20	0.74
3:EA:1153:C:OP2	60:EA:3359:HOH:O	2.05	0.74
3:EA:2268:A:OP1	60:EA:3508:HOH:O	2.04	0.74
3:GA:980:A:O3'	60:GA:3583:HOH:O	2.04	0.74
3:CA:1106:G:OP1	32:C5:62:ARG:NH2	2.20	0.74
35:HA:1197:A:OP1	60:HA:1825:HOH:O	2.04	0.74
3:CA:1186:G:OP2	60:CA:3591:HOH:O	2.03	0.74
3:EA:2429:G:OP1	60:EA:3694:HOH:O	2.06	0.74
23:EW:36:ILE:O	23:EW:39:GLN:NE2	2.21	0.74
3:GA:372:G:O2'	3:GA:400:G:O6	2.04	0.74
35:HA:1451:U:O2'	35:HA:1452:C:OP2	2.05	0.74
55:HV:219:HIS:O	55:HV:222:LEU:N	2.19	0.74
3:AA:1187:G:OP1	18:AR:85:LYS:NZ	2.19	0.74
42:BI:57:MET:SD	42:BI:58:VAL:N	2.61	0.74
32:E5:57:ASN:O	32:E5:59:LEU:N	2.19	0.74
3:CA:468:G:N7	29:C2:39:ARG:NH2	2.36	0.74
3:CA:971:G:OP2	3:CA:974:G:N2	2.21	0.74
32:C5:26:VAL:HG21	32:C5:115:GLY:N	2.02	0.74
35:DA:573:A:OP2	60:DA:1733:HOH:O	2.05	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:FA:195:A:OP2	60:FA:1875:HOH:O	2.04	0.74
34:FB:182:VAL:N	34:FB:196:ASP:OD2	2.19	0.74
3:AA:1342:A:O2'	3:AA:1344:U:OP2	2.04	0.74
3:AA:2707:U:O2	14:AN:71:ARG:NH1	2.20	0.74
35:DA:510:A:N7	60:DA:1719:HOH:O	2.21	0.74
42:DI:57:MET:O	42:DI:59:GLU:N	2.20	0.74
35:FA:563:A:OP1	60:FA:1732:HOH:O	2.05	0.74
3:GA:214:G:N2	3:GA:216:A:N3	2.36	0.74
4:GD:91:THR:O	4:GD:93:GLY:N	2.21	0.74
3:AA:2503:A:OP1	60:AA:3660:HOH:O	2.04	0.74
3:AA:2579:C:OP1	60:AA:3536:HOH:O	2.05	0.74
3:CA:740:C:OP2	60:CA:3685:HOH:O	2.06	0.74
3:CA:862:G:OP2	60:CA:3712:HOH:O	2.05	0.74
14:CN:117:ASP:O	14:CN:119:SER:N	2.21	0.74
35:FA:1050:G:O6	60:FA:1778:HOH:O	2.06	0.74
3:GA:161:A:H3'	3:GA:162:U:H5"	1.69	0.74
21:GU:98:ASN:O	21:GU:100:GLU:N	2.21	0.74
35:HA:869:G:N7	60:HA:1815:HOH:O	2.21	0.74
4:AD:91:THR:O	4:AD:93:GLY:N	2.21	0.74
31:A4:11:CYS:SG	31:A4:14:CYS:N	2.60	0.74
15:CO:34:HIS:O	15:CO:102:ARG:NH1	2.21	0.74
14:EN:98:LEU:HB3	27:E0:42:ILE:HD11	1.69	0.74
35:FA:579:A:O2'	48:FO:54:ARG:NH1	2.21	0.74
55:FV:219:HIS:O	55:FV:222:LEU:N	2.21	0.74
1:GB:59:A:N7	60:GB:1307:HOH:O	2.21	0.74
3:GA:945:A:OP2	60:GA:3341:HOH:O	2.06	0.74
35:BA:560:A:OP2	60:BA:1734:HOH:O	2.05	0.73
3:EA:1664:A:OP1	60:EA:3426:HOH:O	2.05	0.73
32:E5:71:CYS:HA	32:E5:117:LEU:CD1	2.18	0.73
55:FV:92:HIS:O	55:FV:122:GLN:NE2	2.20	0.73
32:A5:131:THR:O	32:A5:134:GLU:N	2.20	0.73
3:CA:450:G:OP2	60:CA:3240:HOH:O	2.06	0.73
35:DA:1505:G:OP2	60:DA:1860:HOH:O	2.05	0.73
35:FA:1505:G:OP1	60:FA:1800:HOH:O	2.06	0.73
35:BA:533:A:OP1	60:BA:1847:HOH:O	2.05	0.73
10:CJ:36:LEU:O	10:CJ:121:LYS:NZ	2.21	0.73
32:C5:129:LEU:O	32:C5:131:THR:N	2.20	0.73
16:GP:4:ILE:O	16:GP:6:GLN:N	2.22	0.73
35:HA:411:A:OP1	37:HD:26:ARG:NH2	2.21	0.73
35:HA:1134:G:N2	35:HA:1140:C:N3	2.36	0.73
3:AA:1970:A:OP2	60:AA:3466:HOH:O	2.07	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:2331:G:O2'	23:AW:39:GLN:O	2.04	0.73
32:A5:57:ASN:O	32:A5:59:LEU:N	2.21	0.73
3:EA:2499:C:OP2	60:EA:3679:HOH:O	2.07	0.73
3:AA:572:A:OP2	18:AR:80:ARG:NH2	2.21	0.73
32:C5:71:CYS:CB	32:C5:117:LEU:HD12	2.18	0.73
3:EA:2582:G:OP2	60:EA:3700:HOH:O	2.04	0.73
3:AA:1998:A:OP2	4:AD:141:ARG:NH2	2.21	0.73
9:AI:113:ALA:HA	9:AI:124:MET:HE1	1.70	0.73
3:EA:802:A:OP1	60:EA:3328:HOH:O	2.04	0.73
35:HA:483:C:O2	49:HP:13:LYS:NZ	2.21	0.73
3:AA:2592:G:OP1	60:AA:3459:HOH:O	2.06	0.73
10:AJ:43:GLU:O	10:AJ:45:THR:N	2.22	0.73
32:E5:71:CYS:HB3	32:E5:117:LEU:HD12	1.71	0.73
3:GA:761:A:N7	60:GA:3292:HOH:O	2.20	0.73
34:HB:135:MET:N	34:HB:135:MET:SD	2.62	0.73
3:EA:1998:A:OP2	4:ED:141:ARG:NH2	2.21	0.73
3:GA:29:U:OP2	60:GA:3207:HOH:O	2.07	0.73
3:GA:1798:U:OP2	2:GC:270:ARG:NH2	2.21	0.73
35:HA:674:G:N2	35:HA:717:U:O2	2.22	0.73
35:HA:903:G:N7	60:HA:1759:HOH:O	2.21	0.73
3:EA:1799:G:OP2	2:EC:269:ARG:NH2	2.22	0.73
10:EJ:41:LYS:NZ	10:EJ:52:ASP:OD1	2.21	0.73
42:HI:92:GLU:OE1	42:HI:95:ARG:NH2	2.21	0.73
3:AA:1439:A:OP2	60:AA:3623:HOH:O	2.07	0.73
32:A5:1:MET:SD	32:A5:2:ALA:N	2.58	0.73
48:DO:14:GLU:O	48:DO:84:ARG:NH2	2.21	0.73
35:FA:2:A:O3'	37:FD:83:LYS:NZ	2.21	0.73
7:AG:22:VAL:HG12	7:AG:36:LEU:CD1	2.19	0.72
32:C5:36:ASP:O	32:C5:39:THR:OG1	2.07	0.72
10:EJ:4:PHE:N	10:EJ:44:TYR:OH	2.22	0.72
47:FN:91:GLY:O	47:FN:93:ILE:N	2.22	0.72
3:AA:2056:G:OP2	60:AA:3481:HOH:O	2.06	0.72
3:CA:1013:C:OP2	60:CA:3593:HOH:O	2.07	0.72
3:EA:2522:U:O2'	3:EA:2647:U:OP1	2.06	0.72
3:EA:2640:G:OP1	10:EJ:96:ARG:NH1	2.21	0.72
54:HU:44:GLU:OE2	54:HU:45:ARG:NH1	2.22	0.72
3:CA:2331:G:O2'	23:CW:39:GLN:O	2.02	0.72
35:DA:935:A:O2'	35:DA:1383:C:N3	2.23	0.72
35:FA:1228:C:OP1	46:FM:107:ARG:NH2	2.22	0.72
3:GA:613:A:N6	3:GA:617:G:N3	2.37	0.72
35:HA:652:U:O4	35:HA:752:G:O2'	2.06	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:892:A:OP2	60:HA:1758:HOH:O	2.07	0.72
3:CA:530:G:O4'	60:CA:3652:HOH:O	2.05	0.72
3:EA:730:A:OP2	60:EA:3688:HOH:O	2.08	0.72
2:EC:69:ASN:O	2:EC:71:ASP:N	2.23	0.72
3:GA:1154:G:OP2	17:GQ:57:ARG:NH1	2.21	0.72
3:GA:2252:G:OP1	60:GA:3502:HOH:O	2.06	0.72
3:EA:1253:A:OP1	17:EQ:32:ARG:NH1	2.21	0.72
2:AC:179:GLU:OE2	3:AA:1799:G:O2'	2.07	0.72
3:EA:962:G:OP1	60:EA:3356:HOH:O	2.07	0.72
52:FS:35:SER:OG	52:FS:38:SER:OG	2.07	0.72
3:GA:514:A:N3	3:GA:581:C:O2'	2.21	0.72
3:GA:1342:A:OP2	60:GA:3797:HOH:O	2.06	0.72
3:CA:2873:A:OP1	60:CA:3784:HOH:O	2.08	0.72
3:EA:1106:G:OP1	32:E5:62:ARG:NH2	2.22	0.72
25:EY:15:ASN:O	25:EY:19:LEU:N	2.22	0.72
35:FA:1126:U:O4	43:FJ:9:ARG:NH1	2.23	0.72
35:FA:1242:G:O2'	60:FA:1790:HOH:O	2.02	0.72
1:GB:60:C:OP2	60:GB:1309:HOH:O	2.07	0.72
3:CA:1153:C:OP2	60:CA:3351:HOH:O	2.08	0.72
15:CO:57:ALA:O	15:CO:59:ALA:N	2.22	0.72
35:DA:857:C:OP2	60:DA:1811:HOH:O	2.06	0.72
47:FN:20:TYR:O	47:FN:24:ARG:N	2.23	0.72
3:GA:120:U:OP1	60:GA:3215:HOH:O	2.07	0.72
39:HF:90:MET:SD	51:HR:61:ARG:NE	2.63	0.72
46:HM:57:ARG:HA	46:HM:60:VAL:HG12	1.71	0.72
32:A5:106:PHE:O	32:A5:108:VAL:N	2.23	0.72
3:EA:1325:U:OP1	60:EA:3384:HOH:O	2.08	0.72
3:GA:1095:A:C5	55:HV:628:THR:HA	2.25	0.72
3:AA:990:A:OP2	60:AA:3590:HOH:O	2.06	0.72
3:CA:954:G:OP2	13:CM:16:ARG:NH2	2.22	0.72
3:CA:962:G:OP1	60:CA:3349:HOH:O	2.08	0.72
47:DN:7:LYS:NZ	60:DN:204:HOH:O	2.21	0.72
44:FK:88:GLY:O	44:FK:93:ARG:NH1	2.23	0.72
3:GA:453:A:OP2	60:GA:3240:HOH:O	2.07	0.72
3:GA:576:U:H2'	3:GA:577:G:C8	2.24	0.72
3:GA:975:A:OP2	60:GA:3579:HOH:O	2.08	0.72
35:BA:892:A:OP2	60:BA:1764:HOH:O	2.08	0.71
32:C5:91:ALA:C	32:C5:93:ALA:H	1.97	0.71
32:E5:24:SER:HB3	32:E5:116:GLU:HG2	1.72	0.71
55:FV:313:ASP:OD2	55:FV:378:ARG:NH1	2.23	0.71
2:GC:110:LYS:NZ	2:GC:113:ASP:OD1	2.21	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:GT:39:THR:O	20:GT:41:ALA:N	2.23	0.71
3:AA:2478:A:OP2	31:A4:2:LYS:NZ	2.23	0.71
35:BA:1468:A:H2'	35:BA:1469:C:H5'	1.72	0.71
3:EA:2324:U:H3'	3:EA:2325:G:H5"	1.71	0.71
55:FV:98:GLU:O	55:FV:102:SER:OG	2.04	0.71
1:GB:7:G:O2'	15:GO:38:GLN:OE1	2.06	0.71
3:GA:193:U:OP2	60:GA:3742:HOH:O	2.07	0.71
46:DM:14:HIS:ND1	46:DM:42:ASP:O	2.23	0.71
3:EA:818:G:OP2	60:EA:3577:HOH:O	2.08	0.71
35:FA:1492:A:H2'	35:FA:1493:A:H5'	1.73	0.71
3:GA:219:A:N3	3:GA:234:U:O2'	2.20	0.71
9:GI:112:LYS:NZ	9:GI:115:ASP:OD2	2.23	0.71
44:BK:126:LYS:O	54:BU:34:ARG:NE	2.24	0.71
3:CA:450:G:OP2	60:CA:3238:HOH:O	2.07	0.71
3:CA:2062:A:OP2	60:CA:3487:HOH:O	2.06	0.71
3:CA:2615:U:OP1	60:CA:3735:HOH:O	2.08	0.71
2:CC:69:ASN:O	2:CC:71:ASP:N	2.23	0.71
32:C5:117:LEU:HD22	32:C5:120:ALA:HA	1.71	0.71
55:DV:142:ASN:OD1	55:DV:143:LYS:N	2.23	0.71
7:GG:106:LEU:O	7:GG:151:ARG:NH2	2.24	0.71
35:HA:1505:G:OP2	60:HA:1866:HOH:O	2.06	0.71
52:HS:36:ARG:NH2	52:HS:75:ALA:O	2.23	0.71
3:AA:2057:G:OP2	60:AA:3481:HOH:O	2.08	0.71
3:EA:1022:G:O2'	3:EA:1024:G:O6	2.06	0.71
3:EA:1376:C:OP1	60:EA:3398:HOH:O	2.09	0.71
23:EW:19:ARG:HA	23:EW:34:SER:HA	1.72	0.71
4:GD:86:GLU:OE1	4:GD:86:GLU:N	2.24	0.71
1:CB:116:G:H4'	15:CO:54:VAL:HG22	1.73	0.71
35:DA:1468:A:H2'	35:DA:1469:C:H5'	1.71	0.71
3:EA:762:U:OP1	60:EA:3689:HOH:O	2.07	0.71
3:EA:2013:A:N3	19:ES:88:ARG:NH1	2.39	0.71
9:GI:73:PRO:O	9:GI:112:LYS:NZ	2.23	0.71
3:AA:621:A:OP2	60:AA:3291:HOH:O	2.08	0.71
3:CA:1837:C:O2'	3:CA:1927:A:N3	2.22	0.71
3:EA:254:G:N7	30:E3:4:LYS:NZ	2.37	0.71
60:FA:1879:HOH:O	45:FL:110:ARG:NH2	2.23	0.71
3:GA:2062:A:OP1	60:GA:3492:HOH:O	2.08	0.71
3:AA:1993:U:H4'	4:AD:133:THR:HG21	1.73	0.71
3:CA:217:A:OP2	60:CA:3225:HOH:O	2.07	0.71
35:FA:1149:C:OP1	42:FI:11:ARG:NH1	2.24	0.71
2:AC:49:THR:OG1	3:AA:1805:A:N3	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1010:A:OP2	60:AA:3768:HOH:O	2.08	0.71
3:CA:143:C:O2'	20:CT:3:ARG:NH1	2.24	0.71
3:CA:2096:C:O2	40:HG:52:GLN:NE2	2.24	0.71
32:C5:24:SER:CA	32:C5:116:GLU:HG2	2.21	0.71
35:DA:1015:G:O2'	47:DN:53:ARG:NH1	2.23	0.71
3:EA:198:C:OP2	60:EA:3751:HOH:O	2.08	0.71
6:EF:114:ARG:NH2	6:EF:115:GLY:O	2.24	0.71
3:GA:574:A:OP1	60:GA:3563:HOH:O	2.07	0.71
3:AA:2584:U:O4	60:AA:3698:HOH:O	2.08	0.71
36:BC:16:LYS:NZ	36:BC:181:ASP:OD1	2.23	0.71
39:DF:68:GLN:HA	39:DF:71:ILE:HG22	1.72	0.71
3:EA:1327:A:OP2	60:EA:3610:HOH:O	2.07	0.71
3:AA:963:U:OP1	60:AA:3350:HOH:O	2.08	0.70
55:BV:188:MET:HE3	55:BV:218:TRP:NE1	2.05	0.70
3:EA:819:A:OP2	3:EA:1187:G:N2	2.21	0.70
3:EA:948:C:O2	3:EA:984:A:O2'	2.08	0.70
20:ET:9:LYS:O	20:ET:12:ARG:NH1	2.24	0.70
35:FA:1147:C:O2	42:FI:18:ARG:NH1	2.24	0.70
3:AA:161:A:H3'	3:AA:162:U:H5"	1.72	0.70
3:CA:965:C:OP2	60:CA:3331:HOH:O	2.08	0.70
3:CA:965:C:OP2	60:CA:3334:HOH:O	2.09	0.70
15:CO:67:ASN:O	15:CO:69:ASP:N	2.25	0.70
3:EA:1618:A:OP2	60:EA:3417:HOH:O	2.09	0.70
3:EA:1828:G:OP1	60:EA:3456:HOH:O	2.09	0.70
3:GA:774:G:OP1	2:GC:47:ARG:NH2	2.22	0.70
3:GA:2593:U:O4	60:GA:3770:HOH:O	2.09	0.70
35:HA:195:A:OP2	60:HA:1872:HOH:O	2.09	0.70
35:HA:404:G:O2'	35:HA:498:A:N1	2.21	0.70
3:CA:2324:U:H3'	3:CA:2325:G:H5"	1.72	0.70
9:CI:58:ILE:O	9:CI:59:THR:OG1	2.09	0.70
36:DC:85:GLU:OE1	36:DC:88:ARG:NH1	2.23	0.70
3:EA:2279:G:N7	23:EW:10:ARG:NH2	2.39	0.70
2:EC:196:ASN:O	2:EC:198:GLU:N	2.23	0.70
3:GA:32:C:N4	60:GA:3212:HOH:O	2.22	0.70
3:GA:196:A:O3'	60:GA:3744:HOH:O	2.08	0.70
3:GA:807:U:OP2	12:GL:41:ARG:NH1	2.24	0.70
3:GA:876:C:N3	3:GA:901:C:N4	2.37	0.70
3:GA:1269:A:OP2	60:GA:3379:HOH:O	2.08	0.70
3:GA:2405:G:O2'	3:GA:2411:A:N6	2.24	0.70
16:AP:5:LYS:NZ	16:AP:9:GLN:OE1	2.23	0.70
32:C5:33:VAL:N	32:C5:36:ASP:OD2	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:159:G:N2	35:DA:162:A:OP2	2.25	0.70
38:DE:25:VAL:N	38:DE:28:GLY:O	2.21	0.70
3:GA:223:A:O2'	3:GA:420:C:O2	2.10	0.70
3:CA:1604:C:OP2	60:CA:3400:HOH:O	2.09	0.70
35:DA:161:A:N1	35:DA:347:G:O2'	2.23	0.70
35:DA:1254:A:N7	43:DJ:45:ARG:NH1	2.39	0.70
38:DE:41:ASP:OD1	38:DE:42:GLY:N	2.24	0.70
47:DN:4:GLN:NE2	60:DN:202:HOH:O	2.23	0.70
3:EA:1269:A:OP2	60:EA:3380:HOH:O	2.09	0.70
3:GA:1030:C:OP2	13:GM:127:LYS:NZ	2.24	0.70
35:HA:1468:A:H2'	35:HA:1469:C:H5'	1.72	0.70
35:BA:462:G:N2	35:BA:470:C:N3	2.39	0.70
3:CA:1993:U:H4'	4:CD:133:THR:HG21	1.74	0.70
43:DJ:88:MET:O	43:DJ:90:LEU:N	2.24	0.70
3:EA:2022:U:OP1	60:EA:3657:HOH:O	2.08	0.70
3:AA:2353:G:H1'	23:AW:30:VAL:HG12	1.72	0.70
35:BA:1504:G:N3	60:BA:1869:HOH:O	2.23	0.70
3:EA:810:U:OP1	60:EA:3332:HOH:O	2.09	0.70
32:E5:26:VAL:HG11	32:E5:77:VAL:CG1	2.22	0.70
3:GA:597:G:O2'	12:GL:11:GLY:O	2.09	0.70
12:GL:93:ASN:OD1	12:GL:94:THR:N	2.24	0.70
3:AA:1938:A:OP2	60:AA:3720:HOH:O	2.09	0.70
3:CA:1380:G:N2	3:CA:1570:A:N1	2.40	0.70
32:C5:1:MET:SD	32:C5:2:ALA:N	2.64	0.70
32:C5:26:VAL:HG11	32:C5:77:VAL:CG1	2.22	0.70
3:EA:991:C:OP2	60:EA:3596:HOH:O	2.09	0.70
3:EA:1968:G:OP1	60:EA:3464:HOH:O	2.09	0.70
3:GA:810:U:OP1	60:GA:3329:HOH:O	2.08	0.70
35:HA:545:C:H5'	37:HD:69:GLU:HG2	1.74	0.70
37:HD:15:GLU:OE2	37:HD:56:ARG:NH2	2.25	0.70
26:AZ:8:GLN:O	26:AZ:10:ARG:N	2.25	0.70
35:FA:964:A:OP1	60:FA:1827:HOH:O	2.08	0.70
48:FO:46:HIS:O	48:FO:48:LYS:N	2.25	0.70
3:GA:979:A:OP2	60:GA:3586:HOH:O	2.08	0.70
5:GE:170:ARG:NH2	5:GE:176:ASP:OD2	2.25	0.70
3:AA:981:A:OP1	60:AA:3585:HOH:O	2.08	0.70
35:BA:1304:G:OP2	60:BA:1792:HOH:O	2.10	0.70
54:BU:44:GLU:OE2	54:BU:45:ARG:NH1	2.25	0.70
32:C5:30:SER:O	32:C5:31:ARG:CB	2.38	0.70
3:EA:1787:A:OP1	60:EA:3737:HOH:O	2.09	0.70
35:HA:501:C:OP2	45:HL:121:ARG:NH1	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1604:C:OP1	60:AA:3402:HOH:O	2.09	0.69
3:CA:1203:U:O2'	12:CL:4:ASN:OD1	2.10	0.69
3:CA:1799:G:O2'	2:CC:179:GLU:OE2	2.07	0.69
3:EA:2448:A:OP2	60:EA:3679:HOH:O	2.09	0.69
53:FT:69:LYS:NZ	53:FT:70:ASN:OD1	2.19	0.69
18:GR:46:GLU:OE1	18:GR:46:GLU:N	2.24	0.69
3:AA:1776:G:OP2	60:AA:3447:HOH:O	2.09	0.69
3:AA:2324:U:H3'	3:AA:2325:G:H5"	1.74	0.69
3:AA:2588:G:OP2	60:AA:3537:HOH:O	2.10	0.69
6:AF:116:LEU:N	6:AF:176:PHE:O	2.24	0.69
35:BA:1492:A:H2'	35:BA:1493:A:H5'	1.73	0.69
3:CA:622:G:OP2	60:CA:3794:HOH:O	2.08	0.69
3:EA:2138:G:N3	3:EA:2154:A:N6	2.38	0.69
37:FD:70:ARG:O	37:FD:74:ASN:ND2	2.25	0.69
3:GA:948:C:O2	3:GA:984:A:O2'	2.10	0.69
3:GA:1007:C:OP1	10:GJ:37:ARG:NH2	2.25	0.69
3:GA:1780:A:OP1	60:GA:3680:HOH:O	2.10	0.69
17:GQ:91:ARG:HH21	17:GQ:93:ILE:HG12	1.57	0.69
37:BD:30:THR:HB	37:BD:31:LYS:HZ2	1.57	0.69
47:BN:91:GLY:O	47:BN:93:ILE:N	2.23	0.69
3:CA:2051:A:OP1	60:CA:3479:HOH:O	2.09	0.69
3:CA:2588:G:OP2	60:CA:3537:HOH:O	2.11	0.69
7:CG:84:LYS:HG3	7:CG:132:LEU:H	1.56	0.69
35:FA:684:U:O2'	44:FK:40:ASN:O	2.10	0.69
3:GA:571:U:OP1	18:GR:80:ARG:NH2	2.24	0.69
3:GA:2268:A:OP2	60:GA:3508:HOH:O	2.09	0.69
35:HA:416:G:OP2	60:HA:1715:HOH:O	2.10	0.69
23:AW:30:VAL:O	23:AW:30:VAL:HG13	1.92	0.69
32:C5:116:GLU:HG3	32:C5:117:LEU:H	1.56	0.69
13:EM:66:ARG:NH1	13:EM:104:GLU:OE1	2.25	0.69
5:GE:111:GLU:OE1	5:GE:115:GLN:NE2	2.26	0.69
3:AA:512:G:N7	60:AA:3757:HOH:O	2.25	0.69
3:AA:1124:G:OP2	60:AA:3601:HOH:O	2.10	0.69
3:AA:2091:C:O2	24:AX:33:HIS:NE2	2.26	0.69
39:DF:79:ARG:NH2	39:DF:87:SER:OG	2.25	0.69
53:DT:3:ASN:O	53:DT:5:LYS:N	2.25	0.69
3:EA:996:A:OP2	17:EQ:91:ARG:NH2	2.26	0.69
35:FA:177:G:OP2	53:FT:64:LYS:NZ	2.25	0.69
3:GA:30:G:O2'	3:GA:1214:A:N3	2.25	0.69
3:GA:746:U:O4	60:GA:3304:HOH:O	2.08	0.69
3:EA:1154:G:OP2	17:EQ:57:ARG:NH1	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:E5:94:ARG:O	32:E5:97:LYS:N	2.26	0.69
45:FL:44:LYS:CB	45:FL:45:PRO:HD3	2.23	0.69
3:GA:583:G:N7	60:GA:3285:HOH:O	2.24	0.69
3:GA:605:G:OP1	5:GE:99:LYS:NZ	2.26	0.69
35:DA:928:G:O2'	35:DA:1533:C:OP1	2.10	0.69
18:ER:46:GLU:N	18:ER:46:GLU:OE1	2.25	0.69
55:FV:93:VAL:O	55:FV:95:PHE:N	2.24	0.69
3:GA:1001:A:OP2	60:GA:3722:HOH:O	2.10	0.69
36:HC:49:LYS:O	36:HC:72:ARG:NH2	2.26	0.69
3:AA:587:C:OP2	12:AL:21:ARG:NH1	2.25	0.69
3:AA:1332:G:OP1	60:AA:3751:HOH:O	2.10	0.69
3:AA:1936:A:N6	3:AA:1963:U:O2	2.26	0.69
35:BA:483:C:O2	49:BP:13:LYS:NZ	2.26	0.69
16:CP:50:ARG:HB3	16:CP:57:ALA:H	1.58	0.69
32:C5:24:SER:C	32:C5:116:GLU:HB3	2.18	0.69
35:DA:8:A:N6	37:DD:202:GLU:O	2.26	0.69
3:EA:2270:A:OP2	60:EA:3512:HOH:O	2.10	0.69
3:EA:2574:G:OP1	60:EA:3706:HOH:O	2.09	0.69
3:GA:1187:G:OP1	18:GR:85:LYS:NZ	2.26	0.69
3:GA:472:A:N7	60:GA:3241:HOH:O	2.25	0.69
3:GA:1334:G:OP2	60:GA:3387:HOH:O	2.11	0.69
35:HA:261:U:OP2	53:HT:74:ARG:NH2	2.25	0.69
55:HV:8:ALA:O	55:HV:288:SER:OG	2.08	0.69
3:AA:971:G:OP2	3:AA:974:G:N2	2.25	0.69
4:AD:149:ASN:OD1	4:AD:150:GLN:N	2.26	0.69
3:CA:1676:A:OP2	60:CA:3750:HOH:O	2.11	0.69
26:CZ:12:ALA:O	26:CZ:20:LYS:NZ	2.24	0.69
3:EA:1799:G:O2'	2:EC:179:GLU:OE2	2.04	0.69
17:EQ:91:ARG:HE	17:EQ:93:ILE:CG2	2.05	0.69
3:GA:2421:G:OP1	28:G1:7:LYS:NZ	2.25	0.69
49:HP:42:ILE:O	49:HP:44:SER:N	2.26	0.69
20:CT:54:GLU:CG	20:CT:88:LYS:HB2	2.24	0.68
3:EA:923:G:H1'	23:EW:23:LYS:HD3	1.75	0.68
3:EA:962:G:OP2	60:EA:3355:HOH:O	2.11	0.68
3:EA:1010:A:OP2	60:EA:3770:HOH:O	2.10	0.68
37:FD:22:LYS:O	37:FD:24:GLY:N	2.25	0.68
3:GA:1333:G:OP2	60:GA:3386:HOH:O	2.10	0.68
3:GA:2849:U:O4	16:GP:20:ARG:NH1	2.27	0.68
2:GC:69:ASN:O	2:GC:71:ASP:N	2.26	0.68
2:GC:196:ASN:O	2:GC:198:GLU:N	2.24	0.68
35:HA:1110:A:OP2	60:HA:1852:HOH:O	2.11	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A5:25:ALA:O	32:A5:26:VAL:HG13	1.94	0.68
3:CA:161:A:H3'	3:CA:162:U:H5"	1.74	0.68
32:C5:57:ASN:O	32:C5:59:LEU:N	2.25	0.68
35:DA:951:G:O2'	35:DA:970:C:O2'	2.03	0.68
32:E5:106:PHE:O	32:E5:108:VAL:N	2.26	0.68
35:FA:135:C:N3	49:FP:1:MET:N	2.31	0.68
35:FA:1130:A:OP1	42:FI:18:ARG:NH2	2.26	0.68
3:GA:2579:C:OP1	60:GA:3535:HOH:O	2.12	0.68
3:GA:2611:C:OP2	60:GA:3535:HOH:O	2.11	0.68
15:GO:31:THR:O	15:GO:102:ARG:NH1	2.27	0.68
35:HA:803:G:OP1	60:HA:1750:HOH:O	2.11	0.68
48:HO:45:GLU:CG	48:HO:46:HIS:H	2.07	0.68
3:AA:1658:C:OP1	60:AA:3646:HOH:O	2.11	0.68
16:CP:50:ARG:HG3	16:CP:57:ALA:O	1.93	0.68
16:EP:4:ILE:O	16:EP:6:GLN:N	2.26	0.68
3:GA:666:A:H4'	12:GL:48:ARG:HE	1.57	0.68
41:HH:22:LYS:O	41:HH:65:TYR:OH	2.10	0.68
3:AA:2269:G:OP1	60:AA:3503:HOH:O	2.11	0.68
3:AA:2615:U:OP1	60:AA:3737:HOH:O	2.12	0.68
13:AM:66:ARG:NH1	13:AM:104:GLU:OE1	2.26	0.68
37:BD:29:ASP:O	37:BD:31:LYS:NZ	2.27	0.68
32:C5:116:GLU:CG	32:C5:117:LEU:H	2.06	0.68
3:EA:2061:G:OP2	60:EA:3492:HOH:O	2.10	0.68
3:GA:1332:G:OP1	60:GA:3746:HOH:O	2.11	0.68
3:CA:963:U:OP1	60:CA:3348:HOH:O	2.10	0.68
3:CA:1780:A:OP1	60:CA:3679:HOH:O	2.12	0.68
5:CE:170:ARG:NH2	5:CE:176:ASP:OD2	2.26	0.68
35:DA:1166:G:N2	35:DA:1169:A:OP2	2.26	0.68
3:EA:1223:G:N7	18:ER:71:LYS:NZ	2.42	0.68
35:FA:413:G:O2'	35:FA:428:G:N2	2.26	0.68
35:FA:1229:A:OP2	46:FM:113:ARG:NH1	2.25	0.68
2:AC:176:ARG:NH2	3:AA:1820:U:OP1	2.27	0.68
3:AA:324:A:N6	3:AA:338:G:O2'	2.27	0.68
29:C2:43:THR:O	29:C2:45:SER:N	2.26	0.68
3:GA:2211:A:O2'	3:GA:2212:A:OP1	2.07	0.68
39:HF:15:SER:O	39:HF:17:GLN:N	2.27	0.68
12:AL:93:ASN:O	12:AL:95:LEU:N	2.27	0.68
35:BA:79:G:O2'	35:BA:80:A:O5'	2.08	0.68
35:BA:100:G:OP2	60:BA:1875:HOH:O	2.11	0.68
55:DV:80:GLU:N	55:DV:80:GLU:OE2	2.25	0.68
42:FI:42:GLU:C	42:FI:44:ALA:H	2.00	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:GJ:6:ALA:HB3	10:GJ:45:THR:HG21	1.75	0.68
3:CA:370:G:O2'	3:CA:424:G:OP1	2.12	0.68
17:CQ:32:ARG:NH1	60:CQ:201:HOH:O	2.27	0.68
3:EA:827:U:OP1	60:EA:3693:HOH:O	2.11	0.68
45:FL:68:GLY:O	45:FL:99:ARG:NH1	2.25	0.68
13:GM:22:GLN:O	13:GM:24:THR:N	2.26	0.68
3:AA:948:C:O2	3:AA:984:A:O2'	2.12	0.68
3:EA:2056:G:OP2	60:EA:3487:HOH:O	2.10	0.68
15:GO:58:ILE:O	15:GO:61:GLN:NE2	2.27	0.68
3:AA:301:G:OP2	21:AU:81:ARG:NH1	2.26	0.68
35:BA:159:G:N2	35:BA:162:A:OP2	2.27	0.68
3:CA:572:A:OP2	18:CR:80:ARG:NH2	2.27	0.68
17:CQ:63:ARG:NH1	17:CQ:95:ALA:O	2.26	0.68
32:C5:103:ASN:ND2	32:C5:107:GLU:O	2.27	0.68
19:ES:73:LYS:HB3	19:ES:106:VAL:HB	1.76	0.68
3:GA:793:A:OP2	3:GA:2071:A:O2'	2.11	0.68
3:AA:120:U:OP1	60:AA:3220:HOH:O	2.12	0.67
3:AA:2247:A:OP1	60:AA:3499:HOH:O	2.11	0.67
3:AA:2588:G:OP2	60:AA:3539:HOH:O	2.11	0.67
3:CA:2269:G:OP1	60:CA:3503:HOH:O	2.12	0.67
56:DW:3:SER:OG	56:DW:4:SER:N	2.22	0.67
3:GA:944:C:OP2	60:GA:3262:HOH:O	2.12	0.67
1:AB:73:A:C4	1:AB:104:A:C2	2.82	0.67
3:GA:922:C:O2	23:GW:19:ARG:NH1	2.25	0.67
3:CA:1245:G:OP1	12:CL:13:LYS:NZ	2.23	0.67
3:CA:1658:C:OP1	60:CA:3643:HOH:O	2.11	0.67
19:CS:25:ARG:NH1	60:CS:202:HOH:O	2.27	0.67
3:EA:560:C:O2	17:EQ:47:ARG:NH1	2.25	0.67
3:EA:2419:U:O4	60:EA:3809:HOH:O	2.11	0.67
34:FB:60:ALA:O	34:FB:224:ARG:NH1	2.26	0.67
3:AA:42:A:C2'	3:AA:43:G:H5'	2.25	0.67
32:A5:26:VAL:O	32:A5:27:VAL:HB	1.93	0.67
3:CA:2711:A:OP2	60:CA:3543:HOH:O	2.12	0.67
8:CH:10:ALA:O	8:CH:12:LEU:N	2.22	0.67
11:AK:76:VAL:HB	16:AP:72:VAL:HG22	1.76	0.67
3:CA:2499:C:OP1	60:CA:3675:HOH:O	2.13	0.67
3:GA:19:A:OP1	17:GQ:22:GLY:N	2.27	0.67
18:GR:79:ARG:O	60:GR:201:HOH:O	2.12	0.67
50:HQ:4:LYS:N	50:HQ:4:LYS:HZ2	1.92	0.67
9:AI:100:ILE:HB	9:AI:139:VAL:HA	1.75	0.67
10:AJ:4:PHE:N	10:AJ:44:TYR:OH	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:301:G:OP2	21:CU:81:ARG:NH1	2.27	0.67
2:EC:52:HIS:ND1	60:EC:304:HOH:O	2.18	0.67
35:FA:1433:A:OP2	60:FA:1836:HOH:O	2.12	0.67
3:GA:2275:C:O2'	13:GM:83:GLY:O	2.12	0.67
3:AA:2592:G:OP1	60:AA:3458:HOH:O	2.12	0.67
39:DF:97:THR:O	39:DF:98:GLU:HG2	1.95	0.67
3:EA:2134:A:O2'	3:EA:2156:G:N2	2.27	0.67
51:FR:73:ARG:O	51:FR:74:HIS:ND1	2.28	0.67
3:GA:2091:C:O2	24:GX:33:HIS:NE2	2.28	0.67
40:HG:126:ASP:OD1	40:HG:132:GLY:N	2.28	0.67
1:AB:79:G:O2'	3:AA:861:A:N3	2.27	0.67
35:BA:1198:G:OP2	60:BA:1833:HOH:O	2.12	0.67
3:CA:795:C:OP2	60:CA:3312:HOH:O	2.11	0.67
24:CX:70:LEU:O	24:CX:74:GLY:N	2.27	0.67
3:GA:15:G:OP2	60:GA:3543:HOH:O	2.13	0.67
3:GA:909:A:OP1	60:GA:3709:HOH:O	2.13	0.67
35:HA:835:U:OP1	51:HR:53:ARG:NH1	2.26	0.67
48:BO:46:HIS:O	48:BO:48:LYS:N	2.28	0.67
3:CA:1054:A:OP1	32:C5:31:ARG:NH2	2.27	0.67
3:CA:1342:A:O2'	3:CA:1344:U:OP2	2.11	0.67
3:EA:1676:A:OP2	60:EA:3759:HOH:O	2.13	0.67
3:GA:1665:A:OP2	60:GA:3421:HOH:O	2.12	0.67
3:CA:2343:U:O2'	3:CA:2373:G:O2'	2.11	0.67
35:DA:559:A:OP2	60:DA:1830:HOH:O	2.13	0.67
2:EC:110:LYS:NZ	2:EC:113:ASP:OD1	2.19	0.67
12:GL:99:ASN:OD1	60:GL:302:HOH:O	2.13	0.67
35:HA:10:A:OP2	38:HE:131:THR:OG1	2.10	0.67
11:AK:18:ARG:HB2	11:AK:45:GLU:HB2	1.77	0.66
46:BM:29:ARG:CZ	46:BM:63:PHE:HB2	2.25	0.66
3:CA:572:A:OP1	60:CA:3559:HOH:O	2.13	0.66
35:DA:937:A:OP2	60:DA:1769:HOH:O	2.13	0.66
3:EA:982:C:O3'	60:EA:3564:HOH:O	2.12	0.66
35:BA:427:U:O4	60:BA:1720:HOH:O	2.08	0.66
47:BN:49:GLN:OE1	47:BN:49:GLN:N	2.28	0.66
3:CA:1798:U:OP2	2:CC:270:ARG:NH2	2.27	0.66
3:CA:2139:U:O2'	3:CA:2152:G:O6	2.13	0.66
35:DA:1219:A:H5'	47:DN:53:ARG:NH1	2.10	0.66
3:EA:784:G:OP2	60:EA:3314:HOH:O	2.12	0.66
3:EA:1439:A:OP2	60:EA:3628:HOH:O	2.13	0.66
28:C1:3:GLY:O	28:C1:5:ARG:N	2.27	0.66
35:DA:779:C:O2'	44:DK:122:ARG:NH1	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:EC:43:ASN:OD1	2:EC:44:ASN:N	2.27	0.66
3:GA:1187:G:OP1	60:GA:3363:HOH:O	2.12	0.66
35:HA:1050:G:N2	35:HA:1208:C:O2	2.27	0.66
35:BA:111:G:O6	35:BA:330:C:N4	2.28	0.66
3:CA:526:A:OP1	60:CA:3248:HOH:O	2.13	0.66
32:C5:106:PHE:O	32:C5:108:VAL:N	2.28	0.66
35:DA:1007:U:H2'	35:DA:1008:U:H5'	1.78	0.66
3:EA:1678:A:OP2	60:EA:3441:HOH:O	2.12	0.66
14:EN:73:ASN:HA	14:EN:76:VAL:CG1	2.26	0.66
3:GA:428:A:OP2	60:GA:3226:HOH:O	2.12	0.66
3:GA:819:A:OP2	3:GA:1187:G:N2	2.28	0.66
3:GA:1828:G:OP2	60:GA:3728:HOH:O	2.13	0.66
37:HD:62:ARG:NH1	37:HD:69:GLU:OE2	2.29	0.66
3:AA:1670:C:OP1	60:AA:3431:HOH:O	2.14	0.66
35:BA:572:A:OP1	60:BA:1739:HOH:O	2.13	0.66
32:C5:117:LEU:CD2	32:C5:120:ALA:HA	2.26	0.66
3:GA:1604:C:OP2	60:GA:3405:HOH:O	2.13	0.66
35:HA:1011:C:H2'	35:HA:1012:A:H5'	1.78	0.66
32:A5:24:SER:CB	32:A5:116:GLU:HG2	2.24	0.66
43:DJ:5:ARG:HB3	43:DJ:77:VAL:HA	1.78	0.66
34:FB:81:ASP:O	34:FB:84:LEU:N	2.28	0.66
3:GA:675:A:O4'	60:GA:3323:HOH:O	2.14	0.66
3:GA:1072:C:N4	3:GA:1097:U:O5'	2.28	0.66
3:GA:1338:G:O2'	3:GA:1393:A:N1	2.29	0.66
3:AA:1679:A:OP2	60:AA:3436:HOH:O	2.13	0.66
32:C5:24:SER:C	32:C5:116:GLU:HG2	2.20	0.66
3:GA:1378:A:O2'	3:GA:1380:G:N7	2.27	0.66
38:HE:140:THR:O	38:HE:144:LEU:N	2.26	0.66
35:BA:404:G:O6	37:BD:2:ALA:N	2.28	0.66
42:BI:42:GLU:O	42:BI:45:ARG:NH1	2.29	0.66
3:CA:1565:C:H5"	2:CC:17:LYS:HE3	1.78	0.66
5:CE:150:THR:HG21	5:CE:153:LEU:HA	1.77	0.66
32:C5:26:VAL:CG1	32:C5:77:VAL:HG11	2.26	0.66
44:DK:126:LYS:O	54:DU:34:ARG:NH1	2.28	0.66
3:EA:621:A:OP2	60:EA:3799:HOH:O	2.13	0.66
32:E5:73:LYS:CB	32:E5:117:LEU:HD21	2.25	0.66
35:FA:8:A:N6	37:FD:202:GLU:O	2.29	0.66
35:FA:1031:C:O2'	35:FA:1032:G:N3	2.29	0.66
35:FA:1197:A:OP2	60:FA:1781:HOH:O	2.14	0.66
42:FI:84:THR:HG21	42:FI:103:PHE:HB3	1.76	0.66
46:HM:57:ARG:HA	46:HM:60:VAL:CG1	2.26	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1789:A:OP1	60:AA:3772:HOH:O	2.13	0.66
11:AK:71:ARG:HB3	11:AK:72:PRO:HD3	1.78	0.66
12:AL:93:ASN:OD1	12:AL:94:THR:N	2.28	0.66
15:AO:76:LYS:NZ	15:AO:80:GLU:OE1	2.29	0.66
3:CA:2707:U:O4	60:CA:3671:HOH:O	2.12	0.66
3:GA:809:G:OP2	60:GA:3255:HOH:O	2.13	0.66
3:GA:1197:G:H2'	3:GA:1198:U:C6	2.31	0.66
3:GA:1636:U:OP2	60:GA:3641:HOH:O	2.13	0.66
30:G3:49:VAL:HG23	30:G3:54:LEU:HD11	1.78	0.66
34:HB:164:ASP:OD1	34:HB:190:SER:OG	2.14	0.66
3:AA:363:G:H2'	3:AA:364:C:C6	2.31	0.66
35:BA:135:C:N3	49:BP:1:MET:N	2.43	0.66
1:CB:87:U:H3'	1:CB:88:C:H5'	1.78	0.66
3:CA:2588:G:OP1	60:CA:3310:HOH:O	2.13	0.66
16:CP:4:ILE:O	16:CP:6:GLN:N	2.29	0.66
3:EA:878:A:N6	3:EA:899:A:O2'	2.28	0.66
7:EG:174:LYS:O	7:EG:176:LYS:N	2.29	0.66
32:E5:30:SER:O	32:E5:31:ARG:CB	2.44	0.66
3:GA:1620:G:OP2	60:GA:3634:HOH:O	2.13	0.66
3:GA:2683:C:O2	11:GK:70:ARG:NH2	2.29	0.66
55:HV:310:HIS:N	55:HV:315:GLU:OE1	2.29	0.66
34:BB:88:GLN:HE22	34:BB:220:VAL:HG23	1.60	0.65
35:DA:21:G:OP1	60:DA:1808:HOH:O	2.14	0.65
3:EA:2268:A:OP1	60:EA:3507:HOH:O	2.14	0.65
3:EA:2352:A:C2	23:EW:30:VAL:HG11	2.30	0.65
3:EA:2353:G:H1'	23:EW:30:VAL:HG13	1.78	0.65
32:E5:1:MET:SD	32:E5:2:ALA:N	2.63	0.65
55:FV:660:LEU:O	55:FV:662:GLU:N	2.29	0.65
9:GI:123:ALA:HA	9:GI:126:ARG:NH2	2.11	0.65
35:HA:1250:A:OP1	42:HI:69:GLY:N	2.28	0.65
3:AA:2611:C:OP2	60:AA:3535:HOH:O	2.14	0.65
35:BA:151:A:OP2	35:BA:169:C:N4	2.28	0.65
3:CA:396:G:OP2	24:CX:9:LYS:NZ	2.29	0.65
12:CL:93:ASN:OD1	12:CL:94:THR:N	2.29	0.65
17:CQ:91:ARG:HH11	18:CR:11:GLN:N	1.94	0.65
35:DA:817:C:OP2	60:DA:1736:HOH:O	2.13	0.65
3:EA:576:U:OP1	60:EA:3664:HOH:O	2.14	0.65
35:FA:1007:U:H2'	35:FA:1008:U:H5'	1.77	0.65
3:GA:2593:U:O4	60:GA:3788:HOH:O	2.12	0.65
35:HA:111:G:O6	35:HA:330:C:N4	2.29	0.65
35:HA:1077:G:N2	35:HA:1080:A:OP2	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:2142:A:H4'	3:AA:2143:C:OP2	1.96	0.65
32:A5:39:THR:HA	32:A5:42:ARG:HD2	1.78	0.65
3:CA:994:C:O2'	3:CA:996:A:OP1	2.11	0.65
3:GA:1338:G:O2'	20:GT:18:GLU:OE1	2.06	0.65
3:GA:1912:A:N3	35:HA:1494:G:N2	2.44	0.65
14:AN:98:LEU:HB3	27:A0:42:ILE:HD11	1.79	0.65
23:AW:37:VAL:HG12	23:AW:38:ARG:H	1.61	0.65
35:DA:574:A:OP2	60:DA:1733:HOH:O	2.13	0.65
55:DV:309:ARG:NH2	55:DV:402:ALA:O	2.30	0.65
3:EA:856:G:H1'	23:EW:23:LYS:HB3	1.78	0.65
3:GA:2022:U:O5'	60:GA:3649:HOH:O	2.12	0.65
35:DA:1137:C:O2	35:DA:1138:G:N2	2.29	0.65
35:FA:159:G:N2	35:FA:162:A:OP2	2.30	0.65
55:FV:142:ASN:OD1	55:FV:143:LYS:N	2.29	0.65
10:AJ:6:ALA:HB3	10:AJ:45:THR:HG21	1.78	0.65
14:AN:118:ARG:O	14:AN:120:GLU:N	2.30	0.65
35:BA:175:C:O2'	35:BA:1447:A:N1	2.26	0.65
35:BA:1181:G:O2'	35:BA:1182:G:C8	2.49	0.65
3:CA:2346:A:H3'	3:CA:2347:C:C5'	2.27	0.65
55:DV:23:LYS:O	55:DV:24:THR:OG1	2.14	0.65
55:DV:660:LEU:O	55:DV:662:GLU:N	2.28	0.65
3:EA:1156:A:OP2	60:EA:3361:HOH:O	2.14	0.65
3:EA:1313:U:OP1	60:EA:3389:HOH:O	2.14	0.65
5:EE:51:GLU:OE2	5:EE:88:ARG:NH1	2.27	0.65
31:E4:36:ARG:HG2	31:E4:37:GLN:H	1.61	0.65
3:GA:27:G:O2'	3:GA:28:A:OP2	2.13	0.65
3:GA:943:A:OP2	60:GA:3776:HOH:O	2.14	0.65
3:GA:1067:A:H2'	3:GA:1068:G:H8	1.61	0.65
3:GA:1095:A:C6	55:HV:628:THR:HA	2.32	0.65
13:GM:30:SER:O	13:GM:133:LYS:N	2.30	0.65
55:HV:500:ASP:N	55:HV:521:ASP:OD1	2.29	0.65
3:AA:999:U:OP2	60:AA:3354:HOH:O	2.15	0.65
59:BV:801:GCP:O3G	60:BV:901:HOH:O	2.13	0.65
14:EN:30:ARG:NH1	14:EN:74:GLU:OE1	2.29	0.65
23:EW:37:VAL:HG12	23:EW:38:ARG:H	1.61	0.65
37:HD:100:ASN:OD1	37:HD:111:ARG:NH1	2.30	0.65
32:A5:117:LEU:HD22	32:A5:120:ALA:HA	1.75	0.65
35:DA:1498:U:O3'	60:DA:1859:HOH:O	2.14	0.65
3:EA:2394:C:OP1	30:E3:29:ARG:NH2	2.29	0.65
55:FV:80:GLU:N	55:FV:80:GLU:OE2	2.29	0.65
3:GA:987:C:O2'	3:GA:1000:A:N3	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:1194:U:OP2	35:HA:1195:C:N4	2.28	0.65
35:HA:1504:G:OP1	60:HA:1793:HOH:O	2.13	0.65
37:BD:66:GLY:O	37:BD:115:ARG:NH2	2.30	0.65
3:CA:2711:A:OP1	60:CA:3541:HOH:O	2.14	0.65
35:DA:684:U:O2'	44:DK:40:ASN:O	2.15	0.65
55:DV:203:GLU:O	55:DV:205:GLU:N	2.30	0.65
56:DW:3:SER:O	56:DW:5:UAL:N	2.30	0.65
1:GB:99:A:O3'	60:GB:1315:HOH:O	2.13	0.65
3:GA:2332:C:H4'	3:GA:2336:A:C6	2.31	0.65
35:HA:1027:C:O2'	35:HA:1034:G:N2	2.30	0.65
35:BA:1299:A:H2'	35:BA:1299:A:N3	2.12	0.65
3:CA:1774:C:OP2	60:CA:3730:HOH:O	2.14	0.65
3:EA:2271:G:O6	60:EA:3510:HOH:O	2.14	0.65
35:FA:608:A:O5'	60:FA:1851:HOH:O	2.15	0.65
35:FA:1303:C:OP1	60:FA:1790:HOH:O	2.14	0.65
37:HD:147:GLU:HA	37:HD:150:LYS:HB2	1.79	0.65
35:DA:1108:G:O6	60:DA:1854:HOH:O	2.10	0.64
3:EA:1256:G:OP2	60:EA:3272:HOH:O	2.15	0.64
3:EA:1263:U:OP1	27:E0:12:ARG:NH1	2.29	0.64
35:FA:749:A:O2'	48:FO:20:ASN:OD1	2.14	0.64
35:FA:814:A:OP2	60:FA:1755:HOH:O	2.14	0.64
3:GA:262:A:N3	3:GA:430:A:O2'	2.27	0.64
5:AE:58:LYS:NZ	5:AE:70:SER:O	2.31	0.64
35:DA:405:U:O4	37:DD:2:ALA:N	2.30	0.64
3:EA:456:C:O2	20:ET:73:ARG:NH1	2.30	0.64
3:EA:2269:G:OP1	60:EA:3507:HOH:O	2.13	0.64
3:GA:1647:U:OP2	60:GA:3414:HOH:O	2.14	0.64
39:HF:15:SER:C	39:HF:17:GLN:H	2.04	0.64
2:AC:43:ASN:OD1	2:AC:44:ASN:N	2.30	0.64
3:CA:597:G:O2'	12:CL:11:GLY:O	2.10	0.64
3:CA:1664:A:OP2	60:CA:3420:HOH:O	2.15	0.64
17:CQ:91:ARG:NH1	18:CR:11:GLN:O	2.31	0.64
3:EA:161:A:H3'	3:EA:162:U:H5"	1.77	0.64
17:EQ:65:ASN:OD1	17:EQ:69:ARG:NH2	2.30	0.64
32:E5:37:LYS:HE3	32:E5:41:LEU:HD11	1.80	0.64
35:FA:351:G:OP1	53:FT:3:ASN:N	2.31	0.64
38:FE:80:THR:OG1	38:FE:81:LEU:N	2.25	0.64
3:GA:2324:U:H3'	3:GA:2325:G:H5"	1.79	0.64
3:GA:2595:G:O6	2:GC:238:ASN:ND2	2.30	0.64
3:GA:2600:A:N6	60:GA:3769:HOH:O	2.30	0.64
3:AA:1669:A:OP2	60:AA:3712:HOH:O	2.15	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BV:78:GLN:NE2	55:BV:280:ASP:OD2	2.29	0.64
3:CA:1983:G:N2	60:CA:3718:HOH:O	2.30	0.64
23:CW:18:LYS:HA	23:CW:36:ILE:HG13	1.80	0.64
3:EA:931:U:OP1	26:EZ:29:ARG:NH1	2.30	0.64
32:E5:56:ARG:O	32:E5:57:ASN:ND2	2.30	0.64
40:FG:28:ASN:OD1	40:FG:36:LYS:NZ	2.30	0.64
47:FN:21:PHE:HA	47:FN:25:ALA:HB3	1.79	0.64
3:GA:2429:G:OP2	60:GA:3339:HOH:O	2.15	0.64
42:HI:53:GLU:HA	42:HI:57:MET:HE3	1.78	0.64
47:HN:20:TYR:O	47:HN:24:ARG:N	2.30	0.64
32:C5:39:THR:HA	32:C5:42:ARG:HD2	1.79	0.64
32:C5:129:LEU:HB3	32:C5:130:PRO:HD2	1.80	0.64
32:E5:116:GLU:HG3	32:E5:117:LEU:H	1.62	0.64
35:FA:1166:G:N1	35:FA:1169:A:OP2	2.31	0.64
7:AG:1:SER:O	7:AG:3:VAL:N	2.31	0.64
7:AG:38:ASP:N	7:AG:38:ASP:OD1	2.29	0.64
21:AU:73:ASN:ND2	21:AU:80:ASP:OD2	2.31	0.64
32:A5:129:LEU:O	32:A5:131:THR:N	2.26	0.64
23:CW:37:VAL:HG12	23:CW:38:ARG:H	1.62	0.64
32:C5:27:VAL:HG13	32:C5:83:ALA:HB3	1.79	0.64
3:EA:810:U:OP1	60:EA:3333:HOH:O	2.14	0.64
3:EA:1107:G:H4'	32:E5:81:LEU:HA	1.78	0.64
23:EW:35:ILE:O	23:EW:37:VAL:N	2.30	0.64
35:HA:1026:G:H2'	35:HA:1027:C:H5'	1.78	0.64
3:CA:1107:G:H5"	32:C5:58:THR:CG2	2.27	0.64
3:CA:1187:G:H5"	18:CR:83:TYR:CE2	2.32	0.64
14:CN:117:ASP:OD1	14:CN:118:ARG:N	2.30	0.64
17:CQ:91:ARG:HE	17:CQ:93:ILE:CG2	2.10	0.64
35:DA:324:G:O6	60:DA:1836:HOH:O	2.09	0.64
3:EA:1187:G:OP1	18:ER:85:LYS:NZ	2.30	0.64
35:FA:1299:A:H2'	35:FA:1299:A:N3	2.12	0.64
55:FV:554:ASP:OD1	55:FV:558:GLN:NE2	2.30	0.64
3:GA:300:A:N6	60:GA:3546:HOH:O	2.29	0.64
23:GW:51:GLY:HA3	23:GW:59:PHE:CZ	2.33	0.64
55:HV:188:MET:HE3	55:HV:218:TRP:CD1	2.32	0.64
20:AT:32:LEU:H	20:AT:83:ALA:HB3	1.63	0.64
35:DA:237:G:H5"	50:DQ:27:ARG:HH22	1.61	0.64
35:FA:1492:A:C2'	35:FA:1493:A:H5'	2.27	0.64
15:GO:79:ALA:O	15:GO:83:LEU:N	2.26	0.64
19:GS:18:ARG:O	19:GS:20:VAL:N	2.24	0.64
35:HA:254:G:O3'	50:HQ:71:LYS:NZ	2.29	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:958:A:N6	52:HS:77:THR:O	2.31	0.64
35:HA:986:U:O2	35:HA:1220:G:N2	2.30	0.64
40:HG:130:ASN:HD22	40:HG:135:VAL:HG21	1.62	0.64
52:HS:36:ARG:HG3	52:HS:51:VAL:HG11	1.79	0.64
3:AA:1968:G:OP1	60:AA:3459:HOH:O	2.15	0.64
35:BA:1297:G:O2'	40:BG:114:LYS:NZ	2.30	0.64
3:CA:568:U:OP1	12:CL:36:LYS:NZ	2.25	0.64
3:CA:784:G:O2'	3:CA:785:G:OP2	2.13	0.64
55:DV:211:MET:O	55:DV:215:ALA:N	2.23	0.64
3:GA:927:A:O2'	26:GZ:38:GLU:OE1	2.14	0.64
35:HA:1306:A:H1'	35:HA:1332:A:C4	2.32	0.64
54:BU:14:VAL:HG13	54:BU:16:LEU:HG	1.80	0.64
3:EA:1993:U:H4'	4:ED:133:THR:HG21	1.78	0.64
17:EQ:63:ARG:NH1	17:EQ:95:ALA:O	2.31	0.64
3:GA:137:U:C5	3:GA:140:C:H1'	2.33	0.64
3:AA:1199:U:H5'	17:AQ:4:LYS:HE3	1.79	0.63
9:AI:108:ILE:O	9:AI:111:THR:OG1	2.17	0.63
3:CA:32:C:OP2	60:CA:3689:HOH:O	2.14	0.63
14:CN:103:ARG:HB2	14:CN:110:MET:HE3	1.81	0.63
32:E5:39:THR:HA	32:E5:42:ARG:HD2	1.80	0.63
35:FA:1524:C:P	44:FK:125:LYS:NZ	2.71	0.63
46:HM:114:LYS:HB2	46:HM:115:PRO:HD3	1.80	0.63
3:AA:1482:G:H1'	3:AA:1509:A:H61	1.62	0.63
23:AW:35:ILE:O	23:AW:37:VAL:N	2.31	0.63
41:BH:77:ARG:NE	41:BH:79:SER:O	2.31	0.63
3:CA:616:A:H4'	5:CE:101:TYR:CE2	2.33	0.63
3:CA:885:C:C2	3:CA:892:A:C2	2.85	0.63
44:DK:35:THR:OG1	44:DK:41:ALA:N	2.31	0.63
12:EL:93:ASN:OD1	12:EL:94:THR:N	2.31	0.63
35:FA:966:G:O2'	42:FI:130:ARG:OXT	2.12	0.63
37:FD:58:LYS:NZ	37:FD:69:GLU:OE2	2.32	0.63
42:FI:94:LEU:O	42:FI:96:SER:N	2.29	0.63
3:GA:962:G:O5'	60:GA:3351:HOH:O	2.15	0.63
3:GA:1094:U:H2'	3:GA:1096:A:OP2	1.98	0.63
3:GA:2353:G:O2'	23:GW:31:LEU:HD21	1.98	0.63
10:AJ:44:TYR:HB2	17:AQ:63:ARG:HB3	1.79	0.63
34:BB:140:LEU:O	34:BB:144:GLU:N	2.27	0.63
3:EA:802:A:O3'	60:EA:3323:HOH:O	2.15	0.63
23:EW:39:GLN:HB2	23:EW:41:GLY:O	1.98	0.63
35:HA:62:U:O2'	35:HA:379:C:O2	2.15	0.63
35:HA:533:A:O2'	35:HA:535:A:OP2	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:1417:G:O6	60:HA:1787:HOH:O	2.15	0.63
35:DA:1033:G:H2'	35:DA:1034:G:H5'	1.80	0.63
3:EA:2542:A:OP2	60:EA:3534:HOH:O	2.16	0.63
32:E5:24:SER:HB2	32:E5:116:GLU:CG	2.16	0.63
7:GG:7:PRO:O	7:GG:68:ARG:NH1	2.30	0.63
35:HA:517:G:N2	35:HA:530:G:OP1	2.32	0.63
1:AB:87:U:H3'	1:AB:88:C:H5'	1.80	0.63
51:DR:20:GLU:O	51:DR:54:GLN:NE2	2.32	0.63
44:FK:88:GLY:H	44:FK:114:THR:HG22	1.63	0.63
56:FW:1:KBE:O	56:FW:1:KBE:N	2.22	0.63
3:GA:858:G:O2'	3:GA:2268:A:N3	2.26	0.63
23:GW:18:LYS:N	23:GW:36:ILE:HG13	2.12	0.63
35:HA:687:A:N1	35:HA:700:G:O2'	2.21	0.63
40:HG:118:LEU:O	40:HG:122:ASN:N	2.30	0.63
50:HQ:19:LYS:O	50:HQ:47:HIS:ND1	2.31	0.63
35:BA:1095:U:OP2	60:BA:1861:HOH:O	2.15	0.63
3:CA:218:A:OP2	60:CA:3226:HOH:O	2.15	0.63
3:EA:1378:A:O2'	3:EA:1380:G:N7	2.19	0.63
35:FA:88:U:H2'	35:FA:89:U:C6	2.33	0.63
3:AA:1617:C:OP1	60:AA:3416:HOH:O	2.15	0.63
1:EB:87:U:H3'	1:EB:88:C:H5'	1.79	0.63
10:EJ:6:ALA:HB3	10:EJ:45:THR:HG21	1.80	0.63
14:EN:58:ASP:OD2	14:EN:63:ARG:NH2	2.32	0.63
38:FE:24:THR:HA	38:FE:29:ARG:HA	1.81	0.63
46:FM:8:ASN:ND2	46:FM:66:GLU:OE2	2.32	0.63
3:GA:806:C:OP2	12:GL:41:ARG:NE	2.24	0.63
35:HA:9:G:OP2	38:HE:126:LYS:NZ	2.29	0.63
2:AC:49:THR:HG21	3:AA:1813:G:H1'	1.81	0.63
3:AA:2346:A:H3'	3:AA:2347:C:C5'	2.29	0.63
32:A5:26:VAL:HG21	32:A5:115:GLY:N	2.06	0.63
44:BK:93:ARG:NH2	44:BK:112:ASP:OD2	2.32	0.63
48:DO:82:ILE:O	48:DO:86:GLY:N	2.32	0.63
55:DV:222:LEU:O	55:DV:226:ALA:N	2.29	0.63
32:E5:58:THR:HB	32:E5:82:ILE:HB	1.81	0.63
35:FA:846:G:OP1	51:FR:48:ARG:NH1	2.32	0.63
3:GA:946:C:OP1	60:GA:3343:HOH:O	2.15	0.63
3:GA:976:G:H4'	3:GA:1156:A:N7	2.13	0.63
3:GA:2136:G:N2	3:GA:2155:U:O4	2.32	0.63
16:AP:50:ARG:HG3	16:AP:57:ALA:O	1.97	0.63
36:BC:85:GLU:OE2	36:BC:88:ARG:NH1	2.30	0.63
38:BE:115:LEU:HD23	38:BE:123:VAL:HG21	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:2529:G:H5'	7:CG:174:LYS:HG3	1.79	0.63
3:EA:2346:A:H3'	3:EA:2347:C:C5'	2.28	0.63
42:FI:57:MET:O	42:FI:60:LYS:N	2.29	0.63
46:HM:95:LEU:HB3	46:HM:96:PRO:HD2	1.81	0.63
3:CA:1842:G:O2'	2:CC:250:GLN:NE2	2.32	0.62
17:CQ:63:ARG:HH22	17:CQ:96:ASP:N	1.96	0.62
3:EA:517:C:OP2	27:E0:9:ARG:NH2	2.32	0.62
3:EA:1129:A:O2'	3:EA:2515:C:O2'	2.12	0.62
44:FK:24:HIS:HB3	44:FK:31:ILE:HG13	1.81	0.62
16:GP:50:ARG:HG3	16:GP:57:ALA:O	1.98	0.62
48:HO:46:HIS:O	48:HO:48:LYS:N	2.32	0.62
3:AA:546:U:O2'	3:AA:547:A:H4'	1.99	0.62
3:AA:1385:A:H1'	3:AA:1386:C:C6	2.34	0.62
35:BA:1166:G:N1	35:BA:1169:A:OP2	2.33	0.62
3:CA:995:C:OP2	17:CQ:52:ARG:NH1	2.31	0.62
20:CT:57:VAL:O	20:CT:86:THR:OG1	2.16	0.62
36:DC:156:ARG:NH1	36:DC:193:TYR:O	2.32	0.62
35:FA:88:U:H2'	35:FA:89:U:C5	2.33	0.62
10:GJ:36:LEU:O	10:GJ:121:LYS:NZ	2.24	0.62
35:HA:1492:A:H2'	35:HA:1493:A:H5'	1.79	0.62
3:AA:2499:C:O2	60:AA:3523:HOH:O	2.13	0.62
3:CA:751:A:OP1	60:CA:3306:HOH:O	2.16	0.62
3:CA:2867:G:O2'	3:CA:2868:A:OP2	2.16	0.62
15:CO:89:ASP:HA	15:CO:116:GLN:HB3	1.81	0.62
20:CT:32:LEU:H	20:CT:83:ALA:HB3	1.64	0.62
39:DF:38:ARG:NH1	39:DF:63:ASN:OD1	2.32	0.62
44:DK:17:SER:O	44:DK:80:LYS:N	2.31	0.62
3:EA:1654:A:O2'	4:ED:118:PHE:CG	2.51	0.62
3:EA:2780:G:OP2	10:EJ:120:ARG:NE	2.31	0.62
3:GA:108:G:O2'	3:GA:347:A:N3	2.32	0.62
3:GA:221:A:N1	3:GA:265:A:O2'	2.32	0.62
3:GA:447:A:OP2	60:GA:3212:HOH:O	2.15	0.62
3:GA:2346:A:H3'	3:GA:2347:C:C5'	2.29	0.62
4:GD:151:THR:HG22	4:GD:152:PRO:HD3	1.82	0.62
40:HG:70:ARG:HG2	40:HG:96:ARG:HD3	1.81	0.62
3:GA:1073:A:H3'	3:GA:1074:G:H5"	1.80	0.62
21:GU:86:PHE:CE1	21:GU:90:LYS:HB2	2.35	0.62
3:AA:42:A:H2'	3:AA:43:G:H5'	1.80	0.62
16:AP:4:ILE:O	16:AP:6:GLN:N	2.31	0.62
9:CI:80:LYS:HG3	9:CI:86:LYS:HA	1.82	0.62
3:EA:994:C:O2'	3:EA:996:A:OP1	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:2210:U:H4'	3:EA:2211:A:H5'	1.81	0.62
3:EA:2484:G:OP1	13:EM:44:ARG:NH2	2.32	0.62
60:EA:3798:HOH:O	4:ED:140:HIS:NE2	2.31	0.62
5:EE:170:ARG:NH2	5:EE:176:ASP:OD2	2.31	0.62
3:GA:945:A:N7	60:GA:3260:HOH:O	2.30	0.62
9:GI:29:GLN:NE2	55:HV:651:GLY:O	2.29	0.62
3:AA:1359:A:OP1	60:AA:3607:HOH:O	2.16	0.62
17:AQ:63:ARG:HH22	17:AQ:95:ALA:C	2.08	0.62
35:BA:1130:A:OP1	42:BI:18:ARG:NH2	2.33	0.62
35:HA:254:G:OP1	50:HQ:68:SER:OG	2.13	0.62
3:AA:1024:G:N7	60:AA:3700:HOH:O	2.31	0.62
32:C5:24:SER:C	32:C5:116:GLU:CB	2.73	0.62
3:EA:2849:U:O4	16:EP:20:ARG:NH1	2.32	0.62
32:E5:31:ARG:CB	32:E5:108:VAL:HG22	2.29	0.62
37:FD:150:LYS:NZ	37:FD:177:LYS:O	2.28	0.62
3:GA:571:U:C4	3:GA:2030:A:C6	2.88	0.62
3:GA:971:G:OP2	3:GA:974:G:N2	2.32	0.62
3:GA:2062:A:OP1	60:GA:3490:HOH:O	2.16	0.62
5:GE:176:ASP:OD1	5:GE:179:SER:N	2.25	0.62
8:GH:3:VAL:HG12	8:GH:38:PRO:HA	1.82	0.62
36:HC:71:ALA:HA	36:HC:106:VAL:HG22	1.82	0.62
34:BB:87:ASP:OD2	34:BB:224:ARG:NH1	2.33	0.62
38:BE:99:ALA:O	38:BE:122:ASN:ND2	2.33	0.62
54:DU:35:ARG:HB3	54:DU:40:LYS:HZ3	1.65	0.62
21:EU:15:GLY:O	21:EU:17:ASP:N	2.32	0.62
23:EW:9:THR:OG1	23:EW:10:ARG:N	2.33	0.62
34:FB:70:GLY:HA2	34:FB:163:ILE:HG22	1.82	0.62
36:FC:42:TYR:CE2	36:FC:90:VAL:HG21	2.35	0.62
3:GA:1262:A:OP2	19:GS:99:ARG:NH2	2.32	0.62
10:GJ:32:LEU:O	10:GJ:36:LEU:N	2.32	0.62
21:AU:15:GLY:O	21:AU:17:ASP:N	2.32	0.62
33:A6:18:ASP:OD1	33:A6:18:ASP:N	2.32	0.62
35:FA:946:A:O2'	35:FA:1333:A:N3	2.28	0.62
3:GA:955:U:OP1	13:GM:86:LYS:NZ	2.32	0.62
7:GG:17:LYS:O	7:GG:19:ASN:N	2.33	0.62
3:AA:784:G:O2'	3:AA:785:G:OP2	2.15	0.62
14:AN:73:ASN:HA	14:AN:76:VAL:HG12	1.81	0.62
55:BV:23:LYS:O	55:BV:24:THR:OG1	2.17	0.62
3:CA:1813:G:H1'	2:CC:49:THR:HG21	1.80	0.62
35:DA:142:G:H3'	35:DA:143:A:H8	1.65	0.62
35:DA:880:C:OP1	45:DL:9:ARG:NH2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:784:G:OP2	60:EA:3313:HOH:O	2.16	0.62
3:EA:1824:G:N3	2:EC:251:THR:HG21	2.15	0.62
9:EI:58:ILE:HA	9:EI:68:PHE:HB2	1.81	0.62
35:FA:951:G:OP2	46:FM:101:ARG:NH2	2.33	0.62
3:GA:1394:U:H4'	3:GA:1603:A:H4'	1.82	0.62
36:HC:19:ASN:OD1	36:HC:54:ARG:NE	2.33	0.62
35:BA:1033:G:C2'	35:BA:1034:G:H5'	2.30	0.61
55:BV:190:ALA:N	55:BV:205:GLU:O	2.33	0.61
3:CA:1179:G:H2'	3:CA:1180:U:O4'	2.00	0.61
35:DA:518:C:H2'	35:DA:530:G:C8	2.35	0.61
37:DD:48:LEU:HD21	37:DD:53:VAL:N	2.15	0.61
42:DI:56:ASP:O	42:DI:60:LYS:NZ	2.32	0.61
3:EA:633:A:OP1	12:EL:68:SER:OG	2.17	0.61
3:EA:839:U:O2'	3:EA:1191:G:N3	2.33	0.61
15:EO:105:ALA:O	15:EO:107:ALA:N	2.33	0.61
17:EQ:91:ARG:HE	17:EQ:93:ILE:HG23	1.65	0.61
20:ET:3:ARG:NH2	20:ET:42:GLU:OE2	2.32	0.61
3:AA:370:G:O2'	3:AA:424:G:OP1	2.15	0.61
3:AA:856:G:H21	23:AW:19:ARG:NH1	1.97	0.61
3:CA:1913:A:N7	35:DA:1494:G:H5'	2.14	0.61
32:C5:24:SER:HB2	32:C5:116:GLU:HG3	1.77	0.61
35:DA:1499:A:OP2	60:DA:1861:HOH:O	2.16	0.61
34:DB:16:GLY:HA3	34:DB:40:ILE:HG23	1.82	0.61
37:DD:99:ASP:OD1	37:DD:100:ASN:N	2.32	0.61
3:EA:1688:U:O2'	3:EA:1700:A:N7	2.29	0.61
35:FA:405:U:OP1	35:FA:406:G:O2'	2.08	0.61
35:FA:585:G:N3	35:FA:879:C:H4'	2.15	0.61
3:GA:587:C:OP2	12:GL:21:ARG:NH1	2.32	0.61
35:HA:180:U:O4	60:HA:1873:HOH:O	2.14	0.61
40:HG:102:ARG:O	40:HG:106:GLU:N	2.32	0.61
3:AA:163:C:O2'	3:AA:164:C:O5'	2.17	0.61
3:AA:2780:G:OP2	10:AJ:120:ARG:NE	2.33	0.61
9:AI:100:ILE:HG22	9:AI:101:SER:N	2.15	0.61
9:AI:131:THR:O	9:AI:134:SER:OG	2.16	0.61
19:AS:18:ARG:O	19:AS:19:LEU:HB2	1.98	0.61
44:BK:88:GLY:H	44:BK:114:THR:HG22	1.65	0.61
55:BV:222:LEU:O	55:BV:226:ALA:N	2.31	0.61
55:BV:455:GLN:NE2	55:BV:487:GLN:OE1	2.32	0.61
3:EA:1095:A:N6	55:FV:625:GLU:OE2	2.33	0.61
55:FV:23:LYS:O	55:FV:24:THR:OG1	2.17	0.61
3:GA:2522:U:O2'	3:GA:2647:U:OP1	2.16	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:GG:38:ASP:OD2	7:GG:63:GLN:NE2	2.33	0.61
35:HA:1306:A:H2'	35:HA:1307:U:O4'	2.00	0.61
34:HB:187:ASP:OD1	34:HB:188:THR:N	2.28	0.61
32:C5:26:VAL:HG11	32:C5:77:VAL:HG13	1.80	0.61
3:EA:2720:U:OP1	16:EP:52:ARG:NH2	2.34	0.61
12:EL:81:ASP:O	12:EL:83:ALA:N	2.31	0.61
55:FV:645:GLN:O	55:FV:647:SER:N	2.32	0.61
3:GA:504:A:HO2'	3:GA:505:A:P	2.19	0.61
3:GA:1095:A:H1'	55:HV:632:ILE:CG1	2.30	0.61
2:AC:57:HIS:CD2	3:AA:1567:G:H5'	2.35	0.61
35:BA:554:A:H5'	45:BL:26:ALA:HB1	1.83	0.61
3:CA:1107:G:H4'	32:C5:81:LEU:HA	1.83	0.61
3:CA:2015:A:C2	27:C0:2:VAL:HG22	2.36	0.61
3:CA:2683:C:O2	11:CK:70:ARG:NH2	2.33	0.61
35:DA:1255:G:O2'	35:DA:1258:G:N3	2.26	0.61
3:EA:555:G:O2'	3:EA:556:A:OP2	2.14	0.61
4:ED:16:THR:OG1	4:ED:18:ASP:OD1	2.17	0.61
13:EM:73:ILE:HG21	13:EM:91:TYR:CZ	2.36	0.61
3:GA:2444:G:OP2	60:GA:3494:HOH:O	2.16	0.61
44:HK:93:ARG:NH2	44:HK:112:ASP:OD2	2.33	0.61
3:AA:923:G:H1'	23:AW:23:LYS:HD3	1.81	0.61
10:AJ:6:ALA:CB	10:AJ:45:THR:HG21	2.31	0.61
42:BI:57:MET:O	42:BI:60:LYS:N	2.31	0.61
20:CT:29:THR:OG1	20:CT:86:THR:N	2.33	0.61
47:DN:91:GLY:O	47:DN:93:ILE:N	2.31	0.61
3:EA:2311:A:N3	6:EF:84:ILE:HD11	2.15	0.61
3:GA:1077:A:O2'	9:GI:133:ARG:HD3	2.00	0.61
46:HM:3:ARG:HG2	46:HM:10:PRO:HD2	1.82	0.61
55:HV:80:GLU:N	55:HV:80:GLU:OE2	2.32	0.61
3:CA:1342:A:OP2	60:CA:3702:HOH:O	2.16	0.61
4:CD:151:THR:HG22	4:CD:152:PRO:HD3	1.81	0.61
17:EQ:87:VAL:HG12	17:EQ:89:ILE:HG23	1.81	0.61
20:ET:39:THR:O	20:ET:41:ALA:N	2.33	0.61
34:FB:20:ARG:O	34:FB:22:TRP:N	2.33	0.61
3:GA:636:G:O2'	3:GA:638:G:O2'	2.13	0.61
3:GA:1439:A:OP2	60:GA:3623:HOH:O	2.16	0.61
3:GA:2557:G:H2'	3:GA:2558:C:C6	2.36	0.61
9:GI:76:ALA:O	9:GI:78:LEU:N	2.34	0.61
42:HI:6:TYR:HB3	42:HI:89:GLU:HB2	1.82	0.61
3:AA:819:A:OP2	3:AA:1187:G:N2	2.23	0.61
3:AA:2011:U:OP2	19:AS:16:LYS:NZ	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:DI:114:LYS:NZ	42:DI:118:LEU:O	2.33	0.61
32:E5:26:VAL:CG1	32:E5:77:VAL:CG1	2.78	0.61
3:GA:1080:A:O2'	9:GI:126:ARG:NE	2.29	0.61
3:GA:2088:A:N6	3:GA:2230:G:O6	2.34	0.61
3:GA:2500:U:O3'	60:GA:3660:HOH:O	2.16	0.61
2:GC:68:ARG:O	2:GC:188:ARG:NH2	2.33	0.61
20:GT:29:THR:OG1	20:GT:86:THR:N	2.34	0.61
35:HA:598:U:H4'	41:HH:86:TYR:CG	2.35	0.61
44:HK:56:ARG:HD3	44:HK:56:ARG:N	2.16	0.61
3:AA:616:A:H4'	5:AE:101:TYR:CE2	2.36	0.61
16:AP:50:ARG:CB	16:AP:57:ALA:H	2.11	0.61
44:DK:125:LYS:O	54:DU:34:ARG:NH2	2.34	0.61
3:EA:2262:U:OP1	3:EA:2387:U:O2'	2.16	0.61
32:E5:27:VAL:HG13	32:E5:83:ALA:HB3	1.83	0.61
3:GA:194:G:OP2	60:GA:3743:HOH:O	2.16	0.61
34:HB:99:MET:HA	34:HB:106:VAL:HG21	1.83	0.61
47:HN:91:GLY:O	47:HN:93:ILE:N	2.31	0.61
55:HV:645:GLN:O	55:HV:647:SER:N	2.34	0.61
3:CA:14:A:OP2	60:CA:3544:HOH:O	2.16	0.61
3:EA:1517:G:C2	3:EA:1732:C:N3	2.68	0.61
3:GA:1003:G:N2	3:GA:1153:C:C2	2.69	0.61
3:GA:1776:G:OP2	60:GA:3445:HOH:O	2.16	0.61
3:GA:1993:U:H4'	4:GD:133:THR:HG21	1.81	0.61
5:GE:23:PHE:CD1	5:GE:111:GLU:HG3	2.36	0.61
38:HE:110:ALA:O	38:HE:111:MET:HB3	2.00	0.61
3:AA:1828:G:OP2	60:AA:3791:HOH:O	2.16	0.60
21:AU:38:ILE:CG2	21:AU:39:ASN:N	2.64	0.60
31:A4:36:ARG:HG2	31:A4:37:GLN:H	1.66	0.60
55:BV:177:GLU:N	55:BV:177:GLU:OE1	2.32	0.60
3:CA:1913:A:H62	35:DA:1493:A:H2'	1.65	0.60
35:DA:770:C:O5'	60:DA:1750:HOH:O	2.16	0.60
37:DD:188:ARG:NE	37:DD:197:GLU:OE2	2.34	0.60
12:EL:93:ASN:O	12:EL:95:LEU:N	2.34	0.60
3:GA:1864:U:O3'	3:GA:2409:G:N2	2.33	0.60
5:GE:15:SER:N	5:GE:197:GLU:OE2	2.33	0.60
25:GY:51:ALA:O	25:GY:55:THR:OG1	2.19	0.60
38:BE:41:ASP:OD1	38:BE:43:ASN:N	2.33	0.60
3:CA:79:C:O2'	3:CA:346:A:N3	2.33	0.60
3:CA:1064:C:C5'	9:CI:89:SER:HB3	2.31	0.60
17:CQ:105:PHE:O	17:CQ:108:LEU:N	2.33	0.60
50:DQ:6:ARG:HH11	50:DQ:6:ARG:HG2	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:1776:G:OP2	60:EA:3449:HOH:O	2.16	0.60
6:EF:59:ILE:HD12	6:EF:137:PHE:CG	2.37	0.60
9:GI:82:ALA:HB1	9:GI:108:ILE:HD11	1.82	0.60
35:HA:930:C:N4	60:HA:1821:HOH:O	2.33	0.60
39:HF:10:VAL:HG21	39:HF:21:MET:SD	2.42	0.60
9:AI:73:PRO:O	9:AI:112:LYS:NZ	2.31	0.60
23:AW:55:ASP:O	23:AW:57:THR:N	2.34	0.60
35:BA:1305:G:N2	35:BA:1331:G:O2'	2.34	0.60
37:BD:95:GLU:OE2	37:BD:104:ARG:NE	2.31	0.60
55:BV:660:LEU:O	55:BV:662:GLU:N	2.34	0.60
3:CA:983:A:C6	3:CA:984:A:C2	2.89	0.60
3:EA:324:A:N6	3:EA:338:G:O2'	2.33	0.60
3:EA:1068:G:O6	3:EA:1069:A:N6	2.34	0.60
3:EA:1913:A:N7	55:FV:507:LYS:NZ	2.46	0.60
10:EJ:49:ASP:CG	10:EJ:121:LYS:HZ3	2.08	0.60
37:FD:19:LEU:HD11	37:FD:60:LYS:HG3	1.82	0.60
3:GA:517:C:OP2	27:G0:9:ARG:NH2	2.34	0.60
3:GA:2107:G:H1	3:GA:2182:U:H2'	1.67	0.60
55:HV:92:HIS:O	55:HV:122:GLN:NE2	2.33	0.60
3:CA:2364:C:OP1	23:CW:54:ARG:HD3	2.01	0.60
13:CM:22:GLN:O	13:CM:24:THR:N	2.35	0.60
23:CW:19:ARG:HA	23:CW:34:SER:HA	1.83	0.60
28:C1:24:LYS:NZ	28:C1:51:ALA:O	2.32	0.60
35:DA:1147:C:O2	42:DI:18:ARG:NH1	2.34	0.60
53:DT:65:GLY:HA2	53:DT:68:HIS:CD2	2.36	0.60
35:FA:1468:A:C2'	35:FA:1469:C:H5'	2.30	0.60
45:FL:4:VAL:HG23	50:FQ:36:LYS:HE2	1.83	0.60
3:GA:1820:U:OP1	2:GC:176:ARG:NH2	2.34	0.60
35:HA:946:A:HO2'	35:HA:1333:A:C2'	2.13	0.60
3:AA:963:U:OP2	60:AA:3352:HOH:O	2.16	0.60
35:BA:823:C:HO2'	41:BH:2:SER:N	1.99	0.60
35:BA:1296:C:O3'	35:BA:1302:C:N4	2.34	0.60
5:EE:63:LYS:NZ	60:EE:402:HOH:O	2.31	0.60
16:EP:4:ILE:HG22	16:EP:5:LYS:H	1.64	0.60
32:E5:71:CYS:CB	32:E5:117:LEU:HD12	2.31	0.60
42:FI:57:MET:SD	42:FI:58:VAL:N	2.74	0.60
3:GA:819:A:C4	3:GA:1189:A:C2	2.89	0.60
25:GY:16:THR:O	25:GY:20:ASN:ND2	2.35	0.60
35:HA:815:A:O2'	35:HA:1526:G:N2	2.30	0.60
45:HL:44:LYS:CB	45:HL:45:PRO:HD3	2.31	0.60
3:CA:138:U:H5'	3:CA:139:U:H5"	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:EH:43:ASN:OD1	8:EH:43:ASN:N	2.34	0.60
37:FD:80:ALA:HA	37:FD:86:THR:HG23	1.84	0.60
45:FL:56:ARG:NH2	45:FL:60:GLY:O	2.34	0.60
3:GA:324:A:N6	3:GA:338:G:O2'	2.34	0.60
3:GA:1619:G:N7	60:GA:3632:HOH:O	2.32	0.60
3:AA:830:G:OP2	60:AA:3348:HOH:O	2.17	0.60
35:BA:1025:U:H5"	35:BA:1026:G:H5'	1.82	0.60
35:BA:1492:A:C2'	35:BA:1493:A:H5'	2.31	0.60
38:BE:111:MET:CE	38:BE:125:ALA:HB1	2.31	0.60
39:BF:98:GLU:HG3	39:BF:99:ALA:N	2.16	0.60
55:BV:221:ASN:HA	55:BV:224:GLU:HB3	1.84	0.60
3:CA:450:G:O6	60:CA:3243:HOH:O	2.12	0.60
4:CD:149:ASN:OD1	4:CD:150:GLN:N	2.34	0.60
23:CW:73:PRO:HG2	23:CW:76:ARG:HD2	1.84	0.60
35:DA:572:A:OP1	60:DA:1732:HOH:O	2.16	0.60
43:DJ:9:ARG:N	43:DJ:99:GLN:O	2.34	0.60
3:EA:61:C:H2'	3:EA:62:U:H5'	1.83	0.60
3:EA:1818:U:OP2	2:EC:155:ARG:NH1	2.34	0.60
28:E1:22:THR:OG1	28:E1:23:THR:N	2.32	0.60
38:FE:110:ALA:O	38:FE:111:MET:HB3	2.02	0.60
55:FV:362:ARG:NH2	55:FV:373:GLU:OE2	2.30	0.60
1:GB:63:C:N4	60:GB:1302:HOH:O	2.35	0.60
3:GA:126:A:C6	3:GA:127:A:N1	2.70	0.60
3:GA:1846:G:N2	3:GA:1895:C:C2	2.70	0.60
34:HB:82:ALA:O	34:HB:88:GLN:NE2	2.34	0.60
45:HL:63:VAL:HG21	45:HL:95:TYR:HE2	1.66	0.60
47:HN:67:THR:O	60:HN:203:HOH:O	2.15	0.60
3:CA:2800:A:H3'	3:CA:2801:G:C5'	2.32	0.60
7:CG:84:LYS:HG3	7:CG:132:LEU:N	2.17	0.60
20:CT:26:LYS:O	20:CT:27:SER:OG	2.14	0.60
23:CW:37:VAL:HG13	23:CW:55:ASP:C	2.27	0.60
50:DQ:48:ASP:OD2	50:DQ:52:GLU:N	2.35	0.60
26:EZ:8:GLN:O	26:EZ:10:ARG:N	2.33	0.60
3:GA:470:A:N6	20:GT:72:GLN:OE1	2.34	0.60
3:GA:2140:G:N7	3:GA:2152:G:N3	2.50	0.60
3:GA:2683:C:N3	3:GA:2727:A:O2'	2.35	0.60
9:GI:60:VAL:HG22	9:GI:66:PHE:CD2	2.37	0.60
10:GJ:17:VAL:HG23	10:GJ:137:PRO:HB2	1.81	0.60
35:HA:1331:G:O2'	35:HA:1332:A:OP2	2.19	0.60
36:HC:40:ARG:NH1	47:HN:92:GLU:OE2	2.34	0.60
3:AA:511:U:OP2	60:AA:3758:HOH:O	2.15	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1248:G:N7	5:AE:46:GLN:NE2	2.48	0.60
15:AO:105:ALA:O	15:AO:107:ALA:N	2.34	0.60
41:BH:18:GLN:NE2	41:BH:70:ALA:HB1	2.17	0.60
3:CA:219:A:N3	3:CA:234:U:O2'	2.31	0.60
3:CA:912:C:OP1	13:CM:8:LYS:NZ	2.21	0.60
32:C5:35:VAL:HA	32:C5:38:MET:SD	2.42	0.60
35:DA:1197:A:OP2	60:DA:1773:HOH:O	2.16	0.60
3:EA:1509:A:HO2'	3:EA:1510:G:P	2.23	0.60
23:EW:37:VAL:HG13	23:EW:56:HIS:HB2	1.84	0.60
35:FA:1181:G:O2'	35:FA:1182:G:C8	2.55	0.60
34:FB:132:GLU:OE2	34:FB:136:ARG:NH1	2.35	0.60
42:FI:6:TYR:CG	42:FI:89:GLU:HB2	2.37	0.60
17:GQ:63:ARG:NH2	17:GQ:92:LYS:O	2.34	0.60
35:HA:598:U:H4'	41:HH:86:TYR:CD2	2.37	0.60
23:AW:9:THR:OG1	23:AW:10:ARG:N	2.31	0.60
32:A5:29:ASP:HA	32:A5:108:VAL:HG11	1.82	0.60
3:CA:210:C:OP1	29:C2:29:GLN:NE2	2.35	0.60
55:DV:124:GLU:OE2	55:DV:677:ARG:NH1	2.35	0.60
3:EA:272:A:O2'	3:EA:273:G:O5'	2.20	0.60
3:EA:790:U:OP2	60:EA:3748:HOH:O	2.16	0.60
3:EA:2681:C:OP2	4:ED:114:LYS:NZ	2.32	0.60
36:FC:3:GLN:OE1	36:FC:3:GLN:N	2.35	0.60
55:FV:295:ILE:HG13	55:FV:339:TYR:CD2	2.36	0.60
3:GA:1070:A:N1	9:GI:8:VAL:HG22	2.17	0.60
3:GA:1332:G:O5'	60:GA:3386:HOH:O	2.16	0.60
3:GA:1613:G:O2'	29:G2:3:ARG:NH2	2.34	0.60
3:GA:1968:G:OP1	60:GA:3462:HOH:O	2.16	0.60
3:GA:2742:G:OP1	31:G4:36:ARG:NH1	2.32	0.60
9:GI:122:GLU:O	9:GI:126:ARG:NH1	2.34	0.60
52:HS:29:LYS:HB3	52:HS:30:PRO:HD2	1.84	0.60
3:AA:276:U:O2'	3:AA:278:A:N7	2.34	0.59
3:AA:2353:G:N3	23:AW:30:VAL:CG1	2.65	0.59
37:BD:27:ALA:HA	37:BD:31:LYS:HZ1	1.67	0.59
43:BJ:57:VAL:HG12	43:BJ:58:ASN:H	1.67	0.59
34:DB:49:PHE:O	34:DB:53:LEU:N	2.35	0.59
37:DD:100:ASN:OD1	37:DD:111:ARG:NH1	2.35	0.59
3:GA:1172:C:C5	3:GA:1173:U:H1'	2.37	0.59
35:HA:299:G:O6	60:HA:1833:HOH:O	2.10	0.59
3:AA:370:G:OP2	60:AA:3552:HOH:O	2.16	0.59
9:AI:93:ASN:ND2	9:AI:135:MET:O	2.36	0.59
45:BL:56:ARG:NH1	45:BL:62:GLU:OE1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:2588:G:OP2	60:EA:3541:HOH:O	2.16	0.59
27:G0:11:LYS:HD2	27:G0:14:MET:HE3	1.82	0.59
35:HA:1343:G:H1'	42:HI:123:ARG:CZ	2.32	0.59
3:AA:2800:A:H3'	3:AA:2801:G:C5'	2.32	0.59
9:AI:92:PRO:O	9:AI:94:LYS:N	2.36	0.59
35:BA:1317:C:OP2	47:BN:28:LYS:NZ	2.35	0.59
3:CA:998:C:OP2	17:CQ:57:ARG:NH2	2.35	0.59
3:CA:1217:U:OP2	17:CQ:14:LYS:NZ	2.34	0.59
14:CN:33:ILE:HD11	14:CN:118:ARG:HD3	1.83	0.59
35:DA:201:G:N2	35:DA:469:C:O2	2.34	0.59
3:GA:1509:A:H1'	3:GA:1510:G:OP2	2.02	0.59
35:HA:1405:G:N3	35:HA:1518:A:O2'	2.33	0.59
39:HF:22:ILE:O	39:HF:26:THR:OG1	2.18	0.59
48:HO:45:GLU:HG3	48:HO:46:HIS:H	1.66	0.59
55:HV:321:ALA:O	55:HV:394:GLY:N	2.32	0.59
17:AQ:63:ARG:NH1	17:AQ:95:ALA:O	2.35	0.59
35:BA:843:U:N3	35:BA:844:G:O6	2.36	0.59
40:BG:63:GLU:OE1	40:BG:70:ARG:NH1	2.35	0.59
42:BI:94:LEU:O	42:BI:96:SER:N	2.33	0.59
43:BJ:88:MET:O	43:BJ:90:LEU:N	2.30	0.59
45:BL:44:LYS:CB	45:BL:45:PRO:HD3	2.32	0.59
35:DA:951:G:OP2	46:DM:101:ARG:NH2	2.36	0.59
35:DA:1110:A:OP2	60:DA:1851:HOH:O	2.17	0.59
55:DV:217:GLU:O	55:DV:220:GLN:N	2.36	0.59
3:EA:125:A:OP2	29:E2:19:ARG:NH2	2.35	0.59
3:EA:2711:A:OP2	60:EA:3545:HOH:O	2.16	0.59
23:EW:39:GLN:HG3	23:EW:56:HIS:HB3	1.84	0.59
3:GA:451:U:O3'	5:GE:47:LYS:NZ	2.36	0.59
3:GA:1070:A:H5'	3:GA:1072:C:OP2	2.03	0.59
3:GA:2066:C:OP1	60:GA:3504:HOH:O	2.16	0.59
4:GD:39:ASP:OD1	4:GD:40:LEU:N	2.36	0.59
55:HV:546:PRO:HD3	55:HV:583:TYR:CE2	2.37	0.59
16:AP:50:ARG:HB3	16:AP:57:ALA:N	2.17	0.59
40:BG:4:ARG:HG3	40:BG:5:ARG:N	2.16	0.59
42:BI:45:ARG:HE	42:BI:46:MET:H	1.50	0.59
55:BV:80:GLU:OE2	55:BV:80:GLU:N	2.33	0.59
3:CA:1654:A:O2'	4:CD:118:PHE:CG	2.54	0.59
39:DF:46:GLN:HA	39:DF:56:LYS:HG2	1.83	0.59
16:GP:50:ARG:HG2	16:GP:57:ALA:N	2.16	0.59
45:HL:83:ARG:N	45:HL:96:HIS:O	2.34	0.59
2:AC:256:THR:OG1	3:AA:1803:A:O3'	2.19	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1262:A:OP2	19:AS:99:ARG:NH2	2.35	0.59
3:AA:1930:G:O2'	3:AA:1968:G:O6	2.17	0.59
3:CA:2269:G:O2'	23:CW:18:LYS:HG2	2.02	0.59
3:CA:2522:U:O2'	3:CA:2647:U:OP1	2.17	0.59
20:CT:54:GLU:HG3	20:CT:88:LYS:HB2	1.83	0.59
31:C4:36:ARG:HG2	31:C4:37:GLN:H	1.68	0.59
32:C5:26:VAL:CG2	32:C5:115:GLY:N	2.61	0.59
35:DA:323:U:OP2	60:DA:1834:HOH:O	2.17	0.59
3:GA:243:U:OP1	30:G3:5:THR:OG1	2.10	0.59
3:GA:2390:U:O5'	30:G3:34:LYS:NZ	2.33	0.59
24:GX:5:GLN:OE1	24:GX:49:ARG:N	2.34	0.59
36:HC:8:ASN:HD22	47:HN:90:ARG:HA	1.66	0.59
38:HE:41:ASP:OD2	38:HE:42:GLY:N	2.36	0.59
3:AA:983:A:C6	3:AA:984:A:C2	2.90	0.59
3:AA:1106:G:OP1	32:A5:62:ARG:NH2	2.35	0.59
3:AA:1131:G:OP1	10:AJ:82:GLY:HA2	2.02	0.59
35:DA:735:C:H5'	51:DR:60:LYS:HD3	1.85	0.59
3:EA:2592:G:OP1	60:EA:3464:HOH:O	2.16	0.59
2:EC:255:LYS:O	2:EC:257:ARG:N	2.36	0.59
10:EJ:80:HIS:O	10:EJ:82:GLY:N	2.35	0.59
32:E5:117:LEU:HD22	32:E5:120:ALA:CA	2.17	0.59
35:FA:382:A:H2'	35:FA:383:A:C8	2.38	0.59
37:FD:197:GLU:O	37:FD:200:ILE:N	2.36	0.59
55:FV:219:HIS:CE1	55:FV:221:ASN:HB2	2.37	0.59
3:GA:1064:C:N4	3:GA:1065:U:O4	2.36	0.59
15:AO:89:ASP:HA	15:AO:116:GLN:HB3	1.84	0.59
32:A5:27:VAL:HG13	32:A5:83:ALA:HB3	1.83	0.59
3:CA:859:G:O2'	3:CA:916:G:O6	2.11	0.59
7:CG:1:SER:O	7:CG:3:VAL:N	2.36	0.59
35:DA:723:U:O2	35:DA:855:U:O2'	2.19	0.59
38:DE:19:ASN:OD1	38:DE:20:ARG:N	2.36	0.59
2:EC:254:LYS:O	2:EC:256:THR:N	2.35	0.59
3:GA:1253:A:N7	60:GA:3328:HOH:O	2.32	0.59
3:GA:1354:A:OP1	2:GC:35:LYS:NZ	2.36	0.59
3:GA:2134:A:N6	3:GA:2156:G:O2'	2.36	0.59
35:HA:1451:U:HO2'	35:HA:1452:C:P	2.26	0.59
37:HD:188:ARG:NH1	37:HD:191:LEU:O	2.35	0.59
3:AA:480:A:OP2	21:AU:43:LYS:NZ	2.34	0.59
3:AA:635:C:OP2	12:AL:126:ARG:NH1	2.35	0.59
23:AW:51:GLY:HA3	23:AW:59:PHE:CE1	2.38	0.59
14:CN:98:LEU:HB3	27:C0:42:ILE:HD11	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:C5:17:GLU:HA	32:C5:88:HIS:CE1	2.37	0.59
35:DA:1492:A:C2'	35:DA:1493:A:H5'	2.33	0.59
32:E5:54:VAL:O	32:E5:56:ARG:N	2.36	0.59
3:AA:1359:A:OP1	60:AA:3610:HOH:O	2.17	0.59
14:AN:98:LEU:O	14:AN:112:TYR:N	2.34	0.59
3:CA:2352:A:N1	23:CW:30:VAL:HG11	2.18	0.59
10:CJ:4:PHE:N	10:CJ:44:TYR:OH	2.36	0.59
3:EA:1076:C:O2'	9:EI:92:PRO:HB3	2.03	0.59
3:EA:1784:A:N6	60:EA:3686:HOH:O	2.35	0.59
35:FA:1033:G:C2'	35:FA:1034:G:H5'	2.32	0.59
35:FA:1526:G:P	54:FU:39:GLU:HG2	2.42	0.59
3:GA:2106:U:N3	3:GA:2107:G:N7	2.51	0.59
6:GF:1:ALA:HB3	6:GF:4:HIS:HB2	1.84	0.59
35:HA:1492:A:C2'	35:HA:1493:A:H5'	2.33	0.59
55:HV:441:GLU:OE1	55:HV:472:ARG:NH2	2.35	0.59
17:AQ:84:LYS:O	17:AQ:86:SER:N	2.36	0.58
53:BT:3:ASN:O	53:BT:5:LYS:N	2.36	0.58
3:CA:1326:U:HO2'	3:CA:2010:G:HO2'	1.51	0.58
32:C5:71:CYS:HB3	32:C5:117:LEU:CD1	2.33	0.58
35:DA:975:A:N1	43:DJ:62:ARG:NH2	2.50	0.58
34:DB:182:VAL:N	34:DB:196:ASP:OD2	2.36	0.58
42:DI:22:LYS:HG3	42:DI:23:PRO:HD2	1.84	0.58
51:DR:73:ARG:O	51:DR:74:HIS:ND1	2.36	0.58
3:EA:586:A:N1	3:EA:809:G:O2'	2.23	0.58
3:EA:2615:U:C2	27:E0:3:GLN:HA	2.38	0.58
2:EC:79:ARG:NH2	2:EC:81:GLU:OE2	2.36	0.58
15:EO:2:ASP:OD1	15:EO:3:LYS:N	2.36	0.58
23:EW:37:VAL:HG13	23:EW:55:ASP:C	2.28	0.58
24:EX:4:CYS:SG	24:EX:7:THR:OG1	2.58	0.58
32:E5:103:ASN:ND2	32:E5:107:GLU:O	2.36	0.58
32:E5:117:LEU:CD2	32:E5:120:ALA:CA	2.72	0.58
52:FS:3:ARG:O	52:FS:4:SER:OG	2.18	0.58
3:GA:1361:G:OP2	60:GA:3607:HOH:O	2.16	0.58
6:GF:27:VAL:O	6:GF:29:ARG:NH1	2.36	0.58
35:HA:429:U:P	37:HD:13:ARG:HH22	2.26	0.58
23:AW:51:GLY:HA3	23:AW:59:PHE:CZ	2.38	0.58
36:BC:7:PRO:HG2	36:BC:184:TYR:CG	2.38	0.58
3:CA:1057:A:O2'	32:C5:38:MET:HE2	2.04	0.58
11:CK:71:ARG:HB2	11:CK:105:ARG:NH2	2.18	0.58
22:CV:4:ILE:HD11	22:CV:50:MET:CE	2.33	0.58
11:EK:78:ARG:NH1	16:EP:70:GLU:OE2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:FS:4:SER:O	52:FS:6:LYS:N	2.31	0.58
3:GA:644:A:N1	3:GA:2369:A:H1'	2.18	0.58
3:GA:1013:C:OP2	60:GA:3593:HOH:O	2.16	0.58
3:GA:1315:C:OP2	60:GA:3746:HOH:O	2.16	0.58
12:GL:93:ASN:O	12:GL:95:LEU:N	2.36	0.58
3:AA:1654:A:O2'	4:AD:118:PHE:CG	2.55	0.58
3:AA:1759:A:HO2'	3:AA:2714:G:HO2'	1.50	0.58
37:BD:32:CYS:SG	37:BD:33:LYS:N	2.75	0.58
38:BE:82:GLN:HG2	38:BE:150:PRO:HD3	1.85	0.58
3:CA:1313:U:OP1	60:CA:3383:HOH:O	2.17	0.58
3:CA:2785:C:O2'	4:CD:67:HIS:ND1	2.35	0.58
35:DA:1361:G:C5	35:DA:1362:A:N7	2.71	0.58
37:DD:9:LEU:HD21	37:DD:22:LYS:HG3	1.84	0.58
55:DV:105:VAL:O	55:DV:337:ARG:NH1	2.37	0.58
3:EA:1080:A:H1'	9:EI:127:SER:HA	1.84	0.58
14:EN:73:ASN:HA	14:EN:76:VAL:HG12	1.85	0.58
35:FA:1290:G:OP1	40:FG:35:LYS:NZ	2.36	0.58
37:FD:65:TYR:O	37:FD:115:ARG:NH1	2.30	0.58
35:HA:816:A:N7	60:HA:1755:HOH:O	2.32	0.58
54:HU:40:LYS:N	54:HU:41:PRO:CD	2.66	0.58
3:AA:800:A:OP1	60:AA:3320:HOH:O	2.17	0.58
3:AA:802:A:OP1	60:AA:3326:HOH:O	2.17	0.58
3:AA:1076:C:H1'	9:AI:93:ASN:HB3	1.86	0.58
5:AE:168:ASP:OD2	5:AE:170:ARG:NH2	2.36	0.58
32:A5:45:GLY:HA2	32:A5:49:GLY:HA2	1.85	0.58
35:BA:259:G:OP2	60:BA:1701:HOH:O	2.17	0.58
35:BA:1397:C:O2'	35:BA:1398:A:OP1	2.20	0.58
55:BV:219:HIS:CE1	55:BV:221:ASN:HB2	2.38	0.58
3:CA:265:A:H4'	3:CA:266:G:OP1	2.03	0.58
7:CG:169:ARG:NH1	31:C4:29:ALA:O	2.36	0.58
11:CK:76:VAL:HB	16:CP:72:VAL:HG22	1.85	0.58
35:DA:1534:A:N6	54:DU:44:GLU:OE1	2.36	0.58
36:DC:111:LEU:HD21	36:DC:144:LEU:HB2	1.85	0.58
50:DQ:27:ARG:NH2	50:DQ:42:THR:OG1	2.35	0.58
3:EA:85:G:OP1	21:EU:6:ARG:N	2.35	0.58
4:ED:118:PHE:HD1	4:ED:119:ALA:H	1.49	0.58
3:GA:811:U:H2'	12:GL:21:ARG:HA	1.86	0.58
26:GZ:8:GLN:NE2	26:GZ:29:ARG:O	2.36	0.58
35:HA:1250:A:N3	35:HA:1370:G:O2'	2.35	0.58
50:HQ:52:GLU:HG2	50:HQ:53:CYS:H	1.67	0.58
20:AT:50:LEU:C	20:AT:52:GLU:H	2.11	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A2:22:MET:HE3	29:A2:28:ARG:HD3	1.86	0.58
32:A5:15:VAL:HG22	32:A5:66:GLY:HA3	1.84	0.58
38:BE:41:ASP:OD1	38:BE:42:GLY:N	2.37	0.58
1:CB:51:G:C6	1:CB:52:A:C6	2.92	0.58
17:CQ:93:ILE:O	17:CQ:96:ASP:N	2.32	0.58
32:C5:45:GLY:HA2	32:C5:49:GLY:HA2	1.86	0.58
36:DC:3:GLN:OE1	36:DC:3:GLN:N	2.36	0.58
37:DD:132:ILE:HG22	37:DD:134:SER:H	1.67	0.58
40:DG:64:VAL:O	40:DG:68:ASN:ND2	2.37	0.58
2:EC:16:VAL:N	2:EC:203:VAL:HG12	2.17	0.58
35:FA:1366:C:O2'	43:FJ:62:ARG:NH2	2.36	0.58
2:AC:16:VAL:N	2:AC:203:VAL:HG12	2.17	0.58
3:AA:1938:A:OP2	60:AA:3718:HOH:O	2.16	0.58
13:AM:41:LEU:HD11	13:AM:126:ILE:HD13	1.85	0.58
20:AT:35:ALA:HB3	20:AT:38:ALA:HB2	1.85	0.58
35:BA:756:C:HO2'	41:BH:2:SER:N	2.02	0.58
35:BA:867:G:O2'	35:BA:873:A:N1	2.30	0.58
48:BO:14:GLU:O	48:BO:84:ARG:NH2	2.35	0.58
21:CU:37:GLY:N	21:CU:61:GLU:OE2	2.34	0.58
35:DA:17:U:H2'	35:DA:18:C:C6	2.37	0.58
55:DV:358:GLU:OE2	55:DV:390:ASP:N	2.37	0.58
35:FA:729:A:N1	35:FA:764:C:O2'	2.31	0.58
40:FG:57:SER:OG	40:FG:58:GLU:N	2.37	0.58
47:FN:19:LYS:O	47:FN:23:LYS:HD3	2.01	0.58
1:GB:82:U:H5"	26:GZ:16:LEU:HD11	1.85	0.58
3:GA:252:G:N2	3:GA:253:C:H1'	2.18	0.58
19:GS:88:ARG:HH21	19:GS:88:ARG:CG	2.16	0.58
4:CD:118:PHE:HD1	4:CD:119:ALA:H	1.51	0.58
4:CD:148:GLN:N	4:CD:148:GLN:OE1	2.36	0.58
35:DA:595:A:N6	35:DA:641:U:O2'	2.36	0.58
35:DA:890:G:O2'	35:DA:906:A:N6	2.37	0.58
44:DK:128:ARG:HG3	54:DU:34:ARG:NH2	2.18	0.58
46:DM:114:LYS:HB3	46:DM:115:PRO:HD3	1.86	0.58
11:EK:13:ASN:O	11:EK:15:GLY:N	2.35	0.58
32:E5:33:VAL:N	32:E5:36:ASP:OD2	2.35	0.58
3:GA:307:G:N2	3:GA:310:A:OP2	2.35	0.58
3:GA:322:A:H5'	3:GA:340:A:H1'	1.83	0.58
3:GA:742:A:H2'	3:GA:743:A:C8	2.38	0.58
3:GA:2233:U:H2'	3:GA:2234:G:C8	2.38	0.58
14:GN:29:VAL:HG11	14:GN:75:ILE:HG23	1.84	0.58
40:HG:28:ASN:OD1	40:HG:36:LYS:NZ	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:C5:56:ARG:O	32:C5:57:ASN:ND2	2.36	0.58
3:GA:782:A:C2	2:GC:224:MET:HE2	2.38	0.58
3:GA:2237:G:O2'	3:GA:2239:G:N7	2.33	0.58
3:GA:2331:G:O2'	3:GA:2336:A:N1	2.37	0.58
6:GF:11:VAL:HG22	6:GF:172:PHE:CZ	2.39	0.58
35:HA:536:C:OP1	60:HA:1880:HOH:O	2.17	0.58
9:AI:37:PHE:O	9:AI:41:PHE:HB3	2.04	0.58
35:BA:1007:U:H2'	35:BA:1008:U:H5'	1.85	0.58
3:CA:2552:U:OP2	60:CA:3428:HOH:O	2.17	0.58
35:DA:117:G:OP2	60:DA:1874:HOH:O	2.17	0.58
45:DL:44:LYS:CB	45:DL:45:PRO:HD3	2.34	0.58
45:DL:44:LYS:HB2	45:DL:45:PRO:HD3	1.84	0.58
3:EA:528:A:C2	3:EA:2043:C:H4'	2.39	0.58
3:EA:846:U:O2'	3:EA:847:U:O5'	2.20	0.58
35:FA:17:U:H2'	35:FA:18:C:C6	2.39	0.58
3:GA:577:G:O2'	3:GA:1254:A:OP1	2.21	0.58
3:GA:2344:U:O2'	28:G1:36:LYS:O	2.21	0.58
9:GI:79:LEU:HA	9:GI:83:ALA:HB3	1.85	0.58
35:HA:981:U:O4'	60:HA:1772:HOH:O	2.17	0.58
37:HD:78:GLU:OE1	37:HD:81:ARG:NE	2.28	0.58
46:HM:20:THR:HA	46:HM:25:VAL:HG23	1.86	0.58
53:HT:82:GLN:HA	53:HT:85:LYS:HG2	1.85	0.58
55:HV:23:LYS:O	55:HV:24:THR:OG1	2.17	0.58
20:AT:54:GLU:HG3	20:AT:88:LYS:HB2	1.86	0.58
38:BE:80:THR:OG1	38:BE:81:LEU:N	2.34	0.58
3:CA:1613:G:O2'	29:C2:3:ARG:NH2	2.34	0.58
10:CJ:64:VAL:HG22	10:CJ:68:LYS:HB2	1.86	0.58
10:CJ:81:ILE:HG13	10:CJ:82:GLY:N	2.19	0.58
30:E3:50:SER:OG	30:E3:53:ASP:OD2	2.21	0.58
3:GA:1019:U:C5	3:GA:1144:A:C2	2.92	0.58
7:GG:162:ARG:CZ	7:GG:168:VAL:HG11	2.33	0.58
16:GP:50:ARG:HB3	16:GP:57:ALA:H	1.67	0.58
20:GT:54:GLU:N	20:GT:54:GLU:OE2	2.37	0.58
35:HA:775:G:N2	35:HA:804:U:O4	2.36	0.58
35:HA:1128:C:O2'	35:HA:1147:C:N3	2.37	0.58
55:HV:62:THR:OG1	59:HV:801:GCP:O1G	2.22	0.58
3:AA:1076:C:H2'	3:AA:1077:A:O4'	2.03	0.57
36:BC:129:MET:HB3	36:BC:132:ARG:HG3	1.84	0.57
42:BI:34:SER:HB3	42:BI:37:GLN:CG	2.34	0.57
34:DB:117:GLU:HA	34:DB:120:SER:HB2	1.85	0.57
55:DV:230:SER:OG	55:DV:232:GLU:OE1	2.21	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:1315:C:OP2	60:EA:3754:HOH:O	2.17	0.57
3:EA:1648:U:OP1	60:EA:3385:HOH:O	2.17	0.57
32:E5:31:ARG:O	32:E5:108:VAL:CG2	2.51	0.57
35:FA:352:C:N3	35:FA:356:A:N6	2.52	0.57
35:FA:995:C:N3	35:FA:1046:A:O2'	2.28	0.57
35:FA:1182:G:H4'	35:FA:1183:U:C5'	2.34	0.57
1:GB:14:U:OP2	1:GB:70:C:O2'	2.21	0.57
3:GA:265:A:N1	3:GA:427:U:O2'	2.33	0.57
3:GA:2600:A:N6	60:GA:3788:HOH:O	2.28	0.57
3:GA:2627:G:O2'	3:GA:2781:A:N1	2.35	0.57
19:GS:14:ALA:O	19:GS:17:VAL:N	2.37	0.57
35:HA:1329:A:OP1	46:HM:26:GLY:N	2.37	0.57
34:HB:90:PHE:H	34:HB:149:GLY:HA3	1.69	0.57
3:AA:27:G:O2'	3:AA:28:A:OP2	2.19	0.57
3:CA:42:A:C2'	3:CA:43:G:H5'	2.33	0.57
9:CI:11:GLN:OE1	9:CI:11:GLN:N	2.37	0.57
35:DA:1025:U:H5"	35:DA:1026:G:H5'	1.86	0.57
35:DA:1468:A:C2'	35:DA:1469:C:H5'	2.34	0.57
3:EA:2757:A:N1	7:EG:66:THR:HG21	2.19	0.57
6:EF:118:ALA:O	6:EF:166:ARG:NH1	2.36	0.57
9:EI:70:THR:OG1	9:EI:71:LYS:N	2.36	0.57
32:E5:31:ARG:HB3	32:E5:108:VAL:HG22	1.86	0.57
35:FA:1297:G:H5'	35:FA:1302:C:N4	2.20	0.57
55:FV:500:ASP:N	55:FV:521:ASP:OD1	2.37	0.57
1:GB:99:A:C5	1:GB:100:G:C8	2.92	0.57
3:GA:231:A:C6	3:GA:232:G:C6	2.92	0.57
5:GE:158:PHE:HA	5:GE:169:VAL:HG21	1.86	0.57
34:HB:52:ALA:HB3	34:HB:199:ILE:HD11	1.86	0.57
3:AA:1386:C:H2'	3:AA:1387:A:C8	2.39	0.57
3:AA:2548:U:O2	11:AK:23:LYS:NZ	2.37	0.57
32:A5:129:LEU:C	32:A5:131:THR:H	2.10	0.57
51:BR:73:ARG:O	51:BR:74:HIS:ND1	2.38	0.57
55:BV:98:GLU:O	55:BV:102:SER:OG	2.07	0.57
55:BV:645:GLN:O	55:BV:647:SER:N	2.37	0.57
3:CA:45:G:N2	3:CA:433:C:O2	2.31	0.57
10:CJ:6:ALA:HB3	10:CJ:45:THR:HG21	1.85	0.57
55:DV:190:ALA:N	55:DV:205:GLU:O	2.38	0.57
3:EA:2612:C:OP2	60:EA:3538:HOH:O	2.17	0.57
25:EY:16:THR:O	25:EY:20:ASN:ND2	2.38	0.57
35:FA:1310:G:OP2	46:FM:87:ARG:NH2	2.35	0.57
42:FI:44:ALA:HB1	42:FI:47:VAL:HG13	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:822:G:H2'	3:GA:823:C:H6	1.69	0.57
3:GA:1782:U:C6	3:GA:2609:U:C5	2.92	0.57
3:AA:31:C:OP1	60:AA:3695:HOH:O	2.18	0.57
23:AW:39:GLN:HG2	23:AW:41:GLY:H	1.69	0.57
42:BI:6:TYR:CD1	42:BI:89:GLU:HB2	2.40	0.57
3:CA:532:A:N7	3:CA:2021:C:O2'	2.33	0.57
2:CC:203:VAL:O	2:CC:205:GLY:N	2.36	0.57
35:DA:652:U:O4	35:DA:752:G:O2'	2.17	0.57
41:DH:77:ARG:NE	41:DH:79:SER:O	2.38	0.57
6:EF:147:ARG:HG3	6:EF:149:ARG:H	1.67	0.57
17:EQ:91:ARG:HH11	18:ER:11:GLN:N	2.01	0.57
23:EW:30:VAL:CG2	23:EW:30:VAL:O	2.52	0.57
35:FA:1033:G:H2'	35:FA:1034:G:H5'	1.86	0.57
47:FN:54:ASP:OD1	47:FN:59:ARG:NH1	2.37	0.57
55:FV:697:ALA:O	55:FV:699:ILE:N	2.36	0.57
35:HA:920:U:H2'	35:HA:921:U:C6	2.40	0.57
16:AP:63:ILE:HA	16:AP:68:GLY:HA2	1.85	0.57
37:BD:31:LYS:HD3	37:BD:31:LYS:N	2.20	0.57
38:BE:24:THR:HA	38:BE:29:ARG:HA	1.87	0.57
38:BE:110:ALA:O	38:BE:111:MET:HB3	2.04	0.57
3:CA:1535:A:H4'	3:CA:1536:C:OP2	2.05	0.57
3:CA:1812:U:O4'	2:CC:44:ASN:ND2	2.37	0.57
3:CA:2780:G:OP2	10:CJ:120:ARG:NE	2.38	0.57
7:CG:84:LYS:N	7:CG:84:LYS:HD2	2.19	0.57
55:DV:75:MET:SD	55:DV:202:PHE:HZ	2.26	0.57
19:ES:12:SER:O	19:ES:101:SER:OG	2.23	0.57
32:E5:23:LEU:HA	32:E5:118:ILE:HD11	1.84	0.57
35:FA:675:A:H1'	44:FK:118:HIS:CD2	2.40	0.57
3:GA:1203:U:OP2	3:GA:1204:A:O2'	2.20	0.57
3:GA:2025:C:OP2	60:GA:3470:HOH:O	2.17	0.57
6:GF:79:ARG:HB3	6:GF:82:TYR:CE2	2.39	0.57
35:HA:558:G:OP1	60:HA:1833:HOH:O	2.18	0.57
35:HA:1348:U:H4'	42:HI:122:ARG:HG3	1.85	0.57
34:HB:14:HIS:ND1	34:HB:14:HIS:O	2.38	0.57
53:HT:62:ALA:HA	53:HT:67:ILE:HG22	1.86	0.57
32:A5:3:LEU:CD1	32:A5:5:LEU:HG	2.35	0.57
37:BD:30:THR:HB	37:BD:31:LYS:NZ	2.19	0.57
55:BV:220:GLN:O	55:BV:224:GLU:N	2.37	0.57
15:CO:58:ILE:HD11	15:CO:81:ARG:HH22	1.69	0.57
35:DA:82:G:H2'	35:DA:82:G:N3	2.18	0.57
35:DA:776:G:N2	35:DA:802:A:OP2	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:526:A:OP1	60:EA:3245:HOH:O	2.18	0.57
26:EZ:8:GLN:O	26:EZ:9:THR:HG22	2.04	0.57
35:FA:1182:G:H4'	35:FA:1183:U:H5"	1.87	0.57
3:GA:1455:G:OP2	60:GA:3408:HOH:O	2.17	0.57
16:GP:50:ARG:CG	16:GP:57:ALA:O	2.52	0.57
35:HA:237:G:H4'	50:HQ:27:ARG:HH12	1.69	0.57
2:AC:77:VAL:HG23	2:AC:111:ALA:HA	1.85	0.57
3:AA:2517:C:C6	3:AA:2542:A:N7	2.72	0.57
23:AW:76:ARG:HH21	23:AW:76:ARG:CG	2.17	0.57
45:BL:33:VAL:HG21	55:BV:429:GLU:HG3	1.87	0.57
3:CA:992:C:H4'	18:CR:74:ILE:HD13	1.87	0.57
32:C5:48:ALA:HB3	32:C5:51:TYR:HB3	1.86	0.57
32:C5:95:LEU:H	32:C5:95:LEU:HD22	1.69	0.57
3:EA:646:U:C4	3:EA:2368:C:H1'	2.39	0.57
3:GA:1041:G:N2	3:GA:1114:C:N3	2.51	0.57
3:GA:1346:G:N2	3:GA:1600:C:O2	2.30	0.57
3:GA:1654:A:O2'	4:GD:118:PHE:CG	2.57	0.57
3:GA:1813:G:H1'	2:GC:49:THR:HG21	1.85	0.57
10:GJ:43:GLU:O	10:GJ:45:THR:N	2.37	0.57
3:AA:422:A:C2	3:AA:423:A:C4	2.92	0.57
4:AD:118:PHE:HD1	4:AD:119:ALA:H	1.49	0.57
16:AP:58:PHE:CD1	16:AP:75:THR:HG22	2.40	0.57
23:AW:37:VAL:HG13	23:AW:55:ASP:C	2.29	0.57
35:BA:1082:A:OP1	38:BE:23:LYS:NZ	2.37	0.57
3:CA:2674:G:H4'	11:CK:30:ARG:HG3	1.86	0.57
32:C5:47:GLU:HG2	32:C5:95:LEU:HD21	1.86	0.57
28:E1:50:GLU:OE2	28:E1:52:LYS:NZ	2.38	0.57
35:FA:723:U:H2'	54:FU:49:LYS:CE	2.33	0.57
3:GA:528:A:C2	3:GA:2043:C:H4'	2.40	0.57
3:GA:659:G:O2'	5:GE:30:GLN:NE2	2.38	0.57
39:HF:51:ILE:HD11	39:HF:86:ARG:HG2	1.87	0.57
3:AA:1936:A:H2	3:AA:1943:U:C5	2.23	0.57
20:AT:19:LYS:O	20:AT:23:ALA:N	2.35	0.57
23:AW:28:GLU:HB3	23:AW:31:LEU:HD21	1.86	0.57
1:CB:23:G:OP2	60:CB:1310:HOH:O	2.18	0.57
3:CA:2101:A:C2	3:CA:2102:G:C2	2.93	0.57
34:DB:49:PHE:CD1	34:DB:50:ASN:N	2.73	0.57
36:DC:40:ARG:HE	36:DC:57:ILE:HD12	1.70	0.57
43:DJ:71:LEU:O	43:DJ:72:ARG:NH1	2.38	0.57
20:ET:32:LEU:H	20:ET:83:ALA:HB3	1.70	0.57
3:GA:1095:A:H1'	55:HV:632:ILE:HB	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:983:A:OP1	47:HN:9:ARG:NH1	2.33	0.57
40:HG:69:VAL:HA	40:HG:135:VAL:HG12	1.86	0.57
42:HI:41:ARG:N	42:HI:45:ARG:HB3	2.20	0.57
3:AA:1187:G:OP2	60:AA:3361:HOH:O	2.18	0.57
3:AA:2742:G:OP1	31:A4:36:ARG:NH1	2.38	0.57
52:BS:29:LYS:HB3	52:BS:30:PRO:HD2	1.87	0.57
7:CG:23:ILE:HG21	7:CG:71:LEU:HD11	1.87	0.57
35:DA:740:U:OP1	48:DO:38:HIS:NE2	2.32	0.57
35:DA:1002:G:N2	35:DA:1038:C:O2	2.36	0.57
7:EG:68:ARG:NH2	7:EG:72:ASN:HD22	2.03	0.57
1:GB:4:C:N3	1:GB:116:G:N2	2.52	0.57
3:GA:1031:G:N2	31:G4:38:GLY:OXT	2.38	0.57
3:GA:1072:C:H42	3:GA:1097:U:H5'	1.68	0.57
3:GA:1268:A:C2	3:GA:2013:A:C4	2.93	0.57
3:GA:2005:A:OP1	60:GA:3379:HOH:O	2.17	0.57
7:GG:38:ASP:N	7:GG:38:ASP:OD1	2.38	0.57
10:GJ:49:ASP:OD1	10:GJ:121:LYS:NZ	2.38	0.57
43:HJ:14:ASP:OD2	43:HJ:17:LEU:N	2.38	0.57
35:BA:1239:A:H62	35:BA:1299:A:N6	2.03	0.56
40:BG:28:ASN:OD1	40:BG:36:LYS:NZ	2.38	0.56
49:BP:28:ARG:NH2	49:BP:29:ASN:OD1	2.38	0.56
1:CB:73:A:C4	1:CB:104:A:C2	2.93	0.56
3:CA:163:C:O2'	3:CA:164:C:O5'	2.22	0.56
3:CA:635:C:P	12:CL:126:ARG:NH1	2.78	0.56
38:DE:115:LEU:HD23	38:DE:123:VAL:HG21	1.87	0.56
3:GA:349:U:H2'	3:GA:350:G:H8	1.70	0.56
3:GA:967:U:O4	60:GA:3336:HOH:O	2.13	0.56
4:GD:33:ARG:NH1	4:GD:53:GLY:O	2.38	0.56
3:AA:673:C:OP1	5:AE:49:ARG:NH2	2.36	0.56
3:AA:1353:A:C8	3:AA:1378:A:N6	2.73	0.56
3:AA:1738:G:HO2'	3:AA:1739:A:P	2.27	0.56
32:A5:132:TYR:CZ	33:A6:23:ILE:HD11	2.40	0.56
55:BV:219:HIS:NE2	55:BV:221:ASN:HB2	2.19	0.56
16:CP:19:PHE:N	16:CP:19:PHE:CD1	2.72	0.56
18:CR:58:VAL:HG13	18:CR:102:SER:HB2	1.88	0.56
18:ER:49:ILE:HG22	18:ER:54:VAL:HG13	1.87	0.56
35:FA:481:G:O2'	35:FA:482:A:O5'	2.23	0.56
34:FB:86:CYS:HB2	34:FB:88:GLN:HG3	1.85	0.56
18:GR:83:TYR:HD1	18:GR:84:ARG:N	2.03	0.56
34:HB:173:LYS:HA	34:HB:176:ASN:HD22	1.70	0.56
5:AE:150:THR:HG21	5:AE:153:LEU:HA	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AI:100:ILE:HD11	9:AI:137:LEU:HG	1.87	0.56
17:AQ:81:GLY:O	17:AQ:85:ALA:N	2.37	0.56
32:A5:56:ARG:O	32:A5:57:ASN:ND2	2.39	0.56
34:BB:166:ASP:OD1	34:BB:167:HIS:N	2.38	0.56
35:BA:375:U:C4	35:BA:376:G:N7	2.73	0.56
47:BN:27:LEU:C	47:BN:31:ILE:HD13	2.30	0.56
54:BU:9:ASN:HB2	54:BU:11:PRO:HD2	1.87	0.56
3:CA:548:G:O2'	3:CA:549:G:N2	2.38	0.56
3:CA:1534:U:H3'	3:CA:1536:C:C5	2.40	0.56
3:CA:1673:G:OP1	60:CA:3428:HOH:O	2.18	0.56
3:CA:2154:A:H3'	3:CA:2155:U:H4'	1.88	0.56
3:CA:2574:G:OP1	60:CA:3700:HOH:O	2.17	0.56
6:CF:11:VAL:H	6:CF:14:LYS:HG2	1.70	0.56
9:CI:113:ALA:HA	9:CI:124:MET:HE1	1.86	0.56
16:CP:58:PHE:CD1	16:CP:75:THR:HG22	2.41	0.56
42:DI:23:PRO:HA	42:DI:61:LEU:HG	1.87	0.56
3:EA:992:C:H4'	18:ER:74:ILE:HD13	1.87	0.56
3:EA:996:A:H4'	17:EQ:91:ARG:HG2	1.86	0.56
3:EA:1568:G:OP1	2:EC:62:ARG:NH1	2.38	0.56
3:EA:2005:A:OP1	60:EA:3380:HOH:O	2.17	0.56
7:EG:155:PRO:O	7:EG:171:LYS:N	2.39	0.56
9:EI:125:THR:O	9:EI:128:ILE:N	2.37	0.56
23:EW:39:GLN:HG3	23:EW:40:ARG:H	1.70	0.56
38:FE:90:THR:HB	38:FE:135:ASN:ND2	2.19	0.56
38:FE:115:LEU:HD23	38:FE:123:VAL:HG21	1.87	0.56
39:FF:2:ARG:NH2	39:FF:68:GLN:OE1	2.38	0.56
47:FN:49:GLN:N	47:FN:49:GLN:OE1	2.38	0.56
3:GA:600:G:OP1	5:GE:24:ASN:ND2	2.38	0.56
3:GA:1070:A:H2'	3:GA:1072:C:H5	1.69	0.56
3:GA:1385:A:H1'	3:GA:1386:C:C6	2.40	0.56
3:GA:2312:U:O2	6:GF:36:ASN:ND2	2.38	0.56
5:GE:196:VAL:HA	5:GE:199:MET:HB3	1.86	0.56
20:GT:15:HIS:O	20:GT:17:SER:N	2.39	0.56
21:GU:86:PHE:CE1	21:GU:92:VAL:HG22	2.41	0.56
23:GW:19:ARG:HA	23:GW:34:SER:HA	1.86	0.56
31:G4:36:ARG:HG2	31:G4:37:GLN:N	2.19	0.56
35:HA:1268:G:H1'	35:HA:1327:C:H5'	1.88	0.56
40:HG:79:ARG:NH1	40:HG:82:GLY:O	2.39	0.56
3:AA:1107:G:H5"	32:A5:58:THR:CG2	2.36	0.56
4:AD:118:PHE:O	4:AD:120:GLY:N	2.36	0.56
35:BA:664:G:H22	35:BA:741:G:H1	1.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:995:C:H42	10:CJ:2:LYS:HB2	1.71	0.56
3:CA:1252:G:C2	3:CA:1253:A:C2	2.93	0.56
3:CA:2011:U:OP2	19:CS:16:LYS:NZ	2.39	0.56
1:EB:116:G:H4'	15:EO:54:VAL:HG12	1.87	0.56
12:EL:74:THR:HG22	12:EL:107:PHE:HB2	1.88	0.56
20:ET:59:ASN:O	20:ET:83:ALA:O	2.24	0.56
54:FU:11:PRO:O	54:FU:12:PHE:HB2	2.05	0.56
3:GA:340:A:O2'	5:GE:162:ARG:NH1	2.38	0.56
3:GA:1149:G:H2'	3:GA:1150:C:C6	2.39	0.56
35:HA:843:U:H2'	35:HA:844:G:H5'	1.87	0.56
35:HA:1293:C:H2'	35:HA:1294:G:H8	1.70	0.56
35:HA:1496:C:C5	35:HA:1497:G:C5	2.94	0.56
34:HB:150:ILE:O	34:HB:153:MET:N	2.34	0.56
40:HG:16:PRO:HB2	42:HI:46:MET:SD	2.46	0.56
50:HQ:20:SER:HB2	50:HQ:71:LYS:HZ1	1.71	0.56
1:AB:55:U:O3'	6:AF:23:SER:OG	2.21	0.56
3:AA:2533:U:OP1	3:AA:2665:A:O2'	2.20	0.56
55:BV:164:ALA:HB1	55:BV:262:ILE:HD11	1.88	0.56
3:CA:2387:U:P	23:CW:54:ARG:HH22	2.27	0.56
4:CD:11:MET:HA	4:CD:24:VAL:O	2.05	0.56
45:DL:40:THR:OG1	45:DL:41:THR:N	2.38	0.56
55:DV:220:GLN:O	55:DV:224:GLU:N	2.36	0.56
3:EA:1107:G:H5"	32:E5:58:THR:CG2	2.35	0.56
3:EA:1288:G:C4	3:EA:1327:A:C2	2.94	0.56
3:GA:31:C:N4	60:GA:3212:HOH:O	2.38	0.56
3:GA:321:U:O2'	3:GA:340:A:N3	2.38	0.56
3:GA:1187:G:OP2	60:GA:3364:HOH:O	2.18	0.56
3:GA:2627:G:O3'	60:GA:3246:HOH:O	2.18	0.56
16:GP:58:PHE:HD1	16:GP:75:THR:HG22	1.70	0.56
21:GU:25:LYS:N	21:GU:34:ILE:O	2.39	0.56
35:HA:1049:U:H4'	35:HA:1050:G:H5'	1.87	0.56
37:HD:198:HIS:O	37:HD:202:GLU:N	2.36	0.56
3:AA:1773:A:N7	3:AA:1829:A:H1'	2.20	0.56
15:AO:2:ASP:OD1	15:AO:3:LYS:N	2.39	0.56
17:AQ:105:PHE:O	17:AQ:108:LEU:N	2.38	0.56
55:BV:48:ALA:HB2	55:BV:369:ASN:CG	2.30	0.56
3:CA:122:G:O6	60:CA:3215:HOH:O	2.16	0.56
3:CA:1458:U:H4'	3:CA:1459:G:O5'	2.04	0.56
3:CA:2576:G:O2'	3:CA:2579:C:OP2	2.22	0.56
35:DA:816:A:OP1	35:DA:1526:G:O2'	2.21	0.56
46:DM:114:LYS:CB	46:DM:115:PRO:HD3	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:DV:98:GLU:O	55:DV:102:SER:OG	2.16	0.56
4:ED:149:ASN:OD1	4:ED:150:GLN:N	2.39	0.56
35:FA:753:A:OP1	48:FO:69:TYR:OH	2.23	0.56
35:FA:1084:G:C5	35:FA:1085:U:C4	2.94	0.56
55:FV:188:MET:HE3	55:FV:218:TRP:NE1	2.20	0.56
3:GA:1070:A:H2'	3:GA:1072:C:C5	2.40	0.56
3:GA:1654:A:H2'	3:GA:1655:A:H8	1.69	0.56
14:GN:103:ARG:NH2	14:GN:106:ASP:OD2	2.39	0.56
15:GO:85:LYS:CB	15:GO:87:ILE:HG12	2.33	0.56
35:HA:1452:C:O2'	35:HA:1453:G:OP1	2.19	0.56
3:AA:1019:U:H3	3:AA:1142:A:H62	1.53	0.56
3:AA:2331:G:O2'	3:AA:2336:A:N1	2.38	0.56
23:AW:18:LYS:HG3	23:AW:19:ARG:N	2.21	0.56
35:BA:757:U:O2'	35:BA:879:C:O2	2.19	0.56
35:BA:1457:G:OP1	53:BT:34:LYS:NZ	2.35	0.56
41:BH:3:MET:HE1	41:BH:9:ASP:HB2	1.88	0.56
42:BI:10:GLY:HA2	42:BI:81:HIS:CD2	2.41	0.56
35:DA:34:C:O4'	45:DL:29:GLN:NE2	2.39	0.56
35:DA:833:G:H2'	35:DA:834:U:O4'	2.05	0.56
3:EA:102:U:C4	25:EY:2:LYS:HB2	2.40	0.56
15:EO:49:VAL:HG21	15:EO:82:ALA:HA	1.87	0.56
32:E5:118:ILE:HB	32:E5:119:PRO:CD	2.36	0.56
43:FJ:71:LEU:O	43:FJ:72:ARG:NH1	2.38	0.56
54:FU:12:PHE:CZ	54:FU:16:LEU:HD21	2.40	0.56
1:GB:24:G:H4'	1:GB:25:U:C5	2.41	0.56
3:GA:248:G:N3	3:GA:2431:U:H4'	2.19	0.56
14:GN:117:ASP:OD1	14:GN:118:ARG:N	2.39	0.56
19:GS:18:ARG:HG3	19:GS:76:VAL:CG2	2.36	0.56
36:HC:71:ALA:HA	36:HC:106:VAL:CG2	2.35	0.56
3:AA:283:G:C2	3:AA:284:U:H1'	2.41	0.56
9:AI:135:MET:HB3	9:AI:137:LEU:HD22	1.88	0.56
20:AT:59:ASN:O	20:AT:83:ALA:O	2.24	0.56
34:BB:32:GLY:HA3	34:BB:39:ILE:H	1.70	0.56
55:BV:248:ILE:O	55:BV:251:ALA:N	2.39	0.56
3:CA:119:A:O3'	60:CA:3218:HOH:O	2.18	0.56
3:EA:1313:U:H2'	3:EA:1610:A:C2	2.41	0.56
3:EA:2024:G:O3'	4:ED:154:LYS:NZ	2.38	0.56
15:EO:82:ALA:O	15:EO:85:LYS:N	2.39	0.56
35:FA:935:A:O2'	35:FA:1383:C:N3	2.38	0.56
3:GA:372:G:N2	3:GA:401:A:OP2	2.37	0.56
3:GA:564:C:O4'	17:GQ:36:GLN:NE2	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:2482:A:C4	3:GA:2483:C:C5	2.94	0.56
35:HA:1239:A:H4'	35:HA:1240:U:H5"	1.88	0.56
3:AA:76:C:O2'	25:AY:55:THR:OG1	2.16	0.56
3:AA:2015:A:C2	27:A0:2:VAL:HG22	2.41	0.56
3:AA:2680:U:H5'	4:AD:194:PRO:HA	1.88	0.56
35:BA:71:A:N1	35:BA:99:C:O2'	2.37	0.56
35:BA:299:G:H2'	35:BA:300:A:C8	2.40	0.56
35:BA:779:C:O2'	44:BK:122:ARG:NH1	2.39	0.56
35:BA:1147:C:O2	42:BI:18:ARG:NH1	2.39	0.56
11:CK:10:VAL:HG21	11:CK:17:ARG:H	1.70	0.56
35:DA:537:G:OP1	45:DL:110:ARG:NH2	2.39	0.56
35:DA:926:G:N2	35:DA:1505:G:H2'	2.21	0.56
35:DA:978:A:HO2'	35:DA:1322:C:H5	1.54	0.56
45:DL:83:ARG:HH11	45:DL:83:ARG:HG2	1.70	0.56
9:EI:19:PRO:HG2	9:EI:22:PRO:HD2	1.88	0.56
17:EQ:93:ILE:O	17:EQ:96:ASP:N	2.36	0.56
20:ET:29:THR:OG1	20:ET:86:THR:N	2.36	0.56
23:EW:29:SER:C	23:EW:30:VAL:HG12	2.31	0.56
54:FU:40:LYS:N	54:FU:41:PRO:CD	2.69	0.56
3:GA:1214:A:O2'	60:GA:3691:HOH:O	2.13	0.56
47:HN:47:LYS:C	47:HN:49:GLN:H	2.12	0.56
6:AF:151:LEU:HD12	6:AF:152:ASP:N	2.21	0.56
12:AL:85:VAL:CG2	12:AL:94:THR:HG22	2.36	0.56
35:BA:1414:U:O2	35:BA:1487:G:N2	2.39	0.56
3:CA:751:A:C6	3:CA:789:A:C5	2.94	0.56
3:CA:1843:C:O2'	2:CC:253:GLY:O	2.13	0.56
23:CW:9:THR:OG1	23:CW:10:ARG:N	2.34	0.56
23:CW:35:ILE:O	23:CW:37:VAL:N	2.39	0.56
35:DA:1157:A:H5'	35:DA:1158:C:C6	2.41	0.56
34:DB:95:TRP:NE1	34:DB:171:ALA:HB2	2.21	0.56
41:DH:18:GLN:NE2	41:DH:70:ALA:HB1	2.21	0.56
3:EA:1064:C:N4	3:EA:1070:A:OP1	2.39	0.56
3:EA:1262:A:OP2	19:ES:99:ARG:NH2	2.39	0.56
42:FI:35:LEU:O	42:FI:40:GLY:N	2.39	0.56
3:GA:1140:C:OP2	10:GJ:68:LYS:NZ	2.38	0.56
35:HA:81:A:H5'	35:HA:90:C:N4	2.21	0.56
35:HA:125:U:C2	35:HA:237:G:N2	2.74	0.56
35:HA:734:G:H21	51:HR:64:TYR:HE1	1.54	0.56
34:HB:22:TRP:CZ3	34:HB:24:PRO:HA	2.41	0.56
3:AA:686:U:H2'	3:AA:788:A:N1	2.21	0.55
3:AA:2502:G:OP2	60:AA:3487:HOH:O	2.18	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:932:C:H5'	40:BG:4:ARG:HE	1.71	0.55
35:BA:1530:G:H2'	35:BA:1531:A:C8	2.41	0.55
3:CA:83:A:O2'	3:CA:103:A:N6	2.39	0.55
3:CA:1385:A:H1'	3:CA:1386:C:C6	2.41	0.55
2:CC:36:ASN:ND2	2:CC:85:ASN:OD1	2.39	0.55
4:CD:35:THR:N	4:CD:49:GLN:O	2.37	0.55
21:CU:15:GLY:O	21:CU:17:ASP:N	2.39	0.55
35:DA:1129:C:O2	35:DA:1130:A:N6	2.37	0.55
38:DE:110:ALA:O	38:DE:111:MET:HB3	2.06	0.55
3:EA:460:A:OP1	29:E2:41:ARG:NH1	2.38	0.55
3:EA:612:G:O2'	3:EA:613:A:C8	2.59	0.55
4:ED:33:ARG:NH1	4:ED:53:GLY:O	2.39	0.55
20:ET:1:MET:SD	20:ET:49:LYS:NZ	2.75	0.55
24:EX:77:TYR:C	24:EX:77:TYR:CD1	2.82	0.55
35:FA:100:G:OP2	60:FA:1873:HOH:O	2.18	0.55
35:FA:315:A:OP2	60:FA:1708:HOH:O	2.18	0.55
3:GA:323:C:OP1	3:GA:338:G:N2	2.39	0.55
3:GA:1853:A:N1	3:GA:2087:G:H1'	2.22	0.55
3:GA:1958:C:OP1	60:GA:3717:HOH:O	2.18	0.55
2:GC:38:LYS:NZ	2:GC:57:HIS:O	2.25	0.55
26:GZ:16:LEU:HB3	26:GZ:17:PRO:HD2	1.87	0.55
35:HA:673:A:N3	35:HA:734:G:N2	2.54	0.55
40:HG:15:ASP:HB2	40:HG:23:LEU:HB2	1.88	0.55
3:AA:85:G:OP2	21:AU:6:ARG:HG3	2.06	0.55
3:AA:100:U:H4'	3:AA:101:A:O5'	2.06	0.55
3:AA:1324:G:C4	3:AA:1328:A:N6	2.74	0.55
3:AA:1378:A:O2'	3:AA:1380:G:N7	2.27	0.55
3:AA:1786:A:H1'	3:AA:1938:A:N6	2.22	0.55
35:BA:58:C:O2'	35:BA:388:G:N7	2.24	0.55
44:BK:89:PRO:HB3	54:BU:29:LEU:HD22	1.87	0.55
3:CA:241:A:O2'	30:C3:2:LYS:NZ	2.38	0.55
3:CA:2543:G:C6	3:CA:2544:G:C6	2.94	0.55
11:CK:10:VAL:HG11	11:CK:16:ALA:HB3	1.88	0.55
34:DB:185:ILE:HA	34:DB:199:ILE:HB	1.87	0.55
3:EA:42:A:C2'	3:EA:43:G:H5'	2.35	0.55
4:ED:118:PHE:O	4:ED:120:GLY:N	2.38	0.55
16:EP:58:PHE:CD1	16:EP:75:THR:HG22	2.41	0.55
20:ET:19:LYS:O	20:ET:23:ALA:N	2.39	0.55
35:FA:1530:G:H2'	35:FA:1531:A:C8	2.41	0.55
44:FK:93:ARG:NH2	44:FK:112:ASP:OD2	2.36	0.55
54:FU:9:ASN:HB2	54:FU:11:PRO:HD2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:651:G:OP1	30:G3:18:LYS:N	2.37	0.55
3:GA:2252:G:O3'	60:GA:3504:HOH:O	2.17	0.55
3:GA:2314:A:OP1	6:GF:87:LYS:NZ	2.39	0.55
10:GJ:53:TYR:CE1	10:GJ:121:LYS:HG2	2.41	0.55
23:GW:18:LYS:HA	23:GW:36:ILE:HG13	1.87	0.55
35:HA:1261:A:N6	35:HA:1274:A:O2'	2.35	0.55
10:AJ:81:ILE:HG13	10:AJ:82:GLY:N	2.21	0.55
16:AP:33:GLU:CD	16:AP:34:GLY:N	2.63	0.55
16:AP:33:GLU:HB2	16:AP:38:ARG:HH11	1.71	0.55
35:BA:1152:A:OP1	43:BJ:70:HIS:ND1	2.40	0.55
46:BM:8:ASN:ND2	46:BM:66:GLU:OE2	2.39	0.55
55:BV:92:HIS:O	55:BV:122:GLN:NE2	2.40	0.55
3:CA:819:A:C4	3:CA:1189:A:C2	2.93	0.55
7:CG:84:LYS:HG2	7:CG:85:LYS:N	2.21	0.55
18:CR:49:ILE:HG22	18:CR:54:VAL:HG13	1.87	0.55
35:DA:1492:A:O3'	56:DW:1:KBE:NZ	2.39	0.55
3:EA:364:C:H2'	3:EA:365:U:C6	2.41	0.55
13:EM:106:ASP:O	13:EM:108:VAL:N	2.37	0.55
35:HA:626:G:OP1	49:HP:35:ARG:NH2	2.39	0.55
40:HG:67:GLU:HG3	40:HG:70:ARG:CZ	2.37	0.55
3:AA:1107:G:H4'	32:A5:81:LEU:HA	1.88	0.55
11:AK:121:GLU:OE1	16:AP:62:LYS:NZ	2.37	0.55
14:AN:30:ARG:NH1	14:AN:74:GLU:OE1	2.40	0.55
35:BA:93:U:H2'	35:BA:94:G:H5"	1.88	0.55
36:BC:3:GLN:OE1	36:BC:3:GLN:N	2.39	0.55
52:BS:36:ARG:NH2	52:BS:75:ALA:O	2.39	0.55
36:DC:154:SER:CB	36:DC:165:THR:HG22	2.37	0.55
6:EF:59:ILE:HD11	6:EF:140:ILE:CD1	2.36	0.55
35:FA:623:C:C4	35:FA:624:C:C5	2.95	0.55
49:FP:6:LEU:HD12	49:FP:17:TYR:CB	2.36	0.55
3:GA:646:U:N3	3:GA:2368:C:H1'	2.21	0.55
3:GA:655:A:H4'	3:GA:656:G:OP1	2.07	0.55
3:GA:1027:A:C6	3:GA:1126:A:C4	2.95	0.55
3:GA:2415:G:C6	3:GA:2416:C:C4	2.95	0.55
30:G3:27:ASN:O	30:G3:35:LYS:NZ	2.39	0.55
35:HA:1034:G:N2	35:HA:1035:A:N7	2.54	0.55
37:HD:4:TYR:CZ	37:HD:11:LEU:HD11	2.41	0.55
44:HK:13:ARG:N	44:HK:76:GLU:HB3	2.20	0.55
2:AC:68:ARG:CD	2:AC:103:ILE:HD11	2.37	0.55
3:AA:1482:G:C6	3:AA:1508:A:C2	2.94	0.55
3:AA:1676:A:OP2	60:AA:3754:HOH:O	2.18	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:12:THR:OG1	16:AP:8:GLU:OE2	2.21	0.55
35:BA:579:A:H2'	35:BA:580:C:C6	2.42	0.55
37:BD:58:LYS:HB2	37:BD:200:ILE:HG13	1.86	0.55
54:BU:25:LYS:NZ	54:BU:26:ALA:HB2	2.20	0.55
3:CA:422:A:C2	3:CA:423:A:C4	2.95	0.55
3:CA:2037:A:C6	3:CA:2038:G:C6	2.95	0.55
35:DA:177:G:OP2	53:DT:64:LYS:NZ	2.32	0.55
39:DF:48:ALA:H	51:DR:66:SER:HG	1.52	0.55
3:EA:299:A:OP2	60:EA:3551:HOH:O	2.18	0.55
1:GB:83:G:H4'	26:GZ:52:PHE:CG	2.41	0.55
3:GA:41:C:H2'	3:GA:42:A:O4'	2.05	0.55
3:GA:663:G:N2	3:GA:939:G:O3'	2.40	0.55
3:GA:1082:U:N3	3:GA:1083:U:O2	2.40	0.55
3:GA:1778:U:H2'	3:GA:1784:A:H62	1.71	0.55
3:GA:2021:C:P	27:G0:8:THR:HG21	2.47	0.55
35:HA:844:G:C3'	35:HA:845:A:H5"	2.37	0.55
42:HI:99:ARG:HG3	42:HI:104:VAL:HG22	1.89	0.55
2:AC:14:HIS:O	2:AC:203:VAL:HG11	2.05	0.55
10:AJ:17:VAL:HG23	10:AJ:139:VAL:HA	1.88	0.55
17:AQ:94:LEU:C	17:AQ:96:ASP:N	2.64	0.55
32:A5:23:LEU:HG	32:A5:24:SER:N	2.22	0.55
35:BA:1277:C:HO2'	35:BA:1279:G:H8	1.55	0.55
3:CA:726:G:O2'	3:CA:727:A:OP2	2.24	0.55
3:CA:2347:C:O2'	28:C1:20:TYR:OH	2.11	0.55
2:CC:28:PRO:HG2	2:CC:33:LEU:HD11	1.88	0.55
2:CC:43:ASN:OD1	2:CC:44:ASN:N	2.35	0.55
6:CF:132:ARG:O	6:CF:133:GLU:HB3	2.07	0.55
15:CO:31:THR:O	15:CO:102:ARG:NH1	2.40	0.55
23:CW:55:ASP:O	23:CW:57:THR:N	2.40	0.55
29:C2:34:ARG:NH1	29:C2:41:ARG:O	2.40	0.55
34:DB:187:ASP:HB2	34:DB:203:ASP:HB3	1.89	0.55
38:DE:72:ILE:HD11	38:DE:145:GLU:CD	2.31	0.55
50:DQ:6:ARG:HH11	50:DQ:6:ARG:CG	2.20	0.55
3:EA:1996:C:OP1	11:EK:31:ARG:NE	2.40	0.55
3:EA:2144:G:N2	3:EA:2149:U:O2'	2.40	0.55
19:ES:14:ALA:O	19:ES:17:VAL:N	2.39	0.55
44:FK:111:THR:HA	54:FU:4:ILE:O	2.07	0.55
3:GA:979:A:N7	60:GA:3582:HOH:O	2.32	0.55
35:HA:1016:A:O2'	35:HA:1217:C:O2	2.25	0.55
44:HK:24:HIS:HB2	44:HK:87:LYS:HD2	1.88	0.55
50:HQ:12:VAL:O	50:HQ:13:VAL:HG22	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1458:U:H4'	3:AA:1459:G:O5'	2.07	0.55
35:BA:1004:A:O2'	35:BA:1036:A:N1	2.32	0.55
35:BA:1468:A:C2'	35:BA:1469:C:H5'	2.37	0.55
37:BD:26:ARG:C	37:BD:26:ARG:HD3	2.32	0.55
48:BO:19:ALA:O	48:BO:20:ASN:HB2	2.07	0.55
3:CA:864:G:OP1	13:CM:22:GLN:NE2	2.39	0.55
3:CA:2331:G:O2'	3:CA:2336:A:N1	2.39	0.55
3:CA:2637:U:OP1	4:CD:83:ARG:NH2	2.38	0.55
26:CZ:40:THR:CG2	26:CZ:43:ILE:HG23	2.37	0.55
32:C5:122:GLN:CG	32:C5:123:ILE:H	2.18	0.55
35:DA:843:U:H2'	35:DA:844:G:H5'	1.89	0.55
37:DD:44:ARG:C	37:DD:46:PRO:HD3	2.32	0.55
3:EA:865:C:N3	3:EA:908:C:N4	2.55	0.55
10:EJ:81:ILE:HG23	10:EJ:82:GLY:N	2.21	0.55
35:FA:196:A:OP2	60:FA:1877:HOH:O	2.18	0.55
55:FV:422:PRO:O	55:FV:424:THR:N	2.40	0.55
3:GA:635:C:OP1	12:GL:126:ARG:NH1	2.40	0.55
3:GA:818:G:OP2	60:GA:3568:HOH:O	2.18	0.55
3:GA:1383:A:N7	3:GA:1384:A:C6	2.75	0.55
35:HA:888:G:O2'	35:HA:1488:G:O2'	2.20	0.55
40:HG:114:LYS:HD3	40:HG:118:LEU:CD1	2.36	0.55
3:AA:811:U:C4	12:AL:21:ARG:NH2	2.75	0.55
24:AX:32:LEU:O	24:AX:33:HIS:ND1	2.39	0.55
35:BA:1021:A:H2'	35:BA:1022:A:H5'	1.89	0.55
39:BF:42:TRP:CZ2	39:BF:101:PRO:HD3	2.42	0.55
4:CD:33:ARG:NH2	4:CD:74:GLU:O	2.39	0.55
13:CM:106:ASP:O	13:CM:108:VAL:N	2.39	0.55
32:C5:23:LEU:HG	32:C5:24:SER:N	2.22	0.55
34:DB:46:VAL:HB	34:DB:47:PRO:HD3	1.89	0.55
37:DD:151:LYS:N	37:DD:178:MET:SD	2.80	0.55
55:DV:526:GLU:O	55:DV:528:GLY:N	2.40	0.55
35:FA:401:C:O2'	35:FA:621:A:N3	2.35	0.55
34:FB:32:GLY:HA3	34:FB:39:ILE:H	1.71	0.55
39:FF:38:ARG:HB3	39:FF:63:ASN:HB2	1.88	0.55
3:GA:1309:G:OP1	29:G2:9:VAL:HG13	2.07	0.55
3:GA:2264:C:C5	3:GA:2265:U:C4	2.95	0.55
21:GU:15:GLY:O	21:GU:17:ASP:N	2.39	0.55
35:HA:976:G:OP2	35:HA:1358:U:O2'	2.25	0.55
46:HM:14:HIS:O	46:HM:18:ALA:N	2.36	0.55
3:AA:2335:A:C6	3:AA:2337:G:H1'	2.42	0.55
22:AV:80:HIS:HD2	22:AV:83:LYS:N	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:158:G:H2'	35:BA:159:G:H5'	1.88	0.55
35:BA:558:G:OP1	60:BA:1842:HOH:O	2.18	0.55
45:BL:34:CYS:HA	45:BL:55:VAL:HA	1.89	0.55
3:CA:1242:U:H2'	3:CA:1243:C:C6	2.42	0.55
4:CD:13:ARG:NH1	11:CK:73:ASP:O	2.40	0.55
7:CG:38:ASP:OD1	7:CG:38:ASP:N	2.39	0.55
12:CL:26:GLY:C	12:CL:27:LEU:HD12	2.32	0.55
35:DA:904:U:O4	60:DA:1758:HOH:O	2.15	0.55
3:EA:784:G:O2'	3:EA:785:G:OP2	2.16	0.55
10:EJ:44:TYR:HB2	17:EQ:63:ARG:HB3	1.88	0.55
3:GA:858:G:N2	3:GA:919:U:O4	2.40	0.55
3:GA:871:U:C2	3:GA:907:G:C6	2.95	0.55
3:GA:962:G:H21	3:GA:2250:G:H1	1.53	0.55
3:GA:2800:A:H3'	3:GA:2801:G:C5'	2.37	0.55
35:HA:1266:G:O2'	35:HA:1268:G:N7	2.29	0.55
34:HB:147:LEU:O	34:HB:151:LYS:NZ	2.36	0.55
3:AA:299:A:OP1	60:AA:3548:HOH:O	2.18	0.55
3:AA:910:A:N6	3:AA:2277:G:O2'	2.36	0.55
41:BH:93:PRO:HG3	41:BH:125:ILE:HD12	1.89	0.55
3:CA:442:G:O4'	5:CE:41:GLN:NE2	2.40	0.55
3:CA:654:A:H3'	3:CA:654:A:N3	2.22	0.55
16:CP:50:ARG:CG	16:CP:57:ALA:O	2.54	0.55
16:CP:63:ILE:HA	16:CP:68:GLY:HA2	1.88	0.55
35:DA:1290:G:OP1	40:DG:35:LYS:NZ	2.40	0.55
53:DT:51:PHE:CD1	53:DT:51:PHE:C	2.84	0.55
3:EA:1485:U:H2'	3:EA:1486:U:H6	1.71	0.55
3:EA:2152:G:H2'	3:EA:2153:C:H5'	1.89	0.55
35:FA:111:G:O6	35:FA:330:C:N4	2.40	0.55
38:FE:104:GLY:CA	38:FE:122:ASN:HA	2.37	0.55
47:FN:25:ALA:O	47:FN:28:LYS:HG3	2.07	0.55
1:GB:82:U:H5"	26:GZ:16:LEU:CD1	2.37	0.55
3:GA:1073:A:OP1	3:GA:1074:G:N2	2.39	0.55
3:GA:2793:C:H2'	3:GA:2794:C:C6	2.42	0.55
26:GZ:7:THR:OG1	26:GZ:55:LYS:O	2.23	0.55
35:HA:811:C:N4	35:HA:812:G:O6	2.40	0.55
2:AC:251:THR:HG21	3:AA:1824:G:N3	2.21	0.54
3:AA:1754:A:H4'	16:AP:102:ARG:NH2	2.22	0.54
4:AD:106:LYS:HB3	4:AD:206:ALA:HB3	1.89	0.54
11:AK:43:ILE:CD1	11:AK:52:VAL:HB	2.37	0.54
11:AK:107:LEU:O	11:AK:109:SER:N	2.38	0.54
17:AQ:94:LEU:C	17:AQ:96:ASP:H	2.14	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AR:39:LEU:O	18:AR:49:ILE:HG23	2.07	0.54
32:A5:43:LYS:HZ3	32:A5:98:GLU:HB2	1.71	0.54
38:BE:106:ILE:HD11	38:BE:124:LEU:HD22	1.89	0.54
39:BF:53:LYS:O	39:BF:54:LEU:HB3	2.06	0.54
46:BM:11:ASP:CG	46:BM:12:HIS:H	2.15	0.54
3:CA:742:A:H2'	3:CA:743:A:C8	2.42	0.54
26:CZ:8:GLN:O	26:CZ:10:ARG:N	2.38	0.54
49:DP:21:VAL:HG22	49:DP:34:GLU:O	2.07	0.54
49:DP:43:ALA:HB1	49:DP:46:LYS:HE2	1.88	0.54
3:EA:856:G:H21	23:EW:19:ARG:HH22	1.55	0.54
36:FC:168:TYR:OH	38:FE:55:GLU:OE1	2.22	0.54
3:GA:214:G:N3	3:GA:216:A:O2'	2.37	0.54
3:GA:225:C:N4	3:GA:230:G:H1	2.05	0.54
3:GA:2292:U:N3	3:GA:2293:G:N7	2.55	0.54
12:GL:61:LEU:O	30:G3:12:ARG:NH2	2.39	0.54
37:HD:188:ARG:NH2	37:HD:197:GLU:OE2	2.39	0.54
3:AA:227:A:O2'	3:AA:2407:A:O2'	2.19	0.54
3:AA:265:A:H4'	3:AA:266:G:OP1	2.07	0.54
3:AA:2681:C:OP2	4:AD:114:LYS:NZ	2.33	0.54
32:A5:44:ALA:O	32:A5:49:GLY:N	2.40	0.54
32:A5:64:VAL:O	32:A5:68:PRO:HD2	2.06	0.54
35:BA:1452:C:O2'	35:FA:83:C:OP1	2.24	0.54
46:BM:56:LEU:O	46:BM:59:GLU:N	2.38	0.54
3:CA:85:G:O2'	3:CA:103:A:N1	2.35	0.54
3:CA:443:A:C6	5:CE:40:ARG:HD3	2.42	0.54
3:CA:2006:C:O2'	3:CA:2823:A:N3	2.40	0.54
16:CP:88:ARG:O	16:CP:112:ARG:N	2.39	0.54
34:DB:86:CYS:SG	34:DB:88:GLN:NE2	2.80	0.54
7:EG:104:LEU:HB2	7:EG:112:VAL:HG21	1.89	0.54
20:ET:67:VAL:HA	20:ET:76:ARG:HA	1.88	0.54
34:FB:99:MET:HA	34:FB:106:VAL:HG21	1.88	0.54
34:FB:187:ASP:HB2	34:FB:203:ASP:HB3	1.89	0.54
36:FC:150:LYS:HB3	36:FC:169:ARG:HG2	1.88	0.54
38:FE:136:VAL:O	38:FE:138:ARG:N	2.40	0.54
1:GB:2:G:N2	1:GB:119:A:O3'	2.40	0.54
3:GA:587:C:N3	12:GL:33:ARG:NH2	2.50	0.54
3:GA:659:G:C2'	5:GE:30:GLN:HE22	2.20	0.54
3:GA:942:G:H4'	3:GA:1190:G:H5'	1.88	0.54
4:GD:151:THR:CG2	4:GD:152:PRO:HD3	2.37	0.54
18:GR:83:TYR:C	18:GR:83:TYR:CD1	2.86	0.54
30:G3:51:LYS:HA	30:G3:54:LEU:HD22	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1936:A:N6	3:AA:1963:U:H3	2.05	0.54
35:BA:1181:G:O2'	35:BA:1182:G:N7	2.40	0.54
37:BD:192:SER:OG	37:BD:193:ALA:N	2.40	0.54
55:BV:313:ASP:OD2	55:BV:378:ARG:NH1	2.40	0.54
3:CA:96:C:H4'	25:CY:41:HIS:CE1	2.42	0.54
3:CA:728:G:H4'	2:CC:12:ARG:HD3	1.89	0.54
2:CC:12:ARG:HH11	2:CC:12:ARG:CG	2.20	0.54
20:CT:19:LYS:O	20:CT:23:ALA:N	2.39	0.54
23:EW:16:GLU:O	23:EW:17:ALA:HB3	2.06	0.54
23:EW:19:ARG:NH2	23:EW:22:VAL:HG21	2.22	0.54
40:FG:15:ASP:OD1	40:FG:44:TYR:OH	2.25	0.54
46:FM:3:ARG:CD	46:FM:7:ILE:HD12	2.37	0.54
49:FP:4:ILE:HG13	49:FP:21:VAL:HG12	1.90	0.54
3:GA:445:C:H4'	3:GA:1248:G:O6	2.07	0.54
3:GA:664:G:H4'	3:GA:941:A:OP1	2.07	0.54
3:GA:959:A:C6	3:GA:960:A:C6	2.94	0.54
2:GC:68:ARG:NE	2:GC:128:THR:OG1	2.41	0.54
4:GD:186:LEU:HD11	16:GP:3:ILE:HD11	1.90	0.54
44:HK:60:PRO:HB3	44:HK:92:GLY:CA	2.37	0.54
48:HO:45:GLU:HG3	48:HO:46:HIS:N	2.22	0.54
3:AA:1772:A:N1	3:AA:1980:G:C6	2.76	0.54
25:AY:56:LEU:O	25:AY:58:ASN:N	2.39	0.54
35:BA:619:U:H3	37:BD:131:ASN:HB3	1.72	0.54
40:BG:57:SER:OG	40:BG:58:GLU:N	2.40	0.54
3:CA:1567:G:C8	2:CC:82:TYR:CE2	2.96	0.54
3:CA:2800:A:C2	3:CA:2895:G:H1'	2.42	0.54
8:CH:45:GLU:HA	8:CH:48:GLU:HB3	1.88	0.54
14:CN:58:ASP:OD2	14:CN:63:ARG:NH2	2.39	0.54
16:CP:50:ARG:CD	16:CP:51:ASN:N	2.71	0.54
34:DB:49:PHE:HA	34:DB:52:ALA:HB3	1.90	0.54
54:DU:9:ASN:HB2	54:DU:11:PRO:HD2	1.89	0.54
55:DV:526:GLU:OE1	55:DV:526:GLU:N	2.41	0.54
3:EA:792:A:N3	3:EA:2072:C:O2'	2.38	0.54
3:EA:1843:C:H5'	2:EC:250:GLN:OE1	2.08	0.54
22:EV:75:GLN:HB2	22:EV:92:VAL:HG23	1.88	0.54
32:E5:31:ARG:C	32:E5:108:VAL:CG2	2.80	0.54
35:FA:429:U:H5'	37:FD:9:LEU:HG	1.89	0.54
35:FA:920:U:H2'	35:FA:921:U:C6	2.43	0.54
34:FB:163:ILE:HG23	34:FB:164:ASP:N	2.23	0.54
34:FB:221:ARG:NH1	34:FB:222:GLU:HB2	2.23	0.54
37:FD:30:THR:HG22	37:FD:31:LYS:H	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:FD:161:LEU:HD13	37:FD:164:GLN:HB3	1.89	0.54
3:GA:1938:A:OP2	60:GA:3716:HOH:O	2.19	0.54
12:GL:85:VAL:CG2	12:GL:94:THR:HG22	2.37	0.54
18:GR:77:PHE:HE1	18:GR:79:ARG:HA	1.72	0.54
35:HA:1033:G:C2'	35:HA:1034:G:H5'	2.37	0.54
40:HG:57:SER:OG	40:HG:58:GLU:N	2.41	0.54
46:HM:96:PRO:HD3	46:HM:102:THR:CG2	2.38	0.54
3:AA:2355:G:H4'	23:AW:20:LEU:HD13	1.88	0.54
16:AP:50:ARG:CG	16:AP:57:ALA:O	2.55	0.54
26:AZ:5:LYS:H	26:AZ:5:LYS:HD2	1.72	0.54
28:A1:8:ILE:HD11	28:A1:24:LYS:N	2.21	0.54
32:A5:60:LEU:O	32:A5:64:VAL:HB	2.08	0.54
32:A5:129:LEU:HB3	32:A5:130:PRO:HD2	1.89	0.54
38:BE:96:MET:CE	38:BE:115:LEU:HD11	2.38	0.54
3:CA:546:U:O2'	3:CA:547:A:H4'	2.07	0.54
3:CA:1779:U:H5	3:CA:1784:A:N7	2.06	0.54
35:DA:429:U:OP2	37:DD:13:ARG:NH2	2.40	0.54
43:DJ:57:VAL:HG13	43:DJ:58:ASN:N	2.22	0.54
32:E5:23:LEU:H	32:E5:87:GLU:HB2	1.73	0.54
35:FA:159:G:O2'	35:FA:161:A:N7	2.33	0.54
35:FA:1021:A:C2'	35:FA:1022:A:H5'	2.38	0.54
45:FL:44:LYS:CB	45:FL:45:PRO:CD	2.86	0.54
55:FV:495:ARG:HD2	55:FV:611:VAL:HB	1.90	0.54
1:GB:29:A:H2'	1:GB:30:C:C6	2.43	0.54
3:GA:975:A:C2	3:GA:990:A:C8	2.95	0.54
3:GA:1000:A:N6	3:GA:1155:A:C8	2.76	0.54
40:HG:66:LEU:HA	40:HG:104:ILE:HD11	1.88	0.54
3:AA:163:C:O2'	3:AA:164:C:P	2.65	0.54
3:AA:834:G:C6	3:AA:835:C:C4	2.95	0.54
3:AA:2415:G:H4'	12:AL:66:PHE:HB2	1.90	0.54
3:AA:2698:U:H2'	3:AA:2699:C:H6	1.72	0.54
32:A5:54:VAL:HA	32:A5:84:TYR:O	2.07	0.54
35:BA:135:C:H2'	35:BA:136:C:H5'	1.87	0.54
45:BL:68:GLY:O	45:BL:99:ARG:NH1	2.40	0.54
3:CA:1288:G:C4	3:CA:1327:A:C2	2.96	0.54
3:CA:1386:C:O2'	3:CA:1469:A:O2'	2.25	0.54
3:CA:2211:A:O2'	3:CA:2212:A:OP1	2.23	0.54
3:CA:2564:A:OP1	3:CA:2648:G:O2'	2.21	0.54
35:DA:755:G:OP2	48:DO:65:LYS:NZ	2.39	0.54
3:EA:1936:A:H61	3:EA:1963:U:H3	1.55	0.54
3:EA:2138:G:N2	3:EA:2150:C:N3	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:EG:37:ASN:OD1	7:EG:37:ASN:N	2.40	0.54
9:EI:83:ALA:HB1	9:EI:100:ILE:HD11	1.90	0.54
32:E5:31:ARG:C	32:E5:108:VAL:HG21	2.33	0.54
41:FH:3:MET:HE1	41:FH:9:ASP:HB2	1.88	0.54
3:GA:42:A:H1'	3:GA:438:G:H22	1.73	0.54
10:GJ:32:LEU:O	10:GJ:36:LEU:HB2	2.07	0.54
17:GQ:105:PHE:O	17:GQ:108:LEU:N	2.40	0.54
28:G1:35:LEU:HD21	28:G1:37:LYS:HD2	1.88	0.54
35:HA:980:C:O2	60:HA:1772:HOH:O	2.16	0.54
35:HA:1129:C:O4'	35:HA:1146:A:N6	2.36	0.54
3:AA:189:G:O6	3:AA:205:G:O2'	2.19	0.54
3:AA:855:G:H1'	23:AW:23:LYS:HE3	1.89	0.54
4:AD:107:VAL:CG2	4:AD:203:VAL:HG23	2.37	0.54
18:AR:49:ILE:HB	18:AR:51:VAL:O	2.08	0.54
19:AS:73:LYS:HB3	19:AS:106:VAL:HB	1.90	0.54
32:A5:58:THR:HB	32:A5:82:ILE:HB	1.89	0.54
32:C5:39:THR:HA	32:C5:42:ARG:HH11	1.72	0.54
35:DA:577:G:OP1	60:DA:1752:HOH:O	2.18	0.54
50:DQ:17:MET:SD	50:DQ:20:SER:OG	2.49	0.54
3:EA:846:U:HO2'	3:EA:847:U:P	2.31	0.54
15:EO:51:ALA:HB3	15:EO:78:VAL:HG13	1.90	0.54
16:EP:63:ILE:HA	16:EP:68:GLY:HA2	1.88	0.54
17:EQ:63:ARG:HH22	17:EQ:96:ASP:N	2.06	0.54
24:EX:39:VAL:O	24:EX:41:SER:N	2.39	0.54
34:FB:57:ASN:HB2	34:FB:219:THR:HG23	1.90	0.54
46:FM:11:ASP:OD1	46:FM:12:HIS:N	2.39	0.54
53:FT:5:LYS:HD3	53:FT:6:SER:N	2.23	0.54
3:GA:411:G:OP2	3:GA:2406:A:O2'	2.24	0.54
3:GA:1865:U:C4	3:GA:1875:G:C2	2.96	0.54
6:GF:71:LYS:NZ	6:GF:80:GLN:OE1	2.32	0.54
3:AA:2757:A:N1	7:AG:66:THR:HG21	2.21	0.54
13:AM:33:LEU:HD22	13:AM:128:THR:HB	1.90	0.54
32:A5:4:ASN:C	32:A5:6:GLN:H	2.16	0.54
32:A5:4:ASN:C	32:A5:6:GLN:N	2.66	0.54
3:CA:315:G:H2'	3:CA:316:C:C6	2.43	0.54
3:CA:569:U:O2'	3:CA:983:A:N1	2.41	0.54
3:CA:1080:A:H1'	9:CI:127:SER:HA	1.90	0.54
10:CJ:2:LYS:O	10:CJ:2:LYS:NZ	2.35	0.54
10:CJ:118:MET:HA	10:CJ:121:LYS:HE2	1.90	0.54
24:CX:4:CYS:SG	24:CX:7:THR:OG1	2.62	0.54
32:C5:71:CYS:CB	32:C5:117:LEU:CD1	2.86	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:131:A:H2'	35:DA:132:C:C6	2.43	0.54
3:EA:2280:G:O2'	3:EA:2388:A:N1	2.36	0.54
3:EA:2356:U:H5"	23:EW:16:GLU:HG2	1.90	0.54
7:EG:38:ASP:N	7:EG:38:ASP:OD1	2.41	0.54
26:EZ:40:THR:HG23	26:EZ:43:ILE:H	1.73	0.54
35:FA:875:U:O2'	41:FH:15:ARG:NH1	2.41	0.54
44:FK:35:THR:OG1	44:FK:40:ASN:N	2.41	0.54
3:GA:820:A:H2'	3:GA:821:A:O4'	2.07	0.54
3:GA:2210:U:H4'	3:GA:2211:A:H5'	1.90	0.54
16:GP:63:ILE:HA	16:GP:68:GLY:HA2	1.89	0.54
17:GQ:82:LEU:HA	17:GQ:85:ALA:HB3	1.90	0.54
35:HA:588:G:H1'	41:HH:3:MET:HE2	1.90	0.54
39:HF:98:GLU:HG3	39:HF:99:ALA:N	2.23	0.54
3:AA:84:A:P	21:AU:5:ARG:NH2	2.81	0.54
3:AA:396:G:OP2	24:AX:9:LYS:NZ	2.40	0.54
4:AD:68:PHE:C	4:AD:73:VAL:HG12	2.33	0.54
18:AR:49:ILE:HG22	18:AR:54:VAL:HG13	1.89	0.54
20:AT:32:LEU:N	20:AT:83:ALA:HB3	2.21	0.54
32:A5:4:ASN:O	32:A5:6:GLN:N	2.41	0.54
35:BA:1182:G:H4'	35:BA:1183:U:C5'	2.37	0.54
52:BS:10:PHE:C	52:BS:10:PHE:CD1	2.85	0.54
3:CA:250:G:OP2	30:C3:12:ARG:NH1	2.40	0.54
3:CA:545:U:H2'	3:CA:546:U:O3'	2.07	0.54
3:CA:602:A:N3	3:CA:655:A:C2	2.75	0.54
3:CA:1418:G:N1	3:CA:1579:A:OP2	2.34	0.54
3:CA:1789:A:OP2	2:CC:220:ARG:NH1	2.40	0.54
3:CA:2297:A:N1	3:CA:2321:U:H5	2.05	0.54
3:CA:2425:A:H5"	3:CA:2427:C:O4'	2.08	0.54
16:CP:50:ARG:HG2	16:CP:57:ALA:N	2.23	0.54
32:C5:131:THR:O	32:C5:134:GLU:N	2.40	0.54
35:DA:692:U:O2'	35:DA:694:A:N7	2.40	0.54
1:EB:90:C:H5'	13:EM:18:ARG:HG2	1.89	0.54
38:FE:111:MET:CE	38:FE:125:ALA:HB1	2.38	0.54
42:FI:34:SER:HB3	42:FI:37:GLN:CG	2.38	0.54
56:FW:5:UAL:O	56:FW:6:5OH:NP	2.41	0.54
3:GA:42:A:C2	3:GA:43:G:N7	2.76	0.54
2:GC:71:ASP:OD2	2:GC:188:ARG:NH1	2.41	0.54
16:GP:50:ARG:CB	16:GP:57:ALA:H	2.21	0.54
19:GS:80:PRO:O	19:GS:100:THR:OG1	2.25	0.54
35:HA:727:G:H4'	35:HA:741:G:H22	1.72	0.54
35:HA:1053:G:N7	35:HA:1199:U:H3'	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:1468:A:C2'	35:HA:1469:C:H5'	2.38	0.54
48:HO:45:GLU:CG	48:HO:46:HIS:N	2.71	0.54
3:AA:443:A:N7	5:AE:40:ARG:HD3	2.21	0.54
3:AA:877:A:C2	3:AA:899:A:C2	2.95	0.54
3:AA:2552:U:O4	60:AA:3711:HOH:O	2.19	0.54
11:AK:70:ARG:HD3	11:AK:76:VAL:HG22	1.90	0.54
34:BB:209:VAL:HG23	34:BB:210:THR:H	1.72	0.54
3:CA:1568:G:OP1	2:CC:62:ARG:NH1	2.40	0.54
12:CL:93:ASN:O	12:CL:95:LEU:N	2.41	0.54
35:DA:277:C:OP1	50:DQ:43:LYS:NZ	2.41	0.54
37:DD:147:GLU:HA	37:DD:150:LYS:HD2	1.90	0.54
43:DJ:32:THR:HG21	43:DJ:86:ALA:CB	2.38	0.54
24:EX:57:VAL:O	24:EX:61:LYS:N	2.41	0.54
34:FB:100:LEU:HD23	34:FB:178:LEU:HD23	1.90	0.54
37:FD:34:ILE:O	37:FD:35:GLU:HB3	2.07	0.54
55:FV:190:ALA:N	55:FV:205:GLU:O	2.40	0.54
3:GA:298:G:O2'	3:GA:322:A:N1	2.31	0.54
3:GA:445:C:N4	3:GA:446:G:O6	2.40	0.54
3:GA:816:C:OP1	3:GA:1185:G:O2'	2.26	0.54
3:GA:974:G:O5'	18:GR:78:ARG:NH1	2.41	0.54
3:GA:2266:A:H5'	3:GA:2267:A:C5	2.43	0.54
3:GA:2766:A:C2	3:GA:2767:C:C6	2.96	0.54
26:GZ:17:PRO:HA	26:GZ:20:LYS:HE2	1.90	0.54
4:AD:120:GLY:HA2	4:AD:162:ALA:CB	2.38	0.53
16:AP:4:ILE:HG22	16:AP:5:LYS:H	1.72	0.53
17:AQ:91:ARG:NH1	18:AR:10:LYS:HB3	2.23	0.53
21:AU:38:ILE:HG22	21:AU:39:ASN:H	1.73	0.53
23:AW:63:ASP:OD1	23:AW:63:ASP:N	2.35	0.53
35:BA:351:G:OP1	53:BT:3:ASN:ND2	2.40	0.53
38:BE:104:GLY:CA	38:BE:122:ASN:HA	2.38	0.53
38:BE:104:GLY:HA3	38:BE:122:ASN:HA	1.90	0.53
45:BL:43:LYS:HG2	45:BL:44:LYS:HG3	1.90	0.53
1:CB:23:G:O6	60:CB:1311:HOH:O	2.18	0.53
3:CA:64:A:H2'	3:CA:65:U:C6	2.43	0.53
3:CA:565:C:H2'	3:CA:566:U:O4'	2.09	0.53
3:CA:1759:A:O2'	3:CA:2714:G:O2'	2.24	0.53
10:CJ:43:GLU:O	10:CJ:45:THR:N	2.41	0.53
13:CM:73:ILE:HG21	13:CM:91:TYR:CZ	2.43	0.53
15:CO:105:ALA:O	15:CO:107:ALA:N	2.40	0.53
47:DN:4:GLN:OE1	60:DN:203:HOH:O	2.17	0.53
55:DV:188:MET:HE3	55:DV:218:TRP:NE1	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:2156:G:H2'	3:EA:2157:G:H21	1.72	0.53
1:EB:23:G:N7	60:EB:1310:HOH:O	2.33	0.53
4:ED:33:ARG:NH2	4:ED:74:GLU:O	2.41	0.53
9:EI:23:VAL:HB	9:EI:27:LEU:HD23	1.90	0.53
10:EJ:44:TYR:CD1	10:EJ:44:TYR:C	2.86	0.53
47:FN:18:ASP:OD1	47:FN:19:LYS:N	2.41	0.53
3:GA:1019:U:OP1	3:GA:1035:U:O2'	2.17	0.53
3:GA:1095:A:C8	55:HV:631:VAL:N	2.76	0.53
3:GA:1715:G:O2'	3:GA:1743:G:O6	2.18	0.53
3:GA:2867:G:O2'	3:GA:2868:A:OP2	2.26	0.53
7:GG:104:LEU:HB2	7:GG:112:VAL:HG21	1.89	0.53
34:HB:67:LEU:HD12	34:HB:153:MET:CE	2.37	0.53
43:HJ:56:HIS:CD2	43:HJ:57:VAL:HG23	2.43	0.53
52:HS:36:ARG:NH1	52:HS:52:HIS:O	2.40	0.53
3:AA:1080:A:H1'	9:AI:127:SER:HA	1.91	0.53
3:AA:1187:G:H5"	18:AR:83:TYR:CE2	2.43	0.53
3:AA:1535:A:H4'	3:AA:1536:C:OP2	2.08	0.53
7:AG:84:LYS:HG3	7:AG:132:LEU:H	1.73	0.53
9:AI:98:GLY:HA3	9:AI:137:LEU:HB3	1.90	0.53
12:AL:77:ILE:CD1	12:AL:108:ALA:HB1	2.38	0.53
21:AU:21:ARG:CZ	21:AU:72:PHE:CE2	2.90	0.53
31:A4:1:MET:HE2	31:A4:35:GLN:C	2.33	0.53
34:BB:14:HIS:ND1	34:BB:14:HIS:O	2.42	0.53
3:CA:1378:A:H4'	3:CA:1379:U:OP1	2.08	0.53
32:C5:26:VAL:HG11	32:C5:77:VAL:HG11	1.88	0.53
35:DA:31:G:O2'	35:DA:48:C:N4	2.42	0.53
35:DA:202:G:HO2'	35:DA:468:A:H8	1.55	0.53
35:DA:1013:G:N2	35:DA:1015:G:H3'	2.22	0.53
35:DA:1147:C:O2'	42:DI:18:ARG:NH1	2.41	0.53
55:DV:145:ASP:C	55:DV:176:GLU:HA	2.33	0.53
3:EA:163:C:O2'	3:EA:164:C:P	2.67	0.53
3:EA:1667:G:O2'	3:EA:1991:U:O4	2.19	0.53
16:EP:50:ARG:HG3	16:EP:57:ALA:O	2.07	0.53
3:GA:2415:G:H4'	12:GL:66:PHE:HB2	1.91	0.53
2:GC:256:THR:OG1	2:GC:256:THR:O	2.25	0.53
5:GE:41:GLN:NE2	5:GE:43:THR:HG21	2.23	0.53
35:HA:1530:G:H2'	35:HA:1531:A:C8	2.44	0.53
36:HC:15:VAL:HG11	36:HC:179:ARG:HA	1.91	0.53
36:HC:83:ASP:HA	36:HC:86:LYS:HG2	1.90	0.53
3:AA:1069:A:C4	3:AA:1073:A:N7	2.77	0.53
23:AW:37:VAL:HB	23:AW:38:ARG:HH11	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:857:C:OP2	60:BA:1822:HOH:O	2.18	0.53
36:BC:42:TYR:CE2	36:BC:90:VAL:HG21	2.43	0.53
3:CA:528:A:C2	3:CA:2043:C:H4'	2.44	0.53
3:CA:923:G:N3	23:CW:23:LYS:HE2	2.22	0.53
3:CA:2588:G:OP2	60:CA:3540:HOH:O	2.19	0.53
35:DA:564:C:H5'	50:DQ:34:TYR:CE1	2.43	0.53
37:DD:197:GLU:O	37:DD:200:ILE:HG22	2.09	0.53
3:EA:322:A:H5'	3:EA:340:A:H1'	1.90	0.53
3:EA:2275:C:O2'	13:EM:83:GLY:O	2.20	0.53
6:EF:110:ILE:O	6:EF:112:ASP:N	2.40	0.53
12:EL:111:ILE:HD12	12:EL:111:ILE:N	2.24	0.53
23:EW:17:ALA:HB1	23:EW:36:ILE:HA	1.89	0.53
37:FD:147:GLU:HA	37:FD:150:LYS:HB2	1.91	0.53
46:FM:20:THR:HA	46:FM:25:VAL:HG23	1.91	0.53
1:GB:31:C:H4'	6:GF:25:MET:SD	2.48	0.53
3:GA:2207:C:H2'	3:GA:2208:C:C6	2.44	0.53
20:GT:19:LYS:O	20:GT:23:ALA:N	2.40	0.53
35:HA:429:U:P	37:HD:13:ARG:NH2	2.80	0.53
37:HD:13:ARG:NH2	37:HD:32:CYS:O	2.40	0.53
45:HL:68:GLY:O	45:HL:99:ARG:NH1	2.36	0.53
45:HL:114:ARG:HB3	45:HL:119:VAL:HB	1.89	0.53
51:HR:41:PRO:HG3	51:HR:43:ARG:CZ	2.38	0.53
55:HV:142:ASN:OD1	55:HV:143:LYS:N	2.42	0.53
3:AA:253:C:OP2	30:A3:4:LYS:NZ	2.38	0.53
3:AA:299:A:OP2	60:AA:3546:HOH:O	2.18	0.53
3:AA:954:G:OP2	13:AM:16:ARG:NH2	2.42	0.53
37:BD:165:ARG:O	37:BD:167:LYS:N	2.40	0.53
40:BG:15:ASP:OD1	40:BG:44:TYR:OH	2.22	0.53
45:BL:110:ARG:NH1	45:BL:112:GLN:O	2.41	0.53
55:BV:382:ILE:HD12	55:BV:382:ILE:O	2.09	0.53
3:CA:956:G:O2'	13:CM:82:MET:HE1	2.09	0.53
8:CH:13:GLY:HA3	35:HA:1294:G:H4'	1.88	0.53
14:CN:92:GLY:HA2	14:CN:94:TYR:CE1	2.43	0.53
17:CQ:84:LYS:O	17:CQ:86:SER:N	2.41	0.53
35:DA:71:A:N1	35:DA:99:C:O2'	2.40	0.53
46:DM:54:ASP:HB2	46:DM:57:ARG:HB3	1.89	0.53
3:EA:942:G:OP1	60:EA:3783:HOH:O	2.17	0.53
20:ET:54:GLU:HG3	20:ET:88:LYS:HB2	1.91	0.53
23:EW:70:VAL:C	23:EW:71:LYS:HD2	2.33	0.53
35:FA:207:C:O2	35:FA:212:G:N2	2.41	0.53
37:FD:125:VAL:O	37:FD:127:GLY:N	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:FG:4:ARG:HG3	40:FG:5:ARG:N	2.23	0.53
45:FL:74:LEU:HD11	45:FL:80:ILE:HG21	1.90	0.53
3:GA:654:A:N3	3:GA:654:A:H5'	2.24	0.53
2:GC:16:VAL:N	2:GC:203:VAL:HG12	2.23	0.53
10:GJ:39:LYS:HA	10:GJ:43:GLU:HB2	1.91	0.53
23:GW:29:SER:OG	23:GW:30:VAL:N	2.40	0.53
24:GX:70:LEU:O	24:GX:74:GLY:N	2.41	0.53
3:AA:2016:U:H1'	27:A0:2:VAL:HG11	1.89	0.53
43:BJ:15:HIS:C	43:BJ:17:LEU:H	2.16	0.53
11:CK:19:VAL:HG21	11:CK:41:ILE:HD13	1.91	0.53
13:CM:54:THR:O	13:CM:56:ALA:N	2.39	0.53
32:C5:71:CYS:HA	32:C5:117:LEU:CD1	2.38	0.53
35:DA:1004:A:H2'	35:DA:1005:A:O4'	2.09	0.53
35:DA:1309:G:C6	35:DA:1329:A:C6	2.96	0.53
16:EP:50:ARG:HB3	16:EP:57:ALA:N	2.20	0.53
23:EW:55:ASP:O	23:EW:57:THR:N	2.41	0.53
32:E5:81:LEU:HD23	32:E5:82:ILE:N	2.24	0.53
35:FA:971:G:HO2'	35:FA:1365:G:HO2'	1.55	0.53
36:FC:6:HIS:ND1	47:FN:89:MET:HB3	2.23	0.53
1:GB:48:U:OP1	15:GO:98:GLN:N	2.40	0.53
3:GA:812:C:H1'	3:GA:1250:G:C2	2.44	0.53
3:GA:2199:A:C4	3:GA:2225:A:C2	2.96	0.53
6:GF:1:ALA:HB1	6:GF:97:GLU:HG2	1.90	0.53
14:GN:29:VAL:HG11	14:GN:75:ILE:CG2	2.39	0.53
26:GZ:17:PRO:HA	26:GZ:20:LYS:CE	2.38	0.53
35:HA:324:G:OP2	60:HA:1838:HOH:O	2.18	0.53
35:HA:686:U:O4	35:HA:703:G:O2'	2.25	0.53
35:HA:1239:A:H5"	40:HG:119:ARG:HH12	1.74	0.53
38:HE:154:ALA:O	38:HE:158:GLY:N	2.41	0.53
3:AA:674:G:H1'	5:AE:69:ARG:HE	1.72	0.53
3:AA:2547:A:H2'	3:AA:2548:U:C6	2.43	0.53
6:AF:103:ILE:HG23	6:AF:175:PRO:HD3	1.90	0.53
23:AW:13:ARG:HG2	23:AW:14:ASP:H	1.74	0.53
47:BN:20:TYR:O	47:BN:24:ARG:N	2.42	0.53
3:CA:2037:A:N6	3:CA:2038:G:O6	2.42	0.53
3:CA:2336:A:N6	23:CW:40:ARG:HB3	2.23	0.53
2:CC:16:VAL:N	2:CC:203:VAL:HG12	2.23	0.53
7:CG:8:VAL:HG22	7:CG:9:VAL:H	1.73	0.53
16:CP:4:ILE:HG22	16:CP:5:LYS:H	1.72	0.53
35:DA:811:C:O2'	35:DA:901:A:N1	2.39	0.53
40:DG:67:GLU:O	44:HK:14:LYS:NZ	2.32	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:DJ:80:THR:HB	43:DJ:83:THR:HB	1.90	0.53
3:EA:1248:G:C5	5:EE:46:GLN:NE2	2.76	0.53
3:EA:1248:G:N7	5:EE:46:GLN:NE2	2.57	0.53
6:EF:124:ARG:O	6:EF:126:ASN:ND2	2.42	0.53
14:EN:44:LEU:HD23	14:EN:113:ILE:HD13	1.89	0.53
35:FA:723:U:O2'	35:FA:724:G:OP1	2.22	0.53
35:FA:1452:C:H4'	35:FA:1453:G:O5'	2.08	0.53
39:FF:18:VAL:HG21	39:FF:58:HIS:CD2	2.44	0.53
42:FI:40:GLY:HA2	42:FI:45:ARG:HB3	1.91	0.53
45:FL:40:THR:OG1	45:FL:41:THR:N	2.39	0.53
45:FL:44:LYS:HB3	45:FL:45:PRO:CD	2.35	0.53
3:GA:923:G:N3	23:GW:23:LYS:HD2	2.24	0.53
23:GW:37:VAL:HG13	23:GW:56:HIS:HB2	1.90	0.53
23:GW:41:GLY:O	23:GW:43:LYS:N	2.34	0.53
35:HA:936:C:OP1	60:HA:1770:HOH:O	2.18	0.53
39:HF:43:GLY:HA2	39:HF:58:HIS:CE1	2.42	0.53
45:HL:44:LYS:HB2	45:HL:45:PRO:HD3	1.89	0.53
3:AA:565:C:O3'	60:AA:3328:HOH:O	2.18	0.53
3:AA:1397:U:OP2	3:AA:1398:C:N4	2.34	0.53
3:AA:1715:G:N2	3:AA:1744:A:OP2	2.36	0.53
12:AL:103:ILE:N	60:AL:203:HOH:O	2.30	0.53
32:A5:36:ASP:O	32:A5:39:THR:OG1	2.26	0.53
37:BD:25:VAL:HG12	37:BD:26:ARG:N	2.24	0.53
43:BJ:71:LEU:O	43:BJ:72:ARG:NH1	2.39	0.53
54:BU:40:LYS:N	54:BU:41:PRO:CD	2.72	0.53
55:BV:79:TYR:OH	55:BV:284:ASP:OD1	2.16	0.53
3:CA:2102:G:N2	3:CA:2188:U:H3	2.07	0.53
3:CA:2291:U:O2'	3:CA:2374:C:O2	2.26	0.53
5:CE:118:LEU:HD23	5:CE:186:VAL:HG13	1.91	0.53
47:DN:21:PHE:HA	47:DN:25:ALA:HB3	1.90	0.53
3:EA:528:A:C2	3:EA:2042:A:H2'	2.42	0.53
3:EA:818:G:N7	3:EA:1187:G:C6	2.76	0.53
3:EA:1737:G:H5"	3:EA:1738:G:OP2	2.08	0.53
3:EA:2575:C:OP2	60:EA:3707:HOH:O	2.18	0.53
1:EB:100:G:OP2	60:EB:1314:HOH:O	2.18	0.53
24:EX:63:ILE:HG22	24:EX:67:LEU:HD23	1.91	0.53
35:FA:260:G:N2	35:FA:265:G:N7	2.57	0.53
35:FA:890:G:O2'	35:FA:906:A:N6	2.41	0.53
55:FV:188:MET:HE3	55:FV:218:TRP:CD1	2.44	0.53
3:GA:1378:A:H4'	3:GA:1379:U:OP1	2.08	0.53
19:GS:88:ARG:HH21	19:GS:88:ARG:HG3	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:586:A:N1	3:AA:809:G:O2'	2.39	0.53
3:AA:2526:G:N3	31:A4:1:MET:N	2.57	0.53
32:A5:51:TYR:C	32:A5:51:TYR:CD1	2.86	0.53
35:BA:677:U:H3	35:BA:713:G:H22	1.56	0.53
36:BC:77:ILE:HA	36:BC:84:VAL:HG23	1.91	0.53
15:CO:78:VAL:O	15:CO:82:ALA:N	2.38	0.53
35:DA:690:G:O6	44:DK:53:ARG:NH2	2.41	0.53
35:DA:834:U:C2	35:DA:835:U:C5	2.97	0.53
55:DV:75:MET:SD	55:DV:193:TRP:HH2	2.32	0.53
3:EA:315:G:H2'	3:EA:316:C:C6	2.44	0.53
3:EA:1913:A:O2'	56:FW:4:SER:N	2.36	0.53
3:EA:2880:C:O2'	14:EN:92:GLY:O	2.22	0.53
35:FA:243:A:C2	35:FA:246:A:C8	2.97	0.53
35:FA:484:G:N7	35:FA:486:U:H1'	2.24	0.53
53:FT:68:HIS:C	53:FT:69:LYS:CG	2.81	0.53
3:GA:947:A:C2	3:GA:948:C:C2	2.96	0.53
3:GA:2030:A:C2	3:GA:2499:C:H5"	2.44	0.53
7:GG:104:LEU:HD12	7:GG:112:VAL:HG21	1.91	0.53
9:GI:70:THR:OG1	9:GI:71:LYS:N	2.41	0.53
35:HA:588:G:C1'	41:HH:3:MET:HE2	2.39	0.53
34:HB:94:ARG:NH1	34:HB:96:LEU:HA	2.24	0.53
40:HG:72:THR:O	40:HG:91:VAL:HG12	2.09	0.53
44:HK:68:GLU:C	44:HK:70:CYS:H	2.16	0.53
50:HQ:76:VAL:HG23	50:HQ:77:ARG:H	1.74	0.53
52:HS:34:TRP:HA	52:HS:51:VAL:HG13	1.91	0.53
3:AA:1069:A:C5	3:AA:1073:A:N7	2.77	0.53
3:AA:1263:U:OP1	27:A0:12:ARG:NH1	2.41	0.53
16:AP:50:ARG:CD	16:AP:51:ASN:N	2.72	0.53
17:AQ:81:GLY:HA2	17:AQ:116:LEU:CD1	2.38	0.53
42:BI:91:ASP:N	42:BI:91:ASP:OD1	2.40	0.53
46:BM:107:ARG:O	46:BM:111:GLY:N	2.41	0.53
3:CA:1475:G:O2'	3:CA:1514:G:O6	2.21	0.53
3:CA:2016:U:H1'	27:C0:2:VAL:HG11	1.91	0.53
6:CF:118:ALA:O	6:CF:166:ARG:NH1	2.40	0.53
3:EA:833:A:OP2	12:EL:39:LYS:NZ	2.42	0.53
1:EB:41:G:N7	6:EF:68:LYS:NZ	2.56	0.53
1:EB:94:A:OP2	60:EB:1312:HOH:O	2.19	0.53
5:EE:119:ILE:O	5:EE:119:ILE:HG12	2.07	0.53
6:EF:128:SER:HA	6:EF:154:THR:HA	1.91	0.53
35:FA:297:G:N2	35:FA:300:A:OP2	2.41	0.53
35:FA:928:G:O2'	35:FA:1533:C:OP1	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:1131:G:OP1	10:GJ:82:GLY:HA2	2.09	0.53
3:GA:2639:A:C2	3:GA:2778:A:C8	2.97	0.53
23:GW:18:LYS:CA	23:GW:36:ILE:HG13	2.39	0.53
35:HA:1401:G:H2'	35:HA:1402:C:O4'	2.08	0.53
3:AA:1001:A:OP2	60:AA:3725:HOH:O	2.18	0.53
15:AO:31:THR:HG22	15:AO:34:HIS:H	1.74	0.53
35:BA:958:A:N6	52:BS:77:THR:O	2.41	0.53
35:BA:1242:G:N3	60:BA:1793:HOH:O	2.34	0.53
35:BA:1279:G:N3	35:BA:1279:G:H2'	2.23	0.53
38:BE:150:PRO:HA	38:BE:153:VAL:HG13	1.90	0.53
54:BU:38:TYR:C	54:BU:41:PRO:HD2	2.34	0.53
1:CB:90:C:H6	1:CB:90:C:H5"	1.74	0.53
3:CA:443:A:C5	5:CE:40:ARG:HD3	2.43	0.53
3:CA:1012:U:OP2	17:CQ:69:ARG:NH1	2.41	0.53
3:CA:2757:A:N1	7:CG:66:THR:HG21	2.23	0.53
4:CD:62:LYS:HB2	4:CD:63:PRO:HD3	1.90	0.53
11:CK:98:ARG:HA	11:CK:118:LEU:CD2	2.39	0.53
35:DA:98:A:H2'	35:DA:99:C:C6	2.44	0.53
53:DT:44:LYS:CB	53:DT:87:ALA:HB2	2.39	0.53
3:EA:1153:C:N4	3:EA:1154:G:C6	2.76	0.53
3:EA:1536:C:H1'	3:EA:1537:G:N2	2.24	0.53
6:EF:125:GLY:O	6:EF:157:THR:OG1	2.20	0.53
7:EG:151:ARG:HH11	7:EG:151:ARG:HG2	1.74	0.53
14:EN:98:LEU:HB3	27:E0:42:ILE:CD1	2.38	0.53
35:FA:91:U:H2'	35:FA:92:U:C6	2.44	0.53
34:FB:53:LEU:HD21	34:FB:212:TYR:HE1	1.73	0.53
3:GA:225:C:N4	3:GA:231:A:C2	2.76	0.53
3:GA:671:C:H41	12:GL:41:ARG:H	1.55	0.53
3:GA:971:G:H2'	3:GA:972:A:O4'	2.09	0.53
3:GA:1172:C:C4	3:GA:1173:U:H1'	2.44	0.53
3:GA:2313:C:H5"	6:GF:87:LYS:HD3	1.89	0.53
6:GF:110:ILE:HG12	6:GF:136:ILE:HG21	1.91	0.53
35:HA:720:C:OP1	51:HR:43:ARG:NH1	2.39	0.53
38:HE:122:ASN:N	38:HE:122:ASN:OD1	2.41	0.53
39:HF:61:LEU:HD21	51:HR:24:LYS:HZ3	1.73	0.53
44:HK:107:ILE:HD13	54:HU:14:VAL:HA	1.91	0.53
55:HV:230:SER:OG	55:HV:232:GLU:OE1	2.27	0.53
55:HV:660:LEU:O	55:HV:662:GLU:N	2.38	0.53
3:AA:273:G:N2	3:AA:365:U:C2	2.77	0.52
3:AA:1394:U:H4'	3:AA:1603:A:H4'	1.92	0.52
35:BA:951:G:OP2	46:BM:101:ARG:NH2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BH:106:THR:HG21	41:BH:121:LEU:HD22	1.92	0.52
3:CA:271:G:H4'	3:CA:272:A:OP1	2.08	0.52
3:CA:942:G:O2'	3:CA:1189:A:O2'	2.23	0.52
4:CD:151:THR:CG2	4:CD:152:PRO:HD3	2.39	0.52
9:CI:23:VAL:HB	9:CI:27:LEU:HB2	1.91	0.52
10:CJ:111:LYS:N	60:CJ:201:HOH:O	2.39	0.52
23:CW:39:GLN:CG	23:CW:41:GLY:O	2.57	0.52
32:C5:43:LYS:NZ	32:C5:98:GLU:OE1	2.38	0.52
32:C5:51:TYR:CD1	32:C5:51:TYR:C	2.88	0.52
35:DA:213:G:C8	35:DA:214:C:C5	2.97	0.52
45:DL:98:VAL:HG13	45:DL:101:ALA:HB3	1.91	0.52
3:EA:994:C:H3'	17:EQ:53:LYS:HE2	1.91	0.52
3:EA:1129:A:HO2'	3:EA:2515:C:HO2'	1.46	0.52
3:EA:1913:A:N7	35:FA:1494:G:H4'	2.24	0.52
35:FA:211:G:C2	35:FA:212:G:H1'	2.44	0.52
35:FA:885:G:O2'	35:FA:914:A:N1	2.36	0.52
35:FA:1021:A:H2'	35:FA:1022:A:H5'	1.90	0.52
36:FC:17:PRO:O	36:FC:18:TRP:HB2	2.09	0.52
50:FQ:14:SER:HB3	50:FQ:22:VAL:CG1	2.39	0.52
3:GA:1668:A:O2'	3:GA:1674:G:N7	2.32	0.52
3:GA:1913:A:N7	55:HV:507:LYS:NZ	2.56	0.52
10:GJ:74:TYR:HB2	10:GJ:87:ALA:O	2.10	0.52
23:GW:37:VAL:HG12	23:GW:38:ARG:H	1.74	0.52
35:HA:717:U:O2'	35:HA:734:G:O4'	2.26	0.52
35:HA:1206:G:H2'	35:HA:1207:G:O4'	2.09	0.52
47:HN:54:ASP:OD1	47:HN:59:ARG:NH1	2.41	0.52
3:AA:2092:U:H4'	3:AA:2093:G:O5'	2.09	0.52
3:AA:2297:A:N1	3:AA:2321:U:H5	2.07	0.52
10:AJ:39:LYS:HA	10:AJ:43:GLU:HG3	1.91	0.52
14:AN:73:ASN:HA	14:AN:76:VAL:CG1	2.39	0.52
35:BA:197:A:N1	35:BA:220:G:O2'	2.35	0.52
44:BK:21:ALA:HB2	44:BK:82:LEU:CD1	2.40	0.52
51:BR:32:TYR:CG	51:BR:55:LEU:HD21	2.44	0.52
55:BV:200:VAL:O	55:BV:201:THR:OG1	2.21	0.52
55:BV:522:MET:HE1	55:BV:605:PHE:HA	1.91	0.52
3:CA:1107:G:OP1	32:C5:59:LEU:N	2.42	0.52
7:CG:84:LYS:HG2	7:CG:85:LYS:H	1.74	0.52
14:CN:73:ASN:HA	14:CN:76:VAL:CG1	2.39	0.52
20:CT:54:GLU:OE1	20:CT:54:GLU:N	2.43	0.52
35:DA:243:A:C5	35:DA:245:U:C4	2.97	0.52
47:DN:26:GLU:HG2	47:DN:27:LEU:HD12	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:DV:358:GLU:OE1	55:DV:389:LYS:N	2.40	0.52
2:EC:14:HIS:O	2:EC:203:VAL:HG11	2.09	0.52
5:EE:149:ILE:O	5:EE:188:MET:HA	2.10	0.52
32:E5:117:LEU:HD23	32:E5:120:ALA:HA	1.83	0.52
35:FA:1085:U:OP1	60:FA:1862:HOH:O	2.19	0.52
35:FA:1279:G:H2'	35:FA:1279:G:N3	2.24	0.52
3:GA:666:A:H4'	12:GL:48:ARG:NE	2.24	0.52
3:GA:1130:U:C2	3:GA:2025:C:H5"	2.44	0.52
3:GA:2316:G:O2'	6:GF:124:ARG:NH2	2.42	0.52
3:GA:2444:G:OP1	5:GE:62:GLN:NE2	2.37	0.52
35:HA:1314:C:H2'	35:HA:1315:U:C6	2.44	0.52
39:HF:38:ARG:HB3	39:HF:63:ASN:HB2	1.91	0.52
42:HI:129:LYS:HG3	42:HI:130:ARG:H	1.75	0.52
3:AA:384:A:H2'	3:AA:385:C:H5'	1.90	0.52
3:AA:1203:U:O2'	12:AL:4:ASN:OD1	2.28	0.52
3:AA:1779:U:H5	3:AA:1784:A:N7	2.06	0.52
3:AA:2016:U:H1'	27:A0:2:VAL:CG1	2.40	0.52
26:AZ:6:ILE:O	26:AZ:34:THR:HA	2.10	0.52
28:A1:33:LEU:N	28:A1:51:ALA:HB3	2.25	0.52
32:A5:81:LEU:HD23	32:A5:82:ILE:N	2.24	0.52
39:BF:68:GLN:HA	39:BF:71:ILE:HG22	1.91	0.52
41:BH:12:THR:HG22	41:BH:15:ARG:HH22	1.73	0.52
41:BH:125:ILE:HD11	41:BH:128:TYR:CE1	2.44	0.52
3:CA:1050:A:C2	3:CA:2751:G:C4	2.98	0.52
3:CA:1262:A:OP2	19:CS:99:ARG:NH2	2.42	0.52
3:CA:1450:G:C6	3:CA:1451:C:N4	2.78	0.52
25:CY:31:GLN:HG2	25:CY:37:LEU:H	1.73	0.52
35:DA:1007:U:C2'	35:DA:1008:U:H5'	2.39	0.52
36:DC:47:LEU:HB3	36:DC:50:ALA:HB3	1.89	0.52
40:DG:135:VAL:O	40:DG:138:ARG:N	2.42	0.52
3:EA:1332:G:OP1	60:EA:3754:HOH:O	2.19	0.52
6:EF:69:ALA:N	6:EF:82:TYR:O	2.39	0.52
9:EI:101:SER:OG	9:EI:102:ARG:N	2.42	0.52
32:E5:17:GLU:HA	32:E5:88:HIS:CE1	2.44	0.52
35:FA:303:A:C5	35:FA:304:U:C5	2.97	0.52
34:FB:20:ARG:HA	34:FB:20:ARG:NH1	2.24	0.52
42:FI:36:GLU:HA	42:FI:40:GLY:CA	2.39	0.52
44:FK:67:ALA:O	44:FK:71:ALA:N	2.41	0.52
55:FV:193:TRP:HB2	55:FV:273:LYS:HD3	1.91	0.52
3:GA:228:C:H5"	3:GA:229:C:C6	2.45	0.52
3:GA:1130:U:N3	3:GA:2025:C:H5"	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:GX:61:LYS:O	24:GX:65:THR:OG1	2.22	0.52
35:HA:958:A:N1	52:HS:54:GLY:HA3	2.23	0.52
35:HA:1095:U:OP2	60:HA:1857:HOH:O	2.19	0.52
34:HB:71:THR:HG22	34:HB:72:LYS:H	1.73	0.52
45:HL:77:HIS:NE2	55:HV:428:GLN:OE1	2.42	0.52
55:HV:625:GLU:HA	55:HV:628:THR:HG23	1.91	0.52
3:AA:1288:G:C4	3:AA:1327:A:C2	2.98	0.52
3:AA:2134:A:HO2'	3:AA:2135:A:H8	1.55	0.52
10:AJ:32:LEU:HD22	10:AJ:54:ILE:HD12	1.90	0.52
11:AK:10:VAL:HG11	11:AK:16:ALA:HB3	1.90	0.52
21:AU:35:VAL:HB	21:AU:38:ILE:HG21	1.90	0.52
26:CZ:15:ARG:HH11	26:CZ:15:ARG:CG	2.22	0.52
35:DA:462:G:N2	35:DA:470:C:N3	2.53	0.52
43:DJ:53:ILE:HG13	47:DN:85:ARG:NE	2.23	0.52
3:EA:483:A:O2'	21:EU:56:GLY:HA2	2.10	0.52
5:EE:15:SER:N	5:EE:197:GLU:OE2	2.42	0.52
17:EQ:84:LYS:O	17:EQ:86:SER:N	2.43	0.52
34:FB:94:ARG:HG3	34:FB:96:LEU:HD23	1.91	0.52
45:FL:56:ARG:NH1	45:FL:62:GLU:OE1	2.43	0.52
3:GA:251:A:C5	3:GA:252:G:H1'	2.45	0.52
3:GA:2536:G:C6	3:GA:2537:U:C4	2.97	0.52
3:GA:2574:G:OP1	60:GA:3700:HOH:O	2.19	0.52
13:GM:2:LEU:HD23	13:GM:69:PRO:HD3	1.91	0.52
35:HA:776:G:N2	35:HA:802:A:OP2	2.42	0.52
37:HD:107:PHE:CD1	37:HD:145:ILE:HD11	2.45	0.52
51:HR:63:ARG:HB3	51:HR:70:TYR:CZ	2.44	0.52
10:AJ:55:ILE:HD11	10:AJ:130:HIS:CG	2.44	0.52
20:AT:89:GLU:O	20:AT:91:GLN:N	2.41	0.52
23:AW:46:ALA:HB3	23:AW:80:SER:HB3	1.91	0.52
31:A4:7:VAL:O	31:A4:35:GLN:NE2	2.42	0.52
32:A5:118:ILE:HB	32:A5:119:PRO:CD	2.40	0.52
44:BK:125:LYS:O	54:BU:34:ARG:NE	2.41	0.52
47:BN:54:ASP:OD1	47:BN:59:ARG:NH1	2.43	0.52
3:CA:1060:U:H3	3:CA:1088:A:H2	1.56	0.52
3:CA:2615:U:C2	27:C0:3:GLN:HA	2.44	0.52
15:CO:111:ARG:HG2	15:CO:117:PHE:CZ	2.45	0.52
35:DA:293:G:C6	35:DA:294:U:C4	2.98	0.52
34:DB:209:VAL:HG23	34:DB:210:THR:H	1.74	0.52
37:DD:188:ARG:NH1	37:DD:191:LEU:O	2.43	0.52
43:DJ:15:HIS:HA	43:DJ:18:ILE:HG22	1.92	0.52
55:DV:497:LYS:HG2	55:DV:523:TYR:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:EC:245:THR:O	2:EC:247:TRP:N	2.43	0.52
16:EP:50:ARG:CG	16:EP:57:ALA:O	2.58	0.52
45:FL:116:LYS:C	45:FL:117:TYR:HD1	2.17	0.52
3:GA:1061:U:H1'	3:GA:1070:A:O4'	2.09	0.52
5:GE:146:VAL:HA	5:GE:185:LYS:O	2.10	0.52
10:GJ:80:HIS:O	10:GJ:82:GLY:N	2.43	0.52
24:GX:58:ILE:HG23	24:GX:63:ILE:HA	1.91	0.52
35:HA:727:G:N2	35:HA:730:G:OP2	2.36	0.52
35:HA:1087:G:H2'	35:HA:1088:G:H8	1.75	0.52
9:AI:116:MET:HB2	9:AI:124:MET:HE3	1.91	0.52
20:AT:44:LYS:HG3	20:AT:55:VAL:HG11	1.90	0.52
34:BB:86:CYS:HB2	34:BB:88:GLN:NE2	2.25	0.52
35:BA:81:A:H2'	35:BA:82:G:H5"	1.91	0.52
35:BA:684:U:O2'	44:BK:40:ASN:O	2.26	0.52
51:BR:37:GLY:O	51:BR:63:ARG:NH2	2.40	0.52
1:CB:39:A:O2'	1:CB:46:A:N1	2.34	0.52
3:CA:250:G:C6	3:CA:251:A:C6	2.97	0.52
3:CA:973:A:O4'	3:CA:1188:U:C6	2.63	0.52
3:CA:2533:U:OP1	3:CA:2665:A:O2'	2.23	0.52
12:CL:81:ASP:O	12:CL:83:ALA:N	2.39	0.52
14:CN:118:ARG:O	14:CN:120:GLU:N	2.43	0.52
23:CW:63:ASP:N	23:CW:63:ASP:OD1	2.41	0.52
46:DM:4:ILE:O	46:DM:6:GLY:N	2.39	0.52
3:EA:630:G:N2	3:EA:633:A:OP2	2.42	0.52
13:EM:47:GLU:OE2	13:EM:51:ARG:NH2	2.42	0.52
14:EN:117:ASP:OD1	14:EN:118:ARG:N	2.41	0.52
16:EP:33:GLU:HB3	16:EP:36:LYS:HG2	1.92	0.52
17:EQ:91:ARG:HH21	17:EQ:93:ILE:HG21	1.74	0.52
3:GA:585:G:OP2	17:GQ:5:ARG:NH2	2.42	0.52
3:GA:659:G:H2'	5:GE:30:GLN:HE22	1.75	0.52
3:GA:674:G:H1'	5:GE:69:ARG:HD2	1.92	0.52
3:GA:863:A:H2'	3:GA:864:G:C8	2.44	0.52
3:GA:1063:G:C2	3:GA:1064:C:H1'	2.44	0.52
3:GA:1266:G:OP2	27:G0:16:ARG:NE	2.42	0.52
3:GA:1534:U:O2'	3:GA:1537:G:O6	2.16	0.52
19:GS:54:ALA:HB1	19:GS:107:VAL:HG12	1.91	0.52
23:GW:72:GLY:N	23:GW:73:PRO:CD	2.73	0.52
24:GX:63:ILE:O	24:GX:67:LEU:HD13	2.09	0.52
35:HA:452:A:H62	35:HA:480:U:H3	1.58	0.52
35:HA:687:A:N3	35:HA:688:G:H1'	2.25	0.52
35:HA:730:G:O2'	35:HA:814:A:N6	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:1391:U:H2'	35:HA:1392:G:C8	2.45	0.52
7:AG:83:THR:HA	7:AG:84:LYS:CE	2.39	0.52
11:AK:80:ASP:HB2	16:AP:67:GLU:HG3	1.90	0.52
20:AT:50:LEU:H	20:AT:50:LEU:HD12	1.74	0.52
20:AT:69:ARG:CG	20:AT:70:HIS:H	2.23	0.52
3:CA:79:C:C4	3:CA:80:G:N7	2.78	0.52
3:CA:1805:A:N3	2:CC:49:THR:OG1	2.42	0.52
10:CJ:16:TYR:HB3	10:CJ:140:LEU:HD12	1.90	0.52
23:CW:54:ARG:HG3	23:CW:55:ASP:N	2.23	0.52
35:DA:204:G:H3'	35:DA:205:A:C5'	2.39	0.52
35:DA:1317:C:OP2	47:DN:28:LYS:NZ	2.43	0.52
35:DA:1331:G:O2'	35:DA:1332:A:OP2	2.26	0.52
34:DB:166:ASP:OD1	34:DB:167:HIS:N	2.43	0.52
55:DV:131:ASN:OD1	55:DV:137:ARG:NH1	2.38	0.52
3:EA:1421:G:C2	3:EA:1422:G:C8	2.97	0.52
3:EA:2423:U:O2'	3:EA:2424:C:OP2	2.26	0.52
35:FA:33:A:H2'	35:FA:34:C:C6	2.45	0.52
34:FB:166:ASP:OD1	34:FB:167:HIS:N	2.42	0.52
47:FN:42:TRP:CD1	47:FN:45:VAL:HG13	2.45	0.52
3:GA:571:U:C4	3:GA:575:A:C5	2.97	0.52
3:GA:640:C:H2'	3:GA:641:U:C6	2.45	0.52
3:GA:996:A:C8	18:GR:10:LYS:HE2	2.45	0.52
3:GA:1022:G:N7	3:GA:1140:C:N4	2.57	0.52
3:GA:2489:U:O2'	3:GA:2518:A:N6	2.42	0.52
3:GA:2776:A:C2	3:GA:2778:A:C4	2.98	0.52
10:GJ:81:ILE:HG13	10:GJ:82:GLY:N	2.24	0.52
13:GM:69:PRO:HB3	13:GM:92:TRP:HB3	1.92	0.52
23:GW:51:GLY:HA3	23:GW:59:PHE:CE1	2.44	0.52
35:HA:82:G:H22	35:HA:89:U:H4'	1.75	0.52
35:HA:1166:G:C6	35:HA:1168:U:H5"	2.44	0.52
35:HA:1304:G:O2'	35:HA:1333:A:N6	2.42	0.52
35:HA:1512:U:H2'	35:HA:1513:A:C8	2.45	0.52
34:HB:185:ILE:HD11	34:HB:212:TYR:CD2	2.45	0.52
50:HQ:50:ASN:O	50:HQ:52:GLU:N	2.43	0.52
53:HT:69:LYS:HB2	53:HT:69:LYS:NZ	2.25	0.52
55:HV:248:ILE:O	55:HV:251:ALA:N	2.42	0.52
3:AA:2211:A:O2'	3:AA:2212:A:OP1	2.25	0.52
3:AA:2425:A:H5"	3:AA:2427:C:O4'	2.09	0.52
9:AI:87:SER:OG	9:AI:88:GLY:N	2.43	0.52
13:AM:8:LYS:HE3	13:AM:9:PHE:CE2	2.45	0.52
21:AU:82:VAL:HG12	21:AU:83:GLY:N	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:815:A:N7	35:BA:1509:C:O2'	2.37	0.52
54:BU:39:GLU:OE1	54:BU:42:THR:OG1	2.26	0.52
55:BV:104:ARG:NH2	55:BV:407:GLU:HB3	2.25	0.52
3:CA:183:C:O2'	3:CA:432:A:N3	2.41	0.52
3:CA:1266:G:N2	3:CA:2012:G:H2'	2.24	0.52
3:CA:2680:U:H5'	4:CD:194:PRO:HA	1.92	0.52
4:CD:71:ALA:O	4:CD:73:VAL:N	2.41	0.52
37:DD:124:MET:HG3	37:DD:146:ARG:HG2	1.92	0.52
3:EA:819:A:C4	3:EA:1189:A:C2	2.98	0.52
3:EA:946:C:OP2	60:EA:3347:HOH:O	2.19	0.52
3:EA:1277:G:C5'	14:EN:20:MET:HE2	2.39	0.52
9:EI:11:GLN:N	9:EI:11:GLN:OE1	2.43	0.52
9:EI:120:ASP:HB3	9:EI:123:ALA:HB2	1.92	0.52
11:EK:4:GLU:OE2	11:EK:23:LYS:NZ	2.42	0.52
1:GB:20:G:O6	60:GB:1302:HOH:O	2.18	0.52
3:GA:414:C:H1'	3:GA:1864:U:H1'	1.91	0.52
3:GA:2267:A:OP2	60:GA:3506:HOH:O	2.19	0.52
3:GA:2513:A:O3'	4:GD:159:LYS:NZ	2.42	0.52
3:GA:2537:U:H2'	3:GA:2538:C:C6	2.44	0.52
6:GF:65:LEU:HB3	6:GF:87:LYS:O	2.09	0.52
15:GO:5:SER:O	15:GO:8:ILE:HG22	2.10	0.52
16:GP:4:ILE:HG22	16:GP:8:GLU:HG3	1.92	0.52
18:GR:83:TYR:HD1	18:GR:83:TYR:C	2.18	0.52
26:GZ:40:THR:HG23	26:GZ:43:ILE:H	1.75	0.52
30:G3:21:PHE:HB2	30:G3:49:VAL:HG21	1.91	0.52
35:HA:1207:G:H2'	35:HA:1208:C:O4'	2.10	0.52
3:AA:2502:G:H5'	3:AA:2503:A:H5"	1.92	0.52
3:AA:2636:C:HO2'	4:AD:45:TYR:HH	1.57	0.52
13:AM:73:ILE:HG21	13:AM:91:TYR:CZ	2.45	0.52
15:AO:36:TYR:N	15:AO:36:TYR:CD1	2.78	0.52
32:A5:71:CYS:CA	32:A5:117:LEU:HD13	2.31	0.52
35:BA:546:A:P	37:BD:69:GLU:HB2	2.49	0.52
35:BA:1040:U:H2'	35:BA:1041:G:C8	2.45	0.52
36:BC:14:ILE:O	36:BC:15:VAL:HG22	2.10	0.52
41:BH:106:THR:HG22	41:BH:107:SER:N	2.25	0.52
3:CA:419:U:H2'	3:CA:420:C:C6	2.44	0.52
10:CJ:43:GLU:O	10:CJ:44:TYR:C	2.53	0.52
11:CK:61:VAL:HG22	11:CK:87:LEU:HD11	1.91	0.52
11:CK:108:ARG:NH1	11:CK:113:MET:SD	2.83	0.52
16:CP:20:ARG:N	16:CP:23:ASP:OD2	2.43	0.52
34:DB:163:ILE:HG23	34:DB:164:ASP:H	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:DT:62:ALA:HA	53:DT:67:ILE:HG23	1.92	0.52
3:EA:616:A:H4'	5:EE:101:TYR:CE2	2.45	0.52
4:ED:91:THR:HG23	4:ED:92:VAL:H	1.75	0.52
18:ER:39:LEU:O	18:ER:49:ILE:HG23	2.10	0.52
35:FA:373:A:C4	35:FA:482:A:N7	2.78	0.52
3:GA:1975:G:C6	3:GA:1976:U:N3	2.78	0.52
9:GI:78:LEU:HB3	9:GI:105:LEU:CD2	2.39	0.52
16:GP:5:LYS:NZ	16:GP:9:GLN:OE1	2.43	0.52
21:GU:86:PHE:HD2	21:GU:88:ASP:HB3	1.75	0.52
35:HA:482:A:C2	35:HA:483:C:H1'	2.44	0.52
35:HA:1236:A:H1'	35:HA:1333:A:N1	2.24	0.52
3:AA:38:A:O2'	5:AE:43:THR:HA	2.09	0.52
3:AA:1328:A:H2'	3:AA:1330:C:C5	2.45	0.52
6:AF:132:ARG:O	6:AF:133:GLU:HB3	2.10	0.52
11:AK:19:VAL:CG1	11:AK:41:ILE:HG12	2.40	0.52
17:AQ:31:TYR:O	17:AQ:34:ALA:N	2.42	0.52
35:BA:114:U:O2'	35:BA:115:G:H5'	2.10	0.52
35:BA:1309:G:C6	35:BA:1310:G:C5	2.98	0.52
42:BI:84:THR:HG21	42:BI:103:PHE:HB3	1.92	0.52
55:BV:217:GLU:O	55:BV:220:GLN:N	2.43	0.52
55:BV:603:GLU:OE2	55:BV:607:LYS:NZ	2.38	0.52
7:CG:84:LYS:CG	7:CG:132:LEU:H	2.20	0.52
8:CH:4:ILE:HD12	8:CH:43:ASN:HB3	1.91	0.52
12:CL:77:ILE:CD1	12:CL:108:ALA:HB1	2.40	0.52
20:CT:59:ASN:O	20:CT:83:ALA:O	2.28	0.52
32:C5:24:SER:HB3	32:C5:116:GLU:CG	2.19	0.52
32:C5:58:THR:HB	32:C5:82:ILE:HB	1.92	0.52
35:DA:195:A:OP2	60:DA:1867:HOH:O	2.19	0.52
35:DA:198:G:C5	35:DA:220:G:C2	2.98	0.52
35:DA:707:U:H4'	44:DK:22:HIS:CG	2.45	0.52
36:DC:90:VAL:HA	36:DC:93:ASP:HB3	1.92	0.52
42:DI:57:MET:O	42:DI:60:LYS:N	2.42	0.52
53:DT:67:ILE:HD11	53:DT:71:LYS:HE3	1.91	0.52
3:EA:163:C:O2'	3:EA:164:C:OP2	2.28	0.52
3:EA:370:G:OP2	60:EA:3559:HOH:O	2.19	0.52
3:EA:2415:G:H4'	12:EL:66:PHE:HB2	1.91	0.52
1:EB:90:C:H6	1:EB:90:C:H5"	1.74	0.52
4:ED:91:THR:O	4:ED:92:VAL:C	2.52	0.52
5:EE:76:PRO:HA	5:EE:82:GLY:HA3	1.92	0.52
10:EJ:6:ALA:CB	10:EJ:45:THR:HG21	2.40	0.52
25:EY:56:LEU:O	25:EY:58:ASN:N	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:FA:254:G:O3'	50:FQ:71:LYS:NZ	2.43	0.52
35:FA:269:C:H2'	35:FA:270:A:C8	2.45	0.52
35:FA:664:G:H22	35:FA:741:G:H1	1.57	0.52
35:FA:1328:C:H5"	46:FM:28:THR:HG21	1.92	0.52
36:FC:150:LYS:HG3	36:FC:201:TRP:CE3	2.45	0.52
43:FJ:35:GLN:HG2	43:FJ:77:VAL:HG23	1.92	0.52
3:GA:869:G:C6	3:GA:909:A:C6	2.98	0.52
3:GA:2345:G:H5'	3:GA:2347:C:H5'	1.91	0.52
3:GA:2897:U:H2'	3:GA:2898:U:C6	2.44	0.52
2:GC:16:VAL:N	2:GC:203:VAL:CG1	2.73	0.52
2:GC:77:VAL:HA	2:GC:93:VAL:HA	1.92	0.52
35:HA:460:A:H2'	35:HA:460:A:N3	2.25	0.52
35:HA:615:G:C2	35:HA:626:G:C5	2.98	0.52
44:HK:29:ASN:OD1	44:HK:57:LYS:HB2	2.10	0.52
44:HK:82:LEU:HD21	44:HK:100:LEU:HD21	1.92	0.52
3:AA:460:A:C2	3:AA:470:A:C4	2.99	0.51
3:AA:945:A:C5	3:AA:2448:A:C2	2.98	0.51
3:AA:2232:C:P	24:AX:26:ARG:HH22	2.32	0.51
17:AQ:63:ARG:HH12	17:AQ:96:ASP:CA	2.22	0.51
23:AW:8:SER:O	23:AW:9:THR:HG22	2.10	0.51
31:A4:3:VAL:HG23	31:A4:4:ARG:H	1.74	0.51
35:BA:17:U:H2'	35:BA:18:C:C6	2.44	0.51
39:BF:98:GLU:CG	39:BF:99:ALA:N	2.72	0.51
53:BT:3:ASN:C	53:BT:5:LYS:H	2.17	0.51
17:CQ:91:ARG:HE	17:CQ:93:ILE:HG21	1.75	0.51
32:C5:81:LEU:HD23	32:C5:82:ILE:N	2.24	0.51
35:DA:79:G:H3'	35:DA:80:A:H8	1.75	0.51
35:DA:815:A:N7	35:DA:1509:C:O2'	2.34	0.51
3:EA:1309:G:OP1	29:E2:9:VAL:HG13	2.11	0.51
3:EA:2502:G:H5'	3:EA:2503:A:H5"	1.92	0.51
3:EA:2707:U:O2	14:EN:71:ARG:NH1	2.41	0.51
15:EO:24:THR:HG22	15:EO:42:PRO:HD3	1.91	0.51
24:EX:69:GLU:O	24:EX:70:LEU:CB	2.56	0.51
30:E3:31:ILE:O	30:E3:31:ILE:CG1	2.58	0.51
35:FA:1524:C:P	44:FK:125:LYS:HZ2	2.32	0.51
36:FC:150:LYS:HB3	36:FC:169:ARG:CG	2.40	0.51
3:GA:287:G:H2'	3:GA:288:U:C6	2.45	0.51
3:GA:639:U:H2'	3:GA:640:C:C6	2.45	0.51
3:GA:817:C:N4	60:GA:3567:HOH:O	2.35	0.51
3:GA:920:A:OP1	26:GZ:18:LYS:CE	2.58	0.51
4:GD:149:ASN:OD1	4:GD:150:GLN:N	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:GG:23:ILE:HG21	7:GG:71:LEU:HD11	1.92	0.51
11:GK:13:ASN:O	11:GK:15:GLY:N	2.41	0.51
16:GP:33:GLU:OE2	16:GP:38:ARG:NH1	2.42	0.51
23:GW:55:ASP:O	23:GW:57:THR:N	2.43	0.51
41:HH:75:ILE:HG13	41:HH:128:TYR:O	2.10	0.51
55:HV:185:LEU:HB2	55:HV:188:MET:HE2	1.91	0.51
3:AA:729:G:H2'	3:AA:1775:U:H1'	1.91	0.51
3:AA:1332:G:OP1	60:AA:3749:HOH:O	2.18	0.51
3:AA:1776:G:OP2	60:AA:3445:HOH:O	2.19	0.51
3:AA:2053:G:H1	3:AA:2616:C:H42	1.57	0.51
10:AJ:81:ILE:CG1	10:AJ:82:GLY:N	2.74	0.51
12:AL:19:LEU:C	12:AL:19:LEU:HD23	2.35	0.51
32:A5:43:LYS:NZ	32:A5:98:GLU:HB2	2.24	0.51
34:BB:49:PHE:CD1	34:BB:49:PHE:C	2.87	0.51
39:BF:63:ASN:ND2	39:BF:96:VAL:HG22	2.25	0.51
45:BL:24:LEU:O	45:BL:26:ALA:N	2.42	0.51
3:CA:1280:G:N2	3:CA:1291:C:C2	2.78	0.51
6:CF:59:ILE:HD11	6:CF:140:ILE:HD11	1.91	0.51
9:CI:73:PRO:HG2	9:CI:112:LYS:HG2	1.92	0.51
9:CI:96:LYS:HG3	9:CI:136:GLY:HA3	1.91	0.51
10:CJ:64:VAL:HG11	10:CJ:69:ARG:HB2	1.91	0.51
10:CJ:80:HIS:O	10:CJ:82:GLY:N	2.43	0.51
32:C5:26:VAL:CG1	32:C5:77:VAL:CG1	2.85	0.51
35:DA:158:G:H2'	35:DA:159:G:H5'	1.92	0.51
35:DA:980:C:C4'	47:DN:59:ARG:HE	2.23	0.51
34:DB:82:ALA:O	34:DB:85:SER:OG	2.20	0.51
42:DI:18:ARG:HB2	42:DI:66:THR:HB	1.92	0.51
49:DP:79:ASN:ND2	49:DP:82:ALA:O	2.37	0.51
54:DU:35:ARG:HE	54:DU:40:LYS:NZ	2.08	0.51
3:EA:2526:G:N3	31:E4:1:MET:N	2.58	0.51
2:EC:68:ARG:NH2	2:EC:126:GLY:O	2.43	0.51
21:EU:93:ARG:O	21:EU:102:ILE:N	2.41	0.51
35:FA:93:U:H2'	35:FA:94:G:H5"	1.93	0.51
35:FA:1199:U:OP1	60:FA:1830:HOH:O	2.19	0.51
34:FB:163:ILE:HG23	34:FB:164:ASP:H	1.74	0.51
42:FI:36:GLU:HA	42:FI:40:GLY:HA3	1.92	0.51
44:FK:16:VAL:O	44:FK:18:ASP:N	2.41	0.51
3:GA:784:G:O2'	3:GA:785:G:OP2	2.25	0.51
3:GA:2265:U:H4'	13:GM:13:HIS:CE1	2.44	0.51
4:GD:123:LYS:HE2	14:GN:1:MET:HE1	1.92	0.51
10:GJ:30:THR:HG22	10:GJ:31:GLU:N	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:GS:9:HIS:O	19:GS:11:ARG:NH1	2.42	0.51
35:HA:1034:G:C2	35:HA:1035:A:N7	2.78	0.51
37:HD:26:ARG:HD3	37:HD:31:LYS:HE3	1.92	0.51
3:AA:2313:C:H5"	6:AF:87:LYS:HD3	1.92	0.51
20:AT:29:THR:OG1	20:AT:86:THR:N	2.43	0.51
35:BA:690:G:H2'	35:BA:691:G:O4'	2.10	0.51
3:CA:855:G:N3	23:CW:23:LYS:HD3	2.24	0.51
3:CA:1009:A:OP2	60:CA:3762:HOH:O	2.18	0.51
3:CA:2394:C:OP1	30:C3:29:ARG:NH2	2.43	0.51
3:CA:2880:C:O2'	14:CN:92:GLY:O	2.24	0.51
10:CJ:44:TYR:O	10:CJ:44:TYR:CD1	2.64	0.51
11:CK:78:ARG:NH1	16:CP:70:GLU:OE2	2.44	0.51
35:DA:254:G:O3'	50:DQ:71:LYS:NZ	2.43	0.51
46:DM:14:HIS:HB3	46:DM:42:ASP:HA	1.92	0.51
55:DV:493:THR:HG22	55:DV:613:LEU:HD21	1.93	0.51
3:EA:1084:A:N6	3:EA:1085:A:N1	2.58	0.51
3:EA:1613:G:C2	3:EA:1619:G:C5	2.97	0.51
12:EL:40:SER:OG	12:EL:41:ARG:N	2.41	0.51
21:EU:98:ASN:ND2	21:EU:100:GLU:OE1	2.43	0.51
27:E0:33:SER:OG	27:E0:35:GLU:HG3	2.09	0.51
37:FD:65:TYR:CE2	37:FD:94:LEU:HB3	2.46	0.51
49:FP:18:GLN:HG3	49:FP:35:ARG:HD2	1.93	0.51
54:FU:25:LYS:C	54:FU:27:GLY:H	2.18	0.51
1:GB:41:G:OP1	1:GB:43:C:N4	2.43	0.51
3:GA:1014:A:C6	3:GA:1015:U:C4	2.99	0.51
3:GA:1195:G:C2	3:GA:1196:C:C5	2.98	0.51
3:GA:2290:G:N2	3:GA:2342:C:O2	2.43	0.51
6:GF:107:VAL:HB	6:GF:108:PRO:HD3	1.92	0.51
7:GG:63:GLN:O	7:GG:66:THR:OG1	2.26	0.51
9:GI:122:GLU:HG2	9:GI:126:ARG:HH12	1.75	0.51
15:GO:111:ARG:O	15:GO:113:ALA:N	2.43	0.51
35:HA:988:G:H1'	35:HA:1015:G:H22	1.75	0.51
35:HA:1060:U:O2'	43:HJ:58:ASN:OD1	2.27	0.51
34:HB:32:GLY:HA3	34:HB:39:ILE:O	2.10	0.51
44:HK:111:THR:HB	54:HU:5:LYS:HB3	1.92	0.51
47:HN:88:ALA:HB2	47:HN:93:ILE:HD12	1.92	0.51
3:AA:750:A:OP1	3:AA:1615:C:N4	2.40	0.51
3:AA:1647:U:OP2	60:AA:3417:HOH:O	2.19	0.51
3:AA:2387:U:O2'	23:AW:38:ARG:NH2	2.43	0.51
7:AG:84:LYS:HB3	7:AG:132:LEU:O	2.09	0.51
7:AG:96:ALA:HB3	7:AG:103:ASN:HB2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:49:ASP:OD1	10:AJ:121:LYS:NZ	2.32	0.51
18:AR:39:LEU:HA	18:AR:49:ILE:HG21	1.92	0.51
23:AW:16:GLU:O	23:AW:17:ALA:HB3	2.10	0.51
32:A5:94:ARG:O	32:A5:97:LYS:N	2.43	0.51
42:BI:52:LEU:HB3	42:BI:57:MET:HB3	1.92	0.51
49:BP:44:SER:O	49:BP:46:LYS:N	2.44	0.51
3:CA:1439:A:C2	3:CA:1553:A:C4	2.98	0.51
13:CM:68:PHE:CD1	13:CM:68:PHE:C	2.88	0.51
32:C5:54:VAL:HG22	32:C5:83:ALA:HB1	1.92	0.51
35:DA:197:A:C6	35:DA:221:C:H4'	2.45	0.51
35:DA:687:A:O2'	35:DA:701:U:O4	2.16	0.51
35:DA:880:C:OP1	45:DL:9:ARG:CZ	2.59	0.51
37:DD:32:CYS:SG	37:DD:33:LYS:N	2.81	0.51
3:EA:1774:C:OP1	60:EA:3444:HOH:O	2.19	0.51
7:EG:117:PRO:N	7:EG:120:ILE:HD11	2.26	0.51
3:GA:586:A:N1	3:GA:809:G:O2'	2.32	0.51
3:GA:2400:G:C5	3:GA:2401:U:C4	2.98	0.51
3:GA:2615:U:C2	27:G0:3:GLN:HA	2.45	0.51
20:GT:26:LYS:O	20:GT:27:SER:OG	2.20	0.51
14:AN:103:ARG:HD3	14:AN:110:MET:HE3	1.91	0.51
35:BA:410:G:OP1	37:BD:26:ARG:NH1	2.39	0.51
3:CA:1150:C:H2'	3:CA:1151:A:O5'	2.11	0.51
16:CP:58:PHE:HD1	16:CP:75:THR:HG22	1.74	0.51
19:CS:20:VAL:HG11	19:CS:44:ALA:HA	1.91	0.51
35:DA:815:A:N1	35:DA:1529:G:O2'	2.33	0.51
35:DA:1101:A:H5"	34:DB:170:ILE:HD11	1.92	0.51
48:DO:46:HIS:O	48:DO:48:LYS:N	2.39	0.51
3:EA:250:G:OP2	30:E3:12:ARG:NH1	2.44	0.51
3:EA:271:G:H4'	3:EA:272:A:OP1	2.10	0.51
3:EA:2331:G:O2'	3:EA:2336:A:N1	2.43	0.51
39:FF:98:GLU:HG3	39:FF:99:ALA:N	2.25	0.51
50:FQ:80:GLU:HG2	50:FQ:81:LYS:N	2.26	0.51
3:GA:645:C:H2'	3:GA:647:G:C8	2.45	0.51
3:GA:954:G:C2	3:GA:964:C:O2	2.63	0.51
3:GA:1267:U:C5	3:GA:2012:G:N2	2.79	0.51
3:GA:2276:G:C2	3:GA:2277:G:C8	2.98	0.51
2:GC:79:ARG:HE	2:GC:92:LEU:HD23	1.75	0.51
5:GE:29:HIS:CG	12:GL:8:PRO:HA	2.45	0.51
13:GM:106:ASP:O	13:GM:108:VAL:N	2.38	0.51
16:GP:4:ILE:HG22	16:GP:5:LYS:H	1.75	0.51
16:GP:58:PHE:CD1	16:GP:75:THR:HG22	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:GY:30:MET:O	25:GY:34:SER:N	2.40	0.51
38:HE:89:HIS:HB3	38:HE:139:ALA:HB2	1.92	0.51
43:HJ:5:ARG:HG3	43:HJ:6:ILE:HG13	1.93	0.51
3:AA:26:G:C6	3:AA:27:G:N1	2.79	0.51
3:AA:748:G:P	19:AS:88:ARG:NH2	2.83	0.51
4:AD:62:LYS:HB2	4:AD:63:PRO:HD3	1.93	0.51
5:AE:148:ILE:HA	5:AE:187:VAL:HB	1.93	0.51
20:AT:61:LEU:C	20:AT:61:LEU:HD12	2.35	0.51
22:AV:44:HIS:HE1	22:AV:86:LEU:H	1.59	0.51
22:AV:51:GLN:OE1	22:AV:57:TYR:OH	2.28	0.51
32:A5:25:ALA:HB3	32:A5:85:SER:OG	2.09	0.51
35:BA:971:G:O6	35:BA:1364:U:O2'	2.26	0.51
36:BC:168:TYR:OH	38:BE:55:GLU:OE1	2.25	0.51
3:CA:142:A:C2	20:CT:2:ILE:HG23	2.46	0.51
3:CA:1363:C:O2'	3:CA:1809:A:N3	2.39	0.51
3:CA:2365:G:H4'	23:CW:59:PHE:CE2	2.45	0.51
6:CF:10:GLU:O	6:CF:12:VAL:N	2.44	0.51
8:CH:3:VAL:HA	8:CH:39:ALA:HB2	1.92	0.51
8:CH:40:THR:C	8:CH:42:LYS:H	2.18	0.51
15:CO:51:ALA:HB3	15:CO:78:VAL:HG13	1.93	0.51
17:CQ:91:ARG:HH21	17:CQ:93:ILE:HG21	1.74	0.51
22:CV:75:GLN:HB2	22:CV:92:VAL:CG2	2.41	0.51
28:C1:22:THR:OG1	28:C1:23:THR:N	2.43	0.51
39:DF:71:ILE:HA	39:DF:74:LEU:HB2	1.92	0.51
44:DK:81:ASN:HD22	44:DK:106:ARG:HB3	1.75	0.51
53:DT:3:ASN:C	53:DT:5:LYS:H	2.18	0.51
55:DV:221:ASN:HA	55:DV:224:GLU:HB3	1.93	0.51
3:EA:802:A:C5	3:EA:803:U:C4	2.99	0.51
3:EA:1353:A:C8	3:EA:1378:A:N6	2.78	0.51
3:EA:1437:C:H2'	3:EA:1438:U:C6	2.46	0.51
3:EA:1567:G:H5'	2:EC:57:HIS:CD2	2.45	0.51
3:EA:1869:G:H3'	3:EA:1870:C:H5"	1.93	0.51
17:EQ:94:LEU:C	17:EQ:96:ASP:H	2.18	0.51
35:FA:1152:A:OP1	43:FJ:70:HIS:ND1	2.43	0.51
35:FA:1524:C:P	44:FK:125:LYS:HZ3	2.34	0.51
40:FG:146:GLU:HG2	40:FG:149:LYS:HE3	1.92	0.51
42:FI:28:ILE:HG13	42:FI:63:LEU:HD21	1.92	0.51
42:FI:114:LYS:NZ	42:FI:118:LEU:O	2.44	0.51
3:GA:33:C:O2'	3:GA:446:G:N2	2.42	0.51
3:GA:222:A:H3'	3:GA:421:C:H5'	1.93	0.51
3:GA:852:U:H2'	3:GA:853:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:1568:G:OP1	2:GC:62:ARG:NH1	2.44	0.51
18:GR:48:LYS:HD2	18:GR:49:ILE:C	2.36	0.51
19:GS:59:GLU:HA	19:GS:64:ALA:HA	1.93	0.51
35:HA:131:A:H2'	35:HA:132:C:C6	2.46	0.51
35:HA:419:C:OP1	35:HA:513:C:O2'	2.29	0.51
35:HA:1074:G:O2'	35:HA:1101:A:N1	2.37	0.51
35:HA:1292:G:H5"	42:HI:41:ARG:NH1	2.25	0.51
35:HA:1333:A:C5	35:HA:1334:G:H1'	2.46	0.51
2:AC:255:LYS:O	2:AC:257:ARG:N	2.43	0.51
3:AA:974:G:H8	3:AA:990:A:H62	1.58	0.51
3:AA:1437:C:H2'	3:AA:1438:U:C6	2.46	0.51
3:AA:1750:G:O2'	3:AA:2860:A:N1	2.37	0.51
10:AJ:39:LYS:HA	10:AJ:43:GLU:HB2	1.91	0.51
14:AN:52:ILE:HB	14:AN:94:TYR:CD2	2.46	0.51
22:AV:9:ARG:NH2	22:AV:12:GLN:HA	2.26	0.51
32:A5:25:ALA:O	32:A5:116:GLU:OE1	2.28	0.51
35:BA:177:G:OP2	53:BT:64:LYS:NZ	2.44	0.51
37:BD:107:PHE:N	37:BD:107:PHE:CD1	2.76	0.51
7:CG:165:ASP:OD1	7:CG:165:ASP:N	2.42	0.51
12:CL:106:GLU:C	12:CL:107:PHE:CD1	2.89	0.51
14:CN:98:LEU:CB	27:C0:42:ILE:HD11	2.41	0.51
35:DA:9:G:OP2	38:DE:126:LYS:NZ	2.40	0.51
35:DA:976:G:C2	35:DA:1363:A:C2	2.99	0.51
35:DA:1391:U:H2'	35:DA:1392:G:C8	2.45	0.51
52:DS:63:THR:HG22	52:DS:64:ASP:N	2.25	0.51
55:DV:195:ASP:OD1	55:DV:196:ALA:N	2.43	0.51
3:EA:532:A:N7	3:EA:2021:C:O2'	2.32	0.51
3:EA:1076:C:H2'	3:EA:1077:A:O4'	2.10	0.51
3:EA:1813:G:H1'	2:EC:49:THR:HG21	1.92	0.51
4:ED:62:LYS:HB2	4:ED:63:PRO:HD3	1.93	0.51
7:EG:112:VAL:HG23	7:EG:113:ASP:N	2.25	0.51
16:EP:105:LYS:HA	16:EP:108:ARG:HD2	1.92	0.51
34:FB:143:LEU:O	34:FB:147:LEU:N	2.37	0.51
37:FD:65:TYR:N	37:FD:65:TYR:CD1	2.79	0.51
45:FL:63:VAL:HG21	45:FL:95:TYR:CE1	2.46	0.51
55:FV:191:ILE:HG21	55:FV:193:TRP:CZ2	2.45	0.51
3:GA:583:G:C6	3:GA:584:C:C4	2.99	0.51
3:GA:863:A:C2	3:GA:864:G:C4	2.98	0.51
3:GA:1300:G:H4'	3:GA:1301:A:H5'	1.93	0.51
3:GA:2418:A:H3'	60:GA:3800:HOH:O	2.11	0.51
4:GD:33:ARG:NH2	4:GD:74:GLU:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:GL:48:ARG:HH12	30:G3:6:VAL:HG23	1.75	0.51
35:HA:579:A:H61	35:HA:762:U:H3	1.58	0.51
35:HA:1329:A:H4'	46:HM:24:GLY:O	2.11	0.51
39:HF:50:PRO:HD2	51:HR:74:HIS:CG	2.46	0.51
3:AA:2039:U:H2'	3:AA:2040:G:C8	2.45	0.51
3:AA:2314:A:OP1	6:AF:87:LYS:NZ	2.44	0.51
3:AA:2354:C:H4'	23:AW:31:LEU:HD22	1.92	0.51
3:AA:2579:C:OP1	60:AA:3534:HOH:O	2.17	0.51
4:AD:86:GLU:CD	4:AD:86:GLU:N	2.69	0.51
11:AK:13:ASN:O	11:AK:15:GLY:N	2.43	0.51
12:AL:91:ASP:OD1	12:AL:92:LEU:N	2.43	0.51
34:BB:153:MET:O	34:BB:155:GLY:N	2.44	0.51
35:BA:1273:C:H2'	35:BA:1274:A:O4'	2.11	0.51
45:BL:44:LYS:HB2	45:BL:45:PRO:HD3	1.92	0.51
3:CA:27:G:O2'	3:CA:28:A:OP2	2.29	0.51
3:CA:2804:U:H2'	3:CA:2805:C:C6	2.46	0.51
2:CC:16:VAL:N	2:CC:203:VAL:CG1	2.74	0.51
4:CD:186:LEU:CD2	16:CP:7:LEU:HD21	2.41	0.51
17:CQ:27:ARG:HA	17:CQ:33:VAL:HG12	1.90	0.51
18:CR:38:VAL:HG11	18:CR:59:ILE:HG13	1.93	0.51
22:CV:44:HIS:HE1	22:CV:86:LEU:H	1.59	0.51
23:CW:23:LYS:CG	23:CW:24:ARG:N	2.74	0.51
32:C5:24:SER:C	32:C5:116:GLU:CG	2.83	0.51
35:DA:224:U:H2'	35:DA:225:C:C6	2.45	0.51
35:DA:874:G:C5	35:DA:875:U:C5	2.99	0.51
35:DA:1219:A:H5'	47:DN:53:ARG:CZ	2.41	0.51
34:DB:9:LEU:HD12	34:DB:42:LEU:HD13	1.93	0.51
34:DB:71:THR:HG22	34:DB:72:LYS:H	1.76	0.51
36:DC:8:ASN:HD22	47:DN:90:ARG:HA	1.76	0.51
39:DF:68:GLN:CA	39:DF:71:ILE:HG22	2.40	0.51
3:EA:570:G:OP1	60:EA:3767:HOH:O	2.20	0.51
3:EA:2197:U:O2	3:EA:2198:A:O2'	2.22	0.51
5:EE:148:ILE:HA	5:EE:187:VAL:HB	1.93	0.51
7:EG:137:LYS:O	7:EG:140:ILE:HG22	2.11	0.51
34:FB:67:LEU:HD12	34:FB:153:MET:HE1	1.93	0.51
36:FC:42:TYR:HE2	36:FC:90:VAL:HG21	1.75	0.51
37:FD:48:LEU:HD21	37:FD:53:VAL:N	2.26	0.51
38:FE:104:GLY:HA3	38:FE:122:ASN:HA	1.93	0.51
1:GB:87:U:H3'	1:GB:88:C:H5'	1.92	0.51
3:GA:1019:U:H5	3:GA:1142:A:N6	2.08	0.51
3:GA:1059:G:H2'	3:GA:1060:U:C5	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:823:C:O2	41:HH:2:SER:N	2.44	0.51
38:HE:38:VAL:HG12	38:HE:117:VAL:HG21	1.92	0.51
39:HF:78:PHE:CD1	39:HF:84:VAL:HG11	2.45	0.51
55:HV:493:THR:HG22	55:HV:613:LEU:HD21	1.92	0.51
2:AC:61:TYR:CE2	3:AA:1816:C:C5	2.98	0.51
3:AA:489:G:N7	19:AS:49:LYS:NZ	2.58	0.51
6:AF:71:LYS:HD3	6:AF:72:SER:N	2.26	0.51
17:AQ:65:ASN:OD1	17:AQ:69:ARG:NH2	2.42	0.51
35:BA:289:G:O5'	60:BA:1888:HOH:O	2.19	0.51
35:BA:309:A:O2'	35:BA:607:A:N1	2.40	0.51
35:BA:1468:A:H2'	35:BA:1469:C:C5'	2.40	0.51
36:BC:164:ARG:NH1	36:BC:166:GLU:OE1	2.44	0.51
44:BK:16:VAL:CG1	44:BK:79:ILE:HG12	2.40	0.51
46:BM:4:ILE:O	46:BM:6:GLY:N	2.44	0.51
3:CA:1251:C:C6	17:CQ:5:ARG:NH1	2.79	0.51
6:CF:21:TYR:CE2	6:CF:27:VAL:HA	2.45	0.51
6:CF:110:ILE:O	6:CF:112:ASP:N	2.44	0.51
9:CI:106:GLN:HG2	9:CI:107:GLU:N	2.26	0.51
11:CK:113:MET:SD	11:CK:116:ILE:HD11	2.51	0.51
21:CU:98:ASN:ND2	21:CU:100:GLU:OE1	2.44	0.51
26:CZ:36:GLU:C	26:CZ:37:ARG:HD2	2.36	0.51
40:DG:133:THR:HA	40:DG:136:LYS:HB3	1.93	0.51
3:EA:42:A:H2'	3:EA:43:G:H5'	1.91	0.51
3:EA:858:G:O2'	3:EA:2268:A:N3	2.44	0.51
3:EA:945:A:C4	3:EA:2448:A:C2	2.99	0.51
10:EJ:39:LYS:HA	10:EJ:43:GLU:HG3	1.93	0.51
18:ER:68:ARG:HD3	18:ER:92:TRP:CE2	2.45	0.51
19:ES:13:SER:O	19:ES:14:ALA:CB	2.59	0.51
23:EW:9:THR:HG23	23:EW:10:ARG:HD3	1.91	0.51
35:FA:992:U:O2'	35:FA:1043:G:N7	2.43	0.51
35:FA:1336:C:H4'	35:FA:1337:G:H5'	1.92	0.51
37:FD:25:VAL:HA	37:FD:161:LEU:HG	1.92	0.51
3:GA:571:U:H3'	18:GR:80:ARG:NH2	2.25	0.51
3:GA:851:C:O2'	26:GZ:42:ALA:O	2.21	0.51
3:GA:954:G:H5"	13:GM:13:HIS:ND1	2.26	0.51
3:GA:1006:C:C2	3:GA:1138:G:N2	2.79	0.51
3:GA:1485:U:H2'	3:GA:1486:U:C6	2.46	0.51
3:GA:2757:A:N1	7:GG:66:THR:HG21	2.26	0.51
4:GD:148:GLN:OE1	4:GD:148:GLN:N	2.44	0.51
7:GG:84:LYS:HB2	7:GG:132:LEU:H	1.76	0.51
35:HA:161:A:N1	35:HA:347:G:O2'	2.36	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:481:G:O2'	35:HA:482:A:C8	2.63	0.51
35:HA:715:A:N6	35:HA:716:A:N6	2.58	0.51
35:HA:1268:G:N2	35:HA:1327:C:O4'	2.44	0.51
9:AI:36:GLU:HB3	9:AI:66:PHE:CE1	2.46	0.51
18:AR:49:ILE:HG22	18:AR:53:PHE:C	2.36	0.51
20:AT:50:LEU:O	20:AT:52:GLU:N	2.42	0.51
34:BB:94:ARG:NH1	34:BB:95:TRP:O	2.43	0.51
55:BV:191:ILE:HG23	55:BV:202:PHE:CE1	2.46	0.51
55:BV:219:HIS:C	55:BV:221:ASN:N	2.68	0.51
3:CA:1084:A:H5'	32:C5:55:VAL:HG13	1.91	0.51
3:CA:1668:A:O2'	3:CA:1674:G:N7	2.44	0.51
3:CA:1732:C:O2'	3:CA:1733:G:H5'	2.11	0.51
3:CA:2502:G:H5'	3:CA:2503:A:H5"	1.93	0.51
4:CD:14:ILE:HD11	4:CD:178:VAL:CG1	2.41	0.51
13:CM:71:LYS:HD3	13:CM:95:LEU:HD13	1.92	0.51
14:CN:12:ARG:CZ	14:CN:20:MET:HE1	2.40	0.51
2:EC:77:VAL:O	2:EC:77:VAL:HG22	2.11	0.51
11:EK:9:ASN:O	11:EK:83:ALA:HA	2.11	0.51
18:ER:66:HIS:CD2	18:ER:94:THR:HG22	2.46	0.51
23:EW:30:VAL:HA	23:EW:60:ALA:HB3	1.93	0.51
32:E5:95:LEU:H	32:E5:95:LEU:HD22	1.75	0.51
3:GA:248:G:C2	3:GA:2431:U:H4'	2.45	0.51
3:GA:1072:C:N4	3:GA:1097:U:C5'	2.73	0.51
3:GA:2782:G:C2	3:GA:2783:U:C6	2.99	0.51
2:GC:68:ARG:NH2	2:GC:126:GLY:O	2.43	0.51
6:GF:117:SER:O	6:GF:127:TYR:OH	2.28	0.51
6:GF:134:GLN:HG3	6:GF:140:ILE:HD13	1.93	0.51
42:HI:87:LEU:HB3	42:HI:94:LEU:CD1	2.40	0.51
3:AA:141:G:N1	20:AT:1:MET:O	2.44	0.50
3:AA:1300:G:H4'	3:AA:1301:A:H5'	1.92	0.50
3:AA:1738:G:O2'	3:AA:1739:A:O5'	2.25	0.50
4:AD:151:THR:HG22	4:AD:152:PRO:HD3	1.92	0.50
9:AI:109:ALA:HB2	9:AI:128:ILE:HG13	1.93	0.50
19:AS:20:VAL:HG11	19:AS:44:ALA:HA	1.93	0.50
28:A1:4:ILE:HG23	28:A1:5:ARG:H	1.76	0.50
35:BA:701:U:H5"	35:BA:703:G:O4'	2.11	0.50
7:CG:22:VAL:HG12	7:CG:36:LEU:CD1	2.41	0.50
8:CH:9:VAL:HG12	8:CH:10:ALA:H	1.75	0.50
9:CI:71:LYS:N	9:CI:71:LYS:HD2	2.27	0.50
13:CM:8:LYS:HE3	13:CM:9:PHE:CE2	2.45	0.50
23:CW:72:GLY:N	23:CW:73:PRO:CD	2.74	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:867:G:H2'	35:DA:868:C:C6	2.46	0.50
35:DA:1395:C:HO2'	35:DA:1401:G:HO2'	1.54	0.50
34:DB:186:VAL:N	34:DB:199:ILE:O	2.44	0.50
38:DE:46:VAL:CG2	38:DE:118:ALA:HA	2.41	0.50
3:EA:855:G:H1'	23:EW:23:LYS:HE3	1.93	0.50
3:EA:1026:G:OP1	60:EA:3704:HOH:O	2.19	0.50
4:ED:184:ARG:NH1	16:EP:6:GLN:OE1	2.44	0.50
20:ET:35:ALA:HB3	20:ET:38:ALA:HB2	1.92	0.50
28:E1:3:GLY:O	28:E1:5:ARG:N	2.45	0.50
31:E4:3:VAL:HG23	31:E4:4:ARG:H	1.75	0.50
35:FA:110:C:N4	35:FA:111:G:C6	2.79	0.50
35:FA:1477:U:H2'	35:FA:1478:U:C6	2.46	0.50
34:FB:49:PHE:C	34:FB:49:PHE:CD1	2.89	0.50
3:GA:909:A:C6	3:GA:912:C:C2	2.98	0.50
3:GA:2415:G:C5	3:GA:2416:C:C5	2.99	0.50
3:GA:2661:G:H5'	55:HV:19:ILE:HG13	1.93	0.50
2:GC:246:PRO:HG2	2:GC:247:TRP:CZ3	2.46	0.50
13:GM:17:ASN:O	13:GM:17:ASN:ND2	2.43	0.50
35:HA:17:U:H2'	35:HA:18:C:C6	2.45	0.50
34:HB:67:LEU:HD21	34:HB:91:VAL:HG23	1.93	0.50
34:HB:172:ILE:HG22	34:HB:176:ASN:HD21	1.76	0.50
34:HB:207:ARG:HG3	34:HB:208:ALA:N	2.26	0.50
50:HQ:19:LYS:N	50:HQ:51:ASN:OD1	2.42	0.50
2:AC:256:THR:CG2	3:AA:1797:G:O2'	2.59	0.50
3:AA:391:A:C6	3:AA:411:G:C2	3.00	0.50
3:AA:411:G:OP2	3:AA:2406:A:O2'	2.25	0.50
3:AA:1338:G:O2'	3:AA:1393:A:N1	2.44	0.50
3:AA:2094:A:C2	3:AA:2196:C:C2	2.99	0.50
3:AA:2329:U:H2'	3:AA:2330:G:C8	2.47	0.50
19:AS:13:SER:O	19:AS:14:ALA:CB	2.60	0.50
19:AS:86:MET:HB2	19:AS:96:ILE:HG21	1.92	0.50
35:BA:464:U:O2'	35:BA:466:A:N7	2.37	0.50
35:BA:840:C:N4	35:BA:842:U:O2'	2.44	0.50
35:BA:999:C:H42	35:BA:1041:G:H1	1.59	0.50
35:BA:1007:U:C2'	35:BA:1008:U:H5'	2.41	0.50
3:CA:594:U:H2'	3:CA:595:C:C6	2.46	0.50
3:CA:1954:G:O2'	3:CA:1956:U:O4	2.29	0.50
3:CA:2800:A:H3'	3:CA:2801:G:H5"	1.93	0.50
4:CD:120:GLY:HA2	4:CD:162:ALA:CB	2.41	0.50
15:CO:52:SER:HB2	15:CO:54:VAL:HG12	1.94	0.50
26:CZ:21:ALA:O	26:CZ:25:GLY:N	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:C5:142:THR:OG1	32:C5:143:MET:N	2.44	0.50
35:DA:111:G:O6	35:DA:330:C:N4	2.44	0.50
35:DA:738:C:H2'	35:DA:739:C:C6	2.46	0.50
40:DG:16:PRO:HG3	42:DI:43:THR:HG23	1.93	0.50
55:DV:11:ARG:HE	55:DV:283:ILE:HA	1.77	0.50
3:EA:2800:A:H3'	3:EA:2801:G:C5'	2.41	0.50
16:EP:108:ARG:NH1	35:FA:1464:U:OP2	2.42	0.50
35:FA:1410:A:H2'	35:FA:1411:C:C6	2.47	0.50
51:FR:37:GLY:O	51:FR:63:ARG:NH2	2.44	0.50
54:FU:25:LYS:C	54:FU:27:GLY:N	2.69	0.50
3:GA:974:G:C4	3:GA:1186:G:C2	2.99	0.50
3:GA:1095:A:C8	55:HV:629:GLY:C	2.89	0.50
3:GA:2529:G:H5'	7:GG:174:LYS:HD2	1.93	0.50
9:GI:32:VAL:HG12	9:GI:33:ASN:H	1.76	0.50
35:HA:142:G:H3'	35:HA:143:A:H8	1.75	0.50
38:HE:24:THR:HA	38:HE:29:ARG:HA	1.92	0.50
43:HJ:57:VAL:HG12	43:HJ:58:ASN:N	2.26	0.50
3:AA:565:C:H2'	3:AA:566:U:O4'	2.11	0.50
3:AA:2571:U:O2'	4:AD:151:THR:CG2	2.60	0.50
8:AH:40:THR:C	8:AH:42:LYS:H	2.19	0.50
11:AK:9:ASN:O	11:AK:83:ALA:HA	2.11	0.50
14:AN:96:ARG:NH2	14:AN:114:GLU:OE1	2.44	0.50
42:BI:89:GLU:OE1	42:BI:90:TYR:CD1	2.65	0.50
3:CA:83:A:H2'	3:CA:84:A:N7	2.26	0.50
3:CA:404:A:O2'	3:CA:405:U:OP2	2.23	0.50
11:CK:80:ASP:OD1	16:CP:61:ARG:NH1	2.45	0.50
15:CO:31:THR:HG22	15:CO:34:HIS:H	1.75	0.50
32:C5:123:ILE:HG12	32:C5:124:ASP:N	2.26	0.50
35:DA:982:U:H4'	35:DA:983:A:C5'	2.41	0.50
35:DA:1033:G:C2'	35:DA:1034:G:H5'	2.40	0.50
35:DA:1163:A:C6	35:DA:1174:G:C6	2.99	0.50
3:EA:100:U:H4'	3:EA:101:A:O5'	2.11	0.50
3:EA:126:A:O5'	29:E2:19:ARG:HG3	2.10	0.50
3:EA:1843:C:O2'	2:EC:253:GLY:O	2.16	0.50
3:EA:2146:C:H4'	3:EA:2147:A:OP1	2.12	0.50
10:EJ:30:THR:HG22	10:EJ:31:GLU:N	2.26	0.50
23:EW:37:VAL:HB	23:EW:38:ARG:HH11	1.76	0.50
35:FA:80:A:N1	35:FA:81:A:C2	2.79	0.50
35:FA:202:G:HO2'	35:FA:468:A:H8	1.56	0.50
34:FB:93:HIS:ND1	34:FB:145:ASN:O	2.44	0.50
45:FL:24:LEU:O	45:FL:26:ALA:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:FP:6:LEU:HD12	49:FP:17:TYR:HB3	1.94	0.50
50:FQ:76:VAL:HG22	50:FQ:77:ARG:HG3	1.92	0.50
1:GB:83:G:H4'	26:GZ:52:PHE:CD1	2.45	0.50
3:GA:918:A:C2	3:GA:919:U:H1'	2.47	0.50
3:GA:1039:A:H2'	3:GA:1040:A:O4'	2.11	0.50
3:GA:1064:C:C4	3:GA:1065:U:C5	2.99	0.50
3:GA:1847:A:H2'	3:GA:1847:A:N3	2.26	0.50
3:GA:2265:U:N3	3:GA:2266:A:C6	2.80	0.50
5:GE:29:HIS:O	5:GE:32:VAL:HG22	2.11	0.50
8:GH:27:ARG:HH22	24:GX:59:ASP:HA	1.76	0.50
11:GK:78:ARG:NH1	16:GP:70:GLU:OE2	2.44	0.50
16:GP:15:ASP:N	16:GP:15:ASP:OD1	2.43	0.50
20:GT:76:ARG:NH2	20:GT:79:ASP:OD1	2.44	0.50
22:GV:80:HIS:CD2	22:GV:83:LYS:HG3	2.45	0.50
35:HA:324:G:N7	60:HA:1837:HOH:O	2.35	0.50
37:HD:62:ARG:HG2	37:HD:72:PHE:CD2	2.45	0.50
39:HF:10:VAL:HG21	39:HF:21:MET:CE	2.41	0.50
40:HG:126:ASP:O	40:HG:130:ASN:N	2.44	0.50
46:HM:33:ILE:HD13	46:HM:59:GLU:HB3	1.93	0.50
47:HN:61:ARG:NH1	60:HN:201:HOH:O	2.44	0.50
3:AA:1654:A:H2'	3:AA:1655:A:H8	1.77	0.50
3:AA:2803:G:H2'	3:AA:2804:U:C6	2.45	0.50
4:AD:193:VAL:HG21	4:AD:201:LEU:HD21	1.93	0.50
9:AI:89:SER:OG	9:AI:135:MET:SD	2.68	0.50
32:A5:68:PRO:HA	32:A5:72:LEU:HD11	1.94	0.50
39:BF:38:ARG:NH1	39:BF:63:ASN:OD1	2.44	0.50
40:BG:63:GLU:OE1	40:BG:70:ARG:NH2	2.45	0.50
44:BK:81:ASN:HB3	44:BK:106:ARG:HB3	1.92	0.50
50:BQ:47:HIS:HB2	50:BQ:71:LYS:HE2	1.93	0.50
1:CB:42:C:OP2	6:CF:63:LYS:NZ	2.45	0.50
5:CE:148:ILE:HA	5:CE:187:VAL:HB	1.94	0.50
23:CW:39:GLN:HG2	23:CW:40:ARG:N	2.25	0.50
32:C5:54:VAL:HA	32:C5:84:TYR:O	2.11	0.50
32:C5:127:ALA:C	32:C5:129:LEU:N	2.70	0.50
35:DA:696:A:N3	35:DA:786:G:O2'	2.42	0.50
42:DI:92:GLU:OE2	42:DI:95:ARG:NH2	2.33	0.50
55:DV:185:LEU:HD13	55:DV:222:LEU:HD13	1.94	0.50
3:EA:451:U:C2	3:EA:453:A:N7	2.79	0.50
3:EA:1171:G:C6	3:EA:1172:C:N4	2.79	0.50
3:EA:2038:G:H2'	3:EA:2039:U:O4'	2.11	0.50
2:EC:244:VAL:HG12	2:EC:250:GLN:HA	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:EE:128:ALA:O	5:EE:130:LYS:N	2.42	0.50
6:EF:132:ARG:O	6:EF:133:GLU:HB3	2.12	0.50
8:EH:40:THR:OG1	8:EH:43:ASN:OD1	2.30	0.50
16:EP:92:ARG:O	16:EP:93:LYS:CB	2.59	0.50
23:EW:47:GLY:H	23:EW:80:SER:HB3	1.77	0.50
55:FV:310:HIS:O	55:FV:312:SER:N	2.44	0.50
3:GA:348:A:H2'	3:GA:349:U:O4'	2.11	0.50
3:GA:878:A:N6	3:GA:899:A:HO2'	2.08	0.50
4:GD:46:ARG:NH2	4:GD:86:GLU:H	2.09	0.50
5:GE:151:GLY:O	5:GE:195:GLN:NE2	2.45	0.50
6:GF:72:SER:HB3	6:GF:80:GLN:NE2	2.27	0.50
6:GF:105:ILE:HB	6:GF:138:PRO:HG2	1.93	0.50
22:GV:65:VAL:HG13	22:GV:68:LYS:HD2	1.93	0.50
35:HA:769:G:H4'	35:HA:1513:A:H4'	1.92	0.50
35:HA:1115:U:H1'	47:HN:101:TRP:HA	1.93	0.50
35:HA:1365:G:C2	35:HA:1366:C:C2	2.99	0.50
36:HC:77:ILE:HA	36:HC:84:VAL:HG23	1.94	0.50
40:HG:116:MET:HA	40:HG:119:ARG:HD2	1.92	0.50
47:HN:29:ALA:HA	47:HN:33:ASP:HB2	1.91	0.50
55:HV:557:ILE:HG21	55:HV:576:ILE:HD12	1.93	0.50
3:AA:846:U:HO2'	3:AA:847:U:P	2.34	0.50
3:AA:1084:A:H5'	32:A5:55:VAL:HG13	1.93	0.50
3:AA:1942:C:OP2	3:AA:1943:U:O2'	2.28	0.50
3:AA:2211:A:O2'	3:AA:2212:A:P	2.70	0.50
3:AA:2636:C:O2'	4:AD:45:TYR:OH	2.25	0.50
24:AX:70:LEU:O	24:AX:75:GLU:N	2.45	0.50
38:BE:153:VAL:O	38:BE:157:ARG:N	2.44	0.50
55:BV:95:PHE:CZ	55:BV:464:LEU:HD22	2.47	0.50
3:CA:363:G:H2'	3:CA:364:C:C6	2.47	0.50
3:CA:1382:G:O3'	3:CA:1573:G:N2	2.43	0.50
3:CA:2105:U:H2'	3:CA:2106:U:H5"	1.93	0.50
3:CA:2595:G:O6	2:CC:238:ASN:ND2	2.33	0.50
11:CK:107:LEU:O	11:CK:109:SER:N	2.40	0.50
35:DA:1005:A:H2'	35:DA:1006:G:O4'	2.11	0.50
43:DJ:40:ILE:HD12	43:DJ:73:LEU:HD23	1.93	0.50
1:EB:98:G:H1	22:EV:14:LYS:HB2	1.77	0.50
7:EG:120:ILE:HD13	7:EG:120:ILE:H	1.77	0.50
7:EG:155:PRO:O	7:EG:170:THR:HA	2.10	0.50
11:EK:80:ASP:OD1	16:EP:61:ARG:NH1	2.42	0.50
35:FA:1306:A:N6	35:FA:1331:G:H1'	2.27	0.50
50:FQ:48:ASP:OD2	50:FQ:52:GLU:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:FV:801:GCP:O2A	59:FV:801:GCP:O2B	2.28	0.50
3:GA:384:A:H2'	3:GA:385:C:H5'	1.93	0.50
3:GA:653:U:H3'	3:GA:654:A:C5'	2.42	0.50
3:GA:1353:A:C8	3:GA:1378:A:N6	2.80	0.50
35:HA:1014:A:H2	35:HA:1219:A:N3	2.09	0.50
35:HA:1053:G:N7	35:HA:1200:C:H5"	2.27	0.50
35:HA:1285:A:N1	35:HA:1355:G:H5'	2.27	0.50
34:HB:67:LEU:HD12	34:HB:153:MET:HE2	1.93	0.50
3:AA:1533:C:H2'	3:AA:1534:U:C6	2.46	0.50
3:AA:1753:G:OP1	16:AP:92:ARG:NE	2.38	0.50
3:AA:2074:U:H2'	3:AA:2075:U:C6	2.46	0.50
4:AD:148:GLN:OE1	4:AD:148:GLN:N	2.45	0.50
8:AH:41:LYS:HA	8:AH:44:ILE:HG12	1.93	0.50
16:AP:91:VAL:O	16:AP:92:ARG:HG2	2.12	0.50
17:AQ:91:ARG:HE	17:AQ:93:ILE:CG2	2.25	0.50
18:AR:61:ALA:HB2	18:AR:98:ILE:HA	1.92	0.50
29:A2:27:GLY:O	29:A2:30:VAL:HB	2.11	0.50
3:CA:995:C:N4	10:CJ:2:LYS:HB2	2.26	0.50
3:CA:1076:C:H2'	3:CA:1077:A:O4'	2.11	0.50
3:CA:2092:U:H4'	3:CA:2093:G:O5'	2.10	0.50
3:CA:2745:C:C4	3:CA:2746:U:C4	3.00	0.50
2:CC:123:ILE:H	2:CC:123:ILE:HD12	1.77	0.50
7:CG:86:LEU:HB3	7:CG:162:ARG:O	2.11	0.50
7:CG:162:ARG:HB3	7:CG:166:GLU:HG2	1.94	0.50
9:CI:56:VAL:HA	9:CI:71:LYS:HZ1	1.76	0.50
35:DA:1276:G:N2	35:DA:1283:U:O4'	2.44	0.50
3:EA:532:A:C8	3:EA:2021:C:C6	3.00	0.50
3:EA:565:C:H2'	3:EA:566:U:O4'	2.12	0.50
32:E5:29:ASP:HA	32:E5:108:VAL:CG1	2.34	0.50
35:FA:53:A:C2	35:FA:359:G:C2	2.99	0.50
36:FC:65:ARG:O	36:FC:66:VAL:HB	2.11	0.50
47:FN:57:PRO:C	47:FN:59:ARG:H	2.20	0.50
52:FS:5:LEU:C	52:FS:6:LYS:HG3	2.37	0.50
1:GB:81:G:C6	1:GB:96:G:C6	2.99	0.50
3:GA:374:A:N6	3:GA:400:G:O2'	2.44	0.50
3:GA:453:A:OP1	60:GA:3238:HOH:O	2.20	0.50
3:GA:1067:A:C4	3:GA:1068:G:N7	2.80	0.50
3:GA:1252:G:C2	17:GQ:32:ARG:HG2	2.47	0.50
3:GA:2307:G:N1	3:GA:2311:A:H2'	2.26	0.50
15:GO:106:LEU:HA	15:GO:109:ALA:HB3	1.94	0.50
23:GW:37:VAL:HG13	23:GW:55:ASP:C	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:697:U:H2'	35:HA:698:G:H5'	1.94	0.50
51:HR:41:PRO:HB2	51:HR:43:ARG:HG2	1.94	0.50
55:HV:453:SER:O	55:HV:455:GLN:N	2.45	0.50
55:HV:640:GLY:HA3	55:HV:658:VAL:HG13	1.94	0.50
3:AA:322:A:H5'	3:AA:340:A:H1'	1.94	0.50
3:AA:2286:G:O6	28:A1:22:THR:OG1	2.24	0.50
3:AA:2352:A:C6	23:AW:30:VAL:HG11	2.47	0.50
10:AJ:21:THR:HG22	10:AJ:22:GLY:N	2.27	0.50
13:AM:20:LEU:HD22	13:AM:20:LEU:N	2.26	0.50
26:AZ:41:PRO:HA	26:AZ:44:ARG:HB3	1.93	0.50
29:A2:34:ARG:NH1	29:A2:41:ARG:O	2.45	0.50
35:BA:537:G:OP1	45:BL:110:ARG:NH2	2.42	0.50
35:BA:673:A:H4'	39:BF:86:ARG:HD2	1.93	0.50
52:BS:63:THR:HG22	52:BS:64:ASP:N	2.26	0.50
55:BV:536:PHE:CZ	55:BV:578:LEU:HD23	2.47	0.50
6:CF:103:ILE:HG23	6:CF:175:PRO:HD3	1.93	0.50
10:CJ:81:ILE:CG1	10:CJ:82:GLY:N	2.75	0.50
35:DA:49:U:O2'	35:DA:50:A:H2'	2.11	0.50
35:DA:619:U:H3	37:DD:131:ASN:HB3	1.77	0.50
40:DG:102:ARG:O	40:DG:106:GLU:N	2.43	0.50
40:DG:111:ARG:HE	40:DG:123:GLU:HG2	1.77	0.50
44:DK:30:THR:O	44:DK:47:ALA:N	2.43	0.50
53:DT:81:ALA:O	53:DT:85:LYS:HG2	2.11	0.50
3:EA:654:A:H3'	3:EA:654:A:N3	2.26	0.50
3:EA:1548:A:H2'	3:EA:1549:A:C8	2.47	0.50
32:E5:91:ALA:HB3	32:E5:130:PRO:HB3	1.93	0.50
35:FA:328:C:H2'	35:FA:328:C:O2	2.11	0.50
35:FA:921:U:H2'	35:FA:922:G:O4'	2.12	0.50
37:FD:80:ALA:HA	37:FD:86:THR:CG2	2.42	0.50
46:FM:3:ARG:HD3	46:FM:7:ILE:HD12	1.94	0.50
55:FV:452:GLU:OE1	55:FV:491:ARG:NH1	2.44	0.50
3:GA:953:G:N2	3:GA:965:C:N3	2.59	0.50
3:GA:1224:U:H4'	18:GR:88:GLY:O	2.12	0.50
3:GA:1594:U:H2'	3:GA:1595:C:C6	2.47	0.50
3:GA:2392:A:C2	12:GL:55:MET:HE3	2.46	0.50
3:GA:2885:G:H2'	3:GA:2886:A:O4'	2.12	0.50
2:GC:12:ARG:HG2	2:GC:12:ARG:HH11	1.77	0.50
7:GG:32:LEU:HD13	7:GG:32:LEU:N	2.27	0.50
10:GJ:25:LEU:HD22	10:GJ:26:GLY:N	2.26	0.50
11:GK:1:MET:SD	11:GK:67:LYS:HD3	2.52	0.50
11:GK:61:VAL:CG2	11:GK:87:LEU:HD11	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:GY:16:THR:HA	25:GY:19:LEU:HB3	1.93	0.50
31:G4:7:VAL:HG23	31:G4:8:LYS:H	1.76	0.50
35:HA:402:G:O2'	35:HA:620:C:N3	2.45	0.50
35:HA:877:G:H21	41:HH:2:SER:N	2.10	0.50
35:HA:1414:U:H2'	35:HA:1415:G:H8	1.76	0.50
34:HB:23:ASN:H	34:HB:189:ASN:HA	1.76	0.50
37:HD:70:ARG:NH1	60:HD:302:HOH:O	2.45	0.50
3:AA:223:A:C5	3:AA:422:A:C8	3.00	0.50
3:AA:1179:G:H2'	3:AA:1180:U:O4'	2.12	0.50
3:AA:2109:U:H2'	3:AA:2110:G:H5'	1.93	0.50
7:AG:16:VAL:HG21	7:AG:44:HIS:CD2	2.46	0.50
7:AG:83:THR:C	7:AG:84:LYS:HD3	2.37	0.50
35:BA:142:G:H3'	35:BA:143:A:H8	1.77	0.50
35:BA:409:U:OP1	37:BD:24:GLY:HA3	2.11	0.50
35:BA:1228:C:OP2	46:BM:110:LYS:NZ	2.45	0.50
41:BH:10:MET:HE1	41:BH:33:LYS:HA	1.94	0.50
3:CA:1142:A:N3	3:CA:1144:A:C8	2.80	0.50
3:CA:2146:C:OP1	3:GA:2146:C:N4	2.45	0.50
2:CC:103:ILE:HG13	2:CC:104:LEU:N	2.27	0.50
20:CT:60:THR:OG1	60:CT:202:HOH:O	2.19	0.50
35:DA:979:C:H1'	35:DA:1317:C:N4	2.27	0.50
35:DA:1463:U:H2'	35:DA:1464:U:C6	2.46	0.50
34:DB:216:VAL:HA	34:DB:219:THR:HG22	1.94	0.50
43:DJ:53:ILE:HG22	43:DJ:61:ALA:HB1	1.94	0.50
45:DL:33:VAL:HG21	55:DV:429:GLU:HG3	1.93	0.50
49:DP:21:VAL:HG23	49:DP:33:ILE:HB	1.94	0.50
55:DV:19:ILE:CD1	55:DV:92:HIS:H	2.25	0.50
3:EA:183:C:O2'	3:EA:432:A:N3	2.36	0.50
3:EA:1356:G:C6	3:EA:1357:C:C4	3.00	0.50
25:EY:56:LEU:HA	25:EY:59:GLU:HG2	1.94	0.50
26:EZ:35:VAL:HG22	26:EZ:37:ARG:HE	1.77	0.50
32:E5:51:TYR:CD1	32:E5:52:MET:HG2	2.47	0.50
35:FA:690:G:H2'	35:FA:691:G:O4'	2.11	0.50
38:FE:155:ALA:HB1	41:FH:66:PHE:HZ	1.77	0.50
55:FV:337:ARG:HA	55:FV:382:ILE:HG22	1.93	0.50
55:FV:493:THR:HG22	55:FV:613:LEU:HD21	1.92	0.50
3:GA:468:G:N7	29:G2:39:ARG:NH2	2.60	0.50
3:GA:729:G:H2'	3:GA:1775:U:H1'	1.94	0.50
3:GA:857:G:N1	3:GA:858:G:C6	2.80	0.50
3:GA:869:G:O4'	13:GM:8:LYS:NZ	2.45	0.50
3:GA:1072:C:N4	3:GA:1097:U:P	2.85	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:1088:A:O2'	3:GA:1089:A:OP2	2.26	0.50
3:GA:2472:G:C8	3:GA:2475:C:N4	2.80	0.50
2:GC:255:LYS:O	2:GC:257:ARG:N	2.45	0.50
21:GU:5:ARG:HE	21:GU:93:ARG:NH1	2.09	0.50
35:HA:1495:U:H2'	35:HA:1496:C:O2	2.12	0.50
34:HB:20:ARG:O	34:HB:22:TRP:N	2.44	0.50
46:HM:25:VAL:HB	46:HM:29:ARG:HD3	1.93	0.50
3:AA:118:A:N3	3:AA:178:G:H1'	2.27	0.50
3:AA:994:C:O2'	3:AA:996:A:OP1	2.25	0.50
3:AA:1533:C:C2	3:AA:1534:U:C4	2.99	0.50
7:AG:73:SER:O	7:AG:77:GLY:N	2.45	0.50
35:BA:158:G:H2'	35:BA:159:G:C5'	2.42	0.50
35:BA:947:G:C6	35:BA:948:C:C4	3.00	0.50
3:CA:163:C:O2'	3:CA:164:C:P	2.70	0.50
3:CA:749:A:C6	3:CA:1618:A:C2	3.00	0.50
3:CA:910:A:N6	3:CA:2277:G:O2'	2.44	0.50
3:CA:2347:C:H2'	3:CA:2348:U:C6	2.47	0.50
3:CA:2618:G:C6	3:CA:2619:C:C4	3.00	0.50
7:CG:63:GLN:O	7:CG:66:THR:OG1	2.30	0.50
10:CJ:73:VAL:HB	10:CJ:75:TYR:CE1	2.47	0.50
35:DA:429:U:P	37:DD:13:ARG:HH22	2.35	0.50
35:DA:1244:G:C6	35:DA:1294:G:C6	3.00	0.50
45:DL:76:GLU:HG3	55:DV:454:ASN:CB	2.42	0.50
45:DL:110:ARG:NH1	45:DL:117:TYR:CE2	2.80	0.50
3:EA:645:C:O2	3:EA:645:C:O2'	2.19	0.50
3:EA:954:G:C5	3:EA:955:U:C5	3.00	0.50
3:EA:1187:G:H5"	18:ER:83:TYR:CE2	2.47	0.50
16:EP:104:GLY:O	16:EP:106:ALA:N	2.42	0.50
35:FA:568:G:N2	35:FA:883:C:C2	2.79	0.50
35:FA:619:U:H3	37:FD:131:ASN:HB3	1.75	0.50
35:FA:1005:A:H2'	35:FA:1006:G:O4'	2.12	0.50
35:FA:1053:G:N7	35:FA:1200:C:H5"	2.27	0.50
38:FE:41:ASP:OD1	38:FE:43:ASN:N	2.44	0.50
44:FK:81:ASN:HB2	44:FK:106:ARG:O	2.12	0.50
1:GB:49:C:OP1	15:GO:102:ARG:N	2.41	0.50
3:GA:635:C:N4	3:GA:636:G:C6	2.80	0.50
3:GA:875:G:H1	3:GA:902:C:H42	1.60	0.50
3:GA:910:A:OP1	60:GA:3710:HOH:O	2.17	0.50
3:GA:2340:A:H2'	3:GA:2341:G:H8	1.77	0.50
3:GA:2698:U:H2'	3:GA:2699:C:C6	2.46	0.50
3:GA:2751:G:H4'	7:GG:3:VAL:CG1	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:GJ:58:ASN:N	10:GJ:127:GLY:O	2.36	0.50
35:HA:1223:C:C5	35:HA:1224:U:H5	2.29	0.50
34:HB:52:ALA:CB	34:HB:199:ILE:HD11	2.42	0.50
55:HV:93:VAL:HG22	55:HV:94:ASP:H	1.77	0.50
3:AA:27:G:N2	3:AA:512:G:H1'	2.26	0.49
3:AA:443:A:C5	5:AE:40:ARG:HD3	2.47	0.49
3:AA:938:G:OP2	30:A3:51:LYS:NZ	2.33	0.49
3:AA:2043:C:OP1	3:AA:2777:G:O2'	2.24	0.49
23:AW:49:ASN:HA	23:AW:61:LYS:HB2	1.94	0.49
26:AZ:26:LEU:O	26:AZ:37:ARG:NH1	2.44	0.49
37:BD:58:LYS:CB	37:BD:200:ILE:HG13	2.42	0.49
3:CA:1176:U:H2'	3:CA:1177:G:C8	2.47	0.49
3:CA:1847:A:H2'	3:CA:1847:A:N3	2.27	0.49
3:CA:2563:U:H1'	3:CA:2566:A:N6	2.27	0.49
16:CP:4:ILE:HG22	16:CP:8:GLU:HG3	1.93	0.49
19:CS:13:SER:O	19:CS:14:ALA:HB3	2.12	0.49
26:CZ:8:GLN:O	26:CZ:9:THR:HG22	2.12	0.49
35:DA:736:C:H2'	35:DA:737:C:C6	2.47	0.49
34:DB:67:LEU:HD12	34:DB:157:PRO:HG2	1.94	0.49
36:DC:58:GLU:OE2	36:DC:65:ARG:HD2	2.12	0.49
37:DD:66:GLY:O	37:DD:115:ARG:NH2	2.44	0.49
40:DG:47:LEU:HD12	40:DG:124:LEU:HD11	1.94	0.49
6:EF:73:VAL:HG22	6:EF:78:ILE:HD11	1.94	0.49
10:EJ:44:TYR:C	10:EJ:44:TYR:HD1	2.20	0.49
35:FA:1062:U:H2'	35:FA:1063:C:C6	2.47	0.49
41:FH:106:THR:HG21	41:FH:121:LEU:HD13	1.93	0.49
1:GB:65:U:C4	1:GB:108:A:N3	2.80	0.49
3:GA:794:A:H2'	3:GA:795:C:C6	2.47	0.49
3:GA:1010:A:H5'	17:GQ:61:ILE:CG2	2.42	0.49
3:GA:1026:G:H2'	3:GA:1027:A:C8	2.46	0.49
3:GA:2292:U:C2	3:GA:2293:G:C8	3.00	0.49
3:GA:2352:A:H2'	3:GA:2353:G:O4'	2.12	0.49
3:GA:2354:C:H4'	23:GW:31:LEU:HD13	1.93	0.49
3:GA:2578:G:N2	4:GD:130:GLN:OE1	2.45	0.49
6:GF:130:GLY:HA2	6:GF:152:ASP:CB	2.42	0.49
23:GW:26:GLY:O	23:GW:28:GLU:N	2.45	0.49
23:GW:30:VAL:HB	23:GW:59:PHE:CD2	2.48	0.49
35:HA:428:G:O4'	35:HA:430:A:C8	2.64	0.49
35:HA:781:A:H4'	35:HA:1522:U:O2'	2.12	0.49
35:HA:829:G:OP1	34:HB:27:LYS:NZ	2.45	0.49
35:HA:1269:A:H1'	35:HA:1326:U:H1'	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:HB:32:GLY:HA3	34:HB:39:ILE:H	1.77	0.49
52:HS:36:ARG:HD2	52:HS:51:VAL:HG11	1.94	0.49
3:AA:1277:G:C5'	14:AN:20:MET:HE2	2.43	0.49
3:AA:1315:C:OP2	60:AA:3749:HOH:O	2.18	0.49
3:AA:2701:U:H3'	3:AA:2702:G:C5'	2.42	0.49
3:AA:2867:G:O2'	3:AA:2868:A:OP2	2.28	0.49
5:AE:188:MET:HE2	5:AE:193:VAL:HA	1.93	0.49
17:AQ:93:ILE:O	17:AQ:96:ASP:N	2.39	0.49
23:AW:49:ASN:ND2	23:AW:49:ASN:C	2.66	0.49
35:BA:79:G:HO2'	35:BA:80:A:P	2.32	0.49
35:BA:330:C:O2	60:BA:1890:HOH:O	2.16	0.49
35:BA:390:U:O3'	49:BP:28:ARG:NH1	2.45	0.49
41:BH:12:THR:HG22	41:BH:15:ARG:HH12	1.76	0.49
47:BN:42:TRP:O	47:BN:45:VAL:HG22	2.12	0.49
47:BN:90:ARG:HB2	47:BN:92:GLU:HG3	1.93	0.49
3:CA:1187:G:OP2	60:CA:3360:HOH:O	2.19	0.49
3:CA:1300:G:H4'	3:CA:1301:A:H5'	1.94	0.49
3:CA:1760:C:H2'	3:CA:1761:C:O4'	2.12	0.49
3:CA:1839:G:C6	3:CA:1840:G:N7	2.80	0.49
13:CM:35:ALA:HB2	13:CM:102:LEU:HD21	1.93	0.49
20:CT:50:LEU:H	20:CT:50:LEU:HD12	1.77	0.49
35:DA:676:A:H4'	44:DK:115:PRO:HB3	1.95	0.49
40:DG:77:SER:HA	40:DG:86:GLN:HA	1.94	0.49
41:DH:47:GLU:HB3	41:DH:62:THR:HB	1.94	0.49
45:DL:7:LEU:HD23	50:DQ:34:TYR:HE1	1.77	0.49
3:EA:580:U:H2'	3:EA:581:C:H6	1.77	0.49
3:EA:600:G:N2	3:EA:605:G:O3'	2.45	0.49
3:EA:2134:A:H2'	3:EA:2156:G:N2	2.27	0.49
20:ET:50:LEU:H	20:ET:50:LEU:HD12	1.77	0.49
23:EW:37:VAL:HA	23:EW:39:GLN:HG2	1.94	0.49
35:FA:1314:C:OP2	52:FS:6:LYS:CD	2.60	0.49
39:FF:91:ARG:O	39:FF:92:THR:OG1	2.27	0.49
54:FU:12:PHE:CE2	54:FU:16:LEU:HD11	2.46	0.49
54:FU:53:VAL:HG13	54:FU:54:LYS:N	2.27	0.49
55:FV:393:THR:HG21	55:FV:443:PRO:HD3	1.95	0.49
3:GA:570:G:OP1	60:GA:3757:HOH:O	2.19	0.49
3:GA:783:A:OP2	60:GA:3311:HOH:O	2.19	0.49
3:GA:1060:U:OP1	9:GI:75:ALA:CB	2.60	0.49
3:GA:1218:G:C2	3:GA:1232:G:C5	3.00	0.49
3:GA:1256:G:O2'	5:GE:77:ILE:HD11	2.12	0.49
3:GA:2831:G:O2'	3:GA:2884:U:OP1	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:GK:52:VAL:HG13	11:GK:95:ILE:HD11	1.94	0.49
15:GO:80:GLU:HA	15:GO:83:LEU:HD12	1.94	0.49
35:HA:655:A:H2	35:HA:751:U:H3	1.60	0.49
35:HA:1004:A:H5'	35:HA:1024:G:N2	2.27	0.49
35:HA:1071:C:H2'	35:HA:1072:G:H8	1.77	0.49
38:HE:13:GLU:CB	38:HE:39:VAL:HG12	2.43	0.49
3:AA:277:G:O2'	3:AA:278:A:OP2	2.25	0.49
3:AA:1022:G:C5	3:AA:1140:C:C4	3.00	0.49
3:AA:1778:U:H2'	3:AA:1784:A:N6	2.27	0.49
7:AG:166:GLU:CD	7:AG:166:GLU:C	2.80	0.49
10:AJ:44:TYR:O	10:AJ:45:THR:HB	2.11	0.49
20:AT:54:GLU:CG	20:AT:88:LYS:HB2	2.42	0.49
23:AW:19:ARG:C	23:AW:19:ARG:CD	2.85	0.49
32:A5:34:THR:C	32:A5:38:MET:HE3	2.37	0.49
32:A5:95:LEU:HD22	32:A5:95:LEU:H	1.77	0.49
34:BB:44:LYS:O	34:BB:48:MET:HG2	2.13	0.49
34:BB:141:GLU:HA	34:BB:144:GLU:HB2	1.95	0.49
35:BA:953:G:C6	35:BA:954:G:C4	3.00	0.49
37:BD:147:GLU:OE2	20:CT:91:GLN:NE2	2.45	0.49
3:CA:833:A:H2'	3:CA:834:G:C8	2.47	0.49
3:CA:1913:A:C2	55:DV:591:LEU:HD12	2.47	0.49
4:CD:1:MET:HG2	4:CD:205:PRO:HG3	1.95	0.49
5:CE:149:ILE:HG23	5:CE:188:MET:HG3	1.95	0.49
9:CI:14:ALA:HB3	9:CI:50:LYS:HA	1.92	0.49
19:CS:13:SER:O	19:CS:14:ALA:CB	2.60	0.49
22:CV:4:ILE:HD11	22:CV:50:MET:SD	2.53	0.49
32:C5:94:ARG:O	32:C5:97:LYS:N	2.44	0.49
35:DA:1351:U:C2	35:DA:1352:C:C5	3.00	0.49
34:DB:187:ASP:HB2	34:DB:203:ASP:CG	2.37	0.49
37:DD:38:PRO:HD2	37:DD:42:GLY:HA2	1.94	0.49
39:DF:38:ARG:HB3	39:DF:63:ASN:HB2	1.94	0.49
39:DF:53:LYS:O	39:DF:54:LEU:HB3	2.12	0.49
39:DF:86:ARG:HH21	51:DR:64:TYR:HB3	1.77	0.49
3:EA:2800:A:H3'	3:EA:2801:G:H5"	1.95	0.49
6:EF:118:ALA:HB1	6:EF:166:ARG:HD3	1.94	0.49
11:EK:10:VAL:HG21	11:EK:16:ALA:HB3	1.95	0.49
13:EM:34:LYS:HD2	13:EM:131:VAL:HG11	1.93	0.49
16:EP:58:PHE:HD1	16:EP:75:THR:HG22	1.77	0.49
17:EQ:63:ARG:HH12	17:EQ:96:ASP:CA	2.24	0.49
19:ES:24:ILE:HD11	19:ES:36:LEU:CD2	2.42	0.49
27:E0:42:ILE:HG22	27:E0:43:THR:O	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:E5:129:LEU:O	32:E5:131:THR:N	2.46	0.49
35:FA:636:U:C5'	50:FQ:6:ARG:HE	2.26	0.49
37:FD:19:LEU:HD11	37:FD:60:LYS:CG	2.42	0.49
37:FD:76:TYR:HA	37:FD:90:LEU:HD13	1.94	0.49
43:FJ:53:ILE:HG12	43:FJ:61:ALA:HB1	1.93	0.49
44:FK:82:LEU:HD11	44:FK:105:PHE:CD2	2.48	0.49
46:FM:81:MET:O	46:FM:92:ARG:NH2	2.46	0.49
3:GA:38:A:H1'	5:GE:43:THR:HA	1.94	0.49
3:GA:2378:A:C5	3:GA:2379:G:H1'	2.46	0.49
2:GC:244:VAL:HG12	2:GC:250:GLN:HA	1.94	0.49
15:GO:14:ALA:O	15:GO:18:LEU:N	2.34	0.49
37:HD:76:TYR:HE2	37:HD:201:VAL:HG13	1.77	0.49
39:HF:45:ARG:HB3	39:HF:59:TYR:CE1	2.47	0.49
43:HJ:57:VAL:HG12	43:HJ:58:ASN:H	1.76	0.49
44:HK:107:ILE:CD1	54:HU:14:VAL:HA	2.42	0.49
46:HM:27:LYS:HA	46:HM:30:SER:HB3	1.93	0.49
47:HN:21:PHE:CD1	47:HN:25:ALA:HB3	2.48	0.49
47:HN:67:THR:HG23	47:HN:83:LYS:HG3	1.95	0.49
3:AA:139:U:O2'	20:AT:1:MET:HA	2.12	0.49
3:AA:747:U:O2'	19:AS:88:ARG:NH2	2.45	0.49
31:A4:36:ARG:O	31:A4:37:GLN:C	2.55	0.49
32:A5:138:ARG:NH2	33:A6:26:MET:HA	2.27	0.49
34:BB:70:GLY:HA2	34:BB:163:ILE:HG22	1.94	0.49
34:BB:99:MET:HA	34:BB:106:VAL:HG21	1.94	0.49
45:BL:83:ARG:HG2	45:BL:83:ARG:HH11	1.77	0.49
52:BS:33:THR:HB	52:BS:35:SER:H	1.77	0.49
3:CA:48:G:N1	3:CA:177:G:OP2	2.37	0.49
3:CA:635:C:OP2	12:CL:126:ARG:NH1	2.45	0.49
3:CA:794:A:H2'	3:CA:795:C:C6	2.47	0.49
3:CA:823:C:H2'	3:CA:824:U:O4'	2.12	0.49
3:CA:1057:A:C6	3:CA:1086:A:C2	3.01	0.49
3:CA:1730:C:H4'	3:CA:1730:C:OP1	2.12	0.49
3:CA:2268:A:OP1	60:CA:3503:HOH:O	2.19	0.49
11:CK:13:ASN:OD1	11:CK:98:ARG:N	2.43	0.49
30:C3:21:PHE:N	30:C3:48:MET:HE1	2.27	0.49
32:C5:31:ARG:C	32:C5:108:VAL:HG21	2.37	0.49
35:DA:577:G:H1'	35:DA:816:A:N3	2.27	0.49
35:DA:1260:G:O2'	35:DA:1275:A:N6	2.43	0.49
49:DP:46:LYS:HG3	49:DP:47:GLU:N	2.27	0.49
55:DV:188:MET:HE3	55:DV:218:TRP:CD1	2.47	0.49
3:EA:1364:G:OP2	24:EX:49:ARG:NH2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:2588:G:OP1	60:EA:3793:HOH:O	2.19	0.49
22:EV:44:HIS:HE1	22:EV:86:LEU:H	1.59	0.49
26:EZ:15:ARG:HH11	26:EZ:15:ARG:CG	2.26	0.49
35:FA:843:U:H2'	35:FA:844:G:H5'	1.95	0.49
35:FA:1331:G:O2'	35:FA:1332:A:P	2.69	0.49
3:GA:438:G:H2'	3:GA:439:A:C8	2.46	0.49
3:GA:504:A:H3'	3:GA:505:A:H5'	1.95	0.49
3:GA:573:U:H3	3:GA:2031:A:P	2.35	0.49
3:GA:685:A:C2	3:GA:689:A:C6	3.00	0.49
3:GA:818:G:H3'	3:GA:1187:G:H22	1.77	0.49
3:GA:1196:C:H2'	3:GA:1197:G:C8	2.46	0.49
3:GA:1223:G:P	18:GR:68:ARG:HH11	2.35	0.49
3:GA:2265:U:H2'	3:GA:2266:A:N7	2.27	0.49
35:HA:964:A:OP1	60:HA:1822:HOH:O	2.20	0.49
35:HA:1033:G:H2'	35:HA:1034:G:H5'	1.94	0.49
36:HC:154:SER:CB	36:HC:165:THR:HG22	2.41	0.49
51:HR:22:ASP:HB3	51:HR:25:ASP:HB2	1.94	0.49
54:HU:35:ARG:HE	54:HU:40:LYS:HD3	1.78	0.49
55:HV:251:ALA:O	55:HV:254:GLN:HB3	2.12	0.49
3:AA:564:C:O2	3:AA:578:G:N2	2.46	0.49
3:AA:856:G:H21	23:AW:19:ARG:HH12	1.58	0.49
3:AA:1475:G:O2'	3:AA:1514:G:O6	2.30	0.49
3:AA:2330:G:C2	3:AA:2386:A:C2	3.01	0.49
3:AA:2504:U:O5'	3:AA:2504:U:H6	1.94	0.49
4:AD:38:LYS:NZ	4:AD:81:GLU:OE1	2.26	0.49
6:AF:79:ARG:HB3	6:AF:82:TYR:CZ	2.48	0.49
13:AM:35:ALA:O	13:AM:36:VAL:HB	2.11	0.49
17:AQ:63:ARG:NH1	17:AQ:96:ASP:HA	2.27	0.49
23:AW:76:ARG:HH21	23:AW:76:ARG:HG2	1.76	0.49
26:AZ:30:ARG:HB3	26:AZ:30:ARG:HH11	1.76	0.49
32:A5:3:LEU:HD12	32:A5:5:LEU:H	1.76	0.49
35:BA:21:G:OP1	60:BA:1819:HOH:O	2.20	0.49
3:CA:1019:U:H3	3:CA:1142:A:H62	1.61	0.49
3:CA:1084:A:C6	3:CA:1085:A:C6	3.00	0.49
3:CA:1141:U:H4'	3:CA:1142:A:O4'	2.13	0.49
3:CA:1731:G:O2'	3:CA:1732:C:O5'	2.29	0.49
3:CA:2313:C:H5"	6:CF:87:LYS:HD3	1.94	0.49
14:CN:2:ARG:HA	14:CN:5:LYS:HD2	1.94	0.49
14:CN:48:VAL:O	14:CN:51:LEU:N	2.45	0.49
35:DA:636:U:H5"	50:DQ:6:ARG:NH1	2.27	0.49
35:DA:1149:C:O2'	35:DA:1280:A:N1	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DB:150:ILE:O	34:DB:153:MET:N	2.45	0.49
37:DD:125:VAL:O	37:DD:127:GLY:N	2.44	0.49
44:DK:14:LYS:HD2	40:HG:130:ASN:OD1	2.13	0.49
4:ED:86:GLU:N	4:ED:86:GLU:CD	2.70	0.49
17:EQ:4:LYS:HG3	17:EQ:5:ARG:H	1.78	0.49
20:ET:34:VAL:HG23	20:ET:34:VAL:O	2.12	0.49
34:FB:132:GLU:HG2	34:FB:132:GLU:O	2.13	0.49
52:FS:36:ARG:HB3	52:FS:72:GLY:CA	2.43	0.49
3:GA:483:A:C8	21:GU:44:HIS:HD2	2.30	0.49
3:GA:948:C:H1'	3:GA:984:A:N3	2.28	0.49
3:GA:963:U:OP2	60:GA:3352:HOH:O	2.19	0.49
3:GA:983:A:C8	3:GA:984:A:N7	2.81	0.49
3:GA:1068:G:H2'	3:GA:1068:G:N3	2.27	0.49
3:GA:1140:C:O4'	3:GA:1143:A:C2	2.66	0.49
3:GA:1869:G:H3'	3:GA:1870:C:H5"	1.95	0.49
3:GA:2250:G:OP1	3:GA:2275:C:O2'	2.30	0.49
3:GA:2758:A:H2'	3:GA:2759:G:H5'	1.95	0.49
12:GL:110:VAL:HG11	12:GL:135:ILE:HD11	1.94	0.49
34:HB:134:LEU:C	34:HB:136:ARG:H	2.19	0.49
37:HD:30:THR:HG22	37:HD:31:LYS:H	1.77	0.49
39:HF:42:TRP:HB2	39:HF:59:TYR:HB2	1.94	0.49
46:HM:63:PHE:CE1	46:HM:69:LEU:HD13	2.48	0.49
3:AA:250:G:C6	3:AA:251:A:C6	3.01	0.49
3:AA:308:G:O2'	3:AA:329:G:N2	2.46	0.49
3:AA:592:A:HO2'	30:A3:63:TYR:HH	1.61	0.49
3:AA:636:G:OP2	12:AL:109:LYS:NZ	2.45	0.49
3:AA:1614:A:N1	19:AS:93:ALA:HB2	2.27	0.49
4:AD:91:THR:O	4:AD:91:THR:OG1	2.28	0.49
15:AO:51:ALA:HB3	15:AO:78:VAL:HG13	1.94	0.49
35:BA:972:C:OP1	43:BJ:59:LYS:NZ	2.29	0.49
38:BE:155:ALA:HB1	41:BH:66:PHE:CE2	2.47	0.49
55:BV:416:ILE:HG12	55:BV:667:ALA:HB3	1.94	0.49
1:CB:32:U:H2'	1:CB:33:G:O4'	2.12	0.49
3:CA:221:A:N1	3:CA:265:A:O2'	2.41	0.49
3:CA:1252:G:C2	17:CQ:32:ARG:HG2	2.47	0.49
3:CA:1386:C:H2'	3:CA:1387:A:C8	2.47	0.49
3:CA:1952:A:C6	3:CA:1953:A:N1	2.80	0.49
3:CA:2204:G:C5	3:CA:2221:G:C2	3.01	0.49
8:CH:23:ALA:O	8:CH:27:ARG:N	2.37	0.49
10:CJ:88:THR:HG23	10:CJ:91:GLU:H	1.77	0.49
35:DA:1355:G:C4	35:DA:1368:A:C2	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:DS:45:ILE:HA	52:DS:62:VAL:CG1	2.42	0.49
3:EA:287:G:H2'	3:EA:288:U:C6	2.47	0.49
3:EA:527:C:H4'	3:EA:528:A:O5'	2.12	0.49
17:EQ:82:LEU:HD12	17:EQ:112:ALA:HB2	1.94	0.49
32:E5:26:VAL:CG1	32:E5:77:VAL:HG11	2.41	0.49
32:E5:127:ALA:C	32:E5:129:LEU:N	2.71	0.49
35:FA:1314:C:H2'	35:FA:1315:U:C6	2.48	0.49
35:FA:1363:A:O2'	35:FA:1365:G:N7	2.39	0.49
46:FM:114:LYS:H	46:FM:115:PRO:CD	2.25	0.49
54:FU:51:SER:C	54:FU:53:VAL:H	2.20	0.49
3:GA:577:G:H2'	3:GA:578:G:C8	2.48	0.49
3:GA:1535:A:H4'	3:GA:1536:C:OP2	2.13	0.49
3:GA:1713:A:C5	3:GA:1716:U:H1'	2.48	0.49
3:GA:2353:G:O2'	23:GW:31:LEU:HD11	2.11	0.49
20:GT:37:ASP:OD1	20:GT:37:ASP:N	2.46	0.49
35:HA:892:A:O2'	35:HA:1415:G:H4'	2.13	0.49
35:HA:1026:G:H2'	35:HA:1027:C:C5'	2.40	0.49
35:HA:1209:C:C2	35:HA:1210:C:C5	3.01	0.49
37:HD:44:ARG:C	37:HD:46:PRO:HD3	2.37	0.49
2:AC:256:THR:OG1	2:AC:256:THR:O	2.28	0.49
3:AA:1808:A:O2'	24:AX:2:ARG:NH1	2.45	0.49
3:AA:2343:U:O2'	3:AA:2373:G:O2'	2.28	0.49
5:AE:112:LEU:HD13	5:AE:186:VAL:HG11	1.94	0.49
7:AG:15:ASP:O	7:AG:16:VAL:HG13	2.12	0.49
9:AI:48:ILE:HG13	9:AI:49:GLU:H	1.77	0.49
35:BA:932:C:H4'	40:BG:4:ARG:HH21	1.77	0.49
47:BN:20:TYR:O	47:BN:23:LYS:HB3	2.12	0.49
2:CC:77:VAL:HA	2:CC:93:VAL:HA	1.95	0.49
18:CR:49:ILE:HD12	18:CR:52:PRO:HA	1.95	0.49
22:CV:4:ILE:HD11	22:CV:50:MET:HE1	1.93	0.49
32:C5:74:ASP:HA	32:C5:77:VAL:HG23	1.94	0.49
35:DA:404:G:O6	37:DD:2:ALA:N	2.45	0.49
35:DA:791:G:N2	35:DA:1497:G:O3'	2.45	0.49
35:DA:1284:C:C2	35:DA:1285:A:N7	2.81	0.49
35:DA:1352:C:H2'	35:DA:1353:G:C8	2.47	0.49
38:DE:16:ILE:HG23	38:DE:110:ALA:HB2	1.93	0.49
42:DI:96:SER:O	42:DI:99:ARG:HB3	2.12	0.49
55:DV:393:THR:HG21	55:DV:443:PRO:HD3	1.94	0.49
3:EA:1024:G:H8	3:EA:1024:G:O5'	1.96	0.49
3:EA:1654:A:H2'	3:EA:1655:A:H8	1.76	0.49
11:EK:51:LYS:HG2	11:EK:95:ILE:CD1	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:EV:75:GLN:HB2	22:EV:92:VAL:CG2	2.43	0.49
23:EW:49:ASN:OD1	23:EW:49:ASN:C	2.54	0.49
53:FT:5:LYS:HD2	53:FT:7:ALA:H	1.77	0.49
3:GA:547:A:H5"	3:GA:548:G:C8	2.47	0.49
3:GA:565:C:H2'	3:GA:566:U:O4'	2.12	0.49
3:GA:648:G:C2	3:GA:649:G:N7	2.81	0.49
3:GA:863:A:H2'	3:GA:864:G:H8	1.77	0.49
3:GA:2482:A:C5	3:GA:2483:C:C5	3.01	0.49
3:GA:2591:C:O3'	60:GA:3459:HOH:O	2.20	0.49
5:GE:119:ILE:HG13	5:GE:119:ILE:O	2.12	0.49
14:GN:73:ASN:HA	14:GN:76:VAL:HG12	1.94	0.49
35:HA:667:G:OP1	35:HA:732:C:O2'	2.22	0.49
35:HA:676:A:H5"	44:HK:115:PRO:HB3	1.95	0.49
35:HA:1220:G:OP1	52:HS:37:ARG:NE	2.45	0.49
34:HB:163:ILE:HG23	34:HB:164:ASP:H	1.77	0.49
3:AA:107:G:H2'	3:AA:108:G:H8	1.78	0.49
3:AA:923:G:H1'	23:AW:23:LYS:CD	2.43	0.49
3:AA:2016:U:H2'	3:AA:2017:U:C6	2.48	0.49
3:AA:2421:G:N7	30:A3:30:HIS:HD2	2.10	0.49
3:AA:2683:C:O2	11:AK:70:ARG:NH2	2.38	0.49
4:AD:151:THR:CG2	4:AD:152:PRO:HD3	2.42	0.49
9:AI:123:ALA:HA	9:AI:126:ARG:CZ	2.43	0.49
18:AR:49:ILE:HD12	18:AR:52:PRO:HA	1.95	0.49
41:BH:41:LYS:HD3	41:BH:48:ASP:HB2	1.94	0.49
47:BN:21:PHE:C	47:BN:23:LYS:H	2.21	0.49
54:BU:20:LYS:HE2	54:BU:20:LYS:HA	1.95	0.49
3:CA:1183:U:H2'	3:CA:1184:U:C6	2.48	0.49
3:CA:1309:G:OP1	29:C2:9:VAL:HG13	2.13	0.49
3:CA:1864:U:O3'	3:CA:2409:G:N2	2.46	0.49
11:CK:80:ASP:HB2	16:CP:67:GLU:HG3	1.95	0.49
15:CO:67:ASN:O	15:CO:68:LYS:C	2.55	0.49
35:DA:1083:U:H5"	35:DA:1086:U:H5	1.78	0.49
35:DA:1101:A:H61	34:DB:101:THR:HG21	1.78	0.49
35:DA:1451:U:O2'	35:DA:1452:C:OP1	2.23	0.49
37:DD:30:THR:HB	37:DD:31:LYS:HD2	1.94	0.49
3:EA:545:U:O5'	3:EA:545:U:H6	1.96	0.49
3:EA:1186:G:OP2	60:EA:3596:HOH:O	2.19	0.49
3:EA:2297:A:N1	3:EA:2321:U:H5	2.10	0.49
5:EE:149:ILE:CD1	5:EE:172:ALA:HA	2.42	0.49
9:EI:12:VAL:HG23	9:EI:13:ALA:H	1.77	0.49
35:FA:311:C:OP1	49:FP:31:ARG:NH1	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:FA:895:G:C6	35:FA:896:C:C4	3.01	0.49
35:FA:924:C:O2'	35:FA:1502:A:N1	2.36	0.49
35:FA:1239:A:H62	35:FA:1299:A:N6	2.10	0.49
55:FV:536:PHE:CZ	55:FV:578:LEU:HD23	2.47	0.49
3:GA:210:C:OP1	29:G2:29:GLN:NE2	2.41	0.49
3:GA:271:G:H4'	3:GA:272:A:OP1	2.13	0.49
3:GA:571:U:O2	3:GA:2030:A:O2'	2.25	0.49
3:GA:834:G:H1'	3:GA:2358:A:N3	2.28	0.49
3:GA:1073:A:N7	3:GA:1074:G:N3	2.60	0.49
3:GA:2400:G:C6	3:GA:2401:U:N3	2.81	0.49
18:GR:58:VAL:HG13	18:GR:102:SER:HB2	1.95	0.49
23:GW:68:PHE:CD1	23:GW:79:ILE:HG12	2.47	0.49
35:HA:356:A:N3	35:HA:368:U:O2'	2.35	0.49
35:HA:1299:A:H2'	35:HA:1299:A:N3	2.28	0.49
35:HA:1346:A:N7	40:HG:10:ARG:NH2	2.60	0.49
35:HA:1350:A:N7	42:HI:120:LYS:NZ	2.61	0.49
34:HB:172:ILE:O	34:HB:176:ASN:ND2	2.45	0.49
34:HB:187:ASP:HB2	34:HB:203:ASP:HB3	1.95	0.49
37:HD:29:ASP:O	37:HD:31:LYS:NZ	2.23	0.49
47:HN:7:LYS:NZ	60:HN:207:HOH:O	2.43	0.49
52:HS:41:PHE:HB3	52:HS:42:PRO:CD	2.43	0.49
54:HU:17:ARG:HG3	54:HU:19:PHE:HB3	1.93	0.49
55:HV:28:GLU:CD	55:HV:49:THR:HA	2.38	0.49
55:HV:309:ARG:CZ	55:HV:404:ILE:HD13	2.43	0.49
55:HV:345:SER:N	55:HV:375:LYS:O	2.44	0.49
3:AA:654:A:H3'	3:AA:654:A:N3	2.26	0.49
3:AA:1572:A:OP2	60:AA:3618:HOH:O	2.19	0.49
8:AH:14:SER:OG	8:AH:17:ASP:CG	2.55	0.49
35:BA:455:G:C2	35:BA:478:A:C2	3.00	0.49
35:BA:1012:A:C2	35:BA:1018:G:C2	3.01	0.49
35:BA:1084:G:OP1	35:BA:1086:U:C2	2.66	0.49
35:BA:1125:U:O2	35:BA:1126:U:O2'	2.26	0.49
35:BA:1179:A:H2'	35:BA:1180:A:O4'	2.12	0.49
35:BA:1526:G:OP1	54:BU:39:GLU:CG	2.60	0.49
42:BI:88:MET:SD	42:BI:89:GLU:N	2.86	0.49
43:BJ:29:ALA:HB3	43:BJ:36:VAL:CG2	2.43	0.49
3:CA:1131:G:OP1	10:CJ:82:GLY:HA2	2.13	0.49
3:CA:2209:G:C2	3:CA:2216:G:C2	3.00	0.49
8:CH:38:PRO:HB2	8:CH:40:THR:HG23	1.94	0.49
10:CJ:4:PHE:C	10:CJ:44:TYR:HE1	2.20	0.49
11:CK:121:GLU:OE2	16:CP:65:ASN:ND2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:CN:103:ARG:CZ	14:CN:110:MET:HE1	2.42	0.49
25:CY:15:ASN:O	25:CY:19:LEU:N	2.43	0.49
35:DA:237:G:H5"	50:DQ:27:ARG:NH2	2.28	0.49
35:DA:1500:A:H5"	35:DA:1508:A:H5"	1.95	0.49
37:DD:72:PHE:CE2	37:DD:200:ILE:HD11	2.47	0.49
46:DM:114:LYS:CB	46:DM:115:PRO:CD	2.91	0.49
55:DV:177:GLU:N	55:DV:177:GLU:OE1	2.46	0.49
3:EA:84:A:H62	3:EA:101:A:H2	1.59	0.49
3:EA:1292:G:H2'	3:EA:1293:C:H6	1.78	0.49
3:EA:2867:G:O2'	3:EA:2868:A:OP2	2.31	0.49
2:EC:75:ALA:HB2	2:EC:95:TYR:CD1	2.47	0.49
6:EF:7:TYR:O	6:EF:12:VAL:HG12	2.12	0.49
30:E3:3:ILE:HG21	30:E3:62:PRO:HG3	1.95	0.49
35:FA:110:C:C4	35:FA:111:G:C5	3.00	0.49
35:FA:146:G:N2	35:FA:147:G:H1'	2.28	0.49
35:FA:309:A:C2	35:FA:310:G:N7	2.81	0.49
35:FA:1464:U:H2'	35:FA:1465:A:H8	1.78	0.49
36:FC:87:LEU:HA	36:FC:90:VAL:HG22	1.93	0.49
39:FF:55:HIS:O	39:FF:56:LYS:HB2	2.12	0.49
40:FG:18:PHE:CE1	40:FG:58:GLU:HG2	2.48	0.49
1:GB:11:C:O2'	1:GB:15:A:N6	2.46	0.49
3:GA:220:G:N2	60:GA:3226:HOH:O	2.41	0.49
3:GA:479:A:N3	3:GA:481:G:H5"	2.27	0.49
3:GA:568:U:O2'	3:GA:570:G:N7	2.36	0.49
3:GA:627:A:N6	12:GL:112:LEU:O	2.45	0.49
3:GA:997:G:C6	3:GA:998:C:C4	3.01	0.49
3:GA:1285:A:H2'	3:GA:1286:A:H5'	1.95	0.49
4:GD:121:THR:O	4:GD:122:VAL:HB	2.12	0.49
6:GF:107:VAL:N	6:GF:108:PRO:CD	2.76	0.49
14:GN:79:LEU:O	14:GN:80:PHE:HB2	2.13	0.49
15:GO:53:THR:HA	15:GO:59:ALA:HB2	1.95	0.49
18:GR:39:LEU:O	18:GR:49:ILE:HG23	2.13	0.49
35:HA:502:A:H2'	35:HA:503:C:O4'	2.12	0.49
35:HA:658:C:H1'	48:HO:22:THR:HG21	1.94	0.49
7:AG:112:VAL:HG23	7:AG:113:ASP:N	2.28	0.49
8:AH:9:VAL:O	8:AH:13:GLY:N	2.46	0.49
13:AM:34:LYS:HD2	13:AM:131:VAL:HG11	1.95	0.49
20:AT:34:VAL:O	20:AT:34:VAL:CG2	2.61	0.49
35:BA:898:G:N2	35:BA:901:A:OP2	2.46	0.49
35:BA:1010:U:H2'	35:BA:1011:C:C6	2.48	0.49
35:BA:1028:C:C4	35:BA:1029:U:H1'	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BI:6:TYR:CG	42:BI:89:GLU:HB2	2.48	0.49
53:BT:5:LYS:HD2	53:BT:7:ALA:H	1.78	0.49
3:CA:945:A:C4	3:CA:2448:A:C2	3.01	0.49
3:CA:1027:A:C6	3:CA:1126:A:C4	3.00	0.49
3:CA:2685:G:OP1	11:CK:78:ARG:NH2	2.46	0.49
32:C5:102:ALA:O	32:C5:107:GLU:HB2	2.13	0.49
35:DA:1228:C:P	46:DM:110:LYS:NZ	2.86	0.49
3:EA:309:A:N3	3:EA:329:G:O2'	2.42	0.49
3:EA:1300:G:H4'	3:EA:1301:A:H5'	1.94	0.49
23:EW:72:GLY:N	23:EW:73:PRO:CD	2.76	0.49
32:E5:88:HIS:CB	32:E5:89:PRO:CD	2.90	0.49
35:FA:368:U:C6	55:FV:362:ARG:HD3	2.48	0.49
36:FC:154:SER:CB	36:FC:165:THR:HG22	2.43	0.49
3:GA:819:A:C6	3:GA:820:A:C5	3.01	0.49
6:GF:103:ILE:HG23	6:GF:175:PRO:HD3	1.95	0.49
7:GG:84:LYS:HD2	7:GG:84:LYS:N	2.27	0.49
21:GU:86:PHE:HE1	21:GU:92:VAL:HG13	1.78	0.49
35:HA:546:A:P	37:HD:69:GLU:HB2	2.52	0.49
35:HA:583:A:C2	35:HA:584:G:H1'	2.48	0.49
35:HA:1205:U:H2'	35:HA:1206:G:C8	2.48	0.49
55:HV:119:VAL:HB	55:HV:161:ARG:HD2	1.94	0.49
55:HV:190:ALA:N	55:HV:205:GLU:O	2.45	0.49
55:HV:697:ALA:O	55:HV:699:ILE:N	2.46	0.49
3:AA:749:A:C6	3:AA:1618:A:C2	3.01	0.48
3:AA:1869:G:H3'	3:AA:1870:C:H5"	1.94	0.48
3:AA:2393:U:H5'	12:AL:60:ARG:O	2.13	0.48
6:AF:79:ARG:HB3	6:AF:82:TYR:CE1	2.48	0.48
11:AK:30:ARG:NH1	11:AK:32:TYR:O	2.45	0.48
23:AW:23:LYS:HE2	23:AW:24:ARG:H	1.78	0.48
32:A5:39:THR:HA	32:A5:42:ARG:CD	2.43	0.48
34:BB:100:LEU:HD23	34:BB:178:LEU:HD23	1.95	0.48
34:BB:153:MET:SD	34:BB:157:PRO:HG3	2.53	0.48
3:CA:451:U:C2	3:CA:453:A:N7	2.81	0.48
3:CA:1068:G:C3'	3:CA:1069:A:H5"	2.44	0.48
3:CA:1171:G:C6	3:CA:1172:C:N4	2.81	0.48
3:CA:1536:C:H1'	3:CA:1537:G:N2	2.28	0.48
3:CA:1676:A:H2'	3:CA:1677:A:O4'	2.13	0.48
3:CA:1915:U:H2'	3:CA:1916:A:O4'	2.13	0.48
6:CF:107:VAL:N	6:CF:108:PRO:CD	2.76	0.48
10:CJ:30:THR:HG22	10:CJ:31:GLU:N	2.28	0.48
13:CM:96:ILE:HD11	13:CM:126:ILE:HD11	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:CO:31:THR:HG23	15:CO:32:PRO:HD2	1.95	0.48
27:C0:42:ILE:HG22	27:C0:43:THR:O	2.13	0.48
35:DA:668:G:HO2'	48:DO:46:HIS:CG	2.29	0.48
35:DA:1123:U:O2'	43:DJ:39:PRO:O	2.31	0.48
36:DC:123:GLN:HB3	36:DC:128:VAL:HG11	1.95	0.48
36:DC:140:ASN:HA	36:DC:143:ARG:HB2	1.95	0.48
55:DV:304:ASP:O	55:DV:305:THR:HG22	2.13	0.48
3:EA:1350:C:C4	3:EA:1351:C:C5	3.01	0.48
3:EA:1794:A:H2'	3:EA:1795:C:C6	2.48	0.48
3:EA:2017:U:H5"	3:EA:2018:G:P	2.52	0.48
3:EA:2346:A:H3'	3:EA:2347:C:H5"	1.94	0.48
9:EI:23:VAL:CG2	9:EI:27:LEU:HD23	2.43	0.48
11:EK:105:ARG:NH2	11:EK:106:GLU:OE2	2.37	0.48
20:ET:19:LYS:O	20:ET:20:ALA:C	2.56	0.48
20:ET:29:THR:HB	20:ET:86:THR:HA	1.94	0.48
35:FA:1092:A:N6	35:FA:1093:A:C6	2.81	0.48
38:FE:41:ASP:OD1	38:FE:42:GLY:N	2.46	0.48
3:GA:171:U:H2'	3:GA:172:A:C8	2.48	0.48
3:GA:247:G:C8	3:GA:249:C:C6	3.00	0.48
3:GA:997:G:O2'	3:GA:998:C:H5'	2.12	0.48
3:GA:1077:A:H2	3:GA:1088:A:N7	2.11	0.48
3:GA:1193:G:H2'	3:GA:1194:A:H8	1.78	0.48
3:GA:1248:G:O6	5:GE:46:GLN:NE2	2.46	0.48
3:GA:1359:A:C6	3:GA:1360:G:C4	3.01	0.48
3:GA:1376:C:OP1	60:GA:3392:HOH:O	2.19	0.48
3:GA:1893:C:C5	3:GA:1894:C:C5	3.01	0.48
3:GA:1930:G:N2	3:GA:1969:A:O5'	2.46	0.48
3:GA:2025:C:H2'	3:GA:2026:U:C6	2.48	0.48
3:GA:2332:C:C4'	3:GA:2336:A:C6	2.96	0.48
6:GF:124:ARG:O	6:GF:126:ASN:ND2	2.46	0.48
7:GG:83:THR:HA	7:GG:84:LYS:CE	2.43	0.48
9:GI:74:PRO:O	9:GI:77:VAL:HG23	2.12	0.48
15:GO:2:ASP:OD1	15:GO:3:LYS:N	2.46	0.48
24:GX:70:LEU:HD23	24:GX:73:ARG:HH11	1.78	0.48
26:GZ:29:ARG:CB	26:GZ:30:ARG:HE	2.25	0.48
35:HA:683:G:H1	35:HA:707:U:H3	1.58	0.48
35:HA:1053:G:O2'	35:HA:1199:U:OP2	2.31	0.48
55:HV:488:VAL:HG21	55:HV:661:SER:HB3	1.95	0.48
3:AA:221:A:N1	3:AA:265:A:O2'	2.45	0.48
3:AA:1057:A:O2'	32:A5:38:MET:HE2	2.13	0.48
3:AA:1219:U:OP2	17:AQ:18:LYS:NZ	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1327:A:N6	3:AA:1328:A:C2	2.81	0.48
23:AW:39:GLN:HG2	23:AW:40:ARG:N	2.28	0.48
36:BC:150:LYS:HG3	36:BC:201:TRP:CE3	2.49	0.48
37:BD:147:GLU:HA	37:BD:150:LYS:HB2	1.94	0.48
41:BH:66:PHE:O	41:BH:67:GLN:C	2.56	0.48
1:CB:90:C:H5'	13:CM:18:ARG:HG2	1.95	0.48
3:CA:2108:A:N6	3:CA:2182:U:OP1	2.46	0.48
3:CA:2657:A:O3'	7:CG:159:LYS:NZ	2.46	0.48
2:CC:16:VAL:H	2:CC:203:VAL:HG12	1.77	0.48
5:CE:161:ALA:HA	5:CE:164:LEU:HB2	1.94	0.48
16:CP:72:VAL:HG23	16:CP:72:VAL:O	2.13	0.48
32:C5:29:ASP:HA	32:C5:108:VAL:CG1	2.41	0.48
35:DA:201:G:H21	35:DA:469:C:H1'	1.77	0.48
35:DA:769:G:H4'	35:DA:1513:A:H4'	1.96	0.48
34:DB:94:ARG:HG3	34:DB:96:LEU:HD23	1.95	0.48
37:DD:15:GLU:OE2	37:DD:56:ARG:NH2	2.46	0.48
37:DD:25:VAL:HG12	37:DD:26:ARG:N	2.28	0.48
3:EA:137:U:C5	3:EA:140:C:H1'	2.48	0.48
3:EA:1509:A:O2'	3:EA:1510:G:P	2.71	0.48
1:EB:78:A:N6	1:EB:98:G:O2'	2.44	0.48
16:EP:31:VAL:HG22	16:EP:38:ARG:HG2	1.95	0.48
35:FA:459:A:N6	35:FA:474:G:O6	2.47	0.48
40:FG:70:ARG:HG3	40:FG:96:ARG:HG2	1.93	0.48
41:FH:41:LYS:HD3	41:FH:48:ASP:HA	1.96	0.48
43:FJ:57:VAL:HG13	43:FJ:58:ASN:N	2.28	0.48
3:GA:307:G:H22	3:GA:310:A:P	2.35	0.48
3:GA:952:G:H2'	3:GA:953:G:O5'	2.13	0.48
3:GA:957:C:C4	3:GA:959:A:C4	3.01	0.48
3:GA:1746:A:H2'	3:GA:1747:U:C6	2.48	0.48
5:GE:147:LEU:HD12	5:GE:186:VAL:HG23	1.95	0.48
6:GF:1:ALA:CB	6:GF:97:GLU:HG2	2.42	0.48
6:GF:66:ILE:HG13	6:GF:68:LYS:HZ2	1.77	0.48
10:GJ:55:ILE:HD11	10:GJ:57:LEU:HD21	1.95	0.48
17:GQ:13:HIS:O	17:GQ:16:ILE:N	2.43	0.48
19:GS:6:LYS:HB2	19:GS:103:ILE:O	2.13	0.48
23:GW:9:THR:HG23	23:GW:10:ARG:HD3	1.96	0.48
35:HA:110:C:N4	35:HA:111:G:C6	2.82	0.48
35:HA:1062:U:H2'	35:HA:1063:C:C6	2.47	0.48
42:HI:34:SER:HB3	42:HI:37:GLN:HG2	1.94	0.48
43:HJ:59:LYS:O	43:HJ:62:ARG:NH1	2.46	0.48
55:HV:632:ILE:HD12	55:HV:642:LEU:CD2	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:201:C:O2'	3:AA:251:A:N1	2.38	0.48
3:AA:301:G:H1'	3:AA:302:C:C6	2.48	0.48
3:AA:1485:U:H2'	3:AA:1486:U:C6	2.48	0.48
3:AA:2230:G:O3'	24:AX:29:LEU:HD23	2.14	0.48
4:AD:149:ASN:CG	4:AD:150:GLN:H	2.21	0.48
21:AU:85:ARG:HD3	21:AU:86:PHE:N	2.28	0.48
24:AX:67:LEU:HD23	24:AX:70:LEU:HD12	1.96	0.48
35:BA:1276:G:H2'	35:BA:1277:C:O4'	2.13	0.48
42:BI:119:ARG:HH21	42:BI:123:ARG:CZ	2.26	0.48
55:BV:191:ILE:HG21	55:BV:193:TRP:CZ2	2.47	0.48
3:CA:1813:G:H1'	2:CC:49:THR:CG2	2.44	0.48
3:CA:2543:G:H2'	3:CA:2544:G:C8	2.47	0.48
8:CH:9:VAL:HG12	8:CH:10:ALA:N	2.29	0.48
8:CH:23:ALA:O	8:CH:27:ARG:HG2	2.12	0.48
10:CJ:29:ALA:O	10:CJ:30:THR:C	2.57	0.48
32:C5:127:ALA:O	32:C5:129:LEU:N	2.45	0.48
36:DC:135:LYS:NZ	36:DC:139:GLN:OE1	2.40	0.48
41:DH:79:SER:HA	41:DH:85:ILE:HG12	1.95	0.48
44:DK:46:THR:O	44:DK:50:SER:OG	2.28	0.48
55:DV:337:ARG:HA	55:DV:382:ILE:HG22	1.94	0.48
55:DV:422:PRO:O	55:DV:424:THR:N	2.46	0.48
4:ED:110:THR:HG23	4:ED:171:THR:HG22	1.95	0.48
9:EI:79:LEU:HA	9:EI:83:ALA:CB	2.42	0.48
11:EK:71:ARG:CG	11:EK:105:ARG:NH2	2.77	0.48
35:FA:677:U:H3	35:FA:713:G:H22	1.60	0.48
45:FL:3:THR:HG22	45:FL:5:ASN:H	1.77	0.48
52:FS:15:LEU:HD13	52:FS:33:THR:HG21	1.95	0.48
52:FS:63:THR:HG22	52:FS:64:ASP:N	2.28	0.48
3:GA:161:A:C3'	3:GA:162:U:H5"	2.41	0.48
3:GA:1076:C:H2'	3:GA:1077:A:O4'	2.13	0.48
3:GA:1157:G:C6	3:GA:1158:C:C4	3.01	0.48
3:GA:1450:G:N2	3:GA:1452:G:O6	2.42	0.48
3:GA:1527:G:N2	3:GA:1544:A:C8	2.82	0.48
3:GA:2047:C:O2'	3:GA:2823:A:N1	2.37	0.48
3:GA:2194:U:C4	3:GA:2195:U:C5	3.01	0.48
3:GA:2386:A:C2	23:GW:38:ARG:HD2	2.49	0.48
14:GN:103:ARG:HB2	14:GN:110:MET:HE3	1.94	0.48
17:GQ:81:GLY:HA2	17:GQ:116:LEU:CD1	2.43	0.48
17:GQ:94:LEU:HD11	18:GR:4:VAL:HG11	1.94	0.48
35:HA:474:G:OP1	49:HP:76:LYS:HD2	2.13	0.48
35:HA:864:A:N1	35:HA:917:G:O2'	2.30	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:HD:99:ASP:OD1	37:HD:100:ASN:N	2.45	0.48
2:AC:38:LYS:NZ	2:AC:57:HIS:O	2.39	0.48
3:AA:528:A:C2	3:AA:2043:C:H4'	2.49	0.48
3:AA:580:U:H2'	3:AA:581:C:H6	1.79	0.48
3:AA:1022:G:C6	3:AA:1140:C:C4	3.01	0.48
3:AA:1268:A:OP1	60:AA:3373:HOH:O	2.20	0.48
3:AA:1996:C:OP1	11:AK:31:ARG:NE	2.46	0.48
6:AF:64:PRO:HA	6:AF:88:VAL:HG22	1.95	0.48
6:AF:110:ILE:O	6:AF:112:ASP:N	2.46	0.48
7:AG:118:ALA:O	7:AG:120:ILE:N	2.41	0.48
9:AI:135:MET:HB3	9:AI:137:LEU:CD2	2.43	0.48
13:AM:136:MET:HE3	22:AV:77:VAL:HG23	1.95	0.48
14:AN:117:ASP:O	14:AN:118:ARG:C	2.56	0.48
16:AP:105:LYS:HA	16:AP:108:ARG:HD2	1.95	0.48
23:AW:44:PHE:HD1	23:AW:45:HIS:CE1	2.31	0.48
34:BB:131:LYS:NZ	35:BA:1159:U:OP1	2.46	0.48
35:BA:320:A:H2'	35:BA:321:A:O4'	2.12	0.48
35:BA:322:C:OP2	35:BA:328:C:N4	2.47	0.48
37:BD:35:GLU:O	37:BD:38:PRO:HD3	2.13	0.48
38:BE:46:VAL:O	38:BE:72:ILE:N	2.39	0.48
39:BF:38:ARG:HG2	39:BF:63:ASN:HB2	1.95	0.48
47:BN:53:ARG:HH21	52:BS:37:ARG:NH2	2.11	0.48
52:BS:22:ALA:HA	52:BS:25:SER:HB3	1.95	0.48
54:BU:34:ARG:CZ	54:BU:35:ARG:HD2	2.43	0.48
55:BV:584:HIS:HB2	55:BV:587:ASP:HB2	1.94	0.48
3:CA:100:U:H4'	3:CA:101:A:O5'	2.13	0.48
3:CA:974:G:C4	3:CA:1186:G:C2	3.01	0.48
3:CA:1326:U:O2'	3:CA:2010:G:O2'	2.22	0.48
35:DA:235:C:H2'	35:DA:236:A:C8	2.48	0.48
35:DA:921:U:H2'	35:DA:922:G:O4'	2.13	0.48
35:DA:1083:U:H5"	35:DA:1086:U:C5	2.47	0.48
39:DF:86:ARG:NH2	51:DR:64:TYR:HB3	2.28	0.48
40:DG:79:ARG:HA	40:DG:83:SER:O	2.13	0.48
43:DJ:35:GLN:HG2	43:DJ:77:VAL:HB	1.95	0.48
44:DK:17:SER:HB3	40:HG:138:ARG:HH12	1.78	0.48
45:DL:99:ARG:HB2	45:DL:117:TYR:HA	1.95	0.48
53:DT:67:ILE:HD11	53:DT:71:LYS:CD	2.44	0.48
3:EA:1174:U:H2'	3:EA:1176:U:H1'	1.96	0.48
4:ED:106:LYS:O	4:ED:107:VAL:HB	2.12	0.48
6:EF:66:ILE:HD13	6:EF:66:ILE:H	1.79	0.48
6:EF:175:PRO:O	6:EF:176:PHE:CG	2.66	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:ER:2:TYR:HE1	18:ER:40:MET:HE2	1.78	0.48
20:ET:29:THR:CB	20:ET:86:THR:HA	2.44	0.48
23:EW:13:ARG:HG2	23:EW:14:ASP:H	1.79	0.48
32:E5:67:THR:C	32:E5:69:PHE:N	2.71	0.48
32:E5:88:HIS:CB	32:E5:89:PRO:HD3	2.43	0.48
55:FV:307:ALA:HB1	55:FV:404:ILE:HG21	1.95	0.48
3:GA:409:G:C2	3:GA:410:G:C4	3.01	0.48
3:GA:1187:G:H5"	18:GR:83:TYR:CE2	2.48	0.48
3:GA:1803:A:O3'	2:GC:256:THR:OG1	2.27	0.48
3:GA:2024:G:C2	3:GA:2025:C:C2	3.01	0.48
3:GA:2484:G:C2	3:GA:2485:G:C8	3.01	0.48
5:GE:25:GLU:OE1	12:GL:7:SER:OG	2.22	0.48
10:GJ:17:VAL:HG13	10:GJ:57:LEU:CD2	2.44	0.48
14:GN:73:ASN:HA	14:GN:76:VAL:CG1	2.42	0.48
16:GP:3:ILE:C	16:GP:4:ILE:O	2.54	0.48
35:HA:270:A:H2'	35:HA:271:C:C6	2.49	0.48
35:HA:690:G:H2'	35:HA:691:G:O4'	2.14	0.48
35:HA:1061:G:H4'	43:HJ:58:ASN:ND2	2.28	0.48
37:HD:22:LYS:O	37:HD:24:GLY:N	2.46	0.48
38:HE:56:VAL:O	38:HE:60:ILE:HG13	2.14	0.48
2:AC:265:PHE:N	2:AC:265:PHE:CD1	2.82	0.48
3:AA:1474:U:H2'	3:AA:1475:G:H5'	1.95	0.48
3:AA:2015:A:C2	27:A0:2:VAL:CG2	2.96	0.48
7:AG:23:ILE:HG21	7:AG:71:LEU:HD11	1.95	0.48
24:AX:70:LEU:O	24:AX:74:GLY:N	2.46	0.48
26:AZ:38:GLU:O	26:AZ:43:ILE:HG12	2.13	0.48
35:BA:983:A:C2'	35:BA:983:A:N3	2.76	0.48
37:BD:147:GLU:HA	37:BD:150:LYS:HD2	1.96	0.48
42:BI:91:ASP:C	42:BI:93:SER:H	2.21	0.48
44:BK:111:THR:HA	54:BU:4:ILE:O	2.14	0.48
47:BN:9:ARG:O	47:BN:13:ARG:HG3	2.14	0.48
3:CA:60:G:O2'	3:CA:62:U:OP2	2.26	0.48
3:CA:947:A:O2'	3:CA:984:A:H2	1.96	0.48
3:CA:959:A:N6	13:CM:82:MET:CE	2.76	0.48
3:CA:1727:C:H2'	3:CA:1728:C:O4'	2.14	0.48
3:CA:2079:U:O2'	24:CX:22:ASN:OD1	2.32	0.48
3:CA:2483:C:N3	13:CM:123:LYS:NZ	2.51	0.48
3:CA:2556:C:H2'	3:CA:2557:G:O4'	2.13	0.48
9:CI:52:LEU:HB3	9:CI:53:PRO:HD2	1.93	0.48
10:CJ:49:ASP:OD1	10:CJ:121:LYS:NZ	2.43	0.48
15:CO:5:SER:HA	15:CO:8:ILE:HG22	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CP:92:ARG:CG	16:CP:92:ARG:O	2.62	0.48
18:CR:49:ILE:HB	18:CR:51:VAL:O	2.14	0.48
22:CV:6:ALA:HB1	22:CV:40:ILE:CG2	2.43	0.48
23:CW:23:LYS:HD2	23:CW:24:ARG:H	1.79	0.48
32:C5:93:ALA:HB3	32:C5:95:LEU:HD23	1.96	0.48
35:DA:367:U:C6	35:DA:394:G:N2	2.82	0.48
35:DA:546:A:P	37:DD:69:GLU:HB2	2.53	0.48
35:DA:1225:A:H2'	35:DA:1226:C:C5	2.49	0.48
37:DD:13:ARG:HD2	37:DD:37:ALA:C	2.39	0.48
38:DE:25:VAL:O	38:DE:28:GLY:N	2.41	0.48
45:DL:24:LEU:HG	45:DL:25:GLU:H	1.78	0.48
50:DQ:62:ARG:C	50:DQ:73:TRP:CE3	2.91	0.48
3:EA:973:A:O4'	3:EA:1188:U:C6	2.66	0.48
3:EA:1224:U:H4'	18:ER:88:GLY:O	2.13	0.48
3:EA:1256:G:O2'	5:EE:77:ILE:HD11	2.14	0.48
3:EA:1808:A:O2'	24:EX:2:ARG:NH1	2.47	0.48
2:EC:80:LEU:HD21	2:EC:109:LEU:HB2	1.95	0.48
6:EF:43:ILE:CG2	6:EF:78:ILE:HG22	2.43	0.48
10:EJ:81:ILE:CG2	10:EJ:82:GLY:N	2.77	0.48
17:EQ:4:LYS:HG3	17:EQ:5:ARG:N	2.28	0.48
28:E1:8:ILE:HD11	28:E1:51:ALA:HA	1.96	0.48
32:E5:71:CYS:CA	32:E5:117:LEU:CD1	2.90	0.48
32:E5:127:ALA:O	32:E5:129:LEU:N	2.47	0.48
34:FB:167:HIS:ND1	34:FB:167:HIS:O	2.45	0.48
42:FI:47:VAL:O	42:FI:80:ARG:HG2	2.13	0.48
3:GA:371:A:N1	3:GA:401:A:H5"	2.28	0.48
3:GA:565:C:H4'	3:GA:1253:A:N6	2.28	0.48
3:GA:974:G:O5'	18:GR:78:ARG:CZ	2.61	0.48
3:GA:1570:A:C6	3:GA:1571:A:C6	3.02	0.48
3:GA:2371:G:C2	3:GA:2372:U:C6	3.01	0.48
2:GC:195:GLY:O	2:GC:197:ALA:N	2.46	0.48
4:GD:193:VAL:HB	4:GD:194:PRO:HD2	1.95	0.48
11:GK:24:VAL:HG12	11:GK:30:ARG:HD2	1.96	0.48
23:GW:30:VAL:O	23:GW:59:PHE:HB2	2.14	0.48
35:HA:21:G:H2'	35:HA:22:G:C8	2.49	0.48
35:HA:181:A:N7	60:HA:1874:HOH:O	2.34	0.48
36:HC:34:ASP:O	36:HC:38:LYS:N	2.44	0.48
37:HD:38:PRO:HD2	37:HD:42:GLY:CA	2.43	0.48
41:HH:89:LYS:HG3	41:HH:90:ASP:N	2.29	0.48
43:HJ:8:ILE:HB	43:HJ:74:VAL:HB	1.95	0.48
3:AA:11:C:C3'	3:AA:12:U:H5'	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:479:A:C2	3:AA:480:A:C4	3.01	0.48
3:AA:770:G:H5"	29:A2:10:LEU:HD23	1.95	0.48
10:AJ:32:LEU:CD2	10:AJ:54:ILE:HD12	2.44	0.48
11:AK:24:VAL:HG13	11:AK:33:ALA:HB2	1.95	0.48
12:AL:19:LEU:HB2	12:AL:27:LEU:HB3	1.94	0.48
13:AM:1:MET:O	13:AM:2:LEU:CB	2.62	0.48
23:AW:42:THR:HG22	23:AW:43:LYS:HZ2	1.77	0.48
32:A5:51:TYR:HD1	32:A5:52:MET:N	2.12	0.48
35:BA:394:G:O2'	55:BV:359:ARG:NH1	2.46	0.48
35:BA:1305:G:H22	35:BA:1331:G:C2'	2.26	0.48
3:CA:1067:A:N3	55:DV:645:GLN:NE2	2.61	0.48
3:CA:1786:A:H1'	3:CA:1938:A:N6	2.28	0.48
2:CC:195:GLY:O	2:CC:197:ALA:N	2.46	0.48
5:CE:188:MET:HE1	5:CE:196:VAL:HG21	1.95	0.48
6:CF:50:ASP:OD1	6:CF:50:ASP:N	2.45	0.48
14:CN:92:GLY:HA2	14:CN:94:TYR:HE1	1.78	0.48
17:CQ:86:SER:O	18:CR:51:VAL:HA	2.14	0.48
32:C5:30:SER:O	32:C5:108:VAL:HG13	2.14	0.48
35:DA:636:U:H2'	35:DA:637:C:C6	2.48	0.48
35:DA:1018:G:C6	35:DA:1019:A:C6	3.02	0.48
35:DA:1071:C:H2'	35:DA:1072:G:H8	1.78	0.48
35:DA:1118:U:OP1	42:DI:11:ARG:NE	2.46	0.48
35:DA:1278:G:H4'	35:DA:1279:G:C8	2.49	0.48
35:DA:1343:G:H1'	42:DI:123:ARG:CZ	2.43	0.48
34:DB:162:VAL:HG22	34:DB:184:ALA:HB2	1.96	0.48
38:DE:62:LYS:O	38:DE:66:LYS:HG2	2.13	0.48
53:DT:44:LYS:HB3	53:DT:87:ALA:HB2	1.96	0.48
54:DU:35:ARG:HB3	54:DU:40:LYS:NZ	2.28	0.48
55:DV:105:VAL:HG23	55:DV:106:LEU:N	2.28	0.48
1:EB:89:U:H3'	1:EB:90:C:C5'	2.44	0.48
9:EI:16:MET:HE2	9:EI:19:PRO:CB	2.43	0.48
11:EK:61:VAL:HG11	11:EK:112:PHE:CZ	2.48	0.48
17:EQ:60:TRP:HA	17:EQ:63:ARG:HE	1.79	0.48
17:EQ:78:PHE:CZ	17:EQ:82:LEU:HD11	2.49	0.48
32:E5:54:VAL:HG22	32:E5:83:ALA:HB1	1.94	0.48
35:FA:505:G:H5'	35:FA:534:U:H2'	1.96	0.48
35:FA:537:G:OP1	60:FA:1879:HOH:O	2.20	0.48
35:FA:1419:G:C5	35:FA:1482:G:N2	2.82	0.48
46:FM:6:GLY:C	46:FM:8:ASN:H	2.22	0.48
3:GA:109:C:H4'	3:GA:348:A:H4'	1.96	0.48
3:GA:571:U:P	18:GR:80:ARG:HH12	2.37	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:860:U:C5	3:GA:916:G:N2	2.82	0.48
3:GA:962:G:P	60:GA:3351:HOH:O	2.72	0.48
3:GA:2352:A:H61	23:GW:30:VAL:HG21	1.78	0.48
3:GA:2375:G:O2'	3:GA:2377:A:N7	2.45	0.48
12:GL:26:GLY:C	12:GL:27:LEU:HD12	2.38	0.48
15:GO:80:GLU:HA	15:GO:83:LEU:CG	2.43	0.48
35:HA:216:U:H2'	35:HA:217:C:C6	2.49	0.48
35:HA:504:C:OP1	60:HA:1878:HOH:O	2.20	0.48
35:HA:946:A:O2'	35:HA:1334:G:H5'	2.13	0.48
35:HA:1003:G:H21	35:HA:1005:A:H5'	1.78	0.48
39:HF:5:GLU:OE2	51:HR:23:TYR:OH	2.22	0.48
44:HK:16:VAL:O	44:HK:18:ASP:N	2.45	0.48
47:HN:20:TYR:HE2	47:HN:52:PRO:HG2	1.79	0.48
53:HT:51:PHE:C	53:HT:51:PHE:CD1	2.91	0.48
3:AA:1107:G:H5"	32:A5:58:THR:HG23	1.94	0.48
3:AA:1135:C:N4	3:AA:1139:G:C6	2.82	0.48
3:AA:1199:U:H5'	17:AQ:4:LYS:CE	2.42	0.48
5:AE:164:LEU:HB3	5:AE:167:VAL:CG1	2.44	0.48
10:AJ:43:GLU:O	10:AJ:45:THR:HG22	2.13	0.48
16:AP:19:PHE:N	16:AP:19:PHE:CD1	2.82	0.48
25:AY:8:GLU:O	25:AY:12:GLU:HB2	2.12	0.48
38:BE:105:ILE:HA	38:BE:123:VAL:HG23	1.95	0.48
42:BI:57:MET:SD	42:BI:57:MET:C	2.97	0.48
55:BV:221:ASN:HA	55:BV:224:GLU:CB	2.43	0.48
3:CA:42:A:H2'	3:CA:43:G:H5'	1.94	0.48
3:CA:500:G:N1	3:CA:503:A:OP2	2.43	0.48
3:CA:783:A:C2	3:CA:785:G:H1'	2.47	0.48
3:CA:1838:C:H4'	3:CA:1839:G:N7	2.29	0.48
3:CA:2318:G:C6	3:CA:2319:G:C6	3.01	0.48
4:CD:174:SER:OG	4:CD:175:LEU:N	2.47	0.48
5:CE:178:VAL:O	5:CE:182:ALA:N	2.45	0.48
10:CJ:44:TYR:CD2	17:CQ:59:LEU:HD22	2.49	0.48
23:CW:24:ARG:NH1	23:CW:25:PHE:O	2.46	0.48
23:CW:37:VAL:HG13	23:CW:56:HIS:HB2	1.96	0.48
32:C5:32:GLY:HA2	32:C5:108:VAL:HG21	1.95	0.48
32:C5:110:ALA:CB	32:C5:113:PHE:CE2	2.97	0.48
35:DA:834:U:H2'	35:DA:835:U:C6	2.48	0.48
35:DA:1526:G:OP2	54:DU:39:GLU:HB3	2.13	0.48
54:DU:40:LYS:N	54:DU:41:PRO:CD	2.77	0.48
55:DV:317:PHE:CE1	55:DV:343:VAL:CG2	2.97	0.48
3:EA:136:G:O6	3:EA:142:A:N6	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:668:A:H2'	3:EA:670:A:H62	1.76	0.48
3:EA:999:U:C5	3:EA:1154:G:C5	3.01	0.48
3:EA:1430:G:H2'	3:EA:1431:A:O4'	2.14	0.48
3:EA:1485:U:H2'	3:EA:1486:U:C6	2.49	0.48
3:EA:2520:C:C6	3:EA:2567:G:H1'	2.49	0.48
8:EH:31:VAL:HB	8:EH:32:PRO:CD	2.43	0.48
12:EL:77:ILE:CD1	12:EL:108:ALA:HB1	2.43	0.48
16:EP:13:LYS:NZ	16:EP:80:VAL:HG12	2.29	0.48
23:EW:9:THR:CG2	23:EW:10:ARG:HD3	2.42	0.48
35:FA:1523:G:O3'	44:FK:125:LYS:NZ	2.46	0.48
34:FB:71:THR:HG22	34:FB:72:LYS:H	1.78	0.48
34:FB:156:LEU:HD23	34:FB:156:LEU:H	1.78	0.48
55:FV:20:ASP:N	59:FV:801:GCP:H3B1	2.28	0.48
55:FV:382:ILE:O	55:FV:382:ILE:HD12	2.14	0.48
55:FV:698:VAL:O	55:FV:699:ILE:HD12	2.14	0.48
3:GA:37:C:O2'	5:GE:45:ALA:HA	2.13	0.48
3:GA:641:U:O2'	3:GA:2350:C:OP1	2.18	0.48
3:GA:994:C:H3'	17:GQ:53:LYS:HE2	1.96	0.48
3:GA:1138:G:C5	3:GA:1139:G:H1'	2.48	0.48
3:GA:1192:G:H2'	3:GA:1193:G:H8	1.79	0.48
3:GA:1436:G:O2'	3:GA:1515:A:N1	2.47	0.48
3:GA:1801:A:N7	2:GC:261:ARG:NH2	2.62	0.48
3:GA:2057:G:O6	60:GA:3485:HOH:O	2.17	0.48
3:GA:2336:A:N6	23:GW:40:ARG:HB3	2.28	0.48
6:GF:28:PRO:HB3	6:GF:159:ALA:HB2	1.95	0.48
10:GJ:38:GLY:HA2	10:GJ:51:GLY:HA2	1.95	0.48
20:GT:28:ASN:O	20:GT:29:THR:HG22	2.13	0.48
35:HA:439:U:C5	35:HA:440:C:C5	3.02	0.48
35:HA:811:C:O2'	35:HA:901:A:N1	2.47	0.48
35:HA:819:A:N7	35:HA:1529:G:N1	2.61	0.48
37:HD:116:GLN:OE1	37:HD:120:HIS:NE2	2.46	0.48
38:HE:19:ASN:OD1	38:HE:20:ARG:N	2.46	0.48
42:HI:120:LYS:CG	42:HI:123:ARG:HB3	2.44	0.48
2:AC:225:ASN:HB3	2:AC:226:PRO:HD2	1.96	0.48
3:AA:983:A:N6	3:AA:984:A:N1	2.62	0.48
3:AA:2405:G:O2'	3:AA:2406:A:OP1	2.26	0.48
3:AA:2747:G:O2'	7:AG:66:THR:HG22	2.14	0.48
23:AW:9:THR:HG23	23:AW:10:ARG:HD3	1.95	0.48
35:BA:71:A:H8	35:BA:71:A:H5'	1.79	0.48
38:BE:45:ARG:HA	38:BE:72:ILE:O	2.14	0.48
42:BI:55:VAL:HG11	42:BI:94:LEU:HD23	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BM:11:ASP:OD1	46:BM:12:HIS:N	2.36	0.48
55:BV:230:SER:OG	55:BV:232:GLU:OE1	2.31	0.48
3:CA:608:A:H2'	3:CA:609:A:C8	2.49	0.48
3:CA:627:A:C6	3:CA:637:A:C8	3.01	0.48
3:CA:1328:A:H2'	3:CA:1330:C:C5	2.49	0.48
3:CA:2478:A:OP2	31:C4:2:LYS:NZ	2.46	0.48
4:CD:68:PHE:C	4:CD:73:VAL:HG12	2.38	0.48
9:CI:58:ILE:HG22	9:CI:59:THR:H	1.79	0.48
9:CI:58:ILE:HG22	9:CI:59:THR:N	2.29	0.48
18:CR:83:TYR:CD1	18:CR:83:TYR:C	2.91	0.48
20:CT:50:LEU:C	20:CT:52:GLU:H	2.22	0.48
28:C1:8:ILE:HG12	28:C1:51:ALA:HA	1.96	0.48
35:DA:757:U:O2'	35:DA:879:C:O2	2.23	0.48
50:DQ:12:VAL:O	50:DQ:13:VAL:HB	2.14	0.48
50:DQ:59:VAL:CG1	50:DQ:75:LEU:CD1	2.92	0.48
50:DQ:76:VAL:HG23	50:DQ:77:ARG:N	2.29	0.48
55:DV:5:THR:HG23	55:DV:6:PRO:HD3	1.94	0.48
3:EA:638:G:C5	3:EA:651:G:C2	3.02	0.48
3:EA:2031:A:N3	3:EA:2455:G:O2'	2.45	0.48
3:EA:2849:U:H4'	3:EA:2868:A:C2	2.49	0.48
10:EJ:73:VAL:HG23	10:EJ:74:TYR:H	1.78	0.48
11:EK:16:ALA:O	11:EK:17:ARG:HB2	2.14	0.48
14:EN:103:ARG:HB2	14:EN:110:MET:HE3	1.95	0.48
34:FB:63:LYS:HA	34:FB:224:ARG:HD3	1.96	0.48
37:FD:25:VAL:HG13	37:FD:161:LEU:HD23	1.96	0.48
37:FD:65:TYR:N	37:FD:65:TYR:HD1	2.12	0.48
46:FM:29:ARG:NH2	46:FM:63:PHE:HB2	2.28	0.48
55:FV:96:THR:HG22	55:FV:129:GLN:HE22	1.79	0.48
3:GA:255:A:H2'	3:GA:256:A:O4'	2.13	0.48
3:GA:442:G:O4'	5:GE:41:GLN:NE2	2.46	0.48
3:GA:2093:G:N7	3:GA:2225:A:H2'	2.28	0.48
3:GA:2300:C:H2'	3:GA:2301:C:C6	2.49	0.48
4:GD:118:PHE:HD1	4:GD:119:ALA:H	1.60	0.48
5:GE:29:HIS:CE1	12:GL:8:PRO:HB3	2.49	0.48
12:GL:68:SER:C	12:GL:70:LYS:H	2.22	0.48
23:GW:28:GLU:O	23:GW:31:LEU:HG	2.14	0.48
24:GX:76:LYS:HG3	24:GX:77:TYR:H	1.79	0.48
29:G2:34:ARG:NH1	29:G2:39:ARG:HD3	2.29	0.48
35:HA:808:C:OP2	48:HO:48:LYS:NZ	2.39	0.48
35:HA:952:U:H5'	35:HA:972:C:N4	2.28	0.48
35:HA:1064:G:C8	35:HA:1066:C:C2	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:HL:25:GLU:OE2	45:HL:30:LYS:NZ	2.47	0.48
47:HN:61:ARG:NH2	47:HN:71:HIS:CE1	2.81	0.48
55:HV:627:ASN:ND2	55:HV:674:THR:HA	2.29	0.48
3:AA:995:C:O2	10:AJ:3:THR:HG23	2.13	0.48
3:AA:1348:C:H2'	3:AA:1349:C:H5'	1.96	0.48
3:AA:1730:C:OP1	3:AA:1730:C:H4'	2.12	0.48
3:AA:2406:A:C2	12:AL:69:ARG:NH2	2.82	0.48
5:AE:32:VAL:HG23	5:AE:178:VAL:HG12	1.95	0.48
6:AF:69:ALA:N	6:AF:82:TYR:O	2.47	0.48
9:AI:14:ALA:HB3	9:AI:51:GLY:H	1.79	0.48
34:BB:163:ILE:HG23	34:BB:164:ASP:N	2.29	0.48
35:BA:203:G:N2	35:BA:215:C:C2	2.82	0.48
35:BA:1413:A:C2	35:BA:1488:G:C2	3.01	0.48
36:BC:47:LEU:HB3	36:BC:50:ALA:HB3	1.94	0.48
41:BH:18:GLN:NE2	41:BH:72:VAL:H	2.12	0.48
44:BK:16:VAL:HG13	44:BK:79:ILE:HG12	1.96	0.48
44:BK:23:ILE:HG13	44:BK:86:VAL:HA	1.96	0.48
3:CA:534:U:O2'	17:CQ:48:ASP:OD2	2.29	0.48
3:CA:2564:A:C2	3:CA:2647:U:H4'	2.49	0.48
6:CF:143:ASP:OD1	46:DM:67:GLY:HA3	2.14	0.48
9:CI:73:PRO:O	9:CI:112:LYS:NZ	2.45	0.48
10:CJ:44:TYR:HB2	17:CQ:63:ARG:HB3	1.95	0.48
23:CW:23:LYS:O	23:CW:66:VAL:HB	2.13	0.48
25:CY:3:ALA:HA	25:CY:6:LEU:CB	2.44	0.48
27:C0:32:THR:HG22	27:C0:33:SER:N	2.28	0.48
32:C5:43:LYS:NZ	32:C5:98:GLU:HB2	2.29	0.48
32:C5:64:VAL:O	32:C5:68:PRO:HD2	2.13	0.48
32:C5:93:ALA:HA	32:C5:130:PRO:CG	2.44	0.48
35:DA:264:C:H4'	50:DQ:65:ARG:HD2	1.96	0.48
35:DA:673:A:H2'	35:DA:674:G:C8	2.49	0.48
43:DJ:53:ILE:HD11	47:DN:85:ARG:CZ	2.43	0.48
45:DL:63:VAL:HG21	45:DL:95:TYR:CE1	2.49	0.48
1:EB:74:U:O2	22:EV:29:ILE:HD13	2.14	0.48
6:EF:147:ARG:HG3	6:EF:149:ARG:N	2.29	0.48
35:FA:1028:C:H42	35:FA:1033:G:H1	1.61	0.48
34:FB:14:HIS:O	34:FB:14:HIS:CG	2.65	0.48
34:FB:162:VAL:HG22	34:FB:184:ALA:HB2	1.96	0.48
38:FE:156:LYS:O	38:FE:159:LYS:NZ	2.46	0.48
39:FF:3:HIS:O	39:FF:92:THR:OG1	2.32	0.48
41:FH:41:LYS:HD3	41:FH:48:ASP:HB2	1.95	0.48
54:FU:10:GLU:HG2	54:FU:11:PRO:HD3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:109:C:C5'	3:GA:348:A:H4'	2.44	0.48
3:GA:600:G:H5"	5:GE:27:LEU:HD22	1.96	0.48
3:GA:995:C:O5'	17:GQ:53:LYS:HD3	2.14	0.48
3:GA:2742:G:P	31:G4:36:ARG:HH11	2.37	0.48
4:GD:142:VAL:HB	4:GD:143:PRO:HD2	1.95	0.48
10:GJ:12:LYS:O	10:GJ:13:ARG:HB2	2.13	0.48
17:GQ:60:TRP:CE2	17:GQ:93:ILE:HB	2.49	0.48
21:GU:82:VAL:HG12	21:GU:83:GLY:N	2.29	0.48
23:GW:49:ASN:OD1	23:GW:80:SER:HA	2.14	0.48
25:GY:2:LYS:HG3	25:GY:52:ARG:HD3	1.95	0.48
35:HA:38:G:N2	35:HA:397:A:C4	2.81	0.48
35:HA:401:C:OP2	37:HD:70:ARG:HD3	2.14	0.48
35:HA:664:G:OP1	51:HR:53:ARG:NE	2.41	0.48
38:HE:157:ARG:CZ	41:HH:45:PHE:CZ	2.97	0.48
41:HH:82:GLY:C	41:HH:83:LEU:HD12	2.38	0.48
3:AA:1069:A:C1'	3:AA:1073:A:H62	2.27	0.48
3:AA:1327:A:H2'	3:AA:1328:A:O4'	2.14	0.48
3:AA:1474:U:C2'	3:AA:1475:G:H5'	2.44	0.48
3:AA:2022:U:OP1	60:AA:3656:HOH:O	2.20	0.48
3:AA:2346:A:H3'	3:AA:2347:C:H5"	1.95	0.48
7:AG:30:GLY:O	7:AG:32:LEU:N	2.38	0.48
7:AG:84:LYS:HG3	7:AG:132:LEU:N	2.28	0.48
9:AI:40:ALA:O	9:AI:43:ALA:HB3	2.14	0.48
12:AL:81:ASP:O	12:AL:83:ALA:N	2.41	0.48
23:AW:18:LYS:CG	23:AW:19:ARG:N	2.77	0.48
32:A5:110:ALA:HB1	32:A5:113:PHE:CE1	2.49	0.48
35:BA:411:A:C5	35:BA:429:U:C5	3.02	0.48
35:BA:1021:A:C2'	35:BA:1022:A:H5'	2.44	0.48
35:BA:1182:G:H4'	35:BA:1183:U:H5"	1.96	0.48
35:BA:1314:C:H41	52:BS:4:SER:HA	1.79	0.48
37:BD:4:TYR:CZ	37:BD:11:LEU:HD11	2.48	0.48
43:BJ:29:ALA:O	43:BJ:33:GLY:N	2.47	0.48
44:BK:71:ALA:HB1	44:BK:105:PHE:HE2	1.79	0.48
55:BV:4:THR:CG2	55:BV:378:ARG:CZ	2.92	0.48
55:BV:93:VAL:HG13	55:BV:94:ASP:N	2.29	0.48
5:CE:148:ILE:HB	5:CE:169:VAL:HG12	1.95	0.48
7:CG:83:THR:C	7:CG:84:LYS:HD2	2.39	0.48
13:CM:2:LEU:CD1	13:CM:69:PRO:HD2	2.44	0.48
16:CP:33:GLU:OE2	35:DA:345:C:O3'	2.32	0.48
18:CR:64:VAL:O	18:CR:65:ALA:HB3	2.14	0.48
21:CU:82:VAL:HG12	21:CU:83:GLY:N	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:CZ:40:THR:HG23	26:CZ:43:ILE:HG23	1.96	0.48
35:DA:204:G:H3'	35:DA:205:A:H5"	1.96	0.48
55:DV:33:TYR:CE2	55:DV:276:GLN:HG3	2.49	0.48
3:EA:100:U:C2	3:EA:101:A:N6	2.81	0.48
3:EA:1093:G:O2'	3:EA:1098:A:N6	2.44	0.48
3:EA:2287:A:C4	3:EA:2289:G:N7	2.82	0.48
5:EE:161:ALA:HA	5:EE:164:LEU:HD23	1.96	0.48
28:E1:8:ILE:HG12	28:E1:51:ALA:HA	1.95	0.48
34:FB:9:LEU:HD23	34:FB:9:LEU:O	2.13	0.48
36:FC:150:LYS:HD3	36:FC:201:TRP:CD2	2.49	0.48
39:FF:64:VAL:HG12	39:FF:65:GLU:N	2.29	0.48
41:FH:106:THR:HG21	41:FH:121:LEU:HD22	1.96	0.48
3:GA:163:C:O2'	3:GA:164:C:O5'	2.30	0.48
3:GA:897:C:H2'	3:GA:898:C:C6	2.49	0.48
3:GA:1071:G:C8	3:GA:1089:A:C6	3.02	0.48
3:GA:2056:G:OP2	60:GA:3484:HOH:O	2.20	0.48
3:GA:2204:G:C5	3:GA:2221:G:C2	3.02	0.48
7:GG:112:VAL:HG23	7:GG:113:ASP:N	2.29	0.48
9:GI:83:ALA:CB	9:GI:105:LEU:HD21	2.43	0.48
23:GW:30:VAL:HB	23:GW:59:PHE:HD2	1.79	0.48
23:GW:39:GLN:NE2	23:GW:43:LYS:O	2.45	0.48
35:HA:6:G:O6	38:HE:99:ALA:HB1	2.13	0.48
35:HA:328:C:H4'	35:HA:329:A:H5"	1.94	0.48
35:HA:726:C:O3'	35:HA:742:G:N2	2.41	0.48
35:HA:1219:A:H2'	35:HA:1220:G:C8	2.49	0.48
35:HA:1347:G:N7	42:HI:13:LYS:HE3	2.28	0.48
35:HA:1494:G:C6	35:HA:1495:U:C4	3.02	0.48
36:HC:147:LYS:HB2	36:HC:203:PHE:CE2	2.49	0.48
37:HD:28:ILE:O	37:HD:29:ASP:C	2.56	0.48
42:HI:129:LYS:HG3	42:HI:130:ARG:N	2.29	0.48
44:HK:21:ALA:HA	44:HK:35:THR:CG2	2.44	0.48
44:HK:33:THR:HA	44:HK:44:TRP:HD1	1.79	0.48
49:HP:18:GLN:NE2	49:HP:35:ARG:NE	2.61	0.48
50:HQ:28:PHE:O	50:HQ:29:VAL:HG13	2.14	0.48
52:HS:47:LEU:HB2	52:HS:62:VAL:HG21	1.96	0.48
3:AA:391:A:C5	3:AA:411:G:C2	3.02	0.47
3:AA:748:G:OP1	19:AS:88:ARG:NH2	2.45	0.47
3:AA:1607:C:H4'	3:AA:1608:A:O5'	2.13	0.47
6:AF:134:GLN:O	6:AF:136:ILE:N	2.47	0.47
9:AI:60:VAL:HG22	9:AI:66:PHE:HB3	1.95	0.47
10:AJ:44:TYR:CD1	17:AQ:63:ARG:HG2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:24:ILE:HD11	19:AS:36:LEU:HD13	1.96	0.47
23:AW:47:GLY:H	23:AW:80:SER:HB3	1.79	0.47
32:A5:15:VAL:HG22	32:A5:66:GLY:CA	2.44	0.47
32:A5:110:ALA:HB1	32:A5:113:PHE:CZ	2.49	0.47
35:BA:471:U:H2'	35:BA:472:U:H6	1.79	0.47
3:CA:27:G:N2	3:CA:512:G:H1'	2.29	0.47
3:CA:682:G:H5'	29:C2:26:ASN:ND2	2.29	0.47
3:CA:1031:G:H4'	31:C4:6:SER:HB2	1.96	0.47
3:CA:1059:G:N2	9:CI:127:SER:O	2.44	0.47
3:CA:1789:A:OP1	60:CA:3768:HOH:O	2.20	0.47
3:CA:2146:C:P	3:GA:2146:C:H42	2.37	0.47
35:DA:21:G:H2'	35:DA:22:G:C8	2.49	0.47
35:DA:587:G:N2	35:DA:755:G:C5	2.82	0.47
3:EA:545:U:H2'	3:EA:546:U:O3'	2.14	0.47
3:EA:846:U:O2'	3:EA:847:U:P	2.72	0.47
4:ED:49:GLN:NE2	4:ED:79:LEU:HD13	2.29	0.47
31:E4:1:MET:HE2	31:E4:35:GLN:C	2.39	0.47
32:E5:77:VAL:C	32:E5:79:PRO:HD2	2.39	0.47
35:FA:41:G:H2'	35:FA:42:G:C8	2.49	0.47
35:FA:461:A:H3'	35:FA:461:A:N3	2.29	0.47
45:FL:82:ILE:HD11	45:FL:95:TYR:HB2	1.95	0.47
54:FU:4:ILE:N	54:FU:19:PHE:CE1	2.81	0.47
3:GA:297:G:H2'	3:GA:298:G:O4'	2.13	0.47
3:GA:557:C:C2	3:GA:558:U:C5	3.02	0.47
3:GA:619:G:P	3:GA:620:G:H22	2.36	0.47
3:GA:648:G:H5'	3:GA:2352:A:H5'	1.96	0.47
3:GA:1482:G:C8	3:GA:1483:G:C8	3.02	0.47
7:GG:22:VAL:HG12	7:GG:36:LEU:HD11	1.96	0.47
11:GK:108:ARG:HD2	11:GK:116:ILE:HD13	1.95	0.47
22:GV:14:LYS:HE3	22:GV:18:ARG:NH2	2.29	0.47
35:HA:1095:U:H2'	35:HA:1096:C:O4'	2.14	0.47
35:HA:1107:C:C4	35:HA:1108:G:N7	2.82	0.47
3:AA:555:G:O2'	3:AA:556:A:OP2	2.31	0.47
3:AA:630:G:N2	3:AA:633:A:OP2	2.37	0.47
3:AA:960:A:H61	13:AM:82:MET:HE3	1.78	0.47
3:AA:1778:U:H2'	3:AA:1784:A:H62	1.78	0.47
3:AA:2197:U:O2	3:AA:2198:A:O2'	2.21	0.47
17:AQ:4:LYS:HZ3	17:AQ:7:VAL:HG11	1.80	0.47
19:AS:24:ILE:HG22	19:AS:71:VAL:HG11	1.95	0.47
34:BB:163:ILE:HG23	34:BB:164:ASP:H	1.77	0.47
51:BR:71:THR:HG23	51:BR:74:HIS:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BV:658:VAL:CG2	55:BV:663:MET:SD	3.03	0.47
1:CB:74:U:O2	22:CV:29:ILE:HD13	2.14	0.47
1:CB:116:G:C4'	15:CO:54:VAL:HG22	2.43	0.47
3:CA:222:A:N6	3:CA:231:A:C2	2.82	0.47
3:CA:255:A:H2'	3:CA:256:A:O4'	2.14	0.47
3:CA:792:A:C6	3:CA:2440:C:C6	3.02	0.47
3:CA:1378:A:C4	3:CA:1380:G:N7	2.83	0.47
3:CA:1838:C:H4'	3:CA:1839:G:C8	2.48	0.47
3:CA:2134:A:H5"	3:CA:2135:A:C8	2.49	0.47
2:CC:142:ASN:HA	2:CC:153:LEU:O	2.14	0.47
6:CF:116:LEU:HD23	6:CF:175:PRO:HB2	1.96	0.47
13:CM:28:PHE:N	13:CM:104:GLU:OE2	2.46	0.47
15:CO:75:GLY:HA2	15:CO:106:LEU:HD13	1.95	0.47
17:CQ:4:LYS:HG3	17:CQ:5:ARG:H	1.79	0.47
18:CR:46:GLU:OE1	18:CR:46:GLU:N	2.42	0.47
35:DA:158:G:H2'	35:DA:159:G:C5'	2.45	0.47
35:DA:250:A:H4'	35:DA:251:G:O5'	2.15	0.47
37:DD:140:ASN:N	37:DD:182:PHE:O	2.45	0.47
38:DE:82:GLN:HG2	38:DE:150:PRO:HD3	1.95	0.47
40:DG:17:LYS:C	40:DG:18:PHE:HD1	2.22	0.47
44:DK:58:SER:O	44:DK:91:PRO:HG2	2.13	0.47
52:DS:42:PRO:HA	52:DS:67:VAL:HG13	1.96	0.47
3:EA:226:A:C6	3:EA:227:A:C6	3.02	0.47
3:EA:653:U:H3'	3:EA:654:A:C5'	2.44	0.47
3:EA:1301:A:C8	3:EA:1303:G:C8	3.02	0.47
3:EA:1450:G:C6	3:EA:1451:C:N4	2.82	0.47
3:EA:1831:G:H2'	3:EA:1832:C:C6	2.49	0.47
36:FC:156:ARG:H	36:FC:163:ALA:HA	1.78	0.47
39:FF:55:HIS:ND1	39:FF:55:HIS:N	2.62	0.47
45:FL:46:ASN:HD22	45:FL:89:ASP:CG	2.22	0.47
47:FN:45:VAL:HG23	47:FN:46:LEU:H	1.79	0.47
52:FS:36:ARG:NH2	52:FS:75:ALA:O	2.47	0.47
55:FV:164:ALA:HB1	55:FV:262:ILE:CD1	2.44	0.47
55:FV:345:SER:N	55:FV:375:LYS:O	2.47	0.47
1:GB:20:G:C2	1:GB:64:G:C2	3.01	0.47
3:GA:217:A:H2'	3:GA:218:A:O4'	2.14	0.47
3:GA:265:A:H4'	3:GA:266:G:OP1	2.12	0.47
3:GA:444:C:O2'	5:GE:44:ARG:HD3	2.14	0.47
3:GA:1779:U:H5	3:GA:1784:A:N7	2.12	0.47
3:GA:1913:A:C5	55:HV:507:LYS:NZ	2.82	0.47
3:GA:2821:A:H2'	3:GA:2822:G:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:GD:186:LEU:HD11	16:GP:3:ILE:CD1	2.44	0.47
9:GI:78:LEU:CD1	9:GI:128:ILE:HG23	2.44	0.47
10:GJ:73:VAL:HG23	10:GJ:74:TYR:H	1.78	0.47
11:GK:108:ARG:NH1	11:GK:113:MET:SD	2.88	0.47
16:GP:38:ARG:NH1	35:HA:346:G:H4'	2.29	0.47
23:GW:45:HIS:HB2	23:GW:50:VAL:HA	1.94	0.47
26:GZ:29:ARG:HB3	26:GZ:30:ARG:HH21	1.78	0.47
35:HA:1492:A:C6	35:HA:1493:A:C6	3.02	0.47
34:HB:46:VAL:HB	34:HB:47:PRO:HD3	1.96	0.47
40:HG:4:ARG:HG3	40:HG:5:ARG:N	2.29	0.47
42:HI:33:ARG:HB3	42:HI:37:GLN:HB2	1.95	0.47
44:HK:125:LYS:HZ1	54:HU:36:GLU:H	1.62	0.47
55:HV:221:ASN:HA	55:HV:224:GLU:HB3	1.96	0.47
55:HV:353:VAL:HG21	55:HV:408:ARG:HH11	1.79	0.47
3:AA:999:U:OP2	60:AA:3355:HOH:O	2.20	0.47
3:AA:1031:G:H4'	31:A4:6:SER:HB2	1.95	0.47
3:AA:1760:C:H2'	3:AA:1761:C:O4'	2.14	0.47
3:AA:2862:G:C5	3:AA:2863:C:C5	3.02	0.47
6:AF:5:ASP:OD1	6:AF:8:LYS:NZ	2.46	0.47
12:AL:82:LEU:CD1	12:AL:116:VAL:HG23	2.44	0.47
13:AM:106:ASP:O	13:AM:108:VAL:N	2.44	0.47
32:A5:23:LEU:H	32:A5:87:GLU:HB2	1.80	0.47
32:A5:88:HIS:CB	32:A5:89:PRO:HD3	2.44	0.47
34:BB:20:ARG:NH1	34:BB:20:ARG:HA	2.29	0.47
34:BB:46:VAL:HB	34:BB:47:PRO:HD3	1.96	0.47
35:BA:1048:G:H5"	47:BN:3:LYS:HG3	1.96	0.47
35:BA:1067:A:N1	35:BA:1108:G:O2'	2.39	0.47
35:BA:1303:C:OP1	60:BA:1794:HOH:O	2.19	0.47
37:BD:197:GLU:O	37:BD:200:ILE:N	2.47	0.47
45:BL:24:LEU:HB2	45:BL:59:ASN:ND2	2.29	0.47
55:BV:200:VAL:HG23	55:BV:201:THR:N	2.28	0.47
55:BV:309:ARG:NH2	55:BV:402:ALA:O	2.48	0.47
3:CA:1883:U:O4	3:CA:1884:G:N1	2.47	0.47
3:CA:2539:C:C4	3:CA:2540:C:C5	3.01	0.47
7:CG:84:LYS:NZ	7:CG:133:LYS:HG2	2.29	0.47
13:CM:136:MET:HE3	22:CV:77:VAL:HG23	1.96	0.47
17:CQ:81:GLY:O	17:CQ:85:ALA:N	2.44	0.47
19:CS:15:GLN:O	19:CS:19:LEU:HD13	2.14	0.47
32:C5:7:ASP:N	32:C5:7:ASP:OD1	2.47	0.47
35:DA:1241:G:C2	35:DA:1242:G:N7	2.82	0.47
36:DC:150:LYS:HG3	36:DC:201:TRP:CE3	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:DE:122:ASN:OD1	38:DE:122:ASN:N	2.46	0.47
40:DG:103:TRP:CH2	40:DG:141:VAL:HG21	2.48	0.47
50:DQ:11:ARG:HA	50:DQ:58:VAL:HA	1.97	0.47
3:EA:478:A:C6	3:EA:480:A:C6	3.02	0.47
17:EQ:94:LEU:C	17:EQ:96:ASP:N	2.72	0.47
21:EU:82:VAL:HG12	21:EU:83:GLY:N	2.29	0.47
29:E2:43:THR:O	29:E2:44:VAL:C	2.57	0.47
35:FA:723:U:O2'	35:FA:724:G:P	2.73	0.47
36:FC:53:SER:HB2	36:FC:115:LEU:HG	1.95	0.47
37:FD:105:MET:SD	37:FD:143:VAL:CG1	3.03	0.47
49:FP:6:LEU:CD1	49:FP:17:TYR:HB3	2.44	0.47
55:FV:616:ILE:HA	55:FV:659:PRO:HA	1.96	0.47
3:GA:182:A:C2	3:GA:183:C:C2	3.02	0.47
3:GA:563:A:C6	3:GA:2018:G:C5	3.02	0.47
3:GA:811:U:OP2	12:GL:29:LYS:N	2.44	0.47
3:GA:952:G:C6	3:GA:966:G:C6	3.01	0.47
3:GA:1039:A:C6	3:GA:1040:A:C5	3.03	0.47
3:GA:1095:A:H1'	55:HV:632:ILE:HG13	1.97	0.47
3:GA:1197:G:H2'	3:GA:1198:U:H6	1.77	0.47
2:GC:42:ARG:NH2	2:GC:48:ILE:HD11	2.28	0.47
7:GG:6:ALA:HB1	7:GG:7:PRO:HD2	1.96	0.47
10:GJ:20:ALA:O	10:GJ:21:THR:C	2.56	0.47
12:GL:88:GLY:O	12:GL:120:VAL:HG13	2.13	0.47
20:GT:34:VAL:HG23	20:GT:34:VAL:O	2.13	0.47
35:HA:363:A:P	45:HL:58:THR:HG21	2.53	0.47
35:HA:459:A:H2'	35:HA:460:A:H5'	1.96	0.47
35:HA:1375:A:C2	35:HA:1376:U:C2	3.02	0.47
37:HD:32:CYS:SG	37:HD:33:LYS:N	2.88	0.47
41:HH:41:LYS:HD2	41:HH:48:ASP:HB2	1.96	0.47
3:AA:995:C:N4	10:AJ:2:LYS:HB3	2.29	0.47
3:AA:1992:G:OP1	60:AA:3419:HOH:O	2.20	0.47
3:AA:2335:A:C5	3:AA:2337:G:C4	3.02	0.47
3:AA:2839:G:N2	3:AA:2880:C:C4	2.82	0.47
28:A1:16:THR:HG21	28:A1:41:VAL:HG13	1.97	0.47
32:A5:100:ALA:HB2	32:A5:125:ARG:HE	1.79	0.47
36:BC:131:ARG:NH2	36:BC:166:GLU:OE2	2.47	0.47
37:BD:174:ASP:OD1	37:BD:176:GLY:N	2.48	0.47
44:BK:35:THR:OG1	44:BK:40:ASN:N	2.47	0.47
51:BR:23:TYR:CE1	51:BR:24:LYS:HG3	2.49	0.47
55:BV:151:PHE:CE1	55:BV:266:CYS:HB3	2.50	0.47
3:CA:780:G:H2'	3:CA:782:A:N7	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:1747:U:H2'	3:CA:1748:C:C6	2.49	0.47
5:CE:46:GLN:HG3	5:CE:87:ALA:HB3	1.97	0.47
11:CK:105:ARG:HE	11:CK:106:GLU:CD	2.22	0.47
24:CX:53:LYS:HA	24:CX:56:ARG:HG3	1.96	0.47
32:C5:59:LEU:HD23	32:C5:62:ARG:HE	1.79	0.47
35:DA:982:U:H4'	35:DA:983:A:O5'	2.14	0.47
40:DG:109:ARG:O	40:DG:119:ARG:NH2	2.40	0.47
44:DK:22:HIS:CD2	44:DK:35:THR:HG22	2.49	0.47
45:DL:24:LEU:C	45:DL:26:ALA:H	2.23	0.47
50:DQ:33:ILE:HB	50:DQ:34:TYR:CD2	2.50	0.47
52:DS:11:ILE:HD12	52:DS:16:LEU:HD13	1.96	0.47
55:DV:256:VAL:O	55:DV:259:ASN:N	2.45	0.47
3:EA:555:G:HO2'	3:EA:556:A:P	2.34	0.47
4:ED:99:GLU:HG3	4:ED:100:LEU:N	2.30	0.47
24:EX:69:GLU:O	24:EX:70:LEU:HB3	2.14	0.47
35:FA:875:U:C4	35:FA:876:C:C5	3.02	0.47
42:FI:129:LYS:HG3	42:FI:130:ARG:HG2	1.95	0.47
45:FL:4:VAL:HG23	50:FQ:36:LYS:CE	2.44	0.47
3:GA:84:A:H62	3:GA:101:A:H2	1.63	0.47
3:GA:783:A:H8	3:GA:784:G:H5"	1.78	0.47
3:GA:1095:A:H1'	55:HV:632:ILE:CB	2.44	0.47
3:GA:1190:G:H2'	3:GA:1191:G:C8	2.49	0.47
3:GA:2212:A:C2	3:GA:2214:C:N4	2.82	0.47
5:GE:28:VAL:HG23	5:GE:32:VAL:HG13	1.97	0.47
9:GI:75:ALA:HA	9:GI:112:LYS:HE2	1.96	0.47
18:GR:68:ARG:HD3	18:GR:92:TRP:CE2	2.49	0.47
35:HA:22:G:O2'	35:HA:913:A:N1	2.42	0.47
35:HA:1405:G:H1	35:HA:1496:C:H5	1.61	0.47
2:AC:84:PRO:HG3	3:AA:1567:G:H2'	1.95	0.47
3:AA:587:C:P	12:AL:21:ARG:NH1	2.88	0.47
3:AA:1010:A:OP2	60:AA:3766:HOH:O	2.20	0.47
3:AA:1817:G:H2'	3:AA:1818:U:H5'	1.97	0.47
3:AA:2793:C:H2'	3:AA:2794:C:C6	2.50	0.47
18:AR:68:ARG:HD3	18:AR:92:TRP:CZ2	2.49	0.47
19:AS:63:GLY:O	19:AS:64:ALA:CB	2.62	0.47
24:AX:39:VAL:HG22	24:AX:44:ARG:O	2.14	0.47
26:AZ:48:ASN:O	26:AZ:51:SER:OG	2.27	0.47
32:A5:123:ILE:HG12	32:A5:124:ASP:N	2.30	0.47
35:BA:982:U:H4'	35:BA:983:A:C5'	2.44	0.47
35:BA:982:U:C5	35:BA:983:A:N6	2.83	0.47
55:BV:493:THR:HG22	55:BV:613:LEU:HD21	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:545:U:H3'	3:CA:546:U:H4'	1.96	0.47
3:CA:855:G:H21	23:CW:23:LYS:HG2	1.79	0.47
3:CA:1178:C:H3'	3:CA:1179:G:H8	1.79	0.47
3:CA:1370:C:H2'	3:CA:1371:G:O4'	2.15	0.47
3:CA:1392:A:C6	3:CA:1393:A:C6	3.02	0.47
3:CA:1509:A:C4	3:CA:1510:G:C8	3.03	0.47
3:CA:2326:C:H3'	3:CA:2326:C:C6	2.49	0.47
3:CA:2758:A:H2'	3:CA:2759:G:H5'	1.96	0.47
5:CE:23:PHE:CE1	12:CL:2:ARG:NH2	2.83	0.47
11:CK:19:VAL:HG23	11:CK:43:ILE:HA	1.96	0.47
20:CT:35:ALA:HB3	20:CT:38:ALA:HB2	1.96	0.47
23:CW:30:VAL:HA	23:CW:60:ALA:HB3	1.94	0.47
23:CW:37:VAL:HG11	23:CW:55:ASP:HB2	1.96	0.47
27:C0:24:VAL:C	27:C0:26:SER:H	2.22	0.47
32:C5:15:VAL:HG22	32:C5:66:GLY:HA3	1.96	0.47
35:DA:35:G:O2'	45:DL:115:SER:O	2.29	0.47
35:DA:714:G:N3	35:DA:777:A:H1'	2.30	0.47
38:DE:134:ILE:H	38:DE:134:ILE:HD12	1.79	0.47
55:DV:75:MET:SD	55:DV:202:PHE:CZ	3.08	0.47
55:DV:119:VAL:HB	55:DV:161:ARG:HD2	1.96	0.47
5:EE:175:ILE:HD11	5:EE:180:LEU:HD21	1.96	0.47
10:EJ:12:LYS:O	10:EJ:13:ARG:CB	2.63	0.47
13:EM:35:ALA:HB2	13:EM:102:LEU:HD21	1.96	0.47
16:EP:50:ARG:O	16:EP:51:ASN:HB2	2.15	0.47
18:ER:49:ILE:HD12	18:ER:53:PHE:H	1.78	0.47
32:E5:73:LYS:HB2	32:E5:117:LEU:HD21	1.97	0.47
35:FA:893:C:C4	35:FA:894:G:N7	2.82	0.47
41:FH:3:MET:CE	41:FH:6:PRO:HA	2.44	0.47
45:FL:76:GLU:HG3	55:FV:454:ASN:CB	2.45	0.47
55:FV:224:GLU:HG3	55:FV:237:TYR:CE2	2.49	0.47
55:FV:365:GLN:HB2	55:FV:374:ILE:HD11	1.96	0.47
3:GA:132:G:N2	3:GA:148:U:C2	2.82	0.47
3:GA:1071:G:C8	3:GA:1089:A:N1	2.82	0.47
3:GA:1178:C:N4	3:GA:1179:G:O6	2.48	0.47
3:GA:1195:G:H2'	3:GA:1196:C:H6	1.79	0.47
3:GA:1252:G:O2'	3:GA:1253:A:C8	2.68	0.47
3:GA:1860:G:N2	3:GA:1882:U:O2	2.38	0.47
3:GA:2423:U:O2'	3:GA:2424:C:OP2	2.30	0.47
2:GC:57:HIS:CD2	2:GC:58:LYS:H	2.33	0.47
6:GF:142:TYR:CE2	46:HM:75:MET:HG2	2.49	0.47
9:GI:16:MET:HB3	9:GI:19:PRO:HG3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:GK:80:ASP:HB2	16:GP:67:GLU:HG3	1.96	0.47
16:GP:47:ILE:HA	16:GP:96:LEU:HB2	1.97	0.47
23:GW:18:LYS:HD2	23:GW:36:ILE:HD11	1.95	0.47
39:HF:90:MET:HG2	39:HF:91:ARG:N	2.29	0.47
42:HI:94:LEU:HD12	42:HI:95:ARG:N	2.29	0.47
53:HT:25:ARG:NH1	53:HT:66:LEU:HD11	2.30	0.47
2:AC:232:GLY:H	2:AC:241:LYS:HE3	1.79	0.47
3:AA:725:G:C6	3:AA:726:G:N1	2.82	0.47
3:AA:1509:A:HO2'	3:AA:1510:G:P	2.35	0.47
3:AA:2678:C:H2'	3:AA:2679:A:O4'	2.14	0.47
3:AA:2902:C:C2'	3:AA:2903:U:O5'	2.63	0.47
9:AI:19:PRO:CG	9:AI:23:VAL:HG23	2.45	0.47
9:AI:100:ILE:HD13	9:AI:137:LEU:HD12	1.96	0.47
13:AM:22:GLN:O	13:AM:24:THR:N	2.48	0.47
23:AW:18:LYS:HA	23:AW:36:ILE:HG13	1.95	0.47
27:A0:42:ILE:H	27:A0:42:ILE:HD12	1.80	0.47
32:A5:67:THR:C	32:A5:69:PHE:N	2.73	0.47
35:BA:1028:C:N4	35:BA:1034:G:C2	2.82	0.47
37:BD:150:LYS:O	37:BD:152:GLN:NE2	2.47	0.47
50:BQ:76:VAL:HG23	50:BQ:77:ARG:H	1.79	0.47
55:BV:79:TYR:CD2	55:BV:283:ILE:HD11	2.50	0.47
55:BV:557:ILE:HG21	55:BV:576:ILE:HD12	1.97	0.47
3:CA:571:U:C4	3:CA:2030:A:C6	3.03	0.47
3:CA:1124:G:H1'	31:C4:38:GLY:OXT	2.14	0.47
4:CD:110:THR:HG23	4:CD:171:THR:HG22	1.96	0.47
35:DA:401:C:OP2	37:DD:70:ARG:HD3	2.14	0.47
35:DA:1118:U:H5'	42:DI:106:ARG:HD2	1.95	0.47
35:DA:1287:A:C6	35:DA:1288:A:C6	3.02	0.47
42:DI:39:PHE:O	42:DI:41:ARG:N	2.47	0.47
3:EA:415:A:C2	3:EA:2409:G:C2	3.03	0.47
3:EA:892:A:H2'	3:EA:893:C:C5	2.50	0.47
3:EA:1607:C:H4'	3:EA:1608:A:O5'	2.14	0.47
2:EC:16:VAL:HB	2:EC:203:VAL:HG12	1.97	0.47
2:EC:28:PRO:HG2	2:EC:33:LEU:HD11	1.96	0.47
7:EG:63:GLN:O	7:EG:66:THR:OG1	2.32	0.47
9:EI:85:ILE:HD13	9:EI:98:GLY:CA	2.44	0.47
10:EJ:3:THR:HB	10:EJ:44:TYR:OH	2.15	0.47
22:EV:4:ILE:HG13	22:EV:50:MET:HE1	1.97	0.47
35:FA:401:C:OP2	37:FD:70:ARG:HD3	2.13	0.47
35:FA:521:G:C2	35:FA:522:C:C6	3.03	0.47
35:FA:1181:G:O2'	35:FA:1182:G:N7	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:FB:57:ASN:HB2	34:FB:219:THR:CG2	2.45	0.47
37:FD:100:ASN:OD1	37:FD:111:ARG:NH1	2.34	0.47
39:FF:97:THR:O	39:FF:98:GLU:HG2	2.14	0.47
45:FL:5:ASN:HB2	50:FQ:36:LYS:HE3	1.97	0.47
3:GA:181:A:H2'	3:GA:182:A:C8	2.50	0.47
3:GA:557:C:H2'	3:GA:558:U:C6	2.49	0.47
3:GA:571:U:C5	3:GA:575:A:C6	3.02	0.47
3:GA:1139:G:P	10:GJ:72:LYS:NZ	2.88	0.47
3:GA:1151:A:OP1	60:GA:3356:HOH:O	2.20	0.47
3:GA:1656:C:OP1	4:GD:141:ARG:NH1	2.39	0.47
3:GA:2139:U:O2'	3:GA:2152:G:N7	2.43	0.47
4:GD:142:VAL:HB	4:GD:143:PRO:CD	2.44	0.47
14:GN:58:ASP:OD1	14:GN:59:SER:N	2.48	0.47
17:GQ:35:PHE:CE1	17:GQ:39:ILE:HD11	2.50	0.47
30:G3:50:SER:O	30:G3:54:LEU:HD13	2.14	0.47
35:HA:1198:G:N2	43:HJ:55:PRO:HG2	2.29	0.47
37:HD:91:LEU:HA	37:HD:94:LEU:HB2	1.96	0.47
41:HH:77:ARG:NE	41:HH:79:SER:O	2.47	0.47
50:HQ:7:THR:OG1	50:HQ:8:LEU:N	2.46	0.47
1:AB:29:A:H2'	1:AB:30:C:C6	2.50	0.47
3:AA:451:U:C2	3:AA:453:A:N7	2.83	0.47
3:AA:747:U:C2'	19:AS:88:ARG:NH2	2.78	0.47
3:AA:996:A:H4'	17:AQ:91:ARG:NE	2.29	0.47
3:AA:1090:A:C2	3:AA:1102:C:H1'	2.50	0.47
3:AA:1814:G:C6	3:AA:1815:A:N6	2.82	0.47
3:AA:2889:C:N4	3:AA:2890:G:C6	2.83	0.47
4:AD:174:SER:OG	4:AD:175:LEU:N	2.46	0.47
7:AG:22:VAL:HG23	7:AG:22:VAL:O	2.14	0.47
7:AG:123:GLU:HG2	7:AG:124:CYS:N	2.30	0.47
9:AI:14:ALA:HB1	9:AI:45:THR:HG23	1.97	0.47
22:AV:80:HIS:HD2	22:AV:83:LYS:H	1.62	0.47
26:AZ:39:ASP:CG	26:AZ:44:ARG:HH11	2.23	0.47
32:A5:54:VAL:O	32:A5:55:VAL:C	2.57	0.47
34:BB:9:LEU:O	34:BB:9:LEU:HD23	2.15	0.47
34:BB:56:LEU:HD23	34:BB:220:VAL:CG1	2.44	0.47
34:BB:90:PHE:CD1	34:BB:149:GLY:HA3	2.50	0.47
41:BH:11:LEU:CD2	41:BH:75:ILE:HD11	2.45	0.47
43:BJ:6:ILE:HB	43:BJ:76:ILE:HB	1.96	0.47
43:BJ:57:VAL:HG12	43:BJ:58:ASN:N	2.28	0.47
47:BN:21:PHE:HA	47:BN:25:ALA:HB3	1.95	0.47
51:BR:22:ASP:OD1	51:BR:24:LYS:NZ	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BV:453:SER:O	55:BV:455:GLN:N	2.48	0.47
55:BV:698:VAL:O	55:BV:699:ILE:HD12	2.15	0.47
3:CA:118:A:OP2	60:CA:3804:HOH:O	2.20	0.47
3:CA:684:G:C2	3:CA:794:A:C2	3.03	0.47
3:CA:907:G:C6	3:CA:908:C:C4	3.03	0.47
3:CA:983:A:N6	3:CA:984:A:C2	2.82	0.47
3:CA:1182:G:H2'	3:CA:1183:U:O4'	2.15	0.47
3:CA:1486:U:H2'	3:CA:1487:U:C6	2.50	0.47
3:CA:1654:A:H2'	3:CA:1655:A:H8	1.79	0.47
3:CA:2006:C:N4	60:CA:3779:HOH:O	2.47	0.47
3:CA:2547:A:C8	3:CA:2566:A:C8	3.03	0.47
3:CA:2854:G:C6	3:CA:2855:C:C4	3.02	0.47
4:CD:178:VAL:N	4:CD:188:LEU:O	2.45	0.47
5:CE:154:ASP:OD1	5:CE:154:ASP:N	2.47	0.47
14:CN:94:TYR:N	14:CN:94:TYR:CD1	2.83	0.47
21:CU:64:ILE:HG12	21:CU:65:GLN:N	2.30	0.47
29:C2:44:VAL:HG12	29:C2:44:VAL:O	2.15	0.47
32:C5:60:LEU:O	32:C5:64:VAL:HB	2.14	0.47
35:DA:207:C:H2'	35:DA:208:U:C5	2.50	0.47
35:DA:264:C:N4	35:DA:265:G:C6	2.82	0.47
35:DA:872:A:C5	35:DA:874:G:C8	3.02	0.47
35:DA:957:U:H1'	35:DA:960:U:C4	2.50	0.47
35:DA:972:C:P	43:DJ:59:LYS:HD3	2.55	0.47
35:DA:976:G:H2'	35:DA:1362:A:C2	2.48	0.47
35:DA:1225:A:C2	35:DA:1226:C:C4	3.02	0.47
35:DA:1315:U:O2'	35:DA:1360:A:N3	2.34	0.47
35:DA:1356:G:H2'	35:DA:1357:A:C8	2.50	0.47
37:DD:30:THR:HG22	37:DD:31:LYS:H	1.79	0.47
39:DF:97:THR:C	39:DF:98:GLU:HG2	2.40	0.47
43:DJ:32:THR:HG23	43:DJ:83:THR:HA	1.96	0.47
46:DM:78:LYS:O	46:DM:82:ASP:N	2.47	0.47
48:DO:29:VAL:HG12	48:DO:85:LEU:CD2	2.44	0.47
49:DP:19:VAL:HG12	49:DP:37:GLY:C	2.39	0.47
50:DQ:14:SER:HB3	50:DQ:22:VAL:CG1	2.45	0.47
56:DW:5:UAL:O	56:DW:6:5OH:NP	2.47	0.47
3:EA:511:U:OP2	60:EA:3761:HOH:O	2.20	0.47
3:EA:929:U:H4'	26:EZ:37:ARG:HH12	1.80	0.47
3:EA:1198:U:O3'	17:EQ:4:LYS:HE3	2.15	0.47
3:EA:2053:G:H1	3:EA:2616:C:H42	1.62	0.47
3:EA:2291:U:OP1	3:EA:2380:C:O2'	2.29	0.47
3:EA:2330:G:O2'	23:EW:38:ARG:O	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:EE:79:ARG:O	5:EE:80:SER:C	2.57	0.47
7:EG:162:ARG:CZ	7:EG:168:VAL:HG21	2.45	0.47
11:EK:98:ARG:HA	11:EK:118:LEU:CD2	2.45	0.47
18:ER:64:VAL:N	18:ER:95:ASP:O	2.44	0.47
18:ER:80:ARG:C	18:ER:81:LYS:HD3	2.40	0.47
21:EU:1:ALA:HB1	21:EU:84:PHE:CE2	2.49	0.47
23:EW:46:ALA:HB3	23:EW:79:ILE:O	2.14	0.47
32:E5:88:HIS:HB3	32:E5:89:PRO:HD3	1.96	0.47
32:E5:142:THR:OG1	32:E5:143:MET:N	2.48	0.47
35:FA:16:A:C6	35:FA:17:U:C5	3.03	0.47
35:FA:972:C:P	43:FJ:59:LYS:HD3	2.55	0.47
35:FA:1142:G:C6	35:FA:1143:G:H1'	2.50	0.47
41:FH:80:ARG:CZ	41:FH:83:LEU:HD13	2.44	0.47
49:FP:22:ALA:HA	49:FP:33:ILE:HG13	1.95	0.47
55:FV:105:VAL:HG23	55:FV:106:LEU:N	2.30	0.47
3:GA:12:U:O2	3:GA:12:U:H2'	2.15	0.47
3:GA:126:A:C4	29:G2:18:PHE:CD2	3.02	0.47
3:GA:175:G:H2'	3:GA:176:A:O4'	2.15	0.47
3:GA:629:G:H5"	3:GA:650:C:O2'	2.14	0.47
3:GA:644:A:H2'	3:GA:645:C:O4'	2.15	0.47
3:GA:954:G:H4'	13:GM:13:HIS:CE1	2.50	0.47
3:GA:1022:G:C5	3:GA:1140:C:N4	2.83	0.47
3:GA:1060:U:OP1	9:GI:75:ALA:HB2	2.15	0.47
3:GA:1181:U:H2'	3:GA:1182:G:H8	1.79	0.47
3:GA:1794:A:H2'	3:GA:1795:C:C6	2.50	0.47
3:GA:2199:A:H3'	3:GA:2200:C:C6	2.50	0.47
3:GA:2211:A:H5"	3:GA:2211:A:N3	2.30	0.47
3:GA:2455:G:C6	3:GA:2456:C:N4	2.82	0.47
3:GA:2502:G:H5'	3:GA:2503:A:H5"	1.97	0.47
3:GA:2526:G:C6	3:GA:2527:C:C4	3.03	0.47
3:GA:2687:U:H2'	3:GA:2688:G:O4'	2.14	0.47
3:GA:2800:A:H3'	3:GA:2801:G:H5"	1.96	0.47
5:GE:178:VAL:O	5:GE:182:ALA:N	2.47	0.47
7:GG:84:LYS:HG2	7:GG:85:LYS:N	2.30	0.47
8:GH:40:THR:C	8:GH:42:LYS:H	2.23	0.47
9:GI:11:GLN:NE2	9:GI:55:PRO:HA	2.29	0.47
16:GP:102:ARG:O	16:GP:103:THR:HG22	2.15	0.47
29:G2:43:THR:O	29:G2:44:VAL:C	2.58	0.47
31:G4:36:ARG:CG	31:G4:37:GLN:N	2.78	0.47
35:HA:111:G:C6	35:HA:330:C:N4	2.83	0.47
35:HA:1025:U:H5"	35:HA:1026:G:H5'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:1216:A:H2'	35:HA:1217:C:C6	2.50	0.47
35:HA:1258:G:H2'	35:HA:1259:C:C6	2.50	0.47
34:HB:100:LEU:HB3	34:HB:174:GLU:CG	2.45	0.47
36:HC:106:VAL:HG23	36:HC:106:VAL:O	2.15	0.47
37:HD:26:ARG:HH11	37:HD:31:LYS:HE2	1.79	0.47
38:HE:104:GLY:HA2	38:HE:122:ASN:HA	1.97	0.47
38:HE:111:MET:CE	38:HE:125:ALA:HB1	2.44	0.47
39:HF:73:GLU:O	39:HF:76:THR:OG1	2.29	0.47
44:HK:75:LYS:C	44:HK:78:GLY:H	2.23	0.47
46:HM:3:ARG:HA	46:HM:10:PRO:CD	2.45	0.47
50:HQ:27:ARG:HG2	50:HQ:40:ARG:O	2.14	0.47
55:HV:93:VAL:HG11	55:HV:671:ARG:NH2	2.29	0.47
3:AA:478:A:C6	3:AA:480:A:C6	3.03	0.47
3:AA:479:A:H4'	3:AA:480:A:OP1	2.15	0.47
3:AA:947:A:O2'	3:AA:984:A:H2	1.98	0.47
3:AA:1939:U:O2	3:AA:1967:C:H4'	2.15	0.47
3:AA:1958:C:OP1	60:AA:3722:HOH:O	2.20	0.47
3:AA:2425:A:C5'	3:AA:2427:C:O4'	2.62	0.47
7:AG:104:LEU:HB2	7:AG:112:VAL:HG21	1.96	0.47
10:AJ:84:ILE:O	10:AJ:84:ILE:HG23	2.15	0.47
12:AL:23:ILE:HD12	18:AR:84:ARG:CZ	2.45	0.47
13:AM:12:MET:HE3	13:AM:71:LYS:HG3	1.95	0.47
37:BD:11:LEU:HG	37:BD:63:ARG:NH1	2.29	0.47
45:BL:99:ARG:HB2	45:BL:117:TYR:HA	1.96	0.47
3:CA:118:A:C8	3:CA:119:A:C8	3.03	0.47
3:CA:123:G:N2	3:CA:129:C:C2	2.83	0.47
3:CA:284:U:H2'	3:CA:285:G:C8	2.50	0.47
3:CA:635:C:O2'	3:CA:639:U:OP1	2.33	0.47
3:CA:780:G:H21	3:CA:783:A:H62	1.63	0.47
3:CA:1206:G:C6	3:CA:1207:C:C4	3.03	0.47
3:CA:1638:C:H4'	3:CA:2710:C:O2	2.13	0.47
3:CA:2529:G:OP1	7:CG:171:LYS:NZ	2.46	0.47
3:CA:2548:U:O2	11:CK:23:LYS:NZ	2.48	0.47
7:CG:101:VAL:HG12	7:CG:115:GLN:HA	1.96	0.47
15:CO:36:TYR:CD1	15:CO:36:TYR:N	2.83	0.47
32:C5:2:ALA:CB	32:C5:6:GLN:CD	2.88	0.47
32:C5:88:HIS:CB	32:C5:89:PRO:HD3	2.43	0.47
35:DA:481:G:H5"	35:DA:481:G:C8	2.50	0.47
40:DG:80:VAL:HB	40:DG:85:TYR:CD2	2.49	0.47
42:DI:49:ARG:O	42:DI:52:LEU:N	2.47	0.47
44:DK:128:ARG:CG	54:DU:34:ARG:NH2	2.77	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:183:C:N4	3:EA:213:A:H61	2.12	0.47
3:EA:587:C:O2'	12:EL:19:LEU:HD22	2.15	0.47
3:EA:855:G:N3	23:EW:23:LYS:HE3	2.29	0.47
1:EB:24:G:C6	1:EB:56:G:C2	3.03	0.47
4:ED:73:VAL:HG23	4:ED:74:GLU:H	1.80	0.47
10:EJ:44:TYR:HA	17:EQ:59:LEU:CD2	2.44	0.47
15:EO:34:HIS:CD2	15:EO:54:VAL:HG23	2.50	0.47
27:E0:24:VAL:O	27:E0:25:THR:OG1	2.28	0.47
32:E5:59:LEU:HD23	32:E5:62:ARG:NE	2.30	0.47
35:FA:1331:G:O2'	35:FA:1332:A:OP2	2.27	0.47
39:FF:1:MET:HE2	39:FF:67:PRO:HD3	1.95	0.47
47:FN:41:ARG:HG3	47:FN:42:TRP:CE3	2.50	0.47
51:FR:22:ASP:OD1	51:FR:24:LYS:HE3	2.15	0.47
3:GA:1288:G:C4	3:GA:1327:A:C2	3.03	0.47
3:GA:1403:A:H2'	3:GA:1404:C:C6	2.50	0.47
3:GA:2276:G:N3	3:GA:2277:G:C8	2.83	0.47
7:GG:32:LEU:N	7:GG:32:LEU:CD1	2.78	0.47
9:GI:83:ALA:HB2	9:GI:105:LEU:CD2	2.45	0.47
12:GL:81:ASP:O	12:GL:83:ALA:N	2.42	0.47
13:GM:34:LYS:HD3	22:GV:82:TYR:HA	1.97	0.47
19:GS:7:HIS:HB2	19:GS:50:VAL:HG22	1.96	0.47
19:GS:13:SER:O	19:GS:14:ALA:CB	2.63	0.47
23:GW:17:ALA:O	23:GW:18:LYS:HB2	2.15	0.47
23:GW:33:GLY:O	23:GW:34:SER:HB3	2.15	0.47
35:HA:374:A:H5"	35:HA:452:A:C2	2.49	0.47
35:HA:716:A:C6	35:HA:717:U:N3	2.83	0.47
35:HA:1171:A:H2'	35:HA:1172:C:C6	2.50	0.47
35:HA:1377:A:N6	40:HG:7:ILE:HD11	2.29	0.47
37:HD:168:PRO:HB2	37:HD:171:LEU:HG	1.97	0.47
39:HF:92:THR:HG22	39:HF:93:LYS:N	2.30	0.47
55:HV:177:GLU:OE1	55:HV:177:GLU:N	2.44	0.47
3:AA:856:G:O2'	23:AW:22:VAL:HG23	2.14	0.47
3:AA:2355:G:H4'	23:AW:20:LEU:CD1	2.44	0.47
4:AD:169:ARG:O	4:AD:170:VAL:HG13	2.15	0.47
9:AI:116:MET:SD	9:AI:124:MET:HE3	2.55	0.47
10:AJ:12:LYS:O	10:AJ:13:ARG:HB2	2.15	0.47
23:AW:72:GLY:N	23:AW:73:PRO:CD	2.78	0.47
32:A5:77:VAL:C	32:A5:79:PRO:CD	2.83	0.47
34:BB:16:GLY:HA3	34:BB:40:ILE:HG23	1.97	0.47
35:BA:235:C:H2'	35:BA:236:A:C8	2.50	0.47
35:BA:972:C:P	43:BJ:59:LYS:HD3	2.55	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BD:139:PRO:HB3	37:BD:184:ARG:HA	1.96	0.47
42:BI:84:THR:HG21	42:BI:103:PHE:CB	2.45	0.47
3:CA:518:G:H2'	3:CA:519:U:C6	2.50	0.47
3:CA:686:U:H2'	3:CA:788:A:N1	2.30	0.47
3:CA:923:G:O2'	23:CW:24:ARG:O	2.29	0.47
3:CA:975:A:C2	3:CA:990:A:C8	3.02	0.47
3:CA:1061:U:H1'	3:CA:1070:A:O4'	2.14	0.47
3:CA:1090:A:C2	3:CA:1102:C:H1'	2.50	0.47
3:CA:1252:G:N3	3:CA:1253:A:C2	2.83	0.47
3:CA:1439:A:C2	3:CA:1553:A:C5	3.03	0.47
3:CA:1731:G:N3	3:CA:1733:G:N7	2.63	0.47
3:CA:2375:G:O2'	3:CA:2377:A:N7	2.44	0.47
3:CA:2583:G:OP2	60:CA:3696:HOH:O	2.20	0.47
11:CK:5:GLN:O	11:CK:6:THR:HB	2.15	0.47
13:CM:2:LEU:HD12	13:CM:69:PRO:HD2	1.96	0.47
14:CN:73:ASN:HA	14:CN:76:VAL:HG12	1.97	0.47
35:DA:724:G:C2	35:DA:725:G:C8	3.03	0.47
34:DB:98:GLY:HA2	34:DB:101:THR:HG22	1.97	0.47
36:DC:6:HIS:ND1	47:DN:89:MET:HB3	2.29	0.47
36:DC:22:TRP:HB3	36:DC:59:ARG:H	1.80	0.47
36:DC:151:VAL:HG12	36:DC:200:VAL:HG13	1.95	0.47
3:EA:460:A:C2	3:EA:470:A:C4	3.02	0.47
3:EA:1582:C:O2'	3:EA:1585:C:N3	2.44	0.47
3:EA:1869:G:N2	3:EA:1871:A:H8	2.13	0.47
3:EA:2063:C:O2	3:EA:2450:A:N1	2.48	0.47
3:EA:2340:A:H5'	1:EB:41:G:N2	2.30	0.47
3:EA:2557:G:H2'	3:EA:2558:C:C6	2.49	0.47
2:EC:172:THR:HG22	2:EC:182:LYS:HG2	1.95	0.47
7:EG:102:ILE:HG13	7:EG:116:LEU:HD11	1.96	0.47
7:EG:104:LEU:HB2	7:EG:112:VAL:CG2	2.45	0.47
12:EL:62:PRO:HG2	30:E3:24:LYS:HB3	1.96	0.47
14:EN:85:PRO:HA	14:EN:88:ALA:HB2	1.97	0.47
14:EN:117:ASP:CG	14:EN:118:ARG:H	2.22	0.47
32:E5:39:THR:HA	32:E5:42:ARG:CD	2.45	0.47
35:FA:1348:U:H4'	42:FI:122:ARG:HG3	1.96	0.47
39:FF:15:SER:OG	39:FF:58:HIS:ND1	2.46	0.47
54:FU:25:LYS:O	54:FU:27:GLY:N	2.48	0.47
55:FV:494:ILE:HD11	55:FV:524:PRO:N	2.30	0.47
1:GB:78:A:OP2	22:GV:14:LYS:NZ	2.43	0.47
3:GA:144:A:O4'	20:GT:3:ARG:NH1	2.46	0.47
3:GA:683:U:O3'	29:G2:21:ARG:NH1	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:817:C:C4	3:GA:818:G:C5	3.02	0.47
3:GA:2185:U:H2'	3:GA:2186:G:C8	2.50	0.47
3:GA:2547:A:C2	3:GA:2562:U:C2	3.03	0.47
5:GE:46:GLN:HB3	5:GE:86:ALA:HB1	1.97	0.47
6:GF:131:VAL:HG22	6:GF:151:LEU:H	1.80	0.47
15:GO:49:VAL:HG12	15:GO:50:ALA:N	2.30	0.47
17:GQ:86:SER:O	17:GQ:87:VAL:C	2.58	0.47
19:GS:63:GLY:O	19:GS:64:ALA:CB	2.62	0.47
21:GU:3:LYS:HD3	21:GU:82:VAL:HB	1.97	0.47
30:G3:31:ILE:CD1	30:G3:31:ILE:C	2.88	0.47
35:HA:792:A:H4'	35:HA:793:U:O5'	2.15	0.47
35:HA:1014:A:N7	35:HA:1015:G:C6	2.83	0.47
35:HA:1223:C:P	52:HS:78:ARG:NH1	2.88	0.47
35:HA:1327:C:N4	35:HA:1328:C:H41	2.13	0.47
34:HB:49:PHE:CD1	34:HB:49:PHE:C	2.93	0.47
36:HC:2:GLY:C	36:HC:3:GLN:HG3	2.40	0.47
37:HD:9:LEU:HD21	37:HD:22:LYS:HG3	1.97	0.47
52:HS:51:VAL:HG12	52:HS:52:HIS:N	2.30	0.47
55:HV:320:LEU:HD23	55:HV:321:ALA:N	2.30	0.47
2:AC:246:PRO:HG2	2:AC:247:TRP:CZ3	2.50	0.47
3:AA:419:U:H2'	3:AA:420:C:C6	2.50	0.47
3:AA:983:A:N6	3:AA:984:A:C2	2.82	0.47
3:AA:1198:U:O3'	17:AQ:4:LYS:HE3	2.15	0.47
6:AF:10:GLU:O	6:AF:12:VAL:N	2.44	0.47
17:AQ:63:ARG:HH22	17:AQ:96:ASP:N	2.12	0.47
34:BB:88:GLN:HE22	34:BB:220:VAL:CG2	2.27	0.47
35:BA:692:U:O2'	35:BA:694:A:N7	2.46	0.47
35:BA:937:A:OP2	60:BA:1772:HOH:O	2.20	0.47
35:BA:1468:A:C2'	35:BA:1469:C:C5'	2.93	0.47
36:BC:42:TYR:CD2	36:BC:43:LEU:HD12	2.50	0.47
40:BG:4:ARG:O	40:BG:6:VAL:N	2.47	0.47
45:BL:33:VAL:HG23	45:BL:56:ARG:HB3	1.96	0.47
47:BN:20:TYR:HB2	47:BN:55:SER:OG	2.15	0.47
47:BN:33:ASP:O	47:BN:41:ARG:NE	2.48	0.47
55:BV:105:VAL:HG23	55:BV:106:LEU:N	2.30	0.47
1:CB:58:A:N7	1:CB:59:A:N7	2.63	0.47
3:CA:191:A:O2'	3:CA:678:C:O2	2.31	0.47
3:CA:2233:U:H2'	3:CA:2234:G:C8	2.50	0.47
10:CJ:64:VAL:HG13	10:CJ:65:THR:N	2.30	0.47
13:CM:13:HIS:O	13:CM:14:LYS:HB2	2.15	0.47
16:CP:28:LYS:HD3	16:CP:39:LEU:HD23	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CP:50:ARG:CB	16:CP:57:ALA:H	2.25	0.47
17:CQ:91:ARG:HD3	18:CR:11:GLN:HB2	1.97	0.47
17:CQ:97:ILE:C	17:CQ:97:ILE:HD12	2.40	0.47
23:CW:35:ILE:O	23:CW:36:ILE:C	2.58	0.47
23:CW:49:ASN:OD1	23:CW:80:SER:HA	2.14	0.47
24:CX:6:VAL:HG12	24:CX:50:VAL:HG22	1.97	0.47
32:C5:129:LEU:CB	32:C5:130:PRO:HD2	2.44	0.47
35:DA:322:C:H5	35:DA:328:C:C5	2.33	0.47
35:DA:674:G:H21	44:DK:118:HIS:HB2	1.79	0.47
35:DA:789:U:O2'	35:DA:791:G:N7	2.39	0.47
35:DA:866:C:H4'	35:DA:919:A:H5'	1.97	0.47
35:DA:1090:U:H2'	35:DA:1091:U:C6	2.50	0.47
35:DA:1118:U:C5'	42:DI:106:ARG:HD2	2.44	0.47
37:DD:30:THR:C	37:DD:31:LYS:HD2	2.40	0.47
45:DL:25:GLU:O	45:DL:26:ALA:C	2.58	0.47
50:DQ:39:LYS:O	50:DQ:40:ARG:HD3	2.15	0.47
55:DV:553:VAL:HG23	55:DV:597:ALA:HB2	1.97	0.47
3:EA:864:G:O6	60:EA:3721:HOH:O	2.18	0.47
3:EA:1172:C:N4	3:EA:1173:U:O2	2.48	0.47
23:EW:29:SER:OG	23:EW:30:VAL:HG12	2.15	0.47
35:FA:739:C:OP1	39:FF:68:GLN:NE2	2.45	0.47
34:FB:46:VAL:HB	34:FB:47:PRO:HD3	1.96	0.47
36:FC:14:ILE:O	36:FC:15:VAL:HG22	2.15	0.47
3:GA:278:A:H2'	3:GA:278:A:N3	2.29	0.47
3:GA:479:A:H4'	3:GA:480:A:OP1	2.15	0.47
3:GA:654:A:N3	3:GA:654:A:H3'	2.30	0.47
3:GA:819:A:N1	3:GA:820:A:C4	2.83	0.47
3:GA:901:C:H3'	3:GA:902:C:C5	2.50	0.47
3:GA:1218:G:N1	3:GA:1232:G:N7	2.62	0.47
5:GE:72:SER:C	5:GE:74:LYS:H	2.22	0.47
6:GF:134:GLN:HE21	6:GF:140:ILE:HG21	1.80	0.47
17:GQ:91:ARG:HH21	17:GQ:93:ILE:CG1	2.26	0.47
28:G1:39:ASP:O	28:G1:43:ARG:HA	2.15	0.47
29:G2:18:PHE:O	29:G2:22:MET:N	2.45	0.47
35:HA:1143:G:H2'	35:HA:1144:G:H8	1.80	0.47
35:HA:1319:A:H5"	52:HS:4:SER:HB2	1.97	0.47
35:HA:1493:A:OP2	56:HW:6:5OH:NQ	2.48	0.47
37:HD:125:VAL:O	37:HD:127:GLY:N	2.47	0.47
39:HF:61:LEU:HD22	51:HR:24:LYS:HD3	1.97	0.47
41:HH:106:THR:HG21	41:HH:121:LEU:HD22	1.97	0.47
43:HJ:6:ILE:HB	43:HJ:76:ILE:HB	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:HL:49:LEU:O	45:HL:51:LYS:NZ	2.36	0.47
47:HN:2:ALA:N	47:HN:67:THR:O	2.48	0.47
47:HN:27:LEU:HD23	47:HN:30:ILE:HB	1.97	0.47
3:AA:84:A:N1	3:AA:98:G:O2'	2.30	0.46
3:AA:517:C:OP2	27:A0:9:ARG:NH2	2.48	0.46
3:AA:523:C:H5"	3:AA:540:C:O2'	2.15	0.46
3:AA:657:U:H2'	3:AA:658:U:C6	2.50	0.46
3:AA:1509:A:C4	3:AA:1510:G:C8	3.04	0.46
9:AI:120:ASP:O	9:AI:123:ALA:N	2.46	0.46
20:AT:54:GLU:OE1	20:AT:54:GLU:N	2.48	0.46
23:AW:9:THR:CG2	23:AW:10:ARG:HD3	2.44	0.46
23:AW:28:GLU:O	23:AW:30:VAL:N	2.48	0.46
30:A3:21:PHE:O	30:A3:22:LYS:O	2.33	0.46
35:BA:1060:U:C5	36:BC:2:GLY:HA3	2.50	0.46
44:BK:112:ASP:CB	54:BU:20:LYS:HE3	2.46	0.46
55:BV:19:ILE:CD1	55:BV:92:HIS:H	2.28	0.46
3:CA:172:A:H2'	3:CA:173:A:C8	2.50	0.46
3:CA:1063:G:H2'	3:CA:1064:C:O4'	2.15	0.46
3:CA:1387:A:H5'	3:CA:1469:A:H1'	1.96	0.46
3:CA:1779:U:C5	3:CA:1784:A:N7	2.83	0.46
3:CA:2844:G:C2'	3:CA:2845:U:H5'	2.45	0.46
16:CP:51:ASN:C	16:CP:52:ARG:HG2	2.41	0.46
35:DA:421:U:H5'	35:DA:422:C:C5	2.49	0.46
38:DE:45:ARG:HA	38:DE:72:ILE:O	2.15	0.46
38:DE:155:ALA:HB1	41:DH:66:PHE:CZ	2.50	0.46
39:DF:3:HIS:CD2	39:DF:94:HIS:HA	2.50	0.46
39:DF:51:ILE:HG23	39:DF:85:ILE:HD12	1.97	0.46
40:DG:62:PHE:O	40:DG:66:LEU:N	2.42	0.46
40:DG:140:ASP:O	40:DG:143:ARG:HB3	2.15	0.46
49:DP:56:ARG:NH2	49:DP:59:HIS:CE1	2.84	0.46
53:DT:67:ILE:HD11	53:DT:71:LYS:CE	2.45	0.46
55:DV:691:PRO:O	55:DV:694:VAL:HB	2.15	0.46
3:EA:138:U:H5'	3:EA:139:U:H5"	1.97	0.46
3:EA:485:C:C2	3:EA:496:G:C2	3.03	0.46
3:EA:2547:A:H2'	3:EA:2548:U:C6	2.50	0.46
3:EA:2747:G:O2'	7:EG:66:THR:HG22	2.14	0.46
3:EA:2823:A:C5	3:EA:2824:C:C5	3.03	0.46
3:EA:2880:C:H1'	14:EN:92:GLY:H	1.80	0.46
2:EC:140:VAL:HA	2:EC:190:THR:O	2.15	0.46
6:EF:79:ARG:O	6:EF:82:TYR:HB2	2.14	0.46
11:EK:7:MET:C	11:EK:8:LEU:HD22	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:EM:46:ILE:HD12	13:EM:47:GLU:N	2.29	0.46
17:EQ:4:LYS:NZ	17:EQ:7:VAL:HG22	2.30	0.46
20:ET:54:GLU:CG	20:ET:88:LYS:HB2	2.46	0.46
21:EU:85:ARG:HD2	21:EU:87:GLU:N	2.30	0.46
32:E5:93:ALA:CA	32:E5:130:PRO:HG2	2.44	0.46
35:FA:204:G:H3'	35:FA:205:A:C5'	2.45	0.46
35:FA:977:A:O2'	35:FA:979:C:OP2	2.24	0.46
37:FD:22:LYS:C	37:FD:24:GLY:H	2.21	0.46
37:FD:139:PRO:HA	37:FD:182:PHE:HD2	1.81	0.46
39:FF:92:THR:HG22	39:FF:93:LYS:N	2.31	0.46
46:FM:49:SER:O	46:FM:53:ILE:N	2.45	0.46
54:FU:4:ILE:HD13	54:FU:20:LYS:NZ	2.30	0.46
54:FU:12:PHE:CD2	54:FU:16:LEU:HD11	2.50	0.46
54:FU:20:LYS:C	54:FU:22:SER:H	2.23	0.46
55:FV:663:MET:HG2	55:FV:682:MET:SD	2.55	0.46
1:GB:13:G:H2'	1:GB:69:G:N2	2.30	0.46
3:GA:32:C:N4	3:GA:446:G:O2'	2.47	0.46
3:GA:783:A:H2'	3:GA:784:G:H4'	1.97	0.46
3:GA:1050:A:C2	3:GA:2751:G:C5	3.03	0.46
3:GA:1092:C:C2'	3:GA:1093:G:H5'	2.45	0.46
3:GA:1805:A:N3	2:GC:49:THR:OG1	2.48	0.46
3:GA:2571:U:O2'	4:GD:151:THR:CG2	2.63	0.46
5:GE:108:ILE:HD11	5:GE:180:LEU:HB3	1.95	0.46
6:GF:133:GLU:HG3	6:GF:148:VAL:HB	1.96	0.46
9:GI:4:VAL:HG13	9:GI:7:TYR:CE1	2.50	0.46
9:GI:14:ALA:HB2	9:GI:54:ILE:HD12	1.97	0.46
13:GM:20:LEU:N	13:GM:20:LEU:HD22	2.30	0.46
20:GT:55:VAL:HA	20:GT:87:LEU:HA	1.97	0.46
35:HA:526:C:OP2	45:HL:88:LYS:NZ	2.42	0.46
35:HA:658:C:O4'	48:HO:22:THR:OG1	2.31	0.46
36:HC:36:ASP:OD1	36:HC:59:ARG:NH1	2.46	0.46
40:HG:75:VAL:HA	40:HG:88:PRO:HA	1.97	0.46
40:HG:143:ARG:HD2	44:HK:52:PHE:HZ	1.79	0.46
41:HH:10:MET:CE	41:HH:33:LYS:HA	2.45	0.46
2:AC:67:LYS:HG2	2:AC:150:GLY:HA2	1.97	0.46
2:AC:175:LEU:HD23	3:AA:1799:G:C5	2.49	0.46
3:AA:747:U:H2'	19:AS:88:ARG:NH2	2.30	0.46
6:AF:131:VAL:HG22	6:AF:151:LEU:H	1.80	0.46
17:AQ:91:ARG:HH21	17:AQ:93:ILE:HD13	1.80	0.46
18:AR:64:VAL:HG21	18:AR:97:LYS:HB2	1.97	0.46
32:A5:60:LEU:HD23	32:A5:78:GLY:HA3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BB:32:GLY:O	34:BB:33:ALA:CB	2.64	0.46
34:BB:101:THR:HG21	35:BA:1101:A:H61	1.80	0.46
41:BH:112:THR:HG22	41:BH:114:ARG:H	1.80	0.46
42:BI:57:MET:SD	42:BI:58:VAL:CA	3.03	0.46
3:CA:2134:A:H2'	3:CA:2135:A:C8	2.49	0.46
3:CA:2698:U:H2'	3:CA:2699:C:C6	2.51	0.46
3:CA:2897:U:H2'	3:CA:2898:U:C6	2.50	0.46
2:CC:80:LEU:HD11	2:CC:109:LEU:HD13	1.96	0.46
6:CF:79:ARG:HB3	6:CF:82:TYR:CE2	2.50	0.46
17:CQ:63:ARG:HH12	17:CQ:96:ASP:CA	2.28	0.46
18:CR:49:ILE:HG22	18:CR:53:PHE:C	2.41	0.46
28:C1:16:THR:HB	28:C1:41:VAL:HG11	1.97	0.46
32:C5:136:ILE:H	32:C5:136:ILE:HD12	1.80	0.46
35:DA:322:C:H41	35:DA:328:C:H6	1.63	0.46
35:DA:721:G:H4'	35:DA:722:G:O4'	2.16	0.46
35:DA:920:U:H2'	35:DA:921:U:C6	2.51	0.46
35:DA:1266:G:N2	35:DA:1269:A:OP2	2.39	0.46
34:DB:23:ASN:ND2	34:DB:190:SER:O	2.49	0.46
37:DD:44:ARG:O	37:DD:46:PRO:HD3	2.15	0.46
45:DL:38:TYR:HB2	45:DL:52:VAL:HG23	1.97	0.46
55:DV:9:ARG:NH1	55:DV:80:GLU:HG3	2.30	0.46
3:EA:2230:G:O3'	24:EX:29:LEU:HD23	2.15	0.46
3:EA:2352:A:C6	3:EA:2366:A:C4	3.03	0.46
2:EC:93:VAL:CG1	2:EC:94:LEU:N	2.78	0.46
6:EF:121:PHE:CE1	6:EF:127:TYR:HD1	2.33	0.46
19:ES:2:GLU:HA	19:ES:108:SER:HB3	1.98	0.46
32:E5:116:GLU:CG	32:E5:117:LEU:H	2.26	0.46
35:FA:159:G:N1	35:FA:163:C:N4	2.63	0.46
35:FA:1000:A:H2'	35:FA:1001:C:C6	2.50	0.46
44:FK:16:VAL:CG1	44:FK:79:ILE:HG12	2.45	0.46
45:FL:76:GLU:HG3	55:FV:454:ASN:HB2	1.98	0.46
48:FO:4:SER:O	48:FO:7:ALA:N	2.48	0.46
55:FV:290:VAL:C	55:FV:292:VAL:H	2.23	0.46
3:GA:126:A:C5	29:G2:18:PHE:CD2	3.03	0.46
3:GA:242:G:H5"	30:G3:63:TYR:CE2	2.50	0.46
3:GA:563:A:C6	3:GA:2018:G:C4	3.03	0.46
3:GA:1778:U:H2'	3:GA:1784:A:N6	2.30	0.46
3:GA:1792:G:O2'	3:GA:1830:C:OP1	2.30	0.46
3:GA:2134:A:HO2'	3:GA:2135:A:H8	1.63	0.46
3:GA:2297:A:N1	3:GA:2321:U:C5	2.83	0.46
3:GA:2349:G:OP1	30:G3:44:ARG:NH2	2.40	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:2448:A:OP1	60:GA:3677:HOH:O	2.20	0.46
3:GA:2636:C:H2'	3:GA:2637:U:C6	2.49	0.46
2:GC:114:GLN:O	2:GC:124:LYS:NZ	2.42	0.46
17:GQ:85:ALA:HA	17:GQ:115:ALA:HB2	1.96	0.46
23:GW:30:VAL:HA	23:GW:60:ALA:HB3	1.97	0.46
26:GZ:8:GLN:C	26:GZ:10:ARG:H	2.23	0.46
28:G1:37:LYS:HB2	28:G1:48:TYR:CD1	2.50	0.46
35:HA:181:A:H1'	35:HA:194:C:N4	2.29	0.46
35:HA:1028:C:C2	35:HA:1034:G:H1'	2.50	0.46
35:HA:1221:G:H4'	52:HS:77:THR:HG21	1.96	0.46
34:HB:118:THR:O	34:HB:119:GLN:HB2	2.15	0.46
37:HD:124:MET:HA	37:HD:129:VAL:HA	1.96	0.46
48:HO:3:LEU:HB3	48:HO:8:THR:HG22	1.97	0.46
1:AB:51:G:OP2	15:AO:64:TYR:HD2	1.98	0.46
4:AD:148:GLN:HB2	4:AD:152:PRO:HG2	1.96	0.46
13:AM:46:ILE:HD13	13:AM:47:GLU:N	2.30	0.46
15:AO:15:ARG:NE	15:AO:93:ASP:OD2	2.44	0.46
18:AR:68:ARG:HD3	18:AR:92:TRP:CE2	2.50	0.46
21:AU:38:ILE:CG2	21:AU:39:ASN:H	2.28	0.46
25:AY:56:LEU:O	25:AY:57:LEU:HB3	2.14	0.46
32:A5:54:VAL:HG22	32:A5:83:ALA:HB1	1.97	0.46
32:A5:127:ALA:O	32:A5:129:LEU:N	2.48	0.46
35:BA:77:A:H2	35:BA:92:U:C2	2.33	0.46
41:BH:111:MET:HE2	41:BH:115:ALA:C	2.40	0.46
42:BI:34:SER:HB3	42:BI:37:GLN:HG2	1.97	0.46
1:CB:81:G:C6	1:CB:82:U:C4	3.04	0.46
3:CA:341:C:H2'	3:CA:342:A:O4'	2.15	0.46
3:CA:709:U:H2'	3:CA:710:U:O4'	2.15	0.46
3:CA:1609:A:C2	3:CA:1616:A:C8	3.04	0.46
3:CA:1731:G:N2	3:CA:1734:G:C6	2.84	0.46
3:CA:2364:C:H4'	23:CW:55:ASP:OD1	2.15	0.46
3:CA:2376:A:H2'	3:CA:2377:A:O4'	2.15	0.46
12:CL:81:ASP:C	12:CL:82:LEU:HD13	2.41	0.46
15:CO:106:LEU:C	15:CO:106:LEU:HD12	2.40	0.46
15:CO:110:ALA:HA	15:CO:113:ALA:HB3	1.97	0.46
35:DA:945:G:C6	35:DA:1337:G:C5	3.04	0.46
35:DA:1284:C:C6	35:DA:1285:A:C8	3.02	0.46
35:DA:1299:A:N3	35:DA:1299:A:H2'	2.31	0.46
37:DD:36:GLN:O	37:DD:36:GLN:HG2	2.15	0.46
37:DD:62:ARG:HH21	37:DD:68:LEU:HA	1.81	0.46
38:DE:83:HIS:CG	41:DH:96:MET:CE	2.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:DF:90:MET:HE1	51:DR:23:TYR:CE2	2.50	0.46
45:DL:7:LEU:HD23	50:DQ:34:TYR:CE1	2.50	0.46
55:DV:310:HIS:O	55:DV:312:SER:N	2.48	0.46
3:EA:923:G:H1'	23:EW:23:LYS:CD	2.43	0.46
3:EA:1474:U:C4	3:EA:1475:G:N1	2.83	0.46
3:EA:1727:C:H2'	3:EA:1728:C:O4'	2.14	0.46
3:EA:2636:C:H2'	3:EA:2637:U:C6	2.50	0.46
3:EA:2755:C:O2'	3:EA:2756:U:H2'	2.16	0.46
4:ED:70:LYS:O	4:ED:71:ALA:HB3	2.15	0.46
9:EI:14:ALA:HB2	9:EI:54:ILE:HD11	1.96	0.46
9:EI:27:LEU:HD13	9:EI:34:ILE:CD1	2.46	0.46
16:EP:112:ARG:O	16:EP:113:LEU:C	2.58	0.46
18:ER:49:ILE:HB	18:ER:51:VAL:O	2.15	0.46
23:EW:41:GLY:C	23:EW:43:LYS:N	2.72	0.46
35:FA:114:U:O2'	35:FA:115:G:H5'	2.16	0.46
35:FA:250:A:H4'	35:FA:251:G:O5'	2.15	0.46
35:FA:946:A:C2	35:FA:1236:A:C2	3.03	0.46
34:FB:70:GLY:HA2	34:FB:163:ILE:CG2	2.45	0.46
36:FC:66:VAL:HG12	36:FC:67:THR:N	2.29	0.46
37:FD:105:MET:HE2	37:FD:171:LEU:HB2	1.98	0.46
38:FE:94:VAL:HG21	38:FE:111:MET:SD	2.55	0.46
3:GA:163:C:O2'	3:GA:164:C:P	2.74	0.46
3:GA:528:A:H2'	3:GA:2042:A:N1	2.29	0.46
3:GA:602:A:N3	3:GA:655:A:C2	2.83	0.46
3:GA:690:G:O2'	3:GA:780:G:OP1	2.29	0.46
3:GA:822:G:C4	3:GA:823:C:C5	3.03	0.46
3:GA:866:A:C8	3:GA:914:G:C2	3.03	0.46
3:GA:1604:C:O2'	3:GA:1610:A:N1	2.46	0.46
3:GA:1804:C:OP1	2:GC:256:THR:OG1	2.33	0.46
3:GA:2264:C:C4	3:GA:2265:U:C4	3.04	0.46
5:GE:5:LEU:HD22	5:GE:10:SER:HB3	1.95	0.46
5:GE:128:ALA:O	5:GE:130:LYS:N	2.46	0.46
13:GM:132:THR:O	13:GM:134:THR:OG1	2.33	0.46
15:GO:39:VAL:HB	15:GO:49:VAL:HB	1.97	0.46
23:GW:40:ARG:HG3	23:GW:56:HIS:CD2	2.50	0.46
23:GW:63:ASP:OD1	23:GW:63:ASP:N	2.49	0.46
35:HA:114:U:O2'	35:HA:115:G:H5'	2.15	0.46
35:HA:451:A:C2	35:HA:480:U:C4	3.03	0.46
35:HA:539:A:N6	35:HA:540:G:O6	2.48	0.46
35:HA:588:G:H1'	41:HH:3:MET:CE	2.45	0.46
35:HA:842:U:O2'	35:HA:846:G:O6	2.33	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:878:A:H2'	35:HA:879:C:O4'	2.15	0.46
35:HA:1021:A:C2	35:HA:1022:A:N7	2.83	0.46
3:AA:1784:A:O3'	60:AA:3446:HOH:O	2.21	0.46
3:AA:2059:A:OP2	60:AA:3271:HOH:O	2.20	0.46
6:AF:39:VAL:HG13	6:AF:40:GLY:N	2.31	0.46
10:AJ:37:ARG:HA	10:AJ:118:MET:CE	2.45	0.46
14:AN:20:MET:HE1	14:AN:40:LYS:HE2	1.97	0.46
21:AU:73:ASN:HA	21:AU:95:PHE:CE2	2.50	0.46
24:AX:39:VAL:HG21	24:AX:42:GLU:HB2	1.96	0.46
32:A5:110:ALA:O	32:A5:113:PHE:N	2.46	0.46
35:BA:426:U:H5"	37:BD:37:ALA:CB	2.45	0.46
35:BA:815:A:H4'	35:BA:817:C:C4	2.50	0.46
35:BA:983:A:N3	35:BA:983:A:H2'	2.30	0.46
37:BD:30:THR:HG22	37:BD:31:LYS:HD3	1.96	0.46
37:BD:110:THR:HG23	37:BD:113:GLU:H	1.79	0.46
43:BJ:100:ILE:O	43:BJ:100:ILE:HG13	2.15	0.46
53:BT:44:LYS:HB3	53:BT:87:ALA:HB1	1.96	0.46
55:BV:244:THR:HG22	55:BV:247:GLU:CD	2.41	0.46
3:CA:443:A:C5	5:CE:40:ARG:CD	2.98	0.46
3:CA:580:U:H2'	3:CA:581:C:H6	1.80	0.46
3:CA:878:A:C2	3:CA:900:A:C4	3.03	0.46
3:CA:945:A:N7	60:CA:3262:HOH:O	2.35	0.46
3:CA:2681:C:OP2	4:CD:114:LYS:NZ	2.40	0.46
3:CA:2902:C:O2'	3:CA:2903:U:OP1	2.28	0.46
7:CG:85:LYS:HG2	7:CG:131:VAL:HB	1.97	0.46
8:CH:3:VAL:HA	8:CH:39:ALA:CB	2.46	0.46
17:CQ:94:LEU:C	17:CQ:96:ASP:N	2.72	0.46
29:C2:31:LEU:HD21	29:C2:43:THR:HG21	1.96	0.46
31:C4:1:MET:HE2	31:C4:35:GLN:C	2.41	0.46
35:DA:751:U:H2'	35:DA:751:U:O2	2.14	0.46
50:DQ:76:VAL:HG23	50:DQ:77:ARG:H	1.80	0.46
55:DV:514:GLN:HA	55:DV:587:ASP:O	2.15	0.46
55:DV:691:PRO:HB2	55:DV:694:VAL:HG23	1.97	0.46
3:EA:518:G:H4'	19:ES:18:ARG:NH1	2.31	0.46
3:EA:570:G:C4	3:EA:2030:A:N7	2.84	0.46
3:EA:742:A:H2'	3:EA:743:A:C8	2.50	0.46
3:EA:1077:A:H4'	9:EI:93:ASN:HB3	1.97	0.46
3:EA:1456:G:C6	3:EA:1457:U:C4	3.03	0.46
3:EA:2684:U:C4	3:EA:2685:G:N7	2.83	0.46
11:EK:34:GLY:O	11:EK:35:VAL:C	2.58	0.46
24:EX:68:ALA:C	24:EX:69:GLU:O	2.54	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:E5:23:LEU:HA	32:E5:118:ILE:CD1	2.45	0.46
35:FA:579:A:C2	35:FA:763:G:C2	3.03	0.46
35:FA:1526:G:OP2	54:FU:39:GLU:HG2	2.16	0.46
38:FE:95:PHE:CE1	38:FE:97:GLN:HG2	2.51	0.46
44:FK:24:HIS:CB	44:FK:31:ILE:HG13	2.45	0.46
55:FV:529:SER:OG	55:FV:532:LYS:NZ	2.22	0.46
1:GB:73:A:C5	1:GB:104:A:C2	3.03	0.46
3:GA:277:G:C2'	3:GA:278:A:OP2	2.63	0.46
3:GA:1075:C:C4	3:GA:1076:C:N4	2.84	0.46
3:GA:2018:G:C2	3:GA:2019:A:C4	3.04	0.46
3:GA:2019:A:H4'	17:GQ:33:VAL:HG21	1.97	0.46
3:GA:2345:G:O2'	3:GA:2381:A:N3	2.37	0.46
3:GA:2660:A:N7	55:HV:672:SER:HA	2.30	0.46
19:GS:76:VAL:HG12	19:GS:103:ILE:HA	1.97	0.46
20:GT:83:ALA:HB1	20:GT:85:VAL:HG23	1.98	0.46
22:GV:48:MET:HE1	22:GV:85:LYS:HA	1.98	0.46
30:G3:30:HIS:ND1	30:G3:31:ILE:HG22	2.31	0.46
31:G4:7:VAL:HG23	31:G4:8:LYS:N	2.30	0.46
35:HA:148:G:N2	35:HA:175:C:O2	2.48	0.46
35:HA:1053:G:N7	35:HA:1200:C:C5'	2.79	0.46
35:HA:1266:G:N2	35:HA:1269:A:OP2	2.48	0.46
34:HB:202:ASN:OD1	34:HB:204:ASP:N	2.48	0.46
34:HB:207:ARG:HB2	34:HB:211:LEU:HD13	1.97	0.46
36:HC:82:GLU:O	36:HC:86:LYS:N	2.43	0.46
37:HD:25:VAL:HG23	37:HD:26:ARG:H	1.80	0.46
39:HF:66:ALA:HB1	39:HF:67:PRO:HD2	1.96	0.46
42:HI:38:TYR:CD2	42:HI:39:PHE:CD2	3.03	0.46
3:AA:1057:A:C6	3:AA:1086:A:C2	3.04	0.46
3:AA:1079:C:O2	9:AI:130:GLY:HA3	2.15	0.46
3:AA:1392:A:N6	3:AA:1393:A:N6	2.63	0.46
3:AA:2144:G:H3'	3:AA:2144:G:N3	2.30	0.46
3:AA:2365:G:H4'	23:AW:59:PHE:CZ	2.51	0.46
3:AA:2649:C:H2'	3:AA:2650:U:C6	2.50	0.46
3:AA:2897:U:H2'	3:AA:2898:U:C6	2.51	0.46
9:AI:57:VAL:HG23	9:AI:71:LYS:CE	2.46	0.46
16:AP:72:VAL:O	16:AP:72:VAL:HG23	2.15	0.46
18:AR:66:HIS:CG	18:AR:94:THR:HG22	2.49	0.46
21:AU:98:ASN:O	21:AU:99:SER:C	2.59	0.46
35:BA:579:A:H2'	35:BA:580:C:H6	1.80	0.46
35:BA:675:A:H1'	44:BK:118:HIS:CD2	2.51	0.46
35:BA:1331:G:O2'	35:BA:1332:A:P	2.73	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:1494:G:O5'	56:BW:3:SER:OG	2.33	0.46
36:BC:59:ARG:HA	36:BC:64:ILE:HA	1.97	0.46
37:BD:105:MET:SD	37:BD:143:VAL:HG22	2.55	0.46
55:BV:218:TRP:N	55:BV:218:TRP:CD1	2.83	0.46
55:BV:546:PRO:HD3	55:BV:583:TYR:CE2	2.50	0.46
1:CB:116:G:H2'	1:CB:117:G:C8	2.49	0.46
3:CA:277:G:O2'	3:CA:278:A:OP2	2.29	0.46
3:CA:1360:G:OP1	60:CA:3606:HOH:O	2.21	0.46
3:CA:2015:A:C2	27:C0:2:VAL:CG2	2.98	0.46
10:CJ:39:LYS:HA	10:CJ:43:GLU:HG3	1.97	0.46
13:CM:132:THR:HG22	13:CM:133:LYS:H	1.80	0.46
22:CV:12:GLN:C	22:CV:12:GLN:CD	2.84	0.46
32:C5:110:ALA:HB1	32:C5:113:PHE:CZ	2.50	0.46
35:DA:481:G:O2'	35:DA:482:A:C8	2.65	0.46
35:DA:1179:A:H2'	35:DA:1180:A:O4'	2.16	0.46
35:DA:1305:G:H22	35:DA:1331:G:C2'	2.28	0.46
35:DA:1309:G:OP1	46:DM:87:ARG:NH2	2.48	0.46
34:DB:163:ILE:HG23	34:DB:164:ASP:N	2.31	0.46
36:DC:159:GLY:HA2	36:DC:193:TYR:CE1	2.51	0.46
37:DD:132:ILE:HG22	37:DD:134:SER:N	2.29	0.46
49:DP:32:PHE:N	49:DP:32:PHE:CD1	2.84	0.46
53:DT:30:THR:HA	53:DT:33:LYS:HG3	1.97	0.46
55:DV:219:HIS:C	55:DV:221:ASN:N	2.72	0.46
3:EA:443:A:N7	5:EE:40:ARG:HD3	2.31	0.46
3:EA:1385:A:H1'	3:EA:1386:C:C6	2.50	0.46
3:EA:2395:C:H2'	3:EA:2396:G:O4'	2.16	0.46
3:EA:2517:C:C6	3:EA:2542:A:N7	2.83	0.46
3:EA:2595:G:N2	3:EA:2598:A:OP2	2.44	0.46
2:EC:68:ARG:O	2:EC:188:ARG:NH2	2.48	0.46
6:EF:131:VAL:HG21	6:EF:151:LEU:HG	1.98	0.46
8:EH:21:VAL:CG2	8:EH:25:TYR:CD2	2.98	0.46
8:EH:25:TYR:HE1	8:EH:29:PHE:HD2	1.62	0.46
11:EK:19:VAL:CG1	11:EK:41:ILE:HG12	2.45	0.46
11:EK:104:THR:HB	11:EK:106:GLU:OE1	2.16	0.46
17:EQ:86:SER:O	18:ER:51:VAL:HA	2.14	0.46
20:ET:27:SER:O	20:ET:28:ASN:ND2	2.48	0.46
32:E5:110:ALA:O	32:E5:113:PHE:N	2.43	0.46
35:FA:91:U:H2'	35:FA:92:U:H6	1.80	0.46
35:FA:533:A:HO2'	35:FA:535:A:P	2.35	0.46
35:FA:951:G:C6	35:FA:952:U:C4	3.03	0.46
35:FA:1277:C:HO2'	35:FA:1279:G:H8	1.58	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:FC:47:LEU:HB3	36:FC:50:ALA:HB3	1.98	0.46
41:FH:41:LYS:HD3	41:FH:48:ASP:CB	2.44	0.46
43:FJ:82:LYS:O	43:FJ:86:ALA:N	2.42	0.46
55:FV:50:MET:HE2	55:FV:50:MET:HA	1.98	0.46
55:FV:557:ILE:HG21	55:FV:576:ILE:HD12	1.97	0.46
1:GB:111:U:H2'	1:GB:112:G:C8	2.50	0.46
3:GA:60:G:HO2'	3:GA:62:U:P	2.37	0.46
3:GA:600:G:H1'	5:GE:100:MET:HG2	1.97	0.46
3:GA:747:U:C4	3:GA:2613:U:C5	3.04	0.46
3:GA:2265:U:OP2	3:GA:2266:A:C2'	2.64	0.46
2:GC:77:VAL:HG23	2:GC:77:VAL:O	2.15	0.46
11:GK:1:MET:HE3	11:GK:32:TYR:CE1	2.50	0.46
35:HA:383:A:C5	35:HA:384:G:H1'	2.50	0.46
35:HA:428:G:C5	35:HA:430:A:C6	3.04	0.46
35:HA:921:U:H2'	35:HA:922:G:O4'	2.16	0.46
35:HA:1296:C:H4'	35:HA:1302:C:N3	2.29	0.46
35:HA:1375:A:C6	35:HA:1376:U:C4	3.03	0.46
44:HK:22:HIS:CD2	44:HK:35:THR:HG21	2.50	0.46
45:HL:44:LYS:HB3	45:HL:45:PRO:HD3	1.96	0.46
52:HS:15:LEU:HD22	52:HS:35:SER:HB3	1.97	0.46
54:HU:17:ARG:CZ	54:HU:20:LYS:HE3	2.45	0.46
3:AA:247:G:H4'	3:AA:386:G:C5	2.51	0.46
3:AA:1569:A:N6	3:AA:1570:A:C6	2.84	0.46
3:AA:1936:A:N6	3:AA:1963:U:C2	2.84	0.46
3:AA:1936:A:C2	3:AA:1943:U:C5	3.03	0.46
3:AA:2701:U:H3'	3:AA:2702:G:H5"	1.96	0.46
4:AD:193:VAL:HB	4:AD:194:PRO:HD2	1.98	0.46
8:AH:8:LYS:O	8:AH:9:VAL:HB	2.15	0.46
8:AH:31:VAL:HB	8:AH:32:PRO:CD	2.45	0.46
11:AK:24:VAL:CG1	11:AK:30:ARG:HD3	2.45	0.46
11:AK:72:PRO:O	11:AK:74:GLY:N	2.43	0.46
32:A5:57:ASN:C	32:A5:59:LEU:N	2.74	0.46
35:BA:1060:U:C4	36:BC:2:GLY:N	2.84	0.46
42:BI:22:LYS:HG3	42:BI:23:PRO:HD2	1.97	0.46
3:CA:372:G:O2'	3:CA:400:G:O6	2.25	0.46
3:CA:2286:G:P	28:C1:29:LYS:HE2	2.55	0.46
3:CA:2393:U:H5'	12:CL:60:ARG:O	2.15	0.46
10:CJ:44:TYR:HA	17:CQ:59:LEU:HD21	1.97	0.46
23:CW:40:ARG:HG3	23:CW:56:HIS:CD2	2.50	0.46
25:CY:45:GLN:O	25:CY:46:VAL:HB	2.16	0.46
35:DA:587:G:C2	35:DA:755:G:C6	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:1084:G:C5	35:DA:1085:U:C4	3.04	0.46
35:DA:1371:G:C6	35:DA:1372:U:C4	3.03	0.46
34:DB:131:LYS:O	34:DB:135:MET:HB3	2.15	0.46
37:DD:126:ASN:OD1	37:DD:142:VAL:N	2.40	0.46
46:DM:20:THR:HA	46:DM:25:VAL:HG23	1.98	0.46
55:DV:309:ARG:CZ	55:DV:404:ILE:HD13	2.46	0.46
55:DV:382:ILE:HD12	55:DV:382:ILE:O	2.15	0.46
3:EA:601:C:O2'	3:EA:605:G:OP1	2.32	0.46
3:EA:636:G:C6	12:EL:111:ILE:HD11	2.51	0.46
3:EA:1060:U:H4'	3:EA:1061:U:C5'	2.45	0.46
3:EA:1564:C:H2'	3:EA:1565:C:C6	2.51	0.46
3:EA:1786:A:H1'	3:EA:1938:A:N6	2.31	0.46
3:EA:2819:G:H2'	3:EA:2821:A:N7	2.30	0.46
2:EC:91:ALA:HB3	2:EC:103:ILE:HG22	1.98	0.46
25:EY:18:LEU:HD12	25:EY:22:LEU:HB2	1.98	0.46
32:E5:4:ASN:O	32:E5:7:ASP:N	2.47	0.46
35:FA:41:G:C2	35:FA:42:G:C4	3.03	0.46
35:FA:649:A:H2'	35:FA:650:G:O4'	2.15	0.46
35:FA:1305:G:H22	35:FA:1331:G:H2'	1.81	0.46
37:FD:29:ASP:OD1	37:FD:30:THR:N	2.42	0.46
42:FI:6:TYR:CE2	42:FI:89:GLU:OE2	2.69	0.46
47:FN:88:ALA:HB1	47:FN:96:LEU:CD2	2.46	0.46
55:FV:221:ASN:HA	55:FV:224:GLU:HB3	1.96	0.46
3:GA:372:G:O5'	24:GX:61:LYS:NZ	2.48	0.46
3:GA:640:C:H2'	3:GA:641:U:H6	1.80	0.46
3:GA:1607:C:H4'	3:GA:1608:A:O5'	2.15	0.46
3:GA:2137:U:O4	3:GA:2155:U:O2'	2.34	0.46
8:GH:31:VAL:HB	8:GH:32:PRO:CD	2.45	0.46
20:GT:54:GLU:HG3	20:GT:88:LYS:HB2	1.97	0.46
22:GV:45:ASP:HA	22:GV:48:MET:HB2	1.96	0.46
23:GW:28:GLU:HG2	23:GW:29:SER:N	2.30	0.46
35:HA:963:G:N2	35:HA:964:A:H1'	2.31	0.46
35:HA:1057:G:H4'	36:HC:197:GLY:N	2.30	0.46
40:HG:71:PRO:HG3	40:HG:103:TRP:CH2	2.50	0.46
46:HM:98:ARG:HB2	46:HM:100:GLN:OE1	2.16	0.46
52:HS:40:ILE:HD11	52:HS:71:LEU:HG	1.98	0.46
2:AC:75:ALA:HB2	2:AC:95:TYR:HA	1.97	0.46
3:AA:923:G:N3	23:AW:23:LYS:HD2	2.31	0.46
3:AA:1478:G:C2	3:AA:1479:G:N7	2.83	0.46
3:AA:2436:G:C2	3:AA:2437:G:C8	3.04	0.46
3:AA:2822:G:O2'	3:AA:2824:C:OP2	2.33	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:68:SER:O	12:AL:69:ARG:HB3	2.15	0.46
17:AQ:91:ARG:HH21	17:AQ:93:ILE:HG21	1.81	0.46
20:AT:69:ARG:CD	20:AT:70:HIS:H	2.28	0.46
23:AW:9:THR:HG23	23:AW:10:ARG:N	2.30	0.46
23:AW:60:ALA:HA	23:AW:81:ILE:HD12	1.97	0.46
28:A1:4:ILE:HD11	28:A1:27:ARG:HB2	1.97	0.46
32:A5:15:VAL:HG21	32:A5:66:GLY:HA2	1.96	0.46
32:A5:77:VAL:O	32:A5:79:PRO:HD2	2.13	0.46
34:BB:9:LEU:HB2	34:BB:42:LEU:HD13	1.98	0.46
34:BB:187:ASP:CG	34:BB:188:THR:H	2.24	0.46
35:BA:450:G:N7	35:BA:481:G:O6	2.48	0.46
36:BC:156:ARG:H	36:BC:163:ALA:HA	1.81	0.46
38:BE:44:GLY:H	38:BE:76:LEU:HD12	1.81	0.46
41:BH:29:SER:HB3	41:BH:57:PRO:HB2	1.98	0.46
49:BP:22:ALA:HA	49:BP:33:ILE:HG13	1.96	0.46
53:BT:28:MET:SD	53:BT:67:ILE:HD13	2.55	0.46
55:BV:231:GLU:HA	55:BV:234:MET:HG2	1.98	0.46
3:CA:82:U:H2'	3:CA:83:A:O4'	2.15	0.46
3:CA:672:C:C2	3:CA:809:G:N2	2.83	0.46
3:CA:1045:C:C3'	3:CA:1046:A:H5'	2.46	0.46
3:CA:1088:A:HO2'	3:CA:1089:A:P	2.38	0.46
3:CA:1230:A:C5	3:CA:1231:U:C4	3.04	0.46
3:CA:2093:G:O2'	3:CA:2198:A:N1	2.34	0.46
3:CA:2134:A:H3'	3:CA:2135:A:H5"	1.98	0.46
3:CA:2619:C:N4	60:CA:3666:HOH:O	2.35	0.46
3:CA:2660:A:H5'	55:DV:675:LYS:HD2	1.97	0.46
2:CC:77:VAL:HG23	2:CC:77:VAL:O	2.14	0.46
5:CE:23:PHE:HB2	5:CE:111:GLU:HG2	1.97	0.46
9:CI:20:SER:H	9:CI:21:PRO:CD	2.28	0.46
9:CI:123:ALA:HA	9:CI:126:ARG:CZ	2.44	0.46
10:CJ:38:GLY:O	10:CJ:43:GLU:HB2	2.14	0.46
11:CK:15:GLY:O	11:CK:46:ALA:HA	2.16	0.46
11:CK:70:ARG:HD3	11:CK:76:VAL:HG22	1.98	0.46
12:CL:57:LEU:C	12:CL:59:ARG:H	2.24	0.46
16:CP:108:ARG:NH1	35:DA:1464:U:OP2	2.40	0.46
19:CS:69:LEU:HG	19:CS:107:VAL:CG2	2.46	0.46
25:CY:56:LEU:O	25:CY:57:LEU:HB3	2.15	0.46
35:DA:764:C:H2'	35:DA:765:G:O4'	2.15	0.46
35:DA:1237:C:O2'	35:DA:1335:U:O4'	2.31	0.46
38:DE:80:THR:OG1	38:DE:81:LEU:N	2.49	0.46
44:DK:47:ALA:HB1	44:DK:62:ALA:HB1	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:DN:45:VAL:HG23	47:DN:46:LEU:H	1.81	0.46
50:DQ:12:VAL:HG12	50:DQ:13:VAL:N	2.30	0.46
55:DV:602:LYS:O	55:DV:604:GLY:N	2.44	0.46
3:EA:136:G:C6	3:EA:142:A:N6	2.84	0.46
3:EA:626:A:C2	12:EL:78:ARG:HD3	2.51	0.46
3:EA:1064:C:H4'	9:EI:90:GLY:N	2.31	0.46
3:EA:1312:U:H4'	3:EA:1313:U:O5'	2.15	0.46
3:EA:1847:A:N3	3:EA:1847:A:H2'	2.30	0.46
13:EM:41:LEU:CD1	13:EM:96:ILE:HD13	2.46	0.46
17:EQ:91:ARG:HH21	17:EQ:93:ILE:HD13	1.81	0.46
19:ES:63:GLY:O	19:ES:64:ALA:CB	2.63	0.46
20:ET:70:HIS:HB3	20:ET:73:ARG:O	2.15	0.46
25:EY:8:GLU:O	25:EY:12:GLU:HB2	2.16	0.46
32:E5:48:ALA:HB3	32:E5:51:TYR:HB3	1.98	0.46
35:FA:976:G:H2'	35:FA:1362:A:N1	2.31	0.46
37:FD:147:GLU:HA	37:FD:150:LYS:HD2	1.97	0.46
39:FF:99:ALA:O	39:FF:100:SER:CB	2.63	0.46
3:GA:60:G:O2'	3:GA:62:U:OP2	2.31	0.46
3:GA:869:G:C2	3:GA:870:U:H1'	2.51	0.46
3:GA:996:A:P	18:GR:10:LYS:HD3	2.55	0.46
3:GA:1544:A:C6	3:GA:1545:A:C6	3.03	0.46
3:GA:2432:A:N1	24:GX:20:ALA:HA	2.31	0.46
9:GI:116:MET:SD	9:GI:124:MET:HG2	2.56	0.46
21:GU:78:LYS:HG2	21:GU:79:ALA:H	1.80	0.46
28:G1:8:ILE:HD11	28:G1:24:LYS:HG2	1.98	0.46
35:HA:93:U:H2'	35:HA:94:G:H5"	1.98	0.46
35:HA:451:A:H2	35:HA:480:U:C4	2.34	0.46
35:HA:655:A:H2'	35:HA:656:G:C8	2.50	0.46
35:HA:780:A:C8	35:HA:800:G:C6	3.04	0.46
35:HA:791:G:C5	35:HA:792:A:N7	2.84	0.46
35:HA:993:G:O2'	35:HA:994:A:N7	2.49	0.46
35:HA:1194:U:H5'	38:HE:27:GLY:HA2	1.97	0.46
35:HA:1306:A:N3	35:HA:1332:A:H1'	2.30	0.46
35:HA:1340:A:O2'	42:HI:129:LYS:NZ	2.33	0.46
37:HD:52:GLY:O	37:HD:56:ARG:HG2	2.16	0.46
44:HK:24:HIS:CB	44:HK:87:LYS:HD2	2.46	0.46
3:AA:11:C:H2'	3:AA:12:U:H5'	1.98	0.46
3:AA:118:A:C8	3:AA:119:A:C8	3.04	0.46
3:AA:593:U:H2'	3:AA:594:U:C6	2.51	0.46
3:AA:959:A:H62	13:AM:82:MET:CE	2.28	0.46
3:AA:1341:G:H1	20:AT:24:MET:HE2	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:2210:U:H4'	3:AA:2211:A:H5'	1.97	0.46
3:AA:2318:G:C6	3:AA:2319:G:C6	3.03	0.46
8:AH:21:VAL:CG2	8:AH:25:TYR:CD2	2.98	0.46
9:AI:61:TYR:N	9:AI:61:TYR:CD1	2.82	0.46
11:AK:99:ILE:HG21	11:AK:119:ALA:HB2	1.98	0.46
16:AP:50:ARG:HG2	16:AP:57:ALA:N	2.30	0.46
39:BF:42:TRP:CE2	39:BF:101:PRO:HD3	2.51	0.46
45:BL:72:HIS:ND1	45:BL:73:ASN:O	2.41	0.46
53:BT:27:MET:HE1	53:BT:57:ILE:HG23	1.96	0.46
3:CA:201:C:O2'	3:CA:251:A:N1	2.44	0.46
3:CA:247:G:N7	3:CA:249:C:C2	2.84	0.46
3:CA:788:A:H3'	3:CA:790:U:C5	2.50	0.46
3:CA:862:G:P	60:CA:3711:HOH:O	2.73	0.46
3:CA:1382:G:H4'	3:CA:1573:G:C2	2.51	0.46
4:CD:86:GLU:CD	4:CD:86:GLU:N	2.72	0.46
5:CE:5:LEU:HD11	5:CE:12:LEU:HB2	1.98	0.46
5:CE:137:LYS:O	5:CE:141:MET:N	2.44	0.46
9:CI:87:SER:OG	9:CI:88:GLY:N	2.37	0.46
11:CK:35:VAL:HG12	11:CK:36:GLY:N	2.30	0.46
19:CS:4:ILE:HG13	19:CS:5:ALA:N	2.30	0.46
19:CS:63:GLY:O	19:CS:64:ALA:CB	2.64	0.46
35:DA:234:C:H2'	35:DA:235:C:C6	2.51	0.46
35:DA:1120:C:H2'	35:DA:1121:U:C6	2.51	0.46
35:DA:1271:A:C4	35:DA:1272:G:C8	3.04	0.46
35:DA:1295:U:C4	35:DA:1296:C:N4	2.84	0.46
34:DB:183:PHE:CE2	34:DB:197:PHE:CD2	3.03	0.46
34:DB:184:ALA:HB3	34:DB:195:VAL:HG11	1.97	0.46
39:DF:29:ILE:HD13	39:DF:36:ILE:HG22	1.98	0.46
53:DT:7:ALA:O	53:DT:10:ARG:HB2	2.16	0.46
53:DT:62:ALA:HA	53:DT:67:ILE:CG2	2.46	0.46
3:EA:24:G:H1'	19:ES:77:ASP:HB3	1.98	0.46
3:EA:82:U:H3	3:EA:104:A:H61	1.64	0.46
3:EA:479:A:N3	3:EA:481:G:H5"	2.31	0.46
3:EA:855:G:C2	23:EW:23:LYS:HD2	2.51	0.46
3:EA:936:A:H2'	3:EA:937:C:C6	2.50	0.46
3:EA:2459:A:C2	3:EA:2460:U:H1'	2.51	0.46
3:EA:2715:C:C4	3:EA:2716:C:C5	3.04	0.46
7:EG:88:LEU:HD11	7:EG:95:ALA:HB2	1.96	0.46
9:EI:77:VAL:C	9:EI:79:LEU:H	2.23	0.46
32:E5:54:VAL:HA	32:E5:84:TYR:O	2.16	0.46
32:E5:102:ALA:O	32:E5:107:GLU:HB2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:FA:289:G:C6	35:FA:290:C:N4	2.84	0.46
44:FK:87:LYS:HA	44:FK:114:THR:HG22	1.97	0.46
53:FT:62:ALA:HA	53:FT:67:ILE:HG22	1.97	0.46
55:FV:78:GLN:NE2	55:FV:280:ASP:OD2	2.49	0.46
1:GB:111:U:H2'	1:GB:112:G:H8	1.80	0.46
3:GA:397:U:OP2	24:GX:9:LYS:NZ	2.46	0.46
3:GA:528:A:C2	3:GA:2042:A:H2'	2.51	0.46
3:GA:587:C:C2	12:GL:33:ARG:NH2	2.84	0.46
3:GA:836:G:C6	3:GA:837:C:N3	2.84	0.46
3:GA:995:C:H42	10:GJ:2:LYS:HB3	1.81	0.46
3:GA:1110:G:O2'	3:GA:1111:A:H8	1.99	0.46
3:GA:1194:A:N3	3:GA:1195:G:C8	2.84	0.46
3:GA:1801:A:C8	2:GC:261:ARG:NH2	2.84	0.46
3:GA:1808:A:N1	24:GX:27:ARG:HD2	2.31	0.46
3:GA:1936:A:C2	3:GA:1945:G:C4	3.04	0.46
3:GA:2336:A:C6	23:GW:40:ARG:HB3	2.50	0.46
3:GA:2354:C:C4'	23:GW:31:LEU:HD13	2.46	0.46
3:GA:2362:C:OP1	30:G3:39:ARG:NE	2.45	0.46
3:GA:2715:C:C4	3:GA:2716:C:C5	3.03	0.46
6:GF:141:ASP:O	6:GF:145:VAL:HG13	2.15	0.46
7:GG:123:GLU:HG2	7:GG:124:CYS:N	2.31	0.46
12:GL:29:LYS:HG2	12:GL:30:THR:N	2.30	0.46
31:G4:14:CYS:HB3	31:G4:25:VAL:HG13	1.98	0.46
35:HA:864:A:H4'	38:HE:90:THR:HG23	1.98	0.46
35:HA:1210:C:H4'	35:HA:1214:C:C4	2.51	0.46
35:HA:1276:G:N3	35:HA:1282:C:O2'	2.40	0.46
35:HA:1381:U:H1'	40:HG:78:ARG:O	2.16	0.46
36:HC:14:ILE:O	36:HC:15:VAL:HG22	2.16	0.46
44:HK:60:PRO:HB3	44:HK:92:GLY:N	2.31	0.46
54:HU:14:VAL:HG23	54:HU:16:LEU:CD2	2.46	0.46
55:HV:342:VAL:HG22	55:HV:378:ARG:HD2	1.98	0.46
3:AA:1838:C:H4'	3:AA:1839:G:C8	2.51	0.46
5:AE:44:ARG:HH21	5:AE:44:ARG:HG3	1.80	0.46
6:AF:147:ARG:HG3	6:AF:148:VAL:N	2.30	0.46
10:AJ:43:GLU:O	10:AJ:44:TYR:C	2.58	0.46
13:AM:53:MET:HE3	13:AM:63:ILE:HG21	1.97	0.46
16:AP:21:PRO:HD3	16:AP:49:ILE:HD12	1.98	0.46
19:AS:18:ARG:HG3	19:AS:76:VAL:HG13	1.98	0.46
26:AZ:3:THR:HA	26:AZ:37:ARG:O	2.16	0.46
34:BB:32:GLY:HA2	34:BB:39:ILE:HB	1.98	0.46
35:BA:111:G:C6	35:BA:330:C:N4	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:283:U:C4	35:BA:284:C:C4	3.03	0.46
35:BA:420:U:C2'	35:BA:421:U:H5"	2.46	0.46
3:CA:655:A:H4'	3:CA:656:G:OP1	2.16	0.46
3:CA:1563:U:H2'	3:CA:1564:C:C6	2.51	0.46
3:CA:2035:G:OP1	3:CA:2036:C:N4	2.48	0.46
3:CA:2038:G:C6	3:CA:2039:U:C4	3.03	0.46
3:CA:2063:C:O2	3:CA:2450:A:N1	2.48	0.46
3:CA:2423:U:H6	3:CA:2423:U:H5'	1.81	0.46
4:CD:99:GLU:HG3	4:CD:100:LEU:N	2.30	0.46
32:C5:26:VAL:O	32:C5:27:VAL:HB	2.15	0.46
35:DA:595:A:C2	35:DA:641:U:C2	3.04	0.46
35:DA:1062:U:H2'	35:DA:1063:C:C6	2.51	0.46
35:DA:1118:U:OP1	42:DI:106:ARG:NE	2.49	0.46
35:DA:1287:A:N6	35:DA:1288:A:N6	2.63	0.46
35:DA:1412:C:H2'	35:DA:1413:A:C8	2.50	0.46
45:DL:43:LYS:HG2	45:DL:44:LYS:N	2.30	0.46
49:DP:18:GLN:HG3	49:DP:35:ARG:HD2	1.97	0.46
55:DV:545:ILE:HD11	55:DV:581:GLY:HA3	1.97	0.46
3:EA:1747:U:H2'	3:EA:1748:C:C6	2.51	0.46
3:EA:2016:U:H2'	3:EA:2017:U:C6	2.50	0.46
3:EA:2071:A:H2'	3:EA:2072:C:C6	2.51	0.46
3:EA:2142:A:N7	3:EA:2147:A:C2	2.84	0.46
3:EA:2194:U:C4	3:EA:2195:U:C5	3.04	0.46
3:EA:2281:A:O2'	3:EA:2282:G:H5'	2.16	0.46
3:EA:2352:A:C6	23:EW:30:VAL:HG11	2.49	0.46
3:EA:2652:C:C4	3:EA:2653:U:C4	3.04	0.46
2:EC:68:ARG:CD	2:EC:103:ILE:HD11	2.46	0.46
16:EP:50:ARG:CD	16:EP:56:SER:HB3	2.46	0.46
22:EV:80:HIS:CD2	22:EV:83:LYS:HB2	2.51	0.46
32:E5:51:TYR:CD1	32:E5:51:TYR:C	2.93	0.46
32:E5:94:ARG:O	32:E5:95:LEU:C	2.59	0.46
35:FA:282:A:C8	35:FA:283:U:C5	3.04	0.46
35:FA:376:G:H4'	49:FP:5:ARG:HD2	1.98	0.46
43:FJ:6:ILE:HD11	43:FJ:79:PRO:HB3	1.97	0.46
55:FV:87:ILE:HD12	55:FV:106:LEU:HD23	1.97	0.46
1:GB:40:U:O2'	1:GB:43:C:OP2	2.24	0.46
1:GB:106:G:C2	1:GB:107:G:H1'	2.50	0.46
3:GA:478:A:C6	3:GA:480:A:C6	3.04	0.46
3:GA:635:C:C4	3:GA:636:G:C5	3.03	0.46
3:GA:845:A:C6	3:GA:847:U:C5	3.03	0.46
3:GA:952:G:C2'	3:GA:953:G:O5'	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:1181:U:H2'	3:GA:1182:G:C8	2.51	0.46
3:GA:2314:A:H1'	6:GF:154:THR:HG21	1.97	0.46
3:GA:2611:C:OP2	60:GA:3537:HOH:O	2.21	0.46
18:GR:79:ARG:O	18:GR:80:ARG:HG2	2.16	0.46
19:GS:77:ASP:O	19:GS:102:HIS:N	2.34	0.46
23:GW:37:VAL:HB	23:GW:38:ARG:HH11	1.80	0.46
35:HA:841:C:N3	35:HA:843:U:C5	2.84	0.46
35:HA:1014:A:C2	35:HA:1219:A:N3	2.83	0.46
36:HC:144:LEU:H	36:HC:144:LEU:HD22	1.81	0.46
44:HK:79:ILE:HB	44:HK:105:PHE:CE1	2.51	0.46
55:HV:342:VAL:HG21	55:HV:378:ARG:NH1	2.30	0.46
55:HV:414:PRO:HA	55:HV:461:MET:SD	2.55	0.46
3:AA:627:A:C6	3:AA:637:A:C8	3.04	0.46
3:AA:1248:G:C5	5:AE:46:GLN:NE2	2.84	0.46
3:AA:1542:U:H2'	3:AA:1543:G:O4'	2.16	0.46
3:AA:2326:C:H4'	3:AA:2327:A:OP1	2.16	0.46
7:AG:23:ILE:H	7:AG:23:ILE:HD12	1.81	0.46
9:AI:137:LEU:HD23	9:AI:137:LEU:H	1.81	0.46
12:AL:61:LEU:O	30:A3:12:ARG:HD3	2.16	0.46
14:AN:70:THR:HB	14:AN:75:ILE:CD1	2.46	0.46
20:AT:29:THR:HB	20:AT:86:THR:HG22	1.98	0.46
28:A1:8:ILE:HG21	28:A1:51:ALA:HA	1.98	0.46
34:BB:65:LYS:HD2	34:BB:153:MET:HG2	1.97	0.46
35:BA:250:A:H4'	35:BA:251:G:O5'	2.16	0.46
35:BA:471:U:H2'	35:BA:472:U:C6	2.51	0.46
36:BC:120:ILE:HD11	36:BC:137:ALA:HB2	1.98	0.46
3:CA:145:C:H2'	3:CA:146:A:H8	1.81	0.46
3:CA:204:A:OP1	3:CA:206:U:H1'	2.16	0.46
3:CA:438:G:H2'	3:CA:439:A:C8	2.51	0.46
3:CA:546:U:H2'	3:CA:547:A:C4'	2.45	0.46
3:CA:1403:A:C2	3:CA:1404:C:C2	3.03	0.46
3:CA:1758:U:C5	3:CA:2696:U:H5'	2.51	0.46
3:CA:2103:C:H2'	3:CA:2104:C:H5"	1.97	0.46
3:CA:2571:U:O2'	4:CD:151:THR:CG2	2.64	0.46
3:CA:2741:A:O3'	31:C4:36:ARG:NH1	2.49	0.46
5:CE:58:LYS:NZ	5:CE:70:SER:O	2.50	0.46
12:CL:132:ARG:HG3	12:CL:142:ILE:HD12	1.98	0.46
23:CW:72:GLY:N	23:CW:73:PRO:HD2	2.31	0.46
26:CZ:6:ILE:O	26:CZ:34:THR:HA	2.16	0.46
26:CZ:36:GLU:O	26:CZ:37:ARG:HD2	2.16	0.46
35:DA:72:A:H3'	35:DA:73:C:H5"	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:324:G:N2	35:DA:326:G:H3'	2.31	0.46
35:DA:898:G:N2	35:DA:901:A:OP2	2.43	0.46
35:DA:1228:C:OP1	46:DM:110:LYS:NZ	2.48	0.46
37:DD:26:ARG:O	37:DD:27:ALA:HB2	2.16	0.46
39:DF:44:ARG:HA	39:DF:58:HIS:HA	1.98	0.46
40:DG:113:ASP:HB2	40:DG:119:ARG:HG2	1.98	0.46
53:DT:4:ILE:O	53:DT:4:ILE:HG22	2.16	0.46
3:EA:370:G:O2'	3:EA:424:G:OP1	2.29	0.46
3:EA:1131:G:OP1	10:EJ:82:GLY:HA2	2.15	0.46
3:EA:1877:A:H2'	3:EA:1878:G:O4'	2.16	0.46
10:EJ:49:ASP:OD2	10:EJ:121:LYS:HE2	2.16	0.46
14:EN:83:LEU:HA	14:EN:86:ARG:HB3	1.98	0.46
18:ER:66:HIS:CG	18:ER:94:THR:HG22	2.51	0.46
32:E5:31:ARG:O	32:E5:108:VAL:HG22	2.16	0.46
35:FA:436:C:H2'	35:FA:437:U:C6	2.52	0.46
35:FA:1143:G:C2	35:FA:1144:G:C8	3.03	0.46
37:FD:91:LEU:HA	37:FD:94:LEU:HB2	1.98	0.46
37:FD:184:ARG:HD2	37:FD:184:ARG:C	2.41	0.46
46:FM:95:LEU:HB3	46:FM:96:PRO:HD2	1.97	0.46
53:FT:55:GLN:N	53:FT:56:PRO:HD2	2.31	0.46
55:FV:309:ARG:NE	55:FV:316:PRO:HG2	2.30	0.46
3:GA:186:G:H2'	3:GA:187:G:H8	1.81	0.46
3:GA:575:A:C2	3:GA:576:U:C5	3.04	0.46
3:GA:821:A:H5"	3:GA:822:G:O5'	2.16	0.46
3:GA:833:A:OP2	12:GL:39:LYS:NZ	2.43	0.46
3:GA:837:C:N4	3:GA:941:A:N6	2.64	0.46
3:GA:1359:A:C5	3:GA:1360:G:C8	3.04	0.46
3:GA:1370:C:O2'	3:GA:1811:G:O2'	2.33	0.46
3:GA:1655:A:H5'	4:GD:118:PHE:CD1	2.51	0.46
3:GA:1913:A:N7	35:HA:1494:G:H4'	2.30	0.46
3:GA:2336:A:C5	23:GW:40:ARG:HD3	2.51	0.46
3:GA:2365:G:OP1	23:GW:54:ARG:N	2.42	0.46
3:GA:2657:A:O2'	7:GG:159:LYS:NZ	2.45	0.46
2:GC:14:HIS:O	2:GC:203:VAL:HG11	2.16	0.46
4:GD:62:LYS:HB2	4:GD:63:PRO:HD3	1.97	0.46
4:GD:117:GLY:C	4:GD:118:PHE:CD2	2.94	0.46
5:GE:128:ALA:C	5:GE:156:ASN:HB3	2.41	0.46
12:GL:46:VAL:HB	12:GL:50:PHE:HD2	1.80	0.46
16:GP:9:GLN:C	16:GP:11:GLN:H	2.23	0.46
18:GR:66:HIS:CG	18:GR:94:THR:HG22	2.51	0.46
35:HA:259:G:N2	35:HA:260:G:H1'	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:386:C:N4	35:HA:387:U:C4	2.84	0.46
35:HA:1244:G:H2'	35:HA:1245:C:C6	2.51	0.46
35:HA:1331:G:O2'	35:HA:1332:A:P	2.75	0.46
34:HB:46:VAL:O	34:HB:49:PHE:CD2	2.69	0.46
37:HD:197:GLU:C	37:HD:199:LEU:N	2.72	0.46
41:HH:64:LYS:HB3	41:HH:71:VAL:HG21	1.98	0.46
41:HH:112:THR:HG22	41:HH:114:ARG:H	1.81	0.46
43:HJ:50:THR:CG2	43:HJ:64:GLN:HG2	2.46	0.46
6:AF:107:VAL:HG11	6:AF:116:LEU:HD21	1.99	0.45
7:AG:10:VAL:HG22	7:AG:47:ASN:C	2.41	0.45
10:AJ:12:LYS:O	10:AJ:13:ARG:CB	2.64	0.45
17:AQ:4:LYS:NZ	17:AQ:7:VAL:HG11	2.31	0.45
23:AW:19:ARG:CZ	23:AW:22:VAL:HB	2.46	0.45
23:AW:30:VAL:HG23	23:AW:60:ALA:O	2.15	0.45
35:BA:653:U:H5'	41:BH:56:LYS:HE2	1.98	0.45
35:BA:1126:U:C2	35:BA:1281:C:C5	3.03	0.45
35:BA:1410:A:H2'	35:BA:1411:C:C6	2.50	0.45
40:BG:59:LEU:O	40:BG:62:PHE:HB3	2.16	0.45
42:BI:12:ARG:O	42:BI:13:LYS:C	2.59	0.45
55:BV:127:TRP:CH2	55:BV:137:ARG:HD2	2.51	0.45
55:BV:421:GLU:O	55:BV:481:ALA:HB1	2.17	0.45
55:BV:497:LYS:HG2	55:BV:523:TYR:HB2	1.98	0.45
3:CA:2011:U:OP1	19:CS:42:LYS:NZ	2.45	0.45
3:CA:2328:A:H2'	3:CA:2329:U:C6	2.51	0.45
5:CE:18:THR:HG22	5:CE:106:LYS:HE2	1.98	0.45
5:CE:146:VAL:HA	5:CE:185:LYS:O	2.15	0.45
6:CF:34:THR:HG22	6:CF:89:THR:HA	1.98	0.45
7:CG:164:ALA:N	7:CG:166:GLU:HG3	2.31	0.45
16:CP:64:SER:OG	16:CP:65:ASN:ND2	2.49	0.45
18:CR:39:LEU:HA	18:CR:49:ILE:HG21	1.97	0.45
32:C5:39:THR:HA	32:C5:42:ARG:CD	2.45	0.45
35:DA:322:C:OP2	35:DA:328:C:N4	2.49	0.45
34:DB:32:GLY:HA3	34:DB:39:ILE:HB	1.98	0.45
37:DD:146:ARG:HB3	37:DD:148:LYS:HG2	1.98	0.45
47:DN:31:ILE:HD12	47:DN:31:ILE:N	2.31	0.45
55:DV:663:MET:HE2	55:DV:666:TYR:CG	2.51	0.45
3:EA:139:U:O2'	20:ET:1:MET:HA	2.17	0.45
3:EA:246:C:H2'	3:EA:247:G:H5'	1.98	0.45
3:EA:921:C:H2'	3:EA:922:C:H6	1.81	0.45
3:EA:929:U:H4'	26:EZ:37:ARG:HH22	1.81	0.45
3:EA:962:G:N2	13:EM:82:MET:HE2	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:1544:A:C6	3:EA:1545:A:C6	3.04	0.45
3:EA:2329:U:H2'	3:EA:2330:G:C8	2.51	0.45
1:EB:44:G:N2	1:EB:48:U:C2	2.84	0.45
2:EC:16:VAL:N	2:EC:203:VAL:CG1	2.79	0.45
4:ED:15:PHE:CD1	16:EP:78:PRO:HD2	2.50	0.45
28:E1:16:THR:HB	28:E1:41:VAL:HG11	1.98	0.45
32:E5:60:LEU:HA	32:E5:64:VAL:HG23	1.98	0.45
32:E5:64:VAL:O	32:E5:68:PRO:HD2	2.17	0.45
35:FA:332:G:OP2	53:FT:4:ILE:HA	2.16	0.45
35:FA:1319:A:P	52:FS:5:LEU:HD11	2.56	0.45
40:FG:57:SER:CB	40:FG:60:GLU:OE2	2.65	0.45
46:FM:10:PRO:O	46:FM:11:ASP:CB	2.63	0.45
3:GA:29:U:O4'	17:GQ:10:ARG:NH2	2.46	0.45
3:GA:278:A:C2	3:GA:362:A:C8	3.03	0.45
3:GA:614:A:H5"	3:GA:616:A:C6	2.50	0.45
3:GA:846:U:O2'	3:GA:847:U:O5'	2.34	0.45
3:GA:923:G:N3	23:GW:23:LYS:CD	2.80	0.45
3:GA:983:A:C5	3:GA:984:A:N7	2.84	0.45
3:GA:1076:C:H4'	9:GI:93:ASN:ND2	2.31	0.45
3:GA:2674:G:H4'	11:GK:30:ARG:HG3	1.97	0.45
9:GI:102:ARG:H	9:GI:140:GLU:HB2	1.81	0.45
21:GU:78:LYS:HG2	21:GU:79:ALA:N	2.31	0.45
30:G3:31:ILE:C	30:G3:31:ILE:HD12	2.42	0.45
35:HA:565:U:OP2	35:HA:566:G:O2'	2.18	0.45
35:HA:930:C:N4	35:HA:931:C:N4	2.64	0.45
35:HA:1105:A:H2'	35:HA:1106:G:H8	1.81	0.45
35:HA:1344:C:H1'	35:HA:1349:A:H4'	1.98	0.45
38:HE:153:VAL:HB	38:HE:156:LYS:HE2	1.97	0.45
44:HK:34:ILE:CD1	44:HK:70:CYS:SG	3.04	0.45
46:HM:75:MET:O	46:HM:79:ARG:N	2.36	0.45
55:HV:151:PHE:CE1	55:HV:266:CYS:HB3	2.51	0.45
6:AF:30:VAL:CG1	6:AF:96:TRP:CH2	2.99	0.45
8:AH:14:SER:HG	8:AH:17:ASP:CG	2.23	0.45
10:AJ:80:HIS:O	10:AJ:82:GLY:N	2.50	0.45
20:AT:29:THR:CB	20:AT:86:THR:H	2.29	0.45
34:BB:60:ALA:HB2	34:BB:220:VAL:HG12	1.99	0.45
35:BA:1119:C:OP2	42:BI:11:ARG:NH2	2.49	0.45
35:BA:1277:C:O2'	35:BA:1279:G:H8	1.98	0.45
37:BD:125:VAL:O	37:BD:127:GLY:N	2.47	0.45
3:CA:141:G:H5"	3:CA:142:A:C5	2.51	0.45
3:CA:686:U:H2'	3:CA:788:A:C2	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:824:U:O2'	3:CA:2358:A:N7	2.41	0.45
3:CA:1144:A:C6	3:CA:1145:C:C4	3.05	0.45
3:CA:1797:G:O3'	2:CC:255:LYS:O	2.35	0.45
3:CA:2311:A:H2	6:CF:43:ILE:HG21	1.80	0.45
3:CA:2844:G:C5	3:CA:2845:U:C5	3.04	0.45
4:CD:102:ALA:HA	4:CD:180:VAL:HG11	1.98	0.45
6:CF:131:VAL:CG2	6:CF:132:ARG:N	2.79	0.45
7:CG:9:VAL:HA	7:CG:47:ASN:O	2.16	0.45
23:CW:23:LYS:HG3	23:CW:24:ARG:N	2.31	0.45
26:CZ:23:LEU:HD21	26:CZ:53:MET:SD	2.56	0.45
35:DA:234:C:H2'	35:DA:235:C:H6	1.81	0.45
35:DA:926:G:C6	35:DA:1505:G:C5	3.05	0.45
34:DB:57:ASN:OD1	34:DB:220:VAL:HA	2.17	0.45
36:DC:7:PRO:HG2	36:DC:184:TYR:CG	2.50	0.45
55:DV:97:ILE:HB	55:DV:444:SER:HB3	1.97	0.45
55:DV:196:ALA:O	55:DV:198:GLN:N	2.49	0.45
9:EI:83:ALA:HB1	9:EI:100:ILE:CD1	2.45	0.45
9:EI:120:ASP:O	9:EI:123:ALA:N	2.48	0.45
11:EK:18:ARG:H	11:EK:45:GLU:HB2	1.81	0.45
16:EP:24:THR:O	16:EP:24:THR:OG1	2.28	0.45
23:EW:51:GLY:HA3	23:EW:59:PHE:CE1	2.52	0.45
32:E5:15:VAL:HG21	32:E5:66:GLY:HA2	1.98	0.45
35:FA:188:C:H2'	35:FA:189:A:O4'	2.16	0.45
35:FA:932:C:H5'	40:FG:4:ARG:HE	1.81	0.45
35:FA:994:A:N1	35:FA:1047:G:H4'	2.31	0.45
35:FA:1126:U:O2	35:FA:1280:A:H2'	2.16	0.45
35:FA:1347:G:HO2'	35:FA:1373:G:H1	1.64	0.45
44:FK:126:LYS:O	54:FU:34:ARG:CZ	2.64	0.45
49:FP:68:SER:HB2	49:FP:71:VAL:H	1.81	0.45
3:GA:306:U:O2'	3:GA:1211:C:OP1	2.28	0.45
3:GA:643:A:C5	3:GA:644:A:N7	2.84	0.45
3:GA:646:U:H3'	3:GA:647:G:H5"	1.98	0.45
3:GA:878:A:H3'	3:GA:879:G:H8	1.81	0.45
3:GA:2521:C:C4	3:GA:2522:U:C4	3.05	0.45
60:GA:3363:HOH:O	18:GR:85:LYS:NZ	2.47	0.45
6:GF:132:ARG:O	6:GF:133:GLU:HB3	2.16	0.45
9:GI:18:ASN:N	9:GI:19:PRO:CD	2.79	0.45
17:GQ:4:LYS:HG3	17:GQ:5:ARG:H	1.80	0.45
17:GQ:20:ALA:HA	17:GQ:23:TYR:CE2	2.52	0.45
19:GS:18:ARG:C	19:GS:20:VAL:H	2.20	0.45
35:HA:505:G:C6	35:HA:535:A:C2	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:657:U:H1'	48:HO:23:GLY:HA2	1.98	0.45
35:HA:751:U:O2'	48:HO:25:THR:OG1	2.32	0.45
35:HA:1306:A:N6	35:HA:1330:U:N3	2.65	0.45
34:HB:25:LYS:HE2	34:HB:193:ASP:OD1	2.16	0.45
34:HB:113:LEU:HD13	34:HB:143:LEU:CD1	2.46	0.45
36:HC:150:LYS:HG3	36:HC:201:TRP:CE3	2.51	0.45
43:HJ:14:ASP:OD2	43:HJ:17:LEU:HB3	2.16	0.45
45:HL:7:LEU:HB3	50:HQ:34:TYR:CD2	2.51	0.45
50:HQ:74:THR:HG22	50:HQ:75:LEU:N	2.31	0.45
54:HU:41:PRO:O	54:HU:45:ARG:N	2.41	0.45
55:HV:443:PRO:O	55:HV:446:ARG:NH2	2.44	0.45
1:AB:37:C:C5	1:AB:38:C:C4	3.04	0.45
3:AA:1088:A:HO2'	3:AA:1089:A:P	2.39	0.45
3:AA:1313:U:H2'	3:AA:1610:A:C2	2.51	0.45
3:AA:2862:G:C6	3:AA:2863:C:C4	3.04	0.45
5:AE:187:VAL:O	5:AE:188:MET:HB3	2.16	0.45
12:AL:85:VAL:HG22	12:AL:94:THR:HG22	1.98	0.45
15:AO:43:ASN:O	15:AO:45:SER:N	2.50	0.45
34:BB:132:GLU:HA	34:BB:135:MET:HB3	1.97	0.45
35:BA:481:G:O2'	35:BA:482:A:C8	2.66	0.45
46:BM:29:ARG:NH1	46:BM:63:PHE:HB2	2.31	0.45
52:BS:10:PHE:HE1	52:BS:37:ARG:HD2	1.82	0.45
54:BU:45:ARG:HA	54:BU:48:ALA:HB3	1.97	0.45
55:BV:48:ALA:HB2	55:BV:369:ASN:OD1	2.17	0.45
1:CB:35:C:H2'	1:CB:36:C:O4'	2.16	0.45
3:CA:26:G:C6	3:CA:27:G:N1	2.85	0.45
3:CA:783:A:H8	3:CA:784:G:H5"	1.81	0.45
3:CA:1681:G:O2'	3:CA:1762:A:N3	2.36	0.45
2:CC:33:LEU:CD2	2:CC:62:ARG:HD3	2.47	0.45
12:CL:77:ILE:HD12	12:CL:77:ILE:N	2.32	0.45
13:CM:96:ILE:HD11	13:CM:126:ILE:CD1	2.45	0.45
25:CY:3:ALA:HA	25:CY:6:LEU:HB3	1.98	0.45
32:C5:33:VAL:HG12	32:C5:34:THR:N	2.24	0.45
35:DA:79:G:H2'	35:DA:80:A:O5'	2.16	0.45
35:DA:707:U:H2'	35:DA:708:C:C6	2.52	0.45
35:DA:1305:G:N2	35:DA:1331:G:O2'	2.49	0.45
35:DA:1363:A:C8	35:DA:1365:G:C8	3.04	0.45
35:DA:1444:U:H2'	35:DA:1445:U:C6	2.51	0.45
38:DE:94:VAL:CG2	38:DE:111:MET:SD	3.04	0.45
39:DF:38:ARG:HE	39:DF:97:THR:HA	1.81	0.45
3:EA:27:G:O2'	3:EA:28:A:OP2	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:311:A:C8	3:EA:332:A:N7	2.84	0.45
1:EB:48:U:P	15:EO:30:ARG:HH22	2.39	0.45
6:EF:30:VAL:CG1	6:EF:96:TRP:CH2	2.99	0.45
6:EF:121:PHE:CE1	6:EF:127:TYR:CD1	3.04	0.45
11:EK:24:VAL:HG13	11:EK:33:ALA:HB2	1.98	0.45
14:EN:38:LEU:HB3	14:EN:39:PRO:HD3	1.98	0.45
16:EP:19:PHE:HZ	16:EP:83:ILE:HG12	1.82	0.45
17:EQ:90:ASP:HA	18:ER:11:GLN:HE22	1.82	0.45
20:ET:54:GLU:N	20:ET:54:GLU:OE1	2.50	0.45
35:FA:35:G:N3	45:FL:115:SER:OG	2.49	0.45
35:FA:174:A:C5	35:FA:175:C:C5	3.04	0.45
35:FA:354:G:C2	35:FA:355:C:C6	3.04	0.45
35:FA:986:U:H2'	35:FA:987:G:O4'	2.16	0.45
35:FA:1059:C:O3'	47:FN:85:ARG:NH2	2.49	0.45
34:FB:21:TYR:N	34:FB:21:TYR:CD1	2.82	0.45
36:FC:153:VAL:HG23	36:FC:157:LEU:HD21	1.97	0.45
39:FF:90:MET:HG2	39:FF:91:ARG:N	2.31	0.45
50:FQ:17:MET:SD	50:FQ:20:SER:OG	2.62	0.45
55:FV:338:VAL:O	55:FV:380:GLY:N	2.45	0.45
3:GA:230:G:C4	3:GA:231:A:C8	3.04	0.45
3:GA:953:G:N2	3:GA:965:C:C2	2.85	0.45
3:GA:1351:C:C2	3:GA:1381:G:N1	2.85	0.45
3:GA:1930:G:H22	3:GA:1969:A:P	2.39	0.45
3:GA:2227:A:H5"	2:GC:260:LYS:HD3	1.98	0.45
3:GA:2301:C:N3	3:GA:2316:G:N2	2.64	0.45
7:GG:84:LYS:HB3	7:GG:132:LEU:O	2.16	0.45
10:GJ:118:MET:HA	10:GJ:121:LYS:HE2	1.97	0.45
13:GM:28:PHE:N	13:GM:104:GLU:OE2	2.46	0.45
17:GQ:6:GLY:HA2	17:GQ:9:ALA:HB3	1.98	0.45
17:GQ:91:ARG:NH1	18:GR:11:GLN:O	2.49	0.45
19:GS:36:LEU:HD21	19:GS:47:VAL:HG12	1.98	0.45
21:GU:27:VAL:HA	21:GU:33:VAL:HG12	1.96	0.45
23:GW:31:LEU:N	23:GW:31:LEU:HD23	2.30	0.45
23:GW:39:GLN:HG2	23:GW:40:ARG:N	2.32	0.45
23:GW:44:PHE:HB3	23:GW:78:PHE:CD1	2.51	0.45
24:GX:40:GLU:O	24:GX:43:LYS:HD2	2.17	0.45
25:GY:32:ALA:HA	25:GY:37:LEU:HB3	1.99	0.45
25:GY:56:LEU:HA	25:GY:59:GLU:CD	2.41	0.45
35:HA:109:A:H2'	35:HA:326:G:N2	2.30	0.45
35:HA:947:G:O4'	35:HA:1333:A:O2'	2.20	0.45
35:HA:1243:C:H2'	35:HA:1244:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:HI:7:TYR:HE2	42:HI:9:THR:HG1	1.63	0.45
44:HK:24:HIS:CG	44:HK:25:ALA:N	2.84	0.45
48:HO:26:GLU:HG2	48:HO:81:LEU:HD22	1.98	0.45
3:AA:751:A:C6	3:AA:789:A:C5	3.04	0.45
3:AA:1171:G:C6	3:AA:1172:C:C4	3.04	0.45
3:AA:1593:A:H2'	3:AA:1594:U:O4'	2.17	0.45
3:AA:1686:C:C2	3:AA:1703:G:C2	3.05	0.45
3:AA:2108:A:C2'	3:AA:2109:U:O5'	2.65	0.45
3:AA:2478:A:H2'	3:AA:2479:U:H5'	1.98	0.45
3:AA:2698:U:H2'	3:AA:2699:C:C6	2.51	0.45
7:AG:163:TYR:O	7:AG:164:ALA:HB2	2.16	0.45
11:AK:10:VAL:HG21	11:AK:17:ARG:H	1.81	0.45
11:AK:13:ASN:O	11:AK:14:SER:OG	2.29	0.45
11:AK:98:ARG:HA	11:AK:118:LEU:HD23	1.97	0.45
12:AL:132:ARG:HG3	12:AL:142:ILE:HD12	1.98	0.45
14:AN:12:ARG:CZ	14:AN:20:MET:HE1	2.46	0.45
17:AQ:4:LYS:NZ	17:AQ:7:VAL:CG1	2.79	0.45
28:A1:33:LEU:N	28:A1:51:ALA:CB	2.80	0.45
35:BA:460:A:H2	35:BA:462:G:C8	2.34	0.45
35:BA:913:A:OP1	45:BL:88:LYS:NZ	2.45	0.45
49:BP:51:ARG:C	49:BP:52:LEU:HD12	2.41	0.45
55:BV:532:LYS:HD3	55:BV:534:TYR:H	1.81	0.45
3:CA:58:G:O2'	3:CA:73:A:N1	2.44	0.45
3:CA:197:A:OP1	60:CA:3744:HOH:O	2.20	0.45
3:CA:613:A:O2'	3:CA:614:A:OP1	2.31	0.45
3:CA:1171:G:N1	3:CA:1172:C:C4	2.85	0.45
3:CA:1344:U:H4'	3:CA:1384:A:C5	2.51	0.45
3:CA:1731:G:O2'	3:CA:1732:C:H3'	2.16	0.45
3:CA:2211:A:O2'	3:CA:2212:A:P	2.75	0.45
3:CA:2305:U:C4	6:CF:151:LEU:HA	2.52	0.45
3:CA:2473:U:C4	3:CA:2474:U:C4	3.04	0.45
3:CA:2849:U:N3	3:CA:2867:G:O4'	2.40	0.45
9:CI:55:PRO:O	9:CI:71:LYS:HG3	2.17	0.45
10:CJ:84:ILE:HG23	10:CJ:84:ILE:O	2.17	0.45
10:CJ:122:LEU:HD11	10:CJ:124:VAL:HG13	1.97	0.45
13:CM:13:HIS:O	13:CM:14:LYS:CB	2.63	0.45
14:CN:69:ARG:O	14:CN:71:ARG:N	2.47	0.45
35:DA:204:G:H1'	35:DA:465:A:C2	2.51	0.45
35:DA:1328:C:C2	35:DA:1329:A:C8	3.04	0.45
40:DG:69:VAL:C	40:DG:138:ARG:HD3	2.41	0.45
43:DJ:63:ASP:HB3	43:DJ:65:TYR:CE1	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:DJ:74:VAL:HG12	43:DJ:75:ASP:N	2.31	0.45
46:DM:64:VAL:HG13	46:DM:68:ASP:HB3	1.98	0.45
48:DO:79:THR:O	48:DO:82:ILE:HG12	2.17	0.45
50:DQ:8:LEU:HD12	50:DQ:73:TRP:CH2	2.52	0.45
52:DS:36:ARG:HH22	52:DS:77:THR:CG2	2.29	0.45
3:EA:1028:A:N6	3:EA:1125:G:H2'	2.31	0.45
5:EE:188:MET:CE	5:EE:196:VAL:HG21	2.47	0.45
7:EG:37:ASN:HB3	7:EG:40:VAL:HG22	1.98	0.45
7:EG:39:ALA:HA	7:EG:57:TYR:CD2	2.52	0.45
9:EI:20:SER:HB3	9:EI:21:PRO:HD3	1.98	0.45
9:EI:124:MET:O	9:EI:127:SER:OG	2.32	0.45
13:EM:54:THR:O	13:EM:56:ALA:N	2.47	0.45
32:E5:15:VAL:HG22	32:E5:66:GLY:HA3	1.97	0.45
35:FA:520:A:O2'	45:FL:70:GLU:OE2	2.34	0.45
35:FA:1319:A:OP2	52:FS:5:LEU:HD11	2.16	0.45
35:FA:1526:G:P	54:FU:39:GLU:CG	3.04	0.45
41:FH:59:LEU:HD21	41:FH:61:LEU:HD21	1.99	0.45
54:FU:10:GLU:CG	54:FU:11:PRO:HD3	2.47	0.45
55:FV:195:ASP:OD1	55:FV:196:ALA:N	2.50	0.45
3:GA:248:G:O2'	3:GA:2432:A:OP1	2.29	0.45
3:GA:2304:G:O2'	6:GF:152:ASP:OD2	2.32	0.45
3:GA:2634:A:C2	3:GA:2635:A:C4	3.04	0.45
8:GH:31:VAL:HB	8:GH:32:PRO:HD3	1.97	0.45
10:GJ:33:ALA:O	10:GJ:37:ARG:N	2.50	0.45
10:GJ:44:TYR:CE2	17:GQ:59:LEU:HD11	2.51	0.45
11:GK:73:ASP:OD1	11:GK:74:GLY:N	2.49	0.45
14:GN:55:ALA:C	14:GN:57:THR:N	2.73	0.45
18:GR:54:VAL:HG12	18:GR:57:GLY:HA3	1.98	0.45
21:GU:85:ARG:HD3	21:GU:86:PHE:N	2.31	0.45
24:GX:65:THR:O	24:GX:68:ALA:HB3	2.16	0.45
35:HA:885:G:N1	35:HA:886:G:C5	2.85	0.45
35:HA:1467:C:H2'	35:HA:1468:A:H8	1.81	0.45
37:HD:169:THR:HG22	37:HD:184:ARG:NH2	2.30	0.45
40:HG:111:ARG:HH21	40:HG:123:GLU:HG2	1.82	0.45
40:HG:138:ARG:NH1	40:HG:139:GLU:OE2	2.49	0.45
45:HL:44:LYS:CB	45:HL:45:PRO:CD	2.94	0.45
53:HT:69:LYS:HB2	53:HT:69:LYS:HZ2	1.82	0.45
55:HV:79:TYR:OH	55:HV:284:ASP:OD1	2.22	0.45
3:AA:20:C:OP1	17:AQ:21:LYS:NZ	2.45	0.45
3:AA:33:C:O2	3:AA:447:A:N6	2.50	0.45
3:AA:85:G:OP1	21:AU:6:ARG:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1161:C:H1'	18:AR:8:GLY:O	2.15	0.45
3:AA:2024:G:C4	3:AA:2040:G:N2	2.84	0.45
3:AA:2478:A:P	31:A4:2:LYS:HZ1	2.40	0.45
3:AA:2852:G:C6	3:AA:2853:C:N3	2.84	0.45
22:AV:80:HIS:CD2	22:AV:83:LYS:HB2	2.52	0.45
32:A5:68:PRO:HA	32:A5:72:LEU:CG	2.46	0.45
35:BA:880:C:OP1	45:BL:9:ARG:NH1	2.49	0.45
35:BA:1060:U:OP1	47:BN:85:ARG:NH2	2.49	0.45
44:BK:127:ARG:NH2	54:BU:33:ARG:O	2.47	0.45
54:BU:25:LYS:HZ2	54:BU:26:ALA:HB2	1.80	0.45
3:CA:384:A:H2'	3:CA:385:C:H5'	1.99	0.45
3:CA:813:U:O2'	3:CA:1225:G:O2'	2.28	0.45
3:CA:1266:G:OP2	27:C0:16:ARG:NE	2.49	0.45
3:CA:1838:C:C4	3:CA:1899:A:C4	3.04	0.45
3:CA:2061:G:OP2	60:CA:3492:HOH:O	2.21	0.45
3:CA:2336:A:H61	23:CW:40:ARG:HB3	1.82	0.45
3:CA:2517:C:C6	3:CA:2542:A:N7	2.84	0.45
4:CD:24:VAL:HA	4:CD:191:GLY:H	1.82	0.45
8:CH:17:ASP:CG	46:HM:40:ALA:HB1	2.42	0.45
13:CM:35:ALA:HA	13:CM:128:THR:HG22	1.98	0.45
32:C5:57:ASN:C	32:C5:59:LEU:N	2.73	0.45
35:DA:206:C:H2'	35:DA:207:C:O4'	2.16	0.45
35:DA:707:U:H4'	44:DK:22:HIS:CD2	2.51	0.45
35:DA:1387:G:C6	35:DA:1388:C:C4	3.05	0.45
36:DC:14:ILE:O	36:DC:15:VAL:HG22	2.17	0.45
39:DF:38:ARG:HG2	39:DF:39:LEU:N	2.32	0.45
41:DH:98:GLY:C	41:DH:100:GLY:H	2.23	0.45
45:DL:63:VAL:HG22	45:DL:64:THR:N	2.31	0.45
45:DL:98:VAL:HG13	45:DL:101:ALA:CB	2.46	0.45
3:EA:2204:G:OP2	2:EC:146:LYS:NZ	2.42	0.45
1:EB:116:G:H4'	15:EO:54:VAL:CG1	2.47	0.45
16:EP:4:ILE:HG22	16:EP:8:GLU:HG3	1.96	0.45
22:EV:6:ALA:HB1	22:EV:40:ILE:CG2	2.47	0.45
23:EW:73:PRO:O	23:EW:74:LYS:HB3	2.17	0.45
32:E5:31:ARG:HD3	32:E5:31:ARG:HA	1.76	0.45
35:FA:979:C:N4	35:FA:980:C:C2	2.84	0.45
35:FA:1007:U:C2'	35:FA:1008:U:H5'	2.44	0.45
36:FC:77:ILE:HA	36:FC:84:VAL:HG23	1.99	0.45
43:FJ:88:MET:O	43:FJ:90:LEU:N	2.44	0.45
49:FP:18:GLN:CG	49:FP:35:ARG:HD2	2.46	0.45
3:GA:107:G:O3'	3:GA:293:U:O2'	2.26	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:160:A:C6	3:GA:161:A:C6	3.04	0.45
3:GA:559:G:OP1	10:GJ:111:LYS:HD3	2.17	0.45
3:GA:819:A:C5	3:GA:1189:A:C2	3.04	0.45
3:GA:1010:A:OP1	17:GQ:62:ALA:HA	2.16	0.45
3:GA:1171:G:N2	3:GA:1172:C:C4	2.85	0.45
3:GA:1198:U:O3'	17:GQ:4:LYS:HE3	2.16	0.45
3:GA:1430:G:H2'	3:GA:1431:A:O4'	2.17	0.45
3:GA:1774:C:OP1	60:GA:3441:HOH:O	2.21	0.45
3:GA:1904:G:N3	3:GA:1928:A:H2	2.14	0.45
3:GA:2107:G:N1	3:GA:2182:U:H2'	2.29	0.45
5:GE:109:LEU:HD13	5:GE:112:LEU:HD12	1.99	0.45
11:GK:10:VAL:HG11	11:GK:16:ALA:CB	2.47	0.45
17:GQ:97:ILE:CD1	17:GQ:105:PHE:HD1	2.30	0.45
18:GR:66:HIS:CD2	18:GR:94:THR:HG22	2.51	0.45
26:GZ:10:ARG:C	26:GZ:31:ILE:HG22	2.42	0.45
29:G2:18:PHE:CD1	29:G2:18:PHE:C	2.94	0.45
35:HA:211:G:H3'	35:HA:211:G:N3	2.31	0.45
35:HA:536:C:H2'	35:HA:537:G:C8	2.51	0.45
35:HA:872:A:C8	35:HA:874:G:C8	3.05	0.45
35:HA:972:C:H4'	43:HJ:59:LYS:HB3	1.98	0.45
35:HA:1128:C:H4'	35:HA:1148:U:C2	2.51	0.45
35:HA:1404:C:H2'	35:HA:1405:G:C8	2.52	0.45
36:HC:130:PHE:CG	36:HC:131:ARG:N	2.84	0.45
52:HS:36:ARG:CD	52:HS:51:VAL:HG11	2.46	0.45
2:AC:12:ARG:HD3	3:AA:728:G:H4'	1.98	0.45
2:AC:24:HIS:NE2	2:AC:79:ARG:NH2	2.65	0.45
3:AA:855:G:H21	23:AW:23:LYS:HG2	1.82	0.45
3:AA:2326:C:C6	3:AA:2326:C:H3'	2.52	0.45
3:AA:2615:U:C2	27:A0:3:GLN:HA	2.51	0.45
4:AD:1:MET:HG2	4:AD:205:PRO:HG3	1.98	0.45
10:AJ:44:TYR:HD1	17:AQ:63:ARG:HG2	1.81	0.45
14:AN:103:ARG:CZ	14:AN:110:MET:CE	2.95	0.45
19:AS:1:MET:O	19:AS:108:SER:HB2	2.16	0.45
30:A3:3:ILE:HG21	30:A3:62:PRO:HG3	1.98	0.45
32:A5:63:ALA:HB3	32:A5:84:TYR:CE2	2.52	0.45
32:A5:136:ILE:HG13	32:A5:139:LEU:HD12	1.98	0.45
35:BA:658:C:O4'	48:BO:22:THR:OG1	2.33	0.45
37:BD:145:ILE:CD1	37:BD:155:VAL:HG21	2.47	0.45
40:BG:15:ASP:HB3	40:BG:20:SER:H	1.82	0.45
42:BI:88:MET:SD	42:BI:88:MET:C	2.99	0.45
55:BV:565:PRO:CG	55:BV:605:PHE:CD2	2.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BV:611:VAL:HG21	55:BV:689:GLU:CD	2.41	0.45
55:BV:658:VAL:HG21	55:BV:663:MET:SD	2.57	0.45
3:CA:580:U:H2'	3:CA:581:C:C6	2.51	0.45
3:CA:1647:U:P	3:CA:1647:U:H3'	2.57	0.45
3:CA:1684:G:C6	3:CA:1685:C:N3	2.84	0.45
6:CF:134:GLN:O	6:CF:136:ILE:N	2.49	0.45
23:CW:8:SER:O	23:CW:9:THR:HG22	2.17	0.45
35:DA:1124:G:H2'	35:DA:1145:A:H61	1.82	0.45
35:DA:1417:G:N2	35:DA:1482:G:H2'	2.32	0.45
35:DA:1486:G:H2'	35:DA:1487:G:O4'	2.17	0.45
48:DO:35:GLN:CB	48:DO:59:MET:HE3	2.46	0.45
55:DV:151:PHE:CE1	55:DV:266:CYS:HB3	2.52	0.45
55:DV:663:MET:HE2	55:DV:666:TYR:CD1	2.51	0.45
3:EA:442:G:C6	3:EA:444:C:N4	2.85	0.45
3:EA:646:U:H3'	3:EA:647:G:H5"	1.97	0.45
3:EA:1073:A:C5	3:EA:1074:G:C8	3.04	0.45
3:EA:1676:A:H2'	3:EA:1677:A:O4'	2.16	0.45
3:EA:1773:A:N7	3:EA:1829:A:H1'	2.32	0.45
3:EA:2745:C:C4	3:EA:2746:U:C4	3.05	0.45
1:EB:20:G:C6	1:EB:21:G:C5	3.04	0.45
11:EK:19:VAL:HG13	11:EK:41:ILE:HG12	1.99	0.45
13:EM:136:MET:HE2	22:EV:57:TYR:CE1	2.51	0.45
23:EW:74:LYS:O	23:EW:75:ASN:C	2.59	0.45
35:FA:135:C:H2'	35:FA:136:C:H5'	1.97	0.45
35:FA:408:A:OP1	37:FD:112:ALA:HB3	2.16	0.45
35:FA:1034:G:O2'	35:FA:1035:A:H5'	2.17	0.45
44:FK:35:THR:HA	44:FK:42:LEU:HG	1.99	0.45
54:FU:34:ARG:HE	54:FU:35:ARG:HG3	1.79	0.45
55:FV:320:LEU:HD23	55:FV:321:ALA:N	2.30	0.45
3:GA:856:G:H2'	3:GA:857:G:C8	2.52	0.45
3:GA:884:U:H2'	3:GA:892:A:H61	1.81	0.45
3:GA:973:A:H5"	18:GR:81:LYS:NZ	2.32	0.45
3:GA:1019:U:C5	3:GA:1142:A:N6	2.84	0.45
3:GA:1462:C:H2'	3:GA:1463:C:C6	2.52	0.45
3:GA:1495:A:C6	3:GA:1496:A:C6	3.04	0.45
3:GA:2665:A:C2	3:GA:2666:C:C6	3.04	0.45
6:GF:102:LEU:HD22	6:GF:106:ALA:HB3	1.98	0.45
9:GI:126:ARG:HH11	9:GI:126:ARG:HG3	1.82	0.45
10:GJ:98:GLU:HB3	10:GJ:124:VAL:HG23	1.98	0.45
13:GM:66:ARG:NH1	13:GM:104:GLU:OE1	2.49	0.45
35:HA:579:A:N6	35:HA:762:U:H3	2.14	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:587:G:H4'	41:HH:4:GLN:HA	1.97	0.45
35:HA:958:A:O2'	35:HA:985:C:O2'	2.33	0.45
41:HH:83:LEU:HD11	45:HL:4:VAL:HG11	1.99	0.45
53:HT:62:ALA:CA	53:HT:67:ILE:HG22	2.45	0.45
2:AC:265:PHE:N	2:AC:265:PHE:HD1	2.15	0.45
3:AA:223:A:N1	3:AA:407:G:O2'	2.46	0.45
3:AA:973:A:O4'	3:AA:1188:U:C6	2.70	0.45
3:AA:996:A:H4'	17:AQ:91:ARG:CD	2.47	0.45
3:AA:2740:A:C6	3:AA:2764:A:C8	3.04	0.45
8:AH:8:LYS:O	8:AH:13:GLY:HA2	2.16	0.45
9:AI:24:GLY:O	9:AI:27:LEU:HG	2.16	0.45
16:AP:91:VAL:HG11	16:AP:96:LEU:HD21	1.98	0.45
32:A5:26:VAL:O	32:A5:27:VAL:CB	2.64	0.45
32:A5:71:CYS:CA	32:A5:117:LEU:HD11	2.43	0.45
32:A5:125:ARG:CZ	32:A5:125:ARG:HA	2.46	0.45
34:BB:71:THR:HG22	34:BB:72:LYS:H	1.81	0.45
35:BA:1320:C:O2	52:BS:36:ARG:NH1	2.49	0.45
36:BC:7:PRO:CG	36:BC:184:TYR:CG	3.00	0.45
42:BI:44:ALA:HB1	42:BI:76:ALA:CB	2.47	0.45
55:BV:71:PHE:CE1	55:BV:83:ARG:HG3	2.52	0.45
55:BV:193:TRP:CZ3	55:BV:276:GLN:HB2	2.51	0.45
1:CB:12:C:C4	23:CW:72:GLY:HA3	2.52	0.45
3:CA:202:U:C4	3:CA:203:A:C6	3.05	0.45
3:CA:669:G:N2	3:CA:670:A:C2	2.85	0.45
3:CA:878:A:H3'	3:CA:879:G:H8	1.82	0.45
3:CA:1794:A:H2'	3:CA:1795:C:C6	2.51	0.45
3:CA:2681:C:C2	3:CA:2724:U:O4	2.69	0.45
3:CA:2747:G:O6	3:CA:2755:C:H5"	2.16	0.45
2:CC:225:ASN:HB3	2:CC:226:PRO:HD2	1.98	0.45
7:CG:155:PRO:O	7:CG:170:THR:HA	2.17	0.45
10:CJ:102:GLU:HG3	10:CJ:124:VAL:HG21	1.98	0.45
11:CK:24:VAL:CG1	11:CK:30:ARG:HD3	2.47	0.45
35:DA:223:A:H2'	35:DA:224:U:C6	2.52	0.45
41:DH:47:GLU:O	41:DH:48:ASP:HB3	2.17	0.45
44:DK:88:GLY:H	44:DK:114:THR:HG22	1.81	0.45
51:DR:24:LYS:O	51:DR:26:ILE:N	2.44	0.45
55:DV:19:ILE:HD13	55:DV:92:HIS:H	1.80	0.45
55:DV:500:ASP:N	55:DV:521:ASP:OD1	2.46	0.45
3:EA:322:A:C5	3:EA:340:A:C2	3.05	0.45
3:EA:635:C:O2'	3:EA:639:U:OP1	2.34	0.45
3:EA:725:G:C6	3:EA:726:G:N1	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:1054:A:P	32:E5:31:ARG:HH21	2.39	0.45
3:EA:1407:G:C2	3:EA:1596:A:C2	3.05	0.45
3:EA:1566:A:C6	2:EC:212:TRP:CZ3	3.05	0.45
3:EA:2661:G:C6	3:EA:2662:A:C2	3.05	0.45
3:EA:2801:G:C2	3:EA:2802:G:C4	3.04	0.45
1:EB:86:G:H2'	1:EB:87:U:H5"	1.98	0.45
4:ED:11:MET:HE1	4:ED:192:ALA:HA	1.98	0.45
4:ED:118:PHE:O	4:ED:119:ALA:HB3	2.17	0.45
6:EF:39:VAL:HG21	6:EF:42:ALA:HB2	1.97	0.45
12:EL:90:VAL:HG13	12:EL:95:LEU:HD21	1.98	0.45
16:EP:19:PHE:HZ	16:EP:83:ILE:CG1	2.29	0.45
23:EW:44:PHE:O	23:EW:78:PHE:HA	2.17	0.45
31:E4:7:VAL:HG23	31:E4:8:LYS:H	1.82	0.45
35:FA:466:A:N1	35:FA:468:A:N7	2.64	0.45
35:FA:1394:A:C5	35:FA:1501:C:H4'	2.51	0.45
35:FA:1468:A:C2'	35:FA:1469:C:C5'	2.95	0.45
34:FB:92:ASN:OD1	34:FB:92:ASN:N	2.50	0.45
38:FE:56:VAL:N	38:FE:57:PRO:HD2	2.31	0.45
40:FG:22:LEU:CD1	40:FG:62:PHE:HE2	2.30	0.45
41:FH:10:MET:HE1	41:FH:33:LYS:HA	1.99	0.45
42:FI:57:MET:SD	42:FI:58:VAL:CA	3.05	0.45
42:FI:90:TYR:HB2	42:FI:94:LEU:HD13	1.98	0.45
42:FI:90:TYR:HD2	42:FI:94:LEU:HD21	1.80	0.45
3:GA:439:A:H2'	3:GA:440:C:O4'	2.16	0.45
3:GA:485:C:C2	3:GA:496:G:N2	2.84	0.45
3:GA:538:A:H4'	10:GJ:7:LYS:HG2	1.99	0.45
3:GA:671:C:H41	12:GL:41:ARG:N	2.14	0.45
3:GA:871:U:C2	3:GA:907:G:N1	2.85	0.45
3:GA:1095:A:C1'	55:HV:632:ILE:HB	2.46	0.45
3:GA:1346:G:H2'	3:GA:1347:A:C8	2.52	0.45
3:GA:1365:A:C2	3:GA:1366:A:C5	3.05	0.45
3:GA:1773:A:N7	3:GA:1829:A:H1'	2.32	0.45
3:GA:2218:G:C6	3:GA:2219:U:C4	3.04	0.45
3:GA:2525:G:N2	3:GA:2539:C:C2	2.85	0.45
4:GD:86:GLU:OE1	4:GD:86:GLU:CA	2.63	0.45
9:GI:85:ILE:HD11	9:GI:100:ILE:HG21	1.99	0.45
18:GR:39:LEU:HA	18:GR:49:ILE:HG21	1.99	0.45
19:GS:24:ILE:HG22	19:GS:71:VAL:HG11	1.98	0.45
23:GW:37:VAL:HA	23:GW:56:HIS:HB2	1.98	0.45
35:HA:52:C:H2'	35:HA:53:A:C8	2.52	0.45
35:HA:692:U:OP1	44:HK:127:ARG:HD3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:1486:G:H2'	35:HA:1487:G:O4'	2.16	0.45
34:HB:32:GLY:CA	34:HB:39:ILE:O	2.65	0.45
44:HK:24:HIS:H	44:HK:31:ILE:HD11	1.82	0.45
55:HV:382:ILE:HD12	55:HV:382:ILE:O	2.17	0.45
55:HV:526:GLU:O	55:HV:528:GLY:N	2.50	0.45
2:AC:84:PRO:HG3	3:AA:1567:G:C2'	2.46	0.45
2:AC:93:VAL:HG12	2:AC:94:LEU:N	2.31	0.45
2:AC:163:ILE:HG23	2:AC:171:VAL:CG1	2.47	0.45
3:AA:792:A:C6	3:AA:2440:C:C6	3.05	0.45
3:AA:994:C:H1'	18:AR:10:LYS:CE	2.47	0.45
3:AA:1150:C:H2'	3:AA:1151:A:O5'	2.17	0.45
11:AK:98:ARG:HA	11:AK:118:LEU:CD2	2.47	0.45
12:AL:122:VAL:CG1	12:AL:142:ILE:HG12	2.47	0.45
15:AO:79:ALA:O	15:AO:82:ALA:N	2.49	0.45
25:AY:45:GLN:O	25:AY:46:VAL:HB	2.17	0.45
30:A3:31:ILE:O	30:A3:31:ILE:HG13	2.17	0.45
35:BA:601:G:H2'	35:BA:602:A:C8	2.52	0.45
37:BD:23:SER:O	37:BD:25:VAL:N	2.50	0.45
42:BI:24:GLY:HA3	42:BI:62:ASP:HB2	1.99	0.45
43:BJ:51:VAL:O	43:BJ:62:ARG:HA	2.16	0.45
47:BN:36:ALA:HB2	47:BN:41:ARG:CG	2.47	0.45
49:BP:75:ILE:O	49:BP:77:GLU:N	2.43	0.45
55:BV:50:MET:HE2	55:BV:50:MET:HA	1.97	0.45
55:BV:104:ARG:HD2	55:BV:104:ARG:C	2.41	0.45
55:BV:393:THR:HG21	55:BV:443:PRO:HD3	1.99	0.45
3:CA:364:C:H2'	3:CA:365:U:H6	1.82	0.45
3:CA:504:A:H3'	3:CA:505:A:H5'	1.99	0.45
3:CA:811:U:H2'	12:CL:21:ARG:HA	1.99	0.45
3:CA:996:A:H4'	17:CQ:91:ARG:NE	2.32	0.45
3:CA:1096:A:N6	3:CA:1097:U:C4	2.85	0.45
3:CA:1394:U:H4'	3:CA:1603:A:H4'	1.99	0.45
3:CA:1405:U:H2'	3:CA:1406:U:C6	2.51	0.45
3:CA:2320:U:O2	3:CA:2322:A:C5	2.70	0.45
16:CP:113:LEU:HG	16:CP:113:LEU:O	2.16	0.45
23:CW:17:ALA:O	23:CW:18:LYS:HB2	2.17	0.45
23:CW:51:GLY:HA3	23:CW:59:PHE:HE1	1.81	0.45
26:CZ:15:ARG:HH11	26:CZ:15:ARG:HG2	1.80	0.45
35:DA:825:A:O2'	41:DH:9:ASP:OD2	2.34	0.45
35:DA:911:U:H2'	35:DA:912:C:C6	2.52	0.45
35:DA:1028:C:N4	35:DA:1033:G:H1	2.14	0.45
35:DA:1049:U:H4'	35:DA:1050:G:H5'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:1074:G:N3	35:DA:1102:A:C2	2.84	0.45
35:DA:1130:A:N6	35:DA:1143:G:N2	2.64	0.45
34:DB:14:HIS:CG	34:DB:14:HIS:O	2.70	0.45
37:DD:192:SER:OG	37:DD:193:ALA:N	2.50	0.45
38:DE:97:GLN:N	38:DE:124:LEU:O	2.43	0.45
38:DE:111:MET:HG3	38:DE:140:THR:HG21	1.98	0.45
39:DF:61:LEU:HD22	51:DR:24:LYS:HD3	1.98	0.45
41:DH:66:PHE:O	41:DH:67:GLN:C	2.60	0.45
42:DI:60:LYS:O	42:DI:61:LEU:HD12	2.17	0.45
46:DM:4:ILE:HA	46:DM:57:ARG:NH1	2.31	0.45
47:DN:21:PHE:C	47:DN:23:LYS:H	2.24	0.45
53:DT:78:ASN:ND2	60:DT:102:HOH:O	2.49	0.45
3:EA:265:A:H4'	3:EA:266:G:OP1	2.16	0.45
3:EA:300:A:H2'	3:EA:334:C:H1'	1.99	0.45
6:EF:25:MET:HA	6:EF:25:MET:CE	2.46	0.45
7:EG:37:ASN:HB3	7:EG:40:VAL:CG2	2.47	0.45
9:EI:79:LEU:HA	9:EI:83:ALA:HB2	1.98	0.45
11:EK:5:GLN:O	11:EK:6:THR:HB	2.17	0.45
23:EW:22:VAL:O	23:EW:25:PHE:CD1	2.70	0.45
35:FA:641:U:H4'	41:FH:107:SER:O	2.17	0.45
36:FC:7:PRO:HG2	36:FC:184:TYR:CG	2.51	0.45
38:FE:15:LEU:CD1	38:FE:60:ILE:HD13	2.47	0.45
42:FI:112:GLU:OE2	42:FI:115:LYS:NZ	2.37	0.45
46:FM:54:ASP:HA	46:FM:57:ARG:HB3	1.98	0.45
55:FV:62:THR:HB	55:FV:90:PRO:HA	1.99	0.45
3:GA:565:C:O2'	60:GA:3328:HOH:O	2.08	0.45
3:GA:644:A:C2	3:GA:645:C:C2	3.04	0.45
3:GA:812:C:C2	3:GA:1250:G:N1	2.85	0.45
3:GA:952:G:C4	3:GA:966:G:N1	2.85	0.45
3:GA:1808:A:H3'	3:GA:1809:A:C8	2.52	0.45
3:GA:2297:A:N1	3:GA:2321:U:H5	2.15	0.45
3:GA:2531:A:OP2	7:GG:174:LYS:HG3	2.17	0.45
2:GC:35:LYS:HD3	2:GC:37:SER:HB2	1.99	0.45
5:GE:21:ARG:HD2	5:GE:106:LYS:HB3	1.98	0.45
6:GF:6:TYR:CE1	6:GF:10:GLU:OE2	2.70	0.45
7:GG:1:SER:HA	7:GG:4:ALA:HB3	1.99	0.45
16:GP:33:GLU:HB3	16:GP:36:LYS:O	2.17	0.45
19:GS:18:ARG:HG3	19:GS:76:VAL:HG21	1.98	0.45
35:HA:232:G:H1'	35:HA:262:A:N1	2.32	0.45
35:HA:481:G:O2'	35:HA:482:A:O5'	2.35	0.45
35:HA:764:C:H2'	35:HA:765:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:1078:U:H4'	38:HE:138:ARG:CZ	2.47	0.45
35:HA:1130:A:N6	35:HA:1144:G:N3	2.65	0.45
35:HA:1314:C:H42	35:HA:1323:G:H1	1.65	0.45
35:HA:1380:U:C5	40:HG:3:ARG:HA	2.51	0.45
38:HE:34:THR:HG22	38:HE:52:LYS:HE2	1.99	0.45
42:HI:17:ALA:HB1	42:HI:79:ILE:HG13	1.98	0.45
45:HL:24:LEU:HG	45:HL:25:GLU:H	1.81	0.45
50:HQ:8:LEU:HG	50:HQ:25:ILE:HD13	1.98	0.45
3:AA:666:A:H4'	12:AL:48:ARG:HD2	1.99	0.45
3:AA:820:A:H2'	3:AA:821:A:O4'	2.16	0.45
3:AA:979:A:H2'	3:AA:982:C:H42	1.82	0.45
3:AA:2800:A:H3'	3:AA:2801:G:H5"	1.96	0.45
4:AD:44:GLY:HA3	4:AD:45:TYR:HD1	1.82	0.45
11:AK:61:VAL:HG22	11:AK:87:LEU:HD11	1.98	0.45
16:AP:33:GLU:OE2	35:BA:345:C:H5'	2.16	0.45
26:AZ:39:ASP:OD2	26:AZ:44:ARG:NH1	2.46	0.45
29:A2:12:ARG:HH11	29:A2:44:VAL:HG11	1.82	0.45
32:A5:15:VAL:CG2	32:A5:66:GLY:HA2	2.47	0.45
35:BA:376:G:H2'	35:BA:377:G:H8	1.82	0.45
35:BA:995:C:N3	35:BA:1046:A:O2'	2.44	0.45
35:BA:1008:U:H2'	35:BA:1009:U:O4'	2.17	0.45
35:BA:1302:C:C6	35:BA:1302:C:O5'	2.70	0.45
3:CA:635:C:H2'	3:CA:636:G:O4'	2.16	0.45
3:CA:929:U:H4'	26:CZ:37:ARG:NH1	2.32	0.45
3:CA:1989:G:H2'	3:CA:1990:C:O4'	2.17	0.45
3:CA:2305:U:O4	3:CA:2306:C:N4	2.49	0.45
3:CA:2406:A:C6	12:CL:69:ARG:NH2	2.85	0.45
3:CA:2425:A:C5'	3:CA:2427:C:O4'	2.64	0.45
3:CA:2846:G:H2'	3:CA:2847:U:O4'	2.16	0.45
4:CD:149:ASN:CG	4:CD:150:GLN:H	2.23	0.45
9:CI:66:PHE:C	9:CI:66:PHE:CD1	2.94	0.45
32:C5:93:ALA:HA	32:C5:130:PRO:CD	2.47	0.45
35:DA:1524:C:OP2	44:DK:125:LYS:NZ	2.36	0.45
42:DI:47:VAL:HA	42:DI:50:GLN:HG3	1.98	0.45
55:DV:327:ASP:HB3	55:DV:330:VAL:HG22	1.99	0.45
3:EA:243:U:OP1	30:E3:5:THR:OG1	2.27	0.45
3:EA:655:A:H4'	3:EA:656:G:OP1	2.17	0.45
3:EA:782:A:C6	2:EC:224:MET:HE2	2.51	0.45
3:EA:1072:C:H5'	3:EA:1073:A:OP1	2.17	0.45
3:EA:1150:C:H2'	3:EA:1151:A:O5'	2.17	0.45
3:EA:1257:C:OP1	5:EE:67:ARG:NH1	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:2328:A:H2'	3:EA:2329:U:C6	2.51	0.45
2:EC:29:PHE:CE2	2:EC:31:PRO:HG2	2.52	0.45
14:EN:12:ARG:CZ	14:EN:20:MET:HE1	2.47	0.45
15:EO:14:ALA:O	15:EO:18:LEU:HD22	2.17	0.45
16:EP:111:GLU:OE1	16:EP:111:GLU:N	2.48	0.45
35:FA:586:C:O2'	35:FA:878:A:H4'	2.17	0.45
35:FA:637:C:H2'	35:FA:638:U:C6	2.52	0.45
35:FA:780:A:H5"	44:FK:125:LYS:HE2	1.99	0.45
35:FA:1067:A:N1	35:FA:1108:G:O2'	2.46	0.45
34:FB:209:VAL:HG23	34:FB:210:THR:H	1.81	0.45
44:FK:13:ARG:O	44:FK:14:LYS:CB	2.65	0.45
1:GB:20:G:O6	60:GB:1301:HOH:O	2.19	0.45
3:GA:477:A:N6	3:GA:500:G:O2'	2.50	0.45
3:GA:826:U:O2	60:GA:3349:HOH:O	2.18	0.45
3:GA:1056:G:H5"	3:GA:1057:A:O4'	2.16	0.45
3:GA:1067:A:H2'	3:GA:1068:G:C8	2.48	0.45
3:GA:1092:C:H2'	3:GA:1093:G:H5'	1.98	0.45
3:GA:1155:A:O2'	3:GA:1156:A:H2'	2.17	0.45
3:GA:1223:G:OP1	18:GR:68:ARG:NH1	2.49	0.45
3:GA:1760:C:H2'	3:GA:1761:C:O4'	2.17	0.45
2:GC:260:LYS:N	2:GC:263:ASP:OD1	2.48	0.45
6:GF:110:ILE:CG1	6:GF:136:ILE:HG21	2.46	0.45
8:GH:5:LEU:HD23	8:GH:5:LEU:H	1.82	0.45
10:GJ:43:GLU:O	10:GJ:44:TYR:C	2.60	0.45
14:GN:29:VAL:CG1	14:GN:75:ILE:HG23	2.47	0.45
28:G1:8:ILE:HG13	28:G1:24:LYS:HG2	1.99	0.45
35:HA:1150:A:C2	43:HJ:41:PRO:HG3	2.52	0.45
34:HB:22:TRP:HH2	34:HB:27:LYS:HE3	1.82	0.45
41:HH:84:ARG:NH1	41:HH:124:GLU:OE1	2.49	0.45
45:HL:75:GLN:O	45:HL:77:HIS:N	2.50	0.45
54:HU:37:PHE:HA	54:HU:40:LYS:HD2	1.99	0.45
54:HU:43:THR:HG23	54:HU:44:GLU:N	2.32	0.45
55:HV:257:LEU:HD11	55:HV:291:ASP:HB3	1.99	0.45
1:AB:11:C:O2'	1:AB:15:A:N6	2.50	0.45
3:AA:277:G:H2'	3:AA:361:G:O6	2.17	0.45
3:AA:281:C:H2'	3:AA:282:A:C8	2.51	0.45
3:AA:288:U:H2'	3:AA:289:G:C8	2.52	0.45
3:AA:973:A:P	18:AR:81:LYS:HZ3	2.40	0.45
3:AA:980:A:C4	3:AA:1136:G:O4'	2.70	0.45
3:AA:1031:G:C4'	31:A4:6:SER:HB2	2.47	0.45
3:AA:1141:U:H4'	3:AA:1142:A:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:2103:C:H2'	3:AA:2104:C:C5'	2.47	0.45
4:AD:69:ALA:HA	4:AD:73:VAL:CG1	2.47	0.45
4:AD:73:VAL:HG23	4:AD:74:GLU:H	1.82	0.45
5:AE:119:ILE:HG13	5:AE:119:ILE:O	2.16	0.45
10:AJ:30:THR:HG22	10:AJ:31:GLU:N	2.32	0.45
10:AJ:54:ILE:C	10:AJ:54:ILE:HD13	2.42	0.45
14:AN:98:LEU:CB	27:A0:42:ILE:HD11	2.46	0.45
17:AQ:91:ARG:HH12	18:AR:10:LYS:HB3	1.82	0.45
23:AW:17:ALA:O	23:AW:18:LYS:CB	2.63	0.45
34:BB:216:VAL:HA	34:BB:219:THR:HG22	1.98	0.45
35:BA:355:C:C4	35:BA:356:A:N7	2.85	0.45
35:BA:925:G:C2	35:BA:927:G:C8	3.04	0.45
35:BA:982:U:H4'	35:BA:983:A:O5'	2.17	0.45
35:BA:1181:G:N2	35:BA:1182:G:N2	2.64	0.45
37:BD:65:TYR:N	37:BD:65:TYR:CD1	2.84	0.45
39:BF:18:VAL:HG21	39:BF:58:HIS:CD2	2.52	0.45
55:BV:19:ILE:HD13	55:BV:92:HIS:H	1.82	0.45
55:BV:193:TRP:CH2	55:BV:276:GLN:HB2	2.51	0.45
1:CB:12:C:C5	23:CW:72:GLY:HA3	2.52	0.45
3:CA:45:G:H2'	3:CA:215:G:C5	2.52	0.45
3:CA:559:G:OP1	10:CJ:111:LYS:NZ	2.45	0.45
3:CA:1168:G:H3'	3:CA:1169:A:C8	2.51	0.45
3:CA:1276:A:C2	3:CA:1277:G:C5	3.05	0.45
3:CA:2353:G:H1'	23:CW:30:VAL:HG22	1.99	0.45
3:CA:2748:A:H1'	7:CG:66:THR:CG2	2.47	0.45
7:CG:123:GLU:HG2	7:CG:124:CYS:N	2.31	0.45
9:CI:123:ALA:HA	9:CI:126:ARG:NH2	2.32	0.45
11:CK:13:ASN:OD1	11:CK:13:ASN:N	2.50	0.45
12:CL:82:LEU:HB3	12:CL:90:VAL:HG21	1.97	0.45
16:CP:33:GLU:HB3	16:CP:36:LYS:O	2.17	0.45
17:CQ:4:LYS:HG3	17:CQ:5:ARG:N	2.32	0.45
17:CQ:94:LEU:C	17:CQ:96:ASP:H	2.23	0.45
32:C5:133:GLU:C	32:C5:135:ALA:H	2.25	0.45
35:DA:114:U:O2'	35:DA:115:G:H5'	2.16	0.45
35:DA:1250:A:N3	35:DA:1370:G:O2'	2.42	0.45
34:DB:153:MET:SD	34:DB:157:PRO:HG3	2.56	0.45
34:DB:212:TYR:CD1	34:DB:216:VAL:HG13	2.52	0.45
39:DF:6:ILE:HB	39:DF:62:MET:HB3	1.98	0.45
49:DP:10:GLY:HA3	49:DP:15:PRO:HA	1.99	0.45
55:DV:33:TYR:CE1	55:DV:199:GLY:HA3	2.52	0.45
55:DV:430:LYS:HG2	55:DV:479:VAL:CG2	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:307:G:N2	3:EA:310:A:OP2	2.50	0.45
3:EA:504:A:O2'	3:EA:505:A:OP1	2.26	0.45
3:EA:634:C:H2'	3:EA:635:C:C6	2.51	0.45
3:EA:1087:G:C2	3:EA:1103:A:C2	3.05	0.45
3:EA:2822:G:O2'	3:EA:2824:C:OP2	2.31	0.45
2:EC:16:VAL:H	2:EC:203:VAL:HG12	1.82	0.45
2:EC:77:VAL:O	2:EC:77:VAL:CG2	2.65	0.45
2:EC:163:ILE:HG23	2:EC:171:VAL:CG1	2.47	0.45
17:EQ:60:TRP:CE2	17:EQ:93:ILE:HB	2.52	0.45
18:ER:37:GLU:HB3	18:ER:53:PHE:CE1	2.52	0.45
18:ER:38:VAL:O	18:ER:53:PHE:HA	2.17	0.45
21:EU:88:ASP:OD1	21:EU:89:GLY:N	2.50	0.45
28:E1:8:ILE:CD1	28:E1:52:LYS:HG2	2.47	0.45
29:E2:31:LEU:HD21	29:E2:43:THR:HG21	1.99	0.45
31:E4:36:ARG:CG	31:E4:37:GLN:H	2.27	0.45
35:FA:227:G:N2	49:FP:63:GLN:O	2.50	0.45
35:FA:376:G:C2	35:FA:377:G:C8	3.05	0.45
35:FA:546:A:P	37:FD:69:GLU:HB2	2.57	0.45
35:FA:926:G:N2	35:FA:1505:G:H2'	2.32	0.45
34:FB:153:MET:O	34:FB:155:GLY:N	2.50	0.45
55:FV:55:GLN:NE2	55:FV:471:ASP:OD1	2.50	0.45
1:GB:53:A:C8	1:GB:54:G:C8	3.05	0.45
3:GA:26:G:OP1	19:GS:80:PRO:HB3	2.16	0.45
3:GA:425:G:C2	3:GA:426:C:C4	3.05	0.45
3:GA:613:A:N3	5:GE:173:THR:HG21	2.32	0.45
3:GA:952:G:C6	3:GA:953:G:C5	3.05	0.45
3:GA:1494:A:C2	3:GA:1495:A:C4	3.05	0.45
3:GA:1682:G:H2'	3:GA:1683:U:C6	2.51	0.45
3:GA:1999:C:H4'	3:GA:2723:C:O2	2.17	0.45
3:GA:2204:G:C6	3:GA:2205:A:C5	3.05	0.45
3:GA:2722:G:O2'	14:GN:3:HIS:O	2.29	0.45
3:GA:2784:U:H2'	3:GA:2785:C:C6	2.51	0.45
4:GD:24:VAL:HA	4:GD:191:GLY:H	1.82	0.45
7:GG:175:LYS:HD2	55:HV:630:ASP:HA	1.98	0.45
35:HA:518:C:H2'	35:HA:530:G:C8	2.52	0.45
35:HA:1049:U:H5"	35:HA:1050:G:H5"	1.98	0.45
34:HB:67:LEU:HD23	34:HB:67:LEU:C	2.41	0.45
41:HH:101:ILE:HB	41:HH:112:THR:CG2	2.47	0.45
55:HV:191:ILE:HG23	55:HV:202:PHE:CE1	2.52	0.45
3:AA:315:G:H2'	3:AA:316:C:C6	2.52	0.44
3:AA:1138:G:N3	10:AJ:108:MET:HE2	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:2021:C:P	27:A0:8:THR:HG21	2.56	0.44
3:AA:2262:U:H4'	3:AA:2328:A:C2	2.52	0.44
3:AA:2407:A:C2	3:AA:2408:U:C2	3.05	0.44
4:AD:3:GLY:HA3	4:AD:204:LYS:HG2	1.99	0.44
6:AF:72:SER:HB2	6:AF:80:GLN:HB2	2.00	0.44
23:AW:37:VAL:HG11	23:AW:55:ASP:HB2	1.99	0.44
35:BA:2:A:O2'	37:BD:83:LYS:NZ	2.47	0.44
35:BA:561:U:O2'	35:BA:562:U:OP1	2.33	0.44
35:BA:747:A:H5'	35:BA:748:G:OP2	2.17	0.44
42:BI:9:THR:HG22	42:BI:10:GLY:N	2.31	0.44
43:BJ:73:LEU:O	43:BJ:75:ASP:N	2.50	0.44
46:BM:54:ASP:HA	46:BM:57:ARG:CB	2.47	0.44
49:BP:10:GLY:HA3	49:BP:15:PRO:HA	1.98	0.44
52:BS:25:SER:C	52:BS:26:GLY:O	2.60	0.44
55:BV:33:TYR:HE2	55:BV:275:VAL:HB	1.82	0.44
55:BV:93:VAL:HG22	55:BV:94:ASP:H	1.82	0.44
3:CA:565:C:H4'	3:CA:1253:A:N6	2.32	0.44
3:CA:616:A:OP2	60:CA:3287:HOH:O	2.21	0.44
3:CA:996:A:H4'	17:CQ:91:ARG:CD	2.47	0.44
3:CA:1022:G:C6	3:CA:1140:C:C4	3.05	0.44
3:CA:1088:A:H61	9:CI:130:GLY:C	2.25	0.44
3:CA:1262:A:N3	27:C0:6:LYS:NZ	2.58	0.44
3:CA:1948:G:N3	35:DA:1418:A:H2	2.15	0.44
9:CI:77:VAL:C	9:CI:79:LEU:H	2.25	0.44
10:CJ:44:TYR:O	10:CJ:45:THR:HG22	2.16	0.44
22:CV:80:HIS:CD2	22:CV:83:LYS:HB2	2.52	0.44
23:CW:28:GLU:HG2	23:CW:29:SER:N	2.31	0.44
32:C5:113:PHE:C	32:C5:115:GLY:N	2.73	0.44
35:DA:257:G:C2	35:DA:258:G:C5	3.05	0.44
35:DA:369:G:C4	35:DA:393:A:C2	3.05	0.44
35:DA:1308:U:H3'	46:DM:98:ARG:HH21	1.82	0.44
36:DC:150:LYS:HB3	36:DC:169:ARG:HG2	1.99	0.44
40:DG:68:ASN:OD1	40:DG:130:ASN:ND2	2.50	0.44
49:DP:4:ILE:HD13	49:DP:67:ILE:CD1	2.46	0.44
55:DV:221:ASN:HA	55:DV:224:GLU:CB	2.46	0.44
3:EA:286:U:C2	3:EA:287:G:C8	3.05	0.44
3:EA:301:G:H4'	3:EA:302:C:OP1	2.17	0.44
3:EA:464:U:C2	3:EA:788:A:C6	3.05	0.44
3:EA:582:A:C6	3:EA:583:G:C6	3.05	0.44
3:EA:1386:C:H2'	3:EA:1387:A:C8	2.51	0.44
3:EA:2037:A:H2'	3:EA:2038:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:EI:6:ALA:CB	9:EI:60:VAL:HB	2.47	0.44
32:E5:23:LEU:HG	32:E5:24:SER:N	2.32	0.44
32:E5:29:ASP:O	32:E5:32:GLY:N	2.46	0.44
32:E5:93:ALA:HA	32:E5:130:PRO:HG2	1.98	0.44
35:FA:109:A:C6	35:FA:326:G:C6	3.05	0.44
35:FA:204:G:H3'	35:FA:205:A:H5"	1.99	0.44
35:FA:723:U:H2'	54:FU:49:LYS:HD3	2.00	0.44
35:FA:1048:G:H5"	47:FN:3:LYS:HG3	1.99	0.44
35:FA:1099:G:H2'	35:FA:1100:C:O4'	2.18	0.44
35:FA:1268:G:C6	35:FA:1269:A:N6	2.85	0.44
34:FB:49:PHE:HA	34:FB:212:TYR:OH	2.17	0.44
34:FB:79:VAL:O	34:FB:83:ALA:HB3	2.17	0.44
42:FI:12:ARG:O	42:FI:13:LYS:C	2.60	0.44
43:FJ:84:VAL:HG13	43:FJ:85:ASP:N	2.32	0.44
52:FS:23:VAL:HG23	52:FS:24:GLU:N	2.32	0.44
55:FV:330:VAL:HB	55:FV:386:ILE:HD13	1.98	0.44
3:GA:1038:G:N2	3:GA:1117:C:O2	2.46	0.44
3:GA:2195:U:H2'	3:GA:2196:C:H6	1.82	0.44
3:GA:2673:G:C2	3:GA:2674:G:C8	3.05	0.44
6:GF:56:LEU:HD22	6:GF:88:VAL:HG21	1.99	0.44
11:GK:99:ILE:HG21	11:GK:119:ALA:HB2	1.99	0.44
17:GQ:91:ARG:NH1	18:GR:11:GLN:C	2.75	0.44
20:GT:50:LEU:HD12	20:GT:50:LEU:H	1.82	0.44
21:GU:82:VAL:HG13	21:GU:93:ARG:HB3	1.99	0.44
22:GV:55:GLU:OE1	22:GV:55:GLU:N	2.50	0.44
35:HA:251:G:C6	35:HA:266:G:O6	2.70	0.44
35:HA:429:U:H3'	37:HD:9:LEU:HD23	1.98	0.44
35:HA:827:U:O5'	35:HA:827:U:H6	1.99	0.44
39:HF:61:LEU:CD2	51:HR:24:LYS:HZ3	2.29	0.44
40:HG:114:LYS:HD3	40:HG:118:LEU:HD13	1.97	0.44
45:HL:6:GLN:HA	45:HL:9:ARG:HE	1.82	0.44
46:HM:50:GLU:HA	46:HM:53:ILE:HD12	1.99	0.44
49:HP:4:ILE:HB	49:HP:67:ILE:HD13	1.99	0.44
50:HQ:44:LEU:HD13	50:HQ:73:TRP:CE2	2.52	0.44
53:HT:67:ILE:O	53:HT:68:HIS:HB2	2.17	0.44
3:AA:2039:U:H2'	3:AA:2040:G:H8	1.82	0.44
7:AG:24:THR:HG23	7:AG:34:ARG:HG2	1.99	0.44
7:AG:104:LEU:HB2	7:AG:112:VAL:CG2	2.47	0.44
9:AI:45:THR:O	9:AI:48:ILE:HG13	2.18	0.44
10:AJ:44:TYR:O	10:AJ:45:THR:CB	2.64	0.44
10:AJ:55:ILE:HD11	10:AJ:130:HIS:CD2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A1:4:ILE:HG23	28:A1:5:ARG:N	2.32	0.44
28:A1:6:GLU:OE1	28:A1:52:LYS:CE	2.64	0.44
35:BA:255:G:OP1	50:BQ:71:LYS:NZ	2.49	0.44
35:BA:843:U:O2	35:BA:844:G:N7	2.50	0.44
38:BE:46:VAL:HG21	38:BE:118:ALA:HB2	2.00	0.44
39:BF:43:GLY:HA2	39:BF:58:HIS:CE1	2.52	0.44
40:BG:56:LYS:O	40:BG:61:ALA:HB2	2.18	0.44
46:BM:114:LYS:H	46:BM:115:PRO:CD	2.30	0.44
3:CA:657:U:H2'	3:CA:658:U:C6	2.52	0.44
3:CA:674:G:H1'	5:CE:69:ARG:CD	2.47	0.44
3:CA:1505:A:C6	3:CA:1506:U:C4	3.05	0.44
3:CA:1638:C:O3'	3:CA:2709:G:N2	2.50	0.44
16:CP:38:ARG:NH1	35:DA:346:G:H4'	2.32	0.44
17:CQ:88:GLU:C	17:CQ:88:GLU:CD	2.85	0.44
17:CQ:91:ARG:CD	18:CR:11:GLN:H	2.31	0.44
18:CR:2:TYR:HE1	18:CR:40:MET:HE2	1.81	0.44
25:CY:8:GLU:HG3	25:CY:8:GLU:O	2.17	0.44
27:C0:11:LYS:HD2	27:C0:14:MET:HE3	1.98	0.44
32:C5:129:LEU:C	32:C5:131:THR:H	2.21	0.44
35:DA:41:G:H2'	35:DA:42:G:C8	2.52	0.44
35:DA:224:U:H2'	35:DA:225:C:H6	1.82	0.44
35:DA:452:A:H62	35:DA:480:U:H3	1.64	0.44
35:DA:571:U:O2	35:DA:918:A:H5'	2.16	0.44
35:DA:861:G:C6	35:DA:862:C:C4	3.05	0.44
38:DE:99:ALA:O	38:DE:122:ASN:ND2	2.50	0.44
40:DG:62:PHE:CZ	40:DG:66:LEU:HD13	2.52	0.44
42:DI:55:VAL:HG21	42:DI:87:LEU:HD21	1.99	0.44
55:DV:184:ASP:O	55:DV:188:MET:N	2.50	0.44
55:DV:525:LEU:HD13	55:DV:575:GLY:N	2.33	0.44
3:EA:310:A:H5"	21:EU:14:THR:HG23	1.99	0.44
3:EA:783:A:C2	3:EA:785:G:H1'	2.52	0.44
3:EA:901:C:C4	3:EA:902:C:C4	3.05	0.44
3:EA:1069:A:C2	3:EA:1073:A:C8	3.05	0.44
3:EA:1245:G:OP1	12:EL:13:LYS:NZ	2.43	0.44
3:EA:1394:U:H4'	3:EA:1603:A:H4'	2.00	0.44
3:EA:1567:G:H2'	2:EC:84:PRO:HG3	1.99	0.44
3:EA:1647:U:OP2	60:EA:3418:HOH:O	2.21	0.44
3:EA:1806:C:H1'	2:EC:43:ASN:HD22	1.82	0.44
3:EA:2134:A:C2'	3:EA:2156:G:H22	2.30	0.44
3:EA:2804:U:H2'	3:EA:2805:C:C6	2.52	0.44
6:EF:134:GLN:O	6:EF:136:ILE:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:EF:168:LEU:C	6:EF:168:LEU:HD12	2.42	0.44
19:ES:29:VAL:HG23	19:ES:30:SER:N	2.31	0.44
21:EU:84:PHE:O	21:EU:85:ARG:HB3	2.17	0.44
28:E1:4:ILE:HG23	28:E1:5:ARG:N	2.32	0.44
28:E1:8:ILE:CG1	28:E1:51:ALA:HA	2.47	0.44
35:FA:373:A:C2	35:FA:482:A:N6	2.85	0.44
35:FA:455:G:C2	35:FA:478:A:C2	3.05	0.44
35:FA:482:A:C2	35:FA:483:C:H1'	2.52	0.44
35:FA:1008:U:OP1	47:FN:24:ARG:NH2	2.51	0.44
35:FA:1237:C:H3'	35:FA:1238:A:H5'	1.98	0.44
35:FA:1469:C:H2'	35:FA:1470:U:C5'	2.47	0.44
35:FA:1478:U:H2'	35:FA:1479:C:C6	2.52	0.44
36:FC:110:GLU:HB2	36:FC:144:LEU:HD21	1.98	0.44
38:FE:155:ALA:HB1	41:FH:66:PHE:CZ	2.53	0.44
44:FK:20:VAL:HG22	44:FK:83:GLU:HG3	1.98	0.44
44:FK:127:ARG:HB2	54:FU:34:ARG:NH1	2.33	0.44
53:FT:68:HIS:C	53:FT:69:LYS:HG2	2.42	0.44
55:FV:196:ALA:C	55:FV:198:GLN:N	2.75	0.44
3:GA:236:C:O2'	3:GA:431:U:H4'	2.16	0.44
3:GA:483:A:C8	21:GU:44:HIS:CD2	3.05	0.44
3:GA:874:G:N3	3:GA:904:G:C2	2.86	0.44
3:GA:1383:A:N7	3:GA:1384:A:C5	2.85	0.44
3:GA:1930:G:HO2'	3:GA:1968:G:H1	1.58	0.44
3:GA:2316:G:C2	3:GA:2317:A:C5	3.06	0.44
3:GA:2722:G:H4'	14:GN:4:ARG:HB2	1.99	0.44
20:GT:19:LYS:O	20:GT:23:ALA:HB3	2.17	0.44
21:GU:86:PHE:CD1	21:GU:90:LYS:C	2.95	0.44
35:HA:546:A:OP1	37:HD:69:GLU:HB2	2.17	0.44
35:HA:895:G:H1	35:HA:904:U:H3	1.65	0.44
35:HA:909:A:N3	35:HA:1413:A:O2'	2.47	0.44
35:HA:1277:C:HO2'	35:HA:1279:G:H8	1.62	0.44
35:HA:1503:A:N6	35:HA:1532:U:H1'	2.32	0.44
45:HL:33:VAL:HG11	55:HV:429:GLU:HG3	1.97	0.44
48:HO:68:ASP:O	48:HO:71:LYS:HB3	2.17	0.44
3:AA:271:G:H4'	3:AA:272:A:OP1	2.17	0.44
3:AA:272:A:HO2'	3:AA:273:G:H8	1.63	0.44
3:AA:818:G:H5'	3:AA:839:U:OP1	2.18	0.44
3:AA:980:A:C6	3:AA:981:A:N1	2.85	0.44
3:AA:1252:G:C2	17:AQ:32:ARG:HG2	2.52	0.44
3:AA:1340:U:H4'	3:AA:1341:G:OP2	2.17	0.44
3:AA:2307:G:N2	3:AA:2311:A:C8	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:2353:G:N3	23:AW:30:VAL:HG12	2.32	0.44
5:AE:160:ALA:O	5:AE:161:ALA:HB3	2.18	0.44
6:AF:127:TYR:O	6:AF:128:SER:CB	2.65	0.44
6:AF:128:SER:HA	6:AF:154:THR:HA	1.99	0.44
9:AI:125:THR:O	9:AI:128:ILE:N	2.48	0.44
11:AK:80:ASP:CB	16:AP:67:GLU:HG3	2.47	0.44
17:AQ:103:VAL:HG23	17:AQ:104:ALA:N	2.32	0.44
20:AT:40:LYS:HG2	20:AT:58:VAL:HG22	1.99	0.44
20:AT:48:GLN:O	20:AT:52:GLU:HA	2.17	0.44
21:AU:6:ARG:O	21:AU:24:VAL:HB	2.17	0.44
21:AU:53:GLN:N	21:AU:54:PRO:CD	2.80	0.44
32:A5:2:ALA:CB	32:A5:6:GLN:CD	2.91	0.44
32:A5:33:VAL:HG12	32:A5:34:THR:N	2.26	0.44
32:A5:48:ALA:HB3	32:A5:51:TYR:HB3	1.98	0.44
32:A5:100:ALA:HB3	32:A5:125:ARG:HD2	1.98	0.44
35:BA:243:A:C4	35:BA:245:U:C5	3.06	0.44
40:BG:111:ARG:HE	40:BG:123:GLU:HG2	1.83	0.44
44:BK:82:LEU:HD21	44:BK:105:PHE:HB3	1.99	0.44
46:BM:45:ILE:C	46:BM:47:GLU:H	2.24	0.44
1:CB:42:C:O5'	6:CF:63:LYS:HD2	2.17	0.44
1:CB:98:G:H1	22:CV:14:LYS:HB2	1.81	0.44
3:CA:1338:G:O2'	20:CT:18:GLU:OE1	2.23	0.44
3:CA:2081:U:H5'	24:CX:24:THR:HG21	1.99	0.44
3:CA:2091:C:H1'	24:CX:33:HIS:CD2	2.52	0.44
3:CA:2698:U:H2'	3:CA:2699:C:H6	1.81	0.44
5:CE:37:ALA:C	5:CE:39:ALA:H	2.25	0.44
5:CE:149:ILE:HD11	5:CE:172:ALA:HA	1.99	0.44
9:CI:25:PRO:CG	55:DV:649:VAL:HG22	2.47	0.44
10:CJ:122:LEU:C	10:CJ:122:LEU:HD12	2.42	0.44
23:CW:37:VAL:HB	23:CW:38:ARG:HH11	1.81	0.44
35:DA:44:A:C2	35:DA:399:G:C2	3.05	0.44
35:DA:232:G:H1'	35:DA:262:A:N1	2.32	0.44
35:DA:381:C:H2'	35:DA:382:A:O4'	2.17	0.44
35:DA:1244:G:C6	35:DA:1245:C:C4	3.06	0.44
35:DA:1478:U:H2'	35:DA:1479:C:C6	2.52	0.44
37:DD:116:GLN:OE1	37:DD:120:HIS:CE1	2.71	0.44
46:DM:39:ILE:CG2	46:DM:48:LEU:HD11	2.47	0.44
52:DS:63:THR:CG2	52:DS:64:ASP:N	2.80	0.44
55:DV:8:ALA:O	55:DV:288:SER:OG	2.33	0.44
55:DV:131:ASN:OD1	55:DV:137:ARG:NH2	2.49	0.44
3:EA:61:C:C2'	3:EA:62:U:H5'	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:749:A:C5	3:EA:1618:A:C2	3.05	0.44
3:EA:1445:G:C5	3:EA:1446:C:C5	3.04	0.44
3:EA:2394:C:P	30:E3:29:ARG:HH21	2.40	0.44
3:EA:2811:G:H2'	3:EA:2812:G:O4'	2.17	0.44
4:ED:12:THR:HG22	4:ED:13:ARG:N	2.31	0.44
7:EG:86:LEU:HD12	7:EG:130:ILE:HB	1.99	0.44
7:EG:104:LEU:HD12	7:EG:112:VAL:HG21	1.98	0.44
12:EL:91:ASP:HB3	12:EL:94:THR:HB	2.00	0.44
16:EP:74:GLN:O	16:EP:77:SER:HB3	2.17	0.44
21:EU:85:ARG:HD3	21:EU:86:PHE:N	2.33	0.44
23:EW:36:ILE:O	23:EW:39:GLN:CD	2.60	0.44
35:FA:6:G:C5	38:FE:124:LEU:HD11	2.53	0.44
35:FA:376:G:N3	35:FA:377:G:C8	2.86	0.44
35:FA:1349:A:C2	35:FA:1374:A:C4	3.05	0.44
48:FO:71:LYS:HB2	48:FO:78:TYR:CD2	2.53	0.44
55:FV:119:VAL:O	55:FV:123:SER:OG	2.27	0.44
3:GA:307:G:N2	3:GA:310:A:C8	2.85	0.44
3:GA:389:G:C8	3:GA:2413:G:H4'	2.52	0.44
3:GA:414:C:O3'	3:GA:1878:G:N2	2.50	0.44
3:GA:817:C:H42	3:GA:1190:G:H1	1.63	0.44
3:GA:934:U:C4	3:GA:935:C:C5	3.06	0.44
3:GA:1016:G:N1	3:GA:1147:A:C6	2.86	0.44
3:GA:1061:U:O4	9:GI:9:LYS:HG2	2.18	0.44
3:GA:1721:G:O2'	3:GA:1739:A:N6	2.50	0.44
3:GA:2266:A:O2'	60:GA:3513:HOH:O	2.20	0.44
3:GA:2678:C:H2'	3:GA:2679:A:O4'	2.17	0.44
4:GD:106:LYS:HB3	4:GD:206:ALA:HB3	1.99	0.44
5:GE:28:VAL:O	5:GE:31:VAL:N	2.50	0.44
16:GP:82:SER:C	16:GP:83:ILE:HD13	2.41	0.44
17:GQ:63:ARG:NH2	17:GQ:95:ALA:HB3	2.31	0.44
17:GQ:69:ARG:NH2	17:GQ:74:SER:HA	2.33	0.44
21:GU:17:ASP:O	21:GU:18:LYS:C	2.61	0.44
35:HA:796:C:H2'	35:HA:797:C:H5'	2.00	0.44
35:HA:1097:C:H2'	35:HA:1098:C:C6	2.53	0.44
35:HA:1287:A:N3	35:HA:1353:G:O2'	2.35	0.44
35:HA:1377:A:H4'	35:HA:1378:C:H5	1.82	0.44
34:HB:14:HIS:HE1	34:HB:40:ILE:HD13	1.83	0.44
36:HC:148:GLY:HA3	36:HC:172:ARG:O	2.18	0.44
43:HJ:35:GLN:CG	43:HJ:37:ARG:NE	2.79	0.44
43:HJ:37:ARG:HD2	43:HJ:75:ASP:O	2.18	0.44
1:AB:51:G:H5"	15:AO:64:TYR:CD2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:580:U:O3'	17:AQ:30:VAL:HG13	2.18	0.44
3:AA:597:G:C2	3:AA:661:A:C2	3.04	0.44
3:AA:1060:U:H3	3:AA:1088:A:H2	1.64	0.44
3:AA:1443:U:H2'	3:AA:1444:G:C8	2.53	0.44
3:AA:1523:U:O2'	3:AA:1524:G:H5'	2.18	0.44
3:AA:1662:U:O2	3:AA:2687:U:H4'	2.17	0.44
3:AA:2180:U:C2	3:AA:2181:U:C5	3.06	0.44
6:AF:62:GLN:NE2	6:AF:89:THR:O	2.46	0.44
9:AI:100:ILE:HD11	9:AI:137:LEU:CG	2.48	0.44
10:AJ:36:LEU:O	10:AJ:121:LYS:NZ	2.39	0.44
16:AP:58:PHE:CE1	16:AP:75:THR:HG22	2.51	0.44
23:AW:39:GLN:HG3	23:AW:42:THR:H	1.81	0.44
32:A5:111:ALA:C	32:A5:113:PHE:N	2.75	0.44
34:BB:61:SER:HA	34:BB:223:GLY:C	2.42	0.44
35:BA:76:G:N2	35:BA:95:C:N3	2.65	0.44
35:BA:1451:U:H5"	35:BA:1452:C:C5	2.52	0.44
37:BD:197:GLU:O	37:BD:200:ILE:HG22	2.17	0.44
45:BL:3:THR:HG22	45:BL:5:ASN:H	1.81	0.44
46:BM:4:ILE:HD12	46:BM:22:ILE:HD11	2.00	0.44
47:BN:47:LYS:HD2	52:BS:13:LEU:HG	1.98	0.44
55:BV:317:PHE:CE1	55:BV:343:VAL:CG2	2.99	0.44
56:BW:5:UAL:O	56:BW:6:5OH:NP	2.51	0.44
3:CA:989:G:OP1	3:CA:1157:G:O2'	2.32	0.44
3:CA:1208:C:C2	3:CA:1239:G:C2	3.05	0.44
3:CA:1386:C:HO2'	3:CA:1469:A:HO2'	1.61	0.44
3:CA:1713:A:N6	3:CA:1746:A:N1	2.65	0.44
3:CA:1714:U:H5'	3:CA:1715:G:H5'	1.99	0.44
3:CA:1799:G:N2	3:CA:1819:A:OP2	2.44	0.44
3:CA:2212:A:C2	3:CA:2214:C:N4	2.86	0.44
3:CA:2422:C:C4	3:CA:2424:C:C4	3.06	0.44
3:CA:2639:A:C2	3:CA:2778:A:C8	3.05	0.44
2:CC:145:MET:SD	2:CC:153:LEU:HD21	2.57	0.44
5:CE:176:ASP:OD2	5:CE:179:SER:OG	2.36	0.44
10:CJ:44:TYR:O	10:CJ:45:THR:HB	2.18	0.44
15:CO:49:VAL:HG21	15:CO:82:ALA:HA	1.99	0.44
17:CQ:81:GLY:HA2	17:CQ:116:LEU:CD1	2.48	0.44
26:CZ:8:GLN:HB3	26:CZ:31:ILE:HA	1.99	0.44
35:DA:581:G:N2	35:DA:760:G:N7	2.65	0.44
35:DA:643:C:H5'	41:DH:32:LEU:HD13	2.00	0.44
35:DA:728:A:H2'	35:DA:729:A:C8	2.52	0.44
34:DB:22:TRP:HA	34:DB:189:ASN:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DB:95:TRP:HH2	34:DB:174:GLU:HG2	1.81	0.44
44:DK:35:THR:HA	44:DK:42:LEU:HG	1.98	0.44
46:DM:2:ALA:O	46:DM:10:PRO:HD2	2.18	0.44
48:DO:15:PHE:CD2	48:DO:84:ARG:CZ	3.01	0.44
3:EA:312:G:H2'	3:EA:313:G:H8	1.81	0.44
3:EA:1025:G:O2'	60:EA:3704:HOH:O	2.21	0.44
3:EA:1171:G:N1	3:EA:1172:C:C4	2.86	0.44
3:EA:2423:U:H5'	3:EA:2423:U:H6	1.82	0.44
10:EJ:89:PHE:C	10:EJ:89:PHE:CD1	2.95	0.44
14:EN:37:THR:OG1	14:EN:40:LYS:HD2	2.17	0.44
23:EW:17:ALA:O	23:EW:18:LYS:CB	2.65	0.44
23:EW:17:ALA:HA	23:EW:35:ILE:HG23	2.00	0.44
35:FA:129:A:H1'	35:FA:130:A:C8	2.52	0.44
35:FA:1092:A:C2	35:FA:1183:U:N3	2.86	0.44
35:FA:1150:A:N6	35:FA:1151:A:N6	2.66	0.44
34:FB:47:PRO:O	34:FB:50:ASN:HB3	2.18	0.44
36:FC:112:ASP:O	36:FC:116:VAL:HG23	2.18	0.44
37:FD:36:GLN:O	37:FD:37:ALA:HB3	2.18	0.44
42:FI:58:VAL:HG12	42:FI:59:GLU:HG2	2.00	0.44
46:FM:7:ILE:O	46:FM:7:ILE:HG13	2.17	0.44
48:FO:85:LEU:HB3	48:FO:87:LEU:HD23	2.00	0.44
3:GA:49:A:N6	3:GA:177:G:C4	2.85	0.44
3:GA:790:U:H3	3:GA:794:A:HO2'	1.64	0.44
3:GA:949:G:N3	3:GA:969:G:C2	2.85	0.44
3:GA:952:G:C4	3:GA:966:G:C2	3.05	0.44
3:GA:1914:C:O5'	3:GA:1914:C:H6	2.00	0.44
3:GA:2037:A:C6	3:GA:2038:G:C6	3.05	0.44
3:GA:2358:A:C8	3:GA:2359:C:C5	3.06	0.44
4:GD:29:VAL:HB	4:GD:98:VAL:CG1	2.47	0.44
4:GD:106:LYS:CB	4:GD:206:ALA:H	2.31	0.44
5:GE:4:VAL:HG12	5:GE:6:LYS:H	1.82	0.44
6:GF:37:MET:HE3	6:GF:151:LEU:HB3	1.98	0.44
7:GG:25:ILE:HG22	7:GG:78:VAL:HG11	1.98	0.44
23:GW:48:ALA:O	23:GW:61:LYS:N	2.43	0.44
24:GX:6:VAL:HG23	24:GX:7:THR:HG23	2.00	0.44
31:G4:3:VAL:HG23	31:G4:4:ARG:H	1.83	0.44
35:HA:224:U:H2'	35:HA:225:C:C6	2.51	0.44
35:HA:381:C:H2'	35:HA:382:A:O4'	2.17	0.44
35:HA:1222:G:OP2	35:HA:1322:C:N4	2.51	0.44
37:HD:35:GLU:HG3	37:HD:36:GLN:HG3	2.00	0.44
37:HD:174:ASP:O	37:HD:175:ALA:HB2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:HL:24:LEU:C	45:HL:26:ALA:H	2.25	0.44
50:HQ:59:VAL:CG1	50:HQ:75:LEU:HD13	2.48	0.44
53:HT:67:ILE:HD11	53:HT:71:LYS:HE3	2.00	0.44
54:HU:17:ARG:CG	54:HU:19:PHE:HB3	2.47	0.44
55:HV:217:GLU:O	55:HV:220:GLN:N	2.50	0.44
55:HV:303:LYS:HA	55:HV:303:LYS:CE	2.48	0.44
1:AB:90:C:H5"	1:AB:90:C:H6	1.83	0.44
3:AA:635:C:O2'	3:AA:639:U:OP1	2.34	0.44
3:AA:720:U:H2'	3:AA:721:A:C8	2.53	0.44
3:AA:1197:G:H2'	3:AA:1198:U:H6	1.83	0.44
3:AA:1428:C:C5	3:AA:1569:A:H5"	2.52	0.44
3:AA:1452:G:O2'	60:AA:3409:HOH:O	2.17	0.44
3:AA:1614:A:N6	19:AS:92:ARG:O	2.44	0.44
3:AA:2344:U:H4'	3:AA:2345:G:OP1	2.17	0.44
3:AA:2682:A:C8	4:AD:11:MET:HG3	2.53	0.44
13:AM:102:LEU:HD12	13:AM:102:LEU:N	2.32	0.44
16:AP:102:ARG:O	16:AP:103:THR:HG22	2.17	0.44
17:AQ:91:ARG:HH11	18:AR:11:GLN:H	1.64	0.44
22:AV:80:HIS:CD2	22:AV:82:TYR:H	2.35	0.44
32:A5:129:LEU:CB	32:A5:130:PRO:HD2	2.47	0.44
35:BA:1415:G:C6	35:BA:1486:G:C5	3.06	0.44
42:BI:47:VAL:CG2	42:BI:76:ALA:HB1	2.48	0.44
53:BT:68:HIS:C	53:BT:69:LYS:CG	2.90	0.44
55:BV:90:PRO:HG2	55:BV:98:GLU:HB2	2.00	0.44
55:BV:119:VAL:HG13	55:BV:123:SER:HB2	2.00	0.44
3:CA:168:G:C6	3:CA:169:G:N7	2.86	0.44
3:CA:964:C:O2'	3:CA:2273:A:N3	2.44	0.44
3:CA:1054:A:P	32:C5:31:ARG:HH21	2.41	0.44
3:CA:1292:G:H2'	3:CA:1293:C:C6	2.53	0.44
3:CA:2143:C:H3'	3:CA:2144:G:H4'	2.00	0.44
6:CF:84:ILE:O	6:CF:84:ILE:HG13	2.18	0.44
7:CG:31:GLU:HG3	7:CG:32:LEU:HD12	2.00	0.44
12:CL:68:SER:O	12:CL:69:ARG:HB3	2.16	0.44
19:CS:34:ASP:HB3	27:C0:27:LEU:HD11	1.98	0.44
20:CT:28:ASN:O	20:CT:29:THR:HG22	2.16	0.44
32:C5:54:VAL:O	32:C5:55:VAL:C	2.61	0.44
35:DA:62:U:OP1	35:DA:385:C:O2'	2.31	0.44
35:DA:322:C:H5	35:DA:328:C:H5	1.65	0.44
35:DA:1096:C:H2'	35:DA:1097:C:C6	2.52	0.44
35:DA:1124:G:H2'	35:DA:1145:A:N6	2.31	0.44
35:DA:1216:A:OP1	47:DN:3:LYS:HE2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:1397:C:O2'	35:DA:1398:A:OP1	2.33	0.44
34:DB:29:PHE:CE2	34:DB:44:LYS:HE3	2.53	0.44
41:DH:93:PRO:HG3	41:DH:125:ILE:HD12	2.00	0.44
3:EA:922:C:O2'	23:EW:25:PHE:HZ	2.01	0.44
3:EA:923:G:H21	23:EW:23:LYS:NZ	2.16	0.44
3:EA:967:U:H2'	3:EA:968:C:C6	2.52	0.44
3:EA:1157:G:N2	3:EA:1158:C:C2	2.85	0.44
3:EA:2098:U:H2'	3:EA:2099:U:O4'	2.17	0.44
4:ED:12:THR:CG2	4:ED:13:ARG:N	2.81	0.44
6:EF:134:GLN:HG2	6:EF:135:ILE:N	2.33	0.44
9:EI:87:SER:OG	9:EI:88:GLY:N	2.47	0.44
12:EL:81:ASP:HB3	12:EL:100:ILE:HD13	1.98	0.44
12:EL:95:LEU:CD2	12:EL:100:ILE:HD11	2.48	0.44
13:EM:13:HIS:O	13:EM:14:LYS:HB2	2.17	0.44
16:EP:50:ARG:HD3	16:EP:56:SER:HB3	1.99	0.44
25:EY:23:ARG:O	25:EY:24:GLU:C	2.60	0.44
32:E5:33:VAL:HG12	32:E5:34:THR:N	2.25	0.44
32:E5:71:CYS:CA	32:E5:117:LEU:HD12	2.47	0.44
32:E5:110:ALA:HB1	32:E5:113:PHE:CZ	2.53	0.44
35:FA:35:G:N2	45:FL:115:SER:OG	2.49	0.44
35:FA:298:A:H2'	35:FA:299:G:O4'	2.18	0.44
35:FA:1225:A:H2'	35:FA:1226:C:C5	2.52	0.44
35:FA:1414:U:H2'	35:FA:1415:G:H8	1.82	0.44
36:FC:83:ASP:O	36:FC:86:LYS:HG2	2.18	0.44
36:FC:127:ARG:O	36:FC:127:ARG:HG3	2.18	0.44
37:FD:105:MET:SD	37:FD:143:VAL:HG11	2.57	0.44
37:FD:191:LEU:O	37:FD:192:SER:HB2	2.17	0.44
47:FN:21:PHE:C	47:FN:23:LYS:H	2.26	0.44
55:FV:642:LEU:C	55:FV:643:LYS:HG2	2.43	0.44
3:GA:820:A:C2	3:GA:821:A:C4	3.05	0.44
3:GA:833:A:H2'	3:GA:834:G:C8	2.52	0.44
3:GA:945:A:C2	3:GA:2448:A:C4	3.05	0.44
3:GA:966:G:C6	3:GA:967:U:N3	2.86	0.44
3:GA:1338:G:H4'	20:GT:18:GLU:CD	2.42	0.44
3:GA:1371:G:OP2	60:GA:3400:HOH:O	2.21	0.44
3:GA:1816:C:N4	2:GC:34:GLU:OE2	2.47	0.44
3:GA:2803:G:H2'	3:GA:2804:U:H6	1.83	0.44
17:GQ:51:GLN:O	17:GQ:54:ARG:N	2.50	0.44
19:GS:55:ILE:HG23	19:GS:66:ILE:HG22	2.00	0.44
21:GU:86:PHE:CD2	21:GU:88:ASP:HB3	2.52	0.44
35:HA:300:A:H2'	35:HA:301:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:HE:106:ILE:HD11	38:HE:124:LEU:HD23	2.00	0.44
40:HG:76:LYS:N	40:HG:87:VAL:O	2.46	0.44
3:AA:278:A:N1	3:AA:362:A:C8	2.85	0.44
3:AA:545:U:H2'	3:AA:546:U:O3'	2.18	0.44
3:AA:799:G:C6	3:AA:800:A:C6	3.05	0.44
3:AA:948:C:H1'	3:AA:984:A:O2'	2.17	0.44
3:AA:1071:G:H1'	3:AA:1089:A:C5	2.53	0.44
3:AA:1914:C:H2'	3:AA:1915:U:O4'	2.18	0.44
3:AA:2276:G:P	13:AM:83:GLY:O	2.76	0.44
3:AA:2902:C:H2'	3:AA:2903:U:O5'	2.18	0.44
4:AD:70:LYS:O	4:AD:71:ALA:HB3	2.17	0.44
9:AI:124:MET:HE2	9:AI:124:MET:HB3	1.88	0.44
23:AW:19:ARG:C	23:AW:19:ARG:HD2	2.43	0.44
23:AW:30:VAL:O	23:AW:30:VAL:CG1	2.64	0.44
35:BA:202:G:O2'	35:BA:468:A:H8	2.01	0.44
35:BA:517:G:H5'	35:BA:519:C:C2	2.53	0.44
38:BE:111:MET:HE2	38:BE:125:ALA:HB1	1.98	0.44
39:BF:86:ARG:NH1	51:BR:64:TYR:HB3	2.32	0.44
43:BJ:17:LEU:HA	43:BJ:20:GLN:HG2	1.98	0.44
44:BK:35:THR:OG1	44:BK:41:ALA:N	2.51	0.44
44:BK:125:LYS:HG2	54:BU:35:ARG:HG2	2.00	0.44
44:BK:126:LYS:HG3	44:BK:127:ARG:HE	1.82	0.44
3:CA:223:A:C5	3:CA:422:A:C8	3.06	0.44
3:CA:336:C:N3	3:CA:337:C:C5	2.85	0.44
3:CA:694:U:OP1	3:CA:1569:A:H1'	2.18	0.44
3:CA:1444:G:C4	3:CA:1445:G:C8	3.05	0.44
3:CA:1753:G:OP1	16:CP:92:ARG:NE	2.50	0.44
3:CA:2104:C:N4	3:CA:2183:A:N1	2.66	0.44
2:CC:14:HIS:O	2:CC:203:VAL:HG11	2.17	0.44
7:CG:112:VAL:HG23	7:CG:113:ASP:N	2.32	0.44
13:CM:68:PHE:C	13:CM:68:PHE:HD1	2.25	0.44
17:CQ:91:ARG:HH11	18:CR:11:GLN:H	1.63	0.44
18:CR:39:LEU:O	18:CR:49:ILE:HG23	2.18	0.44
31:C4:23:ILE:HG23	31:C4:38:GLY:HA3	2.00	0.44
35:DA:525:C:H2'	35:DA:526:C:C6	2.53	0.44
35:DA:652:U:O2'	35:DA:653:U:OP2	2.30	0.44
35:DA:1353:G:C2	35:DA:1354:U:C6	3.06	0.44
39:DF:62:MET:HG3	39:DF:62:MET:O	2.18	0.44
39:DF:97:THR:O	39:DF:98:GLU:CG	2.65	0.44
3:EA:833:A:H2'	3:EA:834:G:C8	2.52	0.44
3:EA:1021:A:C6	3:EA:1023:U:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:1266:G:OP2	27:E0:16:ARG:NE	2.48	0.44
3:EA:2093:G:C6	3:EA:2225:A:C8	3.06	0.44
3:EA:2249:U:O2'	3:EA:2252:G:OP2	2.29	0.44
5:EE:160:ALA:O	5:EE:161:ALA:HB3	2.18	0.44
6:EF:28:PRO:HB2	6:EF:168:LEU:CD2	2.47	0.44
6:EF:111:ARG:HA	46:FM:71:ARG:NH2	2.33	0.44
8:EH:40:THR:C	8:EH:42:LYS:H	2.25	0.44
9:EI:31:GLY:O	9:EI:60:VAL:HG21	2.17	0.44
9:EI:55:PRO:HG3	9:EI:72:THR:O	2.17	0.44
10:EJ:17:VAL:HG12	10:EJ:57:LEU:CD2	2.48	0.44
10:EJ:45:THR:HG23	10:EJ:45:THR:O	2.18	0.44
15:EO:36:TYR:N	15:EO:36:TYR:CD1	2.86	0.44
25:EY:23:ARG:HA	25:EY:23:ARG:HE	1.82	0.44
35:FA:1151:A:C4	35:FA:1152:A:N7	2.86	0.44
34:FB:9:LEU:HD12	34:FB:42:LEU:HD13	2.00	0.44
36:FC:85:GLU:OE1	36:FC:88:ARG:NH1	2.47	0.44
38:FE:46:VAL:HG11	38:FE:118:ALA:HB2	1.99	0.44
38:FE:74:VAL:HG11	38:FE:144:LEU:HB3	1.99	0.44
42:FI:87:LEU:C	42:FI:89:GLU:H	2.26	0.44
43:FJ:91:ASP:OD1	43:FJ:92:LEU:N	2.48	0.44
45:FL:44:LYS:HB2	45:FL:45:PRO:HD3	1.98	0.44
50:FQ:79:VAL:O	50:FQ:80:GLU:HB3	2.18	0.44
52:FS:50:ALA:HB1	52:FS:57:HIS:HB3	1.98	0.44
1:GB:78:A:C2	1:GB:99:A:C4	3.06	0.44
3:GA:416:U:C4	3:GA:417:C:C4	3.05	0.44
3:GA:1095:A:C2	55:HV:628:THR:HG22	2.53	0.44
3:GA:1250:G:OP2	12:GL:21:ARG:NH2	2.51	0.44
3:GA:1820:U:C2	2:GC:200:MET:HB2	2.53	0.44
3:GA:2051:A:C6	3:GA:2614:A:C5	3.06	0.44
3:GA:2290:G:H4'	3:GA:2381:A:O2'	2.18	0.44
3:GA:2447:G:C4	3:GA:2500:U:C5	3.05	0.44
6:GF:101:ARG:HA	6:GF:104:THR:HB	1.99	0.44
9:GI:3:LYS:HG3	9:GI:4:VAL:H	1.82	0.44
14:GN:75:ILE:O	14:GN:79:LEU:HD12	2.17	0.44
15:GO:8:ILE:O	15:GO:12:THR:OG1	2.36	0.44
17:GQ:4:LYS:HG3	17:GQ:5:ARG:N	2.32	0.44
35:HA:35:G:H2'	35:HA:36:C:C6	2.52	0.44
35:HA:89:U:O2	35:HA:90:C:C5	2.71	0.44
35:HA:109:A:C6	35:HA:326:G:C6	3.06	0.44
35:HA:1049:U:C5	35:HA:1201:A:H5'	2.53	0.44
35:HA:1078:U:H5"	38:HE:138:ARG:NH2	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:1206:G:O2'	36:HC:193:TYR:HA	2.17	0.44
35:HA:1225:A:H2'	35:HA:1226:C:C5	2.52	0.44
39:HF:62:MET:HG2	39:HF:64:VAL:CG2	2.48	0.44
55:HV:342:VAL:HG13	55:HV:378:ARG:CD	2.47	0.44
3:AA:764:A:C6	3:AA:781:A:C2	3.06	0.44
3:AA:1045:C:C3'	3:AA:1046:A:H5'	2.48	0.44
3:AA:1171:G:N2	3:AA:1179:G:C4	2.86	0.44
3:AA:1232:G:C5	3:AA:1233:C:C5	3.06	0.44
3:AA:2031:A:C6	3:AA:2498:C:H1'	2.53	0.44
3:AA:2745:C:C4	3:AA:2746:U:C4	3.05	0.44
3:AA:2758:A:H2'	3:AA:2759:G:H5'	1.99	0.44
3:AA:2788:C:H2'	3:AA:2789:C:C6	2.53	0.44
4:AD:45:TYR:N	4:AD:45:TYR:CD1	2.86	0.44
9:AI:29:GLN:HE22	55:BV:650:THR:CA	2.31	0.44
17:AQ:27:ARG:HA	17:AQ:33:VAL:HG12	1.99	0.44
26:AZ:5:LYS:HD2	26:AZ:5:LYS:N	2.32	0.44
35:BA:8:A:N1	37:BD:206:LYS:HD3	2.32	0.44
35:BA:143:A:H5'	35:BA:144:G:H5'	2.00	0.44
35:BA:636:U:C5'	50:BQ:6:ARG:HE	2.31	0.44
35:BA:1158:C:N4	35:BA:1160:G:C4	2.86	0.44
53:BT:5:LYS:C	53:BT:5:LYS:CD	2.91	0.44
3:CA:45:G:H5"	3:CA:46:G:OP1	2.18	0.44
3:CA:159:G:O2'	3:CA:167:A:N6	2.45	0.44
3:CA:309:A:HO2'	3:CA:329:G:C2'	2.30	0.44
3:CA:412:A:C5	3:CA:2412:A:H1'	2.52	0.44
3:CA:782:A:C2	2:CC:224:MET:SD	3.11	0.44
3:CA:2210:U:H4'	3:CA:2211:A:H5'	2.00	0.44
4:CD:118:PHE:HZ	14:CN:1:MET:HB2	1.83	0.44
7:CG:2:ARG:O	7:CG:6:ALA:N	2.48	0.44
7:CG:27:GLY:O	7:CG:28:LYS:C	2.61	0.44
8:CH:31:VAL:HB	8:CH:32:PRO:CD	2.48	0.44
9:CI:20:SER:N	9:CI:21:PRO:CD	2.81	0.44
11:CK:36:GLY:HA2	11:CK:62:VAL:O	2.18	0.44
12:CL:111:ILE:HD12	12:CL:111:ILE:N	2.33	0.44
13:CM:46:ILE:HD12	13:CM:47:GLU:N	2.33	0.44
14:CN:103:ARG:CZ	14:CN:110:MET:CE	2.96	0.44
16:CP:102:ARG:O	16:CP:103:THR:HG22	2.18	0.44
18:CR:16:GLU:HA	18:CR:98:ILE:HG22	2.00	0.44
23:CW:51:GLY:HA3	23:CW:59:PHE:CE1	2.53	0.44
35:DA:58:C:O2'	35:DA:388:G:N7	2.38	0.44
35:DA:518:C:H2'	35:DA:530:G:H8	1.78	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:649:A:H2'	35:DA:650:G:O4'	2.18	0.44
35:DA:664:G:H22	35:DA:741:G:H1	1.64	0.44
35:DA:824:G:N2	35:DA:876:C:O2	2.50	0.44
35:DA:1004:A:C2	35:DA:1005:A:H1'	2.53	0.44
34:DB:86:CYS:SG	34:DB:221:ARG:HA	2.57	0.44
37:DD:36:GLN:HG3	37:DD:43:ALA:HA	2.00	0.44
42:DI:52:LEU:HD13	42:DI:57:MET:HG2	1.99	0.44
53:DT:47:ALA:HB3	53:DT:83:ILE:HD13	1.99	0.44
3:EA:30:G:C5	3:EA:31:C:C4	3.05	0.44
3:EA:1301:A:C4	3:EA:1303:G:N7	2.85	0.44
3:EA:1427:A:OP2	3:EA:1559:U:N3	2.42	0.44
3:EA:1534:U:H5'	3:EA:1535:A:P	2.58	0.44
3:EA:2406:A:O4'	12:EL:69:ARG:NH2	2.50	0.44
3:EA:2511:U:O4	3:EA:2575:C:N3	2.50	0.44
3:EA:2529:G:H5'	7:EG:174:LYS:HG3	2.00	0.44
3:EA:2793:C:H2'	3:EA:2794:C:C6	2.53	0.44
2:EC:16:VAL:HB	2:EC:203:VAL:CG1	2.48	0.44
4:ED:121:THR:O	4:ED:122:VAL:HB	2.17	0.44
6:EF:39:VAL:HG11	6:EF:42:ALA:HB2	2.00	0.44
11:EK:105:ARG:HD3	11:EK:122:VAL:CG1	2.48	0.44
12:EL:95:LEU:HD22	12:EL:100:ILE:HD11	2.00	0.44
15:EO:68:LYS:H	15:EO:102:ARG:HD2	1.83	0.44
17:EQ:97:ILE:HD11	17:EQ:105:PHE:HA	2.00	0.44
35:FA:275:G:C2	35:FA:276:G:C8	3.06	0.44
35:FA:978:A:HO2'	35:FA:1322:C:N4	2.16	0.44
35:FA:980:C:O3'	47:FN:13:ARG:NH2	2.50	0.44
35:FA:1112:C:N3	36:FC:178:LEU:N	2.51	0.44
35:FA:1335:U:H5"	35:FA:1337:G:N2	2.32	0.44
36:FC:156:ARG:HB3	36:FC:156:ARG:HH11	1.82	0.44
36:FC:157:LEU:CD2	36:FC:166:GLU:HG2	2.48	0.44
40:FG:15:ASP:HB3	40:FG:20:SER:H	1.82	0.44
47:FN:26:GLU:HG2	47:FN:27:LEU:HD12	1.99	0.44
50:FQ:76:VAL:HG13	50:FQ:77:ARG:H	1.83	0.44
54:FU:12:PHE:CE2	54:FU:16:LEU:HG	2.53	0.44
55:FV:200:VAL:HG23	55:FV:201:THR:HG23	1.99	0.44
1:GB:49:C:OP1	15:GO:101:GLY:HA3	2.17	0.44
3:GA:82:U:H5'	3:GA:296:U:H5"	2.00	0.44
3:GA:365:U:H2'	3:GA:366:C:C6	2.53	0.44
3:GA:489:G:C6	3:GA:491:G:C2	3.06	0.44
3:GA:527:C:O3'	60:GA:3245:HOH:O	2.21	0.44
3:GA:817:C:N4	3:GA:818:G:C6	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:819:A:C4	3:GA:1189:A:N1	2.86	0.44
3:GA:911:A:C8	13:GM:9:PHE:CE2	3.06	0.44
3:GA:1252:G:C2	3:GA:1253:A:C2	3.06	0.44
3:GA:1797:G:O2'	2:GC:256:THR:CG2	2.66	0.44
3:GA:2026:U:H2'	3:GA:2027:G:O4'	2.18	0.44
3:GA:2189:U:N3	3:GA:2190:G:N7	2.66	0.44
3:GA:2423:U:O2'	3:GA:2424:C:P	2.76	0.44
3:GA:2489:U:O2	3:GA:2491:U:C4	2.71	0.44
2:GC:43:ASN:OD1	2:GC:44:ASN:N	2.48	0.44
2:GC:254:LYS:O	2:GC:254:LYS:HG2	2.18	0.44
5:GE:149:ILE:HG23	5:GE:188:MET:HA	1.99	0.44
9:GI:122:GLU:HG2	9:GI:126:ARG:NH1	2.33	0.44
35:HA:1306:A:H1'	35:HA:1332:A:C5	2.53	0.44
34:HB:209:VAL:HG23	34:HB:210:THR:H	1.81	0.44
39:HF:12:PRO:HB3	39:HF:44:ARG:CD	2.48	0.44
49:HP:38:PHE:CD1	49:HP:38:PHE:C	2.95	0.44
55:HV:93:VAL:HG13	55:HV:94:ASP:N	2.33	0.44
3:AA:222:A:N6	3:AA:231:A:C2	2.86	0.44
3:AA:476:G:H4'	3:AA:502:A:N1	2.33	0.44
3:AA:684:G:C2	3:AA:794:A:C2	3.06	0.44
3:AA:2283:C:H5"	3:AA:2389:G:O2'	2.18	0.44
3:AA:2283:C:C2	3:AA:2389:G:C2	3.06	0.44
3:AA:2846:G:H2'	3:AA:2847:U:O4'	2.17	0.44
4:AD:121:THR:O	4:AD:122:VAL:HB	2.17	0.44
6:AF:113:PHE:HE1	6:AF:116:LEU:HD13	1.81	0.44
6:AF:134:GLN:OE1	6:AF:149:ARG:HB3	2.18	0.44
6:AF:142:TYR:CD1	6:AF:142:TYR:C	2.96	0.44
9:AI:109:ALA:CB	9:AI:128:ILE:HG13	2.48	0.44
18:AR:64:VAL:O	18:AR:65:ALA:HB3	2.18	0.44
18:AR:74:ILE:HB	18:AR:87:GLN:O	2.18	0.44
20:AT:69:ARG:CG	20:AT:70:HIS:N	2.81	0.44
22:AV:75:GLN:HB2	22:AV:92:VAL:CG2	2.48	0.44
23:AW:24:ARG:HD3	23:AW:65:LYS:CD	2.48	0.44
32:A5:87:GLU:OE2	32:A5:95:LEU:HD23	2.18	0.44
35:BA:8:A:H62	37:BD:205:SER:HB2	1.83	0.44
35:BA:736:C:H2'	35:BA:737:C:C6	2.53	0.44
35:BA:976:G:C2	35:BA:1363:A:C2	3.06	0.44
39:BF:3:HIS:CD2	39:BF:92:THR:HG23	2.52	0.44
39:BF:9:MET:HG2	39:BF:86:ARG:O	2.17	0.44
3:CA:1378:A:O2'	3:CA:1380:G:N7	2.40	0.44
3:CA:1593:A:H2'	3:CA:1594:U:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:2505:G:HO2'	3:CA:2506:U:H6	1.60	0.44
3:CA:2632:A:C2	3:CA:2787:C:C2	3.05	0.44
3:CA:2661:G:C6	3:CA:2662:A:C2	3.05	0.44
2:CC:255:LYS:C	2:CC:256:THR:HG23	2.43	0.44
10:CJ:38:GLY:C	10:CJ:40:HIS:H	2.26	0.44
31:C4:7:VAL:HG23	31:C4:8:LYS:H	1.83	0.44
32:C5:31:ARG:C	32:C5:108:VAL:CG2	2.91	0.44
34:DB:146:SER:C	34:DB:147:LEU:HD12	2.43	0.44
36:DC:92:ALA:HB2	36:DC:99:ALA:HB3	2.00	0.44
37:DD:76:TYR:CD1	37:DD:76:TYR:C	2.95	0.44
38:DE:72:ILE:CD1	38:DE:145:GLU:CD	2.91	0.44
45:DL:24:LEU:O	45:DL:26:ALA:N	2.51	0.44
55:DV:196:ALA:C	55:DV:198:GLN:N	2.75	0.44
55:DV:200:VAL:O	55:DV:201:THR:OG1	2.36	0.44
3:EA:361:G:C8	3:EA:361:G:OP2	2.71	0.44
3:EA:387:U:C5	3:EA:388:G:C6	3.06	0.44
3:EA:580:U:O3'	17:EQ:30:VAL:CG1	2.65	0.44
3:EA:644:A:H2'	3:EA:645:C:O4'	2.18	0.44
3:EA:1106:G:H1'	32:E5:56:ARG:HH11	1.82	0.44
3:EA:1808:A:N1	24:EX:27:ARG:HD2	2.32	0.44
3:EA:2318:G:C6	3:EA:2319:G:C6	3.05	0.44
3:EA:2514:U:H2'	3:EA:2515:C:C6	2.53	0.44
3:EA:2766:A:H2'	3:EA:2766:A:N3	2.33	0.44
3:EA:2869:G:H2'	3:EA:2870:C:C6	2.52	0.44
9:EI:6:ALA:HB3	9:EI:60:VAL:HB	1.98	0.44
9:EI:16:MET:HB3	9:EI:19:PRO:HG3	1.98	0.44
10:EJ:17:VAL:HG23	10:EJ:139:VAL:HA	1.99	0.44
19:ES:18:ARG:O	19:ES:19:LEU:HB2	2.17	0.44
19:ES:24:ILE:HG22	19:ES:71:VAL:HG21	1.99	0.44
20:ET:6:ARG:O	20:ET:8:LEU:N	2.51	0.44
25:EY:45:GLN:HA	25:EY:48:ARG:HB2	1.99	0.44
35:FA:502:A:C2	35:FA:544:G:C2	3.06	0.44
35:FA:521:G:O2'	35:FA:522:C:H5'	2.18	0.44
35:FA:967:C:H5"	42:FI:127:PHE:CZ	2.53	0.44
34:FB:9:LEU:HD12	34:FB:42:LEU:HD22	2.00	0.44
34:FB:44:LYS:O	34:FB:48:MET:CG	2.66	0.44
34:FB:162:VAL:HG22	34:FB:184:ALA:CB	2.48	0.44
54:FU:12:PHE:CE2	54:FU:14:VAL:CG2	3.01	0.44
1:GB:78:A:C2	1:GB:99:A:N3	2.86	0.44
3:GA:553:G:H2'	3:GA:554:U:O4'	2.18	0.44
3:GA:1095:A:C5	55:HV:631:VAL:HB	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:1413:A:H61	3:GA:1589:U:H3	1.66	0.44
3:GA:1828:G:O6	2:GC:220:ARG:HD2	2.18	0.44
3:GA:1851:U:H2'	3:GA:1852:U:C6	2.52	0.44
3:GA:2258:C:O2'	3:GA:2427:C:OP2	2.32	0.44
3:GA:2345:G:C8	3:GA:2347:C:C5	3.06	0.44
5:GE:150:THR:HG21	5:GE:153:LEU:HA	1.99	0.44
9:GI:3:LYS:CG	9:GI:4:VAL:H	2.31	0.44
14:GN:32:GLU:OE1	14:GN:86:ARG:NH2	2.43	0.44
18:GR:25:LEU:H	18:GR:94:THR:HG21	1.82	0.44
18:GR:74:ILE:N	18:GR:74:ILE:HD12	2.33	0.44
20:GT:76:ARG:HG2	20:GT:77:ARG:O	2.17	0.44
25:GY:36:GLN:O	25:GY:37:LEU:C	2.60	0.44
35:HA:13:U:C4	35:HA:916:U:O4	2.71	0.44
35:HA:237:G:C5	35:HA:238:A:N7	2.86	0.44
35:HA:459:A:C2	35:HA:460:A:H8	2.36	0.44
35:HA:658:C:N3	35:HA:748:G:O6	2.51	0.44
35:HA:714:G:N2	35:HA:777:A:H1'	2.33	0.44
44:HK:82:LEU:HD22	44:HK:105:PHE:CD1	2.53	0.44
46:HM:55:THR:O	46:HM:58:ASP:HB3	2.18	0.44
55:HV:502:GLU:OE1	55:HV:517:HIS:NE2	2.44	0.44
2:AC:24:HIS:CE1	2:AC:79:ARG:HH21	2.36	0.44
3:AA:172:A:H2'	3:AA:173:A:C8	2.53	0.44
3:AA:597:G:O2'	12:AL:11:GLY:O	2.27	0.44
3:AA:1171:G:H1	3:AA:1178:C:H42	1.66	0.44
3:AA:1441:G:H2'	3:AA:1442:U:C6	2.53	0.44
3:AA:2564:A:C2	3:AA:2647:U:H4'	2.53	0.44
5:AE:154:ASP:OD1	5:AE:154:ASP:N	2.50	0.44
7:AG:36:LEU:HD22	7:AG:36:LEU:N	2.33	0.44
9:AI:40:ALA:O	9:AI:68:PHE:CZ	2.71	0.44
10:AJ:4:PHE:O	10:AJ:44:TYR:OH	2.34	0.44
10:AJ:44:TYR:O	10:AJ:44:TYR:CD2	2.71	0.44
11:AK:118:LEU:O	11:AK:119:ALA:HB3	2.17	0.44
14:AN:33:ILE:CD1	14:AN:118:ARG:NE	2.80	0.44
14:AN:38:LEU:HB3	14:AN:39:PRO:CD	2.48	0.44
19:AS:96:ILE:C	19:AS:96:ILE:HD12	2.43	0.44
21:AU:73:ASN:O	21:AU:74:ALA:HB3	2.18	0.44
23:AW:18:LYS:N	23:AW:36:ILE:HG13	2.33	0.44
35:BA:72:A:H3'	35:BA:73:C:H5"	2.00	0.44
43:BJ:17:LEU:HD21	43:BJ:96:VAL:CG2	2.48	0.44
45:BL:44:LYS:CB	45:BL:45:PRO:CD	2.96	0.44
55:BV:303:LYS:HA	55:BV:303:LYS:CE	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BV:515:TYR:CD2	55:BV:515:TYR:C	2.95	0.44
55:BV:611:VAL:HG21	55:BV:689:GLU:HG3	1.99	0.44
3:CA:65:U:O2'	3:CA:456:C:N3	2.46	0.44
3:CA:276:U:O2'	3:CA:278:A:N7	2.51	0.44
3:CA:855:G:H1'	23:CW:23:LYS:HD3	2.00	0.44
3:CA:2352:A:N1	23:CW:30:VAL:CG1	2.80	0.44
3:CA:2788:C:H2'	3:CA:2789:C:C6	2.52	0.44
3:CA:2796:U:O2'	3:CA:2797:U:H2'	2.18	0.44
2:CC:20:ASN:OD1	2:CC:22:GLU:HG2	2.17	0.44
4:CD:148:GLN:HB2	4:CD:152:PRO:HG2	1.99	0.44
6:CF:39:VAL:HG13	6:CF:40:GLY:N	2.33	0.44
9:CI:69:VAL:HG12	9:CI:70:THR:H	1.82	0.44
10:CJ:72:LYS:HD3	10:CJ:74:TYR:CE2	2.52	0.44
13:CM:1:MET:O	13:CM:2:LEU:CB	2.65	0.44
13:CM:2:LEU:HD11	13:CM:68:PHE:CD2	2.53	0.44
14:CN:24:MET:HE3	14:CN:44:LEU:HD22	1.99	0.44
18:CR:41:ILE:O	18:CR:46:GLU:HB2	2.18	0.44
18:CR:68:ARG:HD3	18:CR:92:TRP:CE2	2.53	0.44
26:CZ:40:THR:OG1	26:CZ:41:PRO:HD2	2.18	0.44
32:C5:71:CYS:HA	32:C5:117:LEU:HD11	2.00	0.44
32:C5:88:HIS:CB	32:C5:89:PRO:CD	2.96	0.44
35:DA:714:G:H21	35:DA:777:A:H1'	1.82	0.44
35:DA:992:U:C2	35:DA:1043:G:N7	2.86	0.44
35:DA:1048:G:H5"	47:DN:3:LYS:HG3	2.00	0.44
35:DA:1186:G:H21	47:DN:101:TRP:C	2.25	0.44
34:DB:32:GLY:HA3	34:DB:39:ILE:H	1.83	0.44
34:DB:49:PHE:CD1	34:DB:49:PHE:C	2.95	0.44
37:DD:30:THR:HG22	37:DD:31:LYS:N	2.33	0.44
53:DT:55:GLN:N	53:DT:56:PRO:HD2	2.33	0.44
55:DV:9:ARG:HB3	55:DV:82:HIS:ND1	2.33	0.44
3:EA:387:U:C5	3:EA:388:G:O6	2.71	0.44
3:EA:1011:G:C4	3:EA:1151:A:C2	3.06	0.44
3:EA:1022:G:N2	3:EA:1142:A:C2	2.85	0.44
3:EA:1168:G:H3'	3:EA:1169:A:C8	2.53	0.44
3:EA:2199:A:C5'	24:EX:36:ARG:HH11	2.31	0.44
3:EA:2250:G:OP1	3:EA:2275:C:O2'	2.36	0.44
3:EA:2281:A:C2'	3:EA:2282:G:H5'	2.47	0.44
1:EB:77:U:OP1	22:EV:21:ARG:NH1	2.47	0.44
11:EK:105:ARG:HD3	11:EK:122:VAL:HG12	1.98	0.44
13:EM:132:THR:CG2	13:EM:133:LYS:N	2.81	0.44
14:EN:33:ILE:HD12	14:EN:33:ILE:N	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:EQ:105:PHE:O	17:EQ:108:LEU:N	2.51	0.44
18:ER:24:LYS:HA	18:ER:94:THR:HG23	1.99	0.44
27:E0:10:SER:O	27:E0:14:MET:HG3	2.17	0.44
30:E3:22:LYS:HA	30:E3:47:ALA:O	2.17	0.44
32:E5:64:VAL:O	32:E5:67:THR:N	2.34	0.44
32:E5:117:LEU:HD23	32:E5:121:SER:N	2.33	0.44
35:FA:123:U:OP1	35:FA:311:C:O2'	2.34	0.44
35:FA:175:C:O2'	35:FA:1447:A:N1	2.45	0.44
35:FA:874:G:C5	35:FA:875:U:C5	3.06	0.44
34:FB:88:GLN:NE2	34:FB:88:GLN:H	2.15	0.44
43:FJ:23:ALA:O	43:FJ:27:GLU:N	2.46	0.44
45:FL:35:THR:N	45:FL:54:ARG:O	2.49	0.44
48:FO:19:ALA:O	48:FO:20:ASN:HB2	2.18	0.44
55:FV:539:ASP:OD2	55:FV:577:ARG:NH2	2.51	0.44
1:GB:96:G:C6	1:GB:97:C:C4	3.06	0.44
3:GA:645:C:O2	3:GA:645:C:O2'	2.33	0.44
3:GA:995:C:O2	10:GJ:3:THR:HG23	2.18	0.44
3:GA:1062:G:H2'	3:GA:1063:G:O4'	2.17	0.44
3:GA:1458:U:H4'	3:GA:1459:G:O5'	2.17	0.44
3:GA:2365:G:H4'	23:GW:59:PHE:CZ	2.53	0.44
5:GE:187:VAL:HG12	5:GE:188:MET:N	2.32	0.44
6:GF:96:TRP:HZ3	6:GF:172:PHE:CZ	2.35	0.44
6:GF:145:VAL:HG11	46:HM:75:MET:HE1	1.99	0.44
7:GG:120:ILE:HD12	7:GG:139:VAL:HG12	1.98	0.44
10:GJ:20:ALA:O	10:GJ:23:LYS:N	2.47	0.44
21:GU:9:GLU:OE2	21:GU:21:ARG:NH2	2.49	0.44
26:GZ:29:ARG:HB3	26:GZ:30:ARG:HE	1.82	0.44
35:HA:206:C:H42	35:HA:213:G:H1	1.64	0.44
35:HA:781:A:OP1	35:HA:1523:G:H5'	2.18	0.44
35:HA:872:A:H2'	35:HA:872:A:N3	2.33	0.44
35:HA:1177:G:N2	35:HA:1181:G:N7	2.55	0.44
35:HA:1202:U:O2	47:HN:67:THR:HG21	2.18	0.44
35:HA:1220:G:H21	52:HS:54:GLY:HA2	1.82	0.44
39:HF:98:GLU:CG	39:HF:99:ALA:N	2.81	0.44
53:HT:51:PHE:C	53:HT:51:PHE:HD1	2.26	0.44
55:HV:336:PHE:HE1	55:HV:377:VAL:HG11	1.83	0.44
55:HV:495:ARG:HD3	55:HV:609:LYS:HB3	1.99	0.44
2:AC:44:ASN:C	2:AC:44:ASN:OD1	2.60	0.43
3:AA:139:U:C5	20:AT:1:MET:HE2	2.53	0.43
3:AA:822:G:H2'	3:AA:823:C:H6	1.83	0.43
3:AA:947:A:HO2'	3:AA:984:A:H2	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1181:U:H2'	3:AA:1182:G:C8	2.52	0.43
3:AA:1186:G:P	60:AA:3592:HOH:O	2.75	0.43
3:AA:2517:C:C5	3:AA:2542:A:C5	3.06	0.43
3:AA:2582:G:C2	3:AA:2583:G:C8	3.06	0.43
7:AG:1:SER:O	7:AG:4:ALA:N	2.48	0.43
11:AK:34:GLY:O	11:AK:35:VAL:C	2.61	0.43
15:AO:75:GLY:HA3	15:AO:109:ALA:HB3	2.00	0.43
17:AQ:7:VAL:HG13	17:AQ:8:ILE:N	2.32	0.43
19:AS:66:ILE:HD13	19:AS:67:ASP:N	2.33	0.43
32:A5:17:GLU:OE1	32:A5:53:ARG:NH1	2.51	0.43
32:A5:51:TYR:CE1	32:A5:52:MET:HG2	2.53	0.43
35:BA:1358:U:OP1	47:BN:75:ARG:HG2	2.18	0.43
37:BD:125:VAL:HG23	37:BD:126:ASN:N	2.33	0.43
37:BD:198:HIS:O	37:BD:202:GLU:HB2	2.18	0.43
38:BE:46:VAL:O	38:BE:72:ILE:HG22	2.18	0.43
39:BF:90:MET:HE1	51:BR:23:TYR:CZ	2.53	0.43
1:CB:78:A:H2'	1:CB:79:G:O4'	2.18	0.43
3:CA:188:G:H2'	3:CA:189:G:H5'	2.00	0.43
3:CA:225:C:C4	3:CA:226:A:C8	3.06	0.43
3:CA:1494:A:C2	3:CA:1495:A:C4	3.06	0.43
3:CA:2799:A:O2'	3:CA:2800:A:OP2	2.28	0.43
3:CA:2864:G:C5	3:CA:2865:U:C4	3.06	0.43
2:CC:254:LYS:O	2:CC:254:LYS:HG2	2.18	0.43
5:CE:46:GLN:HG3	5:CE:87:ALA:H	1.82	0.43
10:CJ:4:PHE:CD2	10:CJ:44:TYR:CE1	3.06	0.43
14:CN:52:ILE:HB	14:CN:94:TYR:HD2	1.83	0.43
21:CU:97:SER:O	21:CU:98:ASN:HB3	2.18	0.43
35:DA:143:A:H5'	35:DA:144:G:H5'	2.00	0.43
35:DA:412:A:H2	35:DA:413:G:N7	2.16	0.43
35:DA:982:U:H4'	35:DA:983:A:H5'	2.00	0.43
35:DA:1125:U:O3'	43:DJ:7:ARG:NH1	2.50	0.43
34:DB:150:ILE:HG13	34:DB:153:MET:HE3	2.00	0.43
40:DG:103:TRP:HZ3	40:DG:138:ARG:HA	1.83	0.43
42:DI:107:ASP:OD2	42:DI:109:ARG:NH1	2.51	0.43
44:DK:23:ILE:HG13	44:DK:86:VAL:HA	2.00	0.43
44:DK:92:GLY:HA2	44:DK:95:SER:HB3	1.99	0.43
55:DV:218:TRP:CE3	55:DV:223:ILE:HB	2.53	0.43
3:EA:329:G:O4'	3:EA:477:A:H1'	2.17	0.43
3:EA:483:A:N7	3:EA:497:A:H2	2.16	0.43
3:EA:2134:A:C2'	3:EA:2156:G:N2	2.81	0.43
3:EA:2311:A:N3	6:EF:84:ILE:CD1	2.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:2845:U:H5"	16:EP:51:ASN:O	2.18	0.43
4:ED:41:ALA:O	4:ED:43:ASP:N	2.49	0.43
4:ED:68:PHE:C	4:ED:73:VAL:HG12	2.43	0.43
7:EG:10:VAL:HG22	7:EG:47:ASN:C	2.43	0.43
7:EG:92:GLY:HA2	55:FV:147:MET:HE3	2.00	0.43
11:EK:71:ARG:HG3	11:EK:105:ARG:NH2	2.33	0.43
13:EM:28:PHE:N	13:EM:104:GLU:OE2	2.49	0.43
17:EQ:20:ALA:HA	17:EQ:23:TYR:CE2	2.52	0.43
23:EW:18:LYS:HA	23:EW:36:ILE:HG13	2.00	0.43
25:EY:32:ALA:HA	25:EY:37:LEU:HB3	2.00	0.43
32:E5:23:LEU:HD11	32:E5:96:PHE:CZ	2.53	0.43
32:E5:43:LYS:NZ	32:E5:98:GLU:HB2	2.33	0.43
35:FA:1302:C:O5'	35:FA:1302:C:C6	2.71	0.43
35:FA:1321:U:O2'	52:FS:78:ARG:NH2	2.51	0.43
34:FB:53:LEU:N	34:FB:53:LEU:HD23	2.33	0.43
34:FB:103:TRP:CZ2	34:FB:155:GLY:N	2.86	0.43
49:FP:19:VAL:HG12	49:FP:37:GLY:C	2.43	0.43
49:FP:48:GLU:OE2	49:FP:51:ARG:NH1	2.51	0.43
1:GB:41:G:P	1:GB:43:C:H41	2.41	0.43
3:GA:140:C:H4'	3:GA:141:G:N2	2.33	0.43
3:GA:614:A:H4'	3:GA:616:A:C6	2.53	0.43
3:GA:1252:G:N2	17:GQ:32:ARG:HG2	2.33	0.43
3:GA:2332:C:H4'	3:GA:2336:A:N6	2.32	0.43
6:GF:43:ILE:HG21	6:GF:77:LYS:HD2	2.00	0.43
7:GG:104:LEU:HB2	7:GG:112:VAL:CG2	2.47	0.43
12:GL:132:ARG:HA	12:GL:142:ILE:CD1	2.48	0.43
35:HA:626:G:C2	35:HA:627:G:C4	3.06	0.43
35:HA:716:A:N3	44:HK:119:ASN:O	2.51	0.43
35:HA:918:A:H2'	35:HA:919:A:O4'	2.18	0.43
35:HA:929:G:C6	35:HA:930:C:C4	3.05	0.43
35:HA:1193:G:O2'	38:HE:26:LYS:NZ	2.45	0.43
35:HA:1208:C:H2'	35:HA:1209:C:O4'	2.17	0.43
35:HA:1297:G:H5'	35:HA:1299:A:N6	2.33	0.43
34:HB:52:ALA:O	34:HB:56:LEU:HB2	2.18	0.43
40:HG:15:ASP:N	40:HG:20:SER:O	2.37	0.43
40:HG:121:ALA:HA	40:HG:124:LEU:HD12	1.99	0.43
45:HL:43:LYS:HB2	45:HL:89:ASP:O	2.18	0.43
55:HV:31:LEU:HA	55:HV:34:THR:HG22	2.00	0.43
1:AB:72:G:N2	1:AB:103:U:C5	2.86	0.43
2:AC:16:VAL:H	2:AC:203:VAL:HG12	1.83	0.43
3:AA:628:G:HO2'	3:AA:651:G:HO2'	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:646:U:H3'	3:AA:647:G:H5"	2.00	0.43
3:AA:800:A:OP1	60:AA:3323:HOH:O	2.21	0.43
3:AA:855:G:H21	23:AW:23:LYS:CG	2.31	0.43
3:AA:1224:U:H4'	18:AR:88:GLY:O	2.18	0.43
3:AA:1387:A:H5'	3:AA:1469:A:H1'	2.00	0.43
3:AA:1867:G:C5	3:AA:1868:C:C5	3.06	0.43
3:AA:2347:C:HO2'	28:A1:20:TYR:HH	1.54	0.43
3:AA:2657:A:C2	3:AA:2665:A:C4	3.06	0.43
15:AO:41:ALA:O	15:AO:44:GLY:N	2.41	0.43
20:AT:29:THR:HB	20:AT:86:THR:HA	2.01	0.43
23:AW:17:ALA:O	23:AW:18:LYS:HB2	2.18	0.43
23:AW:24:ARG:HD3	23:AW:65:LYS:HG2	2.00	0.43
35:BA:204:G:H3'	35:BA:205:A:H5"	2.00	0.43
35:BA:1005:A:H2'	35:BA:1006:G:O4'	2.19	0.43
37:BD:12:SER:HA	37:BD:19:LEU:CD1	2.47	0.43
37:BD:55:LEU:HD23	37:BD:55:LEU:C	2.44	0.43
38:BE:56:VAL:O	38:BE:60:ILE:HG12	2.18	0.43
38:BE:72:ILE:HD11	38:BE:145:GLU:CG	2.48	0.43
38:BE:115:LEU:HG	38:BE:120:VAL:HG21	1.99	0.43
39:BF:63:ASN:ND2	39:BF:96:VAL:CG2	2.81	0.43
41:BH:8:ALA:HA	41:BH:77:ARG:HG3	2.00	0.43
45:BL:24:LEU:C	45:BL:26:ALA:N	2.75	0.43
55:BV:499:THR:O	55:BV:500:ASP:C	2.60	0.43
3:CA:45:G:H5'	3:CA:46:G:H5'	1.99	0.43
3:CA:467:G:H2'	3:CA:468:G:O4'	2.18	0.43
3:CA:580:U:O3'	17:CQ:30:VAL:CG1	2.66	0.43
3:CA:871:U:H5"	13:CM:68:PHE:CZ	2.53	0.43
3:CA:1317:G:C5	3:CA:1318:U:C4	3.06	0.43
3:CA:1817:G:H2'	3:CA:1818:U:H5'	2.01	0.43
3:CA:2661:G:H2'	3:CA:2662:A:O4'	2.18	0.43
5:CE:45:ALA:O	5:CE:46:GLN:HB2	2.19	0.43
6:CF:110:ILE:HB	6:CF:113:PHE:HB2	2.00	0.43
9:CI:100:ILE:HG22	9:CI:101:SER:N	2.33	0.43
10:CJ:44:TYR:O	10:CJ:45:THR:CB	2.66	0.43
17:CQ:20:ALA:HA	17:CQ:23:TYR:CE2	2.53	0.43
18:CR:5:PHE:HE1	18:CR:14:VAL:HG21	1.83	0.43
19:CS:2:GLU:HA	19:CS:108:SER:HB3	2.00	0.43
22:CV:36:ALA:O	22:CV:93:ARG:NH1	2.39	0.43
23:CW:56:HIS:ND1	23:CW:56:HIS:N	2.66	0.43
27:C0:2:VAL:HG12	27:C0:3:GLN:N	2.31	0.43
35:DA:154:U:O2	35:DA:168:G:N2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:266:G:H3'	50:DQ:69:LYS:HB2	1.99	0.43
35:DA:642:A:C8	41:DH:107:SER:HA	2.53	0.43
35:DA:781:A:H4'	35:DA:1522:U:O2'	2.18	0.43
55:DV:151:PHE:HE1	55:DV:264:VAL:HG12	1.83	0.43
55:DV:164:ALA:HB1	55:DV:262:ILE:HD11	1.99	0.43
3:EA:2269:G:O2'	23:EW:18:LYS:HG2	2.19	0.43
3:EA:2852:G:C6	3:EA:2853:C:N3	2.86	0.43
4:ED:99:GLU:CG	4:ED:100:LEU:N	2.81	0.43
6:EF:122:ASP:OD2	6:EF:126:ASN:HB2	2.18	0.43
7:EG:117:PRO:HD2	7:EG:120:ILE:HG13	2.00	0.43
10:EJ:12:LYS:O	10:EJ:13:ARG:HB2	2.18	0.43
15:EO:2:ASP:OD1	15:EO:4:LYS:N	2.51	0.43
17:EQ:31:TYR:O	17:EQ:32:ARG:C	2.60	0.43
18:ER:90:ARG:O	18:ER:91:GLN:HB3	2.18	0.43
20:ET:43:ILE:HD11	20:ET:58:VAL:HG21	1.99	0.43
23:EW:24:ARG:HG3	23:EW:65:LYS:HD3	2.00	0.43
29:E2:24:THR:HG23	29:E2:27:GLY:HA3	2.00	0.43
35:FA:620:C:H1'	37:FD:132:ILE:CD1	2.48	0.43
35:FA:860:A:H2'	35:FA:861:G:O4'	2.17	0.43
35:FA:939:G:C6	35:FA:940:C:N4	2.86	0.43
35:FA:1076:U:C2	35:FA:1082:A:C2	3.06	0.43
35:FA:1171:A:H2'	35:FA:1172:C:C6	2.54	0.43
35:FA:1413:A:C6	35:FA:1414:U:C4	3.07	0.43
35:FA:1526:G:OP1	54:FU:39:GLU:HG2	2.18	0.43
37:FD:145:ILE:HD12	37:FD:178:MET:HB3	2.00	0.43
38:FE:38:VAL:HG11	38:FE:114:VAL:HA	1.99	0.43
43:FJ:15:HIS:C	43:FJ:17:LEU:H	2.26	0.43
43:FJ:80:THR:O	43:FJ:83:THR:HG22	2.19	0.43
47:FN:31:ILE:N	47:FN:31:ILE:HD12	2.33	0.43
54:FU:38:TYR:C	54:FU:41:PRO:HD2	2.43	0.43
3:GA:68:G:H2'	3:GA:69:C:O4'	2.18	0.43
3:GA:685:A:C2	3:GA:689:A:C5	3.06	0.43
3:GA:990:A:H1'	3:GA:1156:A:N3	2.33	0.43
3:GA:1218:G:N1	3:GA:1232:G:C5	2.86	0.43
3:GA:1259:G:C6	3:GA:1260:A:C5	3.06	0.43
3:GA:2025:C:H2'	3:GA:2026:U:H6	1.83	0.43
3:GA:2149:U:C5	3:GA:2150:C:C5	3.06	0.43
3:GA:2429:G:H4'	60:GA:3338:HOH:O	2.18	0.43
2:GC:164:VAL:HG23	2:GC:172:THR:OG1	2.18	0.43
4:GD:13:ARG:NH1	11:GK:73:ASP:O	2.51	0.43
4:GD:110:THR:HG23	4:GD:171:THR:HG22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:GE:54:GLY:O	5:GE:74:LYS:NZ	2.38	0.43
6:GF:110:ILE:HD12	6:GF:113:PHE:CD1	2.54	0.43
7:GG:35:THR:HG22	7:GG:36:LEU:N	2.32	0.43
8:GH:8:LYS:HB3	8:GH:9:VAL:H	1.69	0.43
12:GL:123:ARG:NE	12:GL:143:GLU:OE2	2.42	0.43
22:GV:2:PHE:HB2	22:GV:61:LEU:HD12	1.98	0.43
27:G0:14:MET:O	27:G0:17:SER:N	2.42	0.43
35:HA:539:A:C6	35:HA:540:G:C6	3.06	0.43
35:HA:663:A:C2	35:HA:743:A:C2	3.06	0.43
35:HA:979:C:N4	47:HN:58:SER:O	2.38	0.43
34:HB:9:LEU:O	34:HB:9:LEU:HD23	2.17	0.43
37:HD:26:ARG:HD3	37:HD:31:LYS:CE	2.48	0.43
38:HE:140:THR:O	38:HE:144:LEU:HG	2.18	0.43
44:HK:15:GLN:HA	44:HK:77:TYR:O	2.19	0.43
55:HV:619:VAL:HG21	55:HV:658:VAL:HG23	1.98	0.43
3:AA:132:G:C2'	3:AA:133:U:H5'	2.48	0.43
3:AA:1003:G:N2	3:AA:1004:U:C2	2.86	0.43
3:AA:1417:C:N3	3:AA:1581:G:N2	2.60	0.43
3:AA:1494:A:C2	3:AA:1495:A:C4	3.06	0.43
3:AA:1509:A:O2'	3:AA:1510:G:P	2.76	0.43
3:AA:2747:G:O6	3:AA:2755:C:H5"	2.18	0.43
4:AD:120:GLY:HA2	4:AD:162:ALA:HA	2.00	0.43
4:AD:124:ARG:HA	4:AD:165:MET:SD	2.58	0.43
6:AF:94:ARG:HH11	6:AF:94:ARG:CG	2.31	0.43
7:AG:60:GLY:O	7:AG:61:TRP:HB2	2.17	0.43
9:AI:82:ALA:HB1	9:AI:108:ILE:HG21	2.00	0.43
11:AK:47:ILE:HG13	11:AK:48:PRO:HD2	2.00	0.43
14:AN:70:THR:HB	14:AN:75:ILE:HD11	2.01	0.43
17:AQ:4:LYS:HZ3	17:AQ:7:VAL:CG1	2.32	0.43
35:BA:70:U:O2'	35:BA:71:A:C8	2.68	0.43
35:BA:328:C:H4'	35:BA:329:A:H5"	1.99	0.43
35:BA:958:A:C8	52:BS:55:ARG:NH1	2.86	0.43
45:BL:44:LYS:HB3	45:BL:45:PRO:HD3	2.00	0.43
45:BL:90:LEU:HB3	45:BL:93:VAL:CG2	2.48	0.43
48:BO:3:LEU:HD23	48:BO:8:THR:HG22	2.00	0.43
53:BT:55:GLN:N	53:BT:56:PRO:HD2	2.33	0.43
3:CA:309:A:O3'	21:CU:15:GLY:HA2	2.18	0.43
3:CA:1064:C:H5'	9:CI:89:SER:HB3	1.98	0.43
3:CA:1106:G:H1'	32:C5:56:ARG:HH11	1.83	0.43
3:CA:1301:A:H2'	3:CA:1301:A:N3	2.33	0.43
3:CA:2154:A:H4'	3:CA:2155:U:OP2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:2283:C:H5”	3:CA:2389:G:O2’	2.18	0.43
3:CA:2849:U:OP2	16:CP:92:ARG:HB2	2.18	0.43
17:CQ:23:TYR:HB3	17:CQ:27:ARG:HB3	2.01	0.43
35:DA:464:U:H2’	35:DA:466:A:OP2	2.18	0.43
35:DA:1054:C:H5”	35:DA:1196:A:O2’	2.19	0.43
35:DA:1324:A:H2’	35:DA:1325:C:O4’	2.18	0.43
34:DB:86:CYS:SG	34:DB:88:GLN:CD	3.01	0.43
37:DD:56:ARG:HA	37:DD:56:ARG:NE	2.33	0.43
40:DG:18:PHE:HD2	40:DG:59:LEU:HD23	1.83	0.43
42:DI:28:ILE:HG22	42:DI:30:ILE:HG22	2.00	0.43
44:DK:67:ALA:HB1	44:DK:100:LEU:HD13	2.00	0.43
53:DT:68:HIS:C	53:DT:69:LYS:HG3	2.44	0.43
55:DV:231:GLU:HA	55:DV:234:MET:HG2	1.99	0.43
55:DV:365:GLN:HB2	55:DV:374:ILE:HD11	1.99	0.43
3:EA:948:C:O5’	3:EA:948:C:H6	2.01	0.43
3:EA:1292:G:H2’	3:EA:1293:C:C6	2.53	0.43
3:EA:1378:A:C4	3:EA:1380:G:N7	2.86	0.43
3:EA:1419:A:C8	3:EA:1579:A:N6	2.86	0.43
3:EA:1458:U:H4’	3:EA:1459:G:O5’	2.18	0.43
3:EA:1959:G:C6	3:EA:1960:A:C5	3.06	0.43
3:EA:2276:G:P	13:EM:83:GLY:O	2.76	0.43
2:EC:80:LEU:HD11	2:EC:109:LEU:HG	2.00	0.43
5:EE:149:ILE:HD13	5:EE:172:ALA:HA	2.01	0.43
7:EG:23:ILE:HG21	7:EG:71:LEU:HD11	1.99	0.43
10:EJ:43:GLU:O	10:EJ:44:TYR:C	2.59	0.43
11:EK:113:MET:SD	11:EK:116:ILE:HD11	2.57	0.43
21:EU:53:GLN:N	21:EU:54:PRO:CD	2.81	0.43
32:E5:106:PHE:O	32:E5:107:GLU:C	2.61	0.43
32:E5:125:ARG:CZ	32:E5:125:ARG:HA	2.48	0.43
35:FA:354:G:N1	35:FA:355:C:C4	2.86	0.43
35:FA:723:U:H5’	54:FU:49:LYS:HD3	2.00	0.43
35:FA:769:G:H4’	35:FA:1513:A:H4’	1.99	0.43
35:FA:1086:U:H3’	35:FA:1087:G:H8	1.84	0.43
36:FC:22:TRP:HB3	36:FC:59:ARG:H	1.83	0.43
55:FV:663:MET:HE2	55:FV:666:TYR:CG	2.53	0.43
3:GA:244:A:N6	3:GA:254:G:O2’	2.51	0.43
3:GA:295:G:H3’	60:GA:3227:HOH:O	2.18	0.43
3:GA:522:A:H2’	3:GA:523:C:C6	2.53	0.43
3:GA:1005:C:C2	3:GA:1143:A:C5	3.06	0.43
3:GA:1148:U:H2’	3:GA:1149:G:C8	2.54	0.43
3:GA:1202:G:O6	3:GA:1244:A:C6	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:1266:G:H5"	19:GS:15:GLN:OE1	2.19	0.43
3:GA:2804:U:H2'	3:GA:2805:C:C6	2.52	0.43
2:GC:170:TYR:CE1	2:GC:184:GLU:HA	2.54	0.43
6:GF:37:MET:HE1	6:GF:149:ARG:HD2	2.00	0.43
7:GG:97:VAL:HG22	7:GG:102:ILE:HG13	2.00	0.43
9:GI:96:LYS:HE3	9:GI:135:MET:HG3	2.01	0.43
15:GO:85:LYS:HB2	15:GO:87:ILE:CG1	2.42	0.43
30:G3:25:HIS:CE1	30:G3:47:ALA:CB	3.01	0.43
35:HA:481:G:O2'	35:HA:482:A:P	2.76	0.43
35:HA:865:A:C2	35:HA:918:A:H4'	2.53	0.43
35:HA:1158:C:H4'	34:HB:131:LYS:HE3	2.00	0.43
35:HA:1279:G:H4'	35:HA:1281:C:H41	1.83	0.43
35:HA:1505:G:H4'	35:HA:1506:U:H5"	1.99	0.43
38:HE:96:MET:HE2	38:HE:115:LEU:HD11	2.00	0.43
52:HS:9:PRO:CB	52:HS:41:PHE:HZ	2.31	0.43
1:AB:27:C:C5	1:AB:28:C:C5	3.06	0.43
1:AB:78:A:H2'	1:AB:79:G:O4'	2.18	0.43
2:AC:76:VAL:HG22	2:AC:76:VAL:O	2.17	0.43
3:AA:1737:G:H5"	3:AA:1738:G:OP2	2.18	0.43
3:AA:2108:A:H2'	3:AA:2109:U:O5'	2.17	0.43
5:AE:115:GLN:O	5:AE:116:ASP:C	2.62	0.43
9:AI:92:PRO:C	9:AI:94:LYS:H	2.25	0.43
12:AL:112:LEU:HD23	12:AL:114:GLY:H	1.83	0.43
28:A1:18:HIS:CE1	28:A1:40:PRO:HD3	2.54	0.43
34:BB:118:THR:O	34:BB:119:GLN:HB3	2.18	0.43
35:BA:922:G:H4'	38:BE:25:VAL:HA	2.01	0.43
35:BA:1117:A:O3'	42:BI:106:ARG:CD	2.66	0.43
35:BA:1124:G:H2'	35:BA:1145:A:N6	2.33	0.43
38:BE:97:GLN:N	38:BE:124:LEU:O	2.42	0.43
46:BM:11:ASP:CG	46:BM:12:HIS:N	2.77	0.43
3:CA:38:A:N3	5:CE:43:THR:HB	2.33	0.43
3:CA:308:G:N2	3:CA:477:A:C8	2.86	0.43
3:CA:682:G:N2	3:CA:796:C:C2	2.86	0.43
3:CA:807:U:H2'	3:CA:808:G:O4'	2.18	0.43
3:CA:1068:G:H3'	3:CA:1069:A:H5"	2.00	0.43
3:CA:1220:G:C2	3:CA:1221:C:C2	3.06	0.43
2:CC:221:GLY:O	2:CC:224:MET:HG3	2.18	0.43
12:CL:85:VAL:HG22	12:CL:94:THR:HG22	2.00	0.43
18:CR:37:GLU:HB3	18:CR:53:PHE:CE1	2.53	0.43
19:CS:24:ILE:HG23	19:CS:71:VAL:HG11	2.01	0.43
32:C5:108:VAL:HG12	32:C5:109:LYS:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:126:G:H2'	35:DA:127:G:O5'	2.19	0.43
35:DA:918:A:H2'	35:DA:919:A:O4'	2.19	0.43
35:DA:946:A:H2'	35:DA:947:G:C8	2.53	0.43
35:DA:993:G:N2	35:DA:996:A:N6	2.67	0.43
35:DA:1147:C:C2'	42:DI:18:ARG:HH11	2.31	0.43
35:DA:1311:A:C2	35:DA:1312:G:C8	3.06	0.43
35:DA:1530:G:H2'	35:DA:1531:A:C8	2.54	0.43
34:DB:101:THR:HA	34:DB:178:LEU:CD2	2.49	0.43
41:DH:47:GLU:CB	41:DH:62:THR:HB	2.48	0.43
55:DV:220:GLN:O	55:DV:223:ILE:HG23	2.18	0.43
3:EA:217:A:H2'	3:EA:218:A:O4'	2.17	0.43
3:EA:319:G:C4	3:EA:333:G:N2	2.87	0.43
3:EA:704:G:O2'	3:EA:726:G:N2	2.44	0.43
3:EA:1853:A:N1	3:EA:2087:G:H1'	2.32	0.43
3:EA:2897:U:H2'	3:EA:2898:U:C6	2.54	0.43
4:ED:46:ARG:NH2	4:ED:86:GLU:H	2.16	0.43
7:EG:3:VAL:O	7:EG:68:ARG:HG2	2.18	0.43
7:EG:120:ILE:HD13	7:EG:120:ILE:N	2.33	0.43
7:EG:174:LYS:C	7:EG:176:LYS:H	2.26	0.43
18:ER:64:VAL:O	18:ER:65:ALA:HB3	2.18	0.43
19:ES:7:HIS:HB2	19:ES:50:VAL:CG2	2.48	0.43
23:EW:18:LYS:H	23:EW:36:ILE:N	2.16	0.43
30:E3:21:PHE:O	30:E3:22:LYS:O	2.36	0.43
32:E5:91:ALA:HB1	32:E5:130:PRO:HG3	2.00	0.43
35:FA:961:U:OP1	35:FA:1223:C:O2'	2.21	0.43
35:FA:973:G:H1'	43:FJ:56:HIS:ND1	2.33	0.43
35:FA:1228:C:P	46:FM:107:ARG:HH22	2.41	0.43
34:FB:72:LYS:HE2	34:FB:163:ILE:HD13	2.00	0.43
37:FD:3:ARG:NE	37:FD:115:ARG:HD3	2.33	0.43
38:FE:25:VAL:N	38:FE:28:GLY:O	2.38	0.43
39:FF:98:GLU:CG	39:FF:99:ALA:N	2.79	0.43
42:FI:43:THR:O	42:FI:44:ALA:CB	2.66	0.43
46:FM:93:ARG:HH12	52:FS:81:ARG:HH21	1.66	0.43
50:FQ:74:THR:HG22	50:FQ:75:LEU:N	2.33	0.43
52:FS:22:ALA:HA	52:FS:25:SER:HB3	2.00	0.43
52:FS:29:LYS:HB3	52:FS:30:PRO:HD2	2.00	0.43
54:FU:29:LEU:HD23	54:FU:29:LEU:C	2.43	0.43
55:FV:218:TRP:CD1	55:FV:218:TRP:N	2.84	0.43
3:GA:126:A:C4	29:G2:18:PHE:CE2	3.07	0.43
3:GA:217:A:H2'	3:GA:218:A:C8	2.53	0.43
3:GA:311:A:C8	3:GA:332:A:N7	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:404:A:H1'	3:GA:405:U:OP2	2.19	0.43
3:GA:537:G:N1	3:GA:555:G:C2	2.87	0.43
3:GA:884:U:H2'	3:GA:892:A:N6	2.33	0.43
3:GA:949:G:C2	3:GA:969:G:C2	3.06	0.43
3:GA:952:G:N3	3:GA:966:G:C2	2.87	0.43
3:GA:1180:U:C5	3:GA:1181:U:C4	3.06	0.43
3:GA:1419:A:N6	3:GA:1421:G:N3	2.67	0.43
3:GA:1421:G:C2	3:GA:1422:G:N7	2.86	0.43
3:GA:1865:U:C5	3:GA:1875:G:N1	2.87	0.43
3:GA:2153:C:H5"	3:GA:2154:A:OP2	2.18	0.43
3:GA:2246:G:C2	3:GA:2247:A:C4	3.07	0.43
3:GA:2421:G:P	28:G1:7:LYS:NZ	2.92	0.43
2:GC:254:LYS:O	2:GC:256:THR:N	2.52	0.43
5:GE:29:HIS:HA	5:GE:32:VAL:HG13	2.00	0.43
5:GE:164:LEU:HB3	5:GE:167:VAL:HG13	2.00	0.43
6:GF:109:ARG:HB3	6:GF:136:ILE:O	2.19	0.43
10:GJ:55:ILE:HD11	10:GJ:57:LEU:CD2	2.49	0.43
23:GW:56:HIS:N	23:GW:56:HIS:ND1	2.66	0.43
35:HA:204:G:H3'	35:HA:205:A:H5"	2.00	0.43
35:HA:815:A:N6	35:HA:1509:C:H1'	2.34	0.43
37:HD:165:ARG:O	37:HD:167:LYS:N	2.52	0.43
44:HK:28:ASN:C	44:HK:58:SER:HA	2.43	0.43
45:HL:83:ARG:HB3	45:HL:96:HIS:HB2	2.00	0.43
3:AA:61:C:H2'	3:AA:62:U:H5'	2.00	0.43
3:AA:336:C:N3	3:AA:337:C:C5	2.86	0.43
3:AA:819:A:C4	3:AA:1189:A:C2	3.06	0.43
3:AA:1044:C:O2'	3:AA:1111:A:N1	2.42	0.43
3:AA:1239:G:H2'	3:AA:1240:U:O4'	2.19	0.43
3:AA:1439:A:C2	3:AA:1553:A:C4	3.06	0.43
3:AA:1638:C:H4'	3:AA:2710:C:O2	2.18	0.43
3:AA:1956:U:H2'	3:AA:1957:C:H5'	2.01	0.43
3:AA:2557:G:H2'	3:AA:2558:C:C6	2.54	0.43
5:AE:44:ARG:HH21	5:AE:44:ARG:CG	2.31	0.43
5:AE:147:LEU:HB3	5:AE:186:VAL:HG23	1.99	0.43
7:AG:35:THR:HG22	7:AG:36:LEU:N	2.33	0.43
10:AJ:11:VAL:HG11	10:AJ:50:THR:HA	2.01	0.43
10:AJ:44:TYR:HA	17:AQ:59:LEU:CD2	2.48	0.43
12:AL:2:ARG:HA	12:AL:5:THR:CG2	2.48	0.43
20:AT:69:ARG:HG3	20:AT:70:HIS:H	1.83	0.43
26:AZ:15:ARG:HH11	26:AZ:15:ARG:HG2	1.82	0.43
32:A5:71:CYS:SG	32:A5:117:LEU:HD12	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:328:C:O2	35:BA:328:C:H2'	2.19	0.43
35:BA:495:A:C2	35:BA:496:A:C6	3.06	0.43
35:BA:532:A:N6	35:BA:1207:G:H5'	2.33	0.43
38:BE:72:ILE:HG12	38:BE:73:ASN:N	2.33	0.43
38:BE:91:GLY:HA3	38:BE:130:SER:HB3	2.00	0.43
45:BL:23:ALA:HB3	45:BL:95:TYR:CE2	2.53	0.43
3:CA:572:A:C2	3:CA:2033:A:C2	3.06	0.43
3:CA:666:A:H4'	12:CL:48:ARG:HD2	2.00	0.43
3:CA:788:A:H3'	3:CA:790:U:H5	1.83	0.43
3:CA:880:G:C2	3:CA:881:G:C8	3.06	0.43
3:CA:1328:A:H2'	3:CA:1330:C:C4	2.53	0.43
3:CA:1548:A:H2'	3:CA:1549:A:C8	2.54	0.43
3:CA:2748:A:H1'	7:CG:66:THR:HG22	2.01	0.43
3:CA:2902:C:O2'	3:CA:2903:U:P	2.77	0.43
14:CN:20:MET:HE1	14:CN:40:LYS:HE2	2.00	0.43
17:CQ:63:ARG:HH12	17:CQ:95:ALA:C	2.27	0.43
23:CW:41:GLY:C	23:CW:43:LYS:N	2.76	0.43
32:C5:23:LEU:H	32:C5:87:GLU:HB2	1.84	0.43
35:DA:175:C:O2'	35:DA:1447:A:N1	2.45	0.43
35:DA:978:A:C8	35:DA:1361:G:N2	2.87	0.43
35:DA:983:A:N3	35:DA:983:A:C2'	2.82	0.43
35:DA:1269:A:N7	35:DA:1270:G:H1'	2.33	0.43
35:DA:1401:G:H2'	35:DA:1402:C:O4'	2.17	0.43
37:DD:151:LYS:HB3	37:DD:178:MET:SD	2.59	0.43
38:DE:157:ARG:NH2	41:DH:114:ARG:HH12	2.16	0.43
40:DG:83:SER:HB2	40:DG:85:TYR:CE2	2.53	0.43
52:DS:40:ILE:HB	52:DS:66:MET:O	2.18	0.43
54:DU:10:GLU:HG2	54:DU:11:PRO:HD3	2.01	0.43
55:DV:4:THR:CG2	55:DV:378:ARG:CZ	2.96	0.43
3:EA:782:A:C2	2:EC:224:MET:SD	3.12	0.43
3:EA:1142:A:C4	3:EA:1144:A:C8	3.06	0.43
3:EA:1567:G:C2'	2:EC:84:PRO:HG3	2.48	0.43
3:EA:2698:U:H2'	3:EA:2699:C:C6	2.54	0.43
3:EA:2844:G:C5	3:EA:2845:U:C5	3.06	0.43
2:EC:132:ARG:NH1	2:EC:168:GLY:O	2.51	0.43
6:EF:14:LYS:O	6:EF:17:THR:OG1	2.36	0.43
7:EG:24:THR:HG23	7:EG:34:ARG:HG2	2.00	0.43
12:EL:110:VAL:HG11	12:EL:135:ILE:HD11	2.01	0.43
14:EN:33:ILE:HD11	14:EN:118:ARG:CD	2.49	0.43
17:EQ:91:ARG:CD	18:ER:11:GLN:H	2.31	0.43
24:EX:28:PHE:CD1	24:EX:28:PHE:N	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:E1:9:LYS:HE2	28:E1:52:LYS:NZ	2.33	0.43
32:E5:34:THR:O	32:E5:38:MET:HG3	2.18	0.43
32:E5:91:ALA:CB	32:E5:130:PRO:HG3	2.48	0.43
35:FA:355:C:C4	35:FA:356:A:N7	2.87	0.43
36:FC:66:VAL:CG1	36:FC:67:THR:N	2.81	0.43
37:FD:135:TYR:CD1	37:FD:136:GLN:N	2.85	0.43
39:FF:3:HIS:CD2	39:FF:94:HIS:HA	2.53	0.43
40:FG:68:ASN:OD1	40:FG:130:ASN:ND2	2.47	0.43
41:FH:89:LYS:HG3	41:FH:90:ASP:N	2.34	0.43
41:FH:93:PRO:HG3	41:FH:125:ILE:HD12	1.99	0.43
42:FI:45:ARG:HG3	42:FI:46:MET:N	2.33	0.43
42:FI:65:ILE:HD13	42:FI:79:ILE:HG23	2.01	0.43
44:FK:104:GLY:O	44:FK:105:PHE:C	2.61	0.43
50:FQ:38:ILE:HD12	50:FQ:40:ARG:HG2	1.99	0.43
3:GA:54:G:C2	3:GA:55:G:H1'	2.53	0.43
3:GA:818:G:N7	3:GA:1187:G:C6	2.86	0.43
3:GA:882:G:C6	3:GA:895:U:H1'	2.54	0.43
3:GA:949:G:N1	3:GA:969:G:C6	2.86	0.43
3:GA:983:A:C4	3:GA:984:A:C8	3.07	0.43
3:GA:1223:G:OP2	18:GR:90:ARG:NH1	2.48	0.43
3:GA:1670:C:C5	3:GA:1671:U:C4	3.07	0.43
3:GA:1826:G:P	2:GC:221:GLY:H	2.40	0.43
3:GA:1881:C:H2'	3:GA:1882:U:O4'	2.17	0.43
3:GA:2189:U:C2	3:GA:2190:G:C8	3.06	0.43
3:GA:2633:G:C6	3:GA:2634:A:N7	2.87	0.43
5:GE:170:ARG:NH2	5:GE:179:SER:OG	2.51	0.43
6:GF:93:GLU:O	6:GF:95:MET:N	2.51	0.43
8:GH:28:ASN:C	8:GH:32:PRO:HG2	2.44	0.43
9:GI:36:GLU:HG2	9:GI:66:PHE:CE2	2.54	0.43
10:GJ:122:LEU:C	10:GJ:123:LYS:HD3	2.44	0.43
13:GM:34:LYS:CD	22:GV:82:TYR:HA	2.48	0.43
16:GP:33:GLU:OE1	35:HA:346:G:P	2.76	0.43
17:GQ:81:GLY:O	17:GQ:85:ALA:N	2.39	0.43
29:G2:18:PHE:C	29:G2:18:PHE:HD1	2.26	0.43
35:HA:297:G:H4'	35:HA:557:G:H4'	1.99	0.43
35:HA:619:U:N3	37:HD:132:ILE:CD1	2.81	0.43
35:HA:1066:C:H3'	35:HA:1067:A:H8	1.83	0.43
35:HA:1220:G:H1'	52:HS:52:HIS:ND1	2.33	0.43
36:HC:19:ASN:O	36:HC:40:ARG:NH2	2.52	0.43
43:HJ:74:VAL:O	43:HJ:75:ASP:HB3	2.19	0.43
44:HK:24:HIS:ND1	44:HK:87:LYS:HD2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:HP:23:ASP:O	49:HP:25:ARG:N	2.51	0.43
52:HS:36:ARG:HD2	52:HS:51:VAL:CG1	2.48	0.43
55:HV:10:TYR:HB2	55:HV:289:PRO:CG	2.49	0.43
3:AA:1476:U:C5	3:AA:1514:G:C2	3.07	0.43
7:AG:123:GLU:HG2	7:AG:125:PRO:HD3	2.00	0.43
8:AH:8:LYS:O	8:AH:9:VAL:CB	2.66	0.43
12:AL:111:ILE:N	12:AL:111:ILE:HD12	2.33	0.43
15:AO:31:THR:HG22	15:AO:34:HIS:N	2.33	0.43
18:AR:5:PHE:HB3	18:AR:59:ILE:HD12	2.01	0.43
34:BB:187:ASP:OD1	34:BB:188:THR:N	2.39	0.43
35:BA:211:G:C6	35:BA:212:G:H1'	2.54	0.43
35:BA:688:G:C5	35:BA:700:G:C2	3.07	0.43
37:BD:35:GLU:C	37:BD:35:GLU:CD	2.84	0.43
37:BD:148:LYS:H	37:BD:148:LYS:HD2	1.83	0.43
39:BF:61:LEU:HD12	39:BF:62:MET:H	1.83	0.43
41:BH:106:THR:HG21	41:BH:121:LEU:HD13	1.99	0.43
42:BI:60:LYS:HD2	42:BI:61:LEU:CD1	2.49	0.43
43:BJ:35:GLN:HE21	43:BJ:77:VAL:CG2	2.32	0.43
48:BO:74:ASP:CG	48:BO:77:ARG:HG3	2.44	0.43
49:BP:70:ARG:O	49:BP:74:LEU:HG	2.19	0.43
55:BV:409:MET:HE2	55:BV:409:MET:HB2	1.98	0.43
55:BV:498:VAL:CG2	55:BV:608:ALA:HA	2.48	0.43
3:CA:479:A:H4'	3:CA:480:A:OP1	2.18	0.43
3:CA:874:G:C6	3:CA:904:G:C6	3.06	0.43
3:CA:1509:A:HO2'	3:CA:1510:G:P	2.40	0.43
3:CA:2758:A:C2'	3:CA:2759:G:H5'	2.49	0.43
4:CD:69:ALA:HA	4:CD:73:VAL:CG1	2.48	0.43
7:CG:1:SER:O	7:CG:4:ALA:N	2.43	0.43
19:CS:54:ALA:HB1	19:CS:107:VAL:CG1	2.49	0.43
19:CS:54:ALA:HB1	19:CS:107:VAL:HG12	1.99	0.43
35:DA:626:G:H2'	35:DA:627:G:C8	2.53	0.43
35:DA:980:C:O3'	47:DN:13:ARG:NH2	2.52	0.43
35:DA:1147:C:H4'	42:DI:7:TYR:CE2	2.53	0.43
35:DA:1198:G:H2'	35:DA:1199:U:C6	2.53	0.43
35:DA:1225:A:H4'	52:DS:78:ARG:NE	2.33	0.43
35:DA:1236:A:H4'	35:DA:1304:G:H4'	1.99	0.43
45:DL:43:LYS:HG2	45:DL:44:LYS:HG3	2.00	0.43
3:EA:259:G:H4'	12:EL:103:ILE:HD13	2.01	0.43
3:EA:1057:A:O2'	32:E5:38:MET:HE2	2.19	0.43
3:EA:1168:G:H3'	3:EA:1169:A:H8	1.84	0.43
3:EA:2478:A:OP2	31:E4:2:LYS:NZ	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:2799:A:O2'	3:EA:2800:A:OP2	2.27	0.43
4:ED:193:VAL:HB	4:ED:194:PRO:HD2	2.01	0.43
10:EJ:123:LYS:CD	10:EJ:123:LYS:N	2.81	0.43
11:EK:69:VAL:HG21	11:EK:106:GLU:CD	2.43	0.43
12:EL:68:SER:O	12:EL:69:ARG:HB3	2.19	0.43
16:EP:50:ARG:CD	16:EP:51:ASN:N	2.81	0.43
20:ET:69:ARG:HD2	20:ET:70:HIS:H	1.83	0.43
23:EW:37:VAL:CA	23:EW:39:GLN:HG2	2.49	0.43
35:FA:21:G:H2'	35:FA:22:G:C8	2.54	0.43
35:FA:375:U:C4	35:FA:376:G:N7	2.86	0.43
35:FA:881:G:N7	45:FL:6:GLN:NE2	2.67	0.43
34:FB:88:GLN:HE21	34:FB:88:GLN:C	2.27	0.43
38:FE:89:HIS:CD2	38:FE:138:ARG:HG2	2.54	0.43
41:FH:66:PHE:O	41:FH:67:GLN:C	2.61	0.43
52:FS:56:GLN:OE1	52:FS:57:HIS:N	2.51	0.43
55:FV:169:LEU:HD13	55:FV:263:LEU:HD13	2.00	0.43
55:FV:219:HIS:C	55:FV:221:ASN:N	2.75	0.43
1:GB:77:U:OP2	22:GV:14:LYS:HA	2.18	0.43
3:GA:725:G:C6	3:GA:726:G:N1	2.87	0.43
3:GA:952:G:N1	3:GA:953:G:C4	2.87	0.43
3:GA:974:G:OP1	18:GR:78:ARG:NH1	2.51	0.43
3:GA:1681:G:O2'	3:GA:1762:A:N3	2.41	0.43
3:GA:1913:A:O2'	56:HW:4:SER:HA	2.18	0.43
3:GA:2376:A:C8	15:GO:99:TYR:HE2	2.36	0.43
2:GC:2:VAL:HG11	2:GC:201:LEU:HD23	2.01	0.43
4:GD:52:THR:HG23	4:GD:53:GLY:N	2.34	0.43
4:GD:133:THR:HG23	4:GD:134:HIS:CD2	2.54	0.43
4:GD:186:LEU:HD21	16:GP:3:ILE:HD11	2.00	0.43
5:GE:161:ALA:HB1	5:GE:167:VAL:CG2	2.48	0.43
9:GI:96:LYS:HG2	9:GI:135:MET:HG2	1.99	0.43
10:GJ:45:THR:HG23	10:GJ:45:THR:O	2.18	0.43
10:GJ:89:PHE:CD1	10:GJ:89:PHE:C	2.97	0.43
23:GW:14:ASP:C	23:GW:16:GLU:H	2.27	0.43
35:HA:481:G:C8	35:HA:481:G:H5"	2.53	0.43
35:HA:507:C:H3'	35:HA:508:U:H5"	1.99	0.43
35:HA:941:G:H4'	35:HA:1350:A:H4'	2.00	0.43
35:HA:1049:U:H4'	35:HA:1050:G:C5'	2.48	0.43
35:HA:1308:U:C5'	46:HM:109:ARG:HE	2.31	0.43
39:HF:3:HIS:H	39:HF:92:THR:HG23	1.84	0.43
40:HG:12:ILE:HD12	40:HG:25:LYS:HG2	2.00	0.43
41:HH:105:SER:N	41:HH:126:ILE:HD13	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:HH:112:THR:HG22	41:HH:113:ASP:N	2.33	0.43
42:HI:120:LYS:HG3	42:HI:123:ARG:HB3	2.01	0.43
45:HL:63:VAL:HG11	45:HL:95:TYR:CE2	2.53	0.43
48:HO:70:LEU:CD2	48:HO:78:TYR:HB2	2.49	0.43
51:HR:25:ASP:C	51:HR:27:ALA:N	2.75	0.43
55:HV:4:THR:HB	55:HV:7:ILE:HD11	2.00	0.43
55:HV:196:ALA:C	55:HV:198:GLN:N	2.76	0.43
3:AA:580:U:H2'	3:AA:581:C:C6	2.54	0.43
3:AA:645:C:O2	3:AA:645:C:O2'	2.35	0.43
3:AA:742:A:H2'	3:AA:743:A:C8	2.53	0.43
3:AA:1779:U:C5	3:AA:1784:A:N7	2.86	0.43
3:AA:1857:G:C2	3:AA:1884:G:N3	2.86	0.43
3:AA:2516:A:N6	3:AA:2517:C:N4	2.67	0.43
9:AI:9:LYS:HB3	9:AI:71:LYS:NZ	2.34	0.43
13:AM:26:VAL:HB	13:AM:133:LYS:HA	1.99	0.43
21:AU:17:ASP:O	21:AU:18:LYS:C	2.62	0.43
23:AW:19:ARG:NH1	23:AW:22:VAL:HG21	2.33	0.43
28:A1:5:ARG:CZ	28:A1:24:LYS:HA	2.49	0.43
28:A1:8:ILE:CD1	28:A1:24:LYS:HG2	2.48	0.43
32:A5:88:HIS:CB	32:A5:89:PRO:CD	2.97	0.43
32:A5:110:ALA:C	32:A5:113:PHE:H	2.27	0.43
32:A5:131:THR:O	32:A5:132:TYR:C	2.61	0.43
34:BB:26:MET:HA	34:BB:26:MET:HE3	2.01	0.43
35:BA:876:C:C1'	41:BH:12:THR:HG21	2.49	0.43
35:BA:911:U:H2'	35:BA:912:C:C6	2.54	0.43
35:BA:1117:A:O3'	42:BI:106:ARG:HD2	2.19	0.43
35:BA:1391:U:H2'	35:BA:1392:G:C8	2.54	0.43
35:BA:1480:A:H2'	35:BA:1481:U:O4'	2.19	0.43
40:BG:18:PHE:CE1	40:BG:58:GLU:HG2	2.54	0.43
1:CB:51:G:H5"	15:CO:64:TYR:CD2	2.52	0.43
3:CA:126:A:C5	29:C2:18:PHE:CD2	3.07	0.43
3:CA:138:U:H5'	3:CA:139:U:C5'	2.48	0.43
3:CA:404:A:N7	3:CA:406:G:C6	2.86	0.43
3:CA:834:G:C6	3:CA:835:C:C4	3.07	0.43
3:CA:1268:A:H2'	3:CA:1269:A:O4'	2.19	0.43
3:CA:1447:C:C2	3:CA:1448:G:C8	3.07	0.43
3:CA:1977:A:H2'	3:CA:1978:A:O4'	2.18	0.43
3:CA:2133:G:H5"	3:CA:2155:U:C5	2.54	0.43
3:CA:2843:G:N2	3:CA:2875:C:C2	2.87	0.43
3:CA:2844:G:H2'	3:CA:2845:U:H5'	2.00	0.43
2:CC:128:THR:HA	2:CC:190:THR:HA	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CE:15:SER:N	5:CE:197:GLU:OE2	2.49	0.43
8:CH:27:ARG:HG3	8:CH:27:ARG:HH21	1.83	0.43
10:CJ:20:ALA:O	10:CJ:21:THR:C	2.61	0.43
10:CJ:44:TYR:HD2	17:CQ:63:ARG:HG2	1.82	0.43
14:CN:52:ILE:HB	14:CN:94:TYR:CD2	2.53	0.43
24:CX:38:TRP:CZ2	24:CX:43:LYS:HA	2.54	0.43
27:C0:2:VAL:CG1	27:C0:3:GLN:N	2.81	0.43
32:C5:100:ALA:HB2	32:C5:125:ARG:HE	1.84	0.43
32:C5:147:SER:OG	32:C5:148:ALA:N	2.49	0.43
35:DA:233:C:H2'	35:DA:234:C:H6	1.83	0.43
35:DA:538:G:C2	35:DA:539:A:C4	3.06	0.43
35:DA:932:C:C6	40:DG:3:ARG:NH1	2.87	0.43
35:DA:1331:G:O2'	35:DA:1332:A:P	2.77	0.43
35:DA:1394:A:C5	35:DA:1501:C:H4'	2.52	0.43
34:DB:93:HIS:ND1	34:DB:145:ASN:O	2.51	0.43
34:DB:165:ALA:HB3	34:DB:190:SER:HB3	2.01	0.43
36:DC:24:ALA:HB1	36:DC:28:GLU:HG2	2.01	0.43
37:DD:174:ASP:OD1	37:DD:175:ALA:N	2.48	0.43
39:DF:45:ARG:NH1	39:DF:46:GLN:O	2.51	0.43
40:DG:46:ALA:HB2	40:DG:117:ALA:HA	2.00	0.43
40:DG:86:GLN:CD	40:DG:144:MET:CE	2.91	0.43
45:DL:34:CYS:HA	45:DL:55:VAL:HA	2.01	0.43
46:DM:5:ALA:HB2	46:DM:60:VAL:HG13	2.01	0.43
46:DM:64:VAL:HG13	46:DM:68:ASP:CB	2.48	0.43
52:DS:34:TRP:NE1	52:DS:57:HIS:CE1	2.87	0.43
55:DV:430:LYS:HB3	55:DV:479:VAL:HG21	2.00	0.43
55:DV:520:ILE:HG22	55:DV:578:LEU:HA	2.01	0.43
3:EA:542:C:N3	3:EA:551:G:O6	2.51	0.43
3:EA:784:G:H5'	2:EC:225:ASN:OD1	2.18	0.43
3:EA:1594:U:H2'	3:EA:1595:C:C6	2.54	0.43
3:EA:1712:U:C4	3:EA:1713:A:C6	3.06	0.43
60:EA:3737:HOH:O	2:EC:237:ARG:NH2	2.51	0.43
4:ED:148:GLN:HB2	4:ED:152:PRO:HG2	1.99	0.43
4:ED:148:GLN:OE1	4:ED:148:GLN:N	2.51	0.43
12:EL:26:GLY:C	12:EL:27:LEU:HD12	2.44	0.43
18:ER:49:ILE:HD12	18:ER:52:PRO:HA	2.01	0.43
18:ER:64:VAL:O	18:ER:65:ALA:CB	2.66	0.43
24:EX:70:LEU:HD13	24:EX:75:GLU:CB	2.49	0.43
35:FA:408:A:H2'	35:FA:409:U:O4'	2.18	0.43
35:FA:1085:U:C6	35:FA:1094:G:N1	2.87	0.43
35:FA:1105:A:C2	35:FA:1106:G:N7	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:FA:1124:G:C2	35:FA:1150:A:C2	3.06	0.43
35:FA:1305:G:N2	35:FA:1331:G:O2'	2.52	0.43
35:FA:1464:U:H2'	35:FA:1465:A:C8	2.53	0.43
36:FC:23:PHE:CD1	36:FC:23:PHE:C	2.97	0.43
45:FL:73:ASN:ND2	45:FL:74:LEU:H	2.16	0.43
50:FQ:38:ILE:CD1	50:FQ:40:ARG:HG2	2.48	0.43
3:GA:45:G:H2'	3:GA:215:G:C5	2.54	0.43
3:GA:240:C:H2'	3:GA:256:A:N6	2.34	0.43
3:GA:299:A:N1	3:GA:322:A:O2'	2.49	0.43
3:GA:983:A:N7	3:GA:984:A:N7	2.67	0.43
3:GA:1045:C:H3'	3:GA:1046:A:H5'	2.00	0.43
3:GA:1107:G:C6	3:GA:1108:U:C4	3.07	0.43
3:GA:1287:A:O5'	14:GN:103:ARG:HD2	2.19	0.43
3:GA:2317:A:C5	3:GA:2318:G:C5	3.07	0.43
3:GA:2513:A:H2	4:GD:148:GLN:HG3	1.84	0.43
4:GD:12:THR:HG22	4:GD:13:ARG:N	2.33	0.43
4:GD:68:PHE:C	4:GD:73:VAL:HG12	2.44	0.43
5:GE:144:GLU:HG3	5:GE:145:ASP:N	2.32	0.43
7:GG:174:LYS:O	7:GG:175:LYS:C	2.61	0.43
9:GI:96:LYS:NZ	9:GI:137:LEU:HD23	2.33	0.43
10:GJ:73:VAL:HG23	10:GJ:74:TYR:N	2.34	0.43
12:GL:48:ARG:HB2	12:GL:48:ARG:HH11	1.84	0.43
12:GL:127:VAL:HG21	12:GL:135:ILE:CD1	2.48	0.43
19:GS:17:VAL:C	19:GS:18:ARG:O	2.62	0.43
20:GT:38:ALA:HB1	20:GT:43:ILE:CG2	2.49	0.43
23:GW:23:LYS:HE2	23:GW:24:ARG:HB3	2.00	0.43
25:GY:39:GLN:HB3	25:GY:42:LEU:HD13	2.01	0.43
30:G3:39:ARG:O	30:G3:43:LEU:HG	2.19	0.43
35:HA:368:U:C4	55:HV:362:ARG:NH2	2.87	0.43
35:HA:392:C:OP1	49:HP:8:ARG:NH2	2.52	0.43
35:HA:753:A:N1	41:HH:3:MET:HE1	2.34	0.43
35:HA:759:A:H2'	35:HA:760:G:H5'	2.00	0.43
35:HA:1052:U:O2'	35:HA:1055:A:OP2	2.28	0.43
37:HD:95:GLU:O	37:HD:100:ASN:ND2	2.52	0.43
38:HE:77:ASN:HB2	38:HE:82:GLN:NE2	2.33	0.43
40:HG:103:TRP:HA	40:HG:106:GLU:HB3	2.00	0.43
40:HG:114:LYS:HG2	40:HG:115:SER:N	2.33	0.43
44:HK:89:PRO:HG3	54:HU:29:LEU:HD13	2.01	0.43
46:HM:83:LEU:CB	52:HS:66:MET:HE3	2.48	0.43
47:HN:49:GLN:HG2	52:HS:10:PHE:HE1	1.84	0.43
50:HQ:47:HIS:HB2	50:HQ:71:LYS:HE2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:HV:4:THR:HG21	55:HV:378:ARG:HG3	2.00	0.43
2:AC:180:MET:O	2:AC:267:VAL:N	2.42	0.43
3:AA:226:A:C6	3:AA:227:A:C6	3.07	0.43
3:AA:247:G:N7	3:AA:249:C:C2	2.86	0.43
3:AA:348:A:C5	3:AA:349:U:C5	3.07	0.43
3:AA:479:A:N3	3:AA:481:G:H5"	2.34	0.43
3:AA:1223:G:P	18:AR:68:ARG:HH11	2.41	0.43
3:AA:2047:C:O2'	3:AA:2048:G:H5'	2.19	0.43
3:AA:2335:A:N6	3:AA:2337:G:H1'	2.33	0.43
7:AG:39:ALA:HB2	7:AG:57:TYR:CD2	2.54	0.43
10:AJ:110:PRO:HB2	10:AJ:111:LYS:HG3	2.00	0.43
13:AM:13:HIS:O	13:AM:14:LYS:CB	2.66	0.43
22:AV:29:ILE:HD13	22:AV:30:ILE:N	2.33	0.43
23:AW:36:ILE:O	23:AW:36:ILE:HG22	2.18	0.43
23:AW:41:GLY:O	23:AW:42:THR:C	2.61	0.43
25:AY:21:LEU:HA	25:AY:25:GLN:HB3	2.01	0.43
32:A5:46:ARG:C	32:A5:48:ALA:H	2.26	0.43
32:A5:71:CYS:HB3	32:A5:74:ASP:OD2	2.18	0.43
34:BB:68:PHE:O	34:BB:91:VAL:N	2.50	0.43
36:BC:70:THR:O	36:BC:106:VAL:N	2.52	0.43
40:BG:130:ASN:HA	40:BG:135:VAL:HG11	2.01	0.43
42:BI:7:TYR:CG	42:BI:8:GLY:N	2.87	0.43
42:BI:28:ILE:HG13	42:BI:63:LEU:HD21	2.00	0.43
42:BI:89:GLU:CG	42:BI:90:TYR:N	2.82	0.43
44:BK:126:LYS:O	44:BK:127:ARG:HB2	2.18	0.43
45:BL:76:GLU:HG3	55:BV:454:ASN:CB	2.49	0.43
55:BV:8:ALA:O	55:BV:288:SER:OG	2.30	0.43
1:CB:89:U:H3'	1:CB:90:C:C5'	2.49	0.43
3:CA:348:A:H2'	3:CA:349:U:O4'	2.19	0.43
3:CA:630:G:N2	3:CA:633:A:OP2	2.30	0.43
3:CA:1022:G:C5	3:CA:1140:C:C4	3.07	0.43
3:CA:1047:G:OP2	32:C5:59:LEU:HG	2.19	0.43
3:CA:1150:C:C2'	3:CA:1151:A:O5'	2.67	0.43
3:CA:1285:A:H2'	3:CA:1286:A:H5'	2.01	0.43
3:CA:2153:C:H5"	3:CA:2154:A:OP2	2.18	0.43
10:CJ:25:LEU:C	10:CJ:25:LEU:HD13	2.43	0.43
21:CU:73:ASN:O	21:CU:74:ALA:HB3	2.19	0.43
23:CW:16:GLU:O	23:CW:17:ALA:HB3	2.19	0.43
28:C1:33:LEU:HD13	28:C1:34:GLU:N	2.34	0.43
32:C5:47:GLU:HG2	32:C5:95:LEU:CD2	2.48	0.43
35:DA:579:A:O2'	48:DO:54:ARG:NH1	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:697:U:C6	35:DA:698:G:C8	3.06	0.43
35:DA:729:A:N1	35:DA:764:C:O2'	2.49	0.43
35:DA:1416:G:H2'	35:DA:1417:G:H5'	2.01	0.43
35:DA:1464:U:H2'	35:DA:1465:A:C8	2.54	0.43
34:DB:67:LEU:HD12	34:DB:157:PRO:CG	2.49	0.43
36:DC:77:ILE:HG22	36:DC:81:GLY:HA2	2.01	0.43
46:DM:83:LEU:HD21	52:DS:65:GLU:HB3	2.01	0.43
54:DU:22:SER:C	54:DU:23:CYS:SG	3.01	0.43
55:DV:175:ALA:C	55:DV:176:GLU:HG2	2.43	0.43
55:DV:515:TYR:CE2	55:DV:583:TYR:HA	2.53	0.43
3:EA:12:U:O2	3:EA:12:U:H2'	2.19	0.43
3:EA:1031:G:H4'	31:E4:6:SER:HB2	2.01	0.43
3:EA:2103:C:H2'	3:EA:2104:C:H5'	2.01	0.43
3:EA:2579:C:H4'	4:ED:139:SER:OG	2.19	0.43
1:EB:44:G:N2	1:EB:48:U:O2	2.51	0.43
5:EE:147:LEU:HD23	5:EE:183:PHE:CE1	2.53	0.43
16:EP:29:VAL:CG2	16:EP:79:VAL:HG22	2.49	0.43
16:EP:50:ARG:HG2	16:EP:56:SER:HB3	2.00	0.43
17:EQ:63:ARG:HH12	17:EQ:96:ASP:HA	1.84	0.43
20:ET:3:ARG:NH2	20:ET:7:LEU:HD21	2.33	0.43
25:EY:8:GLU:O	25:EY:8:GLU:HG3	2.18	0.43
26:EZ:15:ARG:HH11	26:EZ:15:ARG:HG2	1.83	0.43
28:E1:8:ILE:HD12	28:E1:9:LYS:H	1.83	0.43
34:FB:94:ARG:NH1	34:FB:96:LEU:HA	2.34	0.43
34:FB:140:LEU:O	34:FB:144:GLU:N	2.38	0.43
38:FE:137:VAL:O	38:FE:137:VAL:HG22	2.19	0.43
40:FG:64:VAL:O	40:FG:68:ASN:ND2	2.46	0.43
55:FV:255:ARG:HB3	55:FV:261:ILE:HG21	2.01	0.43
3:GA:199:A:C6	3:GA:2433:A:H2'	2.53	0.43
3:GA:251:A:C4	3:GA:252:G:H1'	2.53	0.43
3:GA:303:G:H2'	3:GA:304:U:O4'	2.19	0.43
3:GA:419:U:H2'	3:GA:420:C:C6	2.54	0.43
3:GA:557:C:N3	3:GA:558:U:C4	2.87	0.43
3:GA:819:A:C2	3:GA:820:A:N9	2.87	0.43
3:GA:851:C:O4'	26:GZ:46:MET:HG2	2.18	0.43
3:GA:950:G:H2'	3:GA:951:C:O4'	2.18	0.43
3:GA:1038:G:H2'	3:GA:1039:A:C8	2.54	0.43
3:GA:1074:G:N7	3:GA:1075:C:C4	2.86	0.43
3:GA:1156:A:C8	17:GQ:50:ARG:HD3	2.53	0.43
3:GA:1647:U:H3'	3:GA:1647:U:P	2.59	0.43
3:GA:2344:U:OP2	28:G1:36:LYS:HD2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:2782:G:N2	3:GA:2783:U:C2	2.87	0.43
4:GD:133:THR:HG23	4:GD:134:HIS:N	2.32	0.43
5:GE:79:ARG:HG2	5:GE:80:SER:N	2.34	0.43
11:GK:18:ARG:H	11:GK:45:GLU:HB2	1.83	0.43
12:GL:62:PRO:HB2	30:G3:29:ARG:NH2	2.32	0.43
13:GM:14:LYS:HG3	13:GM:15:GLY:H	1.84	0.43
15:GO:62:LEU:HD13	15:GO:70:ALA:HB2	1.99	0.43
18:GR:42:ALA:HB2	18:GR:46:GLU:HB2	2.01	0.43
28:G1:8:ILE:CG1	28:G1:24:LYS:HG2	2.48	0.43
35:HA:297:G:N2	35:HA:300:A:OP2	2.51	0.43
35:HA:1048:G:H2'	35:HA:1050:G:C8	2.53	0.43
39:HF:86:ARG:HH22	51:HR:64:TYR:HA	1.84	0.43
49:HP:6:LEU:CD1	49:HP:71:VAL:HG22	2.49	0.43
1:AB:78:A:C2	1:AB:99:A:C4	3.06	0.43
3:AA:581:C:H2'	3:AA:582:A:C8	2.53	0.43
3:AA:959:A:H62	13:AM:82:MET:HE1	1.84	0.43
3:AA:959:A:N6	13:AM:82:MET:CE	2.82	0.43
3:AA:1188:U:H4'	18:AR:81:LYS:O	2.19	0.43
3:AA:1378:A:C4	3:AA:1380:G:N7	2.87	0.43
3:AA:2016:U:O2	27:A0:3:GLN:NE2	2.46	0.43
5:AE:52:VAL:HG11	5:AE:81:GLY:HA3	2.01	0.43
6:AF:172:PHE:C	6:AF:174:PHE:H	2.27	0.43
8:AH:39:ALA:HB1	8:AH:44:ILE:HG22	2.01	0.43
9:AI:91:LYS:HB2	9:AI:95:ASP:HB2	2.00	0.43
9:AI:93:ASN:HA	9:AI:135:MET:HE1	2.00	0.43
11:AK:13:ASN:C	11:AK:15:GLY:N	2.77	0.43
13:AM:8:LYS:CE	13:AM:9:PHE:CE2	3.02	0.43
14:AN:8:ARG:HB3	14:AN:10:LEU:CD2	2.48	0.43
17:AQ:20:ALA:HA	17:AQ:23:TYR:CE2	2.54	0.43
17:AQ:60:TRP:CE2	17:AQ:93:ILE:HB	2.54	0.43
24:AX:52:ALA:O	24:AX:53:LYS:CB	2.67	0.43
27:A0:42:ILE:HG22	27:A0:43:THR:O	2.19	0.43
34:BB:29:PHE:N	34:BB:29:PHE:CD1	2.87	0.43
35:BA:263:A:OP2	53:BT:74:ARG:NH1	2.52	0.43
35:BA:327:A:O2'	35:BA:328:C:O4'	2.34	0.43
35:BA:1375:A:P	40:BG:28:ASN:HD22	2.41	0.43
37:BD:30:THR:HG22	37:BD:31:LYS:H	1.83	0.43
41:BH:5:ASP:OD2	41:BH:77:ARG:NH1	2.47	0.43
45:BL:43:LYS:HG2	45:BL:44:LYS:N	2.34	0.43
46:BM:49:SER:HB2	46:BM:52:GLN:HB2	2.01	0.43
49:BP:48:GLU:OE2	49:BP:51:ARG:NH1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BV:193:TRP:CZ3	55:BV:202:PHE:HE1	2.36	0.43
55:BV:494:ILE:HD11	55:BV:524:PRO:N	2.34	0.43
3:CA:1044:C:O2'	3:CA:1111:A:N6	2.51	0.43
3:CA:1149:G:H2'	3:CA:1150:C:C6	2.54	0.43
3:CA:1594:U:H2'	3:CA:1595:C:C6	2.54	0.43
3:CA:1601:G:OP1	20:CT:64:LYS:NZ	2.49	0.43
3:CA:1722:A:N6	3:CA:1738:G:H1'	2.34	0.43
3:CA:2070:A:O2'	3:CA:2071:A:H5'	2.19	0.43
3:CA:2262:U:H4'	3:CA:2328:A:H2	1.82	0.43
9:CI:116:MET:SD	9:CI:124:MET:HE3	2.59	0.43
15:CO:22:GLY:HA2	15:CO:42:PRO:HB3	2.01	0.43
23:CW:9:THR:HG23	23:CW:10:ARG:N	2.34	0.43
32:C5:47:GLU:CG	32:C5:95:LEU:HD21	2.47	0.43
32:C5:116:GLU:HG3	32:C5:117:LEU:N	2.27	0.43
35:DA:410:G:P	37:DD:26:ARG:HH21	2.42	0.43
35:DA:598:U:H2'	35:DA:599:C:C6	2.54	0.43
38:DE:13:GLU:HB2	38:DE:39:VAL:HG12	2.01	0.43
41:DH:10:MET:HE1	41:DH:33:LYS:HA	1.99	0.43
53:DT:70:ASN:N	53:DT:70:ASN:OD1	2.51	0.43
55:DV:119:VAL:O	55:DV:123:SER:OG	2.10	0.43
55:DV:621:VAL:HG11	55:DV:631:VAL:HG11	2.01	0.43
55:DV:675:LYS:HB3	55:DV:677:ARG:HD3	2.01	0.43
3:EA:310:A:C5'	21:EU:14:THR:HG23	2.49	0.43
3:EA:1078:U:H5"	3:EA:1079:C:OP1	2.18	0.43
3:EA:1088:A:O2'	3:EA:1089:A:P	2.77	0.43
3:EA:1225:G:C6	3:EA:1226:A:N6	2.87	0.43
3:EA:1913:A:C6	35:FA:1494:G:H5'	2.54	0.43
3:EA:2142:A:C8	3:EA:2147:A:C2	3.07	0.43
3:EA:2200:C:O2	3:EA:2226:C:N4	2.52	0.43
3:EA:2375:G:N2	3:EA:2378:A:OP2	2.42	0.43
2:EC:265:PHE:N	2:EC:265:PHE:CD1	2.87	0.43
9:EI:100:ILE:HG22	9:EI:101:SER:N	2.33	0.43
10:EJ:44:TYR:CD1	10:EJ:44:TYR:O	2.72	0.43
10:EJ:55:ILE:CD1	10:EJ:130:HIS:CG	3.02	0.43
23:EW:37:VAL:HG13	23:EW:55:ASP:O	2.18	0.43
35:FA:509:A:C2	35:FA:510:A:C2	3.07	0.43
35:FA:937:A:N6	35:FA:938:A:C6	2.87	0.43
35:FA:1130:A:N3	35:FA:1146:A:C4	2.87	0.43
34:FB:219:THR:HA	34:FB:221:ARG:HH21	1.84	0.43
42:FI:54:LEU:N	42:FI:54:LEU:HD12	2.33	0.43
48:FO:64:ARG:HE	48:FO:88:ARG:NH1	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:FV:72:TRP:CD1	55:FV:279:LEU:HB3	2.53	0.43
3:GA:418:C:C4	3:GA:419:U:C4	3.07	0.43
3:GA:460:A:OP1	29:G2:41:ARG:NH1	2.52	0.43
3:GA:585:G:H5"	3:GA:586:A:OP1	2.19	0.43
3:GA:794:A:C2	3:GA:795:C:C2	3.07	0.43
3:GA:976:G:H2'	3:GA:977:G:C8	2.54	0.43
3:GA:1016:G:H1	3:GA:1146:C:H42	1.67	0.43
3:GA:1068:G:N1	3:GA:1069:A:C6	2.87	0.43
3:GA:1088:A:HO2'	3:GA:1089:A:P	2.41	0.43
3:GA:1324:G:C4	3:GA:1328:A:N6	2.87	0.43
3:GA:1405:U:H2'	3:GA:1406:U:C6	2.53	0.43
3:GA:1474:U:H2'	3:GA:1475:G:H5'	2.01	0.43
3:GA:2238:G:H1'	60:GA:3500:HOH:O	2.18	0.43
3:GA:2294:G:OP1	15:GO:10:ARG:NE	2.51	0.43
4:GD:65:ALA:O	4:GD:69:ALA:N	2.52	0.43
4:GD:149:ASN:CG	4:GD:150:GLN:H	2.27	0.43
7:GG:84:LYS:CB	7:GG:132:LEU:H	2.32	0.43
9:GI:129:GLU:HB3	9:GI:133:ARG:HH21	1.83	0.43
26:GZ:26:LEU:HD21	26:GZ:46:MET:CB	2.49	0.43
35:HA:145:G:N2	35:HA:178:C:C2	2.87	0.43
35:HA:205:A:OP1	35:HA:205:A:H4'	2.18	0.43
35:HA:373:A:C2	35:HA:374:A:C8	3.07	0.43
35:HA:505:G:H2'	35:HA:506:G:H8	1.83	0.43
35:HA:509:A:N3	35:HA:543:U:O2'	2.50	0.43
35:HA:980:C:H2'	60:HA:1772:HOH:O	2.18	0.43
35:HA:1059:C:O2	43:HJ:55:PRO:HG3	2.19	0.43
35:HA:1087:G:H2'	35:HA:1088:G:C8	2.54	0.43
35:HA:1239:A:C2	35:HA:1296:C:C2	3.07	0.43
35:HA:1360:A:H2'	35:HA:1361:G:H5'	2.00	0.43
37:HD:135:TYR:C	37:HD:135:TYR:CD1	2.97	0.43
38:HE:13:GLU:HB2	38:HE:39:VAL:HG12	2.01	0.43
43:HJ:8:ILE:HD11	43:HJ:76:ILE:CD1	2.49	0.43
44:HK:20:VAL:O	44:HK:35:THR:HG23	2.19	0.43
44:HK:79:ILE:HB	44:HK:105:PHE:CZ	2.54	0.43
45:HL:86:ARG:HH21	45:HL:88:LYS:HG3	1.83	0.43
55:HV:435:LEU:HD13	55:HV:458:ILE:CG2	2.49	0.43
55:HV:495:ARG:HD2	55:HV:611:VAL:HB	2.00	0.43
3:AA:274:C:H2'	3:AA:275:C:O4'	2.19	0.43
3:AA:323:C:OP1	3:AA:338:G:N2	2.51	0.43
3:AA:1485:U:H2'	3:AA:1486:U:H6	1.82	0.43
3:AA:1536:C:H1'	3:AA:1537:G:N2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AI:74:PRO:HG2	9:AI:77:VAL:HB	2.01	0.43
11:AK:13:ASN:OD1	11:AK:13:ASN:N	2.48	0.43
12:AL:2:ARG:HA	12:AL:5:THR:HG21	2.01	0.43
18:AR:61:ALA:HB1	18:AR:98:ILE:H	1.84	0.43
22:AV:4:ILE:CG1	22:AV:50:MET:HE1	2.49	0.43
23:AW:37:VAL:HB	23:AW:38:ARG:NH1	2.34	0.43
25:AY:23:ARG:O	25:AY:24:GLU:C	2.61	0.43
25:AY:31:GLN:HG2	25:AY:36:GLN:HB2	2.01	0.43
35:BA:208:U:C2	35:BA:212:G:N2	2.87	0.43
45:BL:63:VAL:HG21	45:BL:95:TYR:CE1	2.54	0.43
52:BS:5:LEU:C	52:BS:6:LYS:HG3	2.44	0.43
1:CB:5:U:H2'	1:CB:6:G:C8	2.53	0.43
3:CA:108:G:O2'	3:CA:347:A:N3	2.46	0.43
3:CA:517:C:OP2	27:C0:9:ARG:NH2	2.51	0.43
3:CA:548:G:H4'	3:CA:549:G:H21	1.84	0.43
3:CA:1945:G:C2	3:CA:1946:U:C2	3.07	0.43
3:CA:2498:C:P	60:CA:3672:HOH:O	2.77	0.43
2:CC:109:LEU:O	2:CC:110:LYS:HB3	2.18	0.43
2:CC:115:ILE:HG22	2:CC:116:GLN:N	2.34	0.43
4:CD:98:VAL:O	4:CD:99:GLU:C	2.62	0.43
4:CD:99:GLU:CG	4:CD:100:LEU:N	2.82	0.43
7:CG:22:VAL:O	7:CG:22:VAL:HG23	2.18	0.43
10:CJ:12:LYS:O	10:CJ:13:ARG:HB2	2.19	0.43
11:CK:6:THR:HG22	11:CK:8:LEU:CD2	2.49	0.43
11:CK:71:ARG:HB3	11:CK:72:PRO:CD	2.49	0.43
13:CM:53:MET:O	13:CM:56:ALA:HB3	2.18	0.43
18:CR:58:VAL:CG1	18:CR:102:SER:HB2	2.49	0.43
20:CT:32:LEU:N	20:CT:83:ALA:HB3	2.32	0.43
26:CZ:13:ILE:HG22	26:CZ:14:GLY:N	2.33	0.43
32:C5:106:PHE:C	32:C5:108:VAL:N	2.77	0.43
35:DA:395:C:H2'	35:DA:396:C:C6	2.53	0.43
35:DA:607:A:C2	35:DA:608:A:C4	3.07	0.43
35:DA:1049:U:H4'	35:DA:1050:G:C5'	2.49	0.43
35:DA:1360:A:C6	35:DA:1361:G:C4	3.07	0.43
35:DA:1387:G:C6	35:DA:1388:C:N4	2.87	0.43
38:DE:46:VAL:HG12	38:DE:47:GLY:N	2.34	0.43
39:DF:64:VAL:HG12	39:DF:65:GLU:N	2.34	0.43
47:DN:61:ARG:HE	47:DN:70:PRO:HB2	1.82	0.43
49:DP:75:ILE:O	49:DP:77:GLU:N	2.47	0.43
3:EA:108:G:C6	3:EA:109:C:C4	3.07	0.43
3:EA:384:A:H2'	3:EA:385:C:H5'	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:404:A:H1'	3:EA:405:U:OP2	2.18	0.43
3:EA:2347:C:H2'	3:EA:2348:U:C6	2.54	0.43
3:EA:2808:G:N2	3:EA:2891:U:C6	2.87	0.43
1:EB:7:G:H5'	15:EO:29:HIS:CE1	2.54	0.43
15:EO:33:ARG:HG2	15:EO:34:HIS:CE1	2.54	0.43
25:EY:56:LEU:C	25:EY:58:ASN:N	2.77	0.43
32:E5:94:ARG:HB3	32:E5:98:GLU:OE2	2.19	0.43
35:FA:323:U:H4'	53:FT:17:ALA:HB3	2.01	0.43
35:FA:967:C:H5"	42:FI:127:PHE:CE2	2.53	0.43
35:FA:1317:C:N3	47:FN:53:ARG:NE	2.67	0.43
40:FG:145:ALA:O	40:FG:146:GLU:C	2.62	0.43
50:FQ:59:VAL:HG12	50:FQ:60:GLU:N	2.32	0.43
55:FV:5:THR:HG23	55:FV:6:PRO:HD3	2.01	0.43
1:GB:99:A:C4	1:GB:100:G:C8	3.06	0.43
3:GA:875:G:H1	3:GA:902:C:N4	2.16	0.43
3:GA:950:G:N1	3:GA:951:C:C2	2.86	0.43
3:GA:974:G:C5	3:GA:1186:G:C4	3.06	0.43
3:GA:997:G:H2'	3:GA:998:C:H6	1.83	0.43
3:GA:1000:A:C6	3:GA:1155:A:C5	3.07	0.43
3:GA:1686:C:C2	3:GA:1703:G:C2	3.07	0.43
3:GA:2083:G:C6	3:GA:2084:C:C4	3.06	0.43
3:GA:2301:C:N3	3:GA:2316:G:C2	2.87	0.43
3:GA:2405:G:O2'	3:GA:2406:A:OP1	2.29	0.43
3:GA:2656:U:C5	3:GA:2664:G:N2	2.87	0.43
4:GD:12:THR:CG2	4:GD:13:ARG:N	2.82	0.43
7:GG:61:TRP:CE3	7:GG:61:TRP:HA	2.54	0.43
11:GK:34:GLY:O	11:GK:35:VAL:C	2.62	0.43
18:GR:60:LYS:HB2	18:GR:100:GLY:HA3	2.01	0.43
19:GS:4:ILE:HG22	19:GS:106:VAL:HG13	2.00	0.43
26:GZ:48:ASN:O	26:GZ:51:SER:OG	2.35	0.43
28:G1:38:PHE:HB2	28:G1:45:HIS:NE2	2.33	0.43
35:HA:451:A:N7	35:HA:481:G:N1	2.67	0.43
35:HA:684:U:H2'	35:HA:685:G:O4'	2.19	0.43
34:HB:92:ASN:OD1	34:HB:92:ASN:N	2.51	0.43
37:HD:31:LYS:HD3	37:HD:31:LYS:N	2.33	0.43
40:HG:96:ARG:O	40:HG:99:LEU:HB2	2.19	0.43
45:HL:43:LYS:HG2	45:HL:44:LYS:N	2.34	0.43
55:HV:107:ASP:O	55:HV:135:VAL:HG23	2.19	0.43
3:AA:966:G:C6	3:AA:967:U:C4	3.07	0.42
3:AA:975:A:C5	3:AA:990:A:N7	2.86	0.42
3:AA:1112:G:C5	3:AA:1113:U:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1482:G:H1'	3:AA:1509:A:N6	2.30	0.42
3:AA:1584:U:H2'	3:AA:1585:C:H5'	1.99	0.42
3:AA:2755:C:O2'	3:AA:2756:U:H2'	2.19	0.42
4:AD:110:THR:HG23	4:AD:171:THR:HG22	2.00	0.42
7:AG:30:GLY:C	7:AG:32:LEU:H	2.24	0.42
7:AG:31:GLU:O	7:AG:33:THR:N	2.52	0.42
9:AI:93:ASN:HB2	9:AI:135:MET:SD	2.59	0.42
16:AP:50:ARG:CB	16:AP:57:ALA:N	2.78	0.42
17:AQ:86:SER:O	18:AR:51:VAL:HA	2.18	0.42
21:AU:10:VAL:HG12	21:AU:71:ILE:HA	2.01	0.42
21:AU:38:ILE:HG23	21:AU:39:ASN:N	2.33	0.42
21:AU:84:PHE:O	21:AU:85:ARG:HB3	2.19	0.42
25:AY:13:GLU:C	25:AY:15:ASN:N	2.76	0.42
34:BB:46:VAL:O	34:BB:49:PHE:CD2	2.72	0.42
34:BB:56:LEU:HD23	34:BB:220:VAL:HG13	2.01	0.42
35:BA:1150:A:H1'	35:BA:1280:A:N6	2.33	0.42
35:BA:1384:C:OP2	60:BA:1826:HOH:O	2.22	0.42
37:BD:38:PRO:HD2	37:BD:42:GLY:CA	2.49	0.42
37:BD:110:THR:HG23	37:BD:113:GLU:CB	2.49	0.42
37:BD:198:HIS:O	37:BD:202:GLU:CB	2.67	0.42
39:BF:55:HIS:O	39:BF:56:LYS:HB2	2.18	0.42
42:BI:60:LYS:HD2	42:BI:61:LEU:HD13	2.00	0.42
3:CA:307:G:N1	3:CA:310:A:OP2	2.49	0.42
3:CA:340:A:O2'	5:CE:162:ARG:NH1	2.52	0.42
3:CA:1087:G:C2	3:CA:1103:A:N3	2.87	0.42
3:CA:1195:G:N2	3:CA:1196:C:C2	2.87	0.42
3:CA:2138:G:O2'	3:CA:2154:A:N6	2.52	0.42
5:CE:187:VAL:HG12	5:CE:188:MET:N	2.34	0.42
7:CG:66:THR:OG1	7:CG:67:ALA:N	2.52	0.42
9:CI:56:VAL:HA	9:CI:71:LYS:NZ	2.34	0.42
9:CI:104:GLN:HA	9:CI:108:ILE:HD12	2.00	0.42
11:CK:105:ARG:H	11:CK:105:ARG:HD3	1.83	0.42
14:CN:33:ILE:HD11	14:CN:118:ARG:CZ	2.49	0.42
17:CQ:16:ILE:HG12	17:CQ:35:PHE:HD1	1.83	0.42
24:CX:39:VAL:HG22	24:CX:44:ARG:O	2.19	0.42
35:DA:481:G:O2'	35:DA:482:A:P	2.77	0.42
35:DA:481:G:H2'	35:DA:483:C:H41	1.82	0.42
36:DC:77:ILE:CG2	36:DC:81:GLY:HA2	2.48	0.42
36:DC:144:LEU:HD13	36:DC:144:LEU:N	2.34	0.42
45:DL:51:LYS:N	45:DL:51:LYS:CD	2.82	0.42
55:DV:93:VAL:HG13	55:DV:94:ASP:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:45:G:H5'	3:EA:46:G:H5'	2.01	0.42
3:EA:749:A:C6	3:EA:1618:A:C2	3.07	0.42
3:EA:1063:G:N2	3:EA:1076:C:C2	2.86	0.42
3:EA:1096:A:N6	3:EA:1097:U:C4	2.87	0.42
3:EA:1468:U:H2'	3:EA:1522:A:N6	2.33	0.42
3:EA:2269:G:O5'	60:EA:3509:HOH:O	2.21	0.42
2:EC:29:PHE:C	2:EC:31:PRO:HD2	2.44	0.42
6:EF:11:VAL:HG13	6:EF:171:ALA:HB1	2.00	0.42
7:EG:39:ALA:CB	7:EG:57:TYR:CD2	3.02	0.42
7:EG:120:ILE:N	7:EG:120:ILE:CD1	2.82	0.42
14:EN:79:LEU:O	14:EN:80:PHE:HB2	2.18	0.42
22:EV:80:HIS:HD2	22:EV:83:LYS:N	2.17	0.42
32:E5:110:ALA:CB	32:E5:113:PHE:CE2	3.02	0.42
32:E5:118:ILE:HB	32:E5:119:PRO:HD3	1.99	0.42
35:FA:300:A:H1'	35:FA:565:U:O2	2.20	0.42
35:FA:409:U:H2'	35:FA:410:G:C8	2.54	0.42
35:FA:445:G:C4	35:FA:446:G:C8	3.07	0.42
35:FA:909:A:H2'	35:FA:910:C:O4'	2.19	0.42
35:FA:1101:A:H61	34:FB:101:THR:HG21	1.82	0.42
35:FA:1523:G:P	44:FK:128:ARG:HH12	2.42	0.42
38:FE:149:SER:HB2	38:FE:150:PRO:HD2	2.01	0.42
42:FI:61:LEU:HD23	42:FI:61:LEU:H	1.83	0.42
50:FQ:13:VAL:HG11	50:FQ:24:ALA:HB2	1.99	0.42
52:FS:31:LEU:HB3	52:FS:49:ILE:CG2	2.49	0.42
55:FV:666:TYR:O	55:FV:667:ALA:C	2.61	0.42
1:GB:43:C:O2	6:GF:91:ARG:NH2	2.41	0.42
3:GA:416:U:H2'	3:GA:417:C:O4'	2.19	0.42
3:GA:579:G:C2	3:GA:1262:A:C4	3.07	0.42
3:GA:775:G:C4	3:GA:794:A:C8	3.07	0.42
3:GA:782:A:N1	2:GC:224:MET:HE2	2.34	0.42
3:GA:863:A:C2	3:GA:915:C:N3	2.87	0.42
3:GA:965:C:C4	3:GA:966:G:N7	2.87	0.42
3:GA:1275:A:N1	3:GA:1295:C:O2'	2.51	0.42
3:GA:1359:A:C2	3:GA:1360:G:H1'	2.54	0.42
3:GA:1392:A:C6	3:GA:1393:A:C6	3.07	0.42
3:GA:1428:C:C5	3:GA:1569:A:H5"	2.54	0.42
3:GA:2390:U:H3'	30:G3:34:LYS:NZ	2.33	0.42
3:GA:2591:C:P	2:GC:237:ARG:HG3	2.58	0.42
2:GC:109:LEU:CD1	2:GC:110:LYS:H	2.32	0.42
9:GI:100:ILE:O	9:GI:140:GLU:HG2	2.18	0.42
11:GK:1:MET:HE3	11:GK:32:TYR:CZ	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:GP:9:GLN:CB	16:GP:12:MET:HE3	2.49	0.42
19:GS:88:ARG:CG	19:GS:88:ARG:NH2	2.81	0.42
23:GW:23:LYS:HE2	23:GW:24:ARG:H	1.84	0.42
25:GY:56:LEU:O	25:GY:57:LEU:HB3	2.19	0.42
35:HA:64:G:C8	35:HA:99:C:N4	2.87	0.42
35:HA:71:A:N1	35:HA:99:C:O2'	2.52	0.42
35:HA:579:A:HO2'	48:HO:54:ARG:HH12	1.59	0.42
35:HA:597:G:C2	35:HA:644:U:C2	3.07	0.42
35:HA:1260:G:O2'	35:HA:1275:A:N6	2.52	0.42
35:HA:1270:G:C2	35:HA:1271:A:N7	2.87	0.42
35:HA:1524:C:H2'	35:HA:1525:G:C8	2.54	0.42
34:HB:13:VAL:HG23	34:HB:207:ARG:CZ	2.49	0.42
37:HD:106:GLY:HA3	37:HD:162:ALA:CB	2.49	0.42
46:HM:19:LEU:HD21	46:HM:34:LEU:HD21	2.01	0.42
54:HU:43:THR:CG2	54:HU:44:GLU:N	2.82	0.42
55:HV:50:MET:HE2	55:HV:50:MET:HA	2.01	0.42
55:HV:125:THR:HA	55:HV:128:ARG:NH1	2.34	0.42
55:HV:502:GLU:HG3	55:HV:519:VAL:HG22	2.01	0.42
1:AB:106:G:H2'	1:AB:107:G:O4'	2.19	0.42
3:AA:146:A:H2'	3:AA:147:C:C6	2.54	0.42
3:AA:1204:A:C2	3:AA:1240:U:N3	2.87	0.42
3:AA:1747:U:H2'	3:AA:1748:C:C6	2.54	0.42
3:AA:2421:G:P	28:A1:7:LYS:NZ	2.92	0.42
3:AA:2467:C:OP1	31:A4:8:LYS:NZ	2.48	0.42
6:AF:103:ILE:HG21	6:AF:173:ASP:HB2	2.01	0.42
9:AI:46:ASP:HA	9:AI:50:LYS:HD2	2.00	0.42
11:AK:35:VAL:HG12	11:AK:36:GLY:N	2.34	0.42
14:AN:8:ARG:HB3	14:AN:10:LEU:HD22	2.01	0.42
17:AQ:63:ARG:HH12	17:AQ:95:ALA:C	2.26	0.42
18:AR:16:GLU:HA	18:AR:98:ILE:HG22	2.01	0.42
24:AX:67:LEU:HD22	24:AX:77:TYR:CE1	2.53	0.42
32:A5:47:GLU:HG2	32:A5:95:LEU:HD21	2.01	0.42
33:A6:13:ALA:HB1	33:A6:17:MET:CE	2.49	0.42
35:BA:15:G:H4'	38:BE:29:ARG:NH1	2.34	0.42
35:BA:361:G:N7	60:BA:1716:HOH:O	2.37	0.42
35:BA:1086:U:H5"	35:BA:1086:U:O2	2.19	0.42
35:BA:1322:C:N4	60:BA:1834:HOH:O	2.51	0.42
41:BH:54:ASP:CG	41:BH:55:THR:H	2.26	0.42
3:CA:846:U:HO2'	3:CA:847:U:P	2.41	0.42
3:CA:2286:G:P	28:C1:29:LYS:CE	3.07	0.42
3:CA:2365:G:H4'	23:CW:59:PHE:CZ	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CC:106:PRO:HB3	2:CC:141:HIS:CE1	2.54	0.42
6:CF:107:VAL:CG1	6:CF:113:PHE:CE1	3.02	0.42
7:CG:83:THR:O	7:CG:84:LYS:HB3	2.19	0.42
9:CI:79:LEU:C	9:CI:83:ALA:HB3	2.44	0.42
11:CK:13:ASN:O	11:CK:15:GLY:N	2.49	0.42
14:CN:75:ILE:HD12	14:CN:76:VAL:N	2.34	0.42
17:CQ:63:ARG:NH1	17:CQ:96:ASP:HA	2.34	0.42
18:CR:61:ALA:HB2	18:CR:98:ILE:HA	2.00	0.42
23:CW:9:THR:HG23	23:CW:10:ARG:HD3	2.00	0.42
32:C5:64:VAL:O	32:C5:67:THR:N	2.41	0.42
35:DA:826:C:H2'	35:DA:827:U:C6	2.55	0.42
35:DA:878:A:C5'	41:DH:81:PRO:HG2	2.49	0.42
35:DA:1365:G:C2	35:DA:1366:C:C2	3.07	0.42
35:DA:1373:G:O6	42:DI:13:LYS:NZ	2.51	0.42
34:DB:212:TYR:CE1	34:DB:216:VAL:HG13	2.54	0.42
36:DC:64:ILE:HG12	36:DC:66:VAL:HG23	2.01	0.42
36:DC:130:PHE:CG	36:DC:131:ARG:N	2.87	0.42
46:DM:29:ARG:CZ	46:DM:63:PHE:CD2	3.01	0.42
50:DQ:12:VAL:O	50:DQ:13:VAL:CB	2.67	0.42
52:DS:36:ARG:HH12	52:DS:77:THR:CG2	2.31	0.42
55:DV:173:ILE:HD13	55:DV:211:MET:SD	2.60	0.42
55:DV:414:PRO:HA	55:DV:461:MET:SD	2.59	0.42
55:DV:416:ILE:HG12	55:DV:667:ALA:HB3	2.01	0.42
55:DV:617:MET:HG3	55:DV:682:MET:HE3	2.01	0.42
55:DV:646:GLU:O	55:DV:647:SER:CB	2.67	0.42
55:DV:698:VAL:O	55:DV:699:ILE:HD12	2.18	0.42
3:EA:163:C:O2'	3:EA:164:C:O5'	2.37	0.42
3:EA:1087:G:C6	3:EA:1089:A:C2	3.07	0.42
3:EA:1354:A:OP1	2:EC:35:LYS:NZ	2.43	0.42
3:EA:1779:U:H6	60:EA:3686:HOH:O	2.02	0.42
3:EA:2100:G:C5	3:EA:2190:G:C2	3.08	0.42
3:EA:2314:A:H2'	3:EA:2315:G:C8	2.54	0.42
3:EA:2516:A:N6	3:EA:2517:C:H42	2.18	0.42
3:EA:2563:U:H1'	3:EA:2566:A:N6	2.34	0.42
1:EB:35:C:H2'	1:EB:36:C:O4'	2.20	0.42
4:ED:65:ALA:O	4:ED:69:ALA:N	2.47	0.42
5:EE:158:PHE:HA	5:EE:169:VAL:HG21	2.00	0.42
9:EI:89:SER:C	9:EI:91:LYS:H	2.25	0.42
10:EJ:53:TYR:CE2	10:EJ:121:LYS:HG2	2.54	0.42
14:EN:98:LEU:CB	27:E0:42:ILE:HD11	2.44	0.42
20:ET:50:LEU:HD22	25:EY:26:PHE:CZ	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:EX:39:VAL:HG12	24:EX:63:ILE:HG21	2.01	0.42
32:E5:4:ASN:O	32:E5:5:LEU:C	2.62	0.42
32:E5:45:GLY:HA2	32:E5:49:GLY:HA2	2.02	0.42
32:E5:47:GLU:HG2	32:E5:95:LEU:HD21	2.01	0.42
35:FA:1377:A:C2	40:FG:2:PRO:HD3	2.54	0.42
37:FD:102:VAL:HG13	37:FD:107:PHE:HB2	2.00	0.42
38:FE:96:MET:HE2	38:FE:115:LEU:HD21	1.99	0.42
40:FG:146:GLU:HA	40:FG:149:LYS:HB2	2.01	0.42
42:FI:89:GLU:HG3	42:FI:90:TYR:N	2.33	0.42
44:FK:58:SER:O	44:FK:91:PRO:CG	2.66	0.42
46:FM:45:ILE:C	46:FM:47:GLU:H	2.27	0.42
47:FN:73:PHE:CE1	47:FN:75:ARG:HA	2.55	0.42
53:FT:25:ARG:HG2	53:FT:29:ARG:NH1	2.34	0.42
3:GA:301:G:H4'	3:GA:302:C:OP1	2.18	0.42
3:GA:630:G:OP2	30:G3:22:LYS:NZ	2.44	0.42
3:GA:933:A:H5'	3:GA:934:U:OP2	2.19	0.42
3:GA:976:G:H4'	3:GA:1156:A:C5	2.53	0.42
3:GA:1064:C:N3	3:GA:1065:U:C5	2.87	0.42
3:GA:1202:G:C6	3:GA:1203:U:N3	2.87	0.42
3:GA:1738:G:O2'	3:GA:1739:A:O5'	2.34	0.42
3:GA:2556:C:H2'	3:GA:2557:G:O4'	2.19	0.42
4:GD:1:MET:HG2	4:GD:205:PRO:HG3	2.00	0.42
4:GD:106:LYS:HB3	4:GD:206:ALA:H	1.84	0.42
15:GO:51:ALA:HB3	15:GO:78:VAL:HG13	2.01	0.42
16:GP:25:VAL:HG22	16:GP:26:GLU:N	2.35	0.42
35:HA:237:G:O6	35:HA:238:A:N6	2.52	0.42
35:HA:685:G:N1	35:HA:686:U:O4	2.52	0.42
35:HA:1237:C:H1'	35:HA:1334:G:O2'	2.19	0.42
34:HB:13:VAL:O	34:HB:207:ARG:HD2	2.18	0.42
37:HD:19:LEU:HB2	37:HD:21:LEU:HG	2.02	0.42
37:HD:29:ASP:OD1	37:HD:30:THR:N	2.34	0.42
46:HM:2:ALA:CA	46:HM:53:ILE:HD13	2.48	0.42
47:HN:26:GLU:HG2	47:HN:27:LEU:HD12	2.00	0.42
3:AA:19:A:H2'	3:AA:20:C:O4'	2.20	0.42
3:AA:81:G:O2'	3:AA:295:G:O2'	2.25	0.42
3:AA:545:U:O5'	3:AA:545:U:H6	2.02	0.42
3:AA:659:G:H4'	5:AE:95:LYS:HD3	2.02	0.42
3:AA:962:G:P	60:AA:3351:HOH:O	2.77	0.42
3:AA:1770:G:C6	3:AA:1983:G:C6	3.07	0.42
3:AA:2595:G:N1	3:AA:2599:G:C6	2.87	0.42
3:AA:2748:A:H1'	7:AG:66:THR:CG2	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:118:LEU:C	5:AE:118:LEU:CD2	2.92	0.42
5:AE:158:PHE:HD2	5:AE:159:LEU:HD12	1.83	0.42
17:AQ:91:ARG:HH11	18:AR:11:GLN:N	2.16	0.42
23:AW:44:PHE:O	23:AW:78:PHE:HA	2.19	0.42
32:A5:108:VAL:CG1	32:A5:109:LYS:N	2.82	0.42
34:BB:8:MET:O	34:BB:10:LYS:N	2.52	0.42
34:BB:8:MET:HB2	34:BB:42:LEU:HD11	2.00	0.42
35:BA:731:G:H5'	35:BA:766:A:H4'	2.01	0.42
35:BA:885:G:P	45:BL:15:LYS:NZ	2.93	0.42
35:BA:1181:G:C2	35:BA:1182:G:N2	2.88	0.42
35:BA:1237:C:H4'	35:BA:1334:G:N2	2.35	0.42
36:BC:20:SER:OG	36:BC:40:ARG:NH2	2.53	0.42
36:BC:111:LEU:HD21	36:BC:144:LEU:O	2.20	0.42
37:BD:146:ARG:HB3	37:BD:148:LYS:HD2	2.01	0.42
37:BD:192:SER:OG	37:BD:193:ALA:O	2.37	0.42
46:BM:54:ASP:HA	46:BM:57:ARG:HB3	2.02	0.42
50:BQ:8:LEU:N	50:BQ:61:ILE:O	2.53	0.42
3:CA:1054:A:C6	3:CA:1106:G:C6	3.07	0.42
3:CA:2061:G:O4'	3:CA:2503:A:C5	2.73	0.42
3:CA:2136:G:O6	3:CA:2155:U:N3	2.52	0.42
3:CA:2689:U:O4'	3:CA:2713:U:C2	2.72	0.42
4:CD:8:LYS:HB2	4:CD:201:LEU:CD2	2.49	0.42
8:CH:29:PHE:O	8:CH:33:GLN:HB3	2.19	0.42
9:CI:104:GLN:O	9:CI:105:LEU:HB2	2.19	0.42
11:CK:100:PHE:N	11:CK:100:PHE:CD1	2.87	0.42
16:CP:30:TRP:CH2	16:CP:39:LEU:HD13	2.53	0.42
35:DA:1092:A:OP1	40:DG:5:ARG:NH1	2.51	0.42
35:DA:1176:A:H2'	35:DA:1177:G:C8	2.54	0.42
45:DL:102:LEU:N	45:DL:102:LEU:CD1	2.81	0.42
49:DP:21:VAL:CG2	49:DP:34:GLU:H	2.32	0.42
53:DT:9:LYS:HA	53:DT:12:ILE:HG23	2.01	0.42
55:DV:498:VAL:CG2	55:DV:608:ALA:HA	2.50	0.42
55:DV:658:VAL:HG21	55:DV:663:MET:SD	2.60	0.42
3:EA:191:A:H2'	3:EA:192:C:C6	2.55	0.42
3:EA:250:G:P	30:E3:12:ARG:HH12	2.42	0.42
3:EA:523:C:H4'	3:EA:540:C:O2	2.18	0.42
3:EA:617:G:H2'	3:EA:618:G:O4'	2.19	0.42
3:EA:783:A:H8	3:EA:784:G:H5"	1.83	0.42
3:EA:997:G:O2'	3:EA:998:C:H5'	2.19	0.42
3:EA:2297:A:C2	3:EA:2321:U:H5	2.36	0.42
2:EC:93:VAL:HG13	2:EC:94:LEU:N	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:EI:18:ASN:N	9:EI:19:PRO:CD	2.83	0.42
11:EK:71:ARG:HB3	11:EK:72:PRO:CD	2.50	0.42
13:EM:41:LEU:HD11	13:EM:96:ILE:HD13	2.00	0.42
13:EM:46:ILE:HD12	13:EM:46:ILE:C	2.45	0.42
26:EZ:23:LEU:HD21	26:EZ:53:MET:SD	2.59	0.42
35:FA:557:G:C6	35:FA:558:G:N1	2.86	0.42
35:FA:764:C:H2'	35:FA:765:G:O4'	2.19	0.42
35:FA:1147:C:O2'	42:FI:18:ARG:HD2	2.20	0.42
40:FG:129:GLU:CD	40:FG:131:LYS:HE2	2.45	0.42
44:FK:17:SER:HA	44:FK:80:LYS:H	1.84	0.42
45:FL:82:ILE:CD1	45:FL:95:TYR:CB	2.97	0.42
54:FU:44:GLU:OE2	54:FU:45:ARG:NH1	2.52	0.42
1:GB:104:A:H2'	1:GB:105:G:O4'	2.20	0.42
3:GA:443:A:H2'	5:GE:40:ARG:NH2	2.34	0.42
3:GA:568:U:H5'	3:GA:945:A:N6	2.33	0.42
3:GA:634:C:H2'	3:GA:635:C:C6	2.54	0.42
3:GA:847:U:O2	3:GA:847:U:H2'	2.19	0.42
3:GA:997:G:C5	3:GA:998:C:C5	3.07	0.42
3:GA:1194:A:C2	3:GA:1195:G:C8	3.07	0.42
3:GA:1310:G:H3'	3:GA:1311:G:C8	2.55	0.42
3:GA:2370:G:C6	3:GA:2371:G:C6	3.07	0.42
3:GA:2395:C:H2'	3:GA:2396:G:O4'	2.19	0.42
3:GA:2481:G:O2'	3:GA:2482:A:H8	2.02	0.42
3:GA:2698:U:H2'	3:GA:2699:C:H6	1.82	0.42
2:GC:143:VAL:HG11	2:GC:173:LEU:HD21	2.01	0.42
7:GG:16:VAL:HG12	7:GG:17:LYS:N	2.34	0.42
14:GN:90:ARG:NE	14:GN:116:VAL:HG11	2.34	0.42
18:GR:4:VAL:HG23	18:GR:39:LEU:HB2	2.02	0.42
19:GS:18:ARG:C	19:GS:20:VAL:N	2.77	0.42
35:HA:49:U:O2'	35:HA:50:A:H2'	2.20	0.42
35:HA:362:G:OP1	45:HL:58:THR:OG1	2.37	0.42
35:HA:1014:A:H5"	52:HS:14:HIS:HB2	2.02	0.42
35:HA:1129:C:H5"	42:HI:18:ARG:HH22	1.85	0.42
37:HD:11:LEU:HG	37:HD:63:ARG:HH11	1.82	0.42
39:HF:17:GLN:O	39:HF:21:MET:N	2.40	0.42
39:HF:69:GLU:O	39:HF:73:GLU:HB2	2.18	0.42
42:HI:21:ILE:CD1	42:HI:86:ALA:HB3	2.49	0.42
44:HK:32:VAL:O	44:HK:44:TRP:HB3	2.20	0.42
44:HK:68:GLU:C	44:HK:70:CYS:N	2.78	0.42
44:HK:88:GLY:H	44:HK:114:THR:HG22	1.85	0.42
45:HL:50:ARG:HH12	45:HL:89:ASP:CB	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:89:U:H3'	1:AB:90:C:C5'	2.50	0.42
3:AA:372:G:C4	24:AX:60:LYS:HE2	2.54	0.42
3:AA:528:A:P	10:AJ:116:ARG:HH21	2.42	0.42
3:AA:573:U:O2'	3:AA:574:A:H3'	2.19	0.42
3:AA:803:U:C4	3:AA:804:A:N7	2.88	0.42
3:AA:1183:U:H2'	3:AA:1184:U:C6	2.55	0.42
3:AA:1281:G:C2	3:AA:1290:C:C2	3.07	0.42
3:AA:1298:C:C2	3:AA:1643:G:N2	2.88	0.42
3:AA:1465:G:H2'	3:AA:1466:U:O4'	2.19	0.42
3:AA:1970:A:OP2	60:AA:3463:HOH:O	2.22	0.42
3:AA:2070:A:H2'	3:AA:2071:A:O4'	2.19	0.42
3:AA:2491:U:HO2'	3:AA:2492:U:H5	1.67	0.42
4:AD:130:GLN:O	4:AD:131:ASP:C	2.62	0.42
4:AD:133:THR:HG23	4:AD:134:HIS:N	2.33	0.42
7:AG:175:LYS:HA	7:AG:176:LYS:HA	1.79	0.42
17:AQ:94:LEU:CD1	18:AR:13:ARG:HB2	2.49	0.42
18:AR:80:ARG:O	18:AR:81:LYS:HD3	2.20	0.42
20:AT:69:ARG:HA	20:AT:69:ARG:HD2	1.90	0.42
20:AT:76:ARG:HG3	20:AT:77:ARG:N	2.34	0.42
35:BA:49:U:O4	35:BA:365:U:H5	2.02	0.42
35:BA:408:A:C2	35:BA:435:A:C2	3.07	0.42
35:BA:449:G:H2'	35:BA:450:G:C8	2.55	0.42
35:BA:843:U:H6	35:BA:843:U:H5'	1.84	0.42
35:BA:1053:G:N7	35:BA:1200:C:H5"	2.34	0.42
35:BA:1288:A:N1	35:BA:1371:G:H1'	2.35	0.42
54:BU:25:LYS:HG2	54:BU:26:ALA:N	2.34	0.42
55:BV:638:ARG:O	55:BV:662:GLU:HG2	2.20	0.42
1:CB:20:G:H2'	1:CB:21:G:O4'	2.20	0.42
3:CA:45:G:C5'	3:CA:46:G:H5'	2.49	0.42
3:CA:931:U:OP1	26:CZ:29:ARG:NH1	2.52	0.42
3:CA:1669:A:O2'	3:CA:2549:G:OP1	2.36	0.42
3:CA:2619:C:H5'	4:CD:155:VAL:O	2.19	0.42
3:CA:2747:G:O2'	7:CG:66:THR:HG22	2.18	0.42
3:CA:2838:G:H2'	3:CA:2839:G:O4'	2.20	0.42
2:CC:33:LEU:HD21	2:CC:62:ARG:HD3	2.01	0.42
10:CJ:4:PHE:HB3	10:CJ:44:TYR:CE1	2.54	0.42
10:CJ:17:VAL:HG23	10:CJ:137:PRO:HB2	2.00	0.42
16:CP:50:ARG:HD2	16:CP:51:ASN:N	2.34	0.42
18:CR:1:MET:HE3	18:CR:101:ILE:HG21	2.00	0.42
18:CR:66:HIS:CD2	18:CR:94:THR:HG22	2.54	0.42
32:C5:24:SER:HB2	32:C5:117:LEU:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:C5:101:LYS:C	32:C5:105:LYS:HZ2	2.28	0.42
32:C5:122:GLN:CG	32:C5:123:ILE:N	2.83	0.42
32:C5:131:THR:O	32:C5:134:GLU:HG2	2.19	0.42
35:DA:958:A:C8	52:DS:55:ARG:CZ	3.02	0.42
34:DB:207:ARG:HB2	34:DB:211:LEU:HD13	2.01	0.42
36:DC:26:THR:HG22	47:DN:76:LYS:CD	2.49	0.42
39:DF:53:LYS:HG3	39:DF:54:LEU:H	1.83	0.42
44:DK:112:ASP:HB3	54:DU:4:ILE:HG23	2.00	0.42
3:EA:161:A:C3'	3:EA:162:U:H5"	2.45	0.42
3:EA:998:C:OP2	17:EQ:57:ARG:NH2	2.46	0.42
3:EA:1021:A:H3'	3:EA:1021:A:N3	2.34	0.42
3:EA:1149:G:H2'	3:EA:1150:C:C6	2.55	0.42
3:EA:1866:A:H2'	3:EA:1867:G:O4'	2.19	0.42
3:EA:2139:U:H4'	3:EA:2151:U:H3	1.84	0.42
3:EA:2145:C:H3'	3:EA:2146:C:H5"	2.01	0.42
4:ED:125:TRP:CE3	4:ED:160:LYS:HD3	2.54	0.42
5:EE:77:ILE:HG12	5:EE:78:TRP:CE3	2.54	0.42
5:EE:150:THR:OG1	5:EE:151:GLY:N	2.52	0.42
6:EF:37:MET:HE3	6:EF:151:LEU:HB3	2.01	0.42
6:EF:43:ILE:HG21	6:EF:78:ILE:HG22	2.01	0.42
12:EL:2:ARG:HA	12:EL:5:THR:CG2	2.49	0.42
12:EL:77:ILE:HD11	12:EL:108:ALA:HB1	2.01	0.42
12:EL:127:VAL:HG23	12:EL:131:ALA:HB3	2.01	0.42
16:EP:63:ILE:HA	16:EP:68:GLY:CA	2.49	0.42
16:EP:104:GLY:C	16:EP:106:ALA:H	2.27	0.42
17:EQ:97:ILE:HD12	17:EQ:97:ILE:C	2.44	0.42
20:ET:27:SER:O	20:ET:28:ASN:CG	2.62	0.42
32:E5:31:ARG:C	32:E5:108:VAL:HG22	2.44	0.42
35:FA:205:A:OP1	35:FA:205:A:H4'	2.19	0.42
35:FA:413:G:H21	35:FA:428:G:H1'	1.83	0.42
35:FA:465:A:H2'	35:FA:466:A:C8	2.54	0.42
35:FA:1149:C:P	42:FI:11:ARG:NH1	2.92	0.42
34:FB:46:VAL:O	34:FB:47:PRO:C	2.62	0.42
34:FB:53:LEU:HD21	34:FB:212:TYR:CE1	2.52	0.42
36:FC:77:ILE:HG12	36:FC:84:VAL:CG2	2.49	0.42
36:FC:150:LYS:HD3	36:FC:201:TRP:CE3	2.54	0.42
37:FD:30:THR:HG22	37:FD:31:LYS:N	2.35	0.42
38:FE:157:ARG:HD2	41:FH:45:PHE:CE1	2.54	0.42
54:FU:37:PHE:CE1	54:FU:40:LYS:HE3	2.55	0.42
55:FV:309:ARG:HB3	55:FV:340:SER:CB	2.49	0.42
55:FV:317:PHE:CZ	55:FV:343:VAL:HG21	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:152:A:N6	3:GA:173:A:N6	2.67	0.42
3:GA:2148:G:H5"	3:GA:2149:U:OP2	2.19	0.42
6:GF:102:LEU:O	6:GF:106:ALA:HB3	2.19	0.42
11:GK:10:VAL:HG11	11:GK:16:ALA:HB3	2.02	0.42
35:HA:6:G:H3'	35:HA:6:G:N3	2.33	0.42
35:HA:72:A:H3'	35:HA:73:C:H5"	2.00	0.42
35:HA:716:A:N3	44:HK:120:GLY:HA2	2.34	0.42
35:HA:837:U:H2'	35:HA:838:G:C8	2.55	0.42
35:HA:841:C:N3	35:HA:843:U:C6	2.87	0.42
35:HA:1084:G:C8	35:HA:1085:U:H2'	2.54	0.42
35:HA:1198:G:H22	43:HJ:55:PRO:CG	2.32	0.42
34:HB:49:PHE:HB2	34:HB:53:LEU:HD12	2.01	0.42
37:HD:195:ILE:O	37:HD:195:ILE:HG13	2.19	0.42
38:HE:56:VAL:N	38:HE:57:PRO:HD2	2.33	0.42
39:HF:19:PRO:HA	39:HF:22:ILE:HD12	2.00	0.42
42:HI:53:GLU:CA	42:HI:57:MET:HE3	2.46	0.42
44:HK:60:PRO:HB3	44:HK:92:GLY:HA2	2.00	0.42
45:HL:33:VAL:O	45:HL:34:CYS:HB3	2.19	0.42
45:HL:38:TYR:HB2	45:HL:52:VAL:CG2	2.48	0.42
45:HL:82:ILE:HD11	45:HL:95:TYR:HB2	2.01	0.42
46:HM:34:LEU:HD13	46:HM:41:GLU:HA	2.02	0.42
47:HN:49:GLN:HG3	47:HN:49:GLN:O	2.19	0.42
52:HS:5:LEU:O	52:HS:7:LYS:N	2.53	0.42
55:HV:31:LEU:HA	55:HV:34:THR:CG2	2.50	0.42
55:HV:642:LEU:C	55:HV:643:LYS:HG2	2.44	0.42
2:AC:49:THR:CG2	3:AA:1813:G:H1'	2.49	0.42
3:AA:356:G:C6	3:AA:357:C:C4	3.07	0.42
3:AA:1179:G:C6	3:AA:1180:U:C4	3.08	0.42
3:AA:2274:A:C5	3:AA:2276:G:C8	3.07	0.42
3:AA:2478:A:H5'	31:A4:32:LYS:HD3	2.02	0.42
3:AA:2543:G:C6	3:AA:2544:G:C6	3.08	0.42
3:AA:2845:U:H5"	16:AP:51:ASN:O	2.20	0.42
10:AJ:60:ASP:N	10:AJ:60:ASP:OD1	2.52	0.42
12:AL:91:ASP:CG	12:AL:92:LEU:N	2.77	0.42
18:AR:74:ILE:N	18:AR:74:ILE:HD12	2.34	0.42
19:AS:88:ARG:HD2	19:AS:94:ASP:OD2	2.20	0.42
21:AU:98:ASN:C	21:AU:100:GLU:N	2.76	0.42
26:AZ:15:ARG:HD3	26:AZ:53:MET:SD	2.59	0.42
29:A2:43:THR:O	29:A2:44:VAL:C	2.62	0.42
35:BA:404:G:O2'	35:BA:498:A:N1	2.40	0.42
35:BA:408:A:OP1	37:BD:110:THR:HG21	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:1084:G:OP1	35:BA:1086:U:N3	2.53	0.42
35:BA:1158:C:C4	35:BA:1160:G:C4	3.07	0.42
35:BA:1526:G:P	54:BU:38:TYR:CD2	3.13	0.42
38:BE:96:MET:HE2	38:BE:115:LEU:HD21	2.02	0.42
43:BJ:8:ILE:HG22	43:BJ:10:LEU:CD1	2.49	0.42
45:BL:43:LYS:O	45:BL:44:LYS:C	2.62	0.42
55:BV:257:LEU:HD11	55:BV:287:PRO:HB3	2.02	0.42
3:CA:156:A:H2'	3:CA:157:C:C6	2.54	0.42
3:CA:177:G:H3'	3:CA:178:G:C8	2.53	0.42
3:CA:1224:U:H4'	18:CR:88:GLY:O	2.20	0.42
3:CA:1605:C:H2'	3:CA:1606:C:H5'	2.01	0.42
2:CC:4:LYS:CD	2:CC:4:LYS:N	2.82	0.42
2:CC:70:LYS:HD2	2:CC:73:ILE:HD13	2.00	0.42
7:CG:68:ARG:NH1	7:CG:72:ASN:HD22	2.18	0.42
7:CG:83:THR:HA	7:CG:84:LYS:CE	2.49	0.42
7:CG:84:LYS:CG	7:CG:85:LYS:N	2.82	0.42
20:CT:69:ARG:CG	20:CT:70:HIS:H	2.32	0.42
20:CT:70:HIS:HB3	20:CT:73:ARG:O	2.20	0.42
26:CZ:2:LYS:HD2	26:CZ:2:LYS:C	2.44	0.42
30:C3:50:SER:OG	30:C3:53:ASP:OD2	2.37	0.42
35:DA:16:A:O4'	38:DE:22:SER:HB3	2.19	0.42
35:DA:430:A:C5	35:DA:431:A:C8	3.06	0.42
35:DA:947:G:HO2'	35:DA:1306:A:HO2'	1.60	0.42
35:DA:1182:G:H4'	35:DA:1183:U:C5'	2.50	0.42
34:DB:29:PHE:N	34:DB:29:PHE:CD1	2.86	0.42
36:DC:11:ARG:HD3	36:DC:178:LEU:HD12	2.00	0.42
38:DE:136:VAL:O	38:DE:138:ARG:N	2.52	0.42
39:DF:12:PRO:CG	39:DF:54:LEU:HD21	2.50	0.42
42:DI:33:ARG:HH11	42:DI:38:TYR:HD1	1.68	0.42
44:DK:21:ALA:HB2	44:DK:82:LEU:CD1	2.48	0.42
46:DM:56:LEU:O	46:DM:59:GLU:N	2.52	0.42
49:DP:6:LEU:HG	49:DP:17:TYR:HB3	2.02	0.42
55:DV:63:ILE:HG21	55:DV:468:ILE:CD1	2.49	0.42
55:DV:203:GLU:O	55:DV:204:TYR:C	2.62	0.42
3:EA:876:C:H2'	3:EA:877:A:O4'	2.19	0.42
3:EA:1057:A:C6	3:EA:1086:A:C2	3.07	0.42
3:EA:1260:A:C6	3:EA:1261:C:C4	3.08	0.42
3:EA:1301:A:C5	3:EA:1303:G:C8	3.08	0.42
3:EA:1378:A:H4'	3:EA:1379:U:OP1	2.17	0.42
3:EA:1450:G:H21	3:EA:1452:G:H1	1.67	0.42
3:EA:2391:G:P	30:E3:31:ILE:HD11	2.59	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:2756:U:C4	3:EA:2759:G:O6	2.73	0.42
11:EK:8:LEU:CD2	11:EK:8:LEU:N	2.82	0.42
20:ET:50:LEU:HD22	25:EY:26:PHE:CE2	2.54	0.42
20:ET:69:ARG:CD	20:ET:70:HIS:H	2.32	0.42
27:E0:25:THR:C	27:E0:27:LEU:H	2.28	0.42
28:E1:8:ILE:CD1	28:E1:51:ALA:HA	2.50	0.42
35:FA:9:G:H5'	38:FE:108:GLY:HA3	2.01	0.42
35:FA:381:C:H2'	35:FA:382:A:O4'	2.20	0.42
35:FA:1218:C:H2'	35:FA:1219:A:C8	2.55	0.42
35:FA:1324:A:H2'	35:FA:1325:C:O4'	2.20	0.42
34:FB:20:ARG:HA	34:FB:20:ARG:CZ	2.50	0.42
37:FD:62:ARG:HG2	37:FD:72:PHE:CD2	2.54	0.42
39:FF:85:ILE:O	39:FF:86:ARG:C	2.62	0.42
1:GB:43:C:H2'	1:GB:44:G:H5'	2.01	0.42
1:GB:99:A:C6	1:GB:100:G:C4	3.06	0.42
3:GA:811:U:P	12:GL:29:LYS:H	2.42	0.42
3:GA:1009:A:OP2	60:GA:3764:HOH:O	2.21	0.42
3:GA:1045:C:C3'	3:GA:1046:A:H5'	2.50	0.42
3:GA:1235:G:C6	3:GA:1236:G:N1	2.88	0.42
3:GA:2046:G:H1'	27:G0:18:HIS:CE1	2.54	0.42
3:GA:2467:C:N4	3:GA:2468:A:N1	2.67	0.42
2:GC:221:GLY:C	2:GC:223:ALA:H	2.28	0.42
5:GE:117:ARG:HH12	12:GL:2:ARG:HB2	1.84	0.42
6:GF:135:ILE:HD11	6:GF:148:VAL:HG12	2.01	0.42
7:GG:19:ASN:O	7:GG:21:GLN:N	2.53	0.42
7:GG:84:LYS:HG3	7:GG:131:VAL:HG23	2.01	0.42
10:GJ:36:LEU:HD21	10:GJ:122:LEU:HB2	2.02	0.42
14:GN:55:ALA:C	14:GN:57:THR:H	2.27	0.42
21:GU:95:PHE:HB2	21:GU:98:ASN:HB3	2.00	0.42
23:GW:64:GLY:HA3	23:GW:81:ILE:CG2	2.49	0.42
25:GY:6:LEU:O	25:GY:7:ARG:HB3	2.20	0.42
35:HA:44:A:C2	35:HA:399:G:C6	3.08	0.42
35:HA:766:A:C6	35:HA:814:A:C4	3.08	0.42
35:HA:1238:A:C2	35:HA:1303:C:H4'	2.55	0.42
35:HA:1412:C:H2'	35:HA:1413:A:C8	2.54	0.42
34:HB:27:LYS:N	34:HB:28:PRO:CD	2.82	0.42
34:HB:110:ILE:O	34:HB:113:LEU:N	2.52	0.42
37:HD:110:THR:O	37:HD:113:GLU:N	2.52	0.42
38:HE:96:MET:HE3	38:HE:111:MET:HE3	2.00	0.42
38:HE:134:ILE:H	38:HE:134:ILE:HD12	1.84	0.42
38:HE:153:VAL:HA	38:HE:156:LYS:HE2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:HG:79:ARG:HD2	40:HG:83:SER:O	2.20	0.42
40:HG:115:SER:H	40:HG:118:LEU:HD12	1.83	0.42
41:HH:21:ASN:HA	41:HH:65:TYR:CE2	2.54	0.42
3:AA:685:A:C2	3:AA:689:A:C6	3.08	0.42
3:AA:833:A:OP1	12:AL:39:LYS:HE3	2.19	0.42
3:AA:864:G:OP2	13:AM:22:GLN:NE2	2.52	0.42
3:AA:1096:A:H2'	3:AA:1097:U:H5"	2.01	0.42
3:AA:1238:G:O2'	3:AA:1239:G:H5'	2.19	0.42
3:AA:2661:G:H5'	55:BV:19:ILE:HG13	2.02	0.42
4:AD:117:GLY:C	4:AD:118:PHE:CD2	2.98	0.42
5:AE:42:GLY:O	5:AE:43:THR:OG1	2.35	0.42
5:AE:187:VAL:O	5:AE:188:MET:CB	2.67	0.42
6:AF:28:PRO:HB2	6:AF:168:LEU:HD22	2.01	0.42
16:AP:33:GLU:HB2	16:AP:38:ARG:NH1	2.35	0.42
17:AQ:82:LEU:HD12	17:AQ:112:ALA:HB2	2.02	0.42
22:AV:12:GLN:CD	22:AV:12:GLN:C	2.87	0.42
23:AW:49:ASN:ND2	23:AW:50:VAL:N	2.67	0.42
26:AZ:4:ILE:HD13	26:AZ:44:ARG:NH1	2.34	0.42
31:A4:34:LYS:C	31:A4:35:GLN:HG3	2.44	0.42
32:A5:108:VAL:HG12	32:A5:109:LYS:N	2.35	0.42
35:BA:115:G:H1'	35:BA:116:A:N7	2.34	0.42
35:BA:769:G:H4'	35:BA:1513:A:H4'	2.01	0.42
37:BD:145:ILE:HD13	37:BD:155:VAL:HG21	2.02	0.42
42:BI:120:LYS:O	42:BI:121:ALA:HB3	2.20	0.42
44:BK:125:LYS:CB	54:BU:35:ARG:HG2	2.49	0.42
46:BM:33:ILE:HG23	46:BM:59:GLU:HB3	2.00	0.42
55:BV:342:VAL:CG2	55:BV:378:ARG:HD2	2.50	0.42
3:CA:217:A:H2'	3:CA:218:A:O4'	2.19	0.42
3:CA:2031:A:C6	3:CA:2498:C:H1'	2.55	0.42
3:CA:2283:C:C4	3:CA:2389:G:C5	3.08	0.42
3:CA:2297:A:C2	3:CA:2321:U:H5	2.37	0.42
3:CA:2357:G:N2	3:CA:2361:G:N7	2.68	0.42
3:CA:2436:G:O2'	3:CA:2598:A:N1	2.51	0.42
3:CA:2591:C:H2'	3:CA:2592:G:C8	2.54	0.42
6:CF:24:VAL:O	6:CF:27:VAL:HG12	2.19	0.42
6:CF:37:MET:HE3	6:CF:151:LEU:HD23	2.01	0.42
6:CF:69:ALA:HB3	6:CF:81:GLY:N	2.34	0.42
11:CK:1:MET:SD	11:CK:67:LYS:HD3	2.60	0.42
25:CY:36:GLN:O	25:CY:37:LEU:C	2.62	0.42
35:DA:243:A:C2	35:DA:246:A:C8	3.08	0.42
35:DA:770:C:P	60:DA:1750:HOH:O	2.76	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:992:U:H4'	35:DA:993:G:C5'	2.50	0.42
35:DA:1304:G:C5	35:DA:1305:G:C2	3.07	0.42
35:DA:1361:G:C4	35:DA:1362:A:N7	2.88	0.42
35:DA:1366:C:H2'	35:DA:1367:C:C6	2.55	0.42
34:DB:181:PRO:HA	34:DB:196:ASP:OD2	2.20	0.42
37:DD:191:LEU:O	37:DD:192:SER:HB2	2.20	0.42
42:DI:19:VAL:HG13	42:DI:63:LEU:HD12	2.00	0.42
44:DK:35:THR:OG1	44:DK:40:ASN:N	2.53	0.42
46:DM:80:LEU:HD22	46:DM:85:CYS:SG	2.59	0.42
55:DV:20:ASP:H	59:DV:801:GCP:H3B1	1.84	0.42
55:DV:199:GLY:O	55:DV:200:VAL:HG22	2.19	0.42
3:EA:594:U:H2'	3:EA:595:C:C6	2.55	0.42
3:EA:1532:A:H3'	3:EA:1533:C:H6	1.84	0.42
3:EA:1568:G:H4'	2:EC:58:LYS:HB3	2.01	0.42
3:EA:1665:A:H5"	11:EK:66:LYS:HG3	2.01	0.42
3:EA:1730:C:N4	36:HC:103:ILE:HB	2.34	0.42
3:EA:2627:G:N2	3:EA:2777:G:OP2	2.51	0.42
3:EA:2800:A:C2	3:EA:2895:G:H1'	2.54	0.42
3:EA:2834:G:H2'	3:EA:2879:A:H61	1.85	0.42
6:EF:100:GLU:O	6:EF:104:THR:HG22	2.19	0.42
10:EJ:43:GLU:O	10:EJ:45:THR:HG22	2.20	0.42
10:EJ:101:ILE:O	10:EJ:105:VAL:HG12	2.20	0.42
12:EL:111:ILE:O	12:EL:113:ALA:N	2.52	0.42
17:EQ:91:ARG:HD3	18:ER:11:GLN:HB2	2.02	0.42
18:ER:83:TYR:CD1	18:ER:83:TYR:C	2.97	0.42
19:ES:24:ILE:HG13	19:ES:36:LEU:HD21	2.01	0.42
23:EW:19:ARG:NH1	23:EW:22:VAL:HG11	2.34	0.42
23:EW:24:ARG:CG	23:EW:65:LYS:HD3	2.49	0.42
23:EW:38:ARG:N	23:EW:38:ARG:HD3	2.35	0.42
24:EX:32:LEU:O	24:EX:33:HIS:CG	2.72	0.42
25:EY:6:LEU:O	25:EY:7:ARG:HB3	2.19	0.42
32:E5:105:LYS:O	32:E5:107:GLU:N	2.42	0.42
35:FA:61:G:OP2	53:FT:5:LYS:NZ	2.35	0.42
38:FE:134:ILE:H	38:FE:134:ILE:HD12	1.84	0.42
43:FJ:77:VAL:O	43:FJ:79:PRO:HD3	2.19	0.42
44:FK:35:THR:OG1	44:FK:41:ALA:N	2.48	0.42
45:FL:116:LYS:C	45:FL:117:TYR:CD1	2.97	0.42
52:FS:63:THR:CG2	52:FS:64:ASP:N	2.83	0.42
55:FV:185:LEU:CD1	55:FV:222:LEU:HD13	2.49	0.42
3:GA:548:G:H4'	3:GA:549:G:N2	2.34	0.42
3:GA:570:G:C6	3:GA:2030:A:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:600:G:C5'	5:GE:27:LEU:HD22	2.49	0.42
3:GA:1179:G:C6	3:GA:1180:U:C6	3.08	0.42
3:GA:2297:A:N7	3:GA:2320:U:C4	2.87	0.42
3:GA:2459:A:N6	3:GA:2494:G:C2	2.88	0.42
3:GA:2902:C:C2'	3:GA:2903:U:O5'	2.67	0.42
2:GC:255:LYS:C	2:GC:256:THR:HG22	2.45	0.42
9:GI:12:VAL:HG22	9:GI:23:VAL:HG13	2.00	0.42
12:GL:57:LEU:C	12:GL:59:ARG:H	2.28	0.42
12:GL:77:ILE:HD11	12:GL:101:ILE:HD11	2.01	0.42
12:GL:81:ASP:HA	12:GL:84:LYS:HE3	2.01	0.42
26:GZ:8:GLN:O	26:GZ:9:THR:HG22	2.19	0.42
26:GZ:8:GLN:O	26:GZ:10:ARG:N	2.45	0.42
35:HA:1283:U:H2'	35:HA:1284:C:C6	2.54	0.42
35:HA:1397:C:O2'	35:HA:1398:A:OP1	2.33	0.42
34:HB:61:SER:C	34:HB:63:LYS:H	2.27	0.42
36:HC:43:LEU:HD23	36:HC:55:ILE:HD12	2.01	0.42
37:HD:34:ILE:O	37:HD:35:GLU:HB3	2.20	0.42
40:HG:86:GLN:HG2	40:HG:144:MET:HE3	2.01	0.42
40:HG:106:GLU:HA	40:HG:109:ARG:NE	2.34	0.42
41:HH:53:GLY:HA3	41:HH:57:PRO:HA	2.00	0.42
43:HJ:6:ILE:O	43:HJ:76:ILE:HB	2.19	0.42
46:HM:4:ILE:O	46:HM:6:GLY:N	2.51	0.42
46:HM:34:LEU:HD22	46:HM:39:ILE:HB	2.02	0.42
56:HW:1:KBE:HA	56:HW:2:DPP:HB3	2.02	0.42
3:AA:84:A:P	21:AU:5:ARG:HH22	2.42	0.42
3:AA:570:G:C4	3:AA:2030:A:N7	2.87	0.42
3:AA:1019:U:H3	3:AA:1142:A:N6	2.17	0.42
3:AA:1913:A:C6	35:BA:1494:G:H5'	2.55	0.42
3:AA:2071:A:H2'	3:AA:2072:C:C6	2.54	0.42
3:AA:2661:G:C6	3:AA:2662:A:C2	3.06	0.42
3:AA:2823:A:C5	3:AA:2824:C:C5	3.07	0.42
4:AD:182:ALA:C	4:AD:184:ARG:N	2.76	0.42
5:AE:12:LEU:HD12	5:AE:193:VAL:HG11	2.01	0.42
6:AF:134:GLN:HG2	6:AF:135:ILE:N	2.34	0.42
7:AG:137:LYS:HA	7:AG:140:ILE:HG22	2.02	0.42
11:AK:3:GLN:HG3	11:AK:4:GLU:N	2.34	0.42
20:AT:34:VAL:O	20:AT:34:VAL:HG22	2.20	0.42
20:AT:70:HIS:HB3	20:AT:73:ARG:O	2.19	0.42
23:AW:19:ARG:NH2	23:AW:22:VAL:CG2	2.83	0.42
32:A5:22:ALA:N	32:A5:87:GLU:O	2.53	0.42
32:A5:67:THR:CG2	32:A5:72:LEU:HA	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:518:C:C2	35:BA:529:G:C6	3.08	0.42
35:BA:658:C:H1'	48:BO:22:THR:HG21	2.02	0.42
35:BA:890:G:O2'	35:BA:906:A:N6	2.52	0.42
35:BA:1072:G:O6	35:BA:1102:A:N6	2.52	0.42
35:BA:1447:A:H5'	35:BA:1448:C:H5	1.83	0.42
36:BC:15:VAL:HG11	36:BC:179:ARG:HA	2.01	0.42
37:BD:3:ARG:CZ	37:BD:115:ARG:HD3	2.50	0.42
37:BD:110:THR:HG23	37:BD:113:GLU:HB2	2.01	0.42
37:BD:150:LYS:HG2	37:BD:178:MET:SD	2.59	0.42
38:BE:16:ILE:HG23	38:BE:110:ALA:HB2	2.01	0.42
45:BL:102:LEU:N	45:BL:102:LEU:CD1	2.83	0.42
47:BN:45:VAL:HG23	47:BN:46:LEU:H	1.83	0.42
55:BV:512:ARG:HG3	55:BV:514:GLN:HE21	1.85	0.42
3:CA:242:G:H5"	30:C3:63:TYR:CE2	2.55	0.42
3:CA:277:G:H2'	3:CA:361:G:O6	2.20	0.42
3:CA:936:A:H2'	3:CA:937:C:C6	2.55	0.42
3:CA:2262:U:H4'	3:CA:2328:A:C2	2.55	0.42
3:CA:2543:G:C5	3:CA:2544:G:C5	3.08	0.42
3:CA:2653:U:C4	3:CA:2654:A:C6	3.07	0.42
5:CE:23:PHE:CE1	5:CE:28:VAL:HG11	2.55	0.42
6:CF:11:VAL:N	6:CF:14:LYS:HG2	2.34	0.42
9:CI:52:LEU:HB3	9:CI:53:PRO:CD	2.50	0.42
13:CM:62:LYS:HD3	13:CM:64:TRP:CZ2	2.54	0.42
14:CN:38:LEU:HB3	14:CN:39:PRO:HD3	2.01	0.42
16:CP:105:LYS:HA	16:CP:108:ARG:HD2	2.00	0.42
35:DA:451:A:C2	35:DA:480:U:C4	3.08	0.42
35:DA:734:G:N2	35:DA:735:C:C2	2.88	0.42
35:DA:952:U:H2'	35:DA:953:G:C8	2.53	0.42
35:DA:1003:G:O6	35:DA:1036:A:N6	2.53	0.42
35:DA:1186:G:O3'	42:DI:115:LYS:NZ	2.52	0.42
35:DA:1218:C:H2'	35:DA:1219:A:C8	2.55	0.42
34:DB:118:THR:O	34:DB:119:GLN:HB3	2.20	0.42
36:DC:182:ILE:HD13	36:DC:203:PHE:HA	2.01	0.42
37:DD:56:ARG:HA	37:DD:56:ARG:HE	1.85	0.42
42:DI:19:VAL:HG21	42:DI:83:ILE:HG13	2.02	0.42
44:DK:49:GLY:O	44:DK:69:ARG:NH1	2.52	0.42
55:DV:200:VAL:HG23	55:DV:201:THR:HG23	2.02	0.42
3:EA:396:G:H1'	24:EX:28:PHE:HB3	2.01	0.42
3:EA:585:G:H5"	3:EA:586:A:OP1	2.20	0.42
3:EA:2075:U:H2'	3:EA:2077:A:OP1	2.19	0.42
3:EA:2584:U:H2'	3:EA:2585:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:2634:A:C2	3:EA:2635:A:C4	3.08	0.42
1:EB:45:A:C4	1:EB:46:A:C8	3.07	0.42
4:ED:106:LYS:HB3	4:ED:206:ALA:HB3	2.01	0.42
4:ED:149:ASN:CG	4:ED:150:GLN:H	2.28	0.42
5:EE:23:PHE:CD1	5:EE:111:GLU:HG3	2.54	0.42
7:EG:84:LYS:O	7:EG:85:LYS:HB2	2.19	0.42
15:EO:53:THR:HB	15:EO:65:THR:HG22	2.02	0.42
15:EO:78:VAL:HG23	15:EO:79:ALA:N	2.35	0.42
16:EP:50:ARG:HB2	16:EP:56:SER:HA	2.00	0.42
21:EU:5:ARG:HH11	21:EU:93:ARG:HG3	1.84	0.42
21:EU:34:ILE:HG23	21:EU:61:GLU:HB3	2.01	0.42
32:E5:105:LYS:C	32:E5:107:GLU:N	2.78	0.42
35:FA:49:U:H3	35:FA:362:G:H1'	1.85	0.42
35:FA:57:G:C2	35:FA:58:C:C2	3.08	0.42
35:FA:57:G:C6	35:FA:58:C:N3	2.88	0.42
35:FA:1130:A:C2	35:FA:1146:A:C8	3.08	0.42
34:FB:165:ALA:HB2	34:FB:186:VAL:HG12	2.02	0.42
37:FD:168:PRO:HB2	37:FD:171:LEU:HG	2.01	0.42
40:FG:70:ARG:CG	40:FG:96:ARG:HG2	2.49	0.42
41:FH:10:MET:HG3	41:FH:27:MET:SD	2.60	0.42
41:FH:10:MET:HG3	41:FH:27:MET:HE1	2.00	0.42
42:FI:52:LEU:HB3	42:FI:57:MET:HG2	2.01	0.42
44:FK:23:ILE:HG13	44:FK:86:VAL:HA	2.02	0.42
44:FK:72:ASP:O	44:FK:73:ALA:HB3	2.20	0.42
49:FP:77:GLU:C	49:FP:79:ASN:H	2.27	0.42
55:FV:18:HIS:ND1	55:FV:122:GLN:HB2	2.35	0.42
3:GA:4:U:H2'	3:GA:5:A:C8	2.55	0.42
3:GA:100:U:H4'	3:GA:101:A:O5'	2.19	0.42
3:GA:142:A:N3	20:GT:2:ILE:HD13	2.34	0.42
3:GA:307:G:N2	3:GA:309:A:H3'	2.35	0.42
3:GA:323:C:C4	3:GA:333:G:C8	3.07	0.42
3:GA:379:G:C6	3:GA:380:G:C5	3.08	0.42
3:GA:468:G:OP2	29:G2:37:LYS:NZ	2.33	0.42
3:GA:604:G:C6	3:GA:625:G:C6	3.08	0.42
3:GA:614:A:H4'	3:GA:616:A:C5	2.55	0.42
3:GA:784:G:C6	2:GC:227:VAL:HG11	2.55	0.42
3:GA:819:A:C2	3:GA:820:A:C1'	3.02	0.42
3:GA:1041:G:C2	3:GA:1042:G:N7	2.88	0.42
3:GA:1041:G:H2'	3:GA:1042:G:H8	1.84	0.42
3:GA:1071:G:H3'	3:GA:1072:C:O4'	2.20	0.42
3:GA:2267:A:H5"	3:GA:2268:A:H5'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:2348:U:H2'	3:GA:2349:G:O4'	2.20	0.42
3:GA:2589:A:C2	3:GA:2590:A:C5	3.08	0.42
3:GA:2644:G:N7	3:GA:2645:G:C6	2.87	0.42
3:GA:2659:G:OP2	7:GG:157:LYS:NZ	2.53	0.42
5:GE:149:ILE:HG23	5:GE:188:MET:HG3	2.02	0.42
6:GF:63:LYS:HG2	6:GF:64:PRO:O	2.20	0.42
9:GI:4:VAL:CG1	9:GI:7:TYR:HE1	2.32	0.42
9:GI:138:VAL:HG12	9:GI:139:VAL:N	2.34	0.42
10:GJ:12:LYS:O	10:GJ:13:ARG:CB	2.67	0.42
16:GP:92:ARG:O	16:GP:93:LYS:HB2	2.20	0.42
30:G3:22:LYS:HB3	30:G3:48:MET:SD	2.59	0.42
30:G3:44:ARG:N	30:G3:45:PRO:HD2	2.35	0.42
35:HA:552:U:H5'	45:HL:83:ARG:NH1	2.35	0.42
35:HA:777:A:C4	35:HA:778:G:C8	3.08	0.42
35:HA:1017:U:N3	35:HA:1018:G:N7	2.68	0.42
35:HA:1202:U:H2'	35:HA:1203:C:H5'	2.02	0.42
35:HA:1259:C:O5'	35:HA:1259:C:H6	2.01	0.42
36:HC:121:THR:HG23	36:HC:122:SER:N	2.35	0.42
36:HC:167:TRP:O	36:HC:167:TRP:CE3	2.73	0.42
36:HC:182:ILE:HD13	36:HC:203:PHE:HA	2.01	0.42
42:HI:57:MET:HE2	42:HI:58:VAL:H	1.84	0.42
44:HK:110:ILE:O	54:HU:6:VAL:HG23	2.20	0.42
46:HM:2:ALA:HA	46:HM:53:ILE:HG21	2.02	0.42
48:HO:8:THR:OG1	48:HO:9:ALA:N	2.50	0.42
2:AC:16:VAL:N	2:AC:203:VAL:CG1	2.82	0.42
3:AA:1084:A:C6	3:AA:1085:A:C6	3.08	0.42
3:AA:2094:A:P	8:AH:22:LYS:HD2	2.59	0.42
3:AA:2423:U:H6	3:AA:2423:U:H5'	1.83	0.42
3:AA:2637:U:C2'	3:AA:2638:G:H5'	2.50	0.42
3:AA:2727:A:C6	3:AA:2728:U:O4	2.73	0.42
6:AF:111:ARG:HA	6:AF:111:ARG:NE	2.34	0.42
11:AK:73:ASP:OD1	11:AK:73:ASP:C	2.62	0.42
16:AP:92:ARG:CG	16:AP:92:ARG:O	2.68	0.42
17:AQ:6:GLY:HA2	17:AQ:9:ALA:HB3	2.02	0.42
25:AY:14:LEU:HA	25:AY:17:GLU:HB3	2.01	0.42
32:A5:17:GLU:HA	32:A5:88:HIS:CE1	2.54	0.42
35:BA:264:C:H4'	50:BQ:65:ARG:HD2	2.02	0.42
37:BD:44:ARG:C	37:BD:46:PRO:HD3	2.45	0.42
37:BD:163:GLU:HA	37:BD:167:LYS:HE2	2.01	0.42
38:BE:97:GLN:HB2	38:BE:124:LEU:HB2	2.02	0.42
44:BK:122:ARG:HH12	44:BK:125:LYS:CE	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BM:10:PRO:O	46:BM:11:ASP:CB	2.67	0.42
55:BV:637:ARG:C	55:BV:639:ARG:H	2.28	0.42
55:BV:642:LEU:C	55:BV:643:LYS:HG2	2.44	0.42
56:BW:3:SER:O	56:BW:5:UAL:N	2.53	0.42
3:CA:629:G:H4'	3:CA:650:C:O2	2.19	0.42
3:CA:1271:G:C2	3:CA:1617:C:H4'	2.55	0.42
3:CA:2235:G:C6	3:CA:2236:U:C4	3.08	0.42
3:CA:2415:G:H4'	12:CL:66:PHE:HB2	2.01	0.42
3:CA:2742:G:OP1	31:C4:36:ARG:HD3	2.20	0.42
6:CF:64:PRO:HA	6:CF:88:VAL:HG22	2.01	0.42
7:CG:132:LEU:N	7:CG:132:LEU:HD23	2.35	0.42
7:CG:148:ARG:HA	7:CG:161:VAL:CG1	2.49	0.42
19:CS:24:ILE:CD1	19:CS:36:LEU:HD13	2.50	0.42
22:CV:42:LEU:HD12	22:CV:42:LEU:N	2.35	0.42
35:DA:160:A:N6	35:DA:347:G:H1'	2.35	0.42
35:DA:600:A:H2'	35:DA:601:G:C8	2.55	0.42
35:DA:1279:G:H2'	35:DA:1279:G:N3	2.34	0.42
35:DA:1306:A:N7	35:DA:1307:U:C5	2.87	0.42
34:DB:22:TRP:HZ3	34:DB:24:PRO:HA	1.85	0.42
37:DD:125:VAL:HG23	37:DD:126:ASN:N	2.34	0.42
39:DF:22:ILE:O	39:DF:26:THR:OG1	2.29	0.42
41:DH:7:ILE:HB	41:DH:77:ARG:NH1	2.35	0.42
46:DM:4:ILE:HA	46:DM:57:ARG:CZ	2.50	0.42
55:DV:158:ILE:HG23	55:DV:162:LEU:HD12	2.00	0.42
55:DV:199:GLY:HA3	55:DV:276:GLN:NE2	2.35	0.42
3:EA:90:U:C4	3:EA:91:A:C5	3.08	0.42
3:EA:284:U:H2'	3:EA:285:G:C8	2.55	0.42
3:EA:649:G:H2'	3:EA:650:C:C6	2.54	0.42
3:EA:1537:G:H3'	3:EA:1537:G:N3	2.34	0.42
3:EA:1714:U:H5'	3:EA:1715:G:H5'	2.02	0.42
3:EA:2315:G:H2'	3:EA:2316:G:H8	1.84	0.42
3:EA:2326:C:H3'	3:EA:2326:C:C6	2.55	0.42
3:EA:2516:A:N6	3:EA:2517:C:N4	2.67	0.42
2:EC:229:HIS:O	2:EC:231:HIS:N	2.52	0.42
4:ED:91:THR:OG1	4:ED:92:VAL:N	2.49	0.42
6:EF:37:MET:HE1	6:EF:149:ARG:HD2	2.00	0.42
7:EG:117:PRO:CD	7:EG:120:ILE:HD11	2.50	0.42
8:EH:9:VAL:O	8:EH:13:GLY:N	2.53	0.42
10:EJ:45:THR:OG1	10:EJ:48:VAL:HB	2.20	0.42
18:ER:64:VAL:HG21	18:ER:97:LYS:HB2	2.02	0.42
19:ES:63:GLY:O	19:ES:64:ALA:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:FA:302:G:N3	35:FA:556:C:H4'	2.35	0.42
35:FA:989:U:N3	35:FA:990:C:C5	2.88	0.42
35:FA:1142:G:C2	35:FA:1143:G:H1'	2.55	0.42
35:FA:1261:A:H2'	35:FA:1262:C:O4'	2.20	0.42
34:FB:27:LYS:HB3	34:FB:28:PRO:HD3	2.01	0.42
37:FD:10:LYS:HG3	37:FD:11:LEU:HD12	2.02	0.42
44:FK:126:LYS:O	44:FK:127:ARG:HB2	2.18	0.42
45:FL:83:ARG:HG2	45:FL:83:ARG:HH11	1.85	0.42
47:FN:47:LYS:HD2	52:FS:13:LEU:HD21	2.02	0.42
55:FV:75:MET:HE3	55:FV:202:PHE:HZ	1.85	0.42
55:FV:255:ARG:CG	55:FV:260:GLU:HB2	2.50	0.42
3:GA:80:G:N1	3:GA:81:G:C5	2.88	0.42
3:GA:118:A:C8	3:GA:119:A:C8	3.08	0.42
3:GA:198:C:O5'	3:GA:198:C:H6	2.03	0.42
3:GA:225:C:H2'	3:GA:226:A:C5'	2.50	0.42
3:GA:259:G:O2'	3:GA:621:A:O2'	2.25	0.42
3:GA:643:A:C5	28:G1:43:ARG:NH2	2.88	0.42
3:GA:714:U:H6	3:GA:714:U:H5"	1.85	0.42
3:GA:880:G:N1	3:GA:898:C:H1'	2.35	0.42
3:GA:1179:G:C5	3:GA:1180:U:C6	3.08	0.42
3:GA:2266:A:O5'	3:GA:2266:A:H8	2.03	0.42
3:GA:2467:C:C5	3:GA:2468:A:C5	3.08	0.42
3:GA:2788:C:H2'	3:GA:2789:C:C6	2.54	0.42
5:GE:131:THR:CG2	5:GE:164:LEU:CD2	2.97	0.42
6:GF:146:ASP:O	6:GF:147:ARG:HB2	2.19	0.42
9:GI:108:ILE:HG22	9:GI:108:ILE:O	2.20	0.42
13:GM:46:ILE:C	13:GM:46:ILE:HD12	2.44	0.42
15:GO:51:ALA:HB3	15:GO:78:VAL:CG1	2.50	0.42
16:GP:50:ARG:CD	16:GP:51:ASN:N	2.82	0.42
19:GS:68:ASP:O	19:GS:109:ASP:HB3	2.20	0.42
20:GT:64:LYS:N	20:GT:64:LYS:HD2	2.35	0.42
21:GU:10:VAL:HG12	21:GU:71:ILE:HA	2.00	0.42
30:G3:9:ALA:O	30:G3:12:ARG:N	2.49	0.42
35:HA:105:G:H2'	35:HA:106:C:C6	2.55	0.42
35:HA:622:A:C8	35:HA:623:C:C6	3.08	0.42
35:HA:745:G:H5'	35:HA:851:G:H21	1.84	0.42
37:HD:198:HIS:O	37:HD:202:GLU:CB	2.68	0.42
38:HE:16:ILE:HG23	38:HE:110:ALA:HB2	2.02	0.42
39:HF:5:GLU:O	39:HF:89:VAL:HA	2.19	0.42
40:HG:91:VAL:HG23	40:HG:95:ARG:HD3	2.02	0.42
43:HJ:85:ASP:HA	43:HJ:88:MET:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:HK:31:ILE:C	44:HK:31:ILE:HD12	2.45	0.42
44:HK:128:ARG:HD3	54:HU:34:ARG:NH1	2.35	0.42
2:AC:16:VAL:HB	2:AC:203:VAL:HG12	2.02	0.42
2:AC:109:LEU:HD23	2:AC:110:LYS:H	1.83	0.42
2:AC:203:VAL:O	2:AC:205:GLY:N	2.53	0.42
3:AA:201:C:OP1	24:AX:17:ARG:NH1	2.51	0.42
3:AA:479:A:C2	3:AA:480:A:C5	3.08	0.42
3:AA:528:A:H2	3:AA:2043:C:H5'	1.85	0.42
3:AA:693:A:O2'	3:AA:1353:A:N3	2.51	0.42
3:AA:744:U:H2'	3:AA:745:G:O4'	2.19	0.42
3:AA:936:A:H2'	3:AA:937:C:C6	2.54	0.42
3:AA:1063:G:H2'	3:AA:1064:C:O4'	2.20	0.42
3:AA:1312:U:H4'	3:AA:1313:U:O5'	2.20	0.42
3:AA:1509:A:H1'	3:AA:1510:G:O5'	2.20	0.42
3:AA:1691:C:C4	3:AA:1692:U:C4	3.08	0.42
3:AA:2134:A:H2'	3:AA:2135:A:H8	1.85	0.42
3:AA:2352:A:N1	23:AW:30:VAL:HG21	2.35	0.42
3:AA:2821:A:C2	3:AA:2822:G:C4	3.08	0.42
7:AG:26:LYS:CG	7:AG:27:GLY:N	2.83	0.42
11:AK:39:ILE:HD12	11:AK:41:ILE:HD11	2.02	0.42
15:AO:14:ALA:O	15:AO:17:LYS:N	2.52	0.42
15:AO:117:PHE:CD1	15:AO:117:PHE:C	2.98	0.42
21:AU:35:VAL:O	21:AU:38:ILE:HB	2.19	0.42
21:AU:98:ASN:ND2	21:AU:100:GLU:OE1	2.53	0.42
22:AV:6:ALA:HB1	22:AV:40:ILE:CG2	2.50	0.42
22:AV:72:VAL:HG12	22:AV:93:ARG:HA	2.01	0.42
23:AW:19:ARG:HA	23:AW:34:SER:HA	2.00	0.42
26:AZ:13:ILE:HG22	26:AZ:14:GLY:N	2.34	0.42
33:A6:15:SER:OG	33:A6:16:VAL:N	2.53	0.42
34:BB:86:CYS:SG	34:BB:88:GLN:NE2	2.93	0.42
35:BA:560:A:C5	38:BE:128:TYR:CE2	3.07	0.42
35:BA:608:A:OP2	60:BA:1853:HOH:O	2.22	0.42
35:BA:1072:G:C5	35:BA:1073:U:C4	3.07	0.42
35:BA:1296:C:H4'	35:BA:1302:C:N3	2.35	0.42
35:BA:1526:G:OP1	54:BU:38:TYR:CE2	2.73	0.42
39:BF:92:THR:HG22	39:BF:94:HIS:H	1.84	0.42
39:BF:92:THR:HG22	39:BF:93:LYS:N	2.33	0.42
42:BI:45:ARG:N	42:BI:45:ARG:NE	2.68	0.42
47:BN:18:ASP:OD1	47:BN:19:LYS:N	2.52	0.42
50:BQ:57:ASP:OD2	50:BQ:81:LYS:NZ	2.51	0.42
3:CA:10:A:H2	3:CA:2800:A:HO2'	1.64	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:261:G:C2	3:CA:262:A:C8	3.08	0.42
3:CA:476:G:N2	3:CA:479:A:C8	2.88	0.42
3:CA:1000:A:C4	3:CA:1155:A:C6	3.08	0.42
3:CA:1271:G:N2	3:CA:1617:C:O4'	2.53	0.42
3:CA:2219:U:H2'	3:CA:2220:U:O4'	2.20	0.42
3:CA:2846:G:C6	3:CA:2847:U:C4	3.08	0.42
7:CG:53:PRO:HG3	7:CG:61:TRP:CE2	2.55	0.42
7:CG:83:THR:HA	7:CG:84:LYS:HZ2	1.84	0.42
9:CI:16:MET:HE2	9:CI:19:PRO:HB3	2.02	0.42
10:CJ:4:PHE:C	10:CJ:44:TYR:CE1	2.98	0.42
10:CJ:81:ILE:CG1	10:CJ:82:GLY:H	2.32	0.42
16:CP:92:ARG:O	16:CP:93:LYS:HB2	2.20	0.42
20:CT:12:ARG:CZ	25:CY:29:ARG:NH2	2.83	0.42
23:CW:13:ARG:HG2	23:CW:14:ASP:H	1.84	0.42
32:C5:50:VAL:O	32:C5:50:VAL:HG12	2.20	0.42
35:DA:11:G:C6	35:DA:12:U:C4	3.07	0.42
35:DA:420:U:O2'	35:DA:423:G:O6	2.37	0.42
35:DA:909:A:H2'	35:DA:910:C:O4'	2.19	0.42
35:DA:980:C:H4'	47:DN:59:ARG:HE	1.85	0.42
35:DA:1439:G:C5	35:DA:1440:U:C5	3.08	0.42
34:DB:187:ASP:HB2	34:DB:203:ASP:CB	2.49	0.42
44:DK:63:ALA:HB1	44:DK:96:THR:HB	2.02	0.42
48:DO:35:GLN:HB3	48:DO:59:MET:HE3	2.01	0.42
3:EA:481:G:C4	3:EA:507:A:C2	3.08	0.42
3:EA:824:U:O2'	3:EA:2358:A:N7	2.48	0.42
3:EA:1428:C:C5	3:EA:1569:A:H5"	2.55	0.42
3:EA:1948:G:O2'	35:FA:1418:A:N1	2.46	0.42
3:EA:2678:C:H2'	3:EA:2679:A:O4'	2.20	0.42
3:EA:2788:C:H2'	3:EA:2789:C:C6	2.54	0.42
1:EB:42:C:C5	1:EB:43:C:C5	3.07	0.42
9:EI:2:LYS:HG3	9:EI:3:LYS:N	2.34	0.42
9:EI:7:TYR:HA	9:EI:58:ILE:HB	2.02	0.42
9:EI:96:LYS:HG2	9:EI:138:VAL:HG22	2.02	0.42
10:EJ:44:TYR:O	10:EJ:45:THR:HB	2.19	0.42
12:EL:87:GLY:O	12:EL:89:VAL:N	2.53	0.42
13:EM:49:ALA:O	13:EM:52:ALA:N	2.52	0.42
13:EM:53:MET:HE2	13:EM:120:ALA:CB	2.49	0.42
13:EM:97:GLN:CD	13:EM:97:GLN:N	2.78	0.42
20:ET:31:VAL:C	20:ET:32:LEU:HD23	2.45	0.42
21:EU:71:ILE:HD12	21:EU:71:ILE:O	2.20	0.42
35:FA:633:G:H2'	35:FA:634:C:H6	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:FA:636:U:H5'	50:FQ:6:ARG:HH21	1.85	0.42
35:FA:640:A:O3'	41:FH:108:LYS:NZ	2.53	0.42
44:FK:42:LEU:HB3	44:FK:77:TYR:CE2	2.55	0.42
46:FM:34:LEU:HB3	46:FM:39:ILE:HB	2.00	0.42
1:GB:45:A:C2	1:GB:46:A:H1'	2.54	0.42
1:GB:57:A:H2'	1:GB:58:A:C8	2.55	0.42
1:GB:100:G:C5	1:GB:101:A:C5	3.08	0.42
3:GA:24:G:H2'	3:GA:25:U:O4'	2.20	0.42
3:GA:972:A:C6	3:GA:973:A:N6	2.88	0.42
3:GA:1039:A:N6	3:GA:1040:A:C6	2.88	0.42
3:GA:1339:G:O4'	3:GA:1393:A:C2	2.72	0.42
3:GA:1820:U:H4'	3:GA:1821:A:OP2	2.19	0.42
3:GA:1835:G:H1'	3:GA:1931:U:C2	2.54	0.42
3:GA:2680:U:H5'	4:GD:194:PRO:HA	2.01	0.42
3:GA:2689:U:O4'	3:GA:2713:U:C2	2.73	0.42
3:GA:2846:G:OP1	16:GP:52:ARG:NH1	2.52	0.42
7:GG:122:ALA:HA	7:GG:132:LEU:HA	2.00	0.42
16:GP:108:ARG:NH1	35:HA:1464:U:OP2	2.44	0.42
17:GQ:65:ASN:OD1	17:GQ:69:ARG:NH2	2.53	0.42
17:GQ:86:SER:O	17:GQ:88:GLU:N	2.53	0.42
28:G1:4:ILE:HG12	28:G1:27:ARG:HD3	2.01	0.42
35:HA:565:U:C4	35:HA:566:G:C5	3.08	0.42
35:HA:642:A:C5	41:HH:107:SER:HA	2.54	0.42
35:HA:987:G:C2	35:HA:1219:A:C6	3.07	0.42
37:HD:105:MET:HE2	37:HD:171:LEU:HB2	2.02	0.42
43:HJ:9:ARG:HD2	43:HJ:102:LEU:HA	2.02	0.42
44:HK:13:ARG:O	44:HK:15:GLN:N	2.50	0.42
51:HR:36:SER:CB	54:HU:4:ILE:HG12	2.50	0.42
55:HV:188:MET:HE3	55:HV:218:TRP:NE1	2.34	0.42
55:HV:218:TRP:CD1	55:HV:218:TRP:N	2.85	0.42
3:AA:633:A:OP1	12:AL:68:SER:OG	2.34	0.42
3:AA:945:A:C4	3:AA:2448:A:C2	3.07	0.42
3:AA:1194:A:C2'	3:AA:1195:G:O5'	2.68	0.42
3:AA:1607:C:H42	3:AA:1622:G:P	2.43	0.42
3:AA:1714:U:H5'	3:AA:1715:G:H5'	2.02	0.42
3:AA:2796:U:C4	3:AA:2798:U:C5	3.08	0.42
5:AE:79:ARG:HG2	5:AE:80:SER:N	2.35	0.42
6:AF:94:ARG:HH11	6:AF:94:ARG:HB2	1.84	0.42
10:AJ:4:PHE:C	10:AJ:44:TYR:HE2	2.28	0.42
10:AJ:38:GLY:O	10:AJ:43:GLU:HB2	2.19	0.42
10:AJ:81:ILE:CG1	10:AJ:82:GLY:H	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AY:56:LEU:H	25:AY:56:LEU:HD22	1.84	0.42
29:A2:24:THR:O	29:A2:25:LYS:C	2.61	0.42
30:A3:31:ILE:O	30:A3:31:ILE:CG1	2.66	0.42
34:BB:51:GLU:HG2	34:BB:197:PHE:CE1	2.55	0.42
34:BB:53:LEU:HD21	34:BB:212:TYR:CE1	2.55	0.42
35:BA:269:C:H2'	35:BA:270:A:C8	2.55	0.42
43:BJ:35:GLN:HG2	43:BJ:77:VAL:H	1.83	0.42
44:BK:21:ALA:HB2	44:BK:82:LEU:HD12	2.01	0.42
55:BV:315:GLU:HB3	55:BV:316:PRO:HD2	2.02	0.42
55:BV:360:PHE:HD2	55:BV:363:ILE:HD11	1.85	0.42
55:BV:611:VAL:HG22	55:BV:612:LEU:N	2.35	0.42
3:CA:26:G:C5	3:CA:27:G:C6	3.08	0.42
3:CA:593:U:H2'	3:CA:594:U:H6	1.85	0.42
3:CA:1106:G:C5	3:CA:1107:G:C8	3.08	0.42
3:CA:1128:G:C2	3:CA:1129:A:C2	3.08	0.42
3:CA:1242:U:C4	3:CA:1243:C:N4	2.88	0.42
3:CA:1313:U:H2'	3:CA:1610:A:C2	2.55	0.42
3:CA:1628:G:C6	3:CA:1629:U:C4	3.08	0.42
3:CA:1684:G:C5	3:CA:1685:C:C4	3.08	0.42
3:CA:1773:A:N7	3:CA:1829:A:H1'	2.34	0.42
3:CA:1797:G:C6	3:CA:1798:U:C4	3.08	0.42
3:CA:1818:U:O2'	2:CC:152:GLN:O	2.29	0.42
3:CA:1932:A:C2	3:CA:1969:A:C6	3.08	0.42
3:CA:1937:A:N7	3:CA:1939:U:H2'	2.34	0.42
3:CA:2021:C:P	27:C0:8:THR:HG21	2.60	0.42
3:CA:2096:C:H2'	3:CA:2097:A:C8	2.55	0.42
3:CA:2347:C:C2	3:CA:2348:U:C5	3.07	0.42
3:CA:2547:A:H2'	3:CA:2548:U:C6	2.55	0.42
2:CC:131:MET:O	2:CC:166:ARG:NH1	2.52	0.42
4:CD:63:PRO:O	4:CD:64:GLU:C	2.62	0.42
5:CE:51:GLU:OE2	5:CE:88:ARG:NH1	2.50	0.42
7:CG:121:THR:O	7:CG:132:LEU:HA	2.20	0.42
8:CH:13:GLY:CA	35:HA:1294:G:H4'	2.50	0.42
14:CN:103:ARG:HD3	14:CN:110:MET:HE3	2.01	0.42
16:CP:42:PHE:CE1	16:CP:62:LYS:HD2	2.55	0.42
22:CV:2:PHE:CG	22:CV:50:MET:HE3	2.55	0.42
22:CV:35:GLU:OE1	22:CV:35:GLU:N	2.48	0.42
35:DA:128:G:H2'	35:DA:129:A:H8	1.85	0.42
35:DA:224:U:C2	35:DA:225:C:C5	3.07	0.42
35:DA:501:C:H1'	35:DA:549:C:H1'	2.01	0.42
35:DA:665:A:C8	35:DA:725:G:C2	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:782:A:N7	35:DA:783:C:C5	2.88	0.42
35:DA:994:A:C5	35:DA:1216:A:H4'	2.55	0.42
35:DA:1014:A:N7	35:DA:1015:G:C6	2.88	0.42
35:DA:1125:U:H4'	43:DJ:7:ARG:NH1	2.35	0.42
35:DA:1161:C:H2'	35:DA:1162:C:C6	2.55	0.42
34:DB:99:MET:HA	34:DB:106:VAL:HG21	2.02	0.42
37:DD:62:ARG:NH1	37:DD:69:GLU:HG2	2.35	0.42
37:DD:105:MET:SD	37:DD:143:VAL:CG1	3.08	0.42
37:DD:107:PHE:HB3	37:DD:145:ILE:HD11	2.01	0.42
37:DD:170:TRP:CD2	37:DD:186:PRO:HB3	2.54	0.42
38:DE:81:LEU:N	38:DE:81:LEU:CD2	2.83	0.42
44:DK:20:VAL:N	44:DK:35:THR:O	2.40	0.42
47:DN:13:ARG:NE	47:DN:54:ASP:OD1	2.48	0.42
47:DN:42:TRP:CD1	47:DN:45:VAL:HG13	2.54	0.42
53:DT:5:LYS:C	53:DT:5:LYS:HE2	2.44	0.42
55:DV:103:MET:HG2	55:DV:135:VAL:HG11	2.01	0.42
3:EA:1584:U:H6	3:EA:1584:U:P	2.43	0.42
4:ED:3:GLY:C	4:ED:82:PHE:CE2	2.97	0.42
7:EG:8:VAL:CG1	7:EG:49:LEU:HB2	2.50	0.42
23:EW:37:VAL:HG12	23:EW:38:ARG:N	2.31	0.42
35:FA:369:G:C2	35:FA:370:C:C5	3.08	0.42
35:FA:437:U:O2'	37:FD:120:HIS:ND1	2.50	0.42
35:FA:1181:G:C2	35:FA:1182:G:N2	2.88	0.42
34:FB:167:HIS:C	34:FB:169:HIS:H	2.27	0.42
37:FD:58:LYS:HD2	37:FD:204:TYR:CZ	2.55	0.42
37:FD:132:ILE:HD12	37:FD:135:TYR:N	2.34	0.42
44:FK:125:LYS:HG2	54:FU:35:ARG:HG2	2.02	0.42
46:FM:44:LYS:HD3	46:FM:44:LYS:H	1.84	0.42
53:FT:70:ASN:O	53:FT:73:ALA:HB3	2.20	0.42
55:FV:76:ALA:O	55:FV:77:LYS:HB3	2.20	0.42
55:FV:85:ASN:ND2	55:FV:382:ILE:HG13	2.35	0.42
55:FV:188:MET:CE	55:FV:218:TRP:CD1	3.03	0.42
55:FV:312:SER:HB3	55:FV:315:GLU:HG3	2.02	0.42
55:FV:415:VAL:HG21	55:FV:671:ARG:NH1	2.35	0.42
55:FV:505:HIS:HB3	55:FV:516:GLY:H	1.85	0.42
55:FV:590:GLU:OE1	55:FV:591:LEU:N	2.53	0.42
3:GA:286:U:H2'	3:GA:287:G:C8	2.55	0.42
3:GA:349:U:H2'	3:GA:350:G:C8	2.53	0.42
3:GA:974:G:C8	3:GA:1186:G:H1'	2.55	0.42
3:GA:1735:A:C6	3:GA:1736:U:C4	3.08	0.42
3:GA:2024:G:H2'	3:GA:2025:C:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:GF:134:GLN:OE1	6:GF:150:GLY:N	2.52	0.42
7:GG:83:THR:HA	7:GG:84:LYS:NZ	2.35	0.42
12:GL:73:ILE:HD13	12:GL:73:ILE:H	1.84	0.42
14:GN:51:LEU:HB3	14:GN:79:LEU:HD21	2.02	0.42
14:GN:103:ARG:HD3	14:GN:110:MET:HE3	2.01	0.42
17:GQ:4:LYS:HZ3	17:GQ:8:ILE:HG23	1.84	0.42
17:GQ:64:ILE:HG21	17:GQ:75:TYR:CE1	2.55	0.42
17:GQ:97:ILE:HD11	17:GQ:105:PHE:HD1	1.84	0.42
30:G3:30:HIS:CE1	30:G3:31:ILE:HG22	2.55	0.42
35:HA:148:G:N3	35:HA:1446:A:H2	2.18	0.42
35:HA:814:A:H2'	35:HA:814:A:N3	2.35	0.42
35:HA:1001:C:C2	35:HA:1002:G:C8	3.08	0.42
35:HA:1104:G:C6	35:HA:1105:A:N7	2.87	0.42
36:HC:84:VAL:CG1	36:HC:101:ILE:HG23	2.50	0.42
37:HD:3:ARG:NH1	37:HD:115:ARG:HE	2.18	0.42
43:HJ:80:THR:HG22	43:HJ:82:LYS:H	1.84	0.42
45:HL:89:ASP:C	45:HL:90:LEU:HD12	2.44	0.42
49:HP:4:ILE:HG13	49:HP:21:VAL:HG12	2.02	0.42
55:HV:224:GLU:HA	55:HV:227:ALA:HB3	2.01	0.42
55:HV:630:ASP:HB3	55:HV:673:LEU:HD22	2.01	0.42
3:AA:996:A:C5	3:AA:1160:G:C2	3.08	0.41
3:AA:996:A:C6	3:AA:1160:G:C2	3.08	0.41
3:AA:1365:A:OP1	24:AX:2:ARG:NE	2.48	0.41
3:AA:1414:C:O2	3:AA:1588:G:N2	2.44	0.41
3:AA:1486:U:H2'	3:AA:1487:U:C6	2.55	0.41
3:AA:1647:U:P	3:AA:1647:U:H3'	2.60	0.41
3:AA:2674:G:H4'	11:AK:30:ARG:HG3	2.02	0.41
4:AD:118:PHE:HZ	14:AN:1:MET:HB2	1.85	0.41
14:AN:12:ARG:HB3	14:AN:16:HIS:HB3	2.01	0.41
16:AP:92:ARG:HB2	16:AP:92:ARG:HH11	1.85	0.41
23:AW:24:ARG:HH11	23:AW:65:LYS:HG2	1.85	0.41
23:AW:67:LYS:O	23:AW:68:PHE:HB2	2.20	0.41
35:BA:131:A:H2'	35:BA:132:C:C6	2.55	0.41
35:BA:211:G:C2	35:BA:212:G:H1'	2.55	0.41
35:BA:246:A:C4	35:BA:279:A:C6	3.08	0.41
35:BA:723:U:C5	54:BU:49:LYS:HG3	2.55	0.41
38:BE:105:ILE:H	38:BE:122:ASN:HA	1.84	0.41
39:BF:100:SER:CB	39:BF:101:PRO:HA	2.50	0.41
55:BV:617:MET:HG3	55:BV:682:MET:HE3	2.01	0.41
3:CA:37:C:O2'	5:CE:45:ALA:HA	2.19	0.41
3:CA:1027:A:C2	3:CA:1126:A:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:2294:G:H5”	15:CO:10:ARG:HD3	2.02	0.41
3:CA:2346:A:H3’	3:CA:2347:C:H5”	2.02	0.41
8:CH:28:ASN:C	8:CH:32:PRO:HG2	2.44	0.41
18:CR:49:ILE:HD12	18:CR:53:PHE:H	1.84	0.41
20:CT:19:LYS:O	20:CT:20:ALA:C	2.62	0.41
20:CT:69:ARG:HA	20:CT:69:ARG:HD2	1.97	0.41
21:CU:39:ASN:ND2	21:CU:62:ALA:O	2.52	0.41
22:CV:80:HIS:HD2	22:CV:83:LYS:N	2.18	0.41
30:C3:22:LYS:HA	30:C3:47:ALA:O	2.20	0.41
32:C5:15:VAL:HG21	32:C5:66:GLY:HA2	2.02	0.41
35:DA:202:G:O2’	35:DA:468:A:H8	2.02	0.41
35:DA:738:C:H5”	39:DF:68:GLN:OE1	2.20	0.41
35:DA:1077:G:N2	35:DA:1080:A:OP2	2.45	0.41
35:DA:1123:U:H4’	43:DJ:39:PRO:HD2	2.01	0.41
55:DV:595:LEU:O	55:DV:599:ILE:HG12	2.20	0.41
55:DV:611:VAL:HG21	55:DV:689:GLU:HG3	2.02	0.41
3:EA:31:C:O2’	3:EA:1238:G:H5’	2.20	0.41
3:EA:136:G:C2	3:EA:144:A:C2	3.08	0.41
3:EA:627:A:C6	3:EA:637:A:C8	3.08	0.41
3:EA:750:A:OP1	3:EA:1615:C:N4	2.44	0.41
3:EA:958:U:O4’	13:EM:14:LYS:NZ	2.42	0.41
3:EA:1144:A:C6	3:EA:1145:C:C4	3.07	0.41
3:EA:1342:A:O2’	3:EA:1344:U:OP2	2.29	0.41
3:EA:1784:A:H4’	3:EA:1785:A:O5’	2.19	0.41
3:EA:1914:C:H6	3:EA:1914:C:O5’	2.03	0.41
3:EA:2092:U:H4’	3:EA:2093:G:O5’	2.19	0.41
10:EJ:140:LEU:O	10:EJ:140:LEU:HD13	2.20	0.41
35:FA:505:G:C6	35:FA:535:A:C2	3.07	0.41
35:FA:1113:C:C1’	36:FC:178:LEU:HD23	2.49	0.41
35:FA:1137:C:O2	35:FA:1138:G:N2	2.53	0.41
35:FA:1513:A:H2’	35:FA:1514:G:C8	2.54	0.41
34:FB:27:LYS:N	34:FB:28:PRO:CD	2.83	0.41
34:FB:42:LEU:C	34:FB:44:LYS:H	2.28	0.41
34:FB:183:PHE:CE2	34:FB:197:PHE:CD2	3.08	0.41
36:FC:111:LEU:HD13	36:FC:144:LEU:HD11	2.02	0.41
38:FE:82:GLN:HG2	38:FE:150:PRO:HD3	2.01	0.41
46:FM:34:LEU:O	46:FM:39:ILE:N	2.53	0.41
1:GB:81:G:C6	1:GB:82:U:C4	3.08	0.41
3:GA:185:G:C6	3:GA:212:G:N1	2.88	0.41
3:GA:677:A:O2’	3:GA:2071:A:H5’	2.20	0.41
3:GA:923:G:H1’	23:GW:23:LYS:HD3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:1029:A:C2	3:GA:2466:C:O4'	2.73	0.41
3:GA:2274:A:C5	3:GA:2276:G:C8	3.08	0.41
3:GA:2700:A:C6	3:GA:2701:U:C4	3.08	0.41
6:GF:93:GLU:C	6:GF:95:MET:H	2.28	0.41
6:GF:105:ILE:HD12	6:GF:138:PRO:HG2	2.01	0.41
9:GI:58:ILE:HG22	9:GI:59:THR:N	2.35	0.41
10:GJ:110:PRO:HB2	10:GJ:111:LYS:HG3	2.02	0.41
11:GK:2:ILE:HG23	11:GK:6:THR:HG21	2.00	0.41
17:GQ:91:ARG:HD3	18:GR:11:GLN:HB2	2.01	0.41
18:GR:61:ALA:HB2	18:GR:98:ILE:HA	2.02	0.41
20:GT:20:ALA:O	20:GT:24:MET:HB3	2.20	0.41
22:GV:19:ARG:O	22:GV:22:ALA:HB3	2.20	0.41
35:HA:409:U:H2'	35:HA:410:G:O4'	2.20	0.41
35:HA:429:U:H5'	37:HD:9:LEU:HG	2.02	0.41
35:HA:722:G:H1	35:HA:733:G:H1	1.67	0.41
35:HA:1084:G:C6	35:HA:1085:U:N3	2.88	0.41
37:HD:135:TYR:C	37:HD:135:TYR:HD1	2.28	0.41
39:HF:3:HIS:CD2	39:HF:92:THR:HG23	2.55	0.41
42:HI:120:LYS:O	42:HI:122:ARG:N	2.49	0.41
49:HP:46:LYS:HG3	49:HP:48:GLU:H	1.85	0.41
52:HS:36:ARG:CG	52:HS:51:VAL:HG11	2.47	0.41
55:HV:546:PRO:HD2	55:HV:549:TYR:CD2	2.55	0.41
1:AB:16:G:C5	1:AB:69:G:C2	3.07	0.41
2:AC:172:THR:HG22	2:AC:182:LYS:HG2	2.02	0.41
3:AA:45:G:H5'	3:AA:46:G:H5'	2.03	0.41
3:AA:518:G:H2'	3:AA:519:U:C6	2.54	0.41
3:AA:653:U:H5	3:AA:654:A:C2	2.38	0.41
3:AA:866:A:N7	3:AA:914:G:C6	2.89	0.41
3:AA:2103:C:H2'	3:AA:2104:C:H5"	2.02	0.41
3:AA:2259:U:H1'	3:AA:2427:C:C2	2.55	0.41
3:AA:2478:A:C2'	3:AA:2479:U:H5'	2.51	0.41
3:AA:2526:G:C5	3:AA:2527:C:C5	3.08	0.41
3:AA:2580:U:C5	3:AA:2581:G:C6	3.08	0.41
4:AD:24:VAL:HA	4:AD:191:GLY:H	1.85	0.41
8:AH:10:ALA:C	8:AH:12:LEU:H	2.28	0.41
9:AI:116:MET:CB	9:AI:124:MET:HE3	2.50	0.41
17:AQ:91:ARG:HE	17:AQ:93:ILE:HG23	1.85	0.41
18:AR:38:VAL:O	18:AR:53:PHE:HA	2.20	0.41
30:A3:22:LYS:HA	30:A3:47:ALA:O	2.19	0.41
32:A5:106:PHE:CG	32:A5:107:GLU:N	2.87	0.41
35:BA:375:U:C2	35:BA:376:G:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:780:A:C8	35:BA:800:G:C6	3.08	0.41
35:BA:1032:G:H3'	35:BA:1032:G:N3	2.35	0.41
35:BA:1113:C:H4'	36:BC:14:ILE:HG21	2.02	0.41
35:BA:1227:A:OP2	46:BM:110:LYS:HE2	2.20	0.41
35:BA:1343:G:H2'	35:BA:1344:C:C6	2.54	0.41
36:BC:12:LEU:HD13	36:BC:18:TRP:CE2	2.55	0.41
37:BD:191:LEU:O	37:BD:191:LEU:HD12	2.20	0.41
42:BI:51:PRO:HB3	42:BI:84:THR:CG2	2.49	0.41
45:BL:24:LEU:C	45:BL:26:ALA:H	2.27	0.41
45:BL:25:GLU:O	45:BL:26:ALA:C	2.63	0.41
50:BQ:74:THR:HG22	50:BQ:75:LEU:N	2.36	0.41
51:BR:34:THR:OG1	51:BR:35:GLU:N	2.53	0.41
55:BV:100:GLU:OE2	55:BV:133:TYR:OH	2.33	0.41
3:CA:139:U:O2	20:CT:1:MET:HG2	2.20	0.41
3:CA:161:A:C3'	3:CA:162:U:H5"	2.45	0.41
3:CA:452:G:C2	3:CA:458:G:C4	3.08	0.41
3:CA:892:A:H2'	3:CA:893:C:C5	2.55	0.41
3:CA:959:A:H62	13:CM:82:MET:CE	2.33	0.41
3:CA:995:C:P	17:CQ:52:ARG:HH11	2.43	0.41
3:CA:1296:G:C4	3:CA:1297:C:C5	3.08	0.41
3:CA:1476:U:C5	3:CA:1514:G:C2	3.08	0.41
3:CA:2701:U:H3'	3:CA:2702:G:C5'	2.49	0.41
2:CC:141:HIS:HB2	2:CC:142:ASN:H	1.54	0.41
5:CE:150:THR:OG1	5:CE:151:GLY:N	2.53	0.41
6:CF:131:VAL:HG22	6:CF:151:LEU:H	1.85	0.41
9:CI:71:LYS:HZ2	9:CI:71:LYS:HB3	1.85	0.41
26:CZ:15:ARG:CG	26:CZ:15:ARG:NH1	2.83	0.41
32:C5:58:THR:O	32:C5:60:LEU:N	2.54	0.41
32:C5:131:THR:O	32:C5:132:TYR:C	2.63	0.41
35:DA:79:G:H3'	35:DA:80:A:C8	2.54	0.41
35:DA:237:G:H5'	50:DQ:27:ARG:HH12	1.84	0.41
35:DA:382:A:H2'	35:DA:383:A:C8	2.54	0.41
35:DA:1142:G:C2	35:DA:1143:G:H1'	2.54	0.41
35:DA:1167:A:H8	35:DA:1169:A:N7	2.19	0.41
35:DA:1254:A:C6	35:DA:1255:G:C5	3.08	0.41
35:DA:1323:G:H2'	35:DA:1324:A:C8	2.55	0.41
35:DA:1358:U:OP1	47:DN:75:ARG:HG2	2.20	0.41
39:DF:41:ASP:OD1	39:DF:58:HIS:NE2	2.52	0.41
42:DI:12:ARG:HH11	42:DI:13:LYS:HB2	1.84	0.41
42:DI:97:GLU:HG2	42:DI:100:LYS:HD3	2.02	0.41
43:DJ:5:ARG:CB	43:DJ:77:VAL:HA	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:DK:96:THR:HG23	44:DK:97:ILE:N	2.35	0.41
55:DV:217:GLU:C	55:DV:219:HIS:N	2.78	0.41
3:EA:30:G:C6	3:EA:31:C:C4	3.09	0.41
3:EA:55:G:H2'	3:EA:56:A:H8	1.84	0.41
3:EA:88:G:C6	3:EA:89:A:N7	2.87	0.41
3:EA:1019:U:H3	3:EA:1142:A:H62	1.68	0.41
3:EA:1360:G:C6	3:EA:1372:U:C2	3.09	0.41
3:EA:2425:A:H5"	3:EA:2427:C:O4'	2.20	0.41
3:EA:2447:G:N7	3:EA:2501:C:O4'	2.53	0.41
3:EA:2472:G:C5	3:EA:2475:C:C4	3.09	0.41
1:EB:43:C:H2'	1:EB:44:G:H5'	2.01	0.41
2:EC:106:PRO:HA	2:EC:194:VAL:HA	2.02	0.41
6:EF:113:PHE:C	6:EF:114:ARG:HG3	2.46	0.41
6:EF:142:TYR:CD1	6:EF:142:TYR:C	2.99	0.41
10:EJ:4:PHE:CG	10:EJ:5:THR:N	2.89	0.41
23:EW:28:GLU:HB3	23:EW:31:LEU:HD21	2.02	0.41
28:E1:16:THR:HG21	28:E1:41:VAL:HG13	2.01	0.41
32:E5:26:VAL:O	32:E5:27:VAL:HB	2.19	0.41
35:FA:158:G:H2'	35:FA:159:G:H5'	2.02	0.41
35:FA:1021:A:C2	35:FA:1022:A:C8	3.08	0.41
35:FA:1049:U:H2'	47:FN:3:LYS:HD2	2.03	0.41
35:FA:1054:C:H5"	35:FA:1196:A:O2'	2.20	0.41
35:FA:1280:A:OP1	43:FJ:9:ARG:NH1	2.51	0.41
38:FE:81:LEU:HB3	38:FE:147:MET:HE1	2.02	0.41
39:FF:3:HIS:HB2	39:FF:92:THR:HG23	2.02	0.41
55:FV:445:PHE:CE1	55:FV:469:ILE:HG21	2.55	0.41
3:GA:392:U:H2'	3:GA:393:C:C6	2.55	0.41
3:GA:483:A:O4'	21:GU:44:HIS:HB3	2.20	0.41
3:GA:620:G:H4'	3:GA:621:A:O5'	2.19	0.41
3:GA:646:U:C2	3:GA:2368:C:H1'	2.55	0.41
3:GA:869:G:C6	3:GA:909:A:C5	3.08	0.41
3:GA:883:G:C2	3:GA:884:U:H1'	2.55	0.41
3:GA:966:G:C5	3:GA:967:U:C4	3.08	0.41
3:GA:982:C:H5"	3:GA:983:A:P	2.60	0.41
3:GA:1087:G:C2	3:GA:1089:A:H1'	2.55	0.41
3:GA:1202:G:C6	3:GA:1244:A:C6	3.09	0.41
3:GA:1410:G:N7	60:GA:3612:HOH:O	2.37	0.41
3:GA:2054:A:C2	3:GA:2616:C:C2	3.08	0.41
3:GA:2155:U:C3'	3:GA:2156:G:H5'	2.50	0.41
3:GA:2307:G:O6	6:GF:40:GLY:N	2.53	0.41
3:GA:2344:U:P	28:G1:36:LYS:HD2	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:2526:G:H5'	3:GA:2742:G:O2'	2.19	0.41
3:GA:2607:G:C6	3:GA:2608:G:C5	3.08	0.41
17:GQ:94:LEU:O	17:GQ:94:LEU:HD13	2.21	0.41
18:GR:61:ALA:HB2	18:GR:98:ILE:HD13	2.01	0.41
35:HA:2:A:C6	35:HA:3:A:N1	2.88	0.41
35:HA:196:A:OP1	53:HT:64:LYS:HE2	2.20	0.41
35:HA:897:C:C4	35:HA:898:G:N7	2.89	0.41
35:HA:1095:U:C4	35:HA:1096:C:C4	3.07	0.41
35:HA:1105:A:C2	35:HA:1106:G:C5	3.08	0.41
35:HA:1118:U:OP1	42:HI:11:ARG:NE	2.50	0.41
37:HD:132:ILE:HG22	37:HD:134:SER:H	1.83	0.41
38:HE:44:GLY:HA2	38:HE:74:VAL:HB	2.01	0.41
41:HH:41:LYS:CD	41:HH:48:ASP:HB2	2.50	0.41
43:HJ:27:GLU:O	43:HJ:28:THR:CB	2.69	0.41
2:AC:254:LYS:O	2:AC:256:THR:N	2.51	0.41
3:AA:527:C:H4'	3:AA:528:A:O5'	2.21	0.41
3:AA:1301:A:H2'	3:AA:1301:A:N3	2.35	0.41
3:AA:1494:A:C6	3:AA:1495:A:C5	3.08	0.41
3:AA:1591:A:H2'	3:AA:1592:C:C6	2.55	0.41
3:AA:1937:A:N7	3:AA:1939:U:H2'	2.35	0.41
3:AA:2803:G:H2'	3:AA:2804:U:H6	1.84	0.41
4:AD:35:THR:N	4:AD:49:GLN:O	2.41	0.41
4:AD:46:ARG:HH21	4:AD:86:GLU:H	1.69	0.41
10:AJ:4:PHE:CD2	10:AJ:44:TYR:CE2	3.08	0.41
11:AK:76:VAL:CB	16:AP:72:VAL:HG22	2.47	0.41
14:AN:79:LEU:O	14:AN:80:PHE:HB2	2.19	0.41
15:AO:49:VAL:HG12	15:AO:50:ALA:N	2.35	0.41
26:AZ:2:LYS:C	26:AZ:3:THR:HG23	2.45	0.41
32:A5:64:VAL:C	32:A5:66:GLY:N	2.77	0.41
35:BA:382:A:H2'	35:BA:383:A:C8	2.56	0.41
35:BA:419:C:OP1	35:BA:513:C:O2'	2.38	0.41
38:BE:44:GLY:H	38:BE:76:LEU:CD1	2.32	0.41
42:BI:91:ASP:C	42:BI:93:SER:N	2.77	0.41
43:BJ:15:HIS:O	43:BJ:17:LEU:N	2.50	0.41
43:BJ:59:LYS:HG3	43:BJ:60:ASP:OD1	2.20	0.41
45:BL:3:THR:O	45:BL:6:GLN:N	2.54	0.41
45:BL:59:ASN:OD1	45:BL:59:ASN:C	2.64	0.41
47:BN:21:PHE:C	47:BN:23:LYS:N	2.78	0.41
3:CA:3:U:H2'	3:CA:4:U:O4'	2.20	0.41
3:CA:178:G:C6	3:CA:179:C:C5	3.08	0.41
3:CA:282:A:H2'	3:CA:283:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CA:323:C:H2'	5:CE:163:ASN:ND2	2.35	0.41
3:CA:638:G:C6	3:CA:651:G:C2	3.09	0.41
3:CA:807:U:C2	3:CA:808:G:C8	3.09	0.41
3:CA:2109:U:H2'	3:CA:2110:G:C5'	2.50	0.41
3:CA:2209:G:N3	3:CA:2216:G:N2	2.68	0.41
3:CA:2469:A:C2	3:CA:2482:A:H1'	2.55	0.41
6:CF:151:LEU:CD1	6:CF:153:ILE:HG23	2.50	0.41
8:CH:13:GLY:O	35:HA:1294:G:O2'	2.20	0.41
9:CI:14:ALA:CB	9:CI:45:THR:HG22	2.50	0.41
10:CJ:105:VAL:HG11	10:CJ:122:LEU:HD21	2.02	0.41
12:CL:23:ILE:HD12	18:CR:84:ARG:CZ	2.50	0.41
17:CQ:81:GLY:HA2	17:CQ:116:LEU:HD12	2.02	0.41
17:CQ:81:GLY:CA	17:CQ:116:LEU:CD1	2.99	0.41
17:CQ:91:ARG:NH2	17:CQ:93:ILE:HG21	2.35	0.41
18:CR:5:PHE:HA	18:CR:39:LEU:HG	2.02	0.41
22:CV:51:GLN:NE2	22:CV:57:TYR:OH	2.53	0.41
24:CX:34:SER:HA	24:CX:48:LEU:O	2.20	0.41
32:C5:100:ALA:HA	32:C5:113:PHE:CE2	2.55	0.41
35:DA:292:G:N7	35:DA:293:G:H1'	2.36	0.41
35:DA:750:C:C2	35:DA:751:U:H5	2.39	0.41
35:DA:811:C:C5	35:DA:812:G:C6	3.08	0.41
35:DA:1340:A:H2'	35:DA:1341:U:O4'	2.21	0.41
34:DB:100:LEU:HD21	34:DB:180:ILE:HD12	2.03	0.41
36:DC:26:THR:HG22	47:DN:76:LYS:CE	2.50	0.41
36:DC:129:MET:HE2	36:DC:132:ARG:HD2	2.01	0.41
38:DE:81:LEU:HD23	38:DE:123:VAL:CG1	2.50	0.41
43:DJ:74:VAL:O	43:DJ:75:ASP:HB3	2.21	0.41
54:DU:53:VAL:HG13	54:DU:54:LYS:N	2.35	0.41
55:DV:51:ASP:HB3	55:DV:56:GLU:HG3	2.01	0.41
55:DV:644:GLY:C	55:DV:645:GLN:HG3	2.46	0.41
3:EA:27:G:C4	3:EA:512:G:N2	2.89	0.41
3:EA:62:U:O2	3:EA:62:U:H2'	2.19	0.41
3:EA:479:A:H4'	3:EA:480:A:OP1	2.21	0.41
3:EA:611:C:H2'	3:EA:612:G:O4'	2.20	0.41
3:EA:738:G:C2	3:EA:759:G:C5	3.08	0.41
3:EA:855:G:N3	23:EW:23:LYS:HD2	2.35	0.41
3:EA:861:A:C2	3:EA:917:A:C4	3.08	0.41
3:EA:1119:U:OP1	22:EV:83:LYS:NZ	2.38	0.41
3:EA:1270:C:N4	3:EA:1648:U:O4	2.54	0.41
3:EA:2619:C:O2'	3:EA:2620:C:H5'	2.20	0.41
3:EA:2660:A:H5'	55:FV:675:LYS:HG3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:EC:93:VAL:O	2:EC:94:LEU:HB3	2.20	0.41
4:ED:121:THR:O	4:ED:122:VAL:CB	2.68	0.41
7:EG:83:THR:HA	7:EG:84:LYS:NZ	2.35	0.41
10:EJ:38:GLY:O	10:EJ:43:GLU:HB2	2.20	0.41
12:EL:57:LEU:C	12:EL:59:ARG:H	2.28	0.41
12:EL:61:LEU:O	30:E3:12:ARG:HD3	2.20	0.41
19:ES:59:GLU:HA	19:ES:64:ALA:HB2	2.02	0.41
24:EX:48:LEU:HB3	24:EX:50:VAL:HG23	2.02	0.41
32:E5:44:ALA:HB1	32:E5:52:MET:HB2	2.02	0.41
35:FA:495:A:C2	35:FA:496:A:N6	2.89	0.41
35:FA:895:G:C5	35:FA:896:C:C5	3.08	0.41
35:FA:955:U:H2'	35:FA:956:U:O4'	2.20	0.41
35:FA:1009:U:H3	35:FA:1020:G:H1	1.67	0.41
35:FA:1412:C:H2'	35:FA:1413:A:C8	2.55	0.41
35:FA:1461:G:H2'	35:FA:1462:C:O4'	2.20	0.41
34:FB:49:PHE:HB2	34:FB:212:TYR:OH	2.21	0.41
37:FD:103:TYR:CD1	37:FD:103:TYR:C	2.97	0.41
41:FH:82:GLY:C	41:FH:83:LEU:HD12	2.45	0.41
42:FI:34:SER:HB3	42:FI:37:GLN:HG2	2.00	0.41
46:FM:14:HIS:ND1	46:FM:42:ASP:O	2.53	0.41
50:FQ:17:MET:HB3	50:FQ:20:SER:HB3	2.03	0.41
52:FS:36:ARG:HB3	52:FS:72:GLY:HA2	2.01	0.41
55:FV:317:PHE:HA	55:FV:341:GLY:HA3	2.02	0.41
3:GA:15:G:C6	3:GA:16:C:C4	3.08	0.41
3:GA:80:G:O2'	3:GA:294:A:N1	2.43	0.41
3:GA:849:A:C2	3:GA:930:G:N2	2.88	0.41
3:GA:878:A:H3'	3:GA:879:G:C8	2.55	0.41
3:GA:1252:G:N3	17:GQ:32:ARG:HG2	2.35	0.41
3:GA:1663:G:N1	3:GA:1998:A:C6	2.88	0.41
3:GA:1851:U:C2	3:GA:1852:U:C5	3.08	0.41
3:GA:2097:A:C2	3:GA:2098:U:C2	3.09	0.41
3:GA:2209:G:C6	3:GA:2216:G:N1	2.89	0.41
3:GA:2273:A:H2'	3:GA:2274:A:C8	2.55	0.41
3:GA:2335:A:OP1	15:GO:13:ARG:HD2	2.21	0.41
3:GA:2469:A:C8	3:GA:2482:A:N6	2.89	0.41
3:GA:2535:G:C4	3:GA:2536:G:C8	3.09	0.41
4:GD:68:PHE:CZ	4:GD:79:LEU:HD11	2.56	0.41
9:GI:96:LYS:CG	9:GI:135:MET:HG2	2.50	0.41
9:GI:104:GLN:O	9:GI:105:LEU:HB2	2.19	0.41
12:GL:111:ILE:N	12:GL:111:ILE:HD12	2.35	0.41
16:GP:112:ARG:O	16:GP:113:LEU:C	2.62	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:GQ:12:ARG:O	17:GQ:15:LYS:HB3	2.20	0.41
22:GV:21:ARG:NH2	22:GV:87:GLN:O	2.47	0.41
24:GX:32:LEU:O	24:GX:33:HIS:ND1	2.52	0.41
26:GZ:9:THR:HG22	26:GZ:53:MET:C	2.45	0.41
29:G2:1:MET:CG	29:G2:2:LYS:N	2.84	0.41
35:HA:851:G:C5	35:HA:852:G:N7	2.88	0.41
35:HA:1001:C:N3	35:HA:1002:G:N7	2.68	0.41
35:HA:1167:A:H3'	35:HA:1169:A:N7	2.34	0.41
37:HD:58:LYS:HA	37:HD:200:ILE:CD1	2.50	0.41
51:HR:40:VAL:CG1	51:HR:41:PRO:HD2	2.50	0.41
51:HR:40:VAL:HG13	51:HR:41:PRO:HD2	2.02	0.41
55:HV:614:GLU:O	55:HV:687:TYR:HA	2.19	0.41
2:AC:143:VAL:HB	2:AC:153:LEU:HB2	2.02	0.41
3:AA:301:G:H2'	3:AA:334:C:H2'	2.01	0.41
3:AA:1309:G:OP1	29:A2:9:VAL:HG13	2.21	0.41
3:AA:1394:U:OP1	60:AA:3404:HOH:O	2.22	0.41
3:AA:1945:G:C6	3:AA:1946:U:C4	3.09	0.41
3:AA:2409:G:H2'	3:AA:2410:G:O4'	2.20	0.41
6:AF:148:VAL:HG23	6:AF:149:ARG:N	2.36	0.41
13:AM:53:MET:CE	13:AM:63:ILE:HG21	2.50	0.41
17:AQ:63:ARG:HH12	17:AQ:96:ASP:HA	1.86	0.41
32:A5:59:LEU:HD23	32:A5:62:ARG:HE	1.85	0.41
34:BB:170:ILE:H	34:BB:170:ILE:HD13	1.85	0.41
35:BA:978:A:O2'	35:BA:1322:C:H5	2.03	0.41
35:BA:1132:C:N4	35:BA:1142:G:O6	2.53	0.41
36:BC:105:GLU:HG2	36:BC:106:VAL:N	2.35	0.41
37:BD:24:GLY:HA2	37:BD:109:ALA:HB1	2.01	0.41
50:BQ:5:ILE:HD12	50:BQ:5:ILE:N	2.35	0.41
55:BV:124:GLU:OE2	55:BV:677:ARG:NH1	2.54	0.41
3:CA:892:A:H2'	3:CA:893:C:C6	2.55	0.41
3:CA:952:G:H2'	3:CA:953:G:O5'	2.19	0.41
3:CA:1378:A:C4	3:CA:1380:G:C8	3.09	0.41
3:CA:2017:U:H5"	3:CA:2018:G:P	2.60	0.41
3:CA:2392:A:C8	3:CA:2429:G:C2	3.08	0.41
3:CA:2751:G:H2'	3:CA:2751:G:N3	2.36	0.41
4:CD:101:PHE:CE2	4:CD:203:VAL:CG2	3.04	0.41
18:CR:64:VAL:O	18:CR:65:ALA:CB	2.69	0.41
21:CU:94:PHE:HA	21:CU:101:THR:HA	2.03	0.41
22:CV:70:ILE:O	22:CV:71:LYS:HB3	2.20	0.41
23:CW:17:ALA:HA	23:CW:35:ILE:HG23	2.01	0.41
35:DA:10:A:OP2	38:DE:131:THR:OG1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:257:G:N1	35:DA:258:G:C5	2.88	0.41
35:DA:369:G:C5	35:DA:393:A:C2	3.08	0.41
35:DA:625:U:H4'	49:DP:16:PHE:CE2	2.55	0.41
35:DA:650:G:C5	35:DA:651:C:C5	3.09	0.41
35:DA:728:A:C6	35:DA:729:A:C6	3.08	0.41
35:DA:1053:G:N7	35:DA:1199:U:H3'	2.36	0.41
35:DA:1239:A:H4'	35:DA:1240:U:H5"	2.02	0.41
35:DA:1511:G:C6	35:DA:1512:U:C4	3.08	0.41
36:DC:139:GLN:O	36:DC:143:ARG:N	2.51	0.41
43:DJ:53:ILE:HG13	47:DN:85:ARG:CD	2.50	0.41
44:DK:43:GLY:HA3	44:DK:74:VAL:CG1	2.51	0.41
44:DK:82:LEU:N	44:DK:82:LEU:HD23	2.35	0.41
53:DT:49:LYS:CD	53:DT:49:LYS:C	2.93	0.41
55:DV:218:TRP:CD1	55:DV:218:TRP:N	2.88	0.41
55:DV:453:SER:O	55:DV:455:GLN:N	2.53	0.41
3:EA:566:U:H2'	3:EA:567:U:O4'	2.20	0.41
3:EA:817:C:H2'	3:EA:818:G:O4'	2.20	0.41
3:EA:855:G:N2	23:EW:23:LYS:HD2	2.35	0.41
3:EA:1150:C:C2'	3:EA:1151:A:O5'	2.68	0.41
3:EA:1179:G:N1	3:EA:1180:U:C4	2.88	0.41
3:EA:1655:A:H2'	3:EA:1656:C:O4'	2.21	0.41
3:EA:1732:C:C3'	3:EA:1733:G:H5'	2.51	0.41
3:EA:2287:A:C8	3:EA:2289:G:C8	3.08	0.41
4:ED:121:THR:HB	4:ED:127:PHE:CD2	2.55	0.41
6:EF:34:THR:HG22	6:EF:89:THR:HA	2.02	0.41
9:EI:42:ASN:HA	9:EI:45:THR:HB	2.02	0.41
9:EI:120:ASP:HB3	9:EI:123:ALA:CB	2.49	0.41
10:EJ:130:HIS:ND1	10:EJ:130:HIS:O	2.53	0.41
18:ER:48:LYS:H	18:ER:48:LYS:CD	2.34	0.41
20:ET:24:MET:HG3	20:ET:29:THR:CG2	2.50	0.41
21:EU:73:ASN:O	21:EU:74:ALA:HB3	2.20	0.41
24:EX:76:LYS:HG3	24:EX:77:TYR:H	1.84	0.41
27:E0:32:THR:HG22	27:E0:33:SER:N	2.34	0.41
32:E5:9:GLN:NE2	32:E5:13:ALA:HB2	2.36	0.41
32:E5:40:GLU:O	32:E5:40:GLU:CG	2.68	0.41
35:FA:62:U:OP1	35:FA:385:C:O2'	2.25	0.41
35:FA:66:A:C2	35:FA:67:C:C6	3.08	0.41
35:FA:131:A:O2'	35:FA:262:A:N3	2.45	0.41
35:FA:327:A:O2'	35:FA:328:C:O4'	2.28	0.41
35:FA:1004:A:H2'	35:FA:1005:A:O4'	2.21	0.41
37:FD:75:TYR:OH	37:FD:97:ARG:NH1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:FE:159:LYS:HZ1	41:FH:64:LYS:HE2	1.85	0.41
41:FH:3:MET:HE3	41:FH:5:ASP:C	2.46	0.41
46:FM:91:HIS:HA	46:FM:109:ARG:HH22	1.84	0.41
54:FU:39:GLU:O	54:FU:43:THR:HG22	2.20	0.41
55:FV:75:MET:SD	55:FV:202:PHE:CZ	3.13	0.41
55:FV:602:LYS:O	55:FV:604:GLY:N	2.51	0.41
3:GA:27:G:HO2'	3:GA:28:A:P	2.41	0.41
3:GA:83:A:H5"	3:GA:84:A:OP1	2.20	0.41
3:GA:247:G:N2	3:GA:252:G:C5	2.88	0.41
3:GA:571:U:O4	3:GA:2030:A:N1	2.53	0.41
3:GA:1002:G:H2'	3:GA:1003:G:O4'	2.20	0.41
3:GA:1010:A:H5'	17:GQ:61:ILE:HG22	2.02	0.41
3:GA:1570:A:H2'	3:GA:1571:A:C8	2.55	0.41
3:GA:2054:A:H2'	27:G0:4:GLN:OE1	2.19	0.41
3:GA:2207:C:C2	3:GA:2218:G:C2	3.08	0.41
3:GA:2643:G:C6	3:GA:2644:G:C4	3.09	0.41
2:GC:16:VAL:H	2:GC:203:VAL:HG12	1.84	0.41
5:GE:52:VAL:HG12	5:GE:53:THR:N	2.35	0.41
5:GE:82:GLY:N	60:GE:301:HOH:O	2.52	0.41
5:GE:187:VAL:O	5:GE:188:MET:CB	2.68	0.41
13:GM:96:ILE:HD13	13:GM:102:LEU:CD1	2.51	0.41
20:GT:29:THR:CA	20:GT:86:THR:HA	2.50	0.41
20:GT:69:ARG:O	20:GT:74:ILE:HD12	2.20	0.41
21:GU:21:ARG:CZ	21:GU:72:PHE:CE2	3.04	0.41
35:HA:66:A:H4'	35:HA:173:U:C5	2.56	0.41
35:HA:673:A:C2	35:HA:734:G:C2	3.08	0.41
35:HA:717:U:H2'	35:HA:734:G:C8	2.56	0.41
35:HA:749:A:H2	48:HO:22:THR:CG2	2.33	0.41
35:HA:1124:G:H3'	35:HA:1145:A:H61	1.85	0.41
35:HA:1377:A:C6	40:HG:7:ILE:HD11	2.55	0.41
37:HD:98:LEU:HD23	37:HD:102:VAL:HG23	2.01	0.41
43:HJ:35:GLN:HG2	43:HJ:37:ARG:NE	2.36	0.41
44:HK:128:ARG:HD2	54:HU:35:ARG:HG3	2.03	0.41
45:HL:63:VAL:HG22	45:HL:64:THR:N	2.35	0.41
45:HL:83:ARG:HG2	45:HL:83:ARG:HH11	1.85	0.41
46:HM:96:PRO:HD3	46:HM:102:THR:HG21	2.02	0.41
55:HV:252:LEU:HD13	55:HV:285:TYR:CE2	2.55	0.41
55:HV:526:GLU:N	55:HV:526:GLU:OE1	2.53	0.41
2:AC:77:VAL:HG23	2:AC:77:VAL:O	2.20	0.41
2:AC:184:GLU:O	2:AC:185:ALA:HB3	2.20	0.41
3:AA:75:G:H4'	25:AY:48:ARG:NH2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1020:A:C2	3:AA:1141:U:C2	3.09	0.41
3:AA:1579:A:H2'	3:AA:1580:A:C8	2.56	0.41
3:AA:2392:A:C2	12:AL:55:MET:HE3	2.56	0.41
3:AA:2685:G:H1	3:AA:2724:U:H3	1.68	0.41
10:AJ:88:THR:HG22	10:AJ:91:GLU:CG	2.49	0.41
11:AK:13:ASN:O	11:AK:14:SER:CB	2.67	0.41
16:AP:50:ARG:HB2	16:AP:51:ASN:H	1.53	0.41
27:A0:12:ARG:HD2	27:A0:16:ARG:NH2	2.36	0.41
32:A5:131:THR:HA	32:A5:134:GLU:CG	2.50	0.41
32:A5:142:THR:OG1	32:A5:143:MET:N	2.52	0.41
35:BA:270:A:H2'	35:BA:271:C:C6	2.56	0.41
35:BA:363:A:OP1	45:BL:58:THR:HG21	2.20	0.41
35:BA:441:A:H5"	35:BA:442:G:OP2	2.20	0.41
35:BA:958:A:C6	35:BA:959:A:N1	2.88	0.41
35:BA:1163:A:C2	35:BA:1174:G:C2	3.08	0.41
35:BA:1372:U:C4	35:BA:1373:G:C4	3.09	0.41
36:BC:167:TRP:CE3	36:BC:167:TRP:O	2.73	0.41
37:BD:174:ASP:O	37:BD:175:ALA:HB2	2.20	0.41
54:BU:25:LYS:CG	54:BU:26:ALA:H	2.33	0.41
55:BV:519:VAL:N	55:BV:580:PHE:O	2.53	0.41
1:CB:37:C:C5	1:CB:38:C:C4	3.08	0.41
3:CA:272:A:HO2'	3:CA:273:G:H8	1.64	0.41
3:CA:323:C:C4	3:CA:333:G:C8	3.08	0.41
3:CA:415:A:C2	3:CA:2409:G:C2	3.09	0.41
3:CA:443:A:N6	5:CE:40:ARG:HD3	2.36	0.41
3:CA:1410:G:N7	60:CA:3609:HOH:O	2.37	0.41
3:CA:1641:A:C8	3:CA:1642:G:C8	3.09	0.41
3:CA:1798:U:OP1	2:CC:257:ARG:HB2	2.20	0.41
3:CA:1972:G:H2'	3:CA:1973:G:H8	1.85	0.41
3:CA:2199:A:H2'	3:CA:2199:A:N3	2.36	0.41
2:CC:255:LYS:O	2:CC:257:ARG:N	2.54	0.41
4:CD:71:ALA:C	4:CD:73:VAL:H	2.28	0.41
6:CF:166:ARG:O	6:CF:170:ALA:N	2.52	0.41
10:CJ:4:PHE:CD1	10:CJ:5:THR:N	2.88	0.41
10:CJ:38:GLY:HA2	10:CJ:51:GLY:HA2	2.03	0.41
13:CM:1:MET:O	13:CM:2:LEU:HB2	2.21	0.41
20:CT:31:VAL:C	20:CT:32:LEU:HD23	2.45	0.41
35:DA:960:U:C4	35:DA:1225:A:C8	3.08	0.41
35:DA:990:C:N4	35:DA:991:U:O4	2.54	0.41
35:DA:1332:A:C8	35:DA:1333:A:C8	3.08	0.41
34:DB:14:HIS:CE1	34:DB:40:ILE:HD11	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DB:207:ARG:HG3	34:DB:208:ALA:N	2.36	0.41
36:DC:206:GLU:O	36:DC:207:ILE:C	2.63	0.41
39:DF:18:VAL:HG21	39:DF:58:HIS:CD2	2.55	0.41
41:DH:24:ALA:HA	41:DH:63:LEU:CD2	2.50	0.41
41:DH:41:LYS:CD	41:DH:47:GLU:O	2.68	0.41
42:DI:40:GLY:C	42:DI:45:ARG:HB3	2.45	0.41
3:EA:962:G:C5	3:EA:963:U:C5	3.08	0.41
3:EA:1220:G:H2'	3:EA:1221:C:O4'	2.20	0.41
3:EA:1316:U:H2'	3:EA:1317:G:H8	1.86	0.41
3:EA:2019:A:H4'	17:EQ:33:VAL:HG21	2.01	0.41
3:EA:2705:A:H2'	3:EA:2706:A:O4'	2.21	0.41
4:ED:193:VAL:HG21	4:ED:201:LEU:HD21	2.02	0.41
5:EE:36:ALA:O	5:EE:39:ALA:HB3	2.20	0.41
6:EF:82:TYR:CD2	6:EF:83:PRO:HD2	2.56	0.41
8:EH:31:VAL:HB	8:EH:32:PRO:HD3	2.02	0.41
9:EI:100:ILE:O	9:EI:139:VAL:HA	2.20	0.41
9:EI:123:ALA:HA	9:EI:126:ARG:HH12	1.85	0.41
16:EP:13:LYS:HZ2	16:EP:80:VAL:HG12	1.84	0.41
16:EP:24:THR:HA	16:EP:45:VAL:HA	2.01	0.41
16:EP:80:VAL:CG1	16:EP:81:ASP:N	2.82	0.41
23:EW:46:ALA:O	23:EW:50:VAL:HG22	2.20	0.41
23:EW:65:LYS:HG3	23:EW:84:GLU:HB3	2.01	0.41
32:E5:3:LEU:O	32:E5:4:ASN:C	2.64	0.41
35:FA:175:C:H2'	35:FA:176:C:C6	2.56	0.41
35:FA:736:C:H2'	35:FA:737:C:C6	2.55	0.41
34:FB:116:LEU:HB3	34:FB:140:LEU:HD21	2.02	0.41
34:FB:222:GLU:OE1	34:FB:225:SER:HA	2.21	0.41
37:FD:106:GLY:HA3	37:FD:162:ALA:CB	2.50	0.41
37:FD:106:GLY:HA3	37:FD:162:ALA:HB1	2.02	0.41
37:FD:203:LEU:C	37:FD:203:LEU:HD23	2.45	0.41
40:FG:145:ALA:C	40:FG:147:ALA:N	2.78	0.41
44:FK:110:ILE:HB	54:FU:6:VAL:CG2	2.50	0.41
45:FL:65:SER:OG	45:FL:97:THR:HG23	2.21	0.41
46:FM:54:ASP:HA	46:FM:57:ARG:CB	2.50	0.41
48:FO:17:ARG:CZ	48:FO:17:ARG:HB2	2.50	0.41
49:FP:2:VAL:HG22	49:FP:65:ALA:HA	2.03	0.41
54:FU:10:GLU:N	54:FU:11:PRO:CD	2.83	0.41
54:FU:20:LYS:CE	54:FU:20:LYS:HA	2.51	0.41
55:FV:15:ILE:HG22	55:FV:23:LYS:HG3	2.02	0.41
3:GA:263:G:N2	3:GA:264:C:H1'	2.36	0.41
3:GA:648:G:H2'	3:GA:649:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:977:G:N3	3:GA:1001:A:H2	2.17	0.41
3:GA:1419:A:C5	3:GA:1421:G:C4	3.08	0.41
3:GA:1965:C:C4	3:GA:1966:A:C5	3.08	0.41
3:GA:2145:C:C6	3:GA:2148:G:C8	3.08	0.41
3:GA:2307:G:C2	3:GA:2311:A:H2'	2.55	0.41
3:GA:2308:G:C8	6:GF:76:PHE:HE1	2.39	0.41
2:GC:265:PHE:N	2:GC:265:PHE:CD1	2.89	0.41
7:GG:176:LYS:H	55:HV:673:LEU:HD23	1.85	0.41
9:GI:133:ARG:O	9:GI:133:ARG:HG2	2.20	0.41
11:GK:5:GLN:O	11:GK:6:THR:HB	2.20	0.41
13:GM:72:PRO:HA	13:GM:92:TRP:CZ3	2.55	0.41
14:GN:38:LEU:HB3	14:GN:39:PRO:HD3	2.03	0.41
17:GQ:97:ILE:C	17:GQ:99:VAL:N	2.76	0.41
18:GR:64:VAL:O	18:GR:65:ALA:HB3	2.21	0.41
20:GT:55:VAL:HG22	20:GT:87:LEU:CD2	2.51	0.41
22:GV:60:VAL:O	22:GV:61:LEU:HD13	2.20	0.41
23:GW:60:ALA:HB2	23:GW:81:ILE:HD12	2.02	0.41
35:HA:327:A:O2'	35:HA:328:C:O4'	2.30	0.41
35:HA:412:A:H2	35:HA:413:G:N7	2.19	0.41
35:HA:673:A:C4	35:HA:734:G:N2	2.88	0.41
35:HA:697:U:C2'	35:HA:698:G:H5'	2.51	0.41
35:HA:707:U:H4'	44:HK:22:HIS:CD2	2.56	0.41
35:HA:844:G:H2'	35:HA:845:A:H5"	2.02	0.41
35:HA:858:G:O2'	35:HA:859:G:H5'	2.20	0.41
35:HA:982:U:H4'	35:HA:983:A:O5'	2.21	0.41
35:HA:994:A:N1	35:HA:1047:G:H4'	2.35	0.41
35:HA:1415:G:C6	35:HA:1486:G:C6	3.08	0.41
35:HA:1423:G:C6	35:HA:1424:U:C4	3.09	0.41
35:HA:1430:A:C2	35:HA:1471:U:C2	3.08	0.41
34:HB:14:HIS:O	34:HB:16:GLY:N	2.54	0.41
37:HD:15:GLU:CD	37:HD:56:ARG:HH21	2.27	0.41
37:HD:91:LEU:HA	37:HD:94:LEU:HD12	2.02	0.41
39:HF:15:SER:C	39:HF:17:GLN:N	2.73	0.41
44:HK:22:HIS:HD2	44:HK:35:THR:HG21	1.85	0.41
46:HM:60:VAL:C	46:HM:62:LYS:N	2.78	0.41
50:HQ:21:ILE:HG23	50:HQ:46:VAL:HB	2.03	0.41
55:HV:315:GLU:HB3	55:HV:316:PRO:HD2	2.03	0.41
55:HV:350:LEU:HD12	55:HV:351:ASN:N	2.36	0.41
2:AC:250:GLN:NE2	3:AA:1843:C:H5'	2.36	0.41
3:AA:138:U:H5'	3:AA:139:U:C5'	2.51	0.41
3:AA:179:C:C2	3:AA:180:G:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:307:G:N2	3:AA:310:A:C8	2.89	0.41
3:AA:528:A:H2	3:AA:2043:C:C5'	2.34	0.41
3:AA:749:A:C5	3:AA:1618:A:C2	3.09	0.41
3:AA:1096:A:N6	3:AA:1097:U:C4	2.89	0.41
3:AA:1392:A:C6	3:AA:1393:A:C6	3.09	0.41
3:AA:1403:A:C2	3:AA:1404:C:C2	3.09	0.41
3:AA:1817:G:C2'	3:AA:1818:U:H5'	2.51	0.41
3:AA:2180:U:N3	3:AA:2181:U:C5	2.89	0.41
3:AA:2576:G:N3	3:AA:2576:G:H3'	2.35	0.41
4:AD:88:GLU:O	4:AD:89:GLU:HG3	2.21	0.41
5:AE:8:ALA:O	5:AE:9:GLN:C	2.63	0.41
6:AF:151:LEU:CD1	6:AF:153:ILE:HG23	2.51	0.41
12:AL:29:LYS:HG2	12:AL:30:THR:N	2.36	0.41
14:AN:51:LEU:HD21	14:AN:70:THR:CG2	2.51	0.41
16:AP:58:PHE:HD1	16:AP:75:THR:HG22	1.83	0.41
16:AP:88:ARG:HH12	16:AP:113:LEU:HA	1.86	0.41
19:AS:63:GLY:O	19:AS:64:ALA:HB3	2.21	0.41
25:AY:2:LYS:HD2	25:AY:2:LYS:N	2.36	0.41
32:A5:132:TYR:HE1	33:A6:19:VAL:HG13	1.85	0.41
33:A6:7:ILE:HA	33:A6:10:ALA:HB3	2.02	0.41
35:BA:383:A:C5	35:BA:384:G:H1'	2.56	0.41
35:BA:557:G:C6	35:BA:558:G:C6	3.08	0.41
35:BA:921:U:H2'	35:BA:922:G:O4'	2.21	0.41
35:BA:1348:U:H4'	42:BI:122:ARG:HG3	2.03	0.41
36:BC:123:GLN:HB3	36:BC:128:VAL:CG1	2.51	0.41
38:BE:156:LYS:HA	38:BE:159:LYS:NZ	2.35	0.41
39:BF:97:THR:O	39:BF:98:GLU:CB	2.69	0.41
42:BI:36:GLU:HA	42:BI:40:GLY:HA3	2.02	0.41
43:BJ:57:VAL:CG1	43:BJ:58:ASN:H	2.33	0.41
45:BL:33:VAL:HG21	55:BV:429:GLU:CG	2.51	0.41
55:BV:414:PRO:HA	55:BV:461:MET:SD	2.61	0.41
3:CA:324:A:N6	3:CA:338:G:O2'	2.44	0.41
3:CA:1607:C:H4'	3:CA:1608:A:O5'	2.20	0.41
3:CA:1707:G:C6	3:CA:1708:C:N3	2.88	0.41
3:CA:2354:C:H4'	23:CW:31:LEU:HD22	2.01	0.41
3:CA:2675:A:C6	3:CA:2676:C:C4	3.08	0.41
3:CA:2820:A:OP1	14:CN:2:ARG:NH2	2.54	0.41
4:CD:29:VAL:HB	4:CD:98:VAL:HG22	2.03	0.41
10:CJ:32:LEU:O	10:CJ:36:LEU:HB2	2.21	0.41
10:CJ:105:VAL:HG11	10:CJ:122:LEU:CD2	2.51	0.41
17:CQ:87:VAL:O	17:CQ:88:GLU:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DA:181:A:N6	35:DA:195:A:C8	2.88	0.41
35:DA:411:A:C5	35:DA:429:U:C5	3.09	0.41
35:DA:745:G:H1'	35:DA:836:G:O2'	2.21	0.41
35:DA:1103:C:C4	35:DA:1104:G:N7	2.88	0.41
35:DA:1227:A:OP2	46:DM:110:LYS:HE2	2.20	0.41
37:DD:26:ARG:HD3	37:DD:31:LYS:HE2	2.02	0.41
37:DD:38:PRO:HD2	37:DD:42:GLY:CA	2.50	0.41
38:DE:101:GLU:OE1	38:DE:122:ASN:HB3	2.19	0.41
41:DH:126:ILE:HD12	41:DH:126:ILE:N	2.36	0.41
53:DT:48:GLN:HG2	53:DT:83:ILE:HD11	2.02	0.41
55:DV:342:VAL:HG13	55:DV:378:ARG:CD	2.51	0.41
3:EA:272:A:O2'	3:EA:273:G:P	2.79	0.41
3:EA:517:C:O2'	19:ES:18:ARG:NH2	2.53	0.41
3:EA:1714:U:H5"	3:EA:1715:G:H5"	2.02	0.41
3:EA:2297:A:N1	3:EA:2321:U:C5	2.88	0.41
3:EA:2602:A:H4'	3:EA:2603:G:OP2	2.19	0.41
4:ED:120:GLY:HA2	4:ED:162:ALA:HA	2.02	0.41
5:EE:187:VAL:HG12	5:EE:188:MET:N	2.35	0.41
10:EJ:16:TYR:HB3	10:EJ:140:LEU:HD12	2.02	0.41
10:EJ:114:LEU:O	10:EJ:118:MET:HG3	2.21	0.41
16:EP:31:VAL:O	16:EP:31:VAL:CG2	2.68	0.41
18:ER:68:ARG:HD3	18:ER:92:TRP:CZ2	2.55	0.41
23:EW:39:GLN:C	23:EW:41:GLY:N	2.72	0.41
28:E1:32:LYS:HA	28:E1:51:ALA:HB3	2.02	0.41
32:E5:107:GLU:O	32:E5:108:VAL:HB	2.21	0.41
32:E5:125:ARG:HA	32:E5:125:ARG:NH1	2.35	0.41
35:FA:57:G:C5	35:FA:58:C:C4	3.08	0.41
35:FA:111:G:C6	35:FA:330:C:N4	2.88	0.41
35:FA:212:G:H2'	35:FA:213:G:H8	1.85	0.41
35:FA:299:G:C6	35:FA:300:A:C6	3.08	0.41
35:FA:354:G:C2	35:FA:355:C:C5	3.08	0.41
35:FA:712:A:H2'	35:FA:713:G:O4'	2.20	0.41
35:FA:911:U:H2'	35:FA:912:C:C6	2.55	0.41
35:FA:1113:C:H4'	36:FC:14:ILE:HG21	2.02	0.41
36:FC:56:VAL:HG12	36:FC:57:ILE:N	2.36	0.41
37:FD:81:ARG:NH2	37:FD:82:LEU:HD21	2.36	0.41
49:FP:39:PHE:CG	49:FP:74:LEU:HD11	2.55	0.41
52:FS:49:ILE:HD11	52:FS:62:VAL:CG2	2.50	0.41
55:FV:8:ALA:O	55:FV:288:SER:OG	2.32	0.41
55:FV:155:VAL:HG11	55:FV:168:PRO:HG3	2.02	0.41
1:GB:89:U:H3'	1:GB:90:C:C5'	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:126:A:O5'	29:G2:19:ARG:HG3	2.20	0.41
3:GA:821:A:C6	3:GA:946:C:C2	3.08	0.41
3:GA:864:G:H2'	3:GA:865:C:C6	2.55	0.41
3:GA:1178:C:C2	3:GA:1179:G:N7	2.89	0.41
3:GA:1315:C:C2	3:GA:1316:U:C5	3.08	0.41
3:GA:2135:A:H62	3:GA:2156:G:C1'	2.34	0.41
3:GA:2332:C:C5'	3:GA:2336:A:N6	2.84	0.41
3:GA:2737:G:C6	3:GA:2738:A:C6	3.08	0.41
3:GA:2741:A:O3'	31:G4:36:ARG:NH1	2.54	0.41
2:GC:140:VAL:HG21	2:GC:163:ILE:HG13	2.03	0.41
4:GD:121:THR:O	4:GD:122:VAL:CB	2.69	0.41
9:GI:3:LYS:HG3	9:GI:4:VAL:N	2.35	0.41
17:GQ:91:ARG:HB3	17:GQ:94:LEU:H	1.85	0.41
19:GS:18:ARG:CG	19:GS:76:VAL:CG2	2.98	0.41
20:GT:67:VAL:C	20:GT:68:LYS:HG2	2.46	0.41
24:GX:69:GLU:HA	24:GX:72:ALA:HB3	2.03	0.41
35:HA:664:G:P	51:HR:53:ARG:HE	2.42	0.41
35:HA:671:G:C2	35:HA:736:C:C2	3.09	0.41
35:HA:815:A:H4'	35:HA:817:C:C4	2.56	0.41
35:HA:1005:A:OP2	35:HA:1024:G:N2	2.53	0.41
35:HA:1113:C:H4'	36:HC:14:ILE:HG21	2.03	0.41
35:HA:1233:G:H21	35:HA:1364:U:H6	1.69	0.41
35:HA:1298:U:H4'	35:HA:1299:A:H5'	2.03	0.41
35:HA:1435:G:H2'	35:HA:1436:U:C6	2.55	0.41
37:HD:13:ARG:HD2	37:HD:38:PRO:HA	2.02	0.41
37:HD:54:GLN:HG2	37:HD:203:LEU:HB2	2.02	0.41
37:HD:110:THR:H	37:HD:113:GLU:HB3	1.86	0.41
41:HH:77:ARG:HD3	41:HH:78:VAL:N	2.35	0.41
42:HI:17:ALA:CB	42:HI:79:ILE:HG13	2.50	0.41
43:HJ:15:HIS:CG	43:HJ:16:ARG:N	2.88	0.41
47:HN:27:LEU:O	47:HN:31:ILE:HD13	2.20	0.41
49:HP:78:VAL:HG12	49:HP:78:VAL:O	2.21	0.41
52:HS:63:THR:CG2	52:HS:64:ASP:N	2.83	0.41
53:HT:22:ALA:O	53:HT:26:SER:N	2.51	0.41
54:HU:25:LYS:HG2	54:HU:26:ALA:H	1.86	0.41
55:HV:75:MET:HE2	55:HV:280:ASP:OD2	2.20	0.41
55:HV:394:GLY:O	55:HV:408:ARG:HG3	2.21	0.41
3:AA:58:G:N2	3:AA:70:G:C4	2.89	0.41
3:AA:347:A:C2	3:AA:348:A:C4	3.09	0.41
3:AA:485:C:C2	3:AA:496:G:N2	2.88	0.41
3:AA:1069:A:C2'	3:AA:1070:A:OP2	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1674:G:N2	3:AA:1677:A:N1	2.69	0.41
3:AA:1747:U:H2'	3:AA:1748:C:H6	1.85	0.41
3:AA:2287:A:C8	3:AA:2289:G:C8	3.08	0.41
3:AA:2660:A:H5'	55:BV:675:LYS:HG3	2.02	0.41
4:AD:8:LYS:HB2	4:AD:201:LEU:HD22	2.03	0.41
5:AE:134:LEU:CD2	5:AE:161:ALA:HB2	2.51	0.41
6:AF:107:VAL:HG13	6:AF:110:ILE:HD12	2.02	0.41
10:AJ:64:VAL:HG13	10:AJ:65:THR:N	2.35	0.41
12:AL:77:ILE:HD13	12:AL:108:ALA:HB1	2.02	0.41
14:AN:87:PHE:O	14:AN:89:SER:N	2.54	0.41
32:A5:3:LEU:HD12	32:A5:5:LEU:N	2.35	0.41
35:BA:78:A:H62	35:BA:93:U:H4'	1.86	0.41
35:BA:561:U:O2'	35:BA:562:U:P	2.79	0.41
35:BA:1336:C:H4'	35:BA:1337:G:H5'	2.03	0.41
35:BA:1526:G:OP1	54:BU:39:GLU:HG3	2.21	0.41
36:BC:64:ILE:HG22	36:BC:97:VAL:HG23	2.03	0.41
40:BG:79:ARG:HA	40:BG:83:SER:O	2.20	0.41
40:BG:146:GLU:H	40:BG:149:LYS:HE2	1.86	0.41
50:BQ:61:ILE:HG22	50:BQ:75:LEU:HA	2.01	0.41
51:BR:63:ARG:HD3	51:BR:70:TYR:CD2	2.55	0.41
54:BU:20:LYS:HA	54:BU:20:LYS:CE	2.50	0.41
54:BU:34:ARG:NE	54:BU:35:ARG:HG3	2.36	0.41
3:CA:11:C:H2'	3:CA:12:U:H5'	2.03	0.41
3:CA:277:G:C2'	3:CA:278:A:OP2	2.69	0.41
3:CA:478:A:C6	3:CA:480:A:C6	3.09	0.41
3:CA:579:G:C2	3:CA:1262:A:C4	3.08	0.41
3:CA:1092:C:H2'	3:CA:1093:G:H5'	2.02	0.41
3:CA:1107:G:H5"	32:C5:58:THR:HG23	2.01	0.41
3:CA:2138:G:N2	3:CA:2153:C:C5	2.88	0.41
3:CA:2194:U:O2	40:HG:52:GLN:NE2	2.53	0.41
3:CA:2682:A:C8	4:CD:11:MET:CG	3.03	0.41
7:CG:83:THR:HA	7:CG:84:LYS:NZ	2.36	0.41
9:CI:107:GLU:HA	9:CI:110:GLN:HB3	2.01	0.41
12:CL:74:THR:HG22	12:CL:107:PHE:HB2	2.03	0.41
12:CL:87:GLY:O	12:CL:89:VAL:N	2.53	0.41
14:CN:59:SER:OG	14:CN:60:VAL:N	2.53	0.41
14:CN:79:LEU:O	14:CN:80:PHE:HB2	2.21	0.41
17:CQ:91:ARG:NE	17:CQ:93:ILE:CG2	2.82	0.41
23:CW:59:PHE:N	23:CW:59:PHE:CD1	2.89	0.41
24:CX:6:VAL:HG22	24:CX:7:THR:HG23	2.03	0.41
28:C1:4:ILE:HD13	28:C1:5:ARG:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:C1:6:GLU:HG2	28:C1:7:LYS:N	2.36	0.41
32:C5:31:ARG:HB2	32:C5:108:VAL:HG13	2.01	0.41
35:DA:729:A:C4	35:DA:730:G:C8	3.09	0.41
45:DL:3:THR:HG22	45:DL:5:ASN:H	1.85	0.41
46:DM:4:ILE:HG22	46:DM:57:ARG:HB2	2.01	0.41
54:DU:41:PRO:O	54:DU:44:GLU:N	2.54	0.41
55:DV:10:TYR:CD1	55:DV:83:ARG:HB3	2.56	0.41
3:EA:283:G:C2	3:EA:284:U:H1'	2.56	0.41
3:EA:419:U:H2'	3:EA:420:C:C6	2.56	0.41
3:EA:856:G:C2	3:EA:857:G:C6	3.09	0.41
3:EA:923:G:O4'	23:EW:25:PHE:CE1	2.74	0.41
3:EA:1265:A:P	60:EA:3742:HOH:O	2.78	0.41
3:EA:1548:A:H2'	3:EA:1549:A:H8	1.85	0.41
3:EA:1604:C:O2'	3:EA:1610:A:N1	2.51	0.41
3:EA:1670:C:C5	3:EA:1671:U:C4	3.09	0.41
3:EA:1807:G:H2'	3:EA:1808:A:H5'	2.01	0.41
3:EA:2037:A:H2'	3:EA:2038:G:H8	1.84	0.41
1:EB:11:C:O2'	1:EB:15:A:N6	2.53	0.41
2:EC:167:ASP:OD1	2:EC:167:ASP:N	2.47	0.41
2:EC:265:PHE:N	2:EC:265:PHE:HD1	2.19	0.41
5:EE:147:LEU:HB3	5:EE:186:VAL:HG23	2.03	0.41
5:EE:187:VAL:O	5:EE:188:MET:HB3	2.19	0.41
7:EG:79:THR:OG1	7:EG:80:GLU:N	2.53	0.41
9:EI:104:GLN:HA	9:EI:107:GLU:HB2	2.02	0.41
10:EJ:24:THR:HG23	10:EJ:27:ARG:HB2	2.01	0.41
10:EJ:29:ALA:O	10:EJ:30:THR:C	2.63	0.41
13:EM:53:MET:HE1	13:EM:103:TYR:CD2	2.56	0.41
21:EU:60:LYS:HG3	21:EU:61:GLU:H	1.84	0.41
32:E5:64:VAL:C	32:E5:66:GLY:N	2.79	0.41
35:FA:362:G:OP1	45:FL:58:THR:OG1	2.39	0.41
35:FA:425:G:C2	35:FA:426:U:C2	3.09	0.41
35:FA:474:G:N2	35:FA:475:C:H1'	2.36	0.41
35:FA:701:U:H5"	35:FA:703:G:O4'	2.21	0.41
35:FA:1127:G:H1'	35:FA:1280:A:C6	2.55	0.41
35:FA:1316:G:N2	35:FA:1318:A:H3'	2.35	0.41
34:FB:187:ASP:CG	34:FB:188:THR:H	2.27	0.41
41:FH:64:LYS:CB	41:FH:71:VAL:HG21	2.51	0.41
50:FQ:7:THR:OG1	50:FQ:60:GLU:HG2	2.19	0.41
54:FU:40:LYS:HA	54:FU:43:THR:CG2	2.51	0.41
55:FV:93:VAL:HG22	55:FV:94:ASP:H	1.85	0.41
55:FV:188:MET:HE3	55:FV:218:TRP:CE2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:139:U:C4	20:GT:1:MET:HE2	2.55	0.41
3:GA:167:A:C5	3:GA:168:G:C8	3.08	0.41
3:GA:574:A:H4'	3:GA:575:A:C5'	2.51	0.41
3:GA:1435:G:N2	3:GA:1558:C:N4	2.69	0.41
3:GA:1831:G:C4	3:GA:1975:G:N2	2.89	0.41
3:GA:2107:G:C6	3:GA:2182:U:H2'	2.56	0.41
3:GA:2145:C:C5	3:GA:2147:A:H5'	2.55	0.41
3:GA:2204:G:H4'	2:GC:149:LYS:HG3	2.01	0.41
3:GA:2303:G:C2'	3:GA:2304:G:H5'	2.50	0.41
3:GA:2685:G:OP1	11:GK:78:ARG:NH2	2.52	0.41
2:GC:221:GLY:O	2:GC:224:MET:HG3	2.20	0.41
6:GF:130:GLY:HA2	6:GF:152:ASP:HB3	2.01	0.41
9:GI:85:ILE:HD11	9:GI:100:ILE:HG13	2.02	0.41
10:GJ:45:THR:CG2	10:GJ:50:THR:HG21	2.51	0.41
12:GL:56:PRO:O	12:GL:60:ARG:HG3	2.20	0.41
16:GP:30:TRP:CD2	16:GP:39:LEU:CD1	3.03	0.41
18:GR:68:ARG:HD3	18:GR:92:TRP:CZ2	2.56	0.41
35:HA:1034:G:N2	35:HA:1035:A:C5	2.88	0.41
35:HA:1057:G:O3'	36:HC:197:GLY:HA3	2.20	0.41
35:HA:1532:U:H2'	35:HA:1534:A:H5"	2.02	0.41
34:HB:40:ILE:HG21	34:HB:201:GLY:HA2	2.03	0.41
42:HI:99:ARG:HB2	42:HI:104:VAL:HG21	2.02	0.41
44:HK:50:SER:CB	44:HK:65:VAL:HG11	2.51	0.41
45:HL:24:LEU:HG	45:HL:25:GLU:N	2.36	0.41
45:HL:102:LEU:N	45:HL:102:LEU:CD1	2.83	0.41
46:HM:6:GLY:C	46:HM:8:ASN:H	2.28	0.41
50:HQ:12:VAL:HG13	50:HQ:21:ILE:HD11	2.02	0.41
51:HR:73:ARG:O	51:HR:74:HIS:ND1	2.53	0.41
54:HU:34:ARG:O	54:HU:35:ARG:C	2.64	0.41
55:HV:602:LYS:O	55:HV:603:GLU:HB3	2.21	0.41
55:HV:666:TYR:CE2	55:HV:670:LEU:HD22	2.55	0.41
3:AA:1026:G:H2'	3:AA:1027:A:C8	2.55	0.41
3:AA:1722:A:C2	3:AA:1739:A:N3	2.89	0.41
3:AA:1814:G:C6	3:AA:1815:A:C6	3.08	0.41
3:AA:2478:A:H5'	31:A4:32:LYS:CD	2.51	0.41
3:AA:2743:U:OP1	31:A4:34:LYS:NZ	2.45	0.41
9:AI:19:PRO:HG2	9:AI:24:GLY:H	1.86	0.41
9:AI:20:SER:HB3	9:AI:21:PRO:HD3	2.02	0.41
9:AI:52:LEU:HB3	9:AI:53:PRO:HD2	2.03	0.41
9:AI:100:ILE:CD1	9:AI:137:LEU:HD12	2.50	0.41
9:AI:100:ILE:CG2	9:AI:101:SER:N	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:20:ALA:O	10:AJ:21:THR:C	2.63	0.41
10:AJ:65:THR:HG22	10:AJ:68:LYS:NZ	2.36	0.41
10:AJ:88:THR:HG22	10:AJ:91:GLU:CD	2.45	0.41
10:AJ:88:THR:HG23	10:AJ:91:GLU:H	1.86	0.41
11:AK:15:GLY:O	11:AK:46:ALA:HA	2.20	0.41
11:AK:71:ARG:O	11:AK:72:PRO:O	2.39	0.41
14:AN:24:MET:CE	14:AN:36:THR:HG21	2.51	0.41
14:AN:99:LYS:O	27:A0:42:ILE:HD12	2.20	0.41
16:AP:50:ARG:CD	16:AP:56:SER:HB3	2.51	0.41
17:AQ:105:PHE:O	17:AQ:106:THR:C	2.64	0.41
19:AS:69:LEU:HG	19:AS:107:VAL:HG22	2.03	0.41
19:AS:96:ILE:O	19:AS:96:ILE:HG13	2.20	0.41
27:A0:33:SER:OG	27:A0:35:GLU:HG3	2.21	0.41
32:A5:51:TYR:CD1	32:A5:52:MET:HG2	2.55	0.41
34:BB:117:GLU:HA	34:BB:120:SER:HB2	2.02	0.41
34:BB:187:ASP:HB2	34:BB:203:ASP:HB3	2.02	0.41
35:BA:171:A:H2'	35:BA:172:A:C8	2.56	0.41
35:BA:213:G:C8	35:BA:214:C:C6	3.08	0.41
35:BA:232:G:H1'	35:BA:262:A:N1	2.36	0.41
35:BA:1231:G:C6	35:BA:1232:U:C4	3.08	0.41
40:BG:46:ALA:HB3	40:BG:120:LEU:HD13	2.03	0.41
41:BH:83:LEU:CD1	41:BH:85:ILE:HD11	2.51	0.41
41:BH:112:THR:HG22	41:BH:113:ASP:N	2.36	0.41
45:BL:33:VAL:O	45:BL:34:CYS:HB3	2.19	0.41
46:BM:83:LEU:HD21	52:BS:65:GLU:HB3	2.03	0.41
55:BV:374:ILE:HG22	55:BV:376:GLU:H	1.86	0.41
3:CA:160:A:C6	3:CA:161:A:C6	3.09	0.41
3:CA:340:A:H2'	3:CA:341:C:H5'	2.02	0.41
3:CA:477:A:C6	3:CA:478:A:C6	3.09	0.41
3:CA:669:G:N3	3:CA:669:G:C2'	2.84	0.41
3:CA:789:A:OP1	3:CA:790:U:C5	2.73	0.41
3:CA:884:U:O4	3:CA:892:A:C2	2.74	0.41
3:CA:956:G:O6	13:CM:14:LYS:NZ	2.52	0.41
3:CA:1414:C:O2	3:CA:1588:G:N2	2.44	0.41
3:CA:1479:G:N1	3:CA:1513:U:C2	2.89	0.41
3:CA:1949:G:C6	3:CA:1950:G:C6	3.09	0.41
3:CA:2093:G:C2'	3:CA:2094:A:H5'	2.50	0.41
3:CA:2564:A:C6	3:CA:2565:A:N1	2.88	0.41
5:CE:181:ILE:HG23	12:CL:2:ARG:HD3	2.03	0.41
6:CF:107:VAL:CG1	6:CF:116:LEU:HD21	2.51	0.41
6:CF:124:ARG:O	6:CF:126:ASN:ND2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:CJ:140:LEU:HD22	10:CJ:141:ASP:O	2.21	0.41
11:CK:118:LEU:O	11:CK:119:ALA:HB3	2.21	0.41
32:C5:2:ALA:HB1	32:C5:6:GLN:CD	2.45	0.41
32:C5:67:THR:HB	32:C5:68:PRO:HD3	2.03	0.41
35:DA:1251:A:N3	35:DA:1369:C:O2'	2.53	0.41
35:DA:1478:U:H2'	35:DA:1479:C:H6	1.86	0.41
38:DE:111:MET:CE	38:DE:125:ALA:HB1	2.51	0.41
39:DF:97:THR:HG22	39:DF:98:GLU:H	1.85	0.41
41:DH:24:ALA:HA	41:DH:63:LEU:HD23	2.03	0.41
41:DH:126:ILE:HG22	41:DH:127:CYS:SG	2.61	0.41
45:DL:24:LEU:C	45:DL:26:ALA:N	2.79	0.41
45:DL:94:ARG:HB2	45:DL:95:TYR:CE1	2.56	0.41
46:DM:114:LYS:HB2	46:DM:115:PRO:CD	2.51	0.41
55:DV:230:SER:HB3	55:DV:233:LEU:HB2	2.03	0.41
3:EA:316:C:H2'	3:EA:317:G:O5'	2.21	0.41
3:EA:914:G:H5'	3:EA:915:C:OP2	2.20	0.41
3:EA:999:U:C5	3:EA:1154:G:N7	2.89	0.41
3:EA:1131:G:N2	3:EA:2024:G:H21	2.19	0.41
3:EA:1494:A:C2	3:EA:1495:A:C4	3.09	0.41
3:EA:2287:A:H2'	3:EA:2287:A:N3	2.36	0.41
3:EA:2354:C:H4'	23:EW:31:LEU:HD22	2.03	0.41
8:EH:14:SER:HB2	8:EH:17:ASP:CG	2.45	0.41
12:EL:23:ILE:HD13	18:ER:84:ARG:HG2	2.02	0.41
13:EM:35:ALA:HA	13:EM:128:THR:HG22	2.01	0.41
13:EM:50:ARG:HD3	13:EM:65:ILE:HD11	2.03	0.41
35:FA:204:G:H1'	35:FA:465:A:C2	2.55	0.41
35:FA:1105:A:C2	35:FA:1106:G:C8	3.09	0.41
35:FA:1125:U:C5	35:FA:1127:G:C5	3.08	0.41
35:FA:1145:A:HO2'	35:FA:1146:A:P	2.44	0.41
35:FA:1305:G:H22	35:FA:1331:G:C2'	2.34	0.41
35:FA:1346:A:N1	35:FA:1374:A:H5"	2.36	0.41
34:FB:19:THR:O	34:FB:38:HIS:CD2	2.74	0.41
34:FB:103:TRP:CZ2	34:FB:107:ARG:HD3	2.56	0.41
34:FB:219:THR:O	34:FB:221:ARG:NH2	2.54	0.41
39:FF:64:VAL:CG1	39:FF:65:GLU:N	2.84	0.41
45:FL:87:VAL:C	45:FL:89:ASP:H	2.27	0.41
47:FN:33:ASP:O	47:FN:35:ASN:N	2.54	0.41
48:FO:45:GLU:O	48:FO:47:LYS:N	2.54	0.41
49:FP:16:PHE:CD1	49:FP:16:PHE:C	2.99	0.41
52:FS:13:LEU:HD23	52:FS:13:LEU:HA	1.92	0.41
1:GB:30:C:H1'	1:GB:58:A:C2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:327:G:H2'	3:GA:328:U:O4'	2.20	0.41
3:GA:915:C:C4	3:GA:916:G:N7	2.89	0.41
3:GA:1035:U:H2'	3:GA:1036:G:C8	2.55	0.41
3:GA:1171:G:C2	3:GA:1178:C:N3	2.89	0.41
3:GA:1439:A:C8	3:GA:1440:U:C6	3.09	0.41
3:GA:1813:G:H1'	2:GC:49:THR:CG2	2.48	0.41
3:GA:1956:U:C4	3:GA:1957:C:C5	3.09	0.41
3:GA:2138:G:H2'	3:GA:2153:C:N3	2.34	0.41
3:GA:2310:C:N3	6:GF:75:GLY:HA3	2.36	0.41
3:GA:2531:A:H5'	7:GG:156:TYR:CE1	2.56	0.41
3:GA:2588:G:C5	3:GA:2589:A:N7	2.87	0.41
11:GK:64:ARG:O	11:GK:82:ASN:HA	2.21	0.41
23:GW:50:VAL:O	23:GW:52:CYS:N	2.53	0.41
30:G3:25:HIS:CE1	30:G3:47:ALA:HB3	2.55	0.41
35:HA:16:A:C2'	35:HA:17:U:H5'	2.50	0.41
35:HA:188:C:H2'	35:HA:189:A:O4'	2.20	0.41
35:HA:673:A:C2	35:HA:674:G:C2	3.09	0.41
35:HA:1332:A:H3'	35:HA:1333:A:H8	1.86	0.41
35:HA:1458:G:H5'	53:HT:27:MET:HB3	2.03	0.41
35:HA:1468:A:C2'	35:HA:1469:C:C5'	2.98	0.41
60:HA:1772:HOH:O	47:HN:61:ARG:HD3	2.21	0.41
34:HB:82:ALA:HB1	34:HB:217:ALA:CB	2.50	0.41
34:HB:90:PHE:CE1	34:HB:149:GLY:N	2.88	0.41
39:HF:86:ARG:O	39:HF:86:ARG:HD3	2.21	0.41
40:HG:15:ASP:HB3	40:HG:20:SER:H	1.86	0.41
40:HG:115:SER:HB3	40:HG:118:LEU:HD12	2.03	0.41
42:HI:9:THR:HG22	42:HI:10:GLY:N	2.35	0.41
43:HJ:19:ASP:HA	43:HJ:22:THR:HG22	2.02	0.41
44:HK:46:THR:OG1	44:HK:47:ALA:N	2.47	0.41
45:HL:33:VAL:HG21	55:HV:429:GLU:CG	2.51	0.41
55:HV:4:THR:CB	55:HV:7:ILE:HD11	2.51	0.41
56:HW:1:KBE:NZ	56:HW:1:KBE:HB	2.36	0.41
2:AC:115:ILE:HG22	2:AC:116:GLN:N	2.36	0.41
3:AA:126:A:C6	3:AA:127:A:N1	2.88	0.41
3:AA:301:G:C6	3:AA:317:G:C6	3.09	0.41
3:AA:535:G:C6	3:AA:559:G:C6	3.09	0.41
3:AA:669:G:N3	3:AA:669:G:C2'	2.83	0.41
3:AA:848:C:H2'	3:AA:849:A:C8	2.56	0.41
3:AA:1069:A:N3	3:AA:1073:A:C6	2.88	0.41
3:AA:1094:U:N3	3:AA:1097:U:OP2	2.51	0.41
3:AA:1494:A:C6	3:AA:1495:A:C6	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1613:G:O6	3:AA:1617:C:H2'	2.21	0.41
3:AA:1638:C:H5"	3:AA:2710:C:O2'	2.21	0.41
3:AA:1789:A:H2'	3:AA:1790:C:O4'	2.20	0.41
3:AA:1864:U:O3'	3:AA:2409:G:N2	2.54	0.41
3:AA:2201:G:C6	3:AA:2202:U:C4	3.08	0.41
3:AA:2537:U:C4	3:AA:2538:C:N4	2.89	0.41
3:AA:2601:C:H2'	3:AA:2603:G:C8	2.56	0.41
3:AA:2607:G:H2'	3:AA:2608:G:O4'	2.20	0.41
3:AA:2618:G:C6	3:AA:2619:C:C4	3.09	0.41
3:AA:2661:G:H2'	3:AA:2662:A:O4'	2.20	0.41
3:AA:2676:C:P	11:AK:31:ARG:HH12	2.44	0.41
3:AA:2682:A:C8	4:AD:11:MET:CG	3.04	0.41
3:AA:2869:G:C6	3:AA:2870:C:C4	3.09	0.41
5:AE:109:LEU:O	5:AE:112:LEU:N	2.54	0.41
5:AE:128:ALA:O	5:AE:130:LYS:N	2.53	0.41
5:AE:178:VAL:HG23	5:AE:179:SER:N	2.36	0.41
6:AF:46:LYS:HD3	6:AF:46:LYS:H	1.86	0.41
7:AG:68:ARG:C	7:AG:68:ARG:HD3	2.46	0.41
7:AG:68:ARG:HH21	7:AG:72:ASN:ND2	2.18	0.41
10:AJ:4:PHE:HB3	10:AJ:44:TYR:CE2	2.55	0.41
10:AJ:35:ARG:HG2	10:AJ:40:HIS:HD2	1.85	0.41
14:AN:8:ARG:HB2	14:AN:43:GLU:CD	2.46	0.41
16:AP:3:ILE:C	16:AP:4:ILE:O	2.60	0.41
16:AP:30:TRP:CE3	16:AP:39:LEU:HD12	2.56	0.41
17:AQ:31:TYR:O	17:AQ:32:ARG:C	2.64	0.41
21:AU:13:LEU:HD11	21:AU:70:ALA:HB2	2.03	0.41
23:AW:19:ARG:HH21	23:AW:19:ARG:HG2	1.86	0.41
23:AW:60:ALA:CB	23:AW:81:ILE:CD1	2.98	0.41
25:AY:12:GLU:O	25:AY:15:ASN:HB2	2.21	0.41
34:BB:63:LYS:HE2	34:BB:224:ARG:HD3	2.02	0.41
34:BB:132:GLU:HG2	34:BB:132:GLU:O	2.21	0.41
35:BA:460:A:C2	35:BA:462:G:C8	3.09	0.41
35:BA:780:A:C2	35:BA:803:G:C6	3.09	0.41
35:BA:976:G:N2	35:BA:1362:A:H2'	2.35	0.41
35:BA:1014:A:C2	52:BS:34:TRP:CE2	3.09	0.41
35:BA:1070:U:H2'	35:BA:1071:C:C6	2.56	0.41
35:BA:1299:A:O2'	35:BA:1300:G:H4'	2.21	0.41
35:BA:1512:U:O4	60:BA:1868:HOH:O	2.20	0.41
37:BD:19:LEU:HD23	37:BD:64:ILE:HG13	2.03	0.41
37:BD:103:TYR:HE1	37:BD:109:ALA:O	2.04	0.41
39:BF:15:SER:OG	39:BF:58:HIS:ND1	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BK:112:ASP:HB3	54:BU:20:LYS:HE3	2.03	0.41
47:BN:53:ARG:C	47:BN:55:SER:N	2.77	0.41
50:BQ:50:ASN:O	50:BQ:52:GLU:N	2.54	0.41
53:BT:68:HIS:C	53:BT:69:LYS:HG3	2.46	0.41
3:CA:227:A:C2	3:CA:2407:A:H1'	2.56	0.41
3:CA:529:A:O3'	60:CA:3652:HOH:O	2.21	0.41
3:CA:569:U:H1'	3:CA:947:A:O4'	2.20	0.41
3:CA:588:U:H2'	3:CA:589:U:C6	2.56	0.41
3:CA:646:U:H3'	3:CA:647:G:H5"	2.02	0.41
3:CA:674:G:H1'	5:CE:69:ARG:HD2	2.03	0.41
3:CA:856:G:H21	23:CW:19:ARG:NH2	2.19	0.41
3:CA:947:A:HO2'	3:CA:984:A:H2	1.65	0.41
3:CA:948:C:H1'	3:CA:984:A:O2'	2.20	0.41
3:CA:1181:U:H2'	3:CA:1182:G:C8	2.56	0.41
3:CA:1419:A:C5	3:CA:1421:G:C5	3.08	0.41
3:CA:1838:C:N4	3:CA:1899:A:O4'	2.54	0.41
3:CA:1873:G:N1	3:CA:1874:C:C4	2.89	0.41
3:CA:2250:G:H8	3:CA:2250:G:O5'	2.04	0.41
3:CA:2277:G:H3'	3:CA:2278:A:H5"	2.03	0.41
3:CA:2642:G:H5'	10:CJ:80:HIS:CD2	2.56	0.41
3:CA:2661:G:H5'	55:DV:19:ILE:HG13	2.03	0.41
3:CA:2743:U:H2'	3:CA:2744:G:O4'	2.21	0.41
3:CA:2847:U:OP1	16:CP:95:LYS:HE3	2.21	0.41
3:CA:2896:C:H2'	3:CA:2897:U:H6	1.86	0.41
2:CC:4:LYS:N	2:CC:4:LYS:HD2	2.36	0.41
2:CC:62:ARG:NH2	2:CC:84:PRO:HD3	2.36	0.41
2:CC:93:VAL:CG1	2:CC:94:LEU:N	2.83	0.41
4:CD:106:LYS:O	4:CD:107:VAL:HB	2.20	0.41
4:CD:133:THR:HG23	4:CD:134:HIS:CD2	2.55	0.41
5:CE:112:LEU:HD13	5:CE:186:VAL:HG11	2.03	0.41
9:CI:12:VAL:CG2	9:CI:54:ILE:HB	2.50	0.41
9:CI:28:GLY:HA2	9:CI:32:VAL:CB	2.51	0.41
10:CJ:73:VAL:HG23	10:CJ:74:TYR:H	1.86	0.41
11:CK:71:ARG:HB3	11:CK:72:PRO:HD2	2.02	0.41
12:CL:110:VAL:O	12:CL:111:ILE:O	2.39	0.41
14:CN:103:ARG:CD	14:CN:110:MET:HE3	2.50	0.41
17:CQ:91:ARG:HD2	18:CR:11:GLN:H	1.86	0.41
22:CV:80:HIS:CG	22:CV:83:LYS:HB2	2.56	0.41
23:CW:65:LYS:O	23:CW:81:ILE:HA	2.21	0.41
31:C4:10:LEU:N	31:C4:10:LEU:HD23	2.36	0.41
32:C5:39:THR:HG22	32:C5:42:ARG:NH1	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:C5:68:PRO:HA	32:C5:72:LEU:HD21	2.02	0.41
32:C5:77:VAL:C	32:C5:79:PRO:CD	2.88	0.41
32:C5:78:GLY:N	32:C5:79:PRO:HD2	2.36	0.41
35:DA:174:A:H2'	35:DA:175:C:H5'	2.03	0.41
35:DA:259:G:N2	35:DA:260:G:H1'	2.36	0.41
35:DA:344:A:H2'	35:DA:344:A:N3	2.36	0.41
35:DA:827:U:C4	35:DA:870:U:C2	3.09	0.41
35:DA:1141:C:C2	35:DA:1142:G:C8	3.09	0.41
35:DA:1192:C:OP2	36:DC:4:LYS:NZ	2.46	0.41
35:DA:1361:G:H2'	35:DA:1362:A:H8	1.86	0.41
35:DA:1492:A:H4'	56:DW:1:KBE:HE	2.02	0.41
34:DB:69:VAL:N	34:DB:161:PHE:O	2.54	0.41
36:DC:150:LYS:HG3	36:DC:201:TRP:HE3	1.86	0.41
37:DD:34:ILE:O	37:DD:35:GLU:HB3	2.20	0.41
39:DF:8:PHE:CZ	39:DF:62:MET:HE2	2.56	0.41
39:DF:78:PHE:HA	39:DF:84:VAL:HG11	2.03	0.41
42:DI:80:ARG:CZ	42:DI:103:PHE:CD1	3.04	0.41
42:DI:124:ARG:HG3	42:DI:125:PRO:N	2.36	0.41
43:DJ:15:HIS:C	43:DJ:17:LEU:H	2.29	0.41
44:DK:21:ALA:CB	44:DK:82:LEU:CD1	2.98	0.41
45:DL:66:TYR:CE2	45:DL:68:GLY:HA2	2.56	0.41
48:DO:3:LEU:HD23	48:DO:8:THR:HG22	2.03	0.41
50:DQ:30:LYS:HB3	50:DQ:37:PHE:CZ	2.56	0.41
50:DQ:45:HIS:CG	50:DQ:70:THR:HG22	2.56	0.41
54:DU:10:GLU:CG	54:DU:11:PRO:HD3	2.51	0.41
55:DV:336:PHE:CD2	55:DV:383:ALA:O	2.73	0.41
55:DV:350:LEU:HD12	55:DV:356:ALA:O	2.20	0.41
3:EA:266:G:C6	3:EA:267:C:C4	3.08	0.41
3:EA:336:C:N3	3:EA:337:C:C5	2.88	0.41
3:EA:1082:U:O2'	32:E5:41:LEU:HD13	2.21	0.41
3:EA:1174:U:C2'	3:EA:1176:U:H1'	2.50	0.41
3:EA:1265:A:OP1	60:EA:3742:HOH:O	2.21	0.41
3:EA:1866:A:N1	3:EA:1876:A:C8	2.89	0.41
3:EA:2039:U:H2'	3:EA:2040:G:C8	2.56	0.41
3:EA:2094:A:C2	3:EA:2196:C:C2	3.09	0.41
3:EA:2230:G:H2'	3:EA:2231:U:C6	2.56	0.41
3:EA:2283:C:H2'	3:EA:2284:A:O5'	2.21	0.41
3:EA:2425:A:C5'	3:EA:2427:C:O4'	2.69	0.41
2:EC:195:GLY:O	2:EC:197:ALA:N	2.53	0.41
5:EE:3:LEU:O	5:EE:11:ALA:HA	2.20	0.41
5:EE:8:ALA:O	5:EE:9:GLN:C	2.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:EE:118:LEU:C	5:EE:118:LEU:CD2	2.94	0.41
6:EF:48:LEU:CD1	6:EF:147:ARG:HH21	2.34	0.41
7:EG:27:GLY:O	7:EG:28:LYS:C	2.63	0.41
7:EG:167:VAL:O	7:EG:168:VAL:HG22	2.20	0.41
9:EI:18:ASN:HB2	9:EI:37:PHE:CE2	2.56	0.41
9:EI:27:LEU:HD12	9:EI:28:GLY:N	2.36	0.41
10:EJ:4:PHE:HB3	10:EJ:44:TYR:CE2	2.56	0.41
10:EJ:17:VAL:HG22	10:EJ:137:PRO:HB2	2.03	0.41
11:EK:13:ASN:OD1	11:EK:13:ASN:N	2.45	0.41
12:EL:55:MET:HA	12:EL:56:PRO:HD3	1.94	0.41
12:EL:77:ILE:HD12	12:EL:77:ILE:N	2.36	0.41
17:EQ:63:ARG:NH1	17:EQ:96:ASP:HA	2.35	0.41
24:EX:70:LEU:HD13	24:EX:75:GLU:HB3	2.02	0.41
30:E3:49:VAL:HG23	30:E3:54:LEU:HD22	2.02	0.41
32:E5:2:ALA:CB	32:E5:6:GLN:CD	2.94	0.41
32:E5:46:ARG:C	32:E5:48:ALA:H	2.29	0.41
32:E5:51:TYR:CE1	32:E5:52:MET:HG2	2.56	0.41
32:E5:71:CYS:HA	32:E5:117:LEU:HD13	2.00	0.41
35:FA:195:A:H1'	35:FA:222:C:O2'	2.21	0.41
35:FA:237:G:H5'	50:FQ:27:ARG:NH2	2.36	0.41
35:FA:927:G:H4'	35:FA:1503:A:N7	2.35	0.41
35:FA:954:G:H2'	35:FA:955:U:C6	2.56	0.41
35:FA:1001:C:H2'	35:FA:1002:G:C8	2.55	0.41
35:FA:1071:C:H2'	35:FA:1072:G:C8	2.56	0.41
35:FA:1159:U:C4	35:FA:1182:G:C5	3.09	0.41
35:FA:1169:A:C2	35:FA:1170:A:C4	3.08	0.41
35:FA:1419:G:C6	35:FA:1482:G:C2	3.09	0.41
34:FB:23:ASN:O	34:FB:25:LYS:N	2.53	0.41
34:FB:88:GLN:HE21	34:FB:88:GLN:CA	2.34	0.41
34:FB:112:ARG:NE	34:FB:116:LEU:HD21	2.36	0.41
34:FB:138:ARG:HA	34:FB:141:GLU:HG2	2.03	0.41
36:FC:140:ASN:O	36:FC:144:LEU:HD23	2.21	0.41
37:FD:58:LYS:CB	37:FD:200:ILE:HG13	2.50	0.41
37:FD:65:TYR:HE2	37:FD:94:LEU:HB3	1.86	0.41
37:FD:84:GLY:O	37:FD:86:THR:N	2.54	0.41
39:FF:86:ARG:NH2	39:FF:88:MET:HE3	2.35	0.41
41:FH:78:VAL:HG21	41:FH:128:TYR:CE1	2.56	0.41
41:FH:116:ALA:HA	41:FH:121:LEU:CD1	2.50	0.41
42:FI:42:GLU:C	42:FI:44:ALA:N	2.69	0.41
42:FI:97:GLU:HA	42:FI:100:LYS:HD3	2.03	0.41
45:FL:59:ASN:OD1	45:FL:59:ASN:C	2.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:FN:52:PRO:O	47:FN:53:ARG:HB2	2.21	0.41
53:FT:5:LYS:CD	53:FT:7:ALA:H	2.33	0.41
54:FU:39:GLU:CA	54:FU:41:PRO:HD2	2.50	0.41
55:FV:19:ILE:HD13	55:FV:19:ILE:N	2.36	0.41
55:FV:526:GLU:O	55:FV:528:GLY:N	2.53	0.41
3:GA:48:G:N1	3:GA:177:G:OP2	2.51	0.41
3:GA:58:G:C2	3:GA:59:U:C2	3.09	0.41
3:GA:139:U:O2'	20:GT:1:MET:HA	2.21	0.41
3:GA:156:A:H2'	3:GA:157:C:C6	2.56	0.41
3:GA:200:U:H5	3:GA:248:G:N3	2.19	0.41
3:GA:238:C:C4	3:GA:239:C:C5	3.08	0.41
3:GA:309:A:C5	3:GA:330:A:C6	3.08	0.41
3:GA:328:U:O2'	21:GU:68:ASN:OD1	2.30	0.41
3:GA:370:G:O2'	3:GA:424:G:OP1	2.36	0.41
3:GA:411:G:OP1	60:GA:3554:HOH:O	2.21	0.41
3:GA:561:G:HO2'	17:GQ:44:TYR:HH	1.67	0.41
3:GA:949:G:C4	3:GA:969:G:N2	2.88	0.41
3:GA:1095:A:C2	55:HV:654:ILE:HD11	2.56	0.41
3:GA:1095:A:H62	55:HV:631:VAL:HG23	1.86	0.41
3:GA:1107:G:C5	3:GA:1108:U:C5	3.09	0.41
3:GA:1171:G:N2	3:GA:1178:C:C2	2.89	0.41
3:GA:1220:G:C2	3:GA:1230:A:C2	3.09	0.41
3:GA:1232:G:C6	3:GA:1233:C:C4	3.09	0.41
3:GA:1474:U:C2'	3:GA:1475:G:H5'	2.51	0.41
3:GA:1663:G:C2	3:GA:1998:A:C2	3.09	0.41
3:GA:1667:G:OP1	11:GK:6:THR:HA	2.21	0.41
3:GA:1956:U:C5	3:GA:1957:C:C5	3.09	0.41
3:GA:2094:A:C2	3:GA:2196:C:C2	3.09	0.41
3:GA:2218:G:C5	3:GA:2219:U:C5	3.08	0.41
3:GA:2354:C:O4'	23:GW:31:LEU:HD22	2.21	0.41
3:GA:2452:C:C4	3:GA:2453:A:C6	3.09	0.41
3:GA:2512:C:H4'	4:GD:127:PHE:CE2	2.56	0.41
3:GA:2520:C:C6	3:GA:2567:G:H1'	2.56	0.41
3:GA:2896:C:H2'	3:GA:2897:U:H6	1.86	0.41
2:GC:93:VAL:CG1	2:GC:94:LEU:N	2.84	0.41
2:GC:183:VAL:HG12	2:GC:184:GLU:N	2.36	0.41
7:GG:21:GLN:HG3	7:GG:21:GLN:O	2.20	0.41
7:GG:23:ILE:HD12	7:GG:23:ILE:H	1.85	0.41
7:GG:175:LYS:O	7:GG:176:LYS:CB	2.69	0.41
9:GI:81:LYS:O	9:GI:81:LYS:HG2	2.21	0.41
9:GI:91:LYS:HB2	9:GI:95:ASP:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:GJ:80:HIS:O	10:GJ:81:ILE:C	2.64	0.41
12:GL:93:ASN:HB2	12:GL:96:LYS:HB3	2.03	0.41
16:GP:17:PRO:HD2	16:GP:83:ILE:HG13	2.03	0.41
17:GQ:94:LEU:C	17:GQ:96:ASP:N	2.78	0.41
19:GS:54:ALA:HB1	19:GS:107:VAL:CG1	2.50	0.41
19:GS:70:LYS:HD2	19:GS:70:LYS:N	2.36	0.41
20:GT:59:ASN:O	20:GT:83:ALA:O	2.38	0.41
26:GZ:18:LYS:O	26:GZ:20:LYS:N	2.53	0.41
30:G3:28:LEU:HD22	30:G3:43:LEU:HB2	2.03	0.41
35:HA:210:C:H4'	35:HA:211:G:C2	2.56	0.41
35:HA:250:A:H4'	35:HA:251:G:O5'	2.21	0.41
35:HA:360:G:C6	35:HA:361:G:C6	3.08	0.41
35:HA:429:U:H1'	35:HA:430:A:H5"	2.02	0.41
35:HA:461:A:C2'	35:HA:462:G:H5'	2.51	0.41
35:HA:465:A:H2'	35:HA:466:A:C8	2.56	0.41
35:HA:665:A:H2'	35:HA:732:C:O2	2.20	0.41
35:HA:759:A:C2'	35:HA:760:G:H5'	2.51	0.41
35:HA:774:G:C6	35:HA:775:G:C4	3.09	0.41
35:HA:794:A:C6	35:HA:795:C:N4	2.89	0.41
35:HA:796:C:H5'	44:HK:129:VAL:HG13	2.03	0.41
35:HA:867:G:H2'	35:HA:868:C:C6	2.56	0.41
35:HA:944:G:H2'	35:HA:1338:G:O6	2.20	0.41
35:HA:1096:C:H2'	35:HA:1097:C:H6	1.86	0.41
35:HA:1251:A:H1'	35:HA:1370:G:C4'	2.51	0.41
35:HA:1251:A:H1'	35:HA:1370:G:H4'	2.02	0.41
35:HA:1264:U:C2	35:HA:1272:G:N2	2.89	0.41
35:HA:1402:C:C4	35:HA:1403:C:C2	3.09	0.41
35:HA:1412:C:OP1	45:HL:54:ARG:NH1	2.54	0.41
35:HA:1527:U:OP2	54:HU:39:GLU:CG	2.69	0.41
39:HF:49:TYR:CE2	51:HR:70:TYR:CE2	3.08	0.41
39:HF:49:TYR:CE2	51:HR:70:TYR:HE2	2.38	0.41
40:HG:116:MET:SD	40:HG:119:ARG:HD2	2.61	0.41
41:HH:37:ALA:HB1	41:HH:49:PHE:HB3	2.03	0.41
44:HK:84:VAL:HB	44:HK:110:ILE:HG12	2.03	0.41
46:HM:33:ILE:HD13	46:HM:59:GLU:CG	2.50	0.41
46:HM:83:LEU:HB2	52:HS:66:MET:HE3	2.02	0.41
47:HN:87:ALA:O	47:HN:92:GLU:HG3	2.21	0.41
50:HQ:8:LEU:CG	50:HQ:25:ILE:HD13	2.51	0.41
50:HQ:61:ILE:HG22	50:HQ:75:LEU:HA	2.02	0.41
52:HS:63:THR:HG22	52:HS:64:ASP:N	2.34	0.41
54:HU:39:GLU:CA	54:HU:41:PRO:HD2	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:HV:317:PHE:HA	55:HV:341:GLY:HA3	2.02	0.41
55:HV:611:VAL:HG13	55:HV:613:LEU:HD22	2.03	0.41
1:AB:77:U:OP1	22:AV:21:ARG:NH1	2.54	0.41
3:AA:45:G:C5'	3:AA:46:G:H5'	2.51	0.41
3:AA:82:U:H2'	3:AA:83:A:C8	2.56	0.41
3:AA:996:A:C5	3:AA:1160:G:N2	2.89	0.41
3:AA:1078:U:H5"	3:AA:1079:C:OP1	2.20	0.41
3:AA:1083:U:H4'	32:A5:37:LYS:HE2	2.03	0.41
3:AA:1365:A:N6	3:AA:1366:A:C6	2.89	0.41
3:AA:1582:C:C2'	3:AA:1585:C:H42	2.35	0.41
3:AA:1587:G:C4	3:AA:1588:G:C8	3.09	0.41
3:AA:1681:G:N2	3:AA:1763:G:OP2	2.45	0.41
3:AA:2038:G:H2'	3:AA:2039:U:O4'	2.21	0.41
3:AA:2298:A:C6	3:AA:2321:U:C4	3.09	0.41
3:AA:2555:U:C5	3:AA:2556:C:C2	3.09	0.41
5:AE:129:PRO:HG3	5:AE:156:ASN:OD1	2.21	0.41
5:AE:149:ILE:HD12	5:AE:188:MET:HE3	2.03	0.41
6:AF:169:LEU:O	6:AF:174:PHE:HB2	2.21	0.41
8:AH:27:ARG:NH1	24:AX:63:ILE:HG13	2.36	0.41
12:AL:127:VAL:HG11	12:AL:142:ILE:HG21	2.03	0.41
17:AQ:46:TYR:CZ	17:AQ:50:ARG:NH2	2.89	0.41
19:AS:59:GLU:HA	19:AS:64:ALA:CB	2.49	0.41
22:AV:2:PHE:HB3	22:AV:50:MET:HE3	2.03	0.41
35:BA:328:C:O2	35:BA:328:C:C2'	2.69	0.41
35:BA:728:A:C6	35:BA:729:A:C6	3.09	0.41
35:BA:834:U:H2'	35:BA:835:U:C6	2.56	0.41
35:BA:1476:A:C2	35:BA:1477:U:C2	3.08	0.41
38:BE:83:HIS:CD2	41:BH:96:MET:CE	3.04	0.41
40:BG:86:GLN:HE21	40:BG:86:GLN:HB2	1.75	0.41
54:BU:19:PHE:C	54:BU:19:PHE:CD1	2.99	0.41
55:BV:13:ILE:HD13	55:BV:282:VAL:HG11	2.02	0.41
55:BV:320:LEU:HD23	55:BV:321:ALA:N	2.36	0.41
3:CA:285:G:C4	3:CA:356:G:C2	3.09	0.41
3:CA:336:C:C2	3:CA:337:C:C5	3.08	0.41
3:CA:391:A:C2	3:CA:411:G:C5	3.09	0.41
3:CA:460:A:C2	3:CA:470:A:C4	3.09	0.41
3:CA:820:A:C2	3:CA:821:A:C4	3.09	0.41
3:CA:1774:C:OP1	60:CA:3441:HOH:O	2.22	0.41
3:CA:2024:G:C2	3:CA:2025:C:C2	3.09	0.41
3:CA:2636:C:H2'	3:CA:2637:U:C6	2.55	0.41
3:CA:2685:G:H1	3:CA:2724:U:H3	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CD:106:LYS:O	4:CD:107:VAL:CB	2.68	0.41
7:CG:10:VAL:HB	7:CG:14:VAL:CG2	2.51	0.41
9:CI:98:GLY:HA3	9:CI:137:LEU:HD22	2.03	0.41
16:CP:111:GLU:H	16:CP:111:GLU:CD	2.29	0.41
18:CR:39:LEU:HB3	18:CR:49:ILE:HD13	2.03	0.41
19:CS:7:HIS:CE1	19:CS:10:ALA:HB2	2.56	0.41
21:CU:10:VAL:HG12	21:CU:71:ILE:HA	2.03	0.41
32:C5:77:VAL:HA	32:C5:114:GLU:OE1	2.20	0.41
32:C5:98:GLU:HA	32:C5:101:LYS:HB2	2.03	0.41
35:DA:341:C:H2'	35:DA:342:C:H6	1.84	0.41
35:DA:1181:G:O2'	35:DA:1182:G:C8	2.74	0.41
36:DC:15:VAL:O	36:DC:15:VAL:HG23	2.20	0.41
36:DC:118:ASP:HA	36:DC:121:THR:HG22	2.02	0.41
41:DH:106:THR:HG22	41:DH:107:SER:N	2.36	0.41
42:DI:31:ASN:HD21	42:DI:67:VAL:H	1.68	0.41
43:DJ:80:THR:HB	43:DJ:83:THR:H	1.85	0.41
46:DM:86:TYR:CD1	46:DM:86:TYR:C	2.99	0.41
47:DN:57:PRO:C	47:DN:59:ARG:H	2.29	0.41
55:DV:574:MET:CE	55:DV:601:PHE:CE2	3.04	0.41
55:DV:632:ILE:HD12	55:DV:642:LEU:HD22	2.03	0.41
3:EA:215:G:H4'	3:EA:216:A:H4'	2.03	0.41
3:EA:280:U:C2'	3:EA:281:C:O5'	2.69	0.41
3:EA:701:G:C6	3:EA:702:U:C5	3.08	0.41
3:EA:843:G:H2'	3:EA:844:A:C8	2.56	0.41
3:EA:2063:C:C4	3:EA:2064:C:C4	3.09	0.41
3:EA:2183:A:N1	3:EA:2184:A:C2	2.89	0.41
1:EB:28:C:H2'	1:EB:29:A:O4'	2.20	0.41
6:EF:151:LEU:HD12	6:EF:152:ASP:N	2.36	0.41
11:EK:39:ILE:HD12	11:EK:41:ILE:HD11	2.03	0.41
12:EL:132:ARG:HG3	12:EL:142:ILE:HD12	2.02	0.41
25:EY:6:LEU:O	25:EY:7:ARG:CB	2.69	0.41
32:E5:59:LEU:HD23	32:E5:62:ARG:HE	1.86	0.41
35:FA:72:A:H3'	35:FA:73:C:H5"	2.02	0.41
35:FA:309:A:H2'	35:FA:310:G:H8	1.85	0.41
35:FA:532:A:H4'	35:FA:533:A:OP2	2.20	0.41
35:FA:560:A:H5'	35:FA:566:G:N2	2.35	0.41
35:FA:833:G:C6	35:FA:834:U:C4	3.09	0.41
36:FC:52:VAL:HA	36:FC:70:THR:HG23	2.03	0.41
37:FD:192:SER:OG	37:FD:193:ALA:O	2.39	0.41
45:FL:43:LYS:HG2	45:FL:44:LYS:N	2.36	0.41
52:FS:3:ARG:HH12	52:FS:68:GLY:HA3	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:FV:185:LEU:HB2	55:FV:188:MET:HE2	2.03	0.41
3:GA:339:U:H6	3:GA:339:U:O5'	2.04	0.41
3:GA:467:G:O2'	3:GA:796:C:O2'	2.21	0.41
3:GA:582:A:C6	3:GA:583:G:C6	3.09	0.41
3:GA:611:C:H2'	3:GA:612:G:O4'	2.20	0.41
3:GA:648:G:O4'	3:GA:2351:G:H5"	2.21	0.41
3:GA:853:C:H2'	3:GA:854:C:C6	2.55	0.41
3:GA:971:G:H2'	3:GA:972:A:C5'	2.51	0.41
3:GA:1060:U:P	9:GI:75:ALA:HB2	2.61	0.41
3:GA:1799:G:OP1	2:GC:257:ARG:NE	2.50	0.41
3:GA:2208:C:C2	3:GA:2217:G:C2	3.09	0.41
3:GA:2340:A:H2'	3:GA:2341:G:C8	2.54	0.41
3:GA:2716:C:C2	3:GA:2717:C:C5	3.09	0.41
2:GC:64:VAL:HA	2:GC:102:TYR:CB	2.51	0.41
5:GE:187:VAL:O	5:GE:188:MET:HB3	2.21	0.41
7:GG:84:LYS:HG3	7:GG:132:LEU:N	2.36	0.41
7:GG:88:LEU:HD22	7:GG:161:VAL:HG22	2.02	0.41
7:GG:97:VAL:HG23	7:GG:124:CYS:SG	2.61	0.41
9:GI:12:VAL:HG23	9:GI:13:ALA:N	2.36	0.41
9:GI:55:PRO:HB2	9:GI:71:LYS:HD2	2.02	0.41
9:GI:74:PRO:O	9:GI:112:LYS:NZ	2.52	0.41
10:GJ:4:PHE:HD2	10:GJ:44:TYR:CE1	2.39	0.41
10:GJ:34:ARG:HG3	10:GJ:39:LYS:HB3	2.03	0.41
10:GJ:64:VAL:HG22	10:GJ:68:LYS:HB2	2.02	0.41
11:GK:13:ASN:OD1	11:GK:13:ASN:N	2.54	0.41
14:GN:28:LEU:HD23	14:GN:48:VAL:HG21	2.03	0.41
16:GP:87:ARG:HH12	16:GP:109:ILE:CD1	2.34	0.41
17:GQ:67:ALA:HB2	17:GQ:98:ALA:HB1	2.03	0.41
17:GQ:85:ALA:HA	17:GQ:115:ALA:CB	2.51	0.41
18:GR:8:GLY:HA2	18:GR:23:GLU:CG	2.51	0.41
20:GT:29:THR:H	20:GT:91:GLN:HE22	1.69	0.41
26:GZ:11:SER:N	26:GZ:31:ILE:HG22	2.36	0.41
28:G1:4:ILE:CG1	28:G1:27:ARG:NH1	2.84	0.41
35:HA:18:C:H4'	35:HA:1078:U:O2	2.21	0.41
35:HA:27:G:H2'	35:HA:28:A:O4'	2.21	0.41
35:HA:57:G:C6	35:HA:58:C:C4	3.08	0.41
35:HA:374:A:C6	35:HA:375:U:C4	3.09	0.41
35:HA:684:U:O4	35:HA:685:G:N1	2.54	0.41
35:HA:784:A:C6	35:HA:799:G:C2	3.09	0.41
35:HA:844:G:H3'	35:HA:845:A:H5"	2.03	0.41
35:HA:934:C:O2'	35:HA:1344:C:OP2	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:HA:983:A:N3	35:HA:983:A:C2'	2.83	0.41
37:HD:197:GLU:O	37:HD:200:ILE:HG22	2.20	0.41
42:HI:45:ARG:HG3	42:HI:46:MET:N	2.36	0.41
44:HK:59:THR:HB	44:HK:60:PRO:HD2	2.01	0.41
44:HK:61:PHE:O	44:HK:64:GLN:HB3	2.21	0.41
45:HL:43:LYS:HG2	45:HL:44:LYS:H	1.85	0.41
46:HM:22:ILE:O	46:HM:25:VAL:HG22	2.21	0.41
51:HR:22:ASP:OD1	51:HR:24:LYS:N	2.54	0.41
52:HS:8:GLY:H	52:HS:9:PRO:HD3	1.86	0.41
55:HV:33:TYR:CE1	55:HV:199:GLY:HA3	2.56	0.41
2:AC:52:HIS:ND1	60:AC:406:HOH:O	2.31	0.40
3:AA:109:C:H4'	3:AA:348:A:H4'	2.02	0.40
3:AA:1028:A:N3	3:AA:2486:C:O2'	2.42	0.40
3:AA:1381:G:H1'	3:AA:1571:A:N1	2.36	0.40
3:AA:1807:G:H2'	3:AA:1808:A:H5'	2.03	0.40
3:AA:1936:A:C2	3:AA:1943:U:H5	2.38	0.40
3:AA:2766:A:N3	3:AA:2766:A:H2'	2.36	0.40
6:AF:112:ASP:N	6:AF:112:ASP:OD1	2.54	0.40
7:AG:166:GLU:C	7:AG:166:GLU:OE2	2.63	0.40
8:AH:24:GLY:O	8:AH:28:ASN:HB2	2.21	0.40
9:AI:82:ALA:HB1	9:AI:108:ILE:HD13	2.03	0.40
10:AJ:4:PHE:C	10:AJ:44:TYR:CE2	3.00	0.40
10:AJ:26:GLY:HA2	10:AJ:29:ALA:HB3	2.02	0.40
11:AK:19:VAL:HG13	11:AK:41:ILE:HG12	2.02	0.40
27:A0:24:VAL:C	27:A0:26:SER:H	2.29	0.40
32:A5:99:PHE:HB3	32:A5:113:PHE:HE1	1.86	0.40
38:BE:96:MET:HE1	38:BE:115:LEU:HD11	2.03	0.40
40:BG:145:ALA:C	40:BG:147:ALA:N	2.76	0.40
44:BK:87:LYS:HA	44:BK:114:THR:HG22	2.03	0.40
48:BO:70:LEU:HD21	48:BO:77:ARG:HB2	2.03	0.40
55:BV:175:ALA:N	55:BV:178:HIS:O	2.54	0.40
55:BV:622:GLU:HG3	55:BV:653:LYS:HG2	2.03	0.40
3:CA:577:G:C6	3:CA:578:G:C6	3.08	0.40
3:CA:893:C:H2'	3:CA:894:U:C6	2.56	0.40
3:CA:1027:A:N1	3:CA:1126:A:C4	2.89	0.40
3:CA:1309:G:H4'	29:C2:7:PRO:HB2	2.02	0.40
3:CA:1484:U:H2'	3:CA:1485:U:C6	2.55	0.40
3:CA:1500:G:O2'	2:CC:98:GLY:O	2.31	0.40
3:CA:2701:U:H3'	3:CA:2702:G:H5"	2.03	0.40
2:CC:71:ASP:O	2:CC:73:ILE:HD12	2.21	0.40
2:CC:202:ARG:HH22	2:CC:213:ARG:HE	1.68	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CD:106:LYS:HB3	4:CD:206:ALA:HB3	2.03	0.40
5:CE:160:ALA:O	5:CE:161:ALA:HB3	2.20	0.40
7:CG:154:GLU:OE1	7:CG:158:GLY:N	2.54	0.40
8:CH:4:ILE:HG12	8:CH:18:GLN:OE1	2.21	0.40
12:CL:95:LEU:CD2	12:CL:100:ILE:HD11	2.51	0.40
20:CT:54:GLU:HB2	20:CT:88:LYS:HB2	2.03	0.40
21:CU:98:ASN:CG	21:CU:100:GLU:HB2	2.46	0.40
31:C4:3:VAL:HG23	31:C4:4:ARG:H	1.86	0.40
32:C5:31:ARG:HA	32:C5:31:ARG:HD3	1.75	0.40
35:DA:78:A:OP1	35:DA:80:A:N1	2.55	0.40
35:DA:1287:A:H2'	35:DA:1288:A:C8	2.56	0.40
35:DA:1447:A:C5'	35:DA:1448:C:H5	2.33	0.40
37:DD:35:GLU:O	37:DD:38:PRO:HD3	2.21	0.40
38:DE:105:ILE:HD13	38:DE:115:LEU:HB3	2.02	0.40
38:DE:137:VAL:O	38:DE:138:ARG:HB2	2.20	0.40
41:DH:78:VAL:HG21	41:DH:128:TYR:CE1	2.57	0.40
45:DL:44:LYS:CB	45:DL:45:PRO:CD	2.99	0.40
45:DL:90:LEU:O	45:DL:91:PRO:C	2.63	0.40
46:DM:2:ALA:HB2	46:DM:53:ILE:HD13	2.03	0.40
47:DN:53:ARG:HB3	47:DN:59:ARG:HH12	1.86	0.40
50:DQ:47:HIS:HB2	50:DQ:71:LYS:HE2	2.02	0.40
54:DU:11:PRO:O	54:DU:12:PHE:HB3	2.20	0.40
55:DV:503:GLY:HA3	55:DV:600:ALA:HB2	2.02	0.40
3:EA:118:A:N3	3:EA:178:G:H1'	2.36	0.40
3:EA:118:A:C8	3:EA:119:A:C8	3.10	0.40
3:EA:242:G:N2	3:EA:255:A:OP2	2.34	0.40
3:EA:246:C:C2'	3:EA:247:G:H5'	2.51	0.40
3:EA:275:C:H3'	3:EA:276:U:H5"	2.04	0.40
3:EA:536:G:N2	10:EJ:47:HIS:CG	2.89	0.40
3:EA:1172:C:H42	3:EA:1177:G:H1	1.69	0.40
3:EA:1340:U:H4'	3:EA:1341:G:OP2	2.21	0.40
3:EA:1436:G:N3	3:EA:1515:A:H2	2.19	0.40
3:EA:1486:U:H2'	3:EA:1487:U:O4'	2.20	0.40
3:EA:1737:G:C5'	3:EA:1738:G:P	3.10	0.40
3:EA:1827:U:O2'	3:EA:1828:G:H5'	2.22	0.40
3:EA:2336:A:N6	23:EW:40:ARG:HD3	2.36	0.40
3:EA:2423:U:O2'	3:EA:2424:C:P	2.79	0.40
3:EA:2803:G:H2'	3:EA:2804:U:C6	2.56	0.40
2:EC:161:VAL:CG1	2:EC:173:LEU:HB3	2.51	0.40
2:EC:203:VAL:O	2:EC:205:GLY:N	2.54	0.40
4:ED:29:VAL:HB	4:ED:98:VAL:HG22	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:EH:9:VAL:HG22	8:EH:35:LYS:HD3	2.02	0.40
9:EI:104:GLN:O	9:EI:105:LEU:HB2	2.21	0.40
11:EK:105:ARG:HD3	11:EK:105:ARG:H	1.87	0.40
13:EM:67:VAL:HG11	13:EM:102:LEU:HD12	2.03	0.40
14:EN:55:ALA:C	14:EN:57:THR:N	2.77	0.40
15:EO:11:ALA:HB2	15:EO:95:SER:C	2.46	0.40
21:EU:21:ARG:CZ	21:EU:72:PHE:CE2	3.04	0.40
23:EW:63:ASP:OD1	23:EW:63:ASP:N	2.49	0.40
28:E1:38:PHE:CZ	28:E1:43:ARG:HA	2.55	0.40
32:E5:105:LYS:C	32:E5:107:GLU:H	2.26	0.40
32:E5:121:SER:HG	32:E5:122:GLN:H	1.69	0.40
35:FA:9:G:OP2	38:FE:126:LYS:NZ	2.50	0.40
35:FA:276:G:C2	35:FA:277:C:C6	3.10	0.40
35:FA:522:C:C4	35:FA:523:A:C5	3.09	0.40
35:FA:1302:C:O2	46:FM:17:ILE:CD1	2.70	0.40
34:FB:107:ARG:O	34:FB:110:ILE:HB	2.22	0.40
42:FI:72:ILE:HG23	42:FI:73:SER:N	2.36	0.40
46:FM:83:LEU:HD22	52:FS:66:MET:HG2	2.02	0.40
55:FV:4:THR:CG2	55:FV:378:ARG:NE	2.84	0.40
55:FV:230:SER:HB3	55:FV:233:LEU:HB2	2.03	0.40
55:FV:330:VAL:CG2	55:FV:333:LEU:HD21	2.51	0.40
1:GB:32:U:C4	1:GB:51:G:N2	2.89	0.40
1:GB:78:A:H2'	1:GB:79:G:H8	1.85	0.40
1:GB:86:G:H2'	1:GB:87:U:H5"	2.02	0.40
3:GA:315:G:H2'	3:GA:316:C:C6	2.56	0.40
3:GA:452:G:C6	3:GA:453:A:C6	3.09	0.40
3:GA:454:A:H4'	3:GA:455:C:OP2	2.20	0.40
3:GA:529:A:N6	3:GA:2042:A:H1'	2.36	0.40
3:GA:614:A:H5"	3:GA:616:A:N6	2.35	0.40
3:GA:769:U:C4	3:GA:770:G:N7	2.89	0.40
3:GA:849:A:H2'	3:GA:850:U:C6	2.56	0.40
3:GA:907:G:C6	3:GA:908:C:C4	3.09	0.40
3:GA:968:C:N4	60:GA:3334:HOH:O	2.49	0.40
3:GA:1080:A:H2'	3:GA:1081:U:C6	2.55	0.40
3:GA:1147:A:C5	3:GA:1148:U:C5	3.09	0.40
3:GA:1210:G:C2	3:GA:1237:A:C6	3.09	0.40
3:GA:1478:G:H2'	3:GA:1479:G:H8	1.85	0.40
3:GA:1626:A:C2'	3:GA:1627:G:OP2	2.69	0.40
3:GA:1652:A:C2	3:GA:2006:C:N3	2.88	0.40
3:GA:1727:C:H2'	3:GA:1728:C:O4'	2.20	0.40
3:GA:1786:A:H1'	3:GA:1938:A:N6	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:2461:A:H1'	3:GA:2492:U:C2	2.55	0.40
3:GA:2799:A:O2'	3:GA:2800:A:OP2	2.33	0.40
2:GC:172:THR:HG22	2:GC:182:LYS:CG	2.51	0.40
2:GC:221:GLY:O	2:GC:223:ALA:N	2.54	0.40
4:GD:137:SER:C	4:GD:138:LEU:HG	2.46	0.40
5:GE:101:TYR:CE1	5:GE:177:PRO:HG3	2.57	0.40
10:GJ:102:GLU:HG3	10:GJ:124:VAL:HG21	2.03	0.40
12:GL:80:SER:HA	12:GL:115:GLU:O	2.21	0.40
12:GL:132:ARG:HG3	12:GL:142:ILE:HD12	2.03	0.40
13:GM:14:LYS:HG3	13:GM:15:GLY:N	2.36	0.40
18:GR:77:PHE:CE1	18:GR:79:ARG:HA	2.52	0.40
26:GZ:26:LEU:HD21	26:GZ:46:MET:HB2	2.03	0.40
35:HA:948:C:OP1	46:HM:107:ARG:N	2.53	0.40
35:HA:1021:A:C2'	35:HA:1022:A:H5'	2.51	0.40
35:HA:1491:G:H2'	56:HW:6:5OH:HA	2.01	0.40
41:HH:95:VAL:HG12	41:HH:96:MET:HG3	2.03	0.40
42:HI:8:GLY:HA3	42:HI:86:ALA:CA	2.51	0.40
44:HK:23:ILE:HG13	44:HK:86:VAL:HA	2.02	0.40
44:HK:128:ARG:HD3	54:HU:34:ARG:CZ	2.51	0.40
45:HL:67:ILE:HG21	45:HL:72:HIS:CD2	2.56	0.40
46:HM:63:PHE:CZ	46:HM:69:LEU:HD22	2.56	0.40
50:HQ:11:ARG:HH21	50:HQ:56:GLY:HA2	1.85	0.40
54:HU:37:PHE:HE2	54:HU:45:ARG:CZ	2.34	0.40
3:AA:176:A:N7	3:AA:177:G:C6	2.89	0.40
3:AA:607:U:OP1	60:AA:3286:HOH:O	2.22	0.40
3:AA:608:A:C8	3:AA:621:A:N6	2.89	0.40
3:AA:931:U:OP1	26:AZ:29:ARG:NH1	2.55	0.40
3:AA:1322:A:OP1	19:AS:11:ARG:NE	2.38	0.40
3:AA:1684:G:C2	3:AA:1705:A:C2	3.09	0.40
3:AA:1847:A:H4'	3:AA:1848:A:OP2	2.21	0.40
12:AL:57:LEU:C	12:AL:59:ARG:H	2.30	0.40
16:AP:64:SER:O	16:AP:65:ASN:C	2.64	0.40
16:AP:92:ARG:O	16:AP:93:LYS:HB2	2.21	0.40
32:A5:37:LYS:O	32:A5:38:MET:C	2.63	0.40
35:BA:341:C:H2'	35:BA:342:C:H6	1.85	0.40
35:BA:1314:C:OP2	52:BS:6:LYS:HD2	2.20	0.40
43:BJ:56:HIS:CD2	43:BJ:57:VAL:HG23	2.56	0.40
44:BK:16:VAL:O	44:BK:18:ASP:N	2.52	0.40
49:BP:42:ILE:O	49:BP:44:SER:N	2.45	0.40
51:BR:23:TYR:CE2	51:BR:24:LYS:HE2	2.56	0.40
53:BT:3:ASN:C	53:BT:3:ASN:OD1	2.63	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BV:220:GLN:O	55:BV:223:ILE:HG23	2.22	0.40
55:BV:529:SER:O	55:BV:532:LYS:HG3	2.21	0.40
3:CA:760:G:H4'	3:CA:1776:G:OP1	2.22	0.40
3:CA:1342:A:C6	3:CA:1397:U:C5	3.09	0.40
3:CA:1362:C:C4	3:CA:1363:C:C5	3.09	0.40
3:CA:1566:A:C6	2:CC:212:TRP:CZ3	3.09	0.40
3:CA:2400:G:N2	3:CA:2417:C:C2	2.89	0.40
3:CA:2469:A:C2	3:CA:2482:A:C4	3.09	0.40
3:CA:2470:G:O6	3:CA:2476:A:O2'	2.29	0.40
3:CA:2748:A:C2	3:CA:2757:A:C5	3.09	0.40
3:CA:2799:A:C6	3:CA:2801:G:C5	3.09	0.40
3:CA:2857:G:N2	3:CA:2860:A:OP2	2.42	0.40
2:CC:18:VAL:O	2:CC:18:VAL:HG23	2.21	0.40
2:CC:93:VAL:HG12	2:CC:94:LEU:N	2.36	0.40
2:CC:234:GLY:O	2:CC:235:GLU:C	2.64	0.40
2:CC:259:ASN:O	2:CC:260:LYS:HB2	2.21	0.40
4:CD:70:LYS:O	4:CD:71:ALA:HB3	2.21	0.40
9:CI:28:GLY:CA	9:CI:32:VAL:HB	2.52	0.40
12:CL:77:ILE:HG12	12:CL:95:LEU:HD22	2.02	0.40
12:CL:123:ARG:NE	12:CL:143:GLU:OE2	2.54	0.40
24:CX:6:VAL:CG1	24:CX:50:VAL:HG22	2.52	0.40
32:C5:71:CYS:CA	32:C5:117:LEU:CD1	2.99	0.40
32:C5:110:ALA:O	32:C5:113:PHE:N	2.45	0.40
32:C5:118:ILE:HB	32:C5:119:PRO:CD	2.51	0.40
35:DA:463:U:H5'	35:DA:464:U:OP2	2.21	0.40
35:DA:468:A:N1	35:DA:469:C:N4	2.69	0.40
35:DA:672:U:O2'	39:DF:86:ARG:NH1	2.54	0.40
35:DA:841:C:N3	35:DA:843:U:C6	2.90	0.40
35:DA:1049:U:C2	35:DA:1201:A:C2	3.09	0.40
35:DA:1350:A:OP1	42:DI:123:ARG:NH1	2.55	0.40
35:DA:1468:A:C2'	35:DA:1469:C:C5'	2.97	0.40
34:DB:30:ILE:HD11	34:DB:188:THR:HB	2.03	0.40
34:DB:116:LEU:HB3	34:DB:140:LEU:HD11	2.03	0.40
36:DC:26:THR:HG22	47:DN:76:LYS:HD3	2.03	0.40
37:DD:55:LEU:C	37:DD:55:LEU:HD23	2.46	0.40
40:DG:24:ALA:O	40:DG:27:VAL:HG12	2.21	0.40
50:DQ:19:LYS:HB3	50:DQ:47:HIS:CE1	2.57	0.40
50:DQ:50:ASN:O	50:DQ:51:ASN:C	2.64	0.40
52:DS:36:ARG:HH22	52:DS:77:THR:HG23	1.85	0.40
55:DV:309:ARG:HB3	55:DV:340:SER:CB	2.51	0.40
55:DV:525:LEU:HD21	55:DV:535:GLU:HB2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:EA:169:G:H2'	3:EA:170:U:C6	2.56	0.40
3:EA:634:C:H2'	3:EA:635:C:H6	1.87	0.40
3:EA:747:U:C4	3:EA:2613:U:C4	3.10	0.40
3:EA:1094:U:H2'	3:EA:1096:A:OP2	2.21	0.40
3:EA:1649:G:C2'	3:EA:1650:A:H5'	2.51	0.40
3:EA:2283:C:C2	3:EA:2389:G:C2	3.09	0.40
3:EA:2289:G:C2	3:EA:2290:G:C8	3.10	0.40
3:EA:2369:A:C2	3:EA:2370:G:C4	3.09	0.40
3:EA:2742:G:OP1	31:E4:36:ARG:HD3	2.21	0.40
1:EB:78:A:H2'	1:EB:79:G:O4'	2.21	0.40
5:EE:5:LEU:CD1	5:EE:122:GLU:HB2	2.51	0.40
6:EF:116:LEU:O	6:EF:176:PHE:HA	2.21	0.40
7:EG:162:ARG:HB3	7:EG:166:GLU:HG2	2.04	0.40
9:EI:21:PRO:N	9:EI:22:PRO:CD	2.85	0.40
10:EJ:44:TYR:CE1	17:EQ:59:LEU:HD13	2.57	0.40
25:EY:56:LEU:O	25:EY:57:LEU:HB3	2.19	0.40
29:E2:35:ARG:HG2	29:E2:42:LEU:HD21	2.03	0.40
29:E2:43:THR:O	29:E2:43:THR:OG1	2.26	0.40
34:FB:9:LEU:HB2	34:FB:42:LEU:HD11	2.02	0.40
34:FB:113:LEU:HB2	34:FB:143:LEU:HD12	2.03	0.40
39:FF:29:ILE:HD13	39:FF:64:VAL:HG11	2.04	0.40
46:FM:43:VAL:HG13	46:FM:47:GLU:HG2	2.04	0.40
55:FV:119:VAL:HG23	55:FV:157:GLN:HB3	2.02	0.40
55:FV:169:LEU:HD21	55:FV:285:TYR:CE1	2.56	0.40
55:FV:492:GLU:OE1	55:FV:567:ALA:N	2.52	0.40
1:GB:64:G:O6	60:GB:1302:HOH:O	2.21	0.40
3:GA:18:U:O3'	17:GQ:22:GLY:HA2	2.21	0.40
3:GA:224:U:N3	3:GA:225:C:C5	2.88	0.40
3:GA:247:G:C2	3:GA:252:G:C6	3.08	0.40
3:GA:483:A:O2'	21:GU:56:GLY:HA2	2.21	0.40
3:GA:801:G:H4'	3:GA:802:A:OP2	2.21	0.40
3:GA:818:G:N2	3:GA:1190:G:N1	2.70	0.40
3:GA:864:G:C6	3:GA:865:C:N4	2.89	0.40
3:GA:873:C:N3	3:GA:905:A:C2	2.89	0.40
3:GA:1018:U:H5"	3:GA:1036:G:O2'	2.20	0.40
3:GA:1248:G:C6	5:GE:46:GLN:NE2	2.89	0.40
3:GA:1920:C:O5'	3:GA:1920:C:H6	2.04	0.40
3:GA:2294:G:OP1	15:GO:10:ARG:HD3	2.22	0.40
3:GA:2548:U:C4	3:GA:2549:G:N7	2.90	0.40
3:GA:2745:C:C4	3:GA:2746:U:C4	3.10	0.40
3:GA:2774:C:N4	3:GA:2775:G:C6	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:GG:1:SER:O	7:GG:3:VAL:N	2.54	0.40
10:GJ:54:ILE:HD11	10:GJ:56:VAL:CG2	2.51	0.40
14:GN:98:LEU:O	14:GN:112:TYR:N	2.51	0.40
15:GO:75:GLY:HA2	15:GO:106:LEU:HD13	2.02	0.40
15:GO:78:VAL:HG23	15:GO:79:ALA:N	2.36	0.40
17:GQ:91:ARG:HB3	17:GQ:93:ILE:HG23	2.03	0.40
21:GU:33:VAL:HG13	21:GU:66:VAL:CG2	2.50	0.40
35:HA:51:A:C6	35:HA:353:A:C2	3.08	0.40
35:HA:316:C:H2'	35:HA:317:U:H6	1.87	0.40
35:HA:469:C:C4	35:HA:470:C:C4	3.10	0.40
35:HA:640:A:H2'	41:HH:107:SER:HB2	2.02	0.40
35:HA:778:G:H2'	35:HA:779:C:O4'	2.20	0.40
35:HA:784:A:C6	35:HA:785:G:C6	3.09	0.40
35:HA:942:G:C2	35:HA:943:U:C5	3.09	0.40
35:HA:1178:G:C6	42:HI:99:ARG:NH2	2.90	0.40
35:HA:1229:A:H62	46:HM:104:THR:CG2	2.34	0.40
35:HA:1328:C:H5"	46:HM:28:THR:HG21	2.02	0.40
35:HA:1469:C:H2'	35:HA:1470:U:C5'	2.52	0.40
37:HD:25:VAL:HG23	37:HD:26:ARG:N	2.36	0.40
41:HH:126:ILE:HG22	41:HH:127:CYS:SG	2.61	0.40
44:HK:24:HIS:HB3	44:HK:31:ILE:CD1	2.52	0.40
44:HK:86:VAL:CG1	44:HK:93:ARG:HE	2.34	0.40
46:HM:25:VAL:CG1	46:HM:29:ARG:HD3	2.50	0.40
46:HM:60:VAL:O	46:HM:60:VAL:HG22	2.20	0.40
54:HU:37:PHE:CE2	54:HU:45:ARG:CZ	3.04	0.40
55:HV:625:GLU:HA	55:HV:628:THR:CG2	2.50	0.40
3:AA:580:U:O3'	17:AQ:30:VAL:CG1	2.70	0.40
3:AA:635:C:P	12:AL:126:ARG:HH11	2.44	0.40
3:AA:714:U:H5'	3:AA:715:A:OP2	2.21	0.40
3:AA:783:A:C8	3:AA:784:G:H4'	2.56	0.40
3:AA:1007:C:OP1	10:AJ:37:ARG:NH2	2.54	0.40
3:AA:2070:A:C2	3:AA:2071:A:C4	3.09	0.40
3:AA:2103:C:N4	3:AA:2186:G:H1	2.19	0.40
3:AA:2145:C:N3	3:AA:2146:C:N3	2.69	0.40
3:AA:2681:C:C2	3:AA:2724:U:O4	2.74	0.40
10:AJ:73:VAL:HB	10:AJ:75:TYR:CE2	2.57	0.40
13:AM:53:MET:HE1	13:AM:103:TYR:CD2	2.57	0.40
19:AS:15:GLN:NE2	27:A0:16:ARG:CZ	2.84	0.40
19:AS:18:ARG:HG3	19:AS:76:VAL:CG1	2.50	0.40
20:AT:69:ARG:HG3	20:AT:70:HIS:N	2.36	0.40
23:AW:55:ASP:O	23:AW:55:ASP:CG	2.63	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AY:14:LEU:C	25:AY:17:GLU:HB3	2.46	0.40
32:A5:51:TYR:C	32:A5:51:TYR:HD1	2.29	0.40
32:A5:73:LYS:HB2	32:A5:117:LEU:HD21	2.04	0.40
34:BB:153:MET:SD	34:BB:157:PRO:HD3	2.62	0.40
35:BA:509:A:C2	35:BA:510:A:C2	3.09	0.40
35:BA:537:G:H2'	35:BA:538:G:C8	2.56	0.40
35:BA:824:G:O4'	41:BH:2:SER:HA	2.21	0.40
35:BA:927:G:N2	35:BA:1391:U:H1'	2.36	0.40
35:BA:1493:A:OP1	56:BW:1:KBE:CB	2.66	0.40
38:BE:90:THR:HB	38:BE:135:ASN:ND2	2.36	0.40
38:BE:94:VAL:CG2	38:BE:111:MET:SD	3.09	0.40
41:BH:59:LEU:HD11	41:BH:61:LEU:HD21	2.03	0.40
45:BL:95:TYR:CD1	45:BL:95:TYR:N	2.89	0.40
52:BS:63:THR:CG2	52:BS:64:ASP:N	2.84	0.40
54:BU:34:ARG:CG	54:BU:35:ARG:H	2.33	0.40
55:BV:461:MET:H	55:BV:465:HIS:CD2	2.39	0.40
55:BV:697:ALA:O	55:BV:699:ILE:N	2.53	0.40
3:CA:126:A:C6	3:CA:127:A:N1	2.90	0.40
3:CA:1290:C:N4	3:CA:1291:C:N4	2.69	0.40
3:CA:1315:C:O2'	3:CA:1316:U:H5'	2.20	0.40
3:CA:2211:A:H1'	3:CA:2212:A:OP1	2.22	0.40
2:CC:75:ALA:HB1	2:CC:93:VAL:HG13	2.04	0.40
2:CC:255:LYS:C	2:CC:257:ARG:N	2.79	0.40
4:CD:131:ASP:C	4:CD:133:THR:H	2.29	0.40
7:CG:25:ILE:HG22	7:CG:78:VAL:HG21	2.02	0.40
9:CI:104:GLN:HG2	9:CI:108:ILE:HD12	2.04	0.40
10:CJ:119:PHE:CD1	10:CJ:119:PHE:C	2.99	0.40
26:CZ:40:THR:HG22	26:CZ:43:ILE:HG23	2.02	0.40
32:C5:87:GLU:OE2	32:C5:95:LEU:HD23	2.21	0.40
32:C5:106:PHE:O	32:C5:107:GLU:C	2.64	0.40
35:DA:146:G:N2	35:DA:177:G:C8	2.89	0.40
35:DA:185:U:C4	35:DA:186:C:N4	2.89	0.40
35:DA:787:A:N1	35:DA:788:U:C2	2.89	0.40
35:DA:1059:C:O3'	47:DN:85:ARG:NH2	2.54	0.40
35:DA:1096:C:H2'	35:DA:1097:C:H6	1.86	0.40
35:DA:1369:C:H2'	35:DA:1370:G:O4'	2.20	0.40
34:DB:19:THR:HG23	34:DB:20:ARG:H	1.86	0.40
34:DB:45:THR:CG2	34:DB:49:PHE:HE2	2.34	0.40
39:DF:4:TYR:OH	39:DF:68:GLN:HB3	2.20	0.40
39:DF:45:ARG:HG2	39:DF:46:GLN:N	2.36	0.40
44:DK:59:THR:HB	44:DK:60:PRO:HD2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:DM:11:ASP:O	46:DM:12:HIS:HB2	2.21	0.40
46:DM:33:ILE:HD13	46:DM:59:GLU:HB3	2.02	0.40
47:DN:43:ASN:C	47:DN:45:VAL:N	2.80	0.40
55:DV:318:SER:HB3	55:DV:404:ILE:HD11	2.03	0.40
55:DV:630:ASP:HB3	55:DV:673:LEU:HD22	2.02	0.40
3:EA:96:C:H2'	3:EA:97:C:C6	2.57	0.40
3:EA:197:A:N6	3:EA:2430:A:H2'	2.36	0.40
3:EA:528:A:C8	3:EA:528:A:H3'	2.56	0.40
3:EA:870:U:C2'	3:EA:871:U:H5'	2.51	0.40
3:EA:971:G:H2'	3:EA:972:A:C5'	2.52	0.40
3:EA:1141:U:H4'	3:EA:1142:A:O4'	2.21	0.40
3:EA:1278:C:H2'	3:EA:1279:G:H8	1.86	0.40
3:EA:1284:A:N1	3:EA:1285:A:C2	2.90	0.40
3:EA:2250:G:H8	3:EA:2250:G:O5'	2.04	0.40
1:EB:72:G:O2'	1:EB:104:A:N6	2.49	0.40
4:ED:34:VAL:CG2	4:ED:94:GLN:H	2.35	0.40
8:EH:12:LEU:HB2	8:EH:19:VAL:HG11	2.03	0.40
10:EJ:20:ALA:O	10:EJ:21:THR:C	2.65	0.40
10:EJ:64:VAL:O	10:EJ:65:THR:CB	2.70	0.40
14:EN:55:ALA:O	14:EN:57:THR:N	2.54	0.40
16:EP:80:VAL:HG12	16:EP:81:ASP:N	2.36	0.40
16:EP:80:VAL:O	16:EP:81:ASP:HB3	2.22	0.40
23:EW:39:GLN:HG3	23:EW:56:HIS:CB	2.51	0.40
24:EX:40:GLU:C	24:EX:43:LYS:H	2.29	0.40
32:E5:78:GLY:N	32:E5:79:PRO:HD2	2.36	0.40
32:E5:98:GLU:HA	32:E5:101:LYS:HB2	2.03	0.40
32:E5:134:GLU:C	32:E5:136:ILE:N	2.79	0.40
35:FA:130:A:O2'	35:FA:131:A:O5'	2.36	0.40
35:FA:280:C:O4'	50:FQ:40:ARG:NH1	2.54	0.40
35:FA:653:U:H5'	41:FH:56:LYS:CE	2.52	0.40
35:FA:807:A:H2'	35:FA:808:C:C6	2.56	0.40
37:FD:191:LEU:O	37:FD:191:LEU:HD12	2.20	0.40
46:FM:29:ARG:CZ	46:FM:63:PHE:CD2	3.04	0.40
55:FV:75:MET:CE	55:FV:202:PHE:HZ	2.35	0.40
55:FV:203:GLU:O	55:FV:204:TYR:C	2.64	0.40
1:GB:50:A:OP1	15:GO:67:ASN:HB2	2.21	0.40
1:GB:66:A:OP2	1:GB:108:A:N6	2.55	0.40
3:GA:36:G:N2	3:GA:37:C:H1'	2.36	0.40
3:GA:221:A:C4	3:GA:266:G:N7	2.90	0.40
3:GA:451:U:H2'	3:GA:453:A:N7	2.35	0.40
3:GA:600:G:C4'	5:GE:27:LEU:HD13	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:660:C:O4'	5:GE:30:GLN:NE2	2.54	0.40
3:GA:1002:G:C6	3:GA:1154:G:N2	2.89	0.40
3:GA:1021:A:H3'	3:GA:1021:A:N3	2.37	0.40
3:GA:1171:G:H1'	3:GA:1179:G:H1	1.86	0.40
3:GA:1197:G:C2	3:GA:1250:G:C2	3.09	0.40
3:GA:1208:C:C2	3:GA:1239:G:C2	3.10	0.40
3:GA:1213:A:C1'	3:GA:1237:A:C2	3.04	0.40
3:GA:1387:A:H5'	3:GA:1469:A:H1'	2.03	0.40
3:GA:1697:G:OP2	3:GA:1698:A:O2'	2.27	0.40
3:GA:1865:U:P	3:GA:2409:G:H21	2.44	0.40
3:GA:2304:G:HO2'	6:GF:152:ASP:CG	2.27	0.40
3:GA:2352:A:N1	23:GW:30:VAL:HG22	2.36	0.40
3:GA:2414:G:C2	3:GA:2415:G:C8	3.09	0.40
3:GA:2533:U:OP1	3:GA:2665:A:O2'	2.28	0.40
3:GA:2556:C:C5	3:GA:2557:G:N7	2.89	0.40
3:GA:2793:C:H2'	3:GA:2794:C:H6	1.82	0.40
3:GA:2830:C:O3'	4:GD:56:LYS:NZ	2.55	0.40
3:GA:2834:G:H2'	3:GA:2879:A:H61	1.86	0.40
7:GG:37:ASN:HD22	7:GG:40:VAL:HG21	1.86	0.40
9:GI:19:PRO:HD2	9:GI:23:VAL:HG23	2.02	0.40
9:GI:79:LEU:HA	9:GI:85:ILE:HD13	2.03	0.40
10:GJ:4:PHE:N	10:GJ:44:TYR:OH	2.55	0.40
10:GJ:34:ARG:CG	10:GJ:39:LYS:HB3	2.51	0.40
12:GL:111:ILE:O	12:GL:113:ALA:N	2.54	0.40
17:GQ:107:ALA:O	17:GQ:110:GLU:HB2	2.21	0.40
18:GR:93:PHE:CD1	18:GR:93:PHE:C	3.00	0.40
28:G1:38:PHE:HD2	28:G1:45:HIS:CE1	2.38	0.40
35:HA:780:A:N6	35:HA:801:U:OP2	2.47	0.40
35:HA:1084:G:C5	35:HA:1085:U:C2	3.09	0.40
35:HA:1088:G:N2	35:HA:1089:G:H1'	2.36	0.40
35:HA:1179:A:H2'	35:HA:1180:A:O4'	2.21	0.40
35:HA:1194:U:H3'	35:HA:1195:C:C6	2.56	0.40
35:HA:1358:U:H5'	47:HN:74:LEU:HD23	2.03	0.40
37:HD:198:HIS:O	37:HD:202:GLU:HB2	2.21	0.40
40:HG:135:VAL:CG2	40:HG:136:LYS:N	2.85	0.40
44:HK:30:THR:HG21	44:HK:63:ALA:HA	2.04	0.40
50:HQ:12:VAL:HG12	50:HQ:13:VAL:N	2.36	0.40
54:HU:9:ASN:HB2	54:HU:11:PRO:HD2	2.02	0.40
3:AA:68:G:H2'	3:AA:69:C:O4'	2.22	0.40
3:AA:181:A:C2	3:AA:182:A:C4	3.09	0.40
3:AA:841:G:C2	3:AA:938:G:C2	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AA:1022:G:C5	3:AA:1140:C:N4	2.89	0.40
3:AA:1124:G:H1'	31:A4:38:GLY:OXT	2.21	0.40
3:AA:1268:A:H2'	3:AA:1269:A:O4'	2.20	0.40
3:AA:1338:G:O2'	20:AT:18:GLU:OE1	2.20	0.40
3:AA:1905:C:N4	3:AA:1930:G:C2	2.89	0.40
3:AA:2447:G:C4	3:AA:2500:U:C5	3.09	0.40
3:AA:2799:A:O2'	3:AA:2800:A:OP2	2.32	0.40
3:AA:2868:A:C2	3:AA:2869:G:C4	3.09	0.40
4:AD:182:ALA:C	4:AD:184:ARG:H	2.29	0.40
9:AI:52:LEU:HB3	9:AI:53:PRO:CD	2.51	0.40
12:AL:74:THR:HG22	12:AL:107:PHE:HB2	2.03	0.40
21:AU:82:VAL:HG13	21:AU:93:ARG:HB3	2.03	0.40
27:A0:47:TYR:CE1	27:A0:52:LYS:HD3	2.57	0.40
32:A5:40:GLU:O	32:A5:40:GLU:CG	2.70	0.40
32:A5:71:CYS:HA	32:A5:117:LEU:HD11	1.96	0.40
35:BA:209:U:H5	35:BA:211:G:C6	2.40	0.40
35:BA:246:A:C4	35:BA:279:A:N6	2.90	0.40
37:BD:44:ARG:O	37:BD:46:PRO:HD3	2.21	0.40
37:BD:188:ARG:NH1	37:BD:191:LEU:O	2.54	0.40
46:BM:40:ALA:HB3	46:BM:43:VAL:HG23	2.03	0.40
47:BN:51:LEU:HB2	47:BN:52:PRO:CD	2.51	0.40
49:BP:28:ARG:HG2	49:BP:29:ASN:OD1	2.21	0.40
50:BQ:50:ASN:O	50:BQ:51:ASN:C	2.65	0.40
55:BV:53:MET:HB2	55:BV:56:GLU:CG	2.51	0.40
55:BV:103:MET:HG2	55:BV:135:VAL:HG11	2.02	0.40
55:BV:365:GLN:HB2	55:BV:374:ILE:HD11	2.02	0.40
55:BV:526:GLU:N	55:BV:526:GLU:OE1	2.54	0.40
3:CA:188:G:C2'	3:CA:189:G:H5'	2.52	0.40
3:CA:197:A:N6	3:CA:2430:A:H2'	2.36	0.40
3:CA:225:C:C4	3:CA:226:A:N7	2.89	0.40
3:CA:298:G:O2'	3:CA:322:A:N1	2.51	0.40
3:CA:783:A:C8	3:CA:784:G:H4'	2.56	0.40
3:CA:936:A:H2'	3:CA:937:C:H6	1.86	0.40
3:CA:1083:U:P	32:C5:41:LEU:HD22	2.61	0.40
3:CA:1171:G:N2	3:CA:1179:G:C4	2.89	0.40
3:CA:1492:G:H1	3:CA:1498:C:N4	2.20	0.40
3:CA:1654:A:O2'	4:CD:118:PHE:CB	2.70	0.40
3:CA:2064:C:H2'	3:CA:2065:C:C6	2.56	0.40
3:CA:2766:A:N3	3:CA:2766:A:H2'	2.36	0.40
3:CA:2809:A:H62	3:CA:2890:G:H2'	1.86	0.40
2:CC:109:LEU:CD1	2:CC:110:LYS:H	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CC:265:PHE:N	2:CC:265:PHE:CD1	2.90	0.40
4:CD:121:THR:O	4:CD:122:VAL:HB	2.21	0.40
6:CF:62:GLN:CD	6:CF:90:LEU:HD23	2.46	0.40
6:CF:69:ALA:N	6:CF:82:TYR:O	2.53	0.40
15:CO:31:THR:HG23	15:CO:32:PRO:CD	2.52	0.40
16:CP:50:ARG:CD	16:CP:56:SER:HB3	2.51	0.40
18:CR:4:VAL:HA	18:CR:12:HIS:O	2.21	0.40
20:CT:89:GLU:O	20:CT:91:GLN:N	2.54	0.40
32:C5:67:THR:C	32:C5:69:PHE:N	2.79	0.40
35:DA:248:C:C4	35:DA:249:U:C4	3.10	0.40
35:DA:598:U:H4'	41:DH:86:TYR:CD1	2.56	0.40
35:DA:968:A:H4'	35:DA:969:A:OP2	2.22	0.40
35:DA:1173:U:O5'	35:DA:1173:U:H6	2.05	0.40
35:DA:1266:G:C6	35:DA:1270:G:C6	3.09	0.40
35:DA:1492:A:OP1	45:DL:44:LYS:N	2.54	0.40
36:DC:12:LEU:HB3	36:DC:18:TRP:CZ2	2.57	0.40
37:DD:72:PHE:CZ	37:DD:200:ILE:HD11	2.57	0.40
37:DD:152:GLN:O	37:DD:153:SER:C	2.64	0.40
45:DL:76:GLU:HG3	55:DV:454:ASN:HB2	2.04	0.40
45:DL:83:ARG:NH2	45:DL:96:HIS:CG	2.90	0.40
50:DQ:59:VAL:CG1	50:DQ:75:LEU:HD13	2.51	0.40
55:DV:697:ALA:O	55:DV:699:ILE:N	2.53	0.40
3:EA:323:C:H6	3:EA:1205:A:N1	2.19	0.40
3:EA:346:A:C2	3:EA:347:A:H1'	2.56	0.40
3:EA:438:G:H2'	3:EA:439:A:C8	2.57	0.40
3:EA:452:G:N2	3:EA:458:G:C4	2.89	0.40
3:EA:522:A:N6	3:EA:523:C:N4	2.69	0.40
3:EA:879:G:H2'	3:EA:880:G:H8	1.86	0.40
3:EA:1604:C:H5'	60:EA:3406:HOH:O	2.22	0.40
3:EA:1629:U:H2'	3:EA:1630:A:O4'	2.21	0.40
3:EA:1631:G:N2	3:EA:1634:A:OP2	2.52	0.40
3:EA:1827:U:H2'	3:EA:1828:G:O4'	2.21	0.40
3:EA:2054:A:C2	3:EA:2616:C:C2	3.10	0.40
3:EA:2156:G:H2'	3:EA:2157:G:N2	2.35	0.40
3:EA:2336:A:C6	23:EW:40:ARG:HD3	2.57	0.40
3:EA:2722:G:H4'	14:EN:4:ARG:HB2	2.03	0.40
3:EA:2796:U:C4	3:EA:2798:U:C4	3.09	0.40
3:EA:2831:G:OP2	4:ED:59:ARG:NH1	2.47	0.40
3:EA:2834:G:H2'	3:EA:2879:A:N6	2.36	0.40
1:EB:78:A:C2	1:EB:99:A:C4	3.09	0.40
4:ED:56:LYS:O	4:ED:60:VAL:HG23	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:EF:134:GLN:OE1	6:EF:149:ARG:HB3	2.22	0.40
7:EG:88:LEU:HD22	7:EG:161:VAL:HG22	2.04	0.40
9:EI:14:ALA:CA	9:EI:54:ILE:HD11	2.51	0.40
12:EL:85:VAL:O	12:EL:86:GLU:HB3	2.21	0.40
20:ET:15:HIS:O	20:ET:17:SER:N	2.54	0.40
32:E5:102:ALA:O	32:E5:105:LYS:N	2.46	0.40
35:FA:256:U:O4	60:FA:1806:HOH:O	2.20	0.40
35:FA:520:A:N7	35:FA:521:G:C8	2.89	0.40
35:FA:620:C:H1'	37:FD:132:ILE:HD11	2.02	0.40
35:FA:958:A:N1	52:FS:54:GLY:HA3	2.37	0.40
35:FA:971:G:O6	35:FA:1364:U:O2'	2.38	0.40
35:FA:1072:G:C5	35:FA:1073:U:C4	3.10	0.40
38:FE:25:VAL:O	38:FE:26:LYS:C	2.65	0.40
38:FE:110:ALA:O	38:FE:111:MET:CB	2.68	0.40
41:FH:47:GLU:N	41:FH:64:LYS:HG3	2.36	0.40
41:FH:55:THR:C	41:FH:57:PRO:HD3	2.47	0.40
42:FI:91:ASP:C	42:FI:93:SER:H	2.28	0.40
44:FK:58:SER:O	44:FK:91:PRO:HG2	2.21	0.40
46:FM:3:ARG:HD2	46:FM:7:ILE:HD12	2.03	0.40
52:FS:31:LEU:HD23	52:FS:32:ARG:N	2.36	0.40
55:FV:515:TYR:OH	55:FV:582:SER:OG	2.33	0.40
3:GA:137:U:H5"	3:GA:140:C:C5	2.57	0.40
3:GA:863:A:C2	3:GA:915:C:N4	2.90	0.40
3:GA:871:U:O2	3:GA:872:U:C4	2.75	0.40
3:GA:947:A:C6	3:GA:948:C:C4	3.09	0.40
3:GA:1215:G:O6	3:GA:1235:G:N2	2.54	0.40
3:GA:1515:A:H2'	3:GA:1516:G:O4'	2.22	0.40
3:GA:1853:A:N1	3:GA:1854:A:C2	2.90	0.40
3:GA:2060:A:N6	5:GE:69:ARG:NH2	2.69	0.40
3:GA:2333:A:H5'	3:GA:2335:A:H1'	2.02	0.40
3:GA:2357:G:C5	3:GA:2359:C:OP2	2.75	0.40
5:GE:151:GLY:HA3	5:GE:191:ASP:HB3	2.03	0.40
6:GF:111:ARG:HH22	52:HS:67:VAL:CG2	2.35	0.40
7:GG:26:LYS:HE2	7:GG:32:LEU:HD21	2.03	0.40
7:GG:44:HIS:HA	7:GG:49:LEU:HD23	2.04	0.40
7:GG:132:LEU:N	7:GG:132:LEU:HD23	2.37	0.40
9:GI:18:ASN:N	9:GI:19:PRO:HD3	2.36	0.40
10:GJ:36:LEU:HD13	10:GJ:36:LEU:HA	1.98	0.40
11:GK:69:VAL:HG21	11:GK:106:GLU:CD	2.47	0.40
11:GK:70:ARG:O	11:GK:71:ARG:HB2	2.22	0.40
15:GO:105:ALA:O	15:GO:107:ALA:N	2.49	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:GQ:91:ARG:HB2	17:GQ:94:LEU:HB2	2.04	0.40
24:GX:38:TRP:CD1	24:GX:40:GLU:HB2	2.56	0.40
35:HA:34:C:O4'	45:HL:29:GLN:NE2	2.54	0.40
35:HA:197:A:N1	35:HA:220:G:O2'	2.43	0.40
35:HA:354:G:N1	35:HA:355:C:C4	2.90	0.40
35:HA:469:C:H2'	35:HA:470:C:O4'	2.22	0.40
35:HA:678:U:H2'	35:HA:679:C:C6	2.57	0.40
35:HA:1088:G:N2	35:HA:1167:A:H62	2.20	0.40
35:HA:1132:C:H3'	35:HA:1133:G:H8	1.86	0.40
36:HC:76:VAL:HG11	36:HC:103:ILE:CD1	2.52	0.40
36:HC:120:ILE:HD11	36:HC:137:ALA:HB2	2.02	0.40
37:HD:167:LYS:HA	37:HD:168:PRO:HD3	1.96	0.40
45:HL:3:THR:O	45:HL:7:LEU:HD13	2.22	0.40
55:HV:381:ASP:OD1	55:HV:382:ILE:N	2.48	0.40
3:AA:136:G:H1	3:AA:143:C:H42	1.69	0.40
3:AA:230:G:N2	3:AA:231:A:C4	2.90	0.40
3:AA:629:G:H4'	3:AA:650:C:O2	2.21	0.40
3:AA:1263:U:O2'	27:A0:7:PRO:HD2	2.22	0.40
3:AA:1365:A:C6	3:AA:1366:A:C5	3.10	0.40
3:AA:1378:A:H4'	3:AA:1379:U:OP1	2.20	0.40
3:AA:1450:G:C6	3:AA:1451:C:N4	2.90	0.40
3:AA:2017:U:H5"	3:AA:2018:G:P	2.61	0.40
3:AA:2469:A:C6	3:AA:2482:A:C8	3.10	0.40
4:AD:46:ARG:CZ	4:AD:46:ARG:HB3	2.51	0.40
4:AD:106:LYS:HB3	4:AD:206:ALA:CB	2.52	0.40
6:AF:148:VAL:HG23	6:AF:149:ARG:H	1.87	0.40
10:AJ:36:LEU:HD21	10:AJ:122:LEU:HB2	2.04	0.40
10:AJ:110:PRO:HB2	10:AJ:111:LYS:CG	2.52	0.40
15:AO:106:LEU:HD12	15:AO:106:LEU:C	2.45	0.40
16:AP:33:GLU:HG3	16:AP:36:LYS:O	2.22	0.40
20:AT:35:ALA:C	20:AT:36:LYS:HG2	2.46	0.40
30:A3:30:HIS:ND1	30:A3:31:ILE:HG23	2.36	0.40
32:A5:47:GLU:CG	32:A5:95:LEU:HD21	2.51	0.40
32:A5:127:ALA:C	32:A5:129:LEU:N	2.79	0.40
35:BA:62:U:O2'	35:BA:379:C:O2	2.27	0.40
35:BA:161:A:N1	35:BA:347:G:O2'	2.47	0.40
35:BA:539:A:H2'	35:BA:540:G:C8	2.56	0.40
35:BA:1113:C:H2'	35:BA:1114:C:H6	1.87	0.40
35:BA:1126:U:O2	35:BA:1280:A:H2'	2.21	0.40
36:BC:40:ARG:HG2	36:BC:55:ILE:HG13	2.03	0.40
36:BC:129:MET:HE2	36:BC:132:ARG:HD2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BC:184:TYR:HA	36:BC:200:VAL:O	2.22	0.40
37:BD:91:LEU:HD11	37:BD:197:GLU:HG3	2.02	0.40
37:BD:135:TYR:C	37:BD:135:TYR:CD1	3.00	0.40
38:BE:111:MET:HE2	38:BE:125:ALA:CB	2.51	0.40
40:BG:122:ASN:O	40:BG:126:ASP:HB2	2.22	0.40
44:BK:93:ARG:NH1	54:BU:25:LYS:HE2	2.36	0.40
45:BL:14:ARG:NH1	45:BL:15:LYS:HG2	2.36	0.40
47:BN:36:ALA:HB2	47:BN:41:ARG:HG3	2.03	0.40
48:BO:43:PHE:CZ	48:BO:53:ARG:HA	2.56	0.40
55:BV:224:GLU:HG3	55:BV:237:TYR:CE2	2.57	0.40
55:BV:497:LYS:HG2	55:BV:524:PRO:HD2	2.03	0.40
55:BV:512:ARG:HG3	55:BV:514:GLN:NE2	2.37	0.40
1:CB:42:C:P	6:CF:63:LYS:NZ	2.95	0.40
1:CB:42:C:H4'	6:CF:63:LYS:HD2	2.03	0.40
3:CA:271:G:C2	3:CA:367:G:C2	3.09	0.40
3:CA:288:U:H2'	3:CA:289:G:O4'	2.22	0.40
3:CA:490:C:H4'	3:CA:491:G:OP2	2.22	0.40
3:CA:802:A:C5	3:CA:803:U:C4	3.09	0.40
3:CA:1062:G:H2'	3:CA:1063:G:C8	2.56	0.40
3:CA:1168:G:H3'	3:CA:1169:A:H8	1.87	0.40
3:CA:1208:C:C4	3:CA:1209:U:C4	3.10	0.40
3:CA:1865:U:C5	3:CA:1875:G:C2	3.09	0.40
3:CA:1975:G:C6	3:CA:1976:U:C4	3.10	0.40
3:CA:2478:A:C2'	3:CA:2479:U:H5'	2.51	0.40
3:CA:2591:C:P	2:CC:237:ARG:HG3	2.62	0.40
3:CA:2902:C:HO2'	3:CA:2903:U:P	2.44	0.40
7:CG:19:ASN:O	7:CG:22:VAL:HG22	2.21	0.40
9:CI:110:GLN:C	9:CI:112:LYS:N	2.79	0.40
11:CK:18:ARG:H	11:CK:45:GLU:HB2	1.86	0.40
12:CL:95:LEU:HD11	12:CL:125:LEU:HD11	2.04	0.40
14:CN:56:LYS:HD2	14:CN:88:ALA:HA	2.03	0.40
19:CS:27:LYS:O	19:CS:71:VAL:HG12	2.22	0.40
22:CV:1:MET:HG3	22:CV:2:PHE:N	2.36	0.40
31:C4:36:ARG:O	31:C4:37:GLN:C	2.64	0.40
35:DA:468:A:C2	35:DA:469:C:N4	2.89	0.40
35:DA:602:A:H2'	35:DA:603:U:C6	2.56	0.40
35:DA:632:U:H3'	35:DA:633:G:H5'	2.02	0.40
35:DA:938:A:C6	35:DA:939:G:C5	3.09	0.40
35:DA:1074:G:C6	35:DA:1075:U:N3	2.90	0.40
35:DA:1346:A:N1	35:DA:1374:A:H5"	2.36	0.40
35:DA:1375:A:C6	35:DA:1376:U:C4	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DC:105:GLU:HG2	36:DC:106:VAL:N	2.36	0.40
41:DH:11:LEU:CD2	41:DH:75:ILE:HD11	2.52	0.40
43:DJ:6:ILE:O	43:DJ:76:ILE:HB	2.21	0.40
48:DO:45:GLU:O	48:DO:47:LYS:N	2.53	0.40
55:DV:90:PRO:HG2	55:DV:98:GLU:HB2	2.04	0.40
55:DV:532:LYS:HD3	55:DV:534:TYR:H	1.86	0.40
3:EA:276:U:C4	3:EA:277:G:N2	2.90	0.40
3:EA:333:G:C6	3:EA:334:C:C4	3.09	0.40
3:EA:558:U:O3'	10:EJ:111:LYS:HE3	2.22	0.40
3:EA:691:C:O2'	2:EC:40:GLY:HA3	2.22	0.40
3:EA:2427:C:H5"	3:EA:2428:G:OP1	2.21	0.40
3:EA:2447:G:C4	3:EA:2500:U:C5	3.10	0.40
2:EC:76:VAL:HG12	2:EC:94:LEU:HB3	2.04	0.40
4:ED:177:VAL:HG13	4:ED:187:LEU:HD11	2.03	0.40
7:EG:36:LEU:HD22	7:EG:36:LEU:N	2.37	0.40
19:ES:66:ILE:HD13	19:ES:67:ASP:N	2.37	0.40
21:EU:39:ASN:O	21:EU:62:ALA:N	2.51	0.40
24:EX:40:GLU:C	24:EX:42:GLU:N	2.79	0.40
32:E5:54:VAL:O	32:E5:55:VAL:C	2.64	0.40
35:FA:158:G:C5	35:FA:164:G:C6	3.10	0.40
35:FA:202:G:O2'	35:FA:468:A:H8	2.04	0.40
35:FA:570:G:H1'	35:FA:820:U:C4	2.57	0.40
35:FA:751:U:H4'	48:FO:24:SER:HA	2.04	0.40
34:FB:17:HIS:CD2	34:FB:202:ASN:ND2	2.90	0.40
36:FC:121:THR:CG2	36:FC:122:SER:N	2.85	0.40
37:FD:37:ALA:HA	37:FD:42:GLY:C	2.47	0.40
39:FF:77:THR:O	39:FF:81:ASN:CB	2.69	0.40
40:FG:12:ILE:HG22	40:FG:13:LEU:O	2.22	0.40
41:FH:112:THR:HG23	41:FH:115:ALA:HB2	2.03	0.40
44:FK:63:ALA:CB	44:FK:92:GLY:HA3	2.51	0.40
44:FK:107:ILE:HD11	44:FK:110:ILE:HG13	2.04	0.40
53:FT:24:ARG:N	53:FT:24:ARG:HD2	2.36	0.40
55:FV:168:PRO:C	55:FV:170:GLN:H	2.28	0.40
55:FV:282:VAL:HG13	55:FV:286:LEU:HD23	2.03	0.40
3:GA:283:G:N1	3:GA:284:U:C2	2.90	0.40
3:GA:463:G:N2	3:GA:466:A:OP2	2.53	0.40
3:GA:497:A:C5	3:GA:498:G:N7	2.90	0.40
3:GA:587:C:O2	12:GL:33:ARG:NH2	2.54	0.40
3:GA:874:G:H1'	3:GA:904:G:N2	2.36	0.40
3:GA:1000:A:C5	3:GA:1155:A:C5	3.10	0.40
3:GA:1243:C:C4	3:GA:1244:A:N7	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:GA:1678:A:H2'	3:GA:1679:A:O4'	2.21	0.40
3:GA:1722:A:N6	3:GA:1738:G:H1'	2.36	0.40
3:GA:1783:A:C2	3:GA:2588:G:O4'	2.75	0.40
3:GA:2304:G:H21	3:GA:2312:U:H3	1.68	0.40
3:GA:2527:C:C4	3:GA:2528:U:C5	3.09	0.40
2:GC:24:HIS:CE1	2:GC:79:ARG:HH21	2.40	0.40
2:GC:108:GLY:O	2:GC:109:LEU:C	2.64	0.40
2:GC:175:LEU:CD1	2:GC:175:LEU:N	2.84	0.40
2:GC:259:ASN:O	2:GC:260:LYS:HB2	2.22	0.40
9:GI:75:ALA:HA	9:GI:112:LYS:HD2	2.03	0.40
10:GJ:15:TRP:C	10:GJ:16:TYR:CD1	2.99	0.40
10:GJ:89:PHE:CE2	10:GJ:100:VAL:HG11	2.57	0.40
13:GM:71:LYS:HB3	13:GM:93:VAL:O	2.21	0.40
13:GM:91:TYR:N	13:GM:91:TYR:CD1	2.90	0.40
35:HA:50:A:O2'	35:HA:360:G:N2	2.54	0.40
35:HA:505:G:H2'	35:HA:506:G:C8	2.56	0.40
35:HA:735:C:H1'	51:HR:64:TYR:CZ	2.56	0.40
35:HA:1014:A:H4'	52:HS:14:HIS:CG	2.57	0.40
35:HA:1189:U:H2'	35:HA:1190:G:H5'	2.03	0.40
35:HA:1338:G:N2	35:HA:1339:A:C4	2.89	0.40
35:HA:1351:U:H2'	35:HA:1352:C:C6	2.57	0.40
35:HA:1373:G:H5"	40:HG:36:LYS:HD2	2.04	0.40
34:HB:140:LEU:O	34:HB:143:LEU:HG	2.21	0.40
38:HE:80:THR:OG1	38:HE:81:LEU:N	2.55	0.40
45:HL:24:LEU:C	45:HL:26:ALA:N	2.80	0.40
50:HQ:62:ARG:HG2	50:HQ:76:VAL:HG13	2.02	0.40
52:HS:13:LEU:HD23	52:HS:13:LEU:HA	1.97	0.40
53:HT:3:ASN:O	53:HT:5:LYS:N	2.50	0.40
55:HV:15:ILE:CD1	55:HV:86:ILE:HG23	2.52	0.40
55:HV:407:GLU:O	55:HV:408:ARG:CB	2.69	0.40

All (2) 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)
35:FA:1029:U:O3'	3:GA:1508:A:N6[1_565]	2.04	0.16
43:FJ:85:ASP:OD1	3:GA:1722:A:O2'[1_565]	2.16	0.04

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	AC	269/273 (98%)	211 (78%)	43 (16%)	15 (6%)	1	4
2	CC	269/273 (98%)	211 (78%)	42 (16%)	16 (6%)	1	4
2	EC	269/273 (98%)	212 (79%)	44 (16%)	13 (5%)	2	7
2	GC	269/273 (98%)	210 (78%)	42 (16%)	17 (6%)	1	3
4	AD	207/209 (99%)	163 (79%)	30 (14%)	14 (7%)	1	2
4	CD	207/209 (99%)	166 (80%)	27 (13%)	14 (7%)	1	2
4	ED	207/209 (99%)	165 (80%)	29 (14%)	13 (6%)	1	3
4	GD	207/209 (99%)	161 (78%)	32 (16%)	14 (7%)	1	2
5	AE	199/201 (99%)	162 (81%)	27 (14%)	10 (5%)	1	6
5	CE	199/201 (99%)	159 (80%)	27 (14%)	13 (6%)	1	3
5	EE	199/201 (99%)	164 (82%)	24 (12%)	11 (6%)	1	4
5	GE	199/201 (99%)	159 (80%)	30 (15%)	10 (5%)	1	6
6	AF	175/179 (98%)	141 (81%)	30 (17%)	4 (2%)	5	19
6	CF	175/179 (98%)	145 (83%)	25 (14%)	5 (3%)	3	15
6	EF	175/179 (98%)	140 (80%)	26 (15%)	9 (5%)	1	6
6	GF	175/179 (98%)	140 (80%)	26 (15%)	9 (5%)	1	6
7	AG	174/177 (98%)	127 (73%)	30 (17%)	17 (10%)	0	1
7	CG	174/177 (98%)	131 (75%)	28 (16%)	15 (9%)	0	1
7	EG	174/177 (98%)	125 (72%)	35 (20%)	14 (8%)	1	2
7	GG	174/177 (98%)	126 (72%)	30 (17%)	18 (10%)	0	1
8	AH	48/50 (96%)	29 (60%)	14 (29%)	5 (10%)	0	1
8	CH	48/50 (96%)	31 (65%)	12 (25%)	5 (10%)	0	1
8	EH	48/50 (96%)	31 (65%)	12 (25%)	5 (10%)	0	1
8	GH	48/50 (96%)	30 (62%)	15 (31%)	3 (6%)	1	3
9	AI	139/142 (98%)	97 (70%)	33 (24%)	9 (6%)	1	3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
9	CI	139/142 (98%)	95 (68%)	38 (27%)	6 (4%)	2 8
9	EI	139/142 (98%)	97 (70%)	38 (27%)	4 (3%)	3 15
9	GI	139/142 (98%)	95 (68%)	34 (24%)	10 (7%)	1 2
10	AJ	140/142 (99%)	113 (81%)	18 (13%)	9 (6%)	1 3
10	CJ	140/142 (99%)	112 (80%)	20 (14%)	8 (6%)	1 4
10	EJ	140/142 (99%)	114 (81%)	17 (12%)	9 (6%)	1 3
10	GJ	140/142 (99%)	113 (81%)	19 (14%)	8 (6%)	1 4
11	AK	120/123 (98%)	96 (80%)	14 (12%)	10 (8%)	0 1
11	CK	120/123 (98%)	93 (78%)	21 (18%)	6 (5%)	1 6
11	EK	120/123 (98%)	92 (77%)	21 (18%)	7 (6%)	1 4
11	GK	120/123 (98%)	92 (77%)	20 (17%)	8 (7%)	1 3
12	AL	141/144 (98%)	104 (74%)	32 (23%)	5 (4%)	3 12
12	CL	141/144 (98%)	103 (73%)	33 (23%)	5 (4%)	3 12
12	EL	141/144 (98%)	108 (77%)	26 (18%)	7 (5%)	1 6
12	GL	141/144 (98%)	103 (73%)	32 (23%)	6 (4%)	2 8
13	AM	134/136 (98%)	107 (80%)	16 (12%)	11 (8%)	0 2
13	CM	134/136 (98%)	110 (82%)	16 (12%)	8 (6%)	1 4
13	EM	134/136 (98%)	106 (79%)	18 (13%)	10 (8%)	1 2
13	GM	134/136 (98%)	109 (81%)	17 (13%)	8 (6%)	1 4
14	AN	118/127 (93%)	101 (86%)	16 (14%)	1 (1%)	16 44
14	CN	118/127 (93%)	103 (87%)	14 (12%)	1 (1%)	16 44
14	EN	118/127 (93%)	100 (85%)	17 (14%)	1 (1%)	16 44
14	GN	118/127 (93%)	98 (83%)	19 (16%)	1 (1%)	16 44
15	AO	114/117 (97%)	95 (83%)	18 (16%)	1 (1%)	14 41
15	CO	114/117 (97%)	95 (83%)	15 (13%)	4 (4%)	3 12
15	EO	114/117 (97%)	95 (83%)	18 (16%)	1 (1%)	14 41
15	GO	114/117 (97%)	95 (83%)	15 (13%)	4 (4%)	3 12
16	AP	112/115 (97%)	86 (77%)	17 (15%)	9 (8%)	1 2
16	CP	112/115 (97%)	87 (78%)	16 (14%)	9 (8%)	1 2
16	EP	112/115 (97%)	84 (75%)	16 (14%)	12 (11%)	0 1
16	GP	112/115 (97%)	85 (76%)	19 (17%)	8 (7%)	1 2

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
17	AQ	115/118 (98%)	99 (86%)	12 (10%)	4 (4%)	3 12
17	CQ	115/118 (98%)	99 (86%)	12 (10%)	4 (4%)	3 12
17	EQ	115/118 (98%)	99 (86%)	12 (10%)	4 (4%)	3 12
17	GQ	115/118 (98%)	99 (86%)	14 (12%)	2 (2%)	7 26
18	AR	101/103 (98%)	83 (82%)	15 (15%)	3 (3%)	3 14
18	CR	101/103 (98%)	83 (82%)	15 (15%)	3 (3%)	3 14
18	ER	101/103 (98%)	83 (82%)	15 (15%)	3 (3%)	3 14
18	GR	101/103 (98%)	83 (82%)	13 (13%)	5 (5%)	1 6
19	AS	108/110 (98%)	94 (87%)	9 (8%)	5 (5%)	2 7
19	CS	108/110 (98%)	95 (88%)	9 (8%)	4 (4%)	2 11
19	ES	108/110 (98%)	92 (85%)	10 (9%)	6 (6%)	1 4
19	GS	108/110 (98%)	91 (84%)	11 (10%)	6 (6%)	1 4
20	AT	91/100 (91%)	57 (63%)	24 (26%)	10 (11%)	0 1
20	CT	91/100 (91%)	55 (60%)	25 (28%)	11 (12%)	0 1
20	ET	91/100 (91%)	56 (62%)	26 (29%)	9 (10%)	0 1
20	GT	91/100 (91%)	58 (64%)	23 (25%)	10 (11%)	0 1
21	AU	100/104 (96%)	74 (74%)	16 (16%)	10 (10%)	0 1
21	CU	100/104 (96%)	75 (75%)	17 (17%)	8 (8%)	1 2
21	EU	100/104 (96%)	74 (74%)	15 (15%)	11 (11%)	0 1
21	GU	100/104 (96%)	76 (76%)	14 (14%)	10 (10%)	0 1
22	AV	92/94 (98%)	81 (88%)	11 (12%)	0	100 100
22	CV	92/94 (98%)	80 (87%)	11 (12%)	1 (1%)	11 36
22	EV	92/94 (98%)	80 (87%)	12 (13%)	0	100 100
22	GV	92/94 (98%)	78 (85%)	13 (14%)	1 (1%)	11 36
23	AW	77/85 (91%)	39 (51%)	22 (29%)	16 (21%)	0 0
23	CW	77/85 (91%)	41 (53%)	17 (22%)	19 (25%)	0 0
23	EW	77/85 (91%)	41 (53%)	21 (27%)	15 (20%)	0 0
23	GW	77/85 (91%)	40 (52%)	21 (27%)	16 (21%)	0 0
24	AX	75/78 (96%)	64 (85%)	8 (11%)	3 (4%)	2 9
24	CX	75/78 (96%)	63 (84%)	10 (13%)	2 (3%)	4 16
24	EX	75/78 (96%)	63 (84%)	9 (12%)	3 (4%)	2 9

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
24	GX	75/78 (96%)	63 (84%)	9 (12%)	3 (4%)	2 9
25	AY	61/63 (97%)	39 (64%)	18 (30%)	4 (7%)	1 3
25	CY	61/63 (97%)	42 (69%)	15 (25%)	4 (7%)	1 3
25	EY	61/63 (97%)	40 (66%)	17 (28%)	4 (7%)	1 3
25	GY	61/63 (97%)	39 (64%)	20 (33%)	2 (3%)	3 13
26	AZ	56/59 (95%)	46 (82%)	8 (14%)	2 (4%)	2 11
26	CZ	56/59 (95%)	46 (82%)	8 (14%)	2 (4%)	2 11
26	EZ	56/59 (95%)	46 (82%)	8 (14%)	2 (4%)	2 11
26	GZ	56/59 (95%)	44 (79%)	10 (18%)	2 (4%)	2 11
27	A0	54/57 (95%)	43 (80%)	7 (13%)	4 (7%)	1 2
27	C0	54/57 (95%)	45 (83%)	3 (6%)	6 (11%)	0 1
27	E0	54/57 (95%)	44 (82%)	6 (11%)	4 (7%)	1 2
27	G0	54/57 (95%)	46 (85%)	4 (7%)	4 (7%)	1 2
28	A1	48/55 (87%)	42 (88%)	3 (6%)	3 (6%)	1 3
28	C1	48/55 (87%)	42 (88%)	4 (8%)	2 (4%)	2 9
28	E1	48/55 (87%)	42 (88%)	4 (8%)	2 (4%)	2 9
28	G1	48/55 (87%)	42 (88%)	3 (6%)	3 (6%)	1 3
29	A2	44/46 (96%)	41 (93%)	3 (7%)	0	100 100
29	C2	44/46 (96%)	41 (93%)	2 (4%)	1 (2%)	5 19
29	E2	44/46 (96%)	40 (91%)	4 (9%)	0	100 100
29	G2	44/46 (96%)	40 (91%)	3 (7%)	1 (2%)	5 19
30	A3	62/65 (95%)	53 (86%)	7 (11%)	2 (3%)	3 13
30	C3	62/65 (95%)	54 (87%)	6 (10%)	2 (3%)	3 13
30	E3	62/65 (95%)	56 (90%)	4 (6%)	2 (3%)	3 13
30	G3	62/65 (95%)	54 (87%)	6 (10%)	2 (3%)	3 13
31	A4	36/38 (95%)	29 (81%)	4 (11%)	3 (8%)	0 1
31	C4	36/38 (95%)	29 (81%)	4 (11%)	3 (8%)	0 1
31	E4	36/38 (95%)	29 (81%)	4 (11%)	3 (8%)	0 1
31	G4	36/38 (95%)	30 (83%)	2 (6%)	4 (11%)	0 1
32	A5	146/165 (88%)	77 (53%)	40 (27%)	29 (20%)	0 0
32	C5	146/165 (88%)	78 (53%)	45 (31%)	23 (16%)	0 0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
32	E5	143/165 (87%)	79 (55%)	41 (29%)	23 (16%)	0 0
33	A6	28/121 (23%)	20 (71%)	7 (25%)	1 (4%)	2 11
34	BB	216/241 (90%)	151 (70%)	51 (24%)	14 (6%)	1 3
34	DB	216/241 (90%)	157 (73%)	47 (22%)	12 (6%)	1 4
34	FB	216/241 (90%)	153 (71%)	51 (24%)	12 (6%)	1 4
34	HB	216/241 (90%)	153 (71%)	51 (24%)	12 (6%)	1 4
36	BC	204/233 (88%)	181 (89%)	18 (9%)	5 (2%)	4 17
36	DC	204/233 (88%)	179 (88%)	20 (10%)	5 (2%)	4 17
36	FC	204/233 (88%)	180 (88%)	18 (9%)	6 (3%)	3 15
36	HC	204/233 (88%)	181 (89%)	17 (8%)	6 (3%)	3 15
37	BD	203/206 (98%)	162 (80%)	30 (15%)	11 (5%)	1 5
37	DD	203/206 (98%)	162 (80%)	29 (14%)	12 (6%)	1 4
37	FD	203/206 (98%)	163 (80%)	29 (14%)	11 (5%)	1 5
37	HD	203/206 (98%)	165 (81%)	26 (13%)	12 (6%)	1 4
38	BE	148/167 (89%)	123 (83%)	18 (12%)	7 (5%)	2 7
38	DE	148/167 (89%)	125 (84%)	18 (12%)	5 (3%)	3 12
38	FE	148/167 (89%)	122 (82%)	20 (14%)	6 (4%)	2 9
38	HE	148/167 (89%)	121 (82%)	20 (14%)	7 (5%)	2 7
39	BF	100/135 (74%)	79 (79%)	15 (15%)	6 (6%)	1 4
39	DF	98/135 (73%)	80 (82%)	13 (13%)	5 (5%)	1 6
39	FF	98/135 (73%)	81 (83%)	11 (11%)	6 (6%)	1 4
39	HF	98/135 (73%)	76 (78%)	18 (18%)	4 (4%)	2 9
40	BG	149/179 (83%)	128 (86%)	20 (13%)	1 (1%)	18 48
40	DG	149/179 (83%)	125 (84%)	22 (15%)	2 (1%)	9 32
40	FG	149/179 (83%)	127 (85%)	21 (14%)	1 (1%)	18 48
40	HG	149/179 (83%)	127 (85%)	20 (13%)	2 (1%)	9 32
41	BH	127/130 (98%)	114 (90%)	12 (9%)	1 (1%)	16 44
41	DH	127/130 (98%)	113 (89%)	12 (9%)	2 (2%)	7 27
41	FH	127/130 (98%)	112 (88%)	13 (10%)	2 (2%)	7 27
41	HH	127/130 (98%)	112 (88%)	13 (10%)	2 (2%)	7 27
42	BI	125/130 (96%)	105 (84%)	14 (11%)	6 (5%)	2 7

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
42	DI	125/130 (96%)	102 (82%)	22 (18%)	1 (1%)	16 44
42	FI	125/130 (96%)	106 (85%)	13 (10%)	6 (5%)	2 7
42	HI	125/130 (96%)	103 (82%)	19 (15%)	3 (2%)	4 18
43	BJ	96/103 (93%)	69 (72%)	20 (21%)	7 (7%)	1 2
43	DJ	96/103 (93%)	71 (74%)	19 (20%)	6 (6%)	1 3
43	FJ	96/103 (93%)	69 (72%)	21 (22%)	6 (6%)	1 3
43	HJ	96/103 (93%)	68 (71%)	19 (20%)	9 (9%)	0 1
44	BK	115/129 (89%)	97 (84%)	12 (10%)	6 (5%)	1 5
44	DK	115/129 (89%)	92 (80%)	19 (16%)	4 (4%)	3 12
44	FK	115/129 (89%)	96 (84%)	13 (11%)	6 (5%)	1 5
44	HK	115/129 (89%)	91 (79%)	15 (13%)	9 (8%)	1 2
45	BL	121/124 (98%)	101 (84%)	16 (13%)	4 (3%)	3 13
45	DL	121/124 (98%)	98 (81%)	20 (16%)	3 (2%)	4 17
45	FL	121/124 (98%)	100 (83%)	14 (12%)	7 (6%)	1 4
45	HL	121/124 (98%)	101 (84%)	15 (12%)	5 (4%)	2 9
46	BM	112/118 (95%)	98 (88%)	8 (7%)	6 (5%)	1 5
46	DM	112/118 (95%)	96 (86%)	11 (10%)	5 (4%)	2 8
46	FM	112/118 (95%)	99 (88%)	7 (6%)	6 (5%)	1 5
46	HM	112/118 (95%)	92 (82%)	12 (11%)	8 (7%)	1 2
47	BN	92/101 (91%)	73 (79%)	13 (14%)	6 (6%)	1 3
47	DN	92/101 (91%)	71 (77%)	19 (21%)	2 (2%)	5 20
47	FN	92/101 (91%)	71 (77%)	17 (18%)	4 (4%)	2 8
47	HN	92/101 (91%)	70 (76%)	18 (20%)	4 (4%)	2 8
48	BO	86/89 (97%)	75 (87%)	9 (10%)	2 (2%)	5 19
48	DO	86/89 (97%)	75 (87%)	11 (13%)	0	100 100
48	FO	86/89 (97%)	75 (87%)	11 (13%)	0	100 100
48	HO	86/89 (97%)	72 (84%)	11 (13%)	3 (4%)	3 12
49	BP	80/82 (98%)	60 (75%)	17 (21%)	3 (4%)	2 10
49	DP	80/82 (98%)	60 (75%)	15 (19%)	5 (6%)	1 3
49	FP	80/82 (98%)	62 (78%)	15 (19%)	3 (4%)	2 10
49	HP	80/82 (98%)	56 (70%)	21 (26%)	3 (4%)	2 10

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
50	BQ	78/84 (93%)	59 (76%)	15 (19%)	4 (5%)	1 6
50	DQ	78/84 (93%)	58 (74%)	14 (18%)	6 (8%)	1 2
50	FQ	78/84 (93%)	58 (74%)	17 (22%)	3 (4%)	2 10
50	HQ	78/84 (93%)	58 (74%)	13 (17%)	7 (9%)	0 1
51	BR	53/75 (71%)	47 (89%)	6 (11%)	0	100 100
51	DR	53/75 (71%)	46 (87%)	7 (13%)	0	100 100
51	FR	53/75 (71%)	48 (91%)	5 (9%)	0	100 100
51	HR	53/75 (71%)	49 (92%)	4 (8%)	0	100 100
52	BS	77/92 (84%)	65 (84%)	11 (14%)	1 (1%)	9 32
52	DS	77/92 (84%)	66 (86%)	11 (14%)	0	100 100
52	FS	77/92 (84%)	64 (83%)	11 (14%)	2 (3%)	4 17
52	HS	77/92 (84%)	66 (86%)	9 (12%)	2 (3%)	4 17
53	BT	83/87 (95%)	74 (89%)	7 (8%)	2 (2%)	4 18
53	DT	83/87 (95%)	74 (89%)	6 (7%)	3 (4%)	2 11
53	FT	83/87 (95%)	75 (90%)	6 (7%)	2 (2%)	4 18
53	HT	83/87 (95%)	73 (88%)	8 (10%)	2 (2%)	4 18
54	BU	49/71 (69%)	26 (53%)	20 (41%)	3 (6%)	1 4
54	DU	49/71 (69%)	25 (51%)	20 (41%)	4 (8%)	0 2
54	FU	49/71 (69%)	24 (49%)	21 (43%)	4 (8%)	0 2
54	HU	49/71 (69%)	29 (59%)	18 (37%)	2 (4%)	2 9
55	BV	686/704 (97%)	559 (82%)	92 (13%)	35 (5%)	1 6
55	DV	685/704 (97%)	559 (82%)	93 (14%)	33 (5%)	2 7
55	FV	685/704 (97%)	564 (82%)	89 (13%)	32 (5%)	2 7
55	HV	685/704 (97%)	562 (82%)	88 (13%)	35 (5%)	1 6
56	BW	2/6 (33%)	0	0	2 (100%)	0 0
56	DW	2/6 (33%)	0	1 (50%)	1 (50%)	0 0
56	FW	2/6 (33%)	2 (100%)	0	0	100 100
56	HW	2/6 (33%)	1 (50%)	0	1 (50%)	0 0
All	All	25302/27000 (94%)	20075 (79%)	3885 (15%)	1342 (5%)	1 5

All (1342) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AC	70	LYS
2	AC	104	LEU
2	AC	121	ALA
2	AC	140	VAL
4	AD	43	ASP
4	AD	73	VAL
4	AD	170	VAL
5	AE	79	ARG
6	AF	111	ARG
7	AG	2	ARG
7	AG	16	VAL
7	AG	28	LYS
7	AG	31	GLU
7	AG	84	LYS
7	AG	164	ALA
7	AG	168	VAL
8	AH	3	VAL
10	AJ	13	ARG
10	AJ	21	THR
10	AJ	44	TYR
10	AJ	45	THR
10	AJ	81	ILE
10	AJ	125	TYR
12	AL	66	PHE
13	AM	14	LYS
13	AM	77	PRO
14	AN	119	SER
16	AP	50	ARG
16	AP	51	ASN
16	AP	93	LYS
19	AS	3	THR
19	AS	14	ALA
19	AS	64	ALA
20	AT	27	SER
20	AT	29	THR
20	AT	40	LYS
21	AU	6	ARG
21	AU	87	GLU
21	AU	92	VAL
21	AU	98	ASN
21	AU	99	SER
23	AW	9	THR
23	AW	18	LYS

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Mol	Chain	Res	Type
23	AW	29	SER
23	AW	36	ILE
23	AW	56	HIS
26	AZ	9	THR
27	A0	23	ALA
30	A3	22	LYS
31	A4	8	LYS
32	A5	27	VAL
32	A5	48	ALA
32	A5	54	VAL
32	A5	55	VAL
32	A5	58	THR
32	A5	69	PHE
32	A5	93	ALA
32	A5	107	GLU
32	A5	108	VAL
32	A5	120	ALA
32	A5	124	ASP
32	A5	130	PRO
34	BB	33	ALA
34	BB	40	ILE
34	BB	119	GLN
36	BC	101	ILE
37	BD	24	GLY
37	BD	25	VAL
37	BD	29	ASP
37	BD	36	GLN
37	BD	125	VAL
37	BD	153	SER
37	BD	166	GLU
37	BD	175	ALA
38	BE	123	VAL
41	BH	67	GLN
42	BI	42	GLU
42	BI	58	VAL
43	BJ	57	VAL
43	BJ	61	ALA
44	BK	14	LYS
44	BK	41	ALA
44	BK	105	PHE
44	BK	127	ARG
45	BL	24	LEU

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Mol	Chain	Res	Type
45	BL	44	LYS
46	BM	4	ILE
46	BM	11	ASP
46	BM	114	LYS
47	BN	52	PRO
47	BN	53	ARG
49	BP	80	LYS
50	BQ	51	ASN
50	BQ	82	ALA
53	BT	4	ILE
54	BU	13	ASP
55	BV	5	THR
55	BV	7	ILE
55	BV	24	THR
55	BV	195	ASP
55	BV	197	ASP
55	BV	200	VAL
55	BV	204	TYR
55	BV	304	ASP
55	BV	423	LYS
55	BV	454	ASN
55	BV	500	ASP
55	BV	529	SER
55	BV	646	GLU
2	CC	70	LYS
2	CC	104	LEU
2	CC	121	ALA
2	CC	140	VAL
4	CD	43	ASP
4	CD	92	VAL
4	CD	118	PHE
4	CD	170	VAL
5	CE	79	ARG
5	CE	175	ILE
6	CF	111	ARG
6	CF	135	ILE
7	CG	2	ARG
7	CG	84	LYS
7	CG	175	LYS
8	CH	3	VAL
8	CH	8	LYS
8	CH	9	VAL

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Mol	Chain	Res	Type
8	CH	11	ASN
9	CI	20	SER
9	CI	59	THR
9	CI	92	PRO
10	CJ	13	ARG
10	CJ	21	THR
10	CJ	45	THR
10	CJ	81	ILE
10	CJ	125	TYR
11	CK	13	ASN
12	CL	66	PHE
13	CM	2	LEU
13	CM	14	LYS
13	CM	69	PRO
13	CM	77	PRO
14	CN	118	ARG
15	CO	68	LYS
16	CP	4	ILE
16	CP	50	ARG
16	CP	51	ASN
16	CP	93	LYS
19	CS	3	THR
19	CS	14	ALA
19	CS	64	ALA
19	CS	96	ILE
20	CT	27	SER
20	CT	40	LYS
21	CU	6	ARG
21	CU	87	GLU
21	CU	92	VAL
21	CU	98	ASN
21	CU	99	SER
23	CW	9	THR
23	CW	14	ASP
23	CW	18	LYS
23	CW	74	LYS
27	C0	23	ALA
28	C1	4	ILE
30	C3	22	LYS
32	C5	27	VAL
32	C5	31	ARG
32	C5	48	ALA

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Mol	Chain	Res	Type
32	C5	54	VAL
32	C5	55	VAL
32	C5	69	PHE
32	C5	93	ALA
32	C5	107	GLU
32	C5	108	VAL
32	C5	120	ALA
32	C5	124	ASP
32	C5	130	PRO
34	DB	22	TRP
34	DB	33	ALA
34	DB	40	ILE
34	DB	119	GLN
34	DB	150	ILE
36	DC	101	ILE
37	DD	25	VAL
37	DD	27	ALA
37	DD	33	LYS
37	DD	153	SER
38	DE	138	ARG
39	DF	63	ASN
42	DI	58	VAL
43	DJ	36	VAL
43	DJ	57	VAL
44	DK	41	ALA
45	DL	24	LEU
45	DL	44	LYS
46	DM	4	ILE
46	DM	114	LYS
50	DQ	12	VAL
50	DQ	13	VAL
50	DQ	51	ASN
53	DT	4	ILE
55	DV	5	THR
55	DV	7	ILE
55	DV	24	THR
55	DV	195	ASP
55	DV	197	ASP
55	DV	200	VAL
55	DV	204	TYR
55	DV	300	ASP
55	DV	304	ASP

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Mol	Chain	Res	Type
55	DV	454	ASN
55	DV	647	SER
55	DV	662	GLU
56	DW	4	SER
2	EC	70	LYS
2	EC	104	LEU
2	EC	140	VAL
2	EC	196	ASN
4	ED	43	ASP
4	ED	73	VAL
4	ED	91	THR
4	ED	92	VAL
4	ED	118	PHE
5	EE	79	ARG
6	EF	10	GLU
6	EF	111	ARG
6	EF	176	PHE
7	EG	2	ARG
7	EG	84	LYS
7	EG	168	VAL
7	EG	175	LYS
8	EH	3	VAL
8	EH	9	VAL
8	EH	10	ALA
9	EI	19	PRO
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
10	EJ	125	TYR
11	EK	13	ASN
12	EL	66	PHE
13	EM	14	LYS
13	EM	23	GLY
13	EM	69	PRO
14	EN	118	ARG
16	EP	50	ARG
16	EP	51	ASN
16	EP	92	ARG

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Mol	Chain	Res	Type
16	EP	104	GLY
18	ER	65	ALA
19	ES	3	THR
19	ES	14	ALA
19	ES	64	ALA
19	ES	96	ILE
20	ET	27	SER
20	ET	29	THR
20	ET	40	LYS
21	EU	6	ARG
21	EU	87	GLU
21	EU	88	ASP
21	EU	92	VAL
21	EU	98	ASN
21	EU	99	SER
23	EW	9	THR
23	EW	14	ASP
23	EW	18	LYS
23	EW	29	SER
23	EW	34	SER
23	EW	37	VAL
23	EW	56	HIS
24	EX	76	LYS
25	EY	37	LEU
27	E0	23	ALA
28	E1	4	ILE
30	E3	22	LYS
32	E5	27	VAL
32	E5	48	ALA
32	E5	54	VAL
32	E5	55	VAL
32	E5	58	THR
32	E5	69	PHE
32	E5	88	HIS
32	E5	92	ALA
32	E5	107	GLU
32	E5	108	VAL
32	E5	120	ALA
32	E5	124	ASP
32	E5	130	PRO
34	FB	21	TYR
34	FB	33	ALA

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Mol	Chain	Res	Type
34	FB	40	ILE
34	FB	150	ILE
36	FC	66	VAL
36	FC	101	ILE
37	FD	23	SER
37	FD	29	ASP
37	FD	37	ALA
37	FD	125	VAL
37	FD	153	SER
39	FF	63	ASN
39	FF	92	THR
42	FI	42	GLU
42	FI	43	THR
42	FI	44	ALA
42	FI	58	VAL
43	FJ	57	VAL
44	FK	14	LYS
44	FK	41	ALA
44	FK	127	ARG
45	FL	24	LEU
45	FL	44	LYS
45	FL	123	LYS
46	FM	4	ILE
46	FM	11	ASP
50	FQ	51	ASN
54	FU	12	PHE
55	FV	5	THR
55	FV	7	ILE
55	FV	24	THR
55	FV	195	ASP
55	FV	200	VAL
55	FV	300	ASP
55	FV	304	ASP
55	FV	423	LYS
55	FV	454	ASN
55	FV	646	GLU
55	FV	662	GLU
2	GC	37	SER
2	GC	70	LYS
2	GC	104	LEU
2	GC	121	ALA
2	GC	140	VAL

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Mol	Chain	Res	Type
2	GC	196	ASN
4	GD	43	ASP
4	GD	73	VAL
4	GD	92	VAL
4	GD	169	ARG
6	GF	63	LYS
6	GF	93	GLU
6	GF	135	ILE
6	GF	147	ARG
7	GG	9	VAL
7	GG	16	VAL
7	GG	28	LYS
7	GG	170	THR
8	GH	3	VAL
9	GI	77	VAL
9	GI	85	ILE
9	GI	92	PRO
9	GI	138	VAL
10	GJ	13	ARG
10	GJ	21	THR
10	GJ	45	THR
10	GJ	81	ILE
10	GJ	125	TYR
11	GK	35	VAL
12	GL	5	THR
12	GL	66	PHE
13	GM	14	LYS
13	GM	23	GLY
15	GO	57	ALA
15	GO	112	GLU
15	GO	113	ALA
16	GP	4	ILE
16	GP	50	ARG
16	GP	51	ASN
16	GP	93	LYS
17	GQ	87	VAL
19	GS	3	THR
19	GS	14	ALA
19	GS	18	ARG
19	GS	64	ALA
19	GS	96	ILE
20	GT	27	SER

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Mol	Chain	Res	Type
20	GT	40	LYS
21	GU	6	ARG
21	GU	85	ARG
21	GU	99	SER
23	GW	9	THR
23	GW	18	LYS
23	GW	56	HIS
23	GW	74	LYS
27	G0	23	ALA
28	G1	4	ILE
30	G3	22	LYS
31	G4	4	ARG
31	G4	8	LYS
34	HB	21	TYR
34	HB	33	ALA
34	HB	40	ILE
34	HB	75	ALA
34	HB	119	GLN
34	HB	127	LYS
34	HB	150	ILE
36	HC	101	ILE
37	HD	25	VAL
37	HD	125	VAL
37	HD	153	SER
37	HD	175	ALA
38	HE	98	PRO
39	HF	15	SER
39	HF	54	LEU
43	HJ	57	VAL
43	HJ	93	ALA
44	HK	41	ALA
44	HK	69	ARG
45	HL	24	LEU
45	HL	44	LYS
46	HM	4	ILE
46	HM	11	ASP
46	HM	66	GLU
50	HQ	13	VAL
50	HQ	51	ASN
50	HQ	53	CYS
52	HS	6	LYS
53	HT	4	ILE

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Mol	Chain	Res	Type
55	HV	5	THR
55	HV	7	ILE
55	HV	24	THR
55	HV	195	ASP
55	HV	197	ASP
55	HV	200	VAL
55	HV	204	TYR
55	HV	300	ASP
55	HV	423	LYS
55	HV	454	ASN
55	HV	500	ASP
55	HV	646	GLU
55	HV	662	GLU
2	AC	37	SER
2	AC	77	VAL
2	AC	238	ASN
2	AC	256	THR
4	AD	92	VAL
4	AD	99	GLU
4	AD	107	VAL
4	AD	118	PHE
6	AF	135	ILE
7	AG	169	ARG
8	AH	9	VAL
8	AH	16	GLY
9	AI	20	SER
9	AI	79	LEU
10	AJ	111	LYS
11	AK	35	VAL
11	AK	71	ARG
12	AL	111	ILE
13	AM	2	LEU
13	AM	36	VAL
13	AM	56	ALA
18	AR	65	ALA
19	AS	19	LEU
19	AS	96	ILE
20	AT	36	LYS
20	AT	49	LYS
21	AU	51	LEU
23	AW	14	ASP
23	AW	47	GLY

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Mol	Chain	Res	Type
23	AW	50	VAL
23	AW	74	LYS
25	AY	37	LEU
27	A0	35	GLU
28	A1	4	ILE
28	A1	50	GLU
32	A5	3	LEU
32	A5	33	VAL
32	A5	88	HIS
32	A5	92	ALA
32	A5	116	GLU
32	A5	119	PRO
34	BB	148	GLY
34	BB	150	ILE
36	BC	17	PRO
36	BC	66	VAL
37	BD	33	LYS
38	BE	138	ARG
39	BF	98	GLU
40	BG	7	ILE
43	BJ	74	VAL
49	BP	77	GLU
50	BQ	14	SER
53	BT	69	LYS
55	BV	48	ALA
55	BV	118	GLY
55	BV	202	PHE
55	BV	300	ASP
55	BV	661	SER
55	BV	662	GLU
2	CC	77	VAL
2	CC	196	ASN
2	CC	238	ASN
4	CD	72	GLY
4	CD	99	GLU
4	CD	107	VAL
4	CD	192	ALA
5	CE	7	ASP
7	CG	8	VAL
7	CG	16	VAL
7	CG	28	LYS
7	CG	33	THR

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Mol	Chain	Res	Type
7	CG	164	ALA
7	CG	168	VAL
7	CG	170	THR
10	CJ	44	TYR
10	CJ	74	TYR
11	CK	35	VAL
12	CL	88	GLY
12	CL	111	ILE
13	CM	23	GLY
15	CO	3	LYS
18	CR	65	ALA
18	CR	98	ILE
20	CT	29	THR
20	CT	36	LYS
23	CW	36	ILE
23	CW	50	VAL
23	CW	56	HIS
25	CY	37	LEU
26	CZ	9	THR
29	C2	44	VAL
32	C5	33	VAL
32	C5	58	THR
32	C5	88	HIS
32	C5	92	ALA
32	C5	118	ILE
37	DD	125	VAL
37	DD	175	ALA
41	DH	67	GLN
41	DH	89	LYS
43	DJ	74	VAL
44	DK	127	ARG
49	DP	42	ILE
49	DP	44	SER
49	DP	77	GLU
50	DQ	6	ARG
50	DQ	53	CYS
54	DU	35	ARG
55	DV	93	VAL
55	DV	118	GLY
55	DV	202	PHE
55	DV	423	LYS
55	DV	500	ASP

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Mol	Chain	Res	Type
55	DV	529	SER
55	DV	649	VAL
55	DV	661	SER
2	EC	37	SER
2	EC	121	ALA
2	EC	238	ASN
4	ED	99	GLU
4	ED	107	VAL
4	ED	170	VAL
4	ED	175	LEU
6	EF	2	LYS
6	EF	113	PHE
6	EF	135	ILE
7	EG	16	VAL
7	EG	28	LYS
7	EG	117	PRO
7	EG	164	ALA
7	EG	170	THR
9	EI	12	VAL
10	EJ	111	LYS
11	EK	35	VAL
12	EL	111	ILE
13	EM	13	HIS
13	EM	56	ALA
13	EM	77	PRO
15	EO	3	LYS
16	EP	4	ILE
16	EP	93	LYS
16	EP	103	THR
19	ES	19	LEU
20	ET	36	LYS
20	ET	49	LYS
21	EU	85	ARG
23	EW	36	ILE
23	EW	47	GLY
23	EW	50	VAL
25	EY	7	ARG
26	EZ	9	THR
27	E0	35	GLU
28	E1	50	GLU
32	E5	31	ARG
34	FB	75	ALA

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Mol	Chain	Res	Type
34	FB	119	GLN
37	FD	33	LYS
37	FD	175	ALA
38	FE	99	ALA
38	FE	110	ALA
38	FE	138	ARG
40	FG	7	ILE
41	FH	67	GLN
43	FJ	74	VAL
44	FK	105	PHE
46	FM	114	LYS
47	FN	28	LYS
49	FP	77	GLU
49	FP	80	LYS
52	FS	4	SER
53	FT	69	LYS
55	FV	93	VAL
55	FV	118	GLY
55	FV	197	ASP
55	FV	500	ASP
55	FV	529	SER
55	FV	649	VAL
55	FV	661	SER
55	FV	698	VAL
2	GC	77	VAL
4	GD	95	SER
4	GD	118	PHE
4	GD	144	GLY
5	GE	7	ASP
5	GE	79	ARG
7	GG	2	ARG
7	GG	18	ILE
7	GG	31	GLU
7	GG	84	LYS
7	GG	164	ALA
7	GG	168	VAL
8	GH	9	VAL
9	GI	30	GLN
10	GJ	44	TYR
10	GJ	74	TYR
11	GK	13	ASN
12	GL	81	ASP

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Mol	Chain	Res	Type
12	GL	111	ILE
14	GN	118	ARG
16	GP	34	GLY
18	GR	65	ALA
18	GR	98	ILE
20	GT	29	THR
20	GT	38	ALA
20	GT	55	VAL
21	GU	55	GLY
21	GU	87	GLU
21	GU	98	ASN
23	GW	14	ASP
23	GW	42	THR
23	GW	50	VAL
24	GX	34	SER
25	GY	37	LEU
27	G0	35	GLU
28	G1	50	GLU
31	G4	16	ILE
37	HD	29	ASP
38	HE	110	ALA
38	HE	138	ARG
38	HE	158	GLY
40	HG	8	GLY
40	HG	130	ASN
41	HH	67	GLN
42	HI	42	GLU
43	HJ	28	THR
43	HJ	61	ALA
44	HK	14	LYS
45	HL	78	SER
46	HM	5	ALA
47	HN	62	ASN
49	HP	80	LYS
50	HQ	6	ARG
50	HQ	12	VAL
53	HT	69	LYS
55	HV	93	VAL
55	HV	118	GLY
55	HV	198	GLN
55	HV	304	ASP
55	HV	529	SER

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Mol	Chain	Res	Type
55	HV	649	VAL
55	HV	661	SER
2	AC	110	LYS
4	AD	95	SER
4	AD	109	VAL
4	AD	192	ALA
5	AE	7	ASP
5	AE	70	SER
5	AE	123	LYS
6	AF	176	PHE
7	AG	32	LEU
7	AG	117	PRO
7	AG	170	THR
8	AH	10	ALA
9	AI	11	GLN
11	AK	13	ASN
11	AK	46	ALA
11	AK	93	GLN
13	AM	69	PRO
15	AO	3	LYS
16	AP	113	LEU
18	AR	98	ILE
21	AU	85	ARG
21	AU	101	THR
23	AW	34	SER
24	AX	17	ARG
24	AX	34	SER
26	AZ	34	THR
28	A1	51	ALA
31	A4	4	ARG
32	A5	5	LEU
32	A5	78	GLY
32	A5	118	ILE
33	A6	14	MET
34	BB	18	GLN
34	BB	75	ALA
36	BC	15	VAL
37	BD	167	LYS
38	BE	99	ALA
38	BE	110	ALA
39	BF	54	LEU
39	BF	63	ASN

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Mol	Chain	Res	Type
39	BF	101	PRO
45	BL	98	VAL
46	BM	5	ALA
48	BO	46	HIS
55	BV	93	VAL
55	BV	323	LYS
55	BV	527	PRO
55	BV	541	LYS
55	BV	649	VAL
56	BW	3	SER
56	BW	4	SER
2	CC	37	SER
2	CC	59	GLN
2	CC	197	ALA
4	CD	73	VAL
4	CD	109	VAL
4	CD	175	LEU
5	CE	46	GLN
6	CF	175	PRO
7	CG	117	PRO
7	CG	163	TYR
10	CJ	111	LYS
11	CK	93	GLN
13	CM	56	ALA
13	CM	134	THR
15	CO	57	ALA
15	CO	58	ILE
16	CP	34	GLY
17	CQ	87	VAL
17	CQ	88	GLU
20	CT	49	LYS
21	CU	53	GLN
21	CU	101	THR
23	CW	29	SER
23	CW	42	THR
24	CX	17	ARG
24	CX	34	SER
26	CZ	34	THR
27	C0	35	GLU
31	C4	4	ARG
31	C4	16	ILE
32	C5	119	PRO

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Mol	Chain	Res	Type
32	C5	135	ALA
34	DB	21	TYR
34	DB	72	LYS
34	DB	75	ALA
36	DC	15	VAL
36	DC	66	VAL
37	DD	35	GLU
37	DD	167	LYS
38	DE	110	ALA
40	DG	7	ILE
43	DJ	61	ALA
45	DL	74	LEU
46	DM	5	ALA
46	DM	11	ASP
47	DN	62	ASN
53	DT	68	HIS
53	DT	69	LYS
54	DU	27	GLY
55	DV	198	GLN
55	DV	510	GLY
2	EC	59	GLN
2	EC	77	VAL
2	EC	256	THR
4	ED	169	ARG
5	EE	7	ASP
7	EG	31	GLU
7	EG	33	THR
7	EG	97	VAL
10	EJ	74	TYR
13	EM	2	LEU
13	EM	70	ASP
13	EM	134	THR
16	EP	105	LYS
17	EQ	87	VAL
17	EQ	88	GLU
18	ER	98	ILE
21	EU	55	GLY
21	EU	101	THR
24	EX	17	ARG
25	EY	62	GLY
27	E0	54	ILE
31	E4	4	ARG

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Mol	Chain	Res	Type
31	E4	8	LYS
31	E4	16	ILE
32	E5	72	LEU
32	E5	118	ILE
32	E5	119	PRO
34	FB	18	GLN
34	FB	128	LEU
34	FB	148	GLY
39	FF	91	ARG
43	FJ	61	ALA
46	FM	10	PRO
50	FQ	53	CYS
54	FU	32	VAL
55	FV	198	GLN
55	FV	202	PHE
55	FV	305	THR
55	FV	311	ALA
55	FV	323	LYS
55	FV	510	GLY
55	FV	527	PRO
55	FV	569	TYR
55	FV	647	SER
2	GC	238	ASN
2	GC	256	THR
4	GD	99	GLU
4	GD	107	VAL
4	GD	145	SER
4	GD	170	VAL
4	GD	175	LEU
4	GD	192	ALA
5	GE	46	GLN
5	GE	70	SER
5	GE	123	LYS
6	GF	71	LYS
6	GF	94	ARG
6	GF	111	ARG
6	GF	175	PRO
7	GG	20	GLY
7	GG	163	TYR
9	GI	87	SER
10	GJ	111	LYS
11	GK	46	ALA

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Mol	Chain	Res	Type
13	GM	56	ALA
13	GM	69	PRO
13	GM	73	ILE
13	GM	77	PRO
13	GM	134	THR
15	GO	99	TYR
18	GR	40	MET
20	GT	36	LYS
23	GW	47	GLY
24	GX	17	ARG
26	GZ	9	THR
34	HB	18	GLN
34	HB	72	LYS
34	HB	148	GLY
37	HD	23	SER
37	HD	24	GLY
37	HD	33	LYS
37	HD	35	GLU
37	HD	167	LYS
38	HE	12	GLN
43	HJ	89	ARG
44	HK	101	ASN
44	HK	102	ALA
44	HK	127	ARG
48	HO	46	HIS
49	HP	49	GLY
49	HP	77	GLU
55	HV	94	ASP
55	HV	202	PHE
55	HV	510	GLY
55	HV	698	VAL
56	HW	3	SER
2	AC	59	GLN
2	AC	197	ALA
4	AD	169	ARG
4	AD	175	LEU
6	AF	132	ARG
7	AG	33	THR
7	AG	173	ALA
9	AI	64	ARG
10	AJ	74	TYR
11	AK	119	ALA

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Mol	Chain	Res	Type
12	AL	29	LYS
13	AM	23	GLY
13	AM	134	THR
16	AP	4	ILE
16	AP	92	ARG
16	AP	103	THR
17	AQ	87	VAL
17	AQ	88	GLU
17	AQ	95	ALA
20	AT	28	ASN
20	AT	51	PHE
20	AT	55	VAL
23	AW	37	VAL
24	AX	76	LYS
25	AY	7	ARG
27	A0	54	ILE
31	A4	16	ILE
32	A5	89	PRO
34	BB	9	LEU
34	BB	120	SER
34	BB	128	LEU
36	BC	3	GLN
38	BE	98	PRO
42	BI	120	LYS
42	BI	129	LYS
43	BJ	35	GLN
44	BK	15	GLN
46	BM	105	ASN
47	BN	62	ASN
48	BO	47	LYS
49	BP	49	GLY
55	BV	198	GLN
55	BV	305	THR
55	BV	413	GLU
55	BV	569	TYR
55	BV	698	VAL
2	CC	120	ASP
4	CD	95	SER
4	CD	183	GLU
5	CE	70	SER
5	CE	123	LYS
7	CG	9	VAL

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Mol	Chain	Res	Type
8	CH	16	GLY
9	CI	18	ASN
9	CI	58	ILE
11	CK	118	LEU
11	CK	119	ALA
12	CL	41	ARG
16	CP	81	ASP
17	CQ	85	ALA
20	CT	28	ASN
20	CT	55	VAL
20	CT	86	THR
21	CU	85	ARG
23	CW	34	SER
23	CW	76	ARG
25	CY	7	ARG
27	C0	54	ILE
28	C1	50	GLU
31	C4	8	LYS
32	C5	89	PRO
34	DB	18	GLN
34	DB	148	GLY
36	DC	3	GLN
39	DF	54	LEU
39	DF	56	LYS
39	DF	94	HIS
40	DG	56	LYS
44	DK	14	LYS
44	DK	80	LYS
55	DV	413	GLU
55	DV	569	TYR
55	DV	646	GLU
2	EC	110	LYS
4	ED	95	SER
4	ED	109	VAL
4	ED	192	ALA
5	EE	70	SER
6	EF	175	PRO
8	EH	16	GLY
11	EK	46	ALA
11	EK	93	GLN
11	EK	118	LEU
11	EK	119	ALA

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Mol	Chain	Res	Type
12	EL	29	LYS
12	EL	41	ARG
20	ET	7	LEU
20	ET	55	VAL
24	EX	34	SER
32	E5	89	PRO
37	FD	126	ASN
37	FD	167	LYS
39	FF	54	LEU
39	FF	98	GLU
41	FH	89	LYS
43	FJ	42	LEU
45	FL	74	LEU
46	FM	5	ALA
47	FN	62	ASN
47	FN	92	GLU
52	FS	5	LEU
55	FV	94	ASP
55	FV	219	HIS
55	FV	413	GLU
2	GC	59	GLN
2	GC	110	LYS
2	GC	120	ASP
4	GD	109	VAL
5	GE	11	ALA
6	GF	61	GLY
7	GG	117	PRO
7	GG	166	GLU
11	GK	93	GLN
11	GK	119	ALA
12	GL	41	ARG
16	GP	103	THR
20	GT	16	VAL
20	GT	69	ARG
21	GU	53	GLN
25	GY	7	ARG
31	G4	37	GLN
34	HB	67	LEU
36	HC	3	GLN
37	HD	193	ALA
42	HI	58	VAL
43	HJ	37	ARG

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Mol	Chain	Res	Type
45	HL	74	LEU
46	HM	45	ILE
47	HN	3	LYS
48	HO	47	LYS
55	HV	92	HIS
55	HV	259	ASN
55	HV	305	THR
55	HV	409	MET
55	HV	413	GLU
55	HV	527	PRO
2	AC	64	VAL
2	AC	120	ASP
2	AC	196	ASN
4	AD	183	GLU
5	AE	46	GLN
5	AE	96	VAL
7	AG	97	VAL
7	AG	163	TYR
7	AG	166	GLU
9	AI	12	VAL
9	AI	71	LYS
10	AJ	65	THR
11	AK	49	ARG
11	AK	108	ARG
12	AL	5	THR
12	AL	41	ARG
13	AM	35	ALA
13	AM	73	ILE
16	AP	34	GLY
17	AQ	85	ALA
20	AT	86	THR
20	AT	89	GLU
21	AU	88	ASP
23	AW	46	ALA
23	AW	76	ARG
25	AY	9	LYS
32	A5	36	ASP
32	A5	72	LEU
34	BB	72	LYS
34	BB	124	THR
34	BB	154	GLY
38	BE	24	THR

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Mol	Chain	Res	Type
38	BE	45	ARG
39	BF	100	SER
42	BI	9	THR
42	BI	56	ASP
43	BJ	37	ARG
44	BK	100	LEU
45	BL	74	LEU
46	BM	10	PRO
47	BN	34	VAL
47	BN	92	GLU
55	BV	92	HIS
55	BV	409	MET
55	BV	510	GLY
55	BV	647	SER
2	CC	64	VAL
2	CC	94	LEU
2	CC	109	LEU
2	CC	110	LYS
5	CE	45	ALA
6	CF	113	PHE
6	CF	114	ARG
7	CG	118	ALA
9	CI	78	LEU
11	CK	46	ALA
12	CL	58	TYR
13	CM	73	ILE
16	CP	5	LYS
16	CP	103	THR
18	CR	40	MET
20	CT	51	PHE
23	CW	37	VAL
23	CW	46	ALA
23	CW	47	GLY
32	C5	59	LEU
34	DB	128	LEU
37	DD	26	ARG
38	DE	24	THR
38	DE	45	ARG
38	DE	50	TYR
43	DJ	42	LEU
49	DP	49	GLY
50	DQ	71	LYS

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Mol	Chain	Res	Type
54	DU	41	PRO
55	DV	219	HIS
55	DV	305	THR
55	DV	323	LYS
55	DV	506	ALA
55	DV	541	LYS
2	EC	64	VAL
2	EC	109	LEU
5	EE	13	THR
5	EE	46	GLN
5	EE	96	VAL
5	EE	123	LYS
6	EF	149	ARG
7	EG	44	HIS
12	EL	5	THR
12	EL	88	GLY
13	EM	73	ILE
16	EP	34	GLY
16	EP	65	ASN
17	EQ	95	ALA
18	ER	40	MET
20	ET	86	THR
23	EW	23	LYS
23	EW	42	THR
23	EW	46	ALA
25	EY	9	LYS
26	EZ	34	THR
32	E5	4	ASN
32	E5	33	VAL
32	E5	113	PHE
34	FB	72	LYS
34	FB	81	ASP
36	FC	3	GLN
36	FC	15	VAL
36	FC	61	ALA
38	FE	98	PRO
45	FL	73	ASN
50	FQ	6	ARG
54	FU	26	ALA
54	FU	41	PRO
55	FV	204	TYR
2	GC	64	VAL

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Mol	Chain	Res	Type
2	GC	94	LEU
2	GC	109	LEU
5	GE	6	LYS
5	GE	96	VAL
7	GG	8	VAL
7	GG	45	ALA
7	GG	118	ALA
9	GI	64	ARG
9	GI	108	ILE
11	GK	118	LEU
13	GM	13	HIS
16	GP	5	LYS
18	GR	53	PHE
19	GS	19	LEU
20	GT	28	ASN
20	GT	49	LYS
21	GU	16	LYS
21	GU	101	THR
23	GW	10	ARG
23	GW	27	GLY
23	GW	34	SER
23	GW	46	ALA
23	GW	76	ARG
26	GZ	34	THR
28	G1	51	ALA
36	HC	17	PRO
36	HC	66	VAL
36	HC	146	ALA
38	HE	24	THR
42	HI	57	MET
43	HJ	75	ASP
44	HK	51	GLY
45	HL	123	LYS
50	HQ	18	GLU
50	HQ	71	LYS
55	HV	323	LYS
5	AE	83	VAL
5	AE	153	LEU
7	AG	118	ALA
8	AH	14	SER
9	AI	93	ASN
11	AK	6	THR

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Mol	Chain	Res	Type
11	AK	50	GLY
13	AM	13	HIS
18	AR	40	MET
21	AU	16	LYS
23	AW	10	ARG
23	AW	78	PHE
32	A5	59	LEU
32	A5	94	ARG
32	A5	102	ALA
32	A5	128	THR
39	BF	86	ARG
43	BJ	36	VAL
43	BJ	42	LEU
47	BN	29	ALA
50	BQ	71	LYS
54	BU	32	VAL
55	BV	259	ASN
55	BV	309	ARG
4	CD	169	ARG
5	CE	83	VAL
5	CE	96	VAL
5	CE	116	ASP
5	CE	188	MET
17	CQ	4	LYS
20	CT	89	GLU
23	CW	10	ARG
23	CW	17	ALA
23	CW	23	LYS
23	CW	68	PHE
23	CW	78	PHE
25	CY	8	GLU
25	CY	9	LYS
27	C0	26	SER
32	C5	36	ASP
32	C5	94	ARG
34	DB	58	LYS
39	DF	99	ALA
43	DJ	35	GLN
55	DV	259	ASN
55	DV	527	PRO
55	DV	698	VAL
5	EE	6	LYS

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Mol	Chain	Res	Type
5	EE	83	VAL
5	EE	153	LEU
6	EF	133	GLU
7	EG	83	THR
8	EH	8	LYS
10	EJ	41	LYS
11	EK	6	THR
12	EL	82	LEU
17	EQ	85	ALA
20	ET	28	ASN
23	EW	74	LYS
32	E5	36	ASP
32	E5	132	TYR
34	FB	58	LYS
36	FC	146	ALA
37	FD	85	ASN
38	FE	24	THR
39	FF	86	ARG
42	FI	120	LYS
43	FJ	58	ASN
44	FK	15	GLN
45	FL	88	LYS
46	FM	100	GLN
49	FP	49	GLY
53	FT	68	HIS
2	GC	142	ASN
5	GE	83	VAL
7	GG	97	VAL
8	GH	16	GLY
11	GK	6	THR
11	GK	17	ARG
12	GL	82	LEU
17	GQ	5	ARG
18	GR	91	GLN
21	GU	18	LYS
22	GV	67	GLY
23	GW	23	LYS
23	GW	78	PHE
27	G0	54	ILE
30	G3	31	ILE
36	HC	15	VAL
39	HF	16	GLU

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Mol	Chain	Res	Type
39	HF	99	ALA
43	HJ	74	VAL
44	HK	17	SER
46	HM	10	PRO
46	HM	65	VAL
47	HN	48	LEU
48	HO	44	ALA
55	HV	219	HIS
55	HV	345	SER
16	AP	63	ILE
23	AW	41	GLY
54	BU	27	GLY
7	CG	97	VAL
46	DM	10	PRO
9	GI	32	VAL
23	GW	37	VAL
43	HJ	42	LEU
46	HM	114	LYS
54	HU	32	VAL
5	CE	174	GLY
16	CP	63	ILE
20	CT	90	GLY
37	DD	24	GLY
54	DU	32	VAL
16	EP	63	ILE
23	EW	30	VAL
43	FJ	36	VAL
44	HK	89	PRO
55	HV	569	TYR
5	AE	148	ILE
25	AY	62	GLY
32	A5	32	GLY
34	BB	200	PRO
52	BS	30	PRO
27	C0	34	GLY
37	DD	37	ALA
27	E0	24	VAL
37	FD	24	GLY
38	FE	137	VAL
37	HD	37	ALA
54	HU	27	GLY
2	AC	232	GLY

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Mol	Chain	Res	Type
4	AD	122	VAL
9	AI	22	PRO
9	AI	88	GLY
30	A3	6	VAL
2	CC	233	GLY
5	CE	71	GLY
22	CV	67	GLY
36	DC	17	PRO
47	DN	34	VAL
49	DP	10	GLY
5	EE	148	ILE
16	EP	83	ILE
21	EU	38	ILE
21	EU	54	PRO
42	FI	10	GLY
45	FL	45	PRO
47	FN	34	VAL
2	GC	232	GLY
24	GX	63	ILE
29	G2	44	VAL
34	HB	12	GLY
41	HH	78	VAL
47	HN	34	VAL
5	AE	71	GLY
27	A0	24	VAL
37	BD	168	PRO
27	C0	24	VAL
30	C3	31	ILE
37	DD	168	PRO
19	ES	63	GLY
30	E3	31	ILE
44	FK	89	PRO
5	GE	42	GLY
9	GI	88	GLY
16	GP	63	ILE
27	G0	24	VAL
38	HE	137	VAL
52	HS	26	GLY
55	HV	120	GLN

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	AC	216/218 (99%)	199 (92%)	17 (8%)	11 34
2	CC	216/218 (99%)	200 (93%)	16 (7%)	13 38
2	EC	216/218 (99%)	193 (89%)	23 (11%)	6 22
2	GC	216/218 (99%)	203 (94%)	13 (6%)	17 47
4	AD	164/164 (100%)	143 (87%)	21 (13%)	4 14
4	CD	164/164 (100%)	146 (89%)	18 (11%)	6 20
4	ED	164/164 (100%)	146 (89%)	18 (11%)	6 20
4	GD	164/164 (100%)	149 (91%)	15 (9%)	9 28
5	AE	165/165 (100%)	146 (88%)	19 (12%)	5 18
5	CE	165/165 (100%)	153 (93%)	12 (7%)	13 38
5	EE	165/165 (100%)	148 (90%)	17 (10%)	7 23
5	GE	165/165 (100%)	149 (90%)	16 (10%)	8 25
6	AF	148/150 (99%)	135 (91%)	13 (9%)	9 29
6	CF	148/150 (99%)	138 (93%)	10 (7%)	14 42
6	EF	148/150 (99%)	131 (88%)	17 (12%)	5 18
6	GF	148/150 (99%)	145 (98%)	3 (2%)	48 78
7	AG	137/138 (99%)	122 (89%)	15 (11%)	6 20
7	CG	137/138 (99%)	125 (91%)	12 (9%)	9 29
7	EG	137/138 (99%)	119 (87%)	18 (13%)	4 13
7	GG	137/138 (99%)	126 (92%)	11 (8%)	11 34
8	AH	40/40 (100%)	38 (95%)	2 (5%)	22 53
8	CH	40/40 (100%)	39 (98%)	1 (2%)	42 74
8	EH	40/40 (100%)	36 (90%)	4 (10%)	7 24
8	GH	40/40 (100%)	38 (95%)	2 (5%)	22 53
9	AI	109/110 (99%)	106 (97%)	3 (3%)	38 72
9	CI	109/110 (99%)	105 (96%)	4 (4%)	30 64

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
9	EI	109/110 (99%)	105 (96%)	4 (4%)	30 64
9	GI	109/110 (99%)	106 (97%)	3 (3%)	38 72
10	AJ	116/116 (100%)	97 (84%)	19 (16%)	2 8
10	CJ	116/116 (100%)	100 (86%)	16 (14%)	3 12
10	EJ	116/116 (100%)	93 (80%)	23 (20%)	1 5
10	GJ	116/116 (100%)	102 (88%)	14 (12%)	5 16
11	AK	103/104 (99%)	88 (85%)	15 (15%)	3 10
11	CK	103/104 (99%)	87 (84%)	16 (16%)	2 9
11	EK	103/104 (99%)	87 (84%)	16 (16%)	2 9
11	GK	103/104 (99%)	89 (86%)	14 (14%)	3 12
12	AL	102/103 (99%)	90 (88%)	12 (12%)	5 17
12	CL	102/103 (99%)	92 (90%)	10 (10%)	7 25
12	EL	102/103 (99%)	90 (88%)	12 (12%)	5 17
12	GL	102/103 (99%)	95 (93%)	7 (7%)	14 41
13	AM	109/109 (100%)	93 (85%)	16 (15%)	3 10
13	CM	109/109 (100%)	93 (85%)	16 (15%)	3 10
13	EM	109/109 (100%)	96 (88%)	13 (12%)	5 16
13	GM	109/109 (100%)	99 (91%)	10 (9%)	8 27
14	AN	100/103 (97%)	90 (90%)	10 (10%)	7 24
14	CN	100/103 (97%)	94 (94%)	6 (6%)	17 47
14	EN	100/103 (97%)	94 (94%)	6 (6%)	17 47
14	GN	100/103 (97%)	92 (92%)	8 (8%)	11 34
15	AO	86/87 (99%)	78 (91%)	8 (9%)	8 27
15	CO	86/87 (99%)	79 (92%)	7 (8%)	11 33
15	EO	86/87 (99%)	77 (90%)	9 (10%)	6 22
15	GO	86/87 (99%)	79 (92%)	7 (8%)	11 33
16	AP	99/100 (99%)	86 (87%)	13 (13%)	4 13
16	CP	99/100 (99%)	86 (87%)	13 (13%)	4 13
16	EP	99/100 (99%)	86 (87%)	13 (13%)	4 13
16	GP	99/100 (99%)	87 (88%)	12 (12%)	5 16
17	AQ	89/90 (99%)	80 (90%)	9 (10%)	7 24

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
17	CQ	89/90 (99%)	84 (94%)	5 (6%)	19 50
17	EQ	89/90 (99%)	82 (92%)	7 (8%)	11 34
17	GQ	89/90 (99%)	82 (92%)	7 (8%)	11 34
18	AR	84/84 (100%)	74 (88%)	10 (12%)	5 16
18	CR	84/84 (100%)	75 (89%)	9 (11%)	6 22
18	ER	84/84 (100%)	72 (86%)	12 (14%)	3 11
18	GR	84/84 (100%)	73 (87%)	11 (13%)	4 13
19	AS	93/93 (100%)	83 (89%)	10 (11%)	6 21
19	CS	93/93 (100%)	81 (87%)	12 (13%)	4 13
19	ES	93/93 (100%)	82 (88%)	11 (12%)	5 17
19	GS	93/93 (100%)	88 (95%)	5 (5%)	20 51
20	AT	80/84 (95%)	75 (94%)	5 (6%)	16 45
20	CT	80/84 (95%)	75 (94%)	5 (6%)	16 45
20	ET	80/84 (95%)	72 (90%)	8 (10%)	7 24
20	GT	80/84 (95%)	77 (96%)	3 (4%)	29 64
21	AU	83/85 (98%)	75 (90%)	8 (10%)	8 26
21	CU	83/85 (98%)	79 (95%)	4 (5%)	23 55
21	EU	83/85 (98%)	78 (94%)	5 (6%)	17 47
21	GU	83/85 (98%)	79 (95%)	4 (5%)	23 55
22	AV	78/78 (100%)	73 (94%)	5 (6%)	16 44
22	CV	78/78 (100%)	72 (92%)	6 (8%)	12 35
22	EV	78/78 (100%)	74 (95%)	4 (5%)	21 53
22	GV	78/78 (100%)	74 (95%)	4 (5%)	21 53
23	AW	59/63 (94%)	50 (85%)	9 (15%)	3 9
23	CW	59/63 (94%)	53 (90%)	6 (10%)	7 23
23	EW	59/63 (94%)	50 (85%)	9 (15%)	3 9
23	GW	59/63 (94%)	55 (93%)	4 (7%)	14 42
24	AX	67/68 (98%)	59 (88%)	8 (12%)	5 16
24	CX	67/68 (98%)	60 (90%)	7 (10%)	7 23
24	EX	67/68 (98%)	55 (82%)	12 (18%)	2 6
24	GX	67/68 (98%)	60 (90%)	7 (10%)	7 23

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
25	AY	55/55 (100%)	51 (93%)	4 (7%)	13 38
25	CY	55/55 (100%)	49 (89%)	6 (11%)	6 20
25	EY	55/55 (100%)	48 (87%)	7 (13%)	4 14
25	GY	55/55 (100%)	50 (91%)	5 (9%)	9 28
26	AZ	48/49 (98%)	38 (79%)	10 (21%)	1 4
26	CZ	48/49 (98%)	39 (81%)	9 (19%)	1 5
26	EZ	48/49 (98%)	42 (88%)	6 (12%)	4 15
26	GZ	48/49 (98%)	43 (90%)	5 (10%)	7 23
27	A0	47/48 (98%)	46 (98%)	1 (2%)	47 77
27	C0	47/48 (98%)	46 (98%)	1 (2%)	47 77
27	E0	47/48 (98%)	45 (96%)	2 (4%)	26 60
27	G0	47/48 (98%)	45 (96%)	2 (4%)	26 60
28	A1	45/49 (92%)	42 (93%)	3 (7%)	15 43
28	C1	45/49 (92%)	43 (96%)	2 (4%)	25 59
28	E1	45/49 (92%)	42 (93%)	3 (7%)	15 43
28	G1	45/49 (92%)	44 (98%)	1 (2%)	45 77
29	A2	38/38 (100%)	35 (92%)	3 (8%)	11 34
29	C2	38/38 (100%)	34 (90%)	4 (10%)	6 22
29	E2	38/38 (100%)	35 (92%)	3 (8%)	11 34
29	G2	38/38 (100%)	34 (90%)	4 (10%)	6 22
30	A3	51/52 (98%)	45 (88%)	6 (12%)	5 17
30	C3	51/52 (98%)	48 (94%)	3 (6%)	18 48
30	E3	51/52 (98%)	47 (92%)	4 (8%)	11 35
30	G3	51/52 (98%)	47 (92%)	4 (8%)	11 35
31	A4	34/34 (100%)	29 (85%)	5 (15%)	3 10
31	C4	34/34 (100%)	29 (85%)	5 (15%)	3 10
31	E4	34/34 (100%)	31 (91%)	3 (9%)	9 29
31	G4	34/34 (100%)	31 (91%)	3 (9%)	9 29
32	A5	112/123 (91%)	93 (83%)	19 (17%)	2 7
32	C5	112/123 (91%)	97 (87%)	15 (13%)	4 12
32	E5	111/123 (90%)	95 (86%)	16 (14%)	3 11

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
33	A6	26/85 (31%)	21 (81%)	5 (19%)	1 5
34	BB	180/199 (90%)	165 (92%)	15 (8%)	10 32
34	DB	180/199 (90%)	166 (92%)	14 (8%)	11 35
34	FB	180/199 (90%)	167 (93%)	13 (7%)	13 39
34	HB	180/199 (90%)	167 (93%)	13 (7%)	13 39
36	BC	170/190 (90%)	153 (90%)	17 (10%)	7 24
36	DC	170/190 (90%)	158 (93%)	12 (7%)	13 40
36	FC	170/190 (90%)	155 (91%)	15 (9%)	9 29
36	HC	170/190 (90%)	159 (94%)	11 (6%)	15 44
37	BD	172/173 (99%)	164 (95%)	8 (5%)	23 56
37	DD	172/173 (99%)	163 (95%)	9 (5%)	21 52
37	FD	172/173 (99%)	164 (95%)	8 (5%)	23 56
37	HD	172/173 (99%)	166 (96%)	6 (4%)	32 66
38	BE	113/126 (90%)	104 (92%)	9 (8%)	11 34
38	DE	113/126 (90%)	106 (94%)	7 (6%)	16 46
38	FE	113/126 (90%)	103 (91%)	10 (9%)	9 29
38	HE	113/126 (90%)	104 (92%)	9 (8%)	11 34
39	BF	89/116 (77%)	80 (90%)	9 (10%)	7 24
39	DF	87/116 (75%)	84 (97%)	3 (3%)	32 66
39	FF	87/116 (75%)	79 (91%)	8 (9%)	8 27
39	HF	87/116 (75%)	83 (95%)	4 (5%)	24 57
40	BG	124/147 (84%)	114 (92%)	10 (8%)	11 33
40	DG	124/147 (84%)	121 (98%)	3 (2%)	43 75
40	FG	124/147 (84%)	120 (97%)	4 (3%)	34 68
40	HG	124/147 (84%)	122 (98%)	2 (2%)	55 83
41	BH	104/105 (99%)	95 (91%)	9 (9%)	9 30
41	DH	104/105 (99%)	97 (93%)	7 (7%)	15 43
41	FH	104/105 (99%)	99 (95%)	5 (5%)	23 55
41	HH	104/105 (99%)	94 (90%)	10 (10%)	8 26
42	BI	105/107 (98%)	93 (89%)	12 (11%)	5 18
42	DI	105/107 (98%)	100 (95%)	5 (5%)	23 55

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
42	FI	105/107 (98%)	96 (91%)	9 (9%)	10	30
42	HI	105/107 (98%)	99 (94%)	6 (6%)	18	49
43	BJ	86/90 (96%)	83 (96%)	3 (4%)	32	66
43	DJ	86/90 (96%)	80 (93%)	6 (7%)	14	40
43	FJ	86/90 (96%)	81 (94%)	5 (6%)	18	49
43	HJ	86/90 (96%)	81 (94%)	5 (6%)	18	49
44	BK	90/99 (91%)	85 (94%)	5 (6%)	19	50
44	DK	90/99 (91%)	88 (98%)	2 (2%)	45	77
44	FK	90/99 (91%)	81 (90%)	9 (10%)	7	24
44	HK	90/99 (91%)	83 (92%)	7 (8%)	11	35
45	BL	103/104 (99%)	95 (92%)	8 (8%)	11	35
45	DL	103/104 (99%)	96 (93%)	7 (7%)	14	42
45	FL	103/104 (99%)	95 (92%)	8 (8%)	11	35
45	HL	103/104 (99%)	98 (95%)	5 (5%)	22	54
46	BM	92/96 (96%)	86 (94%)	6 (6%)	15	44
46	DM	92/96 (96%)	89 (97%)	3 (3%)	33	67
46	FM	92/96 (96%)	88 (96%)	4 (4%)	26	60
46	HM	92/96 (96%)	87 (95%)	5 (5%)	20	51
47	BN	79/84 (94%)	74 (94%)	5 (6%)	16	45
47	DN	79/84 (94%)	77 (98%)	2 (2%)	42	74
47	FN	79/84 (94%)	76 (96%)	3 (4%)	29	64
47	HN	79/84 (94%)	79 (100%)	0	100	100
48	BO	76/77 (99%)	72 (95%)	4 (5%)	20	52
48	DO	76/77 (99%)	73 (96%)	3 (4%)	28	63
48	FO	76/77 (99%)	70 (92%)	6 (8%)	11	34
48	HO	76/77 (99%)	73 (96%)	3 (4%)	28	63
49	BP	65/65 (100%)	61 (94%)	4 (6%)	16	46
49	DP	65/65 (100%)	62 (95%)	3 (5%)	24	57
49	FP	65/65 (100%)	62 (95%)	3 (5%)	24	57
49	HP	65/65 (100%)	63 (97%)	2 (3%)	35	69
50	BQ	74/78 (95%)	66 (89%)	8 (11%)	6	21

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
50	DQ	74/78 (95%)	71 (96%)	3 (4%)	27 61
50	FQ	74/78 (95%)	70 (95%)	4 (5%)	20 51
50	HQ	74/78 (95%)	69 (93%)	5 (7%)	14 42
51	BR	48/65 (74%)	46 (96%)	2 (4%)	26 60
51	DR	48/65 (74%)	46 (96%)	2 (4%)	26 60
51	FR	48/65 (74%)	47 (98%)	1 (2%)	47 77
51	HR	48/65 (74%)	48 (100%)	0	100 100
52	BS	70/79 (89%)	64 (91%)	6 (9%)	10 30
52	DS	70/79 (89%)	68 (97%)	2 (3%)	37 71
52	FS	70/79 (89%)	67 (96%)	3 (4%)	26 60
52	HS	70/79 (89%)	68 (97%)	2 (3%)	37 71
53	BT	65/66 (98%)	58 (89%)	7 (11%)	6 21
53	DT	65/66 (98%)	59 (91%)	6 (9%)	8 27
53	FT	65/66 (98%)	59 (91%)	6 (9%)	8 27
53	HT	65/66 (98%)	55 (85%)	10 (15%)	2 9
54	BU	44/61 (72%)	37 (84%)	7 (16%)	2 8
54	DU	44/61 (72%)	41 (93%)	3 (7%)	14 42
54	FU	44/61 (72%)	39 (89%)	5 (11%)	5 18
54	HU	44/61 (72%)	43 (98%)	1 (2%)	44 76
55	BV	568/578 (98%)	510 (90%)	58 (10%)	7 23
55	DV	568/578 (98%)	514 (90%)	54 (10%)	8 26
55	FV	568/578 (98%)	519 (91%)	49 (9%)	10 30
55	HV	568/578 (98%)	525 (92%)	43 (8%)	12 36
56	BW	2/2 (100%)	1 (50%)	1 (50%)	0 0
56	DW	2/2 (100%)	1 (50%)	1 (50%)	0 0
56	FW	2/2 (100%)	1 (50%)	1 (50%)	0 0
56	HW	2/2 (100%)	1 (50%)	1 (50%)	0 0
All	All	21011/21990 (96%)	19244 (92%)	1767 (8%)	10 31

All (1767) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	AC	50	THR

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Mol	Chain	Res	Type
2	AC	51	ARG
2	AC	70	LYS
2	AC	93	VAL
2	AC	103	ILE
2	AC	109	LEU
2	AC	117	SER
2	AC	124	LYS
2	AC	129	LEU
2	AC	142	ASN
2	AC	152	GLN
2	AC	155	ARG
2	AC	166	ARG
2	AC	176	ARG
2	AC	194	VAL
2	AC	251	THR
2	AC	270	ARG
4	AD	9	VAL
4	AD	24	VAL
4	AD	33	ARG
4	AD	37	VAL
4	AD	74	GLU
4	AD	86	GLU
4	AD	98	VAL
4	AD	100	LEU
4	AD	103	ASP
4	AD	107	VAL
4	AD	124	ARG
4	AD	129	THR
4	AD	159	LYS
4	AD	170	VAL
4	AD	171	THR
4	AD	172	VAL
4	AD	177	VAL
4	AD	183	GLU
4	AD	193	VAL
4	AD	201	LEU
4	AD	203	VAL
5	AE	5	LEU
5	AE	12	LEU
5	AE	28	VAL
5	AE	40	ARG
5	AE	44	ARG

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Mol	Chain	Res	Type
5	AE	51	GLU
5	AE	65	THR
5	AE	69	ARG
5	AE	88	ARG
5	AE	109	LEU
5	AE	113	VAL
5	AE	118	LEU
5	AE	120	VAL
5	AE	126	VAL
5	AE	131	THR
5	AE	147	LEU
5	AE	149	ILE
5	AE	167	VAL
5	AE	171	ASP
6	AF	3	LEU
6	AF	9	ASP
6	AF	16	MET
6	AF	34	THR
6	AF	35	LEU
6	AF	41	GLU
6	AF	46	LYS
6	AF	56	LEU
6	AF	90	LEU
6	AF	94	ARG
6	AF	114	ARG
6	AF	131	VAL
6	AF	154	THR
7	AG	3	VAL
7	AG	16	VAL
7	AG	36	LEU
7	AG	38	ASP
7	AG	84	LYS
7	AG	94	ARG
7	AG	103	ASN
7	AG	110	HIS
7	AG	121	THR
7	AG	126	THR
7	AG	131	VAL
7	AG	132	LEU
7	AG	151	ARG
7	AG	170	THR
7	AG	176	LYS

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Mol	Chain	Res	Type
8	AH	3	VAL
8	AH	6	LEU
9	AI	23	VAL
9	AI	102	ARG
9	AI	137	LEU
10	AJ	2	LYS
10	AJ	17	VAL
10	AJ	24	THR
10	AJ	25	LEU
10	AJ	30	THR
10	AJ	36	LEU
10	AJ	40	HIS
10	AJ	54	ILE
10	AJ	55	ILE
10	AJ	65	THR
10	AJ	72	LYS
10	AJ	73	VAL
10	AJ	95	ARG
10	AJ	103	ILE
10	AJ	105	VAL
10	AJ	123	LYS
10	AJ	129	GLU
10	AJ	131	ASN
10	AJ	140	LEU
11	AK	3	GLN
11	AK	8	LEU
11	AK	13	ASN
11	AK	18	ARG
11	AK	19	VAL
11	AK	23	LYS
11	AK	38	ILE
11	AK	41	ILE
11	AK	47	ILE
11	AK	54	LYS
11	AK	61	VAL
11	AK	73	ASP
11	AK	93	GLN
11	AK	105	ARG
11	AK	110	GLU
12	AL	5	THR
12	AL	10	GLU
12	AL	19	LEU

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Mol	Chain	Res	Type
12	AL	48	ARG
12	AL	67	THR
12	AL	82	LEU
12	AL	91	ASP
12	AL	95	LEU
12	AL	100	ILE
12	AL	101	ILE
12	AL	121	THR
12	AL	122	VAL
13	AM	12	MET
13	AM	13	HIS
13	AM	33	LEU
13	AM	46	ILE
13	AM	53	MET
13	AM	72	PRO
13	AM	76	LYS
13	AM	81	ARG
13	AM	88	ASN
13	AM	95	LEU
13	AM	96	ILE
13	AM	100	LYS
13	AM	110	GLU
13	AM	115	GLU
13	AM	126	ILE
13	AM	134	THR
14	AN	6	SER
14	AN	8	ARG
14	AN	33	ILE
14	AN	51	LEU
14	AN	65	LEU
14	AN	69	ARG
14	AN	70	THR
14	AN	71	ARG
14	AN	82	GLU
14	AN	118	ARG
15	AO	18	LEU
15	AO	31	THR
15	AO	33	ARG
15	AO	36	TYR
15	AO	38	GLN
15	AO	47	VAL
15	AO	106	LEU

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Mol	Chain	Res	Type
15	AO	115	LEU
16	AP	16	VAL
16	AP	19	PHE
16	AP	20	ARG
16	AP	39	LEU
16	AP	62	LYS
16	AP	69	VAL
16	AP	79	VAL
16	AP	80	VAL
16	AP	83	ILE
16	AP	85	VAL
16	AP	92	ARG
16	AP	95	LYS
16	AP	103	THR
17	AQ	16	ILE
17	AQ	17	LEU
17	AQ	50	ARG
17	AQ	55	GLN
17	AQ	59	LEU
17	AQ	63	ARG
17	AQ	88	GLU
17	AQ	93	ILE
17	AQ	97	ILE
18	AR	4	VAL
18	AR	29	THR
18	AR	38	VAL
18	AR	40	MET
18	AR	46	GLU
18	AR	47	VAL
18	AR	48	LYS
18	AR	49	ILE
18	AR	63	VAL
18	AR	73	LYS
19	AS	3	THR
19	AS	4	ILE
19	AS	33	LEU
19	AS	36	LEU
19	AS	45	VAL
19	AS	66	ILE
19	AS	71	VAL
19	AS	76	VAL
19	AS	96	ILE

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Mol	Chain	Res	Type
19	AS	101	SER
20	AT	32	LEU
20	AT	34	VAL
20	AT	43	ILE
20	AT	58	VAL
20	AT	67	VAL
21	AU	6	ARG
21	AU	30	SER
21	AU	38	ILE
21	AU	43	LYS
21	AU	48	VAL
21	AU	61	GLU
21	AU	86	PHE
21	AU	92	VAL
22	AV	29	ILE
22	AV	61	LEU
22	AV	65	VAL
22	AV	87	GLN
22	AV	92	VAL
23	AW	19	ARG
23	AW	22	VAL
23	AW	23	LYS
23	AW	30	VAL
23	AW	36	ILE
23	AW	49	ASN
23	AW	61	LYS
23	AW	63	ASP
23	AW	76	ARG
24	AX	10	ARG
24	AX	24	THR
24	AX	26	ARG
24	AX	29	LEU
24	AX	34	SER
24	AX	40	GLU
24	AX	57	VAL
24	AX	77	TYR
25	AY	10	SER
25	AY	16	THR
25	AY	21	LEU
25	AY	57	LEU
26	AZ	2	LYS
26	AZ	9	THR

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Mol	Chain	Res	Type
26	AZ	15	ARG
26	AZ	17	PRO
26	AZ	23	LEU
26	AZ	30	ARG
26	AZ	31	ILE
26	AZ	37	ARG
26	AZ	40	THR
26	AZ	56	VAL
27	A0	24	VAL
28	A1	8	ILE
28	A1	35	LEU
28	A1	47	ILE
29	A2	9	VAL
29	A2	21	ARG
29	A2	24	THR
30	A3	15	LYS
30	A3	29	ARG
30	A3	30	HIS
30	A3	31	ILE
30	A3	49	VAL
30	A3	56	LEU
31	A4	4	ARG
31	A4	15	LYS
31	A4	16	ILE
31	A4	26	ILE
31	A4	27	CYS
32	A5	1	MET
32	A5	3	LEU
32	A5	26	VAL
32	A5	42	ARG
32	A5	43	LYS
32	A5	51	TYR
32	A5	54	VAL
32	A5	59	LEU
32	A5	65	GLU
32	A5	69	PHE
32	A5	70	GLU
32	A5	96	PHE
32	A5	106	PHE
32	A5	107	GLU
32	A5	116	GLU
32	A5	121	SER

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Mol	Chain	Res	Type
32	A5	125	ARG
32	A5	130	PRO
32	A5	132	TYR
33	A6	17	MET
33	A6	18	ASP
33	A6	20	VAL
33	A6	24	SER
33	A6	26	MET
34	BB	19	THR
34	BB	26	MET
34	BB	37	VAL
34	BB	42	LEU
34	BB	58	LYS
34	BB	63	LYS
34	BB	86	CYS
34	BB	88	GLN
34	BB	116	LEU
34	BB	127	LYS
34	BB	143	LEU
34	BB	162	VAL
34	BB	170	ILE
34	BB	178	LEU
34	BB	212	TYR
36	BC	3	GLN
36	BC	15	VAL
36	BC	55	ILE
36	BC	58	GLU
36	BC	111	LEU
36	BC	121	THR
36	BC	129	MET
36	BC	150	LYS
36	BC	162	ILE
36	BC	166	GLU
36	BC	167	TRP
36	BC	169	ARG
36	BC	175	LEU
36	BC	178	LEU
36	BC	182	ILE
36	BC	186	THR
36	BC	193	TYR
37	BD	26	ARG
37	BD	58	LYS

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Mol	Chain	Res	Type
37	BD	101	VAL
37	BD	110	THR
37	BD	143	VAL
37	BD	148	LYS
37	BD	161	LEU
37	BD	184	ARG
38	BE	26	LYS
38	BE	82	GLN
38	BE	88	VAL
38	BE	114	VAL
38	BE	123	VAL
38	BE	137	VAL
38	BE	147	MET
38	BE	149	SER
38	BE	153	VAL
39	BF	7	VAL
39	BF	17	GLN
39	BF	38	ARG
39	BF	55	HIS
39	BF	74	LEU
39	BF	86	ARG
39	BF	89	VAL
39	BF	97	THR
39	BF	100	SER
40	BG	5	ARG
40	BG	7	ILE
40	BG	13	LEU
40	BG	49	THR
40	BG	59	LEU
40	BG	70	ARG
40	BG	84	THR
40	BG	86	GLN
40	BG	106	GLU
40	BG	120	LEU
41	BH	25	VAL
41	BH	47	GLU
41	BH	52	GLU
41	BH	77	ARG
41	BH	83	LEU
41	BH	99	LEU
41	BH	104	VAL
41	BH	121	LEU

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Mol	Chain	Res	Type
41	BH	125	ILE
42	BI	14	SER
42	BI	30	ILE
42	BI	39	PHE
42	BI	43	THR
42	BI	45	ARG
42	BI	57	MET
42	BI	63	LEU
42	BI	87	LEU
42	BI	88	MET
42	BI	104	VAL
42	BI	111	VAL
42	BI	116	VAL
43	BJ	67	ILE
43	BJ	73	LEU
43	BJ	83	THR
44	BK	15	GLN
44	BK	65	VAL
44	BK	69	ARG
44	BK	86	VAL
44	BK	129	VAL
45	BL	4	VAL
45	BL	29	GLN
45	BL	33	VAL
45	BL	38	TYR
45	BL	74	LEU
45	BL	90	LEU
45	BL	95	TYR
45	BL	121	ARG
46	BM	13	LYS
46	BM	19	LEU
46	BM	29	ARG
46	BM	53	ILE
46	BM	87	ARG
46	BM	107	ARG
47	BN	5	SER
47	BN	31	ILE
47	BN	49	GLN
47	BN	51	LEU
47	BN	96	LEU
48	BO	6	GLU
48	BO	35	GLN

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Mol	Chain	Res	Type
48	BO	39	LEU
48	BO	87	LEU
49	BP	2	VAL
49	BP	19	VAL
49	BP	31	ARG
49	BP	68	SER
50	BQ	4	LYS
50	BQ	13	VAL
50	BQ	15	ASP
50	BQ	21	ILE
50	BQ	22	VAL
50	BQ	29	VAL
50	BQ	33	ILE
50	BQ	55	ILE
51	BR	21	ILE
51	BR	29	LEU
52	BS	11	ILE
52	BS	13	LEU
52	BS	24	GLU
52	BS	36	ARG
52	BS	37	ARG
52	BS	49	ILE
53	BT	12	ILE
53	BT	15	GLU
53	BT	16	LYS
53	BT	48	GLN
53	BT	49	LYS
53	BT	54	MET
53	BT	67	ILE
54	BU	5	LYS
54	BU	6	VAL
54	BU	16	LEU
54	BU	20	LYS
54	BU	28	VAL
54	BU	34	ARG
54	BU	43	THR
55	BV	5	THR
55	BV	19	ILE
55	BV	23	LYS
55	BV	36	VAL
55	BV	77	LYS
55	BV	83	ARG

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Mol	Chain	Res	Type
55	BV	95	PHE
55	BV	96	THR
55	BV	99	VAL
55	BV	101	ARG
55	BV	104	ARG
55	BV	106	LEU
55	BV	116	VAL
55	BV	160	THR
55	BV	171	LEU
55	BV	182	VAL
55	BV	200	VAL
55	BV	202	PHE
55	BV	204	TYR
55	BV	205	GLU
55	BV	214	LEU
55	BV	220	GLN
55	BV	232	GLU
55	BV	252	LEU
55	BV	261	ILE
55	BV	262	ILE
55	BV	266	CYS
55	BV	276	GLN
55	BV	286	LEU
55	BV	295	ILE
55	BV	299	LEU
55	BV	303	LYS
55	BV	336	PHE
55	BV	409	MET
55	BV	416	ILE
55	BV	418	ILE
55	BV	446	ARG
55	BV	480	GLU
55	BV	487	GLN
55	BV	494	ILE
55	BV	504	LYS
55	BV	514	GLN
55	BV	532	LYS
55	BV	560	GLN
55	BV	574	MET
55	BV	584	HIS
55	BV	602	LYS
55	BV	612	LEU

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Mol	Chain	Res	Type
55	BV	628	THR
55	BV	635	LEU
55	BV	641	MET
55	BV	658	VAL
55	BV	660	LEU
55	BV	675	LYS
55	BV	677	ARG
55	BV	681	THR
55	BV	685	LEU
55	BV	699	ILE
56	BW	4	SER
2	CC	12	ARG
2	CC	93	VAL
2	CC	109	LEU
2	CC	129	LEU
2	CC	141	HIS
2	CC	152	GLN
2	CC	153	LEU
2	CC	191	LEU
2	CC	194	VAL
2	CC	202	ARG
2	CC	224	MET
2	CC	241	LYS
2	CC	251	THR
2	CC	256	THR
2	CC	257	ARG
2	CC	270	ARG
4	CD	9	VAL
4	CD	24	VAL
4	CD	40	LEU
4	CD	86	GLU
4	CD	91	THR
4	CD	98	VAL
4	CD	100	LEU
4	CD	107	VAL
4	CD	124	ARG
4	CD	129	THR
4	CD	131	ASP
4	CD	159	LYS
4	CD	172	VAL
4	CD	183	GLU
4	CD	193	VAL

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Mol	Chain	Res	Type
4	CD	201	LEU
4	CD	203	VAL
4	CD	207	VAL
5	CE	12	LEU
5	CE	28	VAL
5	CE	33	VAL
5	CE	40	ARG
5	CE	44	ARG
5	CE	51	GLU
5	CE	70	SER
5	CE	109	LEU
5	CE	118	LEU
5	CE	147	LEU
5	CE	164	LEU
5	CE	178	VAL
6	CF	3	LEU
6	CF	24	VAL
6	CF	30	VAL
6	CF	41	GLU
6	CF	50	ASP
6	CF	111	ARG
6	CF	114	ARG
6	CF	116	LEU
6	CF	131	VAL
6	CF	157	THR
7	CG	3	VAL
7	CG	26	LYS
7	CG	36	LEU
7	CG	38	ASP
7	CG	84	LYS
7	CG	86	LEU
7	CG	103	ASN
7	CG	126	THR
7	CG	131	VAL
7	CG	132	LEU
7	CG	151	ARG
7	CG	165	ASP
8	CH	6	LEU
9	CI	8	VAL
9	CI	23	VAL
9	CI	48	ILE
9	CI	71	LYS

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Mol	Chain	Res	Type
10	CJ	2	LYS
10	CJ	14	ASP
10	CJ	24	THR
10	CJ	25	LEU
10	CJ	30	THR
10	CJ	36	LEU
10	CJ	40	HIS
10	CJ	54	ILE
10	CJ	65	THR
10	CJ	72	LYS
10	CJ	95	ARG
10	CJ	103	ILE
10	CJ	122	LEU
10	CJ	124	VAL
10	CJ	129	GLU
10	CJ	140	LEU
11	CK	3	GLN
11	CK	8	LEU
11	CK	13	ASN
11	CK	18	ARG
11	CK	19	VAL
11	CK	23	LYS
11	CK	38	ILE
11	CK	47	ILE
11	CK	61	VAL
11	CK	63	VAL
11	CK	73	ASP
11	CK	93	GLN
11	CK	95	ILE
11	CK	105	ARG
11	CK	111	LYS
11	CK	115	ILE
12	CL	19	LEU
12	CL	46	VAL
12	CL	48	ARG
12	CL	51	GLU
12	CL	67	THR
12	CL	82	LEU
12	CL	95	LEU
12	CL	100	ILE
12	CL	118	THR
12	CL	127	VAL

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Mol	Chain	Res	Type
13	CM	12	MET
13	CM	33	LEU
13	CM	47	GLU
13	CM	58	LYS
13	CM	68	PHE
13	CM	72	PRO
13	CM	76	LYS
13	CM	78	LEU
13	CM	81	ARG
13	CM	93	VAL
13	CM	97	GLN
13	CM	100	LYS
13	CM	102	LEU
13	CM	115	GLU
13	CM	126	ILE
13	CM	134	THR
14	CN	14	SER
14	CN	24	MET
14	CN	69	ARG
14	CN	71	ARG
14	CN	82	GLU
14	CN	94	TYR
15	CO	20	GLU
15	CO	28	VAL
15	CO	31	THR
15	CO	36	TYR
15	CO	47	VAL
15	CO	94	ARG
15	CO	106	LEU
16	CP	6	GLN
16	CP	19	PHE
16	CP	20	ARG
16	CP	31	VAL
16	CP	39	LEU
16	CP	52	ARG
16	CP	69	VAL
16	CP	80	VAL
16	CP	83	ILE
16	CP	92	ARG
16	CP	95	LYS
16	CP	103	THR
16	CP	113	LEU

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Mol	Chain	Res	Type
17	CQ	17	LEU
17	CQ	50	ARG
17	CQ	59	LEU
17	CQ	63	ARG
17	CQ	93	ILE
18	CR	20	VAL
18	CR	29	THR
18	CR	39	LEU
18	CR	40	MET
18	CR	46	GLU
18	CR	47	VAL
18	CR	48	LYS
18	CR	49	ILE
18	CR	63	VAL
19	CS	3	THR
19	CS	4	ILE
19	CS	24	ILE
19	CS	33	LEU
19	CS	36	LEU
19	CS	45	VAL
19	CS	66	ILE
19	CS	76	VAL
19	CS	85	ILE
19	CS	88	ARG
19	CS	101	SER
19	CS	107	VAL
20	CT	32	LEU
20	CT	36	LYS
20	CT	43	ILE
20	CT	68	LYS
20	CT	93	LEU
21	CU	18	LYS
21	CU	64	ILE
21	CU	86	PHE
21	CU	92	VAL
22	CV	20	LEU
22	CV	51	GLN
22	CV	61	LEU
22	CV	65	VAL
22	CV	87	GLN
22	CV	92	VAL
23	CW	19	ARG

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Mol	Chain	Res	Type
23	CW	23	LYS
23	CW	59	PHE
23	CW	61	LYS
23	CW	63	ASP
23	CW	70	VAL
24	CX	6	VAL
24	CX	24	THR
24	CX	26	ARG
24	CX	29	LEU
24	CX	46	VAL
24	CX	57	VAL
24	CX	77	TYR
25	CY	21	LEU
25	CY	23	ARG
25	CY	37	LEU
25	CY	47	ARG
25	CY	56	LEU
25	CY	57	LEU
26	CZ	2	LYS
26	CZ	8	GLN
26	CZ	9	THR
26	CZ	15	ARG
26	CZ	20	LYS
26	CZ	23	LEU
26	CZ	30	ARG
26	CZ	43	ILE
26	CZ	56	VAL
27	C0	24	VAL
28	C1	4	ILE
28	C1	33	LEU
29	C2	4	THR
29	C2	9	VAL
29	C2	21	ARG
29	C2	24	THR
30	C3	5	THR
30	C3	15	LYS
30	C3	56	LEU
31	C4	4	ARG
31	C4	10	LEU
31	C4	16	ILE
31	C4	22	VAL
31	C4	23	ILE

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Mol	Chain	Res	Type
32	C5	1	MET
32	C5	26	VAL
32	C5	42	ARG
32	C5	43	LYS
32	C5	51	TYR
32	C5	54	VAL
32	C5	59	LEU
32	C5	65	GLU
32	C5	70	GLU
32	C5	96	PHE
32	C5	107	GLU
32	C5	125	ARG
32	C5	130	PRO
32	C5	132	TYR
32	C5	143	MET
34	DB	13	VAL
34	DB	14	HIS
34	DB	19	THR
34	DB	42	LEU
34	DB	56	LEU
34	DB	58	LYS
34	DB	71	THR
34	DB	86	CYS
34	DB	116	LEU
34	DB	143	LEU
34	DB	162	VAL
34	DB	178	LEU
34	DB	206	ILE
34	DB	209	VAL
36	DC	3	GLN
36	DC	15	VAL
36	DC	26	THR
36	DC	59	ARG
36	DC	129	MET
36	DC	144	LEU
36	DC	149	ILE
36	DC	150	LYS
36	DC	162	ILE
36	DC	167	TRP
36	DC	169	ARG
36	DC	175	LEU
37	DD	10	LYS

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Mol	Chain	Res	Type
37	DD	31	LYS
37	DD	56	ARG
37	DD	59	GLN
37	DD	101	VAL
37	DD	142	VAL
37	DD	171	LEU
37	DD	195	ILE
37	DD	206	LYS
38	DE	96	MET
38	DE	100	SER
38	DE	114	VAL
38	DE	137	VAL
38	DE	147	MET
38	DE	149	SER
38	DE	153	VAL
39	DF	7	VAL
39	DF	74	LEU
39	DF	97	THR
40	DG	5	ARG
40	DG	84	THR
40	DG	106	GLU
41	DH	77	ARG
41	DH	80	ARG
41	DH	83	LEU
41	DH	96	MET
41	DH	104	VAL
41	DH	121	LEU
41	DH	125	ILE
42	DI	57	MET
42	DI	87	LEU
42	DI	88	MET
42	DI	104	VAL
42	DI	111	VAL
43	DJ	57	VAL
43	DJ	77	VAL
43	DJ	80	THR
43	DJ	82	LYS
43	DJ	83	THR
43	DJ	102	LEU
44	DK	97	ILE
44	DK	129	VAL
45	DL	27	CYS

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Mol	Chain	Res	Type
45	DL	39	THR
45	DL	52	VAL
45	DL	64	THR
45	DL	74	LEU
45	DL	90	LEU
45	DL	123	LYS
46	DM	7	ILE
46	DM	19	LEU
46	DM	53	ILE
47	DN	4	GLN
47	DN	71	HIS
48	DO	64	ARG
48	DO	79	THR
48	DO	87	LEU
49	DP	2	VAL
49	DP	6	LEU
49	DP	32	PHE
50	DQ	6	ARG
50	DQ	40	ARG
50	DQ	55	ILE
51	DR	21	ILE
51	DR	24	LYS
52	DS	47	LEU
52	DS	49	ILE
53	DT	5	LYS
53	DT	12	ILE
53	DT	27	MET
53	DT	54	MET
53	DT	70	ASN
53	DT	83	ILE
54	DU	5	LYS
54	DU	20	LYS
54	DU	34	ARG
55	DV	5	THR
55	DV	19	ILE
55	DV	23	LYS
55	DV	29	ARG
55	DV	77	LYS
55	DV	83	ARG
55	DV	95	PHE
55	DV	96	THR
55	DV	99	VAL

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Mol	Chain	Res	Type
55	DV	104	ARG
55	DV	106	LEU
55	DV	119	VAL
55	DV	135	VAL
55	DV	171	LEU
55	DV	182	VAL
55	DV	200	VAL
55	DV	202	PHE
55	DV	204	TYR
55	DV	214	LEU
55	DV	232	GLU
55	DV	252	LEU
55	DV	262	ILE
55	DV	266	CYS
55	DV	286	LEU
55	DV	295	ILE
55	DV	299	LEU
55	DV	303	LYS
55	DV	305	THR
55	DV	343	VAL
55	DV	367	HIS
55	DV	401	ASP
55	DV	409	MET
55	DV	416	ILE
55	DV	418	ILE
55	DV	446	ARG
55	DV	480	GLU
55	DV	494	ILE
55	DV	504	LYS
55	DV	514	GLN
55	DV	532	LYS
55	DV	558	GLN
55	DV	560	GLN
55	DV	574	MET
55	DV	602	LYS
55	DV	612	LEU
55	DV	635	LEU
55	DV	641	MET
55	DV	650	THR
55	DV	658	VAL
55	DV	663	MET
55	DV	675	LYS

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Mol	Chain	Res	Type
55	DV	677	ARG
55	DV	685	LEU
55	DV	699	ILE
56	DW	3	SER
2	EC	12	ARG
2	EC	50	THR
2	EC	77	VAL
2	EC	93	VAL
2	EC	103	ILE
2	EC	104	LEU
2	EC	109	LEU
2	EC	119	VAL
2	EC	120	ASP
2	EC	129	LEU
2	EC	152	GLN
2	EC	155	ARG
2	EC	166	ARG
2	EC	173	LEU
2	EC	175	LEU
2	EC	176	ARG
2	EC	191	LEU
2	EC	194	VAL
2	EC	204	LEU
2	EC	251	THR
2	EC	256	THR
2	EC	268	ARG
2	EC	270	ARG
4	ED	9	VAL
4	ED	24	VAL
4	ED	46	ARG
4	ED	86	GLU
4	ED	91	THR
4	ED	98	VAL
4	ED	100	LEU
4	ED	124	ARG
4	ED	129	THR
4	ED	139	SER
4	ED	151	THR
4	ED	159	LYS
4	ED	170	VAL
4	ED	171	THR
4	ED	172	VAL

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Mol	Chain	Res	Type
4	ED	193	VAL
4	ED	201	LEU
4	ED	203	VAL
5	EE	5	LEU
5	EE	9	GLN
5	EE	28	VAL
5	EE	32	VAL
5	EE	40	ARG
5	EE	44	ARG
5	EE	47	LYS
5	EE	51	GLU
5	EE	77	ILE
5	EE	113	VAL
5	EE	118	LEU
5	EE	119	ILE
5	EE	126	VAL
5	EE	131	THR
5	EE	147	LEU
5	EE	149	ILE
5	EE	153	LEU
6	EF	3	LEU
6	EF	9	ASP
6	EF	12	VAL
6	EF	25	MET
6	EF	35	LEU
6	EF	36	ASN
6	EF	66	ILE
6	EF	80	GLN
6	EF	82	TYR
6	EF	107	VAL
6	EF	114	ARG
6	EF	116	LEU
6	EF	131	VAL
6	EF	146	ASP
6	EF	153	ILE
6	EF	168	LEU
6	EF	177	ARG
7	EG	5	LYS
7	EG	18	ILE
7	EG	36	LEU
7	EG	37	ASN
7	EG	38	ASP

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Mol	Chain	Res	Type
7	EG	41	GLU
7	EG	50	THR
7	EG	68	ARG
7	EG	76	ILE
7	EG	84	LYS
7	EG	86	LEU
7	EG	103	ASN
7	EG	120	ILE
7	EG	126	THR
7	EG	131	VAL
7	EG	132	LEU
7	EG	147	LEU
7	EG	165	ASP
8	EH	3	VAL
8	EH	6	LEU
8	EH	27	ARG
8	EH	43	ASN
9	EI	23	VAL
9	EI	48	ILE
9	EI	93	ASN
9	EI	135	MET
10	EJ	2	LYS
10	EJ	3	THR
10	EJ	5	THR
10	EJ	17	VAL
10	EJ	24	THR
10	EJ	25	LEU
10	EJ	30	THR
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	67	ASN
10	EJ	72	LYS
10	EJ	95	ARG
10	EJ	103	ILE
10	EJ	122	LEU
10	EJ	123	LYS
10	EJ	131	ASN
10	EJ	138	GLN

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Mol	Chain	Res	Type
10	EJ	139	VAL
10	EJ	140	LEU
11	EK	3	GLN
11	EK	8	LEU
11	EK	13	ASN
11	EK	19	VAL
11	EK	23	LYS
11	EK	38	ILE
11	EK	41	ILE
11	EK	47	ILE
11	EK	61	VAL
11	EK	73	ASP
11	EK	93	GLN
11	EK	95	ILE
11	EK	97	THR
11	EK	105	ARG
11	EK	107	LEU
11	EK	111	LYS
12	EL	5	THR
12	EL	19	LEU
12	EL	30	THR
12	EL	48	ARG
12	EL	67	THR
12	EL	82	LEU
12	EL	95	LEU
12	EL	100	ILE
12	EL	101	ILE
12	EL	121	THR
12	EL	122	VAL
12	EL	127	VAL
13	EM	7	THR
13	EM	41	LEU
13	EM	47	GLU
13	EM	76	LYS
13	EM	80	VAL
13	EM	81	ARG
13	EM	93	VAL
13	EM	97	GLN
13	EM	115	GLU
13	EM	118	LYS
13	EM	126	ILE
13	EM	132	THR

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Mol	Chain	Res	Type
13	EM	134	THR
14	EN	24	MET
14	EN	29	VAL
14	EN	51	LEU
14	EN	69	ARG
14	EN	83	LEU
14	EN	97	ILE
15	EO	8	ILE
15	EO	18	LEU
15	EO	20	GLU
15	EO	31	THR
15	EO	36	TYR
15	EO	47	VAL
15	EO	54	VAL
15	EO	106	LEU
15	EO	116	GLN
16	EP	7	LEU
16	EP	16	VAL
16	EP	24	THR
16	EP	31	VAL
16	EP	36	LYS
16	EP	39	LEU
16	EP	69	VAL
16	EP	79	VAL
16	EP	80	VAL
16	EP	92	ARG
16	EP	99	LEU
16	EP	103	THR
16	EP	113	LEU
17	EQ	7	VAL
17	EQ	16	ILE
17	EQ	17	LEU
17	EQ	59	LEU
17	EQ	88	GLU
17	EQ	93	ILE
17	EQ	116	LEU
18	ER	4	VAL
18	ER	25	LEU
18	ER	26	ASP
18	ER	29	THR
18	ER	38	VAL
18	ER	40	MET

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Mol	Chain	Res	Type
18	ER	47	VAL
18	ER	48	LYS
18	ER	49	ILE
18	ER	58	VAL
18	ER	63	VAL
18	ER	81	LYS
19	ES	3	THR
19	ES	4	ILE
19	ES	18	ARG
19	ES	30	SER
19	ES	33	LEU
19	ES	45	VAL
19	ES	66	ILE
19	ES	74	ILE
19	ES	76	VAL
19	ES	101	SER
19	ES	107	VAL
20	ET	32	LEU
20	ET	36	LYS
20	ET	43	ILE
20	ET	63	VAL
20	ET	64	LYS
20	ET	68	LYS
20	ET	74	ILE
20	ET	85	VAL
21	EU	18	LYS
21	EU	29	SER
21	EU	71	ILE
21	EU	86	PHE
21	EU	92	VAL
22	EV	18	ARG
22	EV	46	LYS
22	EV	61	LEU
22	EV	92	VAL
23	EW	23	LYS
23	EW	25	PHE
23	EW	30	VAL
23	EW	36	ILE
23	EW	49	ASN
23	EW	61	LYS
23	EW	63	ASP
23	EW	67	LYS

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Mol	Chain	Res	Type
23	EW	76	ARG
24	EX	6	VAL
24	EX	10	ARG
24	EX	16	ASN
24	EX	17	ARG
24	EX	24	THR
24	EX	26	ARG
24	EX	29	LEU
24	EX	34	SER
24	EX	40	GLU
24	EX	46	VAL
24	EX	70	LEU
24	EX	77	TYR
25	EY	1	MET
25	EY	16	THR
25	EY	18	LEU
25	EY	23	ARG
25	EY	47	ARG
25	EY	56	LEU
25	EY	57	LEU
26	EZ	8	GLN
26	EZ	15	ARG
26	EZ	17	PRO
26	EZ	23	LEU
26	EZ	37	ARG
26	EZ	56	VAL
27	E0	24	VAL
27	E0	42	ILE
28	E1	7	LYS
28	E1	9	LYS
28	E1	35	LEU
29	E2	9	VAL
29	E2	39	ARG
29	E2	42	LEU
30	E3	7	ARG
30	E3	15	LYS
30	E3	31	ILE
30	E3	54	LEU
31	E4	4	ARG
31	E4	16	ILE
31	E4	26	ILE
32	E5	1	MET

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Mol	Chain	Res	Type
32	E5	26	VAL
32	E5	42	ARG
32	E5	43	LYS
32	E5	51	TYR
32	E5	54	VAL
32	E5	59	LEU
32	E5	65	GLU
32	E5	70	GLU
32	E5	96	PHE
32	E5	107	GLU
32	E5	108	VAL
32	E5	125	ARG
32	E5	130	PRO
32	E5	132	TYR
32	E5	143	MET
34	FB	19	THR
34	FB	42	LEU
34	FB	53	LEU
34	FB	58	LYS
34	FB	86	CYS
34	FB	88	GLN
34	FB	116	LEU
34	FB	142	LYS
34	FB	143	LEU
34	FB	162	VAL
34	FB	219	THR
34	FB	221	ARG
34	FB	224	ARG
36	FC	3	GLN
36	FC	14	ILE
36	FC	15	VAL
36	FC	26	THR
36	FC	39	VAL
36	FC	70	THR
36	FC	121	THR
36	FC	144	LEU
36	FC	150	LYS
36	FC	156	ARG
36	FC	162	ILE
36	FC	167	TRP
36	FC	169	ARG
36	FC	175	LEU

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Mol	Chain	Res	Type
36	FC	185	ASN
37	FD	10	LYS
37	FD	65	TYR
37	FD	101	VAL
37	FD	110	THR
37	FD	111	ARG
37	FD	117	LEU
37	FD	161	LEU
37	FD	184	ARG
38	FE	76	LEU
38	FE	80	THR
38	FE	81	LEU
38	FE	114	VAL
38	FE	123	VAL
38	FE	137	VAL
38	FE	147	MET
38	FE	149	SER
38	FE	153	VAL
38	FE	157	ARG
39	FF	7	VAL
39	FF	17	GLN
39	FF	52	ASN
39	FF	54	LEU
39	FF	55	HIS
39	FF	74	LEU
39	FF	89	VAL
39	FF	97	THR
40	FG	13	LEU
40	FG	23	LEU
40	FG	27	VAL
40	FG	84	THR
41	FH	47	GLU
41	FH	104	VAL
41	FH	112	THR
41	FH	121	LEU
41	FH	125	ILE
42	FI	32	GLN
42	FI	43	THR
42	FI	57	MET
42	FI	61	LEU
42	FI	63	LEU
42	FI	84	THR

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Mol	Chain	Res	Type
42	FI	89	GLU
42	FI	104	VAL
42	FI	116	VAL
43	FJ	22	THR
43	FJ	52	LEU
43	FJ	57	VAL
43	FJ	67	ILE
43	FJ	87	LEU
44	FK	15	GLN
44	FK	31	ILE
44	FK	69	ARG
44	FK	77	TYR
44	FK	82	LEU
44	FK	83	GLU
44	FK	97	ILE
44	FK	107	ILE
44	FK	129	VAL
45	FL	29	GLN
45	FL	45	PRO
45	FL	52	VAL
45	FL	74	LEU
45	FL	82	ILE
45	FL	90	LEU
45	FL	102	LEU
45	FL	117	TYR
46	FM	13	LYS
46	FM	19	LEU
46	FM	53	ILE
46	FM	64	VAL
47	FN	49	GLN
47	FN	51	LEU
47	FN	53	ARG
48	FO	5	THR
48	FO	8	THR
48	FO	35	GLN
48	FO	39	LEU
48	FO	64	ARG
48	FO	87	LEU
49	FP	1	MET
49	FP	2	VAL
49	FP	34	GLU
50	FQ	29	VAL

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Mol	Chain	Res	Type
50	FQ	33	ILE
50	FQ	76	VAL
50	FQ	78	VAL
51	FR	21	ILE
52	FS	36	ARG
52	FS	49	ILE
52	FS	67	VAL
53	FT	5	LYS
53	FT	12	ILE
53	FT	15	GLU
53	FT	48	GLN
53	FT	49	LYS
53	FT	54	MET
54	FU	16	LEU
54	FU	20	LYS
54	FU	28	VAL
54	FU	34	ARG
54	FU	43	THR
55	FV	5	THR
55	FV	19	ILE
55	FV	23	LYS
55	FV	36	VAL
55	FV	77	LYS
55	FV	83	ARG
55	FV	95	PHE
55	FV	96	THR
55	FV	99	VAL
55	FV	104	ARG
55	FV	106	LEU
55	FV	116	VAL
55	FV	135	VAL
55	FV	170	GLN
55	FV	171	LEU
55	FV	182	VAL
55	FV	200	VAL
55	FV	202	PHE
55	FV	204	TYR
55	FV	214	LEU
55	FV	232	GLU
55	FV	252	LEU
55	FV	266	CYS
55	FV	276	GLN

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Mol	Chain	Res	Type
55	FV	286	LEU
55	FV	299	LEU
55	FV	303	LYS
55	FV	305	THR
55	FV	409	MET
55	FV	416	ILE
55	FV	418	ILE
55	FV	446	ARG
55	FV	480	GLU
55	FV	494	ILE
55	FV	504	LYS
55	FV	514	GLN
55	FV	532	LYS
55	FV	558	GLN
55	FV	560	GLN
55	FV	574	MET
55	FV	602	LYS
55	FV	612	LEU
55	FV	635	LEU
55	FV	658	VAL
55	FV	660	LEU
55	FV	675	LYS
55	FV	677	ARG
55	FV	685	LEU
55	FV	699	ILE
56	FW	4	SER
2	GC	50	THR
2	GC	93	VAL
2	GC	104	LEU
2	GC	109	LEU
2	GC	129	LEU
2	GC	152	GLN
2	GC	166	ARG
2	GC	194	VAL
2	GC	202	ARG
2	GC	215	VAL
2	GC	224	MET
2	GC	251	THR
2	GC	270	ARG
4	GD	9	VAL
4	GD	16	THR
4	GD	79	LEU

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Mol	Chain	Res	Type
4	GD	86	GLU
4	GD	98	VAL
4	GD	100	LEU
4	GD	107	VAL
4	GD	129	THR
4	GD	138	LEU
4	GD	170	VAL
4	GD	171	THR
4	GD	176	ASP
4	GD	186	LEU
4	GD	201	LEU
4	GD	203	VAL
5	GE	12	LEU
5	GE	21	ARG
5	GE	28	VAL
5	GE	33	VAL
5	GE	40	ARG
5	GE	44	ARG
5	GE	51	GLU
5	GE	77	ILE
5	GE	88	ARG
5	GE	90	GLN
5	GE	108	ILE
5	GE	118	LEU
5	GE	120	VAL
5	GE	126	VAL
5	GE	147	LEU
5	GE	167	VAL
6	GF	35	LEU
6	GF	114	ARG
6	GF	131	VAL
7	GG	32	LEU
7	GG	36	LEU
7	GG	38	ASP
7	GG	44	HIS
7	GG	68	ARG
7	GG	84	LYS
7	GG	86	LEU
7	GG	103	ASN
7	GG	126	THR
7	GG	131	VAL
7	GG	132	LEU

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Mol	Chain	Res	Type
8	GH	5	LEU
8	GH	6	LEU
9	GI	23	VAL
9	GI	33	ASN
9	GI	48	ILE
10	GJ	2	LYS
10	GJ	25	LEU
10	GJ	30	THR
10	GJ	36	LEU
10	GJ	40	HIS
10	GJ	54	ILE
10	GJ	55	ILE
10	GJ	65	THR
10	GJ	72	LYS
10	GJ	95	ARG
10	GJ	103	ILE
10	GJ	105	VAL
10	GJ	122	LEU
10	GJ	138	GLN
11	GK	3	GLN
11	GK	8	LEU
11	GK	19	VAL
11	GK	23	LYS
11	GK	30	ARG
11	GK	38	ILE
11	GK	47	ILE
11	GK	58	LEU
11	GK	73	ASP
11	GK	93	GLN
11	GK	95	ILE
11	GK	97	THR
11	GK	105	ARG
11	GK	115	ILE
12	GL	19	LEU
12	GL	21	ARG
12	GL	48	ARG
12	GL	73	ILE
12	GL	95	LEU
12	GL	100	ILE
12	GL	127	VAL
13	GM	14	LYS
13	GM	31	PHE

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Mol	Chain	Res	Type
13	GM	47	GLU
13	GM	76	LYS
13	GM	80	VAL
13	GM	91	TYR
13	GM	102	LEU
13	GM	126	ILE
13	GM	132	THR
13	GM	134	THR
14	GN	14	SER
14	GN	33	ILE
14	GN	51	LEU
14	GN	69	ARG
14	GN	70	THR
14	GN	71	ARG
14	GN	75	ILE
14	GN	76	VAL
15	GO	20	GLU
15	GO	28	VAL
15	GO	30	ARG
15	GO	36	TYR
15	GO	47	VAL
15	GO	94	ARG
15	GO	106	LEU
16	GP	3	ILE
16	GP	7	LEU
16	GP	15	ASP
16	GP	20	ARG
16	GP	39	LEU
16	GP	69	VAL
16	GP	80	VAL
16	GP	83	ILE
16	GP	92	ARG
16	GP	99	LEU
16	GP	103	THR
16	GP	113	LEU
17	GQ	17	LEU
17	GQ	55	GLN
17	GQ	63	ARG
17	GQ	93	ILE
17	GQ	94	LEU
17	GQ	96	ASP
17	GQ	108	LEU

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Mol	Chain	Res	Type
18	GR	20	VAL
18	GR	25	LEU
18	GR	38	VAL
18	GR	40	MET
18	GR	47	VAL
18	GR	48	LYS
18	GR	49	ILE
18	GR	54	VAL
18	GR	58	VAL
18	GR	63	VAL
18	GR	83	TYR
19	GS	4	ILE
19	GS	33	LEU
19	GS	45	VAL
19	GS	66	ILE
19	GS	88	ARG
20	GT	32	LEU
20	GT	37	ASP
20	GT	43	ILE
21	GU	13	LEU
21	GU	18	LYS
21	GU	68	ASN
21	GU	71	ILE
22	GV	31	TYR
22	GV	62	THR
22	GV	65	VAL
22	GV	92	VAL
23	GW	23	LYS
23	GW	61	LYS
23	GW	63	ASP
23	GW	70	VAL
24	GX	6	VAL
24	GX	24	THR
24	GX	26	ARG
24	GX	39	VAL
24	GX	40	GLU
24	GX	57	VAL
24	GX	75	GLU
25	GY	14	LEU
25	GY	21	LEU
25	GY	37	LEU
25	GY	56	LEU

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Mol	Chain	Res	Type
25	GY	57	LEU
26	GZ	2	LYS
26	GZ	7	THR
26	GZ	30	ARG
26	GZ	31	ILE
26	GZ	56	VAL
27	G0	24	VAL
27	G0	42	ILE
28	G1	8	ILE
29	G2	4	THR
29	G2	9	VAL
29	G2	18	PHE
29	G2	21	ARG
30	G3	7	ARG
30	G3	15	LYS
30	G3	31	ILE
30	G3	54	LEU
31	G4	4	ARG
31	G4	16	ILE
31	G4	26	ILE
34	HB	19	THR
34	HB	30	ILE
34	HB	42	LEU
34	HB	58	LYS
34	HB	90	PHE
34	HB	116	LEU
34	HB	135	MET
34	HB	142	LYS
34	HB	143	LEU
34	HB	153	MET
34	HB	162	VAL
34	HB	206	ILE
34	HB	212	TYR
36	HC	3	GLN
36	HC	15	VAL
36	HC	55	ILE
36	HC	90	VAL
36	HC	144	LEU
36	HC	150	LYS
36	HC	162	ILE
36	HC	167	TRP
36	HC	169	ARG

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Mol	Chain	Res	Type
36	HC	175	LEU
36	HC	185	ASN
37	HD	10	LYS
37	HD	60	LYS
37	HD	101	VAL
37	HD	135	TYR
37	HD	146	ARG
37	HD	161	LEU
38	HE	12	GLN
38	HE	32	SER
38	HE	66	LYS
38	HE	81	LEU
38	HE	114	VAL
38	HE	124	LEU
38	HE	136	VAL
38	HE	149	SER
38	HE	153	VAL
39	HF	7	VAL
39	HF	74	LEU
39	HF	86	ARG
39	HF	97	THR
40	HG	110	LYS
40	HG	135	VAL
41	HH	22	LYS
41	HH	25	VAL
41	HH	40	LEU
41	HH	52	GLU
41	HH	55	THR
41	HH	66	PHE
41	HH	77	ARG
41	HH	99	LEU
41	HH	104	VAL
41	HH	121	LEU
42	HI	30	ILE
42	HI	57	MET
42	HI	63	LEU
42	HI	80	ARG
42	HI	88	MET
42	HI	104	VAL
43	HJ	7	ARG
43	HJ	22	THR
43	HJ	80	THR

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Mol	Chain	Res	Type
43	HJ	83	THR
43	HJ	92	LEU
44	HK	44	TRP
44	HK	56	ARG
44	HK	57	LYS
44	HK	89	PRO
44	HK	97	ILE
44	HK	125	LYS
44	HK	129	VAL
45	HL	27	CYS
45	HL	59	ASN
45	HL	74	LEU
45	HL	102	LEU
45	HL	115	SER
46	HM	13	LYS
46	HM	19	LEU
46	HM	49	SER
46	HM	53	ILE
46	HM	109	ARG
48	HO	39	LEU
48	HO	64	ARG
48	HO	87	LEU
49	HP	2	VAL
49	HP	34	GLU
50	HQ	4	LYS
50	HQ	21	ILE
50	HQ	29	VAL
50	HQ	33	ILE
50	HQ	76	VAL
52	HS	49	ILE
52	HS	51	VAL
53	HT	5	LYS
53	HT	12	ILE
53	HT	15	GLU
53	HT	27	MET
53	HT	28	MET
53	HT	48	GLN
53	HT	49	LYS
53	HT	51	PHE
53	HT	54	MET
53	HT	69	LYS
54	HU	34	ARG

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Mol	Chain	Res	Type
55	HV	5	THR
55	HV	19	ILE
55	HV	23	LYS
55	HV	57	GLN
55	HV	77	LYS
55	HV	83	ARG
55	HV	95	PHE
55	HV	96	THR
55	HV	104	ARG
55	HV	106	LEU
55	HV	182	VAL
55	HV	202	PHE
55	HV	204	TYR
55	HV	214	LEU
55	HV	232	GLU
55	HV	252	LEU
55	HV	262	ILE
55	HV	266	CYS
55	HV	286	LEU
55	HV	299	LEU
55	HV	303	LYS
55	HV	343	VAL
55	HV	409	MET
55	HV	416	ILE
55	HV	428	GLN
55	HV	437	ARG
55	HV	446	ARG
55	HV	480	GLU
55	HV	494	ILE
55	HV	504	LYS
55	HV	532	LYS
55	HV	560	GLN
55	HV	574	MET
55	HV	584	HIS
55	HV	602	LYS
55	HV	612	LEU
55	HV	635	LEU
55	HV	658	VAL
55	HV	660	LEU
55	HV	675	LYS
55	HV	682	MET
55	HV	685	LEU

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Mol	Chain	Res	Type
55	HV	699	ILE
56	HW	4	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (221) such sidechains are listed below:

Mol	Chain	Res	Type
2	AC	36	ASN
2	AC	59	GLN
2	AC	152	GLN
4	AD	42	ASN
4	AD	49	GLN
4	AD	94	GLN
4	AD	173	GLN
6	AF	4	HIS
7	AG	87	GLN
8	AH	33	GLN
10	AJ	47	HIS
10	AJ	80	HIS
11	AK	5	GLN
11	AK	93	GLN
13	AM	22	GLN
15	AO	116	GLN
16	AP	55	HIS
16	AP	76	HIS
17	AQ	43	GLN
17	AQ	80	ASN
18	AR	82	HIS
22	AV	5	ASN
22	AV	24	ASN
22	AV	80	HIS
30	A3	30	HIS
31	A4	13	ASN
31	A4	37	GLN
34	BB	88	GLN
34	BB	108	GLN
34	BB	189	ASN
36	BC	123	GLN
37	BD	136	GLN
38	BE	12	GLN
38	BE	70	ASN
39	BF	3	HIS
39	BF	17	GLN

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Mol	Chain	Res	Type
41	BH	18	GLN
41	BH	67	GLN
41	BH	76	GLN
42	BI	81	HIS
43	BJ	35	GLN
44	BK	22	HIS
49	BP	26	ASN
51	BR	54	GLN
53	BT	61	GLN
55	BV	120	GLN
55	BV	122	GLN
55	BV	276	GLN
55	BV	344	ASN
55	BV	465	HIS
55	BV	627	ASN
2	CC	36	ASN
2	CC	133	ASN
2	CC	250	GLN
4	CD	173	GLN
5	CE	94	GLN
5	CE	163	ASN
7	CG	72	ASN
7	CG	103	ASN
9	CI	30	GLN
9	CI	33	ASN
10	CJ	58	ASN
10	CJ	80	HIS
13	CM	13	HIS
14	CN	9	GLN
15	CO	34	HIS
16	CP	65	ASN
17	CQ	65	ASN
18	CR	66	HIS
18	CR	86	GLN
18	CR	89	HIS
20	CT	70	HIS
22	CV	5	ASN
22	CV	24	ASN
22	CV	44	HIS
22	CV	51	GLN
22	CV	80	HIS
23	CW	56	HIS

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Mol	Chain	Res	Type
25	CY	15	ASN
25	CY	38	GLN
25	CY	58	ASN
26	CZ	8	GLN
27	C0	4	GLN
29	C2	26	ASN
31	C4	13	ASN
31	C4	37	GLN
34	DB	14	HIS
34	DB	169	HIS
37	DD	136	GLN
38	DE	83	HIS
38	DE	121	HIS
39	DF	3	HIS
40	DG	122	ASN
40	DG	142	HIS
41	DH	18	GLN
42	DI	31	ASN
43	DJ	58	ASN
44	DK	24	HIS
44	DK	40	ASN
44	DK	81	ASN
45	DL	75	GLN
45	DL	77	HIS
47	DN	4	GLN
47	DN	43	ASN
49	DP	59	HIS
49	DP	63	GLN
51	DR	54	GLN
52	DS	52	HIS
55	DV	85	ASN
55	DV	122	GLN
55	DV	129	GLN
55	DV	272	ASN
55	DV	276	GLN
55	DV	344	ASN
55	DV	465	HIS
2	EC	24	HIS
2	EC	114	GLN
5	EE	94	GLN
5	EE	136	GLN
6	EF	62	GLN

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Mol	Chain	Res	Type
7	EG	19	ASN
7	EG	127	GLN
7	EG	142	GLN
8	EH	33	GLN
13	EM	13	HIS
15	EO	34	HIS
16	EP	40	GLN
16	EP	65	ASN
18	ER	66	HIS
18	ER	87	GLN
22	EV	44	HIS
22	EV	80	HIS
22	EV	87	GLN
27	E0	18	HIS
29	E2	6	GLN
31	E4	13	ASN
31	E4	35	GLN
34	FB	169	HIS
34	FB	176	ASN
34	FB	189	ASN
36	FC	185	ASN
37	FD	54	GLN
37	FD	116	GLN
38	FE	12	GLN
38	FE	77	ASN
38	FE	89	HIS
38	FE	97	GLN
41	FH	18	GLN
47	FN	35	ASN
49	FP	9	HIS
50	FQ	45	HIS
52	FS	14	HIS
53	FT	68	HIS
55	FV	37	ASN
55	FV	55	GLN
55	FV	78	GLN
55	FV	122	GLN
55	FV	219	HIS
55	FV	276	GLN
55	FV	310	HIS
55	FV	505	HIS
55	FV	579	HIS

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Mol	Chain	Res	Type
2	GC	24	HIS
2	GC	85	ASN
2	GC	238	ASN
4	GD	67	HIS
4	GD	173	GLN
5	GE	29	HIS
5	GE	30	GLN
5	GE	41	GLN
5	GE	92	HIS
5	GE	115	GLN
7	GG	21	GLN
7	GG	44	HIS
7	GG	103	ASN
8	GH	18	GLN
11	GK	93	GLN
13	GM	13	HIS
15	GO	104	GLN
15	GO	116	GLN
16	GP	65	ASN
16	GP	76	HIS
17	GQ	55	GLN
21	GU	44	HIS
22	GV	24	ASN
22	GV	44	HIS
22	GV	80	HIS
25	GY	20	ASN
27	G0	18	HIS
30	G3	25	HIS
30	G3	42	HIS
34	HB	176	ASN
36	HC	8	ASN
36	HC	100	GLN
38	HE	89	HIS
38	HE	132	ASN
39	HF	3	HIS
39	HF	11	HIS
40	HG	148	ASN
43	HJ	56	HIS
44	HK	22	HIS
45	HL	29	GLN
46	HM	12	HIS
46	HM	91	HIS

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Mol	Chain	Res	Type
47	HN	43	ASN
47	HN	62	ASN
47	HN	71	HIS
48	HO	42	HIS
48	HO	50	HIS
49	HP	18	GLN
51	HR	31	ASN
53	HT	48	GLN
53	HT	68	HIS
53	HT	82	GLN
55	HV	122	GLN
55	HV	310	HIS
55	HV	365	GLN
55	HV	367	HIS
55	HV	465	HIS
55	HV	579	HIS
55	HV	627	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AB	117/120 (97%)	17 (14%)	0
1	CB	117/120 (97%)	19 (16%)	0
1	EB	117/120 (97%)	18 (15%)	0
1	GB	117/120 (97%)	20 (17%)	0
3	AA	2850/2904 (98%)	457 (16%)	40 (1%)
3	CA	2850/2904 (98%)	457 (16%)	39 (1%)
3	EA	2850/2904 (98%)	452 (15%)	36 (1%)
3	GA	2850/2904 (98%)	459 (16%)	38 (1%)
35	BA	1532/1542 (99%)	265 (17%)	17 (1%)
35	DA	1532/1542 (99%)	264 (17%)	14 (0%)
35	FA	1532/1542 (99%)	263 (17%)	16 (1%)
35	HA	1532/1542 (99%)	268 (17%)	15 (0%)
All	All	17996/18264 (98%)	2959 (16%)	215 (1%)

All (2959) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AB	3	C
1	AB	15	A
1	AB	16	G

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Mol	Chain	Res	Type
1	AB	21	G
1	AB	30	C
1	AB	35	C
1	AB	42	C
1	AB	44	G
1	AB	45	A
1	AB	56	G
1	AB	84	G
1	AB	87	U
1	AB	88	C
1	AB	89	U
1	AB	90	C
1	AB	99	A
1	AB	109	A
3	AA	10	A
3	AA	12	U
3	AA	15	G
3	AA	34	U
3	AA	35	G
3	AA	42	A
3	AA	43	G
3	AA	45	G
3	AA	46	G
3	AA	51	G
3	AA	61	C
3	AA	71	A
3	AA	74	A
3	AA	75	G
3	AA	80	G
3	AA	82	U
3	AA	84	A
3	AA	96	C
3	AA	101	A
3	AA	118	A
3	AA	119	A
3	AA	120	U
3	AA	131	A
3	AA	135	U
3	AA	136	G
3	AA	137	U
3	AA	138	U
3	AA	139	U

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Mol	Chain	Res	Type
3	AA	140	C
3	AA	141	G
3	AA	142	A
3	AA	144	A
3	AA	149	A
3	AA	162	U
3	AA	163	C
3	AA	164	C
3	AA	181	A
3	AA	188	G
3	AA	196	A
3	AA	199	A
3	AA	215	G
3	AA	216	A
3	AA	222	A
3	AA	226	A
3	AA	230	G
3	AA	248	G
3	AA	255	A
3	AA	264	C
3	AA	265	A
3	AA	266	G
3	AA	267	C
3	AA	272	A
3	AA	273	G
3	AA	276	U
3	AA	277	G
3	AA	278	A
3	AA	281	C
3	AA	285	G
3	AA	302	C
3	AA	311	A
3	AA	329	G
3	AA	330	A
3	AA	346	A
3	AA	347	A
3	AA	353	C
3	AA	355	U
3	AA	361	G
3	AA	362	A
3	AA	371	A
3	AA	372	G

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Mol	Chain	Res	Type
3	AA	382	A
3	AA	383	C
3	AA	386	G
3	AA	388	G
3	AA	396	G
3	AA	404	A
3	AA	405	U
3	AA	411	G
3	AA	412	A
3	AA	424	G
3	AA	451	U
3	AA	455	C
3	AA	481	G
3	AA	491	G
3	AA	503	A
3	AA	504	A
3	AA	505	A
3	AA	509	C
3	AA	528	A
3	AA	531	C
3	AA	532	A
3	AA	533	G
3	AA	538	A
3	AA	543	G
3	AA	544	C
3	AA	546	U
3	AA	547	A
3	AA	548	G
3	AA	549	G
3	AA	563	A
3	AA	573	U
3	AA	575	A
3	AA	586	A
3	AA	603	A
3	AA	604	G
3	AA	613	A
3	AA	614	A
3	AA	615	U
3	AA	627	A
3	AA	631	A
3	AA	637	A
3	AA	645	C

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Mol	Chain	Res	Type
3	AA	646	U
3	AA	647	G
3	AA	648	G
3	AA	654	A
3	AA	655	A
3	AA	656	G
3	AA	686	U
3	AA	714	U
3	AA	715	A
3	AA	730	A
3	AA	738	G
3	AA	747	U
3	AA	775	G
3	AA	776	G
3	AA	782	A
3	AA	784	G
3	AA	785	G
3	AA	805	G
3	AA	812	C
3	AA	819	A
3	AA	827	U
3	AA	828	U
3	AA	845	A
3	AA	846	U
3	AA	847	U
3	AA	859	G
3	AA	878	A
3	AA	883	G
3	AA	884	U
3	AA	896	A
3	AA	897	C
3	AA	910	A
3	AA	914	G
3	AA	915	C
3	AA	932	U
3	AA	941	A
3	AA	946	C
3	AA	961	C
3	AA	974	G
3	AA	983	A
3	AA	985	C
3	AA	995	C

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Mol	Chain	Res	Type
3	AA	996	A
3	AA	1003	G
3	AA	1012	U
3	AA	1013	C
3	AA	1021	A
3	AA	1022	G
3	AA	1023	U
3	AA	1025	G
3	AA	1026	G
3	AA	1033	U
3	AA	1045	C
3	AA	1046	A
3	AA	1047	G
3	AA	1051	G
3	AA	1053	C
3	AA	1059	G
3	AA	1060	U
3	AA	1061	U
3	AA	1062	G
3	AA	1067	A
3	AA	1069	A
3	AA	1070	A
3	AA	1072	C
3	AA	1074	G
3	AA	1078	U
3	AA	1083	U
3	AA	1084	A
3	AA	1088	A
3	AA	1089	A
3	AA	1090	A
3	AA	1091	G
3	AA	1097	U
3	AA	1098	A
3	AA	1110	G
3	AA	1111	A
3	AA	1112	G
3	AA	1129	A
3	AA	1132	U
3	AA	1133	A
3	AA	1135	C
3	AA	1136	G
3	AA	1139	G

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Mol	Chain	Res	Type
3	AA	1142	A
3	AA	1151	A
3	AA	1155	A
3	AA	1169	A
3	AA	1170	C
3	AA	1172	C
3	AA	1174	U
3	AA	1175	A
3	AA	1176	U
3	AA	1180	U
3	AA	1186	G
3	AA	1238	G
3	AA	1248	G
3	AA	1250	G
3	AA	1253	A
3	AA	1256	G
3	AA	1266	G
3	AA	1268	A
3	AA	1271	G
3	AA	1272	A
3	AA	1273	U
3	AA	1281	G
3	AA	1300	G
3	AA	1301	A
3	AA	1313	U
3	AA	1317	G
3	AA	1352	U
3	AA	1365	A
3	AA	1368	G
3	AA	1378	A
3	AA	1379	U
3	AA	1383	A
3	AA	1395	A
3	AA	1415	U
3	AA	1416	G
3	AA	1419	A
3	AA	1420	A
3	AA	1428	C
3	AA	1435	G
3	AA	1452	G
3	AA	1459	G
3	AA	1482	G

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Mol	Chain	Res	Type
3	AA	1493	C
3	AA	1504	A
3	AA	1508	A
3	AA	1510	G
3	AA	1515	A
3	AA	1524	G
3	AA	1533	C
3	AA	1534	U
3	AA	1535	A
3	AA	1536	C
3	AA	1566	A
3	AA	1569	A
3	AA	1578	U
3	AA	1583	A
3	AA	1584	U
3	AA	1585	C
3	AA	1607	C
3	AA	1608	A
3	AA	1610	A
3	AA	1613	G
3	AA	1627	G
3	AA	1647	U
3	AA	1648	U
3	AA	1649	G
3	AA	1652	A
3	AA	1653	G
3	AA	1674	G
3	AA	1714	U
3	AA	1715	G
3	AA	1723	G
3	AA	1729	U
3	AA	1730	C
3	AA	1737	G
3	AA	1738	G
3	AA	1739	A
3	AA	1744	A
3	AA	1758	U
3	AA	1764	C
3	AA	1773	A
3	AA	1776	G
3	AA	1791	A
3	AA	1800	C

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Mol	Chain	Res	Type
3	AA	1801	A
3	AA	1802	A
3	AA	1808	A
3	AA	1811	G
3	AA	1816	C
3	AA	1829	A
3	AA	1833	C
3	AA	1847	A
3	AA	1848	A
3	AA	1858	A
3	AA	1869	G
3	AA	1870	C
3	AA	1871	A
3	AA	1872	A
3	AA	1873	G
3	AA	1884	G
3	AA	1906	G
3	AA	1913	A
3	AA	1914	C
3	AA	1927	A
3	AA	1929	G
3	AA	1930	G
3	AA	1937	A
3	AA	1938	A
3	AA	1939	U
3	AA	1940	U
3	AA	1955	U
3	AA	1960	A
3	AA	1966	A
3	AA	1967	C
3	AA	1970	A
3	AA	1971	U
3	AA	1972	G
3	AA	1991	U
3	AA	1993	U
3	AA	1997	C
3	AA	2017	U
3	AA	2020	A
3	AA	2022	U
3	AA	2023	C
3	AA	2031	A
3	AA	2033	A

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Mol	Chain	Res	Type
3	AA	2043	C
3	AA	2055	C
3	AA	2056	G
3	AA	2060	A
3	AA	2061	G
3	AA	2062	A
3	AA	2069	G
3	AA	2072	C
3	AA	2093	G
3	AA	2104	C
3	AA	2106	U
3	AA	2107	G
3	AA	2108	A
3	AA	2109	U
3	AA	2110	G
3	AA	2134	A
3	AA	2135	A
3	AA	2137	U
3	AA	2138	G
3	AA	2139	U
3	AA	2140	G
3	AA	2142	A
3	AA	2143	C
3	AA	2144	G
3	AA	2145	C
3	AA	2146	C
3	AA	2147	A
3	AA	2148	G
3	AA	2149	U
3	AA	2150	C
3	AA	2151	U
3	AA	2153	C
3	AA	2154	A
3	AA	2155	U
3	AA	2156	G
3	AA	2157	G
3	AA	2180	U
3	AA	2183	A
3	AA	2185	U
3	AA	2194	U
3	AA	2198	A
3	AA	2199	A

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Mol	Chain	Res	Type
3	AA	2204	G
3	AA	2211	A
3	AA	2212	A
3	AA	2214	C
3	AA	2225	A
3	AA	2226	C
3	AA	2238	G
3	AA	2239	G
3	AA	2250	G
3	AA	2268	A
3	AA	2278	A
3	AA	2283	C
3	AA	2284	A
3	AA	2286	G
3	AA	2287	A
3	AA	2305	U
3	AA	2308	G
3	AA	2311	A
3	AA	2322	A
3	AA	2325	G
3	AA	2327	A
3	AA	2333	A
3	AA	2336	A
3	AA	2347	C
3	AA	2354	C
3	AA	2361	G
3	AA	2383	G
3	AA	2385	C
3	AA	2402	U
3	AA	2403	C
3	AA	2406	A
3	AA	2423	U
3	AA	2424	C
3	AA	2425	A
3	AA	2429	G
3	AA	2430	A
3	AA	2435	A
3	AA	2441	U
3	AA	2448	A
3	AA	2470	G
3	AA	2476	A
3	AA	2491	U

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Mol	Chain	Res	Type
3	AA	2502	G
3	AA	2503	A
3	AA	2505	G
3	AA	2506	U
3	AA	2507	C
3	AA	2518	A
3	AA	2529	G
3	AA	2554	U
3	AA	2556	C
3	AA	2566	A
3	AA	2567	G
3	AA	2572	A
3	AA	2573	C
3	AA	2585	U
3	AA	2602	A
3	AA	2603	G
3	AA	2609	U
3	AA	2613	U
3	AA	2629	U
3	AA	2663	G
3	AA	2671	G
3	AA	2681	C
3	AA	2682	A
3	AA	2689	U
3	AA	2690	U
3	AA	2714	G
3	AA	2716	C
3	AA	2726	A
3	AA	2733	A
3	AA	2744	G
3	AA	2748	A
3	AA	2757	A
3	AA	2760	C
3	AA	2765	A
3	AA	2778	A
3	AA	2791	G
3	AA	2798	U
3	AA	2800	A
3	AA	2801	G
3	AA	2818	U
3	AA	2820	A
3	AA	2821	A

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Mol	Chain	Res	Type
3	AA	2861	U
3	AA	2867	G
3	AA	2873	A
3	AA	2874	C
3	AA	2883	A
3	AA	2884	U
3	AA	2885	G
3	AA	2891	U
3	AA	2903	U
35	BA	5	U
35	BA	9	G
35	BA	22	G
35	BA	32	A
35	BA	39	G
35	BA	40	C
35	BA	48	C
35	BA	51	A
35	BA	70	U
35	BA	71	A
35	BA	73	C
35	BA	74	A
35	BA	75	G
35	BA	76	G
35	BA	77	A
35	BA	78	A
35	BA	79	G
35	BA	80	A
35	BA	81	A
35	BA	82	G
35	BA	83	C
35	BA	84	U
35	BA	85	U
35	BA	86	G
35	BA	89	U
35	BA	90	C
35	BA	98	A
35	BA	115	G
35	BA	116	A
35	BA	122	G
35	BA	127	G
35	BA	130	A
35	BA	131	A

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Mol	Chain	Res	Type
35	BA	137	U
35	BA	141	G
35	BA	143	A
35	BA	144	G
35	BA	159	G
35	BA	163	C
35	BA	164	G
35	BA	173	U
35	BA	177	G
35	BA	182	A
35	BA	183	C
35	BA	204	G
35	BA	205	A
35	BA	209	U
35	BA	210	C
35	BA	240	G
35	BA	245	U
35	BA	247	G
35	BA	251	G
35	BA	258	G
35	BA	266	G
35	BA	267	C
35	BA	273	U
35	BA	285	C
35	BA	289	G
35	BA	321	A
35	BA	328	C
35	BA	329	A
35	BA	332	G
35	BA	344	A
35	BA	345	C
35	BA	347	G
35	BA	352	C
35	BA	353	A
35	BA	354	G
35	BA	367	U
35	BA	372	C
35	BA	373	A
35	BA	384	G
35	BA	406	G
35	BA	408	A
35	BA	411	A

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Mol	Chain	Res	Type
35	BA	412	A
35	BA	413	G
35	BA	421	U
35	BA	422	C
35	BA	423	G
35	BA	424	G
35	BA	429	U
35	BA	430	A
35	BA	435	A
35	BA	441	A
35	BA	457	G
35	BA	458	U
35	BA	459	A
35	BA	461	A
35	BA	462	G
35	BA	463	U
35	BA	467	U
35	BA	468	A
35	BA	481	G
35	BA	482	A
35	BA	483	C
35	BA	484	G
35	BA	485	U
35	BA	486	U
35	BA	491	G
35	BA	508	U
35	BA	509	A
35	BA	511	C
35	BA	518	C
35	BA	527	G
35	BA	532	A
35	BA	533	A
35	BA	547	A
35	BA	556	C
35	BA	559	A
35	BA	562	U
35	BA	564	C
35	BA	572	A
35	BA	573	A
35	BA	576	C
35	BA	577	G
35	BA	579	A

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Mol	Chain	Res	Type
35	BA	588	G
35	BA	596	A
35	BA	604	G
35	BA	650	G
35	BA	653	U
35	BA	665	A
35	BA	675	A
35	BA	701	U
35	BA	702	A
35	BA	721	G
35	BA	723	U
35	BA	731	G
35	BA	734	G
35	BA	747	A
35	BA	748	G
35	BA	755	G
35	BA	777	A
35	BA	793	U
35	BA	794	A
35	BA	813	U
35	BA	815	A
35	BA	817	C
35	BA	821	G
35	BA	828	U
35	BA	829	G
35	BA	841	C
35	BA	843	U
35	BA	845	A
35	BA	846	G
35	BA	859	G
35	BA	887	G
35	BA	914	A
35	BA	922	G
35	BA	926	G
35	BA	927	G
35	BA	932	C
35	BA	934	C
35	BA	935	A
35	BA	960	U
35	BA	966	G
35	BA	969	A
35	BA	971	G

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Mol	Chain	Res	Type
35	BA	974	A
35	BA	975	A
35	BA	976	G
35	BA	977	A
35	BA	983	A
35	BA	993	G
35	BA	1003	G
35	BA	1004	A
35	BA	1008	U
35	BA	1018	G
35	BA	1022	A
35	BA	1026	G
35	BA	1029	U
35	BA	1030	U
35	BA	1031	C
35	BA	1032	G
35	BA	1033	G
35	BA	1034	G
35	BA	1037	C
35	BA	1045	C
35	BA	1050	G
35	BA	1054	C
35	BA	1055	A
35	BA	1065	U
35	BA	1066	C
35	BA	1086	U
35	BA	1088	G
35	BA	1094	G
35	BA	1095	U
35	BA	1101	A
35	BA	1124	G
35	BA	1125	U
35	BA	1130	A
35	BA	1133	G
35	BA	1135	U
35	BA	1136	C
35	BA	1137	C
35	BA	1139	G
35	BA	1146	A
35	BA	1159	U
35	BA	1167	A
35	BA	1168	U

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Mol	Chain	Res	Type
35	BA	1169	A
35	BA	1181	G
35	BA	1182	G
35	BA	1183	U
35	BA	1196	A
35	BA	1197	A
35	BA	1201	A
35	BA	1202	U
35	BA	1212	U
35	BA	1213	A
35	BA	1214	C
35	BA	1225	A
35	BA	1226	C
35	BA	1227	A
35	BA	1239	A
35	BA	1240	U
35	BA	1249	C
35	BA	1256	A
35	BA	1279	G
35	BA	1280	A
35	BA	1286	U
35	BA	1287	A
35	BA	1293	C
35	BA	1299	A
35	BA	1300	G
35	BA	1302	C
35	BA	1303	C
35	BA	1305	G
35	BA	1317	C
35	BA	1318	A
35	BA	1320	C
35	BA	1322	C
35	BA	1332	A
35	BA	1336	C
35	BA	1337	G
35	BA	1338	G
35	BA	1353	G
35	BA	1364	U
35	BA	1368	A
35	BA	1381	U
35	BA	1398	A
35	BA	1406	U

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Mol	Chain	Res	Type
35	BA	1411	C
35	BA	1419	G
35	BA	1440	U
35	BA	1441	A
35	BA	1446	A
35	BA	1452	C
35	BA	1454	G
35	BA	1469	C
35	BA	1475	G
35	BA	1487	G
35	BA	1491	G
35	BA	1492	A
35	BA	1493	A
35	BA	1494	G
35	BA	1497	G
35	BA	1503	A
35	BA	1506	U
35	BA	1517	G
35	BA	1519	A
35	BA	1529	G
35	BA	1530	G
35	BA	1534	A
1	CB	3	C
1	CB	15	A
1	CB	16	G
1	CB	21	G
1	CB	24	G
1	CB	30	C
1	CB	35	C
1	CB	42	C
1	CB	44	G
1	CB	45	A
1	CB	56	G
1	CB	84	G
1	CB	87	U
1	CB	88	C
1	CB	89	U
1	CB	90	C
1	CB	99	A
1	CB	109	A
1	CB	117	G
3	CA	10	A

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Mol	Chain	Res	Type
3	CA	12	U
3	CA	15	G
3	CA	34	U
3	CA	35	G
3	CA	42	A
3	CA	43	G
3	CA	45	G
3	CA	46	G
3	CA	51	G
3	CA	61	C
3	CA	71	A
3	CA	74	A
3	CA	75	G
3	CA	80	G
3	CA	82	U
3	CA	84	A
3	CA	96	C
3	CA	101	A
3	CA	118	A
3	CA	119	A
3	CA	120	U
3	CA	131	A
3	CA	135	U
3	CA	136	G
3	CA	137	U
3	CA	138	U
3	CA	139	U
3	CA	140	C
3	CA	141	G
3	CA	142	A
3	CA	144	A
3	CA	149	A
3	CA	162	U
3	CA	163	C
3	CA	164	C
3	CA	181	A
3	CA	188	G
3	CA	196	A
3	CA	199	A
3	CA	215	G
3	CA	216	A
3	CA	222	A

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Mol	Chain	Res	Type
3	CA	226	A
3	CA	230	G
3	CA	248	G
3	CA	255	A
3	CA	264	C
3	CA	265	A
3	CA	266	G
3	CA	267	C
3	CA	272	A
3	CA	273	G
3	CA	276	U
3	CA	277	G
3	CA	278	A
3	CA	281	C
3	CA	285	G
3	CA	302	C
3	CA	311	A
3	CA	329	G
3	CA	330	A
3	CA	346	A
3	CA	347	A
3	CA	353	C
3	CA	355	U
3	CA	361	G
3	CA	362	A
3	CA	371	A
3	CA	372	G
3	CA	382	A
3	CA	383	C
3	CA	386	G
3	CA	388	G
3	CA	396	G
3	CA	404	A
3	CA	405	U
3	CA	411	G
3	CA	412	A
3	CA	424	G
3	CA	451	U
3	CA	455	C
3	CA	481	G
3	CA	491	G
3	CA	503	A

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Mol	Chain	Res	Type
3	CA	504	A
3	CA	505	A
3	CA	509	C
3	CA	528	A
3	CA	531	C
3	CA	532	A
3	CA	533	G
3	CA	538	A
3	CA	543	G
3	CA	544	C
3	CA	546	U
3	CA	547	A
3	CA	548	G
3	CA	549	G
3	CA	563	A
3	CA	573	U
3	CA	575	A
3	CA	586	A
3	CA	603	A
3	CA	604	G
3	CA	613	A
3	CA	614	A
3	CA	615	U
3	CA	627	A
3	CA	631	A
3	CA	637	A
3	CA	645	C
3	CA	646	U
3	CA	647	G
3	CA	648	G
3	CA	653	U
3	CA	654	A
3	CA	655	A
3	CA	656	G
3	CA	686	U
3	CA	714	U
3	CA	715	A
3	CA	730	A
3	CA	738	G
3	CA	747	U
3	CA	775	G
3	CA	776	G

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Mol	Chain	Res	Type
3	CA	782	A
3	CA	784	G
3	CA	785	G
3	CA	789	A
3	CA	801	G
3	CA	805	G
3	CA	812	C
3	CA	819	A
3	CA	827	U
3	CA	828	U
3	CA	845	A
3	CA	846	U
3	CA	847	U
3	CA	859	G
3	CA	878	A
3	CA	883	G
3	CA	896	A
3	CA	897	C
3	CA	902	C
3	CA	910	A
3	CA	914	G
3	CA	915	C
3	CA	932	U
3	CA	941	A
3	CA	946	C
3	CA	961	C
3	CA	974	G
3	CA	983	A
3	CA	985	C
3	CA	995	C
3	CA	996	A
3	CA	1003	G
3	CA	1012	U
3	CA	1013	C
3	CA	1021	A
3	CA	1022	G
3	CA	1023	U
3	CA	1025	G
3	CA	1026	G
3	CA	1033	U
3	CA	1045	C
3	CA	1046	A

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Mol	Chain	Res	Type
3	CA	1047	G
3	CA	1051	G
3	CA	1053	C
3	CA	1059	G
3	CA	1060	U
3	CA	1061	U
3	CA	1062	G
3	CA	1067	A
3	CA	1069	A
3	CA	1070	A
3	CA	1072	C
3	CA	1074	G
3	CA	1078	U
3	CA	1083	U
3	CA	1084	A
3	CA	1088	A
3	CA	1089	A
3	CA	1090	A
3	CA	1091	G
3	CA	1097	U
3	CA	1098	A
3	CA	1110	G
3	CA	1111	A
3	CA	1112	G
3	CA	1129	A
3	CA	1132	U
3	CA	1133	A
3	CA	1135	C
3	CA	1136	G
3	CA	1139	G
3	CA	1142	A
3	CA	1151	A
3	CA	1155	A
3	CA	1169	A
3	CA	1170	C
3	CA	1171	G
3	CA	1172	C
3	CA	1174	U
3	CA	1175	A
3	CA	1176	U
3	CA	1180	U
3	CA	1186	G

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Mol	Chain	Res	Type
3	CA	1238	G
3	CA	1248	G
3	CA	1250	G
3	CA	1253	A
3	CA	1256	G
3	CA	1266	G
3	CA	1268	A
3	CA	1271	G
3	CA	1272	A
3	CA	1273	U
3	CA	1300	G
3	CA	1301	A
3	CA	1313	U
3	CA	1317	G
3	CA	1352	U
3	CA	1365	A
3	CA	1368	G
3	CA	1379	U
3	CA	1383	A
3	CA	1395	A
3	CA	1415	U
3	CA	1416	G
3	CA	1419	A
3	CA	1420	A
3	CA	1428	C
3	CA	1435	G
3	CA	1452	G
3	CA	1459	G
3	CA	1482	G
3	CA	1493	C
3	CA	1504	A
3	CA	1508	A
3	CA	1510	G
3	CA	1515	A
3	CA	1524	G
3	CA	1533	C
3	CA	1534	U
3	CA	1535	A
3	CA	1536	C
3	CA	1566	A
3	CA	1569	A
3	CA	1578	U

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Mol	Chain	Res	Type
3	CA	1583	A
3	CA	1584	U
3	CA	1585	C
3	CA	1607	C
3	CA	1608	A
3	CA	1610	A
3	CA	1627	G
3	CA	1647	U
3	CA	1648	U
3	CA	1649	G
3	CA	1652	A
3	CA	1653	G
3	CA	1674	G
3	CA	1714	U
3	CA	1715	G
3	CA	1723	G
3	CA	1729	U
3	CA	1730	C
3	CA	1731	G
3	CA	1732	C
3	CA	1737	G
3	CA	1738	G
3	CA	1739	A
3	CA	1744	A
3	CA	1764	C
3	CA	1773	A
3	CA	1776	G
3	CA	1791	A
3	CA	1800	C
3	CA	1801	A
3	CA	1808	A
3	CA	1811	G
3	CA	1816	C
3	CA	1829	A
3	CA	1833	C
3	CA	1847	A
3	CA	1848	A
3	CA	1858	A
3	CA	1869	G
3	CA	1870	C
3	CA	1871	A
3	CA	1872	A

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Mol	Chain	Res	Type
3	CA	1873	G
3	CA	1884	G
3	CA	1906	G
3	CA	1913	A
3	CA	1914	C
3	CA	1927	A
3	CA	1929	G
3	CA	1930	G
3	CA	1937	A
3	CA	1938	A
3	CA	1955	U
3	CA	1960	A
3	CA	1966	A
3	CA	1967	C
3	CA	1970	A
3	CA	1971	U
3	CA	1972	G
3	CA	1991	U
3	CA	1993	U
3	CA	1997	C
3	CA	2017	U
3	CA	2020	A
3	CA	2022	U
3	CA	2023	C
3	CA	2031	A
3	CA	2043	C
3	CA	2055	C
3	CA	2056	G
3	CA	2060	A
3	CA	2061	G
3	CA	2062	A
3	CA	2069	G
3	CA	2072	C
3	CA	2093	G
3	CA	2104	C
3	CA	2105	U
3	CA	2106	U
3	CA	2107	G
3	CA	2108	A
3	CA	2109	U
3	CA	2110	G
3	CA	2134	A

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Mol	Chain	Res	Type
3	CA	2135	A
3	CA	2138	G
3	CA	2139	U
3	CA	2140	G
3	CA	2142	A
3	CA	2143	C
3	CA	2144	G
3	CA	2145	C
3	CA	2147	A
3	CA	2148	G
3	CA	2149	U
3	CA	2150	C
3	CA	2151	U
3	CA	2153	C
3	CA	2154	A
3	CA	2155	U
3	CA	2156	G
3	CA	2157	G
3	CA	2180	U
3	CA	2182	U
3	CA	2183	A
3	CA	2185	U
3	CA	2194	U
3	CA	2198	A
3	CA	2199	A
3	CA	2204	G
3	CA	2211	A
3	CA	2212	A
3	CA	2214	C
3	CA	2225	A
3	CA	2226	C
3	CA	2238	G
3	CA	2239	G
3	CA	2250	G
3	CA	2268	A
3	CA	2278	A
3	CA	2283	C
3	CA	2284	A
3	CA	2286	G
3	CA	2287	A
3	CA	2305	U
3	CA	2308	G

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Mol	Chain	Res	Type
3	CA	2311	A
3	CA	2322	A
3	CA	2325	G
3	CA	2327	A
3	CA	2333	A
3	CA	2334	U
3	CA	2336	A
3	CA	2347	C
3	CA	2354	C
3	CA	2361	G
3	CA	2383	G
3	CA	2385	C
3	CA	2402	U
3	CA	2403	C
3	CA	2406	A
3	CA	2423	U
3	CA	2424	C
3	CA	2425	A
3	CA	2429	G
3	CA	2430	A
3	CA	2435	A
3	CA	2441	U
3	CA	2448	A
3	CA	2470	G
3	CA	2476	A
3	CA	2491	U
3	CA	2502	G
3	CA	2503	A
3	CA	2505	G
3	CA	2506	U
3	CA	2507	C
3	CA	2518	A
3	CA	2529	G
3	CA	2554	U
3	CA	2556	C
3	CA	2566	A
3	CA	2567	G
3	CA	2572	A
3	CA	2573	C
3	CA	2585	U
3	CA	2602	A
3	CA	2603	G

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Mol	Chain	Res	Type
3	CA	2609	U
3	CA	2613	U
3	CA	2629	U
3	CA	2663	G
3	CA	2671	G
3	CA	2682	A
3	CA	2689	U
3	CA	2690	U
3	CA	2714	G
3	CA	2716	C
3	CA	2726	A
3	CA	2733	A
3	CA	2744	G
3	CA	2748	A
3	CA	2757	A
3	CA	2760	C
3	CA	2765	A
3	CA	2769	U
3	CA	2778	A
3	CA	2791	G
3	CA	2798	U
3	CA	2799	A
3	CA	2800	A
3	CA	2801	G
3	CA	2818	U
3	CA	2820	A
3	CA	2821	A
3	CA	2861	U
3	CA	2867	G
3	CA	2873	A
3	CA	2874	C
3	CA	2883	A
3	CA	2884	U
3	CA	2885	G
3	CA	2891	U
3	CA	2903	U
35	DA	5	U
35	DA	9	G
35	DA	22	G
35	DA	32	A
35	DA	39	G
35	DA	40	C

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Mol	Chain	Res	Type
35	DA	47	C
35	DA	48	C
35	DA	51	A
35	DA	58	C
35	DA	70	U
35	DA	71	A
35	DA	73	C
35	DA	74	A
35	DA	75	G
35	DA	76	G
35	DA	77	A
35	DA	78	A
35	DA	80	A
35	DA	81	A
35	DA	82	G
35	DA	83	C
35	DA	84	U
35	DA	85	U
35	DA	86	G
35	DA	88	U
35	DA	89	U
35	DA	90	C
35	DA	98	A
35	DA	115	G
35	DA	116	A
35	DA	122	G
35	DA	127	G
35	DA	130	A
35	DA	131	A
35	DA	137	U
35	DA	141	G
35	DA	143	A
35	DA	144	G
35	DA	159	G
35	DA	163	C
35	DA	164	G
35	DA	166	U
35	DA	173	U
35	DA	177	G
35	DA	182	A
35	DA	183	C
35	DA	204	G

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Mol	Chain	Res	Type
35	DA	205	A
35	DA	209	U
35	DA	210	C
35	DA	240	G
35	DA	245	U
35	DA	247	G
35	DA	251	G
35	DA	258	G
35	DA	266	G
35	DA	267	C
35	DA	273	U
35	DA	285	C
35	DA	289	G
35	DA	321	A
35	DA	328	C
35	DA	329	A
35	DA	332	G
35	DA	344	A
35	DA	345	C
35	DA	347	G
35	DA	352	C
35	DA	353	A
35	DA	354	G
35	DA	367	U
35	DA	372	C
35	DA	373	A
35	DA	384	G
35	DA	406	G
35	DA	408	A
35	DA	411	A
35	DA	412	A
35	DA	413	G
35	DA	421	U
35	DA	422	C
35	DA	423	G
35	DA	424	G
35	DA	429	U
35	DA	430	A
35	DA	435	A
35	DA	441	A
35	DA	457	G
35	DA	458	U

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Mol	Chain	Res	Type
35	DA	459	A
35	DA	461	A
35	DA	462	G
35	DA	463	U
35	DA	467	U
35	DA	468	A
35	DA	481	G
35	DA	482	A
35	DA	483	C
35	DA	484	G
35	DA	485	U
35	DA	486	U
35	DA	491	G
35	DA	508	U
35	DA	509	A
35	DA	511	C
35	DA	518	C
35	DA	527	G
35	DA	532	A
35	DA	533	A
35	DA	547	A
35	DA	556	C
35	DA	559	A
35	DA	562	U
35	DA	564	C
35	DA	572	A
35	DA	573	A
35	DA	576	C
35	DA	577	G
35	DA	579	A
35	DA	588	G
35	DA	604	G
35	DA	650	G
35	DA	653	U
35	DA	665	A
35	DA	701	U
35	DA	702	A
35	DA	721	G
35	DA	723	U
35	DA	724	G
35	DA	731	G
35	DA	734	G

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Mol	Chain	Res	Type
35	DA	747	A
35	DA	748	G
35	DA	755	G
35	DA	777	A
35	DA	793	U
35	DA	794	A
35	DA	813	U
35	DA	815	A
35	DA	817	C
35	DA	821	G
35	DA	828	U
35	DA	829	G
35	DA	841	C
35	DA	843	U
35	DA	845	A
35	DA	846	G
35	DA	859	G
35	DA	887	G
35	DA	914	A
35	DA	922	G
35	DA	926	G
35	DA	927	G
35	DA	932	C
35	DA	934	C
35	DA	960	U
35	DA	966	G
35	DA	969	A
35	DA	971	G
35	DA	974	A
35	DA	975	A
35	DA	976	G
35	DA	977	A
35	DA	983	A
35	DA	993	G
35	DA	1003	G
35	DA	1004	A
35	DA	1008	U
35	DA	1018	G
35	DA	1022	A
35	DA	1029	U
35	DA	1030	U
35	DA	1031	C

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Mol	Chain	Res	Type
35	DA	1032	G
35	DA	1033	G
35	DA	1034	G
35	DA	1037	C
35	DA	1045	C
35	DA	1050	G
35	DA	1054	C
35	DA	1065	U
35	DA	1066	C
35	DA	1086	U
35	DA	1088	G
35	DA	1089	G
35	DA	1094	G
35	DA	1095	U
35	DA	1101	A
35	DA	1124	G
35	DA	1125	U
35	DA	1130	A
35	DA	1133	G
35	DA	1135	U
35	DA	1136	C
35	DA	1137	C
35	DA	1139	G
35	DA	1142	G
35	DA	1159	U
35	DA	1167	A
35	DA	1168	U
35	DA	1169	A
35	DA	1181	G
35	DA	1182	G
35	DA	1183	U
35	DA	1196	A
35	DA	1197	A
35	DA	1202	U
35	DA	1212	U
35	DA	1213	A
35	DA	1214	C
35	DA	1225	A
35	DA	1226	C
35	DA	1227	A
35	DA	1239	A
35	DA	1240	U

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Mol	Chain	Res	Type
35	DA	1249	C
35	DA	1256	A
35	DA	1279	G
35	DA	1280	A
35	DA	1286	U
35	DA	1287	A
35	DA	1293	C
35	DA	1297	G
35	DA	1299	A
35	DA	1300	G
35	DA	1302	C
35	DA	1305	G
35	DA	1317	C
35	DA	1318	A
35	DA	1320	C
35	DA	1322	C
35	DA	1323	G
35	DA	1332	A
35	DA	1336	C
35	DA	1337	G
35	DA	1338	G
35	DA	1353	G
35	DA	1364	U
35	DA	1368	A
35	DA	1398	A
35	DA	1406	U
35	DA	1411	C
35	DA	1419	G
35	DA	1440	U
35	DA	1441	A
35	DA	1446	A
35	DA	1452	C
35	DA	1454	G
35	DA	1469	C
35	DA	1475	G
35	DA	1487	G
35	DA	1491	G
35	DA	1492	A
35	DA	1493	A
35	DA	1494	G
35	DA	1497	G
35	DA	1503	A

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Mol	Chain	Res	Type
35	DA	1506	U
35	DA	1517	G
35	DA	1519	A
35	DA	1529	G
35	DA	1530	G
35	DA	1534	A
3	EA	10	A
3	EA	12	U
3	EA	15	G
3	EA	34	U
3	EA	35	G
3	EA	42	A
3	EA	43	G
3	EA	45	G
3	EA	46	G
3	EA	51	G
3	EA	61	C
3	EA	71	A
3	EA	74	A
3	EA	75	G
3	EA	80	G
3	EA	82	U
3	EA	84	A
3	EA	96	C
3	EA	101	A
3	EA	118	A
3	EA	119	A
3	EA	120	U
3	EA	131	A
3	EA	135	U
3	EA	136	G
3	EA	137	U
3	EA	138	U
3	EA	139	U
3	EA	140	C
3	EA	141	G
3	EA	142	A
3	EA	143	C
3	EA	144	A
3	EA	149	A
3	EA	162	U
3	EA	163	C

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Mol	Chain	Res	Type
3	EA	164	C
3	EA	181	A
3	EA	188	G
3	EA	196	A
3	EA	199	A
3	EA	215	G
3	EA	216	A
3	EA	222	A
3	EA	226	A
3	EA	230	G
3	EA	248	G
3	EA	255	A
3	EA	264	C
3	EA	265	A
3	EA	266	G
3	EA	267	C
3	EA	272	A
3	EA	273	G
3	EA	276	U
3	EA	277	G
3	EA	278	A
3	EA	281	C
3	EA	285	G
3	EA	302	C
3	EA	311	A
3	EA	329	G
3	EA	330	A
3	EA	346	A
3	EA	347	A
3	EA	353	C
3	EA	355	U
3	EA	361	G
3	EA	362	A
3	EA	371	A
3	EA	372	G
3	EA	382	A
3	EA	383	C
3	EA	386	G
3	EA	388	G
3	EA	396	G
3	EA	404	A
3	EA	405	U

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Mol	Chain	Res	Type
3	EA	411	G
3	EA	412	A
3	EA	424	G
3	EA	451	U
3	EA	455	C
3	EA	481	G
3	EA	491	G
3	EA	503	A
3	EA	504	A
3	EA	505	A
3	EA	509	C
3	EA	528	A
3	EA	531	C
3	EA	532	A
3	EA	533	G
3	EA	538	A
3	EA	543	G
3	EA	544	C
3	EA	546	U
3	EA	547	A
3	EA	548	G
3	EA	549	G
3	EA	563	A
3	EA	573	U
3	EA	575	A
3	EA	586	A
3	EA	603	A
3	EA	604	G
3	EA	613	A
3	EA	614	A
3	EA	615	U
3	EA	627	A
3	EA	631	A
3	EA	637	A
3	EA	645	C
3	EA	646	U
3	EA	647	G
3	EA	654	A
3	EA	655	A
3	EA	656	G
3	EA	686	U
3	EA	714	U

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Mol	Chain	Res	Type
3	EA	715	A
3	EA	730	A
3	EA	738	G
3	EA	747	U
3	EA	775	G
3	EA	776	G
3	EA	782	A
3	EA	784	G
3	EA	785	G
3	EA	805	G
3	EA	812	C
3	EA	819	A
3	EA	827	U
3	EA	828	U
3	EA	845	A
3	EA	846	U
3	EA	847	U
3	EA	859	G
3	EA	883	G
3	EA	896	A
3	EA	897	C
3	EA	910	A
3	EA	914	G
3	EA	915	C
3	EA	932	U
3	EA	941	A
3	EA	946	C
3	EA	961	C
3	EA	973	A
3	EA	974	G
3	EA	983	A
3	EA	985	C
3	EA	995	C
3	EA	996	A
3	EA	1003	G
3	EA	1012	U
3	EA	1013	C
3	EA	1021	A
3	EA	1022	G
3	EA	1023	U
3	EA	1025	G
3	EA	1026	G

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Mol	Chain	Res	Type
3	EA	1033	U
3	EA	1045	C
3	EA	1046	A
3	EA	1047	G
3	EA	1051	G
3	EA	1053	C
3	EA	1059	G
3	EA	1060	U
3	EA	1061	U
3	EA	1062	G
3	EA	1067	A
3	EA	1069	A
3	EA	1070	A
3	EA	1072	C
3	EA	1078	U
3	EA	1083	U
3	EA	1084	A
3	EA	1088	A
3	EA	1089	A
3	EA	1090	A
3	EA	1091	G
3	EA	1097	U
3	EA	1098	A
3	EA	1110	G
3	EA	1111	A
3	EA	1112	G
3	EA	1129	A
3	EA	1132	U
3	EA	1133	A
3	EA	1135	C
3	EA	1136	G
3	EA	1139	G
3	EA	1142	A
3	EA	1151	A
3	EA	1169	A
3	EA	1170	C
3	EA	1171	G
3	EA	1172	C
3	EA	1174	U
3	EA	1175	A
3	EA	1176	U
3	EA	1177	G

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Mol	Chain	Res	Type
3	EA	1186	G
3	EA	1238	G
3	EA	1248	G
3	EA	1250	G
3	EA	1253	A
3	EA	1256	G
3	EA	1266	G
3	EA	1268	A
3	EA	1271	G
3	EA	1272	A
3	EA	1273	U
3	EA	1281	G
3	EA	1300	G
3	EA	1301	A
3	EA	1313	U
3	EA	1317	G
3	EA	1352	U
3	EA	1365	A
3	EA	1368	G
3	EA	1378	A
3	EA	1379	U
3	EA	1383	A
3	EA	1386	C
3	EA	1395	A
3	EA	1415	U
3	EA	1416	G
3	EA	1419	A
3	EA	1420	A
3	EA	1428	C
3	EA	1435	G
3	EA	1452	G
3	EA	1459	G
3	EA	1482	G
3	EA	1493	C
3	EA	1504	A
3	EA	1508	A
3	EA	1510	G
3	EA	1515	A
3	EA	1524	G
3	EA	1533	C
3	EA	1534	U
3	EA	1535	A

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Mol	Chain	Res	Type
3	EA	1536	C
3	EA	1566	A
3	EA	1569	A
3	EA	1578	U
3	EA	1583	A
3	EA	1584	U
3	EA	1585	C
3	EA	1607	C
3	EA	1608	A
3	EA	1610	A
3	EA	1627	G
3	EA	1647	U
3	EA	1648	U
3	EA	1649	G
3	EA	1653	G
3	EA	1674	G
3	EA	1714	U
3	EA	1715	G
3	EA	1723	G
3	EA	1729	U
3	EA	1730	C
3	EA	1732	C
3	EA	1737	G
3	EA	1738	G
3	EA	1739	A
3	EA	1744	A
3	EA	1764	C
3	EA	1773	A
3	EA	1776	G
3	EA	1791	A
3	EA	1800	C
3	EA	1801	A
3	EA	1802	A
3	EA	1808	A
3	EA	1811	G
3	EA	1816	C
3	EA	1829	A
3	EA	1833	C
3	EA	1847	A
3	EA	1848	A
3	EA	1858	A
3	EA	1869	G

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Mol	Chain	Res	Type
3	EA	1870	C
3	EA	1871	A
3	EA	1872	A
3	EA	1873	G
3	EA	1884	G
3	EA	1906	G
3	EA	1913	A
3	EA	1914	C
3	EA	1927	A
3	EA	1929	G
3	EA	1930	G
3	EA	1937	A
3	EA	1938	A
3	EA	1939	U
3	EA	1955	U
3	EA	1960	A
3	EA	1966	A
3	EA	1967	C
3	EA	1970	A
3	EA	1971	U
3	EA	1972	G
3	EA	1991	U
3	EA	1993	U
3	EA	1997	C
3	EA	2017	U
3	EA	2020	A
3	EA	2022	U
3	EA	2023	C
3	EA	2031	A
3	EA	2033	A
3	EA	2043	C
3	EA	2055	C
3	EA	2056	G
3	EA	2060	A
3	EA	2061	G
3	EA	2062	A
3	EA	2069	G
3	EA	2072	C
3	EA	2093	G
3	EA	2104	C
3	EA	2106	U
3	EA	2107	G

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Mol	Chain	Res	Type
3	EA	2108	A
3	EA	2110	G
3	EA	2134	A
3	EA	2137	U
3	EA	2138	G
3	EA	2139	U
3	EA	2140	G
3	EA	2142	A
3	EA	2143	C
3	EA	2144	G
3	EA	2145	C
3	EA	2146	C
3	EA	2147	A
3	EA	2148	G
3	EA	2149	U
3	EA	2150	C
3	EA	2151	U
3	EA	2153	C
3	EA	2156	G
3	EA	2157	G
3	EA	2180	U
3	EA	2181	U
3	EA	2182	U
3	EA	2183	A
3	EA	2185	U
3	EA	2186	G
3	EA	2187	U
3	EA	2194	U
3	EA	2198	A
3	EA	2199	A
3	EA	2204	G
3	EA	2211	A
3	EA	2212	A
3	EA	2214	C
3	EA	2225	A
3	EA	2226	C
3	EA	2238	G
3	EA	2239	G
3	EA	2250	G
3	EA	2268	A
3	EA	2278	A
3	EA	2283	C

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Mol	Chain	Res	Type
3	EA	2284	A
3	EA	2286	G
3	EA	2287	A
3	EA	2305	U
3	EA	2308	G
3	EA	2311	A
3	EA	2322	A
3	EA	2325	G
3	EA	2327	A
3	EA	2333	A
3	EA	2336	A
3	EA	2347	C
3	EA	2354	C
3	EA	2361	G
3	EA	2383	G
3	EA	2385	C
3	EA	2402	U
3	EA	2403	C
3	EA	2406	A
3	EA	2423	U
3	EA	2424	C
3	EA	2425	A
3	EA	2429	G
3	EA	2430	A
3	EA	2435	A
3	EA	2441	U
3	EA	2448	A
3	EA	2470	G
3	EA	2476	A
3	EA	2491	U
3	EA	2502	G
3	EA	2503	A
3	EA	2505	G
3	EA	2506	U
3	EA	2507	C
3	EA	2518	A
3	EA	2529	G
3	EA	2554	U
3	EA	2566	A
3	EA	2567	G
3	EA	2572	A
3	EA	2573	C

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Mol	Chain	Res	Type
3	EA	2585	U
3	EA	2602	A
3	EA	2603	G
3	EA	2609	U
3	EA	2613	U
3	EA	2629	U
3	EA	2663	G
3	EA	2671	G
3	EA	2682	A
3	EA	2689	U
3	EA	2690	U
3	EA	2714	G
3	EA	2716	C
3	EA	2726	A
3	EA	2733	A
3	EA	2744	G
3	EA	2748	A
3	EA	2757	A
3	EA	2760	C
3	EA	2765	A
3	EA	2769	U
3	EA	2778	A
3	EA	2791	G
3	EA	2798	U
3	EA	2800	A
3	EA	2801	G
3	EA	2820	A
3	EA	2821	A
3	EA	2825	G
3	EA	2861	U
3	EA	2867	G
3	EA	2873	A
3	EA	2874	C
3	EA	2883	A
3	EA	2884	U
3	EA	2885	G
3	EA	2891	U
3	EA	2903	U
1	EB	3	C
1	EB	15	A
1	EB	16	G
1	EB	21	G

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Mol	Chain	Res	Type
1	EB	30	C
1	EB	35	C
1	EB	42	C
1	EB	44	G
1	EB	45	A
1	EB	56	G
1	EB	84	G
1	EB	87	U
1	EB	88	C
1	EB	89	U
1	EB	90	C
1	EB	99	A
1	EB	109	A
1	EB	117	G
35	FA	5	U
35	FA	9	G
35	FA	22	G
35	FA	32	A
35	FA	39	G
35	FA	40	C
35	FA	48	C
35	FA	51	A
35	FA	70	U
35	FA	71	A
35	FA	73	C
35	FA	74	A
35	FA	75	G
35	FA	76	G
35	FA	77	A
35	FA	80	A
35	FA	81	A
35	FA	82	G
35	FA	83	C
35	FA	85	U
35	FA	86	G
35	FA	89	U
35	FA	90	C
35	FA	92	U
35	FA	98	A
35	FA	115	G
35	FA	116	A
35	FA	122	G

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Mol	Chain	Res	Type
35	FA	127	G
35	FA	130	A
35	FA	131	A
35	FA	137	U
35	FA	138	G
35	FA	141	G
35	FA	143	A
35	FA	144	G
35	FA	159	G
35	FA	163	C
35	FA	164	G
35	FA	173	U
35	FA	177	G
35	FA	182	A
35	FA	183	C
35	FA	189	A
35	FA	204	G
35	FA	205	A
35	FA	208	U
35	FA	209	U
35	FA	210	C
35	FA	240	G
35	FA	245	U
35	FA	247	G
35	FA	251	G
35	FA	258	G
35	FA	266	G
35	FA	267	C
35	FA	273	U
35	FA	285	C
35	FA	289	G
35	FA	321	A
35	FA	328	C
35	FA	329	A
35	FA	332	G
35	FA	344	A
35	FA	345	C
35	FA	347	G
35	FA	352	C
35	FA	353	A
35	FA	354	G
35	FA	367	U

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Mol	Chain	Res	Type
35	FA	372	C
35	FA	373	A
35	FA	384	G
35	FA	406	G
35	FA	408	A
35	FA	411	A
35	FA	412	A
35	FA	413	G
35	FA	421	U
35	FA	422	C
35	FA	423	G
35	FA	424	G
35	FA	429	U
35	FA	430	A
35	FA	435	A
35	FA	441	A
35	FA	457	G
35	FA	458	U
35	FA	459	A
35	FA	461	A
35	FA	462	G
35	FA	463	U
35	FA	467	U
35	FA	468	A
35	FA	481	G
35	FA	482	A
35	FA	483	C
35	FA	484	G
35	FA	485	U
35	FA	486	U
35	FA	491	G
35	FA	508	U
35	FA	509	A
35	FA	511	C
35	FA	518	C
35	FA	527	G
35	FA	532	A
35	FA	533	A
35	FA	547	A
35	FA	556	C
35	FA	559	A
35	FA	562	U

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Mol	Chain	Res	Type
35	FA	564	C
35	FA	572	A
35	FA	573	A
35	FA	576	C
35	FA	577	G
35	FA	579	A
35	FA	588	G
35	FA	596	A
35	FA	604	G
35	FA	650	G
35	FA	653	U
35	FA	665	A
35	FA	675	A
35	FA	701	U
35	FA	702	A
35	FA	721	G
35	FA	723	U
35	FA	724	G
35	FA	731	G
35	FA	734	G
35	FA	747	A
35	FA	748	G
35	FA	755	G
35	FA	777	A
35	FA	793	U
35	FA	794	A
35	FA	813	U
35	FA	815	A
35	FA	817	C
35	FA	821	G
35	FA	828	U
35	FA	829	G
35	FA	841	C
35	FA	843	U
35	FA	844	G
35	FA	845	A
35	FA	846	G
35	FA	859	G
35	FA	887	G
35	FA	914	A
35	FA	922	G
35	FA	926	G

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Mol	Chain	Res	Type
35	FA	927	G
35	FA	932	C
35	FA	934	C
35	FA	960	U
35	FA	966	G
35	FA	969	A
35	FA	971	G
35	FA	974	A
35	FA	975	A
35	FA	976	G
35	FA	977	A
35	FA	983	A
35	FA	993	G
35	FA	1003	G
35	FA	1004	A
35	FA	1008	U
35	FA	1018	G
35	FA	1022	A
35	FA	1026	G
35	FA	1029	U
35	FA	1030	U
35	FA	1031	C
35	FA	1032	G
35	FA	1033	G
35	FA	1034	G
35	FA	1037	C
35	FA	1045	C
35	FA	1050	G
35	FA	1054	C
35	FA	1065	U
35	FA	1066	C
35	FA	1086	U
35	FA	1088	G
35	FA	1089	G
35	FA	1094	G
35	FA	1095	U
35	FA	1101	A
35	FA	1124	G
35	FA	1125	U
35	FA	1130	A
35	FA	1133	G
35	FA	1135	U

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Mol	Chain	Res	Type
35	FA	1136	C
35	FA	1137	C
35	FA	1139	G
35	FA	1146	A
35	FA	1159	U
35	FA	1167	A
35	FA	1168	U
35	FA	1169	A
35	FA	1181	G
35	FA	1182	G
35	FA	1183	U
35	FA	1196	A
35	FA	1197	A
35	FA	1202	U
35	FA	1212	U
35	FA	1213	A
35	FA	1214	C
35	FA	1225	A
35	FA	1226	C
35	FA	1227	A
35	FA	1239	A
35	FA	1240	U
35	FA	1249	C
35	FA	1256	A
35	FA	1280	A
35	FA	1286	U
35	FA	1287	A
35	FA	1293	C
35	FA	1299	A
35	FA	1300	G
35	FA	1302	C
35	FA	1303	C
35	FA	1305	G
35	FA	1317	C
35	FA	1318	A
35	FA	1322	C
35	FA	1332	A
35	FA	1336	C
35	FA	1337	G
35	FA	1338	G
35	FA	1353	G
35	FA	1364	U

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Mol	Chain	Res	Type
35	FA	1368	A
35	FA	1398	A
35	FA	1406	U
35	FA	1411	C
35	FA	1419	G
35	FA	1440	U
35	FA	1441	A
35	FA	1446	A
35	FA	1452	C
35	FA	1454	G
35	FA	1469	C
35	FA	1475	G
35	FA	1487	G
35	FA	1491	G
35	FA	1492	A
35	FA	1493	A
35	FA	1494	G
35	FA	1497	G
35	FA	1503	A
35	FA	1506	U
35	FA	1517	G
35	FA	1519	A
35	FA	1529	G
35	FA	1530	G
35	FA	1534	A
1	GB	3	C
1	GB	15	A
1	GB	16	G
1	GB	21	G
1	GB	24	G
1	GB	30	C
1	GB	35	C
1	GB	42	C
1	GB	44	G
1	GB	45	A
1	GB	56	G
1	GB	84	G
1	GB	87	U
1	GB	88	C
1	GB	89	U
1	GB	90	C
1	GB	99	A

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Mol	Chain	Res	Type
1	GB	109	A
1	GB	117	G
1	GB	119	A
3	GA	10	A
3	GA	12	U
3	GA	15	G
3	GA	34	U
3	GA	35	G
3	GA	42	A
3	GA	43	G
3	GA	45	G
3	GA	46	G
3	GA	61	C
3	GA	71	A
3	GA	74	A
3	GA	75	G
3	GA	80	G
3	GA	82	U
3	GA	84	A
3	GA	96	C
3	GA	101	A
3	GA	118	A
3	GA	119	A
3	GA	120	U
3	GA	131	A
3	GA	135	U
3	GA	136	G
3	GA	137	U
3	GA	138	U
3	GA	139	U
3	GA	140	C
3	GA	141	G
3	GA	142	A
3	GA	144	A
3	GA	162	U
3	GA	163	C
3	GA	164	C
3	GA	181	A
3	GA	188	G
3	GA	196	A
3	GA	199	A
3	GA	215	G

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Mol	Chain	Res	Type
3	GA	216	A
3	GA	222	A
3	GA	224	U
3	GA	226	A
3	GA	230	G
3	GA	248	G
3	GA	255	A
3	GA	264	C
3	GA	265	A
3	GA	266	G
3	GA	267	C
3	GA	272	A
3	GA	273	G
3	GA	276	U
3	GA	277	G
3	GA	278	A
3	GA	281	C
3	GA	285	G
3	GA	302	C
3	GA	311	A
3	GA	329	G
3	GA	330	A
3	GA	346	A
3	GA	347	A
3	GA	353	C
3	GA	355	U
3	GA	361	G
3	GA	362	A
3	GA	371	A
3	GA	372	G
3	GA	382	A
3	GA	383	C
3	GA	386	G
3	GA	388	G
3	GA	396	G
3	GA	404	A
3	GA	405	U
3	GA	411	G
3	GA	412	A
3	GA	424	G
3	GA	451	U
3	GA	455	C

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Mol	Chain	Res	Type
3	GA	481	G
3	GA	491	G
3	GA	503	A
3	GA	504	A
3	GA	505	A
3	GA	509	C
3	GA	527	C
3	GA	528	A
3	GA	531	C
3	GA	532	A
3	GA	533	G
3	GA	538	A
3	GA	543	G
3	GA	544	C
3	GA	546	U
3	GA	547	A
3	GA	548	G
3	GA	549	G
3	GA	563	A
3	GA	573	U
3	GA	575	A
3	GA	586	A
3	GA	603	A
3	GA	604	G
3	GA	613	A
3	GA	614	A
3	GA	615	U
3	GA	627	A
3	GA	631	A
3	GA	637	A
3	GA	645	C
3	GA	646	U
3	GA	647	G
3	GA	648	G
3	GA	654	A
3	GA	655	A
3	GA	656	G
3	GA	686	U
3	GA	714	U
3	GA	715	A
3	GA	730	A
3	GA	738	G

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Mol	Chain	Res	Type
3	GA	747	U
3	GA	775	G
3	GA	776	G
3	GA	782	A
3	GA	784	G
3	GA	785	G
3	GA	789	A
3	GA	805	G
3	GA	812	C
3	GA	819	A
3	GA	827	U
3	GA	828	U
3	GA	830	G
3	GA	845	A
3	GA	846	U
3	GA	847	U
3	GA	859	G
3	GA	878	A
3	GA	883	G
3	GA	884	U
3	GA	896	A
3	GA	897	C
3	GA	902	C
3	GA	910	A
3	GA	914	G
3	GA	915	C
3	GA	932	U
3	GA	941	A
3	GA	946	C
3	GA	961	C
3	GA	974	G
3	GA	983	A
3	GA	985	C
3	GA	995	C
3	GA	996	A
3	GA	1003	G
3	GA	1012	U
3	GA	1013	C
3	GA	1021	A
3	GA	1022	G
3	GA	1023	U
3	GA	1026	G

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Mol	Chain	Res	Type
3	GA	1033	U
3	GA	1045	C
3	GA	1046	A
3	GA	1047	G
3	GA	1051	G
3	GA	1053	C
3	GA	1059	G
3	GA	1060	U
3	GA	1061	U
3	GA	1062	G
3	GA	1067	A
3	GA	1069	A
3	GA	1070	A
3	GA	1072	C
3	GA	1074	G
3	GA	1078	U
3	GA	1083	U
3	GA	1084	A
3	GA	1088	A
3	GA	1089	A
3	GA	1090	A
3	GA	1091	G
3	GA	1097	U
3	GA	1098	A
3	GA	1110	G
3	GA	1111	A
3	GA	1112	G
3	GA	1129	A
3	GA	1132	U
3	GA	1133	A
3	GA	1135	C
3	GA	1136	G
3	GA	1139	G
3	GA	1142	A
3	GA	1151	A
3	GA	1155	A
3	GA	1169	A
3	GA	1170	C
3	GA	1171	G
3	GA	1172	C
3	GA	1174	U
3	GA	1175	A

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Mol	Chain	Res	Type
3	GA	1176	U
3	GA	1180	U
3	GA	1186	G
3	GA	1238	G
3	GA	1248	G
3	GA	1250	G
3	GA	1253	A
3	GA	1256	G
3	GA	1266	G
3	GA	1268	A
3	GA	1271	G
3	GA	1272	A
3	GA	1273	U
3	GA	1281	G
3	GA	1300	G
3	GA	1301	A
3	GA	1313	U
3	GA	1317	G
3	GA	1352	U
3	GA	1365	A
3	GA	1368	G
3	GA	1378	A
3	GA	1379	U
3	GA	1383	A
3	GA	1386	C
3	GA	1395	A
3	GA	1415	U
3	GA	1416	G
3	GA	1419	A
3	GA	1420	A
3	GA	1428	C
3	GA	1435	G
3	GA	1452	G
3	GA	1459	G
3	GA	1482	G
3	GA	1493	C
3	GA	1504	A
3	GA	1508	A
3	GA	1510	G
3	GA	1515	A
3	GA	1524	G
3	GA	1533	C

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Mol	Chain	Res	Type
3	GA	1534	U
3	GA	1535	A
3	GA	1536	C
3	GA	1566	A
3	GA	1569	A
3	GA	1578	U
3	GA	1583	A
3	GA	1584	U
3	GA	1585	C
3	GA	1607	C
3	GA	1608	A
3	GA	1610	A
3	GA	1616	A
3	GA	1627	G
3	GA	1647	U
3	GA	1648	U
3	GA	1649	G
3	GA	1653	G
3	GA	1674	G
3	GA	1714	U
3	GA	1715	G
3	GA	1723	G
3	GA	1729	U
3	GA	1730	C
3	GA	1737	G
3	GA	1738	G
3	GA	1739	A
3	GA	1744	A
3	GA	1758	U
3	GA	1764	C
3	GA	1773	A
3	GA	1776	G
3	GA	1791	A
3	GA	1800	C
3	GA	1801	A
3	GA	1802	A
3	GA	1808	A
3	GA	1811	G
3	GA	1816	C
3	GA	1829	A
3	GA	1833	C
3	GA	1847	A

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Mol	Chain	Res	Type
3	GA	1848	A
3	GA	1858	A
3	GA	1869	G
3	GA	1870	C
3	GA	1871	A
3	GA	1872	A
3	GA	1873	G
3	GA	1884	G
3	GA	1906	G
3	GA	1913	A
3	GA	1914	C
3	GA	1927	A
3	GA	1929	G
3	GA	1930	G
3	GA	1937	A
3	GA	1938	A
3	GA	1955	U
3	GA	1960	A
3	GA	1966	A
3	GA	1967	C
3	GA	1970	A
3	GA	1971	U
3	GA	1972	G
3	GA	1991	U
3	GA	1993	U
3	GA	1997	C
3	GA	2017	U
3	GA	2020	A
3	GA	2022	U
3	GA	2023	C
3	GA	2031	A
3	GA	2033	A
3	GA	2043	C
3	GA	2055	C
3	GA	2056	G
3	GA	2060	A
3	GA	2061	G
3	GA	2062	A
3	GA	2069	G
3	GA	2072	C
3	GA	2093	G
3	GA	2104	C

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Mol	Chain	Res	Type
3	GA	2106	U
3	GA	2108	A
3	GA	2109	U
3	GA	2110	G
3	GA	2134	A
3	GA	2135	A
3	GA	2137	U
3	GA	2138	G
3	GA	2140	G
3	GA	2141	G
3	GA	2142	A
3	GA	2143	C
3	GA	2144	G
3	GA	2145	C
3	GA	2146	C
3	GA	2147	A
3	GA	2148	G
3	GA	2149	U
3	GA	2150	C
3	GA	2151	U
3	GA	2152	G
3	GA	2153	C
3	GA	2154	A
3	GA	2155	U
3	GA	2156	G
3	GA	2181	U
3	GA	2182	U
3	GA	2183	A
3	GA	2185	U
3	GA	2186	G
3	GA	2187	U
3	GA	2194	U
3	GA	2198	A
3	GA	2199	A
3	GA	2204	G
3	GA	2211	A
3	GA	2212	A
3	GA	2214	C
3	GA	2225	A
3	GA	2226	C
3	GA	2238	G
3	GA	2239	G

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Mol	Chain	Res	Type
3	GA	2250	G
3	GA	2268	A
3	GA	2278	A
3	GA	2283	C
3	GA	2284	A
3	GA	2286	G
3	GA	2287	A
3	GA	2305	U
3	GA	2308	G
3	GA	2311	A
3	GA	2322	A
3	GA	2325	G
3	GA	2327	A
3	GA	2336	A
3	GA	2347	C
3	GA	2354	C
3	GA	2361	G
3	GA	2383	G
3	GA	2385	C
3	GA	2402	U
3	GA	2403	C
3	GA	2406	A
3	GA	2423	U
3	GA	2424	C
3	GA	2425	A
3	GA	2429	G
3	GA	2430	A
3	GA	2435	A
3	GA	2441	U
3	GA	2448	A
3	GA	2470	G
3	GA	2476	A
3	GA	2491	U
3	GA	2502	G
3	GA	2503	A
3	GA	2505	G
3	GA	2506	U
3	GA	2507	C
3	GA	2518	A
3	GA	2529	G
3	GA	2554	U
3	GA	2566	A

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Mol	Chain	Res	Type
3	GA	2567	G
3	GA	2572	A
3	GA	2573	C
3	GA	2585	U
3	GA	2602	A
3	GA	2603	G
3	GA	2609	U
3	GA	2613	U
3	GA	2629	U
3	GA	2663	G
3	GA	2671	G
3	GA	2682	A
3	GA	2689	U
3	GA	2690	U
3	GA	2714	G
3	GA	2716	C
3	GA	2726	A
3	GA	2733	A
3	GA	2744	G
3	GA	2748	A
3	GA	2757	A
3	GA	2760	C
3	GA	2765	A
3	GA	2769	U
3	GA	2778	A
3	GA	2779	U
3	GA	2791	G
3	GA	2798	U
3	GA	2800	A
3	GA	2801	G
3	GA	2818	U
3	GA	2820	A
3	GA	2821	A
3	GA	2861	U
3	GA	2867	G
3	GA	2873	A
3	GA	2874	C
3	GA	2883	A
3	GA	2884	U
3	GA	2885	G
3	GA	2891	U
3	GA	2903	U

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Mol	Chain	Res	Type
35	HA	5	U
35	HA	9	G
35	HA	22	G
35	HA	32	A
35	HA	39	G
35	HA	40	C
35	HA	47	C
35	HA	48	C
35	HA	51	A
35	HA	58	C
35	HA	70	U
35	HA	71	A
35	HA	73	C
35	HA	74	A
35	HA	75	G
35	HA	76	G
35	HA	77	A
35	HA	78	A
35	HA	79	G
35	HA	80	A
35	HA	81	A
35	HA	82	G
35	HA	83	C
35	HA	84	U
35	HA	85	U
35	HA	86	G
35	HA	89	U
35	HA	90	C
35	HA	98	A
35	HA	115	G
35	HA	116	A
35	HA	122	G
35	HA	130	A
35	HA	131	A
35	HA	137	U
35	HA	141	G
35	HA	143	A
35	HA	144	G
35	HA	159	G
35	HA	163	C
35	HA	164	G
35	HA	166	U

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Mol	Chain	Res	Type
35	HA	173	U
35	HA	177	G
35	HA	182	A
35	HA	183	C
35	HA	189	A
35	HA	204	G
35	HA	205	A
35	HA	208	U
35	HA	209	U
35	HA	210	C
35	HA	240	G
35	HA	245	U
35	HA	247	G
35	HA	251	G
35	HA	258	G
35	HA	266	G
35	HA	267	C
35	HA	273	U
35	HA	285	C
35	HA	289	G
35	HA	321	A
35	HA	328	C
35	HA	329	A
35	HA	332	G
35	HA	344	A
35	HA	345	C
35	HA	347	G
35	HA	352	C
35	HA	354	G
35	HA	367	U
35	HA	372	C
35	HA	373	A
35	HA	384	G
35	HA	406	G
35	HA	408	A
35	HA	411	A
35	HA	412	A
35	HA	413	G
35	HA	421	U
35	HA	422	C
35	HA	423	G
35	HA	424	G

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Mol	Chain	Res	Type
35	HA	429	U
35	HA	430	A
35	HA	435	A
35	HA	441	A
35	HA	457	G
35	HA	458	U
35	HA	459	A
35	HA	461	A
35	HA	462	G
35	HA	463	U
35	HA	467	U
35	HA	468	A
35	HA	481	G
35	HA	482	A
35	HA	483	C
35	HA	484	G
35	HA	485	U
35	HA	486	U
35	HA	491	G
35	HA	508	U
35	HA	509	A
35	HA	511	C
35	HA	518	C
35	HA	527	G
35	HA	532	A
35	HA	533	A
35	HA	547	A
35	HA	556	C
35	HA	559	A
35	HA	562	U
35	HA	564	C
35	HA	572	A
35	HA	573	A
35	HA	576	C
35	HA	577	G
35	HA	579	A
35	HA	588	G
35	HA	596	A
35	HA	604	G
35	HA	650	G
35	HA	653	U
35	HA	665	A

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Mol	Chain	Res	Type
35	HA	701	U
35	HA	702	A
35	HA	721	G
35	HA	723	U
35	HA	724	G
35	HA	731	G
35	HA	747	A
35	HA	748	G
35	HA	755	G
35	HA	777	A
35	HA	793	U
35	HA	794	A
35	HA	813	U
35	HA	815	A
35	HA	817	C
35	HA	821	G
35	HA	828	U
35	HA	829	G
35	HA	841	C
35	HA	843	U
35	HA	845	A
35	HA	846	G
35	HA	859	G
35	HA	887	G
35	HA	902	G
35	HA	914	A
35	HA	922	G
35	HA	926	G
35	HA	927	G
35	HA	932	C
35	HA	934	C
35	HA	960	U
35	HA	966	G
35	HA	969	A
35	HA	971	G
35	HA	974	A
35	HA	975	A
35	HA	976	G
35	HA	977	A
35	HA	983	A
35	HA	993	G
35	HA	1003	G

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Mol	Chain	Res	Type
35	HA	1004	A
35	HA	1008	U
35	HA	1012	A
35	HA	1018	G
35	HA	1022	A
35	HA	1026	G
35	HA	1029	U
35	HA	1030	U
35	HA	1031	C
35	HA	1033	G
35	HA	1034	G
35	HA	1037	C
35	HA	1045	C
35	HA	1050	G
35	HA	1054	C
35	HA	1055	A
35	HA	1065	U
35	HA	1066	C
35	HA	1086	U
35	HA	1088	G
35	HA	1089	G
35	HA	1094	G
35	HA	1095	U
35	HA	1101	A
35	HA	1124	G
35	HA	1125	U
35	HA	1130	A
35	HA	1133	G
35	HA	1135	U
35	HA	1136	C
35	HA	1137	C
35	HA	1139	G
35	HA	1140	C
35	HA	1146	A
35	HA	1159	U
35	HA	1167	A
35	HA	1168	U
35	HA	1169	A
35	HA	1181	G
35	HA	1182	G
35	HA	1183	U
35	HA	1196	A

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Mol	Chain	Res	Type
35	HA	1197	A
35	HA	1202	U
35	HA	1212	U
35	HA	1213	A
35	HA	1214	C
35	HA	1225	A
35	HA	1226	C
35	HA	1227	A
35	HA	1239	A
35	HA	1240	U
35	HA	1250	A
35	HA	1256	A
35	HA	1279	G
35	HA	1280	A
35	HA	1286	U
35	HA	1287	A
35	HA	1293	C
35	HA	1299	A
35	HA	1302	C
35	HA	1305	G
35	HA	1317	C
35	HA	1318	A
35	HA	1320	C
35	HA	1322	C
35	HA	1323	G
35	HA	1332	A
35	HA	1336	C
35	HA	1337	G
35	HA	1338	G
35	HA	1353	G
35	HA	1364	U
35	HA	1368	A
35	HA	1379	G
35	HA	1398	A
35	HA	1406	U
35	HA	1411	C
35	HA	1419	G
35	HA	1440	U
35	HA	1441	A
35	HA	1446	A
35	HA	1452	C
35	HA	1453	G

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Mol	Chain	Res	Type
35	HA	1454	G
35	HA	1469	C
35	HA	1475	G
35	HA	1487	G
35	HA	1491	G
35	HA	1492	A
35	HA	1493	A
35	HA	1494	G
35	HA	1497	G
35	HA	1503	A
35	HA	1506	U
35	HA	1517	G
35	HA	1519	A
35	HA	1529	G
35	HA	1530	G
35	HA	1534	A

All (215) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
3	AA	119	A
3	AA	271	G
3	AA	277	G
3	AA	301	G
3	AA	403	U
3	AA	404	A
3	AA	503	A
3	AA	527	C
3	AA	613	A
3	AA	655	A
3	AA	784	G
3	AA	827	U
3	AA	846	U
3	AA	882	G
3	AA	931	U
3	AA	1020	A
3	AA	1025	G
3	AA	1069	A
3	AA	1088	A
3	AA	1110	G
3	AA	1247	A
3	AA	1378	A

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Mol	Chain	Res	Type
3	AA	1458	U
3	AA	1509	A
3	AA	1535	A
3	AA	1626	A
3	AA	1738	G
3	AA	1757	A
3	AA	1847	A
3	AA	1870	C
3	AA	1939	U
3	AA	2108	A
3	AA	2142	A
3	AA	2211	A
3	AA	2286	G
3	AA	2326	C
3	AA	2423	U
3	AA	2756	U
3	AA	2873	A
3	AA	2902	C
35	BA	79	G
35	BA	115	G
35	BA	250	A
35	BA	429	U
35	BA	481	G
35	BA	484	G
35	BA	701	U
35	BA	733	G
35	BA	913	A
35	BA	1054	C
35	BA	1136	C
35	BA	1145	A
35	BA	1201	A
35	BA	1302	C
35	BA	1331	G
35	BA	1336	C
35	BA	1451	U
3	CA	119	A
3	CA	271	G
3	CA	277	G
3	CA	301	G
3	CA	403	U
3	CA	404	A
3	CA	503	A

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Mol	Chain	Res	Type
3	CA	527	C
3	CA	613	A
3	CA	655	A
3	CA	784	G
3	CA	800	A
3	CA	827	U
3	CA	846	U
3	CA	882	G
3	CA	931	U
3	CA	1020	A
3	CA	1025	G
3	CA	1069	A
3	CA	1088	A
3	CA	1247	A
3	CA	1378	A
3	CA	1458	U
3	CA	1509	A
3	CA	1535	A
3	CA	1626	A
3	CA	1731	G
3	CA	1738	G
3	CA	1847	A
3	CA	1870	C
3	CA	1939	U
3	CA	2154	A
3	CA	2211	A
3	CA	2286	G
3	CA	2326	C
3	CA	2423	U
3	CA	2756	U
3	CA	2873	A
3	CA	2902	C
35	DA	115	G
35	DA	209	U
35	DA	250	A
35	DA	429	U
35	DA	481	G
35	DA	484	G
35	DA	701	U
35	DA	733	G
35	DA	913	A
35	DA	1054	C

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Mol	Chain	Res	Type
35	DA	1201	A
35	DA	1331	G
35	DA	1336	C
35	DA	1451	U
3	EA	119	A
3	EA	271	G
3	EA	301	G
3	EA	403	U
3	EA	404	A
3	EA	503	A
3	EA	527	C
3	EA	613	A
3	EA	655	A
3	EA	784	G
3	EA	827	U
3	EA	846	U
3	EA	882	G
3	EA	931	U
3	EA	1020	A
3	EA	1025	G
3	EA	1069	A
3	EA	1088	A
3	EA	1176	U
3	EA	1247	A
3	EA	1378	A
3	EA	1458	U
3	EA	1509	A
3	EA	1535	A
3	EA	1583	A
3	EA	1626	A
3	EA	1847	A
3	EA	1870	C
3	EA	1939	U
3	EA	2146	C
3	EA	2211	A
3	EA	2286	G
3	EA	2326	C
3	EA	2423	U
3	EA	2756	U
3	EA	2873	A
35	FA	115	G
35	FA	250	A

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Mol	Chain	Res	Type
35	FA	429	U
35	FA	481	G
35	FA	484	G
35	FA	701	U
35	FA	733	G
35	FA	913	A
35	FA	1054	C
35	FA	1136	C
35	FA	1145	A
35	FA	1201	A
35	FA	1302	C
35	FA	1331	G
35	FA	1336	C
35	FA	1451	U
3	GA	119	A
3	GA	271	G
3	GA	301	G
3	GA	403	U
3	GA	404	A
3	GA	503	A
3	GA	527	C
3	GA	613	A
3	GA	620	G
3	GA	655	A
3	GA	784	G
3	GA	827	U
3	GA	846	U
3	GA	882	G
3	GA	901	C
3	GA	931	U
3	GA	1020	A
3	GA	1025	G
3	GA	1069	A
3	GA	1088	A
3	GA	1247	A
3	GA	1378	A
3	GA	1458	U
3	GA	1509	A
3	GA	1535	A
3	GA	1626	A
3	GA	1738	G
3	GA	1757	A

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Mol	Chain	Res	Type
3	GA	1847	A
3	GA	1870	C
3	GA	2145	C
3	GA	2211	A
3	GA	2286	G
3	GA	2326	C
3	GA	2423	U
3	GA	2756	U
3	GA	2873	A
3	GA	2902	C
35	HA	80	A
35	HA	115	G
35	HA	250	A
35	HA	429	U
35	HA	481	G
35	HA	484	G
35	HA	701	U
35	HA	913	A
35	HA	1054	C
35	HA	1145	A
35	HA	1201	A
35	HA	1331	G
35	HA	1336	C
35	HA	1451	U
35	HA	1452	C

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

16 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	$\#\|Z\| > 2$
56	5OH	DW	6	56	7,12,13	1.82	2 (28%)	4,16,18	1.91	3 (75%)
56	KBE	BW	1	56	8,8,9	1.23	2 (25%)	6,8,10	1.30	1 (16%)
56	DPP	DW	2	56	4,5,6	0.89	0	1,5,7	0.82	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
56	UAL	DW	5	56	6,8,9	2.50	3 (50%)	4,9,11	4.33	2 (50%)
56	UAL	HW	5	56	6,8,9	3.19	3 (50%)	4,9,11	4.61	3 (75%)
56	KBE	DW	1	56	8,8,9	0.98	0	6,8,10	1.47	2 (33%)
56	DPP	BW	2	56	4,5,6	1.00	0	1,5,7	0.46	0
56	KBE	FW	1	56	8,8,9	0.96	0	6,8,10	1.09	0
56	KBE	HW	1	56	8,8,9	0.94	0	6,8,10	1.24	1 (16%)
56	DPP	HW	2	56	4,5,6	0.99	0	1,5,7	0.35	0
56	5OH	FW	6	56	7,12,13	2.07	2 (28%)	4,16,18	1.75	2 (50%)
56	UAL	FW	5	56	6,8,9	2.47	3 (50%)	4,9,11	5.15	1 (25%)
56	5OH	HW	6	56	7,12,13	1.77	2 (28%)	4,16,18	1.42	1 (25%)
56	UAL	BW	5	56	6,8,9	2.51	3 (50%)	4,9,11	4.46	1 (25%)
56	5OH	BW	6	56	7,12,13	1.81	2 (28%)	4,16,18	2.49	2 (50%)
56	DPP	FW	2	56	4,5,6	1.23	0	1,5,7	0.88	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
56	5OH	DW	6	56	-	1/2/18/20	0/1/1/1
56	KBE	BW	1	56	-	7/7/7/8	-
56	DPP	DW	2	56	-	0/2/4/6	-
56	UAL	DW	5	56	-	1/3/7/9	-
56	UAL	HW	5	56	-	1/3/7/9	-
56	KBE	DW	1	56	-	3/7/7/8	-
56	DPP	BW	2	56	-	0/2/4/6	-
56	KBE	FW	1	56	-	3/7/7/8	-
56	KBE	HW	1	56	-	4/7/7/8	-
56	DPP	HW	2	56	-	0/2/4/6	-
56	5OH	FW	6	56	-	0/2/18/20	0/1/1/1
56	UAL	FW	5	56	-	0/3/7/9	-
56	5OH	HW	6	56	-	1/2/18/20	0/1/1/1
56	UAL	BW	5	56	-	0/3/7/9	-
56	5OH	BW	6	56	-	0/2/18/20	0/1/1/1
56	DPP	FW	2	56	-	0/2/4/6	-

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	HW	5	UAL	C1-N1	4.85	1.47	1.40
56	HW	5	UAL	CB-N1	4.44	1.47	1.35
56	FW	5	UAL	CB-N1	4.16	1.46	1.35
56	HW	5	UAL	C-CA	4.15	1.52	1.45
56	BW	5	UAL	CB-N1	4.15	1.46	1.35
56	DW	5	UAL	CB-N1	3.93	1.45	1.35
56	DW	5	UAL	C1-N1	3.92	1.46	1.40
56	FW	6	5OH	CR-CB	-3.70	1.47	1.53
56	FW	5	UAL	C1-N1	3.66	1.45	1.40
56	HW	6	5OH	CQ-NQ	3.59	1.42	1.34
56	BW	5	UAL	C1-N1	3.51	1.45	1.40
56	DW	6	5OH	CQ-NQ	3.47	1.42	1.34
56	BW	6	5OH	CQ-NQ	3.41	1.42	1.34
56	FW	6	5OH	CQ-NQ	3.21	1.41	1.34
56	BW	6	5OH	CR-CB	-2.97	1.48	1.53
56	BW	5	UAL	C-CA	2.81	1.49	1.45
56	DW	6	5OH	CR-CB	-2.54	1.49	1.53
56	HW	6	5OH	CR-CB	-2.50	1.49	1.53
56	DW	5	UAL	C-CA	2.40	1.49	1.45
56	FW	5	UAL	C-CA	2.36	1.49	1.45
56	BW	1	KBE	CB-N	-2.19	1.39	1.46
56	BW	1	KBE	CA-CB	-2.01	1.50	1.53

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	FW	5	UAL	O-C-CA	-10.13	112.69	125.39
56	BW	5	UAL	O-C-CA	-8.81	114.35	125.39
56	HW	5	UAL	O-C-CA	-8.73	114.45	125.39
56	DW	5	UAL	O-C-CA	-8.24	115.06	125.39
56	BW	6	5OH	O-C-CA	-3.70	115.26	124.77
56	BW	6	5OH	CR-CB-CA	-3.13	109.29	112.61
56	HW	1	KBE	O-C-CA	-2.76	117.34	125.38
56	DW	1	KBE	O-C-CA	-2.59	117.84	125.38
56	FW	6	5OH	CR-CB-CA	-2.45	110.01	112.61
56	FW	6	5OH	O-C-CA	-2.43	118.52	124.77
56	DW	6	5OH	CR-CB-CA	-2.42	110.04	112.61
56	HW	6	5OH	O-C-CA	-2.36	118.69	124.77
56	DW	1	KBE	CB-CA-C	-2.34	108.39	112.17
56	BW	1	KBE	O-C-CA	-2.23	118.88	125.38
56	DW	5	UAL	N2-C1-N1	2.18	120.15	115.39
56	HW	5	UAL	N2-C1-N1	2.17	120.14	115.39
56	DW	6	5OH	O-C-CA	-2.13	119.30	124.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	HW	5	UAL	O2-C1-N2	-2.03	119.09	123.18
56	DW	6	5OH	OS-CS-CR	2.02	113.79	109.76

There are no chirality outliers.

All (21) torsion outliers are listed below:

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

There are no ring outliers.

12 monomers are involved in 15 short contacts:

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

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	FW	5	UAL	1	0
56	HW	6	5OH	2	0
56	BW	5	UAL	2	0
56	BW	6	5OH	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 756 ligands modelled in this entry, 752 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	$\#\|Z\| > 2$
59	GCP	BV	801	57	32,34,34	1.85	9 (28%)	49,54,54	1.95	13 (26%)
59	GCP	DV	801	57	32,34,34	1.76	8 (25%)	49,54,54	1.94	13 (26%)
59	GCP	FV	801	57	32,34,34	1.74	7 (21%)	49,54,54	1.99	14 (28%)
59	GCP	HV	801	57	32,34,34	1.71	7 (21%)	49,54,54	1.91	18 (36%)

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
59	GCP	BV	801	57	-	2/19/38/38	0/3/3/3
59	GCP	DV	801	57	-	1/19/38/38	0/3/3/3
59	GCP	FV	801	57	-	3/19/38/38	0/3/3/3
59	GCP	HV	801	57	-	3/19/38/38	0/3/3/3

All (31) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	HV	801	GCP	C2-N2	4.90	1.45	1.34
59	FV	801	GCP	C2-N2	4.69	1.45	1.34
59	DV	801	GCP	C2-N2	4.52	1.44	1.34
59	BV	801	GCP	C2-N2	4.51	1.44	1.34
59	FV	801	GCP	C2'-C3'	-4.18	1.42	1.53
59	DV	801	GCP	C2'-C3'	-4.16	1.42	1.53
59	HV	801	GCP	C2'-C3'	-3.94	1.42	1.53
59	BV	801	GCP	C2'-C3'	-3.92	1.42	1.53
59	BV	801	GCP	PB-O3A	-3.71	1.54	1.58
59	BV	801	GCP	C3'-C4'	-3.23	1.44	1.53
59	DV	801	GCP	C3'-C4'	-3.22	1.44	1.53
59	FV	801	GCP	O4'-C1'	3.04	1.49	1.42
59	HV	801	GCP	C3'-C4'	-2.92	1.45	1.53
59	DV	801	GCP	C1'-N9	-2.90	1.39	1.47
59	DV	801	GCP	PB-O3A	-2.77	1.55	1.58
59	FV	801	GCP	C3'-C4'	-2.75	1.46	1.53
59	FV	801	GCP	PB-O3A	-2.75	1.55	1.58
59	BV	801	GCP	C2'-C1'	-2.74	1.44	1.53
59	BV	801	GCP	C1'-N9	-2.67	1.40	1.47
59	HV	801	GCP	O4'-C1'	2.66	1.48	1.42
59	BV	801	GCP	O4'-C1'	2.59	1.48	1.42
59	DV	801	GCP	C2'-C1'	-2.55	1.45	1.53
59	HV	801	GCP	C1'-N9	-2.47	1.40	1.47
59	FV	801	GCP	C2'-C1'	-2.43	1.45	1.53
59	DV	801	GCP	O4'-C1'	2.40	1.47	1.42
59	HV	801	GCP	C2'-C1'	-2.36	1.46	1.53
59	BV	801	GCP	PA-O3A	-2.20	1.57	1.59
59	BV	801	GCP	C5'-C4'	-2.18	1.45	1.51
59	HV	801	GCP	C5'-C4'	-2.17	1.45	1.51
59	FV	801	GCP	C1'-N9	-2.16	1.41	1.47
59	DV	801	GCP	C5'-C4'	-2.15	1.45	1.51

All (58) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
59	BV	801	GCP	PB-O3A-PA	-5.82	113.39	132.37
59	FV	801	GCP	C2-N3-C4	5.69	122.10	112.30
59	FV	801	GCP	C5-C4-N3	-5.55	119.56	128.39
59	DV	801	GCP	PB-O3A-PA	-5.22	115.35	132.37
59	HV	801	GCP	C2-N3-C4	5.20	121.25	112.30
59	BV	801	GCP	C5-C4-N3	-5.13	120.23	128.39
59	FV	801	GCP	PB-O3A-PA	-5.04	115.94	132.37
59	BV	801	GCP	C2-N3-C4	5.03	120.96	112.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
59	HV	801	GCP	C5-C4-N3	-4.70	120.91	128.39
59	DV	801	GCP	C2-N3-C4	4.68	120.35	112.30
59	DV	801	GCP	C5-C4-N3	-4.56	121.14	128.39
59	FV	801	GCP	N9-C4-N3	4.03	134.02	125.95
59	DV	801	GCP	C4'-O4'-C1'	-3.94	100.76	109.47
59	BV	801	GCP	N9-C4-N3	3.88	133.70	125.95
59	HV	801	GCP	C4'-O4'-C1'	-3.77	101.14	109.47
59	BV	801	GCP	C4'-O4'-C1'	-3.65	101.41	109.47
59	DV	801	GCP	N9-C4-N3	3.58	133.11	125.95
59	HV	801	GCP	N9-C4-N3	3.51	132.98	125.95
59	HV	801	GCP	PB-O3A-PA	-3.05	122.42	132.37
59	FV	801	GCP	C2-N1-C6	-2.92	119.81	125.11
59	FV	801	GCP	C5-C6-N1	2.92	120.67	113.25
59	HV	801	GCP	C8-N7-C5	2.84	109.31	104.26
59	FV	801	GCP	O6-C6-C5	-2.81	119.12	126.53
59	FV	801	GCP	C8-N7-C5	2.79	109.23	104.26
59	HV	801	GCP	C5-C6-N1	2.71	120.16	113.25
59	BV	801	GCP	C8-N7-C5	2.71	109.08	104.26
59	BV	801	GCP	C2-N1-C6	-2.65	120.31	125.11
59	HV	801	GCP	C6-C5-N7	2.61	135.04	130.29
59	BV	801	GCP	C5-C6-N1	2.59	119.85	113.25
59	DV	801	GCP	C2'-C3'-C4'	2.58	107.59	102.61
59	DV	801	GCP	C3'-C2'-C1'	2.57	106.33	101.46
59	DV	801	GCP	C2-N1-C6	-2.57	120.45	125.11
59	DV	801	GCP	O6-C6-C5	-2.57	119.75	126.53
59	DV	801	GCP	C5-C6-N1	2.55	119.75	113.25
59	DV	801	GCP	C8-N7-C5	2.52	108.76	104.26
59	BV	801	GCP	O6-C6-C5	-2.46	120.03	126.53
59	FV	801	GCP	C4'-O4'-C1'	-2.39	104.18	109.47
59	HV	801	GCP	N9-C8-N7	-2.39	108.97	113.40
59	HV	801	GCP	O6-C6-C5	-2.38	120.25	126.53
59	HV	801	GCP	O4'-C4'-C3'	2.35	109.82	105.15
59	HV	801	GCP	N1-C2-N3	-2.34	119.04	123.32
59	DV	801	GCP	N9-C8-N7	-2.32	109.10	113.40
59	HV	801	GCP	C2-N1-C6	-2.31	120.92	125.11
59	FV	801	GCP	C2'-C3'-C4'	2.29	107.03	102.61
59	FV	801	GCP	C6-C5-N7	2.23	134.34	130.29
59	BV	801	GCP	N9-C8-N7	-2.20	109.31	113.40
59	HV	801	GCP	C4-C5-N7	-2.17	107.24	110.67
59	FV	801	GCP	C4-C5-N7	-2.12	107.31	110.67
59	HV	801	GCP	C2'-C3'-C4'	2.12	106.70	102.61
59	DV	801	GCP	C6-C5-N7	2.11	134.13	130.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
59	HV	801	GCP	O4'-C1'-N9	2.09	113.10	108.36
59	FV	801	GCP	N1-C2-N3	-2.09	119.50	123.32
59	FV	801	GCP	N9-C8-N7	-2.07	109.56	113.40
59	BV	801	GCP	C4-C5-N7	-2.05	107.42	110.67
59	BV	801	GCP	C6-C5-N7	2.03	133.99	130.29
59	HV	801	GCP	C5'-C4'-C3'	-2.03	107.90	115.21
59	HV	801	GCP	C3'-C2'-C1'	2.03	105.30	101.46
59	BV	801	GCP	O3G-PG-C3B	2.00	111.26	106.40

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
59	BV	801	GCP	PB-C3B-PG-O3G
59	FV	801	GCP	PB-C3B-PG-O1G
59	FV	801	GCP	PB-C3B-PG-O2G
59	FV	801	GCP	PB-C3B-PG-O3G
59	HV	801	GCP	PB-C3B-PG-O1G
59	HV	801	GCP	PB-C3B-PG-O2G
59	HV	801	GCP	PB-C3B-PG-O3G
59	BV	801	GCP	PB-C3B-PG-O2G
59	DV	801	GCP	PB-C3B-PG-O3G

There are no ring outliers.

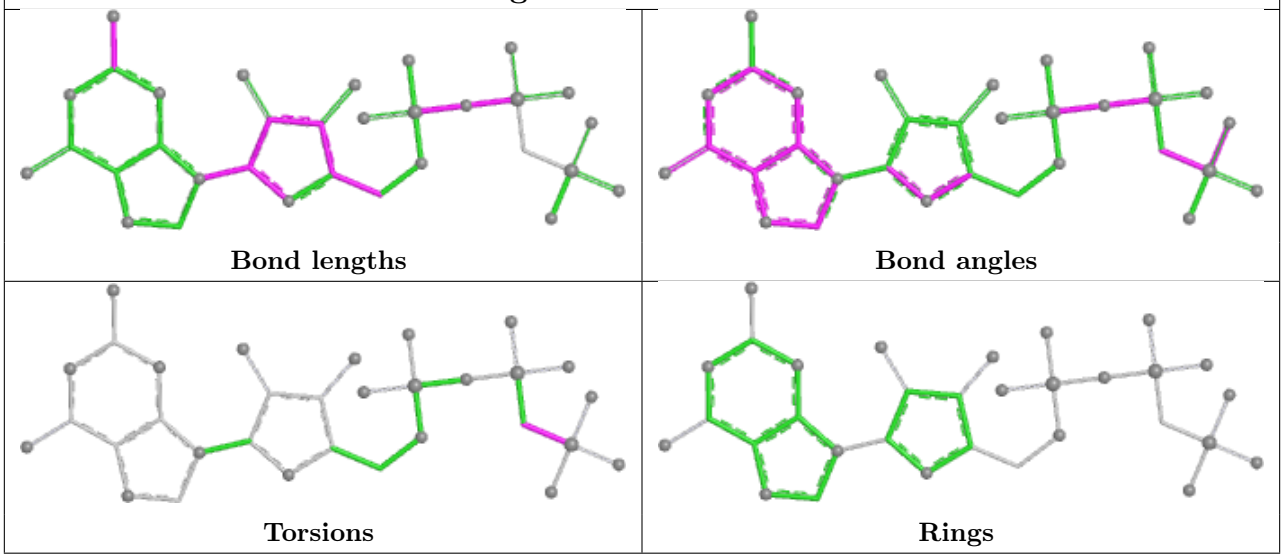
4 monomers are involved in 5 short contacts:

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

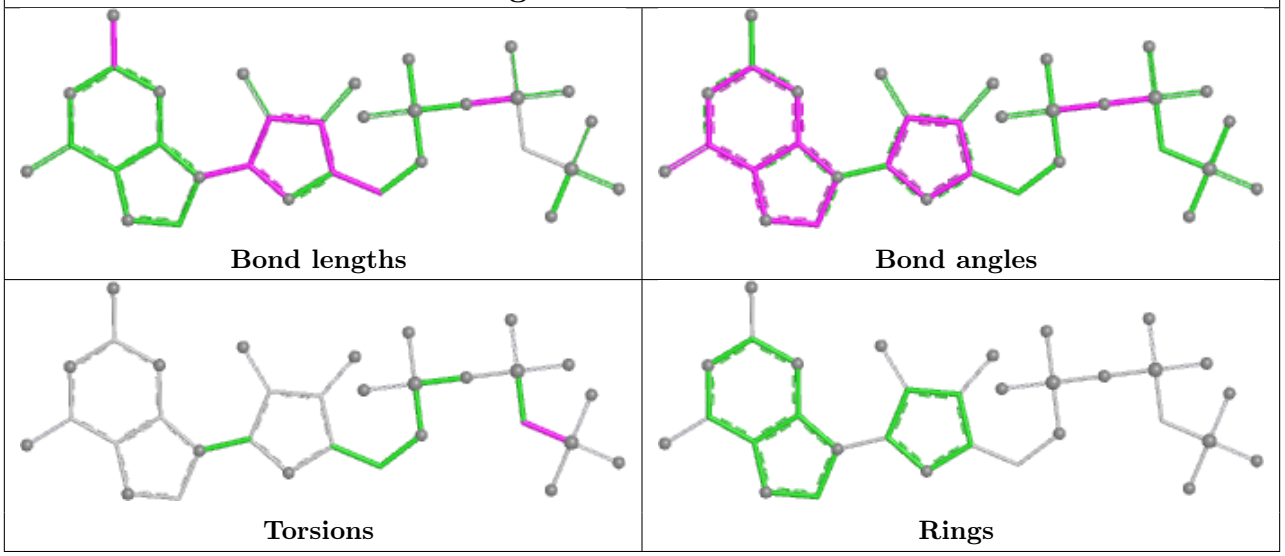
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier.

The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

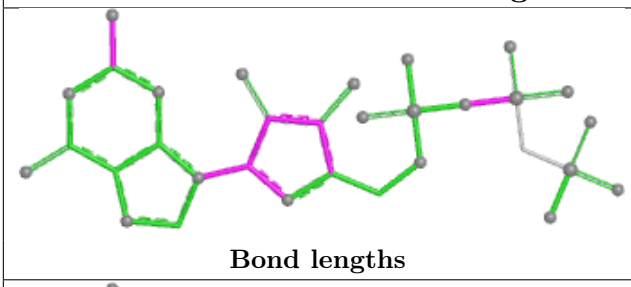
Ligand GCP BV 801



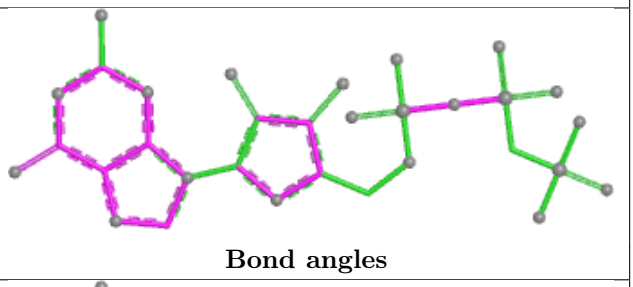
Ligand GCP DV 801



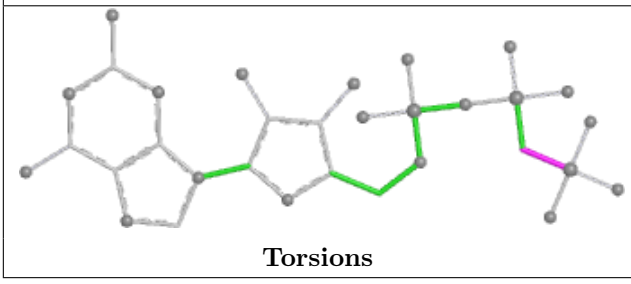
Ligand GCP FV 801



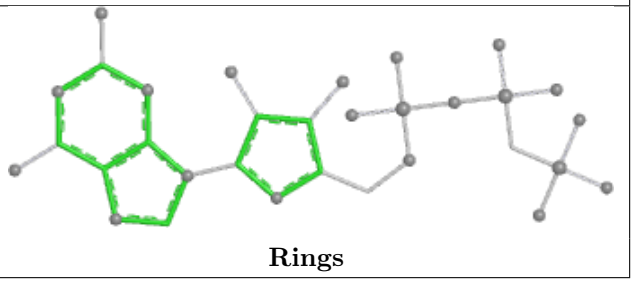
Bond lengths



Bond angles

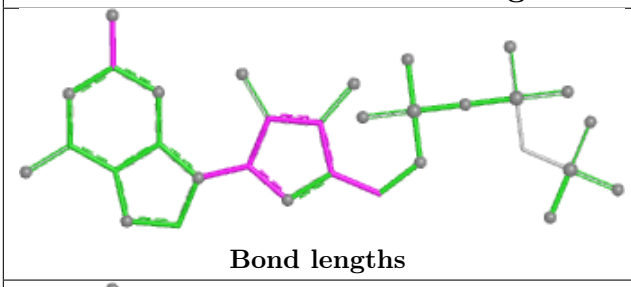


Torsions

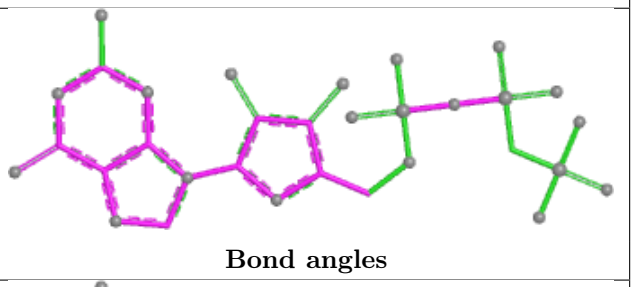


Rings

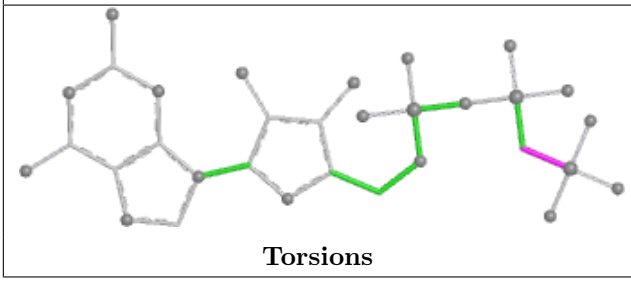
Ligand GCP HV 801



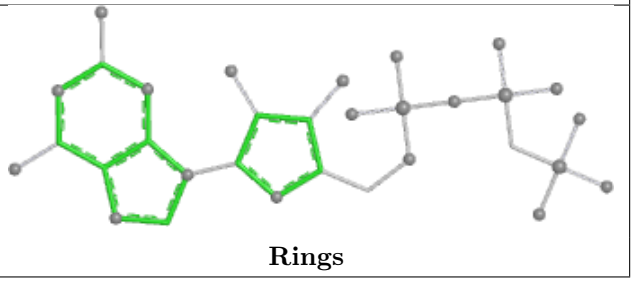
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

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.