



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 09:55 PM GMT

PDB ID : 4V8A  
Title : The structure of thermorubin in complex with the 70S ribosome from *Thermus thermophilus*.  
Authors : Bulkley, D.; Johnson, F.A.; Steitz, T.A.  
Deposited on : 2011-12-05  
Resolution : 3.20 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](mailto:validation@mail.wwpdb.org)  
A user guide is available at  
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.7 (RC4), CSD as536be (2015)  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20026688  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
Refmac : 5.8.0135  
CCP4 : 6.5.0  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk26865

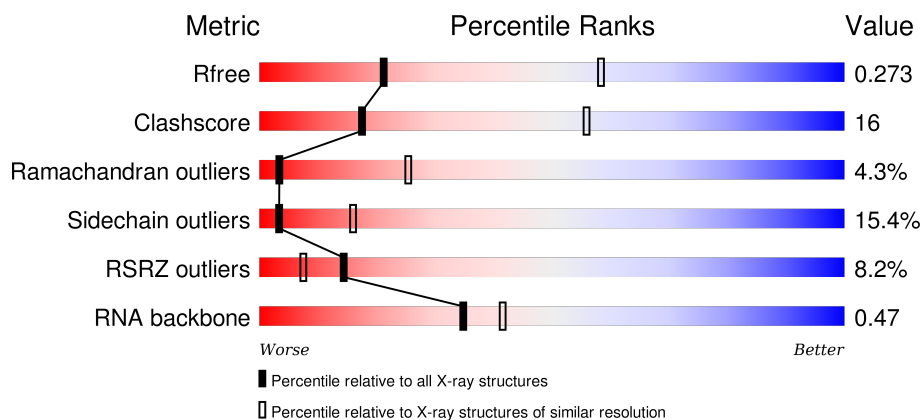
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.20 Å.

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









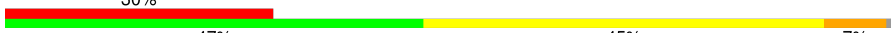


















Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	91344	1124 (3.24-3.16)
Clashscore	102246	1024 (3.22-3.18)
Ramachandran outliers	100387	1004 (3.22-3.18)
Sidechain outliers	100360	1003 (3.22-3.18)
RSRZ outliers	91569	1129 (3.24-3.16)
RNA backbone	2183	1079 (3.70-2.70)

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 on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	AA	2915	<div> <div>4%</div> <div>36% 43% 15% . .</div> </div>
1	BA	2915	<div> <div>3%</div> <div>45% 34% 15% . .</div> </div>
2	AB	122	<div> <div>3%</div> <div>27% 52% 16% . .</div> </div>
2	BB	122	<div> <div></div> <div>49% 35% 13% . .</div> </div>











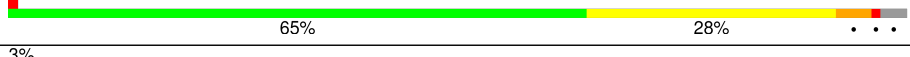
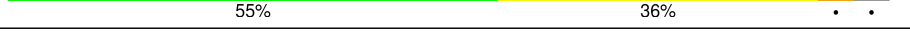
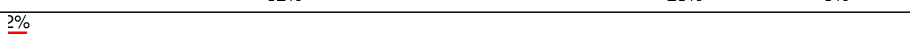


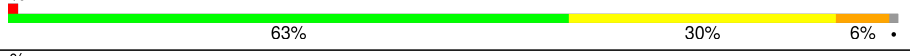

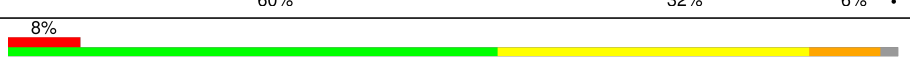
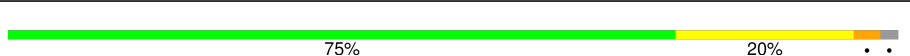
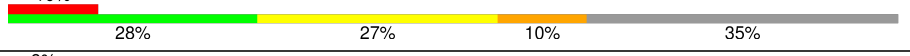
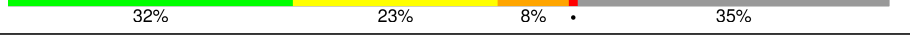




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Mol	Chain	Length	Quality of chain
3	AD	276	
3	BD	276	% 
4	AE	206	
4	BE	206	
5	AF	205	% 
5	BF	205	
6	AG	182	
6	BG	182	
7	AH	180	
7	BH	180	
8	AI	148	
8	BI	148	% 
9	AN	140	% 
9	BN	140	
10	AO	122	
10	BO	122	
11	AP	150	
11	BP	150	
12	AQ	141	% 
12	BQ	141	
13	AR	118	
13	BR	118	
14	AS	112	
14	BS	112	
15	AT	146	% 

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Mol	Chain	Length	Quality of chain
15	BT	146	
16	AU	118	
16	BU	118	
17	AV	101	
17	BV	101	
18	AW	113	
18	BW	113	
19	AX	96	
19	BX	96	
20	AY	110	
20	BY	110	
21	AZ	206	
21	BZ	206	
22	A0	85	
22	B0	85	
23	A1	98	
23	B1	98	
24	A2	72	
24	B2	72	
25	A3	60	
25	B3	60	
26	A4	71	
26	B4	71	
27	A5	60	
27	B5	60	

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Mol	Chain	Length	Quality of chain
28	A6	54	
28	B6	54	
29	A7	49	
29	B7	49	
30	A8	65	
30	B8	65	
31	CA	1521	
31	DA	1521	
32	CB	256	
32	DB	256	
33	CC	239	
33	DC	239	
34	CD	209	
34	DD	209	
35	CE	162	
35	DE	162	
36	CF	101	
36	DF	101	
37	CG	156	
37	DG	156	
38	CH	138	
38	DH	138	
39	CI	128	
39	DI	128	
40	CJ	105	

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Mol	Chain	Length	Quality of chain
40	DJ	105	
41	CK	129	
41	DK	129	
42	CL	132	
42	DL	132	
43	CM	126	
43	DM	126	
44	CN	61	
44	DN	61	
45	CO	89	
45	DO	89	
46	CP	88	
46	DP	88	
47	CQ	105	
47	DQ	105	
48	CR	88	
48	DR	88	
49	CS	93	
49	DS	93	
50	CT	106	
50	DT	106	
51	CU	27	
51	DU	27	

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
52	T8B	AA	3001	-	-	X	X
52	T8B	BA	3001	-	-	X	X

## 2 Entry composition [i](#)

There are 53 unique types of molecules in this entry. The entry contains 279316 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	AA	2827	Total	C	N	O	P	0	0	0
			60900	27102	11403	19569	2826			
1	BA	2827	Total	C	N	O	P	0	0	0
			60900	27102	11403	19569	2826			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AA	272A	G	U	CONFLICT	GB AP008226.1
BA	272A	G	U	CONFLICT	GB AP008226.1

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	AB	120	Total	C	N	O	P	0	0	0
			2574	1146	476	833	119			
2	BB	120	Total	C	N	O	P	0	0	0
			2574	1146	476	833	119			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AB	120	G	A	CONFLICT	GB AP008226.1
BB	120	G	A	CONFLICT	GB AP008226.1

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	AD	275	Total	C	N	O	S	0	0	0
			2136	1349	423	361	3			
3	BD	275	Total	C	N	O	S	0	0	0
			2136	1349	423	361	3			



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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AE	204	Total	C	N	O	S	0	0	0
			1555	982	297	270	6			
4	BE	204	Total	C	N	O	S	0	0	0
			1555	982	297	270	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AF	203	Total	C	N	O	S	0	0	1
			1576	1005	297	272	2			
5	BF	203	Total	C	N	O	S	0	0	1
			1576	1005	297	272	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AG	181	Total	C	N	O	S	0	0	0
			1368	879	242	244	3			
6	BG	181	Total	C	N	O	S	0	0	0
			1368	879	242	244	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AH	174	Total	C	N	O	S	0	0	0
			1317	837	243	236	1			
7	BH	174	Total	C	N	O	S	0	0	0
			1317	837	243	236	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AI	145	Total	C	N	O	S	0	0	0
			1046	674	180	191	1			
8	BI	145	Total	C	N	O	S	0	0	0
			1046	674	180	191	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AI	110	GLU	ASP	CONFLICT	UNP Q5SLQ1

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Chain	Residue	Modelled	Actual	Comment	Reference
BI	110	GLU	ASP	CONFLICT	UNP Q5SLQ1

- Molecule 9 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AN	140	Total	C	N	O	S	0	0	0
			1112	717	207	184	4			
9	BN	140	Total	C	N	O	S	0	0	0
			1112	717	207	184	4			

- Molecule 10 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AO	122	Total	C	N	O	S	0	0	0
			923	583	168	168	4			
10	BO	122	Total	C	N	O	S	0	0	0
			923	583	168	168	4			

- Molecule 11 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AP	147	Total	C	N	O	S	0	0	0
			1119	695	227	194	3			
11	BP	147	Total	C	N	O	S	0	0	0
			1119	695	227	194	3			

- Molecule 12 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
12	BQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 13 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
13	BR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 14 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	AS	110	Total	C	N	O	0	0	0
			865	544	172	149			
14	BS	110	Total	C	N	O	0	0	0
			865	544	172	149			

- Molecule 15 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AT	131	Total	C	N	O	S	0	0	0
			1063	666	213	183	1			
15	BT	131	Total	C	N	O	S	0	0	0
			1063	666	213	183	1			

- Molecule 16 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AU	116	Total	C	N	O	S	0	0	0
			959	608	201	149	1			
16	BU	116	Total	C	N	O	S	0	0	0
			959	608	201	149	1			

- Molecule 17 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AV	101	Total	C	N	O	S	0	0	0
			771	495	140	135	1			
17	BV	101	Total	C	N	O	S	0	0	0
			771	495	140	135	1			

- Molecule 18 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	AW	112	Total	C	N	O	S	0	0	0
			881	554	172	153	2			
18	BW	112	Total	C	N	O	S	0	0	0
			881	554	172	153	2			

- Molecule 19 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AX	95	Total	C	N	O	S	0	0	0
			742	483	134	124	1			
19	BX	95	Total	C	N	O	S	0	0	0
			742	483	134	124	1			

- Molecule 20 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AY	107	Total	C	N	O	S	0	0	0
			785	503	145	131	6			
20	BY	107	Total	C	N	O	S	0	0	0
			785	503	145	131	6			

- Molecule 21 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	AZ	198	Total	C	N	O	S	0	0	0
			1522	972	269	279	2			
21	BZ	198	Total	C	N	O	S	0	0	0
			1522	972	269	279	2			

- Molecule 22 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	A0	76	Total	C	N	O	S	0	0	0
			594	368	125	100	1			
22	B0	76	Total	C	N	O	S	0	0	0
			594	368	125	100	1			

- Molecule 23 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	A1	97	Total	C	N	O	S	0	0	0
			745	469	144	131	1			
23	B1	97	Total	C	N	O	S	0	0	0
			745	469	144	131	1			

- Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	A2	70	Total	C	N	O	S	0	0	0
			588	365	118	103	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	B2	70	Total	C	N	O	S	0	0	0
			588	365	118	103	2			

- Molecule 25 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	A3	59	Total	C	N	O		0	0	0
			458	293	87	78				
25	B3	59	Total	C	N	O		0	0	0
			458	293	87	78				

- Molecule 26 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	A4	46	Total	C	N	O	S	0	0	0
			349	223	57	64	5			
26	B4	46	Total	C	N	O	S	0	0	0
			349	223	57	64	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	A5	59	Total	C	N	O	S	0	0	0
			455	286	90	74	5			
27	B5	59	Total	C	N	O	S	0	0	0
			455	286	90	74	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	A6	53	Total	C	N	O	S	0	0	0
			449	278	90	77	4			
28	B6	53	Total	C	N	O	S	0	0	0
			449	278	90	77	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	A7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			
29	B7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	A8	64	Total	C	N	O	S	0	0	0
			509	326	99	82	2			
30	B8	64	Total	C	N	O	S	0	0	0
			509	326	99	82	2			

- Molecule 31 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	CA	1498	Total	C	N	O	P	0	0	0
			32208	14334	5974	10402	1498			
31	DA	1498	Total	C	N	O	P	0	0	0
			32208	14334	5974	10402	1498			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
CA	?	-	U	DELETION	GB AP008226.1
DA	?	-	U	DELETION	GB AP008226.1

- Molecule 32 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	CB	229	Total	C	N	O	S	0	0	0
			1777	1134	318	320	5			
32	DB	229	Total	C	N	O	S	0	0	0
			1777	1134	318	320	5			

- Molecule 33 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	CC	206	Total	C	N	O	S	0	0	0
			1450	906	279	264	1			
33	DC	206	Total	C	N	O	S	0	0	0
			1450	906	279	264	1			

- Molecule 34 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	CD	208	Total	C	N	O	S	0	0	0
			1520	960	283	272	5			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	DD	208	Total	C	N	O	S	0	0	0
			1520	960	283	272	5			

- Molecule 35 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	CE	148	Total	C	N	O	S	0	0	0
			1105	699	204	198	4			
35	DE	148	Total	C	N	O	S	0	0	0
			1105	699	204	198	4			

- Molecule 36 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	CF	100	Total	C	N	O	S	0	0	0
			781	495	137	146	3			
36	DF	100	Total	C	N	O	S	0	0	0
			781	495	137	146	3			

- Molecule 37 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	CG	155	Total	C	N	O	S	0	0	0
			1167	727	224	210	6			
37	DG	155	Total	C	N	O	S	0	0	0
			1167	727	224	210	6			

- Molecule 38 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	CH	138	Total	C	N	O	S	0	0	0
			1045	665	188	190	2			
38	DH	138	Total	C	N	O	S	0	0	0
			1045	665	188	190	2			

- Molecule 39 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
39	CI	125	Total	C	N	O	0	0	0
			852	533	163	156			
39	DI	125	Total	C	N	O	0	0	0
			852	533	163	156			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
CI	58	ARG	HIS	CONFLICT	UNP P80374
DI	58	ARG	HIS	CONFLICT	UNP P80374

- Molecule 40 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
40	CJ	96	Total	C	N	O	0	0	0
			659	408	131	120			
40	DJ	96	Total	C	N	O	0	0	0
			659	408	131	120			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
CJ	75	LEU	ILE	CONFLICT	UNP Q5SHN7
DJ	75	LEU	ILE	CONFLICT	UNP Q5SHN7

- Molecule 41 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	CK	114	Total	C	N	O	S	0	0	0
			828	516	155	154	3			
41	DK	114	Total	C	N	O	S	0	0	0
			828	516	155	154	3			

- Molecule 42 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	CL	122	Total	C	N	O	S	0	0	0
			909	570	179	159	1			
42	DL	122	Total	C	N	O	S	0	0	0
			909	570	179	159	1			

- Molecule 43 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	CM	114	Total	C	N	O	S	0	0	0
			801	494	164	142	1			
43	DM	114	Total	C	N	O	S	0	0	0
			801	494	164	142	1			



- Molecule 44 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	CN	60	Total	C	N	O	S	0	0	0
			478	303	99	72	4			
44	DN	60	Total	C	N	O	S	0	0	0
			478	303	99	72	4			

- Molecule 45 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	CO	88	Total	C	N	O	S	0	0	0
			724	453	143	126	2			
45	DO	88	Total	C	N	O	S	0	0	0
			724	453	143	126	2			

- Molecule 46 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	CP	82	Total	C	N	O	S	0	0	0
			651	416	123	111	1			
46	DP	82	Total	C	N	O	S	0	0	0
			651	416	123	111	1			

- Molecule 47 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	CQ	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			
47	DQ	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			

- Molecule 48 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
48	CR	68	Total	C	N	O	0	0	0
			514	329	98	87			
48	DR	68	Total	C	N	O	0	0	0
			514	329	98	87			

- Molecule 49 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	CS	78	Total	C	N	O	S	0	0	0
			544	342	105	95	2			
49	DS	78	Total	C	N	O	S	0	0	0
			544	342	105	95	2			

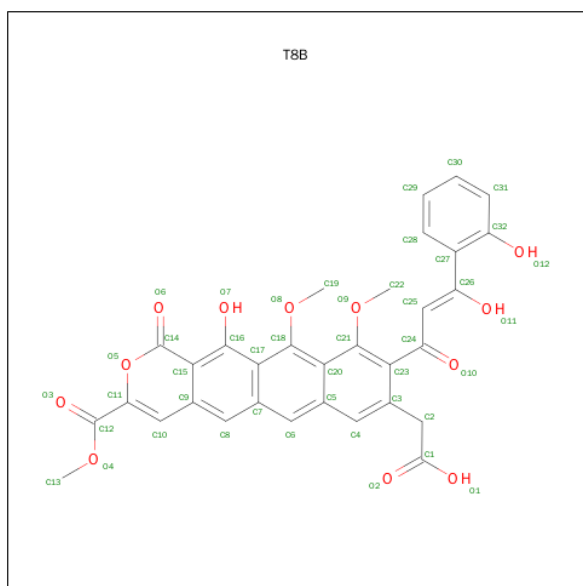
- Molecule 50 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	CT	96	Total	C	N	O	S	0	0	0
			708	435	151	120	2			
50	DT	96	Total	C	N	O	S	0	0	0
			708	435	151	120	2			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
51	CU	23	Total	C	N	O	0	0	0
			199	122	48	29			
51	DU	23	Total	C	N	O	0	0	0
			199	122	48	29			

- Molecule 52 is Thermorubin (three-letter code: T8B) (formula:  $C_{32}H_{24}O_{12}$ ).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
52	AA	1	Total	C	O	0	0
			44	32	12		

*Continued on next page...*

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
52	BA	1	Total	C	O	0	0
			44	32	12		

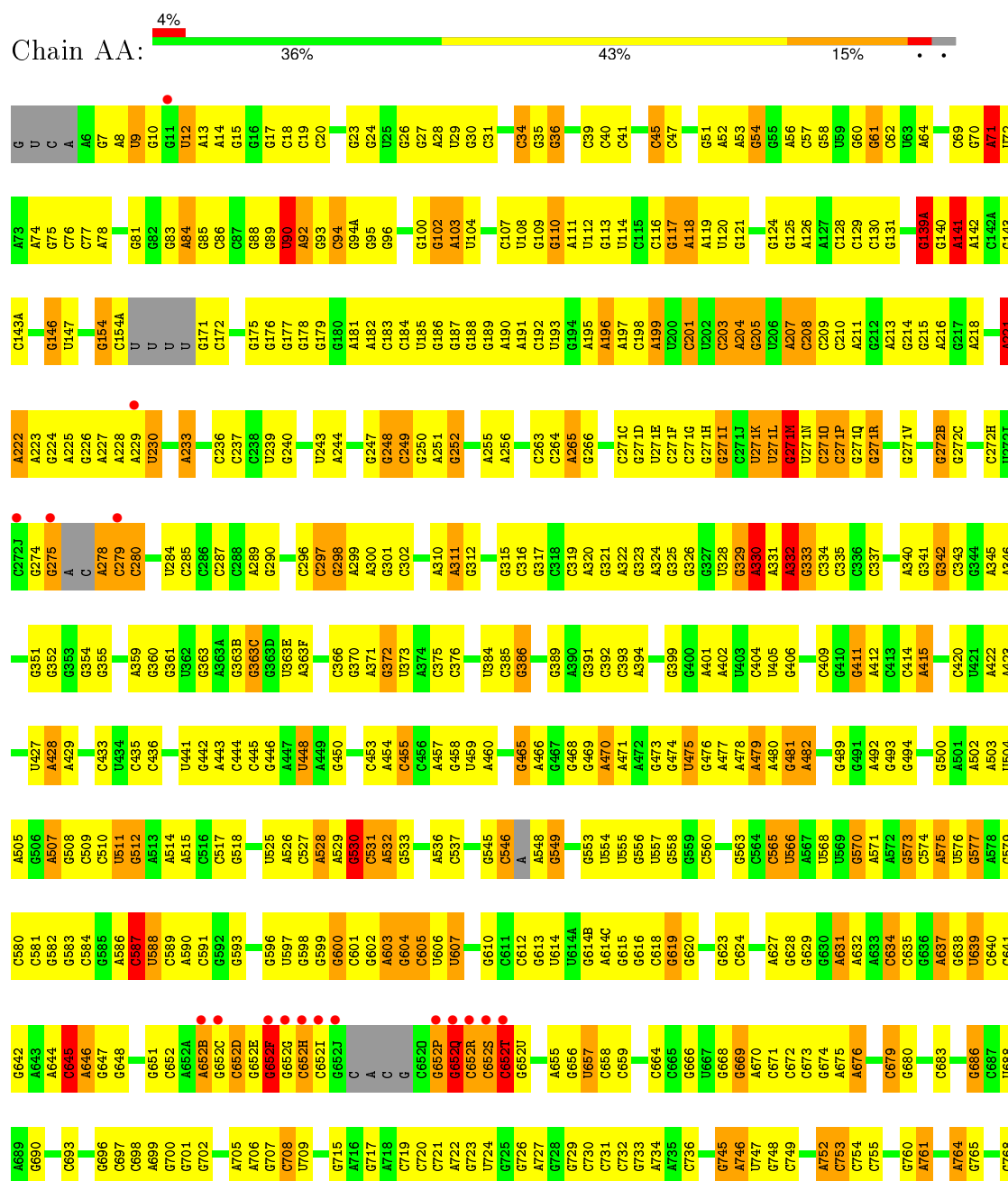
- Molecule 53 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
53	AA	2	Total	Mg	0	0
			2	2		
53	BA	2	Total	Mg	0	0
			2	2		

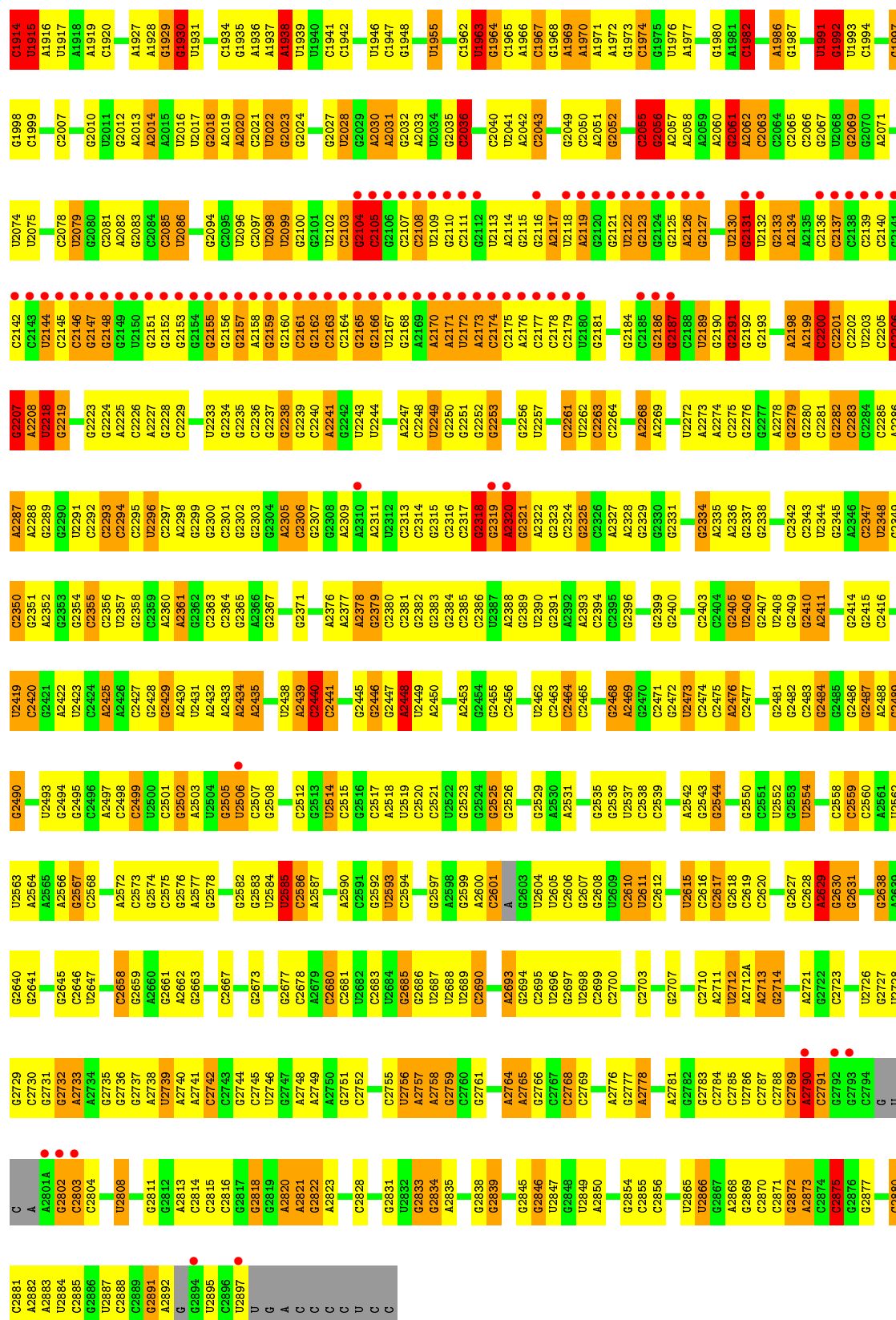
### 3 Residue-property plots

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

#### • Molecule 1: 23S ribosomal RNA



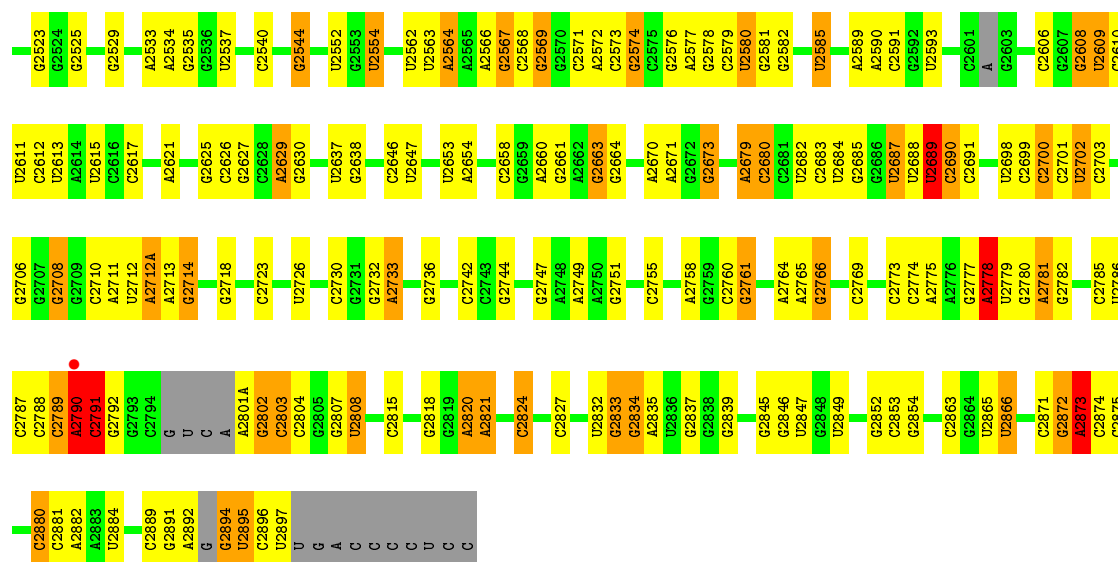
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		C1640	C1546	G1480	C1404	U1329	C1250	G1183	G1107	G1047	C976	C904	C838	
			C1547	U1481	U1405	G1330	G1252	G1184	C1109	A1048	G977	U905	U839	U773
			C1548	G1482	U1406	G1332	A1253	G1185	C1103	C1049	A980	G906	C840	A774
				G1484	C1407	C1333	A1253	G1186	G1110	A1050		U907	A841	G775
				G1485	C1408	G1334	G1256	G1187	A1111	C1051		C908	C842	G776
				A1486	C1409	U1335	U1188	U1187	G1112	C1052		A909		A777
				G1487	G1410	A1336	C1257	U1188	G1113	C		A910	G845	
				U1488	C1411	G1337	G1259	A1189	G1114	G		A911	C985	U779
				A1489	A1412	G1338	G1260	G1190	G1115	G		C912	G848	G780
				A1490	G1413	G1339	C1261	G1191	C1116	G		U913	A849	A781
				G1491		U1340		G1192		A		C914	C850	A782
				G1492	G1416	U1341	A1265	G1193	G1120	G		C915		A783
				C1493	C1417	U1342	A1266	U1198	C1121	U		G916	G854	
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						U1370		G1222		U		G946	C876	
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						U1372	U1298			U		G948	A878	U813
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						C1376	A1301	G1229	A1156	A		G952	C882	C817
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						A1378	G1231	G1160	A1020	A		G954	C884	A819
						G1379	G1232	G1161	A1021	G			C885	A820
						A1380	A1308	G1162	G1022	A		U958	C886	A821
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						C1383	U1313	A1237	U1026	C		C961	C889	A824
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						G1385	C1315	G1239	A1028	A		U963	C892	U826
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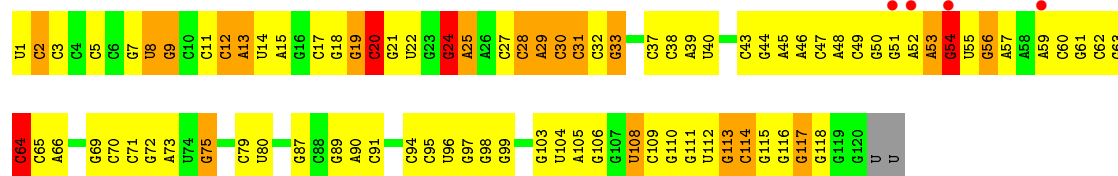


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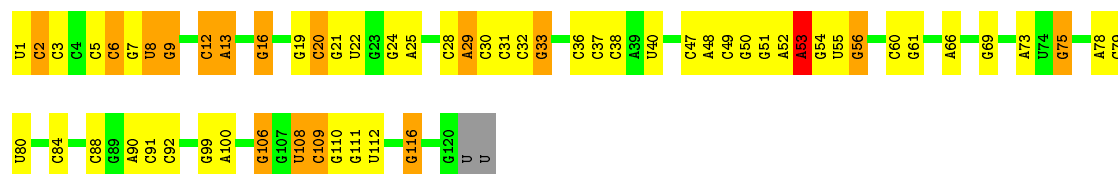




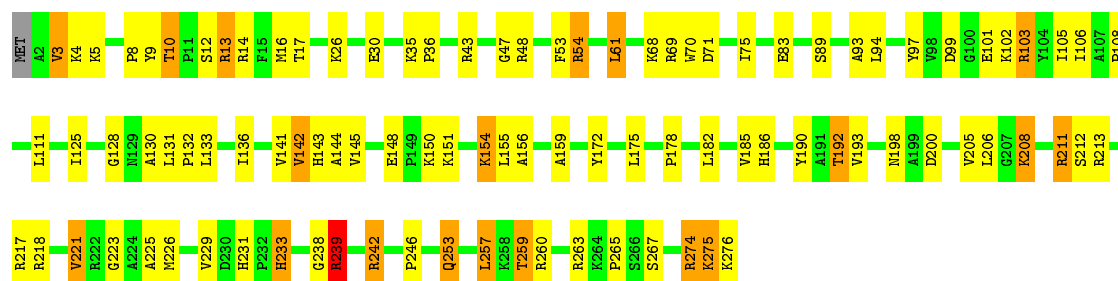
- Molecule 2: 5S ribosomal RNA



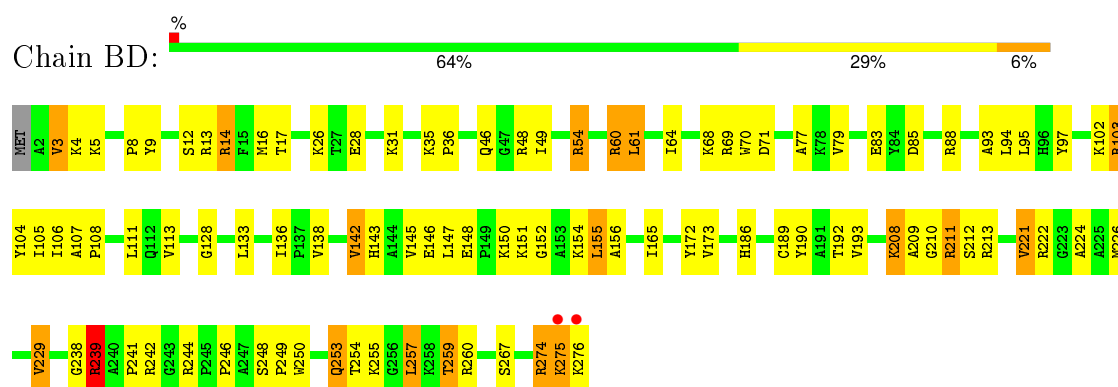
- Molecule 2: 5S ribosomal RNA



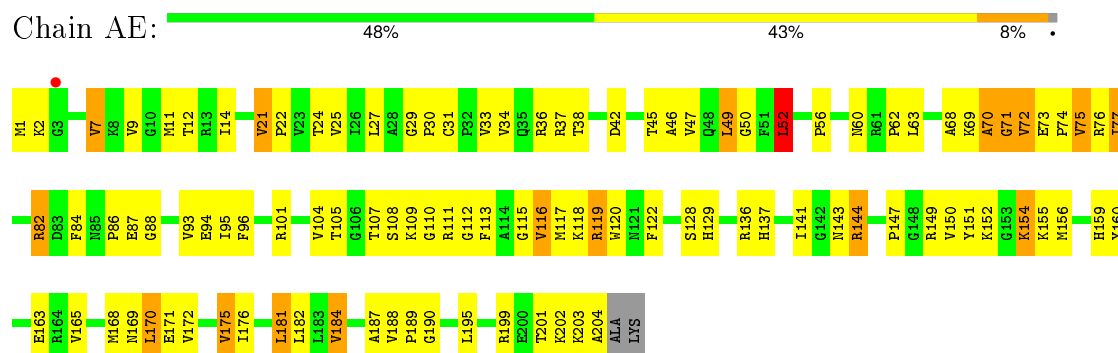
- Molecule 3: 50S ribosomal protein L2



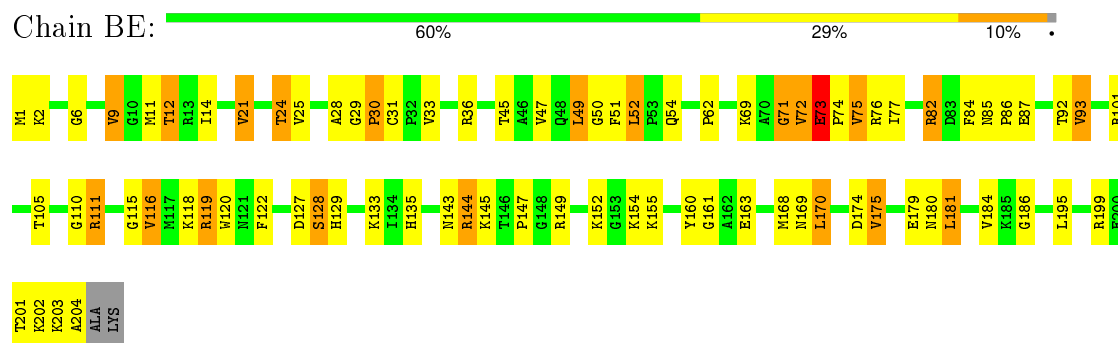
- Molecule 3: 50S ribosomal protein L2



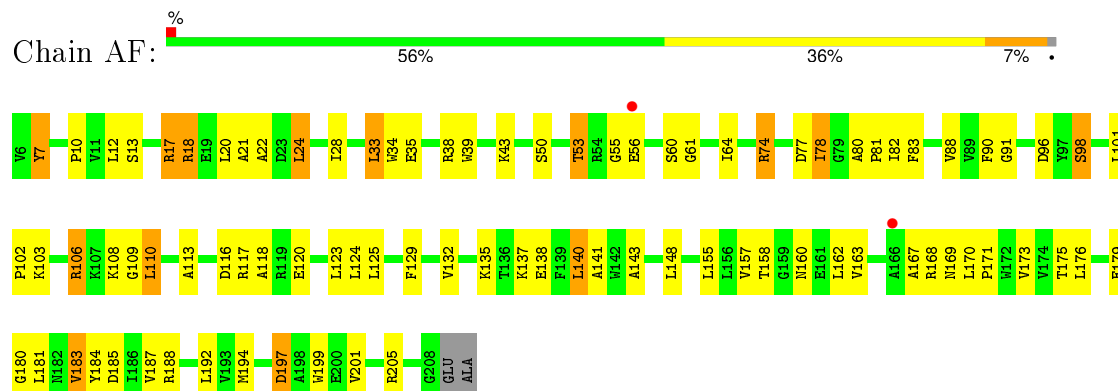
- Molecule 4: 50S ribosomal protein L3



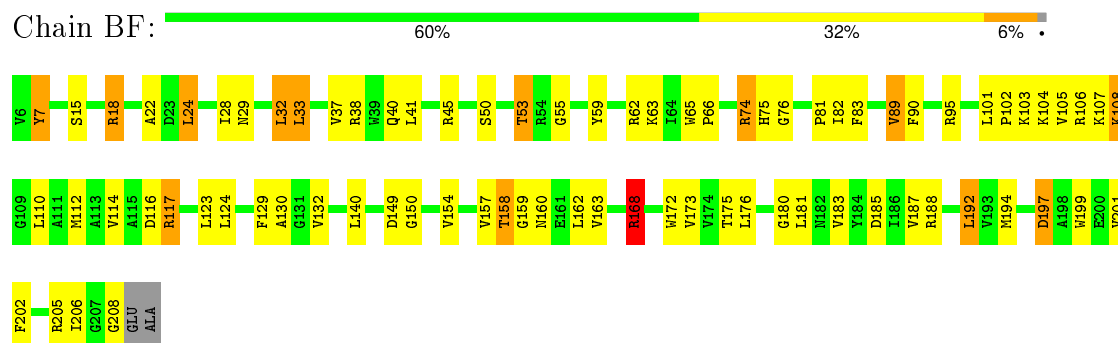
- Molecule 4: 50S ribosomal protein L3



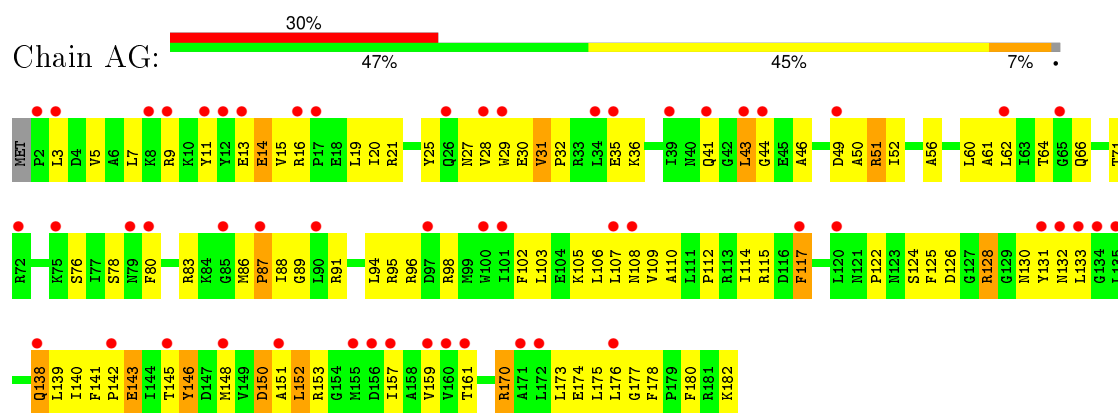
- Molecule 5: 50S ribosomal protein L4



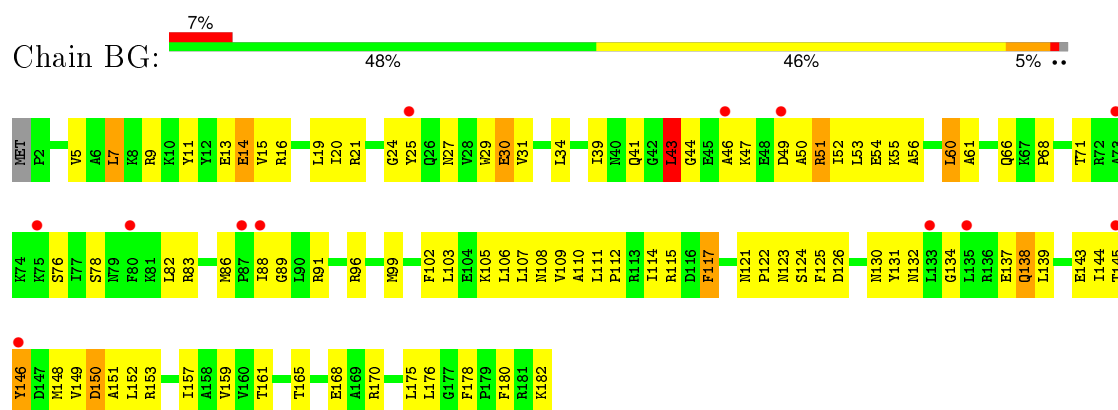
- Molecule 5: 50S ribosomal protein L4



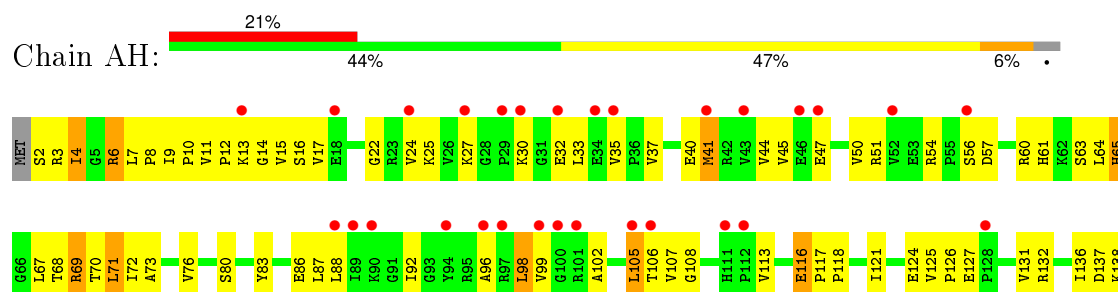
- Molecule 6: 50S ribosomal protein L5



- Molecule 6: 50S ribosomal protein L5



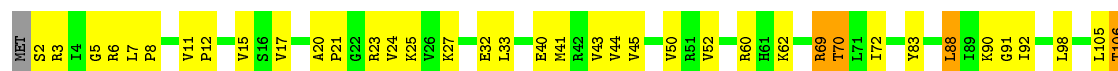
- Molecule 7: 50S ribosomal protein L6





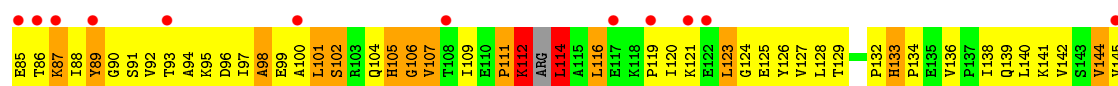
- Molecule 7: 50S ribosomal protein L6

Chain BH: 61% 33%



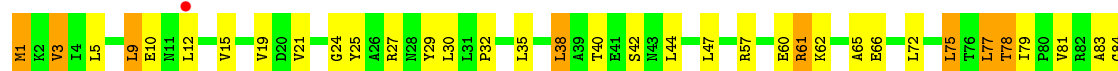
- Molecule 8: 50S ribosomal protein L9

Chain AI: 14% 43% 40% 14%



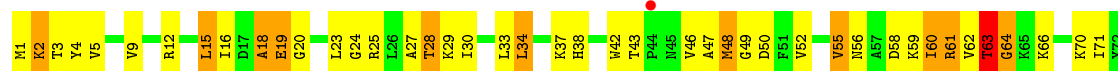
- Molecule 8: 50S ribosomal protein L9

Chain BI: 51% 30% 16%



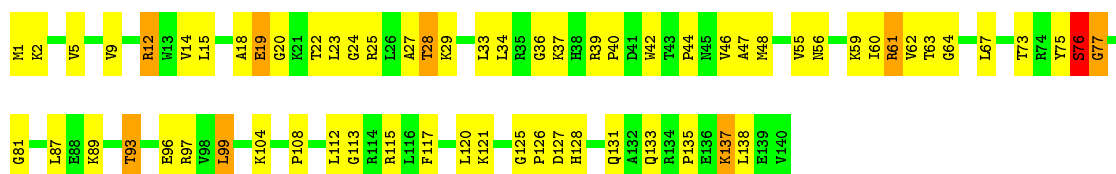
- Molecule 9: 50S ribosomal protein L13

Chain AN: 44% 44% 11%



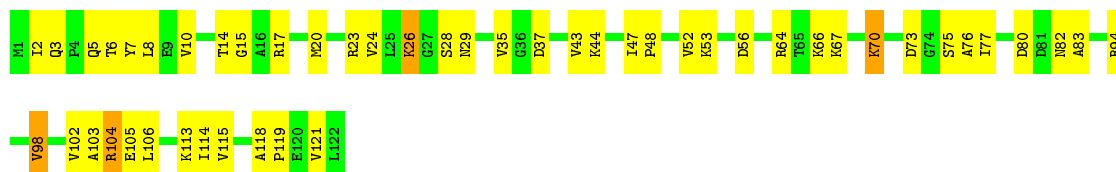
- Molecule 9: 50S ribosomal protein L13

Chain BN: 54% 40% 6%



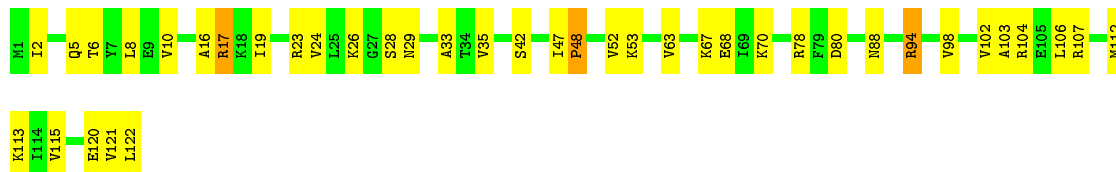
- Molecule 10: 50S ribosomal protein L14

Chain AO:

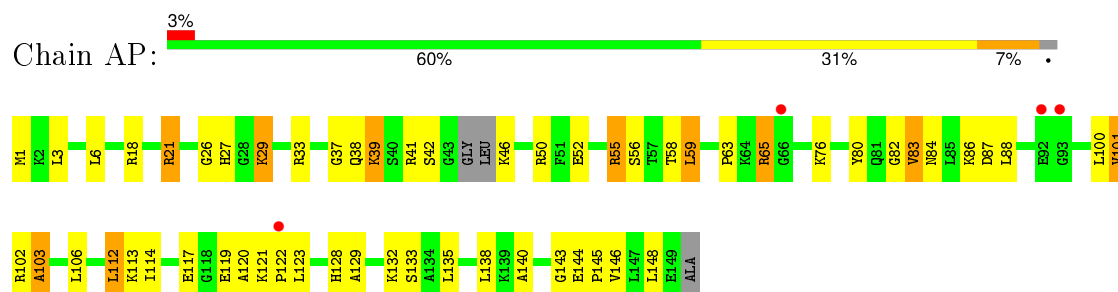


- Molecule 10: 50S ribosomal protein L14

Chain BO:

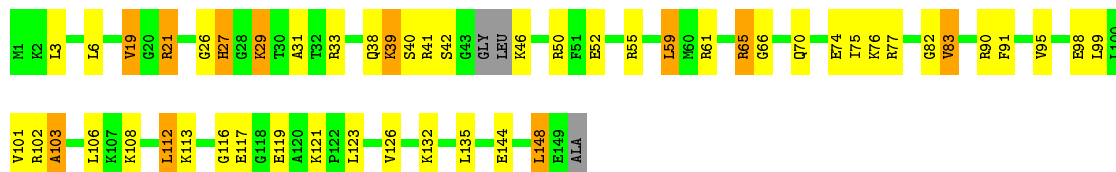


- Molecule 11: 50S ribosomal protein L15



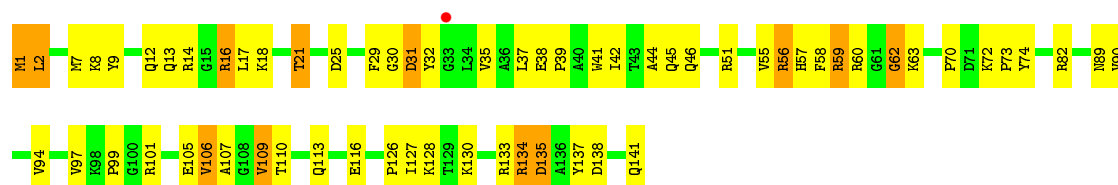
- Molecule 11: 50S ribosomal protein L15

Chain BP:

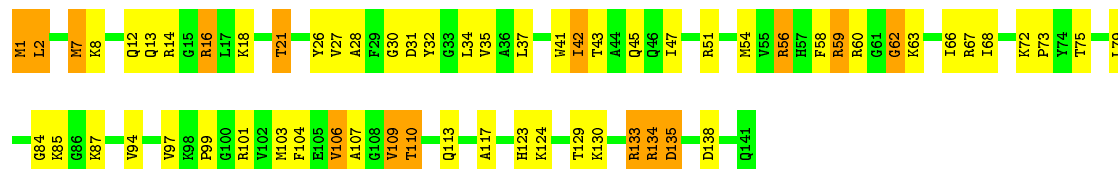


- Molecule 12: 50S ribosomal protein L16

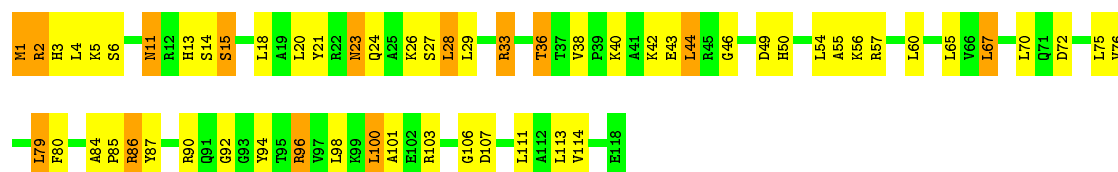




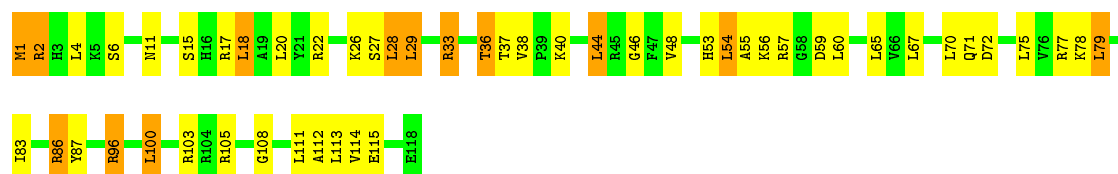
• Molecule 12: 50S ribosomal protein L16



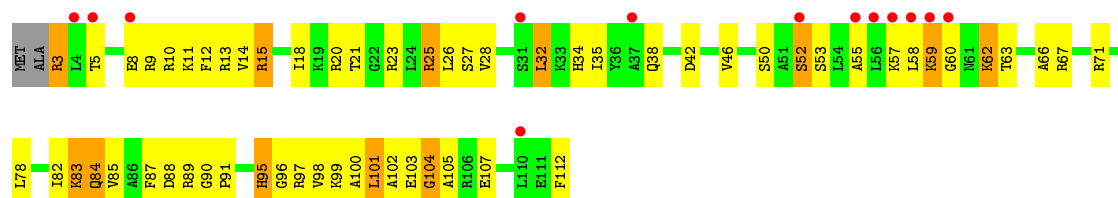
• Molecule 13: 50S ribosomal protein L17



• Molecule 13: 50S ribosomal protein L17

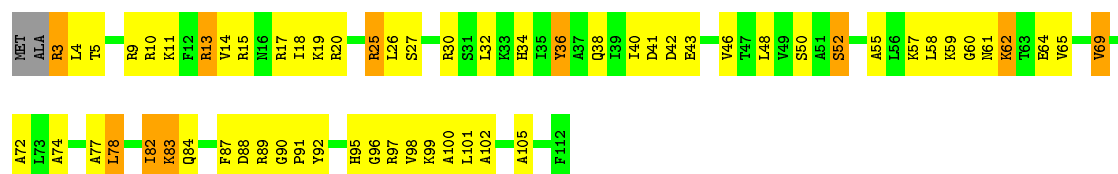


• Molecule 14: 50S ribosomal protein L18



• Molecule 14: 50S ribosomal protein L18





- Molecule 15: 50S ribosomal protein L19



- Molecule 15: 50S ribosomal protein L19



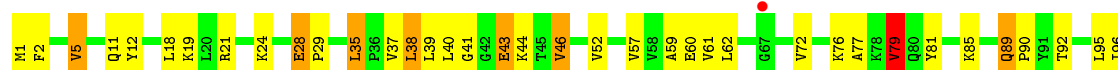
- Molecule 16: 50S ribosomal protein L20



- Molecule 16: 50S ribosomal protein L20



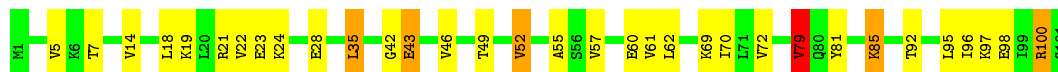
- Molecule 17: 50S ribosomal protein L21





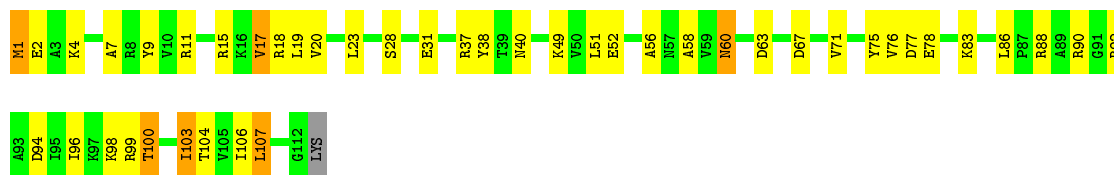
- Molecule 17: 50S ribosomal protein L21

Chain BV: 67% 27% 5% .



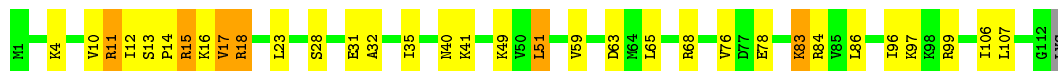
- Molecule 18: 50S ribosomal protein L22

Chain AW: 60% 34% 5% .



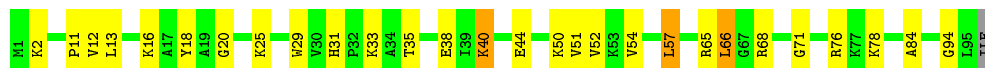
- Molecule 18: 50S ribosomal protein L22

Chain BW: 70% 24% 5% .



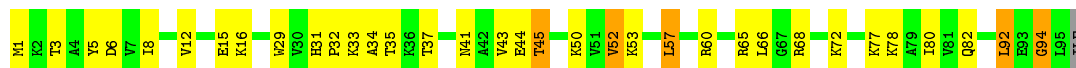
- Molecule 19: 50S ribosomal protein L23

Chain AX: 70% 26% 5% .



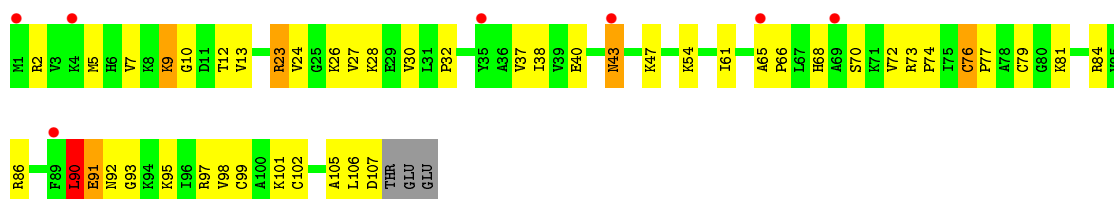
- Molecule 19: 50S ribosomal protein L23

Chain BX: 64% 30% 5% .



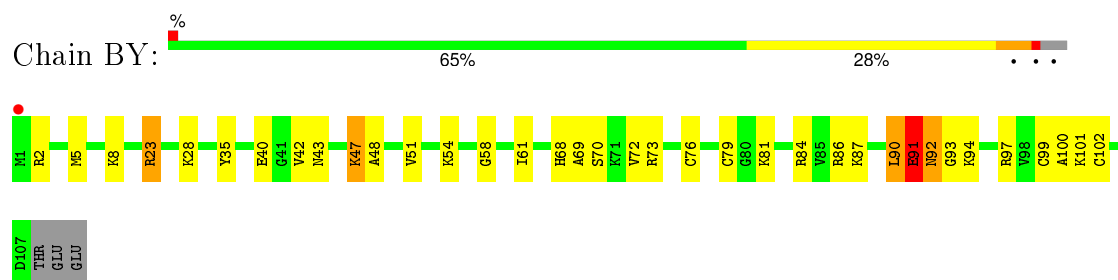
- Molecule 20: 50S ribosomal protein L24

Chain AY: 6% 55% 37% 5% .

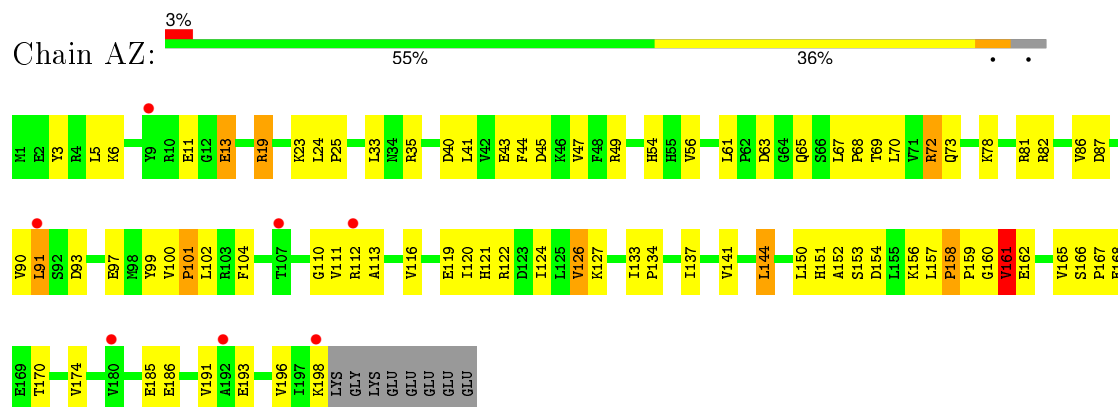




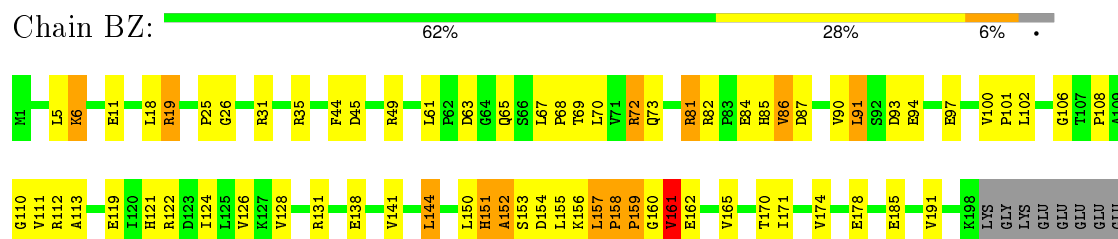
- Molecule 20: 50S ribosomal protein L24



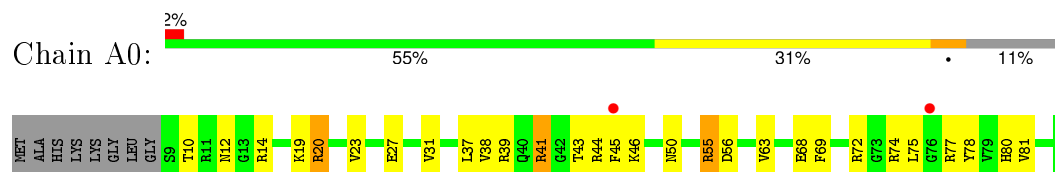
- Molecule 21: 50S ribosomal protein L25



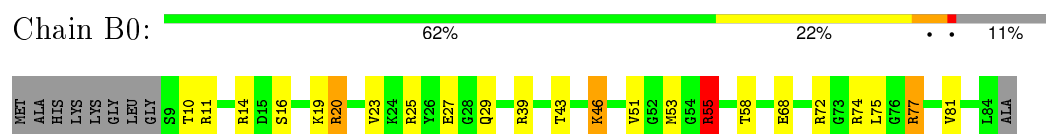
- Molecule 21: 50S ribosomal protein L25



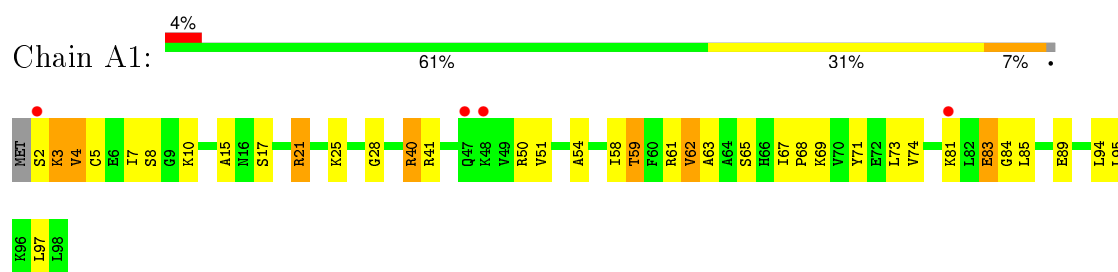
- Molecule 22: 50S ribosomal protein L27



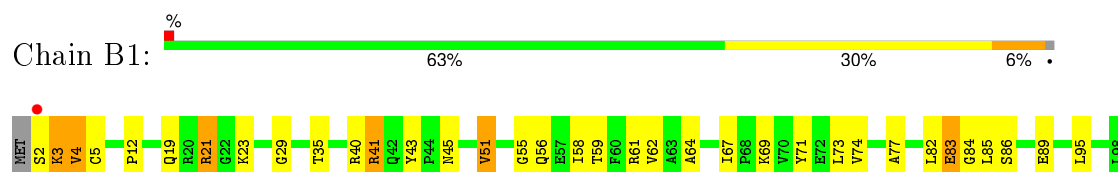
- Molecule 22: 50S ribosomal protein L27



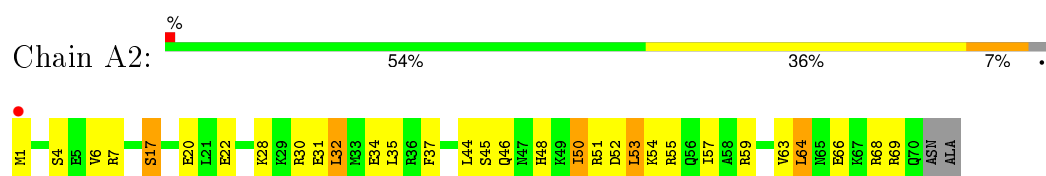
- Molecule 23: 50S ribosomal protein L28



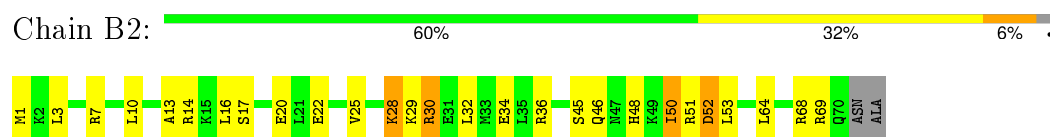
- Molecule 23: 50S ribosomal protein L28



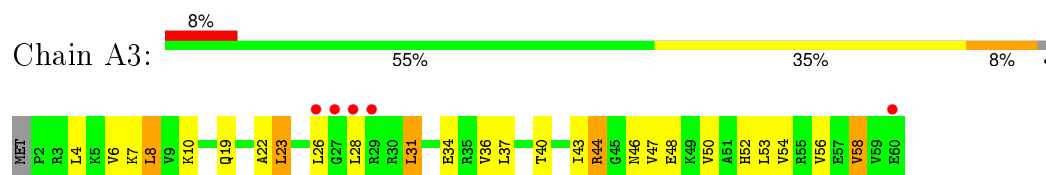
- Molecule 24: 50S ribosomal protein L29



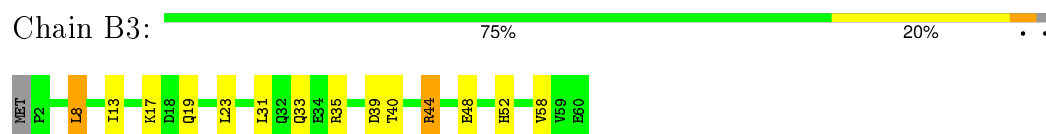
- Molecule 24: 50S ribosomal protein L29



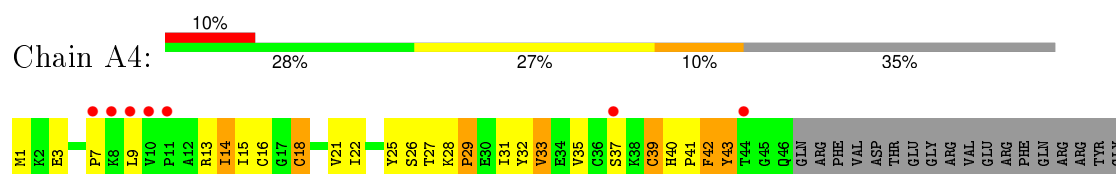
- Molecule 25: 50S ribosomal protein L30



- Molecule 25: 50S ribosomal protein L30

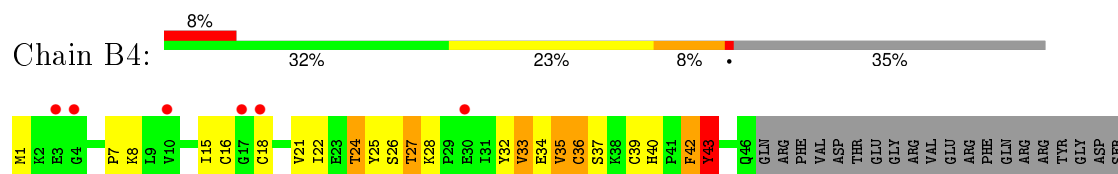


- Molecule 26: 50S ribosomal protein L31



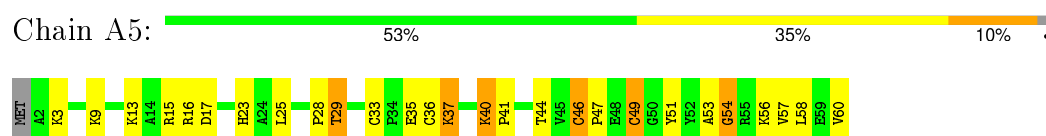
ASP  
SER  
TYR  
ARG  
LYS  
GLY  
ARG

- Molecule 26: 50S ribosomal protein L31

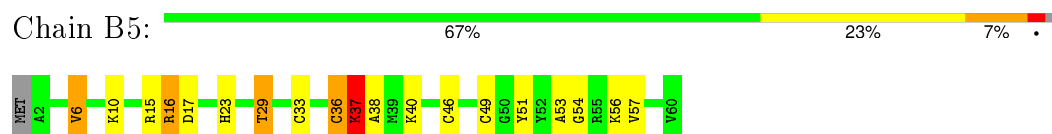


TYR  
ARG  
LYS  
GLY  
ARG

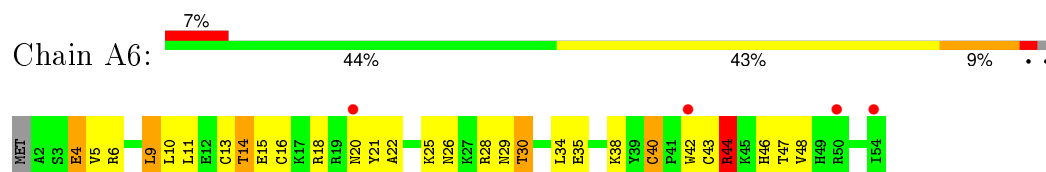
- Molecule 27: 50S ribosomal protein L32



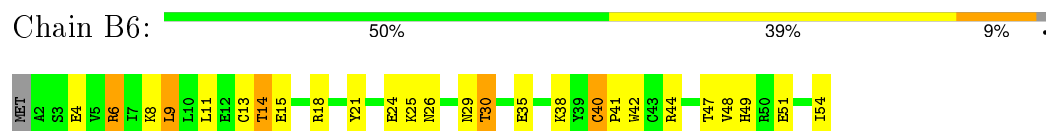
- Molecule 27: 50S ribosomal protein L32



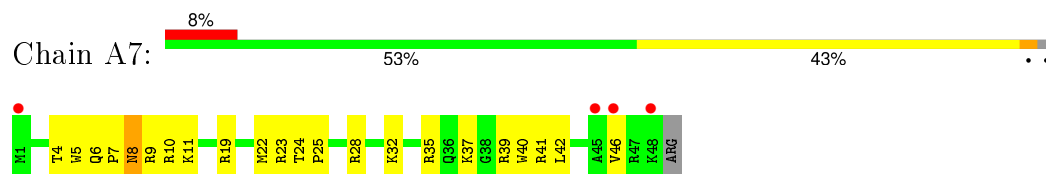
- Molecule 28: 50S ribosomal protein L33



- Molecule 28: 50S ribosomal protein L33



- Molecule 29: 50S ribosomal protein L34



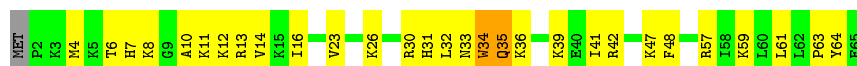
- Molecule 29: 50S ribosomal protein L34





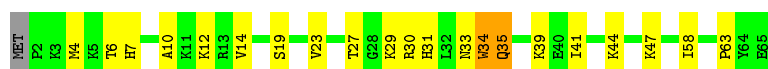
- Molecule 30: 50S ribosomal protein L35

Chain A8: 54% 42%



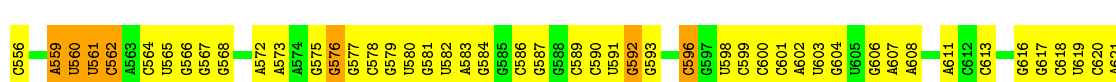
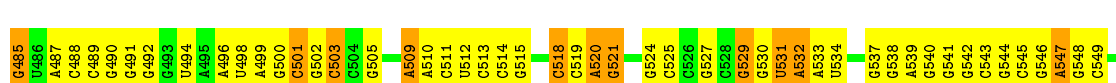
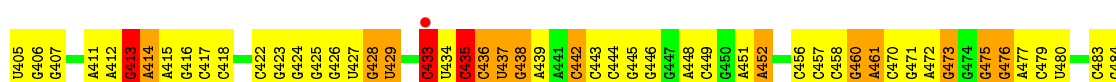
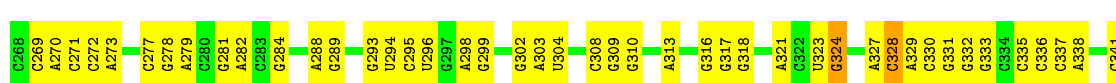
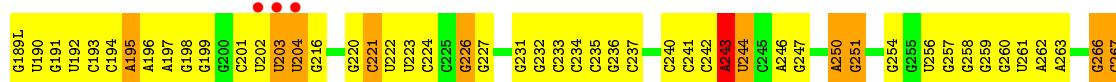
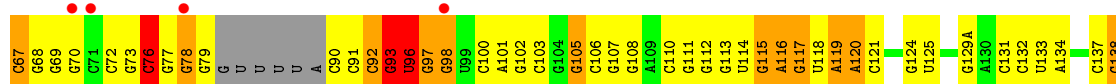
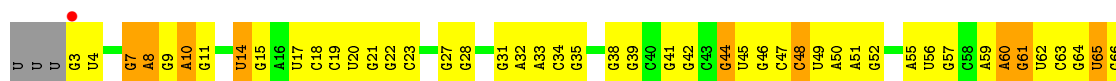
- Molecule 30: 50S ribosomal protein L35

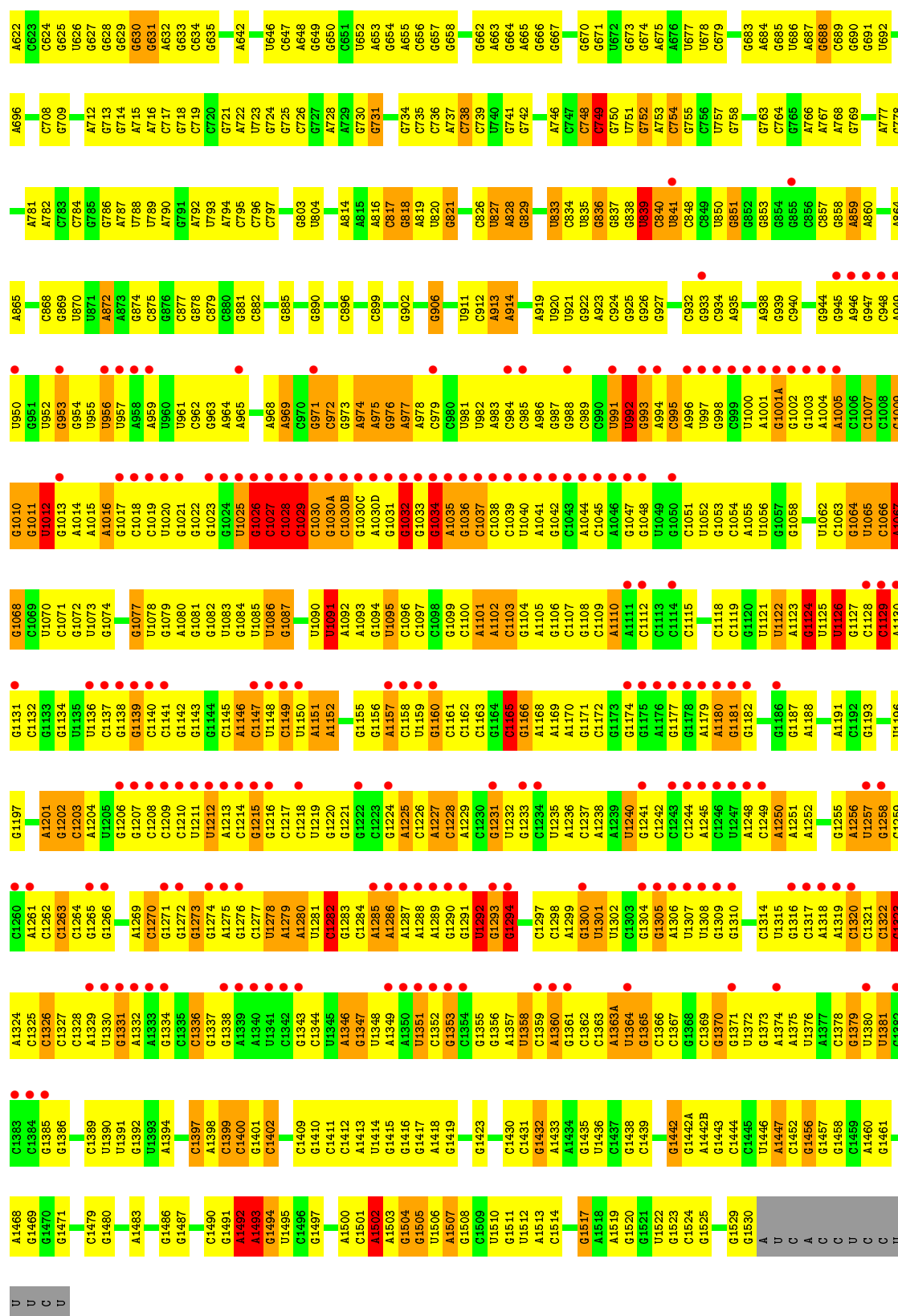
Chain B8: 66% 29%

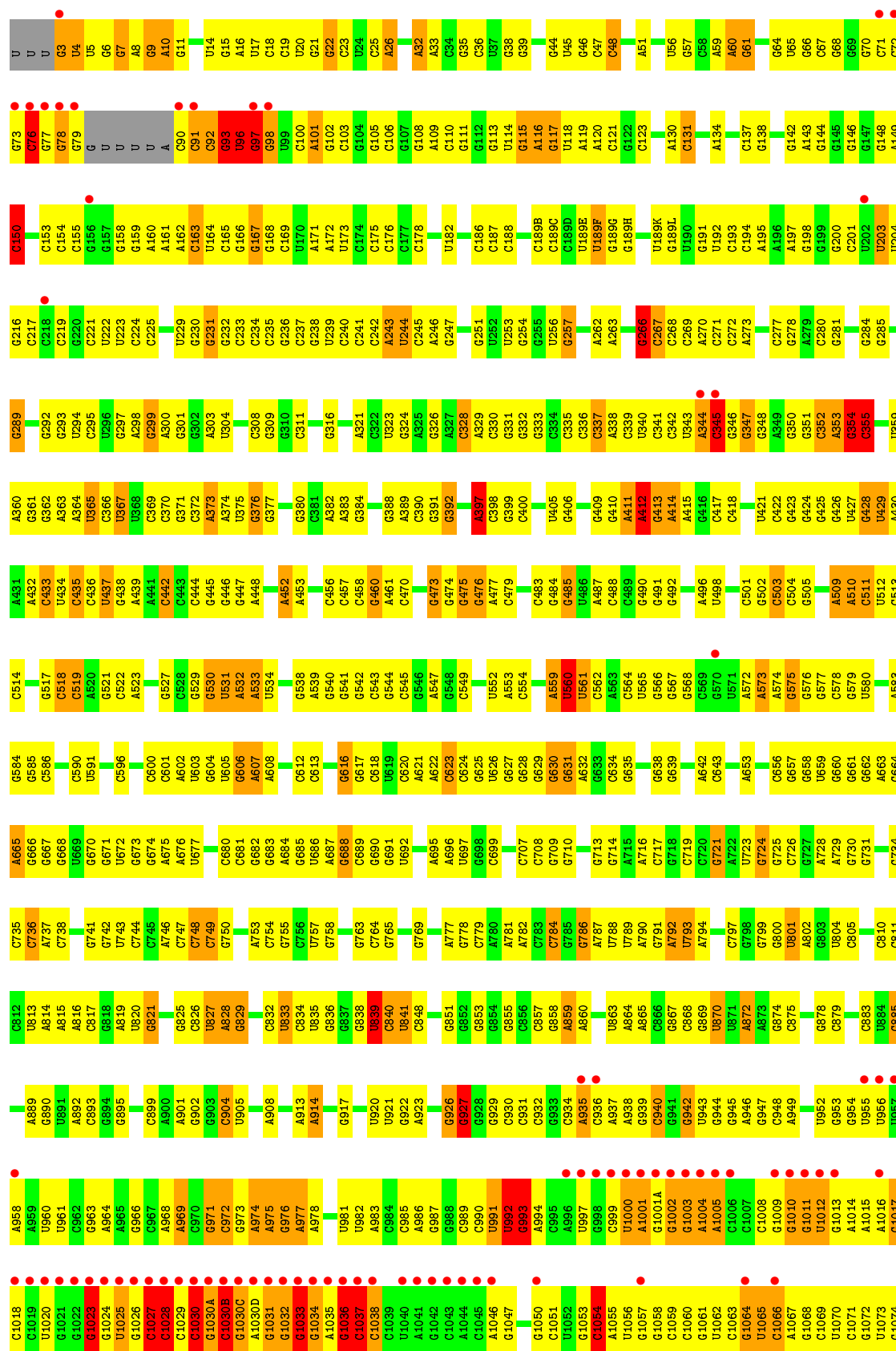


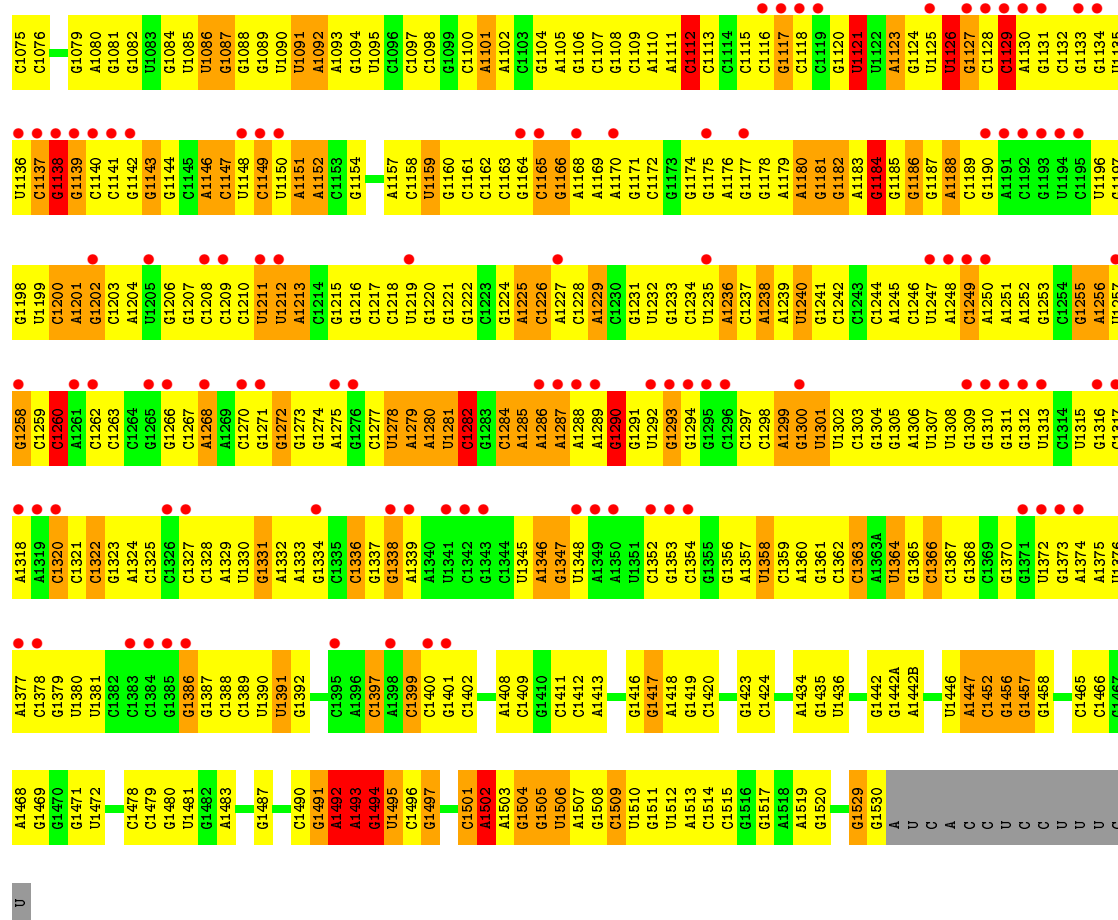
- Molecule 31: 16S ribosomal RNA

Chain CA: 13% 29% 53% 14%

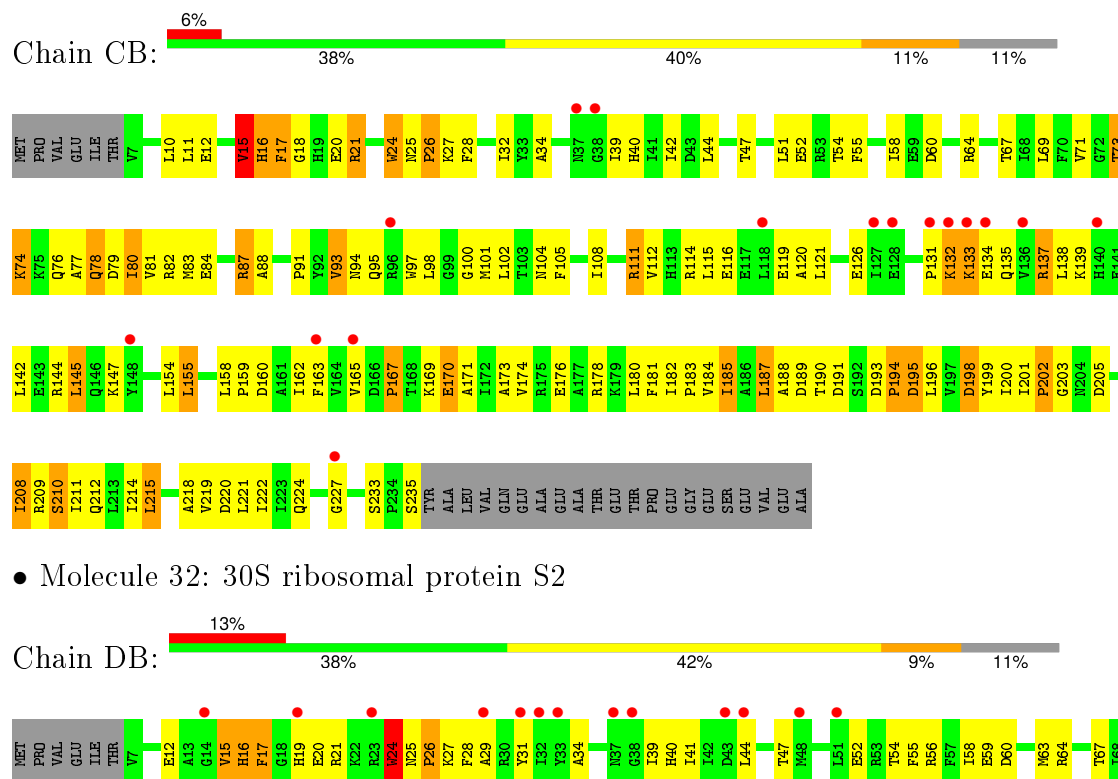




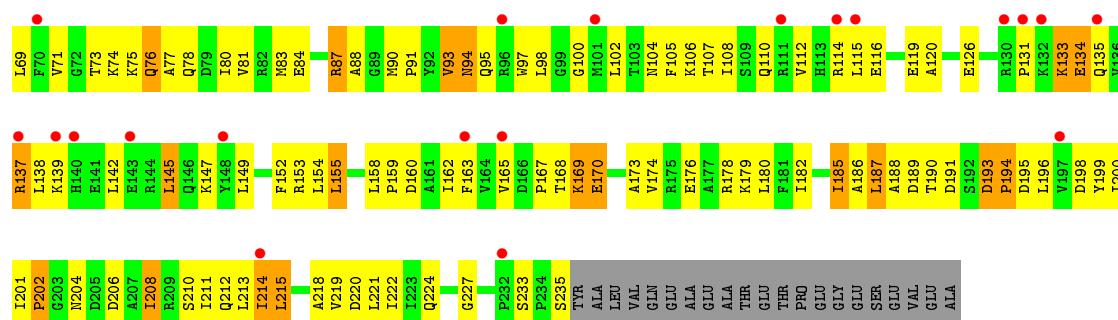




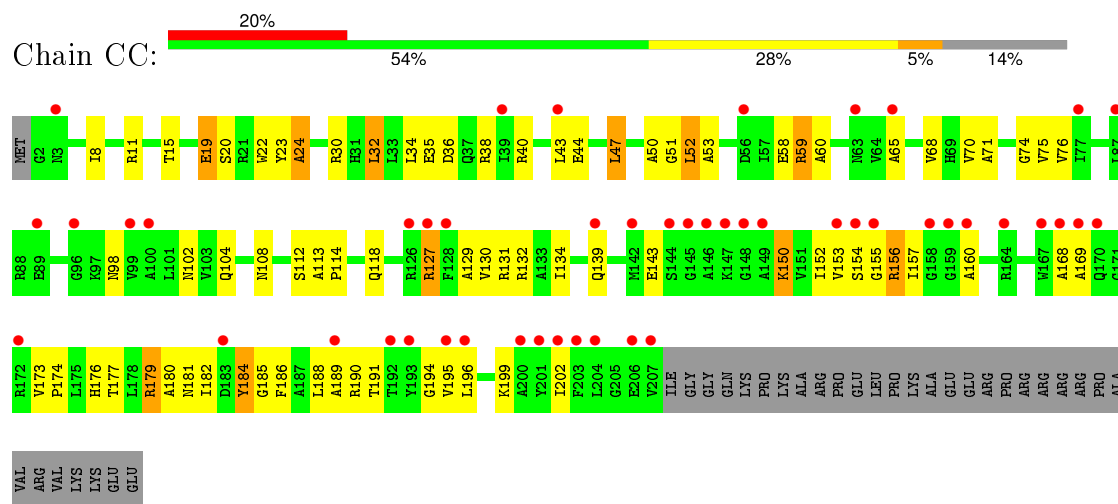
- Molecule 32: 30S ribosomal protein S2



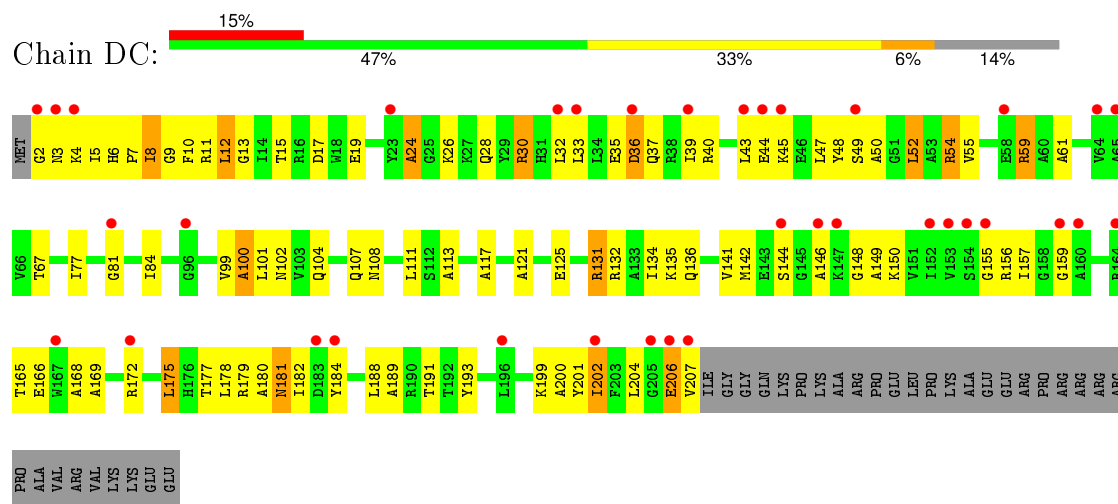
- Molecule 32: 30S ribosomal protein S2



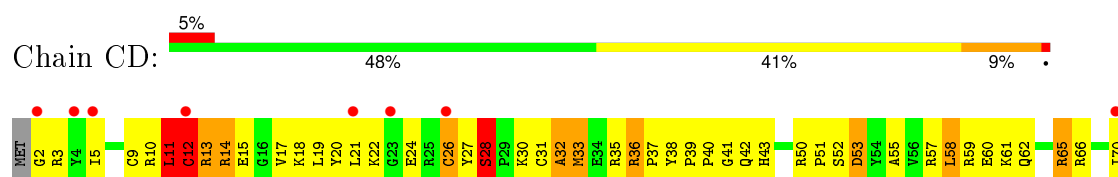
• Molecule 33: 30S ribosomal protein S3



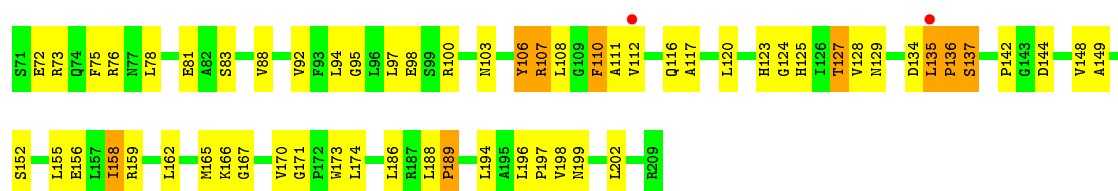
• Molecule 33: 30S ribosomal protein S3



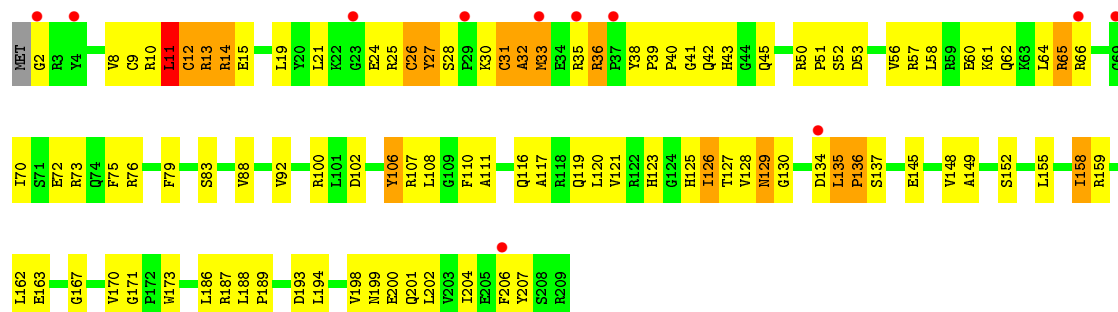
• Molecule 34: 30S ribosomal protein S4



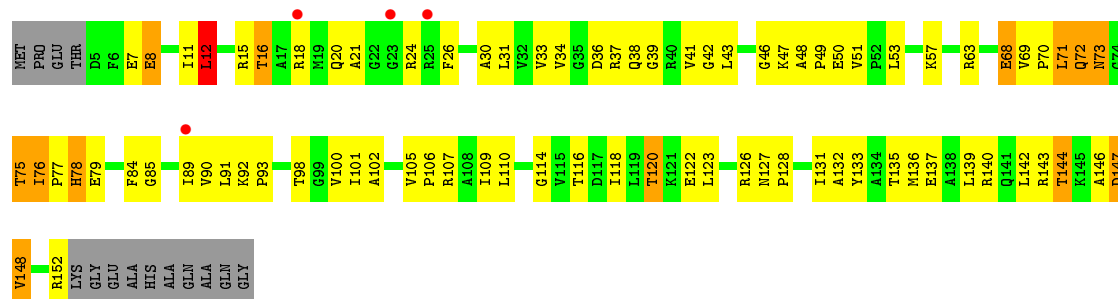
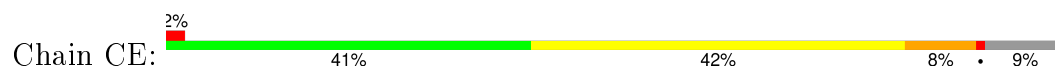




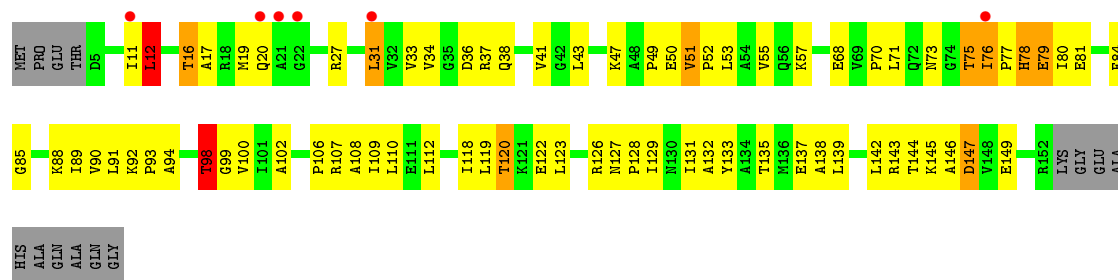
• Molecule 34: 30S ribosomal protein S4



• Molecule 35: 30S ribosomal protein S5

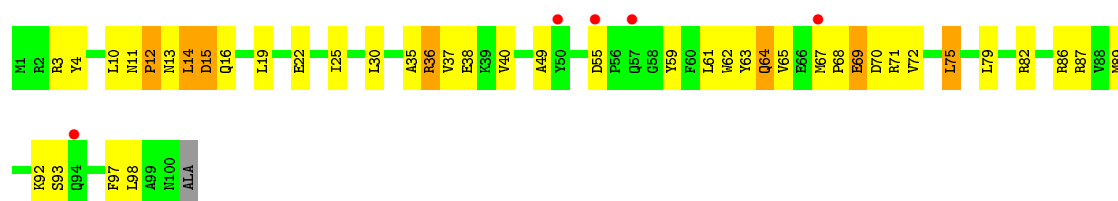


• Molecule 35: 30S ribosomal protein S5

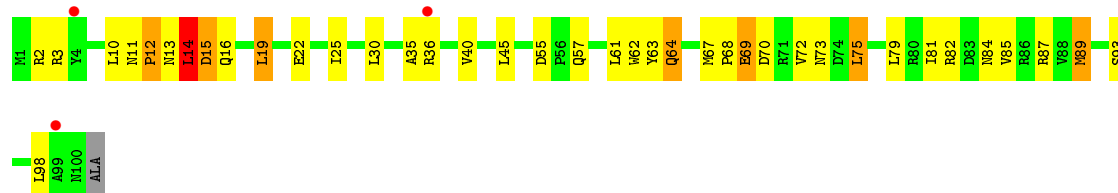


• Molecule 36: 30S ribosomal protein S6

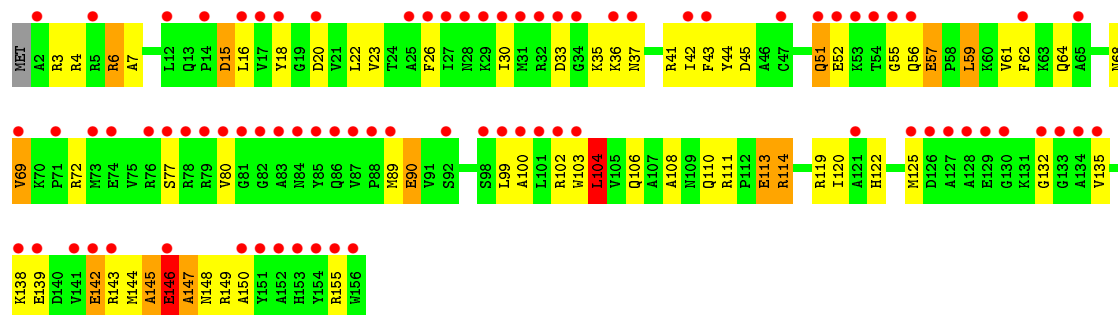




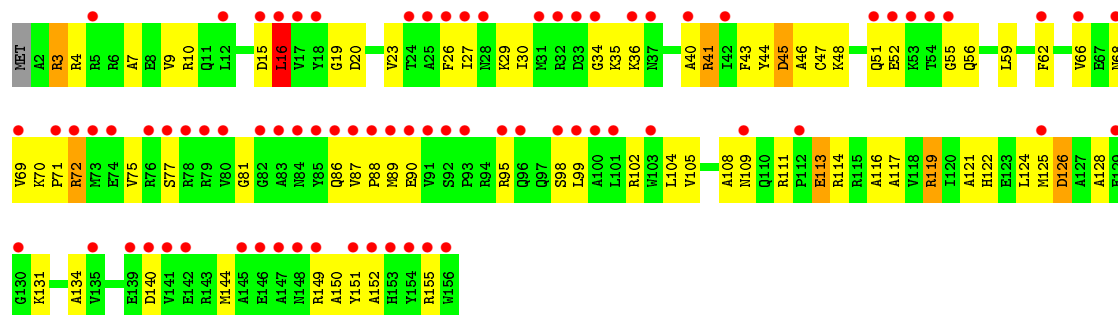
- Molecule 36: 30S ribosomal protein S6



- Molecule 37: 30S ribosomal protein S7

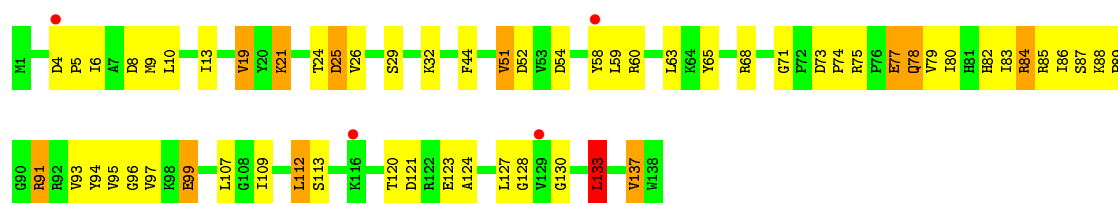


- Molecule 37: 30S ribosomal protein S7

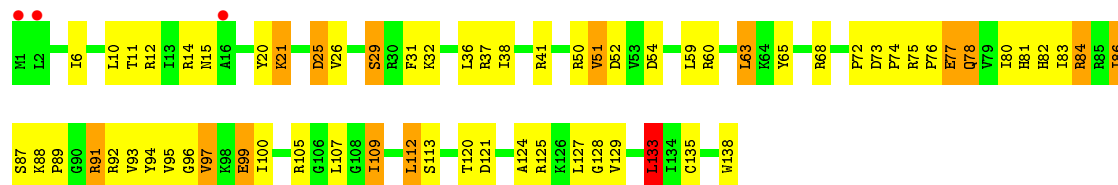


- Molecule 38: 30S ribosomal protein S8

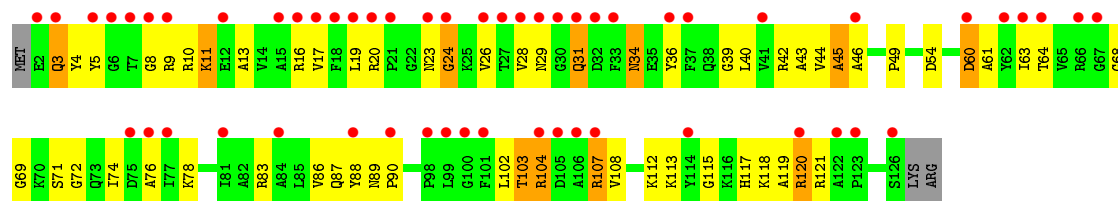
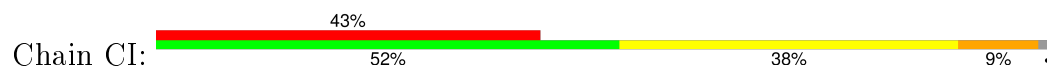




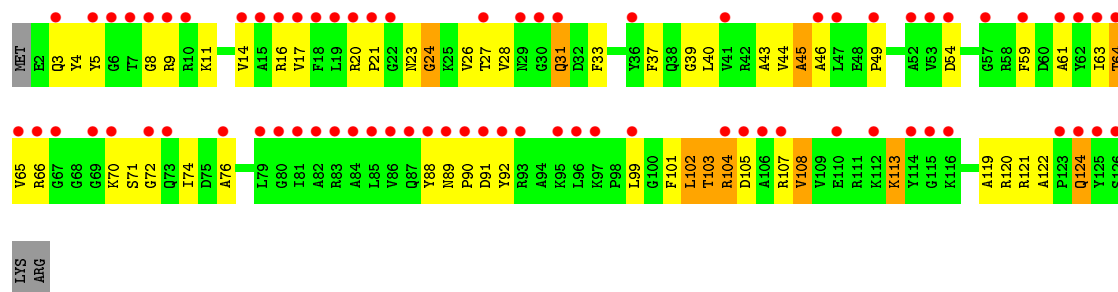
• Molecule 38: 30S ribosomal protein S8



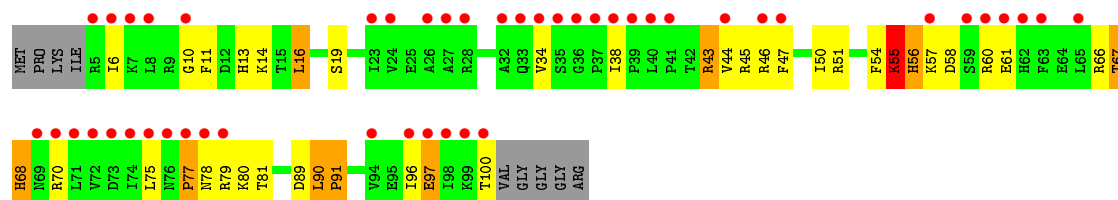
• Molecule 39: 30S ribosomal protein S9



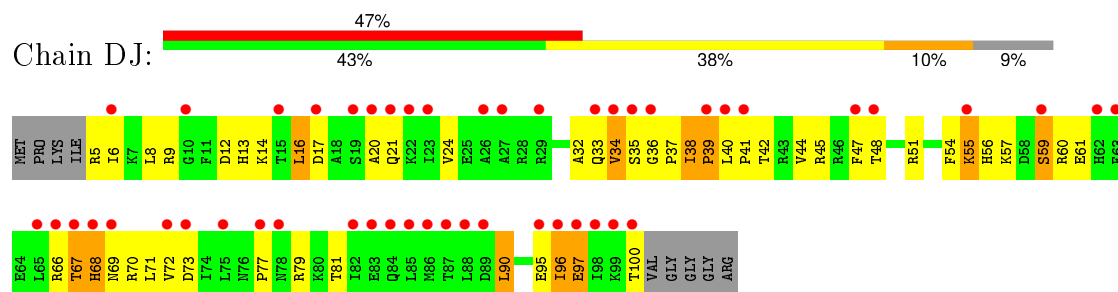
• Molecule 39: 30S ribosomal protein S9



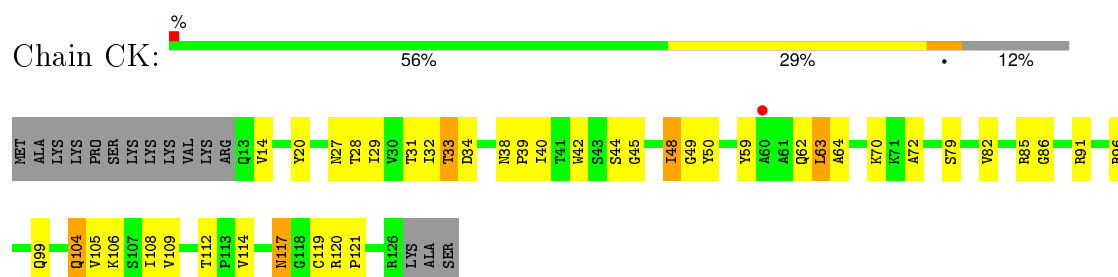
• Molecule 40: 30S ribosomal protein S10



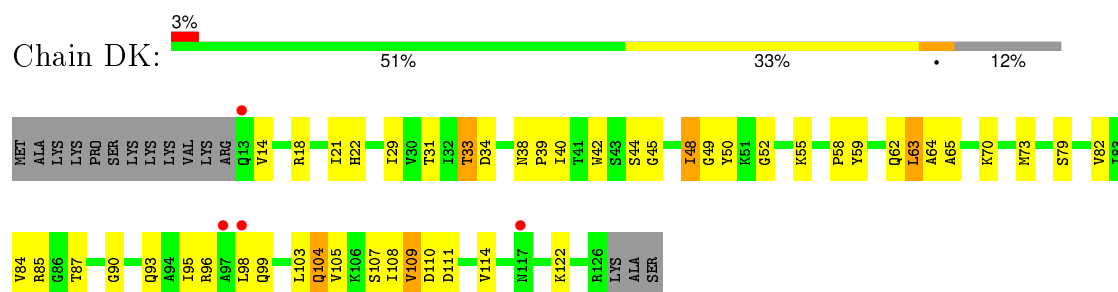
- Molecule 40: 30S ribosomal protein S10



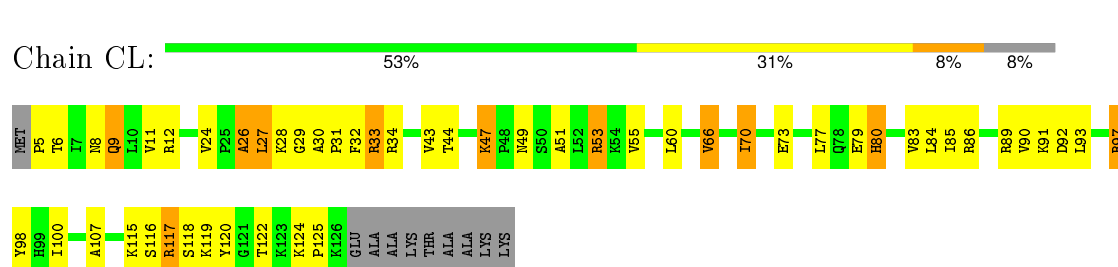
- Molecule 41: 30S ribosomal protein S11



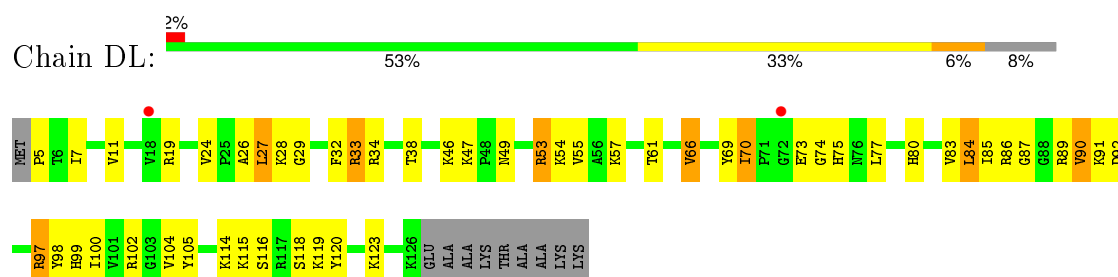
- Molecule 41: 30S ribosomal protein S11



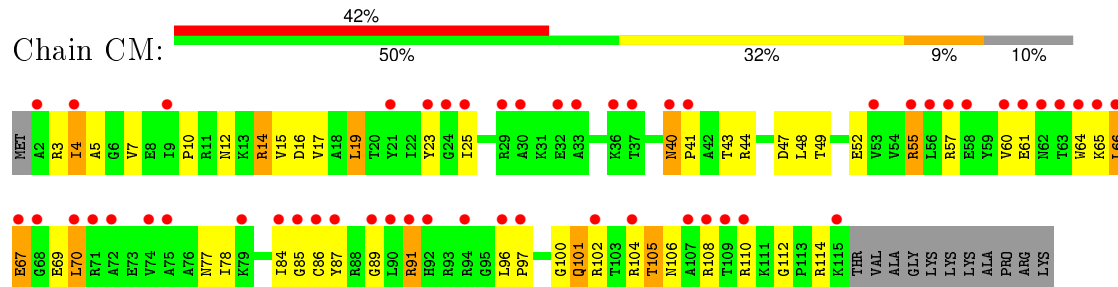
- Molecule 42: 30S ribosomal protein S12



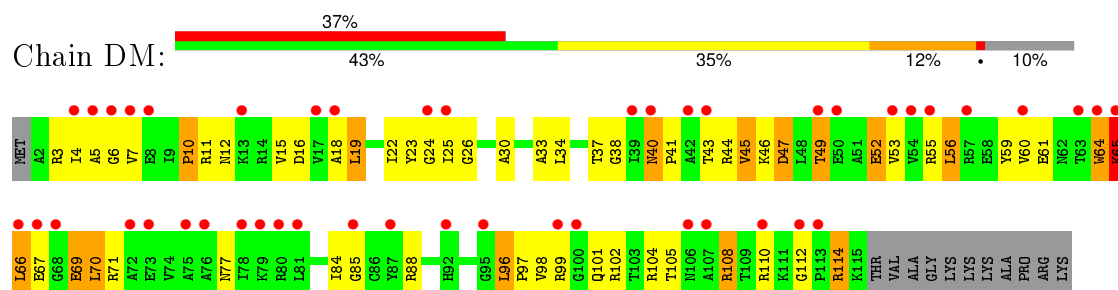
- Molecule 42: 30S ribosomal protein S12



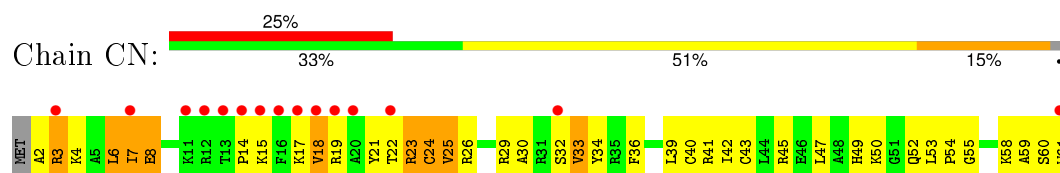
- Molecule 43: 30S ribosomal protein S13



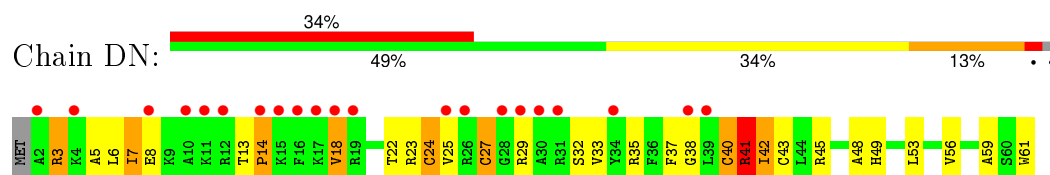
- Molecule 43: 30S ribosomal protein S13



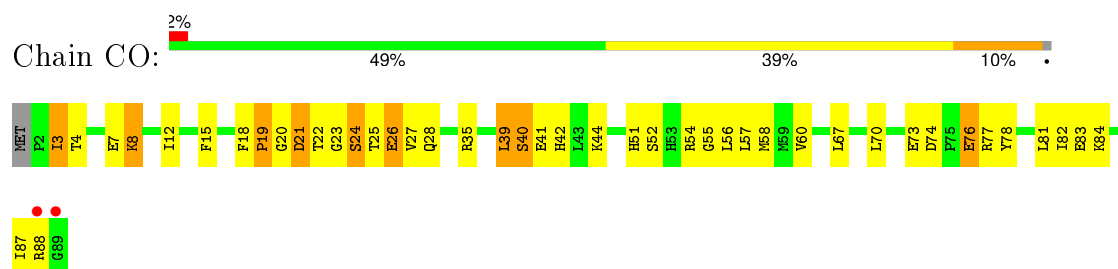
- Molecule 44: 30S ribosomal protein S14



- Molecule 44: 30S ribosomal protein S14

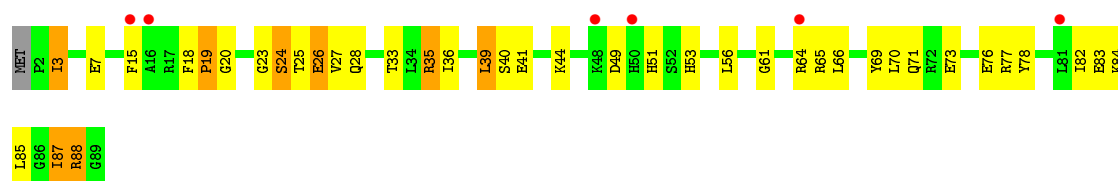


- Molecule 45: 30S ribosomal protein S15

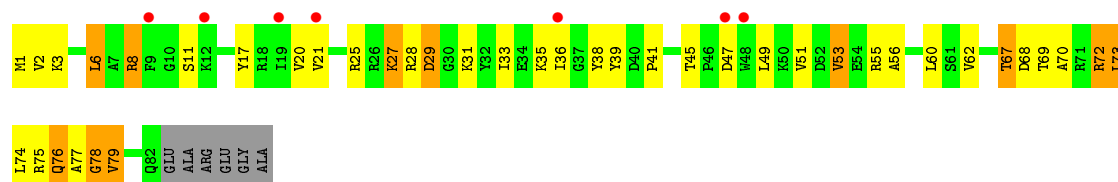


- Molecule 45: 30S ribosomal protein S15

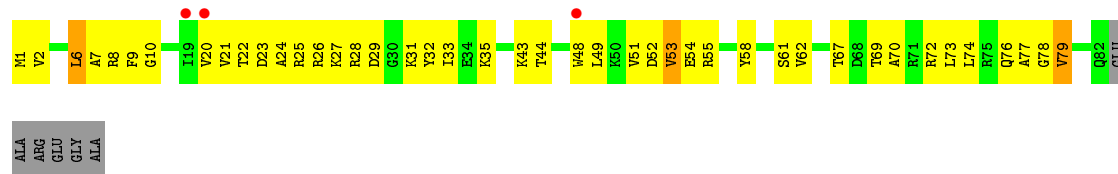




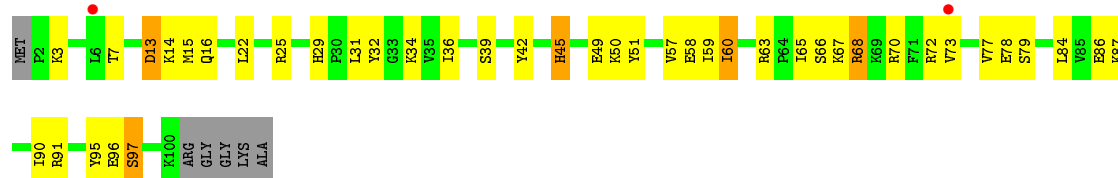
- Molecule 46: 30S ribosomal protein S16



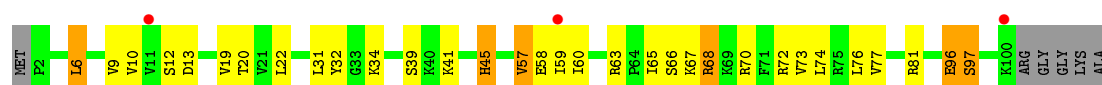
- Molecule 46: 30S ribosomal protein S16



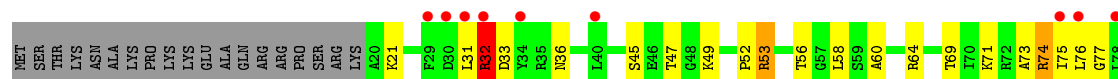
- Molecule 47: 30S ribosomal protein S17



- Molecule 47: 30S ribosomal protein S17

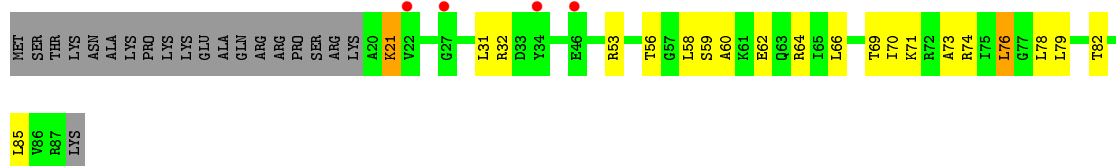


- Molecule 48: 30S ribosomal protein S18

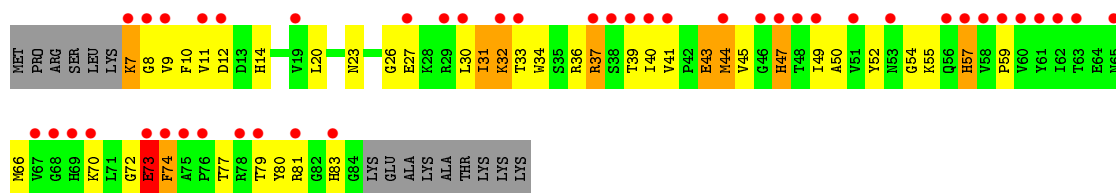




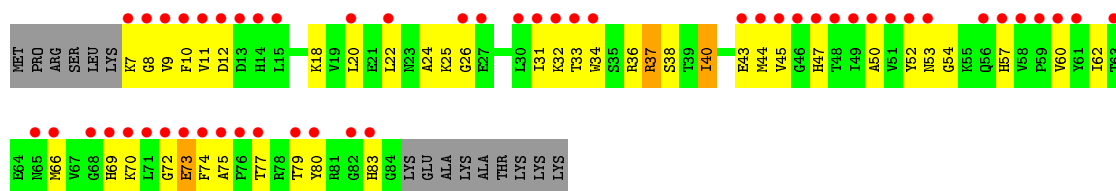
- Molecule 48: 30S ribosomal protein S18



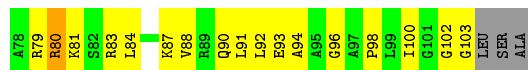
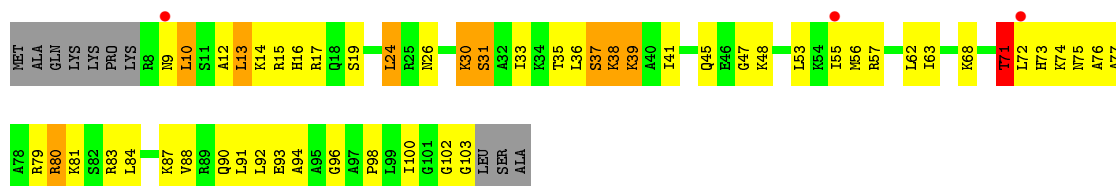
- Molecule 49: 30S ribosomal protein S19



- Molecule 49: 30S ribosomal protein S19

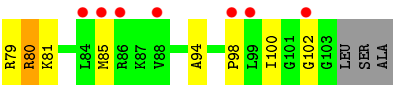


- Molecule 50: 30S ribosomal protein S20



- Molecule 50: 30S ribosomal protein S20

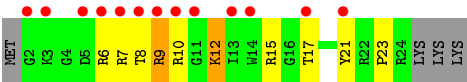




● Molecule 51: 30S ribosomal protein THX



● Molecule 51: 30S ribosomal protein THX





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	209.37Å 445.46Å 619.56Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.29 – 3.20 49.43 – 2.90	Depositor EDS
% Data completeness (in resolution range)	100.0 (49.29-3.20) 99.7 (49.43-2.90)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.13 (at 2.91Å)	Xtriage
Refinement program	PHENIX	Depositor
R, $R_{free}$	0.228 , 0.273 0.229 , 0.273	Depositor DCC
$R_{free}$ test set	47287 reflections (5.29%)	DCC
Wilson B-factor (Å <sup>2</sup> )	75.4	Xtriage
Anisotropy	0.180	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.29 , 70.6	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.46$ , $\langle L^2 \rangle = 0.29$	Xtriage
Outliers	0 of 1261811 reflections	Xtriage
$F_o, F_c$ correlation	0.92	EDS
Total number of atoms	279316	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	80.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.63% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 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: MG, T8B

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z  > 5$	RMSZ	$\# Z  > 5$
1	AA	0.82	17/68203 (0.0%)	1.30	624/106459 (0.6%)
1	BA	1.20	70/68203 (0.1%)	1.37	800/106459 (0.8%)
2	AB	0.94	0/2879	1.25	21/4492 (0.5%)
2	BB	0.88	0/2879	1.26	21/4492 (0.5%)
3	AD	0.54	0/2186	0.75	2/2944 (0.1%)
3	BD	0.67	0/2186	0.81	4/2944 (0.1%)
4	AE	0.55	0/1588	0.76	0/2145
4	BE	0.72	0/1588	0.83	1/2145 (0.0%)
5	AF	0.51	0/1609	0.70	0/2177
5	BF	0.73	0/1609	0.77	0/2177
6	AG	0.61	0/1393	0.66	0/1892
6	BG	0.46	0/1393	0.64	0/1892
7	AH	0.58	0/1343	0.68	1/1820 (0.1%)
7	BH	0.59	0/1343	0.70	0/1820
8	AI	0.63	1/1061 (0.1%)	0.78	0/1451
8	BI	0.50	0/1061	0.74	0/1451
9	AN	0.52	0/1139	0.72	0/1538
9	BN	0.74	0/1139	0.78	0/1538
10	AO	0.50	0/933	0.72	1/1257 (0.1%)
10	BO	0.67	0/933	0.74	0/1257
11	AP	0.50	0/1135	0.75	1/1510 (0.1%)
11	BP	0.64	0/1135	0.81	2/1510 (0.1%)
12	AQ	0.53	0/1143	0.74	0/1527
12	BQ	0.64	0/1143	0.74	0/1527
13	AR	0.51	0/982	0.74	0/1312
13	BR	0.69	0/982	0.82	1/1312 (0.1%)
14	AS	0.64	0/875	0.79	0/1168
14	BS	0.53	0/875	0.79	1/1168 (0.1%)
15	AT	0.52	0/1077	0.73	0/1444
15	BT	0.61	0/1077	0.79	1/1444 (0.1%)
16	AU	0.56	0/977	0.69	0/1301
16	BU	0.88	1/977 (0.1%)	0.81	1/1301 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	AV	0.58	0/782	0.67	0/1049
17	BV	0.70	0/782	0.77	0/1049
18	AW	0.56	0/891	0.75	0/1197
18	BW	0.82	0/891	0.80	0/1197
19	AX	0.55	0/756	0.77	1/1016 (0.1%)
19	BX	0.66	0/756	0.76	1/1016 (0.1%)
20	AY	0.50	0/798	0.77	0/1073
20	BY	0.61	0/798	0.80	1/1073 (0.1%)
21	AZ	0.57	0/1555	0.68	0/2118
21	BZ	0.49	0/1555	0.71	0/2118
22	A0	0.50	0/602	0.69	0/804
22	B0	0.66	0/602	0.77	0/804
23	A1	0.51	0/752	0.72	0/1003
23	B1	0.62	0/752	0.76	0/1003
24	A2	0.59	0/590	0.68	0/781
24	B2	0.60	0/590	0.74	0/781
25	A3	0.45	0/463	0.69	0/623
25	B3	0.65	0/463	0.74	0/623
26	A4	0.65	0/358	0.74	0/487
26	B4	0.56	0/358	0.74	1/487 (0.2%)
27	A5	0.67	1/469 (0.2%)	0.83	2/634 (0.3%)
27	B5	0.79	0/469	0.88	0/634
28	A6	0.59	0/456	0.70	0/609
28	B6	0.68	0/456	0.74	0/609
29	A7	0.57	0/426	0.75	0/561
29	B7	0.78	0/426	0.84	0/561
30	A8	0.50	0/516	0.73	0/679
30	B8	0.70	0/516	0.82	0/679
31	CA	0.80	10/36054 (0.0%)	1.18	176/56272 (0.3%)
31	DA	0.77	7/36054 (0.0%)	1.19	211/56272 (0.4%)
32	CB	0.51	0/1811	0.69	0/2452
32	DB	0.56	0/1811	0.69	0/2452
33	CC	0.56	0/1474	0.65	0/2003
33	DC	0.58	0/1474	0.65	0/2003
34	CD	0.53	0/1550	0.72	3/2106 (0.1%)
34	DD	0.84	2/1550 (0.1%)	0.78	4/2106 (0.2%)
35	CE	0.49	0/1121	0.70	1/1517 (0.1%)
35	DE	0.52	0/1121	0.72	1/1517 (0.1%)
36	CF	0.49	0/794	0.64	0/1082
36	DF	0.49	0/794	0.67	1/1082 (0.1%)
37	CG	0.57	0/1186	0.65	0/1603
37	DG	0.56	0/1186	0.62	0/1603
38	CH	0.44	0/1065	0.67	0/1445

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
38	DH	0.44	0/1065	0.64	0/1445
39	CI	0.62	0/867	0.71	0/1180
39	DI	0.62	0/867	0.69	0/1180
40	CJ	0.60	0/672	0.74	1/919 (0.1%)
40	DJ	0.60	0/672	0.70	1/919 (0.1%)
41	CK	0.47	0/843	0.71	0/1144
41	DK	0.47	0/843	0.67	0/1144
42	CL	0.44	0/925	0.67	0/1251
42	DL	0.46	0/925	0.69	0/1251
43	CM	0.67	0/811	0.72	0/1103
43	DM	0.63	0/811	0.73	1/1103 (0.1%)
44	CN	0.60	0/487	0.68	0/649
44	DN	0.59	0/487	0.74	0/649
45	CO	0.49	0/735	0.64	0/981
45	DO	0.47	0/735	0.61	0/981
46	CP	0.51	0/667	0.70	0/905
46	DP	0.43	0/667	0.65	0/905
47	CQ	0.46	0/836	0.68	0/1117
47	DQ	0.47	0/836	0.66	0/1117
48	CR	0.43	0/519	0.64	0/699
48	DR	0.50	0/519	0.67	0/699
49	CS	0.69	0/558	0.88	1/759 (0.1%)
49	DS	0.76	1/558 (0.2%)	0.87	3/759 (0.4%)
50	CT	0.47	0/710	0.72	0/940
50	DT	0.42	0/710	0.68	0/940
51	CU	0.64	0/203	0.67	0/266
51	DU	0.59	0/203	0.70	0/266
All	All	0.86	110/303650 (0.0%)	1.16	1892/454928 (0.4%)

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
26	A4	0	1
34	CD	0	1
34	DD	0	1
42	CL	0	1
42	DL	0	1
All	All	0	5

All (110) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	DD	12	CYS	CB-SG	19.94	2.16	1.82
34	DD	26	CYS	CB-SG	15.79	2.09	1.82
31	DA	1492	A	C6-N6	-12.21	1.24	1.33
31	CA	1492	A	C2-N3	12.12	1.44	1.33
31	CA	1493	A	N9-C4	-11.96	1.30	1.37
1	BA	1142(A)	A	N9-C4	-10.62	1.31	1.37
31	DA	1492	A	C2-N3	10.06	1.42	1.33
1	BA	1332	G	N9-C4	-9.83	1.30	1.38
31	CA	1492	A	N3-C4	8.93	1.40	1.34
31	CA	1492	A	C5-C4	8.89	1.45	1.38
1	BA	676	A	N9-C4	-8.36	1.32	1.37
1	BA	330	A	N9-C4	-8.36	1.32	1.37
1	BA	2028	U	C4-O4	8.30	1.30	1.23
31	DA	1493	A	N7-C5	8.26	1.44	1.39
1	AA	528	A	N9-C4	-8.17	1.32	1.37
1	AA	1913	A	N9-C4	8.15	1.42	1.37
49	DS	7	LYS	CB-CG	7.98	1.74	1.52
1	BA	1602	U	C4-O4	7.93	1.29	1.23
1	BA	2249	U	C4-O4	7.78	1.29	1.23
1	BA	1021	A	N9-C4	-7.48	1.33	1.37
1	BA	676	A	N3-C4	-7.31	1.30	1.34
1	BA	1332	G	N3-C4	-7.17	1.30	1.35
1	BA	1210	A	C5-C6	-7.01	1.34	1.41
1	BA	528	A	N3-C4	-7.01	1.30	1.34
1	BA	983	A	N9-C4	-6.96	1.33	1.37
31	CA	1493	A	C8-N7	-6.81	1.26	1.31
1	AA	1142(A)	A	N9-C4	-6.78	1.33	1.37
1	BA	945	A	N9-C4	-6.71	1.33	1.37
31	CA	1492	A	N9-C4	6.60	1.41	1.37
1	BA	450	G	C6-O6	6.59	1.30	1.24
31	DA	1493	A	P-OP2	-6.56	1.37	1.49
1	BA	71	A	N9-C4	-6.54	1.33	1.37
1	AA	1045	A	N9-C4	6.51	1.41	1.37
1	BA	1332	G	C5-C6	-6.46	1.35	1.42
1	BA	777	A	N3-C4	-6.42	1.30	1.34
1	BA	2287	A	N9-C4	-6.28	1.34	1.37
1	BA	750	A	C6-N1	-6.27	1.31	1.35
1	AA	2685	G	C6-O6	6.22	1.29	1.24
27	A5	49	CYS	CB-SG	-6.14	1.71	1.82
1	BA	1045	A	N9-C4	6.13	1.41	1.37
8	AI	89	TYR	CD2-CE2	-6.11	1.30	1.39
1	AA	1332	G	N9-C4	-6.08	1.33	1.38
1	BA	2013	A	N9-C4	-6.08	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	1913	A	N7-C5	-6.05	1.35	1.39
1	AA	2119	A	N9-C4	6.04	1.41	1.37
1	AA	528	A	N3-C4	-6.04	1.31	1.34
1	BA	1268	A	C6-N1	-6.01	1.31	1.35
1	AA	1698	A	N9-C4	-5.97	1.34	1.37
1	AA	1913	A	C2-N3	5.92	1.38	1.33
1	BA	71	A	C5-C6	-5.91	1.35	1.41
1	BA	1186	G	C8-N7	-5.89	1.27	1.30
31	DA	1492	A	N9-C4	5.78	1.41	1.37
1	BA	2764	A	N3-C4	-5.74	1.31	1.34
1	AA	2249	U	C4-O4	5.71	1.28	1.23
1	BA	1308	A	C6-N1	-5.71	1.31	1.35
1	BA	527	C	N3-C4	-5.70	1.29	1.33
1	BA	2176	A	N9-C4	5.69	1.41	1.37
31	CA	1492	A	C5-C6	5.68	1.46	1.41
1	BA	1187	G	C6-O6	5.67	1.29	1.24
31	CA	1492	A	N7-C5	-5.67	1.35	1.39
1	AA	1914	C	N1-C2	5.61	1.45	1.40
1	BA	2424	C	N3-C4	-5.60	1.30	1.33
1	BA	1274	A	N9-C4	-5.59	1.34	1.37
1	BA	2590	A	N9-C4	-5.59	1.34	1.37
1	BA	2778	A	P-O5'	-5.59	1.54	1.59
31	CA	1492	A	N9-C8	5.57	1.42	1.37
1	BA	1785	A	N7-C5	-5.52	1.35	1.39
1	BA	1671	U	C4-O4	5.51	1.28	1.23
1	BA	559	G	C5-C4	-5.51	1.34	1.38
1	BA	1045	A	N3-C4	5.47	1.38	1.34
31	DA	1492	A	N1-C2	5.46	1.39	1.34
1	BA	210	C	N1-C6	-5.42	1.33	1.37
1	BA	1022	G	N9-C4	-5.42	1.33	1.38
1	BA	2451	A	C6-N1	-5.41	1.31	1.35
1	BA	2613	U	C2-N3	-5.39	1.33	1.37
1	BA	1142(A)	A	N3-C4	-5.37	1.31	1.34
1	AA	2790	A	N9-C4	5.37	1.41	1.37
31	CA	171	A	N9-C4	5.36	1.41	1.37
1	BA	735	A	N3-C4	-5.35	1.31	1.34
1	BA	1332	G	C2-N3	-5.32	1.28	1.32
1	BA	2576	G	C8-N7	-5.32	1.27	1.30
1	BA	531	C	N1-C6	-5.31	1.33	1.37
1	BA	192	C	N1-C6	-5.30	1.33	1.37
1	BA	2247	A	N9-C4	-5.27	1.34	1.37
1	BA	2685	G	C6-O6	5.27	1.28	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	BA	1779	U	N3-C4	-5.26	1.33	1.38
1	AA	1915	U	O3'-P	-5.26	1.54	1.61
1	BA	460	A	C6-N1	-5.26	1.31	1.35
1	BA	1257	C	N3-C4	-5.25	1.30	1.33
31	DA	1255	G	C6-N1	5.25	1.43	1.39
1	AA	227	A	N9-C4	5.25	1.41	1.37
1	BA	1913	A	N3-C4	-5.20	1.31	1.34
1	BA	1847	A	N9-C4	5.20	1.41	1.37
1	BA	2015	A	N7-C5	-5.19	1.36	1.39
1	BA	2873	A	N3-C4	-5.18	1.31	1.34
1	AA	1915	U	C3'-O3'	-5.17	1.34	1.42
1	BA	1308	A	N7-C5	-5.12	1.36	1.39
1	BA	469	G	C5-C4	-5.11	1.34	1.38
1	BA	2057	A	N3-C4	-5.11	1.31	1.34
1	BA	1333	C	N1-C6	-5.10	1.34	1.37
1	BA	2580	U	N1-C2	-5.10	1.33	1.38
1	BA	1256	G	N9-C8	-5.09	1.34	1.37
1	BA	71	A	N7-C5	-5.08	1.36	1.39
1	BA	1254	A	N3-C4	-5.07	1.31	1.34
1	BA	2497	A	P-O5'	-5.07	1.54	1.59
1	BA	1204	A	N9-C4	-5.04	1.34	1.37
1	BA	575	A	N7-C5	-5.04	1.36	1.39
1	BA	2311	A	N9-C4	5.04	1.40	1.37
16	BU	69	CYS	CB-SG	-5.03	1.73	1.81
1	BA	2451	A	N3-C4	-5.01	1.31	1.34

All (1892) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	DA	1492	A	C6-N1-C2	-28.45	101.53	118.60
31	DA	1492	A	C5-C6-N1	26.41	130.90	117.70
31	CA	1492	A	C8-N9-C4	-21.05	97.38	105.80
1	BA	1332	G	C2-N3-C4	-19.65	102.08	111.90
1	BA	1332	G	N3-C4-C5	17.99	137.59	128.60
1	AA	1913	A	C4-C5-C6	17.05	125.53	117.00
1	BA	1332	G	N3-C4-N9	-16.77	115.94	126.00
31	CA	1493	A	C8-N9-C4	15.82	112.13	105.80
1	BA	1779	U	C5-C6-N1	-14.96	115.22	122.70
31	CA	1492	A	N7-C8-N9	14.60	121.10	113.80
1	AA	1913	A	C6-N1-C2	-14.27	110.04	118.60
1	BA	2249	U	N3-C4-C5	-14.14	106.12	114.60
31	DA	1492	A	N3-C4-C5	-14.09	116.94	126.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	2028	U	N3-C4-C5	-13.81	106.31	114.60
1	BA	1332	G	C5-N7-C8	-13.80	97.40	104.30
31	DA	1492	A	C8-N9-C4	-13.58	100.37	105.80
1	AA	1332	G	C2-N3-C4	-13.55	105.12	111.90
31	CA	1492	A	N3-C4-C5	-13.27	117.51	126.80
1	AA	1913	A	N3-C4-C5	-13.21	117.55	126.80
1	BA	330	A	C2-N3-C4	-13.06	104.07	110.60
31	DA	1492	A	N1-C2-N3	13.04	135.82	129.30
1	BA	1602	U	N3-C4-C5	-13.02	106.79	114.60
31	CA	1493	A	N9-C4-C5	-12.86	100.66	105.80
1	BA	450	G	C5-C6-N1	-12.42	105.29	111.50
1	BA	1021	A	C2-N3-C4	-12.36	104.42	110.60
49	CS	8	GLY	N-CA-C	12.03	143.18	113.10
1	BA	1142(A)	A	C2-N3-C4	-11.84	104.68	110.60
1	BA	450	G	C4-C5-N7	-11.78	106.09	110.80
31	DA	1493	A	C8-N9-C4	11.69	110.48	105.80
31	CA	1493	A	N3-C4-C5	11.61	134.93	126.80
31	DA	1030	C	N1-C2-O2	11.60	125.86	118.90
31	DA	1492	A	N7-C8-N9	11.59	119.60	113.80
1	BA	1187	G	C5-C6-N1	-11.38	105.81	111.50
1	BA	450	G	N9-C4-C5	11.15	109.86	105.40
1	AA	2685	G	C5-C6-N1	-11.11	105.95	111.50
49	DS	8	GLY	N-CA-C	11.11	140.87	113.10
1	BA	1915	U	C4'-C3'-C2'	-11.10	91.50	102.60
1	BA	141	A	C5-N7-C8	-11.03	98.39	103.90
1	BA	1332	G	N1-C6-O6	11.02	126.51	119.90
1	BA	528	A	C8-N9-C4	-11.02	101.39	105.80
1	AA	1779	U	C5-C6-N1	-10.94	117.23	122.70
1	BA	570	G	C4-C5-N7	-10.92	106.43	110.80
31	CA	1493	A	C6-N1-C2	10.90	125.14	118.60
1	AA	2137	C	C6-N1-C2	-10.68	116.03	120.30
31	CA	1126	U	N1-C2-O2	10.62	130.23	122.80
1	BA	2028	U	N3-C4-O4	10.57	126.80	119.40
1	AA	1332	G	N3-C4-N9	-10.56	119.66	126.00
1	BA	1671	U	N3-C4-O4	10.55	126.78	119.40
1	BA	676	A	C2-N3-C4	-10.53	105.33	110.60
1	BA	141	A	N7-C8-N9	10.49	119.04	113.80
1	BA	945	A	N1-C6-N6	10.47	124.88	118.60
1	AA	912	C	C6-N1-C2	-10.45	116.12	120.30
1	BA	566	U	C6-N1-C2	10.43	127.26	121.00
31	CA	1493	A	N1-C2-N3	-10.42	124.09	129.30
31	DA	1493	A	N9-C4-C5	-10.37	101.65	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	1828	G	C5-C6-O6	10.35	134.81	128.60
31	CA	1492	A	C6-N1-C2	-10.34	112.40	118.60
1	BA	2685	G	C5-C6-N1	-10.32	106.34	111.50
1	BA	2685	G	N3-C2-N2	-10.31	112.69	119.90
2	AB	30	C	C6-N1-C2	-10.29	116.18	120.30
1	BA	71	A	C5-N7-C8	-10.29	98.76	103.90
1	BA	1332	G	N3-C2-N2	-10.26	112.72	119.90
1	AA	1913	A	N1-C2-N3	10.24	134.42	129.30
1	BA	2249	U	C6-N1-C2	-10.22	114.87	121.00
1	BA	2544	G	N1-C6-O6	10.20	126.02	119.90
1	BA	456	C	C6-N1-C2	10.12	124.35	120.30
1	BA	570	G	C5-C6-O6	10.12	134.67	128.60
1	AA	1913	A	N3-C4-N9	10.07	135.46	127.40
1	BA	298	G	C5-N7-C8	-10.07	99.26	104.30
1	AA	2828	C	C6-N1-C2	10.05	124.32	120.30
1	BA	141	A	N1-C6-N6	10.01	124.61	118.60
1	BA	1332	G	N7-C8-N9	9.98	118.09	113.10
1	AA	528	A	C2-N3-C4	-9.97	105.62	110.60
1	AA	1332	G	N3-C4-C5	9.92	133.56	128.60
1	BA	568	U	N3-C4-C5	-9.91	108.65	114.60
1	BA	450	G	N3-C2-N2	-9.89	112.98	119.90
31	DA	899	C	C6-N1-C2	9.86	124.25	120.30
1	BA	528	A	N7-C8-N9	9.85	118.73	113.80
1	BA	528	A	C5-N7-C8	-9.83	98.99	103.90
1	AA	1963	U	C2-N1-C1'	9.78	129.44	117.70
1	AA	676	A	N7-C8-N9	9.73	118.67	113.80
31	DA	1492	A	N1-C6-N6	-9.72	112.77	118.60
1	BA	1210	A	N1-C6-N6	9.72	124.43	118.60
1	BA	856	C	C6-N1-C2	-9.71	116.41	120.30
31	CA	1492	A	C5-N7-C8	-9.70	99.05	103.90
31	DA	1492	A	N3-C4-N9	9.68	135.15	127.40
31	DA	1492	A	C5-N7-C8	-9.61	99.10	103.90
31	CA	1126	U	N3-C2-O2	-9.60	115.48	122.20
1	AA	1698	A	C2-N3-C4	-9.59	105.81	110.60
31	DA	1492	A	C4-N9-C1'	9.57	143.53	126.30
1	BA	1142(A)	A	N3-C4-C5	9.53	133.47	126.80
1	BA	450	G	C8-N9-C4	-9.51	102.59	106.40
1	BA	298	G	C4-C5-N7	9.44	114.57	110.80
1	BA	945	A	C5-N7-C8	-9.40	99.20	103.90
1	BA	12	U	N3-C2-O2	-9.39	115.63	122.20
1	BA	179	G	N1-C6-O6	9.38	125.53	119.90
1	BA	528	A	C2-N3-C4	-9.37	105.91	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1022	G	N3-C2-N2	-9.34	113.36	119.90
1	AA	1840	G	N1-C6-O6	9.33	125.50	119.90
1	BA	1671	U	N3-C4-C5	-9.30	109.02	114.60
1	AA	1913	A	C6-C5-N7	-9.29	125.80	132.30
1	AA	1828	G	C4-C5-N7	-9.26	107.10	110.80
31	CA	992	U	C2-N1-C1'	9.23	128.77	117.70
31	DA	1492	A	C5-C6-N6	-9.22	116.33	123.70
1	AA	450	G	C5-C6-N1	-9.17	106.92	111.50
1	BA	1332	G	C4-C5-N7	9.16	114.46	110.80
1	AA	2439	A	N1-C6-N6	9.11	124.07	118.60
1	BA	676	A	C5-N7-C8	-9.08	99.36	103.90
1	BA	652(H)	C	C5-C6-N1	9.07	125.53	121.00
1	BA	1187	G	N3-C2-N2	-9.06	113.56	119.90
1	AA	12	U	N1-C2-O2	9.05	129.14	122.80
1	BA	2137	C	C6-N1-C2	-9.03	116.69	120.30
1	BA	933	A	C5-N7-C8	-9.01	99.39	103.90
1	AA	2447	G	N1-C6-O6	8.99	125.30	119.90
31	CA	839	U	N1-C2-O2	8.97	129.08	122.80
1	BA	587	C	C6-N1-C2	-8.96	116.72	120.30
1	BA	1779	U	C2-N1-C1'	-8.95	106.97	117.70
1	BA	271(M)	G	N3-C4-N9	8.91	131.34	126.00
1	AA	1828	G	C5-C6-O6	8.90	133.94	128.60
1	AA	1210	A	N7-C8-N9	8.86	118.23	113.80
1	AA	1828	G	N9-C4-C5	8.86	108.94	105.40
31	DA	992	U	C2-N1-C1'	8.82	128.28	117.70
1	AA	330	A	C2-N3-C4	-8.79	106.20	110.60
31	CA	839	U	N3-C2-O2	-8.79	116.05	122.20
1	BA	1203	G	C5-C6-O6	8.78	133.87	128.60
31	CA	1492	A	C5-C6-N1	8.76	122.08	117.70
31	DA	839	U	N3-C2-O2	-8.74	116.08	122.20
1	BA	2489	G	N1-C6-O6	8.72	125.13	119.90
31	CA	1492	A	C6-C5-N7	-8.71	126.20	132.30
1	AA	2473	U	N1-C2-O2	8.66	128.86	122.80
1	BA	528	A	N1-C2-N3	8.66	133.63	129.30
1	BA	659	C	C6-N1-C2	8.66	123.76	120.30
1	BA	1372	U	C5-C6-N1	8.65	127.03	122.70
1	BA	1204	A	C2-N3-C4	-8.62	106.29	110.60
1	AA	2293	C	C6-N1-C2	8.62	123.75	120.30
1	BA	141	A	C6-C5-N7	-8.59	126.28	132.30
1	AA	1142(A)	A	C2-N3-C4	-8.59	106.30	110.60
1	AA	2685	G	N3-C4-N9	-8.59	120.85	126.00
1	BA	208	C	C6-N1-C2	8.57	123.73	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	570	G	N9-C4-C5	8.56	108.83	105.40
1	AA	201	C	C6-N1-C2	8.56	123.72	120.30
1	BA	1256	G	C8-N9-C1'	-8.56	115.88	127.00
31	CA	1017	G	C5-C6-O6	8.54	133.72	128.60
1	BA	1779	U	C4-C5-C6	8.52	124.81	119.70
31	CA	1502	A	N1-C2-N3	8.52	133.56	129.30
1	AA	893	C	C2-N1-C1'	8.51	128.16	118.80
31	DA	1030	C	C2-N3-C4	8.51	124.16	119.90
1	BA	1699	G	N9-C4-C5	8.51	108.80	105.40
31	CA	1027	C	C5-C4-N4	8.49	126.14	120.20
1	BA	2032	G	C5-N7-C8	-8.48	100.06	104.30
1	BA	271(M)	G	N3-C4-C5	-8.47	124.36	128.60
1	BA	456	C	N3-C2-O2	8.46	127.82	121.90
1	BA	893	C	C2-N1-C1'	8.46	128.11	118.80
1	BA	1784	A	N7-C8-N9	-8.46	109.57	113.80
31	DA	1282	C	C2-N1-C1'	8.45	128.10	118.80
1	AA	618	C	C6-N1-C2	8.40	123.66	120.30
1	AA	2218	U	C2-N1-C1'	8.39	127.77	117.70
34	DD	12	CYS	CA-CB-SG	8.39	129.10	114.00
31	DA	1030	C	C5-C6-N1	8.37	125.19	121.00
1	BA	734	A	N1-C6-N6	8.35	123.61	118.60
31	CA	1492	A	N3-C4-N9	8.34	134.07	127.40
1	BA	1313	U	C2-N1-C1'	8.34	127.70	117.70
31	DA	1492	A	C6-C5-N7	-8.32	126.47	132.30
1	AA	2619	C	C6-N1-C2	8.32	123.63	120.30
1	BA	2206	G	C4-N9-C1'	-8.32	115.69	126.50
1	AA	1210	A	C8-N9-C4	-8.29	102.48	105.80
1	AA	2061	G	N1-C6-O6	8.27	124.86	119.90
1	AA	12	U	N3-C2-O2	-8.26	116.42	122.20
1	BA	2286	A	N1-C6-N6	8.26	123.56	118.60
1	AA	1914	C	N1-C2-O2	8.26	123.85	118.90
1	BA	673	C	N1-C2-O2	8.25	123.85	118.90
1	BA	71	A	C2-N3-C4	-8.24	106.48	110.60
31	DA	299	G	C5-C6-N1	-8.24	107.38	111.50
1	AA	676	A	C5-N7-C8	-8.23	99.78	103.90
31	CA	1524	C	C6-N1-C2	8.21	123.58	120.30
1	BA	2685	G	N9-C4-C5	8.19	108.68	105.40
1	AA	676	A	C8-N9-C4	-8.18	102.53	105.80
1	AA	1210	A	C5-N7-C8	-8.18	99.81	103.90
1	AA	2866	U	C2-N1-C1'	8.16	127.49	117.70
1	AA	2131	G	N7-C8-N9	8.15	117.18	113.10
49	DS	7	LYS	CB-CA-C	8.14	126.68	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	2544	G	C5-C6-O6	-8.12	123.72	128.60
1	AA	1332	G	N1-C2-N3	8.12	128.77	123.90
31	DA	1493	A	C8-N9-C1'	-8.12	113.09	127.70
1	BA	1049	C	C6-N1-C2	-8.09	117.06	120.30
1	BA	330	A	N3-C4-C5	8.08	132.46	126.80
1	BA	945	A	C6-C5-N7	-8.06	126.66	132.30
1	BA	570	G	C5-C6-N1	-8.05	107.47	111.50
1	AA	179	G	N1-C6-O6	8.05	124.73	119.90
1	BA	141	A	C4-C5-N7	8.02	114.71	110.70
1	BA	798	G	C8-N9-C4	8.02	109.61	106.40
1	AA	1021	A	C2-N3-C4	-8.02	106.59	110.60
1	AA	2137	C	N3-C2-O2	-8.02	116.29	121.90
2	AB	115	G	C8-N9-C4	8.01	109.61	106.40
1	BA	945	A	C4-C5-N7	8.00	114.70	110.70
1	AA	645	C	N1-C2-O2	7.99	123.70	118.90
31	DA	1030(B)	C	C2-N1-C1'	7.98	127.58	118.80
31	CA	1493	A	C4-C5-C6	-7.98	113.01	117.00
1	AA	2206	G	N3-C4-C5	7.98	132.59	128.60
1	AA	450	G	N3-C2-N2	-7.97	114.32	119.90
1	AA	1109	C	C4-C5-C6	7.96	121.38	117.40
1	BA	2022	U	C5-C4-O4	-7.96	121.12	125.90
1	BA	566	U	N1-C2-N3	-7.96	110.13	114.90
1	AA	208	C	C6-N1-C2	7.94	123.48	120.30
1	AA	1022	G	N3-C4-N9	-7.94	121.24	126.00
31	CA	1149	C	C2-N3-C4	7.94	123.87	119.90
1	BA	1142(A)	A	N3-C4-N9	-7.94	121.05	127.40
1	BA	1021	A	N1-C2-N3	7.93	133.26	129.30
1	AA	2249	U	N3-C4-C5	-7.92	109.85	114.60
1	BA	14	A	C8-N9-C4	7.92	108.97	105.80
1	AA	2685	G	N3-C2-N2	-7.92	114.36	119.90
1	BA	2419	U	N3-C4-O4	7.91	124.94	119.40
1	BA	2419	U	N3-C4-C5	-7.91	109.86	114.60
1	BA	676	A	N1-C2-N3	7.89	133.25	129.30
1	BA	2473	U	N3-C2-O2	-7.88	116.68	122.20
1	BA	676	A	N7-C8-N9	7.88	117.74	113.80
31	CA	1492	A	C2-N3-C4	7.88	114.54	110.60
1	BA	1332	G	C5-C6-N1	-7.87	107.56	111.50
1	BA	1784	A	C8-N9-C4	7.87	108.95	105.80
1	AA	915	C	C6-N1-C2	-7.87	117.15	120.30
1	BA	71	A	N7-C8-N9	7.85	117.73	113.80
1	BA	2249	U	C4-C5-C6	7.85	124.41	119.70
1	AA	1882	C	C2-N1-C1'	7.85	127.44	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	CA	1126	U	C2-N1-C1'	7.85	127.12	117.70
1	BA	2249	U	N3-C4-O4	7.85	124.89	119.40
31	DA	1126	U	C2-N1-C1'	7.84	127.11	117.70
31	DA	76	C	N1-C2-O2	7.83	123.60	118.90
1	BA	893	C	C6-N1-C1'	-7.83	111.40	120.80
1	BA	1210	A	C5-N7-C8	-7.83	99.99	103.90
1	BA	1963	U	C2-N1-C1'	7.83	127.09	117.70
1	AA	915	C	N3-C2-O2	-7.82	116.42	121.90
31	CA	1492	A	C4-C5-C6	7.82	120.91	117.00
1	AA	1698	A	C5-N7-C8	-7.81	99.99	103.90
1	BA	1913	A	O4'-C1'-N9	-7.81	101.95	108.20
31	CA	1034	G	C5-C6-O6	7.80	133.28	128.60
1	BA	204	A	C6-N1-C2	-7.80	113.92	118.60
1	BA	298	G	N7-C8-N9	7.79	117.00	113.10
1	BA	749	C	C6-N1-C2	7.79	123.42	120.30
1	AA	840	C	C6-N1-C2	7.79	123.42	120.30
1	BA	2287	A	C2-N3-C4	-7.78	106.71	110.60
1	BA	1791	A	N1-C6-N6	7.77	123.26	118.60
1	BA	885	C	N1-C2-O2	7.76	123.56	118.90
1	BA	1256	G	C4-N9-C1'	7.76	136.59	126.50
1	AA	2200	C	C2-N1-C1'	7.76	127.33	118.80
1	BA	139(A)	G	N7-C8-N9	7.74	116.97	113.10
1	BA	71	A	C4-C5-N7	7.73	114.56	110.70
1	AA	528	A	N3-C4-N9	-7.72	121.22	127.40
31	CA	992	U	N1-C2-O2	7.72	128.20	122.80
1	BA	2419	U	C6-N1-C2	-7.71	116.37	121.00
1	BA	2489	G	C5-C6-O6	-7.71	123.98	128.60
1	BA	2028	U	C6-N1-C2	-7.70	116.38	121.00
31	CA	1037	C	C5-C6-N1	7.68	124.84	121.00
1	BA	2785	C	C6-N1-C2	-7.68	117.23	120.30
31	DA	992	U	N1-C2-O2	7.67	128.17	122.80
1	BA	1022	G	N3-C2-N2	-7.67	114.53	119.90
1	AA	530	G	N1-C6-O6	-7.66	115.30	119.90
1	AA	1333	C	C2-N1-C1'	7.66	127.23	118.80
1	BA	2473	U	N1-C2-O2	7.63	128.14	122.80
1	AA	2439	A	C6-C5-N7	-7.62	126.96	132.30
1	BA	60	G	N9-C4-C5	-7.62	102.35	105.40
1	BA	139(A)	G	C8-N9-C4	-7.59	103.36	106.40
31	DA	839	U	C2-N1-C1'	7.59	126.81	117.70
31	DA	1492	A	C4-C5-C6	7.56	120.78	117.00
1	AA	2791	C	C6-N1-C2	-7.56	117.28	120.30
1	AA	570	G	C5-C6-N1	-7.55	107.72	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	792	G	N3-C4-N9	7.54	130.53	126.00
1	BA	124	G	C8-N9-C4	7.54	109.42	106.40
1	BA	933	A	C4-C5-N7	7.53	114.46	110.70
1	BA	141	A	C8-N9-C4	-7.52	102.79	105.80
31	DA	1126	U	N1-C2-O2	7.52	128.06	122.80
1	BA	2249	U	C2-N3-C4	7.51	131.50	127.00
1	BA	2028	U	C2-N3-C4	7.49	131.50	127.00
1	BA	1784	A	C5-N7-C8	7.49	107.65	103.90
1	AA	1328	G	N3-C4-N9	7.48	130.49	126.00
1	BA	12	U	N1-C2-O2	7.48	128.04	122.80
1	BA	452	G	N3-C4-C5	-7.46	124.87	128.60
1	AA	652(S)	C	N1-C2-O2	7.46	123.38	118.90
1	AA	1493	C	C2-N1-C1'	7.46	127.01	118.80
1	BA	1383	C	N3-C2-O2	7.46	127.12	121.90
1	AA	1022	G	N9-C4-C5	7.46	108.38	105.40
1	AA	2361	A	N9-C4-C5	-7.45	102.82	105.80
1	AA	1333	C	C6-N1-C1'	-7.45	111.86	120.80
31	DA	96	U	N1-C2-O2	7.45	128.01	122.80
1	BA	1698	A	C2-N3-C4	-7.43	106.88	110.60
1	BA	2134	A	N1-C6-N6	-7.43	114.14	118.60
1	BA	2685	G	C4-C5-N7	-7.43	107.83	110.80
31	DA	1027	C	C5-C4-N4	7.43	125.40	120.20
1	BA	2589	A	C8-N9-C4	7.42	108.77	105.80
1	AA	208	C	N3-C4-C5	7.42	124.87	121.90
31	DA	1493	A	N3-C4-N9	7.41	133.33	127.40
1	AA	2473	U	N3-C2-O2	-7.40	117.02	122.20
1	AA	2061	G	C8-N9-C4	7.37	109.35	106.40
1	BA	1263	U	C2-N1-C1'	7.37	126.55	117.70
31	CA	1149	C	N1-C2-O2	7.37	123.32	118.90
1	AA	1840	G	C6-C5-N7	-7.36	125.99	130.40
1	AA	1913	A	C5-N7-C8	7.35	107.57	103.90
31	DA	1149	C	C6-N1-C2	-7.35	117.36	120.30
1	AA	565	C	C6-N1-C2	7.34	123.24	120.30
1	BA	409	C	C6-N1-C2	7.34	123.24	120.30
1	BA	318	C	C6-N1-C2	-7.34	117.36	120.30
34	DD	31	CYS	CA-CB-SG	-7.33	100.80	114.00
1	BA	1332	G	N1-C2-N3	7.33	128.29	123.90
1	BA	613	G	C5-C6-O6	-7.32	124.21	128.60
31	CA	1091	U	N3-C2-O2	-7.32	117.07	122.20
1	AA	2473	U	C2-N1-C1'	7.32	126.49	117.70
1	AA	2218	U	C6-N1-C1'	-7.32	110.95	121.20
1	AA	2447	G	C5-C6-O6	-7.30	124.22	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	BE	127	ASP	CB-CG-OD1	-7.30	111.73	118.30
31	DA	1282	C	N3-C2-O2	-7.30	116.79	121.90
1	AA	1671	U	N3-C4-O4	7.29	124.50	119.40
1	BA	2447	G	N1-C6-O6	7.28	124.27	119.90
1	AA	1049	C	C6-N1-C2	-7.28	117.39	120.30
1	AA	1266	G	C8-N9-C4	7.28	109.31	106.40
1	AA	1828	G	C8-N9-C4	-7.28	103.49	106.40
1	BA	1982	C	C6-N1-C2	-7.27	117.39	120.30
31	CA	1087	G	N3-C4-C5	-7.27	124.96	128.60
1	AA	885	C	N1-C2-O2	7.26	123.26	118.90
1	BA	1772	G	N1-C6-O6	-7.26	115.54	119.90
31	DA	736	C	C5-C6-N1	7.26	124.63	121.00
1	AA	733	G	N3-C4-C5	7.26	132.23	128.60
1	BA	2447	G	C5-C6-O6	-7.26	124.25	128.60
31	CA	1165	C	C6-N1-C2	-7.26	117.40	120.30
31	DA	1282	C	N1-C2-O2	7.25	123.25	118.90
1	AA	1974	C	C6-N1-C2	7.24	123.20	120.30
1	AA	566	U	C6-N1-C2	7.23	125.34	121.00
31	DA	530	G	C4-N9-C1'	7.23	135.90	126.50
1	BA	933	A	N7-C8-N9	7.22	117.41	113.80
1	BA	90	U	C5-C6-N1	7.22	126.31	122.70
1	BA	1602	U	C4-C5-C6	7.22	124.03	119.70
1	BA	1699	G	C5-C6-O6	7.22	132.93	128.60
1	BA	2183	C	C2-N3-C4	7.21	123.51	119.90
31	DA	93	G	N3-C4-N9	7.21	130.33	126.00
3	BD	239	ARG	N-CA-C	-7.20	91.55	111.00
34	DD	12	CYS	N-CA-C	-7.20	91.56	111.00
1	AA	196	A	N1-C6-N6	7.20	122.92	118.60
1	AA	203	C	N3-C4-C5	7.19	124.78	121.90
31	CA	1493	A	C5-C6-N1	-7.19	114.11	117.70
1	BA	2036	C	C6-N1-C2	-7.18	117.43	120.30
1	AA	652(H)	C	C5-C6-N1	7.17	124.59	121.00
1	BA	1231	G	N3-C4-C5	7.17	132.18	128.60
1	AA	2035	G	C4-N9-C1'	-7.16	117.19	126.50
1	BA	1699	G	C4-C5-N7	-7.16	107.94	110.80
31	DA	1492	A	C8-N9-C1'	-7.15	114.83	127.70
1	BA	2218	U	C2-N1-C1'	7.14	126.27	117.70
1	BA	847	U	C2-N1-C1'	-7.13	109.14	117.70
1	BA	2894	G	C6-C5-N7	-7.13	126.12	130.40
1	BA	723	G	N3-C4-N9	7.13	130.28	126.00
1	BA	1142(A)	A	C5-C6-N1	-7.13	114.14	117.70
1	BA	1656	C	N3-C4-C5	-7.12	119.05	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	2206	G	C8-N9-C1'	7.12	136.25	127.00
1	BA	512	G	N3-C4-C5	7.11	132.16	128.60
31	CA	1017	G	C6-N1-C2	7.10	129.36	125.10
1	BA	71	A	N1-C6-N6	7.10	122.86	118.60
1	BA	1951	U	N3-C4-C5	-7.10	110.34	114.60
31	DA	1123	A	N1-C6-N6	-7.10	114.34	118.60
1	BA	645	C	N1-C2-O2	7.09	123.16	118.90
1	AA	2828	C	C5-C6-N1	-7.08	117.46	121.00
1	AA	1204	A	N1-C6-N6	7.08	122.85	118.60
1	BA	1506	C	C6-N1-C2	-7.07	117.47	120.30
1	BA	546	C	N1-C2-O2	7.07	123.14	118.90
1	BA	2104	G	C5-C6-O6	7.07	132.84	128.60
31	CA	839	U	C2-N1-C1'	7.06	126.17	117.70
1	BA	1332	G	C8-N9-C4	-7.06	103.58	106.40
1	BA	1290	C	N3-C4-C5	-7.05	119.08	121.90
31	DA	1397	C	C2-N1-C1'	7.05	126.56	118.80
1	BA	1324	G	N1-C6-O6	7.05	124.13	119.90
2	BB	36	C	C6-N1-C2	-7.05	117.48	120.30
1	AA	1123	C	C6-N1-C2	7.05	123.12	120.30
1	AA	1531	C	C2-N1-C1'	7.04	126.55	118.80
1	BA	2028	U	C5-C6-N1	7.04	126.22	122.70
1	BA	2473	U	C2-N1-C1'	7.04	126.15	117.70
1	BA	1225	G	N3-C4-N9	-7.04	121.78	126.00
1	AA	92	A	C8-N9-C4	-7.03	102.99	105.80
1	BA	587	C	C5-C6-N1	7.03	124.52	121.00
1	AA	528	A	N3-C4-C5	7.03	131.72	126.80
1	AA	1187	G	C8-N9-C4	-7.03	103.59	106.40
1	BA	1326	U	C5-C6-N1	-7.03	119.18	122.70
1	AA	1986	A	C8-N9-C4	7.03	108.61	105.80
1	BA	2251	G	N3-C4-N9	7.03	130.22	126.00
1	BA	1047	G	N3-C4-N9	7.01	130.21	126.00
1	BA	500	G	N9-C4-C5	7.01	108.20	105.40
1	BA	652(S)	C	N1-C2-O2	7.01	123.10	118.90
31	CA	1124	G	C5-C6-O6	7.00	132.80	128.60
1	AA	139(A)	G	C4-C5-N7	7.00	113.60	110.80
1	BA	1613	G	C5-C6-O6	6.99	132.79	128.60
1	BA	1359	A	N1-C2-N3	-6.99	125.81	129.30
31	DA	117	G	N3-C4-N9	6.99	130.19	126.00
1	AA	530	G	N9-C4-C5	6.98	108.19	105.40
1	AA	2241	A	C8-N9-C4	6.98	108.59	105.80
1	BA	330	A	N1-C2-N3	6.98	132.79	129.30
1	BA	2685	G	C8-N9-C4	-6.98	103.61	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	450	G	C4-C5-C6	6.97	122.98	118.80
1	AA	2361	A	N1-C6-N6	6.97	122.78	118.60
31	DA	96	U	N3-C2-O2	-6.97	117.32	122.20
1	AA	450	G	C4-C5-N7	-6.96	108.02	110.80
1	AA	298	G	N1-C6-O6	6.96	124.07	119.90
31	DA	839	U	N1-C2-O2	6.96	127.67	122.80
1	AA	928	G	N1-C6-O6	6.96	124.07	119.90
1	AA	1963	U	C6-N1-C1'	-6.95	111.48	121.20
1	BA	1827	C	N3-C2-O2	-6.95	117.04	121.90
1	BA	1210	A	C4-C5-N7	6.94	114.17	110.70
1	AA	141	A	N1-C6-N6	6.94	122.76	118.60
1	BA	1021	A	C5-C6-N1	-6.93	114.23	117.70
1	BA	1602	U	C6-N1-C2	-6.93	116.84	121.00
1	BA	2286	A	C6-C5-N7	-6.93	127.45	132.30
31	DA	1397	C	C6-N1-C2	-6.93	117.53	120.30
1	BA	1617	C	N1-C2-O2	-6.93	114.74	118.90
31	CA	1030(B)	C	C2-N1-C1'	6.93	126.42	118.80
1	AA	570	G	C4-C5-C6	6.92	122.95	118.80
2	AB	104	U	C6-N1-C2	6.92	125.15	121.00
1	BA	2591	C	C6-N1-C2	-6.92	117.53	120.30
31	CA	460	G	N7-C8-N9	6.91	116.56	113.10
1	AA	92	A	N7-C8-N9	6.90	117.25	113.80
31	DA	992	U	N3-C2-O2	-6.90	117.37	122.20
31	CA	226	G	C8-N9-C4	6.89	109.16	106.40
1	BA	90	U	N1-C2-N3	-6.88	110.77	114.90
1	AA	526	A	C8-N9-C4	-6.88	103.05	105.80
1	BA	12	U	C2-N1-C1'	6.88	125.95	117.70
1	AA	530	G	C8-N9-C4	-6.87	103.65	106.40
1	AA	893	C	C6-N1-C1'	-6.87	112.55	120.80
1	BA	2286	A	C5-N7-C8	-6.87	100.46	103.90
1	AA	568	U	N3-C4-C5	-6.87	110.48	114.60
1	AA	566	U	N3-C4-C5	6.87	118.72	114.60
1	BA	570	G	C5-N7-C8	6.87	107.73	104.30
1	BA	199	A	C8-N9-C4	6.86	108.54	105.80
1	BA	2544	G	C6-C5-N7	-6.86	126.28	130.40
1	AA	2104	G	C4-N9-C1'	6.86	135.41	126.50
1	BA	568	U	N3-C4-O4	6.85	124.20	119.40
31	CA	896	C	C6-N1-C2	6.85	123.04	120.30
1	BA	333	G	C4-N9-C1'	6.84	135.39	126.50
1	BA	2193	G	C5-C6-O6	-6.84	124.50	128.60
31	DA	117	G	C6-C5-N7	-6.84	126.30	130.40
1	AA	1698	A	N1-C6-N6	6.83	122.70	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	613	G	N1-C6-O6	6.83	124.00	119.90
1	AA	2104	G	C5-C6-O6	6.82	132.69	128.60
1	AA	2685	G	N9-C4-C5	6.82	108.13	105.40
1	AA	12	U	C2-N1-C1'	6.82	125.89	117.70
1	BA	298	G	N1-C6-O6	6.82	123.99	119.90
1	BA	2441	C	N3-C2-O2	-6.82	117.13	121.90
31	DA	1400	C	C6-N1-C2	6.82	123.03	120.30
1	BA	761	A	C5-N7-C8	-6.82	100.49	103.90
1	BA	2318	G	N7-C8-N9	6.81	116.51	113.10
1	AA	1602	U	N3-C4-C5	-6.81	110.51	114.60
31	DA	1028	C	C5-C6-N1	6.81	124.41	121.00
31	DA	150	C	C5-C6-N1	6.81	124.41	121.00
1	BA	2059	A	C8-N9-C4	6.81	108.52	105.80
1	BA	71	A	C6-C5-N7	-6.79	127.54	132.30
31	CA	1030	C	N1-C2-O2	6.79	122.98	118.90
1	AA	528	A	C5-N7-C8	-6.79	100.50	103.90
2	AB	64	C	C6-N1-C2	6.79	123.02	120.30
1	BA	500	G	C4-C5-N7	-6.78	108.09	110.80
1	BA	1210	A	C6-C5-N7	-6.77	127.56	132.30
1	AA	114	U	C2-N1-C1'	6.77	125.83	117.70
1	BA	546	C	C2-N1-C1'	6.77	126.24	118.80
1	BA	141	A	C5-C6-N6	-6.76	118.29	123.70
31	CA	1029	C	C2-N1-C1'	-6.76	111.36	118.80
1	AA	1382	G	N3-C4-C5	6.75	131.98	128.60
1	AA	1131	G	C4-N9-C1'	-6.74	117.74	126.50
1	AA	1899	G	N3-C2-N2	-6.74	115.18	119.90
1	BA	2056	G	N3-C2-N2	-6.74	115.18	119.90
1	BA	2590	A	C8-N9-C4	6.73	108.49	105.80
1	BA	2105	C	C6-N1-C2	-6.73	117.61	120.30
1	BA	2700	C	C6-N1-C2	6.73	122.99	120.30
1	BA	2505	G	C5-C6-O6	6.72	132.63	128.60
31	CA	1087	G	C8-N9-C4	-6.72	103.71	106.40
1	AA	2137	C	C2-N1-C1'	6.72	126.19	118.80
1	AA	1913	A	C8-N9-C4	-6.71	103.12	105.80
1	AA	2891	G	C5-C6-O6	-6.71	124.58	128.60
1	AA	1210	A	N1-C6-N6	6.70	122.62	118.60
1	AA	566	U	C5-C6-N1	-6.70	119.35	122.70
1	BA	2299	G	N3-C4-N9	-6.70	121.98	126.00
1	BA	1263	U	C6-N1-C1'	-6.70	111.82	121.20
1	BA	681	G	C8-N9-C4	6.69	109.08	106.40
1	AA	1914	C	C4-C5-C6	6.69	120.75	117.40
1	AA	1109	C	N3-C4-C5	-6.69	119.22	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2035	G	C8-N9-C1'	6.68	135.69	127.00
1	BA	2053	G	C5-C6-O6	-6.68	124.59	128.60
1	BA	1298	C	N1-C2-O2	6.68	122.91	118.90
1	BA	1638	C	C6-N1-C2	6.68	122.97	120.30
1	AA	2606	C	C6-N1-C2	6.68	122.97	120.30
1	AA	1602	U	N3-C4-O4	6.67	124.07	119.40
1	AA	2822	G	C8-N9-C4	6.67	109.07	106.40
1	BA	2056	G	C5-C6-O6	-6.67	124.60	128.60
1	BA	271(M)	G	C4-N9-C1'	6.66	135.16	126.50
1	AA	761	A	C5-N7-C8	-6.66	100.57	103.90
1	BA	2489	G	N9-C4-C5	-6.66	102.74	105.40
31	DA	438	G	N3-C4-C5	-6.66	125.27	128.60
1	BA	645	C	N3-C2-O2	-6.66	117.24	121.90
1	BA	2185	C	C2-N3-C4	6.66	123.23	119.90
1	AA	1204	A	C5-N7-C8	-6.65	100.57	103.90
1	AA	1698	A	C4-C5-N7	6.65	114.03	110.70
1	AA	2597	G	C8-N9-C4	6.65	109.06	106.40
31	DA	1030	C	N3-C2-O2	-6.64	117.25	121.90
1	BA	1022	G	N3-C4-N9	-6.64	122.02	126.00
1	BA	1840	G	N1-C6-O6	6.64	123.88	119.90
1	BA	180	G	N3-C4-N9	-6.63	122.02	126.00
1	BA	456	C	N1-C2-O2	-6.63	114.92	118.90
1	BA	1915	U	O4'-C1'-N1	6.63	113.50	108.20
2	BB	5	C	C6-N1-C2	6.63	122.95	120.30
31	CA	299	G	C5-C6-N1	-6.62	108.19	111.50
1	AA	1107	G	C4-N9-C1'	6.62	135.10	126.50
1	BA	1979	C	C6-N1-C2	-6.62	117.65	120.30
1	AA	1332	G	C5-N7-C8	-6.62	100.99	104.30
1	AA	2035	G	N3-C4-N9	-6.62	122.03	126.00
1	AA	1045	A	C2-N3-C4	6.61	113.91	110.60
31	CA	190	U	C5-C6-N1	6.61	126.01	122.70
1	BA	109	G	C5-C6-O6	6.61	132.57	128.60
1	AA	271(M)	G	N3-C4-N9	6.61	129.96	126.00
1	AA	645	C	C2-N1-C1'	6.60	126.06	118.80
31	CA	442	C	C5-C6-N1	6.60	124.30	121.00
31	DA	1126	U	N3-C2-O2	-6.60	117.58	122.20
1	BA	204	A	C5-C6-N1	6.60	121.00	117.70
1	AA	2137	C	N1-C2-O2	6.60	122.86	118.90
1	BA	2689	U	C2-N3-C4	-6.60	123.04	127.00
1	BA	614	U	N3-C2-O2	-6.59	117.58	122.20
1	AA	2439	A	C4-C5-N7	6.59	113.99	110.70
1	BA	60	G	C4-C5-N7	6.59	113.43	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	113	G	N3-C4-C5	6.58	131.89	128.60
1	BA	878	A	C8-N9-C4	-6.58	103.17	105.80
1	AA	512	G	N1-C6-O6	-6.58	115.95	119.90
1	AA	2131	G	C8-N9-C4	-6.58	103.77	106.40
1	BA	139(A)	G	C5-N7-C8	-6.58	101.01	104.30
1	BA	1827	C	C6-N1-C2	-6.58	117.67	120.30
2	BB	1	U	N1-C2-O2	6.57	127.40	122.80
1	AA	736	C	C6-N1-C2	6.57	122.93	120.30
31	CA	96	U	N3-C2-O2	-6.57	117.61	122.20
1	AA	34	C	N3-C4-C5	-6.56	119.27	121.90
1	BA	435	C	N1-C2-O2	6.55	122.83	118.90
31	CA	76	C	C2-N1-C1'	6.55	126.01	118.80
1	AA	2497	A	N9-C4-C5	-6.55	103.18	105.80
1	BA	2251	G	N3-C4-C5	-6.55	125.33	128.60
1	AA	1611	C	N3-C4-C5	6.54	124.52	121.90
1	BA	14	A	N9-C4-C5	-6.54	103.18	105.80
1	AA	124	G	N3-C4-C5	6.54	131.87	128.60
1	BA	452	G	N1-C6-O6	-6.54	115.98	119.90
1	BA	2137	C	C2-N1-C1'	6.54	125.99	118.80
1	AA	2318	G	C4-N9-C1'	6.53	134.99	126.50
1	BA	450	G	C4-C5-C6	6.53	122.72	118.80
1	AA	746	A	C8-N9-C4	6.53	108.41	105.80
31	DA	1272	G	C8-N9-C1'	-6.53	118.51	127.00
1	BA	1372	U	C5-C4-O4	-6.53	121.98	125.90
31	DA	1030	C	C6-N1-C2	-6.53	117.69	120.30
1	AA	1531	C	C6-N1-C2	-6.53	117.69	120.30
1	BA	2791	C	C2-N1-C1'	6.52	125.98	118.80
1	BA	1021	A	C5-N7-C8	-6.52	100.64	103.90
1	BA	1772	G	C5-C6-O6	6.52	132.51	128.60
1	AA	1022	G	C4-C5-N7	-6.52	108.19	110.80
2	AB	104	U	C5-C6-N1	-6.52	119.44	122.70
1	BA	330	A	C5-N7-C8	-6.52	100.64	103.90
31	CA	906	G	N3-C4-C5	-6.52	125.34	128.60
1	BA	525	U	C6-N1-C2	-6.52	117.09	121.00
1	AA	1393	A	C8-N9-C4	6.51	108.41	105.80
1	BA	512	G	C4-N9-C1'	-6.51	118.04	126.50
1	BA	271(M)	G	C8-N9-C1'	-6.50	118.54	127.00
31	DA	117	G	N9-C4-C5	-6.50	102.80	105.40
1	BA	915	C	N3-C2-O2	-6.50	117.35	121.90
1	AA	298	G	C4-C5-N7	6.50	113.40	110.80
31	DA	1272	G	C4-N9-C1'	6.49	134.94	126.50
1	AA	2420	C	C5-C4-N4	-6.49	115.66	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	143	G	N3-C4-C5	6.49	131.84	128.60
1	BA	1955	U	C5-C6-N1	-6.48	119.46	122.70
1	BA	452	G	C2-N3-C4	6.47	115.14	111.90
1	AA	1393	A	N9-C4-C5	-6.47	103.21	105.80
1	AA	1899	G	C8-N9-C4	-6.47	103.81	106.40
1	BA	198	C	C2-N1-C1'	6.47	125.92	118.80
1	BA	2419	U	C5-C6-N1	6.46	125.93	122.70
1	BA	1699	G	C8-N9-C4	-6.46	103.81	106.40
1	BA	1047	G	N3-C4-C5	-6.46	125.37	128.60
1	AA	928	G	C5-C6-O6	-6.45	124.73	128.60
1	AA	1962	C	N1-C2-O2	6.45	122.77	118.90
1	BA	2609	U	N3-C2-O2	6.45	126.72	122.20
1	BA	143	G	C4-N9-C1'	-6.45	118.11	126.50
1	AA	1142(A)	A	N3-C4-N9	-6.45	122.24	127.40
1	AA	1107	G	N3-C4-C5	-6.45	125.38	128.60
1	AA	2544	G	N1-C6-O6	6.45	123.77	119.90
1	BA	527	C	N3-C4-N4	-6.45	113.49	118.00
1	BA	1210	A	C5-C6-N6	-6.45	118.54	123.70
1	AA	190	A	N1-C2-N3	-6.45	126.08	129.30
1	BA	2187	G	C4-C5-N7	6.45	113.38	110.80
1	BA	2590	A	C4-C5-C6	-6.45	113.78	117.00
1	BA	2673	G	N1-C6-O6	6.44	123.77	119.90
1	AA	1246	A	C8-N9-C4	6.44	108.38	105.80
1	AA	1204	A	C2-N3-C4	-6.43	107.38	110.60
31	CA	1397	C	C2-N1-C1'	6.43	125.88	118.80
1	BA	690	G	C8-N9-C4	6.43	108.97	106.40
1	BA	2056	G	N1-C6-O6	6.43	123.75	119.90
31	CA	96	U	N1-C2-O2	6.43	127.30	122.80
1	BA	1982	C	N3-C4-C5	-6.42	119.33	121.90
31	DA	885	G	C8-N9-C4	6.42	108.97	106.40
19	AX	57	LEU	CA-CB-CG	6.42	130.07	115.30
31	DA	1492	A	C2-N3-C4	6.42	113.81	110.60
1	AA	1050	A	C8-N9-C4	-6.41	103.23	105.80
19	BX	57	LEU	CA-CB-CG	6.41	130.03	115.30
31	DA	1038	C	N3-C2-O2	-6.40	117.42	121.90
1	BA	652(H)	C	N1-C2-O2	6.40	122.74	118.90
1	BA	865	C	C6-N1-C2	6.40	122.86	120.30
31	DA	1027	C	N3-C4-N4	-6.40	113.52	118.00
1	AA	2263	C	C6-N1-C2	6.40	122.86	120.30
31	DA	503	C	C6-N1-C2	-6.40	117.74	120.30
31	DA	1030	C	C2-N1-C1'	6.39	125.83	118.80
1	AA	1313	U	C2-N1-C1'	6.39	125.37	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1962	C	C2-N1-C1'	6.39	125.83	118.80
1	BA	686	G	N3-C2-N2	6.39	124.37	119.90
31	CA	1030(B)	C	N1-C2-O2	6.39	122.73	118.90
34	CD	26	CYS	CA-CB-SG	6.38	125.49	114.00
31	DA	1420	C	C6-N1-C2	-6.38	117.75	120.30
2	AB	1	U	C2-N1-C1'	6.38	125.35	117.70
1	BA	978	G	C8-N9-C4	6.38	108.95	106.40
1	AA	271(M)	G	N3-C4-C5	-6.38	125.41	128.60
1	AA	2014	A	N1-C6-N6	6.37	122.42	118.60
1	BA	1021	A	N1-C6-N6	6.37	122.42	118.60
1	AA	2137	C	N3-C4-C5	-6.37	119.35	121.90
31	DA	90	C	C6-N1-C2	-6.37	117.75	120.30
31	CA	1493	A	N1-C6-N6	6.36	122.42	118.60
1	BA	741	G	C5-C6-O6	-6.36	124.78	128.60
1	BA	1913	A	C3'-C2'-C1'	-6.36	96.41	101.50
1	BA	2318	G	C8-N9-C4	-6.36	103.86	106.40
31	CA	76	C	C6-N1-C2	-6.36	117.76	120.30
1	BA	928	G	N1-C6-O6	6.36	123.71	119.90
1	AA	568	U	N1-C2-O2	-6.35	118.35	122.80
1	BA	827	U	C6-N1-C2	6.35	124.81	121.00
1	BA	2218	U	C6-N1-C1'	-6.35	112.31	121.20
1	AA	1992	G	C8-N9-C4	-6.35	103.86	106.40
1	BA	1772	G	C4-C5-N7	-6.35	108.26	110.80
1	AA	141	A	C5-N7-C8	-6.34	100.73	103.90
1	BA	1840	G	C4-C5-C6	6.34	122.61	118.80
31	CA	76	C	C5-C6-N1	6.34	124.17	121.00
1	AA	1664	A	C8-N9-C4	-6.34	103.26	105.80
1	BA	1653	G	N3-C4-C5	-6.34	125.43	128.60
1	BA	1997	G	C4-N9-C1'	-6.34	118.26	126.50
1	BA	2593	U	N3-C4-C5	-6.34	110.80	114.60
31	DA	71	C	N1-C2-O2	6.34	122.70	118.90
1	BA	1290	C	C6-N1-C2	-6.33	117.77	120.30
1	AA	2877	G	C8-N9-C4	6.33	108.93	106.40
1	BA	1840	G	C4-N9-C1'	6.33	134.73	126.50
1	AA	2497	A	C8-N9-C4	6.33	108.33	105.80
31	CA	992	U	C5-C6-N1	6.33	125.86	122.70
1	AA	1962	C	C5-C6-N1	6.32	124.16	121.00
1	BA	885	C	C2-N1-C1'	6.32	125.75	118.80
1	AA	507	A	C8-N9-C4	6.32	108.33	105.80
1	BA	2286	A	C4-C5-N7	6.32	113.86	110.70
1	AA	1966	A	C8-N9-C4	6.32	108.33	105.80
1	BA	678	C	C6-N1-C2	6.32	122.83	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2024	G	N3-C4-C5	6.31	131.76	128.60
31	CA	342	C	C6-N1-C2	-6.31	117.77	120.30
1	AA	1840	G	C5-C6-N1	-6.31	108.34	111.50
1	AA	465	G	N3-C4-C5	-6.31	125.44	128.60
1	AA	2456	C	C6-N1-C2	6.31	122.82	120.30
1	BA	2273	A	C8-N9-C4	-6.31	103.28	105.80
1	AA	1531	C	C5-C6-N1	6.31	124.15	121.00
1	AA	652(Q)	G	N3-C4-N9	6.31	129.78	126.00
1	AA	1963	U	C5-C6-N1	6.30	125.85	122.70
1	BA	661	C	C6-N1-C2	-6.30	117.78	120.30
1	AA	1204	A	C4-C5-N7	6.30	113.85	110.70
2	AB	54	G	C8-N9-C4	-6.29	103.88	106.40
1	AA	2419	U	N3-C4-C5	-6.29	110.83	114.60
1	BA	512	G	C4-C5-C6	-6.29	115.03	118.80
1	AA	494	G	C8-N9-C4	6.29	108.91	106.40
1	BA	446	G	N9-C4-C5	-6.29	102.89	105.40
1	BA	500	G	C5-C6-O6	6.28	132.37	128.60
1	BA	1187	G	N1-C6-O6	6.28	123.67	119.90
1	BA	1633	G	C5-C6-N1	-6.28	108.36	111.50
1	AA	399	G	C8-N9-C4	6.28	108.91	106.40
1	AA	2791	C	C2-N1-C1'	6.28	125.70	118.80
1	AA	530	G	C5-C6-O6	6.27	132.36	128.60
1	BA	1313	U	N3-C2-O2	-6.27	117.81	122.20
31	DA	530	G	C8-N9-C1'	-6.27	118.85	127.00
1	AA	2334	G	N9-C4-C5	-6.27	102.89	105.40
1	AA	2411	A	C8-N9-C4	6.27	108.31	105.80
1	BA	2827	C	C4-C5-C6	-6.26	114.27	117.40
31	DA	175	C	C6-N1-C2	-6.26	117.80	120.30
1	BA	2894	G	N7-C8-N9	6.26	116.23	113.10
1	BA	1951	U	C6-N1-C2	-6.25	117.25	121.00
1	BA	2053	G	N1-C6-O6	6.25	123.65	119.90
1	BA	645	C	C6-N1-C2	-6.25	117.80	120.30
1	AA	870	A	C8-N9-C4	6.25	108.30	105.80
1	AA	845	G	C4-N9-C1'	6.25	134.62	126.50
1	AA	1216	G	N1-C6-O6	6.25	123.65	119.90
1	BA	226	G	C5-C6-O6	-6.24	124.85	128.60
1	AA	1531	C	N1-C2-O2	6.24	122.64	118.90
1	BA	390	A	C8-N9-C4	6.24	108.30	105.80
1	BA	686	G	N9-C4-C5	-6.24	102.91	105.40
1	BA	2481	G	C5-C6-O6	-6.24	124.86	128.60
1	BA	2318	G	C4-N9-C1'	6.24	134.61	126.50
34	DD	26	CYS	CA-CB-SG	6.24	125.23	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	265	A	N1-C6-N6	6.24	122.34	118.60
1	BA	568	U	N1-C2-O2	-6.23	118.44	122.80
1	BA	584	C	N1-C2-O2	-6.23	115.16	118.90
1	BA	956	G	C5-C6-N1	-6.23	108.39	111.50
1	BA	1602	U	N3-C4-O4	6.23	123.76	119.40
31	DA	150	C	C6-N1-C2	-6.23	117.81	120.30
31	CA	1245	A	C5-C6-N6	-6.23	118.72	123.70
1	AA	2036	C	C6-N1-C2	-6.22	117.81	120.30
1	BA	673	C	N3-C2-O2	-6.22	117.55	121.90
1	AA	129	C	C5-C6-N1	-6.22	117.89	121.00
1	BA	1828	G	N1-C6-O6	-6.22	116.17	119.90
1	AA	2681	C	C6-N1-C2	6.22	122.79	120.30
1	AA	2253	G	N9-C4-C5	-6.22	102.91	105.40
1	BA	2482	G	C4-N9-C1'	6.22	134.58	126.50
1	BA	2137	C	N1-C2-O2	6.21	122.63	118.90
1	AA	2249	U	C6-N1-C2	-6.21	117.27	121.00
1	AA	1855	G	C8-N9-C4	6.21	108.89	106.40
31	CA	433	C	N3-C2-O2	-6.21	117.55	121.90
1	BA	60	G	C8-N9-C4	6.21	108.88	106.40
1	BA	1819	A	N1-C6-N6	-6.21	114.88	118.60
1	AA	71	A	C5-N7-C8	-6.20	100.80	103.90
2	AB	1	U	N1-C2-O2	6.20	127.14	122.80
1	AA	933	A	N1-C6-N6	6.20	122.32	118.60
1	AA	600	G	C8-N9-C4	6.19	108.88	106.40
1	BA	1275	A	N1-C6-N6	6.19	122.32	118.60
1	AA	827	U	N3-C2-O2	6.19	126.53	122.20
1	BA	652(Q)	G	N3-C4-N9	6.19	129.71	126.00
31	DA	699	C	C6-N1-C2	-6.19	117.82	120.30
31	CA	1034	G	C6-N1-C2	6.19	128.81	125.10
1	BA	568	U	C4-C5-C6	6.19	123.41	119.70
1	AA	1779	U	C4-C5-C6	6.18	123.41	119.70
1	BA	2429	G	N3-C4-C5	-6.18	125.51	128.60
1	AA	645	C	N3-C2-O2	-6.18	117.57	121.90
1	AA	512	G	N9-C4-C5	6.18	107.87	105.40
1	BA	142(A)	C	N1-C2-O2	-6.18	115.19	118.90
1	BA	2593	U	C6-N1-C2	-6.18	117.29	121.00
1	AA	1844	C	C6-N1-C2	-6.17	117.83	120.30
1	BA	1840	G	C6-C5-N7	-6.17	126.70	130.40
31	DA	1027	C	C6-N1-C1'	6.17	128.21	120.80
1	AA	90	U	C5-C6-N1	6.17	125.78	122.70
1	AA	679	C	N3-C2-O2	6.17	126.22	121.90
1	BA	1243	G	N3-C4-C5	6.17	131.68	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	2685	G	N3-C4-N9	-6.17	122.30	126.00
1	AA	2206	G	C8-N9-C4	6.16	108.86	106.40
1	AA	676	A	C6-C5-N7	-6.16	127.99	132.30
1	BA	1791	A	C6-C5-N7	-6.16	127.99	132.30
1	AA	1142(A)	A	C5-C6-N1	-6.15	114.62	117.70
1	AA	945	A	C5-N7-C8	-6.15	100.82	103.90
34	CD	12	CYS	CA-CB-SG	6.15	125.07	114.00
1	BA	202	U	N1-C2-O2	6.15	127.11	122.80
1	AA	124	G	C2-N3-C4	-6.15	108.83	111.90
31	DA	242	C	N1-C2-O2	-6.15	115.21	118.90
1	BA	1779	U	C5-C4-O4	6.14	129.59	125.90
1	AA	2685	G	C4-C5-N7	-6.14	108.34	110.80
1	BA	29	U	C5-C4-O4	-6.14	122.22	125.90
1	BA	265	A	C2-N3-C4	-6.14	107.53	110.60
31	CA	992	U	C6-N1-C1'	-6.14	112.61	121.20
31	CA	925	G	C5-C6-O6	-6.14	124.92	128.60
1	BA	652(R)	C	N1-C2-O2	6.13	122.58	118.90
1	BA	2022	U	N1-C2-N3	-6.13	111.22	114.90
1	AA	1647	G	N3-C4-N9	-6.13	122.32	126.00
1	BA	1204	A	C6-C5-N7	-6.13	128.01	132.30
1	AA	928	G	C6-C5-N7	-6.13	126.72	130.40
31	CA	1293	G	N3-C4-C5	-6.13	125.54	128.60
1	BA	1343	G	C4-N9-C1'	6.12	134.46	126.50
1	BA	2894	G	N1-C6-O6	6.12	123.57	119.90
1	BA	512	G	N3-C4-N9	-6.12	122.33	126.00
1	BA	1203	G	N1-C6-O6	-6.12	116.23	119.90
31	CA	1294	G	C8-N9-C1'	6.12	134.95	127.00
27	A5	58	LEU	CA-CB-CG	6.12	129.37	115.30
1	BA	468	G	C8-N9-C4	6.12	108.85	106.40
1	BA	263	C	C6-N1-C2	6.11	122.75	120.30
31	CA	1007	C	C5-C6-N1	6.11	124.06	121.00
1	BA	180	G	N3-C4-C5	6.11	131.65	128.60
1	BA	1882	C	C2-N1-C1'	6.11	125.52	118.80
1	BA	574	C	N1-C2-O2	-6.10	115.24	118.90
1	AA	129	C	C6-N1-C2	6.10	122.74	120.30
1	AA	948	G	N1-C6-O6	6.10	123.56	119.90
1	BA	450	G	N1-C2-N2	6.10	121.69	116.20
1	AA	885	C	C2-N1-C1'	6.09	125.50	118.80
31	DA	345	C	C2-N1-C1'	-6.09	112.10	118.80
1	AA	330	A	N1-C2-N3	6.09	132.34	129.30
1	BA	33	U	C2-N1-C1'	-6.09	110.40	117.70
1	BA	2866	U	C4-C5-C6	6.09	123.35	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	546	C	C6-N1-C2	-6.08	117.87	120.30
1	BA	729	G	N3-C2-N2	-6.08	115.64	119.90
1	BA	1699	G	N1-C6-O6	-6.08	116.25	119.90
1	AA	1004	C	C6-N1-C2	6.08	122.73	120.30
31	CA	1067	A	C2-N3-C4	6.08	113.64	110.60
1	AA	1216	G	C5-C6-O6	-6.07	124.96	128.60
2	AB	24	G	N3-C4-N9	6.07	129.64	126.00
31	DA	1282	C	C6-N1-C2	-6.07	117.87	120.30
1	BA	500	G	N1-C6-O6	-6.07	116.26	119.90
31	CA	1432	G	N1-C6-O6	6.07	123.54	119.90
31	DA	76	C	C5-C6-N1	6.07	124.03	121.00
1	AA	1616	A	N1-C6-N6	6.07	122.24	118.60
1	AA	1672	C	C6-N1-C2	6.07	122.73	120.30
1	AA	297	C	C6-N1-C2	-6.07	117.87	120.30
1	BA	676	A	C4-C5-N7	6.07	113.73	110.70
1	AA	1154	G	N3-C4-N9	6.06	129.64	126.00
1	AA	265	A	N7-C8-N9	6.06	116.83	113.80
1	BA	2896	C	C2-N1-C1'	6.06	125.46	118.80
15	BT	118	ARG	NE-CZ-NH1	6.06	123.33	120.30
1	AA	2721	A	C8-N9-C4	6.05	108.22	105.80
31	DA	1028	C	C6-N1-C2	-6.05	117.88	120.30
1	BA	795	C	N1-C2-O2	6.04	122.53	118.90
31	DA	1030(B)	C	C6-N1-C1'	-6.04	113.55	120.80
31	DA	412	A	C8-N9-C4	6.04	108.22	105.80
1	BA	151	C	C5-C6-N1	-6.04	117.98	121.00
1	BA	2206	G	N3-C4-C5	6.04	131.62	128.60
31	CA	1017	G	C5-C6-N1	-6.04	108.48	111.50
1	BA	723	G	C8-N9-C1'	-6.03	119.16	127.00
1	AA	1986	A	N7-C8-N9	-6.03	110.78	113.80
1	BA	90	U	C2-N3-C4	6.03	130.62	127.00
31	CA	1102	A	C8-N9-C4	-6.03	103.39	105.80
31	DA	1027	C	C2-N1-C1'	-6.03	112.17	118.80
1	BA	1201	C	C6-N1-C2	6.03	122.71	120.30
1	AA	933	A	N7-C8-N9	6.03	116.81	113.80
1	AA	2464	C	C6-N1-C2	6.03	122.71	120.30
1	BA	1982	C	C2-N1-C1'	6.03	125.43	118.80
31	DA	952	U	C2-N3-C4	6.03	130.62	127.00
1	AA	570	G	C4-N9-C1'	6.02	134.33	126.50
1	BA	584	C	N3-C2-O2	6.02	126.11	121.90
1	BA	333	G	C8-N9-C1'	-6.02	119.17	127.00
1	BA	2028	U	C4-C5-C6	6.02	123.31	119.70
1	AA	856	C	C6-N1-C2	-6.01	117.90	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	723	G	C4-N9-C1'	6.01	134.32	126.50
36	DF	19	LEU	CA-CB-CG	6.01	129.12	115.30
31	CA	1102	A	C6-N1-C2	-6.01	114.99	118.60
1	AA	1187	G	N7-C8-N9	6.01	116.10	113.10
1	AA	2206	G	C4-N9-C1'	-6.01	118.69	126.50
31	DA	178	C	C6-N1-C2	-6.00	117.90	120.30
2	BB	6	C	C6-N1-C2	6.00	122.70	120.30
1	BA	179	G	C5-C6-N1	-6.00	108.50	111.50
1	BA	2680	C	C6-N1-C2	6.00	122.70	120.30
31	CA	174	C	C6-N1-C2	-5.99	117.90	120.30
1	BA	2621	A	C8-N9-C4	5.99	108.20	105.80
1	BA	188	G	C8-N9-C4	5.99	108.80	106.40
1	AA	1266	G	N7-C8-N9	-5.99	110.11	113.10
1	BA	715	G	C6-C5-N7	-5.98	126.81	130.40
1	BA	1324	G	C5-C6-N1	-5.98	108.51	111.50
1	AA	1432	C	C6-N1-C2	5.98	122.69	120.30
1	BA	652(G)	G	N3-C4-N9	5.98	129.59	126.00
1	BA	2137	C	C5-C6-N1	5.98	123.99	121.00
31	DA	670	G	N3-C4-C5	-5.98	125.61	128.60
1	AA	1882	C	C6-N1-C2	-5.97	117.91	120.30
1	BA	912	C	C6-N1-C2	-5.97	117.91	120.30
1	BA	2685	G	C4-C5-C6	5.97	122.39	118.80
1	AA	1142(A)	A	C8-N9-C4	-5.97	103.41	105.80
1	BA	1187	G	C4-C5-C6	5.97	122.38	118.80
1	BA	729	G	N1-C2-N2	5.97	121.57	116.20
1	AA	213	A	C8-N9-C4	5.97	108.19	105.80
1	AA	945	A	N1-C6-N6	5.97	122.18	118.60
31	DA	1138	G	N3-C4-N9	5.97	129.58	126.00
1	BA	944	G	C4-N9-C1'	5.96	134.25	126.50
1	BA	2299	G	N3-C4-C5	5.96	131.58	128.60
1	BA	1324	G	C8-N9-C4	5.96	108.78	106.40
31	DA	76	C	C2-N1-C1'	5.96	125.36	118.80
1	AA	679	C	C6-N1-C2	5.96	122.68	120.30
1	BA	229	A	C8-N9-C4	-5.96	103.42	105.80
1	BA	1326	U	C6-N1-C2	5.96	124.57	121.00
1	BA	1698	A	C5-C6-N1	-5.95	114.72	117.70
1	AA	512	G	C8-N9-C1'	5.95	134.74	127.00
1	BA	2187	G	C5-C6-O6	-5.95	125.03	128.60
1	BA	1110	G	N9-C4-C5	5.95	107.78	105.40
31	CA	906	G	N3-C4-N9	5.95	129.57	126.00
1	BA	463	G	N1-C6-O6	-5.95	116.33	119.90
1	BA	2489	G	C6-C5-N7	-5.95	126.83	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2361	A	C4-C5-N7	5.95	113.67	110.70
1	BA	1488	G	C8-N9-C4	-5.95	104.02	106.40
31	CA	90	C	C6-N1-C2	-5.95	117.92	120.30
1	BA	1743	C	C6-N1-C2	-5.94	117.92	120.30
1	BA	2689	U	C5-C6-N1	-5.94	119.73	122.70
1	AA	1915	U	C2-N1-C1'	5.94	124.83	117.70
1	AA	1493	C	C6-N1-C1'	-5.94	113.67	120.80
1	BA	1109	C	C4-C5-C6	5.94	120.37	117.40
31	DA	943	U	C5-C4-O4	5.94	129.46	125.90
1	AA	912	C	N3-C2-O2	-5.94	117.75	121.90
1	BA	570	G	C8-N9-C4	-5.93	104.03	106.40
1	BA	1493	C	C2-N1-C1'	5.93	125.33	118.80
1	BA	570	G	C4-C5-C6	5.93	122.36	118.80
31	CA	992	U	N3-C2-O2	-5.93	118.05	122.20
1	AA	389	G	N9-C4-C5	-5.93	103.03	105.40
1	BA	639	U	C5-C4-O4	5.93	129.46	125.90
1	BA	915	C	N1-C2-O2	5.93	122.46	118.90
1	BA	143	G	N3-C4-N9	-5.93	122.44	126.00
1	BA	641	C	C6-N1-C2	-5.92	117.93	120.30
1	BA	2059	A	N7-C8-N9	-5.92	110.84	113.80
1	BA	2343	C	C6-N1-C2	-5.92	117.93	120.30
31	CA	1010	G	N7-C8-N9	5.92	116.06	113.10
31	CA	1397	C	C6-N1-C2	-5.92	117.93	120.30
31	DA	117	G	C8-N9-C1'	-5.92	119.30	127.00
1	AA	141	A	C6-C5-N7	-5.92	128.15	132.30
1	BA	652(T)	C	N1-C2-O2	5.92	122.45	118.90
1	BA	1142(A)	A	C5-N7-C8	-5.92	100.94	103.90
1	BA	1602	U	C5-C4-O4	5.92	129.45	125.90
1	AA	802	A	N9-C4-C5	-5.92	103.43	105.80
1	AA	298	G	C5-C6-O6	-5.92	125.05	128.60
1	AA	912	C	N3-C4-C5	-5.91	119.53	121.90
2	AB	114	C	C5-C6-N1	-5.91	118.04	121.00
1	BA	330	A	N3-C4-N9	-5.91	122.67	127.40
1	BA	945	A	N7-C8-N9	5.91	116.76	113.80
1	BA	1210	A	C2-N3-C4	-5.91	107.64	110.60
1	BA	2581	G	C5-C6-O6	5.91	132.15	128.60
1	BA	265	A	C5-N7-C8	-5.91	100.95	103.90
1	BA	1602	U	C2-N3-C4	5.91	130.54	127.00
1	BA	221	A	C8-N9-C4	-5.91	103.44	105.80
31	DA	1494	G	N3-C4-C5	-5.91	125.65	128.60
1	BA	2137	C	N3-C2-O2	-5.90	117.77	121.90
31	CA	529	G	N1-C6-O6	5.90	123.44	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	1183	G	N1-C6-O6	5.90	123.44	119.90
1	BA	2685	G	N1-C6-O6	5.90	123.44	119.90
1	AA	2440	C	N1-C2-O2	5.90	122.44	118.90
1	BA	761	A	C4-C5-C6	-5.90	114.05	117.00
31	DA	266	G	C4-C5-N7	5.90	113.16	110.80
1	AA	465	G	C4-C5-C6	5.89	122.34	118.80
1	AA	733	G	N3-C4-N9	-5.89	122.47	126.00
1	AA	2439	A	C5-N7-C8	-5.89	100.96	103.90
1	AA	582	G	N1-C6-O6	5.89	123.43	119.90
2	AB	31	C	N1-C2-O2	5.89	122.43	118.90
1	AA	2306	C	C5-C6-N1	5.88	123.94	121.00
1	AA	2318	G	N7-C8-N9	5.88	116.04	113.10
31	CA	1294	G	N9-C4-C5	5.88	107.75	105.40
31	DA	354	G	N3-C4-N9	5.88	129.53	126.00
31	DA	606	G	N3-C4-C5	-5.88	125.66	128.60
1	AA	1107	G	N3-C4-N9	5.88	129.53	126.00
1	AA	527	C	N3-C4-N4	-5.88	113.89	118.00
1	AA	1204	A	N7-C8-N9	5.88	116.74	113.80
1	BA	1049	C	C5-C6-N1	5.87	123.94	121.00
31	CA	365	U	C5-C6-N1	-5.87	119.76	122.70
1	BA	1959	G	C5-C6-O6	5.87	132.12	128.60
1	AA	141	A	C4-C5-N7	5.87	113.63	110.70
1	AA	2318	G	C8-N9-C4	-5.87	104.05	106.40
1	BA	1021	A	N3-C4-C5	5.86	130.90	126.80
1	BA	2251	G	C4-N9-C1'	5.86	134.12	126.50
1	AA	1333	C	C5-C4-N4	-5.86	116.10	120.20
1	AA	837	C	C6-N1-C2	-5.86	117.95	120.30
1	AA	2757	A	N7-C8-N9	5.86	116.73	113.80
1	BA	1314	C	C6-N1-C1'	-5.86	113.77	120.80
1	AA	1671	U	C5-C4-O4	-5.86	122.39	125.90
1	AA	1920	C	C6-N1-C2	-5.86	117.96	120.30
1	AA	2559	C	N3-C4-C5	5.86	124.24	121.90
1	BA	1187	G	C4-C5-N7	-5.85	108.46	110.80
1	BA	2574	G	C4-C5-N7	5.85	113.14	110.80
31	DA	1313	U	C5-C4-O4	-5.85	122.39	125.90
1	BA	527	C	C5-C4-N4	5.85	124.30	120.20
31	DA	76	C	C4-C5-C6	-5.85	114.48	117.40
1	AA	2514	U	C6-N1-C2	5.85	124.51	121.00
31	DA	1126	U	C5-C6-N1	5.85	125.62	122.70
1	BA	659	C	N3-C4-C5	5.84	124.24	121.90
1	AA	2617	C	C6-N1-C2	5.84	122.64	120.30
1	AA	1115	G	C4-N9-C1'	-5.83	118.92	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2036	C	C5-C6-N1	5.83	123.92	121.00
1	BA	1195	G	N3-C2-N2	-5.83	115.82	119.90
1	AA	733	G	C5-N7-C8	-5.83	101.39	104.30
1	AA	1914	C	N3-C2-O2	-5.83	117.82	121.90
1	BA	450	G	N3-C4-N9	-5.82	122.51	126.00
31	DA	1290	G	N3-C4-C5	-5.82	125.69	128.60
1	AA	110	G	C8-N9-C4	5.82	108.73	106.40
1	BA	2429	G	C8-N9-C4	-5.82	104.07	106.40
1	AA	271(M)	G	C4-N9-C1'	5.81	134.06	126.50
1	AA	1607	C	C6-N1-C2	5.80	122.62	120.30
1	AA	2544	G	N3-C2-N2	-5.80	115.84	119.90
1	BA	886	C	C2-N1-C1'	5.80	125.19	118.80
31	DA	1030(B)	C	N1-C2-O2	5.80	122.38	118.90
1	AA	1187	G	C5-C6-N1	-5.80	108.60	111.50
31	CA	1502	A	C2-N3-C4	-5.80	107.70	110.60
1	BA	204	A	N3-C4-C5	-5.80	122.74	126.80
1	BA	1022	G	C4-N9-C1'	-5.80	118.97	126.50
31	CA	1087	G	N3-C4-N9	5.80	129.48	126.00
1	BA	2540	C	C6-N1-C2	5.79	122.62	120.30
1	BA	226	G	N1-C6-O6	5.79	123.38	119.90
1	BA	1314	C	C2-N1-C1'	5.79	125.17	118.80
31	CA	460	G	C4-N9-C1'	5.79	134.03	126.50
31	DA	1184	G	C4-N9-C1'	-5.79	118.97	126.50
1	BA	500	G	C6-C5-N7	5.79	133.88	130.40
1	BA	1426	G	C4-C5-N7	5.79	113.12	110.80
31	DA	754	C	C2-N1-C1'	5.79	125.17	118.80
1	AA	2018	G	C5-C6-O6	-5.79	125.13	128.60
1	AA	666	G	N9-C4-C5	-5.78	103.09	105.40
31	DA	1184	G	C8-N9-C1'	5.78	134.52	127.00
1	AA	1005	C	C5-C6-N1	-5.78	118.11	121.00
1	BA	92	A	C8-N9-C4	-5.78	103.49	105.80
1	BA	2689	U	N1-C2-N3	5.78	118.37	114.90
31	DA	355	C	C6-N1-C2	-5.77	117.99	120.30
1	AA	652(H)	C	N1-C2-O2	5.77	122.36	118.90
31	DA	1378	C	C5-C6-N1	5.77	123.89	121.00
1	AA	1698	A	C6-C5-N7	-5.77	128.26	132.30
1	BA	271(J)	C	N1-C2-O2	5.77	122.36	118.90
1	BA	1963	U	C6-N1-C1'	-5.77	113.12	121.20
1	BA	465	G	C8-N9-C4	-5.77	104.09	106.40
1	AA	2306	C	C2-N1-C1'	5.76	125.14	118.80
1	BA	2251	G	C8-N9-C1'	-5.76	119.50	127.00
31	DA	1260	C	C6-N1-C2	-5.76	118.00	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1653	G	C4-N9-C1'	5.76	133.99	126.50
1	AA	2593	U	N3-C4-C5	-5.76	111.14	114.60
31	CA	96	U	C2-N1-C1'	5.76	124.61	117.70
31	CA	1150	U	C5-C4-O4	5.76	129.36	125.90
31	DA	245	C	C2-N1-C1'	-5.76	112.47	118.80
31	CA	1026	G	C8-N9-C4	-5.76	104.10	106.40
31	DA	293	G	N1-C6-O6	5.76	123.35	119.90
31	CA	1123	A	C5-C6-N6	5.75	128.30	123.70
31	DA	1037	C	C5-C6-N1	5.75	123.88	121.00
31	DA	1038	C	C6-N1-C2	-5.75	118.00	120.30
31	DA	438	G	N3-C4-N9	5.75	129.45	126.00
1	BA	1184	G	N1-C6-O6	5.75	123.35	119.90
1	BA	1204	A	C4-C5-N7	5.74	113.57	110.70
1	BA	2375	G	C8-N9-C4	5.74	108.70	106.40
1	AA	2382	G	N3-C4-N9	5.74	129.44	126.00
31	CA	956	U	C5-C6-N1	5.74	125.57	122.70
31	DA	1036	G	C4-N9-C1'	5.74	133.96	126.50
31	DA	1391	U	C5-C4-O4	5.74	129.34	125.90
1	AA	298	G	C5-N7-C8	-5.74	101.43	104.30
2	BB	80	U	C5-C4-O4	5.74	129.34	125.90
31	CA	93	G	N9-C4-C5	-5.73	103.11	105.40
1	BA	883	G	C5-C6-O6	-5.73	125.16	128.60
31	DA	1121	U	C5-C6-N1	5.73	125.56	122.70
31	DA	93	G	N9-C4-C5	-5.73	103.11	105.40
1	AA	696	G	C8-N9-C4	5.73	108.69	106.40
1	BA	1203	G	N9-C4-C5	5.72	107.69	105.40
1	BA	1383	C	N1-C2-O2	-5.72	115.47	118.90
31	CA	1087	G	C4-N9-C1'	5.72	133.94	126.50
31	DA	48	C	C2-N1-C1'	5.72	125.10	118.80
3	BD	274	ARG	C-N-CA	5.72	136.01	121.70
1	BA	2585	U	N1-C2-O2	5.72	126.81	122.80
1	AA	1193	G	C8-N9-C4	5.72	108.69	106.40
2	BB	106	G	N3-C2-N2	-5.72	115.90	119.90
31	DA	992	U	C6-N1-C1'	-5.71	113.20	121.20
1	BA	2281	C	C6-N1-C2	5.71	122.58	120.30
1	BA	1116	C	C2-N1-C1'	5.71	125.08	118.80
31	CA	1245	A	N1-C6-N6	5.71	122.03	118.60
31	DA	1290	G	C8-N9-C4	-5.71	104.12	106.40
1	BA	2187	G	N1-C6-O6	5.71	123.32	119.90
31	CA	435	C	C5-C6-N1	5.71	123.85	121.00
1	AA	1210	A	C4-C5-N7	5.70	113.55	110.70
1	BA	204	A	N9-C4-C5	5.70	108.08	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	1184	G	N3-C2-N2	-5.70	115.91	119.90
1	AA	635	C	C6-N1-C2	-5.70	118.02	120.30
1	BA	74	A	N1-C6-N6	-5.70	115.18	118.60
1	BA	723	G	N3-C4-C5	-5.70	125.75	128.60
1	BA	1936	A	N1-C6-N6	5.70	122.02	118.60
1	AA	512	G	C4-N9-C1'	-5.69	119.10	126.50
1	AA	2440	C	N3-C2-O2	-5.69	117.92	121.90
1	BA	196	A	N1-C6-N6	5.69	122.02	118.60
2	AB	19	G	N3-C4-N9	5.69	129.41	126.00
1	BA	298	G	N3-C4-C5	5.69	131.44	128.60
31	DA	1366	C	C2-N3-C4	5.69	122.74	119.90
1	AA	1142(A)	A	C5-N7-C8	-5.69	101.06	103.90
1	AA	1448	G	N1-C6-O6	5.69	123.31	119.90
1	AA	128	C	C2-N1-C1'	5.68	125.05	118.80
1	AA	2586	C	C5-C6-N1	5.68	123.84	121.00
1	BA	1992	G	N1-C6-O6	-5.68	116.49	119.90
1	AA	1408	C	N1-C2-O2	-5.68	115.49	118.90
1	BA	2351	G	C8-N9-C1'	-5.68	119.62	127.00
1	AA	1399	C	C6-N1-C2	5.68	122.57	120.30
2	AB	116	G	C8-N9-C4	5.68	108.67	106.40
1	BA	136	G	C8-N9-C4	5.68	108.67	106.40
1	BA	883	G	N3-C4-N9	5.68	129.41	126.00
20	BY	91	GLU	N-CA-C	-5.67	95.69	111.00
1	BA	2689	U	N3-C4-O4	-5.67	115.43	119.40
31	DA	316	G	N1-C6-O6	5.67	123.30	119.90
31	DA	899	C	N3-C4-C5	5.67	124.17	121.90
31	DA	904	C	C6-N1-C2	5.67	122.57	120.30
1	BA	435	C	N3-C2-O2	-5.67	117.93	121.90
31	CA	1290	G	N3-C4-N9	5.67	129.40	126.00
1	AA	12	U	C5-C6-N1	5.67	125.53	122.70
1	AA	1005	C	C6-N1-C2	5.67	122.57	120.30
1	BA	893	C	N1-C2-O2	5.67	122.30	118.90
1	AA	1261	C	C6-N1-C2	5.66	122.57	120.30
1	AA	2667	C	C6-N1-C2	-5.66	118.04	120.30
31	CA	1012	U	C2-N3-C4	-5.66	123.60	127.00
31	DA	1279	A	C8-N9-C4	-5.66	103.54	105.80
1	AA	1644	C	N1-C2-O2	5.66	122.29	118.90
31	CA	1087	G	N7-C8-N9	5.66	115.93	113.10
1	AA	2712	U	C2-N1-C1'	-5.65	110.92	117.70
1	BA	1948	G	C8-N9-C4	-5.65	104.14	106.40
1	BA	1957	C	C6-N1-C2	5.65	122.56	120.30
1	AA	2207	G	C8-N9-C1'	-5.65	119.66	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	948	G	N1-C6-O6	5.65	123.29	119.90
2	AB	54	G	N7-C8-N9	5.65	115.92	113.10
1	BA	219	G	N3-C4-C5	-5.65	125.78	128.60
1	BA	685	A	C8-N9-C4	-5.65	103.54	105.80
31	DA	365	U	C5-C6-N1	-5.65	119.88	122.70
1	BA	265	A	N1-C6-N6	5.65	121.99	118.60
31	DA	1502	A	N1-C2-N3	5.65	132.12	129.30
1	AA	265	A	C6-C5-N7	-5.64	128.35	132.30
1	AA	2378	A	N1-C6-N6	5.64	121.98	118.60
31	DA	530	G	N3-C4-N9	5.64	129.39	126.00
1	AA	1193	G	N9-C4-C5	-5.64	103.14	105.40
1	BA	1045	A	C2-N3-C4	5.64	113.42	110.60
31	DA	1282	C	C6-N1-C1'	-5.64	114.03	120.80
31	DA	337	C	C6-N1-C2	-5.64	118.04	120.30
1	AA	205	G	C8-N9-C4	5.64	108.66	106.40
1	AA	1112	G	C4-N9-C1'	-5.64	119.17	126.50
1	AA	2875	C	C6-N1-C2	5.64	122.55	120.30
31	CA	1027	C	N3-C4-N4	-5.64	114.06	118.00
1	BA	652(T)	C	C2-N3-C4	5.63	122.72	119.90
1	BA	2742	C	C6-N1-C2	5.63	122.55	120.30
1	AA	1955	U	C5-C6-N1	-5.63	119.88	122.70
1	AA	2334	G	C8-N9-C4	5.63	108.65	106.40
1	BA	2464	C	N3-C2-O2	5.63	125.84	121.90
1	AA	1351	C	C5-C6-N1	-5.63	118.19	121.00
31	DA	1509	C	C6-N1-C2	5.63	122.55	120.30
2	AB	115	G	N7-C8-N9	-5.63	110.29	113.10
1	BA	34	C	N1-C2-O2	5.63	122.28	118.90
1	BA	1372	U	N3-C4-O4	5.63	123.34	119.40
1	BA	1510	G	N9-C4-C5	-5.63	103.15	105.40
31	CA	1397	C	C5-C6-N1	5.63	123.81	121.00
1	AA	230	U	C2-N1-C1'	5.62	124.45	117.70
1	AA	460	A	N9-C4-C5	-5.62	103.55	105.80
1	AA	1827	C	N3-C2-O2	-5.62	117.96	121.90
11	BP	39	LYS	N-CA-C	-5.62	95.82	111.00
1	AA	2062	A	N1-C6-N6	5.62	121.97	118.60
1	AA	130	C	N3-C4-C5	5.62	124.15	121.90
1	AA	874	G	C4-N9-C1'	-5.62	119.20	126.50
1	AA	512	G	C5-C6-O6	5.62	131.97	128.60
1	AA	2629	A	N1-C6-N6	5.62	121.97	118.60
1	BA	2347	C	N1-C2-O2	5.62	122.27	118.90
1	BA	2078	C	C6-N1-C2	-5.62	118.05	120.30
31	CA	503	C	C6-N1-C2	-5.62	118.05	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2079	U	N1-C2-O2	-5.61	118.87	122.80
1	BA	975	C	N3-C4-C5	5.61	124.15	121.90
1	BA	2030	A	C8-N9-C4	5.61	108.05	105.80
1	BA	2164	C	C4-C5-C6	5.61	120.21	117.40
11	BP	26	GLY	C-N-CA	5.61	135.73	121.70
1	AA	1168	G	N3-C4-N9	5.61	129.37	126.00
1	BA	1108	U	N3-C2-O2	-5.61	118.27	122.20
1	BA	1840	G	C8-N9-C1'	-5.61	119.71	127.00
1	BA	265	A	C6-C5-N7	-5.60	128.38	132.30
1	BA	375	C	C6-N1-C2	5.60	122.54	120.30
1	BA	446	G	C4-C5-N7	5.60	113.04	110.80
1	BA	2581	G	C8-N9-C4	-5.60	104.16	106.40
1	AA	652(H)	C	C2-N1-C1'	5.60	124.96	118.80
1	AA	679	C	C2-N1-C1'	-5.60	112.64	118.80
1	AA	280	C	C2-N1-C1'	5.60	124.96	118.80
1	AA	769	G	C8-N9-C4	5.60	108.64	106.40
1	BA	1992	G	N3-C4-C5	-5.60	125.80	128.60
31	DA	1279	A	N7-C8-N9	5.60	116.60	113.80
31	DA	1249	C	C5-C6-N1	5.60	123.80	121.00
1	BA	199	A	N7-C8-N9	-5.59	111.00	113.80
2	BB	16	G	C4-C5-N7	5.59	113.04	110.80
2	BB	16	G	C5-C6-O6	-5.59	125.24	128.60
1	BA	12	U	C6-N1-C2	-5.59	117.64	121.00
1	BA	1359	A	C6-N1-C2	5.59	121.95	118.60
1	BA	2030	A	N1-C6-N6	5.59	121.95	118.60
1	BA	298	G	C5-C6-O6	-5.59	125.25	128.60
1	BA	71	A	C8-N9-C4	-5.58	103.57	105.80
1	BA	1936	A	N9-C4-C5	-5.58	103.57	105.80
31	DA	560	U	C2-N1-C1'	5.58	124.40	117.70
1	AA	1286	A	N9-C4-C5	5.58	108.03	105.80
1	BA	511	U	C5-C6-N1	-5.58	119.91	122.70
1	BA	1359	A	C4-C5-C6	-5.58	114.21	117.00
1	BA	1828	G	C4-C5-N7	-5.58	108.57	110.80
31	CA	1323	G	N3-C4-C5	-5.58	125.81	128.60
31	CA	1030	C	C2-N3-C4	5.58	122.69	119.90
31	DA	1493	A	N1-C6-N6	5.58	121.95	118.60
1	AA	2599	G	C8-N9-C4	5.58	108.63	106.40
1	AA	2597	G	N7-C8-N9	-5.57	110.31	113.10
1	BA	1898	U	C5-C4-O4	5.57	129.24	125.90
1	BA	870	A	C8-N9-C4	5.57	108.03	105.80
1	AA	141	A	C2-N3-C4	-5.57	107.82	110.60
1	BA	2271	G	N3-C4-N9	5.56	129.34	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	912	C	C2-N1-C1'	5.56	124.92	118.80
2	AB	19	G	C4-N9-C1'	5.56	133.73	126.50
2	AB	113	G	C8-N9-C4	5.56	108.62	106.40
1	BA	676	A	C6-C5-N7	-5.56	128.41	132.30
1	BA	1840	G	C5-C6-N1	-5.56	108.72	111.50
31	DA	117	G	C4-N9-C1'	5.56	133.73	126.50
1	BA	525	U	N3-C4-C5	-5.56	111.27	114.60
1	BA	15	G	N3-C2-N2	-5.55	116.01	119.90
1	BA	2351	G	C4-N9-C1'	5.55	133.72	126.50
1	BA	2362	G	C8-N9-C4	5.55	108.62	106.40
31	CA	1010	G	C8-N9-C4	-5.55	104.18	106.40
1	AA	745	G	N1-C6-O6	5.55	123.23	119.90
1	AA	1359	A	N1-C2-N3	-5.55	126.52	129.30
1	AA	2104	G	C8-N9-C1'	-5.55	119.78	127.00
1	AA	34	C	C6-N1-C2	-5.55	118.08	120.30
1	AA	1142(A)	A	N1-C2-N3	5.55	132.07	129.30
31	CA	1112	C	C6-N1-C2	-5.55	118.08	120.30
31	DA	1088	G	N3-C4-C5	-5.55	125.83	128.60
1	AA	2321	G	C4-N9-C1'	5.54	133.71	126.50
1	AA	2678	C	C6-N1-C2	5.54	122.52	120.30
31	CA	1123	A	N3-C4-N9	-5.54	122.97	127.40
1	BA	1915	U	O4'-C4'-C3'	-5.54	98.46	104.00
1	BA	639	U	N3-C4-C5	-5.54	111.28	114.60
1	AA	1828	G	N1-C6-O6	-5.53	116.58	119.90
1	BA	90	U	N3-C4-O4	5.53	123.27	119.40
1	BA	2491	U	C5-C4-O4	-5.53	122.58	125.90
1	BA	1204	A	C5-N7-C8	-5.53	101.13	103.90
1	BA	2626	C	N3-C4-C5	5.53	124.11	121.90
1	AA	512	G	C6-C5-N7	5.53	133.72	130.40
1	BA	2096	U	N1-C2-O2	5.53	126.67	122.80
31	CA	1231	G	C8-N9-C4	-5.53	104.19	106.40
1	BA	1203	G	C8-N9-C4	-5.53	104.19	106.40
1	AA	2435	A	C8-N9-C4	-5.53	103.59	105.80
31	CA	1058	G	N1-C6-O6	5.53	123.22	119.90
1	BA	1680	U	N1-C2-N3	5.53	118.22	114.90
1	BA	2121	G	C4-C5-N7	-5.52	108.59	110.80
1	BA	2609	U	N1-C2-O2	-5.52	118.93	122.80
1	BA	2827	C	N3-C4-C5	5.52	124.11	121.90
31	CA	995	C	N1-C2-O2	5.52	122.21	118.90
1	BA	932	G	N3-C4-N9	-5.52	122.69	126.00
1	AA	196	A	N9-C4-C5	-5.52	103.59	105.80
1	AA	2056	G	C4-C5-N7	5.52	113.01	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	2552	U	N1-C2-O2	-5.52	118.94	122.80
1	AA	1663	C	C6-N1-C2	5.51	122.51	120.30
1	AA	2791	C	N1-C2-O2	5.51	122.21	118.90
31	CA	360	A	C8-N9-C4	-5.51	103.59	105.80
1	AA	389	G	C5-C6-O6	-5.51	125.29	128.60
1	BA	1938	A	N1-C6-N6	5.51	121.91	118.60
1	AA	1192	G	C8-N9-C4	5.51	108.60	106.40
1	BA	2894	G	C2-N3-C4	-5.51	109.14	111.90
1	AA	450	G	C8-N9-C4	-5.51	104.20	106.40
1	AA	2828	C	N3-C4-C5	5.51	124.10	121.90
1	AA	1493	C	N3-C2-O2	-5.51	118.05	121.90
35	CE	12	LEU	CA-CB-CG	5.51	127.96	115.30
1	AA	54	G	C8-N9-C4	5.50	108.60	106.40
1	BA	1204	A	N1-C6-N6	5.50	121.90	118.60
1	BA	124	G	N9-C4-C5	-5.50	103.20	105.40
1	AA	2514	U	N3-C2-O2	5.50	126.05	122.20
1	AA	207	A	N1-C6-N6	5.50	121.90	118.60
1	AA	2453	A	C8-N9-C4	5.50	108.00	105.80
1	BA	60	G	C5-C6-O6	-5.50	125.30	128.60
1	AA	399	G	N9-C4-C5	-5.49	103.20	105.40
3	AD	274	ARG	C-N-CA	5.49	135.43	121.70
1	BA	271(H)	G	N9-C4-C5	-5.49	103.20	105.40
1	BA	335	C	C6-N1-C2	-5.49	118.10	120.30
1	BA	827	U	N3-C2-O2	5.49	126.05	122.20
1	BA	2523	G	N1-C6-O6	5.49	123.20	119.90
31	CA	1102	A	N3-C4-C5	-5.49	122.95	126.80
1	BA	975	C	N3-C4-N4	-5.49	114.16	118.00
1	AA	2523	G	C8-N9-C4	5.49	108.60	106.40
1	AA	845	G	C6-C5-N7	-5.49	127.11	130.40
1	BA	2022	U	N3-C4-O4	5.49	123.24	119.40
1	AA	1602	U	C4-C5-C6	5.49	122.99	119.70
1	BA	686	G	C4-C5-N7	5.49	113.00	110.80
31	CA	1123	A	N1-C6-N6	-5.49	115.31	118.60
1	AA	1204	A	N9-C4-C5	-5.48	103.61	105.80
1	BA	2490	G	C5-C6-N1	-5.48	108.76	111.50
1	AA	2200	C	C6-N1-C1'	-5.48	114.22	120.80
31	DA	736	C	C2-N1-C1'	5.48	124.83	118.80
1	BA	1033	U	C6-N1-C2	5.48	124.29	121.00
1	AA	2439	A	N9-C4-C5	-5.48	103.61	105.80
1	BA	1680	U	C6-N1-C2	-5.48	117.71	121.00
1	AA	465	G	C8-N9-C4	-5.47	104.21	106.40
1	BA	1622	G	N3-C2-N2	-5.47	116.07	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	2032	G	N7-C8-N9	5.47	115.84	113.10
31	CA	749	C	C5-C6-N1	5.47	123.73	121.00
31	CA	1122	U	C5-C6-N1	5.47	125.43	122.70
1	AA	652(F)	G	N7-C8-N9	5.47	115.83	113.10
1	BA	446	G	N1-C6-O6	5.47	123.18	119.90
31	CA	1492	A	C2'-C3'-O3'	5.47	122.45	113.70
1	AA	792	G	N9-C4-C5	-5.46	103.21	105.40
1	BA	1306	C	N3-C4-C5	5.46	124.09	121.90
1	AA	2187	G	C4-C5-N7	5.46	112.98	110.80
1	AA	2249	U	N3-C4-O4	5.46	123.22	119.40
31	CA	1012	U	N1-C2-O2	-5.46	118.98	122.80
1	AA	2560	C	N3-C4-C5	5.46	124.08	121.90
1	BA	2155	G	C5-C6-O6	-5.46	125.33	128.60
31	DA	1229	A	C6-N1-C2	5.46	121.88	118.60
1	AA	130	C	C6-N1-C1'	-5.46	114.25	120.80
1	AA	1210	A	C6-C5-N7	-5.46	128.48	132.30
1	AA	1784	A	C5-C6-N1	-5.46	114.97	117.70
1	BA	2482	G	N3-C4-C5	-5.46	125.87	128.60
1	BA	2504	U	C5-C6-N1	5.46	125.43	122.70
1	AA	1355	G	N7-C8-N9	5.45	115.83	113.10
31	CA	1030	C	C6-N1-C2	-5.45	118.12	120.30
1	BA	1343	G	C8-N9-C1'	-5.45	119.91	127.00
1	AA	71	A	N7-C8-N9	5.45	116.53	113.80
1	AA	1204	A	C6-C5-N7	-5.45	128.49	132.30
1	AA	1328	G	N9-C4-C5	-5.45	103.22	105.40
1	AA	1673	U	C6-N1-C2	5.45	124.27	121.00
1	AA	2440	C	C5-C4-N4	5.45	124.02	120.20
1	AA	1333	C	N1-C2-O2	5.45	122.17	118.90
1	AA	2448	A	N1-C6-N6	5.45	121.87	118.60
1	BA	1187	G	C8-N9-C4	-5.45	104.22	106.40
1	AA	949	C	C6-N1-C2	5.45	122.48	120.30
1	BA	1022	G	C8-N9-C1'	5.45	134.08	127.00
1	BA	1306	C	C5-C4-N4	-5.44	116.39	120.20
1	BA	1982	C	C5-C6-N1	5.44	123.72	121.00
31	CA	226	G	N7-C8-N9	-5.44	110.38	113.10
31	CA	738	C	C6-N1-C2	-5.44	118.12	120.30
1	BA	944	G	C8-N9-C1'	-5.44	119.93	127.00
1	BA	1721	G	C4-C5-N7	5.44	112.97	110.80
1	AA	1131	G	C8-N9-C1'	5.43	134.06	127.00
1	BA	56	A	N9-C4-C5	-5.43	103.63	105.80
1	BA	1313	U	C6-N1-C1'	-5.43	113.59	121.20
2	BB	92	C	C5-C6-N1	5.43	123.72	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	802	A	N1-C6-N6	5.43	121.86	118.60
1	AA	1644	C	C2-N1-C1'	5.43	124.78	118.80
1	BA	79	G	N3-C4-C5	5.43	131.32	128.60
31	CA	1030	C	C5-C6-N1	5.43	123.72	121.00
1	AA	1541	G	C4-C5-N7	-5.43	108.63	110.80
1	AA	1698	A	C5-C6-N1	-5.43	114.98	117.70
1	BA	450	G	C5-C6-O6	5.43	131.86	128.60
1	BA	1671	U	C6-N1-C2	-5.43	117.74	121.00
1	BA	2590	A	N3-C4-C5	5.43	130.60	126.80
1	AA	1190	G	C8-N9-C1'	5.43	134.06	127.00
1	BA	774	A	C8-N9-C4	-5.43	103.63	105.80
31	CA	181	G	C8-N9-C4	-5.43	104.23	106.40
31	DA	1311	G	N3-C2-N2	-5.43	116.10	119.90
1	AA	1382	G	C4-N9-C1'	-5.42	119.45	126.50
1	AA	2742	C	C6-N1-C2	5.42	122.47	120.30
1	BA	109	G	C4-C5-N7	-5.42	108.63	110.80
31	DA	76	C	N3-C4-C5	5.42	124.07	121.90
1	BA	1026	U	C2-N1-C1'	5.42	124.21	117.70
1	AA	2022	U	N1-C2-N3	-5.42	111.65	114.90
1	BA	1183	G	C2-N3-C4	-5.42	109.19	111.90
1	AA	1432	C	N3-C2-O2	5.42	125.69	121.90
1	AA	2022	U	C5-C4-O4	-5.42	122.65	125.90
1	BA	1914	C	P-O3'-C3'	-5.42	113.20	119.70
1	AA	460	A	C8-N9-C4	5.42	107.97	105.80
1	AA	141	A	N7-C8-N9	5.41	116.51	113.80
1	AA	945	A	C4-C5-N7	5.41	113.41	110.70
1	BA	865	C	N1-C2-N3	-5.41	115.41	119.20
31	DA	460	G	N7-C8-N9	5.41	115.81	113.10
1	BA	1531	C	C2-N1-C1'	5.41	124.75	118.80
1	BA	1671	U	C4-C5-C6	5.41	122.95	119.70
1	AA	676	A	C4-N9-C1'	5.41	136.04	126.30
1	BA	188	G	N9-C4-C5	-5.41	103.24	105.40
1	AA	1690	A	C8-N9-C4	5.41	107.96	105.80
31	CA	521	G	N1-C6-O6	-5.41	116.66	119.90
1	AA	988	A	N9-C4-C5	-5.41	103.64	105.80
1	AA	666	G	C6-C5-N7	-5.41	127.16	130.40
1	AA	1571	A	N1-C6-N6	-5.41	115.36	118.60
1	AA	1941	C	C2-N1-C1'	5.41	124.75	118.80
1	BA	2382	G	N9-C4-C5	-5.41	103.24	105.40
1	AA	117	G	N1-C6-O6	-5.40	116.66	119.90
1	BA	1678	G	N3-C2-N2	-5.40	116.12	119.90
1	BA	1426	G	C5-C6-O6	-5.40	125.36	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	CA	243	A	C8-N9-C4	-5.40	103.64	105.80
1	BA	92	A	N7-C8-N9	5.40	116.50	113.80
1	AA	546	C	C2-N1-C1'	5.40	124.74	118.80
1	AA	856	C	C5-C6-N1	5.39	123.70	121.00
1	BA	205	G	N3-C2-N2	5.39	123.68	119.90
1	AA	2658	C	N3-C2-O2	-5.39	118.12	121.90
1	BA	676	A	C8-N9-C4	-5.39	103.64	105.80
31	CA	1282	C	N3-C4-C5	5.39	124.06	121.90
31	CA	175	C	N1-C2-O2	5.39	122.14	118.90
31	CA	204	U	C2-N1-C1'	5.39	124.17	117.70
1	AA	450	G	N9-C4-C5	5.39	107.56	105.40
1	AA	2081	C	C6-N1-C2	5.39	122.46	120.30
1	AA	2512	C	N1-C2-O2	-5.39	115.67	118.90
1	BA	2271	G	N3-C4-C5	-5.39	125.91	128.60
1	BA	2581	G	N9-C4-C5	5.39	107.56	105.40
31	DA	1494	G	C6-N1-C2	-5.39	121.87	125.10
1	AA	1109	C	C6-N1-C2	-5.38	118.15	120.30
31	DA	895	G	N1-C6-O6	5.38	123.13	119.90
1	AA	825	C	C6-N1-C2	-5.38	118.15	120.30
1	BA	857	C	C6-N1-C2	-5.38	118.15	120.30
1	BA	1300	U	P-O3'-C3'	5.38	126.16	119.70
1	BA	530	G	C8-N9-C4	-5.38	104.25	106.40
1	BA	995	C	C6-N1-C1'	5.38	127.26	120.80
31	CA	221	C	C6-N1-C2	-5.38	118.15	120.30
1	BA	788	A	C8-N9-C4	5.38	107.95	105.80
31	CA	1323	G	N3-C4-N9	5.38	129.23	126.00
1	AA	2010	G	N1-C6-O6	5.38	123.13	119.90
31	DA	1030(B)	C	C5-C6-N1	5.38	123.69	121.00
31	CA	1149	C	N3-C4-C5	-5.38	119.75	121.90
1	BA	196	A	N9-C4-C5	-5.37	103.65	105.80
1	BA	528	A	C4-C5-N7	5.37	113.39	110.70
1	BA	1044	G	N3-C4-C5	-5.37	125.91	128.60
1	BA	2275	C	N3-C4-C5	5.37	124.05	121.90
1	BA	2585	U	C2-N1-C1'	5.37	124.15	117.70
1	AA	2058	A	C8-N9-C4	-5.37	103.65	105.80
1	AA	1840	G	C4-N9-C1'	5.37	133.48	126.50
1	BA	1925	C	C2-N1-C1'	-5.37	112.89	118.80
31	DA	1023	G	N3-C4-C5	-5.37	125.92	128.60
1	AA	752	A	C8-N9-C4	-5.37	103.65	105.80
3	AD	239	ARG	N-CA-C	-5.37	96.51	111.00
1	BA	2249	U	C5-C6-N1	5.37	125.38	122.70
31	CA	435	C	C6-N1-C2	-5.37	118.15	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1660	C	C2-N1-C1'	-5.36	112.90	118.80
31	DA	992	U	C5-C6-N1	5.36	125.38	122.70
1	BA	784	A	N3-C4-N9	-5.36	123.11	127.40
31	CA	1123	A	C6-C5-N7	5.36	136.05	132.30
1	AA	1107	G	C8-N9-C1'	-5.36	120.03	127.00
1	BA	2335	A	N1-C6-N6	-5.36	115.39	118.60
31	DA	354	G	C6-C5-N7	-5.36	127.19	130.40
1	AA	2238	G	C8-N9-C4	-5.36	104.26	106.40
1	BA	1271	G	C5-C6-N1	-5.36	108.82	111.50
1	BA	1344	G	N1-C6-O6	5.36	123.11	119.90
1	BA	1671	U	N1-C2-O2	-5.36	119.05	122.80
1	BA	1674	G	C8-N9-C1'	-5.36	120.04	127.00
1	BA	1938	A	C6-C5-N7	-5.36	128.55	132.30
31	DA	519	C	C6-N1-C2	-5.36	118.16	120.30
10	AO	8	LEU	CA-CB-CG	5.35	127.61	115.30
1	BA	1783	A	N9-C4-C5	5.35	107.94	105.80
31	DA	697	U	C5-C6-N1	-5.35	120.02	122.70
1	AA	1721	G	C2-N3-C4	5.35	114.58	111.90
1	BA	456	C	N3-C4-C5	5.35	124.04	121.90
31	DA	117	G	N1-C6-O6	5.35	123.11	119.90
1	BA	2283	C	N3-C2-O2	5.35	125.64	121.90
31	CA	501	C	C6-N1-C2	-5.35	118.16	120.30
1	AA	601	C	C6-N1-C2	5.34	122.44	120.30
1	BA	792	G	N9-C4-C5	-5.34	103.26	105.40
1	AA	1339	G	N9-C4-C5	-5.34	103.26	105.40
1	BA	728	G	C8-N9-C4	5.34	108.54	106.40
1	BA	1779	U	C6-N1-C1'	5.34	128.68	121.20
31	DA	1123	A	C6-C5-N7	5.34	136.04	132.30
1	AA	2599	G	N7-C8-N9	-5.34	110.43	113.10
1	BA	2489	G	C8-N9-C4	5.34	108.54	106.40
1	AA	566	U	N3-C4-O4	-5.34	115.67	119.40
2	BB	7	G	C5-C6-O6	-5.33	125.40	128.60
1	AA	85	G	C8-N9-C4	5.33	108.53	106.40
1	AA	2693	A	C8-N9-C4	5.33	107.93	105.80
1	BA	1050	A	N7-C8-N9	5.33	116.47	113.80
31	DA	435	C	C5-C6-N1	5.33	123.67	121.00
1	BA	784	A	N1-C6-N6	-5.33	115.40	118.60
1	BA	2785	C	C5-C6-N1	5.33	123.66	121.00
1	AA	596	G	N9-C4-C5	5.33	107.53	105.40
1	AA	2013	A	N1-C6-N6	5.33	121.80	118.60
1	AA	1955	U	C6-N1-C2	5.32	124.19	121.00
1	BA	2449	U	C5-C4-O4	-5.32	122.71	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	DA	1495	U	C6-N1-C2	-5.32	117.81	121.00
1	AA	2484	G	C4-N9-C1'	5.32	133.41	126.50
1	BA	933	A	N1-C6-N6	5.32	121.79	118.60
31	CA	443	C	C2-N1-C1'	5.32	124.65	118.80
1	BA	1332	G	C8-N9-C1'	5.32	133.91	127.00
31	CA	1282	C	C2-N1-C1'	5.32	124.65	118.80
31	DA	1501	C	C6-N1-C2	5.32	122.43	120.30
1	AA	139(A)	G	C6-C5-N7	-5.31	127.21	130.40
1	AA	188	G	N9-C4-C5	-5.31	103.28	105.40
1	AA	831	G	C5-C6-N1	-5.31	108.84	111.50
1	AA	1616	A	N9-C4-C5	-5.31	103.67	105.80
1	BA	1193	G	N1-C6-O6	5.31	123.09	119.90
1	AA	645	C	C6-N1-C2	-5.31	118.18	120.30
1	BA	24	G	C4-C5-N7	-5.31	108.68	110.80
1	BA	1779	U	C2-N3-C4	-5.31	123.81	127.00
31	DA	1151	A	N1-C6-N6	-5.31	115.41	118.60
1	BA	1049	C	C3'-C2'-C1'	5.31	105.75	101.50
1	BA	1279	G	C8-N9-C4	-5.31	104.28	106.40
1	AA	1740	G	C8-N9-C4	5.30	108.52	106.40
1	AA	1022	G	N1-C2-N2	5.30	120.97	116.20
1	AA	2493	U	C5-C6-N1	-5.30	120.05	122.70
1	AA	1285	G	C4-C5-N7	-5.30	108.68	110.80
31	CA	460	G	C6-C5-N7	-5.30	127.22	130.40
1	BA	1820	U	C5-C4-O4	5.30	129.08	125.90
31	DA	1311	G	N9-C4-C5	5.30	107.52	105.40
1	AA	130	C	C2-N3-C4	-5.30	117.25	119.90
1	AA	114	U	C6-N1-C1'	-5.30	113.79	121.20
1	AA	332	A	C8-N9-C4	5.30	107.92	105.80
1	AA	1115	G	C8-N9-C4	5.30	108.52	106.40
1	BA	109	G	N1-C6-O6	-5.30	116.72	119.90
1	BA	184	C	C6-N1-C2	-5.30	118.18	120.30
31	CA	1493	A	N7-C8-N9	-5.29	111.15	113.80
31	DA	316	G	C5-C6-O6	-5.29	125.42	128.60
1	BA	723	G	C6-C5-N7	-5.29	127.22	130.40
31	CA	1029	C	C6-N1-C1'	5.29	127.15	120.80
1	AA	2447	G	C4-N9-C1'	-5.29	119.62	126.50
1	BA	1519	G	C8-N9-C4	-5.29	104.28	106.40
1	BA	2863	C	C6-N1-C2	5.29	122.42	120.30
1	BA	83	G	N3-C4-N9	-5.29	122.83	126.00
1	BA	1721	G	C5-N7-C8	-5.29	101.66	104.30
1	BA	2121	G	N9-C4-C5	5.29	107.52	105.40
31	CA	172	A	C8-N9-C4	-5.29	103.69	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	DA	1492	A	N9-C4-C5	5.29	107.92	105.80
1	AA	1575	C	C6-N1-C2	5.29	122.42	120.30
31	CA	171	A	C8-N9-C4	-5.29	103.69	105.80
31	CA	953	G	N3-C4-N9	5.29	129.17	126.00
2	BB	12	C	N3-C2-O2	-5.28	118.20	121.90
1	AA	575	A	N1-C6-N6	5.28	121.77	118.60
31	DA	1409	C	C6-N1-C2	-5.28	118.19	120.30
1	BA	1024	G	N3-C4-N9	5.28	129.17	126.00
1	BA	1721	G	N3-C2-N2	5.28	123.60	119.90
1	BA	2141	G	C6-N1-C2	5.28	128.27	125.10
31	CA	1129	C	N1-C2-O2	5.28	122.07	118.90
1	AA	12	U	C6-N1-C2	-5.28	117.83	121.00
1	BA	652(H)	C	C2-N3-C4	5.28	122.54	119.90
1	BA	945	A	C5-C6-N6	-5.28	119.48	123.70
1	BA	995	C	C2-N1-C1'	-5.28	112.99	118.80
1	BA	451	C	C6-N1-C2	5.28	122.41	120.30
1	BA	639	U	N3-C2-O2	-5.27	118.51	122.20
1	AA	2484	G	C6-C5-N7	-5.27	127.24	130.40
1	BA	1373	A	C8-N9-C4	5.27	107.91	105.80
31	CA	1037	C	C6-N1-C2	-5.27	118.19	120.30
49	DS	9	VAL	N-CA-C	5.27	125.23	111.00
1	AA	221	A	C3'-C2'-C1'	5.27	105.71	101.50
1	AA	2501	C	C6-N1-C2	5.27	122.41	120.30
1	BA	1187	G	N9-C4-C5	5.27	107.51	105.40
31	CA	460	G	C8-N9-C4	-5.27	104.29	106.40
31	DA	1017	G	C5-C6-O6	5.27	131.76	128.60
1	AA	34	C	C2-N1-C1'	5.26	124.59	118.80
1	AA	1339	G	C8-N9-C4	5.26	108.51	106.40
1	AA	465	G	C4-N9-C1'	5.26	133.34	126.50
1	AA	587	C	C6-N1-C2	5.26	122.41	120.30
1	AA	1355	G	C8-N9-C4	-5.26	104.30	106.40
1	AA	1609	A	C8-N9-C4	-5.26	103.70	105.80
1	BA	139(A)	G	C4-C5-N7	5.26	112.90	110.80
1	BA	2489	G	C4-C5-N7	5.26	112.90	110.80
3	BD	60	ARG	NE-CZ-NH1	-5.26	117.67	120.30
1	BA	2791	C	C5-C6-N1	5.26	123.63	121.00
31	CA	1027	C	N3-C4-C5	-5.26	119.80	121.90
1	BA	1963	U	N1-C2-O2	5.25	126.48	122.80
1	AA	1120	G	N3-C4-N9	-5.25	122.85	126.00
1	AA	1259	G	C8-N9-C4	5.25	108.50	106.40
1	BA	652(O)	C	N1-C2-O2	5.25	122.05	118.90
31	DA	1112	C	C6-N1-C2	-5.25	118.20	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	827	U	N1-C2-O2	-5.25	119.12	122.80
1	AA	2508	G	C8-N9-C4	5.25	108.50	106.40
2	BB	84	C	C2-N1-C1'	-5.25	113.03	118.80
31	CA	1124	G	C6-N1-C2	5.25	128.25	125.10
1	AA	950	G	N3-C4-C5	-5.25	125.97	128.60
1	AA	2680	C	N3-C4-C5	5.25	124.00	121.90
1	BA	335	C	C5-C6-N1	5.25	123.62	121.00
1	BA	750	A	C8-N9-C4	-5.25	103.70	105.80
31	CA	1402	C	C6-N1-C2	-5.25	118.20	120.30
1	BA	680	G	N3-C2-N2	-5.24	116.23	119.90
1	BA	777	A	N1-C2-N3	5.24	131.92	129.30
1	BA	1698	A	C5-N7-C8	-5.24	101.28	103.90
1	BA	2058	A	C8-N9-C4	-5.24	103.70	105.80
1	BA	2449	U	N3-C4-O4	5.24	123.07	119.40
1	AA	693	C	N3-C4-C5	5.24	124.00	121.90
1	BA	1340	U	C5-C6-N1	-5.24	120.08	122.70
1	BA	1779	U	C6-N1-C2	5.24	124.14	121.00
1	AA	351	G	N1-C6-O6	5.24	123.05	119.90
1	BA	2306	C	C5-C6-N1	5.24	123.62	121.00
31	DA	376	G	C8-N9-C4	5.24	108.50	106.40
1	AA	2866	U	C6-N1-C1'	-5.24	113.87	121.20
1	AA	1963	U	N1-C2-O2	5.24	126.47	122.80
1	AA	2439	A	N7-C8-N9	5.24	116.42	113.80
1	AA	453	C	C5-C6-N1	-5.23	118.38	121.00
31	DA	76	C	C6-N1-C1'	-5.23	114.52	120.80
1	AA	271(M)	G	C8-N9-C1'	-5.23	120.20	127.00
1	AA	679	C	N1-C2-O2	-5.23	115.76	118.90
1	AA	2607	G	C4-N9-C1'	5.23	133.30	126.50
1	BA	1116	C	C6-N1-C1'	-5.23	114.52	120.80
1	BA	1955	U	C2-N1-C1'	-5.23	111.42	117.70
31	DA	1491	G	C4-C5-N7	-5.23	108.71	110.80
1	AA	1142(A)	A	N7-C8-N9	5.23	116.42	113.80
1	BA	2464	C	C4-C5-C6	-5.23	114.78	117.40
1	AA	2061	G	N9-C4-C5	-5.23	103.31	105.40
1	BA	970	C	C6-N1-C2	5.23	122.39	120.30
1	BA	2036	C	C5-C6-N1	5.23	123.61	121.00
1	BA	2790	A	C2-N3-C4	5.23	113.21	110.60
2	BB	109	C	C6-N1-C2	5.23	122.39	120.30
31	CA	1228	C	C6-N1-C2	-5.23	118.21	120.30
31	CA	105	G	C4-N9-C1'	-5.22	119.71	126.50
1	AA	1223	G	C8-N9-C4	-5.22	104.31	106.40
1	BA	61	G	N3-C2-N2	-5.22	116.25	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	2375	G	N7-C8-N9	-5.22	110.49	113.10
31	DA	442	C	C6-N1-C2	-5.22	118.21	120.30
31	DA	442	C	C5-C6-N1	5.22	123.61	121.00
31	DA	1054	C	N1-C2-O2	-5.22	115.77	118.90
1	BA	2744	G	N9-C4-C5	-5.22	103.31	105.40
2	BB	13	A	N1-C6-N6	-5.22	115.47	118.60
2	BB	116	G	C8-N9-C1'	-5.22	120.22	127.00
1	AA	2191	G	C4-C5-N7	5.22	112.89	110.80
31	DA	257	G	C8-N9-C4	5.22	108.49	106.40
1	AA	856	C	C3'-C2'-C1'	-5.22	97.33	101.50
7	AH	71	LEU	CA-CB-CG	5.22	127.30	115.30
1	BA	2137	C	N3-C4-C5	-5.22	119.81	121.90
1	BA	2429	G	C4-C5-N7	-5.22	108.71	110.80
1	AA	139(A)	G	N3-C4-N9	5.21	129.13	126.00
1	AA	2085	C	C6-N1-C2	5.21	122.39	120.30
11	AP	26	GLY	C-N-CA	5.21	134.73	121.70
1	BA	271(M)	G	C6-N1-C2	-5.21	121.97	125.10
1	BA	475	U	C2-N1-C1'	5.21	123.96	117.70
1	AA	2512	C	N3-C2-O2	5.21	125.55	121.90
1	AA	2601	C	N1-C2-O2	-5.21	115.77	118.90
31	DA	927	G	C5-C6-O6	5.21	131.73	128.60
1	BA	1689	A	N1-C6-N6	-5.21	115.47	118.60
1	AA	2606	C	N3-C4-C5	5.21	123.98	121.90
1	BA	254	G	N3-C4-C5	-5.21	126.00	128.60
1	BA	2706	G	C8-N9-C4	5.21	108.48	106.40
31	CA	1091	U	C6-N1-C2	-5.21	117.88	121.00
31	DA	200	G	C8-N9-C4	5.21	108.48	106.40
31	DA	1149	C	N3-C4-C5	-5.21	119.82	121.90
1	AA	1784	A	C8-N9-C4	5.21	107.88	105.80
1	BA	652(T)	C	C5-C6-N1	5.21	123.60	121.00
1	AA	2759	G	N9-C4-C5	-5.21	103.32	105.40
1	BA	58	G	N1-C2-N3	5.20	127.02	123.90
31	CA	1026	G	N7-C8-N9	5.20	115.70	113.10
1	BA	2062	A	N1-C6-N6	5.20	121.72	118.60
40	DJ	90	LEU	C-N-CD	-5.20	109.16	120.60
1	AA	2818	G	C8-N9-C4	5.20	108.48	106.40
31	DA	616	G	C4-N9-C1'	5.20	133.26	126.50
1	BA	114	U	N3-C2-O2	-5.20	118.56	122.20
1	AA	928	G	C4-C5-N7	5.20	112.88	110.80
1	AA	1371	G	N1-C6-O6	5.20	123.02	119.90
1	AA	2382	G	N3-C2-N2	5.20	123.54	119.90
1	BA	1037	G	C8-N9-C4	5.19	108.48	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	81	G	N1-C6-O6	5.19	123.02	119.90
1	AA	1190	G	N1-C6-O6	-5.19	116.78	119.90
1	BA	649	G	N3-C2-N2	-5.19	116.27	119.90
3	BD	244	ARG	N-CA-C	-5.19	96.98	111.00
1	AA	792	G	C8-N9-C1'	-5.19	120.25	127.00
1	AA	2607	G	C8-N9-C1'	-5.19	120.25	127.00
1	BA	2382	G	C2-N3-C4	-5.19	109.30	111.90
31	CA	1351	U	C5-C6-N1	5.19	125.30	122.70
1	BA	474	G	C8-N9-C4	-5.19	104.33	106.40
1	BA	1231	G	N3-C4-N9	-5.19	122.89	126.00
1	AA	511	U	C2-N1-C1'	5.19	123.92	117.70
1	AA	2757	A	C8-N9-C4	-5.18	103.73	105.80
31	DA	1417	G	C5-C6-N1	-5.18	108.91	111.50
1	AA	2253	G	N1-C6-O6	5.18	123.01	119.90
1	BA	690	G	N7-C8-N9	-5.18	110.51	113.10
1	BA	1313	U	N1-C2-O2	5.18	126.43	122.80
31	CA	749	C	C6-N1-C2	-5.18	118.23	120.30
1	BA	2102	U	N1-C2-O2	5.18	126.42	122.80
1	AA	1039	G	N9-C4-C5	-5.18	103.33	105.40
1	AA	1109	C	N3-C4-N4	5.18	121.62	118.00
1	BA	2176	A	C8-N9-C4	-5.18	103.73	105.80
1	AA	34	C	N1-C2-O2	5.17	122.00	118.90
1	AA	2055	C	C6-N1-C2	5.17	122.37	120.30
1	BA	2032	G	C8-N9-C1'	5.17	133.73	127.00
1	BA	2894	G	C4-N9-C1'	5.17	133.23	126.50
31	CA	1091	U	N1-C2-O2	5.17	126.42	122.80
1	AA	1615	C	C6-N1-C2	5.17	122.37	120.30
1	AA	1653	G	C8-N9-C1'	-5.17	120.28	127.00
1	BA	956	G	N1-C6-O6	5.17	123.00	119.90
1	BA	2028	U	N1-C2-O2	-5.17	119.18	122.80
1	BA	1274	A	C8-N9-C4	5.17	107.87	105.80
1	BA	2106	G	C6-N1-C2	5.17	128.20	125.10
40	CJ	90	LEU	C-N-CD	-5.17	109.23	120.60
1	BA	1258	C	C6-N1-C2	5.17	122.37	120.30
1	AA	1982	C	C6-N1-C1'	-5.17	114.60	120.80
1	AA	2241	A	N7-C8-N9	-5.17	111.22	113.80
1	BA	1721	G	N7-C8-N9	5.17	115.68	113.10
1	BA	856	C	C3'-C2'-C1'	-5.17	97.37	101.50
1	AA	139(A)	G	C5-N7-C8	-5.16	101.72	104.30
1	AA	1863	G	C8-N9-C4	5.16	108.47	106.40
1	AA	2099	U	C6-N1-C2	-5.16	117.90	121.00
1	AA	2105	C	C5-C6-N1	5.16	123.58	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	116	C	C5-C6-N1	-5.16	118.42	121.00
1	BA	1143	A	N1-C6-N6	5.16	121.70	118.60
1	BA	2311	A	C8-N9-C4	-5.16	103.73	105.80
1	BA	2501	C	C2-N1-C1'	-5.16	113.12	118.80
31	DA	972	C	C5-C6-N1	5.16	123.58	121.00
1	AA	566	U	C2-N3-C4	-5.16	123.90	127.00
1	AA	1698	A	N7-C8-N9	5.16	116.38	113.80
1	BA	565	C	N1-C2-O2	5.16	122.00	118.90
31	CA	1028	C	C6-N1-C2	-5.16	118.23	120.30
1	AA	1938	A	N1-C6-N6	5.16	121.70	118.60
2	AB	116	G	N9-C4-C5	-5.16	103.34	105.40
1	BA	761	A	N7-C8-N9	5.16	116.38	113.80
1	AA	139(A)	G	N7-C8-N9	5.16	115.68	113.10
1	AA	652(T)	C	N1-C2-O2	5.16	121.99	118.90
31	DA	1378	C	C6-N1-C2	-5.16	118.24	120.30
31	DA	940	C	C5-C6-N1	5.15	123.58	121.00
1	AA	1259	G	N7-C8-N9	-5.15	110.52	113.10
1	BA	572	A	C8-N9-C4	-5.15	103.74	105.80
1	BA	649	G	N1-C6-O6	5.15	122.99	119.90
1	AA	1678	G	C6-C5-N7	-5.15	127.31	130.40
1	BA	885	C	N3-C2-O2	-5.15	118.30	121.90
31	DA	97	G	N1-C6-O6	5.15	122.99	119.90
31	DA	460	G	C5-C6-O6	-5.15	125.51	128.60
31	DA	1002	G	C8-N9-C4	-5.15	104.34	106.40
1	BA	528	A	N3-C4-N9	-5.15	123.28	127.40
1	BA	937	U	C2-N1-C1'	-5.15	111.52	117.70
1	AA	2473	U	C6-N1-C1'	-5.15	113.99	121.20
1	BA	2503	A	C5-C6-N6	-5.15	119.58	123.70
31	DA	1138	G	N3-C4-C5	-5.15	126.03	128.60
1	AA	933	A	C5-N7-C8	-5.14	101.33	103.90
27	A5	54	GLY	N-CA-C	-5.14	100.24	113.10
1	BA	1678	G	C8-N9-C4	-5.14	104.34	106.40
1	BA	2249	U	C5-C4-O4	5.14	128.99	125.90
1	BA	2544	G	N3-C4-N9	5.14	129.09	126.00
1	BA	2894	G	C5-C6-N1	-5.14	108.93	111.50
31	CA	1034	G	C5-C6-N1	-5.14	108.93	111.50
31	DA	917	G	C8-N9-C4	-5.14	104.34	106.40
1	AA	1368	G	N3-C2-N2	-5.14	116.30	119.90
1	BA	33	U	C5-C4-O4	5.14	128.99	125.90
1	AA	1382	G	N3-C4-N9	-5.14	122.92	126.00
1	BA	2503	A	C2-N3-C4	5.14	113.17	110.60
31	CA	1502	A	N7-C8-N9	5.14	116.37	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	1314	C	N1-C2-O2	5.14	121.98	118.90
1	AA	1022	G	C8-N9-C1'	5.13	133.67	127.00
1	AA	1115	G	N3-C4-C5	5.13	131.17	128.60
31	DA	1255	G	C5-C6-O6	-5.13	125.52	128.60
31	DA	1184	G	C6-C5-N7	5.13	133.48	130.40
1	BA	933	A	C6-C5-N7	-5.13	128.71	132.30
1	BA	1930	G	C4-N9-C1'	-5.13	119.83	126.50
31	DA	1184	G	N3-C2-N2	-5.13	116.31	119.90
1	AA	2367	G	N9-C4-C5	-5.13	103.35	105.40
1	AA	2768	C	C6-N1-C2	-5.13	118.25	120.30
1	AA	1206	G	N1-C6-O6	5.13	122.98	119.90
1	AA	2318	G	C8-N9-C1'	-5.13	120.33	127.00
31	CA	1017	G	N3-C4-N9	-5.13	122.92	126.00
31	CA	1524	C	N3-C2-O2	5.13	125.49	121.90
31	DA	784	C	C6-N1-C2	5.13	122.35	120.30
1	AA	1882	C	C6-N1-C1'	-5.13	114.65	120.80
1	AA	2320	A	N1-C6-N6	-5.13	115.52	118.60
1	AA	2610	C	P-O3'-C3'	5.12	125.85	119.70
1	BA	1800	C	C2-N1-C1'	-5.12	113.16	118.80
31	CA	76	C	N1-C2-O2	5.12	121.97	118.90
31	CA	1032	G	N9-C4-C5	5.12	107.45	105.40
31	DA	1493	A	C4-N9-C1'	5.12	135.52	126.30
1	AA	190	A	N1-C6-N6	5.12	121.67	118.60
1	AA	389	G	N1-C6-O6	5.12	122.97	119.90
1	AA	1840	G	C8-N9-C1'	-5.12	120.34	127.00
1	AA	1992	G	N3-C4-C5	-5.12	126.04	128.60
31	DA	1184	G	N1-C2-N2	5.12	120.81	116.20
1	AA	62	C	C2-N1-C1'	-5.12	113.17	118.80
1	AA	885	C	N3-C2-O2	-5.12	118.31	121.90
1	BA	512	G	C8-N9-C1'	5.12	133.66	127.00
1	BA	1902	C	N1-C2-O2	5.12	121.97	118.90
1	BA	271(O)	C	N1-C2-O2	5.12	121.97	118.90
1	BA	1488	G	C4-N9-C1'	5.12	133.16	126.50
1	BA	949	C	N1-C2-O2	-5.12	115.83	118.90
1	BA	1656	C	C6-N1-C2	-5.12	118.25	120.30
1	AA	130	C	N3-C2-O2	-5.12	118.32	121.90
1	BA	2162	G	N3-C4-C5	-5.12	126.04	128.60
1	BA	2391	G	C4-N9-C1'	-5.12	119.85	126.50
1	BA	2689	U	N3-C2-O2	-5.12	118.62	122.20
34	CD	12	CYS	N-CA-C	-5.12	97.19	111.00
1	BA	758	C	C6-N1-C2	-5.11	118.25	120.30
1	BA	1773	A	C8-N9-C4	-5.11	103.75	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	855	G	C8-N9-C4	-5.11	104.36	106.40
2	BB	106	G	N1-C6-O6	5.11	122.97	119.90
2	BB	116	G	C4-N9-C1'	5.11	133.15	126.50
26	B4	42	PHE	C-N-CA	5.11	134.48	121.70
1	AA	71	A	C4-C5-N7	5.11	113.25	110.70
1	AA	190	A	N9-C4-C5	-5.11	103.76	105.80
1	BA	102	G	C4-C5-N7	-5.11	108.76	110.80
2	BB	92	C	C6-N1-C2	-5.11	118.26	120.30
31	CA	1123	A	C4-N9-C1'	-5.11	117.11	126.30
31	DA	299	G	C4-C5-N7	-5.11	108.76	110.80
1	AA	568	U	N3-C2-O2	5.11	125.77	122.20
1	AA	697	C	C2-N1-C1'	5.11	124.42	118.80
1	BA	1265	A	N7-C8-N9	5.11	116.35	113.80
31	DA	721	G	N1-C6-O6	5.11	122.96	119.90
31	DA	1229	A	C5-C6-N1	-5.11	115.15	117.70
1	BA	2685	G	N1-C2-N2	5.10	120.79	116.20
31	DA	1054	C	C2-N1-C1'	-5.10	113.19	118.80
1	AA	732	C	C6-N1-C2	5.10	122.34	120.30
31	CA	433	C	C6-N1-C2	-5.10	118.26	120.30
31	DA	1493	A	O4'-C1'-N9	5.10	112.28	108.20
1	BA	847	U	C5-C6-N1	-5.10	120.15	122.70
31	DA	1129	C	N1-C2-O2	5.10	121.96	118.90
31	DA	1255	G	N3-C4-N9	5.10	129.06	126.00
1	AA	2439	A	C2-N3-C4	-5.10	108.05	110.60
1	BA	143	G	C8-N9-C1'	5.10	133.63	127.00
1	BA	1779	U	N1-C2-O2	-5.10	119.23	122.80
1	BA	1992	G	P-O3'-C3'	5.10	125.82	119.70
1	BA	2482	G	C8-N9-C1'	-5.10	120.37	127.00
1	AA	210	C	C5-C6-N1	-5.10	118.45	121.00
1	AA	2419	U	N3-C4-O4	5.10	122.97	119.40
1	AA	2526	G	N3-C4-N9	-5.10	122.94	126.00
1	BA	2193	G	N1-C6-O6	5.10	122.96	119.90
1	BA	2430	A	C5-N7-C8	-5.10	101.35	103.90
2	BB	53	A	C6-N1-C2	-5.10	115.54	118.60
31	DA	1272	G	C6-C5-N7	-5.10	127.34	130.40
1	AA	60	G	C8-N9-C4	-5.10	104.36	106.40
1	BA	179	G	C6-C5-N7	-5.10	127.34	130.40
1	BA	574	C	C2-N1-C1'	-5.10	113.19	118.80
1	BA	2104	G	C4-N9-C1'	5.10	133.12	126.50
1	BA	2781	A	N1-C6-N6	-5.10	115.54	118.60
1	AA	211	A	C8-N9-C4	5.09	107.84	105.80
1	AA	2318	G	N3-C4-C5	-5.09	126.05	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	BB	37	C	N1-C2-O2	-5.09	115.84	118.90
31	CA	1292	U	C5-C6-N1	-5.09	120.15	122.70
31	DA	91	C	C6-N1-C2	-5.09	118.26	120.30
1	AA	2550	G	C8-N9-C1'	-5.09	120.38	127.00
1	AA	1399	C	N3-C4-C5	5.09	123.94	121.90
1	AA	1662	C	C6-N1-C2	-5.09	118.26	120.30
1	BA	657	U	C5-C4-O4	5.09	128.96	125.90
1	BA	2032	G	C4-C5-N7	5.09	112.84	110.80
1	BA	1578	U	N3-C2-O2	-5.09	118.64	122.20
1	BA	683	C	N1-C2-O2	5.09	121.95	118.90
1	BA	2802	G	C3'-C2'-C1'	-5.09	97.43	101.50
31	CA	413	G	C4-C5-N7	-5.09	108.77	110.80
1	AA	570	G	N3-C4-C5	-5.08	126.06	128.60
1	AA	577	G	C8-N9-C4	5.08	108.43	106.40
1	AA	631	A	C8-N9-C4	5.08	107.83	105.80
1	BA	546	C	C6-N1-C1'	-5.08	114.70	120.80
1	BA	978	G	N7-C8-N9	-5.08	110.56	113.10
31	DA	1249	C	C6-N1-C2	-5.08	118.27	120.30
1	AA	1350	C	N1-C2-O2	-5.08	115.85	118.90
1	BA	2299	G	C5-C6-N1	-5.08	108.96	111.50
31	CA	105	G	C8-N9-C1'	5.08	133.61	127.00
1	AA	560	C	C6-N1-C2	5.08	122.33	120.30
1	AA	2253	G	C6-C5-N7	-5.08	127.35	130.40
1	BA	2131	G	N7-C8-N9	5.08	115.64	113.10
31	CA	284	G	N1-C6-O6	5.08	122.95	119.90
31	CA	1030(B)	C	C6-N1-C1'	-5.08	114.71	120.80
1	BA	271(J)	C	N3-C2-O2	-5.08	118.35	121.90
1	BA	2452	C	C6-N1-C2	5.08	122.33	120.30
1	BA	330	A	C4-C5-N7	5.08	113.24	110.70
16	BU	74	LEU	CA-CB-CG	5.08	126.97	115.30
31	CA	117	G	N1-C6-O6	5.08	122.95	119.90
31	DA	993	G	C4-N9-C1'	5.08	133.10	126.50
1	AA	453	C	C6-N1-C2	5.07	122.33	120.30
1	AA	1930	G	C4-N9-C1'	-5.07	119.90	126.50
1	BA	70	G	C4-C5-N7	5.07	112.83	110.80
1	BA	271(Y)	U	C5-C6-N1	-5.07	120.16	122.70
1	BA	531	C	C6-N1-C2	5.07	122.33	120.30
1	BA	892	G	C5-C6-O6	-5.07	125.56	128.60
1	AA	1743	C	C6-N1-C2	5.07	122.33	120.30
1	AA	2822	G	N9-C4-C5	-5.07	103.37	105.40
1	BA	2687	U	C5-C4-O4	5.07	128.94	125.90
2	AB	30	C	N3-C4-C5	-5.07	119.87	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	139(A)	G	C5-C6-N1	5.07	114.03	111.50
1	BA	1047	G	N3-C2-N2	5.07	123.45	119.90
1	AA	1541	G	N9-C4-C5	5.06	107.43	105.40
2	AB	20	C	C2-N1-C1'	5.06	124.37	118.80
1	BA	1488	G	N7-C8-N9	5.06	115.63	113.10
1	BA	1899	G	N3-C2-N2	-5.06	116.36	119.90
1	BA	2708	G	N1-C6-O6	5.06	122.94	119.90
1	AA	2677	G	C8-N9-C4	5.06	108.42	106.40
31	CA	790	A	C2-N3-C4	-5.06	108.07	110.60
1	AA	2559	C	C6-N1-C2	5.06	122.32	120.30
1	BA	337	C	C6-N1-C2	5.06	122.32	120.30
1	BA	1636	C	C6-N1-C2	5.06	122.32	120.30
1	BA	1743	C	N3-C4-C5	-5.06	119.88	121.90
1	BA	2849	U	N3-C2-O2	5.06	125.74	122.20
1	BA	2874	C	C2-N1-C1'	5.06	124.36	118.80
1	BA	2318	G	C8-N9-C1'	-5.06	120.43	127.00
31	CA	19	C	C6-N1-C2	-5.06	118.28	120.30
1	AA	1328	G	C8-N9-C1'	-5.05	120.43	127.00
1	AA	1493	C	N1-C2-O2	5.05	121.93	118.90
1	BA	2286	A	N7-C8-N9	5.05	116.33	113.80
31	DA	1417	G	C4-N9-C1'	5.05	133.07	126.50
1	BA	528	A	C5-C6-N1	-5.05	115.17	117.70
1	BA	1477	A	C8-N9-C4	5.05	107.82	105.80
1	BA	1687	G	C8-N9-C4	-5.05	104.38	106.40
1	BA	2086	U	C5-C4-O4	5.05	128.93	125.90
1	AA	146	G	C8-N9-C4	5.05	108.42	106.40
1	AA	1359	A	C2-N3-C4	5.05	113.12	110.60
1	AA	1799	G	P-O3'-C3'	5.05	125.76	119.70
1	BA	741	G	N1-C6-O6	5.05	122.93	119.90
31	CA	324	G	N1-C6-O6	5.05	122.93	119.90
31	CA	596	C	N1-C2-O2	5.05	121.93	118.90
1	AA	113	G	N3-C4-N9	-5.05	122.97	126.00
1	AA	614	U	N3-C2-O2	-5.05	118.67	122.20
1	AA	1131	G	N7-C8-N9	-5.05	110.58	113.10
1	AA	2439	A	C5-C6-N6	-5.05	119.66	123.70
1	AA	2447	G	N3-C2-N2	-5.05	116.37	119.90
1	BA	1983	C	C2-N1-C1'	-5.05	113.25	118.80
1	BA	2894	G	N9-C4-C5	-5.05	103.38	105.40
31	DA	117	G	C4-C5-N7	5.05	112.82	110.80
31	DA	345	C	C6-N1-C1'	5.05	126.86	120.80
31	DA	839	U	C6-N1-C2	-5.04	117.97	121.00
1	BA	847	U	C6-N1-C1'	5.04	128.26	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1913	A	C2-N3-C4	5.04	113.12	110.60
1	AA	1176	G	C4-N9-C1'	-5.04	119.95	126.50
1	AA	1820	U	C2-N1-C1'	-5.04	111.66	117.70
2	AB	117	G	N1-C6-O6	5.04	122.92	119.90
31	DA	345	C	C5-C6-N1	-5.04	118.48	121.00
31	CA	93	G	N3-C4-N9	5.04	129.02	126.00
31	DA	3	G	N3-C4-N9	5.04	129.02	126.00
1	AA	2499	C	C6-N1-C2	5.04	122.31	120.30
1	AA	2501	C	C2-N1-C1'	-5.04	113.26	118.80
1	BA	652(G)	G	N3-C4-C5	-5.04	126.08	128.60
1	BA	1231	G	N1-C6-O6	5.04	122.92	119.90
1	AA	2585	U	N1-C2-O2	5.03	126.32	122.80
1	BA	2625	G	N1-C6-O6	-5.03	116.88	119.90
43	DM	65	LYS	C-N-CA	5.03	134.28	121.70
31	DA	972	C	C6-N1-C2	-5.03	118.29	120.30
31	DA	1255	G	C2-N3-C4	5.03	114.42	111.90
1	AA	1602	U	C6-N1-C2	-5.03	117.98	121.00
1	BA	204	A	C2-N3-C4	5.03	113.11	110.60
1	BA	2307	G	N7-C8-N9	5.03	115.61	113.10
1	AA	1001	A	C8-N9-C4	5.03	107.81	105.80
31	DA	560	U	C3'-C2'-C1'	5.03	105.52	101.50
31	DA	1126	U	C6-N1-C1'	-5.03	114.16	121.20
1	BA	2088	G	N3-C4-N9	-5.03	122.98	126.00
1	BA	2136	C	C5-C6-N1	5.03	123.51	121.00
2	BB	16	G	N1-C6-O6	5.03	122.92	119.90
31	CA	1029	C	N3-C4-N4	-5.03	114.48	118.00
31	DA	1017	G	C6-N1-C2	5.03	128.12	125.10
1	AA	749	C	N1-C2-O2	5.02	121.91	118.90
1	AA	2155	G	N1-C6-O6	5.02	122.91	119.90
31	DA	1033	G	N7-C8-N9	5.02	115.61	113.10
1	BA	220	G	N3-C4-C5	5.02	131.11	128.60
31	CA	353	A	C5-N7-C8	-5.02	101.39	103.90
1	BA	1022	G	N3-C4-C5	5.02	131.11	128.60
31	CA	353	A	C4-C5-N7	5.02	113.21	110.70
31	DA	397	A	C8-N9-C4	-5.02	103.79	105.80
1	AA	1698	A	N3-C4-C5	5.02	130.31	126.80
1	BA	528	A	C6-C5-N7	-5.02	128.79	132.30
1	BA	566	U	N3-C2-O2	5.02	125.71	122.20
1	BA	1416	G	N1-C6-O6	-5.02	116.89	119.90
1	BA	1187	G	N1-C2-N3	5.02	126.91	123.90
1	BA	1231	G	C2-N3-C4	-5.02	109.39	111.90
31	DA	1378	C	C2-N1-C1'	5.02	124.32	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	71	A	C6-C5-N7	-5.01	128.79	132.30
14	BS	82	ILE	C-N-CA	5.01	134.24	121.70
1	BA	525	U	C5-C6-N1	5.01	125.21	122.70
31	CA	1056	U	C2-N3-C4	5.01	130.01	127.00
1	AA	1882	C	C5-C6-N1	5.01	123.51	121.00
1	AA	1991	U	C5-C6-N1	-5.01	120.19	122.70
1	AA	2386	C	C5-C6-N1	-5.01	118.49	121.00
1	BA	2226	C	C6-N1-C2	5.01	122.31	120.30
1	AA	2056	G	C5-N7-C8	-5.01	101.80	104.30
1	AA	2439	A	C4-N9-C1'	5.01	135.32	126.30
1	AA	36	G	N1-C6-O6	5.01	122.91	119.90
1	AA	2061	G	N7-C8-N9	-5.01	110.60	113.10
31	CA	998	G	C4-C5-N7	-5.01	108.80	110.80
1	BA	748	G	C4-N9-C1'	-5.01	119.99	126.50
1	BA	1915	U	C5'-C4'-C3'	5.01	124.01	116.00
31	DA	1397	C	N3-C2-O2	-5.01	118.40	121.90
1	BA	2283	C	N1-C2-O2	-5.00	115.90	118.90
1	BA	2589	A	N3-C4-C5	5.00	130.30	126.80
1	AA	189	G	C8-N9-C4	5.00	108.40	106.40
1	AA	317	G	N1-C6-O6	5.00	122.90	119.90
1	AA	2685	G	C5-C6-O6	5.00	131.60	128.60
1	BA	2475	C	C6-N1-C2	5.00	122.30	120.30
13	BR	22	ARG	NE-CZ-NH1	-5.00	117.80	120.30
35	DE	12	LEU	CA-CB-CG	5.00	126.81	115.30
1	BA	1654	A	N1-C6-N6	-5.00	115.60	118.60
1	BA	2035	G	N3-C4-N9	-5.00	123.00	126.00
1	BA	2181	G	C4-N9-C1'	-5.00	120.00	126.50
1	BA	2287	A	N3-C4-C5	5.00	130.30	126.80
31	DA	97	G	C5-C6-O6	-5.00	125.60	128.60
31	DA	1123	A	C5-C6-N6	5.00	127.70	123.70
31	DA	1311	G	N3-C4-N9	-5.00	123.00	126.00

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
26	A4	42	PHE	Peptide
34	CD	11	LEU	Peptide
42	CL	26	ALA	Peptide
34	DD	11	LEU	Peptide
42	DL	26	ALA	Peptide

## 5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	60900	0	30712	1406	0
1	BA	60900	0	30712	1060	0
2	AB	2574	0	1306	87	0
2	BB	2574	0	1306	35	0
3	AD	2136	0	2218	77	0
3	BD	2136	0	2218	81	0
4	AE	1555	0	1607	81	0
4	BE	1555	0	1607	54	0
5	AF	1576	0	1616	57	0
5	BF	1576	0	1616	59	0
6	AG	1368	0	1324	70	0
6	BG	1368	0	1324	61	0
7	AH	1317	0	1376	66	0
7	BH	1317	0	1376	33	0
8	AI	1046	0	1067	55	2
8	BI	1046	0	1067	47	0
9	AN	1112	0	1180	60	0
9	BN	1112	0	1180	34	0
10	AO	923	0	981	28	0
10	BO	923	0	981	23	0
11	AP	1119	0	1186	38	0
11	BP	1119	0	1186	40	0
12	AQ	1122	0	1179	43	0
12	BQ	1122	0	1179	47	0
13	AR	968	0	1033	43	0
13	BR	968	0	1033	33	0
14	AS	865	0	905	62	0
14	BS	865	0	905	54	0
15	AT	1063	0	1103	48	0
15	BT	1063	0	1103	37	0
16	AU	959	0	1019	31	0
16	BU	959	0	1019	20	0
17	AV	771	0	830	22	0
17	BV	771	0	830	15	0
18	AW	881	0	935	25	0
18	BW	881	0	935	24	0
19	AX	742	0	799	22	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	BX	742	0	799	23	0
20	AY	785	0	832	36	0
20	BY	785	0	832	30	0
21	AZ	1522	0	1511	56	0
21	BZ	1522	0	1511	47	0
22	A0	594	0	604	27	0
22	B0	594	0	604	21	0
23	A1	745	0	804	26	0
23	B1	745	0	804	26	0
24	A2	588	0	643	31	0
24	B2	588	0	643	18	0
25	A3	458	0	503	22	0
25	B3	458	0	503	6	0
26	A4	349	0	340	22	0
26	B4	349	0	340	16	0
27	A5	455	0	476	25	0
27	B5	455	0	476	18	0
28	A6	449	0	464	19	0
28	B6	449	0	466	17	0
29	A7	418	0	467	18	0
29	B7	418	0	467	14	0
30	A8	509	0	565	23	0
30	B8	509	0	565	20	0
31	CA	32208	0	16256	921	2
31	DA	32208	0	16254	923	0
32	CB	1777	0	1747	100	0
32	DB	1777	0	1747	95	0
33	CC	1450	0	1314	45	0
33	DC	1450	0	1314	58	0
34	CD	1520	0	1407	73	0
34	DD	1520	0	1406	85	0
35	CE	1105	0	1130	48	0
35	DE	1105	0	1130	54	0
36	CF	781	0	741	25	0
36	DF	781	0	741	29	0
37	CG	1167	0	1108	39	0
37	DG	1167	0	1108	46	0
38	CH	1045	0	1033	45	0
38	DH	1045	0	1033	53	0
39	CI	852	0	742	43	0
39	DI	852	0	742	52	0
40	CJ	659	0	552	31	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
40	DJ	659	0	552	37	0
41	CK	828	0	822	24	0
41	DK	828	0	822	32	0
42	CL	909	0	927	43	0
42	DL	909	0	927	38	0
43	CM	801	0	743	33	0
43	DM	801	0	743	37	0
44	CN	478	0	498	33	0
44	DN	478	0	497	30	0
45	CO	724	0	749	32	0
45	DO	724	0	749	27	0
46	CP	651	0	638	33	0
46	DP	651	0	638	28	0
47	CQ	823	0	891	33	0
47	DQ	823	0	891	22	0
48	CR	514	0	530	19	0
48	DR	514	0	530	17	0
49	CS	544	0	457	21	0
49	DS	544	0	457	26	0
50	CT	708	0	764	37	0
50	DT	708	0	764	26	0
51	CU	199	0	208	8	0
51	DU	199	0	208	6	0
52	AA	44	0	20	31	0
52	BA	44	0	20	23	0
53	AA	2	0	0	0	0
53	BA	2	0	0	0	0
All	All	279316	0	185722	7170	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 16.

All (7170) 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)
52:AA:3001:T8B:C13	31:DA:1492:A:H5''	1.47	1.41
34:DD:26:CYS:SG	34:DD:26:CYS:CB	2.09	1.41
34:DD:12:CYS:SG	34:DD:12:CYS:CB	2.16	1.34
52:AA:3001:T8B:H13	52:AA:3001:T8B:C22	1.58	1.33
52:BA:3001:T8B:H13	52:BA:3001:T8B:C22	1.58	1.32
1:BA:885:C:H42	1:BA:890:A:N6	1.28	1.32

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BA:3001:T8B:H17	52:BA:3001:T8B:C19	1.66	1.25
52:AA:3001:T8B:H17	52:AA:3001:T8B:C19	1.66	1.24
1:BA:1913:A:O2'	52:BA:3001:T8B:O10	1.59	1.16
1:AA:885:C:H42	1:AA:890:A:N6	1.45	1.14
52:AA:3001:T8B:C13	31:DA:1492:A:C5'	2.26	1.12
52:AA:3001:T8B:H10	31:DA:1492:A:H5''	1.26	1.08
52:AA:3001:T8B:H8	31:DA:1492:A:H5''	1.23	1.07
1:BA:885:C:N4	1:BA:890:A:N6	2.02	1.06
1:BA:1913:A:O2'	52:BA:3001:T8B:C24	2.04	1.05
1:AA:2100:G:H1	1:AA:2189:U:H3	1.12	0.98
1:AA:1403:C:H5''	1:AA:1471:A:H1'	1.46	0.97
43:DM:65:LYS:HA	43:DM:66:LEU:HB2	1.44	0.97
31:DA:1028:C:N4	31:DA:1033:G:H1	1.62	0.97
31:DA:1502:A:H2	31:DA:1505:G:H1	1.12	0.96
1:BA:1049:C:HO2'	1:BA:1050:A:H8	1.06	0.96
1:BA:1332:G:N2	1:BA:1609:A:O2'	1.99	0.96
1:AA:1689:A:H62	1:AA:1698:A:H2	1.12	0.95
1:AA:631:A:OP1	11:AP:65:ARG:NH1	2.00	0.95
1:BA:1019:U:HO2'	1:BA:1021:A:H2	1.02	0.95
34:CD:189:PRO:HB3	34:CD:194:LEU:HD11	1.50	0.94
1:AA:1332:G:N2	1:AA:1609:A:O2'	1.99	0.94
1:BA:1913:A:O2'	52:BA:3001:T8B:C23	2.16	0.93
31:CA:1502:A:H2	31:CA:1505:G:H1	1.03	0.93
6:BG:105:LYS:NZ	26:B4:25:TYR:O	2.02	0.93
31:CA:939:G:H5''	37:CG:102:ARG:HH22	1.30	0.93
1:BA:83:G:N2	1:BA:102:G:O2'	2.01	0.93
4:AE:47:VAL:HG21	4:AE:86:PRO:HD2	1.50	0.93
1:AA:1915:U:C2	52:AA:3001:T8B:C28	2.52	0.93
52:BA:3001:T8B:C19	52:BA:3001:T8B:C22	2.37	0.92
52:AA:3001:T8B:H8	31:DA:1492:A:C5'	1.95	0.92
8:AI:101:LEU:HD22	8:AI:107:VAL:HG11	1.50	0.92
34:DD:32:ALA:O	34:DD:36:ARG:N	2.02	0.92
1:BA:1913:A:C2'	52:BA:3001:T8B:O10	2.18	0.91
31:DA:448:A:OP2	31:DA:485:G:N2	2.02	0.91
1:BA:1310:G:OP2	29:B7:9:ARG:NH1	2.02	0.91
52:AA:3001:T8B:C19	52:AA:3001:T8B:C22	2.37	0.91
9:AN:47:ALA:HB2	9:AN:112:LEU:HD11	1.50	0.91
39:DI:16:ARG:HB2	39:DI:64:THR:HG23	1.53	0.90
1:AA:885:C:N4	1:AA:890:A:N6	2.19	0.90
31:CA:165:C:H2'	31:CA:166:G:H8	1.34	0.90
34:DD:31:CYS:O	34:DD:33:MET:N	2.05	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1913:A:HO2'	52:BA:3001:T8B:C24	1.82	0.90
1:BA:686:G:H5''	29:B7:11:LYS:HE2	1.53	0.90
31:DA:1321:C:H3'	31:DA:1322:C:H5''	1.54	0.89
31:DA:735:C:H2'	31:DA:736:C:H6	1.38	0.89
31:DA:677:U:H3	31:DA:713:G:H22	1.14	0.89
4:AE:143:ASN:HD22	4:AE:147:PRO:HD2	1.35	0.88
32:CB:88:ALA:HB2	32:CB:219:VAL:HG13	1.55	0.88
1:AA:819:A:OP2	1:AA:1187:G:N2	2.06	0.88
8:BI:1:MET:N	8:BI:21:VAL:O	2.05	0.88
1:AA:676:A:H8	1:AA:2069:G:H21	1.16	0.88
1:BA:2207:G:O2'	1:BA:2208:A:OP1	1.89	0.88
31:CA:1293:G:HO2'	31:CA:1294:G:H8	1.15	0.88
1:BA:1332:G:C8	1:BA:1332:G:H5''	2.09	0.88
31:CA:78:G:H1	31:CA:91:C:H42	1.16	0.88
31:CA:1203:C:H2'	31:CA:1204:A:H8	1.39	0.88
32:CB:115:LEU:HD13	32:CB:145:LEU:HB3	1.54	0.88
1:BA:102:G:O2'	1:BA:103:A:OP2	1.90	0.87
4:AE:128:SER:OG	4:AE:129:HIS:N	2.02	0.87
31:CA:35:G:O2'	42:CL:118:SER:O	1.91	0.87
1:BA:819:A:OP2	1:BA:1187:G:N2	2.07	0.87
45:DO:25:THR:HG21	45:DO:70:LEU:HB2	1.57	0.87
31:DA:673:G:H2'	31:DA:674:G:C8	2.10	0.87
1:BA:1530:C:O2'	1:BA:1531:C:O5'	1.92	0.87
20:BY:76:CYS:SG	20:BY:99:CYS:HB2	2.14	0.87
23:A1:3:LYS:HB2	23:A1:61:ARG:HH12	1.39	0.87
34:DD:26:CYS:CB	34:DD:31:CYS:SG	2.62	0.87
41:CK:79:SER:HA	41:CK:104:GLN:HB2	1.54	0.87
1:BA:1913:A:O2'	52:BA:3001:T8B:C21	2.23	0.87
15:BT:16:ARG:NH2	15:BT:83:ILE:O	2.07	0.87
3:BD:69:ARG:NH2	3:BD:128:GLY:O	2.07	0.87
44:DN:23:ARG:HG3	44:DN:24:CYS:H	1.39	0.86
9:AN:24:GLY:HA2	9:AN:27:ALA:HB3	1.56	0.86
3:AD:133:LEU:HA	3:AD:136:ILE:HD12	1.55	0.86
1:AA:2207:G:O2'	1:AA:2208:A:OP1	1.91	0.86
1:AA:1022:G:H22	1:AA:1142(A):A:H2	1.22	0.86
31:DA:78:G:H1	31:DA:91:C:H42	1.20	0.86
1:BA:676:A:H8	1:BA:2069:G:H21	1.22	0.85
6:AG:41:GLN:HB3	6:AG:43:LEU:HD13	1.58	0.85
1:BA:885:C:N4	1:BA:890:A:H61	1.69	0.85
1:AA:2206:G:H5'	1:AA:2207:G:N7	1.91	0.85
10:AO:35:VAL:HG11	10:AO:103:ALA:HB3	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AP:138:LEU:HD23	11:AP:145:PRO:HG3	1.57	0.85
31:DA:1071:C:OP1	35:DE:27:ARG:NH2	2.09	0.85
31:CA:656:C:O2'	45:CO:28:GLN:NE2	2.08	0.85
23:B1:64:ALA:HA	23:B1:67:ILE:HG13	1.56	0.85
21:BZ:119:GLU:OE2	21:BZ:122:ARG:NH1	2.10	0.85
21:AZ:33:LEU:HD23	21:AZ:90:VAL:HG21	1.58	0.85
1:AA:96:G:OP1	24:A2:46:GLN:NE2	2.10	0.85
1:AA:1530:C:O2'	1:AA:1531:C:O5'	1.94	0.85
52:AA:3001:T8B:C13	31:DA:1491:G:H3'	2.07	0.84
1:BA:1332:G:H8	1:BA:1332:G:H5''	1.40	0.84
1:BA:1364:G:OP2	23:B1:3:LYS:HG2	1.77	0.84
3:AD:69:ARG:NH2	3:AD:128:GLY:O	2.11	0.84
22:A0:10:THR:HG22	22:A0:12:ASN:H	1.42	0.84
15:BT:54:ARG:HA	15:BT:59:THR:HB	1.60	0.84
31:CA:165:C:H2'	31:CA:166:G:C8	2.10	0.84
21:AZ:160:GLY:HA2	21:AZ:161:VAL:HB	1.59	0.84
6:BG:56:ALA:HB2	6:BG:153:ARG:HE	1.43	0.84
1:BA:139(A):G:N2	19:BX:44:GLU:OE1	2.11	0.84
8:AI:77:LEU:HD11	8:AI:101:LEU:HG	1.59	0.84
31:DA:73:G:H1	31:DA:96:U:H3	1.26	0.84
4:BE:47:VAL:HG21	4:BE:86:PRO:HD2	1.58	0.83
18:BW:14:PRO:HG2	18:BW:78:GLU:HG2	1.58	0.83
31:CA:1177:G:N2	31:CA:1181:G:O6	2.12	0.83
31:DA:975:A:H4'	31:DA:976:G:H5''	1.61	0.83
33:DC:100:ALA:O	33:DC:102:ASN:ND2	2.12	0.83
1:AA:994:C:OP1	16:AU:53:ARG:NH2	2.11	0.82
1:BA:2306:C:H5''	1:BA:2307:G:H2'	1.59	0.82
35:DE:81:GLU:HG2	35:DE:90:VAL:HG13	1.62	0.82
41:DK:48:ILE:O	41:DK:50:TYR:N	2.12	0.82
52:AA:3001:T8B:H8	31:DA:1491:G:H3'	1.58	0.82
1:BA:1176:G:H1'	1:BA:1177:A:OP1	1.79	0.82
12:AQ:51:ARG:NH2	21:AZ:186:GLU:OE1	2.12	0.82
14:BS:96:GLY:H	14:BS:99:LYS:H	1.27	0.82
1:AA:2371:G:O2'	28:A6:46:HIS:ND1	2.12	0.82
27:B5:46:CYS:HG	27:B5:49:CYS:HG	0.83	0.81
38:DH:86:ILE:HG21	38:DH:133:LEU:HD13	1.62	0.81
1:AA:2683:C:OP1	15:AT:53:ARG:NH2	2.13	0.81
4:BE:105:THR:OG1	4:BE:199:ARG:NH2	2.14	0.81
1:AA:1039:G:O6	1:AA:1116:C:N4	2.13	0.81
43:CM:60:VAL:HG12	43:CM:66:LEU:HD11	1.63	0.81
3:AD:275:LYS:HG3	3:AD:276:LYS:H	1.43	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:CE:102:ALA:HB1	35:CE:106:PRO:HG2	1.62	0.81
31:CA:1279:A:O2'	31:CA:1281:U:OP2	1.99	0.81
31:CA:642:A:N3	38:CH:113:SER:OG	2.12	0.81
31:CA:664:G:H22	31:CA:741:G:H1	1.25	0.81
1:BA:631:A:OP1	11:BP:65:ARG:NH1	2.14	0.80
12:AQ:31:ASP:HA	12:AQ:134:ARG:HG3	1.62	0.80
31:DA:1118:C:H1'	31:DA:1179:A:C4	2.16	0.80
1:AA:71:A:C2	19:AX:31:HIS:HE1	2.00	0.80
32:DB:187:LEU:HA	32:DB:201:ILE:HB	1.62	0.80
52:AA:3001:T8B:H18	52:AA:3001:T8B:O12	1.80	0.80
52:BA:3001:T8B:H18	52:BA:3001:T8B:O12	1.80	0.80
18:BW:78:GLU:OE1	18:BW:99:ARG:NH1	2.14	0.80
31:CA:662:G:H2'	31:CA:663:A:C8	2.17	0.80
32:CB:69:LEU:HB3	32:CB:162:ILE:HG22	1.62	0.80
32:CB:25:ASN:O	32:CB:27:LYS:N	2.15	0.80
1:BA:2190:G:H2'	1:BA:2191:G:H5''	1.63	0.80
32:CB:116:GLU:HA	32:CB:119:GLU:HB2	1.63	0.80
16:AU:92:ARG:HA	16:AU:95:LEU:HB2	1.64	0.80
21:AZ:5:LEU:HD23	21:AZ:47:VAL:HG21	1.61	0.80
4:BE:128:SER:OG	4:BE:129:HIS:N	2.12	0.80
47:CQ:66:SER:O	47:CQ:70:ARG:NH1	2.15	0.80
36:DF:11:ASN:HB3	36:DF:14:LEU:HG	1.64	0.80
13:BR:103:ARG:NH1	13:BR:108:GLY:O	2.14	0.79
34:DD:24:GLU:O	34:DD:27:TYR:HB2	1.81	0.79
1:BA:2306:C:H3'	1:BA:2307:G:H8	1.48	0.79
39:CI:4:TYR:HB2	39:CI:19:LEU:HB2	1.64	0.79
1:AA:1310:G:OP2	29:A7:9:ARG:NH1	2.15	0.79
1:AA:1815:A:OP2	3:AD:54:ARG:NH2	2.15	0.79
32:DB:84:GLU:HB3	32:DB:219:VAL:HG21	1.62	0.79
3:AD:108:PRO:HB3	3:AD:143:HIS:HE1	1.48	0.79
41:DK:22:HIS:HB3	41:DK:29:ILE:HB	1.63	0.79
1:AA:1315:C:H42	1:AA:1337:G:H1	1.31	0.79
1:BA:1913:A:N6	31:CA:1493:A:H5'	1.98	0.79
3:AD:108:PRO:HB3	3:AD:143:HIS:CE1	2.18	0.79
39:CI:83:ARG:HA	39:CI:86:VAL:HG22	1.64	0.79
1:AA:139(A):G:N2	19:AX:44:GLU:OE1	2.15	0.79
41:DK:79:SER:HA	41:DK:104:GLN:HB2	1.64	0.79
1:BA:1914:C:O2'	1:BA:1915:U:H5'	1.82	0.79
48:CR:32:ARG:HA	48:CR:69:THR:HG21	1.65	0.79
41:DK:99:GLN:HG2	41:DK:105:VAL:HG21	1.64	0.78
31:CA:1128:C:O2'	31:CA:1130:A:N7	2.16	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1914:C:O2'	1:BA:1915:U:P	2.40	0.78
21:BZ:160:GLY:HA2	21:BZ:161:VAL:HB	1.65	0.78
27:B5:16:ARG:NH1	27:B5:17:ASP:OD1	2.16	0.78
1:BA:2306:C:H3'	1:BA:2307:G:C8	2.18	0.78
1:BA:1379:A:H4'	1:BA:1380:G:OP2	1.82	0.78
1:BA:2683:C:O2	10:BO:70:LYS:NZ	2.15	0.78
2:AB:49:C:H2'	2:AB:50:G:H8	1.48	0.78
1:BA:301:G:OP2	20:BY:84:ARG:NH2	2.16	0.78
15:BT:118:ARG:HH11	15:BT:118:ARG:HG3	1.47	0.78
31:DA:735:C:H2'	31:DA:736:C:C6	2.19	0.78
1:AA:2306:C:H5''	1:AA:2307:G:H2'	1.66	0.78
1:AA:903:C:H2'	1:AA:904:C:H6	1.49	0.78
15:BT:24:PRO:HA	15:BT:49:VAL:HG22	1.66	0.78
1:AA:571:A:H5'	1:AA:2030:A:H62	1.48	0.78
1:AA:1332:G:N2	1:AA:1609:A:HO2'	1.82	0.78
31:CA:922:G:H4'	35:CE:20:GLN:HA	1.66	0.77
1:BA:252:G:OP2	11:BP:50:ARG:NH1	2.17	0.77
46:CP:51:VAL:HG12	46:CP:53:VAL:H	1.48	0.77
31:DA:1228:C:H2'	31:DA:1229:A:H8	1.47	0.77
52:AA:3001:T8B:H10	31:DA:1492:A:C5'	2.05	0.77
9:AN:20:GLY:HA2	9:AN:61:ARG:HD3	1.67	0.77
1:BA:1204:A:H2	1:BA:1241:A:H62	1.33	0.77
1:BA:1047:G:H2'	1:BA:1110:G:H22	1.47	0.77
31:CA:986:A:H1'	49:CS:55:LYS:HA	1.65	0.77
31:DA:344:A:H5''	31:DA:345:C:H5	1.49	0.77
31:DA:564:C:O2'	38:DH:91:ARG:NH2	2.16	0.77
31:CA:272:C:H2'	31:CA:273:A:H8	1.49	0.77
35:DE:75:THR:OG1	35:DE:76:ILE:N	2.17	0.77
39:CI:71:SER:HA	39:CI:74:ILE:HD12	1.65	0.77
31:DA:922:G:H4'	35:DE:20:GLN:HA	1.65	0.77
7:BH:40:GLU:OE2	7:BH:60:ARG:NH1	2.17	0.77
5:BF:185:ASP:HA	5:BF:188:ARG:HD3	1.66	0.77
14:BS:25:ARG:NH1	14:BS:42:ASP:OD2	2.18	0.77
1:AA:1816:G:O6	3:AD:35:LYS:NZ	2.13	0.77
1:AA:686:G:H5''	29:A7:11:LYS:HE2	1.65	0.77
41:CK:48:ILE:O	41:CK:50:TYR:N	2.18	0.77
1:AA:2839:G:H5'	13:AR:46:GLY:HA2	1.65	0.77
1:BA:1798:U:H5'	3:BD:259:THR:HG22	1.65	0.77
10:BO:35:VAL:HG11	10:BO:103:ALA:HB3	1.67	0.77
18:BW:18:ARG:HG3	18:BW:76:VAL:HB	1.65	0.77
9:BN:89:LYS:O	9:BN:93:THR:OG1	2.04	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1341:U:OP2	1:BA:1394:U:O2'	2.03	0.76
1:AA:1412:A:H2'	1:AA:1413:G:H8	1.51	0.76
1:BA:2820:A:OP2	13:BR:2:ARG:NH2	2.19	0.76
2:AB:28:C:H2'	2:AB:29:A:C8	2.21	0.76
43:DM:6:GLY:HA3	43:DM:67:GLU:HB2	1.67	0.76
35:DE:122:GLU:O	35:DE:126:ARG:NH1	2.18	0.76
5:AF:167:ALA:HB1	5:AF:173:VAL:HG11	1.68	0.76
15:AT:54:ARG:HA	15:AT:59:THR:HB	1.65	0.76
1:BA:2562:U:H1'	10:BO:23:ARG:HH11	1.51	0.76
1:AA:2329:G:H21	22:A0:41:ARG:HG3	1.50	0.76
1:AA:301:G:OP2	20:AY:84:ARG:NH2	2.18	0.76
1:AA:1174:A:H5'	1:AA:1177:A:N6	1.99	0.76
1:BA:2100:G:H1	1:BA:2189:U:H3	1.32	0.76
1:AA:1176:G:H1'	1:AA:1177:A:OP1	1.85	0.76
7:BH:70:THR:O	7:BH:72:ILE:N	2.18	0.76
36:DF:61:LEU:HB3	36:DF:63:TYR:HE2	1.51	0.76
1:BA:1045:A:H1'	1:BA:1047:G:C2	2.21	0.76
3:AD:148:GLU:HB2	3:AD:151:LYS:HD2	1.68	0.76
21:BZ:151:HIS:O	21:BZ:153:SER:N	2.19	0.76
1:BA:2134:A:N3	1:BA:2159:G:O2'	2.18	0.76
1:BA:2287:A:H62	1:BA:2344:U:H3	1.31	0.76
31:CA:310:G:OP2	46:CP:27:LYS:NZ	2.19	0.75
1:BA:83:G:H22	1:BA:102:G:HO2'	1.32	0.75
43:CM:65:LYS:HA	43:CM:66:LEU:HB2	1.68	0.75
1:AA:102:G:O2'	1:AA:103:A:OP2	2.04	0.75
31:DA:1147:C:HO2'	39:DI:5:TYR:HH	1.33	0.75
35:CE:50:GLU:HB2	35:CE:53:LEU:HD13	1.68	0.75
31:CA:433:C:H2'	31:CA:434:U:H6	1.52	0.75
1:BA:1531:C:H42	1:BA:1538:G:H1	1.34	0.75
26:A4:7:PRO:HB2	26:A4:27:THR:HG21	1.68	0.75
1:BA:1913:A:H2'	52:BA:3001:T8B:O2	1.87	0.75
1:AA:2329:G:N2	22:A0:41:ARG:HG3	2.02	0.75
31:DA:974:A:OP2	44:DN:29:ARG:NH2	2.19	0.75
21:AZ:69:THR:HG22	21:AZ:90:VAL:HA	1.67	0.75
31:DA:171:A:H2'	31:DA:172:A:C8	2.22	0.75
31:CA:991:U:O2'	31:CA:992:U:OP2	2.05	0.75
31:DA:1013:G:N2	31:DA:1016:A:OP2	2.19	0.75
31:CA:559:A:OP1	35:CE:126:ARG:NH2	2.20	0.75
1:BA:9:U:H3	1:BA:2629:A:H2	1.35	0.75
33:CC:177:THR:HB	33:CC:180:ALA:HB2	1.66	0.75
47:CQ:67:LYS:HA	47:CQ:70:ARG:HH12	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:BR:20:LEU:HD21	13:BR:40:LYS:HD3	1.68	0.75
4:AE:105:THR:OG1	4:AE:199:ARG:NH2	2.19	0.75
1:AA:1178:C:H2'	1:AA:1179:C:H6	1.52	0.75
1:BA:1049:C:O2'	1:BA:1050:A:H8	1.69	0.75
31:DA:737:A:H2'	31:DA:738:C:C6	2.21	0.75
1:AA:1980:G:O2'	1:AA:1982:C:OP2	2.05	0.75
1:BA:71:A:C2	19:BX:31:HIS:HE1	2.05	0.75
31:CA:975:A:H4'	31:CA:976:G:H5''	1.68	0.74
34:DD:72:GLU:OE1	34:DD:207:TYR:OH	2.05	0.74
1:BA:779:U:OP1	3:BD:49:ILE:HG13	1.86	0.74
46:DP:74:LEU:HB3	46:DP:79:VAL:HG11	1.68	0.74
31:CA:932:C:H5'	37:CG:4:ARG:HG2	1.68	0.74
12:AQ:39:PRO:HD3	12:AQ:99:PRO:HG3	1.69	0.74
1:BA:2131:G:OP1	1:BA:2132:U:H3'	1.86	0.74
1:BA:1858:G:O2'	1:BA:1884:A:N6	2.20	0.74
31:CA:1001:A:H61	31:CA:1040:U:H3	1.34	0.74
3:BD:8:PRO:HB3	3:BD:14:ARG:HB2	1.69	0.74
31:CA:193:C:H2'	31:CA:194:C:H6	1.51	0.74
31:DA:460:G:O6	31:DA:470:C:H5''	1.88	0.74
31:DA:1004:A:H8	31:DA:1025:U:H3	1.34	0.74
31:CA:1063:C:OP2	31:CA:1064:G:O2'	2.03	0.74
7:BH:33:LEU:HD21	7:BH:136:ILE:HG13	1.67	0.74
10:AO:2:ILE:HD12	10:AO:6:THR:HG21	1.70	0.74
1:AA:994:C:O2'	1:AA:996:A:OP1	2.03	0.74
1:BA:102:G:OP1	24:B2:7:ARG:NH2	2.20	0.74
8:BI:78:THR:O	8:BI:104:GLN:NE2	2.21	0.74
31:DA:1030:C:N3	31:DA:1031:G:N2	2.36	0.74
27:A5:41:PRO:O	27:A5:44:THR:OG1	2.04	0.74
8:AI:92:VAL:HG13	8:AI:120:ILE:HB	1.69	0.74
1:AA:468:G:N7	29:A7:39:ARG:NH2	2.36	0.74
1:AA:885:C:N4	1:AA:890:A:H61	1.86	0.74
1:AA:1593:G:H2'	1:AA:1594:G:C8	2.23	0.74
3:AD:71:ASP:HB3	3:AD:103:ARG:HH22	1.53	0.74
41:CK:29:ILE:HG23	41:CK:44:SER:HB3	1.68	0.74
42:CL:27:LEU:O	42:CL:29:GLY:N	2.21	0.74
31:DA:1128:C:O2'	31:DA:1130:A:N7	2.19	0.73
31:DA:826:C:O2	31:DA:874:G:N2	2.18	0.73
1:AA:2318:G:O2'	1:AA:2319:G:OP1	2.04	0.73
33:DC:33:LEU:O	33:DC:37:GLN:NE2	2.20	0.73
1:AA:143:G:H2'	1:AA:143(A):C:H6	1.52	0.73
1:AA:2327:A:H2'	1:AA:2328:A:C8	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:985:C:H2'	31:DA:986:A:H8	1.49	0.73
1:AA:587:C:OP2	11:AP:21:ARG:NH2	2.21	0.73
31:DA:982:U:H5''	44:DN:6:LEU:HD21	1.69	0.73
6:BG:76:SER:HA	6:BG:83:ARG:HA	1.71	0.73
2:AB:49:C:H2'	2:AB:50:G:C8	2.24	0.73
32:CB:201:ILE:HG21	32:CB:214:ILE:HG21	1.70	0.73
1:BA:1174:A:H4'	1:BA:1175:U:OP1	1.87	0.73
32:DB:88:ALA:HB2	32:DB:219:VAL:HG13	1.68	0.73
1:BA:2130:U:HO2'	1:BA:2133:G:HO2'	1.31	0.73
31:DA:56:U:H2'	31:DA:57:G:C8	2.23	0.73
1:BA:1779:U:H5	1:BA:1784:A:N7	1.87	0.73
31:CA:1203:C:H2'	31:CA:1204:A:C8	2.22	0.73
1:BA:2327:A:H2'	1:BA:2328:A:C8	2.23	0.73
21:BZ:110:GLY:HA3	21:BZ:174:VAL:HG11	1.70	0.73
1:BA:1021:A:H2'	1:BA:1023:U:H5'	1.69	0.73
31:CA:939:G:H5''	37:CG:102:ARG:NH2	2.01	0.73
31:CA:545:C:H5''	34:CD:72:GLU:HG2	1.70	0.73
2:AB:2:C:H2'	2:AB:3:C:H6	1.52	0.73
1:AA:1779:U:H5	1:AA:1784:A:N7	1.86	0.73
31:CA:73:G:H1	31:CA:96:U:H3	1.37	0.73
32:DB:116:GLU:HA	32:DB:119:GLU:HB2	1.68	0.73
31:CA:78:G:H1	31:CA:91:C:N4	1.86	0.73
46:DP:53:VAL:HG13	46:DP:79:VAL:HG23	1.71	0.73
2:AB:2:C:H2'	2:AB:3:C:C6	2.24	0.73
31:DA:390:C:O3'	46:DP:28:ARG:NH2	2.20	0.73
31:CA:343:U:O2'	31:CA:346:G:O6	2.02	0.73
31:CA:1353:G:OP1	51:CU:10:ARG:NH1	2.22	0.73
31:CA:1264:C:H2'	31:CA:1265:G:H8	1.54	0.73
32:CB:178:ARG:HH21	38:CH:74:PRO:HB3	1.53	0.73
31:CA:1030:C:N3	31:CA:1031:G:N2	2.37	0.73
21:BZ:19:ARG:NH1	21:BZ:84:GLU:O	2.22	0.73
32:DB:77:ALA:HB2	32:DB:211:ILE:HD13	1.71	0.73
31:DA:1030:C:N4	31:DA:1031:G:N1	2.34	0.72
1:BA:2777:G:H5''	1:BA:2778:A:H5'	1.70	0.72
32:DB:12:GLU:O	32:DB:16:HIS:ND1	2.22	0.72
1:BA:1420:U:O2'	1:BA:1421:G:OP1	2.07	0.72
11:AP:101:VAL:O	11:AP:103:ALA:N	2.22	0.72
1:BA:1913:A:C3'	52:BA:3001:T8B:O10	2.38	0.72
31:DA:1179:A:H4'	39:DI:103:THR:HA	1.71	0.72
34:CD:32:ALA:O	34:CD:36:ARG:N	2.22	0.72
31:DA:426:G:OP1	34:DD:38:TYR:OH	2.04	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:501:C:H2'	31:DA:502:G:C8	2.24	0.72
17:BV:60:GLU:HB2	17:BV:97:LYS:HE2	1.71	0.72
31:DA:656:C:O2'	45:DO:28:GLN:NE2	2.21	0.72
1:AA:2287:A:H62	1:AA:2344:U:H3	1.37	0.72
1:AA:1801:G:OP2	3:AD:154:LYS:NZ	2.18	0.72
41:DK:110:ASP:HB3	48:DR:85:LEU:HB3	1.72	0.72
1:AA:1049:C:HO2'	1:AA:1050:A:H8	1.35	0.72
6:BG:44:GLY:HA2	6:BG:88:ILE:HG22	1.72	0.72
5:AF:185:ASP:HA	5:AF:188:ARG:HD3	1.70	0.72
40:DJ:35:SER:HB3	40:DJ:73:ASP:H	1.55	0.72
32:CB:84:GLU:HB3	32:CB:219:VAL:HG21	1.69	0.72
31:DA:973:G:H3'	31:DA:974:A:H5''	1.70	0.72
1:AA:2562:U:H1'	10:AO:23:ARG:HH11	1.54	0.72
1:AA:607:U:OP1	5:AF:102:PRO:HA	1.88	0.72
1:BA:1914:C:O2'	1:BA:1915:U:C5'	2.38	0.72
1:BA:1915:U:O4	1:BA:1916:A:C2	2.43	0.72
31:DA:473:G:H2'	31:DA:474:G:H8	1.55	0.72
7:AH:118:PRO:HG2	7:AH:121:ILE:HG13	1.72	0.72
1:AA:2316:C:H2'	1:AA:2317:C:C6	2.25	0.72
4:AE:111:ARG:HG3	4:AE:160:TYR:CD1	2.25	0.72
1:AA:1204:A:H2	1:AA:1241:A:H62	1.35	0.72
1:AA:2130:U:O2'	1:AA:2133:G:O2'	2.08	0.72
20:BY:23:ARG:HG2	20:BY:42:VAL:HG22	1.71	0.72
32:DB:167:PRO:HG3	32:DB:188:ALA:HB2	1.71	0.72
1:AA:958:U:O2	2:AB:90:A:O2'	2.05	0.72
31:DA:1028:C:C2	31:DA:1033:G:N2	2.58	0.72
6:AG:25:TYR:HB3	6:AG:30:GLU:HB2	1.71	0.72
31:CA:976:G:H5'	31:CA:1358:U:O2'	1.90	0.72
11:BP:52:GLU:OE1	11:BP:55:ARG:NH1	2.22	0.72
1:AA:1915:U:N3	52:AA:3001:T8B:C27	2.52	0.72
31:CA:344:A:H4'	31:CA:345:C:OP2	1.90	0.72
1:BA:1980:G:O2'	1:BA:1982:C:OP2	2.06	0.72
31:DA:1030:C:H42	31:DA:1031:G:H1	1.37	0.72
1:AA:2147:G:H2'	1:AA:2148:G:O4'	1.90	0.72
33:CC:19:GLU:O	33:CC:40:ARG:NH2	2.23	0.72
25:B3:8:LEU:HD13	25:B3:31:LEU:HD23	1.71	0.71
31:CA:1224:G:N2	43:CM:100:GLY:O	2.22	0.71
4:AE:143:ASN:HD22	4:AE:147:PRO:CD	2.03	0.71
44:DN:40:CYS:O	44:DN:42:ILE:N	2.22	0.71
12:AQ:32:TYR:CE2	12:AQ:133:ARG:HG3	2.26	0.71
1:AA:1359:A:H61	1:AA:1372:U:H3	1.38	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:DH:12:ARG:HD2	38:DH:26:VAL:HG12	1.71	0.71
1:BA:1359:A:H61	1:BA:1372:U:H3	1.36	0.71
8:AI:105:HIS:H	8:AI:105:HIS:CD2	2.05	0.71
1:BA:1247:A:OP1	5:BF:95:ARG:NH2	2.22	0.71
1:BA:2296:U:OP2	14:BS:9:ARG:NH2	2.22	0.71
1:BA:1210:A:H8	1:BA:1210:A:H5'	1.55	0.71
1:AA:2592:G:O6	1:AA:2601:C:N4	2.20	0.71
44:CN:24:CYS:SG	44:CN:25:VAL:N	2.63	0.71
41:CK:82:VAL:HB	41:CK:108:ILE:HG12	1.71	0.71
31:DA:1073:U:H2'	31:DA:1074:G:H8	1.54	0.71
31:DA:344:A:H5''	31:DA:345:C:C5	2.25	0.71
1:BA:2287:A:N6	1:BA:2344:U:H3	1.89	0.71
31:DA:1329:A:H5''	43:DM:26:GLY:H	1.55	0.71
1:AA:882:G:H1	1:AA:894:C:H42	1.36	0.71
1:AA:252:G:OP2	11:AP:50:ARG:NH1	2.23	0.71
1:AA:885:C:H42	1:AA:890:A:H61	1.39	0.71
31:DA:1032:G:H2'	31:DA:1033:G:C8	2.25	0.71
31:CA:1502:A:H2	31:CA:1505:G:N1	1.84	0.71
14:AS:96:GLY:H	14:AS:99:LYS:H	1.35	0.71
42:CL:89:ARG:HA	42:CL:97:ARG:HA	1.73	0.71
37:DG:113:GLU:OE2	37:DG:122:HIS:ND1	2.21	0.71
28:B6:30:THR:OG1	28:B6:30:THR:O	2.07	0.71
33:DC:177:THR:HB	33:DC:180:ALA:HB2	1.73	0.71
12:AQ:138:ASP:OD2	21:AZ:81:ARG:NH1	2.23	0.71
1:BA:2115:G:O2'	1:BA:2166:G:N2	2.24	0.71
32:CB:184:VAL:N	32:CB:198:ASP:OD2	2.23	0.71
1:BA:1109:C:H5	1:BA:1110:G:C6	2.09	0.71
31:CA:1264:C:H2'	31:CA:1265:G:C8	2.26	0.71
43:DM:10:PRO:HG2	43:DM:18:ALA:HB1	1.72	0.71
1:AA:676:A:H2	1:AA:802:A:H61	1.38	0.71
31:CA:1030:C:N4	31:CA:1031:G:N1	2.39	0.71
1:AA:579:G:H2'	1:AA:580:C:C6	2.26	0.71
35:CE:139:LEU:HA	35:CE:142:LEU:HD12	1.72	0.71
35:DE:88:LYS:HB3	35:DE:123:LEU:HB2	1.71	0.71
31:DA:953:G:C2	31:DA:954:G:H1'	2.26	0.71
27:A5:40:LYS:HG2	27:A5:46:CYS:HB2	1.72	0.71
1:AA:2777:G:H5''	1:AA:2778:A:H5'	1.73	0.71
43:DM:19:LEU:HD21	43:DM:56:LEU:HD21	1.73	0.71
31:DA:1030(C):G:H2'	31:DA:1030(D):A:H8	1.56	0.71
1:AA:2206:G:H3'	1:AA:2207:G:C8	2.26	0.71
1:BA:956:G:OP2	12:BQ:14:ARG:NH2	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:503:C:OP2	42:CL:116:SER:HB3	1.90	0.71
44:DN:7:ILE:HA	44:DN:23:ARG:HE	1.55	0.70
1:BA:2115:G:H21	1:BA:2171:A:H61	1.37	0.70
31:DA:664:G:H22	31:DA:741:G:H1	1.38	0.70
48:CR:53:ARG:HH21	48:CR:60:ALA:N	1.89	0.70
31:DA:1237:C:H3'	31:DA:1336:C:H41	1.55	0.70
31:CA:627:G:H2'	31:CA:628:G:H8	1.56	0.70
30:B8:6:THR:HG22	30:B8:63:PRO:HD2	1.73	0.70
31:CA:954:G:H21	31:CA:1227:A:H62	1.38	0.70
1:BA:833:U:O2	11:BP:55:ARG:NH2	2.23	0.70
1:BA:1140:C:O3'	9:BN:25:ARG:NH1	2.24	0.70
45:CO:39:LEU:O	45:CO:42:HIS:N	2.24	0.70
35:CE:75:THR:OG1	35:CE:76:ILE:N	2.24	0.70
20:AY:28:LYS:HG3	20:AY:40:GLU:HG2	1.73	0.70
31:DA:946:A:H2'	31:DA:947:G:C8	2.26	0.70
31:DA:78:G:H1	31:DA:91:C:N4	1.88	0.70
1:BA:1174:A:H1'	1:BA:1175:U:H5''	1.72	0.70
34:DD:53:ASP:O	34:DD:57:ARG:NH1	2.23	0.70
38:DH:10:LEU:HD22	38:DH:83:ILE:HD11	1.74	0.70
32:DB:134:GLU:O	32:DB:137:ARG:NH2	2.24	0.70
49:CS:31:ILE:HG23	49:CS:49:ILE:HA	1.73	0.70
37:CG:145:ALA:O	37:CG:147:ALA:N	2.24	0.70
1:BA:1427:A:H4'	1:BA:1428:C:O5'	1.91	0.70
29:A7:35:ARG:HG3	29:A7:42:LEU:HD11	1.74	0.70
1:AA:1336:A:H2'	1:AA:1337:G:C8	2.27	0.70
35:DE:126:ARG:HA	35:DE:131:ILE:HD11	1.73	0.70
1:AA:2051:A:OP1	4:AE:137:HIS:ND1	2.24	0.70
31:CA:946:A:H2'	31:CA:947:G:C8	2.26	0.70
12:BQ:34:LEU:HD11	12:BQ:129:THR:HB	1.74	0.70
8:AI:96:ASP:O	8:AI:100:ALA:N	2.22	0.70
34:CD:13:ARG:O	34:CD:15:GLU:N	2.24	0.70
34:CD:41:GLY:O	34:CD:43:HIS:N	2.24	0.70
31:DA:97:G:O2'	31:DA:98:G:H5''	1.90	0.70
1:AA:2166:G:N2	1:AA:2172:U:O4	2.24	0.70
47:CQ:58:GLU:HG3	47:CQ:77:VAL:HG21	1.74	0.70
37:CG:111:ARG:CZ	37:CG:122:HIS:HB3	2.22	0.70
3:BD:275:LYS:HG3	3:BD:276:LYS:H	1.54	0.70
37:DG:46:ALA:HB2	37:DG:117:ALA:HB1	1.73	0.70
1:BA:1817:G:OP1	3:BD:88:ARG:NH2	2.24	0.70
32:DB:25:ASN:O	32:DB:27:LYS:N	2.24	0.70
1:AA:335:C:H4'	20:AY:73:ARG:HD3	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:600:C:H2'	31:DA:601:C:C6	2.27	0.70
26:A4:42:PHE:HB3	26:A4:43:TYR:HB2	1.73	0.70
44:CN:21:TYR:OH	44:CN:23:ARG:NH2	2.25	0.70
1:AA:1210:A:H5'	1:AA:1210:A:H8	1.56	0.70
45:DO:70:LEU:HD11	45:DO:77:ARG:HB3	1.74	0.70
35:DE:68:GLU:HG2	35:DE:70:PRO:HG3	1.74	0.70
1:AA:1340:U:OP1	19:AX:16:LYS:NZ	2.24	0.70
31:CA:235:C:H5'	47:CQ:70:ARG:HG2	1.74	0.69
1:AA:2659:G:P	7:AH:158:HIS:HE2	2.15	0.69
11:BP:38:GLN:HA	11:BP:41:ARG:HG2	1.73	0.69
1:AA:796:C:H2'	1:AA:797:C:C6	2.28	0.69
1:AA:143:G:H4'	19:AX:35:THR:HG21	1.73	0.69
5:BF:117:ARG:HH21	5:BF:187:VAL:HA	1.57	0.69
4:AE:101:ARG:NH1	4:AE:169:ASN:O	2.22	0.69
31:DA:445:G:H2'	31:DA:446:G:H8	1.57	0.69
5:AF:53:THR:HG23	5:AF:55:GLY:H	1.58	0.69
1:BA:2285:C:OP2	28:B6:6:ARG:NH1	2.26	0.69
31:CA:627:G:H2'	31:CA:628:G:C8	2.27	0.69
34:CD:31:CYS:O	34:CD:33:MET:N	2.25	0.69
1:AA:1412:A:H2'	1:AA:1413:G:C8	2.27	0.69
50:CT:30:LYS:HA	50:CT:33:ILE:HD12	1.75	0.69
1:BA:885:C:H3'	1:BA:886:C:H5''	1.73	0.69
31:DA:1028:C:N4	31:DA:1033:G:N1	2.39	0.69
2:BB:49:C:OP1	14:BS:97:ARG:N	2.24	0.69
31:CA:373:A:H2'	31:CA:374:A:H8	1.57	0.69
19:BX:53:LYS:HB3	19:BX:82:GLN:HB3	1.74	0.69
31:CA:262:A:H2'	31:CA:263:A:C8	2.27	0.69
31:CA:1086:U:H2'	31:CA:1087:G:H8	1.55	0.69
1:AA:1935:G:H1'	1:AA:1964:G:N2	2.07	0.69
34:DD:189:PRO:HB3	34:DD:194:LEU:HD11	1.75	0.69
20:BY:76:CYS:SG	20:BY:99:CYS:CB	2.81	0.69
1:AA:1364:G:OP2	23:A1:3:LYS:HG2	1.93	0.69
1:AA:1823:G:OP1	3:AD:54:ARG:NH1	2.25	0.69
31:DA:56:U:H2'	31:DA:57:G:H8	1.57	0.69
31:DA:1053:G:N7	31:DA:1200:C:H5'	2.08	0.69
38:CH:124:ALA:O	38:CH:128:GLY:N	2.26	0.69
31:DA:1346:A:N1	31:DA:1374:A:H5''	2.07	0.69
1:BA:2894:G:H8	1:BA:2894:G:O5'	1.74	0.69
1:BA:1913:A:O2'	52:BA:3001:T8B:O9	2.11	0.69
1:AA:1049:C:O2'	1:AA:1050:A:H8	1.76	0.69
1:AA:1109:C:H5	1:AA:1110:G:C6	2.11	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2815:C:H5'	27:B5:29:THR:HG21	1.73	0.69
1:BA:2445:G:OP1	5:BF:74:ARG:NH2	2.26	0.69
6:AG:15:VAL:HG13	6:AG:175:LEU:HB3	1.74	0.69
31:DA:833:U:H2'	31:DA:834:C:H6	1.56	0.69
1:AA:1430:C:H2'	1:AA:1431:U:C6	2.27	0.69
1:AA:271(F):C:H2'	1:AA:271(G):C:H6	1.57	0.69
31:DA:1030:C:C4	31:DA:1030(A):G:H1'	2.28	0.69
1:BA:517:C:OP1	27:B5:16:ARG:NH2	2.26	0.69
22:B0:27:GLU:HG3	22:B0:68:GLU:HA	1.74	0.69
1:AA:2303:G:N2	1:AA:2313:C:O2	2.26	0.69
1:AA:947:G:H2'	1:AA:948:G:C8	2.28	0.69
1:AA:641:C:O2'	1:AA:2350:C:OP1	2.06	0.69
1:AA:794:G:H2'	1:AA:795:C:C6	2.28	0.68
35:CE:110:LEU:HD13	35:CE:118:ILE:HG21	1.74	0.68
1:BA:652(G):G:H2'	1:BA:652(H):C:C6	2.28	0.68
1:AA:2445:G:OP1	5:AF:74:ARG:NH2	2.26	0.68
1:BA:651:G:OP1	30:B8:19:SER:OG	2.09	0.68
35:CE:100:VAL:O	35:CE:107:ARG:NH2	2.24	0.68
12:BQ:31:ASP:OD1	12:BQ:134:ARG:NH1	2.26	0.68
1:AA:1786:A:H1'	1:AA:1938:A:N6	2.07	0.68
31:DA:878:G:H5'	38:DH:89:PRO:HG2	1.75	0.68
13:AR:33:ARG:NH2	27:A5:57:VAL:O	2.22	0.68
1:AA:517:C:OP1	27:A5:16:ARG:NH2	2.26	0.68
1:AA:271(K):U:H4'	1:AA:271(L):U:OP2	1.92	0.68
1:BA:90:U:O2'	1:BA:92:A:O4'	2.10	0.68
31:CA:1291:G:H4'	39:CI:39:GLY:HA3	1.74	0.68
8:AI:1:MET:SD	8:AI:1:MET:N	2.67	0.68
1:BA:2104:G:N7	1:BA:2186:G:N2	2.42	0.68
31:DA:1028:C:N3	31:DA:1033:G:N2	2.40	0.68
31:DA:1279:A:O2'	31:DA:1281:U:OP2	2.11	0.68
31:DA:750:G:N3	45:DO:23:GLY:HA3	2.07	0.68
3:AD:8:PRO:HB3	3:AD:14:ARG:HB2	1.75	0.68
30:A8:61:LEU:O	30:A8:63:PRO:HD3	1.93	0.68
41:CK:34:ASP:HB3	41:CK:40:ILE:HD11	1.75	0.68
1:BA:1518:U:H2'	1:BA:1519:G:O4'	1.93	0.68
1:BA:1915:U:C5	1:BA:1916:A:C5	2.82	0.68
1:BA:1529:G:C6	1:BA:1530:C:N4	2.60	0.68
8:BI:104:GLN:HB2	8:BI:105:HIS:HD2	1.59	0.68
1:AA:143:G:H2'	1:AA:143(A):C:C6	2.28	0.68
1:AA:330:A:H2	1:AA:1210:A:H2'	1.58	0.68
31:DA:343:U:O2'	31:DA:346:G:O6	2.06	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:269:C:H2'	31:CA:270:A:C8	2.29	0.68
32:CB:195:ASP:O	38:CH:68:ARG:NH2	2.26	0.68
1:BA:1225:G:OP1	17:BV:69:LYS:NZ	2.22	0.68
41:CK:99:GLN:HG2	41:CK:105:VAL:HG21	1.76	0.68
1:BA:1530:C:N4	1:BA:1539:G:H1	1.92	0.68
32:DB:201:ILE:HG21	32:DB:214:ILE:HG21	1.75	0.68
31:CA:1100:C:O2'	31:CA:1102:A:OP1	2.08	0.68
31:CA:674:G:H2'	31:CA:675:A:H8	1.59	0.68
38:DH:73:ASP:OD2	38:DH:75:ARG:HD3	1.93	0.68
31:DA:176:C:OP1	50:DT:29:LYS:NZ	2.17	0.68
4:BE:181:LEU:HD21	15:BT:6:LEU:HD12	1.75	0.68
40:CJ:61:GLU:OE2	44:CN:49:HIS:NE2	2.27	0.68
35:DE:78:HIS:HE1	35:DE:142:LEU:HA	1.59	0.68
31:DA:1347:G:N2	31:DA:1373:G:H2'	2.09	0.68
1:BA:249:C:O2	30:B8:12:LYS:NZ	2.20	0.68
2:AB:55:U:O3'	6:AG:27:ASN:ND2	2.25	0.68
31:CA:1030(D):A:H62	31:CA:1031:G:H21	1.40	0.68
18:AW:18:ARG:HG3	18:AW:76:VAL:HB	1.76	0.68
8:AI:124:GLY:N	8:AI:144:VAL:HG13	2.09	0.68
3:AD:206:LEU:HD22	3:AD:211:ARG:HG2	1.76	0.68
38:CH:4:ASP:OD1	38:CH:85:ARG:NH1	2.23	0.68
31:CA:600:C:H2'	31:CA:601:C:C6	2.29	0.68
31:CA:1259:C:O2'	31:CA:1283:G:N2	2.27	0.67
1:BA:2164:C:H3'	1:BA:2165:G:H8	1.58	0.67
1:AA:2104:G:N7	1:AA:2186:G:N2	2.41	0.67
1:BA:2394:C:OP2	30:B8:30:ARG:NH1	2.26	0.67
2:BB:66:A:H61	2:BB:108:U:H2'	1.59	0.67
7:AH:153:LYS:HG3	7:AH:154:PRO:HD2	1.76	0.67
31:DA:96:U:O2'	31:DA:97:G:OP2	2.12	0.67
1:BA:2318:G:O2'	1:BA:2319:G:OP1	2.10	0.67
4:AE:56:PRO:HG3	4:AE:74:PRO:HG2	1.75	0.67
1:AA:729:G:O5'	3:AD:208:LYS:NZ	2.26	0.67
31:CA:991:U:HO2'	31:CA:992:U:P	2.18	0.67
32:CB:194:PRO:O	32:CB:196:LEU:N	2.27	0.67
1:AA:1047:G:H2'	1:AA:1110:G:H22	1.59	0.67
39:CI:42:ARG:O	39:CI:44:VAL:N	2.25	0.67
1:AA:910:A:H62	12:AQ:12:GLN:HA	1.59	0.67
1:BA:1915:U:C4	1:BA:1916:A:C4	2.82	0.67
31:DA:1032:G:H2'	31:DA:1033:G:H8	1.60	0.67
1:AA:1366:A:OP1	23:A1:3:LYS:NZ	2.28	0.67
6:BG:43:LEU:HD11	6:BG:153:ARG:HG2	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:518:C:O2'	31:CA:530:G:N2	2.27	0.67
8:BI:61:ARG:HB3	8:BI:133:HIS:HD2	1.58	0.67
1:BA:652(B):A:H61	1:BA:655:A:H2	1.41	0.67
31:DA:400:C:H5''	34:DD:73:ARG:HH22	1.59	0.67
1:AA:272(B):G:H2'	1:AA:272(C):G:H8	1.59	0.67
32:CB:87:ARG:HE	32:CB:233:SER:HB2	1.59	0.67
1:AA:668:G:H5'	1:AA:669:G:OP2	1.93	0.67
12:BQ:43:THR:HG22	12:BQ:94:VAL:HG12	1.77	0.67
28:A6:30:THR:OG1	28:A6:30:THR:O	2.11	0.67
49:DS:11:VAL:HG23	49:DS:38:SER:HB2	1.76	0.67
8:AI:97:ILE:HA	8:AI:100:ALA:HB3	1.77	0.67
1:AA:947:G:H2'	1:AA:948:G:H8	1.60	0.67
1:AA:2786:U:O2'	4:AE:62:PRO:O	2.10	0.67
22:A0:27:GLU:HG3	22:A0:68:GLU:HA	1.74	0.67
31:DA:942:G:H21	39:DI:124:GLN:HE22	1.40	0.67
31:CA:1320:C:H5'	49:CS:70:LYS:HD3	1.77	0.67
1:BA:607:U:OP1	5:BF:102:PRO:HA	1.95	0.67
1:AA:885:C:H3'	1:AA:886:C:H5''	1.76	0.67
41:DK:48:ILE:HD11	41:DK:64:ALA:HA	1.77	0.67
1:AA:2136:C:N4	1:AA:2155:G:H1	1.93	0.67
31:CA:243:A:H4'	31:CA:244:U:O5'	1.94	0.67
39:CI:26:VAL:HG22	39:CI:61:ALA:HB3	1.76	0.67
31:DA:801:U:H2'	31:DA:802:A:H8	1.59	0.67
5:AF:24:LEU:HD21	5:AF:199:TRP:HH2	1.60	0.67
1:AA:1174:A:H1'	1:AA:1175:U:H5''	1.76	0.67
34:CD:18:LYS:NZ	34:CD:31:CYS:HB3	2.10	0.67
33:CC:152:ILE:HB	33:CC:199:LYS:HB2	1.75	0.67
31:CA:1391:U:H2'	31:CA:1392:G:C8	2.30	0.67
1:BA:2820:A:OP1	13:BR:4:LEU:HD23	1.94	0.67
1:AA:2349:G:H5'	1:AA:2350:C:OP2	1.95	0.67
1:AA:2104:G:N2	1:AA:2105:C:C2	2.62	0.67
27:B5:36:CYS:O	27:B5:37:LYS:HD3	1.94	0.67
1:BA:1639:U:H2'	1:BA:1640:C:H5''	1.75	0.67
1:AA:652(G):G:H2'	1:AA:652(H):C:C6	2.30	0.67
45:CO:25:THR:HG21	45:CO:70:LEU:HB2	1.77	0.67
31:DA:17:U:O2'	31:DA:1079:G:N3	2.28	0.67
1:BA:1429:G:H2'	1:BA:1430:C:C6	2.30	0.67
39:DI:3:GLN:HG2	39:DI:20:ARG:HG2	1.77	0.66
31:CA:1372:U:OP1	39:CI:72:GLY:N	2.28	0.66
1:AA:2133:G:O2'	1:AA:2158:A:N1	2.28	0.66
32:DB:91:PRO:HG2	32:DB:155:LEU:HD23	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1505:C:H2'	1:BA:1506:C:H6	1.59	0.66
1:AA:1531:C:H42	1:AA:1538:G:H1	1.42	0.66
2:AB:48:A:H4'	14:AS:95:HIS:HD2	1.61	0.66
31:CA:1031:G:H2'	31:CA:1032:G:C8	2.30	0.66
9:BN:56:ASN:HA	9:BN:125:GLY:H	1.60	0.66
31:DA:625:G:H2'	31:DA:626:U:C6	2.30	0.66
1:BA:2108:C:H42	1:BA:2181:G:H1	1.41	0.66
1:BA:993:G:OP1	16:BU:50:ARG:NH2	2.29	0.66
34:CD:108:LEU:HB3	34:CD:110:PHE:HE1	1.60	0.66
1:BA:1913:A:N6	31:CA:1493:A:C5'	2.58	0.66
31:CA:308:C:H2'	31:CA:309:G:H8	1.59	0.66
31:DA:664:G:P	48:DR:64:ARG:HH21	2.19	0.66
5:AF:22:ALA:HB1	5:AF:24:LEU:HD22	1.77	0.66
1:AA:1753:G:H5''	15:AT:95:ARG:HE	1.60	0.66
8:AI:5:LEU:HD11	8:AI:19:VAL:HG22	1.77	0.66
1:AA:9:U:H3	1:AA:2629:A:H2	1.42	0.66
40:CJ:54:PHE:HD2	40:CJ:55:LYS:HD2	1.58	0.66
32:CB:135:GLN:HA	32:CB:138:LEU:HD12	1.77	0.66
14:BS:14:VAL:O	14:BS:18:ILE:HG12	1.95	0.66
31:CA:991:U:H4'	31:CA:992:U:O5'	1.96	0.66
31:DA:1190:G:OP1	33:DC:5:ILE:N	2.28	0.66
20:AY:99:CYS:CB	20:AY:102:CYS:HG	2.07	0.66
9:AN:128:HIS:O	9:AN:131:GLN:NE2	2.28	0.66
31:CA:222:U:H2'	31:CA:223:U:C6	2.31	0.66
1:AA:1754:C:OP1	15:AT:96:ARG:NH1	2.28	0.66
7:BH:137:ASP:HB3	7:BH:140:LYS:HB3	1.78	0.66
33:CC:43:LEU:HD22	33:CC:47:LEU:HD12	1.78	0.66
32:DB:20:GLU:O	32:DB:40:HIS:N	2.27	0.66
31:DA:538:G:OP2	42:DL:115:LYS:HB2	1.96	0.66
35:DE:50:GLU:HB2	35:DE:53:LEU:HD13	1.77	0.66
1:AA:2823:A:OP1	4:AE:159:HIS:NE2	2.22	0.66
33:CC:15:THR:HG21	33:CC:181:ASN:HA	1.76	0.66
1:AA:2755:C:HO2'	1:AA:2756:U:H6	1.44	0.66
31:CA:413:G:N2	31:CA:428:G:H1'	2.11	0.66
31:DA:445:G:H2'	31:DA:446:G:C8	2.30	0.66
31:CA:965:A:H5'	31:CA:969:A:O4'	1.96	0.66
3:AD:242:ARG:HD3	3:AD:242:ARG:N	2.11	0.66
1:AA:2693:A:H2'	1:AA:2694:G:H8	1.60	0.66
38:DH:29:SER:HB3	38:DH:32:LYS:HD2	1.78	0.66
32:CB:21:ARG:HB3	32:CB:39:ILE:HG12	1.77	0.66
1:AA:2884:U:H1'	27:A5:53:ALA:HB2	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:BF:185:ASP:OD1	5:BF:188:ARG:NH1	2.27	0.66
31:DA:1237:C:O2'	31:DA:1300:G:N2	2.25	0.66
18:AW:88:ARG:NH1	18:AW:94:ASP:OD1	2.28	0.66
31:CA:618:C:N3	31:CA:622:A:N6	2.44	0.66
39:CI:46:ALA:O	39:CI:49:PRO:HD2	1.96	0.66
31:CA:1228:C:H5'	43:CM:114:ARG:HB2	1.77	0.66
1:AA:83:G:H22	1:AA:102:G:HO2'	1.43	0.66
34:CD:9:CYS:HA	34:CD:12:CYS:HB2	1.78	0.66
9:AN:30:ILE:HG23	9:AN:52:VAL:HG11	1.78	0.66
31:CA:1025:U:O2	31:CA:1036:G:O6	2.14	0.66
37:DG:150:ALA:HA	41:DK:59:TYR:HB3	1.78	0.66
39:DI:9:ARG:HB2	39:DI:104:ARG:HE	1.59	0.66
32:DB:81:VAL:HG22	32:DB:215:LEU:HD11	1.77	0.66
31:DA:243:A:H4'	31:DA:244:U:O5'	1.94	0.66
1:AA:1113:U:H2'	1:AA:1114:G:C8	2.31	0.66
1:AA:1143:A:OP1	9:AN:25:ARG:NH2	2.29	0.66
32:CB:163:PHE:CD2	32:CB:185:ILE:HG13	2.30	0.66
31:DA:1286:A:H2'	31:DA:1287:A:H4'	1.77	0.66
1:BA:2113:U:H2'	1:BA:2114:A:O4'	1.96	0.65
26:A4:13:ARG:N	26:A4:29:PRO:O	2.25	0.65
1:BA:641:C:O2'	1:BA:2350:C:OP1	2.10	0.65
1:BA:673:C:H5''	5:BF:81:PRO:HD2	1.78	0.65
1:AA:2377:A:H2'	1:AA:2378:A:C8	2.31	0.65
31:DA:308:C:H2'	31:DA:309:G:H8	1.60	0.65
31:DA:983:A:N1	31:DA:1222:G:N2	2.43	0.65
21:AZ:156:LYS:HD2	21:AZ:158:PRO:HD3	1.78	0.65
1:AA:903:C:H2'	1:AA:904:C:C6	2.30	0.65
7:AH:137:ASP:HB3	7:AH:140:LYS:HB3	1.78	0.65
1:AA:1359:A:N1	1:AA:1372:U:O4	2.30	0.65
31:CA:542:G:H5'	34:CD:41:GLY:HA3	1.78	0.65
31:CA:673:G:H2'	31:CA:674:G:C8	2.31	0.65
1:BA:2349:G:H5'	1:BA:2350:C:OP2	1.96	0.65
15:AT:27:THR:HB	15:AT:89:VAL:HG22	1.78	0.65
31:CA:580:U:H2'	31:CA:581:G:O4'	1.96	0.65
31:CA:1300:G:O2'	31:CA:1301:U:O5'	2.13	0.65
1:AA:1300:U:H4'	1:AA:1301:A:H5''	1.78	0.65
48:CR:56:THR:HB	48:CR:58:LEU:HD13	1.78	0.65
6:AG:108:ASN:HA	26:A4:37:SER:HB3	1.78	0.65
1:BA:141:A:H8	1:BA:1408:C:HO2'	1.44	0.65
1:AA:2296:U:OP2	14:AS:9:ARG:NH2	2.28	0.65
32:DB:186:ALA:O	32:DB:201:ILE:N	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:1435:G:H2'	31:CA:1436:U:C6	2.31	0.65
1:AA:384:U:H2'	1:AA:385:C:H6	1.61	0.65
1:AA:1462:C:H4'	1:AA:2703:C:H5'	1.78	0.65
20:BY:99:CYS:CB	20:BY:102:CYS:HG	2.09	0.65
31:DA:158:G:N2	31:DA:163:C:O2	2.29	0.65
13:AR:56:LYS:NZ	13:AR:90:ARG:O	2.29	0.65
25:A3:10:LYS:HB3	25:A3:53:LEU:HA	1.78	0.65
25:A3:22:ALA:O	25:A3:26:LEU:HG	1.96	0.65
1:AA:919:G:N2	1:AA:2269:A:OP2	2.30	0.65
5:AF:110:LEU:HD21	5:AF:181:LEU:HG	1.77	0.65
1:AA:1427:A:H4'	1:AA:1428:C:O5'	1.94	0.65
1:BA:1798:U:C5'	3:BD:259:THR:HG22	2.25	0.65
31:DA:1411:C:H2'	31:DA:1412:C:H6	1.62	0.65
32:DB:24:TRP:HZ3	32:DB:29:ALA:HB2	1.59	0.65
21:BZ:72:ARG:NH2	21:BZ:97:GLU:O	2.29	0.65
34:CD:65:ARG:HG2	34:CD:75:PHE:CD1	2.32	0.65
1:AA:1315:C:N4	1:AA:1337:G:H1	1.95	0.65
2:AB:44:G:N3	2:AB:47:C:N4	2.43	0.65
31:CA:1356:G:H2'	31:CA:1357:A:C8	2.32	0.65
31:CA:192:U:H4'	50:CT:57:ARG:HD2	1.79	0.65
1:BA:2114:A:H3'	1:BA:2115:G:C8	2.32	0.65
1:AA:2174:C:H2'	1:AA:2175:C:H6	1.62	0.65
34:CD:129:ASN:HD21	34:CD:144:ASP:HA	1.61	0.65
33:DC:77:ILE:HA	33:DC:84:ILE:H	1.62	0.65
39:DI:40:LEU:HB2	39:DI:43:ALA:HB2	1.79	0.65
31:DA:189(F):U:O2	47:DQ:63:ARG:NH2	2.30	0.65
17:AV:35:LEU:HB2	17:AV:57:VAL:HG23	1.78	0.65
1:AA:637:A:H8	11:AP:117:GLU:HG3	1.62	0.65
1:AA:1019:U:H3	1:AA:1142(A):A:H62	1.43	0.65
31:CA:1318:A:H2'	31:CA:1319:A:H5''	1.78	0.65
31:CA:1062:U:H2'	31:CA:1063:C:C6	2.32	0.65
31:DA:342:C:H2'	31:DA:343:U:O4'	1.97	0.65
31:DA:1178:G:N2	31:DA:1181:G:OP2	2.23	0.65
1:BA:642:G:H21	1:BA:646:A:H2	1.42	0.65
37:CG:89:MET:HG2	37:CG:155:ARG:HG3	1.78	0.65
1:AA:2297:C:O2	1:AA:2321:G:N2	2.15	0.65
1:BA:1448:G:H4'	1:BA:1542:A:OP1	1.97	0.65
1:AA:299:A:H5''	20:AY:86:ARG:HH21	1.61	0.65
32:DB:155:LEU:HD11	32:DB:159:PRO:HD3	1.77	0.65
1:BA:1027:A:C2	1:BA:2488:A:H5'	2.32	0.65
13:BR:44:LEU:HD22	13:BR:48:VAL:HG23	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:160:A:O5'	31:DA:160:A:H8	1.80	0.65
1:BA:384:U:H2'	1:BA:385:C:H6	1.60	0.65
3:AD:125:ILE:HB	36:DF:81:ILE:HD11	1.79	0.65
35:DE:147:ASP:N	35:DE:147:ASP:OD2	2.25	0.65
31:CA:15:G:H4'	35:CE:24:ARG:HH12	1.62	0.65
11:BP:59:LEU:HD11	30:B8:10:ALA:HB2	1.79	0.65
31:CA:959:A:HO2'	31:CA:984:C:HO2'	1.45	0.65
5:AF:184:TYR:CE2	5:AF:188:ARG:HD2	2.32	0.65
34:CD:18:LYS:HZ2	34:CD:31:CYS:HB3	1.62	0.65
3:BD:108:PRO:HB3	3:BD:143:HIS:HE1	1.62	0.65
32:DB:17:PHE:HD2	32:DB:17:PHE:H	1.43	0.65
35:CE:147:ASP:N	35:CE:147:ASP:OD2	2.26	0.65
32:CB:16:HIS:HB3	32:CB:210:SER:HA	1.78	0.65
31:DA:1106:G:H5''	33:DC:172:ARG:HG2	1.79	0.65
1:AA:1766:U:H2'	1:AA:1767:C:H6	1.62	0.65
31:CA:93:G:O2'	31:CA:96:U:OP2	2.15	0.64
31:CA:344:A:H5''	31:CA:345:C:H5	1.62	0.64
33:DC:5:ILE:HD11	44:DN:49:HIS:CE1	2.32	0.64
3:AD:16:MET:HG3	3:AD:206:LEU:O	1.96	0.64
31:DA:1352:C:H2'	31:DA:1353:G:C8	2.32	0.64
1:BA:1689:A:H62	1:BA:1698:A:H2	1.42	0.64
1:AA:247:G:H4'	1:AA:386:G:C5	2.32	0.64
47:CQ:45:HIS:HB2	47:CQ:65:ILE:HD13	1.79	0.64
1:BA:389:G:N1	11:BP:70:GLN:HG3	2.12	0.64
31:DA:1366:C:O2'	40:DJ:60:ARG:NH1	2.28	0.64
31:CA:933:G:O6	37:CG:3:ARG:NH2	2.31	0.64
1:BA:1495:A:H2'	1:BA:1496:A:C8	2.32	0.64
1:AA:2287:A:N6	1:AA:2344:U:H3	1.95	0.64
20:AY:76:CYS:HB2	20:AY:106:LEU:HD21	1.77	0.64
15:AT:64:ARG:HB2	15:AT:73:GLU:HG2	1.80	0.64
31:CA:584:G:H5'	47:CQ:91:ARG:HH22	1.62	0.64
1:BA:2079:U:OP1	23:B1:21:ARG:NH2	2.30	0.64
1:BA:336:C:O2'	20:BY:35:TYR:OH	2.15	0.64
8:BI:5:LEU:HD11	8:BI:19:VAL:HG22	1.78	0.64
1:BA:535:C:O3'	16:BU:53:ARG:NH1	2.29	0.64
32:CB:87:ARG:HH21	32:CB:233:SER:HB2	1.62	0.64
31:DA:674:G:H2'	31:DA:675:A:H8	1.63	0.64
1:AA:95:G:H4'	24:A2:46:GLN:H	1.61	0.64
21:AZ:5:LEU:HD21	21:AZ:44:PHE:HA	1.79	0.64
1:AA:2158:A:H4'	1:AA:2159:G:H5'	1.79	0.64
31:CA:100:C:H2'	31:CA:101:A:C8	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:373:A:H2'	31:DA:374:A:H8	1.63	0.64
1:BA:857:C:H4'	22:B0:23:VAL:HG21	1.77	0.64
31:CA:1306:A:H1'	31:CA:1332:A:C2	2.33	0.64
1:AA:794:G:H2'	1:AA:795:C:H6	1.61	0.64
15:AT:24:PRO:HA	15:AT:49:VAL:HG22	1.77	0.64
1:BA:1903:G:OP1	3:BD:241:PRO:HB2	1.97	0.64
31:DA:1356:G:H2'	31:DA:1357:A:C8	2.32	0.64
1:AA:2074:U:H2'	1:AA:2075:U:C6	2.32	0.64
37:CG:150:ALA:HA	41:CK:59:TYR:HB3	1.78	0.64
49:DS:69:HIS:HD1	49:DS:74:PHE:HZ	1.43	0.64
34:DD:41:GLY:O	34:DD:43:HIS:N	2.31	0.64
31:CA:625:G:H2'	31:CA:626:U:C6	2.32	0.64
5:AF:53:THR:HG22	5:AF:56:GLU:HG3	1.80	0.64
1:AA:2022:U:O2'	1:AA:2617:C:H5'	1.98	0.64
1:AA:2820:A:OP2	13:AR:2:ARG:NH2	2.27	0.64
21:AZ:110:GLY:HA3	21:AZ:174:VAL:HG11	1.78	0.64
1:BA:271(K):U:O2'	1:BA:271(M):G:N2	2.31	0.64
31:DA:165:C:H2'	31:DA:166:G:C8	2.33	0.64
31:CA:688:G:H2'	31:CA:689:C:H6	1.61	0.64
1:BA:223:A:O2'	1:BA:420:C:O2	2.15	0.64
31:CA:166:G:H2'	31:CA:167:G:C8	2.32	0.64
31:CA:1293:G:O2'	31:CA:1294:G:H8	1.81	0.64
20:BY:99:CYS:HB3	20:BY:102:CYS:SG	2.38	0.64
1:AA:987:G:O2'	1:AA:1000:A:N3	2.28	0.64
32:CB:187:LEU:HA	32:CB:201:ILE:HB	1.79	0.64
7:BH:90:LYS:NZ	7:BH:159:GLU:OE1	2.29	0.64
31:DA:964:A:N3	31:DA:969:A:O2'	2.25	0.64
1:BA:1187:G:H5''	17:BV:81:TYR:CE2	2.33	0.64
1:AA:96:G:P	24:A2:46:GLN:HE21	2.20	0.64
1:BA:2567:G:H2'	1:BA:2568:C:C6	2.33	0.64
1:BA:604:G:OP2	11:BP:90:ARG:NH1	2.31	0.64
10:AO:115:VAL:HG13	10:AO:121:VAL:HG21	1.80	0.64
37:CG:41:ARG:O	37:CG:45:ASP:N	2.30	0.64
22:A0:31:VAL:HG11	22:A0:37:LEU:HD21	1.80	0.64
1:BA:2222:G:O2'	3:BD:148:GLU:HG2	1.97	0.64
31:DA:105:G:H2'	31:DA:106:C:C6	2.33	0.64
33:DC:142:MET:HA	33:DC:146:ALA:HB3	1.80	0.64
6:AG:11:TYR:CZ	6:AG:16:ARG:HD3	2.32	0.64
1:AA:2126:A:H4'	1:AA:2127:G:O5'	1.97	0.64
26:B4:7:PRO:HB2	26:B4:27:THR:HG21	1.79	0.64
7:AH:24:VAL:HG22	7:AH:35:VAL:HB	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1130:A:O5'	39:DI:20:ARG:NH2	2.29	0.64
19:BX:31:HIS:CD2	19:BX:33:LYS:H	2.16	0.64
13:AR:101:ALA:HA	27:A5:44:THR:HG21	1.78	0.64
1:AA:2158:A:H1'	1:AA:2159:G:C8	2.33	0.64
34:DD:60:GLU:OE1	34:DD:199:ASN:N	2.28	0.64
1:AA:652(Q):G:H2'	1:AA:652(R):C:H5'	1.80	0.64
1:BA:2126:A:H4'	1:BA:2127:G:O5'	1.98	0.64
1:BA:1403:C:H5''	1:BA:1471:A:H1'	1.79	0.64
25:A3:6:VAL:HG13	25:A3:56:VAL:HG22	1.78	0.64
1:AA:1187:G:H5''	17:AV:81:TYR:CE2	2.32	0.64
31:DA:1118:C:OP1	39:DI:9:ARG:NH1	2.31	0.64
1:AA:2693:A:H2'	1:AA:2694:G:C8	2.33	0.64
1:AA:1300:U:H4'	1:AA:1301:A:C5'	2.28	0.64
1:BA:1266:G:O5'	18:BW:15:ARG:NH2	2.31	0.64
15:AT:9:LEU:O	15:AT:12:SER:OG	2.10	0.64
1:BA:2099:U:H3	1:BA:2190:G:H1	1.45	0.63
33:DC:11:ARG:HH21	33:DC:180:ALA:HB3	1.62	0.63
10:BO:115:VAL:HG13	10:BO:121:VAL:HG21	1.79	0.63
32:CB:18:GLY:HA2	32:CB:42:ILE:HG13	1.81	0.63
31:CA:1458:G:OP1	50:CT:35:THR:OG1	2.07	0.63
4:BE:143:ASN:HB2	4:BE:147:PRO:HD2	1.78	0.63
31:CA:590:C:H2'	31:CA:591:U:C6	2.33	0.63
34:DD:14:ARG:HB2	34:DD:40:PRO:HD2	1.80	0.63
32:DB:87:ARG:NH1	32:DB:220:ASP:OD1	2.31	0.63
31:DA:954:G:H21	31:DA:1227:A:H62	1.46	0.63
1:AA:644:A:H4'	1:AA:645:C:C5	2.33	0.63
1:AA:805:G:N2	1:AA:829:A:OP1	2.30	0.63
1:AA:1332:G:H21	1:AA:1610:A:H8	1.45	0.63
32:CB:219:VAL:HA	32:CB:222:ILE:HD12	1.80	0.63
1:AA:2307:G:OP1	1:AA:2307:G:H8	1.80	0.63
31:DA:559:A:OP1	35:DE:126:ARG:NH2	2.31	0.63
1:AA:1430:C:H2'	1:AA:1431:U:H6	1.62	0.63
34:CD:108:LEU:HB3	34:CD:110:PHE:CE1	2.33	0.63
31:DA:165:C:H2'	31:DA:166:G:H8	1.63	0.63
31:CA:1379:G:N2	31:CA:1381:U:O4	2.30	0.63
31:CA:750:G:N3	45:CO:23:GLY:HA3	2.13	0.63
31:CA:233:C:H2'	31:CA:234:C:H6	1.63	0.63
28:A6:18:ARG:HG3	28:A6:42:TRP:CD1	2.32	0.63
31:CA:193:C:H2'	31:CA:194:C:C6	2.32	0.63
5:AF:137:LYS:HA	5:AF:140:LEU:HD23	1.81	0.63
39:CI:5:TYR:O	39:CI:87:GLN:NE2	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:BI:92:VAL:HG13	8:BI:120:ILE:HB	1.81	0.63
1:AA:2567:G:H2'	1:AA:2568:C:C6	2.33	0.63
31:DA:1502:A:H2	31:DA:1505:G:N1	1.91	0.63
6:BG:41:GLN:HE22	6:BG:153:ARG:HB3	1.63	0.63
35:DE:126:ARG:HG2	35:DE:126:ARG:HH11	1.63	0.63
1:AA:1688:U:H1'	1:AA:1701:A:C6	2.33	0.63
1:AA:2125:G:H22	1:AA:2172:U:H3'	1.63	0.63
43:DM:60:VAL:HA	43:DM:64:TRP:HZ3	1.63	0.63
1:AA:107:C:H2'	1:AA:108:U:H6	1.63	0.63
1:BA:443:A:H1'	1:BA:1201:C:O4'	1.99	0.63
1:AA:1021:A:H62	1:AA:1141:U:H3	1.46	0.63
1:BA:676:A:H2	1:BA:802:A:H61	1.47	0.63
31:DA:1025:U:C2	31:DA:1036:G:O6	2.51	0.63
31:DA:985:C:H2'	31:DA:986:A:C8	2.32	0.63
1:BA:2166:G:N2	1:BA:2172:U:O4	2.31	0.63
49:CS:50:ALA:HB1	49:CS:57:HIS:HB3	1.79	0.63
1:BA:639:U:H2'	1:BA:640:C:C6	2.33	0.63
33:CC:150:LYS:HB3	33:CC:173:VAL:HG21	1.81	0.63
46:DP:72:ARG:HH21	46:DP:73:LEU:HD21	1.64	0.63
1:AA:322:A:OP2	5:AF:169:ASN:HB2	1.98	0.63
31:DA:430:A:OP1	34:DD:9:CYS:HB2	1.98	0.63
28:A6:16:CYS:HB3	28:A6:43:CYS:SG	2.39	0.63
12:BQ:135:ASP:OD2	21:BZ:49:ARG:NH2	2.31	0.63
32:DB:47:THR:HA	32:DB:202:PRO:HG2	1.81	0.63
31:CA:1251:A:H2'	31:CA:1252:A:C8	2.34	0.63
31:CA:677:U:H3	31:CA:713:G:H22	1.46	0.63
1:AA:879:G:H2'	1:AA:880:G:O4'	1.97	0.63
8:BI:93:THR:HG22	8:BI:119:PRO:HB3	1.81	0.63
9:BN:20:GLY:HA2	9:BN:61:ARG:HD3	1.79	0.63
8:BI:12:LEU:HD22	8:BI:19:VAL:HG21	1.81	0.63
39:CI:24:GLY:HA2	39:CI:60:ASP:HA	1.78	0.63
1:AA:2198:A:O2'	1:AA:2224:G:N2	2.32	0.63
13:BR:55:ALA:HB2	13:BR:79:LEU:HD13	1.80	0.63
31:DA:1435:G:H2'	31:DA:1436:U:C6	2.33	0.63
32:CB:20:GLU:O	32:CB:40:HIS:N	2.31	0.63
31:CA:735:C:H2'	31:CA:736:C:H6	1.64	0.63
1:BA:1503:U:H2'	1:BA:1504:C:C6	2.34	0.63
30:A8:39:LYS:HA	30:A8:42:ARG:NH1	2.13	0.63
31:DA:737:A:H1'	36:DF:73:ASN:HD21	1.63	0.63
2:AB:28:C:H2'	2:AB:29:A:H8	1.63	0.63
1:AA:83:G:N2	1:AA:102:G:O2'	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1047:G:H2'	1:AA:1110:G:H1	1.64	0.63
31:CA:176:C:H2'	31:CA:177:C:C6	2.33	0.63
2:BB:31:C:O2'	2:BB:53:A:N6	2.31	0.63
1:AA:2611:U:C4	27:A5:3:LYS:HG2	2.34	0.63
33:DC:155:GLY:O	33:DC:157:ILE:N	2.32	0.63
31:CA:132:C:H2'	31:CA:133:U:H6	1.64	0.63
39:DI:43:ALA:C	39:DI:45:ALA:HB2	2.19	0.62
32:DB:71:VAL:HA	32:DB:93:VAL:HG23	1.81	0.62
1:AA:1012:U:H5	9:AN:28:THR:HG21	1.64	0.62
1:BA:1426:G:O6	3:BD:31:LYS:NZ	2.32	0.62
1:AA:1833:U:O2'	1:AA:1969:A:N1	2.29	0.62
52:BA:3001:T8B:H17	52:BA:3001:T8B:H13	0.73	0.62
1:AA:1332:G:N2	1:AA:1610:A:C8	2.67	0.62
1:AA:1537:G:H2'	1:AA:1538:G:H8	1.64	0.62
31:CA:1128:C:H1'	31:CA:1146:A:H61	1.64	0.62
1:AA:1174:A:H4'	1:AA:1175:U:OP1	1.98	0.62
35:CE:78:HIS:HE1	35:CE:142:LEU:HA	1.64	0.62
31:DA:663:A:O3'	48:DR:64:ARG:NH2	2.31	0.62
1:BA:271(M):G:O2'	1:BA:271(N):U:O5'	2.16	0.62
1:AA:375:C:H2'	1:AA:376:C:C6	2.34	0.62
14:BS:26:LEU:HD13	14:BS:87:PHE:HD1	1.64	0.62
1:BA:878:A:H2'	1:BA:879:G:H5'	1.81	0.62
1:AA:95:G:O2'	24:A2:46:GLN:HA	2.00	0.62
14:AS:34:HIS:ND1	14:AS:53:SER:OG	2.32	0.62
31:CA:67:C:H2'	31:CA:68:G:C8	2.35	0.62
31:DA:1255:G:O2'	31:DA:1259:C:O4'	2.13	0.62
1:AA:2854:G:H2'	1:AA:2855:C:C6	2.33	0.62
11:AP:121:LYS:O	11:AP:123:LEU:N	2.32	0.62
1:AA:392:C:H5''	1:AA:409:C:H5''	1.81	0.62
8:AI:95:LYS:O	8:AI:98:ALA:HB3	1.99	0.62
1:AA:1420:U:O2'	1:AA:1421:G:OP1	2.17	0.62
12:BQ:21:THR:HG21	12:BQ:101:ARG:HB2	1.79	0.62
1:AA:1266:G:O5'	18:AW:15:ARG:NH2	2.32	0.62
1:AA:2305:A:H2	6:AG:152:LEU:HD11	1.64	0.62
31:CA:272:C:H2'	31:CA:273:A:C8	2.34	0.62
34:CD:32:ALA:O	34:CD:35:ARG:N	2.33	0.62
1:AA:576:U:H2'	1:AA:577:G:C8	2.34	0.62
31:DA:748:C:H4'	31:DA:749:C:O5'	1.99	0.62
32:DB:52:GLU:O	32:DB:56:ARG:HG2	1.99	0.62
33:DC:40:ARG:NH2	33:DC:55:VAL:O	2.32	0.62
1:BA:242:G:O2'	1:BA:254:G:O6	2.13	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1201:A:H4'	31:DA:1202:G:O5'	2.00	0.62
1:AA:1530:C:N4	1:AA:1539:G:H1	1.98	0.62
14:AS:34:HIS:O	14:AS:97:ARG:NH2	2.32	0.62
31:CA:187:C:H2'	31:CA:188:C:C6	2.35	0.62
1:BA:2125:G:H22	1:BA:2172:U:H3'	1.64	0.62
20:BY:79:CYS:HB2	20:BY:81:LYS:H	1.63	0.62
34:DD:134:ASP:O	34:DD:136:PRO:HD3	1.99	0.62
1:AA:186:G:H2'	1:AA:187:G:H8	1.65	0.62
1:BA:2104:G:N2	1:BA:2105:C:C2	2.67	0.62
35:DE:143:ARG:NH1	38:DH:77:GLU:OE1	2.32	0.62
31:DA:801:U:H2'	31:DA:802:A:C8	2.33	0.62
1:AA:639:U:H2'	1:AA:640:C:C6	2.33	0.62
31:CA:688:G:H2'	31:CA:689:C:C6	2.34	0.62
1:BA:644:A:H4'	1:BA:645:C:C5	2.34	0.62
34:DD:128:VAL:HG12	34:DD:129:ASN:HD22	1.64	0.62
18:BW:10:VAL:HG12	18:BW:12:ILE:HG22	1.82	0.62
1:AA:1138:G:N3	9:AN:106:MET:HE2	2.15	0.62
1:AA:2233:U:H2'	1:AA:2234:G:C8	2.34	0.62
38:DH:96:GLY:N	38:DH:99:GLU:OE2	2.27	0.62
1:BA:1434:A:H61	1:BA:1558:A:N6	1.97	0.62
1:AA:994:C:OP2	16:AU:54:LYS:NZ	2.24	0.62
46:CP:29:ASP:OD2	46:CP:29:ASP:N	2.31	0.62
31:DA:458:C:H2'	31:DA:460:G:H8	1.65	0.62
1:BA:855:G:O2'	22:B0:27:GLU:OE2	2.12	0.62
31:CA:1126:U:H1'	31:CA:1280:A:C5	2.35	0.62
39:CI:44:VAL:N	39:CI:45:ALA:HA	2.15	0.62
7:AH:30:LYS:HG3	7:AH:80:SER:O	1.98	0.62
32:CB:100:GLY:N	32:CB:176:GLU:OE2	2.30	0.62
31:CA:1215:G:H2'	31:CA:1216:G:H8	1.64	0.62
13:AR:23:ASN:OD1	13:AR:23:ASN:N	2.32	0.62
31:DA:1071:C:H5''	35:DE:49:PRO:HG3	1.81	0.62
14:BS:96:GLY:N	14:BS:99:LYS:HB3	2.14	0.62
8:BI:61:ARG:HB3	8:BI:133:HIS:CD2	2.33	0.62
31:DA:618:C:N3	31:DA:622:A:N6	2.47	0.62
31:DA:1289:A:H3'	31:DA:1290:G:H8	1.65	0.62
10:BO:120:GLU:HG2	10:BO:122:LEU:HG	1.81	0.62
41:DK:62:GLN:NE2	41:DK:93:GLN:OE1	2.32	0.62
1:AA:1529:G:C6	1:AA:1530:C:N4	2.68	0.62
31:DA:473:G:H2'	31:DA:474:G:C8	2.34	0.62
40:CJ:61:GLU:OE1	44:CN:58:LYS:NZ	2.28	0.62
13:BR:28:LEU:HD12	13:BR:48:VAL:HG21	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:571:A:H5'	1:BA:2030:A:H62	1.64	0.62
1:AA:2735:G:H2'	1:AA:2736:G:H8	1.62	0.62
1:BA:1568:G:H5''	3:BD:61:LEU:HD22	1.82	0.62
1:AA:1530:C:H1'	1:AA:1531:C:OP1	1.99	0.62
14:BS:96:GLY:HA2	14:BS:100:ALA:H	1.65	0.62
31:CA:662:G:H2'	31:CA:663:A:H8	1.62	0.62
42:CL:27:LEU:C	42:CL:29:GLY:H	2.04	0.62
31:CA:475:G:O2'	31:CA:476:G:H5'	2.00	0.62
32:DB:135:GLN:HA	32:DB:138:LEU:HD12	1.82	0.62
1:BA:1227:G:OP1	16:BU:13:LYS:NZ	2.32	0.62
1:BA:2314:C:H2'	1:BA:2315:G:C8	2.35	0.62
1:BA:1839:G:H5'	1:BA:1839:G:H8	1.64	0.62
1:BA:2483:C:N3	12:BQ:124:LYS:NZ	2.47	0.62
1:AA:2462:U:H2'	1:AA:2463:C:O4'	1.99	0.62
5:AF:103:LYS:HA	5:AF:106:ARG:HG3	1.82	0.62
1:BA:265:A:H1'	1:BA:266:G:O4'	1.99	0.62
31:CA:877:C:H5''	38:CH:88:LYS:HD3	1.80	0.62
33:DC:48:TYR:O	33:DC:50:ALA:N	2.33	0.62
1:AA:747:U:O2	1:AA:2014:A:H1'	2.00	0.62
32:DB:74:LYS:O	32:DB:76:GLN:N	2.32	0.62
21:AZ:160:GLY:HA2	21:AZ:161:VAL:CB	2.29	0.61
32:DB:12:GLU:C	32:DB:16:HIS:HD1	2.04	0.61
31:CA:427:U:OP1	34:CD:13:ARG:NH2	2.32	0.61
1:AA:2115:G:O2'	1:AA:2166:G:N2	2.33	0.61
1:AA:271(K):U:O2'	1:AA:271(M):G:N2	2.32	0.61
1:AA:1283:G:N2	1:AA:1285:G:H3'	2.15	0.61
3:BD:145:VAL:HG12	3:BD:146:GLU:O	2.00	0.61
1:AA:2122:U:H2'	1:AA:2123:G:H8	1.65	0.61
1:BA:2022:U:O2'	1:BA:2617:C:H5'	1.99	0.61
1:BA:652(Q):G:H2'	1:BA:652(R):C:H5'	1.82	0.61
14:BS:58:LEU:HB2	14:BS:59:LYS:HB2	1.82	0.61
26:B4:42:PHE:HB3	26:B4:43:TYR:HB2	1.81	0.61
31:CA:955:U:H1'	31:CA:1227:A:H61	1.65	0.61
1:AA:855:G:O2'	22:A0:27:GLU:OE2	2.15	0.61
31:CA:159:G:H2'	31:CA:161:A:OP2	2.00	0.61
1:BA:184:C:H2'	1:BA:185:U:C6	2.35	0.61
21:BZ:69:THR:HG22	21:BZ:90:VAL:HA	1.81	0.61
1:BA:754:C:H2'	1:BA:755:C:H6	1.64	0.61
33:CC:58:GLU:HB2	33:CC:65:ALA:HB3	1.82	0.61
1:AA:1470:G:N2	1:AA:1520:G:OP2	2.33	0.61
31:CA:537:G:H2'	31:CA:538:G:C8	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:CM:23:TYR:HB3	43:CM:67:GLU:HG2	1.82	0.61
1:BA:84:A:N6	1:BA:102:G:H1'	2.15	0.61
5:AF:7:TYR:HB2	5:AF:22:ALA:HB3	1.82	0.61
31:CA:1155:G:H2'	31:CA:1156:G:C8	2.35	0.61
3:BD:77:ALA:HB2	3:BD:97:TYR:CD2	2.35	0.61
35:DE:145:LYS:O	35:DE:149:GLU:HG2	1.99	0.61
32:DB:163:PHE:HA	32:DB:185:ILE:HG12	1.83	0.61
1:AA:1022:G:N7	9:AN:66:LYS:HE2	2.15	0.61
34:CD:22:LYS:HB2	34:CD:26:CYS:HB2	1.82	0.61
1:BA:528:A:C2	1:BA:2043:C:H4'	2.34	0.61
31:DA:624:C:H2'	31:DA:625:G:H8	1.65	0.61
5:BF:33:LEU:HD13	5:BF:112:MET:HE2	1.82	0.61
1:AA:2887:U:H2'	1:AA:2888:C:C6	2.36	0.61
51:CU:12:LYS:O	51:CU:16:GLY:N	2.34	0.61
8:AI:116:LEU:HD13	8:AI:119:PRO:HA	1.81	0.61
2:AB:75:G:H8	2:AB:75:G:H5''	1.64	0.61
23:A1:10:LYS:NZ	23:A1:65:SER:OG	2.34	0.61
3:BD:35:LYS:HG2	3:BD:36:PRO:HD2	1.81	0.61
1:AA:1506:C:H2'	1:AA:1507:A:H5'	1.82	0.61
1:AA:2563:U:H4'	10:AO:28:SER:HA	1.81	0.61
31:DA:1307:U:OP1	43:DM:101:GLN:NE2	2.34	0.61
31:DA:262:A:H2'	31:DA:263:A:C8	2.35	0.61
1:BA:1021:A:H3'	1:BA:1021:A:C8	2.36	0.61
44:DN:29:ARG:HD3	44:DN:40:CYS:HB2	1.83	0.61
2:AB:24:G:H4'	2:AB:25:A:C8	2.36	0.61
31:CA:600:C:OP1	38:CH:97:VAL:N	2.27	0.61
31:DA:246:A:N1	31:DA:278:G:O2'	2.27	0.61
31:DA:256:U:H2'	31:DA:257:G:C8	2.36	0.61
34:DD:100:ARG:NH1	34:DD:137:SER:HB3	2.15	0.61
10:BO:8:LEU:HB2	10:BO:19:ILE:HG13	1.82	0.61
1:BA:1300:U:H4'	1:BA:1301:A:C5'	2.31	0.61
31:DA:353:A:H5'	31:DA:353:A:H8	1.64	0.61
1:AA:2294:C:OP2	14:AS:13:ARG:NH1	2.34	0.61
32:DB:219:VAL:HA	32:DB:222:ILE:HD12	1.81	0.61
31:CA:1355:G:H2'	31:CA:1356:G:H8	1.65	0.61
32:DB:134:GLU:HA	32:DB:137:ARG:HE	1.65	0.61
1:AA:2164:C:H3'	1:AA:2165:G:H8	1.64	0.61
31:CA:620:C:H2'	31:CA:621:A:O4'	2.00	0.61
31:DA:263:A:OP1	50:DT:79:ARG:NH1	2.32	0.61
13:AR:100:LEU:HD11	13:AR:113:LEU:HD23	1.81	0.61
1:BA:2789:C:O2'	1:BA:2790:A:O2'	2.18	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:B6:26:ASN:HB3	28:B6:29:ASN:HB2	1.82	0.61
10:BO:2:ILE:HD12	10:BO:6:THR:HG21	1.81	0.61
1:AA:2420:C:P	30:A8:33:ASN:H	2.23	0.61
15:AT:56:GLY:O	15:AT:59:THR:HG23	2.00	0.61
1:AA:1429:G:H2'	1:AA:1430:C:C6	2.35	0.61
1:AA:652(G):G:H2'	1:AA:652(H):C:H6	1.66	0.61
32:CB:185:ILE:HG22	32:CB:199:TYR:HB2	1.82	0.61
31:CA:1141:C:H2'	31:CA:1142:G:O4'	2.01	0.61
1:AA:2108:C:H42	1:AA:2181:G:H1	1.46	0.61
35:DE:36:ASP:OD2	35:DE:38:GLN:N	2.32	0.61
31:DA:224:C:H2'	31:DA:225:C:C6	2.36	0.61
1:BA:1914:C:HO2'	1:BA:1915:U:P	2.24	0.61
1:AA:84:A:N6	1:AA:102:G:H1'	2.16	0.61
33:CC:134:ILE:HG22	33:CC:168:ALA:HB3	1.82	0.61
1:AA:1495:A:H2'	1:AA:1496:A:C8	2.35	0.61
31:DA:811:C:O2'	31:DA:901:A:N1	2.34	0.61
4:AE:38:THR:O	4:AE:42:ASP:N	2.31	0.61
1:BA:882:G:H1	1:BA:894:C:H42	1.49	0.61
7:AH:56:SER:OG	7:AH:61:HIS:ND1	2.28	0.61
52:BA:3001:T8B:C6	31:CA:1409:C:C2	2.83	0.61
14:AS:26:LEU:HD22	14:AS:87:PHE:CE1	2.36	0.61
1:BA:1048:A:OP2	1:BA:1109:C:N4	2.34	0.61
31:CA:559:A:H4'	31:CA:560:U:H3'	1.81	0.61
31:CA:1073:U:H2'	31:CA:1074:G:H8	1.65	0.61
5:BF:101:LEU:HD12	5:BF:102:PRO:HD2	1.82	0.61
30:A8:33:ASN:HA	30:A8:36:LYS:HD2	1.83	0.61
1:BA:2390:U:P	30:B8:35:GLN:HE22	2.23	0.61
1:AA:1106:A:H4'	1:AA:1107:G:OP2	2.01	0.61
31:DA:235:C:H5'	47:DQ:70:ARG:HG2	1.81	0.61
31:DA:1210:C:H3'	31:DA:1211:U:H5''	1.80	0.61
26:A4:9:LEU:HD23	26:A4:27:THR:HG23	1.83	0.61
31:DA:171:A:H2'	31:DA:172:A:H8	1.66	0.61
20:AY:9:LYS:NZ	20:AY:28:LYS:O	2.31	0.61
47:CQ:31:LEU:HD23	47:CQ:32:TYR:CZ	2.36	0.61
32:DB:115:LEU:HD13	32:DB:145:LEU:HB3	1.83	0.61
14:AS:63:THR:O	14:AS:66:ALA:HB3	2.01	0.61
32:CB:102:LEU:HB3	32:CB:180:LEU:HD12	1.82	0.61
14:BS:15:ARG:O	14:BS:19:LYS:HG2	2.01	0.61
34:CD:170:VAL:HG22	34:CD:171:GLY:H	1.66	0.61
8:AI:106:GLY:HA2	8:AI:107:VAL:HB	1.83	0.60
1:BA:1359:A:N1	1:BA:1372:U:O4	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:CD:14:ARG:HB2	34:CD:40:PRO:HD2	1.81	0.60
1:AA:854:G:H2'	1:AA:855:G:C8	2.36	0.60
31:CA:828:A:H2'	31:CA:829:G:O4'	2.01	0.60
1:BA:1665:A:H4'	10:BO:67:LYS:HB2	1.81	0.60
1:AA:30:G:H2'	1:AA:31:C:C6	2.36	0.60
1:BA:1915:U:C4	1:BA:1916:A:C5	2.88	0.60
1:BA:1045:A:N3	1:BA:1045:A:H2'	2.17	0.60
4:AE:201:THR:OG1	4:AE:202:LYS:N	2.34	0.60
1:AA:2820:A:OP1	13:AR:4:LEU:HD23	2.02	0.60
31:DA:166:G:H2'	31:DA:167:G:H8	1.65	0.60
7:AH:105:LEU:HD21	7:AH:148:ILE:HG23	1.83	0.60
49:DS:52:TYR:HB2	49:DS:57:HIS:CE1	2.35	0.60
1:AA:2079:U:OP1	23:A1:21:ARG:NH2	2.35	0.60
1:AA:2357:U:OP1	22:A0:20:ARG:NH1	2.34	0.60
1:AA:1796:U:H2'	1:AA:1797:C:C6	2.36	0.60
30:A8:8:LYS:HB3	30:A8:12:LYS:HE3	1.83	0.60
21:AZ:54:HIS:ND1	21:AZ:101:PRO:HG3	2.16	0.60
31:DA:976:G:H5'	31:DA:1358:U:O2'	2.01	0.60
1:BA:848:G:H2'	1:BA:849:A:C8	2.36	0.60
33:DC:7:PRO:HG3	33:DC:201:TYR:CE2	2.36	0.60
31:CA:1086:U:H3	31:CA:1099:G:H22	1.49	0.60
1:AA:1046:A:O2'	1:AA:1047:G:OP2	2.19	0.60
27:A5:16:ARG:NH1	27:A5:17:ASP:OD1	2.34	0.60
6:AG:16:ARG:NE	6:AG:31:VAL:HG21	2.16	0.60
1:AA:2324:C:H5''	1:AA:2325:G:H5'	1.82	0.60
1:BA:2408:U:H2'	1:BA:2409:G:C8	2.36	0.60
32:DB:102:LEU:HD23	32:DB:182:ILE:HD12	1.83	0.60
15:AT:15:VAL:HG13	15:AT:79:HIS:CE1	2.37	0.60
32:CB:178:ARG:HH22	38:CH:68:ARG:HH12	1.47	0.60
1:AA:2131:G:OP1	1:AA:2132:U:H3'	2.02	0.60
31:DA:1259:C:N4	31:DA:1260:C:O2	2.35	0.60
31:DA:1411:C:H2'	31:DA:1412:C:C6	2.36	0.60
23:B1:19:GLN:O	23:B1:35:THR:HG22	2.01	0.60
28:B6:11:LEU:HB3	28:B6:49:HIS:HB3	1.83	0.60
38:CH:29:SER:HB3	38:CH:32:LYS:HD2	1.83	0.60
14:AS:52:SER:HB2	14:AS:55:ALA:H	1.65	0.60
1:AA:848:G:H2'	1:AA:849:A:C8	2.36	0.60
17:AV:60:GLU:HB2	17:AV:97:LYS:HE2	1.83	0.60
11:AP:138:LEU:HG	11:AP:143:GLY:HA3	1.83	0.60
32:DB:16:HIS:HB3	32:DB:210:SER:HA	1.82	0.60
1:BA:2319:G:N1	14:BS:3:ARG:HA	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AG:138:GLN:HE22	6:AG:153:ARG:HB2	1.66	0.60
5:AF:20:LEU:HD22	5:AF:21:ALA:HB3	1.83	0.60
1:BA:1040:C:H2'	1:BA:1041:C:O4'	2.02	0.60
41:DK:34:ASP:HB3	41:DK:40:ILE:HD11	1.84	0.60
31:CA:1118:C:H1'	31:CA:1179:A:C4	2.36	0.60
1:BA:1779:U:C5	1:BA:1784:A:N7	2.70	0.60
31:CA:400:C:H5''	34:CD:73:ARG:HH22	1.65	0.60
31:CA:1030:C:N4	31:CA:1031:G:C6	2.70	0.60
31:CA:460:G:O6	31:CA:470:C:H5''	2.01	0.60
1:AA:854:G:H2'	1:AA:855:G:H8	1.66	0.60
1:BA:1300:U:H4'	1:BA:1301:A:H5''	1.82	0.60
36:CF:10:LEU:HD23	36:CF:61:LEU:HD13	1.84	0.60
1:BA:2136:C:N4	1:BA:2155:G:H1	1.99	0.60
1:AA:185:U:H4'	1:AA:218:A:H4'	1.84	0.60
31:DA:1097:C:H1'	31:DA:1169:A:C2	2.36	0.60
7:AH:159:GLU:HG3	7:AH:169:VAL:HG21	1.83	0.60
28:B6:18:ARG:HG3	28:B6:42:TRP:CD1	2.36	0.60
5:AF:183:VAL:O	5:AF:187:VAL:HG23	2.01	0.60
32:CB:77:ALA:HB2	32:CB:211:ILE:HD13	1.84	0.60
31:CA:1327:C:H2'	31:CA:1328:C:C6	2.36	0.60
16:BU:92:ARG:HA	16:BU:95:LEU:HB2	1.82	0.60
2:AB:32:C:C2	2:AB:51:G:N2	2.70	0.60
14:AS:102:ALA:HA	14:AS:105:ALA:HB3	1.84	0.60
31:DA:1228:C:H2'	31:DA:1229:A:C8	2.34	0.60
1:BA:2133:G:O2'	1:BA:2158:A:N1	2.35	0.60
1:AA:958:U:OP2	12:AQ:14:ARG:NH1	2.35	0.60
31:CA:537:G:H2'	31:CA:538:G:H8	1.66	0.60
33:DC:141:VAL:HG11	33:DC:202:ILE:HD13	1.84	0.60
31:DA:35:G:O2'	42:DL:118:SER:O	2.19	0.60
1:BA:576:U:H2'	1:BA:577:G:C8	2.37	0.60
1:AA:864:G:C6	1:AA:865:C:N4	2.69	0.60
1:AA:1790:C:H5''	1:AA:1791:A:OP1	2.00	0.60
21:BZ:160:GLY:HA2	21:BZ:161:VAL:CB	2.31	0.60
27:B5:16:ARG:HG2	27:B5:16:ARG:HH11	1.66	0.60
31:CA:186:C:H2'	31:CA:187:C:H6	1.67	0.60
1:AA:729:G:C5	3:AD:208:LYS:HB2	2.37	0.60
1:AA:729:G:OP1	3:AD:10:THR:OG1	2.12	0.60
31:DA:1367:C:H4'	40:DJ:48:THR:HG21	1.83	0.60
35:DE:36:ASP:OD2	35:DE:37:ARG:N	2.35	0.60
31:DA:437:U:H5''	34:DD:155:LEU:HD11	1.83	0.60
31:CA:1284:C:H3'	31:CA:1285:A:H8	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:BG:27:ASN:HB3	6:BG:30:GLU:HG3	1.84	0.60
31:CA:1207:G:H2'	31:CA:1208:C:C6	2.36	0.60
31:CA:685:G:O2'	31:CA:686:U:H5'	2.02	0.60
1:BA:2137:C:H2'	1:BA:2137:C:O2	2.00	0.60
31:DA:67:C:H2'	31:DA:68:G:C8	2.36	0.60
1:AA:531:C:H4'	1:AA:532:A:H5''	1.84	0.60
2:AB:94:C:H2'	2:AB:95:C:H6	1.67	0.60
40:DJ:9:ARG:HB2	40:DJ:95:GLU:HB3	1.84	0.60
35:CE:53:LEU:HD12	35:CE:53:LEU:H	1.66	0.60
31:CA:433:C:H2'	31:CA:434:U:C6	2.35	0.60
35:DE:100:VAL:O	35:DE:107:ARG:NH2	2.35	0.60
11:AP:88:LEU:HD11	11:AP:114:ILE:HD12	1.82	0.60
31:DA:552:U:O3'	42:DL:87:GLY:HA3	2.01	0.60
6:BG:20:ILE:O	6:BG:24:GLY:N	2.29	0.60
31:DA:1262:C:H2'	31:DA:1263:C:C6	2.36	0.60
31:DA:1176:A:H2'	31:DA:1177:G:C8	2.37	0.60
8:BI:83:ALA:HA	8:BI:89:TYR:HD1	1.67	0.60
44:DN:32:SER:HB3	44:DN:41:ARG:HB3	1.83	0.60
6:AG:66:GLN:HG2	26:A4:1:MET:HE3	1.81	0.60
34:DD:9:CYS:HA	34:DD:12:CYS:H	1.67	0.60
16:AU:76:TYR:CZ	16:AU:80:ILE:HG13	2.37	0.60
1:AA:300:A:P	20:AY:86:ARG:HH22	2.24	0.60
3:AD:142:VAL:HG23	3:AD:193:VAL:HA	1.84	0.60
1:BA:910:A:H62	12:BQ:12:GLN:HA	1.65	0.60
34:CD:60:GLU:HG2	34:CD:202:LEU:HB2	1.83	0.60
9:BN:56:ASN:H	9:BN:125:GLY:HA3	1.67	0.59
15:AT:95:ARG:HH11	15:AT:95:ARG:HG2	1.66	0.59
31:CA:757:U:H2'	31:CA:758:G:O4'	2.01	0.59
31:CA:713:G:H2'	31:CA:714:G:C8	2.36	0.59
1:AA:656:G:H2'	1:AA:657:U:O4'	2.01	0.59
31:DA:1305:G:N2	31:DA:1331:G:HO2'	1.99	0.59
31:DA:154:C:H2'	31:DA:155:C:H6	1.66	0.59
1:BA:2712:U:H2'	1:BA:2714:G:H5''	1.84	0.59
2:AB:66:A:H61	2:AB:109:C:H5''	1.66	0.59
31:DA:746:A:H2'	31:DA:747:C:H6	1.67	0.59
31:CA:353:A:H8	31:CA:353:A:H5'	1.67	0.59
1:AA:2285:C:OP2	28:A6:6:ARG:NH1	2.34	0.59
31:CA:1324:A:H2'	31:CA:1325:C:C6	2.37	0.59
31:CA:1492:A:OP1	42:CL:47:LYS:N	2.27	0.59
46:DP:28:ARG:NH1	46:DP:29:ASP:OD2	2.35	0.59
31:DA:1346:A:H61	31:DA:1374:A:H3'	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AI:123:LEU:HB3	8:AI:144:VAL:HG22	1.83	0.59
31:DA:1286:A:N6	31:DA:1354:C:O3'	2.35	0.59
1:BA:221:A:N1	1:BA:265:A:O2'	2.34	0.59
2:AB:43:C:H5''	26:A4:1:MET:HG3	1.83	0.59
42:DL:34:ARG:O	42:DL:61:THR:HG23	2.03	0.59
1:BA:2683:C:OP1	15:BT:53:ARG:NH2	2.35	0.59
31:CA:171:A:H2'	31:CA:172:A:C8	2.37	0.59
31:CA:1030:C:C4	31:CA:1030(A):G:H1'	2.37	0.59
31:DA:501:C:H2'	31:DA:502:G:H8	1.65	0.59
31:CA:503:C:OP1	42:CL:119:LYS:NZ	2.26	0.59
31:DA:625:G:H2'	31:DA:626:U:H6	1.65	0.59
34:CD:110:PHE:HD1	34:CD:110:PHE:H	1.50	0.59
31:DA:166:G:H2'	31:DA:167:G:C8	2.38	0.59
7:AH:11:VAL:HG21	7:AH:50:VAL:HG23	1.83	0.59
1:BA:910:A:C5	12:BQ:13:GLN:HG3	2.37	0.59
14:AS:27:SER:HA	14:AS:88:ASP:HB3	1.85	0.59
20:AY:79:CYS:HB2	20:AY:81:LYS:H	1.68	0.59
6:BG:126:ASP:HB3	6:BG:130:ASN:H	1.67	0.59
1:AA:2615:U:H2'	1:AA:2616:C:H6	1.67	0.59
1:AA:2802:G:H2'	1:AA:2803:C:C6	2.38	0.59
31:CA:116:A:H61	31:CA:313:A:H1'	1.68	0.59
1:BA:1331:A:HO2'	1:BA:1332:G:H8	1.50	0.59
3:AD:274:ARG:HA	3:AD:275:LYS:HB2	1.85	0.59
31:CA:1256:A:H5''	31:CA:1257:U:OP1	2.01	0.59
1:BA:1047:G:H2'	1:BA:1110:G:H1	1.67	0.59
1:BA:2156:G:O6	1:BA:2157:G:N2	2.33	0.59
1:BA:1420:U:HO2'	1:BA:1421:G:P	2.25	0.59
31:CA:953:G:H5''	31:CA:965:A:H61	1.67	0.59
1:BA:2408:U:H2'	1:BA:2409:G:H8	1.68	0.59
1:AA:1379:A:H4'	1:AA:1380:G:OP2	2.03	0.59
37:DG:43:PHE:O	37:DG:47:CYS:N	2.30	0.59
34:CD:149:ALA:O	34:CD:152:SER:N	2.32	0.59
37:DG:62:PHE:HA	37:DG:124:LEU:HD22	1.83	0.59
1:BA:2420:C:H5'	28:B6:54:ILE:HD11	1.83	0.59
31:DA:382:A:H2'	31:DA:383:A:H8	1.66	0.59
39:DI:28:VAL:HG22	39:DI:63:ILE:HB	1.84	0.59
52:BA:3001:T8B:C10	31:CA:1491:G:C6	2.86	0.59
1:BA:1178:C:H2'	1:BA:1179:C:C6	2.38	0.59
1:AA:2723:C:H4'	13:AR:1:MET:HG3	1.83	0.59
1:BA:784:A:C5	3:BD:229:VAL:HG21	2.38	0.59
36:DF:3:ARG:HB3	36:DF:93:SER:HB2	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:DM:24:GLY:O	43:DM:25:ILE:HG13	2.03	0.59
21:BZ:44:PHE:CZ	21:BZ:86:VAL:HG11	2.37	0.59
19:AX:12:VAL:HG22	19:AX:29:TRP:CE2	2.37	0.59
31:CA:105:G:H2'	31:CA:106:C:C6	2.37	0.59
5:BF:197:ASP:OD2	5:BF:197:ASP:N	2.35	0.59
31:DA:1003:G:H21	31:DA:1038:C:N4	2.01	0.59
15:BT:16:ARG:HH21	15:BT:83:ILE:HB	1.67	0.59
31:DA:560:U:H4'	31:DA:561:U:O5'	2.02	0.59
31:CA:93:G:H1'	31:CA:96:U:O5'	2.03	0.59
31:DA:1063:C:H3'	31:DA:1064:G:H2'	1.85	0.59
1:AA:296:C:H2'	1:AA:297:C:H6	1.68	0.59
31:CA:417:C:H2'	31:CA:418:C:C6	2.37	0.59
1:BA:207:A:H2'	1:BA:208:C:O4'	2.03	0.59
31:CA:1187:G:H2'	31:CA:1188:A:C8	2.37	0.59
31:CA:59:A:H5''	31:CA:60:A:H5''	1.84	0.59
31:CA:1226:C:H4'	49:CS:80:TYR:CZ	2.38	0.59
31:DA:93:G:H1'	31:DA:96:U:O5'	2.02	0.59
31:CA:1279:A:O2'	31:CA:1282:C:N4	2.35	0.59
45:CO:56:LEU:O	45:CO:60:VAL:HG23	2.02	0.59
1:AA:1849:G:H2'	1:AA:1850:G:H8	1.67	0.59
31:DA:187:C:H2'	31:DA:188:C:C6	2.38	0.59
1:AA:1448:G:H2'	1:AA:1449:A:C8	2.37	0.59
31:DA:1360:A:C5	44:DN:18:VAL:HG12	2.38	0.59
31:CA:1392:G:H21	31:CA:1502:A:H8	1.50	0.59
31:CA:1202:G:H2'	31:CA:1203:C:O4'	2.01	0.59
19:AX:31:HIS:CD2	19:AX:33:LYS:H	2.20	0.59
31:CA:1330:U:O4	31:CA:1331:G:N1	2.36	0.59
31:CA:1126:U:H1'	31:CA:1280:A:C4	2.38	0.59
31:CA:1325:C:H2'	31:CA:1326:C:H6	1.68	0.59
1:AA:1155:A:O2'	1:AA:1156:A:H2'	2.03	0.59
12:BQ:1:MET:O	12:BQ:2:LEU:HB2	2.02	0.59
31:CA:1009:G:O6	31:CA:1020:U:O2	2.21	0.59
48:DR:73:ALA:HB1	48:DR:78:LEU:HB2	1.84	0.59
31:CA:142:G:H2'	31:CA:143:A:H8	1.68	0.59
15:BT:118:ARG:HG3	15:BT:118:ARG:NH1	2.16	0.59
31:CA:993:G:O6	31:CA:1045:C:N4	2.31	0.59
30:A8:39:LYS:HA	30:A8:42:ARG:HH12	1.67	0.59
1:AA:2615:U:H2'	1:AA:2616:C:C6	2.38	0.59
1:AA:2646:C:H2'	1:AA:2647:U:O4'	2.03	0.59
1:BA:2473:U:H2'	1:BA:2473:U:O2	2.03	0.59
31:DA:955:U:H2'	31:DA:956:U:H6	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1318:A:H4'	49:DS:10:PHE:CE2	2.38	0.59
31:CA:1276:G:H1'	31:CA:1282:C:O2'	2.03	0.59
31:CA:308:C:H2'	31:CA:309:G:C8	2.37	0.59
1:BA:1506:C:H2'	1:BA:1507:A:H5'	1.84	0.59
31:DA:1250:A:C2	31:DA:1370:G:H1'	2.38	0.59
1:BA:857:C:OP2	22:B0:77:ARG:NH2	2.36	0.59
31:CA:590:C:H2'	31:CA:591:U:H6	1.68	0.59
31:CA:1155:G:H2'	31:CA:1156:G:H8	1.66	0.59
35:DE:110:LEU:HD13	35:DE:118:ILE:HG21	1.85	0.59
1:AA:2061:G:H5''	1:AA:2503:A:C2	2.37	0.59
31:DA:397:A:H3'	31:DA:397:A:N3	2.18	0.59
1:BA:2701:C:H2'	1:BA:2702:U:H2'	1.85	0.59
4:AE:9:VAL:HG22	4:AE:25:VAL:HB	1.85	0.59
38:CH:121:ASP:OD1	38:CH:121:ASP:N	2.34	0.59
31:DA:971:G:P	31:DA:1231:G:H21	2.25	0.59
1:BA:1364:G:OP1	23:B1:2:SER:HA	2.03	0.58
22:A0:10:THR:HG22	22:A0:12:ASN:N	2.15	0.58
1:AA:2133:G:H1'	1:AA:2158:A:H61	1.68	0.58
45:CO:39:LEU:HD13	45:CO:56:LEU:HB2	1.83	0.58
1:AA:2023:G:H5'	1:AA:2617:C:H4'	1.85	0.58
1:AA:500:G:N1	1:AA:503:A:OP2	2.36	0.58
8:BI:40:THR:O	8:BI:44:LEU:HB2	2.03	0.58
7:AH:33:LEU:HD21	7:AH:136:ILE:HG13	1.85	0.58
14:BS:52:SER:HB2	14:BS:55:ALA:H	1.68	0.58
8:BI:77:LEU:HB3	8:BI:142:VAL:HG12	1.85	0.58
14:BS:82:ILE:HA	14:BS:83:LYS:CB	2.33	0.58
31:DA:1492:A:H4'	31:DA:1493:A:OP1	2.02	0.58
31:CA:1490:C:O2'	31:CA:1491:G:H5'	2.03	0.58
31:DA:1399:C:C2	31:DA:1502:A:N6	2.71	0.58
14:AS:96:GLY:N	14:AS:99:LYS:H	2.01	0.58
31:DA:971:G:OP2	31:DA:1231:G:N2	2.35	0.58
1:AA:652(B):A:H61	1:AA:655:A:H2	1.51	0.58
2:BB:28:C:OP1	14:BS:36:TYR:OH	2.13	0.58
42:DL:84:LEU:HD23	42:DL:105:TYR:HE1	1.68	0.58
1:AA:1671:U:HO2'	1:AA:1673:U:H5	1.49	0.58
38:CH:86:ILE:HG13	38:CH:133:LEU:HD22	1.85	0.58
32:CB:17:PHE:H	32:CB:17:PHE:HD2	1.50	0.58
19:AX:2:LYS:NZ	19:AX:38:GLU:OE2	2.31	0.58
1:BA:776:G:H4'	1:BA:777:A:O5'	2.03	0.58
1:BA:1239:G:H2'	1:BA:1240:U:O4'	2.04	0.58
12:AQ:8:LYS:HA	21:AZ:196:VAL:HB	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1916:A:N6	52:BA:3001:T8B:O1	2.35	0.58
31:CA:1493:A:N3	31:CA:1493:A:H2'	2.17	0.58
37:DG:46:ALA:HB1	37:DG:121:ALA:HB2	1.83	0.58
20:AY:99:CYS:CB	20:AY:102:CYS:SG	2.91	0.58
31:DA:1250:A:H2	31:DA:1370:G:H1'	1.67	0.58
31:CA:583:A:N6	31:CA:758:G:O2'	2.36	0.58
1:AA:322:A:OP1	5:AF:168:ARG:NH1	2.35	0.58
31:CA:677:U:H2'	31:CA:678:U:H6	1.67	0.58
21:AZ:119:GLU:OE2	21:AZ:122:ARG:NH1	2.36	0.58
45:CO:18:PHE:HB2	45:CO:19:PRO:HD2	1.85	0.58
35:DE:102:ALA:HB1	35:DE:106:PRO:HG2	1.84	0.58
31:DA:1113:C:H42	31:DA:1187:G:H1	1.48	0.58
10:AO:43:VAL:HG23	10:AO:56:ASP:O	2.03	0.58
1:BA:1339:G:H5''	19:BX:16:LYS:HD2	1.84	0.58
50:CT:77:ALA:O	50:CT:81:LYS:HG3	2.04	0.58
31:DA:1071:C:H2'	31:DA:1072:G:H8	1.67	0.58
2:AB:55:U:H2'	2:AB:56:G:O4'	2.04	0.58
31:DA:20:U:H2'	31:DA:21:G:O4'	2.02	0.58
1:AA:2125:G:N2	1:AA:2172:U:H3'	2.17	0.58
1:BA:1153:C:OP1	16:BU:92:ARG:NH1	2.36	0.58
10:BO:80:ASP:OD1	15:BT:64:ARG:NH2	2.36	0.58
31:CA:1273:G:H3'	31:CA:1274:G:C8	2.38	0.58
31:CA:1109:C:H2'	31:CA:1110:A:O4'	2.04	0.58
1:BA:213:A:H2'	1:BA:214:G:O4'	2.03	0.58
1:AA:1882:C:H5'	1:AA:1883:G:OP2	2.04	0.58
31:CA:878:G:H5'	38:CH:89:PRO:HG2	1.85	0.58
35:CE:36:ASP:OD2	35:CE:38:GLN:N	2.37	0.58
1:AA:2471:C:N4	1:AA:2476:A:O2'	2.36	0.58
1:BA:2299:G:C2	1:BA:2318:G:H8	2.21	0.58
31:DA:235:C:H2'	31:DA:236:G:H8	1.69	0.58
31:DA:1305:G:H1	31:DA:1331:G:HO2'	1.48	0.58
31:DA:102:G:H2'	31:DA:103:C:H6	1.68	0.58
46:DP:55:ARG:O	46:DP:58:TYR:N	2.36	0.58
1:AA:690:G:N2	1:AA:773:U:C2	2.72	0.58
33:CC:182:ILE:HA	33:CC:202:ILE:O	2.03	0.58
31:DA:828:A:H2'	31:DA:829:G:O4'	2.04	0.58
1:BA:1372:U:H6	1:BA:1372:U:O5'	1.87	0.58
45:CO:70:LEU:HD11	45:CO:77:ARG:HB3	1.84	0.58
20:AY:99:CYS:HB3	20:AY:102:CYS:SG	2.42	0.58
1:BA:754:C:H2'	1:BA:755:C:C6	2.38	0.58
31:DA:1345:U:O2	31:DA:1375:A:N6	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:DJ:8:LEU:N	40:DJ:70:ARG:O	2.36	0.58
37:CG:42:ILE:HG22	37:CG:120:ILE:HG13	1.86	0.58
1:BA:1882:C:H5'	1:BA:1883:G:OP2	2.04	0.58
36:CF:22:GLU:OE2	36:CF:82:ARG:HG2	2.04	0.58
31:CA:438:G:O2'	31:CA:494:U:O4	2.18	0.58
1:AA:1639:U:H2'	1:AA:1640:C:H5''	1.85	0.58
28:A6:9:LEU:HD21	28:A6:25:LYS:HB3	1.85	0.58
1:AA:2262:U:P	22:A0:19:LYS:HE2	2.44	0.58
1:BA:1530:C:H42	1:BA:1539:G:H1	1.49	0.58
20:BY:86:ARG:NH1	20:BY:100:ALA:HB1	2.18	0.58
31:DA:1147:C:O2'	39:DI:5:TYR:OH	2.14	0.58
31:DA:458:C:H2'	31:DA:460:G:C8	2.38	0.58
1:BA:831:G:O2'	11:BP:38:GLN:HG2	2.04	0.58
4:AE:101:ARG:NH2	4:AE:171:GLU:HB2	2.19	0.58
1:BA:90:U:HO2'	1:BA:92:A:H8	1.44	0.58
1:AA:272(B):G:H2'	1:AA:272(C):G:C8	2.39	0.58
1:BA:185:U:H4'	1:BA:218:A:H4'	1.86	0.58
1:AA:2887:U:H2'	1:AA:2888:C:H6	1.69	0.58
31:CA:630:G:H2'	31:CA:631:G:H8	1.67	0.58
1:BA:2357:U:OP1	22:B0:20:ARG:NH1	2.31	0.58
18:BW:86:LEU:HD22	18:BW:96:ILE:HD11	1.86	0.58
47:DQ:45:HIS:HB2	47:DQ:65:ILE:HD13	1.85	0.58
1:BA:1899:G:H2'	1:BA:1899:G:N3	2.18	0.58
49:DS:45:VAL:HA	49:DS:62:ILE:HG22	1.86	0.58
1:AA:1537:G:H2'	1:AA:1538:G:C8	2.38	0.58
38:DH:86:ILE:HG13	38:DH:133:LEU:HD22	1.85	0.58
31:DA:1217:C:H2'	31:DA:1218:C:O4'	2.03	0.58
1:BA:443:A:H5''	1:BA:444:C:OP1	2.03	0.58
50:CT:87:LYS:O	50:CT:91:LEU:HG	2.04	0.58
1:BA:675:A:OP1	5:BF:63:LYS:NZ	2.29	0.58
6:BG:114:ILE:HB	6:BG:117:PHE:HB2	1.84	0.58
1:AA:1405:U:H2'	1:AA:1406:U:C6	2.38	0.58
31:DA:359:U:H2'	31:DA:360:A:C8	2.39	0.58
32:DB:100:GLY:N	32:DB:176:GLU:OE2	2.31	0.58
1:AA:2393:A:H5'	11:AP:63:PRO:HB3	1.84	0.58
31:DA:198:G:O6	31:DA:219:C:N4	2.37	0.58
4:BE:71:GLY:HA2	4:BE:72:VAL:O	2.04	0.58
1:AA:1913:A:O2'	52:AA:3001:T8B:C21	2.52	0.58
20:BY:99:CYS:CB	20:BY:102:CYS:SG	2.92	0.58
1:BA:1047:G:O2'	1:BA:1048:A:O5'	2.21	0.58
1:AA:271(E):U:H2'	1:AA:271(F):C:C6	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:373:A:H61	31:DA:391:G:H1'	1.69	0.58
7:AH:12:PRO:O	7:AH:15:VAL:HG13	2.03	0.58
4:BE:72:VAL:HA	4:BE:73:GLU:HB3	1.86	0.58
43:DM:69:GLU:O	43:DM:71:ARG:N	2.32	0.58
31:CA:359:U:H2'	31:CA:360:A:C8	2.38	0.58
31:DA:272:C:H2'	31:DA:273:A:H8	1.68	0.58
14:AS:82:ILE:HA	14:AS:83:LYS:CB	2.34	0.58
1:BA:2139:C:H42	1:BA:2152:G:H1	1.51	0.58
1:BA:1688:U:H1'	1:BA:1701:A:C6	2.39	0.58
23:B1:85:LEU:HB3	23:B1:89:GLU:HG3	1.85	0.58
4:BE:110:GLY:HA2	4:BE:161:GLY:HA3	1.85	0.58
31:CA:521:G:O6	31:CA:529:G:C2	2.57	0.58
43:CM:5:ALA:HA	43:CM:61:GLU:HG2	1.85	0.58
52:AA:3001:T8B:H17	52:AA:3001:T8B:H13	0.73	0.58
27:A5:47:PRO:O	27:A5:60:VAL:HG21	2.03	0.58
1:BA:2328:A:H2'	1:BA:2329:G:C8	2.39	0.58
1:BA:2165:G:H2'	1:BA:2166:G:C8	2.39	0.58
1:BA:2108:C:N4	1:BA:2181:G:H1	2.01	0.58
1:AA:1140:C:O3'	9:AN:25:ARG:NH1	2.37	0.58
31:DA:1285:A:H1'	31:DA:1286:A:OP2	2.04	0.58
31:DA:232:G:H1'	31:DA:262:A:N1	2.19	0.58
11:AP:80:TYR:HE1	11:AP:128:HIS:HB3	1.69	0.58
31:CA:994:A:N1	31:CA:1047:G:H4'	2.19	0.58
1:AA:2783:G:H2'	1:AA:2784:C:C6	2.39	0.58
14:AS:67:ARG:HG2	14:AS:71:ARG:NH2	2.18	0.58
2:AB:21:G:H2'	2:AB:22:U:O4'	2.03	0.58
39:CI:34:ASN:N	39:CI:34:ASN:OD1	2.36	0.58
1:BA:2272:U:H5''	1:BA:2273:A:OP1	2.03	0.58
31:CA:501:C:H1'	31:CA:549:C:H1'	1.85	0.58
1:BA:2292:C:OP1	14:BS:17:ARG:NH2	2.33	0.58
11:AP:83:VAL:HG13	11:AP:112:LEU:HD21	1.84	0.58
2:AB:53:A:H2'	2:AB:54:G:O4'	2.04	0.57
31:CA:375:U:C2	31:CA:376:G:C8	2.92	0.57
31:DA:1218:C:H2'	31:DA:1219:U:C6	2.39	0.57
31:DA:590:C:H2'	31:DA:591:U:C6	2.39	0.57
1:BA:141:A:H8	1:BA:1408:C:O2'	1.87	0.57
1:BA:728:G:H4'	3:BD:13:ARG:HD3	1.85	0.57
1:AA:1341:U:OP2	1:AA:1394:U:O2'	2.19	0.57
31:CA:633:G:H2'	31:CA:634:C:C6	2.38	0.57
8:AI:87:LYS:HG3	8:AI:121:LYS:O	2.04	0.57
1:BA:1761:C:H2'	1:BA:1762:A:H5''	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:105:A:OP1	21:AZ:72:ARG:NH1	2.37	0.57
18:AW:75:TYR:CZ	18:AW:104:THR:HG21	2.39	0.57
31:CA:696:A:N1	31:CA:797:C:O2'	2.29	0.57
5:BF:22:ALA:HB1	5:BF:24:LEU:HD22	1.85	0.57
33:CC:74:GLY:C	33:CC:76:VAL:H	2.08	0.57
31:CA:194:C:O3'	50:CT:68:LYS:HD2	2.04	0.57
35:CE:78:HIS:CE1	35:CE:142:LEU:HD23	2.40	0.57
1:AA:330:A:HO2'	1:AA:331:A:H8	1.52	0.57
40:CJ:61:GLU:OE2	44:CN:45:ARG:NE	2.37	0.57
1:BA:2319:G:H22	14:BS:3:ARG:NE	2.02	0.57
31:CA:1005:A:N3	31:CA:1036:G:N2	2.50	0.57
32:CB:158:LEU:HG	32:CB:182:ILE:HD11	1.85	0.57
13:BR:33:ARG:NH2	27:B5:57:VAL:O	2.34	0.57
34:DD:121:VAL:HG22	34:DD:126:ILE:HG13	1.86	0.57
1:BA:2405:G:O2'	1:BA:2411:A:N6	2.37	0.57
38:DH:51:VAL:HG21	38:DH:60:ARG:HG3	1.86	0.57
1:AA:2036:C:H6	1:AA:2036:C:H5'	1.68	0.57
6:AG:105:LYS:NZ	26:A4:25:TYR:O	2.31	0.57
1:BA:2470:G:O6	1:BA:2476:A:O2'	2.18	0.57
34:DD:26:CYS:HA	34:DD:31:CYS:HB2	1.86	0.57
31:CA:955:U:H1'	31:CA:1227:A:N6	2.19	0.57
1:BA:141:A:C8	1:BA:1408:C:O2'	2.57	0.57
31:CA:691:G:H2'	31:CA:692:U:C6	2.39	0.57
31:DA:222:U:H2'	31:DA:223:U:C6	2.39	0.57
40:DJ:8:LEU:HD12	40:DJ:20:ALA:HB2	1.86	0.57
17:AV:40:LEU:HB2	17:AV:46:VAL:HG13	1.85	0.57
31:CA:859:A:H2'	31:CA:860:A:O4'	2.04	0.57
1:AA:1221(A):C:C2	1:AA:1229:G:C2	2.93	0.57
6:AG:50:ALA:C	6:AG:52:ILE:H	2.07	0.57
23:A1:3:LYS:HB2	23:A1:61:ARG:NH1	2.14	0.57
1:AA:71:A:C2	19:AX:31:HIS:CE1	2.88	0.57
31:DA:1228:C:N4	43:DM:104:ARG:O	2.38	0.57
1:AA:459:U:H5''	29:A7:40:TRP:CD2	2.40	0.57
13:AR:2:ARG:NH1	13:AR:5:LYS:O	2.37	0.57
7:AH:113:VAL:HG11	7:AH:151:ILE:HD13	1.85	0.57
1:BA:729:G:C5	3:BD:208:LYS:HB2	2.39	0.57
1:AA:1858:G:O2'	1:AA:1884:A:N6	2.37	0.57
6:AG:13:GLU:O	6:AG:14:GLU:HB2	2.03	0.57
42:DL:24:VAL:HG13	42:DL:98:TYR:HE2	1.70	0.57
34:DD:10:ARG:HG3	34:DD:11:LEU:HD23	1.86	0.57
1:AA:2067:G:O2'	1:AA:2069:G:H5'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2218:U:H4'	1:BA:2219:G:OP2	2.04	0.57
31:CA:969:A:OP1	40:CJ:55:LYS:NZ	2.37	0.57
32:DB:73:THR:HB	32:DB:95:GLN:O	2.05	0.57
32:CB:163:PHE:HA	32:CB:185:ILE:HG12	1.85	0.57
1:BA:2127:G:N2	1:BA:2162:G:H1'	2.19	0.57
18:BW:40:ASN:O	18:BW:41:LYS:HG3	2.05	0.57
31:DA:186:C:H2'	31:DA:187:C:H6	1.69	0.57
1:BA:621:A:OP2	11:BP:108:LYS:NZ	2.37	0.57
6:AG:122:PRO:HG3	6:AG:180:PHE:HB3	1.86	0.57
28:A6:10:LEU:HD23	28:A6:22:ALA:HB2	1.87	0.57
1:AA:2152:G:H2'	1:AA:2153:G:H8	1.70	0.57
35:DE:94:ALA:HB1	35:DE:98:THR:OG1	2.04	0.57
1:BA:2128:C:H42	1:BA:2160:G:H1	1.52	0.57
29:B7:47:ARG:HH11	29:B7:47:ARG:HG3	1.70	0.57
1:AA:263:C:H2'	1:AA:264:C:O4'	2.04	0.57
1:BA:1021:A:H8	1:BA:1021:A:H3'	1.70	0.57
1:BA:102:G:HO2'	1:BA:103:A:P	2.21	0.57
9:AN:24:GLY:HA2	9:AN:27:ALA:CB	2.33	0.57
1:AA:1798:U:H5'	3:AD:259:THR:HG22	1.85	0.57
21:BZ:158:PRO:O	21:BZ:161:VAL:HG11	2.05	0.57
31:DA:1141:C:H2'	31:DA:1142:G:O4'	2.04	0.57
1:AA:2723:C:OP2	4:AE:109:LYS:NZ	2.35	0.57
1:BA:846:C:H4'	1:BA:847:U:O5'	2.04	0.57
33:DC:7:PRO:O	33:DC:11:ARG:NH1	2.36	0.57
31:CA:757:U:O2'	31:CA:879:C:O2	2.21	0.57
1:BA:652(Q):G:C2'	1:BA:652(R):C:H5'	2.35	0.57
15:AT:16:ARG:NH2	15:AT:83:ILE:O	2.38	0.57
31:DA:518:C:O2'	31:DA:530:G:N2	2.37	0.57
1:BA:2203:U:O2'	1:BA:2205:C:H5'	2.03	0.57
31:CA:719:C:O2'	48:CR:49:LYS:HB3	2.05	0.57
1:BA:2791:C:H2'	1:BA:2792:G:C8	2.39	0.57
1:AA:2558:C:H2'	1:AA:2559:C:O4'	2.05	0.57
10:AO:102:VAL:HB	10:AO:106:LEU:HD12	1.87	0.57
19:BX:41:ASN:O	19:BX:45:THR:HG23	2.04	0.57
31:CA:1131:G:H2'	31:CA:1132:C:C6	2.39	0.57
31:DA:6:G:C4	35:DE:119:LEU:HD11	2.39	0.57
21:AZ:24:LEU:HB2	21:AZ:41:LEU:HD23	1.87	0.57
31:CA:977:A:H2'	31:CA:978:A:H5''	1.86	0.57
1:BA:1540:U:H2'	1:BA:1541:G:O4'	2.04	0.57
1:BA:71:A:C2	19:BX:31:HIS:CE1	2.90	0.57
1:BA:652(B):A:O2'	1:BA:652(C):G:H5'	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:1036:G:H3'	31:CA:1037:C:C6	2.40	0.57
47:DQ:67:LYS:HA	47:DQ:70:ARG:HH12	1.69	0.57
15:AT:16:ARG:HH21	15:AT:83:ILE:HB	1.70	0.57
31:CA:62:U:H2'	31:CA:63:C:C6	2.38	0.57
18:AW:71:VAL:HA	18:AW:107:LEU:HD12	1.86	0.57
31:CA:448:A:OP2	31:CA:485:G:N2	2.21	0.57
31:CA:41:G:H2'	31:CA:42:G:C8	2.40	0.57
8:AI:27:ARG:HD2	23:A1:71:TYR:CE1	2.39	0.57
4:BE:116:VAL:HG13	4:BE:122:PHE:HB2	1.85	0.57
1:AA:1518:U:H2'	1:AA:1519:G:O4'	2.03	0.57
44:CN:24:CYS:SG	44:CN:39:LEU:HA	2.45	0.57
31:CA:954:G:N2	31:CA:1227:A:H62	2.03	0.57
37:CG:111:ARG:HB3	37:CG:113:GLU:HG2	1.87	0.57
1:AA:2849:U:OP2	15:AT:95:ARG:NH1	2.38	0.57
1:BA:652(D):C:H2'	1:BA:652(E):G:O4'	2.05	0.57
1:AA:2356:C:O3'	22:A0:20:ARG:HD3	2.04	0.57
31:DA:522:C:H41	42:DL:53:ARG:HH22	1.53	0.57
1:BA:272(G):C:N4	1:BA:272(H):C:H41	2.03	0.57
1:AA:1488:G:H5'	1:AA:1489:U:OP2	2.04	0.57
4:BE:174:ASP:OD2	4:BE:175:VAL:N	2.38	0.57
1:AA:1889:A:H2'	1:AA:1890:A:C8	2.39	0.57
34:DD:158:ILE:O	34:DD:162:LEU:N	2.33	0.57
1:BA:1815:A:P	3:BD:54:ARG:HH22	2.28	0.57
31:DA:560:U:H5'	31:DA:566:G:N2	2.20	0.57
31:DA:148:G:O2'	31:DA:149:A:H5'	2.04	0.57
4:AE:112:GLY:O	4:AE:159:HIS:HA	2.04	0.57
31:DA:590:C:H2'	31:DA:591:U:H6	1.70	0.57
50:DT:64:ASP:OD1	50:DT:81:LYS:NZ	2.30	0.57
31:DA:1010:G:N2	31:DA:1020:U:H1'	2.20	0.57
1:BA:2803:C:H2'	1:BA:2804:C:C6	2.39	0.57
31:DA:333:G:H4'	50:DT:16:HIS:CE1	2.40	0.57
31:DA:93:G:O2'	31:DA:96:U:OP2	2.21	0.57
2:AB:37:C:N4	2:AB:38:C:N3	2.51	0.57
6:AG:27:ASN:HB3	6:AG:30:GLU:HG3	1.86	0.57
1:AA:1593:G:H2'	1:AA:1594:G:H8	1.66	0.57
31:CA:975:A:N6	31:CA:1367:C:O4'	2.38	0.57
1:AA:2299:G:N1	1:AA:2318:G:C8	2.73	0.57
1:BA:2125:G:O2'	1:BA:2173:A:N6	2.38	0.57
3:BD:108:PRO:HB3	3:BD:143:HIS:CE1	2.39	0.57
1:AA:29:U:H2'	1:AA:30:G:C8	2.40	0.57
1:AA:2151:G:H2'	1:AA:2152:G:O4'	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A7:5:TRP:O	29:A7:6:GLN:NE2	2.38	0.57
14:BS:27:SER:HA	14:BS:88:ASP:HB3	1.86	0.57
1:AA:40:C:H2'	1:AA:41:C:C6	2.40	0.57
31:DA:1333:A:H3'	31:DA:1334:G:H8	1.70	0.57
43:DM:96:LEU:HD13	43:DM:97:PRO:HD2	1.86	0.57
40:CJ:45:ARG:NH2	44:CN:36:PHE:HB2	2.20	0.57
49:CS:20:LEU:HG	49:CS:43:GLU:HG2	1.86	0.57
24:A2:50:ILE:O	24:A2:51:ARG:HB3	2.04	0.57
6:BG:16:ARG:NE	6:BG:31:VAL:HG21	2.19	0.57
30:A8:34:TRP:CE2	30:A8:35:GLN:HB3	2.40	0.57
32:CB:87:ARG:NE	32:CB:233:SER:HB2	2.19	0.56
32:CB:87:ARG:NH2	32:CB:233:SER:HB2	2.19	0.56
1:AA:1540:U:H2'	1:AA:1541:G:O4'	2.05	0.56
31:DA:9:G:H2'	31:DA:10:A:C8	2.40	0.56
34:CD:12:CYS:O	34:CD:33:MET:HG2	2.05	0.56
1:AA:2114:A:H3'	1:AA:2115:G:C8	2.40	0.56
31:DA:1183:A:H5''	31:DA:1184:G:OP2	2.05	0.56
1:AA:652(E):G:O6	1:AA:652(S):C:N4	2.38	0.56
46:DP:72:ARG:HE	46:DP:73:LEU:HD23	1.70	0.56
1:AA:481:G:H4'	1:AA:482:A:H5'	1.87	0.56
42:DL:89:ARG:HA	42:DL:97:ARG:HA	1.87	0.56
13:BR:38:VAL:HG22	13:BR:112:ALA:HB2	1.87	0.56
1:BA:2144:U:O2	1:BA:2148:G:N1	2.38	0.56
18:BW:32:ALA:HB1	18:BW:51:LEU:HD11	1.87	0.56
31:DA:568:G:N7	42:DL:5:PRO:HD3	2.19	0.56
1:BA:2463:C:C2'	1:BA:2464:C:H5'	2.35	0.56
1:AA:2845:G:H2'	1:AA:2846:G:C8	2.40	0.56
1:AA:1915:U:O2	52:AA:3001:T8B:C28	2.54	0.56
1:BA:1021:A:H62	1:BA:1141:U:H3	1.51	0.56
1:AA:1000:A:OP2	1:AA:1154:G:N1	2.20	0.56
3:AD:35:LYS:HG2	3:AD:36:PRO:HD2	1.86	0.56
1:BA:2820:A:O2'	1:BA:2821:A:OP1	2.23	0.56
31:DA:1016:A:H2'	31:DA:1017:G:O4'	2.05	0.56
3:AD:71:ASP:HB3	3:AD:103:ARG:NH2	2.18	0.56
1:BA:1210:A:H5'	1:BA:1210:A:C8	2.40	0.56
31:CA:114:U:H2'	31:CA:115:G:C8	2.40	0.56
1:AA:2584:U:H2'	1:AA:2585:U:H2'	1.87	0.56
1:AA:2590:A:H5''	3:AD:239:ARG:HE	1.69	0.56
1:BA:470:A:OP1	5:BF:59:TYR:HE2	1.88	0.56
1:BA:1292:U:H2'	1:BA:1293:C:C6	2.40	0.56
31:CA:835:U:OP1	48:CR:64:ARG:NH1	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:BO:16:ALA:HB2	10:BO:52:VAL:HG21	1.87	0.56
31:DA:1008:C:H2'	31:DA:1009:G:O4'	2.05	0.56
17:AV:76:LYS:HB2	17:AV:81:TYR:HB3	1.87	0.56
1:AA:2305:A:C2	6:AG:152:LEU:HD11	2.40	0.56
1:AA:1175:U:O2'	1:AA:1176:G:H5'	2.04	0.56
31:DA:475:G:O2'	31:DA:476:G:H5'	2.05	0.56
31:DA:826:C:H2'	31:DA:827:U:C6	2.40	0.56
32:CB:15:VAL:HG23	32:CB:209:ARG:HG2	1.88	0.56
1:AA:2751:G:H4'	7:AH:4:ILE:HD11	1.86	0.56
1:AA:2134:A:H1'	1:AA:2159:G:H1'	1.87	0.56
1:BA:330:A:H2	1:BA:1210:A:H2'	1.70	0.56
1:BA:384:U:H2'	1:BA:385:C:C6	2.40	0.56
1:BA:570:G:H2'	1:BA:2030:A:C5	2.40	0.56
32:DB:55:PHE:HA	32:DB:58:ILE:HD12	1.87	0.56
31:DA:746:A:H2'	31:DA:747:C:C6	2.39	0.56
31:DA:1001(A):G:H2'	31:DA:1002:G:O4'	2.06	0.56
1:AA:2494:G:C4	1:AA:2495:G:C8	2.93	0.56
36:CF:3:ARG:HB3	36:CF:93:SER:HB2	1.86	0.56
31:CA:519:C:H2'	31:CA:520:A:C8	2.41	0.56
31:DA:628:G:H2'	31:DA:629:G:C8	2.41	0.56
31:DA:863:U:H2'	31:DA:865:A:OP2	2.06	0.56
2:AB:79:C:H2'	2:AB:80:U:O4'	2.05	0.56
33:CC:127:ARG:HH11	33:CC:127:ARG:HB3	1.70	0.56
14:AS:11:LYS:HG3	14:AS:91:PRO:HD3	1.86	0.56
1:BA:2096:U:H3	1:BA:2193:G:H1	1.53	0.56
31:CA:1504:G:H3'	31:CA:1504:G:P	2.45	0.56
1:AA:857:C:H4'	22:A0:23:VAL:HG21	1.87	0.56
9:BN:47:ALA:HB2	9:BN:112:LEU:HD11	1.87	0.56
50:CT:12:ALA:O	50:CT:15:ARG:HB2	2.05	0.56
34:CD:24:GLU:O	34:CD:27:TYR:HB2	2.05	0.56
1:AA:90:U:O2'	1:AA:92:A:O4'	2.23	0.56
31:CA:240:C:H2'	31:CA:241:C:H6	1.71	0.56
42:CL:83:VAL:HG13	42:CL:100:ILE:HG23	1.88	0.56
13:AR:20:LEU:HD21	13:AR:40:LYS:HD3	1.88	0.56
31:DA:1111:A:H2'	31:DA:1112:C:H6	1.70	0.56
31:CA:1309:G:H2'	31:CA:1310:G:O4'	2.05	0.56
6:AG:103:LEU:O	6:AG:106:LEU:HB3	2.04	0.56
31:DA:975:A:H5'	31:DA:975:A:H8	1.70	0.56
14:AS:96:GLY:HA2	14:AS:97:ARG:C	2.26	0.56
31:DA:664:G:N2	31:DA:741:G:H1	2.04	0.56
31:DA:512:U:H2'	31:DA:513:C:H6	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:65:C:H2'	1:BA:66:C:H6	1.70	0.56
25:A3:4:LEU:HD22	25:A3:56:VAL:HG11	1.87	0.56
1:AA:1505:C:H2'	1:AA:1506:C:H6	1.70	0.56
31:DA:272:C:H2'	31:DA:273:A:C8	2.41	0.56
1:BA:511:U:H5	1:BA:512:G:C5	2.23	0.56
31:CA:20:U:H2'	31:CA:21:G:O4'	2.05	0.56
23:B1:23:LYS:HB3	23:B1:29:GLY:HA3	1.88	0.56
1:AA:1365:A:H5''	23:A1:41:ARG:HH22	1.70	0.56
31:DA:1131:G:H2'	31:DA:1132:C:C6	2.41	0.56
24:A2:1:MET:N	24:A2:52:ASP:OD1	2.31	0.56
2:BB:48:A:H4'	14:BS:95:HIS:HD2	1.68	0.56
1:AA:2316:C:H2'	1:AA:2317:C:H6	1.69	0.56
1:BA:2349:G:H3'	1:BA:2350:C:H5''	1.88	0.56
1:BA:2147:G:H2'	1:BA:2148:G:O4'	2.05	0.56
1:BA:2053:G:H5'	4:BE:144:ARG:O	2.05	0.56
1:BA:2355:C:H1'	22:B0:39:ARG:HH21	1.70	0.56
1:AA:2740:A:H2'	1:AA:2741:A:C8	2.41	0.56
1:AA:1915:U:C2	52:AA:3001:T8B:C27	2.88	0.56
27:B5:46:CYS:CB	27:B5:49:CYS:HG	2.19	0.56
31:DA:1412:C:H2'	31:DA:1413:A:C8	2.40	0.56
2:BB:31:C:H4'	6:BG:29:TRP:CH2	2.40	0.56
5:BF:24:LEU:HD21	5:BF:199:TRP:HH2	1.70	0.56
1:BA:2803:C:H2'	1:BA:2804:C:H6	1.70	0.56
1:AA:861:A:N6	1:AA:916:G:O2'	2.37	0.56
12:AQ:62:GLY:HA2	21:AZ:116:VAL:HG21	1.87	0.56
31:CA:715:A:H2'	31:CA:716:A:C8	2.40	0.56
1:BA:2852:G:H2'	1:BA:2853:C:O4'	2.05	0.56
1:AA:203:C:H3'	1:AA:204:A:H5''	1.87	0.56
33:DC:175:LEU:H	33:DC:175:LEU:HD12	1.70	0.56
37:CG:18:TYR:HD2	37:CG:59:LEU:HD12	1.71	0.56
35:DE:122:GLU:HG2	35:DE:131:ILE:HD12	1.87	0.56
31:CA:434:U:H2'	31:CA:435:C:C6	2.40	0.56
31:CA:96:U:O2'	31:CA:97:G:OP2	2.19	0.56
31:CA:458:C:H2'	31:CA:460:G:C8	2.41	0.56
1:AA:1638:C:H4'	1:AA:2710:C:O2	2.06	0.56
1:BA:2012:G:OP1	18:BW:11:ARG:NH2	2.39	0.56
1:BA:1453:U:OP1	13:BR:77:ARG:NH1	2.37	0.56
1:BA:2036:C:H5'	1:BA:2036:C:H6	1.70	0.56
49:DS:18:LYS:O	49:DS:22:LEU:N	2.37	0.56
1:BA:455:C:N3	1:BA:473:G:H5'	2.20	0.56
31:CA:394:G:H2'	31:CA:395:C:H6	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DD:19:LEU:HD23	34:DD:21:LEU:HD11	1.88	0.56
1:AA:1580:A:OP2	1:AA:1580:A:H8	1.88	0.56
1:BA:1790:C:H5''	1:BA:1791:A:OP1	2.05	0.56
1:BA:2787:C:H1'	4:BE:62:PRO:HG3	1.87	0.56
31:DA:430:A:OP2	34:DD:8:VAL:HG12	2.06	0.56
31:DA:675:A:H2'	31:DA:676:A:H8	1.69	0.56
1:BA:1175:U:O2'	1:BA:1176:G:H5'	2.06	0.56
31:CA:458:C:H2'	31:CA:460:G:H8	1.71	0.56
1:AA:7:G:H2'	1:AA:8:A:C8	2.41	0.56
1:BA:1971:A:C4	3:BD:241:PRO:HD3	2.40	0.56
1:BA:458:G:C8	29:B7:37:LYS:HG2	2.40	0.56
1:BA:2106:G:N2	1:BA:2184:G:C4	2.74	0.56
31:DA:792:A:H4'	31:DA:793:U:O5'	2.06	0.56
35:CE:39:GLY:O	35:CE:69:VAL:HG13	2.06	0.56
31:DA:1348:U:H4'	39:DI:120:ARG:HD2	1.88	0.56
31:CA:189(B):C:H2'	31:CA:189(C):C:C6	2.41	0.56
9:BN:24:GLY:HA2	9:BN:27:ALA:HB3	1.88	0.56
31:DA:1298:C:OP2	37:DG:114:ARG:NH2	2.39	0.56
4:BE:36:ARG:NH1	4:BE:85:ASN:OD1	2.39	0.56
31:CA:185:A:H2'	31:CA:186:C:C6	2.40	0.56
31:CA:1263:C:H2'	31:CA:1264:C:C6	2.41	0.56
1:AA:1339:G:H5''	19:AX:16:LYS:HD2	1.88	0.56
1:AA:652(Q):G:C2'	1:AA:652(R):C:H5'	2.36	0.56
1:BA:652(E):G:O6	1:BA:652(S):C:N4	2.39	0.56
1:AA:2108:C:N4	1:AA:2181:G:H1	2.04	0.56
1:AA:1494:A:H2'	1:AA:1495:A:C8	2.41	0.56
32:DB:104:ASN:O	32:DB:108:ILE:HG12	2.06	0.56
1:AA:2784:C:H1'	4:AE:37:ARG:HH12	1.71	0.56
31:CA:1346:A:H61	31:CA:1374:A:H3'	1.71	0.56
31:CA:1346:A:H5''	39:CI:120:ARG:NH1	2.20	0.56
3:AD:145:VAL:HG11	3:AD:175:LEU:HD11	1.86	0.56
1:BA:286:C:H2'	1:BA:287:C:C6	2.41	0.56
5:AF:197:ASP:N	5:AF:197:ASP:OD2	2.28	0.56
13:AR:24:GLN:HB3	13:AR:44:LEU:HD11	1.88	0.56
1:AA:807:U:OP2	11:AP:41:ARG:NH2	2.38	0.56
11:AP:59:LEU:HD11	30:A8:10:ALA:HB2	1.88	0.56
32:DB:194:PRO:O	32:DB:196:LEU:N	2.38	0.56
31:DA:405:U:O4	34:DD:2:GLY:N	2.39	0.56
31:DA:1130:A:P	39:DI:20:ARG:HH22	2.28	0.56
31:CA:1064:G:N2	31:CA:1191:A:OP2	2.39	0.56
31:DA:986:A:H1'	49:DS:54:GLY:O	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2125:G:N2	1:BA:2172:U:H3'	2.21	0.56
43:DM:19:LEU:HD12	43:DM:22:ILE:HD11	1.88	0.56
31:DA:624:C:H2'	31:DA:625:G:C8	2.40	0.56
31:CA:1109:C:OP2	33:CC:176:HIS:ND1	2.39	0.56
1:AA:555:U:O2'	1:AA:556:G:N7	2.36	0.56
31:CA:1070:U:H2'	31:CA:1071:C:C6	2.41	0.56
31:DA:339:C:H2'	31:DA:340:U:C6	2.41	0.56
3:BD:46:GLN:HB2	3:BD:48:ARG:HG2	1.88	0.56
4:AE:2:LYS:HB2	4:AE:95:ILE:HD12	1.87	0.56
20:AY:98:VAL:HG12	20:AY:105:ALA:HA	1.87	0.56
31:DA:1391:U:H2'	31:DA:1392:G:C8	2.41	0.55
1:AA:2206:G:O2'	1:AA:2207:G:OP1	2.21	0.55
1:BA:1047:G:H2'	1:BA:1110:G:N2	2.19	0.55
35:DE:52:PRO:HD2	35:DE:53:LEU:HD12	1.89	0.55
31:DA:376:G:H2'	31:DA:377:G:H8	1.71	0.55
1:BA:577:G:OP1	1:BA:2502:G:O2'	2.20	0.55
31:CA:41:G:H2'	31:CA:42:G:H8	1.70	0.55
31:CA:1347:G:O2'	31:CA:1348:U:OP2	2.24	0.55
1:AA:1720:U:H2'	1:AA:1721:G:O4'	2.06	0.55
5:AF:143:ALA:HB1	5:AF:148:LEU:HB2	1.87	0.55
31:DA:1241:G:H2'	31:DA:1242:C:C6	2.41	0.55
8:BI:81:VAL:O	8:BI:146:ALA:HA	2.06	0.55
31:DA:920:U:H2'	31:DA:921:U:C6	2.41	0.55
32:DB:178:ARG:HH21	38:DH:74:PRO:HB3	1.70	0.55
38:CH:87:SER:HB2	38:CH:93:VAL:HB	1.88	0.55
1:BA:2564:A:C2	1:BA:2647:U:H4'	2.40	0.55
5:AF:61:GLY:HA2	5:AF:77:ASP:HB3	1.87	0.55
10:AO:77:ILE:HG13	15:AT:74:ARG:HG2	1.87	0.55
1:AA:1607:C:H4'	1:AA:1608:A:O5'	2.06	0.55
20:BY:76:CYS:HG	20:BY:99:CYS:HG	1.49	0.55
6:BG:56:ALA:HA	6:BG:153:ARG:HH21	1.71	0.55
31:CA:1146:A:H2'	31:CA:1147:C:O4'	2.05	0.55
21:BZ:160:GLY:CA	21:BZ:161:VAL:HB	2.36	0.55
46:CP:53:VAL:HG13	46:CP:79:VAL:HG23	1.87	0.55
31:DA:21:G:H2'	31:DA:22:G:C8	2.42	0.55
36:DF:61:LEU:HB3	36:DF:63:TYR:CE2	2.37	0.55
21:BZ:153:SER:OG	21:BZ:154:ASP:N	2.39	0.55
1:AA:1178:C:H2'	1:AA:1179:C:C6	2.39	0.55
31:CA:192:U:H2'	31:CA:193:C:H6	1.71	0.55
31:DA:833:U:H2'	31:DA:834:C:C6	2.39	0.55
31:DA:586:C:O2'	31:DA:878:G:H4'	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:BS:59:LYS:HB3	14:BS:60:GLY:HA2	1.88	0.55
31:DA:1062:U:H2'	31:DA:1063:C:C6	2.41	0.55
48:DR:73:ALA:HB3	48:DR:79:LEU:HD12	1.87	0.55
23:B1:86:SER:O	23:B1:89:GLU:HG2	2.06	0.55
1:BA:458:G:O2'	29:B7:39:ARG:HD3	2.06	0.55
31:CA:1346:A:N1	31:CA:1374:A:H5''	2.21	0.55
1:AA:651:G:C6	1:AA:652:C:C4	2.95	0.55
31:DA:1239:A:H4'	31:DA:1240:U:H5''	1.88	0.55
1:BA:1786:A:H1'	1:BA:1938:A:N6	2.21	0.55
16:AU:106:PHE:HA	16:AU:109:LEU:HD12	1.88	0.55
1:BA:414:C:H2'	1:BA:415:A:C8	2.40	0.55
5:BF:149:ASP:OD2	5:BF:149:ASP:N	2.32	0.55
1:AA:1331:A:H2'	1:AA:1333:C:C5	2.40	0.55
1:AA:1332:G:H8	1:AA:1332:G:H5''	1.71	0.55
31:CA:166:G:H2'	31:CA:167:G:H8	1.71	0.55
31:CA:1028:C:N4	31:CA:1033:G:H1	2.05	0.55
31:DA:1329:A:H5''	43:DM:26:GLY:N	2.20	0.55
1:BA:2163:C:OP2	1:BA:2164:C:H5	1.88	0.55
31:DA:954:G:N2	31:DA:1227:A:H62	2.04	0.55
1:AA:2172:U:H4'	1:AA:2173:A:OP2	2.06	0.55
34:DD:100:ARG:NH2	34:DD:102:ASP:OD2	2.39	0.55
1:BA:2109:U:H2'	1:BA:2110:G:C8	2.41	0.55
21:AZ:151:HIS:C	21:AZ:153:SER:H	2.09	0.55
31:DA:1465:C:H2'	31:DA:1466:C:O4'	2.06	0.55
31:CA:767:A:H2'	31:CA:768:A:O4'	2.06	0.55
4:AE:107:THR:O	4:AE:190:GLY:HA3	2.06	0.55
48:DR:32:ARG:HA	48:DR:69:THR:HG21	1.86	0.55
5:BF:103:LYS:HA	5:BF:106:ARG:HG3	1.88	0.55
1:AA:1410:G:H2'	1:AA:1411:C:H6	1.70	0.55
15:AT:55:ASN:H	15:AT:59:THR:HG22	1.71	0.55
1:AA:775:G:N2	1:AA:794:G:H5'	2.22	0.55
1:AA:674:G:H1'	5:AF:74:ARG:HD3	1.88	0.55
1:BA:1639:U:C2'	1:BA:1640:C:H5''	2.37	0.55
31:CA:611:A:H2	31:CA:630:G:H22	1.52	0.55
1:BA:2469:A:H4'	12:BQ:56:ARG:HG2	1.86	0.55
31:DA:522:C:H5''	42:DL:120:TYR:OH	2.07	0.55
31:CA:259:G:OP2	50:CT:83:ARG:HD3	2.06	0.55
31:DA:1512:U:H2'	31:DA:1513:A:H8	1.72	0.55
30:B8:23:VAL:HG11	30:B8:47:LYS:HD3	1.87	0.55
1:BA:1843:C:H5'	3:BD:253:GLN:NE2	2.21	0.55
42:CL:11:VAL:HG13	47:CQ:29:HIS:CD2	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:CL:11:VAL:HG11	47:CQ:36:ILE:HG21	1.87	0.55
31:DA:814:A:N7	31:DA:816:A:C4	2.74	0.55
20:AY:13:VAL:HG12	20:AY:74:PRO:HA	1.89	0.55
31:CA:864:A:H2'	31:CA:865:A:C8	2.42	0.55
42:CL:32:PHE:HE1	42:CL:86:ARG:HG3	1.70	0.55
47:DQ:57:VAL:HA	47:DQ:77:VAL:HG23	1.88	0.55
32:CB:111:ARG:HA	32:CB:111:ARG:HH11	1.70	0.55
1:BA:2282:G:H4'	1:BA:2283:C:O5'	2.06	0.55
12:AQ:2:LEU:HB3	12:AQ:70:PRO:HG3	1.89	0.55
1:AA:1403:C:H5''	1:AA:1471:A:C1'	2.29	0.55
1:AA:1332:G:C8	1:AA:1332:G:H5''	2.41	0.55
1:AA:1153:C:H2'	1:AA:1154:G:O4'	2.07	0.55
7:BH:7:LEU:HG	7:BH:69:ARG:NH1	2.21	0.55
31:DA:1012:U:H2'	31:DA:1013:G:C8	2.41	0.55
31:CA:971:G:N2	31:CA:1363(A):A:OP2	2.31	0.55
1:BA:2115:G:H21	1:BA:2171:A:N6	2.05	0.55
28:B6:6:ARG:NE	28:B6:24:GLU:OE1	2.25	0.55
20:BY:35:TYR:CE2	20:BY:69:ALA:HB3	2.41	0.55
34:DD:62:GLN:HB3	34:DD:66:ARG:HD2	1.87	0.55
6:BG:47:LYS:HB3	6:BG:82:LEU:HD11	1.87	0.55
1:BA:1486:A:H2'	1:BA:1487:G:H8	1.70	0.55
31:DA:630:G:H2'	31:DA:631:G:H8	1.72	0.55
1:AA:900:A:H2'	1:AA:901:A:O4'	2.06	0.55
4:AE:115:GLY:O	4:AE:119:ARG:HB2	2.06	0.55
23:A1:73:LEU:HB3	23:A1:94:LEU:HD22	1.88	0.55
14:AS:96:GLY:HA2	14:AS:100:ALA:H	1.72	0.55
31:DA:1004:A:H8	31:DA:1025:U:N3	2.03	0.55
31:CA:342:C:H2'	31:CA:343:U:O4'	2.06	0.55
1:AA:1999:C:H4'	1:AA:2723:C:O2	2.05	0.55
31:DA:1238:A:C2	31:DA:1303:C:H4'	2.42	0.55
1:AA:1688:U:O2	1:AA:1700:A:H5'	2.07	0.55
31:CA:1073:U:H2'	31:CA:1074:G:C8	2.40	0.55
1:BA:271(K):U:H4'	1:BA:271(L):U:OP2	2.07	0.55
8:BI:94:ALA:HA	8:BI:97:ILE:HB	1.88	0.55
31:DA:1063:C:H2'	31:DA:1064:G:C8	2.42	0.55
33:DC:125:GLU:HG3	33:DC:189:ALA:HB1	1.88	0.55
37:DG:34:GLY:O	37:DG:36:LYS:N	2.38	0.55
12:BQ:62:GLY:O	21:BZ:178:GLU:HG2	2.07	0.55
1:AA:1028:A:N6	1:AA:1125:G:H2'	2.21	0.55
31:CA:1121:U:H2'	31:CA:1122:U:C6	2.42	0.55
31:DA:32:A:H2'	31:DA:33:A:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:1298:C:N4	37:CG:114:ARG:HD3	2.22	0.55
1:AA:1500:G:H2'	1:AA:1501:C:C6	2.42	0.55
48:DR:56:THR:HB	48:DR:58:LEU:HD13	1.88	0.55
1:AA:1792:G:H5'	3:AD:205:VAL:HG13	1.89	0.55
31:DA:1320:C:H1'	49:DS:73:GLU:N	2.20	0.55
1:AA:19:C:H2'	1:AA:20:C:H6	1.70	0.55
43:DM:44:ARG:O	43:DM:46:LYS:N	2.40	0.55
1:BA:2839:G:H5'	13:BR:46:GLY:HA2	1.88	0.55
1:AA:1913:A:H2'	52:AA:3001:T8B:O2	2.07	0.55
1:AA:1312:U:H4'	1:AA:1313:U:O5'	2.07	0.55
1:BA:1530:C:H1'	1:BA:1531:C:OP1	2.07	0.55
1:AA:2171:A:H4'	1:AA:2172:U:OP1	2.07	0.55
31:CA:1101:A:H4'	31:CA:1102:A:O5'	2.07	0.55
32:CB:102:LEU:HD23	32:CB:182:ILE:HD12	1.89	0.55
1:AA:1448:G:N2	1:AA:1463:C:O2	2.32	0.55
1:BA:729:G:OP2	3:BD:208:LYS:NZ	2.40	0.55
10:BO:68:GLU:OE2	10:BO:78:ARG:NH1	2.40	0.55
18:AW:86:LEU:HD22	18:AW:96:ILE:HD11	1.89	0.55
7:BH:11:VAL:HG21	7:BH:50:VAL:HG23	1.89	0.55
1:AA:1378:A:OP1	29:A7:10:ARG:NH2	2.39	0.55
34:CD:173:TRP:CD1	34:CD:174:LEU:HG	2.41	0.55
4:BE:29:GLY:HA3	4:BE:180:ASN:OD1	2.06	0.55
1:AA:2815:C:H5'	27:A5:29:THR:HG21	1.89	0.55
44:CN:32:SER:HB3	44:CN:41:ARG:HB3	1.87	0.55
1:AA:2384:G:OP2	22:A0:55:ARG:NH1	2.40	0.55
15:AT:13:ARG:HG3	15:AT:14:TYR:CE1	2.41	0.55
12:BQ:138:ASP:OD2	21:BZ:81:ARG:NH1	2.35	0.55
31:CA:1124:G:H1	31:CA:1149:C:N4	2.05	0.55
31:CA:1229:A:OP2	43:CM:114:ARG:HD2	2.06	0.55
7:AH:56:SER:HG	7:AH:61:HIS:HD1	1.52	0.55
6:AG:56:ALA:HB2	6:AG:153:ARG:HE	1.71	0.55
31:CA:115:G:H1'	31:CA:116:A:N7	2.21	0.55
38:CH:86:ILE:HG21	38:CH:133:LEU:HD13	1.89	0.55
31:CA:819:A:H4'	31:CA:820:U:OP2	2.06	0.55
31:DA:1011:G:H1	31:DA:1018:C:N4	2.03	0.55
31:DA:1061:G:H5''	40:DJ:59:SER:HB2	1.88	0.55
36:DF:62:TRP:CH2	36:DF:64:GLN:HB2	2.42	0.55
14:BS:102:ALA:HA	14:BS:105:ALA:HB3	1.87	0.55
37:DG:77:SER:HA	37:DG:86:GLN:HA	1.89	0.55
43:CM:102:ARG:HE	43:CM:105:THR:HG23	1.72	0.55
31:CA:1292:U:O2'	31:CA:1293:G:H5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1204:A:H2	1:BA:1241:A:N6	2.04	0.55
1:AA:686:G:C8	29:A7:7:PRO:HA	2.42	0.55
31:DA:1256:A:N6	31:DA:1278:U:O2	2.40	0.55
31:CA:344:A:H5''	31:CA:345:C:C5	2.42	0.55
31:CA:1027:C:H2'	31:CA:1028:C:C5	2.41	0.55
38:DH:6:ILE:O	38:DH:10:LEU:HG	2.07	0.55
31:CA:736:C:H2'	31:CA:737:A:C8	2.42	0.55
6:AG:61:ALA:HA	6:AG:66:GLN:O	2.07	0.55
1:AA:359:A:H2'	1:AA:360:G:O4'	2.06	0.55
31:CA:115:G:H4'	31:CA:116:A:O5'	2.06	0.55
1:AA:1448:G:H4'	1:AA:1542:A:OP1	2.06	0.55
1:AA:1406:U:H2'	1:AA:1407:C:C6	2.41	0.55
43:CM:57:ARG:O	43:CM:61:GLU:HG3	2.07	0.55
1:BA:27:G:N2	1:BA:512:G:H1'	2.22	0.55
1:BA:1810:A:H2'	1:BA:1811:G:O4'	2.07	0.55
36:CF:67:MET:SD	36:CF:75:LEU:HD12	2.46	0.55
4:BE:28:ALA:HB3	4:BE:93:VAL:HG13	1.89	0.55
37:DG:126:ASP:HB3	37:DG:131:LYS:O	2.06	0.55
39:DI:105:ASP:HB2	39:DI:107:ARG:HD3	1.89	0.55
31:DA:7:G:O2'	35:DE:120:THR:O	2.24	0.55
31:CA:1414:U:H3	31:CA:1486:G:H1	1.55	0.55
31:DA:673:G:H2'	31:DA:674:G:H8	1.68	0.55
6:BG:56:ALA:HB2	6:BG:153:ARG:NE	2.17	0.55
1:AA:84:A:H61	1:AA:102:G:H1'	1.72	0.55
26:A4:42:PHE:CB	26:A4:43:TYR:HB2	2.36	0.55
2:BB:19:G:H5'	2:BB:20:C:OP2	2.07	0.55
31:DA:618:C:N4	31:DA:621:A:N7	2.54	0.55
31:DA:1307:U:H2'	31:DA:1308:U:C6	2.42	0.55
49:DS:32:LYS:HG2	49:DS:50:ALA:HB3	1.88	0.55
32:DB:102:LEU:HB3	32:DB:180:LEU:HD12	1.88	0.55
48:CR:47:THR:HG23	48:CR:49:LYS:HG3	1.89	0.55
1:AA:90:U:O2'	1:AA:92:A:C8	2.56	0.55
31:DA:1112:C:O2	33:DC:179:ARG:HG2	2.07	0.55
31:CA:1347:G:H5''	39:CI:107:ARG:HB3	1.88	0.55
4:AE:14:ILE:HG13	4:AE:21:VAL:HG13	1.89	0.55
25:B3:39:ASP:OD2	25:B3:44:ARG:NH1	2.41	0.55
15:BT:120:ARG:HA	15:BT:123:GLN:HG2	1.89	0.55
1:AA:1653:G:N1	13:AR:11:ASN:OD1	2.38	0.55
1:BA:34:C:H5''	1:BA:35:G:OP2	2.07	0.55
38:DH:21:LYS:O	38:DH:63:LEU:HD23	2.07	0.55
42:DL:90:VAL:O	42:DL:92:ASP:N	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:652:U:O4	31:CA:752:G:O2'	2.21	0.55
42:CL:53:ARG:HB3	42:CL:93:LEU:HD11	1.87	0.55
38:DH:121:ASP:N	38:DH:121:ASP:OD1	2.40	0.55
32:CB:87:ARG:HH11	32:CB:219:VAL:HG12	1.72	0.54
1:AA:986:C:C2'	1:AA:987:G:H5'	2.37	0.54
31:CA:955:U:H2'	31:CA:956:U:C6	2.42	0.54
1:BA:2299:G:N1	1:BA:2318:G:C8	2.75	0.54
1:AA:9:U:N3	1:AA:2629:A:H2	2.05	0.54
9:AN:34:LEU:O	9:AN:49:GLY:HA3	2.07	0.54
32:DB:24:TRP:CE3	32:DB:26:PRO:HA	2.42	0.54
31:DA:1332:A:H8	31:DA:1332:A:O5'	1.89	0.54
31:CA:539:A:H2'	31:CA:540:G:C8	2.43	0.54
7:AH:54:ARG:HD3	7:AH:65:HIS:ND1	2.22	0.54
31:DA:607:A:H2'	31:DA:608:A:O4'	2.07	0.54
31:DA:1162:C:H2'	31:DA:1163:C:C6	2.41	0.54
13:AR:67:LEU:HD22	13:AR:76:VAL:HG21	1.88	0.54
31:CA:1090:U:H2'	31:CA:1091:U:H6	1.72	0.54
31:DA:634:C:H2'	31:DA:635:G:H8	1.72	0.54
31:DA:1090:U:H2'	31:DA:1091:U:H6	1.71	0.54
38:CH:73:ASP:OD2	38:CH:75:ARG:HD3	2.08	0.54
31:DA:642:A:N3	38:DH:113:SER:OG	2.37	0.54
22:B0:55:ARG:HB2	22:B0:55:ARG:NH1	2.21	0.54
2:BB:75:G:H8	2:BB:75:G:H5''	1.71	0.54
4:AE:203:LYS:CB	4:AE:204:ALA:HA	2.37	0.54
12:BQ:35:VAL:HG13	12:BQ:130:LYS:HB3	1.89	0.54
35:CE:7:GLU:O	35:CE:8:GLU:HB3	2.07	0.54
31:DA:1027:C:H2'	31:DA:1028:C:C5	2.43	0.54
32:CB:87:ARG:HD2	32:CB:219:VAL:HG11	1.88	0.54
1:AA:1173:G:N1	1:AA:1176:G:OP2	2.26	0.54
1:BA:2129:C:N3	1:BA:2159:G:O6	2.40	0.54
31:CA:1001:A:N6	31:CA:1040:U:H3	2.02	0.54
31:CA:1063:C:H2'	31:CA:1064:G:C8	2.42	0.54
45:DO:23:GLY:O	45:DO:27:VAL:HB	2.07	0.54
1:AA:2137:C:O2	1:AA:2137:C:H2'	2.07	0.54
1:BA:2318:G:N2	14:BS:3:ARG:HD2	2.22	0.54
7:AH:70:THR:HA	7:AH:73:ALA:HB3	1.87	0.54
3:BD:16:MET:HG2	3:BD:211:ARG:HH21	1.71	0.54
12:AQ:109:VAL:HG13	12:AQ:113:GLN:HB2	1.88	0.54
1:AA:244:A:C2	1:AA:255:A:C4	2.96	0.54
1:BA:1265:A:OP1	1:BA:1265:A:H8	1.89	0.54
6:BG:108:ASN:HA	26:B4:37:SER:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1503:U:H2'	1:AA:1504:C:C6	2.42	0.54
31:DA:254:G:OP1	47:DQ:66:SER:OG	2.21	0.54
1:AA:1201:C:H2'	1:AA:1202:C:H6	1.70	0.54
6:BG:9:ARG:NH1	6:BG:13:GLU:OE1	2.37	0.54
1:AA:17:G:H2'	1:AA:18:C:C6	2.43	0.54
15:BT:95:ARG:HG2	15:BT:95:ARG:HH11	1.72	0.54
31:DA:1028:C:C4	31:DA:1033:G:N1	2.66	0.54
1:AA:1608:A:H1'	1:AA:1610:A:OP2	2.08	0.54
2:AB:38:C:H2'	2:AB:39:A:O4'	2.07	0.54
35:DE:76:ILE:HG13	35:DE:77:PRO:HD2	1.90	0.54
31:DA:944:G:N1	31:DA:1338:G:OP2	2.30	0.54
1:BA:652(G):G:H2'	1:BA:652(H):C:H6	1.73	0.54
31:DA:1244:C:H2'	31:DA:1245:A:C8	2.41	0.54
31:CA:101:A:H2'	31:CA:102:G:H8	1.72	0.54
1:AA:221:A:H4'	1:AA:222:A:O5'	2.07	0.54
31:CA:1504:G:OP1	31:CA:1507:A:H4'	2.07	0.54
1:BA:2050:C:H2'	1:BA:2051:A:O4'	2.08	0.54
3:AD:3:VAL:HG13	3:AD:17:THR:HB	1.87	0.54
1:BA:2279:G:O6	22:B0:14:ARG:HD2	2.06	0.54
31:DA:683:G:H2'	31:DA:684:A:C8	2.42	0.54
1:BA:1332:G:N2	1:BA:1610:A:C8	2.75	0.54
21:BZ:156:LYS:HD2	21:BZ:158:PRO:HD3	1.89	0.54
14:AS:95:HIS:C	14:AS:99:LYS:HB3	2.28	0.54
31:DA:1128:C:H1'	31:DA:1146:A:H61	1.73	0.54
39:CI:28:VAL:HA	39:CI:63:ILE:O	2.08	0.54
46:DP:70:ALA:O	46:DP:73:LEU:N	2.40	0.54
49:CS:39:THR:O	49:CS:41:VAL:N	2.41	0.54
42:CL:70:ILE:HG12	42:CL:100:ILE:HD12	1.89	0.54
31:CA:394:G:H2'	31:CA:395:C:C6	2.43	0.54
34:DD:108:LEU:HB3	34:DD:110:PHE:CE1	2.41	0.54
11:BP:101:VAL:O	11:BP:103:ALA:N	2.40	0.54
45:CO:15:PHE:CE2	45:CO:84:LYS:HD2	2.42	0.54
31:DA:989:C:H42	31:DA:1216:G:H1	1.55	0.54
21:BZ:111:VAL:HG12	21:BZ:112:ARG:H	1.72	0.54
40:CJ:44:VAL:HG12	40:CJ:46:ARG:HG3	1.89	0.54
37:CG:139:GLU:HB3	37:CG:143:ARG:NH1	2.23	0.54
36:DF:22:GLU:OE2	36:DF:82:ARG:HG2	2.07	0.54
31:DA:859:A:H2'	31:DA:860:A:O4'	2.08	0.54
11:AP:38:GLN:O	11:AP:39:LYS:HB2	2.08	0.54
1:AA:1915:U:H3	52:AA:3001:T8B:C27	2.20	0.54
26:B4:24:THR:OG1	26:B4:25:TYR:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:B5:33:CYS:SG	27:B5:46:CYS:SG	3.03	0.54
31:CA:1355:G:H2'	31:CA:1356:G:C8	2.43	0.54
34:CD:9:CYS:O	34:CD:13:ARG:HG3	2.08	0.54
3:BD:274:ARG:HA	3:BD:275:LYS:HB2	1.90	0.54
31:CA:737:A:H2'	31:CA:738:C:C6	2.43	0.54
1:BA:2109:U:H3	1:BA:2180:U:H3	1.55	0.54
35:CE:71:LEU:O	35:CE:73:ASN:N	2.38	0.54
36:DF:45:LEU:HD11	36:DF:57:GLN:HB3	1.88	0.54
1:AA:2872:G:C2	1:AA:2873:A:N6	2.76	0.54
1:AA:492:A:H2'	1:AA:493:G:O4'	2.08	0.54
5:AF:129:PHE:CD2	5:AF:163:VAL:HG21	2.42	0.54
31:DA:364:A:H2'	31:DA:365:U:C6	2.42	0.54
1:AA:76:C:O3'	24:A2:59:ARG:HG3	2.08	0.54
1:AA:1693:U:H4'	1:AA:1694:C:OP2	2.08	0.54
31:CA:840:C:H4'	31:CA:841:U:OP1	2.08	0.54
14:AS:14:VAL:O	14:AS:18:ILE:HG12	2.07	0.54
1:AA:719:C:H2'	1:AA:720:C:H6	1.72	0.54
1:BA:2206:G:H5'	1:BA:2207:G:N7	2.22	0.54
41:CK:48:ILE:HD11	41:CK:64:ALA:HA	1.89	0.54
3:BD:85:ASP:OD2	3:BD:88:ARG:NH1	2.37	0.54
26:A4:40:HIS:O	26:A4:43:TYR:HB3	2.07	0.54
31:CA:964:A:N3	31:CA:969:A:O2'	2.36	0.54
31:DA:359:U:H2'	31:DA:360:A:H8	1.72	0.54
23:B1:86:SER:N	23:B1:89:GLU:OE1	2.36	0.54
6:BG:66:GLN:HG2	26:B4:1:MET:HE1	1.90	0.54
40:CJ:16:LEU:HD21	40:CJ:70:ARG:HG3	1.90	0.54
1:BA:453:C:O2	1:BA:457:A:O2'	2.23	0.54
1:AA:1656:C:H2'	1:AA:1657:C:H6	1.72	0.54
1:AA:448:U:C4	1:AA:583:G:H1'	2.43	0.54
13:AR:85:PRO:O	13:AR:87:TYR:N	2.41	0.54
32:CB:104:ASN:O	32:CB:108:ILE:HG12	2.06	0.54
1:AA:702:G:C2	1:AA:731:C:C2	2.95	0.54
1:AA:2363:C:O2	22:A0:39:ARG:NH2	2.41	0.54
1:AA:1278:A:OP1	13:AR:36:THR:HG23	2.07	0.54
31:CA:1255:G:H3'	31:CA:1279:A:N6	2.23	0.54
31:CA:1030:C:C5	31:CA:1030(A):G:H1'	2.43	0.54
1:AA:2165:G:H2'	1:AA:2166:G:C8	2.42	0.54
31:CA:674:G:H2'	31:CA:675:A:C8	2.39	0.54
1:BA:2319:G:C2	14:BS:3:ARG:HA	2.42	0.54
31:DA:491:G:H2'	31:DA:492:G:H8	1.72	0.54
5:AF:101:LEU:O	5:AF:106:ARG:NH1	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:910:A:N1	1:BA:2277:G:H1'	2.23	0.54
31:CA:113:G:H2'	31:CA:114:U:H6	1.72	0.54
1:BA:1688:U:O2	1:BA:1700:A:H5'	2.07	0.54
1:BA:2572:A:N7	4:BE:145:LYS:HB2	2.22	0.54
21:AZ:153:SER:OG	21:AZ:154:ASP:N	2.41	0.54
50:DT:38:LYS:O	50:DT:41:ILE:HG13	2.08	0.54
1:BA:363(B):G:H2'	1:BA:363(C):G:H8	1.72	0.54
32:CB:155:LEU:HD11	32:CB:159:PRO:HD3	1.89	0.54
37:DG:26:PHE:CE2	37:DG:30:ILE:HD11	2.42	0.54
1:AA:141:A:H8	1:AA:1408:C:HO2'	1.49	0.54
37:CG:132:GLY:H	37:CG:135:VAL:HB	1.72	0.54
28:A6:11:LEU:HD12	28:A6:21:TYR:HB2	1.90	0.54
1:BA:796:C:H2'	1:BA:797:C:C6	2.43	0.54
1:AA:64:A:O3'	19:AX:71:GLY:HA3	2.07	0.54
47:CQ:96:GLU:O	47:CQ:97:SER:HB2	2.08	0.54
37:DG:15:ASP:O	37:DG:19:GLY:N	2.34	0.54
31:DA:1031:G:H2'	31:DA:1032:G:C8	2.42	0.54
1:AA:1174:A:H5'	1:AA:1177:A:H61	1.71	0.54
1:BA:689:A:N3	1:BA:779:U:O2'	2.35	0.54
8:AI:92:VAL:CG1	8:AI:120:ILE:HB	2.37	0.54
1:BA:2172:U:H4'	1:BA:2173:A:OP2	2.07	0.54
1:AA:1766:U:H2'	1:AA:1767:C:C6	2.43	0.54
31:CA:1458:G:H5''	50:CT:31:SER:HB2	1.90	0.54
32:DB:54:THR:HG23	32:DB:199:TYR:HB3	1.90	0.54
1:AA:1394:U:H2'	1:AA:1395:A:O4'	2.07	0.54
1:AA:2099:U:H3	1:AA:2190:G:H1	1.55	0.54
31:CA:279:A:OP2	47:CQ:95:TYR:OH	2.20	0.54
4:BE:11:MET:HG2	4:BE:24:THR:HB	1.89	0.54
7:BH:20:ALA:HB1	7:BH:21:PRO:HD2	1.89	0.54
34:CD:100:ARG:NH1	34:CD:137:SER:HB3	2.23	0.54
1:BA:1991:U:H2'	1:BA:1992:G:H5''	1.89	0.54
31:DA:673:G:H5''	36:DF:87:ARG:NH1	2.23	0.54
20:BY:76:CYS:HG	20:BY:102:CYS:HG	1.54	0.54
27:B5:33:CYS:SG	27:B5:46:CYS:HB2	2.48	0.54
14:AS:104:GLY:O	14:AS:107:GLU:HB2	2.08	0.54
1:AA:2302:G:O2'	6:AG:126:ASP:O	2.22	0.54
31:DA:445:G:C6	31:DA:490:G:C6	2.96	0.54
6:AG:15:VAL:HG13	6:AG:175:LEU:HD23	1.90	0.54
1:BA:2319:G:N2	14:BS:3:ARG:HB2	2.23	0.54
1:BA:2079:U:O3'	23:B1:35:THR:OG1	2.24	0.54
8:AI:93:THR:HG22	8:AI:119:PRO:HB3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:1142:G:H3'	31:CA:1143:G:H8	1.73	0.54
1:AA:249:C:O2	30:A8:12:LYS:NZ	2.31	0.54
1:AA:500:G:N2	1:AA:502:A:H3'	2.22	0.54
22:B0:11:ARG:O	22:B0:14:ARG:NH2	2.40	0.54
2:AB:45:A:OP2	6:AG:96:ARG:NH2	2.37	0.54
6:AG:145:THR:OG1	6:AG:146:TYR:N	2.41	0.54
16:AU:52:ARG:O	16:AU:55:ARG:HG3	2.08	0.54
41:CK:20:TYR:HB2	41:CK:31:THR:HG23	1.90	0.54
31:CA:712:A:H8	31:CA:712:A:O5'	1.91	0.54
32:DB:59:GLU:O	32:DB:63:MET:HG2	2.08	0.54
34:CD:3:ARG:O	34:CD:5:ILE:HG12	2.08	0.54
1:BA:1188:U:H4'	17:BV:79:VAL:HG22	1.89	0.54
31:DA:425:G:O3'	34:DD:45:GLN:NE2	2.41	0.54
31:CA:1201:A:H1'	31:CA:1202:G:OP2	2.07	0.54
31:CA:922:G:C6	31:CA:923:A:C6	2.95	0.54
7:AH:118:PRO:HD2	7:AH:121:ILE:HG21	1.89	0.54
1:BA:1570:A:H2'	1:BA:1571:A:C8	2.43	0.54
17:AV:5:VAL:HG11	17:AV:57:VAL:HG21	1.89	0.54
1:AA:2420:C:OP2	30:A8:33:ASN:HB2	2.08	0.54
31:DA:382:A:H2'	31:DA:383:A:C8	2.42	0.54
1:AA:1991:U:H2'	1:AA:1992:G:H5''	1.90	0.54
14:BS:101:LEU:O	14:BS:102:ALA:HB3	2.08	0.54
25:B3:44:ARG:O	25:B3:48:GLU:HG3	2.08	0.54
9:AN:97:ARG:HA	9:AN:100:GLU:HB2	1.89	0.54
1:BA:271(F):C:H2'	1:BA:271(G):C:H6	1.72	0.54
36:CF:62:TRP:CH2	36:CF:64:GLN:HB2	2.43	0.54
31:CA:1261:A:H3'	31:CA:1262:C:H6	1.70	0.54
31:DA:936:C:H2'	31:DA:937:A:C8	2.43	0.54
14:BS:11:LYS:HG3	14:BS:91:PRO:HD3	1.89	0.54
23:A1:51:VAL:HG11	23:A1:74:VAL:HG21	1.90	0.54
1:AA:321:G:C2	1:AA:341:G:H4'	2.43	0.54
5:AF:157:VAL:HB	5:AF:194:MET:HG2	1.88	0.54
1:BA:898:C:H2'	1:BA:899:A:O4'	2.08	0.54
1:AA:548:A:H61	17:AV:19:LYS:H	1.56	0.54
1:AA:996:A:O3'	16:AU:91:ASP:HB2	2.09	0.53
1:AA:1798:U:C5'	3:AD:259:THR:HG22	2.37	0.53
39:DI:11:LYS:H	39:DI:104:ARG:HH22	1.56	0.53
46:CP:28:ARG:NH1	46:CP:29:ASP:OD2	2.42	0.53
1:AA:2172:U:H1'	1:AA:2173:A:OP1	2.08	0.53
31:DA:100:C:H2'	31:DA:101:A:C8	2.43	0.53
4:AE:14:ILE:HB	15:AT:14:TYR:CE2	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:1090:U:H2'	31:CA:1091:U:C6	2.43	0.53
41:CK:31:THR:HA	41:CK:42:TRP:HA	1.89	0.53
1:BA:271(D):G:H1	1:BA:271(T):C:H42	1.56	0.53
1:BA:1365:A:OP1	23:B1:41:ARG:NH1	2.39	0.53
1:BA:1298:C:H5''	1:BA:1299:G:OP2	2.08	0.53
17:BV:98:GLU:OE2	17:BV:100:ARG:NH1	2.41	0.53
31:CA:31:G:O2'	31:CA:48:C:N4	2.41	0.53
18:AW:56:ALA:O	18:AW:60:ASN:N	2.41	0.53
1:BA:588:U:H1'	5:BF:90:PHE:HB3	1.90	0.53
8:BI:27:ARG:HD2	23:B1:71:TYR:CE1	2.43	0.53
31:DA:1198:G:H2'	31:DA:1199:U:C6	2.43	0.53
3:AD:93:ALA:HB3	3:AD:105:ILE:HG13	1.90	0.53
43:DM:65:LYS:CA	43:DM:66:LEU:HB2	2.28	0.53
17:AV:76:LYS:HD2	17:AV:81:TYR:CD1	2.44	0.53
31:CA:1304:G:O6	31:CA:1331:G:O2'	2.24	0.53
31:DA:513:C:H2'	31:DA:514:C:C6	2.42	0.53
31:CA:857:C:H2'	31:CA:858:G:O4'	2.08	0.53
1:AA:2808:U:H5''	1:AA:2891:G:O6	2.09	0.53
33:CC:74:GLY:O	33:CC:76:VAL:N	2.41	0.53
1:AA:2152:G:H2'	1:AA:2153:G:C8	2.43	0.53
1:AA:2686:G:H2'	1:AA:2687:U:O4'	2.08	0.53
26:A4:15:ILE:HB	26:A4:32:TYR:CD2	2.43	0.53
31:CA:748:C:H4'	31:CA:749:C:O5'	2.08	0.53
10:AO:15:GLY:O	10:AO:47:ILE:HG12	2.08	0.53
3:AD:97:TYR:HB2	3:AD:101:GLU:O	2.07	0.53
34:CD:111:ALA:HB1	34:CD:116:GLN:HB3	1.89	0.53
16:AU:76:TYR:OH	16:AU:92:ARG:NH1	2.41	0.53
1:AA:300:A:H2'	1:AA:334:C:O2'	2.07	0.53
31:CA:1321:C:H5''	31:CA:1322:C:H5''	1.90	0.53
46:DP:58:TYR:O	46:DP:61:SER:OG	2.11	0.53
1:BA:26:G:C6	1:BA:27:G:N1	2.77	0.53
1:AA:698:C:O2'	1:AA:734:A:N6	2.40	0.53
45:CO:3:ILE:H	45:CO:3:ILE:HD13	1.73	0.53
11:BP:83:VAL:HG13	11:BP:112:LEU:HD21	1.90	0.53
34:DD:170:VAL:HG22	34:DD:171:GLY:H	1.73	0.53
24:B2:32:LEU:HD22	24:B2:36:ARG:NH1	2.23	0.53
1:AA:995:C:O2	9:AN:3:THR:OG1	2.23	0.53
1:AA:528:A:C8	1:AA:528:A:H3'	2.43	0.53
41:DK:65:ALA:HB1	41:DK:98:LEU:HD21	1.90	0.53
4:BE:47:VAL:HG23	4:BE:84:PHE:O	2.09	0.53
31:CA:391:G:OP1	46:CP:28:ARG:NH2	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:A4:26:SER:OG	26:A4:27:THR:N	2.41	0.53
31:DA:858:G:O6	31:DA:869:G:H3'	2.08	0.53
1:BA:1430:C:H2'	1:BA:1431:U:C6	2.42	0.53
1:AA:1113:U:H2'	1:AA:1114:G:H8	1.74	0.53
43:DM:60:VAL:HA	43:DM:64:TRP:CZ3	2.42	0.53
31:CA:1323:G:H2'	31:CA:1324:A:O4'	2.09	0.53
13:BR:33:ARG:NH1	13:BR:115:GLU:OE2	2.32	0.53
48:CR:45:SER:OG	48:CR:47:THR:HG22	2.08	0.53
2:AB:63:G:C6	2:AB:64:C:C4	2.97	0.53
31:DA:1011:G:H1	31:DA:1018:C:H42	1.56	0.53
1:BA:1268:A:H2'	1:BA:1269:A:O4'	2.08	0.53
1:BA:2637:U:H5''	4:BE:82:ARG:HH21	1.73	0.53
47:CQ:59:ILE:HG22	47:CQ:73:VAL:HA	1.90	0.53
1:AA:2263:C:H2'	1:AA:2264:C:H6	1.74	0.53
1:AA:2376:A:H8	1:AA:2376:A:OP1	1.92	0.53
1:AA:100:G:H4'	1:AA:100:G:OP2	2.08	0.53
31:CA:3:G:N3	31:CA:3:G:H2'	2.23	0.53
1:AA:1547:C:H2'	1:AA:1548:C:H6	1.72	0.53
1:BA:2833:G:H3'	1:BA:2834:G:H5''	1.90	0.53
1:BA:1913:A:C2'	52:BA:3001:T8B:O2	2.56	0.53
1:AA:1337:G:H2'	1:AA:1338:G:H8	1.73	0.53
40:DJ:5:ARG:N	40:DJ:73:ASP:OD1	2.42	0.53
1:AA:2134:A:N3	1:AA:2159:G:O2'	2.32	0.53
1:AA:2111:C:H42	1:AA:2147:G:H22	1.57	0.53
1:AA:2113:U:H2'	1:AA:2114:A:O4'	2.08	0.53
1:AA:637:A:H4'	1:AA:638:G:O5'	2.09	0.53
31:DA:1316:G:H4'	44:DN:18:VAL:HG13	1.89	0.53
1:AA:77:C:OP1	24:A2:59:ARG:HD3	2.07	0.53
10:AO:98:VAL:HG11	10:AO:114:ILE:HG23	1.91	0.53
1:BA:760:G:H2'	1:BA:761:A:O4'	2.08	0.53
13:BR:83:ILE:O	13:BR:86:ARG:HG2	2.07	0.53
48:CR:71:LYS:O	48:CR:75:ILE:HG13	2.09	0.53
20:AY:30:VAL:HG22	20:AY:37:VAL:HG12	1.91	0.53
32:DB:69:LEU:HB3	32:DB:162:ILE:HG22	1.91	0.53
28:A6:16:CYS:HB2	28:A6:18:ARG:NH1	2.24	0.53
1:BA:84:A:H61	1:BA:102:G:H1'	1.74	0.53
31:CA:662:G:O2'	31:CA:836:G:OP1	2.26	0.53
31:CA:1129:C:N4	31:CA:1134:G:N7	2.56	0.53
1:AA:2881:C:H2'	1:AA:2882:A:O4'	2.09	0.53
31:CA:186:C:H2'	31:CA:187:C:C6	2.44	0.53
31:CA:1032:G:H2'	31:CA:1033:G:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:1025:U:C2	31:CA:1036:G:O6	2.61	0.53
1:AA:652(D):C:H2'	1:AA:652(E):G:O4'	2.07	0.53
1:BA:2126:A:H2	1:BA:2127:G:N3	2.06	0.53
1:BA:2009:G:OP1	18:BW:41:LYS:HE2	2.07	0.53
1:BA:2712:U:H1'	1:BA:2712(A):A:C8	2.44	0.53
31:DA:781:A:C8	31:DA:782:A:C8	2.97	0.53
22:B0:55:ARG:HB2	22:B0:55:ARG:HH11	1.74	0.53
6:AG:76:SER:HA	6:AG:83:ARG:HA	1.91	0.53
31:CA:1115:C:H1'	44:CN:61:TRP:O	2.09	0.53
31:CA:158:G:N2	31:CA:163:C:O2	2.39	0.53
37:DG:48:LYS:O	37:DG:52:GLU:HG2	2.09	0.53
22:B0:43:THR:OG1	22:B0:46:LYS:HG3	2.09	0.53
1:BA:1106:A:H4'	1:BA:1107:G:OP2	2.09	0.53
35:DE:135:THR:O	35:DE:138:ALA:HB3	2.09	0.53
51:DU:12:LYS:HE2	51:DU:21:TYR:HB2	1.90	0.53
1:AA:699:A:H2'	1:AA:700:G:O4'	2.08	0.53
1:BA:1877:A:H5'	1:BA:1878:G:OP2	2.09	0.53
31:DA:673:G:O3'	36:DF:87:ARG:NH2	2.42	0.53
38:DH:112:LEU:HB3	38:DH:133:LEU:HA	1.90	0.53
31:CA:983:A:H5'	31:CA:984:C:OP2	2.08	0.53
1:AA:686:G:H8	29:A7:7:PRO:HA	1.74	0.53
1:BA:1815:A:OP2	3:BD:54:ARG:NH2	2.42	0.53
31:CA:194:C:H2'	31:CA:195:A:H5''	1.91	0.53
7:AH:164:TYR:HB2	7:AH:167:GLU:HB2	1.89	0.53
31:DA:539:A:H2'	31:DA:540:G:C8	2.43	0.53
7:AH:22:GLY:HA2	7:AH:37:VAL:O	2.08	0.53
31:CA:657:G:C2	31:CA:658:G:C8	2.96	0.53
10:BO:2:ILE:HB	10:BO:33:ALA:HB3	1.90	0.53
31:CA:564:C:O2'	38:CH:91:ARG:NH2	2.41	0.53
31:CA:859:A:H2	38:CH:19:VAL:HG11	1.73	0.53
1:BA:2016:U:H1'	27:B5:6:VAL:HG13	1.90	0.53
31:DA:696:A:N1	31:DA:797:C:O2'	2.33	0.53
28:B6:14:THR:OG1	28:B6:48:VAL:O	2.27	0.53
31:DA:708:C:OP1	41:DK:85:ARG:NH2	2.39	0.53
34:DD:200:GLU:O	34:DD:204:ILE:HG12	2.09	0.53
6:BG:109:VAL:C	6:BG:112:PRO:HD2	2.29	0.53
1:AA:715:G:C2	45:DO:56:LEU:HD21	2.43	0.53
31:DA:724:G:H2'	31:DA:725:G:H8	1.73	0.53
5:BF:158:THR:OG1	5:BF:159:GLY:N	2.41	0.53
23:A1:67:ILE:N	23:A1:68:PRO:HD2	2.23	0.53
31:DA:1151:A:O2'	31:DA:1152:A:H8	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:DI:71:SER:HA	39:DI:74:ILE:HD12	1.91	0.53
41:DK:52:GLY:H	41:DK:55:LYS:HE2	1.72	0.53
31:CA:141:A:H1'	31:CA:182:U:O2	2.08	0.53
31:DA:736:C:H2'	31:DA:737:A:C8	2.44	0.53
20:BY:76:CYS:CB	20:BY:99:CYS:HG	2.22	0.53
12:AQ:32:TYR:HB2	12:AQ:106:VAL:HG23	1.90	0.53
1:AA:2286:A:H4'	1:AA:2287:A:O4'	2.08	0.53
1:AA:1109:C:H5'	1:AA:1110:G:OP2	2.09	0.53
1:BA:336:C:HO2'	20:BY:35:TYR:HH	1.45	0.53
31:CA:132:C:H2'	31:CA:133:U:C6	2.44	0.53
3:BD:146:GLU:HB2	3:BD:189:CYS:HB3	1.90	0.53
1:BA:184:C:H2'	1:BA:185:U:H6	1.72	0.53
1:AA:184:C:H2'	1:AA:185:U:C6	2.43	0.53
31:DA:186:C:H2'	31:DA:187:C:C6	2.43	0.53
32:DB:97:TRP:CH2	32:DB:173:ALA:HA	2.44	0.53
42:DL:66:VAL:HG11	42:DL:98:TYR:HE1	1.73	0.53
1:AA:1486:A:H2'	1:AA:1487:G:H8	1.74	0.53
5:AF:135:LYS:O	5:AF:138:GLU:HB2	2.09	0.53
6:AG:125:PHE:CE1	6:AG:170:ARG:HG2	2.43	0.53
31:DA:36:C:OP1	42:DL:123:LYS:NZ	2.42	0.53
15:BT:90:GLN:OE1	15:BT:121:ILE:HD11	2.08	0.53
8:BI:106:GLY:HA2	8:BI:107:VAL:HB	1.91	0.53
31:CA:1092:A:H2'	31:CA:1093:A:C8	2.44	0.53
38:CH:21:LYS:O	38:CH:65:TYR:OH	2.16	0.53
50:DT:10:LEU:HD23	50:DT:12:ALA:H	1.74	0.53
42:DL:27:LEU:C	42:DL:29:GLY:H	2.12	0.53
1:BA:372:G:OP2	23:B1:69:LYS:NZ	2.39	0.53
48:DR:70:ILE:HG22	48:DR:74:ARG:HD2	1.90	0.53
1:BA:883:G:H1	1:BA:893:C:H42	1.57	0.53
1:AA:2641:G:P	9:AN:74:ARG:HH21	2.31	0.53
46:CP:21:VAL:HG13	46:CP:33:ILE:HB	1.89	0.53
31:CA:110:C:O2'	46:CP:25:ARG:O	2.23	0.53
4:BE:203:LYS:CB	4:BE:204:ALA:HA	2.39	0.53
1:AA:1837:C:OP1	31:DA:784:C:H4'	2.09	0.53
1:BA:1020:A:N1	1:BA:1141:U:O2'	2.38	0.53
32:CB:24:TRP:CD2	32:CB:26:PRO:HD3	2.44	0.53
1:BA:251:A:C5	1:BA:252:G:H1'	2.43	0.53
31:DA:827:U:H5''	31:DA:828:A:OP2	2.09	0.53
31:DA:828:A:N6	31:DA:858:G:O2'	2.41	0.53
1:AA:1045:A:H1'	1:AA:1047:G:C2	2.43	0.53
31:CA:1322:C:H6	31:CA:1322:C:OP1	1.92	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1826:G:H4'	3:AD:242:ARG:CZ	2.39	0.53
33:DC:19:GLU:O	33:DC:40:ARG:NH2	2.28	0.53
1:BA:2023:G:H5'	1:BA:2617:C:H4'	1.91	0.53
32:DB:149:LEU:HD22	32:DB:152:PHE:HB3	1.91	0.53
32:DB:100:GLY:O	32:DB:104:ASN:N	2.41	0.53
1:BA:511:U:C5	1:BA:512:G:C5	2.97	0.53
31:CA:616:G:C2	31:CA:617:G:C8	2.97	0.53
21:BZ:63:ASP:OD1	21:BZ:65:GLN:HB2	2.09	0.53
8:AI:61:ARG:HB3	8:AI:133:HIS:CD2	2.43	0.53
31:DA:573:A:N3	31:DA:883:C:O2'	2.40	0.53
31:DA:110:C:H2'	31:DA:111:G:O4'	2.08	0.53
4:AE:75:VAL:HG13	4:AE:77:ILE:H	1.74	0.53
1:BA:334:C:P	1:BA:335:C:H41	2.32	0.53
51:DU:6:ARG:O	51:DU:8:THR:N	2.38	0.53
1:BA:615:G:OP1	5:BF:40:GLN:NE2	2.37	0.53
31:DA:1390:U:H2'	31:DA:1391:U:C6	2.44	0.53
44:DN:23:ARG:HG3	44:DN:24:CYS:N	2.15	0.53
24:A2:4:SER:HA	24:A2:7:ARG:NH1	2.24	0.53
31:CA:184:G:H2'	31:CA:185:A:H8	1.74	0.53
31:CA:1288:A:O3'	51:CU:10:ARG:NH2	2.42	0.53
1:AA:1359:A:H2'	1:AA:1360:A:H5'	1.90	0.53
31:CA:1124:G:H1	31:CA:1149:C:H42	1.56	0.53
31:CA:15:G:H4'	35:CE:24:ARG:NH1	2.23	0.53
31:CA:583:A:H2'	31:CA:584:G:O4'	2.08	0.53
47:DQ:58:GLU:HG3	47:DQ:77:VAL:HG21	1.91	0.53
36:DF:82:ARG:HB3	36:DF:85:VAL:HG23	1.91	0.53
15:AT:94:ALA:HB1	15:AT:99:LEU:HD21	1.91	0.53
1:BA:1262:A:N3	27:B5:10:LYS:HE3	2.24	0.53
1:BA:1278:A:OP1	13:BR:36:THR:HG23	2.09	0.53
42:CL:49:ASN:ND2	42:CL:92:ASP:OD1	2.42	0.53
1:AA:2593:U:H2'	1:AA:2594:C:C6	2.43	0.53
13:BR:59:ASP:OD2	13:BR:59:ASP:N	2.40	0.53
19:BX:92:LEU:C	19:BX:94:GLY:H	2.13	0.53
7:BH:154:PRO:HB3	7:BH:163:TYR:CE2	2.43	0.53
31:DA:1005:A:O3'	31:DA:1037:C:O2'	2.26	0.53
31:DA:297:G:N2	31:DA:300:A:OP2	2.42	0.53
1:AA:631:A:H2'	1:AA:632:A:O4'	2.09	0.52
1:AA:1331:A:O2'	1:AA:1332:G:H8	1.91	0.52
31:DA:1260:C:O5'	31:DA:1284:C:H4'	2.09	0.52
31:DA:1001:A:H2'	31:DA:1001(A):G:H8	1.74	0.52
1:AA:2261:C:O2'	1:AA:2262:U:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2273:A:H2'	1:BA:2274:A:C8	2.44	0.52
31:DA:936:C:H2'	31:DA:937:A:O4'	2.08	0.52
31:CA:250:A:H4'	31:CA:251:G:O5'	2.08	0.52
1:BA:548:A:O2'	1:BA:549:G:OP1	2.23	0.52
31:DA:1246:C:H2'	31:DA:1247:U:H6	1.74	0.52
47:CQ:50:LYS:HE3	47:CQ:51:TYR:CE1	2.44	0.52
24:A2:31:GLU:HB3	24:A2:53:LEU:HD11	1.89	0.52
32:DB:34:ALA:O	32:DB:41:ILE:N	2.33	0.52
1:BA:299:A:N1	1:BA:322:A:O2'	2.38	0.52
39:DI:89:ASN:O	39:DI:92:TYR:N	2.40	0.52
1:BA:2732:G:H3'	1:BA:2733:A:O4'	2.09	0.52
17:AV:24:LYS:HA	17:AV:92:THR:OG1	2.10	0.52
31:CA:1392:G:N2	31:CA:1502:A:H8	2.06	0.52
1:AA:1410:G:H2'	1:AA:1411:C:C6	2.44	0.52
1:AA:102:G:HO2'	1:AA:103:A:P	2.27	0.52
31:DA:473:G:O2'	31:DA:474:G:H5'	2.10	0.52
1:AA:1963:U:H4'	1:AA:1964:G:OP1	2.09	0.52
31:CA:1025:U:HO2'	31:CA:1026:G:H8	1.54	0.52
17:AV:35:LEU:HB2	17:AV:57:VAL:CG2	2.40	0.52
31:CA:160:A:H3'	31:CA:161:A:H8	1.73	0.52
31:CA:1274:G:H2'	31:CA:1275:A:H8	1.74	0.52
42:DL:24:VAL:HG13	42:DL:98:TYR:CE2	2.44	0.52
31:CA:119:A:H4'	31:CA:120:A:O5'	2.09	0.52
40:CJ:50:ILE:HB	44:CN:41:ARG:HE	1.74	0.52
31:DA:1162:C:H2'	31:DA:1163:C:H6	1.74	0.52
31:DA:108:G:C6	50:DT:15:ARG:HG3	2.44	0.52
1:BA:548:A:H61	17:BV:19:LYS:H	1.57	0.52
6:BG:50:ALA:C	6:BG:52:ILE:H	2.12	0.52
1:BA:350:U:H2'	1:BA:351:G:O4'	2.09	0.52
45:DO:40:SER:O	45:DO:44:LYS:HG3	2.09	0.52
36:CF:68:PRO:HG2	36:CF:71:ARG:HD3	1.91	0.52
36:CF:69:GLU:O	36:CF:72:VAL:HG13	2.09	0.52
2:BB:24:G:N7	2:BB:56:G:H2'	2.24	0.52
31:CA:266:G:H5''	31:CA:267:C:H5	1.74	0.52
1:BA:1009:A:OP1	9:BN:37:LYS:NZ	2.35	0.52
1:AA:2875:C:O2'	15:AT:2:ASN:OD1	2.25	0.52
24:B2:22:GLU:OE2	24:B2:68:ARG:NH2	2.39	0.52
1:BA:587:C:O2	11:BP:33:ARG:NH2	2.41	0.52
40:DJ:38:ILE:HG12	40:DJ:71:LEU:O	2.08	0.52
47:CQ:13:ASP:O	47:CQ:15:MET:N	2.42	0.52
4:BE:201:THR:OG1	4:BE:202:LYS:N	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:BO:102:VAL:HB	10:BO:106:LEU:HD12	1.91	0.52
31:DA:1135:U:H2'	31:DA:1137:C:O2	2.09	0.52
1:AA:1517:G:C6	1:AA:1518:U:C4	2.97	0.52
31:CA:1359:C:O2'	31:CA:1362:C:N4	2.42	0.52
14:AS:62:LYS:HB3	14:AS:97:ARG:HD2	1.90	0.52
31:DA:456:C:N3	31:DA:476:G:C2	2.77	0.52
1:AA:2136:C:N4	1:AA:2156:G:C2	2.77	0.52
31:DA:1186:G:H21	44:DN:61:TRP:C	2.13	0.52
1:AA:2494:G:C5	1:AA:2495:G:N7	2.78	0.52
33:DC:179:ARG:HH12	33:DC:206:GLU:CD	2.11	0.52
31:CA:1310:G:H5'	43:CM:77:ASN:HD22	1.75	0.52
1:AA:17:G:H2'	1:AA:18:C:H6	1.73	0.52
1:BA:587:C:OP2	11:BP:21:ARG:NH2	2.42	0.52
15:BT:125:ARG:O	15:BT:127:ALA:N	2.35	0.52
31:DA:603:U:H2'	31:DA:604:G:C8	2.43	0.52
31:DA:1423:G:H2'	31:DA:1424:C:C6	2.45	0.52
37:DG:41:ARG:O	37:DG:45:ASP:N	2.37	0.52
1:BA:2689:U:H5''	1:BA:2690:C:H5'	1.91	0.52
6:BG:7:LEU:HD13	6:BG:176:LEU:HD22	1.91	0.52
36:DF:69:GLU:O	36:DF:72:VAL:HG13	2.10	0.52
7:BH:83:TYR:CE1	7:BH:138:LYS:HD2	2.44	0.52
22:B0:72:ARG:HB2	22:B0:75:LEU:HB2	1.91	0.52
31:DA:193:C:H2'	31:DA:194:C:H6	1.73	0.52
17:AV:89:GLN:OE1	17:AV:90:PRO:HD2	2.09	0.52
1:BA:2206:G:H3'	1:BA:2207:G:C8	2.45	0.52
1:BA:1110:G:OP2	1:BA:1110:G:H8	1.93	0.52
1:BA:2130:U:O2'	1:BA:2133:G:O2'	2.10	0.52
1:BA:2134:A:H1'	1:BA:2159:G:H1'	1.90	0.52
1:AA:2319:G:N1	14:AS:3:ARG:HA	2.25	0.52
31:DA:662:G:H2'	31:DA:663:A:C8	2.44	0.52
31:CA:1037:C:H6	31:CA:1037:C:O5'	1.92	0.52
1:AA:2880:C:O3'	13:AR:90:ARG:NH1	2.43	0.52
1:AA:375:C:H2'	1:AA:376:C:H6	1.73	0.52
31:DA:575:G:H4'	31:DA:575:G:OP1	2.09	0.52
31:DA:1132:C:H2'	31:DA:1133:G:C8	2.44	0.52
31:DA:1129:C:N4	31:DA:1134:G:N7	2.57	0.52
6:BG:13:GLU:O	6:BG:14:GLU:HB2	2.08	0.52
36:DF:22:GLU:OE1	36:DF:84:ASN:HB2	2.08	0.52
9:AN:97:ARG:O	9:AN:100:GLU:N	2.43	0.52
45:CO:3:ILE:HA	45:CO:7:GLU:OE2	2.10	0.52
21:BZ:65:GLN:OE1	21:BZ:67:LEU:HD21	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:17:U:H2'	31:CA:18:C:C6	2.44	0.52
31:CA:725:G:H2'	31:CA:726:C:H6	1.74	0.52
39:DI:26:VAL:O	39:DI:33:PHE:N	2.42	0.52
1:BA:657:U:H2'	1:BA:658:C:C6	2.44	0.52
1:BA:1578:U:C2'	1:BA:1579:A:H5'	2.40	0.52
21:AZ:144:LEU:HD21	21:AZ:150:LEU:HG	1.91	0.52
1:AA:2178:C:H2'	1:AA:2179:C:O4'	2.09	0.52
5:BF:176:LEU:HD21	5:BF:180:GLY:O	2.08	0.52
1:BA:86:C:H4'	1:BA:104:U:H1'	1.91	0.52
31:CA:872:A:C8	31:CA:874:G:C8	2.98	0.52
1:AA:2364:C:H2'	1:AA:2365:G:O4'	2.10	0.52
1:AA:1265:A:C8	1:AA:1267:U:C2	2.97	0.52
9:BN:75:TYR:HA	9:BN:81:GLY:O	2.09	0.52
32:CB:91:PRO:HD3	32:CB:154:LEU:HD22	1.90	0.52
4:AE:47:VAL:HG12	4:AE:49:LEU:HD13	1.92	0.52
1:AA:1022:G:N2	1:AA:1142(A):A:C2	2.71	0.52
41:DK:22:HIS:O	41:DK:29:ILE:N	2.31	0.52
1:AA:139(A):G:O2'	1:AA:140:G:H5'	2.09	0.52
1:AA:673:C:H5''	5:AF:81:PRO:HD2	1.90	0.52
1:BA:829:A:N7	1:BA:2248:C:H5'	2.24	0.52
1:AA:271(I):G:H1	1:AA:271(O):C:H42	1.56	0.52
31:CA:445:G:H2'	31:CA:446:G:C8	2.45	0.52
1:BA:652(S):C:H5'	1:BA:652(T):C:OP2	2.08	0.52
31:DA:1097:C:H1'	31:DA:1169:A:H2	1.75	0.52
32:CB:81:VAL:HG22	32:CB:215:LEU:HD11	1.91	0.52
1:AA:2543:G:HO2'	1:AA:2645:G:HO2'	1.57	0.52
31:CA:402:G:C6	31:CA:403:C:C4	2.98	0.52
13:AR:103:ARG:HD3	18:AW:40:ASN:ND2	2.25	0.52
1:BA:1257:C:H4'	5:BF:83:PHE:CE2	2.45	0.52
10:BO:107:ARG:NE	15:BT:36:GLU:HG2	2.24	0.52
1:BA:579:G:H2'	1:BA:580:C:C6	2.45	0.52
34:CD:28:SER:C	34:CD:30:LYS:H	2.13	0.52
1:AA:1899:G:H2'	1:AA:1899:G:N3	2.24	0.52
31:CA:491:G:H2'	31:CA:492:G:C8	2.45	0.52
27:A5:51:TYR:CE1	27:A5:56:LYS:HG2	2.44	0.52
44:DN:24:CYS:SG	44:DN:40:CYS:HB3	2.50	0.52
1:BA:1366:A:OP1	23:B1:3:LYS:NZ	2.42	0.52
36:DF:10:LEU:HD23	36:DF:61:LEU:HD13	1.90	0.52
1:AA:2133:G:N2	1:AA:2157:G:H2'	2.24	0.52
1:BA:2789:C:HO2'	1:BA:2790:A:HO2'	1.56	0.52
31:CA:113:G:H2'	31:CA:114:U:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2138:C:N4	1:BA:2153:G:H1	2.07	0.52
1:AA:807:U:C2	1:AA:808:G:C8	2.97	0.52
31:CA:1298:C:H4'	31:CA:1299:A:O4'	2.08	0.52
1:BA:1667:G:N2	1:BA:1992:G:OP2	2.35	0.52
1:AA:2641:G:OP2	9:AN:74:ARG:NH2	2.39	0.52
1:AA:2489:G:O2'	1:AA:2490:G:H5'	2.10	0.52
19:BX:34:ALA:O	19:BX:77:LYS:NZ	2.41	0.52
1:AA:93:G:H2'	1:AA:94:C:C6	2.44	0.52
31:CA:599:C:H4'	38:CH:130:GLY:C	2.30	0.52
31:CA:769:G:H4'	31:CA:1513:A:H4'	1.91	0.52
5:BF:107:LYS:HE3	5:BF:206:ILE:HA	1.91	0.52
1:BA:1919:A:O3'	31:CA:1517:G:H1'	2.09	0.52
1:AA:1471:A:OP2	1:AA:1519:G:N1	2.33	0.52
36:DF:11:ASN:O	36:DF:14:LEU:HB2	2.10	0.52
1:AA:2778:A:O2'	1:AA:2781:A:H5'	2.10	0.52
1:BA:1799:G:O2'	1:BA:1800:C:OP2	2.23	0.52
1:AA:637:A:OP1	11:AP:133:SER:OG	2.28	0.52
1:AA:2126:A:H1'	1:AA:2127:G:OP2	2.10	0.52
31:CA:266:G:H5''	31:CA:267:C:C5	2.44	0.52
31:CA:491:G:H2'	31:CA:492:G:H8	1.74	0.52
1:AA:2405:G:HO2'	1:AA:2406:U:P	2.33	0.52
1:BA:1833:U:H2'	1:BA:1834:U:C6	2.45	0.52
31:DA:1076:C:C2	31:DA:1082:G:N2	2.78	0.52
45:DO:82:ILE:HB	45:DO:87:ILE:HG22	1.91	0.52
32:CB:134:GLU:O	32:CB:137:ARG:NH2	2.42	0.52
1:AA:2468:G:C2	1:AA:2481:G:N3	2.77	0.52
6:AG:114:ILE:HB	6:AG:117:PHE:HB2	1.91	0.52
1:AA:1187:G:H8	1:AA:1187:G:O5'	1.93	0.52
31:DA:675:A:H2'	31:DA:676:A:C8	2.45	0.52
1:AA:298:G:H5''	1:AA:299:A:OP1	2.09	0.52
32:CB:15:VAL:H	32:CB:16:HIS:CE1	2.28	0.52
31:CA:96:U:O2'	31:CA:97:G:P	2.68	0.52
1:AA:2575:C:H2'	1:AA:2578:G:O6	2.09	0.52
1:AA:1047:G:C2'	1:AA:1110:G:H22	2.21	0.52
1:AA:271(H):G:HO2'	1:AA:271(I):G:H8	1.58	0.52
12:BQ:31:ASP:HA	12:BQ:134:ARG:HG3	1.91	0.52
11:BP:59:LEU:HG	30:B8:58:ILE:HD13	1.92	0.52
34:CD:60:GLU:OE1	34:CD:199:ASN:N	2.36	0.52
1:AA:2543:G:H2'	1:AA:2544:G:C8	2.45	0.52
36:DF:2:ARG:CZ	36:DF:69:GLU:HG2	2.39	0.52
43:CM:91:ARG:NE	43:CM:97:PRO:O	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:333:G:H4'	50:CT:16:HIS:CE1	2.44	0.52
1:BA:1651:G:N7	13:BR:11:ASN:ND2	2.58	0.52
32:CB:97:TRP:CH2	32:CB:173:ALA:HA	2.45	0.52
1:AA:1948:G:H1'	31:DA:1483:A:H1'	1.90	0.52
34:CD:10:ARG:HG3	34:CD:11:LEU:HD23	1.91	0.52
31:DA:729:A:H2'	31:DA:730:G:H8	1.75	0.52
1:AA:27:G:O2'	1:AA:28:A:OP2	2.28	0.52
1:AA:1027:A:C2	1:AA:2488:A:H5'	2.45	0.52
31:DA:1504:G:H4'	31:DA:1505:G:O5'	2.09	0.52
8:AI:77:LEU:HD12	8:AI:142:VAL:HG12	1.92	0.52
1:AA:1364:G:C8	23:A1:3:LYS:HD3	2.45	0.52
1:AA:1003:G:N2	1:AA:1153:C:C2	2.78	0.52
14:AS:85:VAL:O	14:AS:112:PHE:HB3	2.10	0.52
1:AA:1592:C:H2'	1:AA:1593:G:H8	1.75	0.52
31:DA:1143:G:H2'	31:DA:1144:G:H8	1.73	0.52
31:CA:269:C:H2'	31:CA:270:A:H8	1.74	0.52
31:CA:538:G:OP2	42:CL:115:LYS:HB2	2.10	0.52
31:DA:130:A:N3	31:DA:263:A:O2'	2.34	0.52
1:BA:2790:A:N3	1:BA:2790:A:H2'	2.24	0.52
2:AB:111:G:H2'	2:AB:112:U:C6	2.45	0.52
14:AS:25:ARG:NH1	14:AS:42:ASP:OD2	2.43	0.52
8:BI:38:LEU:HB3	8:BI:40:THR:HG23	1.92	0.52
9:BN:47:ALA:HB2	9:BN:112:LEU:CD1	2.39	0.52
31:CA:21:G:H2'	31:CA:22:G:C8	2.45	0.52
15:BT:125:ARG:C	15:BT:127:ALA:H	2.11	0.52
12:BQ:47:ILE:HD11	12:BQ:68:ILE:HD12	1.92	0.52
31:CA:436:C:H2'	31:CA:436:C:OP2	2.09	0.52
9:BN:128:HIS:O	9:BN:131:GLN:NE2	2.43	0.52
17:BV:5:VAL:HG11	17:BV:57:VAL:HG21	1.92	0.52
24:A2:22:GLU:OE2	24:A2:68:ARG:NH2	2.40	0.52
31:DA:1165:C:H2'	31:DA:1166:G:H8	1.75	0.52
7:AH:98:LEU:HD12	7:AH:102:ALA:O	2.08	0.52
31:CA:1442:G:H1	31:CA:1461:G:H21	1.56	0.52
37:DG:105:VAL:HG12	37:DG:109:ASN:ND2	2.24	0.52
1:BA:764:A:H5'	3:BD:210:GLY:HA2	1.91	0.52
1:BA:2007:C:H5'	1:BA:2824:C:H1'	1.92	0.52
34:DD:36:ARG:HH11	34:DD:36:ARG:HG2	1.74	0.52
1:BA:9:U:O2'	1:BA:10:G:OP1	2.24	0.52
1:AA:2298:A:H2'	1:AA:2299:G:O4'	2.10	0.52
31:CA:500:G:N2	31:CA:546:G:H1'	2.25	0.52
31:DA:600:C:H2'	31:DA:601:C:H6	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AI:124:GLY:H	8:AI:144:VAL:HG13	1.75	0.52
33:CC:47:LEU:HD11	33:CC:68:VAL:HG11	1.92	0.52
31:DA:1184:G:H8	31:DA:1184:G:OP1	1.92	0.52
2:BB:52:A:HO2'	2:BB:53:A:H2	1.56	0.52
1:AA:2122:U:H2'	1:AA:2123:G:C8	2.44	0.52
14:BS:78:LEU:HA	14:BS:82:ILE:O	2.10	0.52
1:BA:2464:C:O2'	1:BA:2465:C:OP2	2.21	0.52
26:A4:15:ILE:HG13	26:A4:21:VAL:HG13	1.92	0.52
28:B6:15:GLU:HG3	28:B6:47:THR:HG23	1.91	0.52
1:AA:753:C:H2'	1:AA:754:C:H6	1.74	0.52
9:AN:18:ALA:HB1	9:AN:60:ILE:HD12	1.91	0.52
1:AA:2391:G:O6	1:AA:2425:A:H8	1.93	0.52
8:AI:132:PRO:HD3	8:AI:138:ILE:HD12	1.92	0.52
1:AA:2252:G:H2'	1:AA:2253:G:O4'	2.09	0.52
46:DP:49:LEU:HD21	46:DP:77:ALA:HB2	1.90	0.52
1:AA:2473:U:O2	1:AA:2473:U:H2'	2.10	0.52
8:AI:101:LEU:O	8:AI:107:VAL:HB	2.10	0.51
1:BA:1174:A:N3	1:BA:1175:U:H5''	2.25	0.51
46:CP:28:ARG:HH11	46:CP:28:ARG:HG2	1.74	0.51
41:CK:48:ILE:HG21	41:CK:63:LEU:HD22	1.92	0.51
31:DA:1143:G:H2'	31:DA:1144:G:C8	2.45	0.51
3:AD:71:ASP:CB	3:AD:103:ARG:HH22	2.22	0.51
31:DA:1207:G:H2'	31:DA:1208:C:C6	2.45	0.51
31:DA:513:C:H2'	31:DA:514:C:H6	1.75	0.51
5:BF:32:LEU:HD11	5:BF:105:VAL:HG13	1.92	0.51
1:AA:1826:G:H2'	1:AA:1827:C:C6	2.44	0.51
31:DA:308:C:H2'	31:DA:309:G:C8	2.42	0.51
31:CA:1250:A:C2	31:CA:1370:G:H1'	2.45	0.51
1:AA:1329:U:H5''	1:AA:1330:C:H5	1.75	0.51
1:BA:1113:U:H2'	1:BA:1114:G:C8	2.45	0.51
31:CA:1051:C:H2'	31:CA:1052:U:C6	2.44	0.51
31:CA:1346:A:H5''	39:CI:120:ARG:HH12	1.75	0.51
1:AA:1201:C:H2'	1:AA:1202:C:C6	2.45	0.51
13:AR:85:PRO:C	13:AR:87:TYR:H	2.12	0.51
43:DM:108:ARG:O	43:DM:112:GLY:N	2.41	0.51
31:CA:667:G:H4'	45:CO:51:HIS:CE1	2.45	0.51
31:CA:1315:U:O2'	31:CA:1360:A:N3	2.36	0.51
16:BU:114:LYS:O	16:BU:117:GLN:HB2	2.11	0.51
4:AE:7:VAL:HG13	4:AE:27:LEU:HB3	1.92	0.51
11:BP:98:GLU:OE2	11:BP:99:LEU:HD23	2.10	0.51
1:BA:762:U:H4'	1:BA:763:G:O5'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DC:9:GLY:HA2	33:DC:12:LEU:HG	1.92	0.51
1:BA:55:G:O2'	1:BA:127:A:N1	2.36	0.51
1:AA:2831:G:O2'	1:AA:2883:A:H2'	2.10	0.51
7:AH:64:LEU:O	7:AH:67:LEU:HB3	2.10	0.51
1:AA:1364:G:OP1	23:A1:2:SER:HA	2.11	0.51
2:AB:24:G:N3	2:AB:27:C:N4	2.53	0.51
31:DA:1142:G:H3'	31:DA:1143:G:H8	1.74	0.51
32:CB:210:SER:O	32:CB:214:ILE:HG12	2.09	0.51
34:DD:61:LYS:HD3	34:DD:206:PHE:CD2	2.46	0.51
11:AP:86:LYS:HG2	11:AP:117:GLU:O	2.11	0.51
1:BA:652(Q):G:O6	1:BA:652(R):C:N4	2.44	0.51
24:A2:28:LYS:HB3	24:A2:57:ILE:HG12	1.93	0.51
1:AA:1028:A:N3	1:AA:2486:G:O2'	2.35	0.51
1:AA:528:A:C2	1:AA:2042:A:H2'	2.44	0.51
1:AA:2582:G:C2	1:AA:2583:G:C8	2.98	0.51
1:AA:1839:G:N7	1:AA:1927:A:H1'	2.25	0.51
37:CG:100:ALA:O	37:CG:104:LEU:HB2	2.09	0.51
31:DA:616:G:C2	31:DA:617:G:C8	2.99	0.51
31:CA:721:G:H4'	31:CA:722:A:O4'	2.10	0.51
41:CK:27:ASN:OD1	41:CK:28:THR:N	2.34	0.51
15:BT:5:ALA:O	15:BT:9:LEU:N	2.39	0.51
7:BH:106:THR:OG1	7:BH:106:THR:O	2.23	0.51
1:AA:2745:C:C4	1:AA:2746:U:C4	2.98	0.51
28:A6:14:THR:OG1	28:A6:48:VAL:O	2.29	0.51
10:AO:75:SER:OG	10:AO:76:ALA:N	2.41	0.51
31:DA:427:U:OP1	34:DD:13:ARG:NH2	2.42	0.51
1:AA:819:A:C4	1:AA:1189:A:C2	2.98	0.51
2:BB:8:U:O3'	14:BS:25:ARG:NH2	2.43	0.51
1:AA:102:G:OP1	24:A2:7:ARG:NH2	2.43	0.51
31:DA:825:G:N2	38:DH:11:THR:HG21	2.25	0.51
1:AA:186:G:H2'	1:AA:187:G:C8	2.44	0.51
14:AS:67:ARG:O	14:AS:71:ARG:HG3	2.10	0.51
11:AP:112:LEU:HD22	11:AP:113:LYS:N	2.26	0.51
42:DL:27:LEU:O	42:DL:29:GLY:N	2.38	0.51
1:AA:2489:G:C2'	1:AA:2490:G:H5'	2.40	0.51
7:AH:96:ALA:O	7:AH:125:VAL:HG11	2.10	0.51
35:CE:84:PHE:CE2	35:CE:133:TYR:HD2	2.28	0.51
32:CB:167:PRO:O	32:CB:171:ALA:N	2.43	0.51
47:CQ:78:GLU:HG2	47:CQ:79:SER:H	1.74	0.51
1:AA:315:G:H2'	1:AA:316:C:C6	2.45	0.51
1:BA:2267:A:H5''	1:BA:2268:A:H5'	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:11:C:OP2	2:AB:12:C:H5	1.92	0.51
31:DA:779:C:H5''	41:DK:122:LYS:HG2	1.92	0.51
1:AA:814:C:O2'	1:AA:815:C:H5'	2.11	0.51
1:BA:1131:G:OP2	1:BA:2515:C:H4'	2.10	0.51
1:AA:2207:G:HO2'	1:AA:2208:A:P	2.32	0.51
1:BA:1173:G:O2'	1:BA:1174:A:O4'	2.27	0.51
2:BB:48:A:P	14:BS:30:ARG:HH12	2.33	0.51
1:BA:1109:C:H5'	1:BA:1110:G:OP2	2.11	0.51
31:DA:1025:U:O2	31:DA:1036:G:O6	2.28	0.51
32:CB:170:GLU:O	32:CB:174:VAL:HG23	2.10	0.51
31:CA:1028:C:C2	31:CA:1033:G:N2	2.78	0.51
1:AA:1686:C:N4	1:AA:1687:G:C6	2.79	0.51
1:AA:330:A:H2	1:AA:1210:A:HO2'	1.57	0.51
31:DA:620:C:H2'	31:DA:621:A:O4'	2.11	0.51
25:A3:23:LEU:HD13	25:A3:50:VAL:HG11	1.92	0.51
31:DA:491:G:H2'	31:DA:492:G:C8	2.45	0.51
11:AP:82:GLY:HA2	11:AP:113:LYS:O	2.10	0.51
1:AA:1488:G:C6	1:AA:1489:U:N3	2.78	0.51
1:BA:2463:C:O2'	1:BA:2464:C:H5'	2.11	0.51
2:AB:9:G:OP1	14:AS:15:ARG:HD3	2.09	0.51
1:AA:548:A:O2'	1:AA:549:G:OP1	2.26	0.51
31:DA:603:U:H2'	31:DA:604:G:H8	1.74	0.51
31:CA:872:A:C4	31:CA:874:G:N7	2.79	0.51
41:DK:82:VAL:HB	41:DK:108:ILE:HG12	1.92	0.51
1:BA:1818:U:O4	3:BD:154:LYS:HE2	2.11	0.51
1:BA:1547:C:H2'	1:BA:1548:C:C6	2.44	0.51
31:CA:260:G:H2'	31:CA:261:U:C6	2.45	0.51
31:DA:433:C:H2'	31:DA:434:U:C6	2.46	0.51
12:AQ:42:ILE:HD13	12:AQ:97:VAL:HG21	1.91	0.51
35:CE:144:THR:O	35:CE:148:VAL:HG23	2.11	0.51
4:BE:14:ILE:HG13	4:BE:21:VAL:HG13	1.93	0.51
39:CI:10:ARG:HA	39:CI:104:ARG:NH1	2.26	0.51
31:CA:920:U:H2'	31:CA:921:U:C6	2.44	0.51
2:BB:32:C:C2	2:BB:51:G:N2	2.79	0.51
8:BI:130:TYR:HB3	8:BI:138:ILE:HB	1.92	0.51
43:CM:19:LEU:HB3	43:CM:25:ILE:HG21	1.92	0.51
37:DG:88:PRO:HD2	37:DG:151:TYR:HB2	1.91	0.51
31:DA:96:U:O2'	31:DA:97:G:P	2.69	0.51
41:DK:29:ILE:HA	41:DK:44:SER:HB3	1.93	0.51
2:AB:49:C:OP1	14:AS:97:ARG:N	2.42	0.51
31:DA:1284:C:H2'	31:DA:1285:A:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:A3:46:ASN:O	25:A3:50:VAL:HG22	2.11	0.51
31:CA:1225:A:H2'	31:CA:1225:A:N3	2.25	0.51
31:DA:1111:A:H2'	31:DA:1112:C:C6	2.46	0.51
1:AA:2687:U:H2'	1:AA:2688:U:O4'	2.10	0.51
1:AA:918:A:H5''	2:AB:98:G:O2'	2.11	0.51
31:DA:1164:G:H1	31:DA:1172:C:H42	1.59	0.51
47:CQ:3:LYS:HD2	47:CQ:60:ILE:HD11	1.93	0.51
20:BY:90:LEU:O	20:BY:91:GLU:HB2	2.09	0.51
31:DA:1123:A:H4'	40:DJ:36:GLY:HA3	1.92	0.51
31:CA:1249:C:O2	39:CI:69:GLY:HA2	2.10	0.51
5:BF:28:ILE:HG12	5:BF:116:ASP:HB2	1.93	0.51
1:BA:616:G:H5'	5:BF:205:ARG:HD2	1.92	0.51
31:DA:1034:G:H2'	31:DA:1035:A:C8	2.45	0.51
14:BS:34:HIS:O	14:BS:97:ARG:NH2	2.42	0.51
39:CI:3:GLN:HG3	39:CI:20:ARG:HG2	1.91	0.51
27:B5:16:ARG:HG2	27:B5:16:ARG:NH1	2.25	0.51
2:AB:51:G:N7	14:AS:62:LYS:NZ	2.48	0.51
31:CA:957:U:O2'	31:CA:959:A:N7	2.37	0.51
39:DI:5:TYR:HD1	39:DI:17:VAL:O	1.93	0.51
31:CA:968:A:C8	31:CA:1062:U:H4'	2.45	0.51
1:AA:2320:A:N3	1:AA:2320:A:H2'	2.24	0.51
1:AA:2319:G:H22	14:AS:3:ARG:NE	2.09	0.51
41:CK:34:ASP:OD2	41:CK:38:ASN:N	2.42	0.51
3:AD:16:MET:HG2	3:AD:211:ARG:HH21	1.75	0.51
1:BA:528:A:O2'	1:BA:529:A:H5'	2.11	0.51
32:CB:185:ILE:O	32:CB:185:ILE:HG12	2.10	0.51
31:CA:444:C:H2'	31:CA:445:G:H8	1.76	0.51
1:AA:1283:G:N2	1:AA:1286:A:OP2	2.36	0.51
1:BA:218:A:C2	1:BA:235:U:H4'	2.45	0.51
24:A2:32:LEU:HD11	24:A2:54:LYS:HG3	1.91	0.51
31:CA:1373:G:O5'	31:CA:1373:G:H8	1.94	0.51
1:BA:2834:G:H8	1:BA:2834:G:H5''	1.75	0.51
47:CQ:13:ASP:C	47:CQ:15:MET:H	2.14	0.51
3:BD:142:VAL:HG23	3:BD:193:VAL:HA	1.91	0.51
1:BA:2577:A:H5''	1:BA:2578:G:H5'	1.93	0.51
1:AA:2331:G:O2'	22:A0:43:THR:HG22	2.10	0.51
6:BG:122:PRO:HG2	6:BG:182:LYS:O	2.10	0.51
46:CP:56:ALA:O	46:CP:60:LEU:HD23	2.10	0.51
6:AG:107:LEU:HD13	6:AG:177:GLY:O	2.11	0.51
31:DA:1292:U:O2'	31:DA:1293:G:H5'	2.09	0.51
1:AA:2586:C:O5'	1:AA:2586:C:H6	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2086:U:H2'	1:BA:2087:G:C8	2.45	0.51
31:DA:1030:C:N4	31:DA:1031:G:H1	2.04	0.51
6:AG:44:GLY:HA2	6:AG:88:ILE:HG22	1.92	0.51
1:AA:1210:A:C8	1:AA:1210:A:H5'	2.43	0.51
1:BA:805:G:N2	1:BA:829:A:OP1	2.43	0.51
1:AA:2274:A:C5	1:AA:2276:G:C8	2.99	0.51
32:CB:51:LEU:O	32:CB:55:PHE:HD2	1.94	0.51
1:AA:1012:U:C5	9:AN:28:THR:HG21	2.46	0.51
12:BQ:12:GLN:HG2	12:BQ:73:PRO:HD2	1.90	0.51
1:AA:1636:C:H2'	1:AA:1637:A:C8	2.45	0.51
1:BA:2139:C:N4	1:BA:2152:G:H1	2.08	0.51
1:BA:2571:C:H5''	1:BA:2572:A:H5''	1.92	0.51
47:DQ:57:VAL:HG12	47:DQ:76:LEU:HA	1.93	0.51
31:DA:1059:C:H2'	31:DA:1060:C:H6	1.75	0.51
1:AA:1445:A:C8	1:AA:1460:A:C5	2.99	0.51
1:AA:195:A:H61	1:AA:198:C:H3'	1.75	0.51
1:BA:573:G:O2'	1:BA:574:C:H3'	2.11	0.51
3:AD:132:PRO:HD3	3:AD:190:TYR:CZ	2.46	0.51
43:CM:52:GLU:HG3	43:CM:55:ARG:HH22	1.75	0.51
6:AG:46:ALA:HB1	6:AG:51:ARG:HA	1.92	0.51
50:CT:26:ASN:OD1	50:CT:71:THR:HG23	2.10	0.51
4:AE:120:TRP:CE3	4:AE:155:LYS:HD3	2.46	0.51
11:AP:52:GLU:OE2	30:A8:57:ARG:NH1	2.44	0.51
1:AA:833:U:O2	11:AP:55:ARG:NH2	2.44	0.51
1:BA:14:A:N6	1:BA:15:G:C2	2.79	0.51
1:BA:1913:A:H4'	1:BA:1914:C:O5'	2.11	0.51
31:DA:1030(C):G:H2'	31:DA:1030(D):A:C8	2.43	0.51
1:BA:1022:G:C5	1:BA:1140:C:C4	2.99	0.51
31:DA:1202:G:H2'	31:DA:1203:C:O4'	2.10	0.51
1:AA:1530:C:HO2'	1:AA:1531:C:P	2.29	0.51
1:AA:570:G:H2'	1:AA:2030:A:C5	2.46	0.51
31:CA:171:A:H2'	31:CA:172:A:H8	1.75	0.51
31:DA:1279:A:OP1	40:DJ:9:ARG:NH1	2.43	0.51
1:AA:2136:C:N4	1:AA:2155:G:N1	2.59	0.51
31:DA:624:C:O3'	46:DP:10:GLY:HA2	2.11	0.51
31:DA:790:A:C6	31:DA:791:G:C6	2.99	0.51
1:BA:1753:G:H5''	15:BT:95:ARG:HE	1.76	0.51
1:AA:2278:A:O2'	21:AZ:198:LYS:HD3	2.11	0.51
31:DA:1150:U:O2	40:DJ:39:PRO:HG2	2.10	0.51
46:DP:20:VAL:HG23	46:DP:35:LYS:HA	1.93	0.51
1:BA:365:C:H2'	1:BA:366:C:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AR:13:HIS:HE1	13:AR:15:SER:OG	1.94	0.51
37:CG:57:GLU:O	37:CG:61:VAL:HG23	2.10	0.51
1:BA:107:C:H2'	1:BA:108:U:H6	1.76	0.51
31:CA:1014:A:H1'	49:CS:34:TRP:HB2	1.92	0.51
32:DB:189:ASP:N	32:DB:189:ASP:OD1	2.44	0.51
46:CP:20:VAL:HG23	46:CP:35:LYS:HA	1.93	0.51
6:AG:62:LEU:O	6:AG:143:GLU:HG3	2.10	0.51
1:AA:2345:G:N3	1:AA:2381:C:H2'	2.26	0.51
38:DH:86:ILE:HG12	38:DH:135:CYS:HA	1.93	0.51
1:BA:848:G:N3	1:BA:933:A:H1'	2.25	0.51
1:AA:1359:A:N3	1:AA:1359:A:H5'	2.26	0.51
33:DC:199:LYS:HD3	33:DC:201:TYR:HE1	1.76	0.51
31:CA:578:C:O2'	31:CA:728:A:N3	2.36	0.51
31:DA:1107:C:C4	31:DA:1108:G:C8	2.99	0.51
39:CI:28:VAL:O	39:CI:31:GLN:NE2	2.44	0.51
14:AS:11:LYS:O	14:AS:15:ARG:HB2	2.11	0.51
31:DA:769:G:H4'	31:DA:1513:A:H4'	1.92	0.51
1:AA:1657:C:OP1	4:AE:136:ARG:N	2.42	0.51
16:BU:113:ALA:O	16:BU:117:GLN:HG2	2.10	0.51
31:DA:233:C:H2'	31:DA:234:C:H6	1.76	0.51
1:BA:813:U:H2'	1:BA:814:C:C6	2.46	0.51
1:BA:271(H):G:HO2'	1:BA:271(I):G:H8	1.55	0.51
31:DA:932:C:H5'	37:DG:4:ARG:HG3	1.93	0.51
21:BZ:101:PRO:O	21:BZ:102:LEU:HD12	2.11	0.51
15:AT:65:LYS:HE3	15:AT:67:SER:HB2	1.92	0.51
33:DC:15:THR:HG21	33:DC:181:ASN:HA	1.93	0.51
1:AA:2712:U:H2'	1:AA:2714:G:H5''	1.92	0.51
1:AA:1165:U:H2'	1:AA:1166:C:C6	2.46	0.51
1:BA:2364:C:H2'	1:BA:2365:G:O4'	2.10	0.51
1:BA:1913:A:N6	31:CA:1493:A:O5'	2.44	0.51
31:DA:1072:G:H2'	31:DA:1073:U:C6	2.45	0.51
21:AZ:158:PRO:O	21:AZ:161:VAL:HG11	2.11	0.51
31:CA:1129:C:H5''	31:CA:1139:G:O6	2.11	0.51
1:BA:2115:G:H2'	1:BA:2117:A:N6	2.26	0.51
34:DD:57:ARG:HB3	34:DD:206:PHE:HB2	1.92	0.51
34:CD:14:ARG:HA	34:CD:39:PRO:HB3	1.93	0.51
1:AA:2695:C:H2'	1:AA:2696:U:C6	2.45	0.51
31:DA:256:U:H2'	31:DA:257:G:H8	1.75	0.51
31:CA:1187:G:H5'	39:CI:113:LYS:HE2	1.93	0.51
31:CA:22:G:H4'	31:CA:885:G:C8	2.46	0.51
1:BA:1486:A:H2'	1:BA:1487:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:764:A:O4'	3:BD:213:ARG:HG3	2.11	0.51
31:DA:1123:A:H4'	40:DJ:37:PRO:HD2	1.92	0.51
1:BA:2294:C:OP2	14:BS:13:ARG:NH1	2.44	0.51
13:AR:55:ALA:HB2	13:AR:79:LEU:HD13	1.93	0.51
1:AA:2870:C:H2'	1:AA:2871:C:O4'	2.11	0.51
31:DA:1310:G:H5'	43:DM:77:ASN:ND2	2.26	0.51
1:BA:2865:U:C4	1:BA:2866:U:C4	2.99	0.51
1:AA:769:G:O2'	1:AA:770:G:H5'	2.11	0.51
31:CA:911:U:H2'	31:CA:912:C:C6	2.46	0.51
39:CI:9:ARG:HA	39:CI:13:ALA:O	2.11	0.51
31:DA:1270:C:H2'	31:DA:1271:G:H8	1.76	0.51
1:AA:1319:G:C6	1:AA:1320:C:N4	2.79	0.51
17:BV:85:LYS:HB2	17:BV:85:LYS:NZ	2.26	0.51
1:AA:774:A:N3	1:AA:774:A:H2'	2.26	0.51
1:AA:271(P):C:C2'	1:AA:271(Q):G:H5'	2.41	0.51
31:DA:531:U:O3'	31:DA:532:A:H4'	2.11	0.51
49:DS:53:ASN:HB2	49:DS:77:THR:HA	1.91	0.51
31:CA:1391:U:H2'	31:CA:1392:G:H8	1.76	0.50
1:BA:2206:G:O2'	1:BA:2207:G:OP1	2.29	0.50
12:AQ:32:TYR:CZ	12:AQ:133:ARG:HG3	2.47	0.50
1:AA:2790:A:H2'	1:AA:2790:A:N3	2.27	0.50
31:DA:17:U:H2'	31:DA:18:C:C6	2.45	0.50
31:DA:1287:A:C2	31:DA:1353:G:H1'	2.47	0.50
26:B4:26:SER:OG	26:B4:27:THR:N	2.44	0.50
31:CA:160:A:H2'	31:CA:161:A:O4'	2.11	0.50
31:DA:1010:G:H2'	31:DA:1011:G:C8	2.47	0.50
21:BZ:111:VAL:C	21:BZ:113:ALA:H	2.14	0.50
11:AP:33:ARG:NH1	11:AP:39:LYS:O	2.44	0.50
10:BO:63:VAL:HG12	10:BO:106:LEU:HD11	1.93	0.50
4:BE:120:TRP:CE3	4:BE:155:LYS:HD3	2.46	0.50
1:BA:902:C:H2'	1:BA:903:C:C6	2.47	0.50
1:BA:2698:U:H2'	1:BA:2699:C:C6	2.46	0.50
15:AT:61:PHE:CZ	15:AT:76:PHE:HB2	2.46	0.50
23:A1:85:LEU:HB3	23:A1:89:GLU:HG3	1.93	0.50
1:BA:996:A:H4'	16:BU:91:ASP:OD1	2.11	0.50
50:DT:73:HIS:HB3	50:DT:74:LYS:HE2	1.93	0.50
21:AZ:160:GLY:CA	21:AZ:161:VAL:HB	2.37	0.50
27:A5:36:CYS:O	27:A5:37:LYS:HD3	2.11	0.50
2:AB:27:C:N4	2:AB:56:G:O6	2.43	0.50
1:BA:2158:A:H4'	1:BA:2159:G:H5'	1.92	0.50
19:BX:31:HIS:HD2	19:BX:33:LYS:H	1.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1783:A:C2	1:AA:2587:A:C5	2.99	0.50
1:AA:2286:A:OP1	28:A6:29:ASN:ND2	2.41	0.50
35:CE:77:PRO:HD2	35:CE:142:LEU:HD22	1.93	0.50
31:DA:1255:G:H2'	31:DA:1258:G:H21	1.76	0.50
25:A3:4:LEU:O	25:A3:36:VAL:HA	2.10	0.50
1:AA:829:A:N7	1:AA:2247:A:O2'	2.41	0.50
31:DA:375:U:C4	31:DA:376:G:N7	2.79	0.50
32:DB:47:THR:HG23	32:DB:202:PRO:HG2	1.93	0.50
31:DA:1308:U:H2'	31:DA:1309:G:H8	1.75	0.50
31:DA:266:G:H5'	31:DA:268:C:H41	1.75	0.50
1:BA:2151:G:H2'	1:BA:2152:G:O4'	2.12	0.50
1:AA:1231:G:H2'	1:AA:1232:G:C8	2.46	0.50
16:AU:49:HIS:HA	16:AU:52:ARG:HB3	1.92	0.50
1:AA:1547:C:H2'	1:AA:1548:C:C6	2.46	0.50
1:BA:2751:G:C5	7:BH:2:SER:N	2.79	0.50
39:DI:14:VAL:O	39:DI:65:VAL:HA	2.10	0.50
4:AE:11:MET:HG2	4:AE:24:THR:HB	1.94	0.50
31:DA:717:C:H6	31:DA:717:C:H5''	1.76	0.50
38:DH:82:HIS:CE1	38:DH:84:ARG:HG2	2.46	0.50
21:BZ:141:VAL:O	21:BZ:144:LEU:HB2	2.12	0.50
31:CA:452:A:H62	31:CA:480:U:H3	1.58	0.50
40:DJ:67:THR:O	40:DJ:67:THR:OG1	2.25	0.50
28:A6:44:ARG:HH11	28:A6:44:ARG:HB3	1.75	0.50
1:AA:928:G:H8	1:AA:928:G:O5'	1.94	0.50
19:BX:35:THR:HG22	19:BX:37:THR:H	1.76	0.50
4:AE:71:GLY:HA2	4:AE:72:VAL:O	2.12	0.50
1:AA:1914:C:OP1	1:AA:1914:C:H3'	2.11	0.50
12:AQ:133:ARG:HG2	12:AQ:134:ARG:H	1.77	0.50
1:AA:1153:C:OP1	16:AU:92:ARG:NH1	2.43	0.50
1:AA:2030:A:H5''	1:AA:2031:A:OP1	2.10	0.50
31:CA:390:C:O3'	46:CP:28:ARG:NH2	2.39	0.50
1:BA:1823:G:OP1	3:BD:54:ARG:NH1	2.44	0.50
1:AA:1173:G:O2'	1:AA:1174:A:O4'	2.29	0.50
1:AA:2318:G:N2	14:AS:3:ARG:HD2	2.26	0.50
1:AA:2751:G:C5	7:AH:2:SER:N	2.80	0.50
1:BA:1505:C:H2'	1:BA:1506:C:C6	2.43	0.50
31:DA:391:G:C6	31:DA:392:G:C5	3.00	0.50
34:DD:128:VAL:O	34:DD:130:GLY:N	2.44	0.50
42:DL:32:PHE:HE1	42:DL:86:ARG:HG3	1.75	0.50
31:CA:598:U:H2'	31:CA:599:C:C6	2.46	0.50
37:CG:51:GLN:O	37:CG:55:GLY:HA2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:BQ:32:TYR:CE2	12:BQ:133:ARG:HG3	2.47	0.50
31:CA:236:G:H5''	47:CQ:42:TYR:OH	2.11	0.50
31:CA:477:A:H2'	31:CA:479:C:H6	1.76	0.50
17:BV:42:GLY:O	17:BV:43:GLU:HG2	2.12	0.50
21:AZ:45:ASP:OD1	21:AZ:49:ARG:HD2	2.10	0.50
7:BH:25:LYS:NZ	7:BH:32:GLU:OE2	2.26	0.50
1:AA:1332:G:N2	1:AA:1610:A:H8	2.07	0.50
31:CA:663:A:H2'	31:CA:664:G:O4'	2.11	0.50
31:CA:391:G:C6	31:CA:392:G:C5	3.00	0.50
1:AA:2115:G:H2'	1:AA:2117:A:N6	2.25	0.50
1:AA:729:G:H2'	1:AA:1775:U:H1'	1.93	0.50
48:CR:52:PRO:O	48:CR:56:THR:HG23	2.12	0.50
3:BD:108:PRO:HG2	3:BD:111:LEU:HG	1.93	0.50
31:CA:1251:A:O2'	31:CA:1369:C:O2'	2.23	0.50
31:CA:677:U:H2'	31:CA:678:U:C6	2.45	0.50
9:BN:20:GLY:HA2	9:BN:61:ARG:HH11	1.77	0.50
31:CA:175:C:H2'	31:CA:176:C:C6	2.46	0.50
28:B6:8:LYS:HD3	30:B8:34:TRP:CD2	2.46	0.50
1:AA:1637:A:H4'	1:AA:2711:A:O2'	2.11	0.50
31:DA:1512:U:H2'	31:DA:1513:A:C8	2.46	0.50
51:DU:12:LYS:HB3	51:DU:17:THR:O	2.11	0.50
31:CA:1219:U:OP1	44:CN:19:ARG:NH1	2.37	0.50
1:AA:86:C:H4'	1:AA:104:U:H1'	1.92	0.50
1:AA:1342:A:H2	1:AA:1396:U:HO2'	1.58	0.50
1:BA:296:C:H2'	1:BA:297:C:H6	1.75	0.50
1:BA:1480:G:C6	1:BA:1481:U:N3	2.80	0.50
21:BZ:25:PRO:O	21:BZ:85:HIS:HA	2.10	0.50
33:CC:20:SER:OG	33:CC:36:ASP:OD1	2.29	0.50
33:CC:34:LEU:O	33:CC:38:ARG:HG3	2.12	0.50
1:BA:1405:U:H2'	1:BA:1406:U:C6	2.47	0.50
1:AA:782:A:N7	3:AD:221:VAL:HG11	2.27	0.50
31:CA:973:G:H3'	31:CA:974:A:H5''	1.93	0.50
31:DA:674:G:H2'	31:DA:675:A:C8	2.44	0.50
31:CA:985:C:C2	31:CA:1221:G:N2	2.79	0.50
31:CA:187:C:H2'	31:CA:188:C:H6	1.76	0.50
15:AT:41:ARG:CZ	31:DA:346:G:H5'	2.42	0.50
31:DA:1346:A:O2'	37:DG:10:ARG:NH1	2.40	0.50
32:CB:55:PHE:CE1	32:CB:218:ALA:HA	2.46	0.50
1:AA:530:G:C5	1:AA:2022:U:H5''	2.47	0.50
8:AI:116:LEU:CD1	8:AI:119:PRO:HA	2.41	0.50
33:CC:134:ILE:HD11	33:CC:153:VAL:HB	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BH:11:VAL:HG13	7:BH:15:VAL:HG22	1.94	0.50
31:DA:1060:C:O2'	31:DA:1061:G:H5'	2.11	0.50
8:BI:110:GLU:N	8:BI:130:TYR:OH	2.36	0.50
46:DP:20:VAL:HG21	46:DP:32:TYR:CG	2.46	0.50
4:AE:96:PHE:O	4:AE:175:VAL:HG11	2.12	0.50
1:AA:1198:U:H2'	1:AA:1199:U:C6	2.46	0.50
31:CA:1446:U:H4'	31:CA:1447:A:C5	2.46	0.50
14:BS:46:VAL:HG12	14:BS:48:LEU:HD12	1.94	0.50
45:CO:78:TYR:O	45:CO:82:ILE:HG12	2.12	0.50
1:AA:1223:G:N2	1:AA:1226:A:OP2	2.44	0.50
39:CI:8:GLY:HA3	39:CI:76:ALA:O	2.11	0.50
32:DB:212:GLN:NE2	32:DB:235:SER:HB3	2.27	0.50
31:DA:1490:C:H2'	31:DA:1491:G:C8	2.45	0.50
31:CA:91:C:O2'	31:CA:92:C:H5'	2.11	0.50
31:CA:1258:G:H2'	31:CA:1259:C:C6	2.46	0.50
31:CA:391:G:O3'	46:CP:8:ARG:NH2	2.44	0.50
1:BA:8:A:H2'	1:BA:9:U:H6	1.76	0.50
50:CT:53:LEU:O	50:CT:57:ARG:HG3	2.11	0.50
1:AA:1049:C:H4'	1:AA:1050:A:OP1	2.12	0.50
1:AA:764:A:O4'	3:AD:213:ARG:HG3	2.12	0.50
25:A3:50:VAL:HB	25:A3:53:LEU:HD12	1.93	0.50
31:CA:1378:C:C2	31:CA:1379:G:H1'	2.47	0.50
1:AA:107:C:H2'	1:AA:108:U:C6	2.46	0.50
1:AA:2784:C:H1'	4:AE:37:ARG:NH1	2.26	0.50
1:AA:222:A:N3	1:AA:224:G:H1'	2.27	0.50
1:AA:61:G:H5'	24:A2:50:ILE:HD12	1.93	0.50
1:AA:511:U:H5''	1:AA:512:G:OP2	2.11	0.50
1:AA:815:C:C2	1:AA:1193:G:C2	2.99	0.50
12:BQ:42:ILE:HD13	12:BQ:97:VAL:HG21	1.94	0.50
1:BA:459:U:H4'	29:B7:40:TRP:CZ3	2.47	0.50
1:AA:1665:A:H2'	1:AA:1666:G:O4'	2.11	0.50
31:CA:1169:A:H2'	31:CA:1170:A:C8	2.47	0.50
1:BA:2533:A:H2'	1:BA:2534:A:O4'	2.12	0.50
1:AA:2738:A:C2	1:AA:2739:U:H1'	2.46	0.50
1:BA:2178:C:H2'	1:BA:2179:C:O4'	2.12	0.50
1:BA:1914:C:O4'	1:BA:1914:C:O2	2.29	0.50
44:DN:24:CYS:HG	44:DN:40:CYS:CB	2.23	0.50
1:BA:2627:G:O2'	1:BA:2781:A:N1	2.33	0.50
1:AA:1109:C:H5	1:AA:1110:G:C5	2.30	0.50
1:AA:642:G:H21	1:AA:646:A:H2	1.58	0.50
18:AW:76:VAL:HG22	18:AW:103:ILE:HG23	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:CJ:54:PHE:CD2	40:CJ:55:LYS:HD2	2.44	0.50
3:AD:242:ARG:HG2	3:AD:246:PRO:HG3	1.93	0.50
27:A5:53:ALA:N	27:A5:54:GLY:HA2	2.27	0.50
39:DI:44:VAL:N	39:DI:45:ALA:HB2	2.26	0.50
39:CI:31:GLN:HG2	39:CI:36:TYR:HB2	1.94	0.50
1:BA:1568:G:H5'	3:BD:60:ARG:HA	1.93	0.50
21:AZ:104:PHE:HB3	21:AZ:141:VAL:HG21	1.93	0.50
1:BA:2502:G:H5''	1:BA:2503:A:H5''	1.94	0.50
1:AA:2740:A:C6	1:AA:2741:A:C6	3.00	0.50
1:BA:414:C:O2'	1:BA:415:A:H5'	2.12	0.50
1:AA:1927:A:H2'	1:AA:1928:A:C8	2.47	0.50
2:AB:11:C:H3'	2:AB:12:C:C6	2.46	0.50
41:DK:95:ILE:HD12	41:DK:108:ILE:HD13	1.92	0.50
6:BG:122:PRO:HG3	6:BG:180:PHE:HB3	1.94	0.50
1:BA:107:C:H2'	1:BA:108:U:C6	2.46	0.50
1:BA:2492:U:H2'	1:BA:2493:U:H6	1.76	0.50
31:CA:1468:A:H2'	31:CA:1469:G:O4'	2.11	0.50
4:BE:115:GLY:O	4:BE:119:ARG:HB2	2.12	0.50
16:AU:105:VAL:O	16:AU:108:GLU:HB2	2.12	0.50
1:AA:1131:G:O6	1:AA:2040:C:H1'	2.11	0.50
1:AA:1876:A:H2'	1:AA:1877:A:C8	2.46	0.50
36:CF:49:ALA:N	48:CR:77:GLY:O	2.34	0.50
40:CJ:38:ILE:HG13	40:CJ:38:ILE:O	2.11	0.50
36:CF:36:ARG:HD3	36:CF:37:VAL:O	2.12	0.50
30:A8:26:LYS:HE3	30:A8:48:PHE:CD1	2.47	0.50
1:AA:2505:G:O6	1:AA:2576:G:H2'	2.12	0.50
13:AR:38:VAL:O	13:AR:42:LYS:HG3	2.11	0.50
32:DB:210:SER:O	32:DB:214:ILE:HG12	2.11	0.50
31:CA:1065:U:H4'	31:CA:1066:C:O5'	2.12	0.50
31:CA:1288:A:N1	31:CA:1371:G:H1'	2.26	0.50
31:CA:628:G:H2'	31:CA:629:G:C8	2.47	0.50
11:BP:38:GLN:HG3	11:BP:38:GLN:O	2.11	0.50
38:CH:6:ILE:O	38:CH:10:LEU:HG	2.12	0.50
1:BA:652(R):C:H2'	1:BA:652(R):C:OP2	2.12	0.50
37:DG:44:TYR:HA	37:DG:47:CYS:HB2	1.93	0.50
31:CA:397:A:C6	31:CA:548:G:N7	2.80	0.50
38:DH:20:TYR:CE1	38:DH:76:PRO:HG2	2.47	0.50
1:BA:334:C:OP1	1:BA:335:C:N4	2.44	0.50
1:AA:2572:A:C8	4:AE:144:ARG:HD2	2.47	0.50
31:DA:1233:G:H2'	31:DA:1234:C:C6	2.46	0.50
43:DM:5:ALA:HA	43:DM:61:GLU:HG2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AF:88:VAL:HG21	5:AF:91:GLY:HA3	1.93	0.50
1:AA:2408:U:H2'	1:AA:2409:G:C8	2.46	0.50
1:BA:2773:C:H2'	1:BA:2774:C:H6	1.75	0.50
5:BF:150:GLY:HA2	5:BF:172:TRP:CE3	2.46	0.50
1:AA:1009:A:P	9:AN:37:LYS:HZ1	2.34	0.50
31:CA:1034:G:H2'	31:CA:1035:A:C8	2.47	0.50
38:CH:120:THR:H	38:CH:123:GLU:HB2	1.77	0.50
1:AA:2280:G:O6	22:A0:14:ARG:HD3	2.11	0.50
33:DC:47:LEU:HB3	33:DC:52:LEU:HD13	1.93	0.50
2:AB:13:A:N1	2:AB:69:G:O2'	2.37	0.50
29:B7:22:MET:HA	29:B7:28:ARG:HG2	1.94	0.50
1:AA:2394:C:OP1	30:A8:30:ARG:NH1	2.42	0.50
31:CA:1361:G:H2'	31:CA:1362:C:O4'	2.12	0.50
1:BA:2100:G:C6	1:BA:2190:G:C6	3.00	0.50
2:AB:48:A:C2	2:AB:49:C:C2	3.00	0.50
1:AA:1827:C:H2'	1:AA:1828:G:H5'	1.93	0.50
31:CA:1131:G:H2'	31:CA:1132:C:H6	1.76	0.50
13:AR:84:ALA:HB3	13:AR:85:PRO:HD3	1.94	0.50
1:AA:2572:A:N7	4:AE:144:ARG:HD2	2.27	0.50
15:BT:20:PRO:HD2	15:BT:86:ILE:HB	1.93	0.50
31:DA:1014:A:H1'	49:DS:34:TRP:HB2	1.94	0.50
21:AZ:70:LEU:HG	21:AZ:91:LEU:HD21	1.94	0.50
17:BV:22:VAL:HG23	17:BV:23:GLU:O	2.12	0.50
31:CA:44:G:H2'	31:CA:45:U:O4'	2.12	0.50
31:CA:565:U:H3'	31:CA:566:G:H2'	1.94	0.50
31:DA:1468:A:H2'	31:DA:1469:G:O4'	2.11	0.50
32:CB:47:THR:HA	32:CB:202:PRO:HG2	1.94	0.50
48:CR:73:ALA:HB3	48:CR:79:LEU:HD12	1.93	0.50
20:AY:5:MET:HE1	20:AY:32:PRO:HA	1.94	0.50
1:AA:23:G:OP1	1:AA:504:U:N3	2.34	0.50
31:CA:1316:G:N2	31:CA:1318:A:H3'	2.27	0.49
31:CA:246:A:N1	31:CA:278:G:O2'	2.40	0.49
1:AA:2328:A:H2'	1:AA:2329:G:C8	2.47	0.49
1:AA:2319:G:C2	14:AS:3:ARG:HA	2.47	0.49
40:CJ:51:ARG:CZ	40:CJ:61:GLU:HB3	2.42	0.49
31:CA:1124:G:H2'	31:CA:1126:U:O4	2.12	0.49
31:DA:1097:C:H2'	31:DA:1098:C:H6	1.77	0.49
32:CB:208:ILE:HA	32:CB:211:ILE:HD12	1.93	0.49
37:CG:108:ALA:HB1	37:CG:120:ILE:HD13	1.92	0.49
31:CA:501:C:H2'	31:CA:502:G:C8	2.47	0.49
31:CA:240:C:H2'	31:CA:241:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1090:U:H2'	31:DA:1091:U:C6	2.47	0.49
1:AA:2468:G:N2	1:AA:2481:G:H1'	2.27	0.49
43:DM:33:ALA:HA	43:DM:59:TYR:HE1	1.77	0.49
28:B6:25:LYS:NZ	28:B6:51:GLU:OE2	2.44	0.49
1:BA:271(Q):G:O2'	1:BA:271(R):G:OP2	2.21	0.49
1:AA:208:C:H2'	1:AA:209:C:C6	2.47	0.49
31:CA:649:G:H2'	31:CA:650:G:H8	1.76	0.49
7:BH:164:TYR:HB2	7:BH:167:GLU:HB2	1.93	0.49
5:BF:154:VAL:HB	5:BF:173:VAL:HG22	1.94	0.49
31:DA:658:G:C6	31:DA:659:U:C4	3.00	0.49
5:AF:33:LEU:HB3	11:AP:6:LEU:HD21	1.93	0.49
31:CA:1399:C:H4'	31:CA:1400:C:H5''	1.93	0.49
1:BA:2307:G:H4'	1:BA:2308:G:C4	2.47	0.49
11:BP:50:ARG:HD3	30:B8:7:HIS:CD2	2.47	0.49
31:DA:1144:G:N2	31:DA:1146:A:H62	2.10	0.49
31:DA:857:C:H2'	31:DA:858:G:O4'	2.12	0.49
31:CA:1084:G:H2'	31:CA:1085:U:C6	2.47	0.49
39:DI:37:PHE:HB3	39:DI:43:ALA:HB1	1.93	0.49
21:AZ:72:ARG:NH2	21:AZ:97:GLU:O	2.46	0.49
1:AA:265:A:H1'	1:AA:266:G:O4'	2.13	0.49
31:DA:1513:A:H2'	31:DA:1514:C:C6	2.47	0.49
1:AA:19:C:H2'	1:AA:20:C:C6	2.47	0.49
36:CF:75:LEU:O	36:CF:79:LEU:HG	2.12	0.49
1:BA:271(E):U:H2'	1:BA:271(F):C:C6	2.47	0.49
1:AA:411:G:OP2	1:AA:2406:U:O2'	2.27	0.49
1:AA:2390:U:O2'	1:AA:2391:G:H5'	2.12	0.49
1:AA:311:A:C6	1:AA:328:U:C4	3.01	0.49
34:CD:88:VAL:O	34:CD:92:VAL:HG23	2.13	0.49
22:B0:51:VAL:HG22	22:B0:81:VAL:HG23	1.92	0.49
31:CA:730:G:C5	31:CA:731:G:H1'	2.47	0.49
33:DC:150:LYS:HD3	33:DC:169:ALA:HB2	1.94	0.49
1:AA:2728:U:H2'	1:AA:2729:G:C8	2.47	0.49
31:CA:382:A:H2'	31:CA:383:A:H8	1.76	0.49
1:BA:581:C:OP1	16:BU:33:ARG:HG3	2.12	0.49
5:AF:179:GLU:CD	5:AF:179:GLU:H	2.15	0.49
5:AF:109:GLY:O	5:AF:113:ALA:N	2.37	0.49
31:DA:4:U:H5	38:DH:105:ARG:HD3	1.77	0.49
1:AA:176:G:O2'	1:AA:177:G:H5'	2.12	0.49
1:AA:708:C:H42	1:AA:723:G:H1	1.58	0.49
1:BA:819:A:C4	1:BA:1189:A:C2	3.01	0.49
8:BI:104:GLN:CB	8:BI:105:HIS:HD2	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:618:C:H5''	31:CA:619:U:H5''	1.93	0.49
1:BA:672:C:C2'	1:BA:673:C:H5'	2.42	0.49
39:DI:40:LEU:HD11	39:DI:70:LYS:HB3	1.95	0.49
1:AA:296:C:H2'	1:AA:297:C:C6	2.47	0.49
31:DA:1315:U:O2'	31:DA:1360:A:N3	2.31	0.49
31:CA:1218:C:H2'	31:CA:1219:U:C6	2.47	0.49
33:CC:155:GLY:O	33:CC:157:ILE:N	2.43	0.49
31:DA:819:A:H4'	31:DA:820:U:OP2	2.11	0.49
7:AH:87:LEU:HB2	7:AH:131:VAL:HB	1.93	0.49
20:AY:12:THR:OG1	20:AY:26:LYS:HG2	2.12	0.49
31:CA:1012:U:H2'	31:CA:1013:G:C8	2.48	0.49
31:CA:1271:G:H5'	31:CA:1314:C:H5'	1.94	0.49
9:AN:96:GLU:HB2	9:AN:122:VAL:HG12	1.94	0.49
31:DA:737:A:H2'	31:DA:738:C:H6	1.77	0.49
31:DA:96:U:HO2'	31:DA:97:G:P	2.34	0.49
33:CC:156:ARG:HG2	33:CC:160:ALA:O	2.12	0.49
31:CA:850:U:H2'	31:CA:851:G:H5''	1.94	0.49
31:CA:374:A:C6	31:CA:375:U:C4	3.00	0.49
31:DA:545:C:O2'	31:DA:549:C:OP1	2.28	0.49
31:DA:741:G:H2'	31:DA:742:G:O4'	2.12	0.49
31:CA:262:A:C6	31:CA:263:A:C6	3.00	0.49
1:AA:858:U:O2	1:AA:2268:A:H2'	2.13	0.49
1:BA:2315:G:H2'	1:BA:2316:C:C6	2.47	0.49
1:AA:768:G:O2'	1:AA:1379:A:N1	2.33	0.49
31:CA:22:G:H2'	31:CA:23:C:C6	2.47	0.49
31:DA:709:G:H2'	31:DA:710:G:H8	1.77	0.49
31:DA:1165:C:H2'	31:DA:1166:G:C8	2.47	0.49
1:BA:1801:G:OP2	3:BD:154:LYS:NZ	2.41	0.49
1:BA:143:G:H4'	19:BX:35:THR:HG21	1.95	0.49
1:AA:830:G:H4'	1:AA:831:G:OP2	2.12	0.49
1:AA:469:G:O6	29:A7:37:LYS:NZ	2.38	0.49
1:BA:484:C:H2'	1:BA:485:C:C6	2.47	0.49
1:AA:590:A:H2'	1:AA:591:C:C6	2.46	0.49
1:AA:2433:A:H5''	1:AA:2434:A:OP1	2.12	0.49
8:BI:79:ILE:N	8:BI:143:SER:O	2.39	0.49
10:AO:7:TYR:CE1	10:AO:20:MET:HB2	2.48	0.49
4:BE:9:VAL:HG22	4:BE:25:VAL:HB	1.93	0.49
1:AA:2748:A:C6	1:AA:2749:A:C5	3.00	0.49
1:AA:26:G:H1'	1:AA:514:A:N6	2.28	0.49
13:AR:21:TYR:CZ	13:AR:43:GLU:HG2	2.47	0.49
1:BA:2207:G:HO2'	1:BA:2208:A:P	2.34	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:BG:138:GLN:O	6:BG:144:ILE:HD12	2.13	0.49
2:AB:48:A:C2	2:AB:49:C:N3	2.81	0.49
31:CA:1001:A:N6	31:CA:1001(A):G:O6	2.46	0.49
31:CA:185:A:H2'	31:CA:186:C:H6	1.78	0.49
31:CA:1030(D):A:H62	31:CA:1031:G:N2	2.09	0.49
7:AH:149:ARG:HH22	7:AH:154:PRO:HG2	1.78	0.49
1:AA:2273:A:H2'	1:AA:2274:A:C8	2.47	0.49
1:BA:1429:G:H2'	1:BA:1430:C:H6	1.75	0.49
39:CI:5:TYR:OH	39:CI:16:ARG:HG2	2.12	0.49
33:CC:150:LYS:HB2	33:CC:169:ALA:HB2	1.95	0.49
33:DC:36:ASP:O	33:DC:40:ARG:HG3	2.12	0.49
1:BA:2790:A:H4'	1:BA:2790:A:OP1	2.10	0.49
1:AA:342:G:H2'	1:AA:343:C:H6	1.77	0.49
31:DA:102:G:H2'	31:DA:103:C:C6	2.46	0.49
31:CA:41:G:C6	31:CA:402:G:C6	3.00	0.49
1:AA:1668:A:H4'	1:AA:1669:A:O5'	2.12	0.49
1:AA:2263:C:H2'	1:AA:2264:C:C6	2.47	0.49
31:CA:666:G:H5'	31:CA:726:C:H1'	1.94	0.49
2:AB:11:C:H3'	2:AB:12:C:H6	1.78	0.49
1:AA:612:C:H2'	1:AA:613:G:O4'	2.12	0.49
31:DA:716:A:C6	31:DA:717:C:N3	2.81	0.49
31:CA:1237:C:H4'	31:CA:1334:G:N2	2.28	0.49
31:DA:503:C:OP2	42:DL:116:SER:HB3	2.12	0.49
34:CD:127:THR:OG1	34:CD:128:VAL:N	2.45	0.49
1:AA:2097:C:H2'	1:AA:2098:U:C6	2.48	0.49
8:AI:111:PRO:C	8:AI:114:LEU:HB2	2.33	0.49
1:AA:2228:G:C6	1:AA:2229:C:C4	3.00	0.49
31:DA:529:G:HO2'	31:DA:533:A:N6	2.10	0.49
31:DA:991:U:O4	31:DA:1212:U:O2'	2.16	0.49
15:AT:110:ILE:O	15:AT:114:LEU:N	2.44	0.49
1:BA:1949:G:C6	1:BA:1950:G:C6	3.00	0.49
15:BT:66:VAL:HA	15:BT:71:GLY:HA2	1.94	0.49
45:DO:18:PHE:HB2	45:DO:19:PRO:HD2	1.94	0.49
31:CA:328:C:H4'	31:CA:329:A:H5'	1.92	0.49
1:BA:1530:C:HO2'	1:BA:1531:C:P	2.32	0.49
31:DA:1070:U:H2'	31:DA:1071:C:C6	2.48	0.49
31:CA:1157:A:C6	31:CA:1180:A:C6	3.01	0.49
14:BS:96:GLY:N	14:BS:99:LYS:H	2.05	0.49
43:CM:66:LEU:H	43:CM:70:LEU:HD12	1.77	0.49
31:CA:1318:A:H4'	49:CS:10:PHE:CE2	2.48	0.49
1:AA:300:A:H3'	20:AY:84:ARG:HH21	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:CC:11:ARG:HD3	33:CC:15:THR:HB	1.94	0.49
7:AH:24:VAL:HG13	7:AH:37:VAL:HG21	1.94	0.49
1:AA:1420:U:HO2'	1:AA:1421:G:P	2.34	0.49
31:DA:1308:U:H2'	31:DA:1309:G:C8	2.47	0.49
31:DA:968:A:C8	31:DA:1062:U:H4'	2.48	0.49
1:AA:1491:G:O2'	3:AD:101:GLU:HB2	2.13	0.49
1:AA:207:A:H2'	1:AA:208:C:O4'	2.11	0.49
31:CA:1237:C:H2'	31:CA:1336:C:H5	1.76	0.49
1:BA:2663:G:C6	1:BA:2664:G:C4	3.01	0.49
1:AA:1479:G:C6	1:AA:1480:G:C5	3.00	0.49
31:DA:240:C:H2'	31:DA:241:C:C6	2.46	0.49
1:AA:2697:G:H2'	1:AA:2698:U:O4'	2.13	0.49
31:DA:109:A:H2'	31:DA:326:G:N2	2.27	0.49
31:DA:1174:G:C2	31:DA:1175:G:C8	3.00	0.49
7:BH:88:LEU:CD2	7:BH:165:ALA:HA	2.43	0.49
50:CT:36:LEU:HD12	50:CT:55:ILE:HG23	1.95	0.49
31:CA:561:U:HO2'	31:CA:562:C:P	2.36	0.49
1:AA:248:G:O2'	1:AA:2432:A:OP1	2.22	0.49
1:AA:963:U:H1'	1:AA:2250:G:O6	2.12	0.49
32:CB:79:ASP:O	32:CB:82:ARG:N	2.45	0.49
31:CA:137:C:O2'	31:CA:138:G:H5'	2.13	0.49
50:DT:26:ASN:OD1	50:DT:71:THR:HG23	2.12	0.49
31:DA:1030(B):C:H2'	31:DA:1030(C):G:H5'	1.95	0.49
31:DA:677:U:H3	31:DA:713:G:N2	1.95	0.49
31:CA:1027:C:H5	31:CA:1029:C:N4	2.11	0.49
33:DC:5:ILE:HD12	33:DC:6:HIS:H	1.78	0.49
1:BA:2164:C:H3'	1:BA:2165:G:C8	2.44	0.49
49:CS:32:LYS:HD2	49:CS:57:HIS:HD2	1.78	0.49
1:AA:2659:G:OP1	7:AH:158:HIS:NE2	2.42	0.49
31:CA:232:G:H1'	31:CA:262:A:N1	2.27	0.49
1:BA:603:A:H4'	1:BA:604:G:H5'	1.95	0.49
32:DB:54:THR:O	32:DB:58:ILE:HG13	2.13	0.49
38:DH:25:ASP:OD2	38:DH:60:ARG:HG2	2.12	0.49
42:DL:119:LYS:HB2	42:DL:120:TYR:CD1	2.48	0.49
31:DA:60:A:H8	31:DA:60:A:P	2.36	0.49
5:BF:107:LYS:HE2	5:BF:208:GLY:N	2.28	0.49
1:AA:833:U:H2'	1:AA:834:C:C6	2.47	0.49
31:CA:1096:C:H2'	31:CA:1097:C:C6	2.47	0.49
31:DA:1233:G:H2'	31:DA:1234:C:H6	1.77	0.49
31:DA:788:U:H2'	31:DA:789:U:O4'	2.12	0.49
10:AO:64:ARG:HB2	10:AO:83:ALA:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AR:54:LEU:O	13:AR:57:ARG:HB2	2.12	0.49
3:BD:238:GLY:O	3:BD:239:ARG:HB2	2.11	0.49
4:BE:101:ARG:NH1	4:BE:169:ASN:O	2.44	0.49
31:DA:815:A:N7	31:DA:1509:C:O2'	2.37	0.49
17:AV:2:PHE:CZ	17:AV:41:GLY:HA3	2.48	0.49
1:AA:688:U:O2'	1:AA:786:C:O2'	2.26	0.49
1:AA:603:A:H4'	1:AA:604:G:H5'	1.95	0.49
31:DA:45:U:H2'	31:DA:46:G:C8	2.48	0.49
1:AA:620:G:H5'	1:AA:620:G:N3	2.27	0.49
1:AA:565:C:H4'	1:AA:1253:A:C6	2.47	0.49
31:DA:671:G:H2'	31:DA:672:U:O4'	2.12	0.49
31:DA:583:A:H2'	31:DA:584:G:O4'	2.12	0.49
1:AA:2282:G:H4'	1:AA:2283:C:O5'	2.11	0.49
40:CJ:11:PHE:HB3	44:CN:55:GLY:HA3	1.94	0.49
31:CA:78:G:N2	31:CA:91:C:N3	2.52	0.49
44:DN:23:ARG:CG	44:DN:24:CYS:H	2.19	0.49
31:CA:601:C:H2'	31:CA:602:A:H8	1.76	0.49
31:DA:1182:G:H5'	31:DA:1184:G:H5''	1.94	0.49
1:BA:534:U:H2'	1:BA:535:C:C6	2.48	0.49
1:AA:652(E):G:H2'	1:AA:652(F):G:C8	2.48	0.49
4:AE:176:ILE:HB	4:AE:181:LEU:HB2	1.95	0.49
31:DA:1001:A:H2'	31:DA:1001(A):G:C8	2.48	0.49
40:DJ:16:LEU:HD21	40:DJ:70:ARG:HG3	1.94	0.49
1:AA:475:U:C4	1:AA:481:G:O6	2.66	0.49
1:BA:363(B):G:H2'	1:BA:363(C):G:C8	2.47	0.49
1:AA:311:A:C8	1:AA:332:A:N7	2.81	0.49
7:AH:40:GLU:OE2	7:AH:60:ARG:NH1	2.46	0.49
1:AA:1191:G:H2'	1:AA:1192:G:O4'	2.12	0.49
31:DA:1236:A:O2'	31:DA:1304:G:H4'	2.12	0.49
46:CP:49:LEU:HD21	46:CP:77:ALA:HB2	1.94	0.49
14:AS:59:LYS:H	14:AS:60:GLY:HA3	1.77	0.49
48:CR:31:LEU:H	48:CR:31:LEU:HD23	1.78	0.49
49:CS:23:ASN:HA	49:CS:27:GLU:HB2	1.94	0.49
1:BA:2305:A:H5''	6:BG:134:GLY:HA3	1.95	0.49
46:CP:72:ARG:HH21	46:CP:73:LEU:HD21	1.77	0.49
33:DC:134:ILE:HG22	33:DC:168:ALA:HB3	1.94	0.49
31:CA:64:G:H4'	31:CA:65:U:H3'	1.95	0.49
31:DA:743:U:H2'	31:DA:744:C:C6	2.48	0.49
32:DB:179:LYS:HA	38:DH:72:PRO:HG3	1.95	0.49
31:DA:3:G:H2'	31:DA:3:G:N3	2.27	0.49
1:BA:620:G:N3	1:BA:620:G:H2'	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:620:G:N3	1:BA:620:G:H5'	2.27	0.49
1:BA:1165:U:H2'	1:BA:1166:C:C6	2.47	0.49
1:AA:1913:A:H4'	1:AA:1914:C:H5''	1.95	0.49
1:BA:1914:C:O2'	1:BA:1915:U:OP2	2.30	0.49
1:AA:1689:A:OP2	1:AA:1698:A:N6	2.46	0.49
1:BA:84:A:H5''	20:BY:8:LYS:HE3	1.94	0.49
31:DA:542:G:P	34:DD:10:ARG:HH22	2.36	0.49
31:CA:277:C:H2'	31:CA:278:G:H8	1.77	0.49
46:DP:51:VAL:HG12	46:DP:53:VAL:H	1.78	0.49
2:AB:90:A:N7	2:AB:91:C:H1'	2.27	0.49
31:CA:1005:A:H1'	31:CA:1036:G:H22	1.78	0.49
31:DA:370:C:H2'	31:DA:371:G:C8	2.48	0.49
7:AH:8:PRO:HB3	7:AH:51:ARG:HD3	1.95	0.49
45:CO:23:GLY:O	45:CO:27:VAL:HB	2.13	0.49
31:CA:1250:A:H2	31:CA:1370:G:H1'	1.77	0.49
34:DD:128:VAL:HA	34:DD:145:GLU:O	2.12	0.49
33:CC:22:TRP:CD1	33:CC:59:ARG:HB2	2.47	0.49
31:CA:448:A:H2'	31:CA:449:C:C6	2.48	0.49
35:CE:8:GLU:OE2	35:CE:63:ARG:NH2	2.46	0.49
24:B2:32:LEU:HD22	24:B2:36:ARG:HH11	1.76	0.49
1:BA:2689:U:H4'	1:BA:2690:C:OP2	2.12	0.49
1:AA:1948:G:N3	31:DA:1418:A:H2	2.11	0.49
45:DO:33:THR:HG21	45:DO:85:LEU:HD22	1.94	0.49
5:BF:123:LEU:HD13	5:BF:192:LEU:HB3	1.95	0.49
1:AA:892:G:H2'	1:AA:893:C:H6	1.77	0.49
1:BA:435:C:H2'	1:BA:436:C:H5'	1.95	0.49
1:BA:1918:A:O2'	1:BA:1920:C:N4	2.46	0.49
1:BA:203:C:H3'	1:BA:204:A:H5''	1.94	0.49
31:DA:189(B):C:H2'	31:DA:189(C):C:C6	2.48	0.49
12:AQ:30:GLY:HA2	12:AQ:107:ALA:HB2	1.94	0.49
29:A7:25:PRO:HA	29:A7:28:ARG:CZ	2.43	0.49
1:AA:628:G:H2'	1:AA:629:G:C8	2.47	0.49
9:AN:71:ILE:HG21	9:AN:84:LYS:HB3	1.93	0.49
1:BA:889:C:HO2'	1:BA:890:A:H8	1.60	0.49
31:DA:713:G:H2'	31:DA:714:G:C8	2.48	0.49
27:A5:36:CYS:HB3	27:A5:49:CYS:HB3	1.95	0.49
31:DA:858:G:N1	31:DA:870:U:OP2	2.38	0.49
31:CA:626:U:C2	31:CA:627:G:C8	3.01	0.49
8:BI:83:ALA:HA	8:BI:89:TYR:CD1	2.47	0.49
31:CA:60:A:H4'	31:CA:61:G:O5'	2.13	0.49
31:CA:60:A:N3	31:CA:61:G:H1'	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1449:A:H5'	1:AA:1450:G:OP2	2.13	0.49
1:BA:2273:A:O2'	1:BA:2274:A:H5'	2.13	0.49
1:AA:1014:U:H2'	1:AA:1015:G:H8	1.77	0.49
17:AV:37:VAL:HG11	17:AV:40:LEU:HD21	1.94	0.49
6:AG:106:LEU:HA	6:AG:110:ALA:HB3	1.94	0.49
35:CE:71:LEU:HD13	35:CE:114:GLY:O	2.12	0.49
31:CA:1237:C:H2'	31:CA:1336:C:C5	2.48	0.49
3:BD:93:ALA:HB3	3:BD:105:ILE:HG13	1.95	0.49
4:BE:12:THR:HG21	15:BT:11:GLU:HG2	1.94	0.49
1:BA:2845:G:O2'	1:BA:2846:G:H5'	2.13	0.49
31:DA:1065:U:H4'	31:DA:1066:C:O5'	2.13	0.49
21:AZ:99:TYR:HA	21:AZ:124:ILE:O	2.13	0.49
31:CA:1007:C:H6	31:CA:1007:C:O5'	1.96	0.49
31:CA:1038:C:H2'	31:CA:1039:C:O4'	2.13	0.49
35:CE:11:ILE:HG22	35:CE:12:LEU:HB2	1.94	0.49
12:AQ:16:ARG:O	12:AQ:17:LEU:HD23	2.13	0.49
44:DN:3:ARG:C	44:DN:3:ARG:HH21	2.16	0.49
1:BA:298:G:H8	1:BA:298:G:O5'	1.96	0.49
49:CS:7:LYS:O	49:CS:7:LYS:HG2	2.13	0.49
1:AA:2199:A:H3'	1:AA:2200:C:H6	1.78	0.49
9:BN:108:PRO:O	9:BN:113:GLY:HA3	2.13	0.49
31:CA:93:G:O2'	31:CA:96:U:P	2.70	0.48
31:CA:413:G:O2'	31:CA:428:G:N2	2.46	0.48
31:CA:456:C:H2'	31:CA:457:C:H6	1.78	0.48
1:AA:2445:G:C2'	1:AA:2446:G:H5'	2.43	0.48
1:AA:2502:G:H5''	1:AA:2503:A:H5''	1.95	0.48
6:AG:9:ARG:NH1	6:AG:13:GLU:OE1	2.45	0.48
1:AA:922:U:H2'	1:AA:923:C:C6	2.47	0.48
31:DA:1129:C:H5''	31:DA:1139:G:O6	2.13	0.48
1:BA:630:G:OP1	30:B8:47:LYS:NZ	2.43	0.48
1:AA:2815:C:H2'	1:AA:2816:C:H6	1.78	0.48
34:CD:111:ALA:HB2	34:CD:120:LEU:HD12	1.95	0.48
4:AE:50:GLY:CA	4:AE:75:VAL:HG11	2.42	0.48
50:DT:72:LEU:HD11	50:DT:80:ARG:HD2	1.94	0.48
33:DC:43:LEU:O	33:DC:47:LEU:HB2	2.12	0.48
31:CA:987:G:H2'	31:CA:988:G:C8	2.48	0.48
24:B2:50:ILE:O	24:B2:51:ARG:HB3	2.13	0.48
1:BA:195:A:H61	1:BA:198:C:H3'	1.77	0.48
31:DA:452:A:C2	31:DA:453:A:C4	3.00	0.48
31:DA:1117:G:H21	31:DA:1180:A:H1'	1.78	0.48
38:CH:96:GLY:N	38:CH:99:GLU:OE2	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1331:A:H2'	1:AA:1333:C:H5	1.78	0.48
4:AE:147:PRO:HB2	4:AE:149:ARG:HG2	1.95	0.48
1:AA:1019:U:O2'	1:AA:1021:A:H2	1.96	0.48
31:DA:1070:U:H2'	31:DA:1071:C:H6	1.77	0.48
31:CA:1256:A:H5'	31:CA:1258:G:C1'	2.43	0.48
2:AB:44:G:C2	2:AB:48:A:C2	3.01	0.48
2:AB:55:U:C1'	6:AG:29:TRP:HE1	2.26	0.48
15:AT:39:ARG:HH21	31:DA:345:C:H5'	1.78	0.48
1:BA:2115:G:O2'	1:BA:2167:U:H1'	2.12	0.48
1:AA:954:G:O2'	1:AA:2274:A:N1	2.37	0.48
31:CA:1228:C:H2'	31:CA:1229:A:H8	1.78	0.48
1:BA:1153:C:H5'	16:BU:76:TYR:HE2	1.78	0.48
31:CA:1325:C:H4'	51:CU:17:THR:HG21	1.94	0.48
38:CH:112:LEU:HB3	38:CH:133:LEU:HA	1.94	0.48
31:DA:335:C:H2'	31:DA:336:C:C6	2.48	0.48
1:AA:821:A:H5''	1:AA:822:U:O5'	2.13	0.48
21:AZ:111:VAL:HG12	21:AZ:112:ARG:H	1.78	0.48
1:AA:897:C:H2'	1:AA:898:C:H6	1.78	0.48
1:AA:1929:G:H4'	1:AA:1930:G:OP1	2.13	0.48
33:DC:35:GLU:O	33:DC:39:ILE:HG13	2.13	0.48
31:CA:913:A:O2'	31:CA:914:A:OP2	2.25	0.48
1:BA:1759:A:H1'	1:BA:2711:A:C2	2.48	0.48
5:AF:155:LEU:HD11	5:AF:176:LEU:HD22	1.94	0.48
1:AA:2347:C:H2'	1:AA:2348:U:C6	2.48	0.48
1:BA:493:G:H2'	1:BA:494:G:O4'	2.13	0.48
31:CA:487:A:H2'	31:CA:488:C:O4'	2.13	0.48
1:AA:975(A):G:C2	1:AA:990:A:C8	3.01	0.48
31:DA:1120:G:H2'	31:DA:1121:U:C6	2.49	0.48
43:DM:40:ASN:HA	43:DM:41:PRO:HD2	1.69	0.48
1:BA:1530:C:O2'	1:BA:1531:C:P	2.71	0.48
1:BA:1364:G:C8	23:B1:3:LYS:HD3	2.47	0.48
14:BS:96:GLY:H	14:BS:99:LYS:N	2.05	0.48
31:CA:663:A:H5'	31:CA:836:G:OP1	2.13	0.48
1:AA:71:A:H2	19:AX:31:HIS:HE1	1.58	0.48
20:BY:86:ARG:O	20:BY:87:LYS:HD3	2.13	0.48
34:DD:65:ARG:HG2	34:DD:75:PHE:CD1	2.49	0.48
1:AA:2299:G:C2	1:AA:2318:G:H8	2.31	0.48
42:CL:119:LYS:HB2	42:CL:120:TYR:CD1	2.48	0.48
31:DA:942:G:N2	39:DI:124:GLN:HE22	2.08	0.48
31:CA:1320:C:H2'	31:CA:1321:C:O4'	2.12	0.48
7:AH:7:LEU:O	7:AH:69:ARG:HD3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AE:181:LEU:HD21	15:AT:6:LEU:HD12	1.96	0.48
1:BA:2314:C:H2'	1:BA:2315:G:H8	1.78	0.48
32:DB:185:ILE:HG22	32:DB:199:TYR:HB2	1.94	0.48
32:CB:211:ILE:O	32:CB:215:LEU:HB2	2.13	0.48
31:DA:436:C:O2'	31:DA:437:U:OP2	2.27	0.48
1:AA:1638:C:H2'	1:AA:1639:U:O4'	2.14	0.48
32:DB:178:ARG:HH22	38:DH:68:ARG:HH22	1.59	0.48
1:BA:656:G:H2'	1:BA:657:U:O4'	2.13	0.48
1:BA:1257:C:H4'	5:BF:83:PHE:CD2	2.49	0.48
1:AA:2405:G:O2'	1:AA:2406:U:P	2.71	0.48
29:B7:25:PRO:HA	29:B7:28:ARG:CZ	2.43	0.48
5:BF:123:LEU:HD12	5:BF:124:LEU:N	2.29	0.48
1:AA:914:C:H2'	1:AA:915:C:H5'	1.95	0.48
40:CJ:68:HIS:H	40:CJ:68:HIS:CD2	2.31	0.48
1:AA:1292:U:H2'	1:AA:1293:C:C6	2.47	0.48
1:AA:515:A:H1'	1:AA:581:C:H1'	1.94	0.48
17:AV:43:GLU:HG2	17:AV:44:LYS:H	1.78	0.48
5:AF:34:TRP:CE3	5:AF:35:GLU:HG2	2.48	0.48
31:CA:1048:G:OP1	44:CN:4:LYS:N	2.42	0.48
9:AN:42:TRP:HA	9:AN:48:MET:SD	2.53	0.48
1:BA:1673:U:C5	4:BE:129:HIS:CE1	3.01	0.48
1:BA:1814:G:O3'	3:BD:54:ARG:NH2	2.46	0.48
8:BI:105:HIS:CD2	8:BI:105:HIS:N	2.82	0.48
25:A3:26:LEU:HD21	25:A3:46:ASN:HB3	1.95	0.48
4:BE:147:PRO:HB2	4:BE:149:ARG:HG2	1.96	0.48
1:AA:848:G:N9	1:AA:933:A:H8	2.12	0.48
2:AB:66:A:H61	2:AB:108:U:H2'	1.77	0.48
1:BA:2152:G:H2'	1:BA:2153:G:C8	2.49	0.48
1:AA:1014:U:H2'	1:AA:1015:G:C8	2.48	0.48
5:AF:132:VAL:CG2	5:AF:163:VAL:HG22	2.44	0.48
1:AA:1656:C:H2'	1:AA:1657:C:C6	2.48	0.48
1:AA:1839:G:H8	1:AA:1839:G:H5'	1.78	0.48
41:DK:82:VAL:O	41:DK:109:VAL:HG23	2.12	0.48
31:DA:1291:G:C6	31:DA:1292:U:C4	3.01	0.48
7:AH:107:VAL:HG21	7:AH:152:ARG:HB2	1.94	0.48
1:AA:553:G:H2'	1:AA:554:U:O4'	2.14	0.48
31:CA:708:C:H2'	31:CA:709:G:H8	1.77	0.48
6:BG:61:ALA:HB2	6:BG:68:PRO:HD3	1.94	0.48
15:BT:33:LYS:O	15:BT:82:LEU:HD23	2.12	0.48
1:BA:1925:C:O2'	1:BA:1926:U:H5'	2.13	0.48
48:DR:31:LEU:HD11	48:DR:62:GLU:HB3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:226:G:H21	1:AA:228:A:H62	1.61	0.48
33:CC:188:LEU:HD21	33:CC:195:VAL:HG22	1.95	0.48
31:CA:1394:A:C5	31:CA:1501:C:H4'	2.48	0.48
5:AF:64:ILE:HG21	5:AF:78:ILE:HG23	1.94	0.48
1:BA:2208:A:H1'	1:BA:2219:G:C4	2.48	0.48
1:AA:1141:U:OP2	9:AN:63:THR:OG1	2.18	0.48
31:DA:73:G:H2'	31:DA:76:C:O4'	2.14	0.48
14:BS:96:GLY:HA2	14:BS:97:ARG:C	2.34	0.48
31:CA:148:G:C2	31:CA:149:A:N7	2.82	0.48
31:DA:1023:G:C2	31:DA:1024:G:H1'	2.49	0.48
1:BA:1784:A:H4'	1:BA:1785:A:O5'	2.13	0.48
31:CA:1305:G:H5''	51:CU:4:GLY:HA3	1.94	0.48
31:CA:674:G:N2	31:CA:717:C:O2	2.46	0.48
1:AA:2695:C:H2'	1:AA:2696:U:H6	1.78	0.48
3:BD:148:GLU:HB2	3:BD:151:LYS:HD2	1.95	0.48
1:AA:2291:U:H2'	1:AA:2292:C:C6	2.48	0.48
1:BA:286:C:H2'	1:BA:287:C:H6	1.78	0.48
45:CO:3:ILE:O	45:CO:3:ILE:HG12	2.13	0.48
4:BE:119:ARG:HG2	4:BE:160:TYR:HB2	1.96	0.48
31:DA:503:C:H2'	31:DA:504:C:H6	1.78	0.48
18:AW:28:SER:O	18:AW:31:GLU:N	2.46	0.48
48:DR:53:ARG:HE	48:DR:59:SER:C	2.16	0.48
24:A2:63:VAL:HA	24:A2:66:GLU:HB2	1.95	0.48
40:DJ:42:THR:OG1	40:DJ:68:HIS:HB3	2.14	0.48
2:AB:14:U:OP2	2:AB:71:C:H5'	2.13	0.48
8:BI:29:TYR:O	8:BI:32:PRO:HD2	2.13	0.48
4:BE:54:GLN:HB2	4:BE:76:ARG:HB3	1.95	0.48
31:CA:1409:C:H2'	31:CA:1410:G:C8	2.49	0.48
47:CQ:67:LYS:HA	47:CQ:70:ARG:NH1	2.25	0.48
14:AS:87:PHE:HB2	14:AS:112:PHE:CE1	2.48	0.48
31:CA:376:G:H2'	31:CA:377:G:H8	1.78	0.48
46:CP:51:VAL:HG12	46:CP:53:VAL:N	2.22	0.48
31:DA:9:G:H2'	31:DA:10:A:H8	1.77	0.48
1:BA:2133:G:H1'	1:BA:2158:A:H61	1.79	0.48
1:AA:1701:A:H5''	1:AA:1702:G:OP2	2.14	0.48
34:CD:18:LYS:HD3	34:CD:20:TYR:OH	2.13	0.48
1:AA:1827:C:C2'	1:AA:1828:G:H5'	2.44	0.48
1:AA:652(S):C:H5'	1:AA:652(T):C:OP2	2.14	0.48
31:CA:738:C:H2'	31:CA:739:C:H6	1.79	0.48
1:AA:1419:A:C8	1:AA:1421:G:C6	3.02	0.48
14:BS:58:LEU:HG	14:BS:65:VAL:HG13	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DF:3:ARG:HB3	36:DF:93:SER:CB	2.43	0.48
6:BG:111:LEU:HB3	6:BG:117:PHE:CZ	2.48	0.48
1:AA:1231:G:H2'	1:AA:1232:G:H8	1.79	0.48
14:AS:11:LYS:HD3	14:AS:15:ARG:NH1	2.29	0.48
7:AH:54:ARG:NH2	7:AH:57:ASP:OD1	2.46	0.48
12:BQ:37:LEU:HD21	12:BQ:130:LYS:HE3	1.96	0.48
31:DA:425:G:H4'	34:DD:45:GLN:OE1	2.14	0.48
36:CF:62:TRP:CZ3	36:CF:64:GLN:HB2	2.49	0.48
1:AA:93:G:H2'	1:AA:94:C:H6	1.79	0.48
17:BV:35:LEU:HB2	17:BV:57:VAL:CG2	2.43	0.48
22:B0:51:VAL:CG2	22:B0:81:VAL:HG23	2.44	0.48
1:AA:980:A:C4	1:AA:1136:G:O4'	2.67	0.48
31:CA:1343:G:H2'	31:CA:1344:C:C6	2.48	0.48
39:CI:29:ASN:OD1	39:CI:64:THR:HA	2.13	0.48
4:BE:31:CYS:HB3	4:BE:49:LEU:HG	1.95	0.48
31:CA:531:U:O3'	31:CA:532:A:H4'	2.13	0.48
19:AX:18:TYR:C	19:AX:20:GLY:H	2.17	0.48
31:CA:838:G:H2'	31:CA:839:U:H5''	1.94	0.48
22:A0:72:ARG:HB2	22:A0:75:LEU:HB2	1.95	0.48
31:DA:189(K):U:H2'	31:DA:189(L):G:C8	2.48	0.48
15:AT:121:ILE:O	15:AT:124:ASP:HB2	2.13	0.48
1:AA:1205:U:C4	5:AF:171:PRO:HA	2.47	0.48
1:BA:861:A:N3	2:BB:79:C:O2'	2.44	0.48
37:DG:16:LEU:HD12	37:DG:16:LEU:H	1.78	0.48
1:BA:29:U:O5'	1:BA:29:U:H6	1.96	0.48
1:AA:2758:A:C2	1:AA:2759:G:H1'	2.48	0.48
38:DH:124:ALA:O	38:DH:128:GLY:N	2.44	0.48
31:CA:156:G:N1	31:CA:166:G:C6	2.82	0.48
18:BW:14:PRO:HG2	18:BW:78:GLU:CG	2.37	0.48
31:CA:741:G:H2'	31:CA:742:G:O4'	2.14	0.48
39:DI:11:LYS:H	39:DI:104:ARG:NH2	2.11	0.48
31:CA:607:A:H2'	31:CA:608:A:O4'	2.14	0.48
1:AA:2438:U:H5''	1:AA:2600:A:OP1	2.12	0.48
1:BA:2114:A:H3'	1:BA:2115:G:H8	1.73	0.48
31:DA:1159:U:O4'	31:DA:1182:G:N2	2.47	0.48
31:CA:445:G:C2	31:CA:446:G:C4	3.01	0.48
7:AH:70:THR:O	7:AH:71:LEU:HB3	2.14	0.48
51:CU:17:THR:O	51:CU:22:ARG:HD3	2.13	0.48
31:CA:59:A:H5''	31:CA:60:A:C5'	2.43	0.48
37:CG:139:GLU:O	37:CG:143:ARG:HG3	2.14	0.48
1:AA:528:A:H8	1:AA:528:A:H3'	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:DT:10:LEU:HD23	50:DT:11:SER:N	2.28	0.48
10:AO:73:ASP:OD1	15:AT:32:TYR:OH	2.09	0.48
31:CA:833:U:H3	31:CA:853:G:H1	1.60	0.48
31:DA:691:G:H2'	31:DA:692:U:C6	2.49	0.48
50:CT:90:GLN:O	50:CT:93:GLU:HB3	2.13	0.48
23:A1:15:ALA:O	23:A1:40:ARG:HG3	2.14	0.48
31:DA:413:G:N2	31:DA:428:G:H1'	2.29	0.48
1:BA:740:U:H2'	1:BA:741:G:C8	2.48	0.48
1:BA:2687:U:H2'	1:BA:2688:U:O4'	2.12	0.48
16:BU:28:ARG:HD3	16:BU:38:THR:OG1	2.13	0.48
45:DO:15:PHE:CE2	45:DO:84:LYS:HD2	2.48	0.48
1:AA:118:A:N3	1:AA:178:G:H1'	2.29	0.48
27:B5:53:ALA:N	27:B5:54:GLY:HA2	2.29	0.48
1:BA:1914:C:HO2'	1:BA:1915:U:C5'	2.27	0.48
31:CA:655:A:N1	31:CA:656:C:C2	2.82	0.48
7:BH:7:LEU:HG	7:BH:69:ARG:HH12	1.78	0.48
39:DI:24:GLY:HA2	39:DI:59:PHE:O	2.14	0.48
1:BA:928:G:O5'	1:BA:928:G:H8	1.96	0.48
35:CE:136:MET:O	35:CE:139:LEU:N	2.47	0.48
1:BA:830:G:H4'	1:BA:831:G:OP2	2.12	0.48
31:DA:1309:G:OP1	43:DM:88:ARG:NH1	2.47	0.48
31:CA:1324:A:H2'	31:CA:1325:C:H6	1.79	0.48
1:AA:1463:C:H2'	1:AA:1464:C:C6	2.48	0.48
1:BA:797:C:OP2	5:BF:62:ARG:HB2	2.14	0.48
1:AA:548:A:N6	17:AV:19:LYS:H	2.12	0.48
18:AW:56:ALA:O	18:AW:60:ASN:HB2	2.12	0.48
31:DA:1246:C:H2'	31:DA:1247:U:C6	2.48	0.48
31:CA:1168:A:C6	31:CA:1169:A:C6	3.01	0.48
1:AA:2729:G:H2'	1:AA:2730:C:C6	2.48	0.48
31:DA:240:C:H2'	31:DA:241:C:H6	1.77	0.48
19:AX:18:TYR:O	19:AX:20:GLY:N	2.47	0.48
37:DG:20:ASP:HB3	37:DG:23:VAL:HG23	1.94	0.48
17:BV:52:VAL:HG22	17:BV:55:ALA:HB3	1.96	0.48
18:BW:83:LYS:O	18:BW:84:ARG:NH1	2.43	0.48
1:BA:36:G:N3	1:BA:450:G:O2'	2.45	0.48
1:BA:2438:U:O2'	1:BA:2440:C:OP1	2.29	0.48
25:B3:19:GLN:OE1	25:B3:52:HIS:NE2	2.45	0.48
32:CB:181:PHE:O	32:CB:183:PRO:HD3	2.14	0.48
31:DA:666:G:H5'	31:DA:726:C:H1'	1.96	0.48
6:AG:173:LEU:HB3	6:AG:178:PHE:CG	2.48	0.48
42:CL:6:THR:HG23	42:CL:9:GLN:OE1	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:325:G:H2'	1:AA:326:G:O4'	2.13	0.48
1:BA:1312:U:H4'	1:BA:1313:U:O5'	2.13	0.48
8:BI:101:LEU:HD12	8:BI:140:LEU:HD11	1.96	0.48
1:BA:1514:U:H2'	1:BA:1515:G:H8	1.78	0.48
38:DH:92:ARG:HB3	38:DH:94:TYR:CE2	2.49	0.48
4:AE:108:SER:HB3	4:AE:165:VAL:HG21	1.96	0.48
1:BA:1173:G:O2'	1:BA:1174:A:O5'	2.32	0.48
1:BA:1174:A:H1'	1:BA:1175:U:C5'	2.41	0.48
1:AA:71:A:H2	19:AX:31:HIS:CE1	2.31	0.48
1:BA:2287:A:H2	1:BA:2346:A:H62	1.59	0.48
1:BA:1784:A:H4'	1:BA:1785:A:C5'	2.44	0.48
33:DC:7:PRO:HG3	33:DC:201:TYR:HE2	1.78	0.48
35:CE:143:ARG:NH1	38:CH:77:GLU:OE1	2.47	0.48
31:DA:742:G:P	45:DO:35:ARG:HH21	2.36	0.48
31:DA:942:G:H21	39:DI:124:GLN:NE2	2.11	0.48
16:BU:47:TYR:HA	16:BU:50:ARG:NH2	2.29	0.48
1:AA:2884:U:H2'	1:AA:2885:C:O4'	2.13	0.48
1:AA:1005:C:H2'	1:AA:1006:C:C6	2.49	0.48
4:BE:143:ASN:HD22	4:BE:147:PRO:CD	2.27	0.48
31:DA:266:G:O3'	47:DQ:67:LYS:HB2	2.14	0.48
1:AA:2355:C:H5''	1:AA:2356:C:OP2	2.13	0.48
2:AB:111:G:H2'	2:AB:112:U:H6	1.79	0.48
31:CA:397:A:H3'	31:CA:397:A:N3	2.28	0.48
31:DA:568:G:N3	31:DA:574:A:H2	2.12	0.48
1:BA:1876:A:H2'	1:BA:1877:A:C8	2.48	0.48
9:AN:23:LEU:HB2	9:AN:60:ILE:HG12	1.95	0.48
7:AH:41:MET:SD	7:AH:64:LEU:HB3	2.53	0.48
1:BA:2492:U:H2'	1:BA:2493:U:C6	2.49	0.48
1:BA:1514:U:H2'	1:BA:1515:G:C8	2.49	0.48
42:DL:83:VAL:HG13	42:DL:100:ILE:HG23	1.96	0.48
17:BV:14:VAL:HB	17:BV:96:ILE:HG13	1.95	0.48
8:AI:82:ARG:HB3	8:AI:89:TYR:CD1	2.49	0.48
1:BA:1756:G:H4'	1:BA:1758:G:O4'	2.14	0.48
31:CA:405:U:O4	34:CD:2:GLY:N	2.47	0.48
1:AA:1141:U:H2'	9:AN:63:THR:HG21	1.96	0.48
24:A2:48:HIS:O	24:A2:52:ASP:HB2	2.14	0.48
23:B1:3:LYS:HB2	23:B1:61:ARG:HH12	1.78	0.48
43:CM:65:LYS:HA	43:CM:66:LEU:CB	2.41	0.48
31:CA:277:C:H5''	47:CQ:68:ARG:NH2	2.28	0.48
1:AA:2305:A:H2'	1:AA:2306:C:C6	2.49	0.48
1:AA:2115:G:H21	1:AA:2171:A:N6	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1047:G:H2'	1:AA:1110:G:N2	2.26	0.48
1:BA:154:G:C6	1:BA:154(A):C:N4	2.82	0.48
1:AA:1826:G:H2'	1:AA:1827:C:H6	1.79	0.48
7:AH:9:ILE:N	7:AH:50:VAL:O	2.31	0.48
1:AA:2056:G:C4	1:AA:2577:A:C2	3.02	0.48
33:DC:40:ARG:O	33:DC:44:GLU:HB2	2.14	0.48
1:BA:2316:C:H2'	1:BA:2317:C:C6	2.49	0.48
1:AA:1282:U:H2'	1:AA:1283:G:O4'	2.14	0.48
26:B4:42:PHE:CB	26:B4:43:TYR:HB2	2.43	0.48
31:CA:1349:A:OP1	39:CI:121:ARG:N	2.46	0.48
1:AA:876:C:H2'	1:AA:877:U:O4'	2.14	0.48
33:DC:125:GLU:HA	33:DC:191:THR:HG22	1.95	0.48
31:CA:598:U:H4'	38:CH:94:TYR:CD2	2.48	0.48
1:AA:2406:U:H4'	1:AA:2407:G:H5''	1.96	0.48
1:AA:1445:A:H8	1:AA:1460:A:C5	2.32	0.48
50:DT:72:LEU:HD23	50:DT:73:HIS:N	2.29	0.48
31:CA:649:G:H2'	31:CA:650:G:C8	2.49	0.48
1:AA:786:C:C2'	1:AA:787:U:H5'	2.44	0.48
31:CA:1067:A:N3	31:CA:1068:G:H1'	2.29	0.48
1:AA:1946:U:H2'	1:AA:1947:C:C6	2.48	0.48
45:DO:71:GLN:HA	45:DO:78:TYR:HB2	1.95	0.48
31:CA:56:U:H2'	31:CA:57:G:C8	2.48	0.48
21:BZ:31:ARG:NH1	21:BZ:94:GLU:OE2	2.42	0.48
34:CD:19:LEU:HD23	34:CD:21:LEU:HD11	1.95	0.48
31:CA:1418:A:C2	31:CA:1483:A:C2	3.02	0.48
1:BA:1126:A:H8	1:BA:1126:A:OP1	1.97	0.48
32:CB:116:GLU:HA	32:CB:119:GLU:CB	2.41	0.47
1:AA:2207:G:O2'	1:AA:2208:A:P	2.72	0.47
31:DA:1074:G:C2	31:DA:1075:C:C2	3.02	0.47
7:BH:5:GLY:HA2	7:BH:69:ARG:HB3	1.96	0.47
1:BA:848:G:O6	1:BA:928:G:H2'	2.14	0.47
31:CA:1072:G:C5	31:CA:1073:U:C4	3.02	0.47
1:AA:952:G:C6	1:AA:966:G:C6	3.02	0.47
1:AA:966:G:C6	1:AA:967:C:N4	2.82	0.47
6:AG:11:TYR:HB2	6:AG:176:LEU:HD21	1.96	0.47
31:CA:174:C:H2'	31:CA:175:C:H6	1.79	0.47
31:DA:1362:C:H2'	31:DA:1363:C:H5''	1.96	0.47
31:DA:236:G:C6	31:DA:237:C:C4	3.02	0.47
34:CD:148:VAL:HG12	34:CD:149:ALA:H	1.79	0.47
2:BB:90:A:N7	2:BB:91:C:H1'	2.28	0.47
1:BA:1833:U:H2'	1:BA:1834:U:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:4:U:C5	38:DH:105:ARG:HD3	2.49	0.47
1:BA:1625:C:H2'	1:BA:1626:G:O4'	2.14	0.47
1:BA:628:G:H2'	1:BA:629:G:C8	2.49	0.47
31:CA:1438:G:H2'	31:CA:1439:C:H6	1.79	0.47
1:AA:289:A:H2'	1:AA:290:G:O4'	2.12	0.47
31:CA:363:A:OP1	42:CL:34:ARG:N	2.35	0.47
31:DA:1330:U:H4'	43:DM:23:TYR:CE2	2.49	0.47
40:DJ:24:VAL:O	40:DJ:34:VAL:HG11	2.14	0.47
16:BU:61:TRP:O	16:BU:65:ILE:HG13	2.14	0.47
48:DR:21:LYS:HA	48:DR:21:LYS:HD3	1.58	0.47
1:BA:2362:G:OP1	30:B8:44:LYS:NZ	2.43	0.47
8:AI:126:TYR:HB2	8:AI:142:VAL:HG23	1.95	0.47
44:DN:24:CYS:SG	44:DN:40:CYS:CB	3.02	0.47
44:DN:40:CYS:H	44:DN:43:CYS:HB2	1.80	0.47
1:AA:96:G:H4'	24:A2:48:HIS:CD2	2.49	0.47
1:BA:300:A:P	20:BY:86:ARG:HH22	2.37	0.47
31:CA:184:G:O2'	31:CA:185:A:H5'	2.14	0.47
31:DA:475:G:C2'	31:DA:476:G:H5'	2.43	0.47
44:CN:39:LEU:HD22	44:CN:43:CYS:HB3	1.96	0.47
31:DA:833:U:H3	31:DA:853:G:H1	1.61	0.47
31:CA:601:C:H2'	31:CA:602:A:C8	2.49	0.47
31:CA:952:U:O2'	31:CA:953:G:H5'	2.14	0.47
39:CI:5:TYR:HA	39:CI:17:VAL:O	2.14	0.47
31:CA:735:C:H2'	31:CA:736:C:C6	2.46	0.47
32:CB:102:LEU:HB3	32:CB:180:LEU:CD1	2.44	0.47
1:AA:1448:G:O2'	1:AA:1528(A):A:N1	2.37	0.47
50:CT:73:HIS:HB3	50:CT:74:LYS:HE2	1.96	0.47
6:AG:3:LEU:HD22	26:A4:25:TYR:CE2	2.49	0.47
1:AA:221:A:C4	1:AA:266:G:N7	2.83	0.47
36:CF:3:ARG:NE	36:CF:38:GLU:OE1	2.48	0.47
1:BA:511:U:C5	1:BA:512:G:C4	3.02	0.47
1:BA:2106:G:C2	1:BA:2184:G:C2	3.01	0.47
31:CA:1375:A:C6	31:CA:1376:U:N3	2.82	0.47
31:DA:1510:U:H2'	31:DA:1511:G:C8	2.49	0.47
31:DA:1059:C:H2'	31:DA:1060:C:C6	2.50	0.47
31:DA:299:G:H2'	31:DA:300:A:C8	2.49	0.47
1:AA:391:G:C2	1:AA:411:G:C5	3.02	0.47
31:DA:1165:C:H2'	31:DA:1166:G:O4'	2.13	0.47
43:CM:48:LEU:O	43:CM:52:GLU:HB2	2.14	0.47
1:AA:1919:A:N1	31:DA:1495:U:O2'	2.38	0.47
1:BA:637:A:H8	11:BP:117:GLU:HG3	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:BD:246:PRO:O	3:BD:254:THR:HG22	2.14	0.47
6:BG:132:ASN:HA	6:BG:157:ILE:O	2.13	0.47
33:CC:51:GLY:HA3	33:CC:71:ALA:HB3	1.95	0.47
15:AT:51:ARG:HB3	15:AT:62:THR:HB	1.96	0.47
1:BA:1019:U:H3	1:BA:1142(A):A:H62	1.62	0.47
31:DA:78:G:N2	31:DA:91:C:N3	2.53	0.47
1:AA:1161:C:H2'	1:AA:1162:G:H8	1.80	0.47
34:DD:25:ARG:C	34:DD:27:TYR:H	2.16	0.47
1:AA:1784:A:H4'	1:AA:1785:A:H5''	1.94	0.47
1:AA:2051:A:H5'	1:AA:2578:G:O4'	2.13	0.47
34:CD:33:MET:SD	34:CD:37:PRO:HA	2.54	0.47
50:CT:33:ILE:O	50:CT:37:SER:OG	2.22	0.47
32:CB:185:ILE:HA	32:CB:199:TYR:O	2.14	0.47
31:DA:1289:A:OP1	51:DU:9:ARG:NH2	2.47	0.47
1:AA:1833:U:H2'	1:AA:1834:U:C6	2.50	0.47
21:AZ:102:LEU:HD23	21:AZ:104:PHE:CZ	2.49	0.47
6:AG:56:ALA:HB2	6:AG:153:ARG:NE	2.29	0.47
1:AA:2472:G:H2'	1:AA:2475:C:H42	1.79	0.47
1:AA:1405:U:H2'	1:AA:1406:U:H6	1.77	0.47
31:CA:397:A:N6	31:CA:548:G:C5	2.82	0.47
1:AA:1721:G:H8	1:AA:1741:A:H62	1.62	0.47
1:AA:1740:G:H2'	1:AA:1741:A:H8	1.79	0.47
31:DA:1320:C:N4	49:DS:36:ARG:HG3	2.30	0.47
31:DA:1137:C:H5''	31:DA:1138:G:OP1	2.14	0.47
1:AA:1131:G:C2	1:AA:1132:A:C4	3.01	0.47
1:AA:1009:A:O5'	1:AA:1009:A:H8	1.96	0.47
48:CR:74:ARG:HG2	48:CR:79:LEU:HB2	1.96	0.47
14:AS:58:LEU:HD12	14:AS:59:LYS:HD3	1.96	0.47
31:CA:1077:G:N2	31:CA:1080:A:OP2	2.34	0.47
31:DA:1252:A:H2'	31:DA:1253:G:O4'	2.13	0.47
2:BB:6:C:C2	2:BB:116:G:N2	2.82	0.47
1:AA:1524:G:N2	1:AA:1525:G:H1'	2.30	0.47
7:AH:25:LYS:NZ	7:AH:32:GLU:OE2	2.38	0.47
12:AQ:35:VAL:CG1	12:AQ:130:LYS:HB3	2.44	0.47
31:CA:787:A:N1	31:CA:795:C:N4	2.57	0.47
1:AA:1356:G:C6	1:AA:1357:U:C4	3.03	0.47
31:CA:1412:C:H2'	31:CA:1413:A:C8	2.49	0.47
3:AD:223:GLY:HA3	3:AD:231:HIS:CE1	2.49	0.47
4:AE:31:CYS:HB3	4:AE:49:LEU:HG	1.96	0.47
44:DN:24:CYS:HB3	44:DN:27:CYS:O	2.14	0.47
6:AG:43:LEU:HB2	6:AG:89:GLY:HA2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1177:A:H2'	1:BA:1177:A:P	2.54	0.47
32:DB:213:LEU:HD22	32:DB:214:ILE:HD13	1.96	0.47
1:AA:902:C:H2'	1:AA:903:C:C6	2.49	0.47
1:AA:1411:C:H2'	1:AA:1412:A:C8	2.49	0.47
1:AA:1591:G:C6	1:AA:1592:C:C4	3.03	0.47
31:CA:952:U:H5'	31:CA:972:C:N4	2.29	0.47
32:CB:132:LYS:O	32:CB:135:GLN:HG2	2.14	0.47
35:DE:53:LEU:HD12	35:DE:53:LEU:H	1.79	0.47
43:CM:108:ARG:O	43:CM:112:GLY:N	2.47	0.47
31:CA:1026:G:H2'	31:CA:1026:G:N3	2.30	0.47
1:BA:879:G:H2'	1:BA:880:G:O4'	2.13	0.47
1:AA:1494:A:O2'	1:AA:1495:A:H5'	2.14	0.47
30:B8:34:TRP:CE2	30:B8:35:GLN:HB3	2.50	0.47
21:AZ:102:LEU:HB3	21:AZ:104:PHE:CE2	2.50	0.47
31:DA:1305:G:H22	31:DA:1331:G:HO2'	1.57	0.47
4:AE:9:VAL:HG13	4:AE:25:VAL:O	2.14	0.47
31:DA:1113:C:N4	31:DA:1187:G:H1	2.11	0.47
42:DL:66:VAL:HG11	42:DL:98:TYR:CE1	2.49	0.47
31:DA:1333:A:H2'	31:DA:1334:G:O4'	2.14	0.47
31:CA:382:A:H2'	31:CA:383:A:C8	2.50	0.47
1:AA:1434:A:H61	1:AA:1558:A:N6	2.12	0.47
31:CA:1165:C:H2'	31:CA:1166:G:O4'	2.14	0.47
1:AA:836:G:C5	1:AA:837:C:C4	3.02	0.47
1:BA:828:U:C5	1:BA:2247:A:H4'	2.49	0.47
31:CA:303:A:H2'	31:CA:304:U:O4'	2.15	0.47
4:AE:36:ARG:NH2	4:AE:88:GLY:O	2.46	0.47
1:AA:1793:C:H2'	1:AA:1794:U:H6	1.79	0.47
40:CJ:43:ARG:O	40:CJ:67:THR:HG23	2.14	0.47
3:BD:5:LYS:HB3	3:BD:5:LYS:HE3	1.67	0.47
1:BA:1324:G:C4	1:BA:1328:G:O6	2.67	0.47
31:DA:153:C:O5'	31:DA:153:C:H6	1.97	0.47
31:CA:778:G:H1'	41:CK:119:CYS:HB3	1.96	0.47
31:CA:316:G:OP2	31:CA:351:G:O2'	2.32	0.47
34:CD:53:ASP:O	34:CD:57:ARG:NH1	2.47	0.47
31:DA:688:G:H2'	31:DA:689:C:H6	1.78	0.47
9:AN:15:LEU:HB2	9:AN:135:PRO:HB2	1.97	0.47
52:AA:3001:T8B:C13	31:DA:1492:A:O5'	2.62	0.47
1:BA:1021:A:C3'	1:BA:1021:A:C8	2.98	0.47
31:DA:922:G:H2'	31:DA:923:A:C8	2.49	0.47
31:CA:427:U:C4	31:CA:428:G:C6	3.03	0.47
1:AA:1109:C:C5	1:AA:1110:G:C5	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:271(G):C:O2'	1:AA:271(H):G:H5'	2.14	0.47
1:AA:2789:C:H4'	1:AA:2790:A:OP1	2.15	0.47
31:CA:738:C:H2'	31:CA:739:C:C6	2.50	0.47
33:DC:113:ALA:HB2	33:DC:202:ILE:HG13	1.96	0.47
1:AA:1671:U:O2'	1:AA:1673:U:H5	1.96	0.47
35:CE:36:ASP:OD2	35:CE:37:ARG:N	2.48	0.47
3:BD:13:ARG:NH1	3:BD:16:MET:SD	2.87	0.47
1:BA:2786:U:O2'	4:BE:62:PRO:O	2.20	0.47
31:CA:189(C):C:H2'	31:CA:189(D):C:O4'	2.14	0.47
1:BA:747:U:O2	1:BA:2014:A:H1'	2.13	0.47
1:BA:2335:A:O2'	1:BA:2336:A:H5''	2.14	0.47
45:DO:53:HIS:O	45:DO:56:LEU:HB3	2.15	0.47
31:CA:110:C:H2'	31:CA:111:G:O4'	2.15	0.47
1:BA:858:U:O2	1:BA:2268:A:H2'	2.13	0.47
31:CA:731:G:OP1	31:CA:766:A:H1'	2.14	0.47
1:AA:2249:U:H4'	1:AA:2250:G:OP2	2.14	0.47
44:CN:4:LYS:O	44:CN:7:ILE:HG23	2.14	0.47
1:AA:1287:A:N1	1:AA:1648:C:O2'	2.43	0.47
15:BT:13:ARG:HG3	15:BT:14:TYR:CE1	2.50	0.47
1:AA:1575:C:H2'	1:AA:1576:U:C6	2.48	0.47
19:AX:11:PRO:HG2	19:AX:13:LEU:HD21	1.96	0.47
31:CA:191:G:N3	50:CT:103:GLY:HA2	2.29	0.47
1:BA:955:C:OP1	12:BQ:87:LYS:HE2	2.15	0.47
31:CA:881:G:H2'	31:CA:882:C:O4'	2.15	0.47
1:AA:1545:A:H2'	1:AA:1546:C:O4'	2.15	0.47
31:DA:1392:G:N2	31:DA:1502:A:H8	2.13	0.47
1:AA:1689:A:N6	1:AA:1698:A:H2	1.95	0.47
32:CB:115:LEU:O	32:CB:119:GLU:N	2.46	0.47
1:AA:1141:U:H4'	1:AA:1142(A):A:O4'	2.14	0.47
31:CA:991:U:H2'	31:CA:1212:U:O2	2.15	0.47
31:CA:955:U:H2'	31:CA:956:U:H6	1.80	0.47
31:CA:1086:U:H2'	31:CA:1087:G:C8	2.44	0.47
39:CI:44:VAL:H	39:CI:45:ALA:HA	1.78	0.47
31:CA:1250:A:H4'	39:CI:68:GLY:H	1.79	0.47
14:BS:59:LYS:H	14:BS:60:GLY:HA3	1.78	0.47
15:AT:16:ARG:NH1	15:AT:18:ASP:OD2	2.48	0.47
31:CA:1118:C:H2'	31:CA:1119:C:C6	2.50	0.47
31:DA:187:C:H2'	31:DA:188:C:H6	1.78	0.47
2:AB:72:G:O2'	2:AB:105:A:N6	2.48	0.47
22:A0:43:THR:O	22:A0:45:PHE:N	2.47	0.47
31:DA:1291:G:H4'	39:DI:39:GLY:HA3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2699:C:H2'	1:BA:2700:C:O4'	2.13	0.47
1:BA:1657:C:H4'	4:BE:133:LYS:HB3	1.96	0.47
1:BA:1289:C:H2'	1:BA:1290:C:H6	1.80	0.47
8:BI:65:ALA:HB1	8:BI:136:VAL:HG11	1.97	0.47
31:CA:575:G:O2'	31:CA:821:G:H5'	2.15	0.47
4:AE:52:LEU:O	4:AE:76:ARG:N	2.45	0.47
1:BA:1418:G:O5'	1:BA:1418:G:H8	1.98	0.47
1:BA:225:A:H2'	1:BA:226:G:H5'	1.96	0.47
1:AA:363(B):G:H2'	1:AA:363(C):G:H8	1.79	0.47
52:AA:3001:T8B:H10	31:DA:1492:A:C4'	2.43	0.47
43:DM:65:LYS:O	43:DM:70:LEU:HG	2.14	0.47
31:DA:1030(A):G:H3'	31:DA:1030(B):C:C5'	2.45	0.47
31:DA:1504:G:P	31:DA:1504:G:H3'	2.54	0.47
1:AA:1331:A:O2'	1:AA:1332:G:H5''	2.14	0.47
31:DA:417:C:H2'	31:DA:418:C:C6	2.49	0.47
31:DA:542:G:OP1	34:DD:10:ARG:NH1	2.45	0.47
1:BA:1173:G:N1	1:BA:1176:G:OP2	2.25	0.47
1:AA:1803:A:O2'	3:AD:259:THR:HG21	2.13	0.47
2:AB:38:C:O2	2:AB:48:A:H1'	2.14	0.47
2:AB:28:C:C2	2:AB:29:A:C8	3.02	0.47
31:DA:344:A:H4'	31:DA:345:C:OP2	2.15	0.47
1:BA:1803:A:O2'	3:BD:259:THR:HG21	2.15	0.47
31:DA:460:G:C6	31:DA:470:C:H5''	2.50	0.47
31:CA:96:U:HO2'	31:CA:97:G:P	2.35	0.47
46:DP:29:ASP:N	46:DP:29:ASP:OD2	2.48	0.47
28:A6:26:ASN:HB3	28:A6:29:ASN:HB2	1.97	0.47
37:DG:113:GLU:HG2	37:DG:113:GLU:H	1.50	0.47
31:DA:1238:A:H62	31:DA:1299:A:N6	2.12	0.47
31:CA:624:C:H2'	31:CA:625:G:C8	2.50	0.47
49:CS:31:ILE:O	49:CS:50:ALA:N	2.41	0.47
1:AA:1849:G:N3	1:AA:1850:G:C8	2.82	0.47
1:BA:652(F):G:H2'	1:BA:652(G):G:C8	2.49	0.47
31:DA:1285:A:H4'	31:DA:1286:A:O5'	2.15	0.47
11:AP:121:LYS:HD3	11:AP:123:LEU:HD11	1.96	0.47
1:BA:645:C:H2'	1:BA:645:C:O2	2.15	0.47
1:BA:1839:G:C8	1:BA:1839:G:H5'	2.46	0.47
31:CA:826:C:H2'	31:CA:827:U:C6	2.50	0.47
33:DC:113:ALA:HB1	33:DC:200:ALA:HB1	1.96	0.47
31:CA:1226:C:C5	43:CM:104:ARG:HB2	2.49	0.47
6:AG:3:LEU:HD22	26:A4:25:TYR:CZ	2.50	0.47
1:BA:2128:C:N4	1:BA:2160:G:H1	2.11	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:791:G:C6	31:DA:792:A:N7	2.83	0.47
1:BA:2282:G:H5''	1:BA:2283:C:O4'	2.14	0.47
2:AB:45:A:H2'	2:AB:46:A:H5'	1.96	0.47
26:A4:15:ILE:HB	26:A4:32:TYR:HD2	1.80	0.47
51:DU:6:ARG:C	51:DU:8:THR:H	2.17	0.47
13:BR:36:THR:HG22	13:BR:37:THR:H	1.78	0.47
15:BT:127:ALA:HA	15:BT:128:GLU:C	2.35	0.47
1:AA:2405:G:O2'	1:AA:2411:A:N6	2.47	0.47
3:AD:221:VAL:HG22	3:AD:226:MET:CE	2.44	0.47
1:AA:1198:U:H2'	1:AA:1199:U:H6	1.78	0.47
31:DA:991:U:C4	31:DA:1212:U:H1'	2.49	0.47
31:DA:993:G:O2'	31:DA:994:A:N7	2.46	0.47
1:AA:1354:A:H2'	1:AA:1355:G:O4'	2.14	0.47
24:A2:17:SER:HB3	24:A2:20:GLU:OE2	2.14	0.47
1:BA:244:A:H4'	11:BP:74:GLU:HB2	1.95	0.47
1:AA:1660:C:H2'	1:AA:1661:G:H8	1.79	0.47
31:DA:521:G:O5'	42:DL:73:GLU:HG2	2.14	0.47
3:BD:71:ASP:HB3	3:BD:103:ARG:HH22	1.78	0.47
1:BA:566:U:H5''	11:BP:29:LYS:HE3	1.97	0.47
1:AA:760:G:H2'	1:AA:761:A:O4'	2.14	0.47
7:BH:124:GLU:OE1	7:BH:132:ARG:HD2	2.14	0.47
31:DA:355:C:H5''	31:DA:389:A:OP2	2.15	0.47
16:AU:113:ALA:O	16:AU:117:GLN:HG2	2.15	0.47
31:CA:945:G:N1	31:CA:1337:G:C2	2.82	0.47
31:DA:115:G:H4'	31:DA:116:A:O5'	2.14	0.47
21:AZ:40:ASP:HB3	21:AZ:43:GLU:HB2	1.97	0.47
5:BF:53:THR:C	5:BF:55:GLY:H	2.18	0.47
1:BA:2199:A:OP2	1:BA:2200:C:H5	1.96	0.47
31:CA:944:G:O6	31:CA:1337:G:H8	1.98	0.47
31:CA:1161:C:H2'	31:CA:1162:C:C6	2.50	0.47
1:AA:1472:A:H2'	1:AA:1473:G:O4'	2.14	0.47
12:BQ:103:MET:HE2	12:BQ:104:PHE:CE1	2.50	0.47
1:BA:1282:U:H2'	1:BA:1283:G:O4'	2.15	0.47
1:BA:1668:A:H4'	1:BA:1669:A:O5'	2.15	0.47
32:DB:28:PHE:CE2	32:DB:31:TYR:HD1	2.32	0.47
31:DA:487:A:H2'	31:DA:488:C:O4'	2.15	0.47
33:CC:189:ALA:O	33:CC:191:THR:N	2.44	0.47
1:BA:51:G:N2	1:BA:120:U:O2	2.45	0.47
1:BA:1797:C:H4'	3:BD:257:LEU:O	2.15	0.47
12:BQ:26:TYR:CE1	12:BQ:28:ALA:HB2	2.50	0.47
34:DD:10:ARG:HB2	34:DD:40:PRO:HG3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1084:G:H5'	31:DA:1102:A:OP2	2.14	0.47
1:AA:1161:C:H2'	1:AA:1162:G:C8	2.49	0.47
14:BS:95:HIS:C	14:BS:99:LYS:HB3	2.35	0.47
31:CA:1318:A:N6	44:CN:18:VAL:HG11	2.30	0.47
2:AB:50:G:H2'	2:AB:51:G:O4'	2.15	0.47
46:CP:28:ARG:HG2	46:CP:29:ASP:OD2	2.15	0.47
1:AA:102:G:O2'	1:AA:103:A:P	2.72	0.47
1:BA:779:U:H5''	3:BD:49:ILE:HD11	1.95	0.47
1:AA:2301:C:H2'	1:AA:2302:G:H8	1.80	0.47
8:AI:76:THR:O	8:AI:105:HIS:NE2	2.47	0.47
33:DC:6:HIS:CE1	33:DC:8:ILE:HB	2.50	0.47
32:DB:27:LYS:HD2	32:DB:193:ASP:OD1	2.15	0.47
31:DA:512:U:H2'	31:DA:513:C:C6	2.49	0.47
8:AI:12:LEU:HD22	8:AI:19:VAL:HG21	1.96	0.47
31:CA:1215:G:H2'	31:CA:1216:G:C8	2.46	0.47
1:AA:2736:G:N2	1:AA:2737:G:H1'	2.30	0.47
14:BS:65:VAL:O	14:BS:69:VAL:HG12	2.15	0.47
3:BD:35:LYS:HE2	3:BD:64:ILE:HD11	1.95	0.47
34:DD:135:LEU:O	34:DD:137:SER:N	2.48	0.47
31:CA:564:C:H5'	47:CQ:32:TYR:CE2	2.49	0.47
32:DB:145:LEU:O	32:DB:149:LEU:HB2	2.14	0.47
36:CF:61:LEU:HD23	36:CF:63:TYR:OH	2.14	0.47
31:DA:948:C:H2'	31:DA:949:A:H8	1.78	0.47
50:CT:72:LEU:HD23	50:CT:73:HIS:N	2.30	0.47
1:BA:1701:A:H5''	1:BA:1702:G:OP2	2.15	0.47
1:AA:1792:G:C5'	3:AD:205:VAL:HG13	2.45	0.47
42:DL:49:ASN:ND2	42:DL:92:ASP:OD1	2.48	0.47
31:DA:193:C:H2'	31:DA:194:C:C6	2.50	0.47
50:CT:16:HIS:O	50:CT:19:SER:OG	2.20	0.47
1:AA:2396:G:OP1	23:A1:25:LYS:NZ	2.35	0.47
1:AA:1564:C:O2'	1:AA:1565:C:H5'	2.15	0.47
32:CB:60:ASP:OD2	32:CB:64:ARG:NE	2.43	0.47
38:CH:25:ASP:N	38:CH:25:ASP:OD2	2.48	0.47
38:CH:58:TYR:O	38:CH:59:LEU:HD23	2.14	0.47
31:CA:189(K):U:H2'	31:CA:189(L):G:C8	2.50	0.47
31:DA:25:C:H2'	31:DA:26:A:C8	2.50	0.47
1:BA:668:G:H5'	1:BA:669:G:OP2	2.14	0.47
18:BW:28:SER:O	18:BW:31:GLU:N	2.46	0.47
18:BW:31:GLU:O	18:BW:35:ILE:HG13	2.14	0.47
18:BW:4:LYS:HB2	18:BW:106:ILE:HG12	1.97	0.47
33:DC:30:ARG:HH21	44:DN:38:GLY:HA2	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2207:G:O2'	1:BA:2208:A:P	2.71	0.47
31:CA:34:C:H2'	31:CA:35:G:C8	2.50	0.47
1:BA:1531:C:N4	1:BA:1538:G:H1	2.06	0.47
6:BG:138:GLN:HE22	6:BG:153:ARG:HB2	1.79	0.47
2:AB:33:G:N2	2:AB:50:G:C4	2.83	0.47
1:AA:2838:G:C6	1:AA:2839:G:C5	3.03	0.47
1:AA:1174:A:H1'	1:AA:1175:U:C5'	2.42	0.47
7:BH:69:ARG:C	7:BH:70:THR:O	2.52	0.47
31:CA:1063:C:H3'	31:CA:1064:G:H2'	1.96	0.47
31:CA:1027:C:H2'	31:CA:1028:C:C4	2.50	0.47
1:AA:2136:C:N3	1:AA:2155:G:N2	2.61	0.47
33:CC:40:ARG:O	33:CC:44:GLU:HB2	2.15	0.47
42:CL:119:LYS:H	42:CL:119:LYS:HG3	1.49	0.47
1:AA:2349:G:H3'	1:AA:2350:C:H5''	1.97	0.47
1:AA:646:A:H2'	1:AA:647:G:O4'	2.15	0.47
31:CA:460:G:C6	31:CA:470:C:H5''	2.50	0.47
31:CA:189(F):U:C4	47:CQ:72:ARG:NH2	2.83	0.47
33:CC:32:LEU:HD13	33:CC:59:ARG:HG2	1.97	0.47
1:AA:2784:C:H2'	1:AA:2785:C:C6	2.50	0.47
2:AB:61:G:C6	2:AB:62:C:C4	3.02	0.47
1:AA:1721:G:H2'	1:AA:1740:G:O6	2.15	0.47
31:DA:1216:G:H5''	44:DN:5:ALA:HB3	1.97	0.47
9:BN:76:SER:HB2	9:BN:77:GLY:H	1.49	0.47
1:AA:27:G:N2	1:AA:512:G:H1'	2.30	0.47
31:DA:617:G:H4'	46:DP:44:THR:O	2.14	0.47
31:DA:109:A:C6	31:DA:326:G:C6	3.03	0.47
1:AA:581:C:OP1	16:AU:33:ARG:HG3	2.14	0.47
24:A2:66:GLU:HA	24:A2:69:ARG:NH1	2.30	0.47
1:BA:2199:A:N3	1:BA:2199:A:H2'	2.30	0.47
1:AA:748:G:O6	18:AW:90:ARG:NH1	2.48	0.47
40:DJ:51:ARG:HD3	44:DN:45:ARG:HH21	1.79	0.47
46:DP:23:ASP:O	46:DP:25:ARG:N	2.48	0.47
31:DA:977:A:N6	31:DA:1224:G:O5'	2.48	0.47
47:DQ:22:LEU:HD11	47:DQ:39:SER:HB3	1.97	0.47
34:DD:88:VAL:O	34:DD:92:VAL:HG23	2.15	0.47
25:A3:8:LEU:HD13	25:A3:31:LEU:HD23	1.97	0.47
1:AA:777:A:H2'	1:AA:778:G:H8	1.79	0.47
6:BG:145:THR:OG1	6:BG:146:TYR:N	2.47	0.47
5:AF:28:ILE:HG12	5:AF:116:ASP:HB2	1.97	0.47
13:AR:92:GLY:HA2	13:AR:94:TYR:CE1	2.50	0.47
31:DA:1092:A:H2'	31:DA:1093:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:124:G:C6	31:CA:125:U:N3	2.83	0.47
1:AA:2536:G:C6	1:AA:2537:U:C4	3.03	0.47
24:B2:1:MET:N	24:B2:52:ASP:OD1	2.43	0.47
1:BA:596:G:H2'	1:BA:597:U:O4'	2.15	0.47
11:BP:132:LYS:HB2	11:BP:132:LYS:HE2	1.52	0.47
1:BA:2320:A:H2'	1:BA:2320:A:N3	2.30	0.47
1:BA:1782:C:H2'	1:BA:2608:G:O2'	2.15	0.47
1:BA:2377:A:H2'	1:BA:2378:A:C8	2.49	0.47
31:DA:1202:G:H1'	44:DN:29:ARG:HD2	1.96	0.47
2:AB:29:A:P	14:AS:32:LEU:HD12	2.55	0.47
35:CE:20:GLN:NE2	35:CE:21:ALA:O	2.48	0.47
1:AA:1177:A:P	1:AA:1177:A:H2'	2.55	0.47
21:BZ:151:HIS:N	21:BZ:171:ILE:HG12	2.30	0.47
31:CA:975:A:C2	31:CA:1357:A:H1'	2.49	0.47
1:BA:2171:A:H4'	1:BA:2172:U:OP1	2.14	0.47
1:AA:1934:C:H2'	1:AA:1935:G:O4'	2.15	0.47
1:AA:1754:C:H2'	1:AA:1755:A:O4'	2.15	0.47
1:BA:1495:A:H2'	1:BA:1496:A:H8	1.78	0.47
41:DK:58:PRO:HB2	41:DK:93:GLN:HG3	1.96	0.47
50:DT:76:ALA:HA	50:DT:79:ARG:NH1	2.30	0.47
1:AA:2291:U:H5''	1:AA:2380:C:O2'	2.15	0.47
1:AA:1796:U:H2'	1:AA:1797:C:H6	1.79	0.47
50:CT:63:ILE:HG22	50:CT:77:ALA:HB1	1.97	0.47
1:AA:2784:C:H2'	1:AA:2785:C:H6	1.80	0.47
31:CA:633:G:H2'	31:CA:634:C:H6	1.80	0.47
1:AA:2139:C:H42	1:AA:2152:G:H1	1.62	0.47
1:AA:900:A:H2'	1:AA:901:A:H8	1.79	0.47
13:AR:80:PHE:O	13:AR:84:ALA:HB3	2.15	0.47
45:DO:39:LEU:HD13	45:DO:56:LEU:HB2	1.97	0.47
31:DA:1221:G:H4'	49:DS:77:THR:HG21	1.98	0.47
31:CA:1433:A:C4	31:CA:1468:A:C2	3.04	0.47
31:CA:323:U:H2'	31:CA:324:G:O4'	2.14	0.47
1:BA:2749:A:H4'	7:BH:62:LYS:HB3	1.97	0.47
1:AA:2019:A:OP2	27:A5:9:LYS:NZ	2.42	0.47
42:CL:66:VAL:HG11	42:CL:98:TYR:CE1	2.50	0.47
42:DL:38:THR:OG1	42:DL:57:LYS:HB3	2.15	0.47
1:BA:1385:G:H4'	1:BA:1386:C:OP1	2.15	0.47
14:BS:32:LEU:O	14:BS:62:LYS:HE2	2.15	0.47
49:DS:12:ASP:OD2	49:DS:37:ARG:NH1	2.48	0.47
9:AN:111:PRO:HA	9:AN:114:ARG:NH1	2.29	0.47
1:BA:1475:G:C2	1:BA:1517:G:C2	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:788:U:H2'	31:CA:789:U:O4'	2.15	0.47
1:AA:24:G:O2'	18:AW:77:ASP:HB3	2.15	0.47
31:DA:1501:C:N4	31:DA:1504:G:C2	2.83	0.46
1:AA:1188:U:O2'	1:AA:1189:A:H5'	2.15	0.46
1:BA:2190:G:C2'	1:BA:2191:G:H5''	2.41	0.46
1:AA:2327:A:H2'	1:AA:2328:A:H8	1.74	0.46
31:CA:559:A:H4'	31:CA:560:U:C3'	2.45	0.46
31:CA:192:U:H2'	31:CA:193:C:C6	2.49	0.46
31:DA:657:G:H4'	45:DO:28:GLN:HG2	1.97	0.46
1:BA:674:G:H1'	5:BF:74:ARG:HD3	1.97	0.46
1:BA:528:A:C8	1:BA:528:A:H3'	2.50	0.46
32:DB:24:TRP:CZ3	32:DB:29:ALA:HB2	2.45	0.46
31:CA:189(F):U:O2	47:CQ:63:ARG:NH2	2.47	0.46
31:DA:167:G:H2'	31:DA:168:G:H8	1.80	0.46
32:DB:55:PHE:CE1	32:DB:218:ALA:HA	2.51	0.46
31:DA:1359:C:O2'	31:DA:1362:C:N4	2.45	0.46
31:DA:64:G:H4'	31:DA:65:U:H3'	1.96	0.46
1:AA:1297:C:OP1	1:AA:2710:C:H4'	2.16	0.46
1:AA:2740:A:N6	1:AA:2764:A:C8	2.83	0.46
7:BH:17:VAL:HG21	7:BH:50:VAL:HG21	1.97	0.46
1:BA:1587:A:H2'	1:BA:1588:C:C6	2.50	0.46
1:AA:898:C:H2'	1:AA:899:A:O4'	2.16	0.46
5:BF:53:THR:CG2	5:BF:55:GLY:H	2.28	0.46
45:CO:52:SER:O	45:CO:55:GLY:N	2.48	0.46
1:BA:1721:G:H2'	1:BA:1740:G:O6	2.15	0.46
1:AA:2251:G:OP2	12:AQ:82:ARG:NH1	2.48	0.46
1:BA:987:G:O2'	1:BA:1000:A:N3	2.40	0.46
12:AQ:137:TYR:O	12:AQ:141:GLN:HG2	2.15	0.46
13:BR:72:ASP:OD1	13:BR:75:LEU:HB2	2.14	0.46
33:CC:184:TYR:OH	33:CC:186:PHE:HB2	2.15	0.46
26:A4:14:ILE:HA	26:A4:31:ILE:O	2.16	0.46
1:BA:862:G:H2'	1:BA:863:A:O4'	2.15	0.46
16:AU:47:TYR:HA	16:AU:50:ARG:NH2	2.30	0.46
1:BA:248:G:H5'	1:BA:250:G:N7	2.30	0.46
1:AA:1441:G:H2'	1:AA:1442:G:H8	1.79	0.46
5:BF:65:TRP:CZ2	5:BF:75:HIS:HD2	2.32	0.46
1:BA:2747:G:O6	1:BA:2755:C:H5''	2.15	0.46
15:BT:16:ARG:HG3	15:BT:79:HIS:HA	1.97	0.46
18:BW:13:SER:HB3	18:BW:16:LYS:HD2	1.96	0.46
31:CA:1157:A:C6	31:CA:1181:G:C5	3.04	0.46
32:DB:187:LEU:HD23	32:DB:201:ILE:CG2	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:54:G:H21	6:AG:29:TRP:HZ2	1.64	0.46
31:DA:9:G:OP1	35:DE:122:GLU:HB2	2.16	0.46
32:DB:208:ILE:HA	32:DB:211:ILE:HD12	1.97	0.46
1:AA:2440:C:N3	1:AA:2441:C:H1'	2.30	0.46
11:AP:50:ARG:HD3	30:A8:7:HIS:CD2	2.50	0.46
35:CE:78:HIS:CE1	35:CE:143:ARG:H	2.32	0.46
31:DA:1055:A:H62	31:DA:1200:C:H42	1.63	0.46
5:BF:102:PRO:HB2	5:BF:105:VAL:HG23	1.96	0.46
31:DA:15:G:H2'	31:DA:16:A:H8	1.80	0.46
2:AB:94:C:H2'	2:AB:95:C:C6	2.48	0.46
4:AE:37:ARG:HB2	4:AE:46:ALA:N	2.30	0.46
1:BA:1806:C:O2'	3:BD:46:GLN:OE1	2.14	0.46
31:CA:1414:U:H2'	31:CA:1415:G:H8	1.80	0.46
15:AT:50:ILE:HA	15:AT:99:LEU:HD12	1.96	0.46
1:AA:2869:G:H2'	1:AA:2870:C:O4'	2.15	0.46
1:AA:2749:A:O4'	7:AH:63:SER:HA	2.15	0.46
1:AA:619:G:H5''	1:AA:620:G:OP2	2.15	0.46
1:AA:566:U:H5''	11:AP:29:LYS:HE3	1.98	0.46
42:CL:66:VAL:HG11	42:CL:98:TYR:HE1	1.79	0.46
31:CA:237:C:H5''	47:CQ:25:ARG:CZ	2.45	0.46
1:AA:2094:G:OP1	8:AI:22:LYS:HD2	2.15	0.46
21:AZ:23:LYS:O	21:AZ:25:PRO:HD3	2.14	0.46
1:BA:2304:G:H22	1:BA:2312:U:H3	1.63	0.46
24:B2:13:ALA:HA	24:B2:16:LEU:HD12	1.96	0.46
1:BA:2074:U:H2'	1:BA:2075:U:C6	2.50	0.46
31:DA:668:G:O4'	45:DO:49:ASP:HB2	2.16	0.46
1:AA:1582:C:O2'	1:AA:1586:A:N3	2.40	0.46
1:AA:1892:C:H6	1:AA:1892:C:O5'	1.98	0.46
45:CO:20:GLY:O	45:CO:22:THR:HG23	2.16	0.46
31:DA:59:A:N3	31:DA:59:A:H2'	2.31	0.46
1:BA:1332:G:N2	1:BA:1609:A:HO2'	2.10	0.46
31:DA:1084:G:H2'	31:DA:1085:U:C6	2.50	0.46
1:BA:1359:A:N6	1:BA:1372:U:H3	2.09	0.46
1:AA:518:G:H4'	18:AW:18:ARG:NH1	2.31	0.46
32:CB:54:THR:O	32:CB:58:ILE:HG13	2.15	0.46
32:CB:32:ILE:HD13	32:CB:40:HIS:ND1	2.29	0.46
1:AA:2419:U:H2'	1:AA:2420:C:C6	2.50	0.46
1:AA:1789:A:H2'	1:AA:1790:C:O4'	2.15	0.46
31:DA:955:U:H2'	31:DA:956:U:C6	2.49	0.46
8:BI:3:VAL:HG12	8:BI:38:LEU:HA	1.97	0.46
1:AA:921:G:C6	1:AA:922:U:C4	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1790:C:H2'	1:BA:1791:A:C5	2.50	0.46
33:DC:121:ALA:HB1	33:DC:189:ALA:HB2	1.97	0.46
1:AA:64:A:H1'	19:AX:66:LEU:HB2	1.98	0.46
31:CA:14:U:O2	31:CA:17:U:H5	1.98	0.46
31:CA:407:G:C2	31:CA:436:C:N3	2.83	0.46
1:AA:723:G:H2'	1:AA:724:U:O4'	2.15	0.46
31:CA:1082:G:H2'	31:CA:1083:U:O4'	2.15	0.46
7:AH:13:LYS:HA	7:AH:14:GLY:HA2	1.53	0.46
15:BT:41:ARG:HG3	15:BT:41:ARG:HH11	1.80	0.46
1:AA:706:A:H2'	1:AA:707:G:O4'	2.16	0.46
23:A1:54:ALA:HB1	23:A1:83:GLU:HG3	1.97	0.46
31:CA:1500:A:H5''	31:CA:1508:G:H5''	1.97	0.46
34:CD:59:ARG:NH2	34:CD:66:ARG:HH12	2.13	0.46
31:CA:1510:U:H2'	31:CA:1511:G:C8	2.51	0.46
1:AA:1913:A:O2'	52:AA:3001:T8B:C23	2.63	0.46
32:CB:87:ARG:NH1	32:CB:220:ASP:OD1	2.37	0.46
31:CA:370:C:H2'	31:CA:371:G:C8	2.50	0.46
31:CA:984:C:H2'	31:CA:985:C:C6	2.51	0.46
31:DA:1147:C:C4	31:DA:1148:U:C4	3.03	0.46
1:AA:2319:G:H22	14:AS:3:ARG:HE	1.61	0.46
32:DB:77:ALA:HB1	32:DB:211:ILE:HG21	1.96	0.46
20:AY:9:LYS:HA	20:AY:10:GLY:HA2	1.59	0.46
3:BD:274:ARG:H	3:BD:274:ARG:HG2	1.46	0.46
4:AE:101:ARG:HB2	4:AE:201:THR:HG21	1.98	0.46
1:AA:674:G:O2'	5:AF:74:ARG:HD3	2.15	0.46
14:BS:3:ARG:HG3	14:BS:4:LEU:N	2.25	0.46
31:CA:952:U:H2'	31:CA:953:G:H8	1.81	0.46
25:A3:6:VAL:O	25:A3:34:GLU:HA	2.15	0.46
46:DP:6:LEU:HD11	46:DP:73:LEU:HD12	1.97	0.46
1:AA:2463:C:O2'	1:AA:2464:C:H5'	2.14	0.46
31:CA:1206:G:O4'	33:CC:194:GLY:HA2	2.16	0.46
43:CM:5:ALA:HA	43:CM:61:GLU:CG	2.46	0.46
3:AD:175:LEU:HD12	3:AD:185:VAL:HG21	1.98	0.46
1:AA:1740:G:H2'	1:AA:1741:A:C8	2.51	0.46
42:CL:32:PHE:CE1	42:CL:86:ARG:HG3	2.49	0.46
4:AE:14:ILE:HB	15:AT:14:TYR:CZ	2.51	0.46
1:BA:588:U:H2'	1:BA:589:C:C6	2.51	0.46
11:BP:82:GLY:HA2	11:BP:113:LYS:O	2.14	0.46
31:DA:682:G:C6	31:DA:709:G:C6	3.04	0.46
1:BA:1406:U:H2'	1:BA:1407:C:C6	2.51	0.46
4:BE:119:ARG:HA	4:BE:160:TYR:CD1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2305:A:H5''	6:BG:134:GLY:CA	2.46	0.46
1:BA:225:A:C2'	1:BA:226:G:H5'	2.46	0.46
41:DK:31:THR:HA	41:DK:42:TRP:HA	1.98	0.46
4:BE:30:PRO:HB3	4:BE:92:THR:HG22	1.97	0.46
3:BD:248:SER:C	3:BD:250:TRP:H	2.19	0.46
31:DA:1274:G:N2	31:DA:1275:A:H62	2.13	0.46
31:CA:568:G:N7	42:CL:5:PRO:HD3	2.31	0.46
6:BG:165:THR:OG1	6:BG:168:GLU:HG3	2.16	0.46
1:AA:1788:C:H5''	3:AD:225:ALA:HB1	1.98	0.46
2:AB:17:C:H2'	2:AB:18:G:O4'	2.15	0.46
1:BA:885:C:N4	1:BA:890:A:C6	2.62	0.46
31:CA:33:A:H2'	31:CA:34:C:C6	2.50	0.46
13:AR:101:ALA:HA	27:A5:44:THR:CG2	2.46	0.46
2:AB:2:C:C2	2:AB:3:C:C5	3.03	0.46
31:CA:1288:A:H2'	31:CA:1289:A:O4'	2.16	0.46
1:AA:2144:U:O2	1:AA:2148:G:N1	2.48	0.46
31:DA:1237:C:HO2'	31:DA:1300:G:H22	1.56	0.46
1:AA:2274:A:N1	1:AA:2276:G:H1'	2.30	0.46
31:DA:15:G:H2'	31:DA:16:A:C8	2.51	0.46
31:CA:579:G:O5'	31:CA:728:A:H1'	2.16	0.46
31:DA:921:U:O2'	35:DE:19:MET:O	2.27	0.46
31:DA:782:A:H4'	31:DA:1514:C:O2'	2.16	0.46
31:DA:630:G:H2'	31:DA:631:G:C8	2.49	0.46
10:AO:20:MET:HE3	10:AO:44:LYS:HE3	1.98	0.46
31:DA:991:U:O2'	31:DA:992:U:OP2	2.32	0.46
36:CF:19:LEU:O	36:CF:19:LEU:HD23	2.15	0.46
1:BA:2736:G:N2	1:BA:2769:C:H1'	2.31	0.46
31:CA:1210:C:H2'	31:CA:1211:U:H5''	1.98	0.46
10:AO:14:THR:O	10:AO:52:VAL:HG22	2.16	0.46
50:DT:21:LYS:O	50:DT:25:ARG:HG3	2.15	0.46
2:AB:87:G:N2	2:AB:89:G:H3'	2.31	0.46
8:AI:44:LEU:HD13	8:AI:44:LEU:HA	1.76	0.46
4:AE:110:GLY:O	13:AR:3:HIS:CE1	2.69	0.46
31:DA:1496:C:H2'	31:DA:1497:G:O4'	2.15	0.46
1:BA:247:G:H4'	1:BA:386:G:C5	2.50	0.46
31:CA:1492:A:H8	42:CL:47:LYS:HD2	1.79	0.46
36:DF:14:LEU:HB3	36:DF:15:ASP:H	1.49	0.46
31:CA:184:G:N2	31:CA:194:C:C2	2.83	0.46
31:CA:968:A:OP1	31:CA:968:A:H8	1.99	0.46
8:AI:105:HIS:H	8:AI:105:HIS:HD2	1.57	0.46
1:AA:950:G:H2'	1:AA:951:C:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AH:11:VAL:CG2	7:AH:50:VAL:HG23	2.45	0.46
31:CA:174:C:H2'	31:CA:175:C:C6	2.50	0.46
31:DA:266:G:H5''	31:DA:267:C:C5	2.51	0.46
33:DC:111:LEU:HD23	33:DC:141:VAL:HG13	1.98	0.46
1:AA:2543:G:N3	1:AA:2765:A:H2'	2.31	0.46
1:AA:39:C:H2'	1:AA:40:C:C6	2.50	0.46
43:DM:44:ARG:HB2	43:DM:47:ASP:OD2	2.15	0.46
39:DI:26:VAL:HG13	39:DI:61:ALA:HB3	1.98	0.46
6:BG:121:ASN:HA	6:BG:122:PRO:HD3	1.74	0.46
1:AA:1227:G:OP1	16:AU:13:LYS:HG2	2.16	0.46
5:BF:37:VAL:HG21	11:BP:6:LEU:CD1	2.45	0.46
1:AA:1248:G:O2'	16:AU:3:ARG:HA	2.15	0.46
42:DL:69:TYR:HD2	42:DL:99:HIS:CD2	2.34	0.46
35:DE:129:ILE:O	35:DE:132:ALA:HB3	2.14	0.46
23:A1:7:ILE:HG21	23:A1:69:LYS:HG2	1.97	0.46
18:AW:4:LYS:HB2	18:AW:106:ILE:HG12	1.97	0.46
1:AA:2630:G:H2'	1:AA:2631:G:C8	2.51	0.46
1:BA:1999:C:H5''	1:BA:2723:C:O2'	2.15	0.46
1:AA:441:U:H2'	1:AA:442:G:C8	2.50	0.46
1:AA:907:U:O2'	12:AQ:101:ARG:NH2	2.36	0.46
1:AA:1913:A:C4'	1:AA:1914:C:H5''	2.46	0.46
1:AA:1142(A):A:C8	1:AA:1144:G:N7	2.84	0.46
27:B5:36:CYS:SG	27:B5:46:CYS:SG	3.13	0.46
1:AA:1000:A:C6	1:AA:1001:A:C6	3.03	0.46
10:BO:70:LYS:HE2	10:BO:70:LYS:HB3	1.71	0.46
1:BA:2287:A:C4	1:BA:2289:G:C8	3.04	0.46
31:CA:949:A:OP1	43:CM:101:GLN:HB3	2.16	0.46
33:DC:11:ARG:O	33:DC:13:GLY:N	2.48	0.46
33:DC:8:ILE:O	33:DC:11:ARG:N	2.43	0.46
1:AA:330:A:H2	1:AA:1210:A:C2'	2.26	0.46
1:AA:795:C:O2'	1:AA:796:C:H5'	2.15	0.46
31:DA:445:G:C4	31:DA:446:G:C8	3.04	0.46
35:DE:78:HIS:CE1	35:DE:143:ARG:H	2.33	0.46
38:CH:6:ILE:HB	38:CH:85:ARG:NH1	2.31	0.46
1:AA:8:A:H2'	1:AA:9:U:H6	1.80	0.46
11:BP:90:ARG:HG2	11:BP:91:PHE:CD2	2.51	0.46
1:BA:443:A:N6	5:BF:41:LEU:O	2.40	0.46
1:AA:2223:G:H2'	1:AA:2224:G:H5'	1.97	0.46
31:DA:1097:C:H2'	31:DA:1098:C:C6	2.51	0.46
31:CA:1285:A:H4'	31:CA:1286:A:O5'	2.16	0.46
31:DA:949:A:H1'	31:DA:1364:U:H3	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2205:C:O2	1:BA:2220:G:C2	2.69	0.46
50:DT:77:ALA:O	50:DT:81:LYS:HG3	2.15	0.46
50:DT:16:HIS:O	50:DT:19:SER:OG	2.20	0.46
1:AA:53:A:H2'	1:AA:54:G:O4'	2.15	0.46
31:CA:1070:U:H2'	31:CA:1071:C:H6	1.80	0.46
31:CA:1298:C:C4	37:CG:114:ARG:HD3	2.51	0.46
4:BE:24:THR:HG22	4:BE:186:GLY:O	2.15	0.46
1:BA:335:C:H4'	20:BY:73:ARG:HD3	1.97	0.46
50:DT:53:LEU:O	50:DT:57:ARG:HG3	2.16	0.46
31:CA:1014:A:C2	31:CA:1219:U:H1'	2.51	0.46
31:DA:992:U:H2'	31:DA:992:U:O2	2.16	0.46
13:AR:50:HIS:CE1	13:AR:54:LEU:HD13	2.51	0.46
31:CA:834:C:C2	31:CA:853:G:C2	3.04	0.46
31:DA:238:G:C6	31:DA:239:U:C4	3.04	0.46
1:BA:738:G:H1'	1:BA:759:G:N2	2.30	0.46
3:AD:75:ILE:HG21	3:AD:99:ASP:HB2	1.97	0.46
1:BA:41:C:H2'	1:BA:42:G:O4'	2.16	0.46
1:BA:489:G:N7	18:BW:49:LYS:NZ	2.64	0.46
1:BA:95:G:H4'	24:B2:46:GLN:H	1.81	0.46
38:CH:44:PHE:HB3	38:CH:80:ILE:HG12	1.96	0.46
43:DM:11:ARG:HA	43:DM:45:VAL:HB	1.97	0.46
31:DA:477:A:H2'	31:DA:479:C:H6	1.80	0.46
19:BX:72:LYS:HB3	19:BX:72:LYS:HE2	1.66	0.46
9:BN:138:LEU:HA	9:BN:138:LEU:HD23	1.62	0.46
5:BF:104:LYS:O	5:BF:108:LYS:HB2	2.15	0.46
1:AA:1270:C:H5''	1:AA:1271:G:O5'	2.16	0.46
31:DA:1030(B):C:C2'	31:DA:1030(C):G:H5'	2.46	0.46
1:AA:1313:U:H2'	1:AA:1610:A:C2	2.51	0.46
34:DD:13:ARG:O	34:DD:15:GLU:N	2.48	0.46
31:CA:654:G:C5	31:CA:655:A:C8	3.04	0.46
31:CA:377:G:H2'	31:CA:378:G:C8	2.51	0.46
1:AA:300:A:H3'	20:AY:84:ARG:NH2	2.31	0.46
31:DA:1277:C:H2'	31:DA:1278:U:H5'	1.96	0.46
1:AA:2144:U:H2'	1:AA:2146:C:C4	2.50	0.46
1:BA:2181:G:H2'	1:BA:2182:G:C8	2.50	0.46
1:AA:2755:C:O2'	1:AA:2756:U:H6	1.98	0.46
6:AG:16:ARG:NH2	6:AG:28:VAL:O	2.49	0.46
1:AA:2293:C:H2'	1:AA:2294:C:C6	2.50	0.46
1:AA:280:C:C2	1:AA:361:G:C2	3.04	0.46
21:AZ:166:SER:HA	21:AZ:167:PRO:HD3	1.78	0.46
1:BA:2261:C:C6	22:B0:16:SER:HB3	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:683:G:H2'	31:DA:684:A:H8	1.80	0.46
31:CA:598:U:H4'	38:CH:94:TYR:CG	2.50	0.46
1:AA:2280:G:C2'	1:AA:2281:C:H5'	2.46	0.46
6:AG:174:GLU:HG3	6:AG:178:PHE:O	2.16	0.46
31:DA:229:U:O2'	46:DP:23:ASP:OD2	2.29	0.46
42:DL:33:ARG:O	42:DL:85:ILE:HB	2.16	0.46
12:BQ:110:THR:HG23	12:BQ:113:GLN:OE1	2.16	0.46
1:BA:2031:A:C6	1:BA:2498:C:H1'	2.51	0.46
1:AA:70:G:H5''	1:AA:112:U:O2	2.15	0.46
31:DA:1086:U:H2'	31:DA:1087:G:C8	2.51	0.46
9:BN:12:ARG:HD3	9:BN:14:VAL:HG23	1.97	0.46
14:BS:61:ASN:O	14:BS:64:GLU:N	2.48	0.46
1:BA:1412:A:H2'	1:BA:1413:G:C8	2.51	0.46
34:DD:159:ARG:O	34:DD:163:GLU:N	2.41	0.46
31:CA:868:C:H2'	31:CA:869:G:O4'	2.16	0.46
31:DA:929:G:C6	31:DA:930:C:C4	3.04	0.46
31:DA:380:G:N2	31:DA:384:G:C5	2.84	0.46
31:DA:1387:G:H2'	31:DA:1388:C:C6	2.51	0.46
13:BR:18:LEU:HA	13:BR:18:LEU:HD23	1.52	0.46
31:DA:1109:C:H2'	31:DA:1110:A:O4'	2.16	0.46
9:AN:99:LEU:O	9:AN:103:VAL:HG23	2.16	0.46
1:AA:1913:A:H3'	52:AA:3001:T8B:O2	2.16	0.46
27:B5:36:CYS:O	27:B5:38:ALA:N	2.49	0.46
39:DI:102:LEU:O	39:DI:103:THR:HG22	2.15	0.46
1:AA:2306:C:H3'	1:AA:2307:G:C8	2.50	0.46
1:BA:1045:A:O2'	1:BA:1047:G:C4	2.62	0.46
1:BA:1047:G:C2'	1:BA:1110:G:H22	2.23	0.46
21:BZ:151:HIS:C	21:BZ:153:SER:H	2.12	0.46
31:DA:1279:A:H5''	31:DA:1280:A:OP1	2.16	0.46
31:CA:1358:U:H5''	44:CN:33:VAL:O	2.16	0.46
31:CA:194:C:C2'	31:CA:195:A:H5''	2.46	0.46
1:AA:2133:G:C2	1:AA:2157:G:H2'	2.51	0.46
1:AA:2628:C:O2'	1:AA:2781:A:H2'	2.16	0.46
20:AY:9:LYS:HA	20:AY:27:VAL:HB	1.98	0.46
1:AA:2164:C:H3'	1:AA:2165:G:C8	2.48	0.46
5:BF:117:ARG:HD3	5:BF:117:ARG:HA	1.65	0.46
1:AA:593:G:H4'	30:A8:63:PRO:HB3	1.97	0.46
8:AI:86:THR:HA	8:AI:123:LEU:HD11	1.98	0.46
1:AA:2789:C:O3'	1:AA:2790:A:H4'	2.15	0.46
31:DA:1290:G:N3	31:DA:1290:G:H2'	2.30	0.46
14:BS:58:LEU:HB2	14:BS:59:LYS:CB	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1187:G:H2'	31:DA:1188:A:C8	2.51	0.46
6:BG:11:TYR:CZ	6:BG:16:ARG:HD3	2.51	0.46
45:DO:36:ILE:O	45:DO:39:LEU:N	2.49	0.46
48:DR:66:LEU:HG	48:DR:70:ILE:HD11	1.97	0.46
1:AA:1479:G:H5''	1:AA:1560:G:H4'	1.98	0.46
1:AA:323:G:C2	1:AA:333:G:H1'	2.50	0.46
1:BA:2884:U:H1'	27:B5:53:ALA:HB2	1.97	0.46
1:BA:536:A:H2'	1:BA:537:C:C6	2.51	0.46
1:AA:370:G:H4'	1:AA:371:A:OP2	2.15	0.46
31:DA:1056:U:H2'	31:DA:1057:G:H8	1.80	0.46
31:DA:799:G:O6	31:DA:800:G:C2	2.69	0.46
47:CQ:22:LEU:HD11	47:CQ:39:SER:HB3	1.98	0.46
46:DP:26:ARG:CZ	46:DP:31:LYS:HB3	2.45	0.46
1:BA:1825:A:OP1	3:BD:249:PRO:HD3	2.16	0.46
5:AF:17:ARG:O	5:AF:18:ARG:HG2	2.16	0.46
31:DA:294:U:H2'	31:DA:295:C:C6	2.50	0.46
1:BA:1051:G:H5''	1:BA:1052:C:OP2	2.15	0.46
31:CA:414:A:H2'	31:CA:415:A:H8	1.81	0.46
31:DA:1034:G:C2	31:DA:1035:A:C4	3.04	0.46
2:AB:29:A:OP2	14:AS:32:LEU:N	2.41	0.46
44:CN:40:CYS:HB2	44:CN:43:CYS:HB2	1.97	0.46
31:CA:1074:G:C2	31:CA:1102:A:C6	3.04	0.46
31:CA:1300:G:HO2'	31:CA:1301:U:P	2.37	0.46
31:DA:1168:A:H2'	31:DA:1169:A:O4'	2.15	0.46
1:BA:2138:C:H42	1:BA:2153:G:H1	1.63	0.46
1:BA:2464:C:O2'	1:BA:2465:C:H6	1.98	0.46
21:BZ:111:VAL:HG12	21:BZ:112:ARG:N	2.31	0.46
14:AS:14:VAL:HG21	14:AS:90:GLY:O	2.16	0.46
31:DA:192:U:H4'	50:DT:57:ARG:HD2	1.97	0.46
31:DA:433:C:H2'	31:DA:434:U:H6	1.79	0.46
20:BY:90:LEU:HD12	20:BY:90:LEU:HA	1.82	0.46
1:BA:616:G:H2'	1:BA:618:C:O4'	2.16	0.46
31:DA:1220:G:H2'	31:DA:1221:G:O4'	2.16	0.46
14:AS:59:LYS:HB3	14:AS:60:GLY:HA2	1.97	0.46
8:BI:29:TYR:C	8:BI:32:PRO:HD2	2.36	0.46
38:DH:124:ALA:HB1	38:DH:129:VAL:O	2.16	0.46
6:BG:107:LEU:HD11	6:BG:178:PHE:CE1	2.50	0.46
31:DA:1324:A:H2'	31:DA:1325:C:C6	2.51	0.46
1:BA:2760:C:H2'	1:BA:2761:G:H5''	1.97	0.46
31:DA:938:A:C6	31:DA:939:G:C5	3.04	0.46
24:B2:10:LEU:HD23	24:B2:10:LEU:HA	1.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1002:G:H2'	1:BA:1003:G:O4'	2.16	0.46
12:AQ:72:LYS:HA	12:AQ:73:PRO:HD3	1.73	0.46
42:CL:8:ASN:O	42:CL:12:ARG:HG3	2.16	0.46
36:CF:86:ARG:O	36:CF:87:ARG:HG2	2.16	0.46
46:CP:68:ASP:C	46:CP:70:ALA:H	2.20	0.46
1:BA:1846:G:N2	1:BA:1895:C:C2	2.84	0.46
18:AW:37:ARG:HD3	18:AW:38:TYR:CE2	2.51	0.46
5:BF:129:PHE:HB3	5:BF:132:VAL:HG22	1.98	0.46
31:CA:202:U:O2'	31:CA:203:U:O5'	2.26	0.46
31:CA:203:U:OP2	31:CA:203:U:H2'	2.15	0.46
5:AF:117:ARG:HA	5:AF:117:ARG:HD3	1.67	0.46
12:BQ:7:MET:HB2	12:BQ:7:MET:HE3	1.89	0.46
1:AA:2531:A:N3	1:AA:2658:C:O2'	2.34	0.46
31:DA:303:A:H2'	31:DA:304:U:O4'	2.16	0.46
28:B6:21:TYR:CE2	28:B6:38:LYS:HG2	2.51	0.46
36:CF:11:ASN:HB3	36:CF:14:LEU:HG	1.98	0.46
1:AA:1913:A:C3'	1:AA:1914:C:H5''	2.46	0.45
31:CA:655:A:N1	31:CA:754:C:N4	2.64	0.45
14:AS:53:SER:O	14:AS:57:LYS:N	2.49	0.45
31:DA:1148:U:H2'	31:DA:1149:C:O4'	2.16	0.45
1:AA:1109:C:C5	1:AA:1110:G:C6	3.00	0.45
7:AH:149:ARG:HA	7:AH:162:ILE:CG2	2.46	0.45
31:DA:540:G:H2'	31:DA:541:G:O4'	2.15	0.45
31:CA:579:G:C6	31:CA:580:U:C4	3.03	0.45
1:AA:2127:G:O6	1:AA:2161:C:N3	2.49	0.45
31:CA:657:G:C2	31:CA:750:G:C5	3.05	0.45
9:AN:28:THR:HG22	9:AN:29:LYS:N	2.31	0.45
31:DA:130:A:O2'	31:DA:131:C:O5'	2.31	0.45
31:DA:262:A:C6	31:DA:263:A:C6	3.04	0.45
1:BA:675:A:C4	1:BA:804:A:C2	3.03	0.45
49:CS:41:VAL:O	49:CS:43:GLU:N	2.49	0.45
33:CC:127:ARG:NH1	33:CC:127:ARG:HB3	2.32	0.45
1:BA:1453:U:O2'	1:BA:1455:G:N7	2.42	0.45
1:BA:2881:C:H2'	1:BA:2882:A:O4'	2.16	0.45
31:DA:1511:G:H2'	31:DA:1512:U:O4'	2.17	0.45
1:AA:2730:C:H4'	4:AE:168:MET:O	2.16	0.45
43:DM:102:ARG:NE	43:DM:105:THR:OG1	2.49	0.45
31:DA:142:G:H2'	31:DA:143:A:H8	1.80	0.45
1:BA:1275:A:N1	1:BA:1295:C:O2'	2.39	0.45
46:DP:21:VAL:HG13	46:DP:33:ILE:HB	1.97	0.45
7:AH:86:GLU:HB2	7:AH:165:ALA:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:352:C:O2'	31:DA:354:G:OP1	2.23	0.45
1:BA:2467:C:H4'	12:BQ:123:HIS:CD2	2.51	0.45
31:DA:1266:G:N2	31:DA:1268:A:H3'	2.31	0.45
3:BD:26:LYS:HE2	3:BD:28:GLU:O	2.16	0.45
8:AI:127:VAL:HA	8:AI:140:LEU:O	2.16	0.45
25:A3:43:ILE:O	25:A3:47:VAL:HG23	2.17	0.45
9:AN:56:ASN:H	9:AN:125:GLY:H	1.64	0.45
1:AA:12:U:O2	1:AA:12:U:H2'	2.17	0.45
1:AA:2012:G:H8	1:AA:2012:G:O5'	1.98	0.45
34:DD:173:TRP:HB2	34:DD:187:ARG:O	2.16	0.45
31:DA:1392:G:N2	31:DA:1502:A:C8	2.83	0.45
1:BA:1331:A:O2'	1:BA:1332:G:C8	2.69	0.45
31:CA:939:G:H2'	31:CA:940:C:C6	2.50	0.45
1:BA:102:G:O2'	1:BA:103:A:P	2.73	0.45
8:AI:77:LEU:HD12	8:AI:142:VAL:CG1	2.46	0.45
1:BA:1541:G:H3'	1:BA:1542:A:H2'	1.98	0.45
31:CA:655:A:C2	31:CA:754:C:C4	3.04	0.45
45:CO:54:ARG:O	45:CO:58:MET:HG3	2.16	0.45
47:CQ:68:ARG:H	47:CQ:70:ARG:NH1	2.14	0.45
14:AS:101:LEU:O	14:AS:102:ALA:HB3	2.16	0.45
31:DA:1256:A:H2	31:DA:1277:C:N3	2.14	0.45
35:CE:78:HIS:ND1	35:CE:142:LEU:HD23	2.30	0.45
35:DE:68:GLU:CG	35:DE:70:PRO:HG3	2.46	0.45
31:CA:1085:U:H3'	31:CA:1086:U:C5	2.51	0.45
8:BI:93:THR:O	8:BI:97:ILE:N	2.28	0.45
1:BA:280:C:C2	1:BA:361:G:C2	3.04	0.45
1:AA:863:A:H2'	1:AA:864:G:C8	2.50	0.45
1:AA:342:G:H2'	1:AA:343:C:C6	2.51	0.45
31:CA:417:C:H2'	31:CA:418:C:H6	1.80	0.45
31:DA:186:C:O2'	50:DT:85:MET:SD	2.64	0.45
1:AA:1384:A:N3	1:AA:1405:U:H1'	2.31	0.45
1:BA:2469:A:H5''	1:BA:2470:G:OP2	2.16	0.45
32:CB:97:TRP:CZ2	32:CB:173:ALA:HA	2.52	0.45
31:CA:1096:C:H2'	31:CA:1097:C:H6	1.81	0.45
50:CT:36:LEU:HA	50:CT:36:LEU:HD13	1.81	0.45
1:AA:1417:C:H2'	1:AA:1418:G:O4'	2.15	0.45
12:BQ:109:VAL:HG13	12:BQ:113:GLN:HB2	1.99	0.45
7:AH:124:GLU:HB2	7:AH:132:ARG:HB3	1.98	0.45
3:BD:83:GLU:OE1	3:BD:104:TYR:OH	2.26	0.45
7:AH:116:GLU:HA	7:AH:117:PRO:HD2	1.79	0.45
33:DC:132:ARG:O	33:DC:136:GLN:HB2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1446:U:H4'	31:DA:1447:A:C5	2.51	0.45
8:AI:79:ILE:HA	8:AI:80:PRO:HD2	1.73	0.45
46:CP:75:ARG:O	46:CP:78:GLY:N	2.49	0.45
47:DQ:20:THR:HG21	47:DQ:41:LYS:HD2	1.98	0.45
50:CT:41:ILE:O	50:CT:45:GLN:N	2.40	0.45
15:AT:118:ARG:HD2	15:AT:118:ARG:HA	1.64	0.45
9:BN:104:LYS:HB2	9:BN:117:PHE:CE1	2.50	0.45
1:BA:783:A:O2'	1:BA:785:G:OP1	2.16	0.45
8:AI:45:LYS:O	8:AI:48:GLU:N	2.49	0.45
31:DA:973:G:H4'	40:DJ:54:PHE:O	2.17	0.45
31:CA:655:A:C2	31:CA:656:C:C2	3.04	0.45
31:CA:1361:G:H8	31:CA:1361:G:O5'	2.00	0.45
31:DA:1015:A:N6	31:DA:1016:A:C6	2.85	0.45
1:AA:1250:G:N7	11:AP:18:ARG:NH2	2.65	0.45
1:AA:2115:G:H21	1:AA:2171:A:H61	1.63	0.45
1:BA:90:U:O2'	1:BA:92:A:C8	2.65	0.45
32:DB:24:TRP:CZ3	32:DB:26:PRO:HA	2.51	0.45
47:CQ:45:HIS:HB3	47:CQ:72:ARG:HB3	1.98	0.45
7:AH:7:LEU:HA	7:AH:8:PRO:HD3	1.67	0.45
1:AA:2256:G:H2'	1:AA:2257:U:H6	1.81	0.45
1:AA:2055:C:H5'	1:AA:2056:G:O5'	2.16	0.45
1:AA:1328:G:H2'	1:AA:1330:C:C5	2.50	0.45
31:DA:1010:G:H2'	31:DA:1011:G:H8	1.79	0.45
1:AA:116:C:H2'	1:AA:117:G:O4'	2.16	0.45
42:CL:53:ARG:CB	42:CL:93:LEU:HD11	2.46	0.45
31:DA:60:A:H4'	31:DA:61:G:O5'	2.17	0.45
1:AA:510:C:H2'	1:AA:511:U:O4'	2.16	0.45
1:AA:2283:C:C2	1:AA:2389:G:C2	3.04	0.45
46:CP:72:ARG:HE	46:CP:73:LEU:CD2	2.30	0.45
1:AA:325:G:N2	1:AA:337:C:O2	2.49	0.45
50:CT:38:LYS:O	50:CT:41:ILE:HG13	2.16	0.45
4:AE:152:LYS:HB2	9:AN:77:GLY:O	2.15	0.45
35:DE:33:VAL:HG21	35:DE:109:ILE:HA	1.99	0.45
34:CD:165:MET:O	34:CD:167:GLY:N	2.49	0.45
31:CA:7:G:H5'	31:CA:298:A:O4'	2.16	0.45
1:AA:2096:U:H3	1:AA:2193:G:H1	1.65	0.45
36:CF:30:LEU:HB3	36:CF:35:ALA:HB3	1.98	0.45
52:AA:3001:T8B:H8	31:DA:1492:A:O5'	2.15	0.45
1:BA:1914:C:O2'	1:BA:1915:U:O5'	2.29	0.45
1:BA:1913:A:H3'	52:BA:3001:T8B:O10	2.13	0.45
31:CA:1409:C:H2'	31:CA:1410:G:H8	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AO:103:ALA:HB1	10:AO:105:GLU:OE1	2.16	0.45
2:AB:31:C:O2'	2:AB:53:A:N6	2.49	0.45
1:BA:300:A:H3'	20:BY:84:ARG:NH2	2.32	0.45
31:DA:1036:G:N3	31:DA:1036:G:H2'	2.29	0.45
1:BA:1357:U:H2'	1:BA:1358:G:O4'	2.16	0.45
43:DM:15:VAL:O	43:DM:19:LEU:HD22	2.16	0.45
8:AI:94:ALA:HA	8:AI:97:ILE:HG13	1.99	0.45
31:CA:263:A:OP1	50:CT:79:ARG:NH1	2.49	0.45
31:CA:1005:A:C6	31:CA:1025:U:H1'	2.51	0.45
1:BA:2052:G:H4'	4:BE:143:ASN:O	2.17	0.45
31:CA:750:G:N2	31:CA:751:U:C2	2.85	0.45
1:AA:322:A:H3'	5:AF:169:ASN:ND2	2.31	0.45
31:CA:1250:A:H4'	39:CI:68:GLY:N	2.32	0.45
1:BA:2302:G:N1	1:BA:2315:G:C6	2.84	0.45
1:AA:296:C:O3'	20:AY:95:LYS:NZ	2.49	0.45
6:BG:11:TYR:O	6:BG:15:VAL:HB	2.17	0.45
1:BA:2463:C:H2'	1:BA:2464:C:H5'	1.99	0.45
4:AE:2:LYS:HA	4:AE:84:PHE:CE2	2.52	0.45
31:CA:258:G:H2'	31:CA:259:G:H8	1.82	0.45
1:AA:448:U:O4	1:AA:583:G:H1'	2.16	0.45
33:DC:181:ASN:ND2	33:DC:204:LEU:HB2	2.32	0.45
1:BA:1638:C:H5''	1:BA:2710:C:O2'	2.16	0.45
35:DE:93:PRO:HG2	38:DH:105:ARG:NE	2.31	0.45
38:DH:92:ARG:HD3	38:DH:92:ARG:HA	1.61	0.45
1:BA:597:U:H2'	1:BA:598:G:C8	2.51	0.45
26:A4:14:ILE:HG23	26:A4:31:ILE:HB	1.98	0.45
1:AA:2850:A:N7	1:AA:2868:A:O2'	2.33	0.45
1:AA:372:G:O2'	1:AA:373:U:OP2	2.31	0.45
1:BA:2392:A:N3	11:BP:61:ARG:HG2	2.32	0.45
31:CA:718:G:H5'	41:CK:117:ASN:HB2	1.97	0.45
3:AD:172:TYR:CD1	3:AD:186:HIS:HA	2.52	0.45
1:BA:742:G:H4'	1:BA:1676:A:H5'	1.98	0.45
1:AA:2821:A:H2'	1:AA:2822:G:O4'	2.16	0.45
26:B4:15:ILE:O	26:B4:32:TYR:HA	2.17	0.45
39:DI:4:TYR:CE2	39:DI:88:TYR:HD1	2.34	0.45
1:AA:2082:A:H2'	1:AA:2083:G:O4'	2.16	0.45
1:AA:1614:A:H8	1:AA:1614:A:O5'	2.00	0.45
31:DA:1232:U:H6	31:DA:1232:U:O5'	1.99	0.45
5:BF:140:LEU:HA	5:BF:140:LEU:HD13	1.78	0.45
35:CE:105:VAL:O	35:CE:109:ILE:HG13	2.17	0.45
37:CG:23:VAL:HG13	37:CG:43:PHE:CZ	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1711:C:H2'	1:BA:1712:C:C6	2.52	0.45
1:BA:885:C:H4'	1:BA:885:C:OP1	2.16	0.45
1:BA:1176:G:H4'	1:BA:1177:A:OP2	2.17	0.45
1:AA:1412:A:C2	1:AA:1591:G:C2	3.05	0.45
1:AA:1779:U:C2	1:AA:1783:A:N7	2.85	0.45
1:BA:2781:A:H5''	1:BA:2782:G:H5'	1.98	0.45
31:CA:947:G:O2'	31:CA:1306:A:H4'	2.17	0.45
1:AA:2156:G:O6	1:AA:2157:G:N2	2.40	0.45
1:AA:1359:A:N6	1:AA:1372:U:H3	2.10	0.45
1:AA:2627:G:N2	1:AA:2777:G:OP2	2.41	0.45
1:AA:2174:C:H2'	1:AA:2175:C:C6	2.46	0.45
7:AH:149:ARG:NH2	7:AH:154:PRO:HG2	2.31	0.45
15:AT:95:ARG:NH1	15:AT:95:ARG:HG2	2.31	0.45
1:AA:107:C:C2	1:AA:108:U:C5	3.04	0.45
31:CA:175:C:H2'	31:CA:176:C:H6	1.80	0.45
31:DA:1235:U:O2'	31:DA:1305:G:OP1	2.28	0.45
8:BI:77:LEU:HA	8:BI:77:LEU:HD23	1.79	0.45
32:CB:17:PHE:HB3	32:CB:44:LEU:HD11	1.98	0.45
1:AA:45:C:H2'	1:AA:47:C:C6	2.52	0.45
1:AA:861:A:C2	1:AA:917:A:C4	3.04	0.45
31:DA:1060:C:C5	33:DC:2:GLY:HA3	2.51	0.45
9:AN:4:TYR:CD2	16:AU:100:VAL:HG11	2.50	0.45
1:BA:1009:A:O4'	16:BU:59:ARG:HG2	2.17	0.45
36:DF:2:ARG:NH1	36:DF:69:GLU:HB3	2.32	0.45
31:DA:578:C:O2'	31:DA:728:A:N3	2.38	0.45
1:AA:1839:G:C8	1:AA:1927:A:H1'	2.52	0.45
1:AA:610:G:N2	1:AA:619:G:H1'	2.31	0.45
46:CP:72:ARG:HE	46:CP:73:LEU:HD23	1.81	0.45
33:CC:139:GLN:HG3	33:CC:143:GLU:OE1	2.15	0.45
31:DA:889:A:H4'	31:DA:890:G:OP1	2.17	0.45
11:BP:126:VAL:CG1	11:BP:148:LEU:HD13	2.47	0.45
2:BB:2:C:H2'	2:BB:3:C:C6	2.52	0.45
14:BS:74:ALA:O	14:BS:77:ALA:HB3	2.17	0.45
37:CG:146:GLU:C	37:CG:148:ASN:H	2.20	0.45
16:AU:20:LEU:HA	16:AU:20:LEU:HD23	1.87	0.45
1:AA:683:C:O5'	1:AA:683:C:H6	2.00	0.45
1:AA:2727:G:O3'	10:AO:70:LYS:HD3	2.16	0.45
1:BA:1175:U:H1'	1:BA:1176:G:OP1	2.16	0.45
1:BA:1177:A:O2'	1:BA:1178:C:C6	2.70	0.45
1:AA:1798:U:OP2	3:AD:274:ARG:NH2	2.50	0.45
2:AB:44:G:N2	2:AB:48:A:C4	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:55:U:O4'	6:AG:29:TRP:NE1	2.45	0.45
1:AA:686:G:N2	1:AA:788:A:H61	2.15	0.45
31:CA:499:A:H4'	31:CA:500:G:OP1	2.17	0.45
37:DG:111:ARG:HB2	37:DG:119:ARG:HD2	1.99	0.45
1:AA:1212:G:C2	1:AA:1236:G:C4	3.04	0.45
31:DA:538:G:H2'	31:DA:539:A:H8	1.81	0.45
1:BA:528:A:N1	1:BA:2042:A:H2'	2.31	0.45
1:AA:2884:U:O2	27:A5:53:ALA:HB2	2.17	0.45
31:CA:1228:C:P	43:CM:108:ARG:HH12	2.38	0.45
31:CA:515:G:N1	31:CA:537:G:C6	2.84	0.45
31:CA:1273:G:H3'	31:CA:1274:G:H8	1.82	0.45
22:A0:23:VAL:HA	22:A0:38:VAL:HG22	1.98	0.45
1:AA:51:G:N3	1:AA:119:A:C2	2.85	0.45
1:AA:52:A:OP2	1:AA:117:G:N1	2.30	0.45
31:DA:337:C:H2'	31:DA:338:A:C8	2.52	0.45
43:CM:105:THR:OG1	43:CM:106:ASN:N	2.49	0.45
34:CD:111:ALA:HB2	34:CD:120:LEU:CD1	2.46	0.45
34:CD:117:ALA:HA	34:CD:120:LEU:HB2	1.99	0.45
1:AA:2041:U:H2'	1:AA:2042:A:C8	2.52	0.45
31:DA:60:A:N6	31:DA:110:C:N3	2.64	0.45
1:BA:1263:U:H2'	1:BA:1264:G:C8	2.52	0.45
1:AA:1026:U:H4'	1:AA:1027:A:OP1	2.16	0.45
1:BA:108:U:C2	1:BA:109:G:C8	3.05	0.45
31:CA:1217:C:H2'	31:CA:1218:C:C6	2.51	0.45
37:CG:20:ASP:OD2	37:CG:23:VAL:HG23	2.16	0.45
1:AA:1986:A:H2'	1:AA:1987:G:H8	1.81	0.45
31:DA:840:C:H4'	31:DA:841:U:OP1	2.16	0.45
12:BQ:84:GLY:O	12:BQ:85:LYS:HB2	2.17	0.45
34:DD:149:ALA:O	34:DD:152:SER:N	2.42	0.45
40:CJ:56:HIS:O	40:CJ:58:ASP:N	2.44	0.45
12:AQ:38:GLU:HB2	12:AQ:127:ILE:HG22	1.97	0.45
1:BA:600:G:H2'	1:BA:601:C:O4'	2.15	0.45
42:DL:7:ILE:O	42:DL:11:VAL:HG23	2.16	0.45
1:AA:2483:C:H2'	1:AA:2484:G:O4'	2.17	0.45
5:AF:12:LEU:HB2	5:AF:124:LEU:HD11	1.98	0.45
31:CA:782:A:H4'	31:CA:1514:C:O2'	2.17	0.45
1:BA:83:G:H1	1:BA:102:G:H2'	1.82	0.45
31:DA:91:C:O2'	31:DA:92:C:H5'	2.17	0.45
1:AA:95:G:H4'	24:A2:46:GLN:N	2.27	0.45
6:BG:43:LEU:HB2	6:BG:89:GLY:HA2	1.98	0.45
27:A5:37:LYS:O	27:A5:37:LYS:HG2	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:B4:16:CYS:HA	26:B4:33:VAL:O	2.16	0.45
1:AA:300:A:N3	1:AA:319:C:H1'	2.32	0.45
1:AA:1171:G:H3'	1:AA:1173:G:H5'	1.98	0.45
31:CA:68:G:O4'	31:CA:171:A:H1'	2.17	0.45
1:BA:2134:A:N6	1:BA:2157:G:H4'	2.32	0.45
31:CA:1236:A:O2'	31:CA:1304:G:H4'	2.16	0.45
5:AF:184:TYR:CD2	5:AF:188:ARG:HD2	2.50	0.45
1:AA:2165:G:H2'	1:AA:2166:G:H8	1.81	0.45
50:CT:76:ALA:HA	50:CT:79:ARG:NH1	2.32	0.45
38:CH:84:ARG:HD3	38:CH:85:ARG:O	2.16	0.45
1:AA:2272:U:H5''	1:AA:2273:A:OP1	2.16	0.45
1:AA:652(P):G:N3	1:AA:652(Q):G:N7	2.64	0.45
1:AA:2056:G:C2	1:AA:2057:A:C8	3.04	0.45
33:DC:54:ARG:HG2	33:DC:55:VAL:N	2.32	0.45
1:BA:1558:A:N3	1:BA:1558:A:O4'	2.49	0.45
41:DK:58:PRO:HA	41:DK:90:GLY:HA2	1.99	0.45
32:DB:185:ILE:HG22	32:DB:199:TYR:CD1	2.52	0.45
49:DS:32:LYS:HD2	49:DS:57:HIS:CD2	2.52	0.45
1:BA:2469:A:C2	1:BA:2482:G:C8	3.05	0.45
1:AA:1721:G:H5''	1:AA:1721:G:N3	2.32	0.45
1:AA:2730:C:H2'	1:AA:2731:G:H8	1.82	0.45
31:CA:987:G:H2'	31:CA:988:G:H8	1.81	0.45
1:BA:637:A:P	11:BP:116:GLY:HA3	2.57	0.45
31:DA:238:G:C2	31:DA:239:U:C2	3.04	0.45
7:AH:86:GLU:OE2	7:AH:132:ARG:NH2	2.46	0.45
1:BA:24:G:H2'	1:BA:25:U:O4'	2.17	0.45
33:CC:23:TYR:CG	40:CJ:10:GLY:HA2	2.51	0.45
2:BB:21:G:H2'	2:BB:22:U:O4'	2.17	0.45
8:AI:63:ALA:O	8:AI:66:GLU:N	2.50	0.45
30:A8:16:ILE:HD13	30:A8:59:LYS:HD2	1.97	0.45
21:BZ:106:GLY:O	21:BZ:108:PRO:HD3	2.16	0.45
8:AI:73:GLU:OE2	8:AI:139:GLN:N	2.49	0.45
31:DA:999:C:H2'	31:DA:1000:U:O4'	2.16	0.45
1:BA:2228:G:C6	1:BA:2229:C:C4	3.05	0.45
38:CH:51:VAL:HG21	38:CH:60:ARG:HG3	1.98	0.45
1:AA:2337:G:C2	1:AA:2338:G:C8	3.04	0.45
3:AD:144:ALA:HB3	3:AD:192:THR:HG23	1.99	0.45
1:AA:597:U:H2'	1:AA:598:G:C8	2.52	0.45
39:DI:31:GLN:HE21	39:DI:31:GLN:N	2.14	0.45
4:AE:116:VAL:HG13	4:AE:122:PHE:HB2	1.99	0.45
42:CL:117:ARG:HB3	42:CL:122:THR:HB	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2016:U:H2'	1:AA:2017:U:C6	2.52	0.45
31:DA:430:A:OP1	34:DD:9:CYS:N	2.42	0.45
31:DA:1030(B):C:C3'	31:DA:1030(C):G:H5'	2.46	0.45
31:DA:673:G:C4	31:DA:734:G:C2	3.05	0.45
2:BB:38:C:O4'	14:BS:95:HIS:NE2	2.48	0.45
31:CA:277:C:H2'	31:CA:278:G:C8	2.52	0.45
31:CA:954:G:H21	31:CA:1227:A:N6	2.08	0.45
1:AA:797:C:H2'	1:AA:798:G:C8	2.52	0.45
1:AA:1045:A:H2'	1:AA:1045:A:N3	2.31	0.45
1:AA:1494:A:H2'	1:AA:1495:A:H8	1.81	0.45
1:BA:1665:A:C4'	10:BO:67:LYS:HB2	2.46	0.45
31:CA:1206:G:H2'	31:CA:1207:G:O4'	2.17	0.45
34:CD:60:GLU:HG3	34:CD:198:VAL:HG13	1.98	0.45
39:DI:113:LYS:H	39:DI:119:ALA:HA	1.81	0.45
31:CA:994:A:O2'	44:CN:8:GLU:HG2	2.16	0.45
42:DL:66:VAL:HG21	42:DL:98:TYR:CD1	2.52	0.45
1:BA:375:C:H2'	1:BA:376:C:C6	2.52	0.45
31:DA:606:G:H2'	31:DA:631:G:H1	1.81	0.45
31:DA:642:A:H2'	31:DA:643:C:C6	2.52	0.45
22:A0:43:THR:C	22:A0:45:PHE:H	2.19	0.45
31:DA:1291:G:H5''	39:DI:39:GLY:HA3	1.98	0.45
35:DE:79:GLU:HG3	35:DE:93:PRO:HD2	1.99	0.45
1:AA:1252:G:N1	16:AU:37:GLU:OE1	2.40	0.45
36:CF:97:PHE:O	48:CR:31:LEU:HD23	2.17	0.45
48:DR:53:ARG:HH21	48:DR:60:ALA:N	2.15	0.45
1:BA:36:G:H4'	1:BA:451:C:C2	2.52	0.45
3:BD:71:ASP:HB3	3:BD:103:ARG:NH2	2.31	0.45
46:DP:22:THR:HA	46:DP:33:ILE:HG12	1.99	0.45
31:DA:277:C:OP2	47:DQ:41:LYS:NZ	2.42	0.45
18:AW:17:VAL:O	18:AW:20:VAL:N	2.41	0.45
31:DA:19:C:H4'	31:DA:864:A:O4'	2.17	0.45
2:AB:59:A:H2'	2:AB:60:C:O4'	2.17	0.45
37:CG:106:GLN:O	37:CG:110:GLN:HG3	2.17	0.45
31:CA:646:U:H2'	31:CA:647:C:C6	2.51	0.45
49:CS:44:MET:O	49:CS:47:HIS:HB2	2.17	0.45
1:BA:1028:A:N6	1:BA:1125:G:H2'	2.31	0.45
1:AA:13:A:N1	1:AA:525:U:H2'	2.32	0.45
31:DA:763:G:H2'	31:DA:764:C:H6	1.81	0.45
1:AA:223:A:O2'	1:AA:420:C:O2	2.31	0.45
9:AN:123:TYR:CZ	9:AN:129:PRO:HD2	2.52	0.45
31:CA:1492:A:C8	42:CL:47:LYS:HB2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:377:G:OP2	46:CP:3:LYS:NZ	2.46	0.45
46:CP:74:LEU:HB3	46:CP:79:VAL:HG11	1.99	0.45
15:AT:39:ARG:NH2	31:DA:345:C:H5'	2.31	0.45
1:AA:1176:G:H4'	1:AA:1177:A:OP2	2.17	0.45
31:CA:103:C:H1'	31:CA:171:A:N1	2.32	0.45
31:DA:475:G:C4	31:DA:476:G:C8	3.05	0.45
31:DA:858:G:H1	31:DA:870:U:P	2.39	0.45
1:AA:2438:U:O2'	1:AA:2440:C:OP1	2.30	0.45
33:DC:149:ALA:HA	33:DC:201:TYR:O	2.16	0.45
4:BE:179:GLU:O	4:BE:181:LEU:HD13	2.17	0.45
1:AA:954:G:H5''	12:AQ:13:GLN:HB3	1.99	0.45
1:BA:1482:G:C6	1:BA:1507:A:C6	3.05	0.45
31:CA:963:G:HO2'	40:CJ:54:PHE:HZ	1.63	0.45
5:AF:101:LEU:HB3	5:AF:106:ARG:HD3	1.98	0.45
1:AA:2122:U:O2'	1:AA:2123:G:OP1	2.28	0.45
1:AA:1494:A:C6	1:AA:1495:A:C6	3.05	0.45
2:AB:95:C:H2'	2:AB:96:U:C6	2.52	0.45
1:AA:1463:C:H2'	1:AA:1464:C:H6	1.82	0.45
40:DJ:12:ASP:O	40:DJ:16:LEU:HB3	2.17	0.45
5:BF:7:TYR:HB2	5:BF:22:ALA:HB3	1.97	0.45
1:AA:2139:C:H2'	1:AA:2140:C:O4'	2.17	0.45
1:AA:1612:C:O3'	29:A7:5:TRP:HB3	2.17	0.45
1:BA:470:A:H2'	1:BA:471:A:O4'	2.17	0.45
21:AZ:151:HIS:HD2	21:AZ:168:GLU:O	2.00	0.45
1:BA:2282:G:OP1	1:BA:2283:C:H1'	2.17	0.45
43:CM:102:ARG:HH21	43:CM:105:THR:HG23	1.81	0.45
1:BA:588:U:O4	1:BA:670:A:H1'	2.16	0.45
32:CB:167:PRO:HG3	32:CB:188:ALA:HB2	1.98	0.45
22:A0:43:THR:C	22:A0:45:PHE:N	2.70	0.45
49:DS:53:ASN:HB3	49:DS:75:ALA:O	2.17	0.45
49:DS:37:ARG:HG3	49:DS:37:ARG:H	1.46	0.45
1:AA:126:A:O5'	29:A7:19:ARG:HG3	2.17	0.45
45:CO:8:LYS:O	45:CO:12:ILE:HG13	2.17	0.45
1:AA:1275:A:O2'	1:AA:1645:G:N3	2.49	0.45
45:DO:3:ILE:H	45:DO:3:ILE:HD13	1.81	0.45
1:BA:69:C:O2'	1:BA:70:G:H5'	2.17	0.45
31:CA:1494:G:C6	31:CA:1495:U:C4	3.04	0.45
50:CT:92:LEU:HD23	50:CT:92:LEU:HA	1.72	0.45
4:AE:68:ALA:C	4:AE:70:ALA:H	2.19	0.45
45:CO:40:SER:O	45:CO:44:LYS:HG3	2.16	0.45
31:DA:137:C:O2'	31:DA:138:G:H5'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1913:A:C2'	52:AA:3001:T8B:O2	2.65	0.45
31:DA:542:G:OP1	34:DD:10:ARG:NH2	2.48	0.45
18:BW:14:PRO:CG	18:BW:78:GLU:HG2	2.39	0.45
43:DM:114:ARG:HG2	43:DM:114:ARG:H	1.44	0.45
31:DA:22:G:H2'	31:DA:23:C:C6	2.52	0.45
15:AT:55:ASN:N	15:AT:59:THR:HG22	2.31	0.45
31:CA:1288:A:H1'	31:CA:1353:G:O4'	2.17	0.45
31:CA:948:C:H2'	31:CA:949:A:H8	1.82	0.45
1:BA:848:G:N9	1:BA:933:A:H8	2.14	0.45
31:CA:1227:A:OP2	43:CM:96:LEU:HD21	2.16	0.45
1:AA:2163:C:H6	1:AA:2163:C:O5'	2.00	0.45
1:AA:271(D):G:H2'	1:AA:271(E):U:C6	2.51	0.45
1:BA:2808:U:H5''	1:BA:2891:G:O6	2.17	0.45
31:CA:270:A:H2'	31:CA:271:C:C6	2.52	0.45
31:DA:1079:G:H2'	31:DA:1080:A:C8	2.52	0.45
32:CB:54:THR:HG23	32:CB:199:TYR:HB3	1.99	0.45
1:AA:2525:G:C2	1:AA:2539:C:C2	3.04	0.45
31:DA:38:G:H22	31:DA:397:A:H5''	1.82	0.45
31:DA:971:G:H1'	31:DA:1365:G:O2'	2.17	0.45
31:DA:949:A:H1'	31:DA:1364:U:O2	2.17	0.45
13:BR:96:ARG:HD2	13:BR:115:GLU:OE1	2.17	0.45
1:AA:1015:G:O2'	1:AA:1016:G:H5'	2.16	0.45
32:DB:178:ARG:HH21	38:DH:74:PRO:CB	2.30	0.45
1:BA:548:A:N6	17:BV:19:LYS:H	2.14	0.45
1:AA:2489:G:C6	1:AA:2490:G:N1	2.85	0.45
31:CA:436:C:O2'	31:CA:437:U:OP2	2.26	0.45
31:CA:189:G:C5	31:CA:189(A):C:C5	3.05	0.45
31:CA:189:G:C6	31:CA:189(L):G:N1	2.85	0.45
5:BF:160:ASN:CG	5:BF:163:VAL:HG23	2.38	0.45
1:AA:2531:A:H2	1:AA:2658:C:O2	2.00	0.45
5:AF:80:ALA:HB3	5:AF:83:PHE:HD1	1.82	0.45
21:AZ:63:ASP:OD1	21:AZ:65:GLN:HB2	2.17	0.45
5:BF:157:VAL:HB	5:BF:194:MET:HG2	1.99	0.45
4:AE:172:VAL:HG13	4:AE:182:LEU:HD11	1.98	0.45
21:BZ:100:VAL:O	21:BZ:124:ILE:N	2.50	0.45
1:AA:868:U:H2'	1:AA:869:G:O4'	2.18	0.45
1:AA:1316:U:H2'	1:AA:1317:A:C8	2.52	0.45
31:CA:295:C:H2'	31:CA:296:U:O4'	2.17	0.45
1:BA:72:U:OP1	19:BX:1:MET:N	2.49	0.45
15:BT:106:SER:O	15:BT:110:ILE:HG13	2.17	0.45
1:AA:1684:C:C2	1:AA:1705:G:N2	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:CN:3:ARG:HD2	44:CN:3:ARG:HA	1.59	0.45
21:BZ:6:LYS:HB3	21:BZ:6:LYS:HE2	1.81	0.45
12:BQ:16:ARG:HG2	12:BQ:18:LYS:HE2	1.98	0.45
10:BO:17:ARG:NH1	10:BO:47:ILE:HD13	2.31	0.45
43:DM:16:ASP:HB3	43:DM:34:LEU:HD11	1.99	0.45
37:CG:22:LEU:HG	37:CG:62:PHE:HE2	1.81	0.45
31:CA:950:U:H3	31:CA:1231:G:H1	1.65	0.45
1:AA:2399:G:H2'	1:AA:2400:G:O4'	2.17	0.45
20:AY:38:ILE:HD13	20:AY:66:PRO:HA	1.99	0.45
1:AA:2206:G:HO2'	1:AA:2207:G:P	2.39	0.44
1:AA:1336:A:H2'	1:AA:1337:G:H8	1.77	0.44
31:CA:1146:A:C5	31:CA:1147:C:C6	3.06	0.44
39:DI:21:PRO:HA	39:DI:59:PHE:HA	1.99	0.44
31:DA:825:G:C6	31:DA:826:C:C4	3.05	0.44
1:AA:587:C:C5	1:AA:671:C:H1'	2.52	0.44
1:AA:672:C:H2'	1:AA:673:C:H6	1.82	0.44
32:CB:12:GLU:C	32:CB:16:HIS:HD1	2.21	0.44
1:BA:2778:A:H4'	1:BA:2779:U:OP2	2.17	0.44
1:BA:2113:U:H2'	1:BA:2114:A:C8	2.52	0.44
1:AA:2787:C:H2'	1:AA:2788:C:H6	1.82	0.44
22:A0:27:GLU:HB2	22:A0:69:PHE:HD1	1.82	0.44
31:DA:623:C:C4	31:DA:624:C:C4	3.05	0.44
33:CC:11:ARG:HB3	33:CC:15:THR:HB	1.98	0.44
7:AH:11:VAL:HG13	7:AH:15:VAL:HG22	1.99	0.44
33:DC:182:ILE:HA	33:DC:202:ILE:O	2.17	0.44
31:DA:1332:A:C8	31:DA:1332:A:O5'	2.70	0.44
1:BA:2139:C:H2'	1:BA:2140:C:O4'	2.18	0.44
1:BA:2853:C:H2'	1:BA:2854:G:H8	1.82	0.44
1:AA:700:G:H2'	1:AA:701:G:O4'	2.17	0.44
45:DO:87:ILE:O	45:DO:88:ARG:HB3	2.17	0.44
31:DA:728:A:H2'	31:DA:729:A:C8	2.51	0.44
1:BA:2007:C:H4'	1:BA:2824:C:O2'	2.17	0.44
50:DT:67:ALA:HA	50:DT:72:LEU:O	2.17	0.44
1:BA:515:A:H1'	1:BA:581:C:H1'	2.00	0.44
31:DA:991:U:O2'	31:DA:992:U:P	2.75	0.44
36:CF:19:LEU:HD11	36:CF:59:TYR:CZ	2.52	0.44
31:DA:1386:G:C2	31:DA:1387:G:C8	3.05	0.44
31:DA:277:C:H5''	47:DQ:68:ARG:NH2	2.32	0.44
31:DA:270:A:H2'	31:DA:271:C:C6	2.51	0.44
31:DA:841:U:H6	31:DA:841:U:P	2.40	0.44
31:CA:1151:A:O2'	31:CA:1152:A:H8	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:CF:4:TYR:CD1	36:CF:92:LYS:HA	2.52	0.44
31:DA:328:C:H4'	31:DA:329:A:H5'	1.98	0.44
1:AA:1344:G:O2'	1:AA:1385:G:H2'	2.17	0.44
12:AQ:74:TYR:O	12:AQ:90:VAL:HA	2.18	0.44
1:AA:664:C:H4'	1:AA:941:A:OP1	2.16	0.44
1:BA:1837:C:OP1	31:CA:784:C:H4'	2.17	0.44
8:BI:72:LEU:HA	8:BI:75:LEU:HD11	1.98	0.44
1:BA:2875:C:O2'	15:BT:4:GLY:HA3	2.17	0.44
3:AD:53:PHE:C	3:AD:218:ARG:HB2	2.37	0.44
10:AO:104:ARG:CZ	10:AO:104:ARG:HB2	2.47	0.44
1:BA:100:G:H4'	1:BA:100:G:OP2	2.17	0.44
41:CK:32:ILE:HG21	41:CK:72:ALA:CB	2.47	0.44
29:B7:16:HIS:HB2	29:B7:44:PRO:HG2	1.98	0.44
1:BA:2093:G:O5'	8:BI:24:GLY:HA3	2.16	0.44
1:AA:1915:U:O2	52:AA:3001:T8B:H20	2.17	0.44
31:DA:1033:G:H3'	31:DA:1034:G:H8	1.83	0.44
21:AZ:137:ILE:HA	21:AZ:156:LYS:HZ2	1.83	0.44
1:BA:1178:C:H2'	1:BA:1179:C:H6	1.81	0.44
1:AA:71:A:H3'	1:AA:71:A:OP2	2.16	0.44
1:AA:300:A:P	20:AY:86:ARG:NH2	2.89	0.44
1:BA:71:A:OP2	1:BA:71:A:H3'	2.17	0.44
1:AA:459:U:OP2	29:A7:39:ARG:NH1	2.47	0.44
1:BA:2778:A:O2'	1:BA:2781:A:H5'	2.17	0.44
44:CN:23:ARG:NH1	44:CN:30:ALA:HB2	2.32	0.44
32:DB:95:GLN:HG3	32:DB:147:LYS:HG2	1.98	0.44
31:DA:160:A:H3'	31:DA:161:A:H8	1.83	0.44
31:CA:129(A):G:H1'	31:CA:189(F):U:H2'	1.99	0.44
31:CA:589:C:H2'	31:CA:590:C:H6	1.81	0.44
37:DG:43:PHE:HD2	37:DG:44:TYR:CE2	2.35	0.44
31:CA:1020:U:H2'	31:CA:1021:G:C8	2.52	0.44
1:BA:2839:G:H5'	13:BR:46:GLY:CA	2.47	0.44
31:CA:157:G:C2	31:CA:158:G:C8	3.05	0.44
31:DA:532:A:H61	33:DC:193:TYR:HB2	1.82	0.44
45:CO:78:TYR:CE2	45:CO:82:ILE:HD13	2.51	0.44
35:DE:92:LYS:HA	35:DE:93:PRO:HD2	1.88	0.44
1:BA:181:A:H1'	1:BA:435:C:H5'	1.98	0.44
23:A1:25:LYS:O	23:A1:28:GLY:N	2.49	0.44
12:AQ:41:TRP:HB3	12:AQ:94:VAL:HG11	1.99	0.44
31:DA:1267:C:H5	31:DA:1268:A:C4	2.35	0.44
1:AA:825:C:H2'	1:AA:826:U:O4'	2.17	0.44
1:BA:278:A:H4'	1:BA:279:C:OP1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:517:G:H4'	31:DA:519:C:C6	2.52	0.44
31:CA:814:A:N7	31:CA:816:A:C4	2.86	0.44
3:BD:3:VAL:HG13	3:BD:17:THR:HB	1.98	0.44
1:BA:93:G:H2'	1:BA:94:C:C6	2.53	0.44
1:BA:663:G:H2'	1:BA:664:C:O4'	2.17	0.44
6:BG:96:ARG:O	6:BG:99:MET:HB3	2.18	0.44
37:DG:69:VAL:HG11	37:DG:134:ALA:HB1	1.98	0.44
8:AI:88:ILE:HG22	8:AI:90:GLY:H	1.83	0.44
34:CD:17:VAL:HG11	34:CD:197:PRO:HG3	2.00	0.44
1:BA:1952:A:C6	1:BA:1953:A:N1	2.85	0.44
1:BA:128:C:H2'	1:BA:129:C:C6	2.53	0.44
43:CM:14:ARG:HA	43:CM:44:ARG:HA	2.00	0.44
3:AD:253:GLN:HE21	3:AD:253:GLN:HB3	1.55	0.44
12:AQ:37:LEU:HB2	12:AQ:128:LYS:O	2.16	0.44
1:AA:2638:G:OP1	4:AE:82:ARG:NH2	2.49	0.44
14:AS:23:ARG:NH2	14:AS:84:GLN:HB3	2.32	0.44
19:BX:3:THR:O	19:BX:6:ASP:HB2	2.17	0.44
1:AA:870:A:C2	1:AA:908:C:C2	3.05	0.44
31:DA:1072:G:C6	31:DA:1073:U:C4	3.06	0.44
1:AA:1002:G:C6	1:AA:1003:G:C5	3.05	0.44
1:BA:1803:A:N6	1:BA:1814:G:H1'	2.32	0.44
31:CA:1265:G:H2'	31:CA:1266:G:O4'	2.17	0.44
1:AA:2315:G:H2'	1:AA:2316:C:C6	2.52	0.44
38:DH:97:VAL:HA	38:DH:100:ILE:HD11	1.98	0.44
1:AA:775:G:N2	1:AA:793:A:O3'	2.50	0.44
1:AA:2351:G:HO2'	1:AA:2352:A:H8	1.65	0.44
27:A5:16:ARG:HG2	27:A5:16:ARG:HH11	1.81	0.44
1:BA:1430:C:H2'	1:BA:1431:U:H6	1.82	0.44
41:DK:59:TYR:O	41:DK:63:LEU:HB2	2.17	0.44
32:DB:185:ILE:HA	32:DB:199:TYR:O	2.16	0.44
1:AA:1495:A:H2'	1:AA:1496:A:H8	1.79	0.44
21:AZ:101:PRO:O	21:AZ:102:LEU:HD12	2.17	0.44
37:DG:62:PHE:O	37:DG:66:VAL:HG23	2.17	0.44
31:CA:142:G:H2'	31:CA:143:A:C8	2.50	0.44
31:CA:198:G:C5	31:CA:220:G:C2	3.05	0.44
31:DA:1187:G:H5'	39:DI:113:LYS:HE2	1.98	0.44
4:BE:71:GLY:HA2	4:BE:72:VAL:C	2.38	0.44
2:AB:61:G:H2'	2:AB:62:C:C6	2.52	0.44
34:DD:158:ILE:O	34:DD:162:LEU:HB2	2.17	0.44
1:AA:243:U:O2'	1:AA:244:A:H5'	2.17	0.44
31:DA:604:G:C5	31:DA:605:U:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:883:G:H1	1:AA:893:C:H42	1.65	0.44
29:A7:22:MET:HA	29:A7:28:ARG:HG2	1.99	0.44
1:AA:1416:G:O2'	1:AA:1417:C:H5	2.00	0.44
31:CA:414:A:H2'	31:CA:415:A:C8	2.52	0.44
31:DA:1327:C:H2'	31:DA:1328:C:C6	2.52	0.44
12:BQ:54:MET:HG2	12:BQ:117:ALA:HB1	1.99	0.44
22:B0:25:ARG:HD2	22:B0:29:GLN:NE2	2.32	0.44
10:BO:88:ASN:HB3	10:BO:94:ARG:HD3	1.98	0.44
46:DP:43:LYS:HA	46:DP:48:TRP:HB3	1.98	0.44
6:BG:149:VAL:HG22	6:BG:150:ASP:O	2.18	0.44
1:AA:1526:G:C6	1:AA:1527:G:C2	3.06	0.44
1:BA:1887:C:H2'	1:BA:1888:G:H5'	1.99	0.44
33:CC:113:ALA:HB3	33:CC:114:PRO:HD3	2.00	0.44
13:BR:26:LYS:HE2	13:BR:70:LEU:O	2.18	0.44
34:CD:189:PRO:CB	34:CD:194:LEU:HD11	2.34	0.44
1:BA:1187:G:O5'	1:BA:1187:G:H8	2.00	0.44
31:DA:1126:U:H1'	31:DA:1280:A:C5	2.52	0.44
1:BA:7:G:H2'	1:BA:8:A:C8	2.52	0.44
31:CA:975:A:H61	31:CA:1367:C:C1'	2.30	0.44
31:DA:444:C:H2'	31:DA:445:G:H8	1.83	0.44
31:DA:1055:A:C6	31:DA:1206:G:C5	3.05	0.44
1:AA:947:G:N2	1:AA:971:C:C2	2.85	0.44
1:AA:2350:C:H2'	1:AA:2351:G:O4'	2.17	0.44
31:DA:1106:G:H2'	31:DA:1107:C:C6	2.53	0.44
33:CC:22:TRP:CH2	44:CN:54:PRO:HG2	2.52	0.44
32:DB:163:PHE:CD2	32:DB:185:ILE:HG13	2.52	0.44
1:AA:849:A:C8	1:AA:850:C:C5	3.06	0.44
1:AA:773:U:O2'	3:AD:48:ARG:HD3	2.17	0.44
31:DA:1376:U:H2'	31:DA:1377:A:C8	2.53	0.44
6:BG:15:VAL:HG13	6:BG:175:LEU:HB3	1.99	0.44
8:BI:145:VAL:HG12	8:BI:146:ALA:N	2.32	0.44
34:DD:201:GLN:O	34:DD:204:ILE:HB	2.18	0.44
13:BR:57:ARG:HB3	13:BR:59:ASP:OD2	2.17	0.44
31:DA:729:A:H2'	31:DA:730:G:O4'	2.17	0.44
1:AA:813:U:H2'	1:AA:814:C:C6	2.52	0.44
31:DA:1123:A:O2'	40:DJ:37:PRO:O	2.32	0.44
1:AA:2505:G:H2'	1:AA:2576:G:O6	2.17	0.44
1:AA:2394:C:P	30:A8:30:ARG:NH1	2.91	0.44
8:BI:65:ALA:CB	8:BI:136:VAL:HG11	2.47	0.44
31:CA:189:G:C6	31:CA:189(A):C:C4	3.05	0.44
4:AE:110:GLY:O	13:AR:3:HIS:HE1	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AI:140:LEU:HD22	8:AI:141:LYS:N	2.33	0.44
31:DA:277:C:OP1	47:DQ:41:LYS:HE3	2.18	0.44
5:AF:123:LEU:HD12	5:AF:124:LEU:H	1.83	0.44
1:AA:1386:C:H2'	1:AA:1387:C:C6	2.52	0.44
46:CP:6:LEU:HG	46:CP:17:TYR:CB	2.47	0.44
31:CA:524:G:H2'	31:CA:525:C:C6	2.53	0.44
35:DE:51:VAL:O	35:DE:55:VAL:HG23	2.18	0.44
1:BA:2119:A:C2	1:BA:2170:A:H2'	2.53	0.44
18:AW:19:LEU:O	27:A5:25:LEU:HD12	2.18	0.44
35:CE:43:LEU:HD21	35:CE:132:ALA:HB1	1.98	0.44
32:CB:189:ASP:HB3	32:CB:203:GLY:O	2.17	0.44
32:DB:168:THR:O	32:DB:169:LYS:HB2	2.18	0.44
45:CO:76:GLU:HA	45:CO:76:GLU:OE1	2.18	0.44
3:AD:182:LEU:HA	3:AD:182:LEU:HD23	1.71	0.44
31:DA:765:G:N2	31:DA:813:U:H5	2.16	0.44
1:BA:125:G:C6	29:B7:10:ARG:HG3	2.52	0.44
32:CB:212:GLN:NE2	32:CB:235:SER:HB3	2.32	0.44
20:BY:47:LYS:HE3	20:BY:48:ALA:O	2.17	0.44
15:AT:26:ASP:OD1	15:AT:120:ARG:NH2	2.45	0.44
1:AA:885:C:N4	1:AA:890:A:C6	2.69	0.44
34:DD:13:ARG:HB2	34:DD:14:ARG:H	1.36	0.44
1:AA:1539:G:H2'	1:AA:1540:U:O4'	2.16	0.44
31:CA:1256:A:H5'	31:CA:1258:G:H1'	1.99	0.44
1:BA:1045:A:N3	1:BA:1045:A:C2'	2.80	0.44
31:DA:872:A:C4	31:DA:874:G:N7	2.86	0.44
31:CA:947:G:H2'	31:CA:948:C:O4'	2.17	0.44
31:CA:949:A:C1'	31:CA:1364:U:H3	2.30	0.44
8:AI:105:HIS:CD2	8:AI:105:HIS:N	2.82	0.44
1:AA:251:A:C5	1:AA:252:G:H1'	2.53	0.44
1:AA:729:G:C6	3:AD:208:LYS:HB2	2.52	0.44
39:CI:42:ARG:O	39:CI:45:ALA:HA	2.18	0.44
12:AQ:7:MET:HB3	12:AQ:9:TYR:O	2.18	0.44
1:AA:1139:G:O2'	1:AA:1143:A:N1	2.38	0.44
1:BA:2350:C:H2'	1:BA:2351:G:O4'	2.18	0.44
1:AA:644:A:H4'	1:AA:645:C:H5	1.80	0.44
18:BW:12:ILE:HD13	18:BW:17:VAL:HG22	1.98	0.44
1:BA:1649:G:C6	1:BA:2009:G:C6	3.06	0.44
1:AA:863:A:C2	1:AA:864:G:C4	3.06	0.44
31:DA:1176:A:H2'	31:DA:1177:G:H8	1.83	0.44
31:CA:418:C:H1'	31:CA:540:G:O2'	2.17	0.44
1:AA:1488:G:H8	1:AA:1488:G:H5''	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:A2:32:LEU:HD12	24:A2:57:ILE:HD12	2.00	0.44
42:CL:70:ILE:HD13	42:CL:77:LEU:HD12	1.99	0.44
1:BA:2184:G:OP2	1:BA:2184:G:H8	2.01	0.44
35:CE:70:PRO:O	35:CE:72:GLN:N	2.50	0.44
1:AA:125:G:C6	29:A7:10:ARG:HG3	2.53	0.44
2:AB:45:A:C2'	2:AB:46:A:H5'	2.47	0.44
31:CA:1261:A:H3'	31:CA:1262:C:C6	2.51	0.44
31:CA:748:C:H1'	31:CA:749:C:OP2	2.18	0.44
21:BZ:26:GLY:HA2	21:BZ:85:HIS:CD2	2.53	0.44
36:CF:37:VAL:HA	36:CF:65:VAL:HG12	1.99	0.44
1:AA:2728:U:H2'	1:AA:2729:G:H8	1.82	0.44
1:AA:2199:A:N3	1:AA:2199:A:H2'	2.32	0.44
1:BA:783:A:N3	1:BA:783:A:H2'	2.33	0.44
31:CA:153:C:H42	31:CA:169:C:N4	2.15	0.44
1:BA:438:G:H2'	1:BA:440:G:C8	2.53	0.44
34:DD:111:ALA:HB2	34:DD:120:LEU:HD12	2.00	0.44
31:CA:355:C:N3	31:CA:356:A:C5	2.85	0.44
1:AA:2690:C:N4	1:AA:2713:A:H1'	2.33	0.44
9:BN:19:GLU:HA	9:BN:59:LYS:HB2	1.98	0.44
8:BI:84:GLY:O	8:BI:85:GLU:HB3	2.16	0.44
40:DJ:44:VAL:HG22	40:DJ:66:ARG:HD3	1.99	0.44
50:DT:35:THR:O	50:DT:39:LYS:N	2.41	0.44
34:CD:94:LEU:HA	34:CD:94:LEU:HD23	1.69	0.44
1:BA:1143:A:OP1	9:BN:25:ARG:NH2	2.51	0.44
1:BA:103:A:H8	1:BA:103:A:O5'	2.00	0.44
1:AA:2218:U:H6	1:AA:2218:U:H2'	1.27	0.44
1:AA:2203:U:O4'	3:AD:151:LYS:HE2	2.18	0.44
6:AG:126:ASP:HB2	6:AG:130:ASN:O	2.18	0.44
1:BA:1210:A:H5'	1:BA:1212:G:O4'	2.18	0.44
1:AA:2173:A:H2'	1:AA:2174:C:H5'	1.99	0.44
47:CQ:7:THR:OG1	47:CQ:58:GLU:HG2	2.17	0.44
31:DA:343:U:C2	31:DA:347:G:N1	2.85	0.44
1:AA:2303:G:O2'	6:AG:132:ASN:HB2	2.17	0.44
31:DA:1250:A:H2'	31:DA:1251:A:O4'	2.17	0.44
31:DA:1244:C:OP2	51:DU:9:ARG:HB2	2.17	0.44
1:BA:1697:G:OP2	1:BA:1698:A:O2'	2.31	0.44
32:CB:18:GLY:HA2	32:CB:42:ILE:H	1.82	0.44
32:DB:185:ILE:O	32:DB:185:ILE:HG12	2.18	0.44
40:DJ:13:HIS:O	40:DJ:17:ASP:N	2.43	0.44
31:CA:1160:G:OP1	32:CB:133:LYS:HD3	2.17	0.44
9:AN:3:THR:HG22	9:AN:4:TYR:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1027:A:H2	1:AA:2487:G:HO2'	1.65	0.44
1:AA:271(R):G:H5''	23:A1:97:LEU:HD21	2.00	0.44
1:AA:1665:A:H4'	10:AO:67:LYS:HB2	2.00	0.44
1:AA:208:C:H2'	1:AA:209:C:H6	1.82	0.44
31:CA:1237:C:H4'	31:CA:1334:G:H21	1.82	0.44
12:AQ:30:GLY:CA	12:AQ:107:ALA:HB2	2.48	0.44
42:CL:24:VAL:HG13	42:CL:98:TYR:HE2	1.82	0.44
43:DM:30:ALA:O	43:DM:34:LEU:HG	2.16	0.44
41:CK:32:ILE:HG21	41:CK:72:ALA:HB2	1.99	0.44
42:CL:85:ILE:HA	42:CL:85:ILE:HD13	1.74	0.44
20:BY:68:HIS:ND1	20:BY:70:SER:HB3	2.32	0.44
31:CA:352:C:O2'	31:CA:354:G:OP1	2.23	0.44
38:DH:37:ARG:HH21	38:DH:38:ILE:HG12	1.82	0.44
1:AA:2514:U:H2'	1:AA:2515:C:C6	2.53	0.44
1:BA:1854:A:H2'	1:BA:1855:G:O4'	2.17	0.44
1:BA:319:C:H2'	1:BA:320:A:O4'	2.18	0.44
31:DA:838:G:H2'	31:DA:839:U:H5''	2.00	0.44
31:CA:670:G:C6	31:CA:671:G:C5	3.06	0.44
1:AA:600:G:N2	1:AA:605:C:O3'	2.51	0.44
34:CD:52:SER:O	34:CD:55:ALA:N	2.51	0.44
1:BA:2461:C:H42	1:BA:2489:G:H1	1.66	0.44
34:DD:26:CYS:HB3	34:DD:31:CYS:SG	2.54	0.44
31:DA:1028:C:H6	31:DA:1028:C:H3'	1.82	0.44
1:AA:96:G:H4'	24:A2:48:HIS:NE2	2.32	0.44
16:AU:91:ASP:N	17:AV:11:GLN:OE1	2.35	0.44
1:AA:1000:A:C6	1:AA:1001:A:N1	2.86	0.44
2:AB:29:A:O5'	14:AS:32:LEU:HD12	2.17	0.44
1:AA:902:C:H2'	1:AA:903:C:H6	1.83	0.44
1:AA:2031:A:H1'	1:AA:2455:G:O2'	2.18	0.44
31:DA:21:G:C2	31:DA:22:G:C6	3.05	0.44
32:CB:178:ARG:HG2	38:CH:71:GLY:O	2.18	0.44
31:DA:1046:A:H2'	31:DA:1047:G:O4'	2.18	0.44
1:AA:271(K):U:HO2'	1:AA:271(M):G:H22	1.64	0.44
38:CH:9:MET:HG2	38:CH:10:LEU:HD23	1.99	0.44
31:DA:1255:G:H1	31:DA:1282:C:H42	1.63	0.44
31:DA:1287:A:H2'	31:DA:1288:A:C8	2.53	0.44
31:CA:1380:U:C4	37:CG:3:ARG:HG2	2.52	0.44
1:BA:2568:C:H2'	1:BA:2569:G:O4'	2.18	0.44
1:BA:1434:A:H61	1:BA:1558:A:H62	1.65	0.44
26:B4:42:PHE:CA	26:B4:43:TYR:HB2	2.47	0.44
1:BA:2789:C:H4'	1:BA:2790:A:OP1	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1636:C:H2'	1:AA:1637:A:H8	1.83	0.44
38:DH:20:TYR:HA	38:DH:65:TYR:CZ	2.52	0.44
1:AA:141:A:C8	1:AA:1408:C:O2'	2.62	0.44
31:CA:919:A:O2'	31:CA:920:U:H5'	2.18	0.44
12:BQ:32:TYR:HB2	12:BQ:106:VAL:HG23	1.99	0.44
31:CA:1097:C:H1'	31:CA:1170:A:H1'	1.99	0.44
20:AY:5:MET:HB2	20:AY:5:MET:HE2	1.90	0.44
8:AI:111:PRO:HB2	8:AI:112:LYS:HE3	1.99	0.44
1:AA:993:G:OP1	16:AU:50:ARG:NH2	2.50	0.44
12:AQ:72:LYS:HB3	12:AQ:94:VAL:HG23	1.99	0.44
26:B4:15:ILE:HG13	26:B4:21:VAL:HG22	1.99	0.44
12:AQ:29:PHE:HB2	12:AQ:105:GLU:OE2	2.18	0.44
47:DQ:10:VAL:HG13	47:DQ:19:VAL:HB	1.98	0.44
31:DA:509:A:N3	31:DA:543:C:O2'	2.50	0.44
9:BN:42:TRP:CH2	9:BN:44:PRO:HB3	2.52	0.44
20:AY:91:GLU:H	20:AY:93:GLY:HA2	1.82	0.44
23:A1:62:VAL:HG13	23:A1:63:ALA:O	2.18	0.44
37:DG:68:ASN:ND2	37:DG:128:ALA:HA	2.32	0.44
1:AA:146:G:H2'	1:AA:147:U:O4'	2.17	0.44
4:BE:170:LEU:HA	4:BE:170:LEU:HD12	1.76	0.44
31:CA:317:G:C6	31:CA:318:G:C5	3.06	0.44
34:DD:64:LEU:HD22	34:DD:198:VAL:HG11	1.99	0.44
32:DB:19:HIS:CE1	32:DB:206:ASP:HB2	2.53	0.44
31:DA:1490:C:H2'	31:DA:1491:G:H8	1.82	0.44
31:CA:1399:C:C2	31:CA:1401:G:C5	3.06	0.44
33:DC:67:THR:HA	33:DC:102:ASN:HB2	1.99	0.44
21:BZ:138:GLU:H	21:BZ:156:LYS:HZ1	1.66	0.44
1:AA:2203:U:O2'	1:AA:2205:C:H5'	2.17	0.44
31:CA:1030(D):A:H2'	31:CA:1031:G:O4'	2.18	0.44
31:DA:600:C:OP1	38:DH:97:VAL:N	2.40	0.44
38:CH:10:LEU:O	38:CH:13:ILE:HB	2.18	0.44
1:AA:2787:C:H1'	4:AE:62:PRO:HG3	2.00	0.44
20:AY:76:CYS:SG	20:AY:99:CYS:HB2	2.57	0.44
1:AA:2694:G:C6	1:AA:2695:C:C4	3.05	0.44
1:AA:2378:A:C5	1:AA:2379:G:H1'	2.52	0.44
31:DA:375:U:H5''	46:DP:6:LEU:HD23	1.99	0.44
1:AA:2464:C:O2'	1:AA:2465:C:OP2	2.32	0.44
5:BF:29:ASN:HB3	5:BF:112:MET:HE1	2.00	0.44
31:CA:826:C:H2'	31:CA:827:U:H6	1.83	0.44
50:CT:80:ARG:O	50:CT:84:LEU:HB2	2.18	0.44
31:CA:1095:U:P	31:CA:1108:G:H1	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:729:G:H5'	1:BA:730:C:H5''	2.00	0.44
2:AB:19:G:H5'	2:AB:20:C:OP2	2.18	0.44
31:CA:1347:G:H22	31:CA:1374:A:P	2.41	0.44
31:CA:1347:G:N2	31:CA:1373:G:H2'	2.32	0.44
1:AA:1992:G:H5'	1:AA:1994:C:H41	1.82	0.44
1:BA:2331:G:O2'	1:BA:2336:A:N1	2.40	0.44
24:A2:22:GLU:HG2	24:A2:64:LEU:HD11	2.00	0.44
31:CA:1217:C:H2'	31:CA:1218:C:O4'	2.18	0.44
1:AA:271(P):C:H2'	1:AA:271(Q):G:H5'	1.99	0.44
1:AA:709:U:C2	1:AA:723:G:N2	2.85	0.44
31:CA:708:C:P	41:CK:85:ARG:HH12	2.41	0.44
8:AI:82:ARG:HB3	8:AI:89:TYR:CG	2.53	0.44
13:AR:92:GLY:HA2	13:AR:94:TYR:CZ	2.53	0.44
26:A4:16:CYS:HA	26:A4:33:VAL:O	2.18	0.44
42:CL:33:ARG:O	42:CL:85:ILE:HB	2.17	0.44
36:DF:30:LEU:HB3	36:DF:35:ALA:HB3	2.00	0.44
43:CM:86:CYS:H	43:CM:89:GLY:HA3	1.82	0.44
4:AE:151:TYR:O	4:AE:154:LYS:HB2	2.17	0.44
31:DA:410:G:C2	31:DA:429:U:C2	3.06	0.44
1:AA:57:C:H2'	1:AA:58:G:O4'	2.17	0.44
1:AA:1939:U:OP1	1:AA:2604:U:O2'	2.36	0.44
1:AA:1578:U:C2'	1:AA:1579:A:H5'	2.48	0.44
37:CG:64:GLN:O	37:CG:68:ASN:HB2	2.18	0.44
31:CA:178:C:H2'	31:CA:179:A:H8	1.81	0.44
17:AV:77:ALA:O	17:AV:79:VAL:HB	2.17	0.44
31:CA:1456:G:O2'	50:CT:39:LYS:HG2	2.17	0.44
42:CL:44:THR:HG22	42:CL:51:ALA:O	2.18	0.44
1:AA:1323:U:OP1	18:AW:98:LYS:NZ	2.41	0.44
1:BA:428:A:OP2	1:BA:428:A:H8	2.01	0.44
40:DJ:96:ILE:HG13	40:DJ:96:ILE:H	1.56	0.44
1:AA:1613:G:C2	1:AA:1619:G:C5	3.06	0.44
20:AY:43:ASN:OD1	20:AY:65:ALA:HB3	2.18	0.44
1:AA:997:G:O2'	1:AA:998:C:H5'	2.17	0.44
12:BQ:27:VAL:O	12:BQ:67:ARG:NH1	2.51	0.44
1:AA:445:C:O2'	1:AA:446:G:H5'	2.18	0.44
31:DA:1074:G:O2'	31:DA:1101:A:N1	2.31	0.44
1:AA:2115:G:O2'	1:AA:2167:U:H1'	2.18	0.44
31:DA:292:G:N2	31:DA:309:G:C4	2.86	0.44
33:DC:77:ILE:HA	33:DC:84:ILE:N	2.31	0.44
31:CA:489:C:C4	31:CA:490:G:N7	2.86	0.44
31:CA:828:A:N6	31:CA:858:G:O2'	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:DI:28:VAL:HG22	39:DI:63:ILE:HD12	1.99	0.44
19:AX:29:TRP:CZ3	19:AX:78:LYS:HB3	2.53	0.44
31:CA:59:A:H3'	31:CA:331:G:H22	1.83	0.44
31:CA:818:G:HO2'	31:CA:820:U:H6	1.59	0.44
30:A8:34:TRP:NE1	30:A8:35:GLN:HB3	2.32	0.44
1:AA:857:C:C2	1:AA:921:G:N2	2.86	0.44
1:AA:53:A:H61	1:AA:117:G:C2'	2.30	0.44
21:AZ:153:SER:HB3	21:AZ:167:PRO:O	2.17	0.44
31:DA:1089:G:C6	31:DA:1090:U:C4	3.05	0.44
31:DA:643:C:H5'	38:DH:31:PHE:CD1	2.53	0.44
1:BA:1638:C:O2	1:BA:2698:U:O2'	2.32	0.44
40:CJ:43:ARG:HA	40:CJ:43:ARG:HD2	1.72	0.44
43:DM:38:GLY:O	43:DM:55:ARG:NH1	2.51	0.44
42:CL:79:GLU:HB3	42:CL:80:HIS:ND1	2.32	0.44
31:DA:324:G:H8	31:DA:324:G:O5'	2.01	0.44
1:BA:1963:U:H4'	1:BA:1964:G:OP1	2.17	0.44
23:A1:50:ARG:HG2	23:A1:59:THR:HB	2.00	0.44
1:AA:2243:U:H2'	1:AA:2244:U:C6	2.53	0.44
2:AB:117:G:H2'	2:AB:118:G:O4'	2.18	0.44
11:AP:135:LEU:HD23	11:AP:135:LEU:HA	1.91	0.44
1:AA:1709:U:H2'	1:AA:1710:C:C6	2.53	0.44
1:AA:435:C:H2'	1:AA:436:C:H5'	2.00	0.44
1:AA:806:C:OP2	11:AP:37:GLY:HA2	2.18	0.44
1:AA:873:G:N2	1:AA:905:U:C2	2.86	0.44
1:BA:990:A:OP2	1:BA:991:C:OP2	2.36	0.44
1:AA:274:G:H3'	1:AA:275:G:C8	2.53	0.44
1:AA:95:G:O5'	24:A2:45:SER:HB2	2.17	0.43
31:DA:93:G:O2'	31:DA:96:U:P	2.75	0.43
43:CM:69:GLU:HG3	43:CM:70:LEU:H	1.82	0.43
49:CS:37:ARG:HG3	49:CS:37:ARG:H	1.57	0.43
14:AS:32:LEU:O	14:AS:62:LYS:HE2	2.18	0.43
31:CA:66:G:N2	31:CA:172:A:N3	2.66	0.43
35:CE:48:ALA:O	35:CE:50:GLU:N	2.51	0.43
31:DA:1004:A:H5'	31:DA:1024:G:N2	2.33	0.43
31:DA:986:A:H2'	31:DA:987:G:C8	2.52	0.43
42:CL:119:LYS:HB2	42:CL:120:TYR:HD1	1.82	0.43
15:AT:6:LEU:HD13	15:AT:6:LEU:HA	1.64	0.43
21:BZ:45:ASP:O	21:BZ:49:ARG:HG3	2.18	0.43
2:BB:31:C:H4'	6:BG:29:TRP:HH2	1.83	0.43
2:BB:31:C:O5'	2:BB:31:C:H6	2.01	0.43
2:BB:9:G:OP1	14:BS:15:ARG:HD3	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:1051:C:H2'	31:CA:1052:U:H6	1.83	0.43
31:CA:684:A:C6	31:CA:685:G:C6	3.06	0.43
31:DA:1002:G:H2'	31:DA:1003:G:O4'	2.18	0.43
2:AB:64:C:H2'	2:AB:65:C:C6	2.53	0.43
7:BH:154:PRO:HB3	7:BH:163:TYR:CZ	2.53	0.43
10:AO:73:ASP:OD2	10:AO:75:SER:HB3	2.18	0.43
40:DJ:61:GLU:OE2	44:DN:45:ARG:NE	2.49	0.43
42:DL:85:ILE:HD13	42:DL:85:ILE:HA	1.80	0.43
15:AT:91:ARG:HD2	15:AT:120:ARG:NH1	2.33	0.43
20:AY:90:LEU:O	20:AY:91:GLU:HB2	2.18	0.43
2:AB:117:G:O5'	2:AB:117:G:H8	2.00	0.43
1:AA:1916:A:H2'	1:AA:1917:U:O4'	2.17	0.43
1:BA:1545:A:H2'	1:BA:1546:C:O4'	2.18	0.43
37:CG:99:LEU:HD22	37:CG:103:TRP:CZ2	2.53	0.43
6:AG:36:LYS:HB3	6:AG:95:ARG:HG2	2.00	0.43
1:BA:2076:U:OP2	1:BA:2238:G:N2	2.44	0.43
1:BA:568:U:H5'	1:BA:945:A:C6	2.54	0.43
37:DG:70:LYS:HA	37:DG:71:PRO:HD3	1.91	0.43
50:CT:56:MET:HE3	50:CT:88:VAL:HG11	1.99	0.43
1:BA:2544:G:H1'	1:BA:2646:C:H4'	1.99	0.43
7:AH:3:ARG:HG2	7:AH:6:ARG:NE	2.32	0.43
1:BA:886:C:H2'	1:BA:887:A:H5''	2.00	0.43
28:A6:40:CYS:SG	28:A6:42:TRP:HB2	2.58	0.43
31:DA:1104:G:C4	31:DA:1105:A:C8	3.06	0.43
31:CA:1318:A:O2'	49:CS:37:ARG:HB3	2.17	0.43
2:AB:29:A:H5''	2:AB:30:C:OP2	2.19	0.43
31:CA:377:G:H2'	31:CA:378:G:H8	1.82	0.43
11:AP:100:LEU:O	11:AP:103:ALA:HB3	2.17	0.43
1:AA:2171:A:H1'	1:AA:2172:U:C6	2.53	0.43
1:AA:793:A:OP2	1:AA:2071:A:O2'	2.35	0.43
31:CA:456:C:H2'	31:CA:457:C:C6	2.54	0.43
25:A3:52:HIS:CD2	25:A3:53:LEU:HD21	2.53	0.43
31:DA:1412:C:H2'	31:DA:1413:A:H8	1.84	0.43
34:DD:60:GLU:HG2	34:DD:202:LEU:HB2	2.00	0.43
31:CA:160:A:H8	31:CA:160:A:OP1	2.01	0.43
1:AA:2590:A:C2	1:AA:2605:U:C2	3.06	0.43
1:AA:2494:G:C6	1:AA:2495:G:C5	3.06	0.43
40:CJ:50:ILE:HG13	40:CJ:60:ARG:HE	1.82	0.43
38:DH:21:LYS:O	38:DH:65:TYR:OH	2.26	0.43
1:BA:1990:C:H2'	1:BA:1991:U:O4'	2.17	0.43
1:BA:271(D):G:C6	1:BA:271(E):U:C4	3.05	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:BF:89:VAL:HG12	5:BF:90:PHE:N	2.33	0.43
21:BZ:144:LEU:HD12	21:BZ:144:LEU:HA	1.70	0.43
13:BR:1:MET:H1	13:BR:1:MET:HG2	1.70	0.43
13:AR:21:TYR:OH	13:AR:43:GLU:HG2	2.19	0.43
1:AA:2698:U:H2'	1:AA:2699:C:C6	2.53	0.43
1:AA:2027:G:H2'	1:AA:2028:U:O4'	2.18	0.43
42:DL:74:GLY:O	42:DL:102:ARG:NH1	2.51	0.43
1:AA:2227:A:H4'	3:AD:265:PRO:HD3	2.00	0.43
17:AV:28:GLU:HA	17:AV:29:PRO:HD3	1.84	0.43
31:DA:804:U:H5''	31:DA:805:C:OP2	2.18	0.43
1:AA:1967:C:H2'	1:AA:1968:G:O4'	2.17	0.43
1:BA:1983:C:H4'	1:BA:2606:C:H4'	2.00	0.43
1:BA:1773:A:H2'	1:BA:1774:C:H5'	1.99	0.43
1:BA:12:U:O2	1:BA:12:U:H2'	2.18	0.43
1:AA:2834:G:H5''	1:AA:2834:G:H8	1.82	0.43
35:CE:30:ALA:N	35:CE:46:GLY:O	2.47	0.43
44:CN:47:LEU:HD23	44:CN:50:LYS:HD3	2.00	0.43
31:DA:719:C:N4	48:DR:71:LYS:HE2	2.33	0.43
12:AQ:134:ARG:HH11	12:AQ:134:ARG:HG3	1.82	0.43
21:BZ:159:PRO:HA	21:BZ:160:GLY:HA2	1.75	0.43
2:AB:24:G:H4'	2:AB:25:A:H8	1.81	0.43
21:BZ:154:ASP:N	21:BZ:154:ASP:OD1	2.46	0.43
1:AA:83:G:N1	1:AA:102:G:H2'	2.34	0.43
1:AA:1179:C:O2'	1:AA:1180:C:H5'	2.19	0.43
31:CA:196:A:N3	31:CA:222:U:H1'	2.33	0.43
31:DA:501:C:H1'	31:DA:549:C:H1'	2.01	0.43
1:BA:2164:C:H2'	1:BA:2165:G:O4'	2.18	0.43
1:BA:1799:G:H4'	1:BA:1800:C:O5'	2.18	0.43
6:AG:124:SER:HB3	6:AG:132:ASN:O	2.18	0.43
31:CA:1126:U:H3'	31:CA:1126:U:O2	2.17	0.43
45:CO:74:ASP:CG	45:CO:77:ARG:H	2.22	0.43
31:DA:1288:A:H2'	31:DA:1289:A:O4'	2.18	0.43
31:CA:584:G:H5'	47:CQ:91:ARG:NH2	2.30	0.43
6:AG:11:TYR:O	6:AG:16:ARG:HG2	2.19	0.43
1:BA:185:U:H2'	1:BA:186:G:C8	2.54	0.43
32:DB:185:ILE:HG22	32:DB:199:TYR:HD1	1.83	0.43
1:AA:1482:G:C6	1:AA:1507:A:C6	3.06	0.43
49:DS:33:THR:O	49:DS:57:HIS:HE1	2.01	0.43
12:BQ:72:LYS:HA	12:BQ:73:PRO:HD3	1.84	0.43
31:DA:1306:A:H1'	31:DA:1332:A:C2	2.53	0.43
31:DA:186:C:O2'	31:DA:187:C:H5'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1375:A:H4'	37:DG:29:LYS:NZ	2.32	0.43
31:CA:630:G:H2'	31:CA:631:G:C8	2.51	0.43
1:AA:1016:G:C4	1:AA:1017:G:C8	3.06	0.43
31:DA:5:U:H5'	31:DA:6:G:C5	2.53	0.43
1:AA:255:A:C6	1:AA:256:A:C5	3.06	0.43
31:DA:683:G:C4	31:DA:684:A:C8	3.06	0.43
1:BA:371:A:O3'	1:BA:372:G:H4'	2.19	0.43
39:DI:89:ASN:O	39:DI:91:ASP:N	2.51	0.43
31:DA:778:G:H2'	31:DA:779:C:O4'	2.17	0.43
1:AA:271(Q):G:C2	1:AA:271(R):G:C5	3.07	0.43
4:BE:111:ARG:HB3	13:BR:1:MET:CE	2.49	0.43
38:CH:120:THR:OG1	38:CH:123:GLU:HG3	2.18	0.43
1:BA:1042:G:C6	1:BA:1043:C:C4	3.07	0.43
34:DD:116:GLN:O	34:DD:120:LEU:HG	2.19	0.43
31:CA:1431:C:H2'	31:CA:1432:G:O4'	2.18	0.43
15:AT:28:VAL:HG12	15:AT:30:VAL:HG23	2.00	0.43
5:AF:96:ASP:OD1	5:AF:98:SER:HB3	2.18	0.43
1:BA:2579:C:H2'	1:BA:2580:U:O4'	2.18	0.43
1:BA:554:U:C4	1:BA:555:U:C4	3.06	0.43
35:CE:122:GLU:OE1	35:CE:131:ILE:HG13	2.18	0.43
35:DE:84:PHE:CE2	35:DE:133:TYR:HD2	2.36	0.43
31:DA:361:G:H2'	31:DA:362:G:O4'	2.18	0.43
40:DJ:32:ALA:HA	40:DJ:33:GLN:HA	1.84	0.43
25:A3:44:ARG:O	25:A3:48:GLU:HG3	2.19	0.43
21:BZ:152:ALA:HA	21:BZ:155:LEU:HD22	1.99	0.43
31:DA:412:A:C6	34:DD:35:ARG:HB3	2.54	0.43
1:BA:699:A:H2'	1:BA:700:G:O4'	2.19	0.43
1:BA:614:U:H5'	1:BA:614(C):A:N6	2.33	0.43
6:AG:109:VAL:C	6:AG:112:PRO:HD2	2.38	0.43
26:A4:18:CYS:SG	26:A4:39:CYS:CB	3.06	0.43
31:CA:1399:C:C2	31:CA:1502:A:N6	2.86	0.43
32:CB:87:ARG:CZ	32:CB:233:SER:HB2	2.48	0.43
24:A2:45:SER:O	24:A2:46:GLN:HB2	2.18	0.43
1:BA:2684:U:H1'	10:BO:70:LYS:HD2	2.00	0.43
14:AS:96:GLY:N	14:AS:99:LYS:HB3	2.32	0.43
31:DA:1338:G:H2'	31:DA:1339:A:C8	2.54	0.43
1:AA:1174:A:H5'	1:AA:1177:A:H62	1.78	0.43
31:CA:1289:A:H2	31:CA:1372:U:O4'	2.01	0.43
1:AA:2600:A:C6	1:AA:2601:C:N4	2.86	0.43
31:CA:1084:G:C5	31:CA:1085:U:C4	3.07	0.43
31:CA:1084:G:H2'	31:CA:1085:U:C5	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1047:G:H2'	1:AA:1110:G:N1	2.31	0.43
38:CH:82:HIS:CE1	38:CH:84:ARG:HG2	2.53	0.43
1:AA:2789:C:H5''	1:AA:2790:A:OP2	2.18	0.43
20:AY:76:CYS:HG	20:AY:102:CYS:HG	1.60	0.43
32:DB:81:VAL:HB	32:DB:94:ASN:HD21	1.84	0.43
32:CB:55:PHE:CD1	32:CB:58:ILE:HD12	2.53	0.43
32:DB:17:PHE:HB3	32:DB:44:LEU:HD11	2.00	0.43
31:CA:735:C:O2'	31:CA:736:C:H5'	2.19	0.43
1:AA:1494:A:C2'	1:AA:1495:A:H5'	2.48	0.43
49:DS:60:VAL:O	49:DS:62:ILE:HD12	2.18	0.43
31:DA:1010:G:N1	31:DA:1020:U:O2	2.52	0.43
40:CJ:45:ARG:HH21	44:CN:36:PHE:HB2	1.82	0.43
1:BA:2111:C:H42	1:BA:2147:G:H22	1.66	0.43
4:BE:144:ARG:HB3	4:BE:145:LYS:H	1.33	0.43
31:DA:1240:U:OP2	37:DG:116:ALA:N	2.50	0.43
21:AZ:151:HIS:O	21:AZ:153:SER:N	2.50	0.43
1:BA:322:A:OP1	5:BF:168:ARG:HD2	2.18	0.43
1:BA:351:G:H5''	1:BA:352:G:OP1	2.18	0.43
31:DA:191:G:C6	31:DA:192:U:N3	2.87	0.43
1:AA:2469:A:H4'	12:AQ:56:ARG:HG2	1.99	0.43
1:AA:614(C):A:C4	5:AF:180:GLY:HA2	2.52	0.43
15:BT:7:ILE:O	15:BT:11:GLU:HG3	2.18	0.43
1:AA:228:A:H2'	1:AA:230:U:O4'	2.17	0.43
31:DA:115:G:C2	31:DA:289:G:N7	2.87	0.43
1:BA:1796:U:H2'	1:BA:1797:C:C6	2.53	0.43
31:CA:1511:G:H2'	31:CA:1512:U:O4'	2.17	0.43
37:CG:22:LEU:HG	37:CG:62:PHE:CE2	2.52	0.43
31:CA:10:A:H2'	31:CA:11:G:C8	2.53	0.43
1:BA:468:G:O6	1:BA:469:G:C2	2.72	0.43
41:DK:18:ARG:HB2	41:DK:33:THR:OG1	2.18	0.43
1:AA:784:A:C8	1:AA:792:G:C5	3.06	0.43
19:BX:12:VAL:HG22	19:BX:29:TRP:CE2	2.54	0.43
19:AX:40:LYS:HG3	19:AX:51:VAL:HB	2.00	0.43
18:AW:1:MET:HG3	18:AW:2:GLU:N	2.32	0.43
1:AA:2552:U:H2'	1:AA:2554:U:OP2	2.18	0.43
21:AZ:35:ARG:HA	21:AZ:35:ARG:HD2	1.85	0.43
1:BA:2658:C:O5'	1:BA:2658:C:H6	2.01	0.43
4:BE:50:GLY:CA	4:BE:75:VAL:HG11	2.49	0.43
31:DA:117:G:H2'	31:DA:118:U:O4'	2.19	0.43
32:CB:74:LYS:O	32:CB:78:GLN:N	2.51	0.43
3:BD:68:LYS:HD2	3:BD:70:TRP:CZ2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2730:C:H4'	4:BE:168:MET:O	2.18	0.43
40:DJ:6:ILE:HA	40:DJ:97:GLU:O	2.18	0.43
1:BA:2198:A:O2'	1:BA:2224:G:N2	2.50	0.43
28:A6:4:GLU:HG3	28:A6:5:VAL:N	2.34	0.43
1:BA:998:C:H2'	1:BA:999:U:O4'	2.18	0.43
27:B5:51:TYR:CE1	27:B5:56:LYS:HG2	2.53	0.43
31:DA:1030(A):G:C8	31:DA:1030(B):C:H5''	2.53	0.43
1:BA:1022:G:C6	1:BA:1140:C:C4	3.07	0.43
9:AN:46:VAL:HG12	9:AN:48:MET:HG2	2.00	0.43
31:CA:1202:G:O4'	44:CN:29:ARG:NH1	2.45	0.43
23:A1:3:LYS:HB3	23:A1:4:VAL:H	1.39	0.43
1:AA:1022:G:N2	1:AA:1142(A):A:H2	2.03	0.43
31:CA:1256:A:H62	31:CA:1278:U:H1'	1.84	0.43
16:AU:80:ILE:HD13	16:AU:80:ILE:HA	1.75	0.43
14:AS:102:ALA:HB1	14:AS:112:PHE:CZ	2.53	0.43
1:AA:1686:C:C4	1:AA:1687:G:C5	3.06	0.43
1:BA:807:U:OP2	11:BP:41:ARG:NH2	2.51	0.43
12:BQ:134:ARG:O	12:BQ:138:ASP:HB2	2.18	0.43
1:AA:2186:G:H2'	1:AA:2187:G:H5''	2.00	0.43
22:A0:78:TYR:HB3	22:A0:80:HIS:NE2	2.33	0.43
1:BA:994:C:H5''	1:BA:995:C:OP1	2.17	0.43
31:CA:445:G:H2'	31:CA:446:G:H8	1.84	0.43
1:AA:108:U:C2	1:AA:109:G:C8	3.06	0.43
1:BA:443:A:C5	5:BF:45:ARG:HD2	2.54	0.43
1:AA:2292:C:O2'	1:AA:2293:C:H5'	2.18	0.43
15:AT:16:ARG:HG3	15:AT:79:HIS:HA	2.01	0.43
31:CA:1179:A:H4'	39:CI:103:THR:HA	1.99	0.43
1:BA:2136:C:N4	1:BA:2155:G:N1	2.65	0.43
5:BF:63:LYS:HA	5:BF:76:GLY:O	2.18	0.43
6:AG:50:ALA:O	6:AG:52:ILE:N	2.51	0.43
31:CA:258:G:N3	31:CA:259:G:C8	2.86	0.43
8:AI:133:HIS:HA	8:AI:134:PRO:HD2	1.67	0.43
31:DA:298:A:H5''	31:DA:299:G:OP2	2.19	0.43
49:DS:53:ASN:O	49:DS:77:THR:HG22	2.18	0.43
1:BA:484:C:H2'	1:BA:485:C:H6	1.84	0.43
31:CA:683:G:C2	31:CA:708:C:N3	2.87	0.43
31:CA:1078:U:C5	31:CA:1079:G:C5	3.07	0.43
2:BB:6:C:C2	2:BB:116:G:C2	3.06	0.43
1:BA:1283:G:N2	1:BA:1286:A:C8	2.87	0.43
31:DA:1189:C:P	40:DJ:51:ARG:HH22	2.42	0.43
24:B2:48:HIS:O	24:B2:52:ASP:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:CE:33:VAL:HG23	35:CE:42:GLY:O	2.19	0.43
31:CA:154:C:N3	31:CA:168:G:C2	2.86	0.43
6:BG:106:LEU:HD12	6:BG:110:ALA:HB3	2.00	0.43
23:B1:12:PRO:HG3	23:B1:43:TYR:HD2	1.83	0.43
1:BA:1641:A:H2'	1:BA:1642:G:O4'	2.18	0.43
1:BA:2404:C:O3'	11:BP:77:ARG:NH2	2.52	0.43
1:AA:1025:G:C4	1:AA:1135:C:H1'	2.53	0.43
1:BA:2055:C:H5'	1:BA:2056:G:O5'	2.17	0.43
1:BA:821:A:O2'	1:BA:946:G:OP2	2.20	0.43
31:DA:579:G:H2'	31:DA:580:U:C6	2.53	0.43
6:BG:131:TYR:HB3	6:BG:159:VAL:HG13	2.00	0.43
39:CI:112:LYS:HA	39:CI:119:ALA:HB2	2.00	0.43
31:CA:1106:G:H2'	31:CA:1107:C:C6	2.53	0.43
9:AN:138:LEU:HA	9:AN:138:LEU:HD23	1.62	0.43
32:CB:73:THR:HB	32:CB:95:GLN:O	2.19	0.43
15:BT:22:PHE:HA	15:BT:91:ARG:HH12	1.84	0.43
8:AI:77:LEU:HD21	8:AI:101:LEU:HG	2.00	0.43
34:DD:38:TYR:HA	34:DD:39:PRO:HD3	1.77	0.43
6:BG:43:LEU:HB3	6:BG:44:GLY:H	1.70	0.43
1:BA:1673:U:C5	4:BE:129:HIS:HE1	2.36	0.43
31:CA:1128:C:N4	31:CA:1139:G:N3	2.67	0.43
1:AA:1593:G:C2	1:AA:1594:G:C4	3.07	0.43
7:BH:5:GLY:HA2	7:BH:69:ARG:CB	2.48	0.43
1:AA:83:G:H1	1:AA:102:G:H2'	1.83	0.43
3:AD:102:LYS:C	3:AD:103:ARG:HG2	2.38	0.43
1:BA:330:A:HO2'	1:BA:331:A:H8	1.61	0.43
1:AA:2313:C:H4'	6:AG:91:ARG:HG3	2.00	0.43
31:CA:602:A:C6	31:CA:603:U:C4	3.06	0.43
31:DA:538:G:H5''	42:DL:114:LYS:HB2	2.01	0.43
1:AA:7:G:H2'	1:AA:8:A:H8	1.80	0.43
22:A0:31:VAL:HG11	22:A0:37:LEU:CD2	2.47	0.43
7:AH:9:ILE:HD13	7:AH:72:ILE:HG22	2.00	0.43
1:BA:652(R):C:HO2'	1:BA:652(S):C:H6	1.61	0.43
14:BS:69:VAL:HA	14:BS:72:ALA:HB3	2.00	0.43
1:AA:1470:G:N2	1:AA:1523:U:C4	2.86	0.43
1:BA:2286:A:OP1	28:B6:29:ASN:ND2	2.51	0.43
4:AE:37:ARG:HG3	4:AE:46:ALA:HB3	2.01	0.43
24:A2:32:LEU:HD11	24:A2:54:LYS:CG	2.48	0.43
31:DA:684:A:C2	31:DA:685:G:C4	3.07	0.43
31:DA:990:C:C2	31:DA:1216:G:N2	2.86	0.43
1:BA:2336:A:H61	22:B0:43:THR:HG22	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1151:A:O2'	31:DA:1152:A:C8	2.70	0.43
31:DA:298:A:C6	31:DA:299:G:C2	3.07	0.43
21:BZ:144:LEU:HD21	21:BZ:150:LEU:HG	2.00	0.43
9:AN:120:LEU:HD22	9:AN:122:VAL:HG23	2.01	0.43
31:CA:833:U:H2'	31:CA:834:C:C6	2.53	0.43
31:DA:1057:G:H2'	31:DA:1058:G:O4'	2.18	0.43
36:CF:11:ASN:O	36:CF:14:LEU:HB2	2.18	0.43
35:CE:33:VAL:HG21	35:CE:109:ILE:HA	2.01	0.43
21:AZ:67:LEU:HA	21:AZ:68:PRO:HD3	1.90	0.43
1:AA:2227:A:OP1	3:AD:263:ARG:HD2	2.19	0.43
31:CA:981:U:N3	31:CA:982:U:C4	2.86	0.43
41:DK:21:ILE:HD12	41:DK:84:VAL:HG22	2.01	0.43
1:AA:193:U:O3'	1:AA:803:U:H4'	2.19	0.43
1:BA:32:C:O2'	1:BA:33:U:H5'	2.19	0.43
1:BA:2670:A:O2'	1:BA:2671:A:H5'	2.19	0.43
3:AD:43:ARG:HG2	3:AD:47:GLY:O	2.19	0.43
7:BH:158:HIS:O	7:BH:160:LYS:N	2.48	0.43
7:BH:91:GLY:HA3	7:BH:160:LYS:HG3	1.99	0.43
31:DA:447:G:H8	31:DA:447:G:O5'	2.01	0.43
19:BX:8:ILE:HD11	19:BX:43:VAL:HG23	2.01	0.43
6:BG:46:ALA:HB1	6:BG:51:ARG:HA	2.00	0.43
1:BA:340:A:H2'	1:BA:341:G:O4'	2.18	0.43
1:AA:721:C:H2'	1:AA:722:A:C8	2.54	0.43
1:AA:631:A:OP2	30:A8:47:LYS:NZ	2.38	0.43
1:AA:1337:G:H2'	1:AA:1338:G:C8	2.53	0.43
1:BA:2165:G:H2'	1:BA:2166:G:H8	1.81	0.43
12:BQ:14:ARG:HG2	12:BQ:41:TRP:HH2	1.83	0.43
1:AA:2050:C:O2	4:AE:156:MET:HE1	2.19	0.43
37:CG:111:ARG:HB2	37:CG:119:ARG:HD2	2.01	0.43
31:CA:1086:U:H2'	31:CA:1087:G:O4'	2.18	0.43
49:DS:38:SER:O	49:DS:70:LYS:HG3	2.18	0.43
31:DA:626:U:C2	31:DA:627:G:C8	3.07	0.43
1:AA:1827:C:O2'	1:AA:1970:A:N3	2.32	0.43
37:DG:149:ARG:HD2	41:DK:59:TYR:CE1	2.53	0.43
32:CB:185:ILE:HG22	32:CB:199:TYR:HD1	1.84	0.43
5:AF:110:LEU:HD23	5:AF:110:LEU:HA	1.69	0.43
1:BA:221:A:H4'	1:BA:222:A:O5'	2.16	0.43
31:DA:130:A:H1'	31:DA:263:A:O2'	2.19	0.43
12:BQ:2:LEU:HA	12:BQ:2:LEU:HD12	1.92	0.43
11:AP:63:PRO:O	30:A8:13:ARG:HB2	2.19	0.43
1:BA:2405:G:O2'	1:BA:2406:U:P	2.77	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:862:G:H4'	2:AB:79:C:H5'	2.01	0.43
31:DA:1133:G:H2'	31:DA:1134:G:O4'	2.19	0.43
1:AA:340:A:N6	1:AA:341:G:C2	2.87	0.43
32:CB:71:VAL:HA	32:CB:93:VAL:HG23	2.01	0.43
1:BA:271(H):G:O2'	1:BA:271(I):G:H8	2.02	0.43
12:BQ:32:TYR:CZ	12:BQ:133:ARG:HG3	2.54	0.43
2:AB:15:A:OP2	2:AB:69:G:N2	2.50	0.43
31:CA:355:C:O4'	31:CA:388:G:O2'	2.32	0.43
6:AG:36:LYS:HD3	6:AG:95:ARG:NH1	2.34	0.43
19:AX:50:LYS:HG2	19:AX:84:ALA:HB2	2.01	0.43
1:BA:263:C:H2'	1:BA:264:C:O4'	2.18	0.43
22:A0:50:ASN:HB3	22:A0:63:VAL:HG22	2.00	0.43
37:CG:72:ARG:NH1	37:CG:142:GLU:OE1	2.52	0.43
1:BA:841:A:C2	1:BA:938:G:C2	3.07	0.43
1:BA:1582:C:C2	1:BA:1583:A:C8	3.06	0.43
9:AN:55:VAL:HG22	9:AN:126:PRO:HA	2.00	0.43
11:BP:3:LEU:HA	11:BP:3:LEU:HD12	1.82	0.43
45:CO:26:GLU:HA	45:CO:81:LEU:HD22	2.00	0.43
1:AA:1997:G:O2'	1:AA:1998:G:H5'	2.19	0.43
1:AA:1711:C:H2'	1:AA:1712:C:C6	2.54	0.43
1:AA:35:G:H2'	1:AA:36:G:O4'	2.19	0.43
1:AA:1689:A:N7	1:AA:1698:A:N1	2.67	0.43
31:DA:734:G:O2'	48:DR:71:LYS:HD3	2.19	0.43
32:DB:87:ARG:HD2	32:DB:219:VAL:HG11	2.01	0.43
26:B4:35:VAL:O	26:B4:36:CYS:HB3	2.18	0.43
39:DI:3:GLN:HE21	39:DI:3:GLN:HB2	1.67	0.43
31:DA:149:A:O2'	31:DA:150:C:P	2.77	0.43
31:DA:825:G:O2'	31:DA:826:C:H5'	2.19	0.43
31:CA:1352:C:H1'	31:CA:1371:G:N2	2.34	0.43
1:AA:2751:G:H3'	1:AA:2752:C:C6	2.53	0.43
38:CH:77:GLU:HG3	38:CH:78:GLN:N	2.34	0.43
4:AE:101:ARG:HA	4:AE:170:LEU:O	2.18	0.43
19:BX:52:VAL:HG12	19:BX:82:GLN:HG3	2.00	0.43
1:BA:2445:G:C2'	1:BA:2446:G:H5'	2.49	0.43
31:DA:16:A:O2'	31:DA:17:U:H5'	2.18	0.43
32:CB:185:ILE:HG22	32:CB:199:TYR:CD1	2.52	0.43
25:A3:19:GLN:O	25:A3:23:LEU:HD22	2.19	0.43
35:CE:15:ARG:HD2	35:CE:26:PHE:CD2	2.54	0.43
31:DA:1106:G:C6	31:DA:1107:C:C4	3.07	0.43
33:DC:148:GLY:HA3	33:DC:172:ARG:O	2.18	0.43
1:BA:994:C:OP1	16:BU:53:ARG:NH2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:373:A:N1	31:DA:391:G:O2'	2.45	0.43
1:BA:1903:G:P	3:BD:241:PRO:HB2	2.58	0.43
20:BY:79:CYS:CB	20:BY:81:LYS:H	2.31	0.43
32:DB:133:LYS:C	32:DB:135:GLN:H	2.21	0.43
1:BA:222:A:C2	1:BA:233:A:H5''	2.54	0.43
31:DA:949:A:C1'	31:DA:1364:U:H3	2.32	0.43
32:CB:17:PHE:CB	32:CB:44:LEU:HD11	2.49	0.43
21:AZ:72:ARG:O	21:AZ:72:ARG:HD3	2.19	0.43
33:CC:74:GLY:C	33:CC:76:VAL:N	2.72	0.43
1:BA:2803:C:H2'	1:BA:2804:C:O4'	2.18	0.43
31:DA:612:C:O2	31:DA:629:G:N2	2.52	0.43
31:CA:1347:G:N7	39:CI:11:LYS:HD2	2.34	0.43
17:AV:89:GLN:OE1	17:AV:89:GLN:HA	2.18	0.43
1:AA:770:G:OP1	29:A7:8:ASN:ND2	2.47	0.43
1:AA:780:G:C2	1:AA:782:A:C2	3.06	0.43
13:AR:38:VAL:CG1	13:AR:42:LYS:HE3	2.49	0.43
28:B6:9:LEU:HD21	28:B6:25:LYS:HB3	2.01	0.43
1:AA:2699:C:H2'	1:AA:2700:C:O4'	2.18	0.43
1:AA:619:G:H8	1:AA:619:G:O5'	2.01	0.43
1:AA:154:G:C6	1:AA:154(A):C:N4	2.86	0.43
33:DC:39:ILE:HD11	33:DC:59:ARG:HH21	1.84	0.43
31:CA:708:C:H2'	31:CA:709:G:C8	2.52	0.43
2:BB:78:A:H2'	2:BB:79:C:O4'	2.18	0.43
31:DA:25:C:O2'	31:DA:26:A:H5'	2.19	0.43
31:DA:134:A:H61	46:DP:25:ARG:NH1	2.16	0.43
1:AA:1587:A:H2'	1:AA:1588:C:C6	2.53	0.43
1:AA:2335:A:C8	1:AA:2337:G:C5	3.06	0.43
1:AA:909:A:H2'	1:AA:912:C:H5	1.82	0.43
1:AA:1288:U:O4	13:AR:106:GLY:HA3	2.19	0.43
1:BA:1907:G:C6	1:BA:1908:C:C4	3.06	0.43
1:BA:725:G:C6	1:BA:726:G:N1	2.86	0.43
31:CA:996:A:H2'	31:CA:997:U:O4'	2.19	0.43
40:CJ:75:LEU:O	40:CJ:77:PRO:HD3	2.19	0.43
1:AA:573:G:O2'	1:AA:574:C:H3'	2.19	0.43
31:DA:638:G:O2'	31:DA:639:G:H5'	2.19	0.43
31:DA:367:U:C2	31:DA:369:C:C5	3.06	0.43
31:DA:1372:U:OP1	39:DI:72:GLY:N	2.52	0.43
35:DE:31:LEU:HD23	35:DE:31:LEU:HA	1.76	0.43
1:AA:345:A:H1'	1:AA:346:A:N7	2.33	0.43
18:AW:78:GLU:OE1	18:AW:99:ARG:NH1	2.51	0.43
37:DG:152:ALA:O	37:DG:155:ARG:HB3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:1232:U:H2'	31:CA:1233:G:O4'	2.19	0.43
41:DK:73:MET:HE2	41:DK:103:LEU:HD23	2.00	0.43
31:DA:542:G:H5'	34:DD:41:GLY:HA3	2.01	0.43
1:BA:2307:G:N1	6:BG:43:LEU:O	2.33	0.43
31:CA:837:G:C2	31:CA:850:U:O2	2.72	0.43
1:AA:1204:A:N1	1:AA:1241:A:N7	2.67	0.43
1:BA:833:U:H2'	1:BA:834:C:C6	2.53	0.43
31:DA:663:A:H2'	31:DA:664:G:O4'	2.18	0.43
30:A8:6:THR:HG22	30:A8:63:PRO:HD2	1.99	0.43
31:DA:1288:A:N3	31:DA:1352:C:O2'	2.44	0.43
31:DA:1288:A:C6	31:DA:1289:A:C5	3.07	0.43
11:BP:59:LEU:HD21	30:B8:10:ALA:HA	2.01	0.43
31:CA:1385:G:C6	31:CA:1386:G:N7	2.86	0.43
1:AA:320:A:H4'	1:AA:322:A:N7	2.33	0.43
1:BA:570:G:H2'	1:BA:2030:A:N7	2.33	0.43
1:AA:1285:G:N2	1:AA:1328:G:H5''	2.33	0.43
26:B4:40:HIS:O	26:B4:43:TYR:HB3	2.18	0.43
2:AB:75:G:N1	2:AB:103:G:N2	2.67	0.43
32:DB:145:LEU:HD13	32:DB:145:LEU:HA	1.94	0.43
1:AA:2472:G:O6	1:AA:2476:A:H4'	2.19	0.43
1:BA:2428:G:H5''	1:BA:2429:G:O5'	2.19	0.43
13:BR:33:ARG:HA	13:BR:114:VAL:O	2.19	0.43
48:CR:45:SER:C	48:CR:47:THR:H	2.21	0.43
1:BA:562:U:C4	1:BA:2036:C:O4'	2.72	0.43
31:CA:749:C:O5'	31:CA:749:C:H6	2.01	0.43
31:DA:1037:C:H6	31:DA:1037:C:H3'	1.84	0.43
31:DA:1423:G:C2	31:DA:1424:C:C2	3.06	0.43
22:B0:72:ARG:CB	22:B0:75:LEU:HB2	2.49	0.43
3:AD:132:PRO:HG3	3:AD:190:TYR:CE1	2.54	0.43
31:CA:1015:A:H2'	31:CA:1016:A:C8	2.54	0.43
31:CA:1270:C:H2'	31:CA:1271:G:H8	1.83	0.43
21:AZ:111:VAL:C	21:AZ:113:ALA:H	2.21	0.43
40:CJ:13:HIS:HB3	40:CJ:68:HIS:CE1	2.54	0.43
6:BG:60:LEU:HB3	6:BG:68:PRO:HG3	1.99	0.43
31:CA:1438:G:H2'	31:CA:1439:C:C6	2.53	0.43
16:BU:58:ARG:HA	16:BU:61:TRP:CE3	2.53	0.43
12:BQ:109:VAL:HG22	12:BQ:113:GLN:OE1	2.19	0.43
3:BD:26:LYS:HB3	3:BD:83:GLU:HG2	2.00	0.43
1:AA:1986:A:H2'	1:AA:1987:G:C8	2.54	0.43
31:DA:509:A:H4'	31:DA:510:A:OP1	2.19	0.43
31:DA:585:G:N3	31:DA:879:C:H4'	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:BV:24:LYS:HA	17:BV:92:THR:OG1	2.18	0.43
6:AG:86:MET:HA	6:AG:87:PRO:HD2	1.93	0.43
34:DD:123:HIS:O	34:DD:125:HIS:N	2.52	0.43
36:DF:67:MET:HG3	36:DF:68:PRO:O	2.18	0.43
31:CA:49:U:H3	31:CA:362:G:H1'	1.84	0.43
8:AI:145:VAL:HG12	8:AI:146:ALA:N	2.34	0.43
33:DC:131:ARG:NE	33:DC:166:GLU:OE2	2.41	0.43
1:BA:1685:C:O2'	1:BA:1686:C:H5'	2.18	0.43
1:AA:1238:G:N2	1:AA:1239:G:H1'	2.34	0.43
31:DA:680:C:H6	31:DA:680:C:O5'	2.01	0.43
40:CJ:79:ARG:C	40:CJ:81:THR:H	2.21	0.43
40:CJ:19:SER:OG	40:CJ:91:PRO:HD3	2.19	0.43
31:DA:867:G:N2	31:DA:868:C:C2	2.87	0.43
31:CA:513:C:H2'	31:CA:514:C:C6	2.54	0.43
9:AN:112:LEU:O	9:AN:115:ARG:HB2	2.19	0.43
31:CA:742:G:H5'	45:CO:58:MET:HE3	2.00	0.43
1:AA:977:G:N3	1:AA:1001:A:H2	2.16	0.43
14:AS:62:LYS:HB3	14:AS:97:ARG:CD	2.48	0.43
1:BA:1110:G:C8	1:BA:1110:G:OP2	2.72	0.43
31:DA:1016:A:H4'	31:DA:1218:C:H4'	2.00	0.43
31:DA:473:G:C4	31:DA:474:G:C8	3.07	0.43
1:AA:2299:G:N2	1:AA:2300:G:C4	2.87	0.43
1:AA:1250:G:OP2	11:AP:21:ARG:HD3	2.19	0.43
31:CA:545:C:O2'	31:CA:546:G:H5'	2.19	0.43
31:DA:953:G:C6	31:DA:954:G:C4	3.06	0.43
1:AA:2173:A:C3'	1:AA:2174:C:H5'	2.49	0.43
1:AA:674:G:H1'	5:AF:74:ARG:CD	2.49	0.43
1:AA:1786:A:H1'	1:AA:1938:A:H61	1.82	0.43
35:DE:139:LEU:HA	35:DE:142:LEU:CD1	2.49	0.43
31:CA:530:G:H3'	31:CA:530:G:OP1	2.19	0.43
31:DA:622:A:C8	31:DA:623:C:C6	3.07	0.43
25:A3:26:LEU:HD21	25:A3:46:ASN:CB	2.49	0.43
1:BA:2370:G:C6	1:BA:2371:G:C6	3.07	0.43
1:BA:1494:A:C6	1:BA:1495:A:C6	3.07	0.43
31:DA:167:G:C4	31:DA:168:G:C8	3.07	0.43
1:BA:2127:G:O6	1:BA:2161:C:N3	2.51	0.43
39:CI:17:VAL:HA	39:CI:63:ILE:HG12	2.01	0.43
8:AI:99:GLU:HA	8:AI:102:SER:OG	2.19	0.43
1:BA:2788:C:N4	1:BA:2789:C:N4	2.67	0.43
31:CA:827:U:H5''	31:CA:828:A:OP2	2.19	0.43
31:CA:606:G:H2'	31:CA:631:G:H1	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:CL:77:LEU:HD21	42:CL:107:ALA:HA	2.00	0.43
6:BG:47:LYS:O	6:BG:82:LEU:HD21	2.19	0.43
49:DS:36:ARG:HB2	49:DS:72:GLY:HA3	2.01	0.43
1:AA:2815:C:H2'	1:AA:2816:C:O4'	2.19	0.43
1:AA:528:A:C2	1:AA:2043:C:H4'	2.53	0.43
31:DA:1151:A:H5'	40:DJ:41:PRO:HA	1.99	0.43
31:DA:300:A:H1'	31:DA:565:U:O2	2.19	0.43
2:BB:50:G:H2'	2:BB:51:G:O4'	2.19	0.43
1:AA:328:U:H4'	20:AY:68:HIS:CG	2.54	0.43
1:AA:897:C:H2'	1:AA:898:C:C6	2.54	0.43
42:DL:75:HIS:ND1	42:DL:77:LEU:HB2	2.34	0.43
1:BA:637:A:C8	11:BP:117:GLU:HG3	2.54	0.43
31:CA:1162:C:H2'	31:CA:1163:C:O4'	2.18	0.43
5:BF:132:VAL:HG23	5:BF:163:VAL:HG22	2.01	0.43
5:BF:157:VAL:HG21	5:BF:181:LEU:HD13	2.01	0.43
3:BD:95:LEU:O	3:BD:102:LYS:HA	2.19	0.43
1:BA:543:C:H2'	1:BA:545:G:O4'	2.19	0.43
1:BA:271(U):G:H2'	1:BA:271(V):G:H8	1.83	0.43
31:CA:1171:G:H2'	31:CA:1172:C:C6	2.54	0.43
49:CS:73:GLU:H	49:CS:73:GLU:HG2	1.70	0.43
13:BR:53:HIS:O	13:BR:56:LYS:HB2	2.19	0.43
1:BA:2653:U:O2'	7:BH:110:SER:HB2	2.18	0.43
50:CT:14:LYS:HG3	50:CT:17:ARG:NH2	2.34	0.43
1:BA:2037:G:C6	1:BA:2038:G:C6	3.07	0.43
31:CA:1365:G:C6	31:CA:1366:C:C4	3.07	0.43
1:AA:1853:A:H2'	1:AA:1854:A:C8	2.54	0.43
35:CE:90:VAL:O	35:CE:120:THR:HA	2.19	0.43
17:AV:38:LEU:O	17:AV:39:LEU:HB2	2.18	0.43
1:AA:2063:C:O2	1:AA:2450:A:N1	2.52	0.43
1:AA:2360:A:H2'	1:AA:2361:A:O4'	2.19	0.43
33:DC:24:ALA:HB1	33:DC:28:GLN:O	2.19	0.43
31:CA:763:G:H2'	31:CA:764:C:H6	1.84	0.43
1:AA:422:A:H2'	1:AA:423:A:C8	2.54	0.43
1:AA:2661:G:H2'	1:AA:2662:A:C8	2.53	0.43
42:CL:124:LYS:HA	42:CL:125:PRO:HD3	1.90	0.43
12:AQ:58:PHE:O	12:AQ:60:ARG:N	2.52	0.43
1:AA:1184:G:C6	1:AA:1185:C:C4	3.07	0.43
1:AA:1915:U:N3	52:AA:3001:T8B:C32	2.82	0.42
27:A5:46:CYS:HA	27:A5:47:PRO:HD3	1.87	0.42
16:AU:65:ILE:HD11	16:AU:95:LEU:HB3	2.01	0.42
1:AA:1799:G:H4'	1:AA:1800:C:O5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:375:U:N3	31:CA:376:G:N7	2.67	0.42
31:CA:310:G:H5''	46:CP:31:LYS:HB2	2.01	0.42
31:DA:832:C:O2'	31:DA:833:U:P	2.77	0.42
31:DA:832:C:N4	31:DA:855:G:C6	2.86	0.42
35:DE:78:HIS:CE1	35:DE:142:LEU:HD23	2.54	0.42
1:BA:2394:C:P	30:B8:30:ARG:NH1	2.91	0.42
5:BF:102:PRO:HB2	5:BF:105:VAL:CG2	2.49	0.42
20:AY:76:CYS:HA	20:AY:77:PRO:HD3	1.76	0.42
31:CA:1005:A:H1'	31:CA:1036:G:N2	2.33	0.42
31:CA:690:G:C6	31:CA:691:G:N1	2.87	0.42
9:AN:28:THR:HG22	9:AN:29:LYS:HG3	2.01	0.42
1:BA:2023:G:H4'	1:BA:2617:C:O3'	2.19	0.42
31:CA:540:G:C4	31:CA:541:G:C8	3.07	0.42
1:BA:2012:G:O3'	18:BW:96:ILE:HG23	2.19	0.42
14:AS:67:ARG:HB2	14:AS:67:ARG:HE	1.32	0.42
6:AG:50:ALA:C	6:AG:52:ILE:N	2.72	0.42
4:AE:2:LYS:HA	4:AE:84:PHE:CD2	2.54	0.42
21:AZ:154:ASP:N	21:AZ:154:ASP:OD1	2.49	0.42
32:CB:93:VAL:HG21	32:CB:97:TRP:HD1	1.84	0.42
8:BI:111:PRO:HB2	8:BI:112:LYS:HE3	2.01	0.42
31:CA:1014:A:N3	31:CA:1219:U:H1'	2.34	0.42
21:AZ:45:ASP:OD1	21:AZ:49:ARG:NH1	2.51	0.42
1:AA:1007:C:P	9:AN:37:LYS:HZ2	2.42	0.42
31:DA:1416:G:H2'	31:DA:1417:G:O4'	2.18	0.42
1:BA:1719:G:C6	1:BA:1720:U:C4	3.07	0.42
1:BA:1846:G:H5''	1:BA:1847:A:OP2	2.18	0.42
34:CD:78:LEU:O	34:CD:81:GLU:N	2.52	0.42
34:CD:123:HIS:O	34:CD:125:HIS:N	2.52	0.42
1:BA:271(X):G:C2	1:BA:271(Y):U:O4	2.72	0.42
31:DA:892:A:H2'	31:DA:893:C:C6	2.54	0.42
6:BG:123:ASN:C	6:BG:125:PHE:H	2.23	0.42
1:BA:2123:G:H2'	1:BA:2124:G:H8	1.84	0.42
10:BO:104:ARG:NH1	15:BT:34:VAL:HG21	2.34	0.42
38:CH:5:PRO:O	38:CH:8:ASP:HB3	2.19	0.42
35:DE:127:ASN:HA	35:DE:128:PRO:HD3	1.84	0.42
17:AV:59:ALA:HB2	17:AV:96:ILE:HD13	2.00	0.42
20:AY:23:ARG:NH1	20:AY:23:ARG:HB2	2.34	0.42
1:BA:775:G:C4	1:BA:794:G:C8	3.07	0.42
47:DQ:81:ARG:HA	47:DQ:81:ARG:HD2	1.78	0.42
31:DA:203:U:H2'	31:DA:203:U:OP2	2.19	0.42
1:BA:1614:A:H8	1:BA:1614:A:P	2.41	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:BQ:79:LEU:HA	12:BQ:79:LEU:HD23	1.78	0.42
16:AU:97:ASP:OD1	16:AU:101:ARG:HD2	2.19	0.42
1:AA:2109:U:H2'	1:AA:2110:G:C8	2.54	0.42
1:AA:817:C:H2'	1:AA:818:G:C8	2.54	0.42
1:AA:1167:U:C2	1:AA:1183:G:N2	2.87	0.42
31:DA:1226:C:H4'	49:DS:80:TYR:CZ	2.54	0.42
31:DA:1074:G:C4	31:DA:1102:A:C2	3.08	0.42
31:DA:1278:U:H5''	31:DA:1279:A:O4'	2.19	0.42
1:AA:2299:G:N1	1:AA:2318:G:H8	2.17	0.42
1:AA:672:C:H2'	1:AA:673:C:C6	2.55	0.42
31:CA:949:A:H1'	31:CA:1364:U:H3	1.84	0.42
1:AA:2751:G:H3'	1:AA:2752:C:H6	1.84	0.42
31:DA:1301:U:H2'	31:DA:1303:C:C5	2.54	0.42
40:CJ:51:ARG:NH2	40:CJ:61:GLU:HB3	2.34	0.42
18:AW:7:ALA:O	18:AW:103:ILE:N	2.52	0.42
3:AD:206:LEU:HD23	3:AD:206:LEU:HA	1.62	0.42
1:AA:910:A:C5	12:AQ:13:GLN:HG3	2.53	0.42
31:DA:159:G:N2	31:DA:163:C:C4	2.87	0.42
31:DA:189(E):U:O2'	31:DA:189(F):U:H5'	2.19	0.42
1:AA:247:G:H4'	1:AA:386:G:C6	2.54	0.42
31:CA:690:G:C6	31:CA:691:G:C2	3.07	0.42
12:BQ:21:THR:HG21	12:BQ:101:ARG:HD2	2.01	0.42
44:CN:53:LEU:HA	44:CN:54:PRO:HD3	1.84	0.42
21:AZ:54:HIS:CG	21:AZ:101:PRO:HG3	2.54	0.42
1:BA:910:A:N7	12:BQ:13:GLN:HG3	2.34	0.42
40:DJ:13:HIS:HA	40:DJ:16:LEU:HD22	2.00	0.42
1:BA:2292:C:H4'	1:BA:2375:G:H4'	2.01	0.42
6:AG:122:PRO:HG2	6:AG:182:LYS:O	2.18	0.42
31:DA:612:C:H2'	31:DA:613:C:C6	2.53	0.42
7:BH:11:VAL:HA	7:BH:12:PRO:HD3	1.79	0.42
1:AA:1514:U:H2'	1:AA:1515:G:C8	2.54	0.42
31:DA:724:G:C2	31:DA:725:G:C8	3.07	0.42
8:BI:112:LYS:HA	8:BI:114:LEU:O	2.18	0.42
33:DC:159:GLY:HA2	33:DC:193:TYR:CD1	2.53	0.42
48:CR:74:ARG:HG3	48:CR:74:ARG:H	1.60	0.42
1:BA:484:C:H6	1:BA:484:C:O5'	2.02	0.42
42:DL:70:ILE:HD13	42:DL:77:LEU:HD12	2.01	0.42
31:CA:189:G:C6	31:CA:189(L):G:C6	3.07	0.42
23:A1:83:GLU:HA	23:A1:84:GLY:HA2	1.59	0.42
38:CH:44:PHE:HA	38:CH:79:VAL:CG1	2.50	0.42
37:DG:89:MET:HE2	37:DG:155:ARG:HG3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:BY:51:VAL:HG22	20:BY:58:GLY:N	2.34	0.42
10:AO:66:LYS:N	10:AO:82:ASN:OD1	2.44	0.42
12:BQ:51:ARG:HG3	12:BQ:66:ILE:HD11	2.01	0.42
31:CA:27:G:H2'	31:CA:28:G:O4'	2.19	0.42
15:BT:37:GLY:HA2	15:BT:38:ASN:HA	1.74	0.42
1:AA:2322:A:H2'	1:AA:2323:G:O4'	2.19	0.42
1:AA:2052:G:C8	4:AE:141:ILE:HD11	2.54	0.42
46:DP:52:ASP:O	46:DP:54:GLU:N	2.52	0.42
46:DP:7:ALA:O	46:DP:9:PHE:HD2	2.01	0.42
24:B2:25:VAL:O	24:B2:28:LYS:N	2.51	0.42
24:B2:25:VAL:O	24:B2:29:LYS:N	2.48	0.42
31:CA:118:U:C5	31:CA:288:A:C6	3.07	0.42
1:AA:2680:C:H1'	4:AE:187:ALA:HB1	2.01	0.42
1:BA:1329:U:H5'	1:BA:1330:C:H5	1.84	0.42
25:B3:17:LYS:HG2	25:B3:17:LYS:H	1.61	0.42
16:AU:59:ARG:HB3	16:AU:59:ARG:HH11	1.85	0.42
40:CJ:47:PHE:HD2	44:CN:34:TYR:CE2	2.37	0.42
23:B1:83:GLU:HA	23:B1:84:GLY:HA2	1.65	0.42
6:AG:19:LEU:HD13	6:AG:32:PRO:HD2	1.99	0.42
1:AA:886:C:H2'	1:AA:887:A:H5''	2.01	0.42
9:BN:22:THR:HB	9:BN:25:ARG:HB2	2.02	0.42
1:AA:1814:G:H2'	1:AA:1815:A:C8	2.54	0.42
31:CA:1130:A:O2'	39:CI:3:GLN:NE2	2.52	0.42
14:AS:26:LEU:HD22	14:AS:87:PHE:HE1	1.82	0.42
1:BA:1047:G:O2'	1:BA:1048:A:P	2.77	0.42
1:AA:2838:G:C2	1:AA:2881:C:C2	3.08	0.42
37:DG:108:ALA:O	37:DG:111:ARG:HB2	2.20	0.42
31:DA:1300:G:O2'	31:DA:1301:U:P	2.78	0.42
31:DA:511:C:HO2'	31:DA:512:U:H6	1.65	0.42
9:BN:125:GLY:HA3	9:BN:126:PRO:HA	1.88	0.42
39:DI:44:VAL:HA	39:DI:45:ALA:HB2	2.02	0.42
1:AA:637:A:C8	11:AP:117:GLU:HG3	2.47	0.42
1:AA:247:G:H5''	1:AA:386:G:O2'	2.19	0.42
1:AA:652(R):C:O2'	1:AA:652(S):C:H6	2.01	0.42
1:BA:185:U:H2'	1:BA:186:G:H8	1.84	0.42
6:AG:138:GLN:NE2	6:AG:153:ARG:HB2	2.33	0.42
31:CA:1226:C:C4	43:CM:104:ARG:HB2	2.54	0.42
31:DA:1115:C:C2	31:DA:1186:G:C2	3.08	0.42
1:AA:2262:U:N3	1:AA:2279:G:C2	2.88	0.42
1:AA:1343:G:O2'	1:AA:1384:A:N1	2.37	0.42
31:CA:995:C:H4'	44:CN:8:GLU:OE2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1341:U:C5	1:AA:1395:A:H2	2.36	0.42
1:AA:719:C:H2'	1:AA:720:C:C6	2.51	0.42
11:BP:112:LEU:HD22	11:BP:113:LYS:N	2.33	0.42
1:BA:2336:A:H61	22:B0:43:THR:CG2	2.32	0.42
15:BT:121:ILE:O	15:BT:124:ASP:HB2	2.18	0.42
1:BA:1256:G:H5'	1:BA:1257:C:OP2	2.19	0.42
31:DA:1292:U:C2'	31:DA:1293:G:H5'	2.50	0.42
15:BT:20:PRO:HG2	15:BT:86:ILE:O	2.19	0.42
1:BA:271(Q):G:O2'	1:BA:271(R):G:P	2.77	0.42
31:CA:834:C:C2	31:CA:853:G:N2	2.87	0.42
33:CC:51:GLY:O	33:CC:52:LEU:HB3	2.19	0.42
5:BF:53:THR:HG22	5:BF:55:GLY:H	1.84	0.42
1:AA:284:U:H2'	1:AA:285:C:H6	1.84	0.42
12:AQ:21:THR:HG21	12:AQ:101:ARG:HB2	2.01	0.42
1:AA:817:C:H2'	1:AA:818:G:O4'	2.19	0.42
31:CA:256:U:H2'	31:CA:257:G:C8	2.54	0.42
15:AT:37:GLY:HA2	15:AT:38:ASN:HA	1.73	0.42
44:DN:37:PHE:HZ	44:DN:56:VAL:HG21	1.84	0.42
1:BA:272(C):G:H2'	1:BA:272(D):G:O4'	2.19	0.42
3:AD:26:LYS:O	3:AD:83:GLU:HG2	2.19	0.42
34:CD:155:LEU:HD23	34:CD:156:GLU:N	2.34	0.42
31:DA:1478:C:H2'	31:DA:1479:C:H6	1.84	0.42
1:BA:1929:G:H4'	1:BA:1930:G:OP1	2.20	0.42
1:BA:1489:U:O2'	1:BA:1490:A:H8	2.03	0.42
36:DF:75:LEU:O	36:DF:79:LEU:HG	2.20	0.42
31:DA:1452:C:H3'	31:DA:1456:G:N7	2.34	0.42
10:AO:80:ASP:OD2	15:AT:71:GLY:HA3	2.19	0.42
31:CA:50:A:H2	31:CA:52:G:N3	2.16	0.42
1:AA:2732:G:H3'	1:AA:2733:A:O4'	2.19	0.42
50:CT:47:GLY:HA2	50:CT:48:LYS:CB	2.49	0.42
1:AA:236:C:H2'	1:AA:237:C:C6	2.55	0.42
42:CL:60:LEU:HD13	42:CL:60:LEU:HA	1.76	0.42
46:CP:55:ARG:NE	46:CP:55:ARG:HA	2.33	0.42
31:DA:1408:A:C2	31:DA:1494:G:C2	3.08	0.42
52:AA:3001:T8B:H10	31:DA:1492:A:H4'	2.01	0.42
6:BG:137:GLU:HB3	6:BG:138:GLN:H	1.54	0.42
1:BA:1341:U:O2	19:BX:80:ILE:HD12	2.19	0.42
31:CA:1242:C:H4'	31:CA:1304:G:OP1	2.19	0.42
2:AB:90:A:C5	2:AB:91:C:H1'	2.55	0.42
49:CS:57:HIS:O	49:CS:59:PRO:HD3	2.20	0.42
26:A4:42:PHE:CA	26:A4:43:TYR:HB2	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1046:A:HO2'	1:AA:1047:G:P	2.42	0.42
8:BI:60:GLU:C	8:BI:61:ARG:HH11	2.23	0.42
32:DB:78:GLN:O	32:DB:94:ASN:ND2	2.53	0.42
1:AA:2855:C:H2'	1:AA:2856:C:H6	1.83	0.42
1:BA:1971:A:C5	3:BD:241:PRO:HD3	2.55	0.42
1:BA:271(K):U:H1'	1:BA:271(L):U:OP1	2.20	0.42
1:BA:2126:A:H1'	1:BA:2127:G:OP2	2.18	0.42
1:BA:2126:A:N3	1:BA:2162:G:N2	2.68	0.42
1:BA:1503:U:H2'	1:BA:1504:C:H6	1.82	0.42
31:CA:1269:A:H1'	31:CA:1326:C:H1'	2.01	0.42
14:AS:10:ARG:HH21	14:AS:91:PRO:HB2	1.85	0.42
31:CA:1348:U:C4	31:CA:1349:A:N7	2.88	0.42
21:AZ:151:HIS:C	21:AZ:153:SER:N	2.72	0.42
21:BZ:111:VAL:C	21:BZ:113:ALA:N	2.73	0.42
1:BA:2638:G:O2'	1:BA:2775:A:N1	2.48	0.42
1:AA:2331:G:H4'	22:A0:43:THR:H	1.83	0.42
31:DA:931:C:H2'	31:DA:932:C:H6	1.84	0.42
1:BA:2773:C:H2'	1:BA:2774:C:C6	2.52	0.42
9:AN:96:GLU:H	9:AN:96:GLU:CD	2.23	0.42
1:AA:828:U:H4'	1:AA:831:G:N1	2.35	0.42
31:CA:1080:A:H5''	35:CE:16:THR:HG21	2.02	0.42
2:AB:87:G:H22	2:AB:89:G:H3'	1.85	0.42
1:BA:2413:G:H2'	1:BA:2414:G:O4'	2.19	0.42
1:AA:817:C:O2'	1:AA:839:U:H5''	2.20	0.42
1:BA:1329:U:C5'	1:BA:1330:C:H5	2.32	0.42
31:DA:1479:C:H2'	31:DA:1480:G:C8	2.54	0.42
1:BA:2290:G:O2'	1:BA:2381:C:H1'	2.19	0.42
3:AD:159:ALA:HB1	3:AD:198:ASN:HB3	2.01	0.42
1:BA:2660:A:H2'	1:BA:2661:G:O4'	2.19	0.42
1:BA:2223:G:OP1	3:BD:172:TYR:OH	2.24	0.42
13:BR:100:LEU:HD11	13:BR:113:LEU:HD23	2.00	0.42
1:BA:2418:A:H2'	1:BA:2419:U:O4'	2.19	0.42
38:CH:83:ILE:HB	38:CH:137:VAL:HG13	2.01	0.42
1:AA:2813:A:C6	1:AA:2814:C:C4	3.07	0.42
5:AF:39:TRP:CE2	5:AF:43:LYS:HD3	2.55	0.42
13:BR:54:LEU:HA	13:BR:54:LEU:HD12	1.86	0.42
31:CA:226:G:N2	31:CA:227:G:H1'	2.34	0.42
8:AI:25:TYR:CE2	8:AI:29:TYR:CD2	3.07	0.42
8:AI:29:TYR:C	8:AI:32:PRO:HD2	2.39	0.42
31:CA:509:A:N3	31:CA:543:C:O2'	2.44	0.42
40:DJ:79:ARG:C	40:DJ:81:THR:H	2.22	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AG:43:LEU:HB3	6:AG:44:GLY:H	1.58	0.42
1:AA:1530:C:O2'	1:AA:1531:C:P	2.76	0.42
1:AA:1531:C:N4	1:AA:1538:G:H1	2.14	0.42
31:CA:746:A:H4'	31:CA:837:G:O2'	2.20	0.42
32:DB:187:LEU:HD23	32:DB:201:ILE:HG22	2.01	0.42
32:DB:87:ARG:HH11	32:DB:219:VAL:HG12	1.85	0.42
1:BA:1653:G:H3'	13:BR:2:ARG:HD3	2.00	0.42
31:CA:223:U:H2'	31:CA:224:C:H6	1.84	0.42
42:CL:27:LEU:C	42:CL:29:GLY:N	2.68	0.42
38:DH:11:THR:HG22	38:DH:15:ASN:ND2	2.34	0.42
1:BA:2114:A:H1'	1:BA:2168:G:H5'	2.00	0.42
31:CA:624:C:H2'	31:CA:625:G:H8	1.84	0.42
31:DA:875:C:O2'	38:DH:14:ARG:HD2	2.19	0.42
1:AA:2575:C:O2'	1:AA:2578:G:N7	2.32	0.42
1:AA:795:C:C2'	1:AA:796:C:H5'	2.49	0.42
14:BS:10:ARG:O	14:BS:14:VAL:HG13	2.18	0.42
7:AH:8:PRO:O	7:AH:69:ARG:NH1	2.52	0.42
31:CA:734:G:C2	31:CA:735:C:C2	3.08	0.42
1:AA:2085:C:H2'	1:AA:2086:U:O4'	2.19	0.42
1:BA:218:A:N1	1:BA:235:U:H4'	2.34	0.42
43:DM:88:ARG:HG3	43:DM:98:VAL:HG13	2.01	0.42
1:AA:478:A:N1	1:AA:500:G:H4'	2.35	0.42
50:CT:63:ILE:HD13	50:CT:80:ARG:HB2	2.01	0.42
31:DA:101:A:H2'	31:DA:102:G:H8	1.84	0.42
1:BA:2012:G:O5'	1:BA:2012:G:H8	2.03	0.42
1:AA:481:G:H1'	1:AA:507:A:N1	2.35	0.42
31:CA:107:G:H2'	31:CA:108:G:O4'	2.19	0.42
1:BA:2837:G:C2	1:BA:2882:A:C2	3.07	0.42
13:AR:72:ASP:O	13:AR:76:VAL:HG23	2.19	0.42
9:AN:94:HIS:HB3	9:AN:97:ARG:HD3	2.01	0.42
38:CH:21:LYS:O	38:CH:63:LEU:HD23	2.20	0.42
2:BB:55:U:H2'	2:BB:56:G:O4'	2.20	0.42
50:DT:54:LYS:HA	50:DT:57:ARG:NH1	2.34	0.42
3:BD:210:GLY:O	3:BD:213:ARG:HB2	2.18	0.42
1:AA:271(Q):G:O2'	1:AA:271(R):G:P	2.77	0.42
31:CA:327:A:C4	31:CA:329:A:C8	3.07	0.42
1:AA:1252:G:C2	1:AA:1253:A:C2	3.07	0.42
31:CA:404:U:H2'	31:CA:405:U:C6	2.53	0.42
31:DA:113:G:H2'	31:DA:114:U:C6	2.55	0.42
26:A4:14:ILE:HG22	26:A4:33:VAL:HG22	2.01	0.42
1:BA:2029:G:H2'	1:BA:2031:A:OP1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:269:C:H2'	31:DA:270:A:C8	2.55	0.42
3:BD:133:LEU:HD23	3:BD:136:ILE:HD12	2.00	0.42
31:CA:335:C:H2'	31:CA:336:C:C6	2.54	0.42
1:BA:118:A:N3	1:BA:178:G:H1'	2.34	0.42
31:DA:935:A:N6	37:DG:3:ARG:HG3	2.34	0.42
20:BY:92:ASN:HB3	20:BY:94:LYS:H	1.84	0.42
38:DH:78:GLN:HG2	38:DH:80:ILE:O	2.20	0.42
31:CA:1002:G:H2'	31:CA:1003:G:O4'	2.19	0.42
31:CA:112:G:H5'	31:CA:389:A:O2'	2.19	0.42
1:AA:1976:U:H2'	1:AA:1977:A:C8	2.55	0.42
38:DH:87:SER:HB2	38:DH:93:VAL:HB	2.00	0.42
1:AA:1804:C:H2'	1:AA:1805:U:H6	1.85	0.42
1:AA:2521:C:O2'	1:AA:2564:A:N3	2.45	0.42
31:CA:254:G:O2'	47:CQ:16:GLN:O	2.37	0.42
8:BI:25:TYR:CD1	8:BI:30:LEU:HD11	2.54	0.42
1:AA:278:A:H4'	1:AA:279:C:OP1	2.19	0.42
31:DA:559:A:H4'	31:DA:560:U:H3'	2.00	0.42
31:CA:149:A:HO2'	31:CA:150:C:H6	1.67	0.42
7:BH:8:PRO:O	7:BH:69:ARG:NH1	2.52	0.42
36:DF:10:LEU:HD21	36:DF:61:LEU:HD22	2.02	0.42
31:DA:1277:C:O2'	31:DA:1279:A:H8	2.01	0.42
31:DA:458:C:C2'	31:DA:460:G:H8	2.30	0.42
1:BA:2117:A:N6	1:BA:2171:A:N6	2.68	0.42
31:DA:945:G:C2	31:DA:946:A:C8	3.08	0.42
1:AA:952:G:C6	1:AA:953:A:N7	2.88	0.42
1:AA:953:A:C2	1:AA:954:G:C8	3.07	0.42
1:AA:2787:C:H2'	1:AA:2788:C:C6	2.55	0.42
1:AA:1005:C:O2	1:AA:1143:A:C6	2.72	0.42
25:A3:10:LYS:O	25:A3:53:LEU:HB3	2.19	0.42
1:BA:994:C:OP2	16:BU:54:LYS:NZ	2.45	0.42
1:BA:1426:G:H8	1:BA:1426:G:O5'	2.03	0.42
1:AA:1797:C:H4'	3:AD:257:LEU:O	2.19	0.42
1:BA:2136:C:N3	1:BA:2155:G:N2	2.66	0.42
2:AB:22:U:H3	2:AB:61:G:H1	1.67	0.42
1:AA:1016:G:C5	1:AA:1017:G:N7	2.87	0.42
31:CA:397:A:N6	31:CA:548:G:N7	2.68	0.42
35:CE:68:GLU:HG2	35:CE:70:PRO:HG3	2.01	0.42
31:DA:1514:C:H2'	31:DA:1515:C:C6	2.54	0.42
1:AA:900:A:H2'	1:AA:901:A:C8	2.54	0.42
1:AA:528:A:N1	1:AA:2042:A:H2'	2.35	0.42
4:AE:77:ILE:HG21	4:AE:195:LEU:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:708:C:N4	1:AA:723:G:H1	2.17	0.42
5:BF:123:LEU:HD12	5:BF:124:LEU:H	1.83	0.42
9:AN:103:VAL:O	9:AN:107:LEU:HG	2.20	0.42
1:AA:598:G:C6	1:AA:599:G:C5	3.07	0.42
12:BQ:18:LYS:HE3	12:BQ:18:LYS:HB2	1.75	0.42
46:CP:39:TYR:CE2	46:CP:41:PRO:HB3	2.53	0.42
43:DM:52:GLU:HA	43:DM:55:ARG:HB3	2.01	0.42
1:BA:945:A:C4	1:BA:2448:A:C2	3.07	0.42
44:CN:50:LYS:HE2	44:CN:52:GLN:NE2	2.35	0.42
21:BZ:152:ALA:O	21:BZ:155:LEU:HB2	2.19	0.42
34:DD:30:LYS:HA	34:DD:35:ARG:HD2	2.01	0.42
50:CT:14:LYS:HA	50:CT:17:ARG:CZ	2.49	0.42
31:CA:1240:U:H4'	31:CA:1241:G:OP2	2.20	0.42
1:AA:867:C:O2	1:AA:913:U:H5'	2.19	0.42
31:CA:1522:U:H2'	31:CA:1523:G:H8	1.85	0.42
9:BN:39:ARG:HA	9:BN:40:PRO:HD3	1.90	0.42
31:CA:803:G:H2'	31:CA:804:U:O4'	2.19	0.42
6:AG:98:ARG:O	6:AG:102:PHE:N	2.48	0.42
1:BA:2872:G:O2'	1:BA:2873:A:H5'	2.19	0.42
19:BX:5:TYR:CE1	24:B2:30:ARG:HB2	2.54	0.42
14:BS:90:GLY:C	14:BS:92:TYR:H	2.23	0.42
44:DN:13:THR:HA	44:DN:14:PRO:HD3	1.86	0.42
31:DA:1471:G:O2'	31:DA:1472:U:H5'	2.20	0.42
1:AA:634:C:O5'	1:AA:634:C:H6	2.03	0.42
31:DA:981:U:H6	31:DA:981:U:O5'	2.03	0.42
34:CD:58:LEU:O	34:CD:62:GLN:HG2	2.19	0.42
1:BA:1913:A:C2'	52:BA:3001:T8B:C23	2.95	0.42
1:BA:1913:A:C2	52:BA:3001:T8B:O8	2.73	0.42
1:AA:1159:U:H2'	1:AA:1160:G:C8	2.55	0.42
31:CA:1277:C:H1'	31:CA:1282:C:C2	2.55	0.42
1:AA:1819:A:H3'	3:AD:178:PRO:HB2	2.02	0.42
35:DE:126:ARG:HH11	35:DE:126:ARG:CG	2.31	0.42
1:BA:2131:G:H5''	1:BA:2132:U:C5'	2.49	0.42
31:CA:1030:C:N3	31:CA:1031:G:C2	2.88	0.42
25:B3:31:LEU:C	25:B3:33:GLN:H	2.23	0.42
31:CA:475:G:C2'	31:CA:476:G:H5'	2.49	0.42
3:AD:16:MET:CG	3:AD:211:ARG:HH21	2.32	0.42
31:CA:581:G:N2	31:CA:582:U:C4	2.87	0.42
15:AT:6:LEU:O	15:AT:9:LEU:HB3	2.20	0.42
1:AA:829:A:N7	1:AA:2248:C:H5'	2.34	0.42
1:AA:2256:G:H2'	1:AA:2257:U:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:B8:35:GLN:HG3	30:B8:35:GLN:O	2.20	0.42
31:CA:521:G:O5'	42:CL:73:GLU:HG2	2.20	0.42
8:BI:145:VAL:HG12	8:BI:146:ALA:H	1.85	0.42
49:DS:36:ARG:H	49:DS:36:ARG:HG2	1.74	0.42
31:CA:1415:G:C4	31:CA:1486:G:C2	3.07	0.42
1:AA:17:G:C4	1:AA:18:C:C5	3.08	0.42
1:AA:2190:G:H2'	1:AA:2191:G:H5''	2.01	0.42
1:AA:918:A:O2'	2:AB:97:G:N2	2.51	0.42
1:BA:143:G:H2'	1:BA:143(A):C:C6	2.54	0.42
3:AD:221:VAL:HG22	3:AD:226:MET:HE3	2.01	0.42
1:AA:171:G:H2'	1:AA:172:C:C6	2.55	0.42
9:AN:15:LEU:HD13	9:AN:16:ILE:N	2.34	0.42
1:BA:226:G:H21	1:BA:228:A:H62	1.67	0.42
31:DA:59:A:H3'	31:DA:331:G:H22	1.84	0.42
31:DA:142:G:H2'	31:DA:143:A:C8	2.54	0.42
31:DA:841:U:H6	31:DA:841:U:OP1	2.03	0.42
31:CA:981:U:H5	31:CA:982:U:HO2'	1.66	0.42
31:DA:1480:G:H2'	31:DA:1481:U:O4'	2.19	0.42
3:AD:159:ALA:HB1	3:AD:198:ASN:O	2.18	0.42
31:DA:935:A:H61	37:DG:3:ARG:HG3	1.84	0.42
1:AA:1761:C:H2'	1:AA:1762:A:H5''	2.01	0.42
1:BA:478:A:N1	1:BA:500:G:H4'	2.35	0.42
24:B2:17:SER:OG	24:B2:20:GLU:HG3	2.19	0.42
31:DA:667:G:H4'	45:DO:51:HIS:CE1	2.54	0.42
22:B0:53:MET:HA	22:B0:58:THR:O	2.20	0.42
1:AA:2168:G:H2'	1:AA:2170:A:OP2	2.20	0.42
1:AA:968:G:H2'	1:AA:969:U:O4'	2.20	0.42
31:CA:8:A:H5'	35:CE:101:ILE:HG22	2.00	0.42
1:BA:2262:U:O2'	1:BA:2263:C:H5'	2.19	0.42
25:A3:7:LYS:O	25:A3:54:VAL:HA	2.20	0.42
1:BA:2563:U:H4'	10:BO:28:SER:HA	2.02	0.42
3:AD:5:LYS:HE3	3:AD:5:LYS:HB3	1.82	0.42
4:BE:6:GLY:HA2	4:BE:51:PHE:CE1	2.55	0.42
42:DL:46:LYS:HE2	42:DL:47:LYS:O	2.20	0.42
31:CA:1329:A:N7	51:CU:7:ARG:NH2	2.59	0.42
1:BA:1432:C:H2'	1:BA:1433:U:O4'	2.19	0.42
52:AA:3001:T8B:O5	31:DA:1491:G:H2'	2.20	0.42
1:BA:1022:G:H22	1:BA:1142(A):A:H2	1.60	0.42
4:AE:143:ASN:ND2	4:AE:147:PRO:HD2	2.18	0.42
1:AA:2206:G:H3'	1:AA:2207:G:N7	2.34	0.42
1:AA:2345:G:OP2	28:A6:38:LYS:HG3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:1256:A:N6	31:CA:1278:U:O4'	2.52	0.42
1:BA:631:A:H1'	11:BP:66:GLY:HA2	2.02	0.42
1:AA:571:A:N6	1:AA:2499:C:O3'	2.49	0.42
1:BA:1815:A:P	3:BD:54:ARG:NH2	2.92	0.42
19:BX:31:HIS:HA	19:BX:32:PRO:HD3	1.86	0.42
1:BA:2328:A:H2'	1:BA:2329:G:H8	1.82	0.42
31:CA:93:G:HO2'	31:CA:96:U:P	2.37	0.42
46:DP:28:ARG:HG2	46:DP:29:ASP:OD2	2.20	0.42
31:CA:1307:U:H2'	31:CA:1308:U:C6	2.55	0.42
1:BA:312:G:H4'	1:BA:331:A:N3	2.34	0.42
1:AA:2163:C:OP2	1:AA:2164:C:H5	2.03	0.42
1:AA:330:A:C2	1:AA:1210:A:H2'	2.46	0.42
1:AA:797:C:H2'	1:AA:798:G:H8	1.84	0.42
1:BA:2285:C:C5	28:B6:6:ARG:NH2	2.88	0.42
1:BA:2889:C:H2'	1:BA:2891:G:O4'	2.20	0.42
1:AA:911:A:H2'	12:AQ:9:TYR:CZ	2.54	0.42
1:BA:528:A:C2	1:BA:2042:A:H2'	2.54	0.42
9:BN:56:ASN:CA	9:BN:125:GLY:H	2.29	0.42
1:AA:1833:U:H2'	1:AA:1834:U:H6	1.84	0.42
1:AA:2735:G:N3	1:AA:2736:G:C8	2.88	0.42
6:BG:25:TYR:HB3	6:BG:30:GLU:HB2	2.00	0.42
31:DA:949:A:H1'	31:DA:1364:U:C2	2.54	0.42
13:AR:44:LEU:HA	13:AR:44:LEU:HD23	1.92	0.42
1:AA:2263:C:H42	1:AA:2278:A:N6	2.18	0.42
31:CA:979:C:C2	44:CN:19:ARG:HG2	2.55	0.42
35:DE:93:PRO:HG2	38:DH:105:ARG:CZ	2.50	0.42
50:DT:22:ARG:O	50:DT:26:ASN:N	2.49	0.42
1:BA:195:A:OP1	11:BP:46:LYS:HE2	2.20	0.42
42:DL:70:ILE:HG12	42:DL:100:ILE:HD12	2.02	0.42
36:CF:14:LEU:HB3	36:CF:15:ASP:H	1.49	0.42
45:DO:3:ILE:HA	45:DO:7:GLU:OE2	2.20	0.42
34:DD:120:LEU:HA	34:DD:120:LEU:HD23	1.87	0.42
34:DD:119:GLN:O	34:DD:123:HIS:CD2	2.73	0.42
40:DJ:47:PHE:CZ	44:DN:37:PHE:HE2	2.38	0.42
2:BB:29:A:H2'	2:BB:30:C:O4'	2.20	0.42
21:AZ:126:VAL:HG13	21:AZ:127:LYS:O	2.19	0.42
31:CA:1443:G:N2	31:CA:1460:A:H1'	2.35	0.42
31:CA:293:G:H2'	31:CA:294:U:H6	1.84	0.42
1:BA:2516:G:C5	1:BA:2517:C:C4	3.07	0.42
10:AO:26:LYS:HD2	10:AO:37:ASP:OD1	2.20	0.42
47:CQ:87:LYS:HD3	47:CQ:87:LYS:HA	1.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:BP:19:VAL:HG23	11:BP:31:ALA:HB1	2.02	0.42
1:BA:405:U:H4'	1:BA:406:G:OP2	2.20	0.42
1:BA:2360:A:H8	1:BA:2360:A:O5'	2.02	0.42
6:AG:128:ARG:HE	6:AG:128:ARG:HB2	1.31	0.42
31:DA:721:G:OP1	31:DA:721:G:H8	2.02	0.42
28:A6:15:GLU:HG3	28:A6:47:THR:HG23	2.02	0.42
8:AI:3:VAL:HG12	8:AI:38:LEU:HA	2.01	0.42
31:CA:1416:G:C5	31:CA:1417:G:C5	3.08	0.42
1:BA:1169:G:N2	1:BA:1181:C:C2	2.88	0.42
52:AA:3001:T8B:O4	31:DA:1492:A:C5'	2.65	0.42
34:DD:13:ARG:HD2	34:DD:38:TYR:O	2.20	0.42
1:AA:140:G:N3	1:AA:142:A:N6	2.64	0.42
14:AS:35:ILE:CD1	14:AS:101:LEU:HD12	2.50	0.42
14:AS:34:HIS:HB3	14:AS:35:ILE:H	1.55	0.42
34:CD:13:ARG:HD2	34:CD:38:TYR:O	2.19	0.42
34:CD:18:LYS:HE3	34:CD:26:CYS:O	2.20	0.42
1:AA:2173:A:C2'	1:AA:2174:C:H5'	2.50	0.42
35:DE:139:LEU:HA	35:DE:142:LEU:HD12	2.02	0.42
7:AH:149:ARG:HA	7:AH:162:ILE:HG21	2.00	0.42
45:CO:74:ASP:OD2	45:CO:77:ARG:HB2	2.20	0.42
1:AA:2519:U:C2	1:AA:2542:A:C6	3.07	0.42
1:AA:2294:C:P	14:AS:89:ARG:HH22	2.42	0.42
32:CB:215:LEU:HD23	32:CB:215:LEU:HA	1.70	0.42
23:B1:82:LEU:HA	23:B1:85:LEU:HD23	2.02	0.42
1:AA:2036:C:C6	1:AA:2036:C:H5'	2.53	0.42
31:DA:1010:G:H22	31:DA:1020:U:H1'	1.84	0.42
24:A2:51:ARG:HA	24:A2:54:LYS:HB2	2.01	0.42
1:AA:481:G:C4	1:AA:507:A:C2	3.08	0.42
3:AD:238:GLY:O	3:AD:239:ARG:HB2	2.20	0.42
6:AG:106:LEU:HD12	6:AG:110:ALA:HB3	2.01	0.42
31:CA:20:U:C2'	31:CA:21:G:H5'	2.50	0.42
1:AA:583:G:C5	1:AA:584:C:C5	3.08	0.42
45:CO:4:THR:OG1	45:CO:7:GLU:HG3	2.20	0.42
1:BA:1262:A:C6	1:BA:1263:U:C4	3.08	0.42
6:BG:7:LEU:HD22	6:BG:7:LEU:HA	1.76	0.42
1:AA:2745:C:H2'	1:AA:2746:U:O4'	2.20	0.42
1:AA:1666:G:C2'	1:AA:1667:G:H5'	2.50	0.42
31:DA:992:U:O2'	31:DA:993:G:O4'	2.38	0.42
25:A3:8:LEU:HD23	25:A3:8:LEU:HA	1.72	0.42
1:AA:2019:A:C6	1:AA:2020:A:N7	2.88	0.42
18:AW:38:TYR:O	27:A5:28:PRO:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AZ:65:GLN:OE1	21:AZ:67:LEU:HD21	2.20	0.42
1:BA:524:U:H4'	1:BA:555:U:H4'	2.02	0.42
35:CE:122:GLU:O	35:CE:123:LEU:HD23	2.19	0.42
20:BY:92:ASN:N	20:BY:93:GLY:HA2	2.35	0.42
8:BI:9:LEU:HD21	8:BI:35:LEU:HD22	2.01	0.42
38:DH:36:LEU:HD12	38:DH:59:LEU:HD13	2.01	0.42
7:AH:83:TYR:CE2	7:AH:138:LYS:HB2	2.54	0.42
1:BA:817:C:O2'	1:BA:839:U:H5''	2.20	0.42
6:AG:150:ASP:CG	6:AG:151:ALA:H	2.23	0.42
35:DE:16:THR:OG1	35:DE:17:ALA:N	2.52	0.42
2:BB:111:G:H2'	2:BB:112:U:C6	2.54	0.42
8:BI:108:THR:OG1	8:BI:108:THR:O	2.29	0.42
1:BA:1793:C:H2'	1:BA:1794:U:H6	1.83	0.42
8:BI:123:LEU:HG	8:BI:123:LEU:H	1.64	0.42
44:CN:2:ALA:HB1	44:CN:6:LEU:HD13	2.01	0.42
31:DA:1401:G:H2'	31:DA:1402:C:O4'	2.19	0.42
52:BA:3001:T8B:C12	31:CA:1491:G:C5	3.03	0.42
31:CA:1493:A:C2'	31:CA:1493:A:N3	2.83	0.42
1:BA:1141:U:C5	9:BN:64:GLY:HA3	2.55	0.42
34:DD:36:ARG:NH1	34:DD:36:ARG:HG2	2.34	0.42
31:CA:1244:C:H42	31:CA:1293:G:H1	1.68	0.42
1:BA:1538:G:O5'	1:BA:1538:G:H8	2.03	0.42
31:CA:741:G:H2'	31:CA:742:G:C8	2.55	0.42
32:CB:162:ILE:HD11	32:CB:184:VAL:HG22	2.02	0.42
36:DF:12:PRO:C	36:DF:14:LEU:H	2.22	0.42
31:CA:1146:A:N6	31:CA:1147:C:C4	2.88	0.42
14:AS:103:GLU:O	14:AS:107:GLU:HG3	2.19	0.42
14:AS:99:LYS:HE3	14:AS:103:GLU:OE2	2.20	0.42
46:CP:8:ARG:HB3	46:CP:28:ARG:NH1	2.35	0.42
31:CA:985:C:H2'	31:CA:986:A:C8	2.55	0.42
1:AA:458:G:O2'	29:A7:39:ARG:HD3	2.20	0.42
32:CB:194:PRO:HB2	32:CB:195:ASP:H	1.54	0.42
1:AA:2302:G:N1	1:AA:2315:G:C6	2.88	0.42
1:AA:1999:C:H5''	1:AA:2723:C:O2'	2.20	0.42
1:AA:2136:C:C5	1:AA:2137:C:H5	2.38	0.42
1:BA:312:G:H5'	1:BA:331:A:O2'	2.20	0.42
6:AG:15:VAL:HG22	6:AG:175:LEU:O	2.20	0.42
1:AA:647:G:H2'	1:AA:648:G:O4'	2.20	0.42
1:BA:652(F):G:H2'	1:BA:652(G):G:H8	1.85	0.42
7:AH:167:GLU:HA	7:AH:168:PRO:HD3	1.90	0.42
31:DA:538:G:H2'	31:DA:539:A:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:171:G:H2'	1:BA:172:C:C6	2.55	0.42
1:BA:65:C:H2'	1:BA:66:C:C6	2.52	0.42
25:A3:4:LEU:N	25:A3:37:LEU:O	2.46	0.42
31:DA:224:C:H2'	31:DA:225:C:H6	1.84	0.42
1:AA:30:G:H2'	1:AA:31:C:H6	1.81	0.42
31:CA:1323:G:H2'	31:CA:1324:A:C8	2.55	0.42
31:DA:1186:G:O3'	39:DI:113:LYS:NZ	2.51	0.42
4:BE:72:VAL:CA	4:BE:73:GLU:HB3	2.49	0.42
1:BA:727:A:C6	1:BA:728:G:C6	3.07	0.42
31:CA:38:G:C2	31:CA:397:A:C2	3.07	0.42
1:AA:921:G:C5	1:AA:922:U:C4	3.08	0.42
9:BN:112:LEU:O	9:BN:112:LEU:HD12	2.20	0.42
31:CA:1373:G:H5''	37:CG:36:LYS:HB2	2.02	0.42
31:DA:339:C:H2'	31:DA:340:U:H6	1.83	0.42
38:DH:121:ASP:HB2	38:DH:125:ARG:NH2	2.35	0.42
1:AA:734:A:O2'	1:AA:1635:G:H5'	2.20	0.42
1:AA:1434:A:H61	1:AA:1558:A:H62	1.67	0.42
1:BA:1289:C:H2'	1:BA:1290:C:C6	2.54	0.42
31:DA:355:C:O4'	31:DA:388:G:O2'	2.33	0.42
1:AA:1418:G:OP1	1:AA:1588:C:O2'	2.32	0.42
31:DA:123:C:OP1	31:DA:311:C:O2'	2.28	0.42
31:DA:1086:U:H2'	31:DA:1087:G:H8	1.85	0.42
32:CB:28:PHE:CZ	32:CB:189:ASP:HA	2.55	0.42
43:DM:37:THR:O	43:DM:55:ARG:HD3	2.20	0.42
1:AA:2833:G:H3'	1:AA:2834:G:H5''	2.02	0.42
31:CA:1443:G:C2	31:CA:1460:A:N3	2.88	0.42
1:BA:839:U:H1'	1:BA:1191:G:H1'	2.02	0.42
8:BI:123:LEU:HA	8:BI:144:VAL:HG13	2.02	0.42
1:BA:2101:G:H2'	1:BA:2102:U:O4'	2.20	0.42
16:AU:21:ALA:HA	16:AU:24:TYR:CE1	2.55	0.42
13:AR:26:LYS:HE2	13:AR:70:LEU:O	2.20	0.42
1:BA:2679:A:H2'	1:BA:2680:C:O4'	2.20	0.42
1:AA:2403:C:N3	1:AA:2415:G:C2	2.88	0.42
1:BA:1202:C:N4	1:BA:1203:G:C6	2.88	0.42
1:BA:1025:G:C4	1:BA:1135:C:H1'	2.55	0.42
1:AA:1690:A:H3'	1:AA:1691:C:H6	1.84	0.42
2:BB:60:C:C2	2:BB:61:G:C8	3.08	0.42
23:B1:73:LEU:O	23:B1:77:ALA:N	2.53	0.42
41:CK:86:GLY:N	41:CK:112:THR:OG1	2.28	0.42
1:BA:311:A:C6	1:BA:328:U:C4	3.08	0.42
1:BA:1509(B):A:H2'	1:BA:1510:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AY:7:VAL:HG21	20:AY:72:VAL:HG12	2.02	0.42
10:AO:118:ALA:HA	10:AO:119:PRO:HD2	1.82	0.42
1:BA:612:C:H2'	1:BA:613:G:O4'	2.20	0.42
1:AA:271(C):C:C2	1:AA:271(V):G:C2	3.07	0.42
52:BA:3001:T8B:C12	31:CA:1491:G:N7	2.83	0.41
31:DA:927:G:N2	31:DA:1391:U:H1'	2.35	0.41
31:DA:1202:G:C4	44:DN:42:ILE:HD12	2.54	0.41
31:DA:1073:U:H2'	31:DA:1074:G:C8	2.43	0.41
1:BA:139(A):G:O2'	1:BA:140:G:H5'	2.20	0.41
43:CM:60:VAL:HG13	43:CM:64:TRP:CE3	2.55	0.41
31:DA:10:A:H2'	31:DA:11:G:C8	2.55	0.41
31:DA:149:A:HO2'	31:DA:150:C:H6	1.65	0.41
31:DA:1015:A:O2'	31:DA:1219:U:H5'	2.20	0.41
31:DA:474:G:C2	31:DA:475:G:C5	3.08	0.41
31:CA:947:G:N2	31:CA:1235:U:H1'	2.35	0.41
1:AA:775:G:H22	1:AA:794:G:H5'	1.86	0.41
32:DB:155:LEU:HD21	32:DB:159:PRO:HG3	2.01	0.41
31:DA:590:C:OP1	38:DH:29:SER:HA	2.20	0.41
1:BA:245:G:O2'	1:BA:384:U:O2	2.27	0.41
35:CE:24:ARG:HG3	35:CE:26:PHE:CZ	2.55	0.41
32:DB:17:PHE:CD2	32:DB:17:PHE:N	2.82	0.41
1:AA:2127:G:N2	1:AA:2162:G:H1'	2.34	0.41
1:AA:2577:A:OP2	27:A5:3:LYS:NZ	2.49	0.41
31:DA:1262:C:H2'	31:DA:1263:C:H6	1.83	0.41
14:AS:25:ARG:HG3	14:AS:88:ASP:HB2	2.01	0.41
31:CA:1095:U:H5''	31:CA:1109:C:O2	2.20	0.41
1:AA:1015:G:C6	1:AA:1148:A:C6	3.08	0.41
1:AA:1485:G:C2	1:AA:1486:A:C5	3.08	0.41
34:DD:108:LEU:HB3	34:DD:110:PHE:CD1	2.55	0.41
5:AF:160:ASN:CG	5:AF:163:VAL:HG23	2.40	0.41
1:BA:2833:G:O2'	1:BA:2834:G:P	2.78	0.41
42:CL:90:VAL:O	42:CL:92:ASP:N	2.53	0.41
31:DA:602:A:C2	31:DA:603:U:C2	3.08	0.41
1:BA:1578:U:H2'	1:BA:1579:A:H5'	2.02	0.41
1:AA:815:C:H2'	1:AA:816:C:H6	1.84	0.41
31:DA:904:C:C4	31:DA:905:U:C4	3.08	0.41
34:CD:59:ARG:HH21	34:CD:66:ARG:HH12	1.67	0.41
31:DA:1496:C:H2'	31:DA:1497:G:C1'	2.50	0.41
46:CP:17:TYR:HE1	46:CP:41:PRO:HG3	1.85	0.41
19:AX:50:LYS:CG	19:AX:84:ALA:HB2	2.50	0.41
1:AA:470:A:H2'	1:AA:471:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:757:U:H2'	31:DA:758:G:O4'	2.20	0.41
16:AU:58:ARG:HA	16:AU:61:TRP:CE3	2.54	0.41
1:AA:88:G:C2	1:AA:89:G:C4	3.07	0.41
23:B1:55:GLY:O	23:B1:56:GLN:HG2	2.19	0.41
1:AA:1973:G:H2'	1:AA:1974:C:C6	2.55	0.41
3:AD:68:LYS:O	3:AD:70:TRP:CD1	2.73	0.41
31:CA:1525:G:OP1	41:CK:120:ARG:NH2	2.53	0.41
31:DA:427:U:P	34:DD:13:ARG:HH22	2.43	0.41
1:BA:2208:A:N3	1:BA:2219:G:N1	2.68	0.41
1:AA:1531:C:N4	1:AA:1532:C:N4	2.68	0.41
4:BE:85:ASN:HA	4:BE:86:PRO:HD2	1.83	0.41
39:CI:4:TYR:CE1	39:CI:88:TYR:HA	2.54	0.41
1:AA:1174:A:N3	1:AA:1175:U:H5''	2.35	0.41
31:CA:1064:G:H5'	31:CA:1066:C:O4'	2.20	0.41
1:AA:2319:G:C8	1:AA:2320:A:C2	3.09	0.41
31:CA:97:G:O2'	31:CA:98:G:H5''	2.20	0.41
31:DA:834:C:C4	31:DA:835:U:C4	3.08	0.41
31:CA:242:C:H2'	31:CA:243:A:H5'	2.01	0.41
7:AH:70:THR:O	7:AH:72:ILE:N	2.53	0.41
31:CA:416:G:H2'	31:CA:417:C:C6	2.54	0.41
31:DA:1364:U:O2'	31:DA:1365:G:H5'	2.20	0.41
31:CA:634:C:H2'	31:CA:635:G:H8	1.85	0.41
31:CA:604:G:C2	31:CA:635:G:C5	3.07	0.41
1:AA:117:G:C6	1:AA:119:A:C6	3.08	0.41
1:BA:2183:C:O2'	1:BA:2184:G:H5'	2.20	0.41
12:BQ:37:LEU:HA	12:BQ:37:LEU:HD23	1.71	0.41
1:AA:243:U:C2'	1:AA:244:A:H5'	2.50	0.41
7:BH:20:ALA:HB3	7:BH:23:ARG:HB3	2.02	0.41
1:AA:2263:C:O2'	1:AA:2264:C:H5'	2.19	0.41
38:CH:24:THR:HG22	38:CH:63:LEU:HD21	2.02	0.41
1:AA:2489:G:C6	1:AA:2490:G:C6	3.08	0.41
8:BI:111:PRO:O	8:BI:130:TYR:HE1	2.03	0.41
4:BE:111:ARG:HG2	4:BE:160:TYR:O	2.20	0.41
2:AB:13:A:H2'	2:AB:70:C:O2'	2.19	0.41
1:AA:177:G:H2'	1:AA:177:G:N3	2.35	0.41
21:AZ:100:VAL:N	21:AZ:124:ILE:O	2.37	0.41
1:AA:323:G:H1'	1:AA:1205:U:O2	2.20	0.41
1:AA:776:G:H4'	1:AA:777:A:O5'	2.20	0.41
31:DA:1057:G:C4	31:DA:1204:A:C2	3.08	0.41
2:BB:2:C:H2'	2:BB:3:C:H6	1.85	0.41
1:BA:554:U:O2'	1:BA:555:U:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AU:14:HIS:CD2	16:AU:32:PHE:CE2	3.08	0.41
33:CC:129:ALA:HB3	33:CC:132:ARG:HB3	2.01	0.41
1:BA:1223:G:N2	1:BA:1226:A:OP2	2.43	0.41
21:BZ:68:PRO:O	21:BZ:91:LEU:HB2	2.19	0.41
11:BP:121:LYS:HB3	11:BP:123:LEU:HG	2.01	0.41
1:AA:679:C:O2'	1:AA:680:G:H5'	2.20	0.41
1:AA:588:U:H2'	1:AA:589:C:C6	2.55	0.41
1:AA:2428:G:H5''	1:AA:2429:G:O5'	2.19	0.41
31:DA:553:A:H2'	31:DA:554:C:C6	2.55	0.41
1:AA:489:G:N7	18:AW:49:LYS:NZ	2.67	0.41
23:B1:5:CYS:SG	23:B1:62:VAL:HG23	2.60	0.41
1:BA:501:A:H8	1:BA:501:A:O5'	2.03	0.41
10:BO:112:MET:H	10:BO:112:MET:HG2	1.64	0.41
6:BG:103:LEU:HD23	6:BG:103:LEU:HA	1.94	0.41
21:AZ:19:ARG:HB2	21:AZ:19:ARG:HE	1.48	0.41
1:AA:1422:G:C4	1:AA:1423:G:C8	3.09	0.41
18:BW:65:LEU:HD12	18:BW:68:ARG:HE	1.85	0.41
1:BA:2218:U:H2'	1:BA:2218:U:H6	1.32	0.41
31:CA:1055:A:O2'	33:CC:156:ARG:NE	2.52	0.41
31:CA:1318:A:H62	44:CN:18:VAL:HG11	1.84	0.41
31:CA:836:G:C6	31:CA:851:G:C6	3.08	0.41
16:AU:90:VAL:O	16:AU:95:LEU:HD13	2.20	0.41
31:CA:1147:C:C4	31:CA:1148:U:C4	3.08	0.41
31:CA:377:G:C2	31:CA:387:U:O2	2.73	0.41
1:BA:2133:G:N2	1:BA:2157:G:H2'	2.35	0.41
4:AE:201:THR:C	4:AE:202:LYS:HD2	2.41	0.41
1:AA:2788:C:N4	1:AA:2789:C:N4	2.67	0.41
31:CA:1036:G:H5'	31:CA:1037:C:OP2	2.19	0.41
1:BA:672:C:O2'	1:BA:673:C:H5'	2.20	0.41
31:CA:933:G:C6	31:CA:1385:G:N1	2.88	0.41
7:AH:9:ILE:HA	7:AH:10:PRO:HD2	1.86	0.41
26:B4:40:HIS:HB3	26:B4:43:TYR:CD1	2.55	0.41
31:DA:221:C:H2'	31:DA:222:U:H6	1.85	0.41
15:AT:11:GLU:OE1	15:AT:57:PHE:HB3	2.20	0.41
1:BA:2291:U:H2'	1:BA:2292:C:C6	2.55	0.41
31:CA:119:A:C6	31:CA:240:C:C2	3.08	0.41
31:CA:1347:G:N1	31:CA:1374:A:OP2	2.45	0.41
43:DM:43:THR:HB	43:DM:47:ASP:O	2.21	0.41
21:BZ:111:VAL:O	21:BZ:113:ALA:N	2.44	0.41
1:AA:2640:G:OP1	9:AN:97:ARG:NH2	2.53	0.41
16:BU:59:ARG:HB3	16:BU:59:ARG:HH11	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:432:A:H3'	31:DA:433:C:C6	2.55	0.41
1:AA:2572:A:OP1	1:AA:2574:G:O2'	2.29	0.41
17:AV:1:MET:HA	17:AV:41:GLY:O	2.20	0.41
33:DC:32:LEU:HB3	33:DC:59:ARG:NH1	2.35	0.41
35:DE:43:LEU:HD21	35:DE:132:ALA:HB1	2.01	0.41
10:AO:70:LYS:HE2	10:AO:70:LYS:HB3	1.62	0.41
31:CA:152:A:N7	31:CA:153:C:C4	2.88	0.41
31:DA:410:G:H5''	31:DA:411:A:OP1	2.21	0.41
1:AA:2226:C:H2'	1:AA:2227:A:O4'	2.20	0.41
1:BA:468:G:C6	1:BA:469:G:C4	3.08	0.41
1:AA:479:A:H4'	1:AA:480:A:OP1	2.20	0.41
48:CR:33:ASP:OD1	48:CR:36:ASN:HB2	2.19	0.41
14:BS:41:ASP:OD1	14:BS:43:GLU:HB2	2.21	0.41
1:AA:1214:A:N7	1:AA:1215:G:N7	2.68	0.41
1:BA:768:G:C6	1:BA:769:G:C5	3.08	0.41
23:B1:51:VAL:HG11	23:B1:74:VAL:HG21	2.01	0.41
1:BA:219:G:H2'	1:BA:220:G:O4'	2.20	0.41
11:AP:132:LYS:HB2	11:AP:132:LYS:HE2	1.87	0.41
12:AQ:46:GLN:NE2	12:AQ:126:PRO:HG3	2.35	0.41
3:BD:222:ARG:NH1	3:BD:224:ALA:HB3	2.35	0.41
3:BD:221:VAL:HG22	3:BD:226:MET:CE	2.50	0.41
32:CB:145:LEU:HA	32:CB:145:LEU:HD13	1.82	0.41
1:BA:1186:G:H2'	1:BA:1187:G:O4'	2.20	0.41
1:AA:1021:A:H61	1:AA:1142(A):A:H61	1.68	0.41
15:BT:118:ARG:HH11	15:BT:118:ARG:CG	2.26	0.41
1:AA:671:C:H2'	1:AA:672:C:C6	2.54	0.41
31:CA:544:G:H2'	31:CA:545:C:C6	2.55	0.41
45:DO:24:SER:O	45:DO:28:GLN:HG3	2.21	0.41
1:AA:329:G:H4'	1:AA:330:A:OP2	2.20	0.41
1:AA:1047:G:O2'	1:AA:1048:A:O5'	2.35	0.41
1:AA:947:G:N3	1:AA:984:A:H2	2.18	0.41
2:BB:108:U:H2'	2:BB:109:C:H5''	2.02	0.41
1:BA:652(C):G:N2	1:BA:653:A:H1'	2.35	0.41
39:DI:124:GLN:HB3	39:DI:124:GLN:HE21	1.66	0.41
31:CA:620:C:C2	34:CD:135:LEU:HG	2.56	0.41
39:DI:44:VAL:CA	39:DI:45:ALA:HB2	2.50	0.41
31:DA:1157:A:H4'	31:DA:1158:C:O5'	2.21	0.41
1:AA:2820:A:C6	13:AR:4:LEU:HD11	2.55	0.41
31:DA:1434:A:H2'	31:DA:1435:G:O4'	2.20	0.41
1:BA:1425:G:H2'	1:BA:1426:G:O4'	2.20	0.41
1:BA:530:G:C5	1:BA:2022:U:H5''	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:221:C:H2'	31:DA:222:U:C6	2.55	0.41
31:DA:223:U:H2'	31:DA:224:C:H6	1.85	0.41
1:AA:1496:A:N3	1:AA:1577:C:O2'	2.38	0.41
31:CA:586:C:C2'	31:CA:587:G:H5'	2.50	0.41
32:DB:97:TRP:HH2	32:DB:176:GLU:CD	2.23	0.41
31:DA:523:A:H61	42:DL:53:ARG:NH1	2.18	0.41
32:CB:101:MET:HA	32:CB:108:ILE:HG13	2.03	0.41
34:DD:79:PHE:HE1	34:DD:204:ILE:HD13	1.86	0.41
31:DA:108:G:N1	50:DT:15:ARG:HG3	2.36	0.41
28:A6:44:ARG:HB3	28:A6:44:ARG:NH1	2.34	0.41
31:DA:819:A:N7	31:DA:1529:G:N1	2.68	0.41
31:CA:324:G:N2	31:CA:327:A:OP2	2.53	0.41
31:DA:44:G:N3	31:DA:399:G:C2	2.89	0.41
31:DA:44:G:N1	31:DA:45:U:O2	2.53	0.41
1:AA:1252:G:OP1	1:AA:1252:G:H8	2.04	0.41
19:AX:18:TYR:C	19:AX:20:GLY:N	2.74	0.41
42:DL:54:LYS:O	42:DL:70:ILE:HG13	2.20	0.41
38:CH:25:ASP:HA	38:CH:59:LEU:O	2.20	0.41
9:AN:104:LYS:HA	9:AN:107:LEU:HD12	2.01	0.41
31:DA:543:C:O2'	31:DA:544:G:H5'	2.20	0.41
28:B6:40:CYS:HA	28:B6:41:PRO:HD3	1.80	0.41
1:AA:1374:G:C2	1:AA:1375:C:C2	3.08	0.41
8:AI:47:LEU:O	8:AI:51:ILE:HG12	2.21	0.41
1:AA:191:A:C2	1:AA:192:C:C2	3.08	0.41
15:AT:97:ALA:O	15:AT:98:LYS:HD2	2.19	0.41
1:BA:734:A:C4	1:BA:735:A:C8	3.09	0.41
1:AA:2744:G:N2	7:AH:143:GLN:OE1	2.52	0.41
37:DG:95:ARG:HE	37:DG:99:LEU:HD11	1.85	0.41
32:DB:170:GLU:O	32:DB:174:VAL:HG23	2.21	0.41
1:BA:2708:G:H1'	13:BR:71:GLN:HE22	1.85	0.41
9:AN:19:GLU:HA	9:AN:59:LYS:HB2	2.02	0.41
21:BZ:35:ARG:HD2	21:BZ:35:ARG:HA	1.94	0.41
16:BU:16:LYS:HE2	16:BU:16:LYS:HB3	1.77	0.41
37:DG:72:ARG:H	37:DG:72:ARG:HG2	1.61	0.41
1:BA:1337:G:H2'	1:BA:1338:G:O4'	2.20	0.41
1:AA:536:A:H2'	1:AA:537:C:C6	2.56	0.41
32:DB:60:ASP:OD2	32:DB:64:ARG:NE	2.37	0.41
9:AN:73:THR:HA	9:AN:83:LYS:O	2.21	0.41
31:DA:1028:C:N3	31:DA:1034:G:C2	2.89	0.41
31:CA:938:A:N6	31:CA:939:G:C6	2.88	0.41
31:CA:166:G:O2'	31:CA:167:G:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:CA:654:G:C6	31:CA:655:A:C5	3.08	0.41
1:AA:1160:G:C6	1:AA:1161:C:C4	3.08	0.41
1:BA:1177:A:H3'	1:BA:1177:A:OP1	2.21	0.41
38:DH:86:ILE:CG1	38:DH:133:LEU:HD22	2.49	0.41
31:CA:373:A:N1	31:CA:391:G:O2'	2.51	0.41
31:CA:374:A:C4	31:CA:375:U:C5	3.09	0.41
31:CA:309:G:H2'	31:CA:310:G:H8	1.85	0.41
1:BA:71:A:C8	1:BA:71:A:H5'	2.56	0.41
31:DA:1023:G:H2'	31:DA:1023:G:N3	2.34	0.41
31:CA:626:U:H2'	31:CA:627:G:H8	1.84	0.41
1:AA:271(H):G:O2'	1:AA:271(I):G:H8	2.02	0.41
41:CK:33:THR:HA	41:CK:39:PRO:HA	2.03	0.41
1:AA:729:G:OP2	3:AD:13:ARG:NH1	2.51	0.41
31:DA:373:A:N3	31:DA:374:A:C8	2.89	0.41
1:AA:2023:G:H4'	1:AA:2617:C:O3'	2.21	0.41
1:AA:2517:C:C6	1:AA:2542:A:N7	2.88	0.41
31:DA:1362:C:C2'	31:DA:1363:C:H5''	2.50	0.41
31:CA:1430:C:N3	31:CA:1471:G:C2	2.89	0.41
47:DQ:67:LYS:HA	47:DQ:70:ARG:NH1	2.35	0.41
1:AA:2078:C:C4	1:AA:2079:U:C4	3.08	0.41
1:AA:2802:G:H2'	1:AA:2803:C:H6	1.82	0.41
1:AA:476:G:N2	1:AA:478:A:H3'	2.35	0.41
1:AA:477:A:H2'	1:AA:478:A:C8	2.55	0.41
22:B0:20:ARG:HD3	22:B0:20:ARG:HH11	1.72	0.41
34:DD:117:ALA:O	34:DD:121:VAL:HG23	2.19	0.41
1:AA:45:C:H2'	1:AA:47:C:H6	1.86	0.41
31:DA:963:G:O2'	31:DA:1199:U:H5''	2.19	0.41
1:BA:883:G:H1	1:BA:893:C:N4	2.18	0.41
1:AA:195:A:OP1	11:AP:46:LYS:HE2	2.20	0.41
1:BA:2294:C:P	14:BS:89:ARG:HH22	2.43	0.41
4:AE:71:GLY:HA2	4:AE:72:VAL:C	2.41	0.41
1:AA:1665:A:C4'	10:AO:67:LYS:HB2	2.49	0.41
45:DO:19:PRO:HB2	45:DO:20:GLY:H	1.72	0.41
1:AA:628:G:H2'	1:AA:629:G:H8	1.83	0.41
30:B8:27:THR:O	30:B8:44:LYS:HE2	2.19	0.41
12:AQ:35:VAL:HG13	12:AQ:130:LYS:HB3	2.03	0.41
1:AA:1575:C:H2'	1:AA:1576:U:H6	1.84	0.41
31:DA:114:U:H2'	31:DA:115:G:C8	2.56	0.41
1:AA:706:A:C2	1:AA:707:G:H1'	2.55	0.41
33:CC:23:TYR:CG	33:CC:24:ALA:N	2.88	0.41
1:AA:1316:U:H2'	1:AA:1317:A:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:824:A:H1'	1:AA:2358:G:N7	2.36	0.41
7:BH:43:VAL:HG22	7:BH:52:VAL:HG22	2.02	0.41
12:BQ:58:PHE:O	12:BQ:60:ARG:N	2.53	0.41
1:BA:30:G:H2'	1:BA:31:C:O4'	2.20	0.41
1:BA:2020:A:O2'	1:BA:2021:C:H5'	2.20	0.41
4:AE:60:ASN:OD1	4:AE:63:LEU:HB2	2.20	0.41
31:CA:461:A:C4	31:CA:471:G:C5	3.09	0.41
1:AA:2618:G:H21	4:AE:150:VAL:HG21	1.85	0.41
1:BA:2252:G:H2'	1:BA:2253:G:O4'	2.20	0.41
24:B2:3:LEU:HA	24:B2:3:LEU:HD23	1.83	0.41
1:BA:111:A:H4'	24:B2:69:ARG:NH1	2.34	0.41
1:AA:183:C:H1'	1:AA:433:C:H1'	2.03	0.41
4:AE:49:LEU:HA	4:AE:49:LEU:HD12	1.76	0.41
31:DA:673:G:H5''	36:DF:87:ARG:CZ	2.49	0.41
27:A5:36:CYS:SG	27:A5:49:CYS:HB3	2.61	0.41
1:BA:1177:A:O5'	1:BA:1177:A:H8	2.04	0.41
32:CB:25:ASN:HA	32:CB:26:PRO:HD2	1.89	0.41
1:BA:1047:G:H2'	1:BA:1110:G:N1	2.34	0.41
31:DA:922:G:H2'	31:DA:923:A:H8	1.85	0.41
2:BB:8:U:O2'	14:BS:40:ILE:HD13	2.21	0.41
31:DA:560:U:N3	31:DA:566:G:C4	2.88	0.41
31:CA:309:G:O2'	31:CA:607:A:N1	2.53	0.41
31:CA:185:A:C6	31:CA:186:C:N4	2.88	0.41
31:CA:195:A:H1'	31:CA:222:U:O2'	2.21	0.41
1:AA:1371:G:HO2'	1:AA:1372:U:H5	1.64	0.41
1:AA:1235:G:C2	1:AA:1236:G:N2	2.89	0.41
1:BA:829:A:H5''	1:BA:831:G:N7	2.35	0.41
34:DD:189:PRO:CB	34:DD:194:LEU:HD11	2.48	0.41
31:DA:1206:G:C6	31:DA:1207:G:C5	3.09	0.41
31:DA:832:C:O2'	31:DA:833:U:OP2	2.34	0.41
6:AG:132:ASN:HA	6:AG:157:ILE:O	2.21	0.41
1:AA:648:G:O2'	1:AA:2351:G:OP1	2.32	0.41
31:CA:457:C:H2'	31:CA:458:C:C6	2.55	0.41
38:DH:88:LYS:HB3	38:DH:89:PRO:HD2	2.02	0.41
1:BA:2104:G:N3	1:BA:2104:G:H2'	2.35	0.41
41:CK:38:ASN:HA	41:CK:39:PRO:HD3	1.86	0.41
39:CI:46:ALA:HB1	39:CI:78:LYS:CA	2.50	0.41
31:CA:102:G:O2'	31:CA:151:A:N3	2.32	0.41
31:CA:1444:C:H42	31:CA:1458:G:H1	1.68	0.41
21:BZ:45:ASP:OD1	21:BZ:49:ARG:HD2	2.20	0.41
1:BA:1839:G:N7	1:BA:1927:A:H1'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1790:C:H2'	1:AA:1791:A:C5	2.56	0.41
6:BG:126:ASP:HB2	6:BG:130:ASN:O	2.19	0.41
31:CA:116:A:H2'	31:CA:117:G:H8	1.84	0.41
1:BA:2420:C:H5'	28:B6:54:ILE:CD1	2.50	0.41
31:CA:817:C:C5	31:CA:819:A:H1'	2.56	0.41
31:CA:586:C:O2'	31:CA:878:G:H4'	2.21	0.41
1:BA:729:G:C6	3:BD:208:LYS:HB2	2.55	0.41
31:DA:575:G:O2'	31:DA:821:G:H5'	2.21	0.41
1:BA:2035:G:H4'	1:BA:2036:C:OP2	2.20	0.41
1:BA:1790:C:O2'	3:BD:209:ALA:HB2	2.20	0.41
1:AA:1992:G:O5'	1:AA:1992:G:C8	2.74	0.41
1:BA:2839:G:N2	1:BA:2880:C:C2	2.89	0.41
14:BS:101:LEU:O	14:BS:102:ALA:CB	2.69	0.41
31:DA:685:G:O2'	31:DA:686:U:H5'	2.20	0.41
1:BA:2638:G:P	4:BE:82:ARG:NH2	2.94	0.41
1:BA:2689:U:C4'	1:BA:2690:C:H5'	2.50	0.41
6:AG:114:ILE:HG12	6:AG:140:ILE:HD13	2.01	0.41
31:CA:1016:A:O2'	31:CA:1217:C:O2	2.37	0.41
31:DA:45:U:H2'	31:DA:46:G:H8	1.85	0.41
1:AA:565:C:H4'	1:AA:1253:A:N6	2.35	0.41
40:CJ:13:HIS:CG	40:CJ:14:LYS:N	2.88	0.41
35:DE:108:ALA:O	35:DE:112:LEU:HG	2.21	0.41
33:CC:23:TYR:HB2	40:CJ:10:GLY:HA2	2.03	0.41
1:AA:56:A:H2'	1:AA:57:C:O4'	2.21	0.41
19:BX:29:TRP:CE3	19:BX:78:LYS:HB3	2.56	0.41
1:AA:2415:G:H2'	1:AA:2416:C:C6	2.56	0.41
4:AE:63:LEU:HA	4:AE:63:LEU:HD23	1.91	0.41
1:BA:2479:G:OP1	1:BA:2537:U:H1'	2.20	0.41
3:BD:147:LEU:HD13	3:BD:155:LEU:HD21	2.02	0.41
12:AQ:57:HIS:NE2	12:AQ:116:GLU:HG2	2.35	0.41
1:BA:2801(A):A:H1'	1:BA:2895:U:H1'	2.03	0.41
9:BN:23:LEU:HD12	9:BN:99:LEU:HD23	2.03	0.41
1:AA:2506:U:H4'	1:AA:2507:C:OP1	2.21	0.41
1:BA:1754:C:H2'	1:BA:1755:A:O4'	2.20	0.41
1:AA:2065:C:H2'	1:AA:2066:C:C6	2.55	0.41
1:BA:864:G:O2'	1:BA:865:C:H5'	2.21	0.41
1:BA:2174:C:H2'	1:BA:2175:C:H6	1.86	0.41
47:DQ:59:ILE:HG22	47:DQ:73:VAL:HA	2.03	0.41
29:B7:19:ARG:HG2	29:B7:19:ARG:HH11	1.85	0.41
11:BP:135:LEU:HA	11:BP:135:LEU:HD23	1.79	0.41
1:AA:1334:G:H2'	1:AA:1335:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:455:C:N3	1:AA:473:G:H5'	2.35	0.41
1:BA:1914:C:H3'	1:BA:1914:C:OP1	2.21	0.41
1:BA:1913:A:H61	31:CA:1493:A:C5'	2.31	0.41
31:DA:1505:G:H4'	31:DA:1506:U:H5''	2.03	0.41
31:DA:926:G:C6	31:DA:1505:G:C5	3.08	0.41
9:AN:63:THR:HB	9:AN:64:GLY:H	1.69	0.41
32:DB:204:ASN:HB3	32:DB:210:SER:CB	2.50	0.41
31:DA:944:G:C2'	31:DA:1339:A:H61	2.33	0.41
1:AA:301:G:C4	1:AA:302:C:C5	3.09	0.41
1:AA:301:G:HO2'	1:AA:302:C:H6	1.67	0.41
7:AH:121:ILE:HD11	7:AH:140:LYS:HG2	2.03	0.41
37:DG:113:GLU:HG3	37:DG:119:ARG:HG2	2.01	0.41
34:DD:61:LYS:HD3	34:DD:206:PHE:CE2	2.55	0.41
31:CA:428:G:H4'	31:CA:429:U:O5'	2.21	0.41
34:CD:33:MET:HA	34:CD:37:PRO:HA	2.02	0.41
37:CG:122:HIS:HA	37:CG:125:MET:SD	2.60	0.41
31:DA:445:G:C6	31:DA:446:G:C5	3.08	0.41
32:DB:215:LEU:HA	32:DB:215:LEU:HD23	1.88	0.41
1:BA:878:A:C2	1:BA:879:G:N7	2.89	0.41
1:AA:1327:C:H2'	1:AA:1328:G:O4'	2.21	0.41
1:BA:1648:C:H2'	1:BA:1649:G:O5'	2.21	0.41
50:CT:72:LEU:HD11	50:CT:80:ARG:HD2	2.03	0.41
35:DE:98:THR:HB	35:DE:99:GLY:H	1.55	0.41
1:BA:2791:C:H1'	1:BA:2807:G:N2	2.36	0.41
15:BT:93:ARG:NH2	15:BT:95:ARG:HD2	2.36	0.41
1:AA:341:G:H8	1:AA:341:G:O5'	2.03	0.41
45:CO:67:LEU:HB3	45:CO:78:TYR:HE1	1.85	0.41
1:BA:1925:C:C2'	1:BA:1926:U:H5'	2.50	0.41
31:DA:1225:A:C5	31:DA:1226:C:N4	2.89	0.41
1:AA:2813:A:H2'	1:AA:2814:C:O4'	2.21	0.41
31:CA:337:C:H2'	31:CA:338:A:C8	2.55	0.41
11:AP:84:ASN:O	11:AP:87:ASP:N	2.51	0.41
32:DB:153:ARG:HG3	32:DB:154:LEU:N	2.35	0.41
1:AA:2236:C:H2'	1:AA:2237:G:O4'	2.20	0.41
1:BA:479:A:H4'	1:BA:480:A:OP1	2.21	0.41
31:DA:1457:G:H2'	31:DA:1458:G:C8	2.56	0.41
2:BB:16:G:N2	2:BB:69:G:H1'	2.35	0.41
1:BA:592:G:O2'	30:B8:4:MET:N	2.43	0.41
43:CM:40:ASN:HA	43:CM:41:PRO:HD2	1.75	0.41
7:BH:27:LYS:HE2	7:BH:27:LYS:HB3	1.70	0.41
31:DA:908:A:O5'	31:DA:908:A:H8	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:623:G:C2	1:AA:624:C:C2	3.09	0.41
1:AA:1439:A:H2'	1:AA:1440:G:O4'	2.20	0.41
32:DB:106:LYS:O	32:DB:110:GLN:HG3	2.20	0.41
1:AA:239:U:H2'	1:AA:240:G:O4'	2.21	0.41
1:BA:1364:G:P	23:B1:3:LYS:HG2	2.60	0.41
31:CA:1255:G:N2	31:CA:1259:C:O2	2.45	0.41
16:AU:95:LEU:HD12	16:AU:95:LEU:HA	1.83	0.41
2:AB:52:A:O2'	2:AB:53:A:H5'	2.20	0.41
31:CA:377:G:P	46:CP:3:LYS:HZ2	2.43	0.41
31:CA:923:A:H2'	31:CA:924:C:O4'	2.21	0.41
31:DA:1229:A:OP2	43:DM:114:ARG:HD2	2.19	0.41
41:CK:48:ILE:CG2	41:CK:63:LEU:HD22	2.51	0.41
31:CA:1288:A:H2	31:CA:1352:C:O2	2.04	0.41
1:AA:1050:A:O2'	1:AA:2752:C:H1'	2.19	0.41
37:DG:111:ARG:HD3	37:DG:113:GLU:OE2	2.20	0.41
34:CD:13:ARG:HB2	34:CD:40:PRO:HD3	2.02	0.41
1:AA:1210:A:H5''	1:AA:1212:G:O4'	2.20	0.41
31:DA:586:C:HO2'	31:DA:878:G:H4'	1.86	0.41
1:AA:517:C:OP1	27:A5:13:LYS:HD3	2.20	0.41
7:AH:149:ARG:HD2	7:AH:164:TYR:CE1	2.56	0.41
34:DD:73:ARG:HA	34:DD:73:ARG:HD2	1.89	0.41
9:BN:125:GLY:HA2	9:BN:126:PRO:O	2.20	0.41
31:DA:1284:C:H2'	31:DA:1285:A:N7	2.36	0.41
1:AA:2295:C:C2'	1:AA:2296:U:H5'	2.50	0.41
34:CD:61:LYS:O	34:CD:65:ARG:HB2	2.20	0.41
31:DA:189(F):U:O4	47:DQ:63:ARG:N	2.39	0.41
9:AN:29:LYS:NZ	9:AN:140:VAL:HG13	2.35	0.41
15:AT:11:GLU:O	15:AT:15:VAL:HG23	2.20	0.41
31:CA:1052:U:H3	31:CA:1206:G:H1	1.68	0.41
2:AB:66:A:H61	2:AB:109:C:C5'	2.33	0.41
1:AA:2803:C:H2'	1:AA:2804:C:H6	1.85	0.41
1:BA:2291:U:O3'	1:BA:2379:G:N2	2.53	0.41
3:BD:9:TYR:CZ	3:BD:13:ARG:HG2	2.56	0.41
31:DA:1333:A:C2	31:DA:1334:G:H1'	2.56	0.41
24:A2:32:LEU:HD21	24:A2:50:ILE:CG2	2.51	0.41
1:AA:2741:A:H2'	1:AA:2742:C:O4'	2.20	0.41
39:DI:120:ARG:O	39:DI:122:ALA:N	2.54	0.41
1:AA:557:U:H2'	1:AA:558:G:C8	2.56	0.41
31:DA:338:A:H2'	31:DA:339:C:O4'	2.21	0.41
31:DA:577:G:C8	31:DA:816:A:C6	3.09	0.41
42:CL:31:PRO:HB2	42:CL:32:PHE:CD2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:BQ:37:LEU:HD21	12:BQ:130:LYS:CE	2.51	0.41
1:AA:1202:C:N4	1:AA:1203:G:C6	2.89	0.41
31:DA:786:G:C2	31:DA:797:C:C2	3.09	0.41
48:DR:66:LEU:O	48:DR:70:ILE:HG13	2.21	0.41
31:CA:874:G:H2'	31:CA:875:C:H6	1.85	0.41
3:BD:152:GLY:O	3:BD:154:LYS:HG2	2.20	0.41
2:BB:33:G:N2	2:BB:50:G:C4	2.89	0.41
1:AA:1223:G:C2	1:AA:1227:G:C5	3.08	0.41
31:CA:1169:A:C6	31:CA:1170:A:C6	3.09	0.41
31:CA:1007:C:N3	31:CA:1022:G:O6	2.54	0.41
1:AA:2199:A:H3'	1:AA:2200:C:C6	2.56	0.41
1:AA:2199:A:H5''	1:AA:2200:C:OP2	2.21	0.41
31:CA:55:A:C5	31:CA:56:U:C5	3.09	0.41
1:AA:1355:G:H2'	1:AA:1356:G:O4'	2.20	0.41
1:AA:1478:G:HO2'	1:AA:1558:A:H2	1.66	0.41
1:AA:284:U:H2'	1:AA:285:C:C6	2.55	0.41
8:BI:85:GLU:O	8:BI:86:THR:OG1	2.38	0.41
3:BD:172:TYR:CD1	3:BD:186:HIS:HA	2.55	0.41
47:CQ:84:LEU:O	47:CQ:87:LYS:HB2	2.21	0.41
32:CB:144:ARG:O	32:CB:147:LYS:N	2.53	0.41
1:AA:393:C:H2'	1:AA:394:A:C8	2.56	0.41
1:AA:110:G:C2	1:AA:111:A:C8	3.08	0.41
1:BA:2691:C:O3'	1:BA:2871:C:H4'	2.20	0.41
1:AA:2342:C:H2'	1:AA:2343:C:O4'	2.20	0.41
31:CA:1220:G:N2	49:CS:54:GLY:O	2.53	0.41
1:AA:705:A:C8	1:AA:727:A:C2	3.09	0.41
14:AS:28:VAL:HG11	14:AS:98:VAL:HG13	2.03	0.41
1:AA:414:C:O2'	1:AA:415:A:H5'	2.21	0.41
1:BA:2070:G:H2'	1:BA:2071:A:O4'	2.20	0.41
25:A3:28:LEU:HD23	25:A3:28:LEU:HA	1.82	0.41
37:CG:90:GLU:OE1	37:CG:90:GLU:N	2.52	0.41
1:BA:1889:A:H2'	1:BA:1890:A:C8	2.56	0.41
40:DJ:40:LEU:HD12	40:DJ:69:ASN:HB3	2.02	0.41
37:CG:15:ASP:OD1	37:CG:44:TYR:OH	2.37	0.41
13:AR:28:LEU:HD21	13:AR:114:VAL:O	2.20	0.41
1:AA:1243:G:H2'	1:AA:1244:G:O4'	2.20	0.41
31:CA:1492:A:C2'	31:CA:1493:A:OP1	2.69	0.41
31:DA:673:G:C6	31:DA:734:G:C6	3.09	0.41
1:BA:1539:G:H2'	1:BA:1540:U:O4'	2.21	0.41
11:AP:120:ALA:HB1	11:AP:138:LEU:HA	2.02	0.41
31:DA:1069:C:C4	31:DA:1070:U:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:CO:24:SER:O	45:CO:28:GLN:HG3	2.21	0.41
23:B1:3:LYS:HB3	23:B1:4:VAL:H	1.28	0.41
31:CA:1158:C:H5	31:CA:1181:G:H1	1.67	0.41
1:BA:1173:G:OP2	1:BA:1173:G:H2'	2.21	0.41
21:AZ:5:LEU:HD23	21:AZ:47:VAL:CG2	2.42	0.41
1:AA:977:G:C6	1:AA:987:G:C6	3.08	0.41
31:CA:1128:C:H1'	31:CA:1146:A:N6	2.34	0.41
14:AS:104:GLY:O	14:AS:107:GLU:N	2.54	0.41
18:BW:18:ARG:NH1	18:BW:76:VAL:O	2.53	0.41
31:DA:1337:G:H5''	31:DA:1338:G:OP1	2.21	0.41
1:BA:2134:A:H62	1:BA:2157:G:C4'	2.34	0.41
31:DA:1127:G:H1'	31:DA:1147:C:H42	1.86	0.41
39:DI:20:ARG:HA	39:DI:21:PRO:HD2	1.91	0.41
31:CA:991:U:C4	31:CA:1212:U:H1'	2.56	0.41
31:CA:992:U:H1'	31:CA:993:G:C5	2.55	0.41
31:DA:457:C:H2'	31:DA:458:C:C6	2.56	0.41
31:DA:457:C:H42	31:DA:474:G:H1	1.69	0.41
1:AA:2298:A:C8	1:AA:2299:G:C8	3.09	0.41
32:CB:15:VAL:CG2	32:CB:209:ARG:HG2	2.50	0.41
31:CA:344:A:O2'	31:CA:346:G:O6	2.27	0.41
31:DA:657:G:C2	31:DA:750:G:C5	3.09	0.41
1:AA:2131:G:H5'	1:AA:2133:G:O5'	2.21	0.41
1:BA:1359:A:H5'	1:BA:1359:A:N3	2.35	0.41
1:BA:1212:G:H1'	1:BA:1236:G:N2	2.36	0.41
37:DG:122:HIS:HA	37:DG:125:MET:SD	2.61	0.41
1:AA:312:G:H4'	1:AA:331:A:N3	2.36	0.41
31:CA:1085:U:H3'	31:CA:1086:U:H5	1.86	0.41
31:CA:472:A:C5	31:CA:473:G:C8	3.09	0.41
1:BA:2186:G:H2'	1:BA:2187:G:H5''	2.02	0.41
1:BA:2319:G:H22	14:BS:3:ARG:HE	1.67	0.41
39:CI:44:VAL:N	39:CI:45:ALA:CA	2.82	0.41
1:AA:910:A:H2'	1:AA:911:A:C8	2.56	0.41
1:AA:911:A:H2'	12:AQ:9:TYR:OH	2.21	0.41
5:BF:32:LEU:CD1	5:BF:105:VAL:HG13	2.51	0.41
31:DA:1079:G:C6	31:DA:1080:A:N6	2.88	0.41
3:AD:233:HIS:NE2	3:AD:246:PRO:HA	2.35	0.41
1:AA:1758:G:C2	1:AA:2696:U:H5'	2.55	0.41
31:DA:160:A:N7	31:DA:161:A:N7	2.69	0.41
3:BD:107:ALA:HA	3:BD:108:PRO:HD2	1.99	0.41
37:CG:149:ARG:HB3	41:CK:59:TYR:CZ	2.56	0.41
7:AH:24:VAL:HG21	7:AH:72:ILE:HG12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AH:69:ARG:HG3	7:AH:70:THR:N	2.36	0.41
1:BA:2126:A:N3	1:BA:2127:G:H1'	2.36	0.41
1:BA:222:A:N1	1:BA:233:A:H5''	2.36	0.41
31:DA:1361:G:H2'	31:DA:1362:C:O4'	2.21	0.41
23:A1:8:SER:OG	23:A1:10:LYS:HB2	2.20	0.41
1:AA:2811:G:N2	1:AA:2891:G:H1'	2.36	0.41
45:CO:18:PHE:CE1	45:CO:21:ASP:HB2	2.56	0.41
31:DA:1187:G:C6	31:DA:1188:A:C5	3.09	0.41
11:AP:113:LYS:HA	11:AP:129:ALA:O	2.21	0.41
1:AA:1221:C:H2'	1:AA:1221(A):C:C6	2.55	0.41
1:AA:264:C:O2'	1:AA:265:A:H2'	2.21	0.41
1:AA:2139:C:N4	1:AA:2152:G:H1	2.19	0.41
1:AA:1889:A:H2'	1:AA:1890:A:H8	1.83	0.41
32:DB:178:ARG:HH22	38:DH:68:ARG:HH12	1.67	0.41
31:DA:814:A:H2'	31:DA:816:A:H5''	2.02	0.41
4:AE:21:VAL:HA	4:AE:22:PRO:HD2	1.82	0.41
1:AA:1653:G:H4'	1:AA:1654:A:O5'	2.20	0.41
1:AA:2201:C:H2'	1:AA:2202:C:H6	1.86	0.41
34:DD:108:LEU:HB3	34:DD:110:PHE:HE1	1.84	0.41
31:DA:724:G:N3	31:DA:725:G:C8	2.88	0.41
31:DA:724:G:O2'	31:DA:725:G:H5'	2.20	0.41
31:DA:708:C:H2'	31:DA:709:G:H8	1.86	0.41
50:DT:12:ALA:O	50:DT:15:ARG:HB2	2.20	0.41
6:AG:125:PHE:CZ	6:AG:170:ARG:HA	2.56	0.41
6:BG:50:ALA:O	6:BG:52:ILE:N	2.54	0.41
1:AA:2405:G:O2'	1:AA:2406:U:OP2	2.35	0.41
1:AA:2469:A:C2	1:AA:2482:G:C8	3.09	0.41
1:AA:2468:G:H22	1:AA:2481:G:H1'	1.85	0.41
7:AH:99:VAL:O	7:AH:102:ALA:HB3	2.20	0.41
37:DG:87:VAL:HA	37:DG:88:PRO:HD2	1.90	0.41
1:AA:613:G:O2'	1:AA:614(C):A:N1	2.45	0.41
31:CA:452:A:N6	31:CA:480:U:H3	2.19	0.41
1:AA:2738:A:N1	1:AA:2739:U:C2	2.89	0.41
31:CA:45:U:H2'	31:CA:46:G:C8	2.56	0.41
20:AY:68:HIS:ND1	20:AY:70:SER:HB3	2.36	0.41
31:DA:44:G:H2'	31:DA:45:U:O4'	2.21	0.41
1:AA:2282:G:H5'	1:AA:2389:G:H1'	2.03	0.41
2:BB:78:A:C2	2:BB:100:A:C4	3.09	0.41
3:BD:246:PRO:HG2	3:BD:255:LYS:HG3	2.02	0.41
35:DE:33:VAL:HG21	35:DE:109:ILE:HG12	2.02	0.41
39:CI:115:GLY:HA2	40:CJ:58:ASP:OD1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DD:148:VAL:HG12	34:DD:149:ALA:N	2.36	0.41
1:AA:2335:A:C8	1:AA:2337:G:N7	2.89	0.41
33:CC:114:PRO:HA	33:CC:185:GLY:HA3	2.02	0.41
32:CB:189:ASP:OD1	32:CB:189:ASP:N	2.54	0.41
1:BA:1400:G:H2'	1:BA:1401:G:C8	2.55	0.41
31:CA:512:U:H2'	31:CA:513:C:C6	2.55	0.41
49:CS:73:GLU:HB2	49:CS:74:PHE:CD2	2.56	0.41
50:CT:13:LEU:O	50:CT:17:ARG:HG3	2.20	0.41
13:BR:56:LYS:HE3	13:BR:87:TYR:O	2.21	0.41
1:AA:2680:C:H5'	4:AE:189:PRO:HA	2.03	0.41
31:CA:509:A:C8	31:CA:509:A:H3'	2.55	0.41
3:AD:68:LYS:HD2	3:AD:70:TRP:CZ2	2.56	0.41
1:AA:2427:C:H5''	1:AA:2428:G:OP1	2.21	0.41
1:AA:393:C:H2'	1:AA:394:A:H8	1.86	0.41
1:AA:705:A:H1'	3:AD:9:TYR:CE1	2.56	0.41
31:CA:1103:C:H5''	32:CB:98:LEU:HD13	2.01	0.41
1:AA:2865:U:C4	1:AA:2866:U:C4	3.09	0.41
1:AA:1651:G:N2	1:AA:2007:C:C2	2.89	0.41
6:AG:64:THR:HG22	6:AG:94:LEU:HD11	2.03	0.41
2:AB:114:C:O2'	14:AS:46:VAL:HG13	2.21	0.41
1:BA:1491:G:O2'	1:BA:1492:G:H5'	2.20	0.41
41:DK:38:ASN:HA	41:DK:39:PRO:HD3	1.79	0.41
48:DR:76:LEU:HA	48:DR:76:LEU:HD13	1.74	0.41
34:DD:106:TYR:C	34:DD:106:TYR:CD2	2.93	0.41
32:DB:98:LEU:HA	32:DB:98:LEU:HD23	1.92	0.41
31:CA:592:G:C2	31:CA:593:G:C8	3.08	0.41
39:CI:89:ASN:HA	39:CI:90:PRO:HD3	1.81	0.41
47:CQ:86:GLU:O	47:CQ:90:ILE:HG12	2.21	0.41
40:CJ:6:ILE:HA	40:CJ:97:GLU:O	2.21	0.41
18:AW:9:TYR:HA	18:AW:100:THR:HG23	2.03	0.41
31:DA:414:A:H2'	31:DA:415:A:C8	2.55	0.41
34:CD:98:GLU:HA	34:CD:103:ASN:ND2	2.35	0.41
6:AG:141:PHE:HA	6:AG:142:PRO:HD2	1.81	0.41
1:AA:942:G:C5	1:AA:943:U:C5	3.09	0.41
35:CE:92:LYS:HA	35:CE:93:PRO:HD2	1.86	0.41
31:CA:1104:G:C6	31:CA:1105:A:C5	3.09	0.41
1:AA:945:A:C4	1:AA:2448:A:C2	3.08	0.41
13:BR:29:LEU:HD12	13:BR:29:LEU:HA	1.82	0.41
38:DH:109:ILE:HD13	38:DH:109:ILE:H	1.85	0.41
3:BD:79:VAL:HG12	3:BD:113:VAL:HA	2.02	0.41
34:CD:50:ARG:HA	34:CD:51:PRO:HD3	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DD:36:ARG:HB3	34:DD:38:TYR:CZ	2.56	0.41
1:BA:1311:G:O6	29:B7:9:ARG:NH2	2.53	0.41
31:DA:1072:G:C4	31:DA:1104:G:N2	2.89	0.41
1:BA:1044:G:H5''	1:BA:1045:A:OP2	2.21	0.41
31:CA:1040:U:H2'	31:CA:1041:A:C8	2.55	0.41
31:CA:1041:A:C6	31:CA:1042:G:C5	3.09	0.41
31:CA:221:C:H2'	31:CA:222:U:H6	1.85	0.41
4:AE:111:ARG:HA	13:AR:1:MET:SD	2.61	0.41
1:BA:1209:G:H21	1:BA:1210:A:H62	1.69	0.41
1:AA:948:G:H2'	1:AA:949:C:C6	2.56	0.41
32:CB:163:PHE:HD2	32:CB:185:ILE:HG13	1.80	0.41
31:DA:373:A:C4	31:DA:374:A:C8	3.09	0.41
31:CA:678:U:H2'	31:CA:679:C:C6	2.55	0.41
8:AI:98:ALA:O	8:AI:102:SER:HB3	2.21	0.41
1:BA:755:C:H2'	1:BA:756:C:H6	1.86	0.41
34:DD:135:LEU:C	34:DD:137:SER:H	2.24	0.41
31:CA:684:A:N6	31:CA:685:G:C6	2.89	0.41
1:BA:2137:C:C2'	1:BA:2137:C:O2	2.69	0.41
6:BG:126:ASP:CB	6:BG:130:ASN:H	2.32	0.41
1:AA:2543:G:H21	1:AA:2646:C:H5''	1.86	0.41
1:AA:2472:G:H2'	1:AA:2475:C:N4	2.36	0.41
1:AA:1297:C:H2'	1:AA:1298:C:H6	1.86	0.41
1:BA:2203:U:C2'	1:BA:2205:C:H5'	2.51	0.41
1:BA:26:G:H1'	1:BA:514:A:N6	2.35	0.41
1:BA:2572:A:OP1	1:BA:2574:G:O2'	2.35	0.41
12:AQ:44:ALA:HB2	12:AQ:70:PRO:HG3	2.02	0.41
5:AF:129:PHE:HB3	5:AF:132:VAL:HG22	2.03	0.41
1:AA:2041:U:H2'	1:AA:2042:A:H8	1.85	0.41
31:DA:681:C:N3	31:DA:710:G:C2	2.88	0.41
1:BA:370:G:H4'	1:BA:371:A:OP2	2.20	0.41
24:A2:35:LEU:HD12	24:A2:53:LEU:HD12	2.03	0.41
21:AZ:144:LEU:HA	21:AZ:144:LEU:HD12	1.84	0.41
9:BN:75:TYR:CE2	9:BN:77:GLY:HA2	2.56	0.41
31:CA:667:G:H4'	45:CO:51:HIS:ND1	2.35	0.41
1:AA:2748:A:N6	1:AA:2749:A:C6	2.89	0.41
31:DA:689:C:H2'	31:DA:690:G:O4'	2.21	0.41
1:BA:244:A:C2	1:BA:255:A:C4	3.09	0.41
1:BA:95:G:O2'	24:B2:46:GLN:HA	2.21	0.41
4:AE:68:ALA:O	4:AE:70:ALA:N	2.44	0.41
1:AA:1257:C:H4'	5:AF:83:PHE:CD2	2.56	0.41
1:AA:1385:G:H1'	1:AA:1386:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:CM:85:GLY:HA3	43:CM:86:CYS:HB3	2.02	0.41
1:BA:2646:C:H6	1:BA:2646:C:O5'	2.04	0.41
40:DJ:45:ARG:HG2	40:DJ:47:PHE:CZ	2.56	0.41
1:BA:2290:G:H4'	1:BA:2381:C:O2'	2.21	0.41
31:CA:781:A:H4'	31:CA:1522:U:O2'	2.21	0.41
11:BP:19:VAL:CG2	11:BP:31:ALA:HB1	2.51	0.41
43:CM:40:ASN:ND2	43:CM:43:THR:HG23	2.36	0.41
32:DB:107:THR:HA	32:DB:110:GLN:OE1	2.20	0.41
2:AB:113:G:H2'	2:AB:114:C:C6	2.56	0.41
5:BF:114:VAL:HG21	5:BF:202:PHE:CZ	2.56	0.41
9:BN:15:LEU:HB2	9:BN:135:PRO:HB2	2.03	0.41
31:DA:660:G:C4	31:DA:661:G:C8	3.09	0.41
45:DO:61:GLY:O	45:DO:64:ARG:HB3	2.21	0.41
4:AE:29:GLY:HA2	4:AE:30:PRO:HA	1.80	0.41
49:DS:20:LEU:HD21	49:DS:43:GLU:HG2	2.03	0.41
1:AA:1308:A:H5''	1:AA:1309:G:OP2	2.21	0.41
21:BZ:93:ASP:HB2	21:BZ:131:ARG:NH1	2.35	0.41
31:CA:1479:C:H2'	31:CA:1480:G:C8	2.56	0.41
1:BA:229:A:OP1	1:BA:229:A:C8	2.74	0.41
51:CU:9:ARG:NH1	51:CU:13:ILE:HD11	2.36	0.41
37:DG:140:ASP:O	37:DG:144:MET:HB2	2.21	0.41
1:AA:233:A:H8	1:AA:233:A:OP2	2.04	0.41
37:CG:26:PHE:CE2	37:CG:30:ILE:HD11	2.56	0.41
31:DA:1030:C:C5	31:DA:1030(A):G:H1'	2.56	0.40
31:DA:1030:C:N4	31:DA:1031:G:C6	2.80	0.40
30:A8:23:VAL:HG11	30:A8:47:LYS:HD3	2.03	0.40
1:BA:1176:G:N2	1:BA:1178:C:OP2	2.54	0.40
31:CA:741:G:H2'	31:CA:742:G:H8	1.86	0.40
32:DB:87:ARG:NE	32:DB:233:SER:HB2	2.36	0.40
21:BZ:156:LYS:O	21:BZ:157:LEU:HB2	2.21	0.40
1:BA:71:A:H2	19:BX:31:HIS:CE1	2.37	0.40
31:CA:1263:C:N3	31:CA:1272:G:O6	2.54	0.40
31:CA:1031:G:H2'	31:CA:1032:G:H8	1.80	0.40
1:BA:847:U:OP2	1:BA:928:G:O6	2.39	0.40
1:BA:1358:G:N2	1:BA:1372:U:OP2	2.47	0.40
31:CA:613:C:C2	31:CA:628:G:N2	2.89	0.40
38:DH:10:LEU:O	38:DH:14:ARG:HB2	2.22	0.40
1:AA:2050:C:H2'	1:AA:2051:A:C8	2.54	0.40
30:A8:6:THR:HG23	30:A8:64:TYR:HD2	1.86	0.40
37:CG:16:LEU:HD13	39:CI:42:ARG:HA	2.02	0.40
9:AN:30:ILE:HG22	9:AN:34:LEU:HD22	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:1356:G:N2	31:DA:1367:C:C2	2.89	0.40
31:DA:105:G:H2'	31:DA:106:C:H6	1.80	0.40
18:BW:12:ILE:HD13	18:BW:12:ILE:HG21	1.76	0.40
1:BA:652(Q):G:C6	1:BA:652(R):C:C4	3.09	0.40
1:AA:2292:C:H2'	1:AA:2293:C:C6	2.57	0.40
31:CA:826:C:O5'	31:CA:826:C:H6	2.04	0.40
1:AA:556:G:C6	1:AA:557:U:C4	3.09	0.40
47:DQ:6:LEU:O	47:DQ:58:GLU:HA	2.21	0.40
1:AA:1486:A:H2'	1:AA:1487:G:C8	2.55	0.40
31:DA:253:U:H2'	31:DA:254:G:H8	1.86	0.40
1:AA:1514:U:H2'	1:AA:1515:G:H8	1.86	0.40
9:AN:3:THR:CG2	9:AN:4:TYR:H	2.34	0.40
31:DA:709:G:H2'	31:DA:710:G:C8	2.55	0.40
31:DA:665:A:H2'	31:DA:725:G:N2	2.36	0.40
1:BA:322:A:H2	1:BA:339:U:O4	2.04	0.40
1:AA:2364:C:H4'	22:A0:56:ASP:OD2	2.21	0.40
1:AA:2409:G:H2'	1:AA:2410:G:O4'	2.21	0.40
31:CA:731:G:H5'	31:CA:766:A:H4'	2.02	0.40
1:AA:354:G:H2'	1:AA:355:G:O4'	2.21	0.40
31:CA:1079:G:C6	31:CA:1080:A:N6	2.90	0.40
5:BF:129:PHE:CD2	5:BF:163:VAL:HG21	2.57	0.40
1:AA:2821:A:OP2	1:AA:2822:G:OP2	2.40	0.40
31:CA:425:G:N2	31:CA:426:G:H1'	2.36	0.40
44:DN:48:ALA:HB2	44:DN:53:LEU:HD12	2.02	0.40
6:BG:39:ILE:HD11	6:BG:102:PHE:CE1	2.56	0.40
30:B8:29:LYS:HB2	30:B8:33:ASN:HD21	1.85	0.40
1:BA:38:A:H2'	1:BA:39:C:C6	2.56	0.40
35:CE:127:ASN:HA	35:CE:128:PRO:HD3	1.92	0.40
35:DE:11:ILE:HG22	35:DE:12:LEU:HB2	2.02	0.40
1:AA:401:A:C6	1:AA:402:A:C6	3.09	0.40
31:DA:885:G:O2'	31:DA:914:A:N1	2.49	0.40
1:AA:2176:A:C6	1:AA:2177:C:C4	3.09	0.40
1:BA:988:A:H8	1:BA:988:A:O5'	2.03	0.40
1:AA:2776:A:H3'	1:AA:2776:A:OP1	2.22	0.40
1:AA:1572:A:O5'	1:AA:1572:A:H8	2.04	0.40
1:BA:1885:A:H2'	1:BA:1886:C:O4'	2.21	0.40
1:BA:1149:G:H2'	1:BA:1150:C:C6	2.56	0.40
1:BA:690:G:H2'	1:BA:691:C:C6	2.57	0.40
31:DA:1032:G:C2'	31:DA:1033:G:H8	2.30	0.40
31:CA:938:A:C6	31:CA:939:G:C5	3.09	0.40
29:B7:8:ASN:OD1	29:B7:11:LYS:HB3	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:736:C:H4'	36:DF:89:MET:HE1	2.02	0.40
1:AA:675:A:C6	1:AA:676:A:C6	3.09	0.40
31:CA:1202:G:C4	44:CN:42:ILE:HD13	2.56	0.40
9:AN:66:LYS:HB3	9:AN:70:LYS:HB2	2.03	0.40
1:AA:1540:U:O2'	1:AA:1541:G:H5'	2.20	0.40
31:CA:1278:U:H5'	31:CA:1279:A:O4'	2.21	0.40
41:DK:29:ILE:HG23	41:DK:44:SER:HB3	2.02	0.40
1:BA:1109:C:H5'	1:BA:1110:G:P	2.61	0.40
31:DA:23:C:OP2	31:DA:561:U:N3	2.53	0.40
31:CA:68:G:C2	31:CA:69:G:C8	3.10	0.40
31:CA:193:C:C2	31:CA:194:C:C5	3.09	0.40
1:AA:2301:C:H2'	1:AA:2302:G:C8	2.54	0.40
4:AE:111:ARG:HB3	13:AR:1:MET:HE1	2.01	0.40
1:BA:848:G:C4	1:BA:933:A:H8	2.39	0.40
1:BA:855:G:H2'	1:BA:856:C:C6	2.57	0.40
22:A0:68:GLU:N	22:A0:80:HIS:O	2.55	0.40
1:BA:528:A:H3'	1:BA:528:A:H8	1.85	0.40
1:AA:638:G:H2'	1:AA:639:U:O4'	2.22	0.40
1:BA:646:A:H2'	1:BA:647:G:O4'	2.22	0.40
31:CA:584:G:H1	31:CA:757:U:H3	1.69	0.40
1:AA:841:A:H2'	1:AA:842:G:C8	2.57	0.40
2:AB:66:A:C5	2:AB:109:C:C5	3.09	0.40
31:DA:1003:G:H21	31:DA:1038:C:H42	1.68	0.40
35:CE:69:VAL:HA	35:CE:70:PRO:HD3	1.74	0.40
31:CA:189(D):C:C4	31:CA:189(E):U:C4	3.09	0.40
9:AN:3:THR:HG22	9:AN:4:TYR:N	2.36	0.40
41:DK:85:ARG:HG2	41:DK:111:ASP:O	2.21	0.40
31:DA:708:C:P	41:DK:85:ARG:HH22	2.45	0.40
32:CB:91:PRO:CD	32:CB:154:LEU:HD22	2.50	0.40
1:BA:271(I):G:O2'	1:BA:271(J):C:H5'	2.21	0.40
1:AA:974:G:O3'	1:AA:975(A):G:C8	2.74	0.40
5:AF:34:TRP:CZ3	5:AF:35:GLU:HG2	2.56	0.40
31:CA:547:A:OP2	34:CD:2:GLY:HA2	2.21	0.40
31:CA:49:U:O4	31:CA:365:U:H5	2.05	0.40
1:BA:2122:U:O2'	1:BA:2123:G:OP1	2.34	0.40
6:AG:19:LEU:HA	6:AG:19:LEU:HD23	1.92	0.40
3:BD:222:ARG:HH11	3:BD:224:ALA:HB3	1.87	0.40
1:AA:2744:G:N3	1:AA:2744:G:H2'	2.36	0.40
7:AH:139:GLN:O	7:AH:143:GLN:N	2.47	0.40
1:AA:239:U:O4	1:AA:240:G:C6	2.75	0.40
1:AA:428:A:N6	1:AA:429:A:N1	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2768:C:H2'	1:AA:2769:C:O4'	2.22	0.40
1:BA:176:G:O2'	1:BA:177:G:H5'	2.21	0.40
31:DA:972:C:H2'	40:DJ:55:LYS:HB2	2.03	0.40
34:CD:134:ASP:O	34:CD:136:PRO:HD3	2.21	0.40
31:DA:1248:A:H2'	31:DA:1249:C:C6	2.56	0.40
1:BA:732:C:H2'	1:BA:733:G:O4'	2.21	0.40
1:AA:1121:C:H2'	1:AA:1122:G:O4'	2.21	0.40
4:AE:104:VAL:HG11	4:AE:188:VAL:HG22	2.02	0.40
34:CD:158:ILE:O	34:CD:162:LEU:HB2	2.21	0.40
1:BA:940:G:H2'	1:BA:941:A:O4'	2.22	0.40
9:BN:28:THR:HG22	9:BN:29:LYS:N	2.36	0.40
7:BH:144:VAL:O	7:BH:148:ILE:HG13	2.21	0.40
1:BA:1955:U:O4	1:BA:2554:U:H5	2.03	0.40
49:DS:40:ILE:HA	49:DS:44:MET:SD	2.61	0.40
1:AA:1568:G:H5''	3:AD:61:LEU:HD22	2.03	0.40
31:DA:1380:U:O4'	31:DA:1381:U:H5	2.04	0.40
31:CA:899:C:O5'	31:CA:899:C:H6	2.03	0.40
48:CR:21:LYS:HA	48:CR:21:LYS:HD3	1.74	0.40
4:AE:117:MET:O	4:AE:118:LYS:HB3	2.21	0.40
38:DH:81:HIS:ND1	38:DH:138:TRP:OXT	2.41	0.40
5:AF:118:ALA:C	5:AF:120:GLU:H	2.24	0.40
34:CD:106:TYR:HE1	34:CD:112:VAL:O	2.03	0.40
1:BA:692:C:C2	1:BA:771:G:C2	3.09	0.40
21:AZ:3:TYR:HB2	21:AZ:56:VAL:O	2.22	0.40
1:AA:2218:U:H4'	1:AA:2219:G:OP2	2.21	0.40
15:BT:56:GLY:O	15:BT:59:THR:HG22	2.22	0.40
1:AA:996:A:C6	1:AA:1160:G:N1	2.89	0.40
1:AA:1815:A:C5	1:AA:1817:G:C6	3.09	0.40
2:AB:28:C:N3	2:AB:29:A:C5	2.89	0.40
1:BA:9:U:HO2'	1:BA:10:G:P	2.42	0.40
31:DA:825:G:H21	38:DH:11:THR:HG21	1.84	0.40
31:CA:73:G:H2'	31:CA:76:C:O4'	2.21	0.40
32:CB:174:VAL:O	32:CB:178:ARG:HB2	2.22	0.40
32:CB:178:ARG:HH22	38:CH:68:ARG:NH1	2.17	0.40
31:CA:626:U:H5''	46:CP:38:TYR:CG	2.56	0.40
1:AA:2050:C:H2'	1:AA:2051:A:O4'	2.20	0.40
1:AA:2313:C:H2'	1:AA:2314:C:C6	2.56	0.40
1:BA:602:G:O2'	1:BA:655:A:N6	2.52	0.40
37:DG:150:ALA:HA	41:DK:59:TYR:CB	2.49	0.40
1:BA:2126:A:C2	1:BA:2162:G:N3	2.90	0.40
31:CA:1369:C:H2'	31:CA:1370:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:2302:G:C2	1:BA:2315:G:C2	3.10	0.40
26:B4:40:HIS:HB3	26:B4:43:TYR:CG	2.57	0.40
31:DA:552:U:H4'	42:DL:86:ARG:HG2	2.03	0.40
34:CD:149:ALA:HB3	34:CD:152:SER:OG	2.21	0.40
31:CA:1225:A:OP2	31:CA:1226:C:H5	2.04	0.40
40:DJ:13:HIS:CD2	40:DJ:14:LYS:N	2.89	0.40
43:CM:4:ILE:HG12	43:CM:5:ALA:N	2.36	0.40
31:CA:501:C:H2'	31:CA:502:G:H8	1.86	0.40
31:CA:108:G:N2	50:CT:12:ALA:HB1	2.36	0.40
12:AQ:1:MET:O	12:AQ:2:LEU:HB2	2.21	0.40
1:BA:1487:G:H5''	1:BA:1488:G:OP2	2.21	0.40
1:AA:1515:G:H2'	1:AA:1516:C:C6	2.56	0.40
37:DG:26:PHE:O	37:DG:30:ILE:HG13	2.22	0.40
31:DA:696:A:O5'	31:DA:696:A:H8	2.05	0.40
31:DA:707:C:H5''	41:DK:85:ARG:NH1	2.36	0.40
31:CA:134:A:N6	46:CP:25:ARG:NH1	2.70	0.40
31:DA:192:U:H2'	31:DA:193:C:C6	2.57	0.40
34:CD:28:SER:OG	34:CD:30:LYS:N	2.54	0.40
1:BA:764:A:H5'	3:BD:210:GLY:CA	2.51	0.40
1:AA:754:C:H2'	1:AA:755:C:C6	2.57	0.40
1:AA:815:C:H2'	1:AA:816:C:C6	2.56	0.40
31:CA:1446:U:O2'	31:CA:1447:A:C8	2.74	0.40
1:BA:459:U:H5''	29:B7:40:TRP:CD2	2.56	0.40
1:AA:199:A:N6	1:AA:2434:A:C5	2.89	0.40
1:BA:861:A:C2	1:BA:917:A:C4	3.09	0.40
23:A1:40:ARG:HE	23:A1:40:ARG:HB2	1.74	0.40
31:DA:688:G:H2'	31:DA:689:C:C6	2.56	0.40
31:DA:355:C:H1'	31:DA:388:G:N3	2.36	0.40
1:AA:2630:G:H8	1:AA:2630:G:O5'	2.04	0.40
24:B2:10:LEU:O	24:B2:14:ARG:HD2	2.22	0.40
35:DE:33:VAL:HG13	35:DE:112:LEU:HD12	2.03	0.40
1:BA:2228:G:C5	1:BA:2229:C:C4	3.10	0.40
36:CF:4:TYR:HD1	36:CF:92:LYS:HA	1.86	0.40
46:CP:17:TYR:CD1	46:CP:17:TYR:N	2.89	0.40
1:BA:1935:G:H1'	1:BA:1964:G:N2	2.37	0.40
1:BA:699:A:H4'	1:BA:1634:A:N7	2.36	0.40
1:AA:1672:C:H5''	1:AA:2554:U:OP1	2.21	0.40
20:AY:23:ARG:HG3	20:AY:24:VAL:N	2.35	0.40
34:CD:95:GLY:O	34:CD:98:GLU:N	2.54	0.40
6:BG:53:LEU:C	6:BG:55:LYS:H	2.25	0.40
37:DG:27:ILE:HD13	37:DG:40:ALA:HA	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DA:230:G:H2'	31:DA:231:G:O4'	2.21	0.40
1:AA:745:G:H2'	1:AA:746:A:H5'	2.03	0.40
1:AA:658:C:H2'	1:AA:659:C:C6	2.56	0.40
31:CA:302:G:N3	31:CA:556:C:H4'	2.36	0.40
1:BA:1658:C:OP1	4:BE:135:HIS:NE2	2.54	0.40
8:BI:62:LYS:O	8:BI:66:GLU:HG2	2.21	0.40
45:DO:69:TYR:O	45:DO:73:GLU:HB2	2.21	0.40
13:AR:96:ARG:HG3	13:AR:98:LEU:HG	2.03	0.40
39:DI:46:ALA:C	39:DI:49:PRO:HD2	2.41	0.40
1:BA:413:C:O5'	1:BA:413:C:H6	2.04	0.40
16:AU:30:LYS:HA	16:AU:30:LYS:HD3	1.93	0.40
8:AI:128:LEU:HA	8:AI:128:LEU:HD23	1.96	0.40
21:BZ:70:LEU:HD23	21:BZ:70:LEU:HA	1.74	0.40
50:CT:24:LEU:HA	50:CT:24:LEU:HD13	1.80	0.40
31:DA:1116:C:O2'	39:DI:108:VAL:HG21	2.21	0.40
28:A6:20:ASN:ND2	28:A6:40:CYS:HB2	2.37	0.40
1:BA:1186:G:H8	1:BA:1186:G:O5'	2.04	0.40
1:AA:2208:A:H1'	1:AA:2219:G:C4	2.57	0.40
31:DA:91:C:C2'	31:DA:92:C:H5'	2.50	0.40
31:CA:246:A:C2	31:CA:282:A:C5	3.09	0.40
1:AA:2031:A:C6	1:AA:2498:C:H1'	2.56	0.40
9:AN:20:GLY:HA2	9:AN:61:ARG:HH11	1.87	0.40
1:BA:1109:C:C5	1:BA:1110:G:C6	3.00	0.40
1:AA:1410:G:C5	1:AA:1411:C:C5	3.09	0.40
1:AA:1592:C:H2'	1:AA:1593:G:C8	2.56	0.40
31:DA:66:G:N2	31:DA:172:A:N3	2.70	0.40
33:CC:177:THR:HG22	33:CC:179:ARG:H	1.86	0.40
34:DD:65:ARG:HD3	34:DD:72:GLU:HA	2.03	0.40
32:CB:187:LEU:HD13	32:CB:205:ASP:HA	2.04	0.40
31:CA:1030(D):A:N6	31:CA:1031:G:H21	2.11	0.40
31:CA:1363(A):A:H4'	31:CA:1364:U:H2'	2.04	0.40
33:DC:6:HIS:CE1	33:DC:184:TYR:CE2	3.09	0.40
1:AA:1700:A:H2'	1:AA:1701:A:O5'	2.22	0.40
4:AE:170:LEU:HD23	4:AE:184:VAL:HG11	2.03	0.40
1:AA:1429:G:H2'	1:AA:1430:C:H6	1.83	0.40
31:DA:540:G:H2'	31:DA:541:G:C8	2.56	0.40
1:BA:1482:G:O6	1:BA:1507:A:N6	2.54	0.40
32:DB:94:ASN:HB3	32:DB:95:GLN:NE2	2.37	0.40
1:BA:2351:G:O6	30:B8:39:LYS:HG3	2.21	0.40
39:DI:37:PHE:HB3	39:DI:43:ALA:CB	2.51	0.40
7:AH:17:VAL:HG21	7:AH:50:VAL:HG21	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AH:35:VAL:O	7:AH:37:VAL:HG23	2.21	0.40
31:CA:59:A:H2'	31:CA:59:A:N3	2.36	0.40
1:BA:804:A:H2'	1:BA:806:C:C4	2.57	0.40
1:BA:2152:G:H2'	1:BA:2153:G:H8	1.86	0.40
1:AA:266:G:N2	1:AA:427:U:H1'	2.35	0.40
31:CA:189(D):C:C5	31:CA:189(E):U:C4	3.09	0.40
1:BA:2313:C:H4'	6:BG:91:ARG:HG3	2.03	0.40
1:AA:528:A:C3'	1:AA:528:A:C8	3.05	0.40
1:BA:892:G:H2'	1:BA:893:C:H6	1.86	0.40
40:DJ:38:ILE:HA	40:DJ:39:PRO:HD3	1.73	0.40
31:DA:191:G:C6	31:DA:192:U:C4	3.09	0.40
1:BA:1833:U:O2'	1:BA:1969:A:N1	2.39	0.40
31:DA:409:G:N2	31:DA:434:U:C2	2.90	0.40
31:CA:1097:C:O2'	31:CA:1169:A:N3	2.48	0.40
1:AA:827:U:H4'	1:AA:828:U:C5	2.57	0.40
31:CA:1237:C:H3'	31:CA:1336:C:H41	1.86	0.40
14:AS:58:LEU:HB2	14:AS:59:LYS:HG3	2.03	0.40
15:BT:11:GLU:OE1	15:BT:57:PHE:HB3	2.21	0.40
1:AA:1354:A:C8	1:AA:1355:G:C8	3.09	0.40
1:AA:1355:G:N2	1:AA:1376:C:O2	2.32	0.40
31:CA:575:G:H4'	31:CA:576:G:O5'	2.22	0.40
1:AA:2537:U:H2'	1:AA:2538:C:C6	2.56	0.40
36:CF:11:ASN:HA	36:CF:12:PRO:HD2	1.90	0.40
15:AT:22:PHE:HA	15:AT:91:ARG:NH1	2.37	0.40
31:CA:179:A:H2'	31:CA:180:U:C6	2.57	0.40
31:DA:323:U:H2'	31:DA:324:G:O4'	2.21	0.40
3:BD:70:TRP:HB3	3:BD:190:TYR:CZ	2.56	0.40
1:BA:2404:C:N3	1:BA:2414:G:C2	2.89	0.40
1:BA:724:U:H2'	1:BA:725:G:O4'	2.21	0.40
1:AA:817:C:H2'	1:AA:818:G:H8	1.86	0.40
9:BN:36:GLY:O	9:BN:39:ARG:HB2	2.21	0.40
14:BS:92:TYR:HB3	14:BS:98:VAL:HG21	2.02	0.40
1:AA:588:U:H1'	5:AF:90:PHE:HB3	2.04	0.40
31:DA:695:A:H2	31:DA:787:A:HO2'	1.68	0.40
1:AA:465:G:H2'	1:AA:466:A:C8	2.56	0.40
1:BA:1840:G:N2	1:BA:1902:C:O2	2.54	0.40
31:CA:890:G:O2'	31:CA:906:G:O6	2.25	0.40
47:DQ:31:LEU:HD23	47:DQ:32:TYR:CZ	2.57	0.40
31:CA:1011:G:H1	31:CA:1018:C:H42	1.69	0.40
31:DA:284:G:H2'	31:DA:285:G:H8	1.86	0.40
9:AN:38:HIS:NE2	9:AN:50:ASP:OD2	2.53	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:CB:112:VAL:C	32:CB:114:ARG:H	2.24	0.40
6:BG:34:LEU:HA	6:BG:34:LEU:HD23	1.85	0.40
45:DO:26:GLU:H	45:DO:26:GLU:HG2	1.64	0.40
45:CO:57:LEU:HA	45:CO:57:LEU:HD23	1.96	0.40
1:BA:2766:G:N3	1:BA:2766:G:H2'	2.35	0.40
50:DT:59:ALA:O	50:DT:63:ILE:HG13	2.22	0.40
31:CA:1410:G:H2'	31:CA:1411:C:C6	2.57	0.40
8:AI:77:LEU:HB2	8:AI:142:VAL:HG12	2.04	0.40
9:AN:46:VAL:O	9:AN:47:ALA:HB3	2.21	0.40
31:DA:1202:G:N9	44:DN:42:ILE:HD12	2.37	0.40
23:B1:3:LYS:HE3	23:B1:4:VAL:HG13	2.03	0.40
18:BW:13:SER:HA	18:BW:14:PRO:HD3	1.88	0.40
36:DF:12:PRO:O	36:DF:14:LEU:N	2.48	0.40
36:DF:15:ASP:O	36:DF:19:LEU:HB2	2.21	0.40
1:AA:1799:G:N2	1:AA:1819:A:OP2	2.47	0.40
31:DA:1127:G:H2'	31:DA:1128:C:O4'	2.21	0.40
31:CA:546:G:OP1	34:CD:73:ARG:HB2	2.21	0.40
31:DA:1213:A:C4	31:DA:1215:G:C8	3.10	0.40
20:AY:28:LYS:CG	20:AY:40:GLU:HG2	2.48	0.40
31:DA:1054:C:H2'	31:DA:1055:A:H5''	2.03	0.40
1:AA:2103:C:O2	1:AA:2187:G:C2	2.74	0.40
48:CR:56:THR:CB	48:CR:58:LEU:HD13	2.47	0.40
31:DA:163:C:H2'	31:DA:164:U:C6	2.57	0.40
31:DA:1157:A:C2	31:DA:1181:G:H1'	2.56	0.40
31:CA:689:C:H2'	31:CA:690:G:O4'	2.21	0.40
33:DC:19:GLU:HB2	33:DC:40:ARG:NH2	2.36	0.40
25:A3:58:VAL:O	1:BA:652(Q):G:H5''	2.22	0.40
33:CC:58:GLU:O	33:CC:59:ARG:HD2	2.22	0.40
3:BD:77:ALA:HB2	3:BD:97:TYR:CG	2.56	0.40
31:CA:1108:G:OP2	33:CC:174:PRO:HA	2.20	0.40
1:AA:1637:A:C6	1:AA:1638:C:C4	3.09	0.40
4:BE:73:GLU:HA	4:BE:74:PRO:HD3	1.82	0.40
2:AB:8:U:H5'	2:AB:9:G:OP2	2.21	0.40
9:BN:46:VAL:O	9:BN:47:ALA:HB3	2.21	0.40
31:DA:336:C:H2'	31:DA:337:C:C6	2.56	0.40
42:CL:30:ALA:HA	42:CL:31:PRO:HD3	1.92	0.40
1:AA:528:A:O2'	1:AA:529:A:H5'	2.21	0.40
1:BA:1268:A:C2	1:BA:2013:A:C4	3.10	0.40
1:BA:2834:G:H5''	1:BA:2834:G:C8	2.55	0.40
1:AA:2489:G:C5	1:AA:2490:G:C6	3.09	0.40
1:BA:271(I):G:H2'	1:BA:271(J):C:C6	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AZ:70:LEU:HA	21:AZ:70:LEU:HD23	1.91	0.40
1:AA:974:G:N2	1:AA:989:G:H1'	2.36	0.40
31:CA:56:U:H2'	31:CA:57:G:H8	1.86	0.40
19:AX:11:PRO:HD3	24:A2:37:PHE:CE2	2.56	0.40
31:CA:189:G:H2'	31:CA:189(A):C:O4'	2.21	0.40
1:AA:777:A:H2'	1:AA:778:G:C8	2.56	0.40
1:BA:1385:G:H1'	1:BA:1386:C:C6	2.57	0.40
5:AF:123:LEU:HD12	5:AF:124:LEU:N	2.36	0.40
31:CA:361:G:H2'	31:CA:362:G:O4'	2.21	0.40
9:AN:58:ASP:OD2	9:AN:59:LYS:HE2	2.22	0.40
31:CA:592:G:N1	31:CA:648:A:C6	2.90	0.40
9:BN:15:LEU:HB3	9:BN:137:LYS:HA	2.03	0.40
34:DD:52:SER:O	34:DD:56:VAL:HG23	2.21	0.40
6:AG:131:TYR:HE2	6:AG:133:LEU:HD23	1.86	0.40
12:BQ:30:GLY:HA2	12:BQ:107:ALA:HB2	2.04	0.40
16:BU:108:GLU:OE1	16:BU:112:ARG:NH1	2.54	0.40
21:AZ:133:ILE:HA	21:AZ:134:PRO:HD2	1.98	0.40
1:AA:2240:C:H2'	1:AA:2241:A:H8	1.85	0.40
31:CA:1389:C:H2'	31:CA:1390:U:O4'	2.21	0.40
39:DI:8:GLY:HA3	39:DI:76:ALA:O	2.21	0.40
7:AH:16:SER:OG	7:AH:27:LYS:HB2	2.21	0.40
39:DI:99:LEU:HB3	39:DI:101:PHE:CE1	2.57	0.40
20:BY:5:MET:HE2	20:BY:5:MET:HB2	1.71	0.40
10:AO:29:ASN:N	10:AO:29:ASN:OD1	2.55	0.40
3:AD:130:ALA:C	3:AD:131:LEU:HD12	2.42	0.40
47:DQ:96:GLU:O	47:DQ:97:SER:HB2	2.21	0.40
1:BA:1897:G:H2'	1:BA:1898:U:O4'	2.22	0.40
32:DB:112:VAL:C	32:DB:114:ARG:H	2.25	0.40
20:BY:28:LYS:HG3	20:BY:40:GLU:HG2	2.03	0.40
34:DD:50:ARG:HA	34:DD:51:PRO:HD3	1.88	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)
8:AI:89:TYR:O	31:CA:357:G:O2'[2_654]	2.11	0.09
8:AI:91:SER:OG	31:CA:368:U:OP2[2_654]	2.12	0.08

## 5.3 Torsion angles ⓘ

### 5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	AD	273/276 (99%)	240 (88%)	27 (10%)	6 (2%)	8	45
3	BD	273/276 (99%)	246 (90%)	23 (8%)	4 (2%)	13	55
4	AE	202/206 (98%)	177 (88%)	18 (9%)	7 (4%)	4	31
4	BE	202/206 (98%)	174 (86%)	21 (10%)	7 (4%)	4	31
5	AF	198/205 (97%)	168 (85%)	25 (13%)	5 (2%)	7	41
5	BF	198/205 (97%)	170 (86%)	21 (11%)	7 (4%)	4	31
6	AG	179/182 (98%)	136 (76%)	33 (18%)	10 (6%)	2	18
6	BG	179/182 (98%)	135 (75%)	30 (17%)	14 (8%)	1	8
7	AH	172/180 (96%)	143 (83%)	21 (12%)	8 (5%)	3	22
7	BH	172/180 (96%)	144 (84%)	22 (13%)	6 (4%)	4	31
8	AI	143/148 (97%)	103 (72%)	28 (20%)	12 (8%)	1	6
8	BI	143/148 (97%)	109 (76%)	24 (17%)	10 (7%)	1	10
9	AN	138/140 (99%)	113 (82%)	16 (12%)	9 (6%)	1	13
9	BN	138/140 (99%)	119 (86%)	13 (9%)	6 (4%)	3	25
10	AO	120/122 (98%)	108 (90%)	8 (7%)	4 (3%)	5	32
10	BO	120/122 (98%)	109 (91%)	7 (6%)	4 (3%)	5	32
11	AP	143/150 (95%)	117 (82%)	18 (13%)	8 (6%)	2	18
11	BP	143/150 (95%)	126 (88%)	12 (8%)	5 (4%)	4	31
12	AQ	139/141 (99%)	126 (91%)	9 (6%)	4 (3%)	6	36
12	BQ	139/141 (99%)	126 (91%)	9 (6%)	4 (3%)	6	36
13	AR	116/118 (98%)	95 (82%)	16 (14%)	5 (4%)	3	25
13	BR	116/118 (98%)	108 (93%)	7 (6%)	1 (1%)	21	67
14	AS	108/112 (96%)	84 (78%)	21 (19%)	3 (3%)	6	37
14	BS	108/112 (96%)	93 (86%)	12 (11%)	3 (3%)	6	37
15	AT	129/146 (88%)	109 (84%)	16 (12%)	4 (3%)	5	34

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	BT	129/146 (88%)	116 (90%)	12 (9%)	1 (1%)	24	69
16	AU	114/118 (97%)	104 (91%)	10 (9%)	0	100	100
16	BU	114/118 (97%)	111 (97%)	3 (3%)	0	100	100
17	AV	99/101 (98%)	89 (90%)	8 (8%)	2 (2%)	9	48
17	BV	99/101 (98%)	89 (90%)	9 (9%)	1 (1%)	19	65
18	AW	110/113 (97%)	101 (92%)	8 (7%)	1 (1%)	21	67
18	BW	110/113 (97%)	104 (94%)	6 (6%)	0	100	100
19	AX	93/96 (97%)	82 (88%)	9 (10%)	2 (2%)	8	45
19	BX	93/96 (97%)	82 (88%)	9 (10%)	2 (2%)	8	45
20	AY	105/110 (96%)	90 (86%)	10 (10%)	5 (5%)	3	22
20	BY	105/110 (96%)	88 (84%)	13 (12%)	4 (4%)	4	28
21	AZ	196/206 (95%)	153 (78%)	32 (16%)	11 (6%)	2	18
21	BZ	196/206 (95%)	158 (81%)	31 (16%)	7 (4%)	4	30
22	A0	74/85 (87%)	67 (90%)	6 (8%)	1 (1%)	14	57
22	B0	74/85 (87%)	67 (90%)	6 (8%)	1 (1%)	14	57
23	A1	95/98 (97%)	88 (93%)	5 (5%)	2 (2%)	9	46
23	B1	95/98 (97%)	86 (90%)	6 (6%)	3 (3%)	5	33
24	A2	68/72 (94%)	59 (87%)	8 (12%)	1 (2%)	13	55
24	B2	68/72 (94%)	63 (93%)	5 (7%)	0	100	100
25	A3	57/60 (95%)	54 (95%)	3 (5%)	0	100	100
25	B3	57/60 (95%)	54 (95%)	2 (4%)	1 (2%)	11	51
26	A4	44/71 (62%)	30 (68%)	10 (23%)	4 (9%)	1	5
26	B4	44/71 (62%)	30 (68%)	10 (23%)	4 (9%)	1	5
27	A5	57/60 (95%)	50 (88%)	6 (10%)	1 (2%)	11	51
27	B5	57/60 (95%)	49 (86%)	6 (10%)	2 (4%)	4	31
28	A6	51/54 (94%)	46 (90%)	4 (8%)	1 (2%)	9	48
28	B6	51/54 (94%)	47 (92%)	4 (8%)	0	100	100
29	A7	46/49 (94%)	41 (89%)	4 (9%)	1 (2%)	8	45
29	B7	46/49 (94%)	42 (91%)	3 (6%)	1 (2%)	8	45
30	A8	62/65 (95%)	48 (77%)	13 (21%)	1 (2%)	12	54
30	B8	62/65 (95%)	57 (92%)	5 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
32	CB	227/256 (89%)	171 (75%)	36 (16%)	20 (9%)	1	5
32	DB	227/256 (89%)	173 (76%)	39 (17%)	15 (7%)	1	12
33	CC	204/239 (85%)	163 (80%)	30 (15%)	11 (5%)	2	19
33	DC	204/239 (85%)	144 (71%)	42 (21%)	18 (9%)	1	5
34	CD	206/209 (99%)	154 (75%)	40 (19%)	12 (6%)	2	17
34	DD	206/209 (99%)	152 (74%)	47 (23%)	7 (3%)	5	31
35	CE	146/162 (90%)	112 (77%)	23 (16%)	11 (8%)	1	9
35	DE	146/162 (90%)	116 (80%)	25 (17%)	5 (3%)	5	31
36	CF	98/101 (97%)	87 (89%)	8 (8%)	3 (3%)	5	34
36	DF	98/101 (97%)	85 (87%)	9 (9%)	4 (4%)	3	27
37	CG	153/156 (98%)	127 (83%)	16 (10%)	10 (6%)	1	13
37	DG	153/156 (98%)	129 (84%)	18 (12%)	6 (4%)	4	28
38	CH	136/138 (99%)	116 (85%)	18 (13%)	2 (2%)	13	55
38	DH	136/138 (99%)	118 (87%)	13 (10%)	5 (4%)	4	29
39	CI	123/128 (96%)	93 (76%)	20 (16%)	10 (8%)	1	7
39	DI	123/128 (96%)	94 (76%)	21 (17%)	8 (6%)	1	13
40	CJ	94/105 (90%)	66 (70%)	19 (20%)	9 (10%)	1	5
40	DJ	94/105 (90%)	74 (79%)	14 (15%)	6 (6%)	2	13
41	CK	112/129 (87%)	96 (86%)	12 (11%)	4 (4%)	4	30
41	DK	112/129 (87%)	90 (80%)	19 (17%)	3 (3%)	6	39
42	CL	120/132 (91%)	98 (82%)	17 (14%)	5 (4%)	3	26
42	DL	120/132 (91%)	100 (83%)	15 (12%)	5 (4%)	3	26
43	CM	112/126 (89%)	84 (75%)	18 (16%)	10 (9%)	1	5
43	DM	112/126 (89%)	80 (71%)	20 (18%)	12 (11%)	0	3
44	CN	58/61 (95%)	43 (74%)	10 (17%)	5 (9%)	1	6
44	DN	58/61 (95%)	48 (83%)	7 (12%)	3 (5%)	2	19
45	CO	86/89 (97%)	71 (83%)	12 (14%)	3 (4%)	4	31
45	DO	86/89 (97%)	68 (79%)	16 (19%)	2 (2%)	8	44
46	CP	80/88 (91%)	50 (62%)	23 (29%)	7 (9%)	1	5
46	DP	80/88 (91%)	52 (65%)	25 (31%)	3 (4%)	4	28
47	CQ	97/105 (92%)	84 (87%)	8 (8%)	5 (5%)	2	19

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
47	DQ	97/105 (92%)	81 (84%)	13 (13%)	3 (3%)	5	34
48	CR	66/88 (75%)	55 (83%)	10 (15%)	1 (2%)	13	55
48	DR	66/88 (75%)	60 (91%)	6 (9%)	0	100	100
49	CS	76/93 (82%)	48 (63%)	17 (22%)	11 (14%)	0	1
49	DS	76/93 (82%)	54 (71%)	17 (22%)	5 (7%)	1	12
50	CT	94/106 (89%)	73 (78%)	13 (14%)	8 (8%)	1	6
50	DT	94/106 (89%)	72 (77%)	15 (16%)	7 (7%)	1	9
51	CU	21/27 (78%)	18 (86%)	3 (14%)	0	100	100
51	DU	21/27 (78%)	16 (76%)	3 (14%)	2 (10%)	1	5
All	All	11280/12044 (94%)	9338 (83%)	1460 (13%)	482 (4%)	3	25

All (482) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	AD	239	ARG
3	AD	275	LYS
5	AF	60	SER
6	AG	14	GLU
6	AG	78	SER
7	AH	47	GLU
7	AH	126	PRO
8	AI	10	GLU
8	AI	104	GLN
8	AI	106	GLY
8	AI	111	PRO
9	AN	18	ALA
10	AO	48	PRO
11	AP	102	ARG
11	AP	103	ALA
13	AR	14	SER
14	AS	62	LYS
14	AS	83	LYS
17	AV	43	GLU
19	AX	94	GLY
20	AY	2	ARG
20	AY	91	GLU
21	AZ	161	VAL
23	A1	3	LYS
29	A7	46	VAL

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Mol	Chain	Res	Type
3	BD	156	ALA
3	BD	239	ARG
3	BD	275	LYS
6	BG	49	ASP
7	BH	126	PRO
7	BH	170	ARG
8	BI	10	GLU
8	BI	111	PRO
9	BN	76	SER
10	BO	48	PRO
11	BP	103	ALA
12	BQ	2	LEU
13	BR	2	ARG
14	BS	83	LYS
20	BY	2	ARG
21	BZ	158	PRO
21	BZ	159	PRO
21	BZ	161	VAL
23	B1	3	LYS
26	B4	28	LYS
29	B7	46	VAL
32	CB	15	VAL
32	CB	26	PRO
32	CB	83	MET
32	CB	132	LYS
32	CB	194	PRO
32	CB	195	ASP
33	CC	156	ARG
33	CC	190	ARG
34	CD	14	ARG
34	CD	32	ALA
34	CD	42	GLN
35	CE	72	GLN
35	CE	73	ASN
35	CE	98	THR
36	CF	40	VAL
37	CG	56	GLN
39	CI	43	ALA
39	CI	103	THR
40	CJ	56	HIS
40	CJ	90	LEU
40	CJ	91	PRO

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
41	CK	49	GLY
42	CL	27	LEU
43	CM	49	THR
44	CN	59	ALA
45	CO	19	PRO
46	CP	53	VAL
46	CP	73	LEU
49	CS	30	LEU
49	CS	40	ILE
49	CS	45	VAL
49	CS	73	GLU
50	CT	9	ASN
50	CT	71	THR
32	DB	15	VAL
32	DB	24	TRP
32	DB	26	PRO
32	DB	75	LYS
32	DB	120	ALA
32	DB	169	LYS
32	DB	194	PRO
32	DB	195	ASP
33	DC	3	ASN
33	DC	49	SER
33	DC	156	ARG
33	DC	181	ASN
34	DD	14	ARG
34	DD	42	GLN
35	DE	73	ASN
35	DE	98	THR
36	DF	40	VAL
37	DG	16	LEU
37	DG	35	LYS
39	DI	45	ALA
40	DJ	34	VAL
40	DJ	56	HIS
40	DJ	90	LEU
41	DK	49	GLY
42	DL	27	LEU
42	DL	91	LYS
43	DM	7	VAL
43	DM	10	PRO
43	DM	45	VAL

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Mol	Chain	Res	Type
43	DM	49	THR
43	DM	66	LEU
43	DM	84	ILE
44	DN	41	ARG
44	DN	59	ALA
45	DO	19	PRO
46	DP	53	VAL
47	DQ	97	SER
50	DT	9	ASN
50	DT	71	THR
51	DU	7	ARG
4	AE	69	LYS
5	AF	17	ARG
6	AG	49	ASP
6	AG	51	ARG
6	AG	117	PHE
6	AG	150	ASP
7	AH	65	HIS
7	AH	92	ILE
7	AH	108	GLY
7	AH	170	ARG
8	AI	68	LEU
8	AI	98	ALA
8	AI	107	VAL
8	AI	112	LYS
9	AN	2	LYS
9	AN	5	VAL
9	AN	19	GLU
10	AO	5	GLN
11	AP	27	HIS
11	AP	39	LYS
12	AQ	2	LEU
12	AQ	62	GLY
13	AR	2	ARG
13	AR	11	ASN
13	AR	86	ARG
17	AV	79	VAL
20	AY	92	ASN
21	AZ	158	PRO
21	AZ	159	PRO
21	AZ	191	VAL
26	A4	39	CYS

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Mol	Chain	Res	Type
27	A5	35	GLU
3	BD	3	VAL
4	BE	71	GLY
5	BF	7	TYR
5	BF	15	SER
5	BF	89	VAL
5	BF	168	ARG
6	BG	14	GLU
6	BG	51	ARG
6	BG	115	ARG
8	BI	42	SER
8	BI	85	GLU
8	BI	107	VAL
8	BI	112	LYS
9	BN	5	VAL
9	BN	18	ALA
9	BN	127	ASP
11	BP	27	HIS
11	BP	29	LYS
11	BP	39	LYS
11	BP	102	ARG
12	BQ	62	GLY
15	BT	126	ALA
17	BV	79	VAL
20	BY	91	GLU
26	B4	39	CYS
32	CB	10	LEU
32	CB	76	GLN
32	CB	165	VAL
33	CC	50	ALA
33	CC	52	LEU
33	CC	75	VAL
35	CE	71	LEU
35	CE	146	ALA
37	CG	6	ARG
37	CG	69	VAL
38	CH	51	VAL
38	CH	133	LEU
39	CI	54	ASP
39	CI	118	LYS
40	CJ	55	LYS
40	CJ	57	LYS

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Mol	Chain	Res	Type
40	CJ	89	ASP
42	CL	28	LYS
42	CL	91	LYS
43	CM	12	ASN
43	CM	84	ILE
45	CO	21	ASP
47	CQ	14	LYS
47	CQ	97	SER
49	CS	26	GLY
49	CS	81	ARG
50	CT	10	LEU
50	CT	94	ALA
32	DB	83	MET
32	DB	134	GLU
33	DC	100	ALA
33	DC	175	LEU
33	DC	206	GLU
34	DD	32	ALA
34	DD	129	ASN
35	DE	71	LEU
35	DE	146	ALA
37	DG	81	GLY
38	DH	50	ARG
38	DH	51	VAL
38	DH	133	LEU
39	DI	121	ARG
40	DJ	77	PRO
41	DK	45	GLY
41	DK	87	THR
42	DL	28	LYS
43	DM	3	ARG
43	DM	69	GLU
46	DP	24	ALA
46	DP	78	GLY
47	DQ	68	ARG
49	DS	24	ALA
49	DS	26	GLY
50	DT	10	LEU
50	DT	100	ILE
5	AF	7	TYR
6	AG	80	PHE
6	AG	115	ARG

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Mol	Chain	Res	Type
8	AI	85	GLU
9	AN	63	THR
10	AO	26	LYS
10	AO	104	ARG
11	AP	101	VAL
11	AP	122	PRO
12	AQ	59	ARG
12	AQ	135	ASP
13	AR	107	ASP
15	AT	127	ALA
20	AY	54	LYS
21	AZ	13	GLU
21	AZ	120	ILE
4	BE	52	LEU
5	BF	130	ALA
6	BG	78	SER
6	BG	117	PHE
6	BG	138	GLN
8	BI	86	THR
8	BI	104	GLN
9	BN	19	GLU
10	BO	5	GLN
12	BQ	59	ARG
14	BS	62	LYS
20	BY	92	ASN
21	BZ	151	HIS
21	BZ	152	ALA
23	B1	83	GLU
26	B4	36	CYS
26	B4	43	TYR
27	B5	37	LYS
32	CB	11	LEU
32	CB	78	GLN
32	CB	169	LYS
33	CC	24	ALA
33	CC	53	ALA
33	CC	60	ALA
34	CD	124	GLY
34	CD	186	LEU
34	CD	189	PRO
35	CE	8	GLU
35	CE	68	GLU

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Mol	Chain	Res	Type
37	CG	7	ALA
37	CG	33	ASP
37	CG	146	GLU
39	CI	11	LYS
39	CI	23	ASN
39	CI	24	GLY
39	CI	102	LEU
39	CI	120	ARG
43	CM	10	PRO
43	CM	40	ASN
43	CM	66	LEU
43	CM	67	GLU
44	CN	26	ARG
47	CQ	49	GLU
47	CQ	68	ARG
48	CR	32	ARG
49	CS	12	ASP
33	DC	12	LEU
33	DC	26	LYS
34	DD	136	PRO
36	DF	13	ASN
37	DG	7	ALA
38	DH	41	ARG
39	DI	23	ASN
39	DI	90	PRO
40	DJ	39	PRO
43	DM	12	ASN
49	DS	25	LYS
50	DT	102	GLY
3	AD	3	VAL
3	AD	30	GLU
3	AD	156	ALA
3	AD	233	HIS
4	AE	52	LEU
4	AE	70	ALA
9	AN	64	GLY
9	AN	77	GLY
9	AN	127	ASP
11	AP	29	LYS
11	AP	140	ALA
15	AT	36	GLU
15	AT	84	GLN

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Mol	Chain	Res	Type
20	AY	90	LEU
21	AZ	152	ALA
22	A0	44	ARG
23	A1	83	GLU
26	A4	41	PRO
30	A8	11	LYS
4	BE	72	VAL
5	BF	18	ARG
6	BG	43	LEU
6	BG	54	GLU
6	BG	86	MET
6	BG	124	SER
6	BG	150	ASP
6	BG	151	ALA
7	BH	70	THR
8	BI	109	ILE
9	BN	77	GLY
10	BO	29	ASN
14	BS	57	LYS
19	BX	15	GLU
20	BY	54	LYS
22	B0	55	ARG
23	B1	45	ASN
32	CB	34	ALA
32	CB	52	GLU
32	CB	120	ALA
32	CB	131	PRO
32	CB	202	PRO
33	CC	108	ASN
34	CD	159	ARG
34	CD	166	LYS
35	CE	140	ARG
35	CE	148	VAL
37	CG	104	LEU
37	CG	145	ALA
37	CG	147	ALA
40	CJ	80	LYS
41	CK	106	LYS
43	CM	7	VAL
44	CN	14	PRO
46	CP	67	THR
46	CP	72	ARG

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Mol	Chain	Res	Type
47	CQ	34	LYS
49	CS	14	HIS
32	DB	76	GLN
32	DB	131	PRO
32	DB	165	VAL
33	DC	45	LYS
33	DC	61	ALA
33	DC	101	LEU
34	DD	186	LEU
36	DF	14	LEU
39	DI	102	LEU
43	DM	40	ASN
44	DN	14	PRO
47	DQ	96	GLU
49	DS	40	ILE
49	DS	47	HIS
4	AE	73	GLU
4	AE	94	GLU
5	AF	10	PRO
5	AF	141	ALA
6	AG	43	LEU
7	AH	145	ALA
8	AI	87	LYS
8	AI	114	LEU
15	AT	100	TYR
18	AW	58	ALA
21	AZ	101	PRO
21	AZ	157	LEU
24	A2	6	VAL
28	A6	44	ARG
4	BE	69	LYS
4	BE	118	LYS
6	BG	30	GLU
7	BH	159	GLU
8	BI	117	GLU
10	BO	26	LYS
21	BZ	157	LEU
21	BZ	191	VAL
32	CB	227	GLY
33	CC	127	ARG
34	CD	107	ARG
34	CD	136	PRO

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Mol	Chain	Res	Type
39	CI	45	ALA
40	CJ	77	PRO
41	CK	62	GLN
42	CL	9	GLN
42	CL	26	ALA
43	CM	70	LEU
43	CM	87	TYR
44	CN	15	LYS
45	CO	88	ARG
46	CP	76	GLN
49	CS	72	GLY
49	CS	74	PHE
33	DC	24	ALA
33	DC	99	VAL
33	DC	107	GLN
33	DC	117	ALA
35	DE	85	GLY
37	DG	56	GLN
38	DH	86	ILE
40	DJ	57	LYS
42	DL	19	ARG
45	DO	88	ARG
4	AE	72	VAL
6	AG	87	PRO
9	AN	76	SER
19	AX	40	LYS
21	AZ	93	ASP
26	A4	28	LYS
4	BE	73	GLU
7	BH	108	GLY
27	B5	36	CYS
33	CC	98	ASN
35	CE	49	PRO
35	CE	85	GLY
36	CF	13	ASN
37	CG	52	GLU
40	CJ	78	ASN
44	CN	60	SER
50	CT	102	GLY
39	DI	54	ASP
39	DI	103	THR
43	DM	85	GLY

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Mol	Chain	Res	Type
43	DM	99	ARG
50	DT	94	ALA
50	DT	98	PRO
8	AI	109	ILE
14	AS	104	GLY
5	BF	66	PRO
32	CB	80	ILE
34	CD	28	SER
34	CD	142	PRO
39	DI	24	GLY
46	CP	36	ILE
46	CP	78	GLY
50	CT	96	GLY
33	DC	81	GLY
4	AE	71	GLY
7	AH	76	VAL
26	A4	29	PRO
19	BX	94	GLY
25	B3	13	ILE
32	CB	167	PRO
32	DB	202	PRO
32	DB	227	GLY
33	DC	108	ASN
34	DD	167	GLY
42	DL	90	VAL
21	AZ	193	GLU
36	CF	12	PRO
41	CK	45	GLY
49	CS	9	VAL
50	CT	98	PRO
50	CT	100	ILE
36	DF	12	PRO
37	DG	55	GLY
7	BH	92	ILE
12	BQ	99	PRO
51	DU	23	PRO
4	BE	30	PRO

### 5.3.2 Protein sidechains

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

resolution.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	AD	215/218 (99%)	185 (86%)	30 (14%)	4	20
3	BD	215/218 (99%)	189 (88%)	26 (12%)	6	28
4	AE	163/166 (98%)	139 (85%)	24 (15%)	4	18
4	BE	163/166 (98%)	134 (82%)	29 (18%)	2	11
5	AF	158/162 (98%)	133 (84%)	25 (16%)	3	15
5	BF	158/162 (98%)	138 (87%)	20 (13%)	5	25
6	AG	128/156 (82%)	110 (86%)	18 (14%)	4	20
6	BG	128/156 (82%)	114 (89%)	14 (11%)	8	33
7	AH	141/148 (95%)	125 (89%)	16 (11%)	7	31
7	BH	141/148 (95%)	124 (88%)	17 (12%)	6	28
8	AI	102/124 (82%)	76 (74%)	26 (26%)	1	2
8	BI	102/124 (82%)	76 (74%)	26 (26%)	1	2
9	AN	117/119 (98%)	94 (80%)	23 (20%)	1	8
9	BN	117/119 (98%)	91 (78%)	26 (22%)	1	5
10	AO	98/100 (98%)	89 (91%)	9 (9%)	11	41
10	BO	98/100 (98%)	89 (91%)	9 (9%)	11	41
11	AP	113/116 (97%)	96 (85%)	17 (15%)	3	17
11	BP	113/116 (97%)	97 (86%)	16 (14%)	4	19
12	AQ	111/111 (100%)	94 (85%)	17 (15%)	3	17
12	BQ	111/111 (100%)	94 (85%)	17 (15%)	3	17
13	AR	101/101 (100%)	80 (79%)	21 (21%)	1	7
13	BR	101/101 (100%)	79 (78%)	22 (22%)	1	6
14	AS	84/88 (96%)	67 (80%)	17 (20%)	1	7
14	BS	84/88 (96%)	72 (86%)	12 (14%)	4	19
15	AT	110/127 (87%)	99 (90%)	11 (10%)	9	37
15	BT	110/127 (87%)	100 (91%)	10 (9%)	12	42
16	AU	93/94 (99%)	83 (89%)	10 (11%)	8	33
16	BU	93/94 (99%)	77 (83%)	16 (17%)	2	12
17	AV	80/82 (98%)	63 (79%)	17 (21%)	1	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	BV	80/82 (98%)	63 (79%)	17 (21%)	1	7
18	AW	89/92 (97%)	75 (84%)	14 (16%)	3	15
18	BW	89/92 (97%)	78 (88%)	11 (12%)	6	27
19	AX	75/78 (96%)	67 (89%)	8 (11%)	8	34
19	BX	75/78 (96%)	66 (88%)	9 (12%)	6	28
20	AY	80/91 (88%)	70 (88%)	10 (12%)	6	26
20	BY	80/91 (88%)	72 (90%)	8 (10%)	9	37
21	AZ	159/179 (89%)	139 (87%)	20 (13%)	5	26
21	BZ	159/179 (89%)	137 (86%)	22 (14%)	4	21
22	A0	59/67 (88%)	52 (88%)	7 (12%)	6	28
22	B0	59/67 (88%)	52 (88%)	7 (12%)	6	28
23	A1	78/83 (94%)	68 (87%)	10 (13%)	5	25
23	B1	78/83 (94%)	70 (90%)	8 (10%)	9	36
24	A2	65/67 (97%)	56 (86%)	9 (14%)	4	21
24	B2	65/67 (97%)	57 (88%)	8 (12%)	6	27
25	A3	49/52 (94%)	43 (88%)	6 (12%)	6	27
25	B3	49/52 (94%)	43 (88%)	6 (12%)	6	27
26	A4	39/63 (62%)	32 (82%)	7 (18%)	2	11
26	B4	39/63 (62%)	30 (77%)	9 (23%)	1	4
27	A5	50/52 (96%)	43 (86%)	7 (14%)	4	20
27	B5	50/52 (96%)	43 (86%)	7 (14%)	4	20
28	A6	50/52 (96%)	40 (80%)	10 (20%)	1	8
28	B6	50/52 (96%)	41 (82%)	9 (18%)	2	11
29	A7	41/42 (98%)	35 (85%)	6 (15%)	4	19
29	B7	41/42 (98%)	32 (78%)	9 (22%)	1	6
30	A8	52/55 (94%)	45 (86%)	7 (14%)	5	22
30	B8	52/55 (94%)	47 (90%)	5 (10%)	10	39
32	CB	177/220 (80%)	141 (80%)	36 (20%)	1	7
32	DB	177/220 (80%)	142 (80%)	35 (20%)	1	8
33	CC	114/188 (61%)	95 (83%)	19 (17%)	3	13
33	DC	114/188 (61%)	96 (84%)	18 (16%)	3	15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	CD	139/181 (77%)	117 (84%)	22 (16%)	3	15
34	DD	139/181 (77%)	120 (86%)	19 (14%)	4	21
35	CE	108/123 (88%)	86 (80%)	22 (20%)	1	7
35	DE	108/123 (88%)	88 (82%)	20 (18%)	2	10
36	CF	77/90 (86%)	65 (84%)	12 (16%)	3	15
36	DF	77/90 (86%)	65 (84%)	12 (16%)	3	15
37	CG	104/127 (82%)	86 (83%)	18 (17%)	2	12
37	DG	104/127 (82%)	88 (85%)	16 (15%)	3	16
38	CH	103/119 (87%)	85 (82%)	18 (18%)	2	12
38	DH	103/119 (87%)	84 (82%)	19 (18%)	2	10
39	CI	62/99 (63%)	53 (86%)	9 (14%)	4	19
39	DI	62/99 (63%)	54 (87%)	8 (13%)	5	24
40	CJ	52/92 (56%)	42 (81%)	10 (19%)	2	10
40	DJ	52/92 (56%)	41 (79%)	11 (21%)	1	7
41	CK	81/99 (82%)	69 (85%)	12 (15%)	4	18
41	DK	81/99 (82%)	71 (88%)	10 (12%)	6	27
42	CL	92/109 (84%)	81 (88%)	11 (12%)	6	28
42	DL	92/109 (84%)	83 (90%)	9 (10%)	10	38
43	CM	63/101 (62%)	49 (78%)	14 (22%)	1	5
43	DM	63/101 (62%)	49 (78%)	14 (22%)	1	5
44	CN	46/50 (92%)	35 (76%)	11 (24%)	1	3
44	DN	46/50 (92%)	33 (72%)	13 (28%)	0	1
45	CO	77/80 (96%)	65 (84%)	12 (16%)	3	15
45	DO	77/80 (96%)	66 (86%)	11 (14%)	4	19
46	CP	63/74 (85%)	49 (78%)	14 (22%)	1	5
46	DP	63/74 (85%)	53 (84%)	10 (16%)	3	14
47	CQ	94/97 (97%)	90 (96%)	4 (4%)	35	75
47	DQ	94/97 (97%)	84 (89%)	10 (11%)	8	34
48	CR	49/77 (64%)	44 (90%)	5 (10%)	9	36
48	DR	49/77 (64%)	46 (94%)	3 (6%)	23	64
49	CS	42/80 (52%)	25 (60%)	17 (40%)	0	0

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
49	DS	42/80 (52%)	36 (86%)	6 (14%)	4	19
50	CT	65/82 (79%)	53 (82%)	12 (18%)	2	10
50	DT	65/82 (79%)	57 (88%)	8 (12%)	6	27
51	CU	18/22 (82%)	16 (89%)	2 (11%)	8	32
51	DU	18/22 (82%)	14 (78%)	4 (22%)	1	5
All	All	8652/9990 (87%)	7319 (85%)	1333 (15%)	3	16

All (1333) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	AD	4	LYS
3	AD	10	THR
3	AD	12	SER
3	AD	13	ARG
3	AD	54	ARG
3	AD	61	LEU
3	AD	89	SER
3	AD	94	LEU
3	AD	103	ARG
3	AD	106	ILE
3	AD	111	LEU
3	AD	141	VAL
3	AD	142	VAL
3	AD	150	LYS
3	AD	154	LYS
3	AD	155	LEU
3	AD	192	THR
3	AD	200	ASP
3	AD	208	LYS
3	AD	211	ARG
3	AD	212	SER
3	AD	217	ARG
3	AD	221	VAL
3	AD	229	VAL
3	AD	242	ARG
3	AD	253	GLN
3	AD	257	LEU
3	AD	259	THR
3	AD	260	ARG
3	AD	267	SER

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Mol	Chain	Res	Type
4	AE	1	MET
4	AE	7	VAL
4	AE	12	THR
4	AE	21	VAL
4	AE	33	VAL
4	AE	34	VAL
4	AE	45	THR
4	AE	49	LEU
4	AE	52	LEU
4	AE	75	VAL
4	AE	77	ILE
4	AE	82	ARG
4	AE	87	GLU
4	AE	93	VAL
4	AE	113	PHE
4	AE	116	VAL
4	AE	119	ARG
4	AE	144	ARG
4	AE	154	LYS
4	AE	163	GLU
4	AE	170	LEU
4	AE	175	VAL
4	AE	181	LEU
4	AE	184	VAL
5	AF	13	SER
5	AF	18	ARG
5	AF	24	LEU
5	AF	33	LEU
5	AF	38	ARG
5	AF	50	SER
5	AF	53	THR
5	AF	74	ARG
5	AF	78	ILE
5	AF	82	ILE
5	AF	98	SER
5	AF	106	ARG
5	AF	108	LYS
5	AF	110	LEU
5	AF	125	LEU
5	AF	140	LEU
5	AF	158	THR
5	AF	162	LEU

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Mol	Chain	Res	Type
5	AF	170	LEU
5	AF	175	THR
5	AF	183	VAL
5	AF	192	LEU
5	AF	197	ASP
5	AF	201	VAL
5	AF	205	ARG
6	AG	5	VAL
6	AG	7	LEU
6	AG	20	ILE
6	AG	21	ARG
6	AG	31	VAL
6	AG	35	GLU
6	AG	60	LEU
6	AG	71	THR
6	AG	128	ARG
6	AG	138	GLN
6	AG	139	LEU
6	AG	143	GLU
6	AG	146	TYR
6	AG	148	MET
6	AG	152	LEU
6	AG	159	VAL
6	AG	161	THR
6	AG	170	ARG
7	AH	4	ILE
7	AH	6	ARG
7	AH	41	MET
7	AH	44	VAL
7	AH	45	VAL
7	AH	68	THR
7	AH	69	ARG
7	AH	88	LEU
7	AH	98	LEU
7	AH	105	LEU
7	AH	106	THR
7	AH	116	GLU
7	AH	127	GLU
7	AH	139	GLN
7	AH	169	VAL
7	AH	171	LEU
8	AI	1	MET

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Mol	Chain	Res	Type
8	AI	3	VAL
8	AI	9	LEU
8	AI	15	VAL
8	AI	38	LEU
8	AI	44	LEU
8	AI	47	LEU
8	AI	54	GLN
8	AI	57	ARG
8	AI	61	ARG
8	AI	72	LEU
8	AI	73	GLU
8	AI	75	LEU
8	AI	82	ARG
8	AI	101	LEU
8	AI	102	SER
8	AI	105	HIS
8	AI	112	LYS
8	AI	114	LEU
8	AI	116	LEU
8	AI	123	LEU
8	AI	125	GLU
8	AI	129	THR
8	AI	133	HIS
8	AI	136	VAL
8	AI	144	VAL
9	AN	1	MET
9	AN	2	LYS
9	AN	9	VAL
9	AN	12	ARG
9	AN	15	LEU
9	AN	28	THR
9	AN	33	LEU
9	AN	34	LEU
9	AN	43	THR
9	AN	48	MET
9	AN	55	VAL
9	AN	60	ILE
9	AN	61	ARG
9	AN	62	VAL
9	AN	63	THR
9	AN	73	THR
9	AN	76	SER

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Mol	Chain	Res	Type
9	AN	85	ILE
9	AN	87	LEU
9	AN	93	THR
9	AN	99	LEU
9	AN	120	LEU
9	AN	133	GLN
10	AO	3	GLN
10	AO	10	VAL
10	AO	17	ARG
10	AO	24	VAL
10	AO	53	LYS
10	AO	70	LYS
10	AO	94	ARG
10	AO	98	VAL
10	AO	113	LYS
11	AP	1	MET
11	AP	3	LEU
11	AP	21	ARG
11	AP	42	SER
11	AP	55	ARG
11	AP	56	SER
11	AP	58	THR
11	AP	59	LEU
11	AP	65	ARG
11	AP	76	LYS
11	AP	83	VAL
11	AP	106	LEU
11	AP	112	LEU
11	AP	119	GLU
11	AP	144	GLU
11	AP	146	VAL
11	AP	148	LEU
12	AQ	1	MET
12	AQ	16	ARG
12	AQ	18	LYS
12	AQ	21	THR
12	AQ	25	ASP
12	AQ	31	ASP
12	AQ	45	GLN
12	AQ	55	VAL
12	AQ	56	ARG
12	AQ	59	ARG

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Mol	Chain	Res	Type
12	AQ	63	LYS
12	AQ	89	ASN
12	AQ	106	VAL
12	AQ	109	VAL
12	AQ	110	THR
12	AQ	134	ARG
12	AQ	135	ASP
13	AR	1	MET
13	AR	6	SER
13	AR	15	SER
13	AR	18	LEU
13	AR	23	ASN
13	AR	27	SER
13	AR	28	LEU
13	AR	29	LEU
13	AR	33	ARG
13	AR	36	THR
13	AR	44	LEU
13	AR	49	ASP
13	AR	60	LEU
13	AR	65	LEU
13	AR	67	LEU
13	AR	75	LEU
13	AR	79	LEU
13	AR	86	ARG
13	AR	96	ARG
13	AR	100	LEU
13	AR	111	LEU
14	AS	3	ARG
14	AS	5	THR
14	AS	8	GLU
14	AS	12	PHE
14	AS	15	ARG
14	AS	20	ARG
14	AS	21	THR
14	AS	25	ARG
14	AS	32	LEU
14	AS	38	GLN
14	AS	50	SER
14	AS	52	SER
14	AS	59	LYS
14	AS	78	LEU

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Mol	Chain	Res	Type
14	AS	84	GLN
14	AS	95	HIS
14	AS	101	LEU
15	AT	6	LEU
15	AT	8	LYS
15	AT	34	VAL
15	AT	40	THR
15	AT	49	VAL
15	AT	59	THR
15	AT	64	ARG
15	AT	74	ARG
15	AT	78	LEU
15	AT	96	ARG
15	AT	118	ARG
16	AU	8	VAL
16	AU	16	LYS
16	AU	36	ARG
16	AU	59	ARG
16	AU	60	LEU
16	AU	74	LEU
16	AU	83	LEU
16	AU	95	LEU
16	AU	104	GLN
16	AU	108	GLU
17	AV	5	VAL
17	AV	12	TYR
17	AV	18	LEU
17	AV	21	ARG
17	AV	28	GLU
17	AV	35	LEU
17	AV	38	LEU
17	AV	46	VAL
17	AV	52	VAL
17	AV	61	VAL
17	AV	62	LEU
17	AV	72	VAL
17	AV	79	VAL
17	AV	85	LYS
17	AV	89	GLN
17	AV	95	LEU
17	AV	100	ARG
18	AW	1	MET

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Mol	Chain	Res	Type
18	AW	11	ARG
18	AW	17	VAL
18	AW	23	LEU
18	AW	51	LEU
18	AW	52	GLU
18	AW	60	ASN
18	AW	63	ASP
18	AW	67	ASP
18	AW	83	LYS
18	AW	92	ARG
18	AW	100	THR
18	AW	103	ILE
18	AW	107	LEU
19	AX	25	LYS
19	AX	52	VAL
19	AX	54	VAL
19	AX	57	LEU
19	AX	65	ARG
19	AX	66	LEU
19	AX	68	ARG
19	AX	76	ARG
20	AY	9	LYS
20	AY	23	ARG
20	AY	43	ASN
20	AY	47	LYS
20	AY	61	ILE
20	AY	76	CYS
20	AY	90	LEU
20	AY	97	ARG
20	AY	101	LYS
20	AY	107	ASP
21	AZ	6	LYS
21	AZ	11	GLU
21	AZ	13	GLU
21	AZ	19	ARG
21	AZ	61	LEU
21	AZ	72	ARG
21	AZ	73	GLN
21	AZ	78	LYS
21	AZ	82	ARG
21	AZ	86	VAL
21	AZ	87	ASP

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Mol	Chain	Res	Type
21	AZ	91	LEU
21	AZ	121	HIS
21	AZ	126	VAL
21	AZ	144	LEU
21	AZ	161	VAL
21	AZ	162	GLU
21	AZ	165	VAL
21	AZ	170	THR
21	AZ	185	GLU
22	A0	20	ARG
22	A0	41	ARG
22	A0	46	LYS
22	A0	55	ARG
22	A0	74	ARG
22	A0	77	ARG
22	A0	81	VAL
23	A1	4	VAL
23	A1	5	CYS
23	A1	17	SER
23	A1	21	ARG
23	A1	40	ARG
23	A1	58	ILE
23	A1	59	THR
23	A1	62	VAL
23	A1	81	LYS
23	A1	95	LEU
24	A2	17	SER
24	A2	30	ARG
24	A2	32	LEU
24	A2	34	GLU
24	A2	44	LEU
24	A2	50	ILE
24	A2	53	LEU
24	A2	55	ARG
24	A2	64	LEU
25	A3	8	LEU
25	A3	23	LEU
25	A3	31	LEU
25	A3	40	THR
25	A3	44	ARG
25	A3	58	VAL
26	A4	3	GLU

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Mol	Chain	Res	Type
26	A4	14	ILE
26	A4	18	CYS
26	A4	22	ILE
26	A4	33	VAL
26	A4	35	VAL
26	A4	43	TYR
27	A5	15	ARG
27	A5	23	HIS
27	A5	29	THR
27	A5	33	CYS
27	A5	37	LYS
27	A5	40	LYS
27	A5	46	CYS
28	A6	4	GLU
28	A6	9	LEU
28	A6	13	CYS
28	A6	14	THR
28	A6	28	ARG
28	A6	30	THR
28	A6	34	LEU
28	A6	35	GLU
28	A6	40	CYS
28	A6	44	ARG
29	A7	4	THR
29	A7	8	ASN
29	A7	23	ARG
29	A7	24	THR
29	A7	32	LYS
29	A7	41	ARG
30	A8	4	MET
30	A8	14	VAL
30	A8	31	HIS
30	A8	32	LEU
30	A8	34	TRP
30	A8	35	GLN
30	A8	41	ILE
3	BD	4	LYS
3	BD	12	SER
3	BD	14	ARG
3	BD	54	ARG
3	BD	61	LEU
3	BD	94	LEU

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Mol	Chain	Res	Type
3	BD	103	ARG
3	BD	106	ILE
3	BD	138	VAL
3	BD	142	VAL
3	BD	150	LYS
3	BD	155	LEU
3	BD	165	ILE
3	BD	173	VAL
3	BD	192	THR
3	BD	208	LYS
3	BD	211	ARG
3	BD	212	SER
3	BD	221	VAL
3	BD	229	VAL
3	BD	242	ARG
3	BD	253	GLN
3	BD	257	LEU
3	BD	259	THR
3	BD	260	ARG
3	BD	267	SER
4	BE	1	MET
4	BE	2	LYS
4	BE	9	VAL
4	BE	12	THR
4	BE	21	VAL
4	BE	24	THR
4	BE	33	VAL
4	BE	45	THR
4	BE	49	LEU
4	BE	52	LEU
4	BE	73	GLU
4	BE	75	VAL
4	BE	77	ILE
4	BE	82	ARG
4	BE	87	GLU
4	BE	93	VAL
4	BE	111	ARG
4	BE	116	VAL
4	BE	119	ARG
4	BE	128	SER
4	BE	144	ARG
4	BE	152	LYS

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Mol	Chain	Res	Type
4	BE	154	LYS
4	BE	163	GLU
4	BE	170	LEU
4	BE	175	VAL
4	BE	181	LEU
4	BE	184	VAL
4	BE	195	LEU
5	BF	18	ARG
5	BF	24	LEU
5	BF	32	LEU
5	BF	33	LEU
5	BF	38	ARG
5	BF	50	SER
5	BF	53	THR
5	BF	74	ARG
5	BF	82	ILE
5	BF	108	LYS
5	BF	110	LEU
5	BF	117	ARG
5	BF	158	THR
5	BF	162	LEU
5	BF	168	ARG
5	BF	175	THR
5	BF	183	VAL
5	BF	192	LEU
5	BF	197	ASP
5	BF	201	VAL
6	BG	5	VAL
6	BG	7	LEU
6	BG	19	LEU
6	BG	21	ARG
6	BG	43	LEU
6	BG	60	LEU
6	BG	71	THR
6	BG	139	LEU
6	BG	143	GLU
6	BG	146	TYR
6	BG	148	MET
6	BG	152	LEU
6	BG	161	THR
6	BG	170	ARG
7	BH	3	ARG

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Mol	Chain	Res	Type
7	BH	6	ARG
7	BH	24	VAL
7	BH	41	MET
7	BH	44	VAL
7	BH	45	VAL
7	BH	69	ARG
7	BH	88	LEU
7	BH	98	LEU
7	BH	105	LEU
7	BH	106	THR
7	BH	122	THR
7	BH	127	GLU
7	BH	139	GLN
7	BH	149	ARG
7	BH	169	VAL
7	BH	171	LEU
8	BI	1	MET
8	BI	3	VAL
8	BI	9	LEU
8	BI	15	VAL
8	BI	38	LEU
8	BI	47	LEU
8	BI	57	ARG
8	BI	61	ARG
8	BI	75	LEU
8	BI	77	LEU
8	BI	78	THR
8	BI	85	GLU
8	BI	92	VAL
8	BI	97	ILE
8	BI	101	LEU
8	BI	105	HIS
8	BI	110	GLU
8	BI	112	LYS
8	BI	114	LEU
8	BI	116	LEU
8	BI	117	GLU
8	BI	121	LYS
8	BI	123	LEU
8	BI	133	HIS
8	BI	140	LEU
8	BI	142	VAL

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Mol	Chain	Res	Type
9	BN	1	MET
9	BN	2	LYS
9	BN	9	VAL
9	BN	12	ARG
9	BN	28	THR
9	BN	33	LEU
9	BN	34	LEU
9	BN	48	MET
9	BN	55	VAL
9	BN	60	ILE
9	BN	61	ARG
9	BN	62	VAL
9	BN	63	THR
9	BN	67	LEU
9	BN	73	THR
9	BN	76	SER
9	BN	87	LEU
9	BN	93	THR
9	BN	96	GLU
9	BN	97	ARG
9	BN	99	LEU
9	BN	115	ARG
9	BN	120	LEU
9	BN	121	LYS
9	BN	133	GLN
9	BN	137	LYS
10	BO	10	VAL
10	BO	17	ARG
10	BO	24	VAL
10	BO	42	SER
10	BO	48	PRO
10	BO	53	LYS
10	BO	94	ARG
10	BO	98	VAL
10	BO	113	LYS
11	BP	19	VAL
11	BP	21	ARG
11	BP	27	HIS
11	BP	40	SER
11	BP	42	SER
11	BP	59	LEU
11	BP	65	ARG

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Mol	Chain	Res	Type
11	BP	75	ILE
11	BP	76	LYS
11	BP	83	VAL
11	BP	95	VAL
11	BP	106	LEU
11	BP	112	LEU
11	BP	119	GLU
11	BP	144	GLU
11	BP	148	LEU
12	BQ	1	MET
12	BQ	7	MET
12	BQ	8	LYS
12	BQ	16	ARG
12	BQ	21	THR
12	BQ	42	ILE
12	BQ	45	GLN
12	BQ	56	ARG
12	BQ	59	ARG
12	BQ	63	LYS
12	BQ	75	THR
12	BQ	106	VAL
12	BQ	109	VAL
12	BQ	110	THR
12	BQ	133	ARG
12	BQ	134	ARG
12	BQ	135	ASP
13	BR	1	MET
13	BR	6	SER
13	BR	15	SER
13	BR	17	ARG
13	BR	18	LEU
13	BR	27	SER
13	BR	28	LEU
13	BR	29	LEU
13	BR	33	ARG
13	BR	36	THR
13	BR	44	LEU
13	BR	54	LEU
13	BR	60	LEU
13	BR	65	LEU
13	BR	67	LEU
13	BR	78	LYS

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Mol	Chain	Res	Type
13	BR	79	LEU
13	BR	86	ARG
13	BR	96	ARG
13	BR	100	LEU
13	BR	105	ARG
13	BR	111	LEU
14	BS	3	ARG
14	BS	5	THR
14	BS	13	ARG
14	BS	20	ARG
14	BS	25	ARG
14	BS	36	TYR
14	BS	38	GLN
14	BS	50	SER
14	BS	52	SER
14	BS	69	VAL
14	BS	78	LEU
14	BS	84	GLN
15	BT	8	LYS
15	BT	49	VAL
15	BT	53	ARG
15	BT	59	THR
15	BT	64	ARG
15	BT	74	ARG
15	BT	78	LEU
15	BT	89	VAL
15	BT	96	ARG
15	BT	118	ARG
16	BU	8	VAL
16	BU	16	LYS
16	BU	27	LEU
16	BU	31	SER
16	BU	36	ARG
16	BU	51	LYS
16	BU	55	ARG
16	BU	59	ARG
16	BU	60	LEU
16	BU	69	CYS
16	BU	74	LEU
16	BU	83	LEU
16	BU	95	LEU
16	BU	104	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
16	BU	108	GLU
16	BU	112	ARG
17	BV	7	THR
17	BV	18	LEU
17	BV	21	ARG
17	BV	28	GLU
17	BV	35	LEU
17	BV	43	GLU
17	BV	46	VAL
17	BV	49	THR
17	BV	52	VAL
17	BV	61	VAL
17	BV	62	LEU
17	BV	70	ILE
17	BV	72	VAL
17	BV	79	VAL
17	BV	85	LYS
17	BV	95	LEU
17	BV	100	ARG
18	BW	11	ARG
18	BW	15	ARG
18	BW	17	VAL
18	BW	18	ARG
18	BW	23	LEU
18	BW	51	LEU
18	BW	59	VAL
18	BW	63	ASP
18	BW	83	LYS
18	BW	97	LYS
18	BW	107	LEU
19	BX	45	THR
19	BX	50	LYS
19	BX	52	VAL
19	BX	57	LEU
19	BX	60	ARG
19	BX	65	ARG
19	BX	66	LEU
19	BX	68	ARG
19	BX	92	LEU
20	BY	23	ARG
20	BY	43	ASN
20	BY	47	LYS

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Mol	Chain	Res	Type
20	BY	61	ILE
20	BY	72	VAL
20	BY	90	LEU
20	BY	97	ARG
20	BY	101	LYS
21	BZ	5	LEU
21	BZ	6	LYS
21	BZ	11	GLU
21	BZ	18	LEU
21	BZ	19	ARG
21	BZ	61	LEU
21	BZ	72	ARG
21	BZ	73	GLN
21	BZ	81	ARG
21	BZ	82	ARG
21	BZ	86	VAL
21	BZ	87	ASP
21	BZ	91	LEU
21	BZ	121	HIS
21	BZ	126	VAL
21	BZ	128	VAL
21	BZ	144	LEU
21	BZ	161	VAL
21	BZ	162	GLU
21	BZ	165	VAL
21	BZ	170	THR
21	BZ	185	GLU
22	B0	10	THR
22	B0	19	LYS
22	B0	20	ARG
22	B0	46	LYS
22	B0	55	ARG
22	B0	74	ARG
22	B0	77	ARG
23	B1	4	VAL
23	B1	21	ARG
23	B1	40	ARG
23	B1	41	ARG
23	B1	51	VAL
23	B1	58	ILE
23	B1	59	THR
23	B1	95	LEU

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Mol	Chain	Res	Type
24	B2	28	LYS
24	B2	30	ARG
24	B2	34	GLU
24	B2	45	SER
24	B2	50	ILE
24	B2	52	ASP
24	B2	53	LEU
24	B2	64	LEU
25	B3	8	LEU
25	B3	23	LEU
25	B3	35	ARG
25	B3	40	THR
25	B3	44	ARG
25	B3	58	VAL
26	B4	8	LYS
26	B4	18	CYS
26	B4	22	ILE
26	B4	24	THR
26	B4	27	THR
26	B4	33	VAL
26	B4	34	GLU
26	B4	35	VAL
26	B4	43	TYR
27	B5	6	VAL
27	B5	15	ARG
27	B5	16	ARG
27	B5	23	HIS
27	B5	29	THR
27	B5	37	LYS
27	B5	40	LYS
28	B6	4	GLU
28	B6	6	ARG
28	B6	9	LEU
28	B6	13	CYS
28	B6	14	THR
28	B6	30	THR
28	B6	35	GLU
28	B6	40	CYS
28	B6	44	ARG
29	B7	4	THR
29	B7	8	ASN
29	B7	9	ARG

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Mol	Chain	Res	Type
29	B7	10	ARG
29	B7	24	THR
29	B7	32	LYS
29	B7	42	LEU
29	B7	43	THR
29	B7	47	ARG
30	B8	14	VAL
30	B8	31	HIS
30	B8	34	TRP
30	B8	35	GLN
30	B8	41	ILE
32	CB	15	VAL
32	CB	16	HIS
32	CB	17	PHE
32	CB	21	ARG
32	CB	24	TRP
32	CB	67	THR
32	CB	73	THR
32	CB	74	LYS
32	CB	80	ILE
32	CB	87	ARG
32	CB	93	VAL
32	CB	94	ASN
32	CB	105	PHE
32	CB	111	ARG
32	CB	121	LEU
32	CB	126	GLU
32	CB	133	LYS
32	CB	137	ARG
32	CB	139	LYS
32	CB	142	LEU
32	CB	145	LEU
32	CB	155	LEU
32	CB	160	ASP
32	CB	170	GLU
32	CB	185	ILE
32	CB	187	LEU
32	CB	190	THR
32	CB	191	ASP
32	CB	193	ASP
32	CB	198	ASP
32	CB	200	ILE

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Mol	Chain	Res	Type
32	CB	208	ILE
32	CB	210	SER
32	CB	215	LEU
32	CB	221	LEU
32	CB	224	GLN
33	CC	8	ILE
33	CC	19	GLU
33	CC	30	ARG
33	CC	32	LEU
33	CC	35	GLU
33	CC	47	LEU
33	CC	59	ARG
33	CC	70	VAL
33	CC	102	ASN
33	CC	104	GLN
33	CC	112	SER
33	CC	118	GLN
33	CC	130	VAL
33	CC	131	ARG
33	CC	150	LYS
33	CC	154	SER
33	CC	179	ARG
33	CC	184	TYR
33	CC	196	LEU
34	CD	11	LEU
34	CD	12	CYS
34	CD	13	ARG
34	CD	28	SER
34	CD	33	MET
34	CD	36	ARG
34	CD	53	ASP
34	CD	58	LEU
34	CD	65	ARG
34	CD	70	ILE
34	CD	76	ARG
34	CD	83	SER
34	CD	97	LEU
34	CD	106	TYR
34	CD	107	ARG
34	CD	110	PHE
34	CD	127	THR
34	CD	135	LEU

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Mol	Chain	Res	Type
34	CD	137	SER
34	CD	158	ILE
34	CD	188	LEU
34	CD	196	LEU
35	CE	12	LEU
35	CE	16	THR
35	CE	18	ARG
35	CE	31	LEU
35	CE	34	VAL
35	CE	41	VAL
35	CE	47	LYS
35	CE	51	VAL
35	CE	57	LYS
35	CE	75	THR
35	CE	76	ILE
35	CE	78	HIS
35	CE	79	GLU
35	CE	89	ILE
35	CE	91	LEU
35	CE	116	THR
35	CE	120	THR
35	CE	135	THR
35	CE	137	GLU
35	CE	144	THR
35	CE	147	ASP
35	CE	152	ARG
36	CF	14	LEU
36	CF	15	ASP
36	CF	16	GLN
36	CF	25	ILE
36	CF	36	ARG
36	CF	55	ASP
36	CF	64	GLN
36	CF	69	GLU
36	CF	70	ASP
36	CF	75	LEU
36	CF	89	MET
36	CF	98	LEU
37	CG	6	ARG
37	CG	15	ASP
37	CG	35	LYS
37	CG	37	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
37	CG	51	GLN
37	CG	57	GLU
37	CG	59	LEU
37	CG	69	VAL
37	CG	77	SER
37	CG	80	VAL
37	CG	90	GLU
37	CG	104	LEU
37	CG	113	GLU
37	CG	114	ARG
37	CG	138	LYS
37	CG	142	GLU
37	CG	144	MET
37	CG	146	GLU
38	CH	19	VAL
38	CH	21	LYS
38	CH	25	ASP
38	CH	26	VAL
38	CH	52	ASP
38	CH	54	ASP
38	CH	77	GLU
38	CH	78	GLN
38	CH	84	ARG
38	CH	91	ARG
38	CH	95	VAL
38	CH	99	GLU
38	CH	107	LEU
38	CH	109	ILE
38	CH	112	LEU
38	CH	127	LEU
38	CH	133	LEU
38	CH	137	VAL
39	CI	3	GLN
39	CI	31	GLN
39	CI	34	ASN
39	CI	40	LEU
39	CI	60	ASP
39	CI	104	ARG
39	CI	107	ARG
39	CI	108	VAL
39	CI	117	HIS
40	CJ	16	LEU

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Mol	Chain	Res	Type
40	CJ	34	VAL
40	CJ	43	ARG
40	CJ	55	LYS
40	CJ	66	ARG
40	CJ	67	THR
40	CJ	68	HIS
40	CJ	96	ILE
40	CJ	97	GLU
40	CJ	100	THR
41	CK	14	VAL
41	CK	33	THR
41	CK	48	ILE
41	CK	63	LEU
41	CK	70	LYS
41	CK	91	ARG
41	CK	96	ARG
41	CK	104	GLN
41	CK	109	VAL
41	CK	114	VAL
41	CK	117	ASN
41	CK	121	PRO
42	CL	33	ARG
42	CL	43	VAL
42	CL	47	LYS
42	CL	53	ARG
42	CL	55	VAL
42	CL	66	VAL
42	CL	70	ILE
42	CL	80	HIS
42	CL	84	LEU
42	CL	97	ARG
42	CL	117	ARG
43	CM	3	ARG
43	CM	4	ILE
43	CM	14	ARG
43	CM	15	VAL
43	CM	16	ASP
43	CM	17	VAL
43	CM	19	LEU
43	CM	47	ASP
43	CM	55	ARG
43	CM	78	ILE

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Mol	Chain	Res	Type
43	CM	91	ARG
43	CM	101	GLN
43	CM	105	THR
43	CM	110	ARG
44	CN	3	ARG
44	CN	6	LEU
44	CN	7	ILE
44	CN	8	GLU
44	CN	17	LYS
44	CN	18	VAL
44	CN	22	THR
44	CN	23	ARG
44	CN	24	CYS
44	CN	25	VAL
44	CN	33	VAL
45	CO	3	ILE
45	CO	8	LYS
45	CO	24	SER
45	CO	26	GLU
45	CO	35	ARG
45	CO	39	LEU
45	CO	40	SER
45	CO	41	GLU
45	CO	73	GLU
45	CO	76	GLU
45	CO	83	GLU
45	CO	87	ILE
46	CP	1	MET
46	CP	2	VAL
46	CP	6	LEU
46	CP	8	ARG
46	CP	11	SER
46	CP	27	LYS
46	CP	29	ASP
46	CP	45	THR
46	CP	47	ASP
46	CP	62	VAL
46	CP	67	THR
46	CP	69	THR
46	CP	76	GLN
46	CP	79	VAL
47	CQ	13	ASP

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Mol	Chain	Res	Type
47	CQ	45	HIS
47	CQ	57	VAL
47	CQ	60	ILE
48	CR	32	ARG
48	CR	53	ARG
48	CR	74	ARG
48	CR	76	LEU
48	CR	82	THR
49	CS	7	LYS
49	CS	11	VAL
49	CS	31	ILE
49	CS	32	LYS
49	CS	33	THR
49	CS	36	ARG
49	CS	37	ARG
49	CS	43	GLU
49	CS	44	MET
49	CS	47	HIS
49	CS	52	TYR
49	CS	57	HIS
49	CS	66	MET
49	CS	73	GLU
49	CS	77	THR
49	CS	79	THR
49	CS	83	HIS
50	CT	10	LEU
50	CT	13	LEU
50	CT	24	LEU
50	CT	30	LYS
50	CT	31	SER
50	CT	37	SER
50	CT	38	LYS
50	CT	39	LYS
50	CT	62	LEU
50	CT	71	THR
50	CT	75	ASN
50	CT	80	ARG
51	CU	9	ARG
51	CU	10	ARG
32	DB	15	VAL
32	DB	16	HIS
32	DB	17	PHE

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Mol	Chain	Res	Type
32	DB	21	ARG
32	DB	24	TRP
32	DB	39	ILE
32	DB	67	THR
32	DB	80	ILE
32	DB	87	ARG
32	DB	90	MET
32	DB	93	VAL
32	DB	94	ASN
32	DB	105	PHE
32	DB	126	GLU
32	DB	133	LYS
32	DB	137	ARG
32	DB	139	LYS
32	DB	142	LEU
32	DB	145	LEU
32	DB	155	LEU
32	DB	158	LEU
32	DB	160	ASP
32	DB	170	GLU
32	DB	185	ILE
32	DB	187	LEU
32	DB	190	THR
32	DB	191	ASP
32	DB	193	ASP
32	DB	198	ASP
32	DB	200	ILE
32	DB	208	ILE
32	DB	214	ILE
32	DB	215	LEU
32	DB	221	LEU
32	DB	224	GLN
33	DC	4	LYS
33	DC	8	ILE
33	DC	10	PHE
33	DC	17	ASP
33	DC	30	ARG
33	DC	36	ASP
33	DC	52	LEU
33	DC	54	ARG
33	DC	59	ARG
33	DC	104	GLN

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Mol	Chain	Res	Type
33	DC	131	ARG
33	DC	135	LYS
33	DC	144	SER
33	DC	165	THR
33	DC	178	LEU
33	DC	188	LEU
33	DC	202	ILE
33	DC	207	VAL
34	DD	11	LEU
34	DD	13	ARG
34	DD	27	TYR
34	DD	28	SER
34	DD	33	MET
34	DD	36	ARG
34	DD	58	LEU
34	DD	65	ARG
34	DD	70	ILE
34	DD	76	ARG
34	DD	83	SER
34	DD	106	TYR
34	DD	107	ARG
34	DD	126	ILE
34	DD	127	THR
34	DD	135	LEU
34	DD	158	ILE
34	DD	188	LEU
34	DD	193	ASP
35	DE	12	LEU
35	DE	16	THR
35	DE	31	LEU
35	DE	34	VAL
35	DE	41	VAL
35	DE	47	LYS
35	DE	51	VAL
35	DE	57	LYS
35	DE	75	THR
35	DE	76	ILE
35	DE	78	HIS
35	DE	79	GLU
35	DE	80	ILE
35	DE	89	ILE
35	DE	91	LEU

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Mol	Chain	Res	Type
35	DE	98	THR
35	DE	120	THR
35	DE	137	GLU
35	DE	144	THR
35	DE	147	ASP
36	DF	14	LEU
36	DF	15	ASP
36	DF	16	GLN
36	DF	25	ILE
36	DF	36	ARG
36	DF	55	ASP
36	DF	64	GLN
36	DF	69	GLU
36	DF	70	ASP
36	DF	75	LEU
36	DF	89	MET
36	DF	98	LEU
37	DG	3	ARG
37	DG	9	VAL
37	DG	16	LEU
37	DG	41	ARG
37	DG	45	ASP
37	DG	51	GLN
37	DG	59	LEU
37	DG	72	ARG
37	DG	75	VAL
37	DG	90	GLU
37	DG	98	SER
37	DG	102	ARG
37	DG	104	LEU
37	DG	113	GLU
37	DG	119	ARG
37	DG	126	ASP
38	DH	21	LYS
38	DH	25	ASP
38	DH	29	SER
38	DH	52	ASP
38	DH	54	ASP
38	DH	63	LEU
38	DH	77	GLU
38	DH	78	GLN
38	DH	84	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
38	DH	91	ARG
38	DH	95	VAL
38	DH	97	VAL
38	DH	99	GLU
38	DH	107	LEU
38	DH	109	ILE
38	DH	112	LEU
38	DH	120	THR
38	DH	127	LEU
38	DH	133	LEU
39	DI	27	THR
39	DI	31	GLN
39	DI	64	THR
39	DI	66	ARG
39	DI	104	ARG
39	DI	108	VAL
39	DI	113	LYS
39	DI	124	GLN
40	DJ	16	LEU
40	DJ	21	GLN
40	DJ	38	ILE
40	DJ	55	LYS
40	DJ	59	SER
40	DJ	67	THR
40	DJ	68	HIS
40	DJ	72	VAL
40	DJ	96	ILE
40	DJ	97	GLU
40	DJ	100	THR
41	DK	14	VAL
41	DK	33	THR
41	DK	48	ILE
41	DK	63	LEU
41	DK	70	LYS
41	DK	96	ARG
41	DK	104	GLN
41	DK	107	SER
41	DK	109	VAL
41	DK	114	VAL
42	DL	33	ARG
42	DL	53	ARG
42	DL	55	VAL

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Mol	Chain	Res	Type
42	DL	66	VAL
42	DL	70	ILE
42	DL	80	HIS
42	DL	84	LEU
42	DL	97	ARG
42	DL	104	VAL
43	DM	4	ILE
43	DM	19	LEU
43	DM	47	ASP
43	DM	49	THR
43	DM	52	GLU
43	DM	53	VAL
43	DM	56	LEU
43	DM	64	TRP
43	DM	65	LYS
43	DM	70	LEU
43	DM	96	LEU
43	DM	108	ARG
43	DM	110	ARG
43	DM	114	ARG
44	DN	3	ARG
44	DN	7	ILE
44	DN	8	GLU
44	DN	18	VAL
44	DN	22	THR
44	DN	24	CYS
44	DN	25	VAL
44	DN	27	CYS
44	DN	33	VAL
44	DN	35	ARG
44	DN	40	CYS
44	DN	41	ARG
44	DN	42	ILE
45	DO	3	ILE
45	DO	24	SER
45	DO	26	GLU
45	DO	35	ARG
45	DO	39	LEU
45	DO	41	GLU
45	DO	65	ARG
45	DO	66	LEU
45	DO	76	GLU

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Mol	Chain	Res	Type
45	DO	83	GLU
45	DO	87	ILE
46	DP	1	MET
46	DP	2	VAL
46	DP	6	LEU
46	DP	8	ARG
46	DP	27	LYS
46	DP	62	VAL
46	DP	67	THR
46	DP	69	THR
46	DP	76	GLN
46	DP	79	VAL
47	DQ	6	LEU
47	DQ	9	VAL
47	DQ	12	SER
47	DQ	13	ASP
47	DQ	34	LYS
47	DQ	45	HIS
47	DQ	57	VAL
47	DQ	60	ILE
47	DQ	72	ARG
47	DQ	74	LEU
48	DR	21	LYS
48	DR	76	LEU
48	DR	82	THR
49	DS	31	ILE
49	DS	37	ARG
49	DS	66	MET
49	DS	73	GLU
49	DS	79	THR
49	DS	83	HIS
50	DT	13	LEU
50	DT	30	LYS
50	DT	31	SER
50	DT	38	LYS
50	DT	39	LYS
50	DT	71	THR
50	DT	75	ASN
50	DT	80	ARG
51	DU	9	ARG
51	DU	10	ARG
51	DU	12	LYS

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Mol	Chain	Res	Type
51	DU	15	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (63) such sidechains are listed below:

Mol	Chain	Res	Type
3	AD	143	HIS
3	AD	253	GLN
4	AE	143	ASN
5	AF	75	HIS
5	AF	169	ASN
6	AG	26	GLN
8	AI	105	HIS
9	AN	133	GLN
10	AO	5	GLN
11	AP	35	HIS
12	AQ	123	HIS
13	AR	3	HIS
13	AR	13	HIS
14	AS	68	GLN
19	AX	31	HIS
20	AY	43	ASN
24	A2	46	GLN
28	A6	20	ASN
28	A6	49	HIS
29	A7	6	GLN
3	BD	143	HIS
3	BD	253	GLN
5	BF	75	HIS
5	BF	169	ASN
6	BG	138	GLN
8	BI	105	HIS
10	BO	5	GLN
12	BQ	123	HIS
13	BR	13	HIS
19	BX	31	HIS
21	BZ	34	ASN
30	B8	35	GLN
32	CB	25	ASN
34	CD	129	ASN
35	CE	20	GLN
35	CE	78	HIS
40	CJ	68	HIS

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Mol	Chain	Res	Type
43	CM	106	ASN
45	CO	28	GLN
45	CO	62	GLN
49	CS	57	HIS
32	DB	94	ASN
32	DB	95	GLN
32	DB	113	HIS
33	DC	37	GLN
33	DC	181	ASN
34	DD	129	ASN
35	DE	78	HIS
36	DF	73	ASN
36	DF	100	ASN
37	DG	28	ASN
37	DG	109	ASN
38	DH	82	HIS
39	DI	31	GLN
39	DI	124	GLN
40	DJ	13	HIS
40	DJ	56	HIS
43	DM	40	ASN
43	DM	106	ASN
45	DO	28	GLN
46	DP	13	HIS
49	DS	47	HIS
49	DS	83	HIS

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	2819/2915 (96%)	581 (20%)	59 (2%)
1	BA	2819/2915 (96%)	586 (20%)	60 (2%)
2	AB	119/122 (97%)	25 (21%)	0
2	BB	119/122 (97%)	21 (17%)	0
31	CA	1496/1521 (98%)	339 (22%)	31 (2%)
31	DA	1496/1521 (98%)	341 (22%)	27 (1%)
All	All	8868/9116 (97%)	1893 (21%)	177 (1%)

All (1893) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	10	G
1	AA	14	A
1	AA	15	G
1	AA	34	C
1	AA	45	C
1	AA	61	G
1	AA	69	C
1	AA	71	A
1	AA	72	U
1	AA	74	A
1	AA	75	G
1	AA	78	A
1	AA	84	A
1	AA	90	U
1	AA	94	C
1	AA	94(A)	G
1	AA	102	G
1	AA	103	A
1	AA	118	A
1	AA	120	U
1	AA	121	G
1	AA	131	G
1	AA	139(A)	G
1	AA	141	A
1	AA	154	G
1	AA	175	G
1	AA	181	A
1	AA	182	A
1	AA	196	A
1	AA	197	A
1	AA	199	A
1	AA	201	C
1	AA	204	A
1	AA	205	G
1	AA	214	G
1	AA	215	G
1	AA	216	A
1	AA	221	A
1	AA	222	A
1	AA	225	A
1	AA	229	A
1	AA	233	A
1	AA	248	G

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Mol	Chain	Res	Type
1	AA	249	C
1	AA	250	G
1	AA	252	G
1	AA	271(I)	G
1	AA	271(K)	U
1	AA	271(L)	U
1	AA	271(M)	G
1	AA	271(N)	U
1	AA	271(O)	C
1	AA	271(P)	C
1	AA	271(R)	G
1	AA	272(B)	G
1	AA	272(H)	C
1	AA	275	G
1	AA	279	C
1	AA	287	C
1	AA	310	A
1	AA	311	A
1	AA	324	A
1	AA	329	G
1	AA	330	A
1	AA	332	A
1	AA	333	G
1	AA	342	G
1	AA	352	G
1	AA	363	G
1	AA	363(C)	G
1	AA	363(F)	A
1	AA	366	C
1	AA	372	G
1	AA	386	G
1	AA	404	C
1	AA	405	U
1	AA	406	G
1	AA	411	G
1	AA	412	A
1	AA	415	A
1	AA	428	A
1	AA	443	A
1	AA	444	C
1	AA	448	U
1	AA	454	A

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Mol	Chain	Res	Type
1	AA	455	C
1	AA	457	A
1	AA	470	A
1	AA	474	G
1	AA	475	U
1	AA	479	A
1	AA	481	G
1	AA	482	A
1	AA	505	A
1	AA	508	G
1	AA	509	C
1	AA	530	G
1	AA	531	C
1	AA	532	A
1	AA	533	G
1	AA	545	G
1	AA	546	C
1	AA	549	G
1	AA	563	G
1	AA	573	G
1	AA	575	A
1	AA	586	A
1	AA	587	C
1	AA	588	U
1	AA	602	G
1	AA	603	A
1	AA	604	G
1	AA	605	C
1	AA	606	U
1	AA	607	U
1	AA	614(B)	G
1	AA	615	G
1	AA	616	G
1	AA	619	G
1	AA	627	A
1	AA	634	C
1	AA	637	A
1	AA	639	U
1	AA	645	C
1	AA	646	A
1	AA	652(B)	A
1	AA	652(C)	G

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Mol	Chain	Res	Type
1	AA	652(D)	C
1	AA	652(F)	G
1	AA	652(I)	C
1	AA	652(P)	G
1	AA	652(Q)	G
1	AA	652(R)	C
1	AA	652(T)	C
1	AA	652(U)	G
1	AA	657	U
1	AA	669	G
1	AA	670	A
1	AA	686	G
1	AA	708	C
1	AA	717	G
1	AA	726	G
1	AA	730	C
1	AA	752	A
1	AA	753	C
1	AA	764	A
1	AA	765	G
1	AA	775	G
1	AA	776	G
1	AA	782	A
1	AA	784	A
1	AA	785	G
1	AA	787	U
1	AA	792	G
1	AA	794	G
1	AA	796	C
1	AA	805	G
1	AA	812	C
1	AA	819	A
1	AA	822	U
1	AA	827	U
1	AA	828	U
1	AA	829	A
1	AA	830	G
1	AA	857	C
1	AA	859	G
1	AA	879	G
1	AA	884	C
1	AA	885	C

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Mol	Chain	Res	Type
1	AA	886	C
1	AA	888	C
1	AA	889	C
1	AA	890	A
1	AA	893	C
1	AA	896	A
1	AA	900	A
1	AA	901	A
1	AA	910	A
1	AA	916	G
1	AA	917	A
1	AA	932	G
1	AA	938	G
1	AA	941	A
1	AA	945	A
1	AA	946	G
1	AA	953	A
1	AA	958	U
1	AA	959	A
1	AA	961	C
1	AA	974	G
1	AA	975	C
1	AA	975(A)	G
1	AA	983	A
1	AA	991	C
1	AA	996	A
1	AA	1005	C
1	AA	1012	U
1	AA	1013	C
1	AA	1016	G
1	AA	1021	A
1	AA	1022	G
1	AA	1025	G
1	AA	1026	U
1	AA	1033	U
1	AA	1038	C
1	AA	1039	G
1	AA	1042	G
1	AA	1043	C
1	AA	1044	G
1	AA	1045	A
1	AA	1046	A

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Mol	Chain	Res	Type
1	AA	1047	G
1	AA	1048	A
1	AA	1049	C
1	AA	1050	A
1	AA	1051	G
1	AA	1052	C
1	AA	1107	G
1	AA	1108	U
1	AA	1109	C
1	AA	1110	G
1	AA	1111	A
1	AA	1112	G
1	AA	1115	G
1	AA	1130	U
1	AA	1135	C
1	AA	1136	G
1	AA	1139	G
1	AA	1141	U
1	AA	1144	G
1	AA	1155	A
1	AA	1171	G
1	AA	1173	G
1	AA	1174	A
1	AA	1175	U
1	AA	1176	G
1	AA	1177	A
1	AA	1178	C
1	AA	1205	U
1	AA	1210	A
1	AA	1211	U
1	AA	1213	A
1	AA	1220	A
1	AA	1230	C
1	AA	1240	U
1	AA	1241	A
1	AA	1249	U
1	AA	1250	G
1	AA	1253	A
1	AA	1256	G
1	AA	1271	G
1	AA	1272	A
1	AA	1273	U

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Mol	Chain	Res	Type
1	AA	1286	A
1	AA	1300	U
1	AA	1301	A
1	AA	1308	A
1	AA	1313	U
1	AA	1314	C
1	AA	1329	U
1	AA	1332	G
1	AA	1359	A
1	AA	1360	A
1	AA	1365	A
1	AA	1368	G
1	AA	1370	C
1	AA	1379	A
1	AA	1384	A
1	AA	1385	G
1	AA	1386	C
1	AA	1395	A
1	AA	1405	U
1	AA	1416	G
1	AA	1417	C
1	AA	1419	A
1	AA	1420	U
1	AA	1421	G
1	AA	1428	C
1	AA	1437	C
1	AA	1445	A
1	AA	1449	A
1	AA	1450	G
1	AA	1455	G
1	AA	1459	G
1	AA	1461	G
1	AA	1467	C
1	AA	1471	A
1	AA	1478	G
1	AA	1482	G
1	AA	1487	G
1	AA	1488	G
1	AA	1490	A
1	AA	1493	C
1	AA	1495	A
1	AA	1496	A

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Mol	Chain	Res	Type
1	AA	1497	U
1	AA	1507	A
1	AA	1508	A
1	AA	1509	C
1	AA	1509(A)	A
1	AA	1531	C
1	AA	1541	G
1	AA	1542	A
1	AA	1558	A
1	AA	1559	G
1	AA	1569	A
1	AA	1577	C
1	AA	1578	U
1	AA	1579	A
1	AA	1580	A
1	AA	1581	G
1	AA	1584	C
1	AA	1586	A
1	AA	1598	C
1	AA	1607	C
1	AA	1608	A
1	AA	1609	A
1	AA	1610	A
1	AA	1617	C
1	AA	1618	A
1	AA	1640	C
1	AA	1647	G
1	AA	1648	C
1	AA	1654	A
1	AA	1674	G
1	AA	1696	G
1	AA	1700	A
1	AA	1701	A
1	AA	1703	G
1	AA	1721	G
1	AA	1722	A
1	AA	1739	U
1	AA	1740	G
1	AA	1742	G
1	AA	1746	G
1	AA	1756	G
1	AA	1762	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	AA	1763	G
1	AA	1764	G
1	AA	1773	A
1	AA	1780	A
1	AA	1781	C
1	AA	1782	C
1	AA	1786	A
1	AA	1791	A
1	AA	1799	G
1	AA	1800	C
1	AA	1801	G
1	AA	1816	G
1	AA	1820	U
1	AA	1829	A
1	AA	1834	U
1	AA	1835	G
1	AA	1836	C
1	AA	1840	G
1	AA	1847	A
1	AA	1858	G
1	AA	1877	A
1	AA	1878	G
1	AA	1882	C
1	AA	1900	A
1	AA	1906	G
1	AA	1913	A
1	AA	1914	C
1	AA	1915	U
1	AA	1929	G
1	AA	1930	G
1	AA	1931	U
1	AA	1936	A
1	AA	1937	A
1	AA	1938	A
1	AA	1942	C
1	AA	1955	U
1	AA	1963	U
1	AA	1964	G
1	AA	1965	C
1	AA	1967	C
1	AA	1969	A
1	AA	1970	A

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Mol	Chain	Res	Type
1	AA	1971	A
1	AA	1972	A
1	AA	1982	C
1	AA	1991	U
1	AA	1992	G
1	AA	1993	U
1	AA	1997	G
1	AA	2018	G
1	AA	2020	A
1	AA	2021	C
1	AA	2023	G
1	AA	2028	U
1	AA	2030	A
1	AA	2031	A
1	AA	2032	G
1	AA	2033	A
1	AA	2036	C
1	AA	2043	C
1	AA	2049	G
1	AA	2052	G
1	AA	2055	C
1	AA	2056	G
1	AA	2060	A
1	AA	2061	G
1	AA	2062	A
1	AA	2063	C
1	AA	2069	G
1	AA	2086	U
1	AA	2098	U
1	AA	2102	U
1	AA	2103	C
1	AA	2104	G
1	AA	2105	C
1	AA	2107	C
1	AA	2108	C
1	AA	2116	G
1	AA	2117	A
1	AA	2118	U
1	AA	2119	A
1	AA	2121	G
1	AA	2123	G
1	AA	2126	A

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Mol	Chain	Res	Type
1	AA	2127	G
1	AA	2130	U
1	AA	2131	G
1	AA	2133	G
1	AA	2134	A
1	AA	2142	C
1	AA	2144	U
1	AA	2145	C
1	AA	2146	C
1	AA	2147	G
1	AA	2148	G
1	AA	2157	G
1	AA	2159	G
1	AA	2160	G
1	AA	2161	C
1	AA	2162	G
1	AA	2163	C
1	AA	2165	G
1	AA	2166	G
1	AA	2170	A
1	AA	2171	A
1	AA	2172	U
1	AA	2173	A
1	AA	2174	C
1	AA	2184	G
1	AA	2186	G
1	AA	2187	G
1	AA	2189	U
1	AA	2191	G
1	AA	2192	G
1	AA	2198	A
1	AA	2199	A
1	AA	2200	C
1	AA	2201	C
1	AA	2206	G
1	AA	2207	G
1	AA	2208	A
1	AA	2218	U
1	AA	2219	G
1	AA	2225	A
1	AA	2235	G
1	AA	2238	G

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Mol	Chain	Res	Type
1	AA	2239	G
1	AA	2261	C
1	AA	2268	A
1	AA	2275	C
1	AA	2279	G
1	AA	2282	G
1	AA	2283	C
1	AA	2287	A
1	AA	2288	A
1	AA	2289	G
1	AA	2294	C
1	AA	2296	U
1	AA	2305	A
1	AA	2309	A
1	AA	2311	A
1	AA	2319	G
1	AA	2320	A
1	AA	2325	G
1	AA	2334	G
1	AA	2336	A
1	AA	2347	C
1	AA	2348	U
1	AA	2350	C
1	AA	2354	G
1	AA	2355	C
1	AA	2379	G
1	AA	2383	G
1	AA	2385	C
1	AA	2388	A
1	AA	2406	U
1	AA	2410	G
1	AA	2414	G
1	AA	2422	A
1	AA	2423	U
1	AA	2425	A
1	AA	2429	G
1	AA	2430	A
1	AA	2431	U
1	AA	2434	A
1	AA	2435	A
1	AA	2439	A
1	AA	2440	C

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Mol	Chain	Res	Type
1	AA	2441	C
1	AA	2446	G
1	AA	2448	A
1	AA	2449	U
1	AA	2468	G
1	AA	2469	A
1	AA	2474	C
1	AA	2476	A
1	AA	2477	C
1	AA	2487	G
1	AA	2489	G
1	AA	2490	G
1	AA	2502	G
1	AA	2505	G
1	AA	2506	U
1	AA	2518	A
1	AA	2520	C
1	AA	2525	G
1	AA	2529	G
1	AA	2535	G
1	AA	2554	U
1	AA	2566	A
1	AA	2567	G
1	AA	2573	C
1	AA	2585	U
1	AA	2608	G
1	AA	2610	C
1	AA	2611	U
1	AA	2612	C
1	AA	2615	U
1	AA	2620	C
1	AA	2629	A
1	AA	2630	G
1	AA	2631	G
1	AA	2638	G
1	AA	2663	G
1	AA	2673	G
1	AA	2685	G
1	AA	2689	U
1	AA	2690	C
1	AA	2707	G
1	AA	2712(A)	A

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Mol	Chain	Res	Type
1	AA	2713	A
1	AA	2714	G
1	AA	2726	U
1	AA	2732	G
1	AA	2733	A
1	AA	2739	U
1	AA	2757	A
1	AA	2758	A
1	AA	2761	G
1	AA	2764	A
1	AA	2765	A
1	AA	2766	G
1	AA	2778	A
1	AA	2790	A
1	AA	2791	C
1	AA	2802	G
1	AA	2803	C
1	AA	2808	U
1	AA	2818	G
1	AA	2820	A
1	AA	2821	A
1	AA	2833	G
1	AA	2834	G
1	AA	2835	A
1	AA	2839	G
1	AA	2846	G
1	AA	2847	U
1	AA	2872	G
1	AA	2873	A
1	AA	2875	C
1	AA	2880	C
1	AA	2892	A
1	AA	2895	U
1	AA	2897	U
2	AB	2	C
2	AB	5	C
2	AB	7	G
2	AB	8	U
2	AB	9	G
2	AB	12	C
2	AB	13	A
2	AB	20	C

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Mol	Chain	Res	Type
2	AB	24	G
2	AB	25	A
2	AB	28	C
2	AB	29	A
2	AB	33	G
2	AB	40	U
2	AB	53	A
2	AB	54	G
2	AB	56	G
2	AB	57	A
2	AB	64	C
2	AB	73	A
2	AB	75	G
2	AB	99	G
2	AB	106	G
2	AB	108	U
2	AB	110	G
1	BA	10	G
1	BA	15	G
1	BA	34	C
1	BA	36	G
1	BA	45	C
1	BA	61	G
1	BA	63	U
1	BA	69	C
1	BA	70	G
1	BA	71	A
1	BA	72	U
1	BA	74	A
1	BA	75	G
1	BA	84	A
1	BA	90	U
1	BA	94	C
1	BA	94(A)	G
1	BA	95	G
1	BA	102	G
1	BA	103	A
1	BA	118	A
1	BA	120	U
1	BA	122	G
1	BA	123	G
1	BA	125	G

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Mol	Chain	Res	Type
1	BA	128	C
1	BA	131	G
1	BA	141	A
1	BA	154	G
1	BA	181	A
1	BA	182	A
1	BA	196	A
1	BA	199	A
1	BA	201	C
1	BA	204	A
1	BA	205	G
1	BA	214	G
1	BA	215	G
1	BA	216	A
1	BA	221	A
1	BA	222	A
1	BA	225	A
1	BA	229	A
1	BA	233	A
1	BA	248	G
1	BA	249	C
1	BA	250	G
1	BA	252	G
1	BA	271(I)	G
1	BA	271(K)	U
1	BA	271(L)	U
1	BA	271(M)	G
1	BA	271(N)	U
1	BA	271(O)	C
1	BA	271(R)	G
1	BA	272(B)	G
1	BA	272(H)	C
1	BA	275	G
1	BA	279	C
1	BA	280	C
1	BA	287	C
1	BA	311	A
1	BA	324	A
1	BA	329	G
1	BA	330	A
1	BA	332	A
1	BA	333	G

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Mol	Chain	Res	Type
1	BA	342	G
1	BA	352	G
1	BA	363	G
1	BA	363(C)	G
1	BA	363(F)	A
1	BA	366	C
1	BA	371	A
1	BA	372	G
1	BA	386	G
1	BA	396	G
1	BA	405	U
1	BA	406	G
1	BA	411	G
1	BA	412	A
1	BA	415	A
1	BA	416	C
1	BA	428	A
1	BA	443	A
1	BA	444	C
1	BA	448	U
1	BA	455	C
1	BA	457	A
1	BA	463	G
1	BA	470	A
1	BA	475	U
1	BA	481	G
1	BA	482	A
1	BA	491	G
1	BA	494	G
1	BA	505	A
1	BA	508	G
1	BA	509	C
1	BA	530	G
1	BA	531	C
1	BA	532	A
1	BA	533	G
1	BA	545	G
1	BA	546	C
1	BA	549	G
1	BA	563	G
1	BA	571	A
1	BA	573	G

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Mol	Chain	Res	Type
1	BA	575	A
1	BA	585	G
1	BA	586	A
1	BA	587	C
1	BA	588	U
1	BA	602	G
1	BA	603	A
1	BA	604	G
1	BA	606	U
1	BA	607	U
1	BA	614(A)	U
1	BA	614(B)	G
1	BA	615	G
1	BA	616	G
1	BA	619	G
1	BA	627	A
1	BA	634	C
1	BA	637	A
1	BA	645	C
1	BA	646	A
1	BA	652(B)	A
1	BA	652(C)	G
1	BA	652(D)	C
1	BA	652(F)	G
1	BA	652(I)	C
1	BA	652(P)	G
1	BA	652(Q)	G
1	BA	652(R)	C
1	BA	652(T)	C
1	BA	652(U)	G
1	BA	669	G
1	BA	673	C
1	BA	686	G
1	BA	694	U
1	BA	708	C
1	BA	717	G
1	BA	722	A
1	BA	730	C
1	BA	739	G
1	BA	752	A
1	BA	753	C
1	BA	764	A

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Mol	Chain	Res	Type
1	BA	765	G
1	BA	775	G
1	BA	776	G
1	BA	777	A
1	BA	782	A
1	BA	784	A
1	BA	785	G
1	BA	787	U
1	BA	792	G
1	BA	805	G
1	BA	812	C
1	BA	819	A
1	BA	827	U
1	BA	828	U
1	BA	829	A
1	BA	830	G
1	BA	857	C
1	BA	859	G
1	BA	863	A
1	BA	879	G
1	BA	884	C
1	BA	885	C
1	BA	886	C
1	BA	888	C
1	BA	889	C
1	BA	890	A
1	BA	893	C
1	BA	896	A
1	BA	899	A
1	BA	900	A
1	BA	901	A
1	BA	910	A
1	BA	915	C
1	BA	916	G
1	BA	917	A
1	BA	932	G
1	BA	934	G
1	BA	938	G
1	BA	941	A
1	BA	945	A
1	BA	946	G
1	BA	953	A

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Mol	Chain	Res	Type
1	BA	958	U
1	BA	959	A
1	BA	961	C
1	BA	974	G
1	BA	975	C
1	BA	975(A)	G
1	BA	983	A
1	BA	990	A
1	BA	991	C
1	BA	996	A
1	BA	1005	C
1	BA	1012	U
1	BA	1013	C
1	BA	1020	A
1	BA	1022	G
1	BA	1024	G
1	BA	1025	G
1	BA	1026	U
1	BA	1033	U
1	BA	1038	C
1	BA	1039	G
1	BA	1042	G
1	BA	1043	C
1	BA	1044	G
1	BA	1045	A
1	BA	1046	A
1	BA	1047	G
1	BA	1048	A
1	BA	1049	C
1	BA	1050	A
1	BA	1051	G
1	BA	1052	C
1	BA	1107	G
1	BA	1108	U
1	BA	1109	C
1	BA	1110	G
1	BA	1111	A
1	BA	1112	G
1	BA	1115	G
1	BA	1129	A
1	BA	1130	U
1	BA	1135	C

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Mol	Chain	Res	Type
1	BA	1136	G
1	BA	1139	G
1	BA	1141	U
1	BA	1149	G
1	BA	1155	A
1	BA	1171	G
1	BA	1173	G
1	BA	1174	A
1	BA	1175	U
1	BA	1176	G
1	BA	1177	A
1	BA	1178	C
1	BA	1210	A
1	BA	1211	U
1	BA	1218	C
1	BA	1220	A
1	BA	1240	U
1	BA	1252	G
1	BA	1253	A
1	BA	1256	G
1	BA	1271	G
1	BA	1272	A
1	BA	1273	U
1	BA	1286	A
1	BA	1298	C
1	BA	1300	U
1	BA	1301	A
1	BA	1307	A
1	BA	1313	U
1	BA	1314	C
1	BA	1329	U
1	BA	1332	G
1	BA	1349	A
1	BA	1351	C
1	BA	1359	A
1	BA	1360	A
1	BA	1365	A
1	BA	1368	G
1	BA	1370	C
1	BA	1373	A
1	BA	1380	G
1	BA	1384	A

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Mol	Chain	Res	Type
1	BA	1385	G
1	BA	1386	C
1	BA	1395	A
1	BA	1416	G
1	BA	1417	C
1	BA	1419	A
1	BA	1420	U
1	BA	1421	G
1	BA	1422	G
1	BA	1428	C
1	BA	1437	C
1	BA	1445	A
1	BA	1449	A
1	BA	1450	G
1	BA	1455	G
1	BA	1459	G
1	BA	1461	G
1	BA	1467	C
1	BA	1471	A
1	BA	1478	G
1	BA	1482	G
1	BA	1487	G
1	BA	1488	G
1	BA	1490	A
1	BA	1493	C
1	BA	1496	A
1	BA	1497	U
1	BA	1507	A
1	BA	1508	A
1	BA	1509	C
1	BA	1509(A)	A
1	BA	1531	C
1	BA	1541	G
1	BA	1542	A
1	BA	1545	A
1	BA	1558	A
1	BA	1559	G
1	BA	1566	A
1	BA	1569	A
1	BA	1577	C
1	BA	1578	U
1	BA	1579	A

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Mol	Chain	Res	Type
1	BA	1580	A
1	BA	1581	G
1	BA	1582	C
1	BA	1584	C
1	BA	1586	A
1	BA	1598	C
1	BA	1608	A
1	BA	1609	A
1	BA	1610	A
1	BA	1617	C
1	BA	1639	U
1	BA	1640	C
1	BA	1647	G
1	BA	1648	C
1	BA	1654	A
1	BA	1674	G
1	BA	1688	U
1	BA	1696	G
1	BA	1700	A
1	BA	1701	A
1	BA	1721	G
1	BA	1722	A
1	BA	1739	U
1	BA	1742	G
1	BA	1746	G
1	BA	1756	G
1	BA	1762	A
1	BA	1763	G
1	BA	1764	G
1	BA	1773	A
1	BA	1780	A
1	BA	1782	C
1	BA	1786	A
1	BA	1791	A
1	BA	1799	G
1	BA	1800	C
1	BA	1801	G
1	BA	1816	G
1	BA	1820	U
1	BA	1827	C
1	BA	1829	A
1	BA	1834	U

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Mol	Chain	Res	Type
1	BA	1835	G
1	BA	1840	G
1	BA	1847	A
1	BA	1858	G
1	BA	1877	A
1	BA	1878	G
1	BA	1882	C
1	BA	1889	A
1	BA	1896	G
1	BA	1900	A
1	BA	1906	G
1	BA	1913	A
1	BA	1914	C
1	BA	1915	U
1	BA	1929	G
1	BA	1930	G
1	BA	1931	U
1	BA	1936	A
1	BA	1937	A
1	BA	1938	A
1	BA	1955	U
1	BA	1963	U
1	BA	1964	G
1	BA	1967	C
1	BA	1969	A
1	BA	1970	A
1	BA	1971	A
1	BA	1972	A
1	BA	1982	C
1	BA	1983	C
1	BA	1991	U
1	BA	1992	G
1	BA	1993	U
1	BA	1997	G
1	BA	2020	A
1	BA	2023	G
1	BA	2024	G
1	BA	2030	A
1	BA	2031	A
1	BA	2032	G
1	BA	2033	A
1	BA	2036	C

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Mol	Chain	Res	Type
1	BA	2043	C
1	BA	2055	C
1	BA	2056	G
1	BA	2060	A
1	BA	2061	G
1	BA	2062	A
1	BA	2063	C
1	BA	2069	G
1	BA	2098	U
1	BA	2102	U
1	BA	2103	C
1	BA	2104	G
1	BA	2105	C
1	BA	2107	C
1	BA	2108	C
1	BA	2116	G
1	BA	2117	A
1	BA	2118	U
1	BA	2119	A
1	BA	2121	G
1	BA	2123	G
1	BA	2124	G
1	BA	2126	A
1	BA	2127	G
1	BA	2130	U
1	BA	2131	G
1	BA	2133	G
1	BA	2134	A
1	BA	2142	C
1	BA	2144	U
1	BA	2145	C
1	BA	2146	C
1	BA	2147	G
1	BA	2148	G
1	BA	2157	G
1	BA	2159	G
1	BA	2160	G
1	BA	2161	C
1	BA	2163	C
1	BA	2165	G
1	BA	2166	G
1	BA	2167	U

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Mol	Chain	Res	Type
1	BA	2170	A
1	BA	2172	U
1	BA	2173	A
1	BA	2174	C
1	BA	2180	U
1	BA	2184	G
1	BA	2186	G
1	BA	2187	G
1	BA	2191	G
1	BA	2192	G
1	BA	2198	A
1	BA	2199	A
1	BA	2200	C
1	BA	2201	C
1	BA	2205	C
1	BA	2206	G
1	BA	2207	G
1	BA	2208	A
1	BA	2218	U
1	BA	2219	G
1	BA	2225	A
1	BA	2226	C
1	BA	2235	G
1	BA	2238	G
1	BA	2239	G
1	BA	2261	C
1	BA	2268	A
1	BA	2273	A
1	BA	2275	C
1	BA	2282	G
1	BA	2283	C
1	BA	2287	A
1	BA	2288	A
1	BA	2289	G
1	BA	2296	U
1	BA	2305	A
1	BA	2309	A
1	BA	2311	A
1	BA	2319	G
1	BA	2320	A
1	BA	2325	G
1	BA	2334	G

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Mol	Chain	Res	Type
1	BA	2336	A
1	BA	2347	C
1	BA	2350	C
1	BA	2354	G
1	BA	2355	C
1	BA	2377	A
1	BA	2379	G
1	BA	2383	G
1	BA	2385	C
1	BA	2406	U
1	BA	2410	G
1	BA	2414	G
1	BA	2422	A
1	BA	2424	C
1	BA	2425	A
1	BA	2429	G
1	BA	2430	A
1	BA	2434	A
1	BA	2435	A
1	BA	2439	A
1	BA	2440	C
1	BA	2441	C
1	BA	2446	G
1	BA	2448	A
1	BA	2449	U
1	BA	2468	G
1	BA	2469	A
1	BA	2471	C
1	BA	2474	C
1	BA	2476	A
1	BA	2477	C
1	BA	2478	A
1	BA	2490	G
1	BA	2498	C
1	BA	2502	G
1	BA	2505	G
1	BA	2506	U
1	BA	2518	A
1	BA	2520	C
1	BA	2525	G
1	BA	2529	G
1	BA	2535	G

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Mol	Chain	Res	Type
1	BA	2554	U
1	BA	2564	A
1	BA	2566	A
1	BA	2567	G
1	BA	2569	G
1	BA	2573	C
1	BA	2582	G
1	BA	2585	U
1	BA	2608	G
1	BA	2609	U
1	BA	2610	C
1	BA	2611	U
1	BA	2612	C
1	BA	2615	U
1	BA	2629	A
1	BA	2630	G
1	BA	2654	A
1	BA	2663	G
1	BA	2673	G
1	BA	2679	A
1	BA	2682	U
1	BA	2690	C
1	BA	2702	U
1	BA	2703	C
1	BA	2712(A)	A
1	BA	2713	A
1	BA	2714	G
1	BA	2718	G
1	BA	2726	U
1	BA	2733	A
1	BA	2758	A
1	BA	2761	G
1	BA	2765	A
1	BA	2766	G
1	BA	2778	A
1	BA	2780	G
1	BA	2789	C
1	BA	2790	A
1	BA	2791	C
1	BA	2802	G
1	BA	2803	C
1	BA	2808	U

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Mol	Chain	Res	Type
1	BA	2818	G
1	BA	2820	A
1	BA	2821	A
1	BA	2824	C
1	BA	2832	U
1	BA	2833	G
1	BA	2834	G
1	BA	2835	A
1	BA	2847	U
1	BA	2872	G
1	BA	2873	A
1	BA	2880	C
1	BA	2892	A
1	BA	2895	U
1	BA	2897	U
2	BB	2	C
2	BB	8	U
2	BB	9	G
2	BB	12	C
2	BB	13	A
2	BB	20	C
2	BB	25	A
2	BB	29	A
2	BB	33	G
2	BB	40	U
2	BB	47	C
2	BB	53	A
2	BB	54	G
2	BB	56	G
2	BB	73	A
2	BB	75	G
2	BB	88	C
2	BB	99	G
2	BB	106	G
2	BB	108	U
2	BB	110	G
31	CA	4	U
31	CA	7	G
31	CA	8	A
31	CA	9	G
31	CA	10	A
31	CA	14	U

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Mol	Chain	Res	Type
31	CA	32	A
31	CA	39	G
31	CA	44	G
31	CA	47	C
31	CA	48	C
31	CA	51	A
31	CA	60	A
31	CA	61	G
31	CA	65	U
31	CA	67	C
31	CA	70	G
31	CA	72	C
31	CA	76	C
31	CA	77	G
31	CA	78	G
31	CA	79	G
31	CA	92	C
31	CA	96	U
31	CA	97	G
31	CA	98	G
31	CA	115	G
31	CA	116	A
31	CA	119	A
31	CA	120	A
31	CA	121	C
31	CA	131	C
31	CA	138	G
31	CA	142	G
31	CA	144	G
31	CA	146	G
31	CA	150	C
31	CA	162	A
31	CA	163	C
31	CA	167	G
31	CA	169	C
31	CA	170	U
31	CA	173	U
31	CA	182	U
31	CA	189(G)	G
31	CA	189(H)	G
31	CA	195	A
31	CA	197	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	CA	199	G
31	CA	201	C
31	CA	203	U
31	CA	204	U
31	CA	216	G
31	CA	231	G
31	CA	243	A
31	CA	244	U
31	CA	247	G
31	CA	251	G
31	CA	266	G
31	CA	267	C
31	CA	281	G
31	CA	289	G
31	CA	321	A
31	CA	328	C
31	CA	330	C
31	CA	332	G
31	CA	341	C
31	CA	345	C
31	CA	347	G
31	CA	348	G
31	CA	350	G
31	CA	352	C
31	CA	353	A
31	CA	354	G
31	CA	355	C
31	CA	363	A
31	CA	366	C
31	CA	367	U
31	CA	372	C
31	CA	373	A
31	CA	384	G
31	CA	388	G
31	CA	392	G
31	CA	397	A
31	CA	398	C
31	CA	406	G
31	CA	411	A
31	CA	412	A
31	CA	413	G
31	CA	414	A

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Mol	Chain	Res	Type
31	CA	422	C
31	CA	423	G
31	CA	424	G
31	CA	428	G
31	CA	429	U
31	CA	433	C
31	CA	435	C
31	CA	436	C
31	CA	437	U
31	CA	439	A
31	CA	442	C
31	CA	451	A
31	CA	452	A
31	CA	461	A
31	CA	473	G
31	CA	475	G
31	CA	476	G
31	CA	483	C
31	CA	484	G
31	CA	485	G
31	CA	496	A
31	CA	498	U
31	CA	505	G
31	CA	509	A
31	CA	510	A
31	CA	511	C
31	CA	518	C
31	CA	520	A
31	CA	527	G
31	CA	531	U
31	CA	532	A
31	CA	533	A
31	CA	534	U
31	CA	547	A
31	CA	559	A
31	CA	560	U
31	CA	561	U
31	CA	562	C
31	CA	567	G
31	CA	572	A
31	CA	573	A
31	CA	576	G

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Mol	Chain	Res	Type
31	CA	577	G
31	CA	592	G
31	CA	596	C
31	CA	630	G
31	CA	631	G
31	CA	632	A
31	CA	653	A
31	CA	665	A
31	CA	687	A
31	CA	688	G
31	CA	723	U
31	CA	724	G
31	CA	731	G
31	CA	749	C
31	CA	752	G
31	CA	753	A
31	CA	754	C
31	CA	755	G
31	CA	777	A
31	CA	786	G
31	CA	792	A
31	CA	793	U
31	CA	794	A
31	CA	796	C
31	CA	817	C
31	CA	818	G
31	CA	821	G
31	CA	827	U
31	CA	828	A
31	CA	829	G
31	CA	833	U
31	CA	836	G
31	CA	839	U
31	CA	840	C
31	CA	841	U
31	CA	848	C
31	CA	851	G
31	CA	859	A
31	CA	870	U
31	CA	872	A
31	CA	902	G
31	CA	913	A

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Mol	Chain	Res	Type
31	CA	914	A
31	CA	926	G
31	CA	927	G
31	CA	934	C
31	CA	935	A
31	CA	961	U
31	CA	962	C
31	CA	969	A
31	CA	971	G
31	CA	972	C
31	CA	974	A
31	CA	975	A
31	CA	976	G
31	CA	977	A
31	CA	989	C
31	CA	992	U
31	CA	993	G
31	CA	1000	U
31	CA	1001(A)	G
31	CA	1004	A
31	CA	1005	A
31	CA	1009	G
31	CA	1010	G
31	CA	1011	G
31	CA	1012	U
31	CA	1016	A
31	CA	1019	C
31	CA	1023	G
31	CA	1025	U
31	CA	1026	G
31	CA	1027	C
31	CA	1028	C
31	CA	1029	C
31	CA	1030(A)	G
31	CA	1030(B)	C
31	CA	1030(C)	G
31	CA	1032	G
31	CA	1034	G
31	CA	1035	A
31	CA	1036	G
31	CA	1044	A
31	CA	1053	G

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Mol	Chain	Res	Type
31	CA	1054	C
31	CA	1064	G
31	CA	1065	U
31	CA	1066	C
31	CA	1068	G
31	CA	1077	G
31	CA	1081	G
31	CA	1086	U
31	CA	1091	U
31	CA	1094	G
31	CA	1095	U
31	CA	1101	A
31	CA	1103	C
31	CA	1110	A
31	CA	1124	G
31	CA	1125	U
31	CA	1126	U
31	CA	1127	G
31	CA	1129	C
31	CA	1136	U
31	CA	1137	C
31	CA	1138	G
31	CA	1139	G
31	CA	1140	C
31	CA	1145	C
31	CA	1146	A
31	CA	1147	C
31	CA	1151	A
31	CA	1152	A
31	CA	1157	A
31	CA	1159	U
31	CA	1160	G
31	CA	1166	G
31	CA	1174	G
31	CA	1180	A
31	CA	1181	G
31	CA	1182	G
31	CA	1193	G
31	CA	1196	U
31	CA	1197	G
31	CA	1201	A
31	CA	1202	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	CA	1203	C
31	CA	1209	C
31	CA	1212	U
31	CA	1213	A
31	CA	1214	C
31	CA	1215	G
31	CA	1225	A
31	CA	1227	A
31	CA	1238	A
31	CA	1240	U
31	CA	1248	A
31	CA	1250	A
31	CA	1256	A
31	CA	1257	U
31	CA	1258	G
31	CA	1263	C
31	CA	1270	C
31	CA	1273	G
31	CA	1278	U
31	CA	1280	A
31	CA	1282	C
31	CA	1286	A
31	CA	1287	A
31	CA	1292	U
31	CA	1294	G
31	CA	1297	C
31	CA	1300	G
31	CA	1301	U
31	CA	1302	U
31	CA	1305	G
31	CA	1317	C
31	CA	1320	C
31	CA	1322	C
31	CA	1323	G
31	CA	1326	C
31	CA	1331	G
31	CA	1336	C
31	CA	1338	G
31	CA	1346	A
31	CA	1347	G
31	CA	1351	U
31	CA	1353	G

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Mol	Chain	Res	Type
31	CA	1358	U
31	CA	1360	A
31	CA	1363	C
31	CA	1363(A)	A
31	CA	1364	U
31	CA	1365	G
31	CA	1370	G
31	CA	1379	G
31	CA	1381	U
31	CA	1397	C
31	CA	1398	A
31	CA	1399	C
31	CA	1400	C
31	CA	1402	C
31	CA	1419	G
31	CA	1423	G
31	CA	1442	G
31	CA	1442(A)	G
31	CA	1442(B)	A
31	CA	1447	A
31	CA	1452	C
31	CA	1456	G
31	CA	1457	G
31	CA	1487	G
31	CA	1492	A
31	CA	1493	A
31	CA	1494	G
31	CA	1497	G
31	CA	1502	A
31	CA	1503	A
31	CA	1504	G
31	CA	1505	G
31	CA	1506	U
31	CA	1507	A
31	CA	1517	G
31	CA	1519	A
31	CA	1520	G
31	CA	1529	G
31	CA	1530	G
31	DA	4	U
31	DA	7	G
31	DA	8	A

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Mol	Chain	Res	Type
31	DA	9	G
31	DA	10	A
31	DA	14	U
31	DA	22	G
31	DA	26	A
31	DA	32	A
31	DA	39	G
31	DA	47	C
31	DA	48	C
31	DA	51	A
31	DA	61	G
31	DA	70	G
31	DA	72	C
31	DA	76	C
31	DA	77	G
31	DA	78	G
31	DA	79	G
31	DA	92	C
31	DA	96	U
31	DA	97	G
31	DA	98	G
31	DA	101	A
31	DA	115	G
31	DA	116	A
31	DA	119	A
31	DA	120	A
31	DA	121	C
31	DA	131	C
31	DA	144	G
31	DA	146	G
31	DA	150	C
31	DA	162	A
31	DA	163	C
31	DA	167	G
31	DA	169	C
31	DA	173	U
31	DA	182	U
31	DA	189(F)	U
31	DA	189(G)	G
31	DA	189(H)	G
31	DA	195	A
31	DA	197	A

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Mol	Chain	Res	Type
31	DA	201	C
31	DA	203	U
31	DA	204	U
31	DA	216	G
31	DA	217	C
31	DA	231	G
31	DA	243	A
31	DA	244	U
31	DA	247	G
31	DA	251	G
31	DA	266	G
31	DA	267	C
31	DA	280	C
31	DA	281	G
31	DA	289	G
31	DA	301	G
31	DA	321	A
31	DA	328	C
31	DA	330	C
31	DA	332	G
31	DA	341	C
31	DA	344	A
31	DA	345	C
31	DA	347	G
31	DA	348	G
31	DA	350	G
31	DA	351	G
31	DA	352	C
31	DA	353	A
31	DA	354	G
31	DA	355	C
31	DA	363	A
31	DA	366	C
31	DA	367	U
31	DA	372	C
31	DA	373	A
31	DA	392	G
31	DA	397	A
31	DA	398	C
31	DA	406	G
31	DA	411	A
31	DA	412	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	DA	413	G
31	DA	414	A
31	DA	421	U
31	DA	422	C
31	DA	423	G
31	DA	424	G
31	DA	428	G
31	DA	429	U
31	DA	433	C
31	DA	435	C
31	DA	437	U
31	DA	439	A
31	DA	442	C
31	DA	452	A
31	DA	461	A
31	DA	473	G
31	DA	475	G
31	DA	476	G
31	DA	483	C
31	DA	484	G
31	DA	485	G
31	DA	496	A
31	DA	498	U
31	DA	505	G
31	DA	509	A
31	DA	510	A
31	DA	511	C
31	DA	518	C
31	DA	527	G
31	DA	531	U
31	DA	532	A
31	DA	533	A
31	DA	534	U
31	DA	547	A
31	DA	559	A
31	DA	560	U
31	DA	561	U
31	DA	562	C
31	DA	567	G
31	DA	572	A
31	DA	573	A
31	DA	575	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	DA	576	G
31	DA	596	C
31	DA	607	A
31	DA	623	C
31	DA	630	G
31	DA	631	G
31	DA	632	A
31	DA	653	A
31	DA	665	A
31	DA	687	A
31	DA	688	G
31	DA	723	U
31	DA	724	G
31	DA	731	G
31	DA	749	C
31	DA	753	A
31	DA	755	G
31	DA	777	A
31	DA	786	G
31	DA	792	A
31	DA	793	U
31	DA	794	A
31	DA	801	U
31	DA	810	C
31	DA	817	C
31	DA	821	G
31	DA	827	U
31	DA	828	A
31	DA	829	G
31	DA	833	U
31	DA	836	G
31	DA	839	U
31	DA	840	C
31	DA	841	U
31	DA	848	C
31	DA	851	G
31	DA	859	A
31	DA	870	U
31	DA	872	A
31	DA	902	G
31	DA	914	A
31	DA	926	G

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Mol	Chain	Res	Type
31	DA	927	G
31	DA	934	C
31	DA	935	A
31	DA	940	C
31	DA	942	G
31	DA	958	A
31	DA	960	U
31	DA	961	U
31	DA	966	G
31	DA	969	A
31	DA	971	G
31	DA	974	A
31	DA	975	A
31	DA	976	G
31	DA	977	A
31	DA	978	A
31	DA	991	U
31	DA	992	U
31	DA	993	G
31	DA	997	U
31	DA	1000	U
31	DA	1001	A
31	DA	1003	G
31	DA	1004	A
31	DA	1005	A
31	DA	1010	G
31	DA	1011	G
31	DA	1012	U
31	DA	1023	G
31	DA	1025	U
31	DA	1026	G
31	DA	1027	C
31	DA	1028	C
31	DA	1029	C
31	DA	1030	C
31	DA	1030(A)	G
31	DA	1030(B)	C
31	DA	1030(C)	G
31	DA	1031	G
31	DA	1032	G
31	DA	1033	G
31	DA	1034	G

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Mol	Chain	Res	Type
31	DA	1036	G
31	DA	1037	C
31	DA	1050	G
31	DA	1051	C
31	DA	1054	C
31	DA	1064	G
31	DA	1065	U
31	DA	1066	C
31	DA	1068	G
31	DA	1081	G
31	DA	1086	U
31	DA	1087	G
31	DA	1091	U
31	DA	1092	A
31	DA	1094	G
31	DA	1095	U
31	DA	1100	C
31	DA	1101	A
31	DA	1112	C
31	DA	1117	G
31	DA	1121	U
31	DA	1124	G
31	DA	1125	U
31	DA	1126	U
31	DA	1127	G
31	DA	1129	C
31	DA	1136	U
31	DA	1137	C
31	DA	1138	G
31	DA	1139	G
31	DA	1140	C
31	DA	1143	G
31	DA	1146	A
31	DA	1147	C
31	DA	1152	A
31	DA	1154	G
31	DA	1159	U
31	DA	1160	G
31	DA	1161	C
31	DA	1166	G
31	DA	1170	A
31	DA	1171	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	DA	1180	A
31	DA	1181	G
31	DA	1182	G
31	DA	1184	G
31	DA	1185	G
31	DA	1186	G
31	DA	1188	A
31	DA	1196	U
31	DA	1197	G
31	DA	1200	C
31	DA	1202	G
31	DA	1209	C
31	DA	1211	U
31	DA	1212	U
31	DA	1213	A
31	DA	1225	A
31	DA	1226	C
31	DA	1236	A
31	DA	1238	A
31	DA	1240	U
31	DA	1256	A
31	DA	1257	U
31	DA	1258	G
31	DA	1260	C
31	DA	1268	A
31	DA	1272	G
31	DA	1273	G
31	DA	1278	U
31	DA	1280	A
31	DA	1281	U
31	DA	1282	C
31	DA	1284	C
31	DA	1286	A
31	DA	1287	A
31	DA	1290	G
31	DA	1293	G
31	DA	1294	G
31	DA	1297	C
31	DA	1299	A
31	DA	1300	G
31	DA	1301	U
31	DA	1302	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	DA	1312	G
31	DA	1317	C
31	DA	1320	C
31	DA	1322	C
31	DA	1323	G
31	DA	1331	G
31	DA	1336	C
31	DA	1338	G
31	DA	1346	A
31	DA	1347	G
31	DA	1358	U
31	DA	1363	C
31	DA	1364	U
31	DA	1368	G
31	DA	1379	G
31	DA	1386	G
31	DA	1389	C
31	DA	1397	C
31	DA	1399	C
31	DA	1419	G
31	DA	1442	G
31	DA	1442(A)	G
31	DA	1442(B)	A
31	DA	1447	A
31	DA	1452	C
31	DA	1456	G
31	DA	1457	G
31	DA	1487	G
31	DA	1492	A
31	DA	1493	A
31	DA	1494	G
31	DA	1497	G
31	DA	1502	A
31	DA	1503	A
31	DA	1504	G
31	DA	1505	G
31	DA	1506	U
31	DA	1507	A
31	DA	1508	G
31	DA	1517	G
31	DA	1519	A
31	DA	1520	G

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Mol	Chain	Res	Type
31	DA	1529	G
31	DA	1530	G

All (177) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	9	U
1	AA	71	A
1	AA	102	G
1	AA	196	A
1	AA	221	A
1	AA	271(K)	U
1	AA	271(M)	G
1	AA	278	A
1	AA	310	A
1	AA	363(E)	U
1	AA	474	G
1	AA	481	G
1	AA	587	C
1	AA	669	G
1	AA	752	A
1	AA	827	U
1	AA	856	C
1	AA	900	A
1	AA	1047	G
1	AA	1049	C
1	AA	1106	A
1	AA	1108	U
1	AA	1174	A
1	AA	1175	U
1	AA	1176	G
1	AA	1210	A
1	AA	1240	U
1	AA	1300	U
1	AA	1301	A
1	AA	1378	A
1	AA	1420	U
1	AA	1427	A
1	AA	1507	A
1	AA	1530	C
1	AA	1558	A
1	AA	1559	G

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Mol	Chain	Res	Type
1	AA	1608	A
1	AA	1653	G
1	AA	1786	A
1	AA	1799	G
1	AA	1819	A
1	AA	1992	G
1	AA	2122	U
1	AA	2126	A
1	AA	2171	A
1	AA	2172	U
1	AA	2207	G
1	AA	2218	U
1	AA	2282	G
1	AA	2318	G
1	AA	2405	G
1	AA	2439	A
1	AA	2610	C
1	AA	2689	U
1	AA	2726	U
1	AA	2756	U
1	AA	2778	A
1	AA	2789	C
1	AA	2802	G
1	BA	9	U
1	BA	71	A
1	BA	102	G
1	BA	196	A
1	BA	221	A
1	BA	249	C
1	BA	271(K)	U
1	BA	271(M)	G
1	BA	278	A
1	BA	363(E)	U
1	BA	405	U
1	BA	474	G
1	BA	481	G
1	BA	587	C
1	BA	746	A
1	BA	752	A
1	BA	827	U
1	BA	856	C
1	BA	900	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	BA	974	G
1	BA	1026	U
1	BA	1047	G
1	BA	1049	C
1	BA	1106	A
1	BA	1108	U
1	BA	1174	A
1	BA	1175	U
1	BA	1176	G
1	BA	1210	A
1	BA	1300	U
1	BA	1301	A
1	BA	1378	A
1	BA	1420	U
1	BA	1427	A
1	BA	1507	A
1	BA	1530	C
1	BA	1558	A
1	BA	1608	A
1	BA	1653	G
1	BA	1799	G
1	BA	1819	A
1	BA	1914	C
1	BA	1992	G
1	BA	2104	G
1	BA	2122	U
1	BA	2126	A
1	BA	2171	A
1	BA	2172	U
1	BA	2207	G
1	BA	2218	U
1	BA	2282	G
1	BA	2318	G
1	BA	2319	G
1	BA	2405	G
1	BA	2439	A
1	BA	2610	C
1	BA	2689	U
1	BA	2778	A
1	BA	2789	C
1	BA	2802	G
31	CA	60	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
31	CA	76	C
31	CA	93	G
31	CA	96	U
31	CA	115	G
31	CA	119	A
31	CA	243	A
31	CA	250	A
31	CA	266	G
31	CA	344	A
31	CA	366	C
31	CA	428	G
31	CA	438	G
31	CA	509	A
31	CA	533	A
31	CA	560	U
31	CA	687	A
31	CA	748	C
31	CA	793	U
31	CA	913	A
31	CA	991	U
31	CA	1064	G
31	CA	1065	U
31	CA	1067	A
31	CA	1165	C
31	CA	1201	A
31	CA	1279	A
31	CA	1285	A
31	CA	1300	G
31	CA	1492	A
31	CA	1504	G
31	DA	60	A
31	DA	76	C
31	DA	93	G
31	DA	96	U
31	DA	115	G
31	DA	119	A
31	DA	243	A
31	DA	266	G
31	DA	344	A
31	DA	366	C
31	DA	428	G
31	DA	509	A

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Mol	Chain	Res	Type
31	DA	533	A
31	DA	560	U
31	DA	687	A
31	DA	748	C
31	DA	913	A
31	DA	991	U
31	DA	1065	U
31	DA	1067	A
31	DA	1165	C
31	DA	1201	A
31	DA	1211	U
31	DA	1285	A
31	DA	1300	G
31	DA	1492	A
31	DA	1504	G

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

There are no non-standard protein/DNA/RNA residues in this entry.

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 6 ligands modelled in this entry, 4 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
52	T8B	AA	3001	53	40,48,48	0.99	2 (5%)	57,71,71	1.25	8 (14%)
52	T8B	BA	3001	53	40,48,48	0.99	2 (5%)	57,71,71	1.26	8 (14%)

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
52	T8B	AA	3001	53	-	0/22/26/26	0/5/5/5
52	T8B	BA	3001	53	-	0/22/26/26	0/5/5/5

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	AA	3001	T8B	C25-C24	2.31	1.50	1.43
52	BA	3001	T8B	C25-C24	2.33	1.50	1.43
52	BA	3001	T8B	O11-C26	2.85	1.38	1.32
52	AA	3001	T8B	O11-C26	2.86	1.38	1.32

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	BA	3001	T8B	C21-C23-C24	-3.49	120.19	125.04
52	AA	3001	T8B	C21-C23-C24	-3.47	120.21	125.04
52	AA	3001	T8B	C2-C3-C4	-2.74	118.75	122.13
52	BA	3001	T8B	C2-C3-C4	-2.74	118.76	122.13
52	BA	3001	T8B	O4-C12-C11	-2.16	108.73	112.47
52	AA	3001	T8B	O4-C12-C11	-2.14	108.77	112.47
52	BA	3001	T8B	C27-C26-C25	-2.04	121.41	124.17
52	AA	3001	T8B	C27-C26-C25	-2.02	121.44	124.17
52	AA	3001	T8B	C28-C27-C32	2.39	121.44	118.17
52	BA	3001	T8B	C28-C27-C32	2.40	121.45	118.17
52	AA	3001	T8B	C16-C15-C9	2.45	120.17	118.21
52	BA	3001	T8B	C16-C15-C9	2.45	120.17	118.21
52	AA	3001	T8B	O11-C26-C25	2.52	124.92	121.11
52	BA	3001	T8B	O11-C26-C25	2.54	124.96	121.11
52	AA	3001	T8B	O5-C11-C10	3.99	124.01	119.29
52	BA	3001	T8B	O5-C11-C10	4.02	124.04	119.29

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 54 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
52	AA	3001	T8B	31	0
52	BA	3001	T8B	23	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	AA	2827/2915 (96%)	0.05	121 (4%) 39 25	46, 70, 113, 128	0
1	BA	2827/2915 (96%)	0.10	77 (2%) 58 44	27, 56, 110, 126	0
2	AB	120/122 (98%)	0.05	4 (3%) 50 35	68, 95, 108, 111	0
2	BB	120/122 (98%)	-0.23	0 100 100	46, 80, 95, 103	0
3	AD	275/276 (99%)	-0.13	0 100 100	45, 67, 83, 103	0
3	BD	275/276 (99%)	-0.14	2 (0%) 89 83	36, 59, 78, 103	0
4	AE	204/206 (99%)	-0.07	1 (0%) 91 87	47, 72, 87, 98	0
4	BE	204/206 (99%)	-0.16	0 100 100	33, 60, 81, 96	0
5	AF	203/205 (99%)	-0.33	2 (0%) 84 75	44, 77, 95, 112	0
5	BF	203/205 (99%)	-0.21	0 100 100	27, 64, 90, 110	0
6	AG	181/182 (99%)	1.40	54 (29%) 1 0	89, 106, 114, 116	0
6	BG	181/182 (99%)	0.13	12 (6%) 22 12	81, 101, 110, 118	0
7	AH	174/180 (96%)	0.95	38 (21%) 1 1	80, 93, 101, 108	0
7	BH	174/180 (96%)	-0.14	0 100 100	63, 78, 91, 98	0
8	AI	145/148 (97%)	0.62	21 (14%) 3 2	72, 104, 116, 123	0
8	BI	145/148 (97%)	-0.08	1 (0%) 89 83	68, 90, 98, 100	0
9	AN	140/140 (100%)	-0.07	1 (0%) 89 83	59, 73, 90, 94	0
9	BN	140/140 (100%)	-0.17	0 100 100	38, 57, 82, 85	0
10	AO	122/122 (100%)	-0.31	0 100 100	56, 73, 85, 91	0
10	BO	122/122 (100%)	-0.20	0 100 100	43, 64, 82, 89	0
11	AP	147/150 (98%)	0.02	4 (2%) 58 44	47, 81, 96, 105	0
11	BP	147/150 (98%)	-0.15	0 100 100	28, 68, 91, 100	0
12	AQ	141/141 (100%)	-0.01	1 (0%) 89 83	60, 78, 91, 97	0
12	BQ	141/141 (100%)	-0.07	0 100 100	44, 65, 78, 88	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	AR	118/118 (100%)	-0.17	0 100 100	47, 66, 78, 88	0
13	BR	118/118 (100%)	-0.18	0 100 100	35, 53, 69, 86	0
14	AS	110/112 (98%)	0.57	13 (11%) 6 4	74, 91, 102, 109	0
14	BS	110/112 (98%)	-0.11	0 100 100	58, 79, 93, 100	0
15	AT	131/146 (89%)	-0.20	1 (0%) 87 80	66, 76, 99, 109	0
15	BT	131/146 (89%)	-0.25	1 (0%) 87 80	55, 68, 91, 102	0
16	AU	116/118 (98%)	-0.02	0 100 100	53, 70, 84, 89	0
16	BU	116/118 (98%)	-0.13	0 100 100	34, 50, 70, 84	0
17	AV	101/101 (100%)	-0.17	1 (0%) 84 75	48, 79, 93, 103	0
17	BV	101/101 (100%)	-0.30	0 100 100	31, 61, 81, 95	0
18	AW	112/113 (99%)	-0.22	0 100 100	50, 59, 80, 104	0
18	BW	112/113 (99%)	-0.29	0 100 100	36, 45, 75, 106	0
19	AX	95/96 (98%)	-0.06	0 100 100	54, 71, 89, 93	0
19	BX	95/96 (98%)	-0.16	0 100 100	33, 59, 83, 91	0
20	AY	107/110 (97%)	0.17	7 (6%) 22 12	71, 81, 94, 105	0
20	BY	107/110 (97%)	-0.22	1 (0%) 85 78	56, 71, 89, 103	0
21	AZ	198/206 (96%)	0.03	7 (3%) 48 32	80, 92, 103, 108	0
21	BZ	198/206 (96%)	-0.34	0 100 100	64, 82, 97, 103	0
22	A0	76/85 (89%)	0.27	2 (2%) 59 45	59, 74, 84, 89	0
22	B0	76/85 (89%)	-0.22	0 100 100	46, 60, 74, 82	0
23	A1	97/98 (98%)	0.15	4 (4%) 41 27	54, 71, 94, 99	0
23	B1	97/98 (98%)	-0.06	1 (1%) 84 75	42, 65, 91, 95	0
24	A2	70/72 (97%)	-0.04	1 (1%) 78 65	65, 81, 92, 101	0
24	B2	70/72 (97%)	-0.11	0 100 100	52, 70, 85, 102	0
25	A3	59/60 (98%)	0.48	5 (8%) 13 7	63, 74, 92, 101	0
25	B3	59/60 (98%)	-0.14	0 100 100	43, 56, 84, 94	0
26	A4	46/71 (64%)	0.59	7 (15%) 3 2	101, 109, 113, 119	0
26	B4	46/71 (64%)	0.30	6 (13%) 5 3	98, 107, 113, 118	0
27	A5	59/60 (98%)	-0.33	0 100 100	46, 64, 78, 91	0
27	B5	59/60 (98%)	-0.17	0 100 100	28, 52, 71, 89	0
28	A6	53/54 (98%)	0.18	4 (7%) 17 9	62, 77, 87, 89	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
28	B6	53/54 (98%)	-0.07	0 100 100	52, 66, 77, 85	0
29	A7	48/49 (97%)	0.17	4 (8%) 14 7	43, 54, 79, 99	0
29	B7	48/49 (97%)	0.02	1 (2%) 67 52	29, 44, 73, 89	0
30	A8	64/65 (98%)	0.15	0 100 100	60, 68, 76, 85	0
30	B8	64/65 (98%)	0.15	0 100 100	45, 56, 65, 79	0
31	CA	1498/1521 (98%)	0.61	200 (13%) 4 2	59, 99, 120, 126	0
31	DA	1498/1521 (98%)	0.55	184 (12%) 5 3	65, 99, 120, 128	0
32	CB	229/256 (89%)	0.14	16 (6%) 19 11	93, 103, 111, 117	0
32	DB	229/256 (89%)	0.69	33 (14%) 3 2	95, 105, 112, 115	0
33	CC	206/239 (86%)	1.05	48 (23%) 1 1	92, 106, 112, 115	0
33	DC	206/239 (86%)	0.92	36 (17%) 2 1	97, 108, 115, 120	0
34	CD	208/209 (99%)	0.06	10 (4%) 34 21	85, 98, 108, 114	0
34	DD	208/209 (99%)	0.05	11 (5%) 30 17	87, 97, 107, 123	0
35	CE	148/162 (91%)	-0.12	4 (2%) 58 44	74, 93, 103, 110	0
35	DE	148/162 (91%)	0.13	6 (4%) 41 27	84, 96, 104, 110	0
36	CF	100/101 (99%)	-0.04	5 (5%) 32 19	80, 92, 101, 107	0
36	DF	100/101 (99%)	-0.12	3 (3%) 54 39	84, 93, 103, 110	0
37	CG	155/156 (99%)	2.20	80 (51%) 0 0	99, 109, 115, 120	0
37	DG	155/156 (99%)	2.15	77 (49%) 0 0	97, 109, 115, 119	0
38	CH	138/138 (100%)	0.08	4 (2%) 55 41	82, 94, 101, 104	0
38	DH	138/138 (100%)	-0.06	3 (2%) 65 50	86, 96, 102, 106	0
39	CI	125/128 (97%)	1.97	55 (44%) 0 0	97, 111, 117, 120	0
39	DI	125/128 (97%)	2.88	74 (59%) 0 0	100, 112, 118, 120	0
40	CJ	96/105 (91%)	2.22	47 (48%) 0 0	100, 109, 115, 117	0
40	DJ	96/105 (91%)	2.00	49 (51%) 0 0	97, 110, 115, 119	0
41	CK	114/129 (88%)	-0.10	1 (0%) 85 78	72, 93, 101, 105	0
41	DK	114/129 (88%)	0.25	4 (3%) 48 32	75, 95, 103, 107	0
42	CL	122/132 (92%)	-0.21	0 100 100	72, 85, 96, 100	0
42	DL	122/132 (92%)	-0.12	2 (1%) 74 62	77, 87, 96, 105	0
43	CM	114/126 (90%)	2.21	53 (46%) 0 0	102, 111, 118, 126	0
43	DM	114/126 (90%)	1.81	46 (40%) 0 0	101, 109, 115, 117	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	CN	60/61 (98%)	1.23	15 (25%) 1 1	99, 108, 116, 118	0
44	DN	60/61 (98%)	1.64	21 (35%) 0 0	103, 111, 116, 122	0
45	CO	88/89 (98%)	0.04	2 (2%) 64 49	72, 91, 101, 107	0
45	DO	88/89 (98%)	0.21	6 (6%) 20 11	81, 93, 103, 107	0
46	CP	82/88 (93%)	0.65	7 (8%) 13 7	88, 96, 106, 112	0
46	DP	82/88 (93%)	0.46	3 (3%) 45 30	86, 94, 103, 111	0
47	CQ	99/105 (94%)	0.07	2 (2%) 68 54	78, 90, 98, 102	0
47	DQ	99/105 (94%)	0.20	3 (3%) 54 39	79, 92, 100, 103	0
48	CR	68/88 (77%)	0.17	9 (13%) 4 3	80, 91, 102, 103	0
48	DR	68/88 (77%)	0.23	4 (5%) 26 14	85, 93, 104, 106	0
49	CS	78/93 (83%)	2.70	44 (56%) 0 0	107, 111, 117, 123	0
49	DS	78/93 (83%)	2.94	52 (66%) 0 0	91, 112, 117, 119	0
50	CT	96/106 (90%)	0.21	3 (3%) 52 38	84, 93, 99, 102	0
50	DT	96/106 (90%)	0.73	12 (12%) 5 3	82, 92, 100, 101	0
51	CU	23/27 (85%)	2.97	13 (56%) 0 0	106, 112, 117, 119	0
51	DU	23/27 (85%)	2.74	13 (56%) 0 0	104, 109, 112, 113	0
All	All	20372/21160 (96%)	0.29	1665 (8%) 14 7	27, 84, 115, 128	0

All (1665) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
39	CI	30	GLY	12.8
49	CS	40	ILE	12.6
43	CM	85	GLY	12.3
31	CA	1353	G	11.3
31	CA	1286	A	11.3
39	DI	17	VAL	10.9
31	DA	1149	C	10.5
31	DA	79	G	9.7
6	AG	155	MET	9.7
31	CA	1288	A	9.5
49	CS	69	HIS	9.4
40	CJ	35	SER	9.3
51	CU	14	TRP	9.2
31	CA	1287	A	9.1
39	DI	7	THR	9.1

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Mol	Chain	Res	Type	RSRZ
49	CS	74	PHE	8.9
1	AA	2147	G	8.9
31	DA	1036	G	8.7
43	CM	86	CYS	8.7
6	AG	41	GLN	8.5
31	DA	1287	A	8.5
49	DS	10	PHE	8.5
1	AA	2125	G	8.5
49	DS	69	HIS	8.4
6	AG	2	PRO	8.3
44	CN	13	THR	8.1
31	DA	78	G	8.0
8	AI	121	LYS	8.0
31	DA	1030(B)	C	7.9
39	DI	6	GLY	7.9
31	DA	1286	A	7.9
37	DG	79	ARG	7.8
31	CA	1030(B)	C	7.8
43	DM	7	VAL	7.6
39	DI	5	TYR	7.6
49	DS	68	GLY	7.5
31	CA	1002	G	7.5
37	CG	99	LEU	7.4
40	CJ	72	VAL	7.4
1	AA	2162	G	7.3
37	CG	83	ALA	7.2
37	DG	99	LEU	7.1
31	DA	1353	G	7.1
37	CG	135	VAL	7.1
39	DI	115	GLY	7.1
37	DG	146	GLU	7.1
49	DS	9	VAL	7.0
31	CA	1137	C	7.0
39	DI	15	ALA	7.0
8	AI	84	GLY	7.0
44	CN	16	PHE	7.0
31	CA	1030	C	7.0
43	CM	25	ILE	6.9
31	CA	1349	A	6.9
31	DA	1248	A	6.9
40	DJ	87	THR	6.9
31	DA	1128	C	6.9

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Mol	Chain	Res	Type	RSRZ
1	BA	2116	G	6.9
40	CJ	36	GLY	6.9
31	DA	1140	C	6.8
6	AG	17	PRO	6.8
1	AA	2139	C	6.8
37	DG	154	TYR	6.7
39	DI	30	GLY	6.7
31	DA	1139	G	6.7
31	DA	1141	C	6.7
31	CA	1209	C	6.6
39	DI	62	TYR	6.6
37	DG	83	ALA	6.6
37	DG	156	TRP	6.6
43	DM	5	ALA	6.5
37	CG	156	TRP	6.5
31	DA	1030(A)	G	6.5
49	DS	8	GLY	6.5
51	CU	3	LYS	6.4
1	BA	652(J)	G	6.4
51	CU	5	ASP	6.4
31	CA	1030(C)	G	6.4
39	DI	126	SER	6.4
39	DI	70	LYS	6.4
1	AA	2124	G	6.3
31	CA	1036	G	6.3
31	DA	1148	U	6.3
1	BA	2168	G	6.3
31	DA	1028	C	6.2
31	DA	1202	G	6.2
40	DJ	26	ALA	6.2
40	CJ	37	PRO	6.2
31	CA	1001(A)	G	6.2
37	CG	78	ARG	6.2
49	CS	49	ILE	6.2
31	CA	1035	A	6.2
40	CJ	71	LEU	6.1
31	DA	1030(C)	G	6.1
33	CC	192	THR	6.1
44	DN	30	ALA	6.1
49	CS	38	SER	6.1
1	AA	2108	C	6.1
39	DI	80	GLY	6.0

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Mol	Chain	Res	Type	RSRZ
20	BY	1	MET	6.0
1	AA	2126	A	6.0
1	BA	888	C	6.0
49	CS	8	GLY	6.0
1	AA	1509	C	6.0
37	CG	152	ALA	5.9
32	DB	140	HIS	5.9
1	AA	2176	A	5.9
31	CA	1003	G	5.9
39	DI	65	VAL	5.9
1	BA	2125	G	5.9
31	CA	1352	C	5.9
37	DG	28	ASN	5.9
33	CC	160	ALA	5.9
1	BA	652(I)	C	5.9
31	CA	1317	C	5.9
37	DG	84	ASN	5.9
8	AI	146	ALA	5.8
31	CA	1044	A	5.8
31	CA	1031	G	5.8
37	CG	36	LYS	5.8
39	DI	27	THR	5.8
31	CA	1350	A	5.8
49	DS	52	TYR	5.7
31	DA	1030(D)	A	5.7
31	CA	1308	U	5.7
51	DU	5	ASP	5.7
37	CG	86	GLN	5.7
1	AA	2107	C	5.7
37	CG	37	ASN	5.7
31	CA	1030(A)	G	5.7
39	DI	21	PRO	5.7
40	CJ	34	VAL	5.7
1	AA	652(I)	C	5.7
43	CM	23	TYR	5.7
6	AG	172	LEU	5.7
49	DS	7	LYS	5.6
31	DA	97	G	5.6
39	CI	2	GLU	5.6
39	DI	105	ASP	5.6
1	AA	2116	G	5.6
37	DG	25	ALA	5.6

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Mol	Chain	Res	Type	RSRZ
43	DM	42	ALA	5.6
31	CA	1332	A	5.6
1	AA	2110	G	5.6
44	DN	8	GLU	5.6
51	DU	8	THR	5.5
31	DA	1349	A	5.5
1	AA	1176	G	5.5
31	DA	1034	G	5.5
31	CA	1290	G	5.5
39	DI	88	TYR	5.5
51	DU	11	GLY	5.5
31	CA	1149	C	5.5
33	CC	169	ALA	5.5
31	DA	1026	G	5.5
51	CU	11	GLY	5.5
1	AA	652(G)	G	5.5
1	BA	2147	G	5.5
31	CA	1138	G	5.5
1	AA	888	C	5.5
51	CU	13	ILE	5.4
39	DI	66	ARG	5.4
31	DA	1249	C	5.4
39	DI	14	VAL	5.4
43	CM	32	GLU	5.4
1	AA	2170	A	5.4
37	CG	16	LEU	5.4
37	DG	27	ILE	5.4
31	CA	1248	A	5.4
37	DG	80	VAL	5.4
39	DI	64	THR	5.4
1	AA	2146	C	5.4
44	DN	28	GLY	5.4
31	CA	1333	A	5.3
1	AA	2148	G	5.3
1	BA	2155	G	5.3
6	AG	133	LEU	5.3
31	CA	1289	A	5.3
31	DA	1027	C	5.3
39	DI	63	ILE	5.3
49	DS	79	THR	5.3
1	AA	2118	U	5.3
43	CM	87	TYR	5.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	BA	652(G)	G	5.3
39	DI	29	ASN	5.2
43	CM	109	THR	5.2
34	DD	69	GLY	5.2
33	DC	160	ALA	5.2
43	DM	18	ALA	5.2
37	CG	77	SER	5.2
6	AG	28	VAL	5.2
40	CJ	69	ASN	5.2
1	AA	883	G	5.2
31	CA	946	A	5.2
43	DM	43	THR	5.1
40	DJ	10	GLY	5.1
7	AH	159	GLU	5.1
37	DG	51	GLN	5.1
33	DC	207	VAL	5.1
31	CA	1247	U	5.1
37	CG	153	HIS	5.1
49	CS	63	THR	5.1
43	CM	68	GLY	5.1
33	CC	144	SER	5.1
1	AA	2174	C	5.1
1	AA	2155	G	5.1
31	CA	1034	G	5.1
31	CA	1001	A	5.1
49	CS	56	GLN	5.1
44	CN	18	VAL	5.1
1	AA	2154	G	5.0
31	DA	998	G	5.0
31	CA	1037	C	5.0
39	CI	105	ASP	5.0
37	DG	155	ARG	5.0
31	DA	3	G	5.0
37	CG	81	GLY	5.0
1	BA	2153	G	5.0
31	CA	1257	U	5.0
31	DA	1037	C	5.0
33	DC	39	ILE	5.0
31	DA	1044	A	5.0
31	DA	1013	G	5.0
31	DA	1031	G	5.0
39	DI	18	PHE	5.0

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Mol	Chain	Res	Type	RSRZ
43	DM	8	GLU	5.0
37	CG	71	PRO	5.0
6	AG	34	LEU	5.0
39	CI	98	PRO	5.0
51	DU	14	TRP	5.0
37	CG	80	VAL	5.0
33	DC	155	GLY	5.0
43	CM	65	LYS	4.9
1	AA	652(H)	C	4.9
33	CC	159	GLY	4.9
43	CM	71	ARG	4.9
51	CU	12	LYS	4.9
1	AA	2165	G	4.9
31	CA	947	G	4.9
40	DJ	20	ALA	4.9
49	CS	47	HIS	4.9
1	BA	2172	U	4.9
51	DU	10	ARG	4.9
31	DA	1138	G	4.9
44	CN	14	PRO	4.9
31	CA	1212	U	4.9
31	DA	1150	U	4.9
39	CI	31	GLN	4.9
44	DN	25	VAL	4.9
33	DC	23	TYR	4.9
40	CJ	70	ARG	4.9
31	DA	1311	G	4.9
44	DN	38	GLY	4.8
31	DA	1129	C	4.8
39	CI	66	ARG	4.8
40	DJ	78	ASN	4.8
37	DG	73	MET	4.8
6	AG	145	THR	4.8
31	DA	956	U	4.8
31	CA	3	G	4.8
31	CA	1018	C	4.8
8	AI	119	PRO	4.8
1	BA	887	A	4.8
34	CD	23	GLY	4.8
40	CJ	6	ILE	4.7
1	AA	2119	A	4.7
43	DM	6	GLY	4.7

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Mol	Chain	Res	Type	RSRZ
7	AH	112	PRO	4.7
31	DA	73	G	4.7
6	AG	35	GLU	4.7
1	AA	652(J)	G	4.7
31	CA	1274	G	4.7
31	DA	1318	A	4.7
33	DC	206	GLU	4.7
31	CA	993	G	4.7
43	CM	60	VAL	4.7
49	CS	68	GLY	4.7
31	CA	1046	A	4.7
1	AA	2175	C	4.7
37	CG	20	ASP	4.7
44	CN	17	LYS	4.7
6	AG	108	ASN	4.6
8	AI	79	ILE	4.6
39	CI	3	GLN	4.6
49	DS	72	GLY	4.6
37	CG	89	MET	4.6
49	DS	12	ASP	4.6
49	CS	62	ILE	4.6
1	BA	2173	A	4.6
39	DI	69	GLY	4.6
43	DM	75	ALA	4.6
1	AA	652(S)	C	4.6
37	DG	130	GLY	4.6
31	DA	344	A	4.6
39	DI	81	ILE	4.6
43	CM	110	ARG	4.6
39	CI	106	ALA	4.6
8	AI	93	THR	4.6
26	A4	7	PRO	4.6
39	CI	46	ALA	4.6
49	DS	26	GLY	4.6
1	BA	2133	G	4.6
31	CA	1260	C	4.5
33	CC	100	ALA	4.5
39	CI	64	THR	4.5
49	CS	76	PRO	4.5
49	DS	50	ALA	4.5
39	DI	16	ARG	4.5
1	AA	2104	G	4.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
31	CA	1026	G	4.5
39	DI	106	ALA	4.5
21	AZ	198	LYS	4.5
8	AI	86	THR	4.5
40	CJ	100	THR	4.5
1	AA	2164	C	4.5
26	B4	17	GLY	4.5
31	DA	1025	U	4.5
6	AG	131	TYR	4.5
31	CA	971	G	4.5
31	CA	1030(D)	A	4.5
39	CI	62	TYR	4.5
37	CG	73	MET	4.5
37	CG	87	VAL	4.5
25	A3	60	GLU	4.5
31	CA	1360	A	4.5
1	BA	2139	C	4.4
1	BA	2167	U	4.4
37	CG	134	ALA	4.4
39	CI	21	PRO	4.4
33	DC	153	VAL	4.4
7	AH	30	LYS	4.4
44	DN	11	LYS	4.4
37	DG	26	PHE	4.4
1	AA	652(B)	A	4.4
1	AA	2138	C	4.4
33	DC	49	SER	4.4
33	DC	154	SER	4.4
39	DI	73	GLN	4.4
40	CJ	23	ILE	4.4
39	CI	17	VAL	4.4
39	DI	90	PRO	4.4
37	CG	133	GLY	4.4
1	AA	2142	C	4.4
49	DS	74	PHE	4.4
49	DS	75	ALA	4.4
43	CM	64	TRP	4.4
40	DJ	67	THR	4.4
46	CP	19	ILE	4.4
14	AS	56	LEU	4.4
1	BA	2108	C	4.4
31	CA	958	A	4.4

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Mol	Chain	Res	Type	RSRZ
44	CN	15	LYS	4.4
1	BA	2165	G	4.4
8	AI	100	ALA	4.4
39	DI	85	LEU	4.4
40	DJ	15	THR	4.4
31	CA	1354	C	4.4
37	CG	31	MET	4.4
31	DA	1033	G	4.4
39	DI	46	ALA	4.4
31	CA	985	C	4.4
33	DC	3	ASN	4.3
43	CM	107	ALA	4.3
49	CS	39	THR	4.3
31	CA	1211	U	4.3
8	AI	85	GLU	4.3
33	DC	152	ILE	4.3
43	CM	62	ASN	4.3
1	BA	2117	A	4.3
51	DU	7	ARG	4.3
1	AA	2121	G	4.3
31	DA	1021	G	4.3
31	DA	1310	G	4.3
40	CJ	5	ARG	4.3
39	DI	97	LYS	4.3
33	CC	65	ALA	4.3
31	CA	1342	C	4.3
51	DU	6	ARG	4.3
39	DI	76	ALA	4.3
33	CC	193	TYR	4.3
1	AA	2141	G	4.2
7	AH	175	LYS	4.2
40	CJ	74	ILE	4.2
43	CM	92	HIS	4.2
31	CA	71	C	4.2
31	DA	1029	C	4.2
31	CA	1331	G	4.2
49	DS	47	HIS	4.2
44	CN	12	ARG	4.2
49	CS	61	TYR	4.2
31	CA	1233	G	4.2
37	CG	53	LYS	4.2
1	BA	652(H)	C	4.2

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Mol	Chain	Res	Type	RSRZ
31	CA	1129	C	4.2
32	DB	101	MET	4.2
39	DI	47	LEU	4.2
31	DA	91	C	4.2
33	CC	128	PHE	4.2
6	AG	157	ILE	4.2
39	CI	9	ARG	4.2
6	BG	80	PHE	4.2
31	CA	1148	U	4.2
31	CA	1275	A	4.2
37	DG	85	TYR	4.2
31	DA	1042	G	4.1
1	AA	229	A	4.1
31	CA	1246	C	4.1
43	DM	110	ARG	4.1
50	DT	98	PRO	4.1
49	CS	57	HIS	4.1
22	A0	76	GLY	4.1
37	DG	78	ARG	4.1
1	BA	2112	G	4.1
31	DA	1257	U	4.1
37	CG	130	GLY	4.1
37	CG	17	VAL	4.1
37	CG	88	PRO	4.1
31	DA	1175	G	4.1
31	DA	1265	G	4.1
49	DS	20	LEU	4.1
40	DJ	66	ARG	4.1
31	DA	1191	A	4.1
40	CJ	73	ASP	4.1
33	CC	164	ARG	4.1
39	CI	8	GLY	4.1
31	CA	1000	U	4.1
34	CD	4	TYR	4.1
1	BA	2124	G	4.1
49	DS	30	LEU	4.1
33	CC	206	GLU	4.1
49	DS	31	ILE	4.1
31	DA	72	C	4.1
31	CA	1330	U	4.0
23	A1	2	SER	4.0
37	DG	40	ALA	4.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
40	DJ	88	LEU	4.0
41	DK	98	LEU	4.0
31	CA	1338	G	4.0
37	CG	52	GLU	4.0
49	DS	83	HIS	4.0
26	B4	4	GLY	4.0
26	A4	44	THR	4.0
40	CJ	77	PRO	4.0
1	AA	2173	A	4.0
31	CA	1039	C	4.0
31	DA	1043	C	4.0
37	CG	84	ASN	4.0
31	DA	1293	G	4.0
40	DJ	96	ILE	4.0
37	DG	153	HIS	4.0
1	AA	652(R)	C	4.0
37	CG	74	GLU	4.0
37	DG	5	ARG	4.0
39	CI	123	PRO	4.0
49	DS	82	GLY	4.0
49	DS	70	LYS	4.0
51	CU	10	ARG	4.0
1	AA	2169	A	4.0
37	DG	89	MET	4.0
39	CI	16	ARG	4.0
7	AH	171	LEU	4.0
31	DA	1137	C	4.0
31	DA	1261	A	4.0
33	CC	99	VAL	4.0
14	AS	57	LYS	4.0
40	CJ	10	GLY	4.0
40	CJ	27	ALA	4.0
40	DJ	62	HIS	4.0
48	CR	31	LEU	4.0
39	DI	84	ALA	3.9
31	CA	1033	G	3.9
6	AG	39	ILE	3.9
43	CM	63	THR	3.9
39	DI	89	ASN	3.9
49	CS	58	VAL	3.9
1	AA	2152	G	3.9
1	AA	2120	G	3.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
7	AH	29	PRO	3.9
31	CA	950	U	3.9
40	CJ	75	LEU	3.9
43	DM	67	GLU	3.9
1	BA	2132	U	3.9
31	DA	1035	A	3.9
51	CU	4	GLY	3.9
6	AG	13	GLU	3.9
32	DB	33	TYR	3.9
1	AA	2140	C	3.9
31	CA	1043	C	3.9
33	CC	39	ILE	3.9
1	BA	2152	G	3.8
34	CD	112	VAL	3.8
44	DN	26	ARG	3.8
31	CA	1141	C	3.8
31	DA	1001(A)	G	3.8
43	CM	67	GLU	3.8
1	AA	2106	G	3.8
31	DA	98	G	3.8
37	DG	71	PRO	3.8
40	CJ	76	ASN	3.8
37	DG	17	VAL	3.8
40	DJ	83	GLU	3.8
37	CG	54	THR	3.8
31	CA	1276	G	3.8
31	CA	1343	G	3.8
39	CI	28	VAL	3.8
37	DG	82	GLY	3.8
37	CG	142	GLU	3.8
39	DI	67	GLY	3.8
49	CS	41	VAL	3.8
31	CA	999	C	3.8
31	DA	1354	C	3.8
32	DB	132	LYS	3.8
37	DG	100	ALA	3.8
49	DS	80	TYR	3.8
31	CA	1027	C	3.8
31	DA	936	C	3.8
31	DA	1312	G	3.7
40	CJ	38	ILE	3.7
6	AG	12	TYR	3.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
31	DA	1194	U	3.7
33	CC	168	ALA	3.7
31	DA	1045	C	3.7
31	DA	1352	C	3.7
33	CC	195	VAL	3.7
39	CI	120	ARG	3.7
39	DI	53	VAL	3.7
37	DG	86	GLN	3.7
31	CA	1318	A	3.7
31	CA	1020	U	3.7
37	CG	154	TYR	3.7
1	AA	652(C)	G	3.7
31	CA	1040	U	3.7
39	DI	124	GLN	3.7
39	DI	123	PRO	3.7
44	DN	19	ARG	3.7
1	AA	2105	C	3.7
1	BA	1509	C	3.7
31	DA	1327	C	3.7
49	CS	7	LYS	3.7
43	CM	74	VAL	3.7
40	CJ	59	SER	3.7
43	CM	24	GLY	3.7
6	AG	142	PRO	3.7
39	CI	88	TYR	3.7
1	AA	1044	G	3.7
1	AA	2111	C	3.7
1	BA	2164	C	3.7
31	DA	1066	C	3.7
31	CA	1291	G	3.7
31	CA	1293	G	3.7
6	AG	11	TYR	3.7
32	DB	37	ASN	3.7
6	BG	88	ILE	3.7
31	CA	204	U	3.7
39	CI	63	ILE	3.7
31	DA	1001	A	3.7
31	DA	1130	A	3.7
49	CS	75	ALA	3.7
7	AH	157	TYR	3.7
1	AA	2156	G	3.7
37	CG	103	TRP	3.7

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Mol	Chain	Res	Type	RSRZ
47	DQ	59	ILE	3.7
40	DJ	65	LEU	3.6
14	AS	58	LEU	3.6
34	DD	23	GLY	3.6
49	CS	29	ARG	3.6
1	AA	2136	C	3.6
31	CA	1176	A	3.6
39	DI	19	LEU	3.6
43	CM	58	GLU	3.6
41	DK	117	ASN	3.6
1	BA	2171	A	3.6
33	CC	89	GLU	3.6
37	DG	54	THR	3.6
37	CG	138	LYS	3.6
1	AA	2177	C	3.6
31	CA	1174	G	3.6
31	DA	1002	G	3.6
14	AS	52	SER	3.6
43	DM	81	LEU	3.6
32	DB	197	VAL	3.6
32	DB	143	GLU	3.6
31	CA	1157	A	3.6
31	DA	90	C	3.6
39	DI	86	VAL	3.6
7	AH	89	ILE	3.6
31	CA	1371	G	3.6
31	DA	1020	U	3.6
31	DA	1023	G	3.6
31	DA	1064	G	3.6
39	DI	99	LEU	3.6
50	DT	49	ALA	3.6
37	DG	34	GLY	3.6
43	DM	54	VAL	3.6
31	CA	1139	G	3.6
14	AS	55	ALA	3.6
1	BA	2138	C	3.5
1	BA	2169	A	3.5
6	AG	134	GLY	3.5
1	BA	2130	U	3.5
51	CU	6	ARG	3.5
44	DN	2	ALA	3.5
40	DJ	27	ALA	3.5

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Mol	Chain	Res	Type	RSRZ
1	BA	2174	C	3.5
31	CA	1181	G	3.5
31	DA	1131	G	3.5
7	AH	128	PRO	3.5
40	DJ	77	PRO	3.5
1	AA	2163	C	3.5
31	CA	1243	C	3.5
31	DA	76	C	3.5
37	CG	25	ALA	3.5
43	DM	78	ILE	3.5
7	AH	43	VAL	3.5
39	CI	60	ASP	3.5
49	DS	53	ASN	3.5
1	AA	2122	U	3.5
31	DA	202	U	3.5
31	DA	1125	U	3.5
33	CC	154	SER	3.5
40	CJ	99	LYS	3.5
37	DG	16	LEU	3.5
1	BA	892	G	3.5
31	CA	1175	G	3.5
43	DM	95	GLY	3.5
1	BA	2123	G	3.5
31	DA	1142	G	3.5
6	AG	135	LEU	3.5
33	CC	155	GLY	3.5
36	CF	94	GLN	3.5
49	CS	44	MET	3.5
40	DJ	63	PHE	3.5
31	CA	1028	C	3.5
39	CI	90	PRO	3.5
1	AA	652(Q)	G	3.5
39	DI	52	ALA	3.5
39	DI	87	GLN	3.5
31	DA	1401	G	3.4
32	DB	163	PHE	3.4
40	CJ	61	GLU	3.4
33	CC	201	TYR	3.4
49	CS	30	LEU	3.4
39	DI	9	ARG	3.4
37	CG	125	MET	3.4
37	DG	77	SER	3.4

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Mol	Chain	Res	Type	RSRZ
37	DG	90	GLU	3.4
43	DM	66	LEU	3.4
31	DA	1032	G	3.4
31	DA	1386	G	3.4
28	A6	50	ARG	3.4
49	DS	14	HIS	3.4
31	CA	988	G	3.4
31	CA	1032	G	3.4
33	DC	33	LEU	3.4
40	CJ	8	LEU	3.4
1	BA	886	C	3.4
37	DG	74	GLU	3.4
37	DG	149	ARG	3.4
46	CP	48	TRP	3.4
1	AA	652(P)	G	3.4
1	AA	2153	G	3.4
33	CC	158	GLY	3.4
37	DG	55	GLY	3.4
34	CD	12	CYS	3.4
7	AH	101	ARG	3.4
1	AA	2171	A	3.4
1	BA	2119	A	3.4
7	AH	88	LEU	3.4
31	CA	945	G	3.4
37	DG	139	GLU	3.4
1	BA	2118	U	3.4
37	DG	87	VAL	3.4
39	CI	20	ARG	3.4
39	DI	49	PRO	3.4
1	BA	2131	G	3.4
21	AZ	107	THR	3.4
31	CA	202	U	3.4
31	DA	1012	U	3.4
34	CD	2	GLY	3.4
49	DS	51	VAL	3.4
1	BA	2140	C	3.4
6	AG	160	VAL	3.4
49	DS	48	THR	3.4
49	DS	63	THR	3.4
1	BA	2137	C	3.4
31	CA	1210	C	3.4
31	DA	1030	C	3.4

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Mol	Chain	Res	Type	RSRZ
8	AI	3	VAL	3.4
31	DA	1235	U	3.4
31	CA	1029	C	3.3
31	CA	1140	C	3.3
40	CJ	98	ILE	3.3
39	CI	19	LEU	3.3
1	AA	2158	A	3.3
45	CO	89	GLY	3.3
37	CG	32	ARG	3.3
31	CA	1179	A	3.3
40	DJ	40	LEU	3.3
31	CA	1214	C	3.3
43	CM	75	ALA	3.3
49	CS	37	ARG	3.3
31	DA	1266	G	3.3
1	BA	890	A	3.3
39	DI	61	ALA	3.3
43	CM	91	ARG	3.3
43	DM	65	LYS	3.3
31	DA	1338	G	3.3
43	DM	76	ALA	3.3
31	DA	1275	A	3.3
32	DB	135	GLN	3.3
39	CI	36	TYR	3.3
36	CF	55	ASP	3.3
6	AG	148	MET	3.3
14	AS	59	LYS	3.3
8	AI	89	TYR	3.3
51	CU	18	TYR	3.3
7	AH	169	VAL	3.3
34	CD	70	ILE	3.3
31	CA	1309	G	3.3
39	DI	36	TYR	3.3
31	CA	949	A	3.3
31	CA	1339	A	3.3
43	CM	30	ALA	3.3
1	AA	2161	C	3.3
31	CA	1158	C	3.3
6	AG	151	ALA	3.3
33	DC	172	ARG	3.3
45	CO	88	ARG	3.3
34	CD	26	CYS	3.3

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Mol	Chain	Res	Type	RSRZ
44	DN	15	LYS	3.3
31	DA	957	U	3.3
40	DJ	34	VAL	3.3
40	DJ	72	VAL	3.3
49	DS	49	ILE	3.3
1	BA	2166	G	3.2
31	CA	1050	G	3.2
31	CA	1306	A	3.2
37	CG	98	SER	3.3
1	BA	2136	C	3.2
31	CA	841	U	3.2
31	CA	1019	C	3.2
31	CA	956	U	3.2
31	CA	998	G	3.2
31	DA	1127	G	3.2
47	CQ	73	VAL	3.2
40	CJ	39	PRO	3.2
1	AA	889	C	3.2
28	A6	54	ILE	3.2
1	AA	1175	U	3.2
31	CA	1208	C	3.2
6	AG	26	GLN	3.2
39	DI	125	TYR	3.2
1	BA	2115	G	3.2
31	CA	1017	G	3.2
50	DT	86	ARG	3.2
49	DS	57	HIS	3.2
37	CG	141	VAL	3.2
40	DJ	23	ILE	3.2
1	AA	2151	G	3.2
25	A3	26	LEU	3.2
31	DA	1320	C	3.2
31	CA	1182	G	3.2
33	CC	146	ALA	3.2
37	DG	101	LEU	3.2
49	DS	71	LEU	3.2
49	CS	12	ASP	3.2
7	AH	34	GLU	3.2
8	AI	87	LYS	3.2
1	BA	2121	G	3.2
1	AA	898	C	3.2
43	CM	108	ARG	3.2

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Mol	Chain	Res	Type	RSRZ
49	CS	81	ARG	3.2
1	AA	2109	U	3.2
37	DG	62	PHE	3.2
34	DD	4	TYR	3.2
37	CG	29	LYS	3.2
43	DM	72	ALA	3.2
31	DA	1227	A	3.1
31	DA	997	U	3.1
40	DJ	17	ASP	3.1
6	AG	16	ARG	3.1
1	AA	2159	G	3.1
6	AG	8	LYS	3.1
7	AH	41	MET	3.1
43	CM	90	LEU	3.1
51	DU	13	ILE	3.1
31	CA	1340	A	3.1
6	BG	146	TYR	3.1
40	DJ	19	SER	3.1
7	AH	97	ARG	3.1
1	AA	2127	G	3.1
31	CA	1265	G	3.1
31	CA	1300	G	3.1
49	CS	79	THR	3.1
44	CN	11	LYS	3.1
6	AG	101	ILE	3.1
49	DS	15	LEU	3.1
49	DS	59	PRO	3.1
31	CA	70	G	3.1
31	CA	1351	U	3.1
6	AG	100	TRP	3.1
32	CB	133	LYS	3.1
32	DB	96	ARG	3.1
49	DS	76	PRO	3.1
31	CA	1249	C	3.1
51	DU	2	GLY	3.1
21	AZ	9	TYR	3.1
43	CM	94	ARG	3.1
7	AH	24	VAL	3.1
31	CA	957	U	3.1
37	DG	95	ARG	3.1
43	CM	33	ALA	3.1
51	DU	9	ARG	3.1

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Mol	Chain	Res	Type	RSRZ
1	AA	887	A	3.1
43	CM	41	PRO	3.1
43	CM	97	PRO	3.1
49	DS	33	THR	3.1
33	DC	43	LEU	3.1
37	CG	82	GLY	3.1
37	CG	132	GLY	3.1
46	CP	12	LYS	3.1
37	CG	155	ARG	3.1
39	CI	33	PHE	3.1
1	AA	2123	G	3.1
8	AI	117	GLU	3.1
43	CM	2	ALA	3.1
39	CI	5	TYR	3.1
1	AA	1043	C	3.1
39	DI	22	GLY	3.1
44	DN	29	ARG	3.1
15	AT	1	MET	3.1
37	DG	98	SER	3.1
26	A4	9	LEU	3.1
37	CG	56	GLN	3.1
1	AA	652(T)	C	3.0
1	AA	2179	C	3.0
1	BA	652(S)	C	3.0
1	BA	2161	C	3.0
37	DG	142	GLU	3.0
33	CC	127	ARG	3.0
1	AA	2150	U	3.0
42	DL	72	GLY	3.0
1	AA	2186	G	3.0
31	CA	1304	G	3.0
31	DA	1190	G	3.0
46	CP	47	ASP	3.0
31	DA	1383	C	3.0
31	CA	1111	A	3.0
1	BA	2113	U	3.0
6	AG	49	ASP	3.0
32	DB	232	PRO	3.0
49	DS	66	MET	3.0
31	CA	1131	G	3.0
1	BA	2111	C	3.0
31	DA	345	C	3.0

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Mol	Chain	Res	Type	RSRZ
40	DJ	98	ILE	3.0
32	CB	37	ASN	3.0
40	DJ	86	MET	3.0
43	CM	29	ARG	3.0
31	CA	994	A	3.0
8	AI	68	LEU	3.0
37	CG	100	ALA	3.0
37	DG	141	VAL	3.0
44	DN	17	LYS	3.0
46	DP	19	ILE	3.0
1	AA	2137	C	3.0
31	DA	1116	C	3.0
33	CC	167	TRP	3.0
31	DA	1205	U	3.0
43	CM	66	LEU	3.0
44	DN	18	VAL	3.0
48	CR	76	LEU	3.0
51	DU	3	LYS	3.0
1	AA	1042	G	3.0
1	BA	2107	C	3.0
3	BD	276	LYS	3.0
8	AI	81	VAL	3.0
31	CA	1045	C	3.0
50	DT	88	VAL	3.0
8	AI	122	GLU	3.0
37	CG	30	ILE	3.0
31	CA	1261	A	3.0
33	CC	170	GLN	3.0
37	DG	152	ALA	3.0
12	AQ	33	GLY	3.0
33	CC	172	ARG	3.0
31	CA	1305	G	3.0
6	BG	145	THR	3.0
32	CB	140	HIS	3.0
31	DA	1004	A	3.0
31	DA	1319	A	3.0
33	CC	200	ALA	3.0
37	CG	79	ARG	3.0
39	CI	29	ASN	3.0
40	CJ	78	ASN	3.0
1	BA	885	C	3.0
1	AA	2132	U	3.0

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Mol	Chain	Res	Type	RSRZ
1	BA	2154	G	3.0
31	CA	156	G	3.0
31	DA	1343	G	3.0
39	CI	122	ALA	3.0
15	BT	37	GLY	3.0
39	DI	72	GLY	3.0
32	DB	29	ALA	3.0
1	AA	652(F)	G	3.0
1	BA	652(Q)	G	3.0
31	CA	1224	G	3.0
31	DA	1024	G	3.0
31	DA	1300	G	3.0
31	DA	1385	G	3.0
37	CG	85	TYR	3.0
31	CA	1213	A	3.0
31	CA	1025	U	3.0
26	A4	11	PRO	2.9
39	DI	96	LEU	2.9
40	CJ	63	PHE	2.9
1	AA	2802	G	2.9
1	BA	2157	G	2.9
6	AG	44	GLY	2.9
31	DA	1374	A	2.9
44	CN	20	ALA	2.9
37	CG	28	ASN	2.9
46	CP	21	VAL	2.9
1	AA	2894	G	2.9
31	DA	1195	C	2.9
33	CC	148	GLY	2.9
33	DC	65	ALA	2.9
43	DM	24	GLY	2.9
48	CR	34	TYR	2.9
31	CA	1048	G	2.9
31	DA	1373	G	2.9
49	DS	45	VAL	2.9
6	AG	72	ARG	2.9
20	AY	65	ALA	2.9
43	CM	55	ARG	2.9
44	DN	16	PHE	2.9
51	DU	17	THR	2.9
31	DA	1000	U	2.9
34	DD	2	GLY	2.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	AA	886	C	2.9
43	DM	92	HIS	2.9
33	CC	153	VAL	2.9
51	CU	8	THR	2.9
33	CC	149	ALA	2.9
1	AA	2320	A	2.9
31	DA	1011	G	2.9
39	DI	110	GLU	2.9
44	DN	14	PRO	2.9
33	DC	202	ILE	2.9
32	DB	111	ARG	2.9
37	CG	146	GLU	2.9
31	DA	996	A	2.9
31	DA	1288	A	2.9
40	DJ	82	ILE	2.9
39	DI	93	ARG	2.9
49	DS	32	LYS	2.9
6	AG	29	TRP	2.9
37	DG	96	GLN	2.9
7	AH	46	GLU	2.9
1	AA	2168	G	2.9
31	CA	1021	G	2.9
31	CA	1266	G	2.9
49	CS	67	VAL	2.9
43	DM	85	GLY	2.9
48	CR	32	ARG	2.9
34	CD	21	LEU	2.9
1	AA	1052	C	2.9
1	AA	2149	G	2.8
40	DJ	100	THR	2.8
32	DB	139	LYS	2.8
1	AA	890	A	2.8
31	DA	1192	C	2.8
33	DC	44	GLU	2.8
39	CI	41	VAL	2.8
40	DJ	75	LEU	2.8
31	CA	1147	C	2.8
31	CA	1383	C	2.8
33	CC	126	ARG	2.8
31	CA	1136	U	2.8
31	CA	1307	U	2.8
37	CG	69	VAL	2.8

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Mol	Chain	Res	Type	RSRZ
43	CM	21	TYR	2.8
49	DS	77	THR	2.8
31	CA	1024	G	2.8
31	DA	1193	G	2.8
33	CC	196	LEU	2.8
6	AG	132	ASN	2.8
1	AA	2167	U	2.8
31	CA	1364	U	2.8
31	DA	1136	U	2.8
32	DB	31	TYR	2.8
1	AA	2157	G	2.8
44	CN	61	TRP	2.8
1	AA	2790	A	2.8
31	CA	1320	C	2.8
40	DJ	97	GLU	2.8
6	AG	65	GLY	2.8
25	A3	28	LEU	2.8
29	A7	48	LYS	2.8
32	DB	115	LEU	2.8
35	CE	25	ARG	2.8
44	DN	31	ARG	2.8
14	AS	37	ALA	2.8
43	CM	72	ALA	2.8
8	AI	145	VAL	2.8
43	DM	25	ILE	2.8
49	CS	59	PRO	2.8
37	DG	68	ASN	2.8
2	AB	54	G	2.8
31	DA	1295	G	2.8
31	CA	1382	C	2.8
14	AS	8	GLU	2.8
37	DG	148	ASN	2.8
40	CJ	24	VAL	2.8
31	DA	1348	U	2.8
43	CM	84	ILE	2.8
37	CG	18	TYR	2.8
1	BA	2141	G	2.8
31	CA	1038	C	2.8
1	BA	2135	A	2.8
39	CI	26	VAL	2.8
49	DS	56	GLN	2.8
1	AA	2172	U	2.8

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Mol	Chain	Res	Type	RSRZ
1	AA	2145	C	2.8
7	AH	96	ALA	2.8
49	CS	53	ASN	2.8
7	AH	47	GLU	2.7
26	A4	37	SER	2.7
38	CH	58	TYR	2.7
37	DG	88	PRO	2.7
31	DA	1019	C	2.7
31	DA	1400	C	2.7
43	DM	4	ILE	2.7
31	CA	1245	A	2.7
40	DJ	48	THR	2.7
43	DM	87	TYR	2.7
44	CN	19	ARG	2.7
33	DC	64	VAL	2.7
32	DB	38	GLY	2.7
40	DJ	33	GLN	2.7
50	CT	9	ASN	2.7
40	DJ	99	LYS	2.7
31	CA	1112	C	2.7
43	DM	60	VAL	2.7
32	CB	128	GLU	2.7
40	DJ	29	ARG	2.7
29	B7	46	VAL	2.7
32	DB	43	ASP	2.7
33	CC	183	ASP	2.7
6	AG	176	LEU	2.7
40	CJ	33	GLN	2.7
43	CM	56	LEU	2.7
49	DS	73	GLU	2.7
31	CA	1215	G	2.7
31	DA	77	G	2.7
7	AH	52	VAL	2.7
36	DF	4	TYR	2.7
39	CI	114	TYR	2.7
6	BG	87	PRO	2.7
37	CG	27	ILE	2.7
37	DG	125	MET	2.7
44	CN	22	THR	2.7
43	CM	61	GLU	2.7
1	AA	2166	G	2.7
37	DG	145	ALA	2.7

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Mol	Chain	Res	Type	RSRZ
39	DI	8	GLY	2.7
32	CB	165	VAL	2.7
39	CI	104	ARG	2.7
39	DI	79	LEU	2.7
31	CA	984	C	2.7
31	DA	1208	C	2.7
37	DG	109	ASN	2.7
8	BI	12	LEU	2.7
39	CI	6	GLY	2.7
39	CI	24	GLY	2.7
40	CJ	40	LEU	2.7
43	DM	50	GLU	2.7
1	BA	2170	A	2.7
33	DC	36	ASP	2.7
33	DC	164	ARG	2.7
6	AG	120	LEU	2.7
7	AH	166	GLY	2.7
31	CA	1334	G	2.7
31	DA	1294	G	2.7
37	CG	34	GLY	2.7
39	DI	95	LYS	2.7
40	DJ	6	ILE	2.7
37	DG	66	VAL	2.7
4	AE	3	GLY	2.7
33	DC	4	LYS	2.7
28	A6	20	ASN	2.7
1	AA	11	G	2.7
31	CA	1004	A	2.6
37	DG	129	GLU	2.6
6	AG	9	ARG	2.6
40	DJ	84	GLN	2.6
20	AY	35	TYR	2.6
31	CA	1047	G	2.6
31	DA	1006	C	2.6
31	DA	1057	G	2.6
31	DA	1165	C	2.6
33	DC	81	GLY	2.6
37	CG	121	ALA	2.6
40	CJ	26	ALA	2.6
7	AH	148	ILE	2.6
43	DM	80	ARG	2.6
49	CS	83	HIS	2.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	AA	2801(A)	A	2.6
48	CR	78	LEU	2.6
39	CI	15	ALA	2.6
31	DA	1262	C	2.6
40	CJ	62	HIS	2.6
43	DM	79	LYS	2.6
31	DA	1289	A	2.6
39	CI	101	PHE	2.6
39	DI	92	TYR	2.6
50	DT	99	LEU	2.6
46	CP	36	ILE	2.6
1	AA	2143	C	2.6
14	AS	31	SER	2.6
49	DS	11	VAL	2.6
33	DC	167	TRP	2.6
35	DE	21	ALA	2.6
40	CJ	28	ARG	2.6
6	AG	80	PHE	2.6
31	CA	1359	C	2.6
32	CB	163	PHE	2.6
44	DN	39	LEU	2.6
25	A3	27	GLY	2.6
43	CM	40	ASN	2.6
33	DC	58	GLU	2.6
49	CS	32	LYS	2.6
31	CA	78	G	2.6
31	CA	1294	G	2.6
31	DA	1212	U	2.6
35	CE	23	GLY	2.6
40	DJ	39	PRO	2.6
41	CK	60	ALA	2.6
31	DA	999	C	2.6
31	DA	1119	C	2.6
6	AG	62	LEU	2.6
8	AI	108	THR	2.6
14	AS	60	GLY	2.6
37	CG	5	ARG	2.6
37	DG	72	ARG	2.6
37	CG	150	ALA	2.6
1	AA	899	A	2.6
31	DA	1164	G	2.6
31	DA	1350	A	2.6

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Mol	Chain	Res	Type	RSRZ
20	AY	89	PHE	2.6
49	CS	73	GLU	2.6
1	AA	2803	C	2.6
49	CS	19	VAL	2.6
31	CA	1005	A	2.6
31	CA	1329	A	2.6
33	CC	63	ASN	2.6
31	CA	1272	G	2.6
31	DA	1050	G	2.6
1	BA	889	C	2.6
37	CG	128	ALA	2.6
43	DM	107	ALA	2.6
31	DA	1313	U	2.6
37	CG	62	PHE	2.6
40	DJ	69	ASN	2.5
32	DB	14	GLY	2.5
35	DE	22	GLY	2.5
49	CS	46	GLY	2.5
31	DA	1016	A	2.5
31	DA	1041	A	2.5
31	DA	1268	A	2.5
37	CG	42	ILE	2.5
37	DG	42	ILE	2.5
47	DQ	100	LYS	2.5
49	DS	34	TRP	2.5
6	AG	138	GLN	2.5
32	CB	132	LYS	2.5
1	AA	272(J)	C	2.5
6	BG	49	ASP	2.5
31	DA	1247	U	2.5
45	DO	15	PHE	2.5
2	AB	52	A	2.5
31	DA	1377	A	2.5
33	CC	145	GLY	2.5
31	DA	1209	C	2.5
21	AZ	192	ALA	2.5
49	CS	9	VAL	2.5
23	A1	48	LYS	2.5
43	CM	79	LYS	2.5
47	CQ	6	LEU	2.5
49	CS	70	LYS	2.5
37	DG	24	THR	2.5

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Mol	Chain	Res	Type	RSRZ
40	CJ	60	ARG	2.5
31	CA	1130	A	2.5
31	CA	1285	A	2.5
31	DA	1046	A	2.5
43	DM	64	TRP	2.5
33	CC	147	LYS	2.5
34	DD	206	PHE	2.5
39	CI	84	ALA	2.5
43	DM	17	VAL	2.5
32	CB	118	LEU	2.5
39	CI	99	LEU	2.5
25	A3	29	ARG	2.5
31	CA	1013	G	2.5
33	CC	142	MET	2.5
6	AG	107	LEU	2.5
32	DB	70	PHE	2.5
33	CC	207	VAL	2.5
37	CG	12	LEU	2.5
39	CI	32	ASP	2.5
39	CI	76	ALA	2.5
41	DK	13	GLN	2.5
2	AB	59	A	2.5
31	DA	1040	U	2.5
50	DT	85	MET	2.5
26	A4	8	LYS	2.5
39	CI	81	ILE	2.5
44	DN	4	LYS	2.5
6	AG	90	LEU	2.5
37	DG	15	ASP	2.5
20	AY	1	MET	2.5
31	CA	959	A	2.5
31	CA	996	A	2.5
31	DA	1038	C	2.5
7	AH	105	LEU	2.5
50	DT	84	LEU	2.5
7	AH	158	HIS	2.5
37	CG	76	ARG	2.5
43	DM	57	ARG	2.5
31	CA	953	G	2.5
31	CA	1206	G	2.5
31	CA	1361	G	2.5
31	DA	1371	G	2.5

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Mol	Chain	Res	Type	RSRZ
33	DC	2	GLY	2.5
1	BA	2114	A	2.5
6	AG	159	VAL	2.5
33	DC	196	LEU	2.5
39	CI	37	PHE	2.5
40	CJ	44	VAL	2.5
47	DQ	11	VAL	2.5
39	DI	83	ARG	2.5
44	DN	12	ARG	2.5
43	DM	63	THR	2.5
51	DU	21	TYR	2.5
40	CJ	94	VAL	2.5
49	CS	60	VAL	2.5
50	DT	57	ARG	2.5
1	BA	2142	C	2.5
31	CA	1384	C	2.5
29	A7	46	VAL	2.5
20	AY	69	ALA	2.4
37	DG	151	TYR	2.4
1	BA	2120	G	2.4
2	AB	51	G	2.4
39	DI	91	ASP	2.4
40	DJ	21	GLN	2.4
32	DB	214	ILE	2.4
33	DC	144	SER	2.4
1	AA	2160	G	2.4
31	CA	1241	G	2.4
31	DA	1022	G	2.4
43	CM	96	LEU	2.4
7	AH	156	ALA	2.4
31	CA	1319	A	2.4
37	CG	2	ALA	2.4
32	DB	131	PRO	2.4
33	DC	159	GLY	2.4
26	B4	3	GLU	2.4
32	CB	127	ILE	2.4
39	CI	12	GLU	2.4
32	DB	19	HIS	2.4
33	CC	87	LEU	2.4
40	DJ	35	SER	2.4
39	DI	82	ALA	2.4
31	DA	1250	A	2.4

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Mol	Chain	Res	Type	RSRZ
8	AI	4	ILE	2.4
6	AG	117	PHE	2.4
20	AY	4	LYS	2.4
37	CG	65	ALA	2.4
11	AP	93	GLY	2.4
17	AV	67	GLY	2.4
48	DR	27	GLY	2.4
37	CG	26	PHE	2.4
1	BA	272(A)	G	2.4
21	AZ	112	ARG	2.4
32	DB	114	ARG	2.4
31	DA	1211	U	2.4
6	AG	43	LEU	2.4
22	A0	45	PHE	2.4
34	DD	29	PRO	2.4
36	CF	67	MET	2.4
1	AA	2178	C	2.4
31	CA	1041	A	2.4
31	DA	1270	C	2.4
43	CM	9	ILE	2.4
43	DM	40	ASN	2.4
6	BG	73	ALA	2.4
37	DG	52	GLU	2.4
1	AA	885	C	2.4
31	CA	1114	C	2.4
37	CG	101	LEU	2.4
49	DS	58	VAL	2.4
29	A7	1	MET	2.4
31	CA	1160	G	2.4
31	DA	570	G	2.4
31	DA	1117	G	2.4
49	DS	44	MET	2.4
11	AP	66	GLY	2.4
43	CM	89	GLY	2.4
36	DF	36	ARG	2.4
37	CG	43	PHE	2.4
39	DI	10	ARG	2.4
40	DJ	89	ASP	2.4
48	CR	75	ILE	2.4
32	CB	136	VAL	2.4
31	CA	1341	U	2.4
31	CA	1177	G	2.4

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Mol	Chain	Res	Type	RSRZ
33	DC	183	ASP	2.4
35	DE	20	GLN	2.4
37	DG	18	TYR	2.4
39	CI	27	THR	2.4
43	CM	37	THR	2.4
1	AA	897	C	2.4
7	AH	18	GLU	2.4
43	DM	68	GLY	2.4
44	DN	10	ALA	2.4
21	AZ	180	VAL	2.4
31	CA	98	G	2.3
39	DI	54	ASP	2.3
6	AG	161	THR	2.3
49	CS	65	ASN	2.3
21	AZ	91	LEU	2.3
43	DM	53	VAL	2.3
39	CI	75	ASP	2.3
32	CB	96	ARG	2.3
37	DG	32	ARG	2.3
11	AP	92	GLU	2.3
1	AA	2187	G	2.3
1	AA	2319	G	2.3
31	DA	1177	G	2.3
43	DM	100	GLY	2.3
49	DS	65	ASN	2.3
1	AA	2185	C	2.3
1	BA	2105	C	2.3
31	DA	1342	C	2.3
33	DC	147	LYS	2.3
39	DI	3	GLN	2.3
32	DB	48	MET	2.3
39	DI	107	ARG	2.3
49	CS	51	VAL	2.3
1	AA	2131	G	2.3
31	DA	1309	G	2.3
1	AA	884	C	2.3
31	DA	1326	C	2.3
33	CC	189	ALA	2.3
32	DB	23	ARG	2.3
33	CC	3	ASN	2.3
37	DG	37	ASN	2.3
1	AA	2897	U	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
24	A2	1	MET	2.3
31	DA	1292	U	2.3
1	AA	2112	G	2.3
6	AG	87	PRO	2.3
14	AS	110	LEU	2.3
31	CA	1178	G	2.3
8	AI	27	ARG	2.3
31	DA	1317	C	2.3
38	CH	116	LYS	2.3
40	DJ	59	SER	2.3
31	DA	1168	A	2.3
37	DG	103	TRP	2.3
32	CB	134	GLU	2.3
31	DA	1341	U	2.3
32	DB	32	ILE	2.3
32	DB	51	LEU	2.3
39	CI	18	PHE	2.3
7	AH	111	HIS	2.3
40	CJ	97	GLU	2.3
1	AA	1046	A	2.3
31	CA	1374	A	2.3
49	DS	22	LEU	2.3
7	AH	106	THR	2.3
40	DJ	68	HIS	2.3
43	DM	13	LYS	2.3
45	DO	50	HIS	2.3
39	DI	104	ARG	2.3
1	BA	652(F)	G	2.3
40	CJ	65	LEU	2.3
1	BA	2126	A	2.3
1	BA	2790	A	2.3
40	CJ	32	ALA	2.3
45	DO	16	ALA	2.3
1	AA	2506	U	2.3
40	DJ	41	PRO	2.3
37	DG	92	SER	2.3
43	CM	57	ARG	2.3
31	CA	1234	C	2.3
34	CD	5	ILE	2.3
1	AA	2793	G	2.3
31	DA	1003	G	2.3
49	DS	13	ASP	2.3

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Mol	Chain	Res	Type	RSRZ
1	BA	2176	A	2.3
7	AH	94	TYR	2.3
31	DA	1005	A	2.3
50	DT	51	GLU	2.3
31	DA	1372	U	2.3
44	CN	32	SER	2.3
37	DG	69	VAL	2.3
37	DG	147	ALA	2.3
41	DK	97	ALA	2.3
1	BA	2163	C	2.3
33	DC	184	TYR	2.3
40	DJ	85	LEU	2.3
1	BA	2134	A	2.3
26	B4	18	CYS	2.3
37	DG	91	VAL	2.3
44	CN	7	ILE	2.3
48	DR	22	VAL	2.3
49	CS	11	VAL	2.3
34	DD	66	ARG	2.2
48	DR	46	GLU	2.2
31	CA	1128	C	2.2
43	DM	113	PRO	2.2
37	CG	92	SER	2.2
46	DP	48	TRP	2.2
1	AA	896	A	2.2
31	CA	933	G	2.2
31	CA	1180	A	2.2
26	B4	10	VAL	2.2
35	CE	18	ARG	2.2
35	DE	76	ILE	2.2
31	DA	1118	C	2.2
46	DP	20	VAL	2.2
31	DA	1219	U	2.2
37	CG	139	GLU	2.2
6	AG	85	GLY	2.2
31	CA	965	A	2.2
33	CC	203	PHE	2.2
39	CI	67	GLY	2.2
45	DO	81	LEU	2.2
49	DS	61	TYR	2.2
50	DT	102	GLY	2.2
1	BA	2110	G	2.2

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Mol	Chain	Res	Type	RSRZ
31	CA	1316	G	2.2
49	DS	60	VAL	2.2
51	CU	9	ARG	2.2
7	AH	90	LYS	2.2
31	CA	433	C	2.2
31	CA	1380	U	2.2
31	DA	1296	C	2.2
7	AH	100	GLY	2.2
37	DG	12	LEU	2.2
49	DS	46	GLY	2.2
31	CA	152	A	2.2
31	DA	1170	A	2.2
43	DM	39	ILE	2.2
7	AH	32	GLU	2.2
43	CM	115	LYS	2.2
49	CS	27	GLU	2.2
39	DI	59	PHE	2.2
40	CJ	46	ARG	2.2
48	CR	29	PHE	2.2
36	CF	50	TYR	2.2
7	AH	13	LYS	2.2
36	CF	57	GLN	2.2
37	DG	36	LYS	2.2
38	CH	4	ASP	2.2
31	DA	935	A	2.2
6	AG	3	LEU	2.2
33	CC	96	GLY	2.2
43	DM	112	GLY	2.2
31	CA	1159	U	2.2
40	CJ	57	LYS	2.2
49	DS	43	GLU	2.2
37	CG	33	ASP	2.2
32	CB	227	GLY	2.2
33	DC	96	GLY	2.2
3	BD	275	LYS	2.2
39	DI	114	TYR	2.2
39	DI	116	LYS	2.2
40	DJ	95	GLU	2.2
1	BA	2109	U	2.2
6	AG	156	ASP	2.2
31	DA	1010	G	2.2
35	DE	31	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
40	DJ	47	PHE	2.2
31	DA	958	A	2.2
37	CG	143	ARG	2.2
31	CA	991	U	2.2
33	CC	43	LEU	2.2
34	DD	134	ASP	2.2
40	DJ	73	ASP	2.2
1	BA	2146	C	2.2
7	AH	99	VAL	2.2
31	CA	1207	G	2.2
31	DA	218	C	2.2
34	DD	35	ARG	2.2
49	CS	78	ARG	2.2
33	DC	146	ALA	2.2
37	CG	51	GLN	2.2
34	DD	37	PRO	2.2
38	DH	2	LEU	2.2
39	DI	57	GLY	2.2
50	CT	55	ILE	2.2
38	DH	1	MET	2.2
23	B1	2	SER	2.2
31	CA	1310	G	2.2
31	DA	1334	G	2.2
33	CC	139	GLN	2.2
32	CB	38	GLY	2.2
26	A4	10	VAL	2.2
26	B4	30	GLU	2.1
39	CI	77	ILE	2.2
37	DG	53	LYS	2.1
31	CA	979	C	2.1
31	DA	1395	C	2.1
32	DB	44	LEU	2.1
43	CM	70	LEU	2.1
9	AN	44	PRO	2.1
32	DB	137	ARG	2.1
43	DM	49	THR	2.1
49	CS	33	THR	2.1
31	CA	1385	G	2.1
31	DA	1276	G	2.1
31	DA	1316	G	2.1
35	CE	89	ILE	2.1
1	AA	2144	U	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
37	DG	31	MET	2.1
8	AI	82	ARG	2.1
14	AS	4	LEU	2.1
32	DB	130	ARG	2.1
38	DH	16	ALA	2.1
39	DI	31	GLN	2.1
43	CM	104	ARG	2.1
1	AA	279	C	2.1
5	AF	56	GLU	2.1
37	DG	135	VAL	2.1
38	CH	129	VAL	2.1
49	DS	27	GLU	2.1
31	CA	1216	G	2.1
31	CA	1231	G	2.1
31	DA	1134	G	2.1
31	DA	1258	G	2.1
34	CD	135	LEU	2.1
37	CG	102	ARG	2.1
37	CG	127	ALA	2.1
45	DO	64	ARG	2.1
6	AG	75	LYS	2.1
20	AY	43	ASN	2.1
31	CA	1218	C	2.1
31	DA	1384	C	2.1
39	DI	20	ARG	2.1
29	A7	45	ALA	2.1
23	A1	81	LYS	2.1
1	AA	275	G	2.1
1	BA	2149	G	2.1
1	BA	2151	G	2.1
31	DA	156	G	2.1
31	DA	1133	G	2.1
32	DB	165	VAL	2.1
44	DN	34	TYR	2.1
31	DA	71	C	2.1
31	DA	1018	C	2.1
37	CG	55	GLY	2.1
40	DJ	36	GLY	2.1
1	AA	2180	U	2.1
6	BG	75	LYS	2.1
31	DA	1339	A	2.1
31	CA	948	C	2.1

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Mol	Chain	Res	Type	RSRZ
37	CG	129	GLU	2.1
39	DI	41	VAL	2.1
43	DM	55	ARG	2.1
31	CA	997	U	2.1
37	DG	112	PRO	2.1
40	DJ	55	LYS	2.1
6	AG	171	ALA	2.1
14	AS	5	THR	2.1
36	DF	99	ALA	2.1
37	DG	140	ASP	2.1
40	CJ	96	ILE	2.1
7	AH	27	LYS	2.1
31	CA	1244	C	2.1
6	BG	133	LEU	2.1
33	CC	56	ASP	2.1
48	CR	30	ASP	2.1
45	DO	48	LYS	2.1
6	BG	25	TYR	2.1
31	CA	1258	G	2.1
31	DA	1009	G	2.1
37	CG	47	CYS	2.1
31	DA	955	U	2.1
43	DM	73	GLU	2.1
37	DG	33	ASP	2.1
40	CJ	7	LYS	2.1
40	CJ	47	PHE	2.1
11	AP	122	PRO	2.1
32	CB	148	TYR	2.1
37	DG	93	PRO	2.1
1	BA	653	A	2.1
5	AF	166	ALA	2.1
39	DI	112	LYS	2.1
1	AA	1114	G	2.1
31	CA	203	U	2.1
31	CA	1042	G	2.1
31	CA	1222	G	2.1
43	CM	102	ARG	2.1
43	DM	99	ARG	2.1
51	CU	15	ARG	2.1
48	DR	34	TYR	2.1
32	CB	131	PRO	2.1
1	BA	2122	U	2.0

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Mol	Chain	Res	Type	RSRZ
31	DA	1398	A	2.0
39	CI	126	SER	2.0
46	CP	9	PHE	2.0
49	CS	48	THR	2.0
1	AA	2792	G	2.0
31	CA	1271	G	2.0
33	DC	45	LYS	2.0
43	CM	36	LYS	2.0
32	DB	148	TYR	2.0
7	AH	35	VAL	2.0
40	CJ	41	PRO	2.0
43	CM	53	VAL	2.0
43	CM	4	ILE	2.0
7	AH	56	SER	2.0
33	CC	204	LEU	2.0
37	DG	76	ARG	2.0
44	CN	3	ARG	2.0
50	CT	72	LEU	2.0
37	CG	126	ASP	2.0
34	DD	33	MET	2.0
1	AA	879	G	2.0
31	CA	855	G	2.0
31	CA	1023	G	2.0
48	CR	40	LEU	2.0
6	AG	79	ASN	2.0
31	CA	1150	U	2.0
37	CG	151	TYR	2.0
39	CI	100	GLY	2.0
31	DA	1378	C	2.0
33	CC	202	ILE	2.0
39	CI	107	ARG	2.0
40	CJ	79	ARG	2.0
40	DJ	22	LYS	2.0
31	CA	1186	G	2.0
28	A6	42	TRP	2.0
42	DL	18	VAL	2.0
1	BA	1026	U	2.0
33	CC	77	ILE	2.0
35	DE	11	ILE	2.0
43	DM	106	ASN	2.0
50	DT	52	ALA	2.0
1	AA	2310	A	2.0

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Mol	Chain	Res	Type	RSRZ
6	BG	135	LEU	2.0
33	DC	32	LEU	2.0
37	CG	14	PRO	2.0
23	A1	47	GLN	2.0
33	DC	205	GLY	2.0
6	AG	97	ASP	2.0
1	BA	2148	G	2.0
6	BG	46	ALA	2.0
31	DA	1271	G	2.0
39	CI	7	THR	2.0
39	CI	23	ASN	2.0
50	DT	53	LEU	2.0

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

There are no non-standard protein/DNA/RNA residues in this entry.

## 6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
52	T8B	BA	3001	44/44	0.89	0.34	4.94	20,20,20,20	0
52	T8B	AA	3001	44/44	0.85	0.28	2.12	20,20,20,20	0
53	MG	BA	3002	1/1	0.85	0.15	-	30,30,30,30	0
53	MG	AA	3002	1/1	0.95	0.20	-	30,30,30,30	0
53	MG	BA	3003	1/1	0.94	0.16	-	30,30,30,30	0
53	MG	AA	3003	1/1	0.98	0.17	-	30,30,30,30	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.