



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 09:06 PM GMT

PDB ID : 4U25  
Title : Crystal structure of the E. coli ribosome bound to virginiamycin M1.  
Authors : Noeske, J.; Huang, J.; Olivier, N.B.; Giacobbe, R.A.; Zambrowski, M.; Cate, J.H.D.  
Deposited on : 2014-06-07  
Resolution : 2.90 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](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

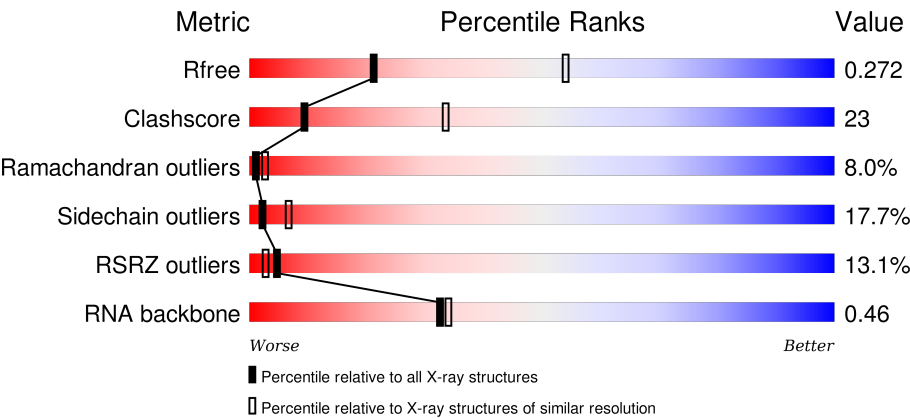
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.90 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R <sub>free</sub>	91344	1451 (2.90-2.90)
Clashscore	102246	1668 (2.90-2.90)
Ramachandran outliers	100387	1630 (2.90-2.90)
Sidechain outliers	100360	1632 (2.90-2.90)
RSRZ outliers	91569	1456 (2.90-2.90)
RNA backbone	2183	1093 (3.30-2.50)

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

Mol	Chain	Length	Quality of chain
1	AA	1539	<div><div>2%</div><div>32%</div><div>52%</div><div>15%</div></div>
1	CA	1539	<div><div>4%</div><div>33%</div><div>53%</div><div>13%</div></div>
2	AB	218	<div><div>15%</div><div>20%</div><div>50%</div><div>23%</div><div>6%</div></div>
2	CB	218	<div><div>28%</div><div>30%</div><div>51%</div><div>17%</div><div>.</div></div>

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Mol	Chain	Length	Quality of chain
3	AC	206	
3	CC	206	
4	AD	205	
4	CD	205	
5	AE	150	
5	CE	150	
6	AF	100	
6	CF	100	
7	AG	151	
7	CG	151	
8	AH	129	
8	CH	129	
9	AI	127	
9	CI	127	
10	AJ	98	
10	CJ	98	
11	AK	117	
11	CK	117	
12	AL	123	
12	CL	123	
13	AM	114	
13	CM	114	
14	AN	100	
14	CN	100	
15	AO	88	

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Mol	Chain	Length	Quality of chain
15	CO	88	
16	AP	82	
16	CP	82	
17	AQ	80	
17	CQ	80	
18	AR	55	
18	CR	55	
19	AS	79	
19	CS	79	
20	AT	85	
20	CT	85	
21	AU	51	
21	CU	51	
22	BA	2903	
22	DA	2903	
23	BB	119	
23	DB	119	
24	BC	271	
24	DC	271	
25	BD	209	
25	DD	209	
26	BE	201	
26	DE	201	
27	BF	177	
27	DF	177	

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Mol	Chain	Length	Quality of chain
28	BG	176	
28	DG	176	
29	BH	149	
29	DH	149	
30	BI	141	
30	DI	141	
31	BJ	142	
31	DJ	142	
32	BK	122	
32	DK	122	
33	BL	143	
33	DL	143	
34	BM	136	
34	DM	136	
35	BN	120	
35	DN	120	
36	BO	116	
36	DO	116	
37	BP	114	
37	DP	114	
38	BQ	117	
38	DQ	117	
39	BR	103	
39	DR	103	
40	BS	110	

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Mol	Chain	Length	Quality of chain
40	DS	110	
41	BT	93	
41	DT	93	
42	BU	102	
42	DU	102	
43	BV	94	
43	DV	94	
44	BW	76	
44	DW	76	
45	BX	77	
45	DX	77	
46	BY	63	
46	DY	63	
47	BZ	58	
47	DZ	58	
48	B0	56	
48	D0	56	
49	B1	50	
49	D1	50	
50	B2	46	
50	D2	46	
51	B3	64	
51	D3	64	
52	B4	38	
52	D4	38	

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Mol	Chain	Length	Quality of chain
53	B5	228	

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
54	MG	AA	1610	-	-	-	X
54	MG	AA	1621	-	-	-	X
54	MG	AA	1634	-	-	-	X
54	MG	AA	1643	-	-	-	X
54	MG	AA	1654	-	-	-	X
54	MG	AA	1662	-	-	-	X
54	MG	AA	1670	-	-	-	X
54	MG	BA	3016	-	-	-	X
54	MG	BA	3035	-	-	-	X
54	MG	BA	3041	-	-	-	X
54	MG	BA	3056	-	-	-	X
54	MG	BA	3058	-	-	-	X
54	MG	BA	3084	-	-	-	X
54	MG	BA	3105	-	-	-	X
54	MG	BA	3109	-	-	-	X
54	MG	BA	3110	-	-	-	X
54	MG	BA	3132	-	-	-	X
54	MG	BA	3134	-	-	-	X
54	MG	BA	3137	-	-	-	X
54	MG	BA	3139	-	-	-	X
54	MG	BA	3145	-	-	-	X
54	MG	BA	3147	-	-	-	X
54	MG	BA	3151	-	-	-	X
54	MG	BA	3153	-	-	-	X
54	MG	BA	3155	-	-	-	X
54	MG	BA	3168	-	-	-	X
54	MG	BA	3183	-	-	-	X
54	MG	BA	3185	-	-	-	X
54	MG	CA	1630	-	-	-	X
54	MG	CA	1632	-	-	-	X
54	MG	DA	3003	-	-	-	X
54	MG	DA	3009	-	-	-	X
54	MG	DA	3029	-	-	-	X
54	MG	DA	3042	-	-	-	X
54	MG	DA	3050	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
54	MG	DA	3072	-	-	-	X
54	MG	DA	3110	-	-	-	X
54	MG	DA	3114	-	-	-	X
54	MG	DA	3117	-	-	-	X
54	MG	DA	3125	-	-	-	X
55	VIR	BA	3001	-	-	-	X
55	VIR	DA	3001	-	-	-	X



## 2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 288258 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	AA	1538	Total	C	N	O	P	0	0	0
			32995	14716	6050	10691	1538			
1	CA	1539	Total	C	N	O	P	0	0	0
			33015	14725	6052	10699	1539			

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	AB	218	Total	C	N	O	S	0	0	0
			1705	1081	305	312	7			
2	CB	218	Total	C	N	O	S	0	0	0
			1705	1081	305	312	7			

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	AC	206	Total	C	N	O	S	0	0	0
			1625	1028	305	289	3			
3	CC	206	Total	C	N	O	S	0	0	0
			1625	1028	305	289	3			

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AD	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			
4	CD	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AE	150	Total	C	N	O	S	0	0	0
			1106	687	211	202	6			
5	CE	150	Total	C	N	O	S	0	0	0
			1106	687	211	202	6			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AF	100	Total	C	N	O	S	0	0	0
			818	515	148	149	6			
6	CF	100	Total	C	N	O	S	0	0	0
			818	515	148	149	6			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AG	151	Total	C	N	O	S	0	0	0
			1182	735	227	216	4			
7	CG	151	Total	C	N	O	S	0	0	0
			1182	735	227	216	4			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			
8	CH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			
9	CI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AJ	98	Total	C	N	O	S	0	0	0
			787	493	150	143	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	CJ	98	Total	C	N	O	S	0	0	0
			787	493	150	143	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			
11	CK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AL	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			
12	CL	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AM	114	Total	C	N	O	S	0	0	0
			884	546	178	157	3			
13	CM	114	Total	C	N	O	S	0	0	0
			884	546	178	157	3			

- Molecule 14 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AN	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			
14	CN	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AO	88	Total	C	N	O	S	0	0	0
			710	437	143	129	1			
15	CO	88	Total	C	N	O	S	0	0	0
			710	437	143	129	1			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AP	82	Total	C	N	O	S	0	0	0
			649	406	128	114	1			
16	CP	82	Total	C	N	O	S	0	0	0
			649	406	128	114	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AQ	80	Total	C	N	O	S	0	0	0
			649	411	121	114	3			
17	CQ	80	Total	C	N	O	S	0	0	0
			649	411	121	114	3			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	AR	55	Total	C	N	O	0	0	0
			456	288	86	82			
18	CR	55	Total	C	N	O	0	0	0
			456	288	86	82			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AS	79	Total	C	N	O	S	0	0	0
			638	408	120	108	2			
19	CS	79	Total	C	N	O	S	0	0	0
			638	408	120	108	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AT	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			
20	CT	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			

- Molecule 21 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	AU	51	Total	C	N	O	S	0	0	0
			426	265	86	74	1			
21	CU	51	Total	C	N	O	S	0	0	0
			426	265	86	74	1			

- Molecule 22 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	BA	2897	Total	C	N	O	P	0	0	0
			62195	27745	11446	20107	2897			
22	DA	2897	Total	C	N	O	P	0	0	0
			62195	27745	11446	20107	2897			

- Molecule 23 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	BB	119	Total	C	N	O	P	0	0	0
			2549	1135	466	829	119			
23	DB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			

- Molecule 24 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	BC	271	Total	C	N	O	S	0	0	0
			2083	1288	423	365	7			
24	DC	271	Total	C	N	O	S	0	0	0
			2083	1288	423	365	7			

- Molecule 25 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	BD	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			
25	DD	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			

- Molecule 26 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	BE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	DE	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

- Molecule 27 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	BF	177	Total	C	N	O	S	0	0	0
			1411	899	249	257	6			
27	DF	177	Total	C	N	O	S	0	0	0
			1411	899	249	257	6			

- Molecule 28 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	BG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			
28	DG	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

- Molecule 29 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	BH	149	Total	C	N	O	S	0	0	0
			1110	699	197	213	1			
29	DH	149	Total	C	N	O	S	0	0	0
			1110	699	197	213	1			

- Molecule 30 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	BI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			
30	DI	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			

- Molecule 31 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	BJ	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			
31	DJ	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			

- Molecule 32 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	BK	122	Total	C	N	O	S	0	0	0
			939	587	180	166	6			
32	DK	122	Total	C	N	O	S	0	0	0
			939	587	180	166	6			

- Molecule 33 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	BL	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			
33	DL	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			

- Molecule 34 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	BM	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			
34	DM	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			

- Molecule 35 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	BN	120	Total	C	N	O	S	0	0	0
			961	593	196	167	5			
35	DN	120	Total	C	N	O	S	0	0	0
			961	593	196	167	5			

- Molecule 36 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
36	BO	116	Total	C	N	O	0	0	0
			892	552	178	162			
36	DO	116	Total	C	N	O	0	0	0
			892	552	178	162			

- Molecule 37 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	BP	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			
37	DP	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			

- Molecule 38 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	BQ	117	Total	C	N	O	S	0	0	0
			947	604	192	151				
38	DQ	117	Total	C	N	O	S	0	0	0
			947	604	192	151				

- Molecule 39 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BR	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			
39	DR	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			

- Molecule 40 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BS	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			
40	DS	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			

- Molecule 41 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BT	93	Total	C	N	O	S	0	0	0
			739	466	139	132	2			
41	DT	93	Total	C	N	O	S	0	0	0
			739	466	139	132	2			

- Molecule 42 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	BU	102	Total	C	N	O	S	0	0	0
			780	492	146	142				

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
42	DU	102	Total	C	N	O	0	0	0
			780	492	146	142			

- Molecule 43 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	BV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			
43	DV	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			

- Molecule 44 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BW	76	Total	C	N	O	S	0	0	0
			580	359	117	103	1			
44	DW	75	Total	C	N	O	S	0	0	0
			569	353	113	102	1			

- Molecule 45 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	BX	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			
45	DX	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			

- Molecule 46 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	BY	63	Total 509	C 313	N 99	O 95	S 2	0	0	0
46	DY	63	Total 509	C 313	N 99	O 95	S 2	0	0	0

- Molecule 47 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	BZ	58	Total 449	C 281	N 87	O 79	S 2	0	0	0
47	DZ	58	Total 449	C 281	N 87	O 79	S 2	0	0	0

- Molecule 48 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	B0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			
48	D0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

- Molecule 49 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
49	B1	50	Total	C	N	O	0	0	0
			410	263	75	72			
49	D1	50	Total	C	N	O	0	0	0
			410	263	75	72			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	B2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			
50	D2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 51 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	B3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			
51	D3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

- Molecule 52 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	B4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			
52	D4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

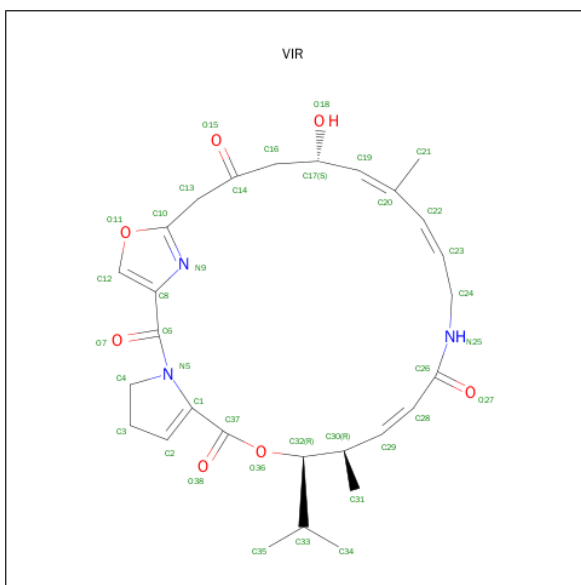
- Molecule 53 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
53	B5	191	Total	C	N	O	0	0	1
			1142	691	221	230			

- Molecule 54 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
54	BB	4	Total	Mg	0	0
			4	4		
54	BA	193	Total	Mg	0	0
			193	193		
54	CA	56	Total	Mg	0	0
			56	56		
54	DQ	1	Total	Mg	0	0
			1	1		
54	BD	1	Total	Mg	0	0
			1	1		
54	DA	166	Total	Mg	0	0
			166	166		
54	AA	71	Total	Mg	0	0
			71	71		
54	BQ	1	Total	Mg	0	0
			1	1		
54	AN	1	Total	Mg	0	0
			1	1		
54	D2	1	Total	Mg	0	0
			1	1		
54	DB	3	Total	Mg	0	0
			3	3		

- Molecule 55 is VIRGINIAMYCIN M1 (three-letter code: VIR) (formula: C<sub>28</sub>H<sub>35</sub>N<sub>3</sub>O<sub>7</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
55	BA	1	Total	C	N	O	0	0
			38	28	3	7		
55	DA	1	Total	C	N	O	0	0
			38	28	3	7		

- Molecule 56 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	B4	1	Total	Zn	0	0
			1	1		
56	D4	1	Total	Zn	0	0
			1	1		

- Molecule 57 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	AA	192	Total	O	0	0
			192	192		
57	AL	2	Total	O	0	0
			2	2		
57	AN	6	Total	O	0	0
			6	6		
57	AT	2	Total	O	0	0
			2	2		
57	AU	1	Total	O	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	BA	620	Total 620	O 620	0	0
57	BB	13	Total 13	O 13	0	0
57	BC	7	Total 7	O 7	0	0
57	BD	3	Total 3	O 3	0	0
57	BE	4	Total 4	O 4	0	0
57	BF	1	Total 1	O 1	0	0
57	BJ	1	Total 1	O 1	0	0
57	BL	5	Total 5	O 5	0	0
57	BN	3	Total 3	O 3	0	0
57	BQ	1	Total 1	O 1	0	0
57	BS	1	Total 1	O 1	0	0
57	BT	1	Total 1	O 1	0	0
57	BV	1	Total 1	O 1	0	0
57	B2	1	Total 1	O 1	0	0
57	B3	2	Total 2	O 2	0	0
57	B4	2	Total 2	O 2	0	0
57	CA	191	Total 191	O 191	0	0
57	CL	1	Total 1	O 1	0	0
57	CN	2	Total 2	O 2	0	0
57	CT	2	Total 2	O 2	0	0
57	CU	2	Total 2	O 2	0	0

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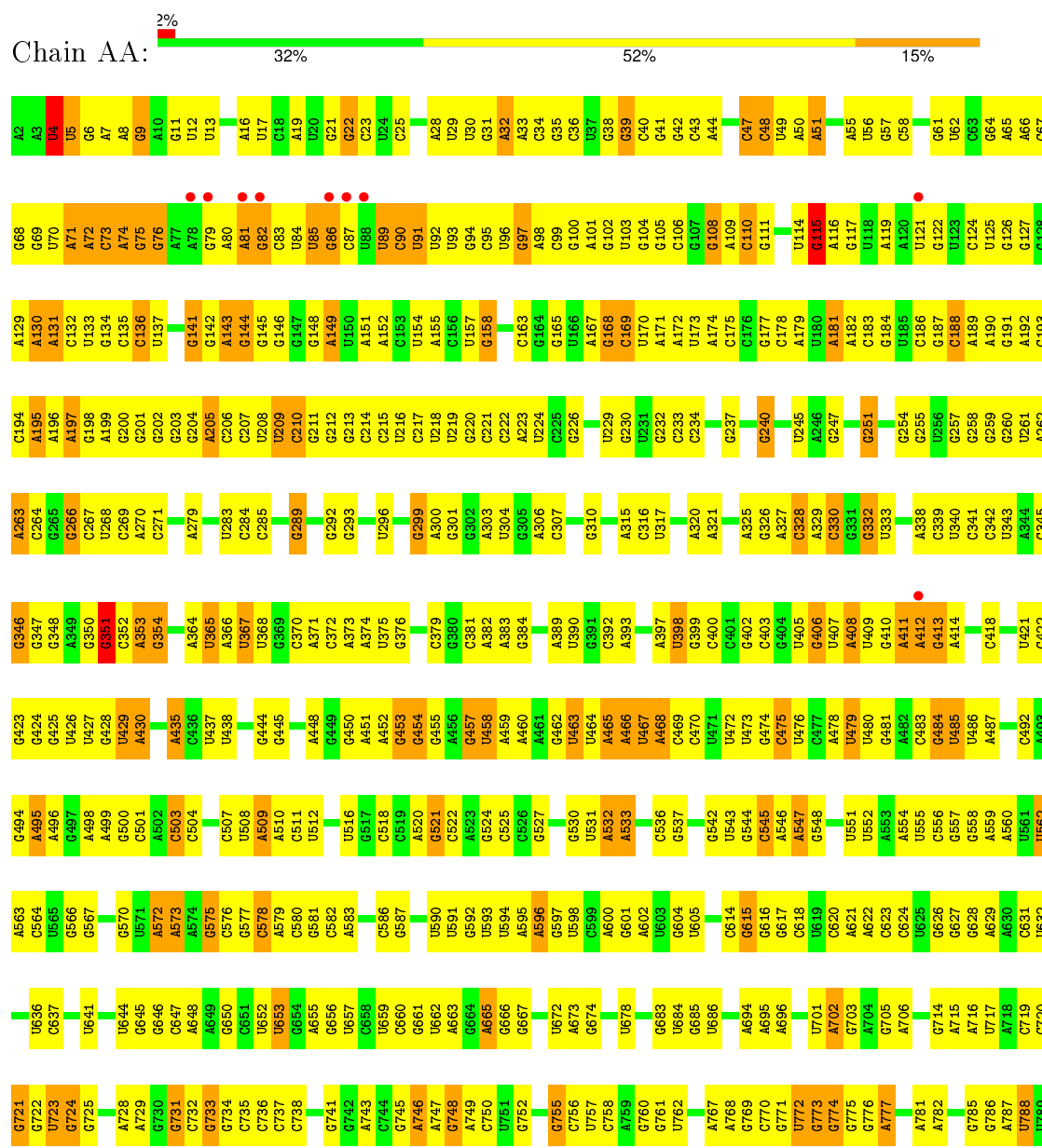
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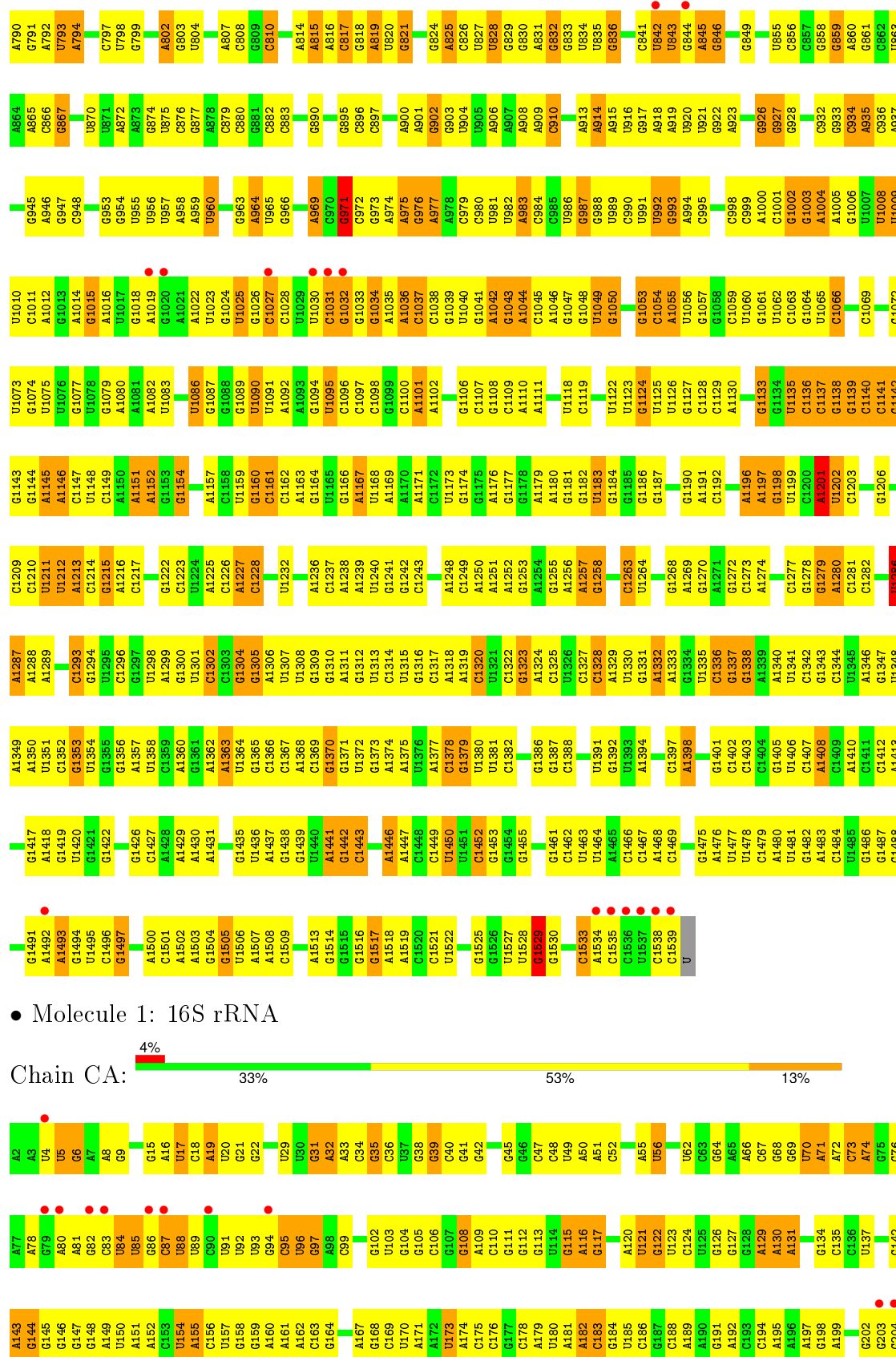
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57	DB	13	Total 13	O 13	0	0
57	DC	12	Total 12	O 12	0	0
57	DD	4	Total 4	O 4	0	0
57	DE	6	Total 6	O 6	0	0
57	DJ	1	Total 1	O 1	0	0
57	DL	4	Total 4	O 4	0	0
57	DN	2	Total 2	O 2	0	0
57	DT	1	Total 1	O 1	0	0
57	DU	1	Total 1	O 1	0	0
57	DV	1	Total 1	O 1	0	0
57	D2	1	Total 1	O 1	0	0
57	D3	2	Total 2	O 2	0	0
57	D4	1	Total 1	O 1	0	0

### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of 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.

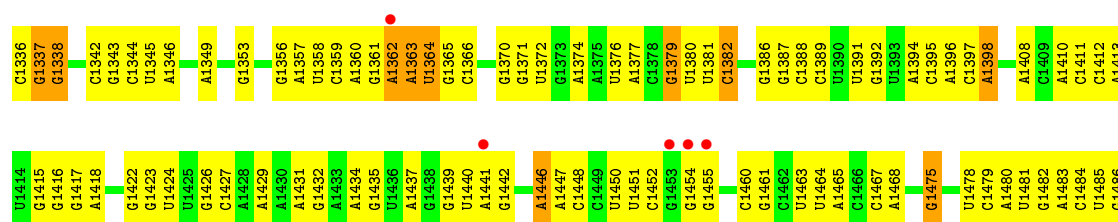
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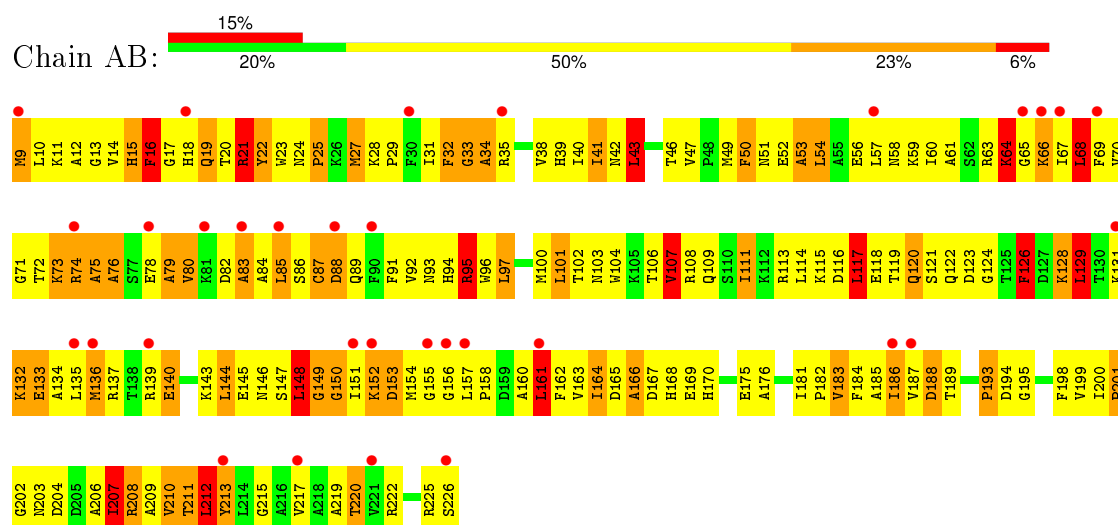




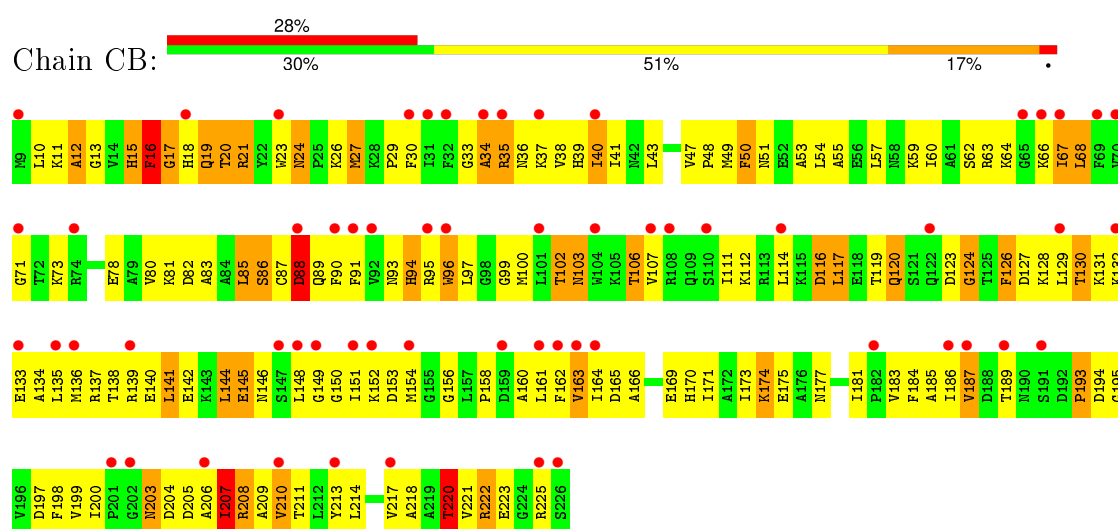




• Molecule 2: 30S ribosomal protein S2

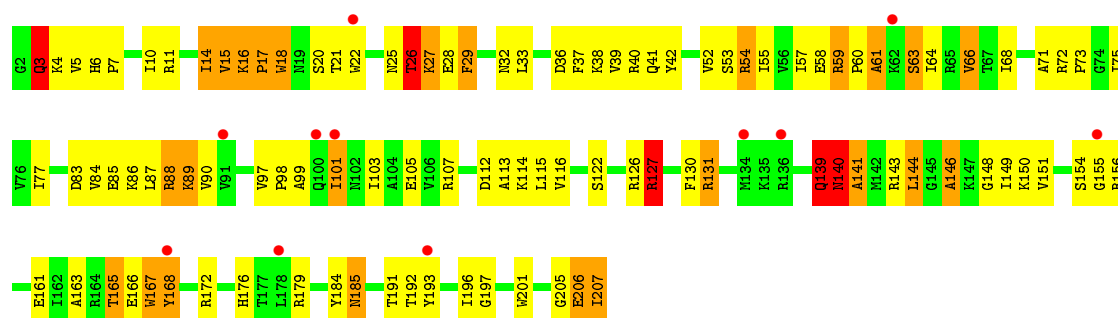


• Molecule 2: 30S ribosomal protein S2

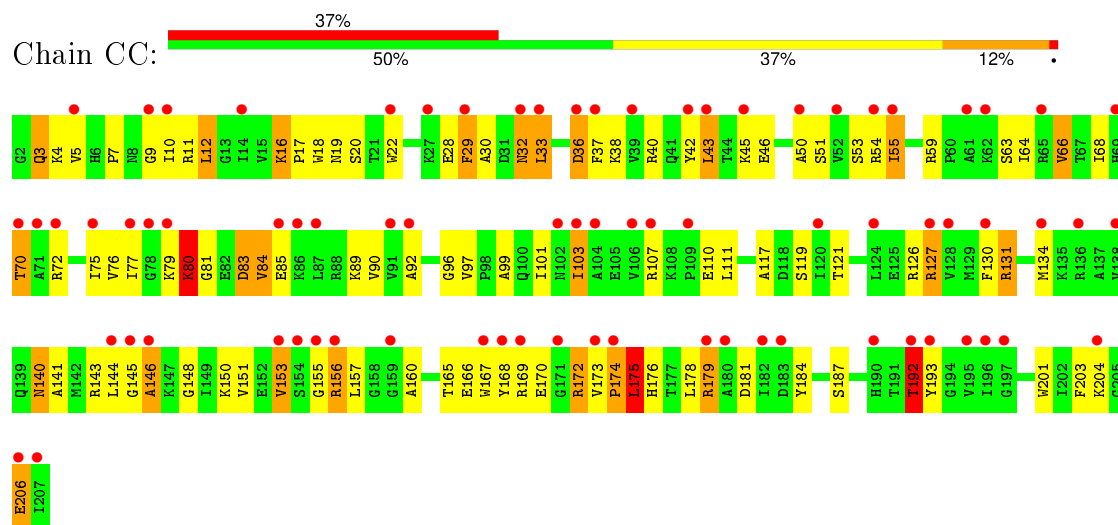


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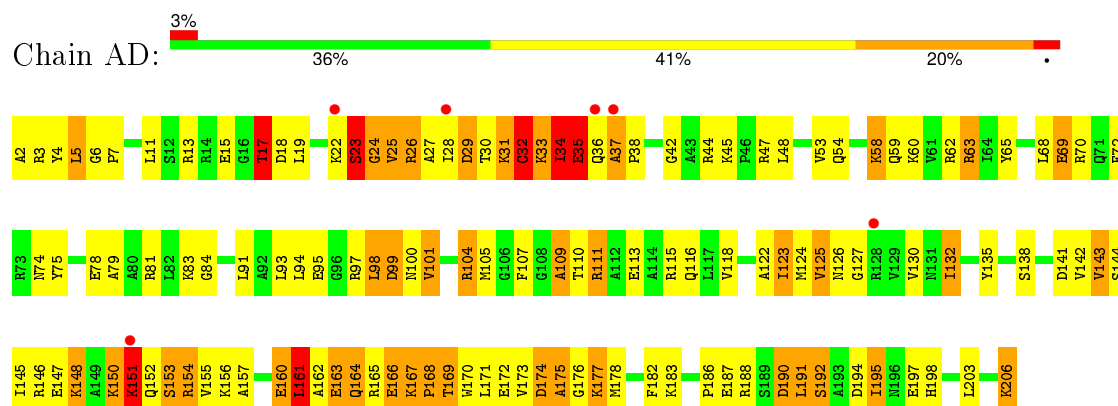




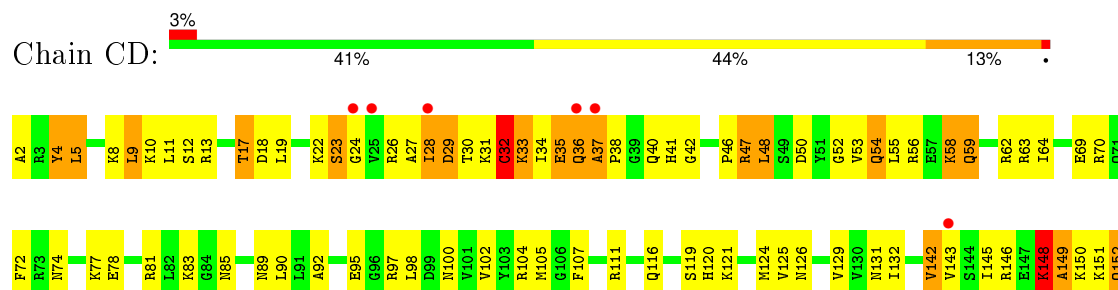
• Molecule 3: 30S ribosomal protein S3



• Molecule 4: 30S ribosomal protein S4

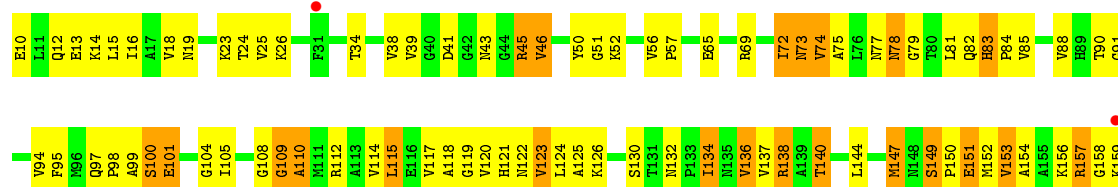


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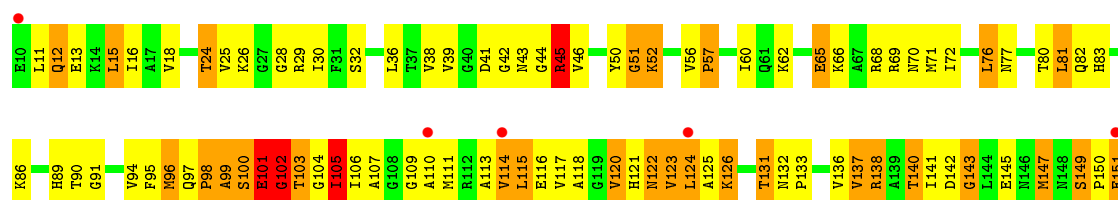




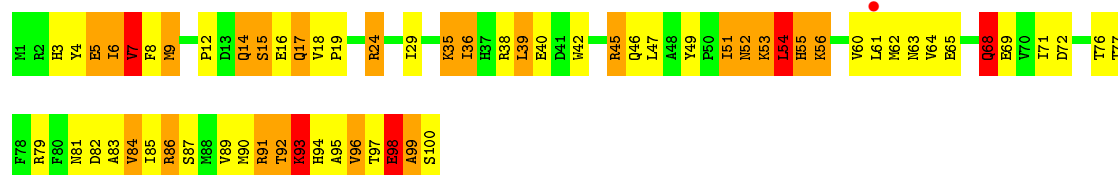
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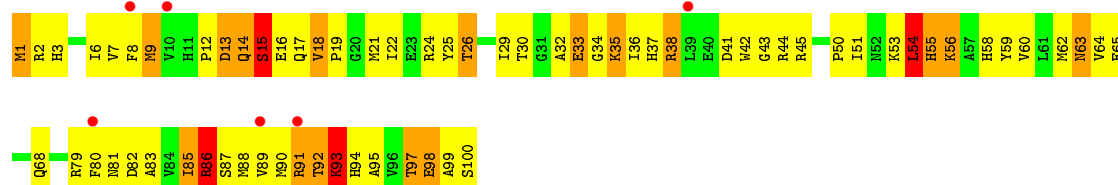
• Molecule 5: 30S ribosomal protein S5



• Molecule 6: 30S ribosomal protein S6

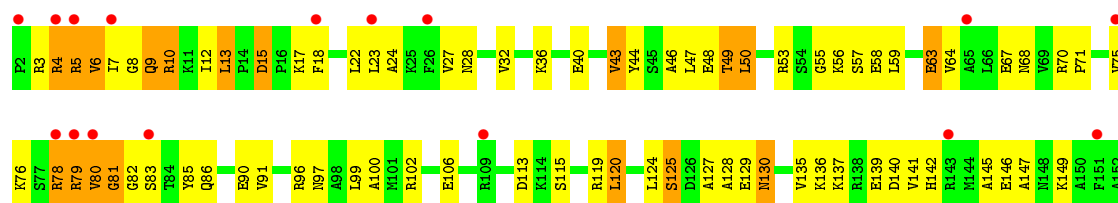


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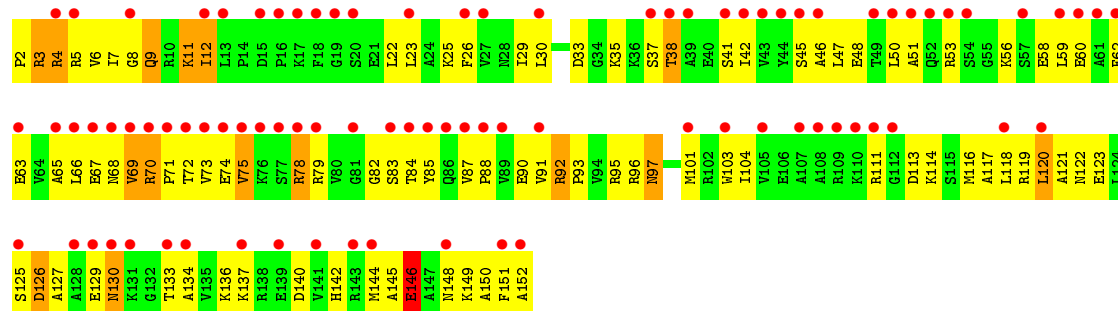
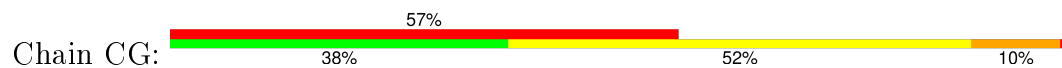


• Molecule 7: 30S ribosomal protein S7

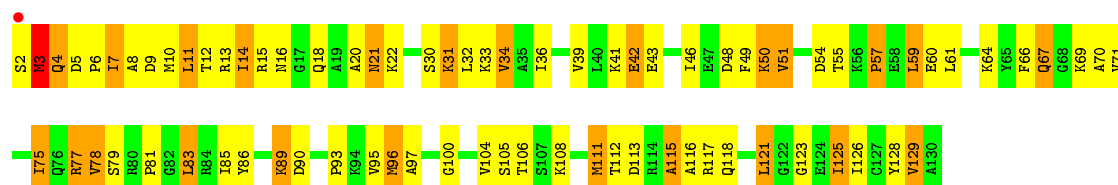
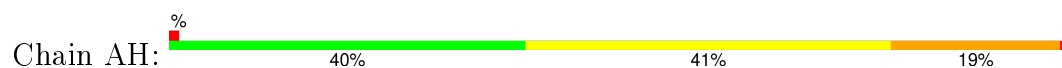




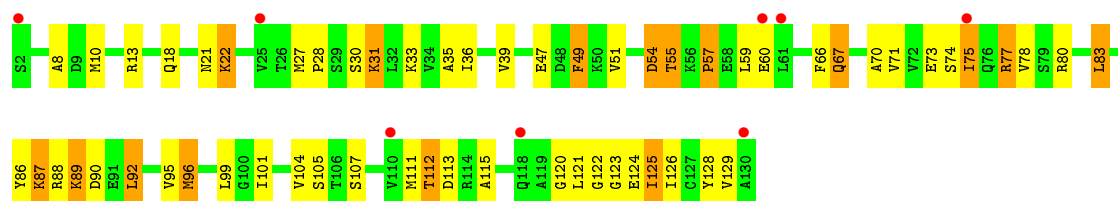
• Molecule 7: 30S ribosomal protein S7



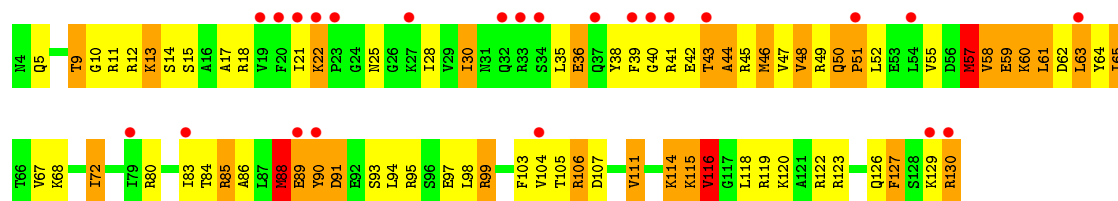
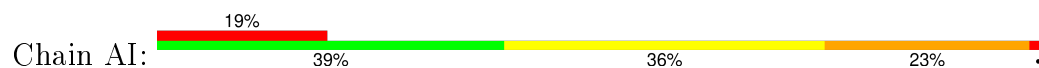
• Molecule 8: 30S ribosomal protein S8



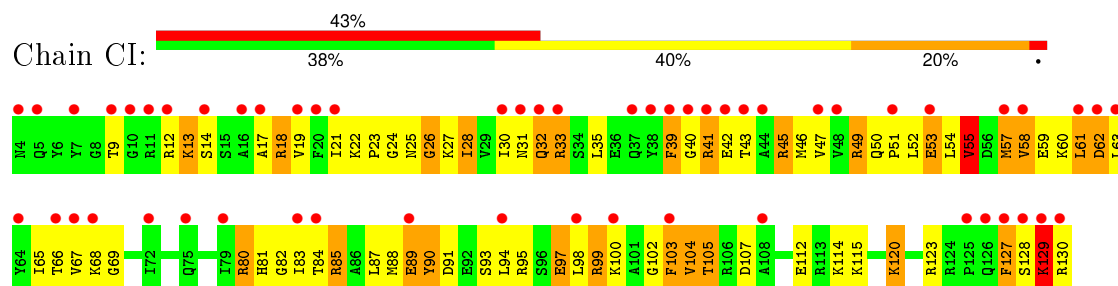
• Molecule 8: 30S ribosomal protein S8



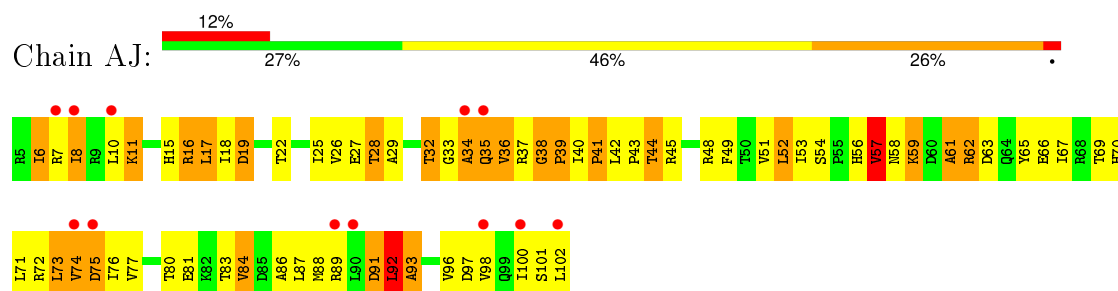
• Molecule 9: 30S ribosomal protein S9



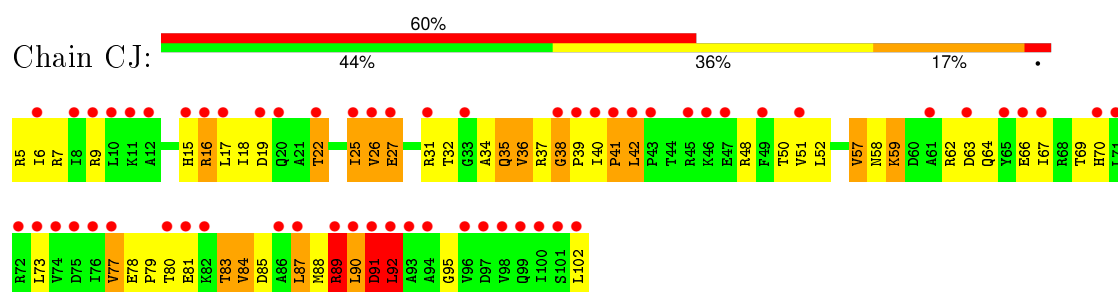
- Molecule 9: 30S ribosomal protein S9



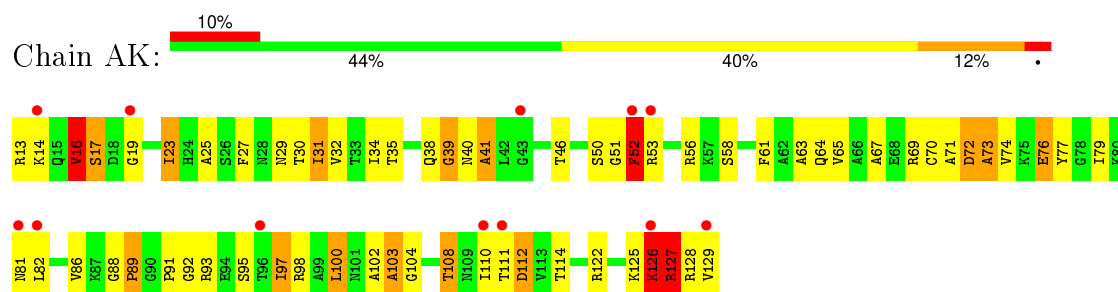
- Molecule 10: 30S ribosomal protein S10



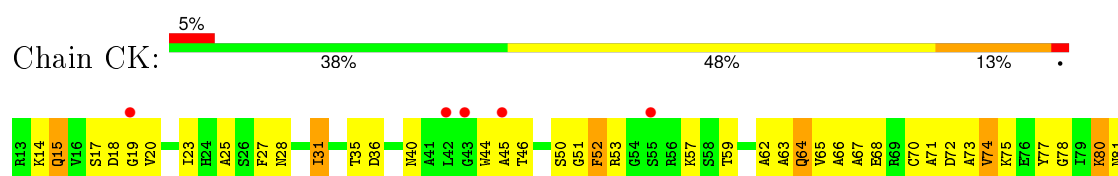
- Molecule 10: 30S ribosomal protein S10



- Molecule 11: 30S ribosomal protein S11

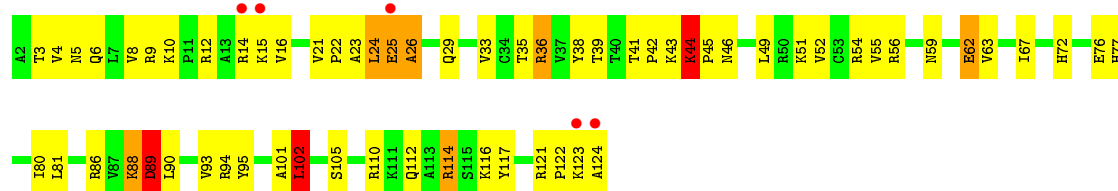


- Molecule 11: 30S ribosomal protein S11

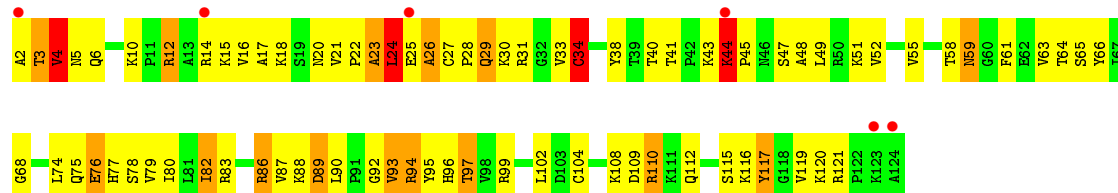




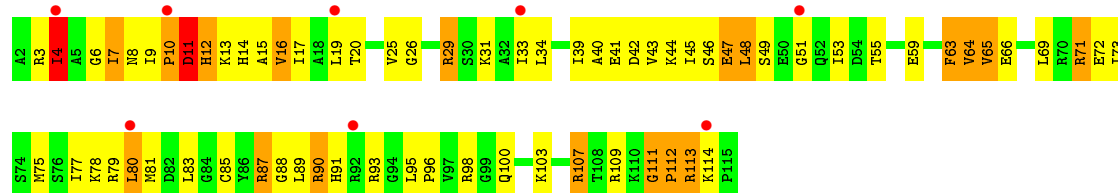
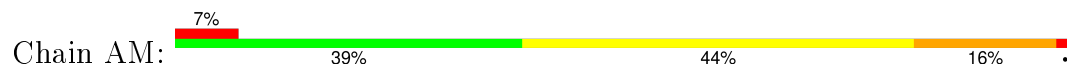
• Molecule 12: 30S ribosomal protein S12



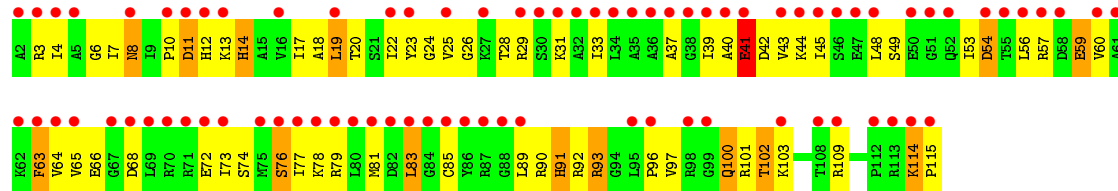
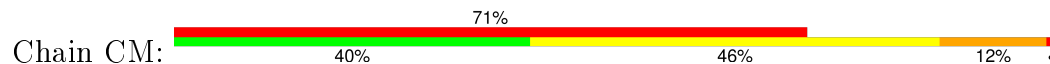
• Molecule 12: 30S ribosomal protein S12



• Molecule 13: 30S ribosomal protein S13

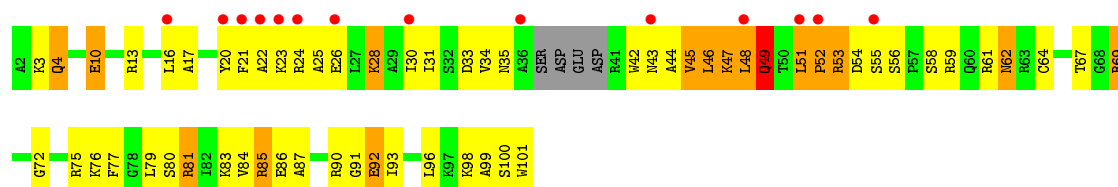


• Molecule 13: 30S ribosomal protein S13

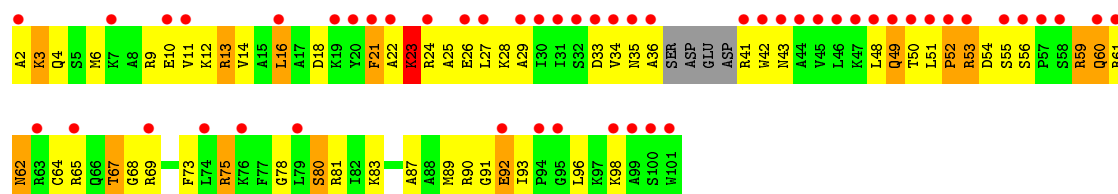


• Molecule 14: 30S ribosomal protein S14

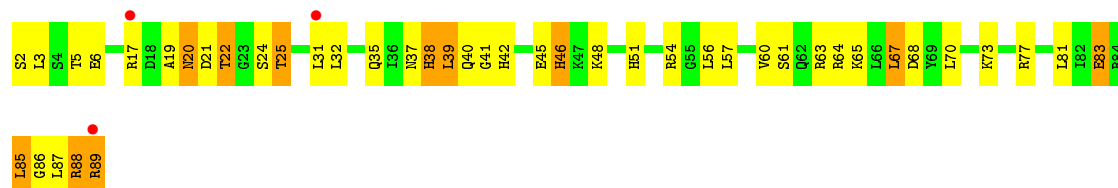




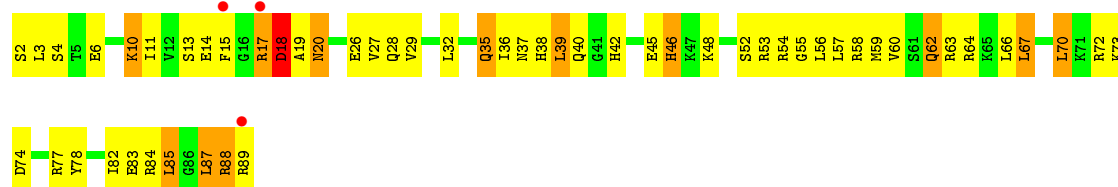
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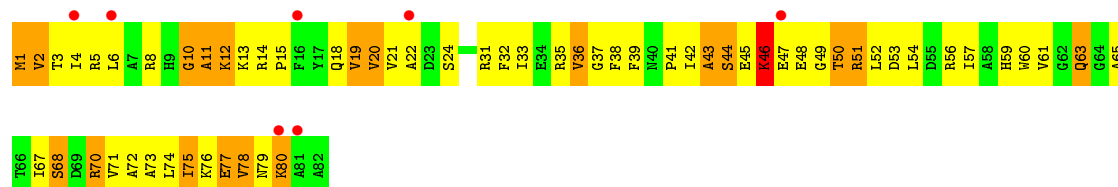
• Molecule 15: 30S ribosomal protein S15



• Molecule 15: 30S ribosomal protein S15



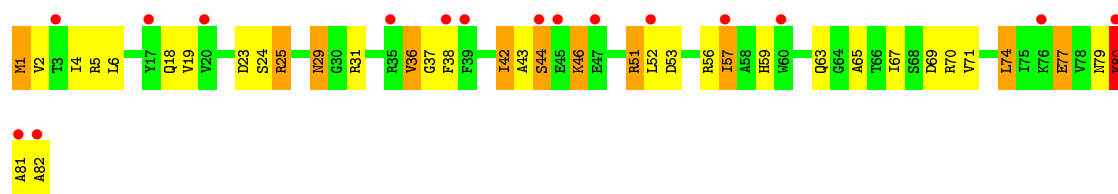
• Molecule 16: 30S ribosomal protein S16



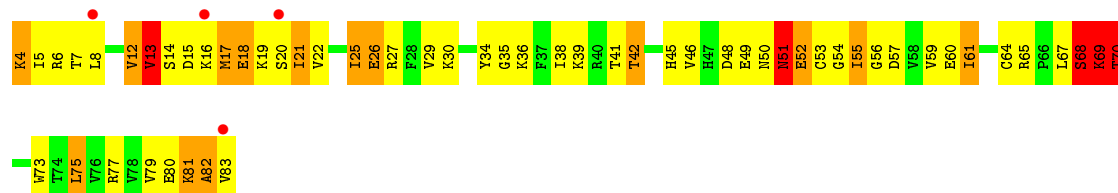
• Molecule 16: 30S ribosomal protein S16



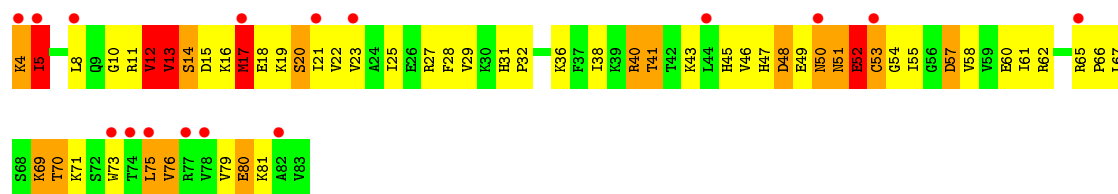




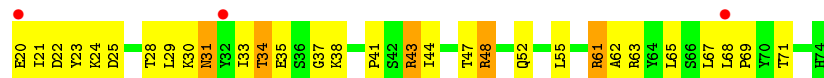
- Molecule 17: 30S ribosomal protein S17



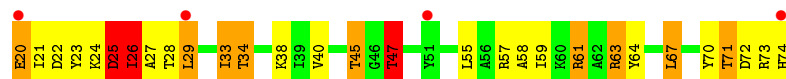
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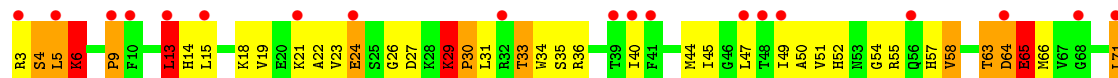
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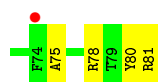


- Molecule 18: 30S ribosomal protein S18

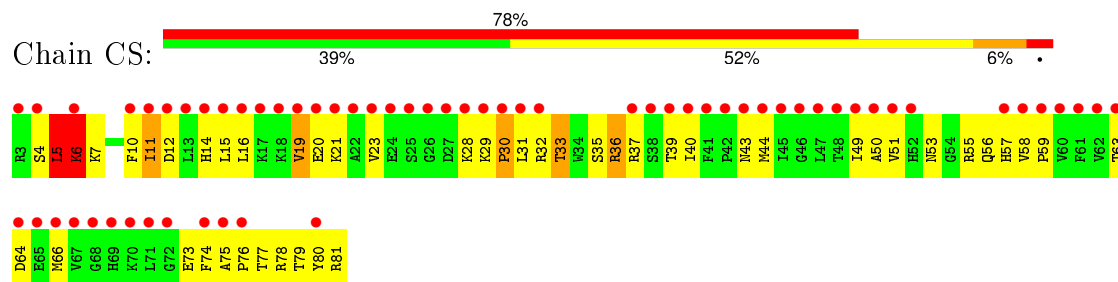


- Molecule 19: 30S ribosomal protein S19

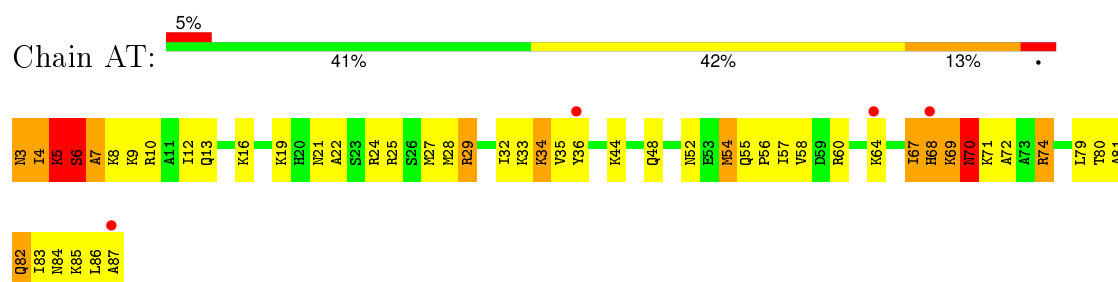




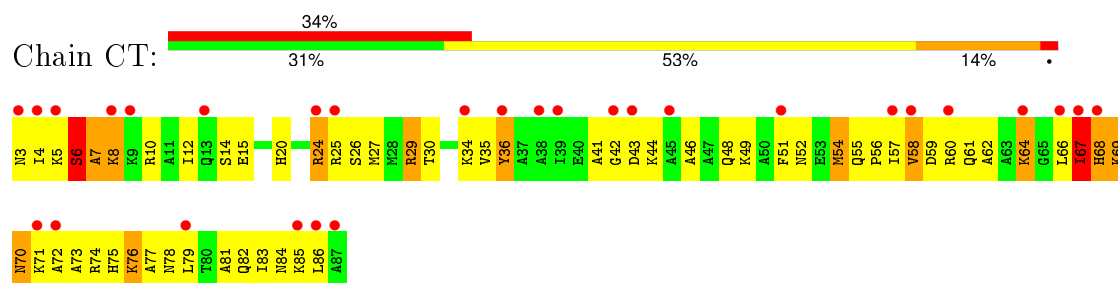
- Molecule 19: 30S ribosomal protein S19



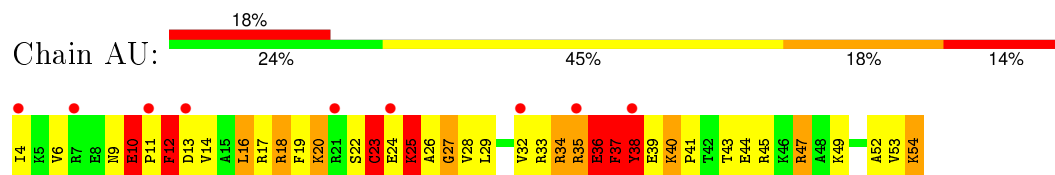
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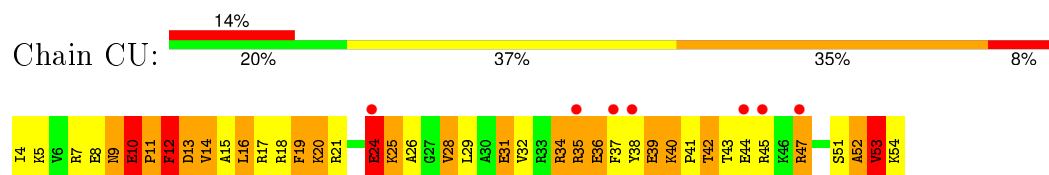
- Molecule 20: 30S ribosomal protein S20



- Molecule 21: 30S ribosomal protein S21



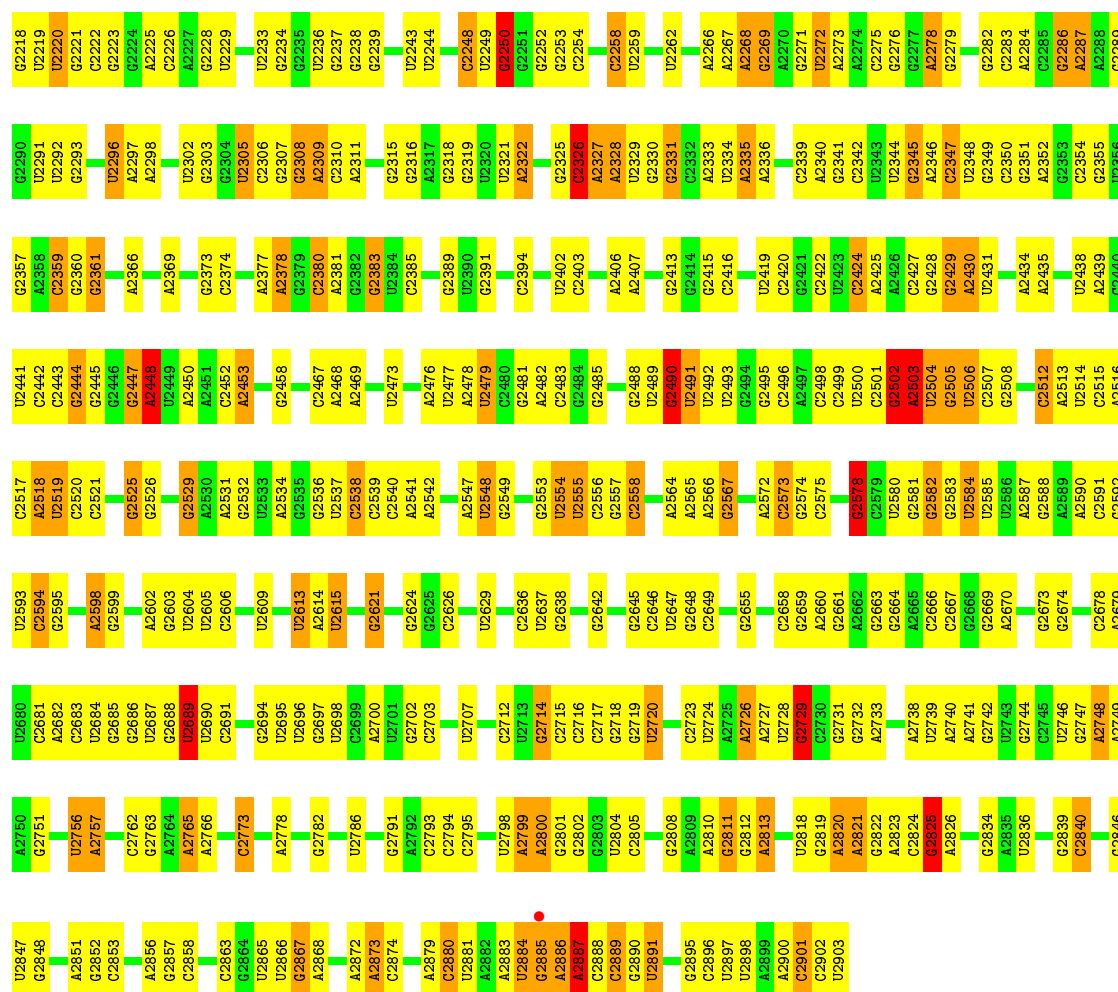
- Molecule 21: 30S ribosomal protein S21



- Molecule 22: 23S rRNA

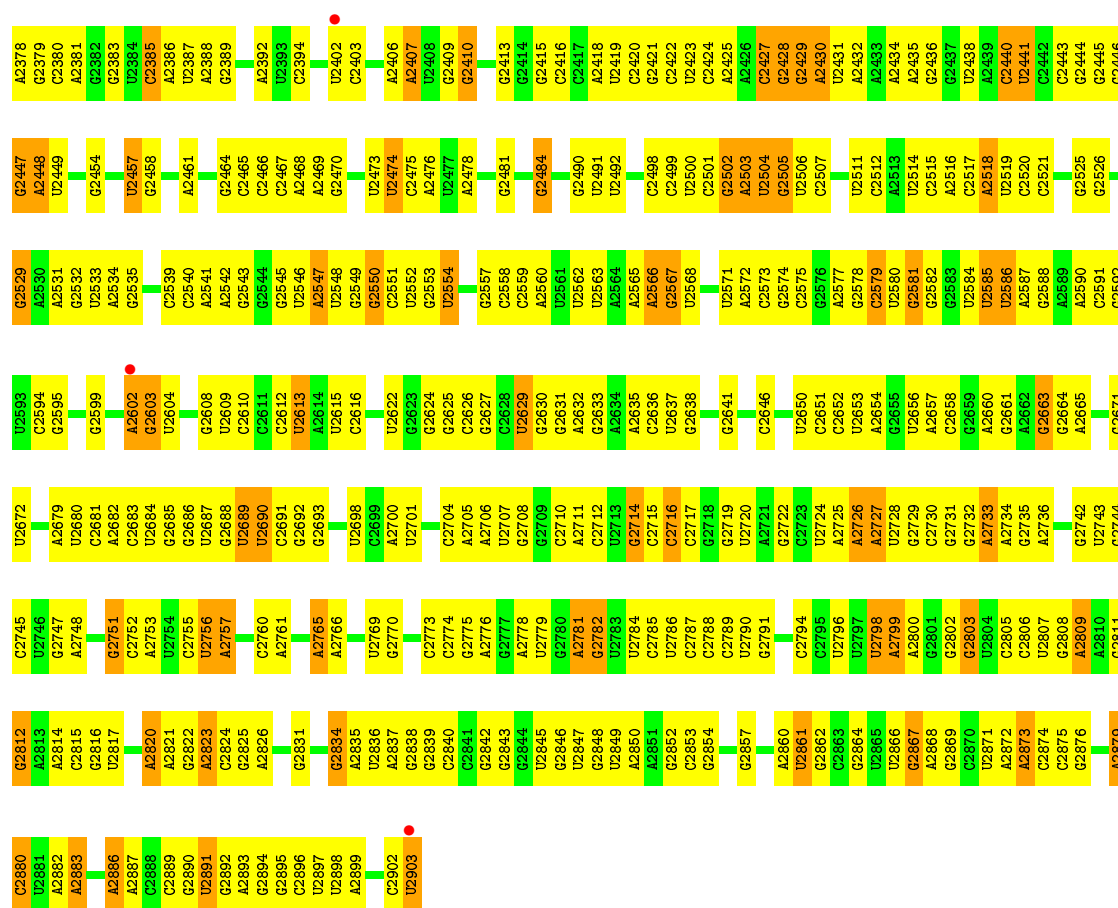


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G2157	A2098	G1878	G1658	C1574	A1496	G1423	A1353	G1280	U1203	G1137
A2158	U2099	C1879	C1659	C1575	G1499	G1426	A1354	G1283	G1206	G1138
G2159	G2023	U1880	G1660	C1576	G1500	A1427	G1355	A1284	G1207	G1139
G2160	G2024	A1952	G1661	C1577	G1501	A1428	G1356	A1285	C1207	G1140
G2161	G2025	C1881	U1662	U1578	G1502	G1429	C1357	A1286	C1208	U1141
G2162	A2030	U1882	G1663	C1582	A1503	G1430	G1358	A1287	U1209	A1142
A2163	A2031	U1883	A1664	A1583	A1504	A1431	G1359	G1288	G1210	A1143
C2164	G2032	C1884	G1665	A1584	A1505	G1432	G1360	G1289	U1224	A1144
C2165	A2033	C1957	G1666	A1585	A1506	A1433	G1361	G1290	G1225	C1145
U2166	U2034	U1885	A1667	C1586	C1507	A1434	C1362	G1291	G1226	G1146
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G2169	G2108	A1901	G1674	A1593	U1513	A1439	A1365	U1294	G1149	U1149
A2170	U2039	G1891	A1675	U1594	G1514	U1440	A1366	G1295	G1229	C1150
U2171	U2038	C1892	A1676	C1595	A1515	U1441	G1367	G1296	C1229	C1151
A2172	G2040	G1965	A1677	U1596	A1516	U1442	G1368	G1297	G1232	C1152
U2173	U2041	A1966	A1678	G1601	U1523	U1443	G1371	G1298	G1233	C1153
A2174	A2042	G1967	A1679	U1602	U1524	U1444	U1372	G1299	U1241	G1154
C2175	G2043	C1968	A1680	A1603	A1525	U1445	U1373	G1300	A1237	A1156
G2176	C2044	A1969	G1681	G1604	G1526	G1446	G1374	A1301	G1238	G1157
C2177	C2045	U1970	G1682	C1605	C1527	U1447	U1375	A1302	G1239	C1158
A2178	G2048	G1971	U1683	G1606	G1527	G1448	C1376	A1303	U1240	U1159
C2179	A2118	U1910	U1686	C1607	G1528	G1449	A1377	A1304	G1241	G1160
C2180	G2120	U1911	A1688	A1608	G1529	G1450	A1378	G1305	U1242	C1164
U2181	G2121	U1912	A1689	A1610	U1532	G1451	G1379	G1311	U1243	A1165
U2182	G2122	A1913	U1692	G1613	C1533	G1452	G1380	G1312	A1244	G1166
A2183	G2123	G1914	U1693	U1616	U1534	G1453	A1383	G1313	G1245	C1167
G2184	G2124	U1915	G1694	A1617	A1535	G1454	A1384	G1314	A1246	G1168
G2185	C2055	A1916	G1695	C1618	A1536	U1455	A1385	G1315	A1247	A1169
G2186	G2056	A1917	G1696	A1619	G1537	U1456	A1386	G1316	G1248	G1170
U2187	G2057	U1918	G1697	G1620	G1546	U1457	A1387	G1317	U1249	C1171
G2188	A2058	A1919	A1698	U1621	C1547	G1458	U1394	U1325	G1251	U1173
U2189	A2059	G1920	U1699	A1626	C1548	U1459	A1395	U1326	G1252	U1174
G2190	G2060	A1921	G1700	G1627	A1549	U1460	U1400	A1327	C1253	U1175
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A2192	A2062	U1923	G1702	G1632	A1553	U1462	G1402	U1329	U1255	G1177
C2193	C2063	C1924	G1703	A1632	U1554	U1463	A1403	U1330	U1256	C1178
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A2205	U2074	U1936	G1717	A1651	G1568	U1487	U1416	U1344	A1272	G1191
U2206	U2075	G1937	U1718	A1652	U1569	U1488	C1417	G1345	U1273	G1192
G2207	G2076	A1938	U1719	U1653	A1570	U1489	G1418	U1346	A1274	G1193
A2208	U2077	C1939	U1720	U1654	A1571	C1490	A1419	C1349	A1275	C1196
U2209	G2078	U1940	U1721	A1655	U1572	C1491	A1420	G1350	G1277	G1197
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U2212	G2087	U2151	U1724	G1658	U1575	C1494				
A2213	U2088	U2152	U1725	G1659	U1576	C1495				
U2214	U2089	U2153	U1726	G1660	U1577	C1496				
G2215	U2090	U2154	U1727	G1661	U1578	C1497				
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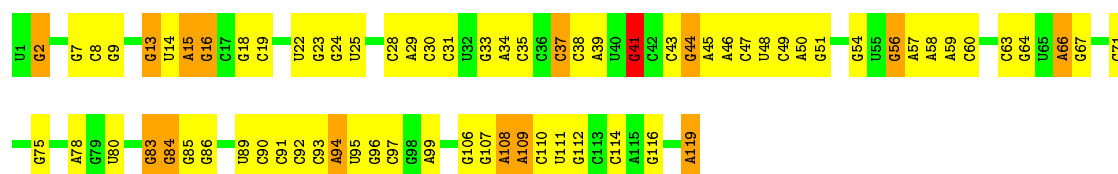
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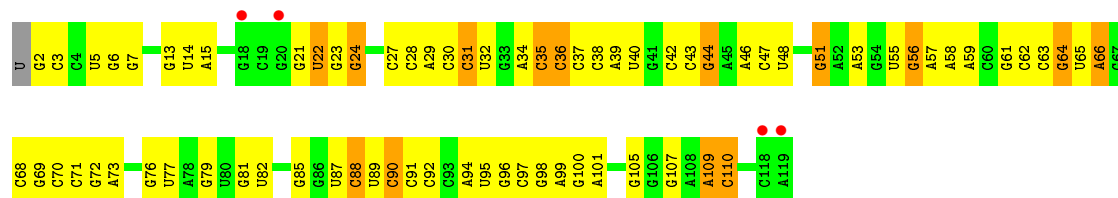
### • Molecule 23: 5S rRNA

Chain BB: 39% 48% 12%



### • Molecule 23: 5S rRNA

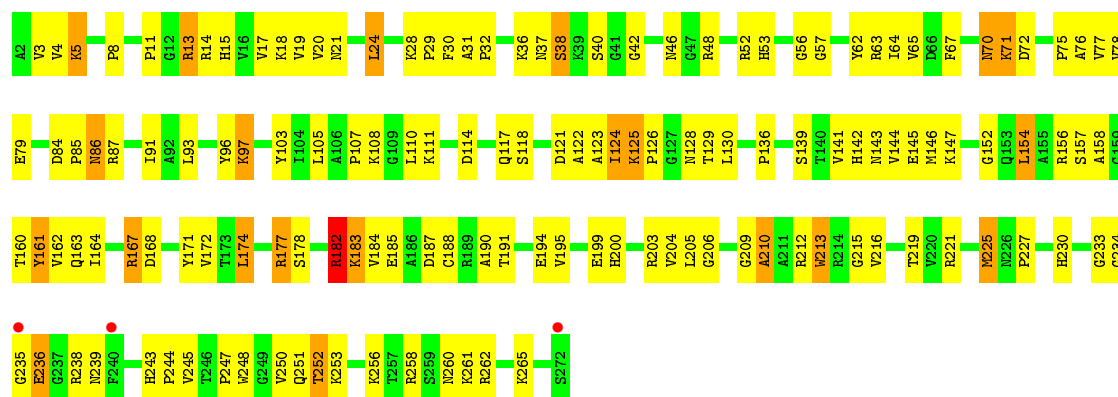
Chain DB: 3% 37% 50% 12%



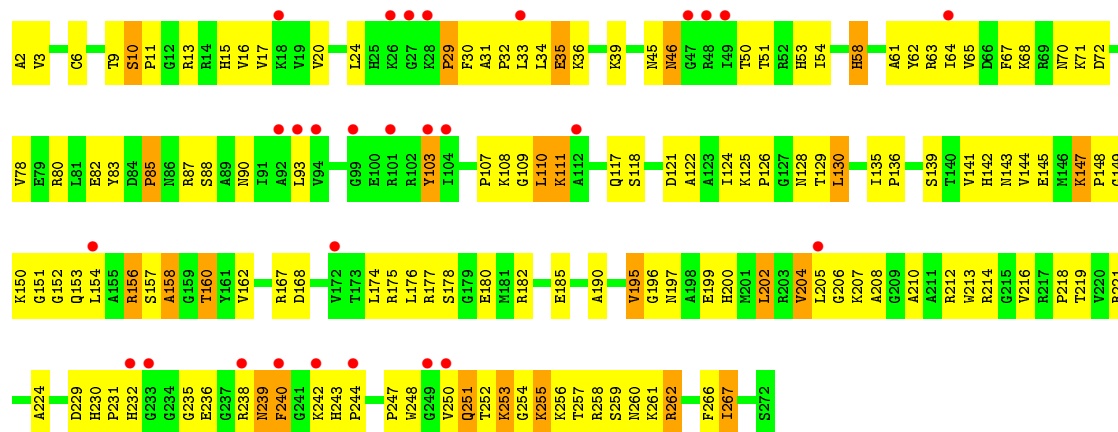
### • Molecule 24: 50S ribosomal protein L2

Chain BC: 47% 45% 8%

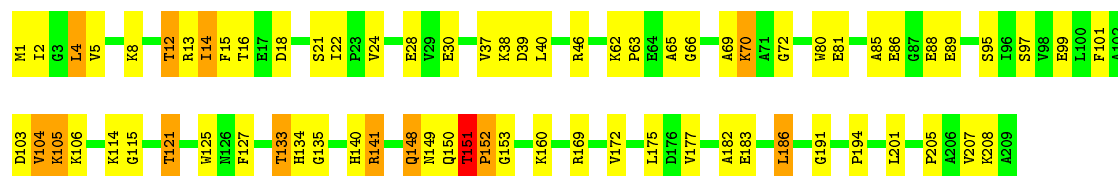




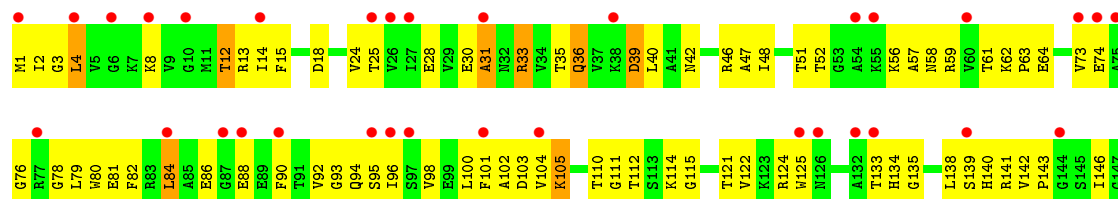
• Molecule 24: 50S ribosomal protein L2

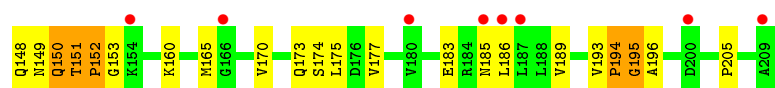


• Molecule 25: 50S ribosomal protein L3



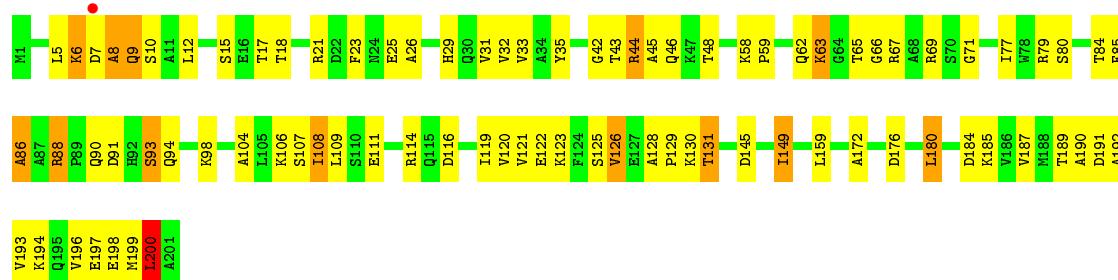
• Molecule 25: 50S ribosomal protein L3





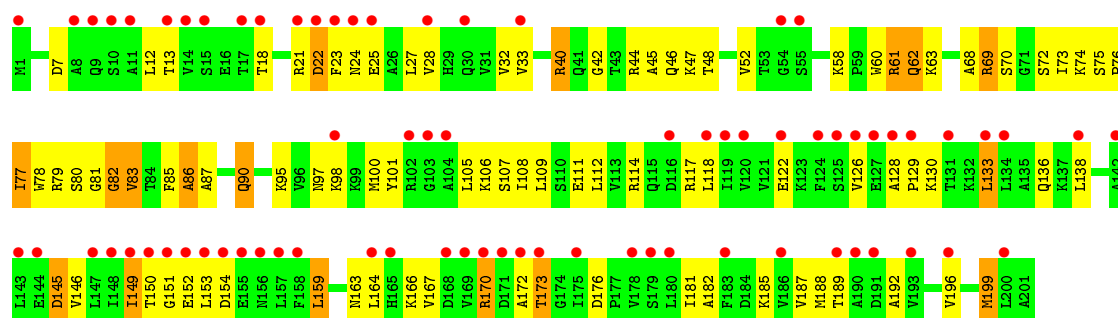
- Molecule 26: 50S ribosomal protein L4

Chain BE: 58% 35% 6%



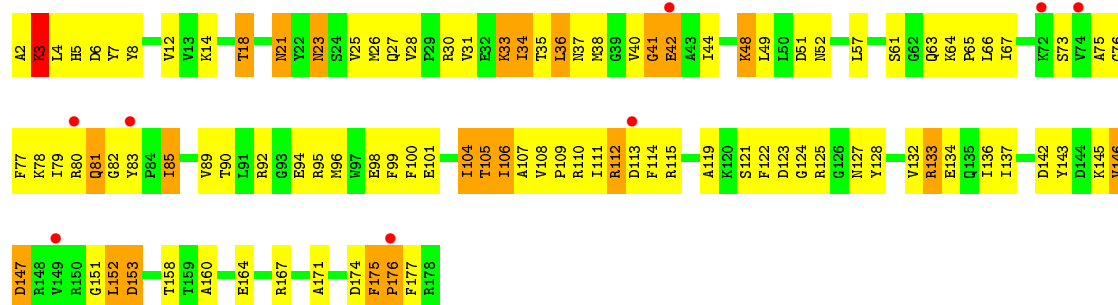
- Molecule 26: 50S ribosomal protein L4

Chain DE: 37% 53% 38% 8%



- Molecule 27: 50S ribosomal protein L5

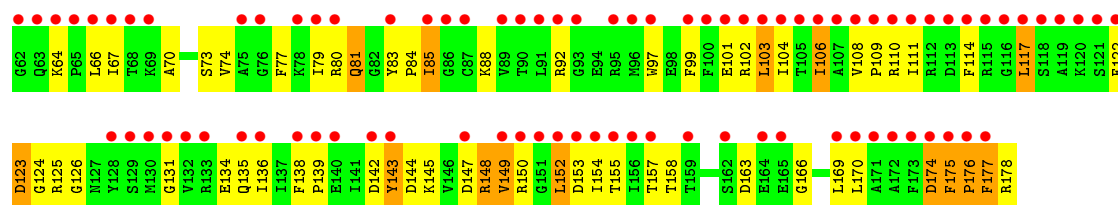
Chain BF: 5% 42% 45% 12%



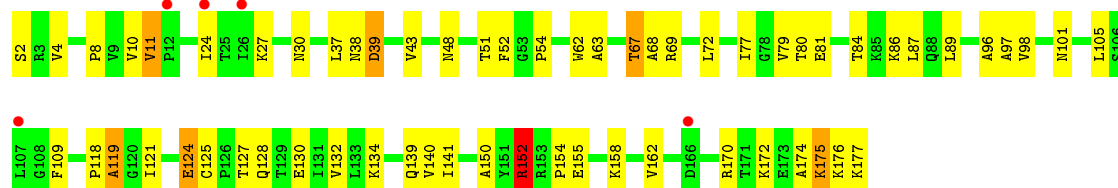
- Molecule 27: 50S ribosomal protein L5

Chain DF: 73% 49% 40% 11%

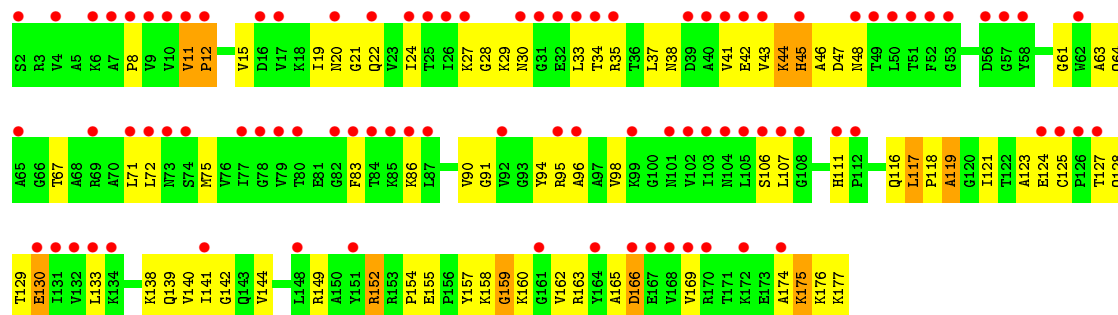




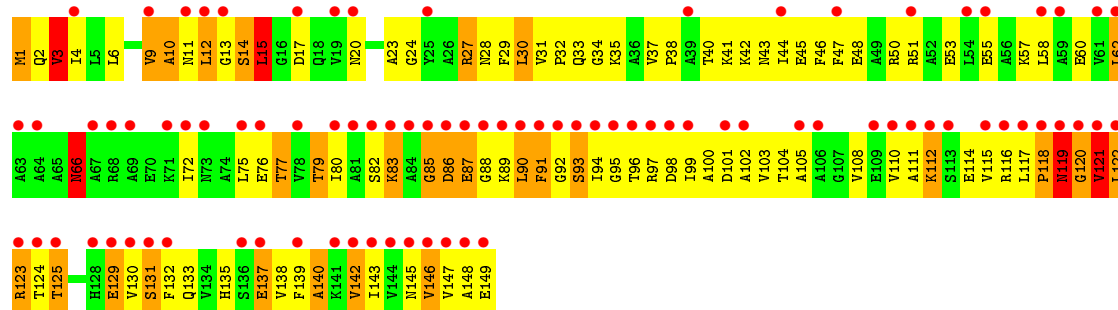
• Molecule 28: 50S ribosomal protein L6



• Molecule 28: 50S ribosomal protein L6

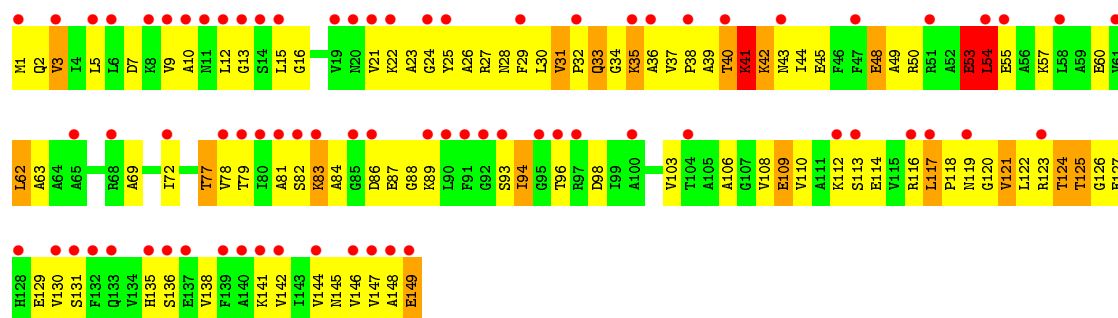


• Molecule 29: 50S ribosomal protein L9

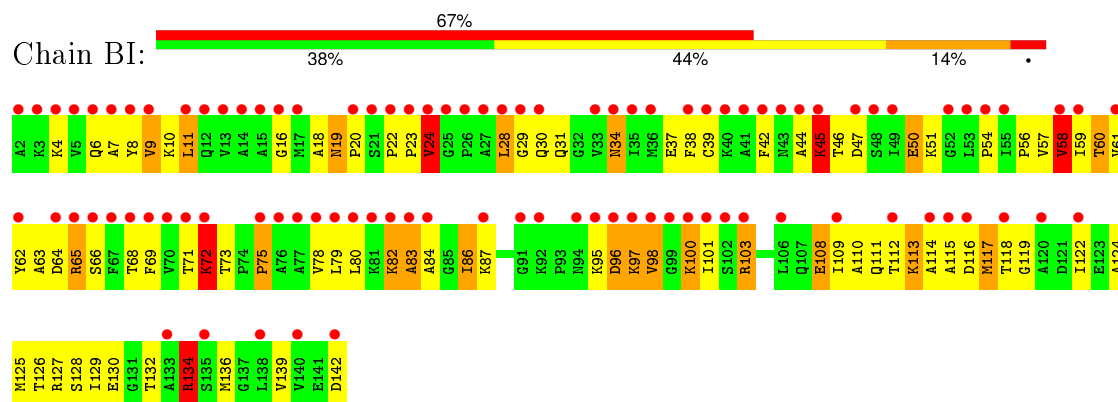


• Molecule 29: 50S ribosomal protein L9

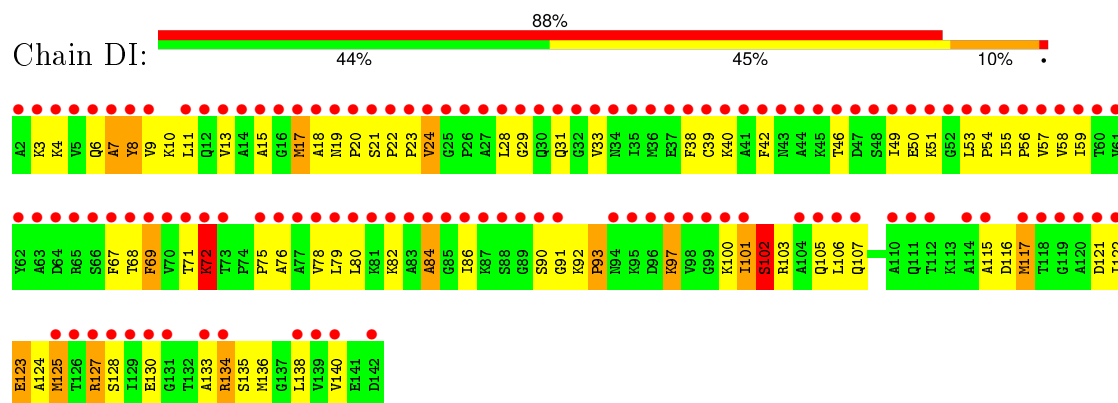




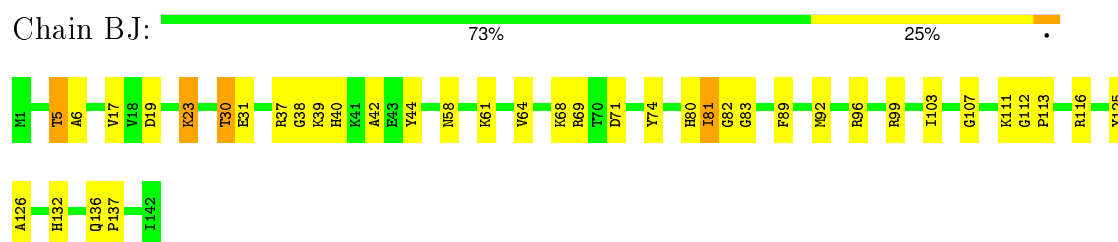
- Molecule 30: 50S ribosomal protein L11



- Molecule 30: 50S ribosomal protein L11

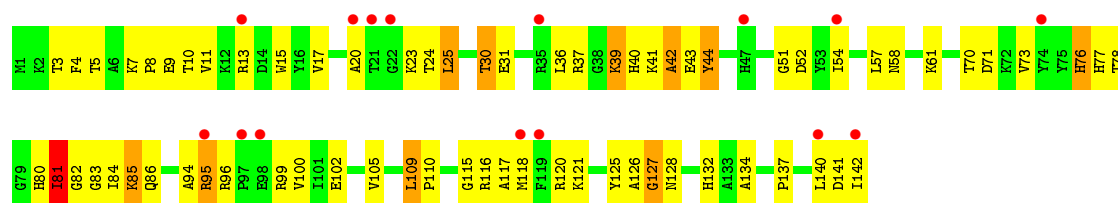


- Molecule 31: 50S ribosomal protein L13



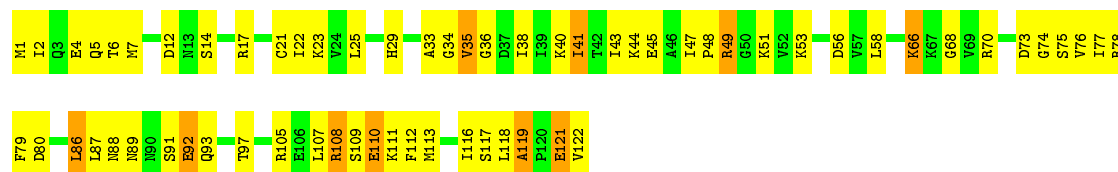
- Molecule 31: 50S ribosomal protein L13





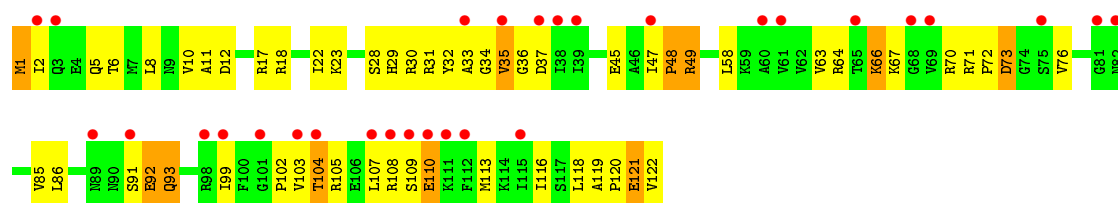
• Molecule 32: 50S ribosomal protein L14

Chain BK: 48% 44% 8%



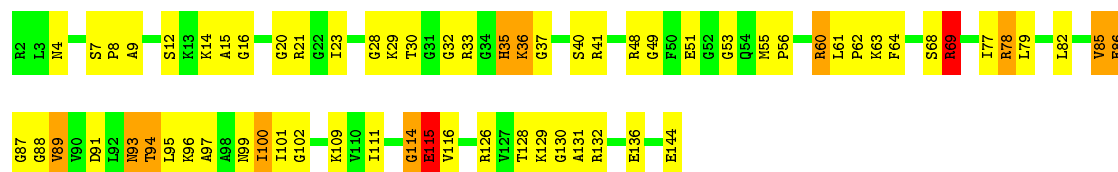
• Molecule 32: 50S ribosomal protein L14

Chain DK: 25% 53% 38% 9%



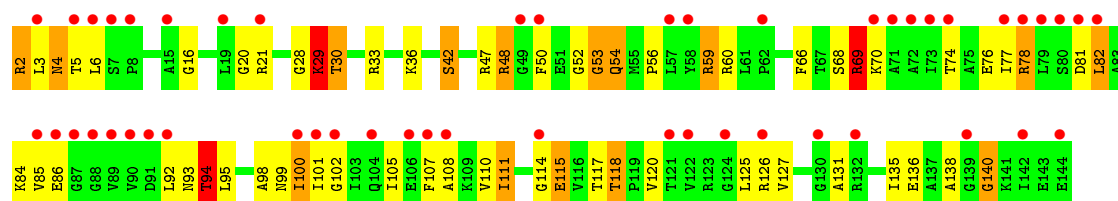
• Molecule 33: 50S ribosomal protein L15

Chain BL: 54% 37% 8%



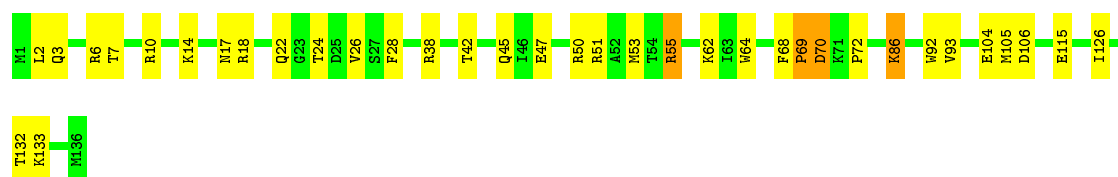
• Molecule 33: 50S ribosomal protein L15

Chain DL: 34% 56% 31% 10%

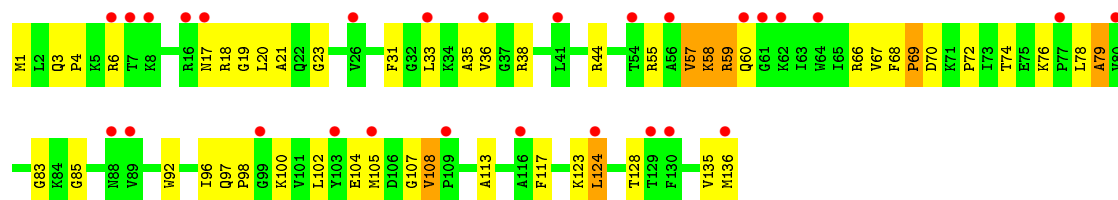


• Molecule 34: 50S ribosomal protein L16

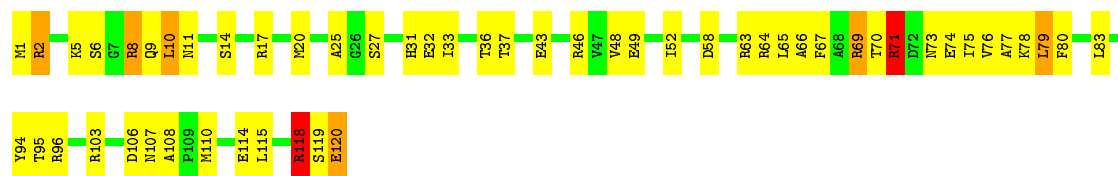
Chain BM: 74% 24%



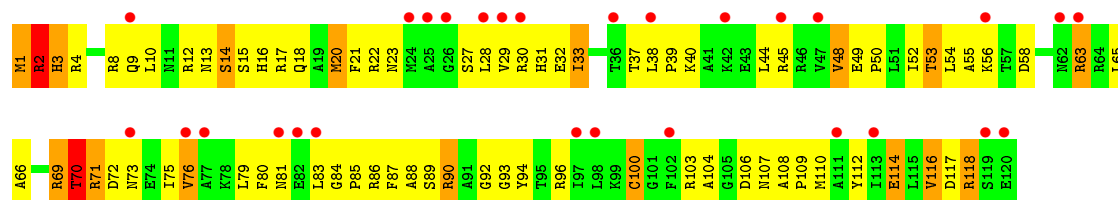
- Molecule 34: 50S ribosomal protein L16



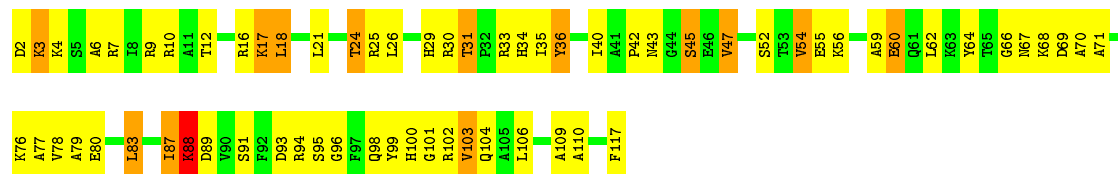
- Molecule 35: 50S ribosomal protein L17



- Molecule 35: 50S ribosomal protein L17

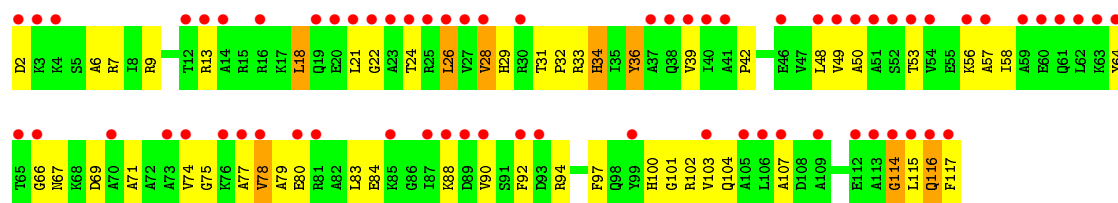


- Molecule 36: 50S ribosomal protein L18



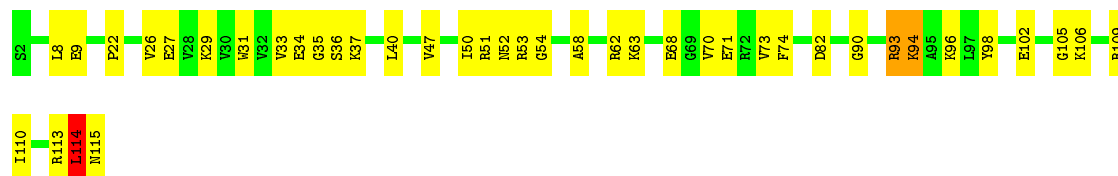
- Molecule 36: 50S ribosomal protein L18





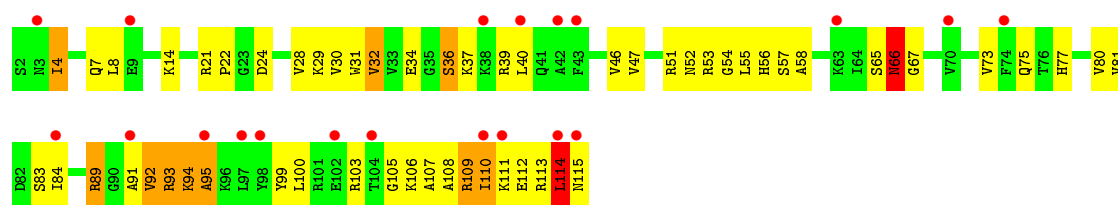
• Molecule 37: 50S ribosomal protein L19

Chain BP: 64% 33% ..



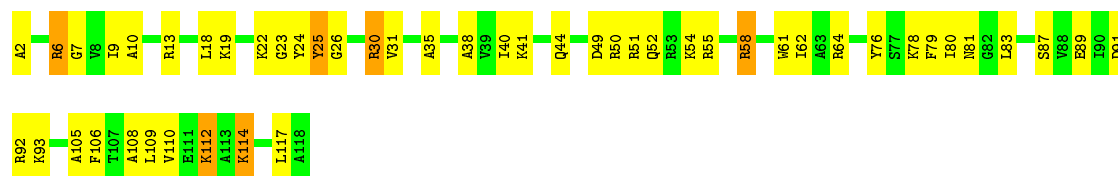
• Molecule 37: 50S ribosomal protein L19

Chain DP: 18% 50% 39% 9% .



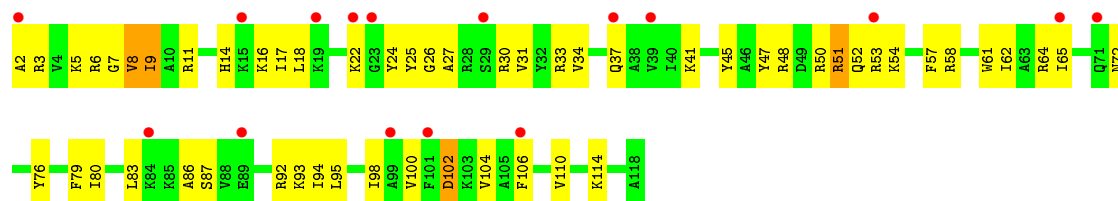
• Molecule 38: 50S ribosomal protein L20

Chain BQ: 58% 37% 5%



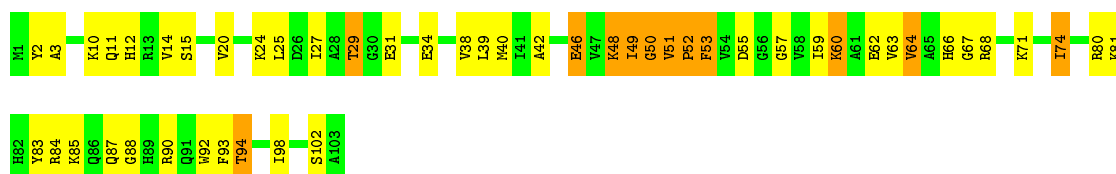
• Molecule 38: 50S ribosomal protein L20

Chain DQ: 14% 53% 44% .

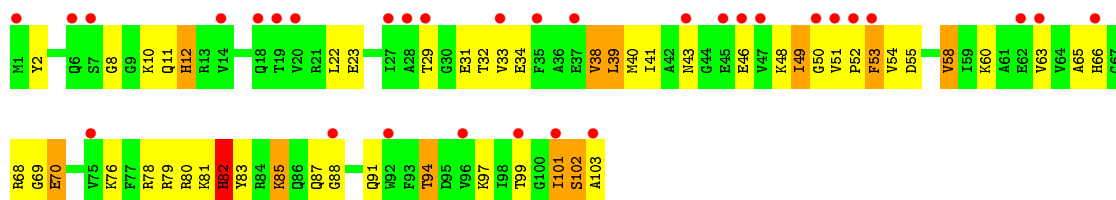


• Molecule 39: 50S ribosomal protein L21

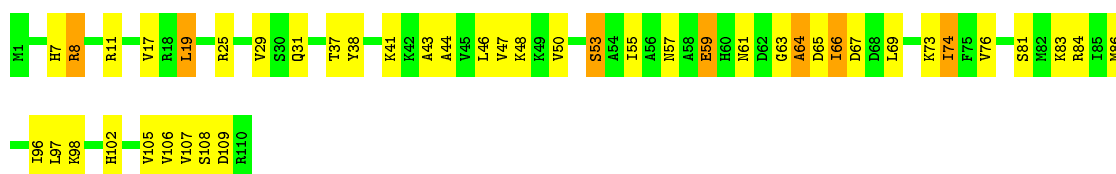
Chain BR: 51% 37% 12%



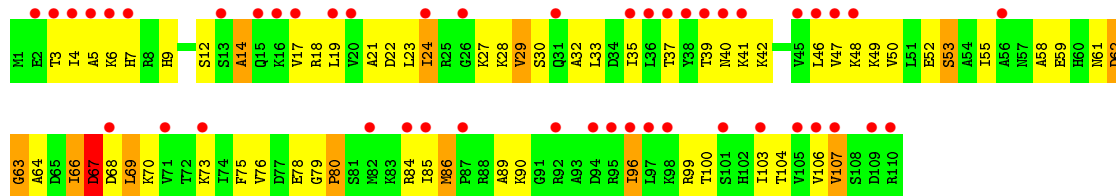
• Molecule 39: 50S ribosomal protein L21



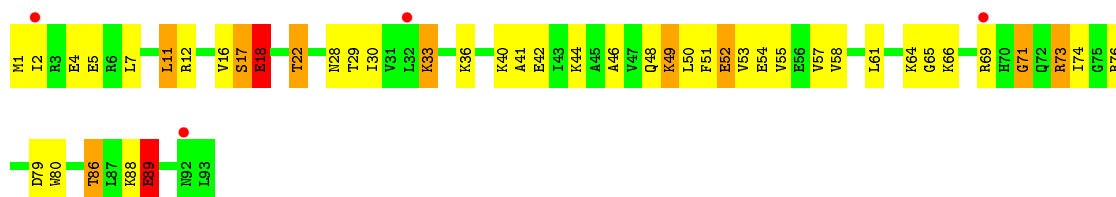
• Molecule 40: 50S ribosomal protein L22



• Molecule 40: 50S ribosomal protein L22



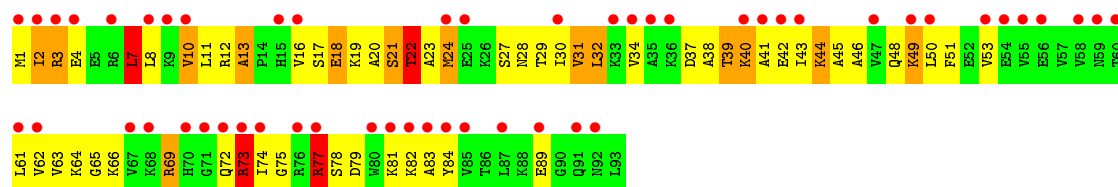
• Molecule 41: 50S ribosomal protein L23



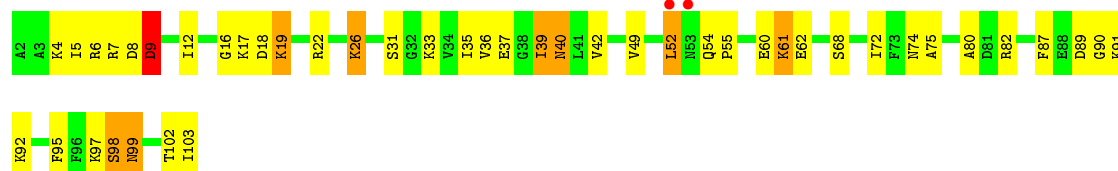
• Molecule 41: 50S ribosomal protein L23



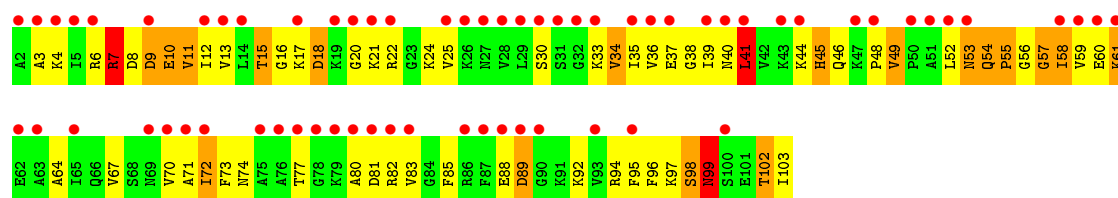




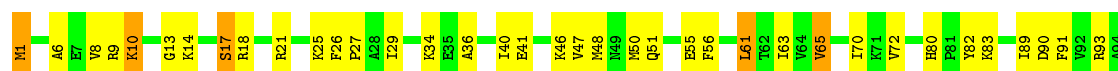
- Molecule 42: 50S ribosomal protein L24



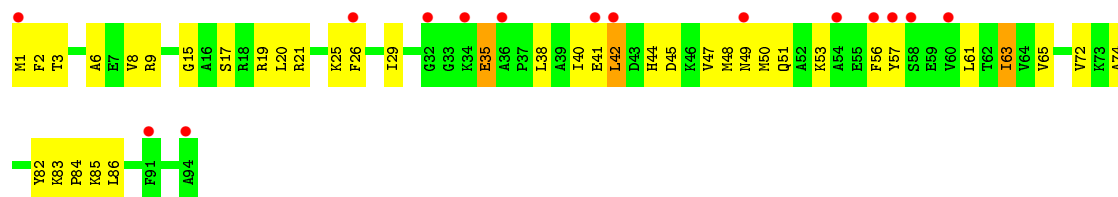
- Molecule 42: 50S ribosomal protein L24



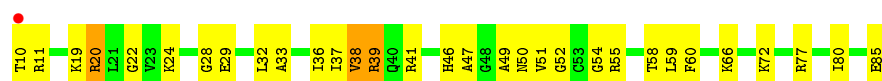
- Molecule 43: 50S ribosomal protein L25



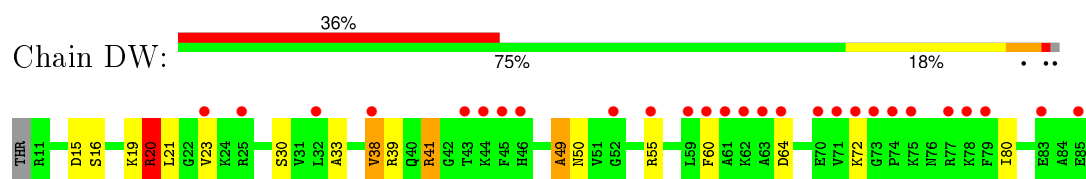
- Molecule 43: 50S ribosomal protein L25



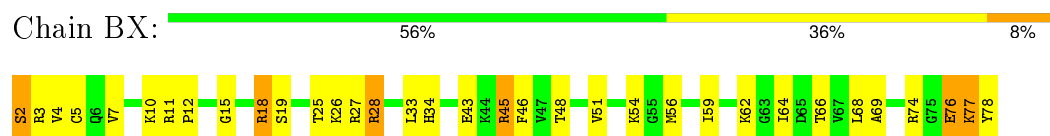
- Molecule 44: 50S ribosomal protein L27



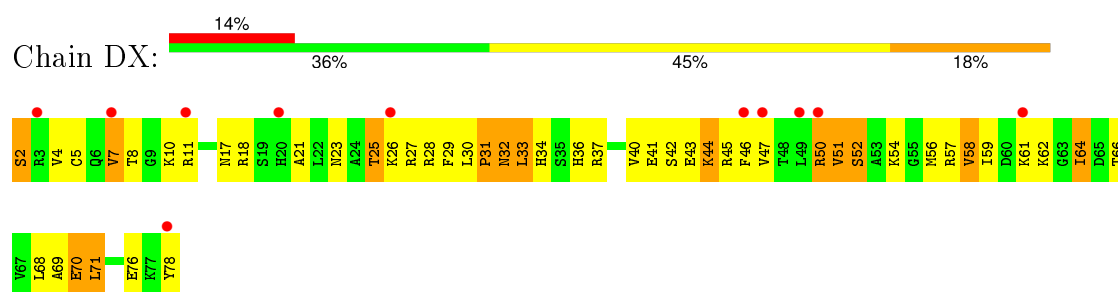
- Molecule 44: 50S ribosomal protein L27



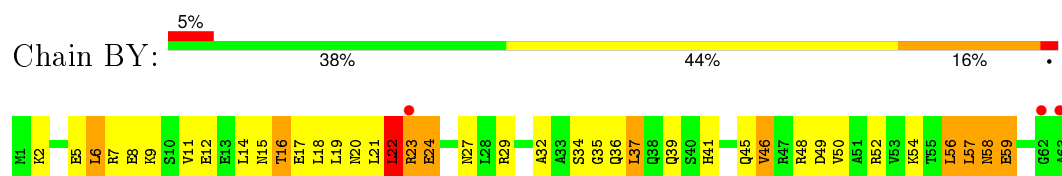
- Molecule 45: 50S ribosomal protein L28



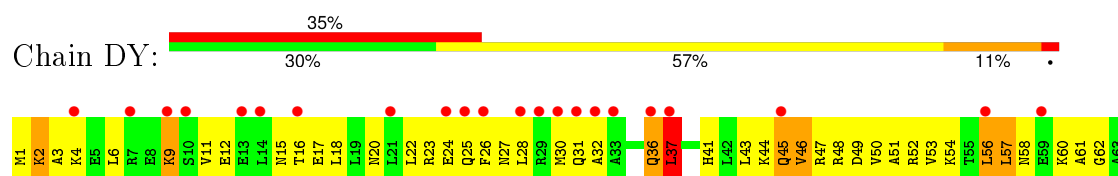
- Molecule 45: 50S ribosomal protein L28



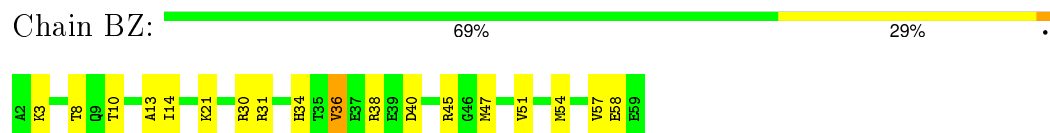
- Molecule 46: 50S ribosomal protein L29



- Molecule 46: 50S ribosomal protein L29

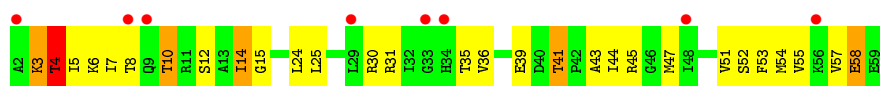


- Molecule 47: 50S ribosomal protein L30



- Molecule 47: 50S ribosomal protein L30





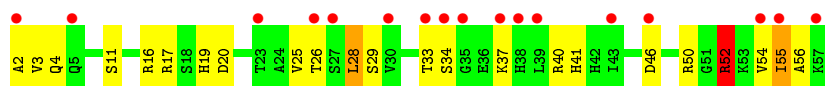
- Molecule 48: 50S ribosomal protein L32

Chain B0: 43% 52%



- Molecule 48: 50S ribosomal protein L32

Chain D0: 30% 59% 36%



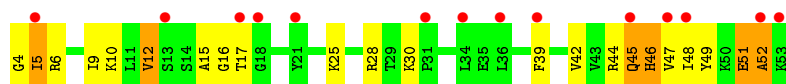
- Molecule 49: 50S ribosomal protein L33

Chain B1: 4% 42% 46% 10%



- Molecule 49: 50S ribosomal protein L33

Chain D1: 28% 56% 32% 12%



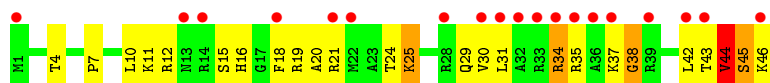
- Molecule 50: 50S ribosomal protein L34

Chain B2: 2% 63% 30% 7%



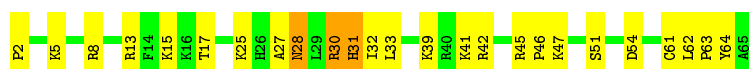
- Molecule 50: 50S ribosomal protein L34

Chain D2: 41% 46% 43% 9%

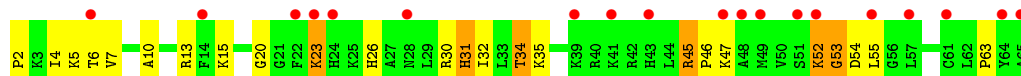


- Molecule 51: 50S ribosomal protein L35

Chain B3: 61% 34% 5%



- Molecule 51: 50S ribosomal protein L35



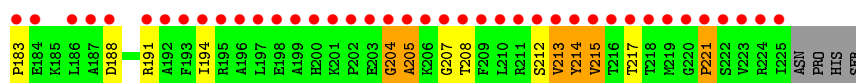
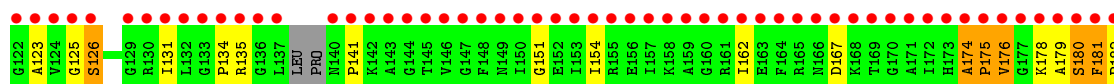
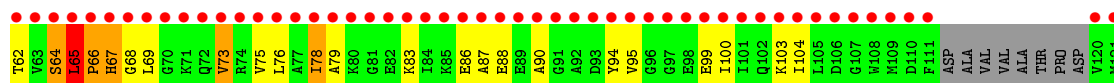
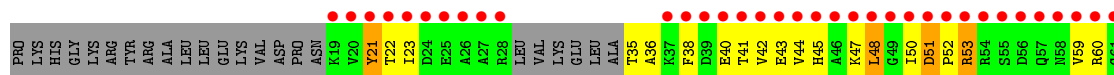
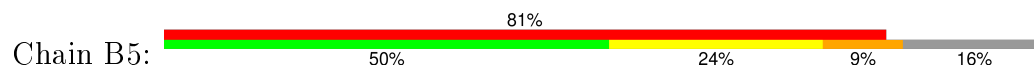
- Molecule 52: 50S ribosomal protein L36



- Molecule 52: 50S ribosomal protein L36



- Molecule 53: 50S ribosomal protein L1



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	210.64Å 434.61Å 625.01Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	69.41 – 2.90 69.41 – 2.90	Depositor EDS
% Data completeness (in resolution range)	90.0 (69.41-2.90) 90.0 (69.41-2.90)	Depositor EDS
$R_{merge}$	0.15	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.39 (at 2.91Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.1_1168)	Depositor
R, $R_{free}$	0.223 , 0.265 0.232 , 0.272	Depositor DCC
$R_{free}$ test set	4560 reflections (0.41%)	DCC
Wilson B-factor (Å <sup>2</sup> )	47.2	Xtriage
Anisotropy	0.436	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.27 , 54.0	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.46$ , $\langle L^2 \rangle = 0.28$	Xtriage
Outliers	0 of 1126727 reflections	Xtriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	288258	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	61.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.74% 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: VIR, ZN, MG

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	0.48	0/36944	0.93	23/57632 (0.0%)
1	CA	0.41	0/36966	0.88	12/57666 (0.0%)
2	AB	0.34	0/1736	0.59	0/2338
2	CB	0.32	0/1736	0.55	0/2338
3	AC	0.35	0/1652	0.58	0/2225
3	CC	0.31	0/1652	0.51	0/2225
4	AD	0.36	0/1665	0.61	0/2227
4	CD	0.40	0/1665	0.63	0/2227
5	AE	0.38	0/1119	0.65	0/1504
5	CE	0.38	0/1119	0.69	0/1504
6	AF	0.40	0/836	0.66	1/1128 (0.1%)
6	CF	0.33	0/836	0.61	1/1128 (0.1%)
7	AG	0.34	0/1196	0.54	0/1602
7	CG	0.32	0/1196	0.51	0/1602
8	AH	0.40	0/989	0.59	0/1326
8	CH	0.31	0/989	0.54	0/1326
9	AI	0.32	0/1034	0.60	0/1375
9	CI	0.31	0/1034	0.56	0/1375
10	AJ	0.36	0/797	0.58	0/1077
10	CJ	0.32	0/797	0.55	0/1077
11	AK	0.33	0/893	0.58	0/1205
11	CK	0.35	0/893	0.60	0/1205
12	AL	0.40	0/969	0.68	0/1300
12	CL	0.37	0/969	0.66	0/1300
13	AM	0.33	0/893	0.61	0/1193
13	CM	0.32	0/893	0.56	0/1193
14	AN	0.37	0/785	0.59	0/1043
14	CN	0.30	0/785	0.49	0/1043
15	AO	0.33	0/718	0.60	0/959
15	CO	0.31	0/718	0.51	0/959
16	AP	0.38	0/659	0.62	0/884
16	CP	0.33	0/659	0.55	0/884

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	AQ	0.38	0/658	0.62	0/881
17	CQ	0.37	0/658	0.57	0/881
18	AR	0.33	0/463	0.54	0/621
18	CR	0.35	0/463	0.58	0/621
19	AS	0.35	0/653	0.60	0/877
19	CS	0.34	0/653	0.53	0/877
20	AT	0.39	0/671	0.60	0/888
20	CT	0.32	0/671	0.55	0/888
21	AU	0.43	0/431	0.65	0/570
21	CU	0.45	0/431	0.63	0/570
22	BA	0.82	19/69659 (0.0%)	1.28	469/108672 (0.4%)
22	DA	0.39	0/69659	0.88	19/108672 (0.0%)
23	BB	0.74	0/2850	1.25	7/4444 (0.2%)
23	DB	0.31	0/2828	0.81	0/4410
24	BC	0.52	0/2122	0.72	1/2852 (0.0%)
24	DC	0.35	0/2122	0.59	0/2852
25	BD	0.58	0/1586	0.75	1/2134 (0.0%)
25	DD	0.33	0/1586	0.55	0/2134
26	BE	0.51	0/1571	0.66	0/2113
26	DE	0.33	0/1571	0.54	0/2113
27	BF	0.41	0/1435	0.63	0/1926
27	DF	0.30	0/1435	0.48	0/1926
28	BG	0.41	0/1343	0.61	0/1816
28	DG	0.30	0/1343	0.48	0/1816
29	BH	0.36	0/1121	0.66	1/1515 (0.1%)
29	DH	0.35	0/1121	0.56	0/1515
30	BI	0.36	0/1046	0.57	0/1410
30	DI	0.36	0/1046	0.53	0/1410
31	BJ	0.61	0/1152	0.73	0/1551
31	DJ	0.32	0/1152	0.55	0/1551
32	BK	0.57	0/948	0.76	1/1268 (0.1%)
32	DK	0.36	0/948	0.55	0/1268
33	BL	0.55	0/1054	0.77	0/1403
33	DL	0.32	0/1054	0.58	0/1403
34	BM	0.58	0/1093	0.75	0/1460
34	DM	0.31	0/1093	0.50	0/1460
35	BN	0.57	0/974	0.77	2/1301 (0.2%)
35	DN	0.33	0/974	0.55	0/1301
36	BO	0.48	0/902	0.67	0/1209
36	DO	0.30	0/902	0.49	0/1209
37	BP	0.54	0/929	0.67	0/1242
37	DP	0.34	0/929	0.55	0/1242
38	BQ	0.67	0/960	0.76	0/1278

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
38	DQ	0.33	0/960	0.51	0/1278
39	BR	0.63	0/829	0.83	0/1107
39	DR	0.32	0/829	0.57	0/1107
40	BS	0.66	0/864	0.83	1/1156 (0.1%)
40	DS	0.33	0/864	0.56	0/1156
41	BT	0.48	0/745	0.65	0/994
41	DT	0.32	0/745	0.56	0/994
42	BU	0.46	0/788	0.68	0/1051
42	DU	0.37	0/788	0.56	0/1051
43	BV	0.51	0/766	0.69	0/1025
43	DV	0.28	0/766	0.45	0/1025
44	BW	0.56	0/587	0.70	0/776
44	DW	0.31	0/576	0.50	0/762
45	BX	0.46	0/635	0.65	0/848
45	DX	0.32	0/635	0.55	0/848
46	BY	0.42	0/510	0.66	0/677
46	DY	0.33	0/510	0.55	0/677
47	BZ	0.63	0/453	0.68	0/605
47	DZ	0.30	0/453	0.53	0/605
48	B0	0.58	0/450	0.72	0/599
48	D0	0.34	0/450	0.57	0/599
49	B1	0.45	0/417	0.62	0/554
49	D1	0.33	0/417	0.52	0/554
50	B2	0.57	0/380	0.80	0/498
50	D2	0.36	0/380	0.60	0/498
51	B3	0.52	0/513	0.70	0/676
51	D3	0.32	0/513	0.52	0/676
52	B4	0.57	0/303	0.74	0/397
52	D4	0.30	0/303	0.54	0/397
53	B5	0.33	0/1145	0.50	0/1556
All	All	0.54	19/310626 (0.0%)	0.94	539/464366 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
5	CE	0	1
6	CF	0	1
11	AK	0	1
12	CL	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
21	AU	0	1
21	CU	0	1
25	BD	0	1
All	All	0	7

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	BA	1142	A	N9-C4	-11.58	1.30	1.37
22	BA	984	A	N9-C4	-11.48	1.30	1.37
22	BA	1936	A	N9-C4	-9.61	1.32	1.37
22	BA	528	A	N7-C5	-6.85	1.35	1.39
22	BA	752	A	N9-C4	-6.64	1.33	1.37
22	BA	528	A	C5-C6	-6.52	1.35	1.41
22	BA	783	A	N9-C4	-6.38	1.34	1.37
22	BA	953	G	C2-N3	-6.35	1.27	1.32
22	BA	974	G	N9-C8	6.14	1.42	1.37
22	BA	2689	U	C2-N3	-6.10	1.33	1.37
22	BA	1278	C	N1-C6	-6.00	1.33	1.37
22	BA	2055	C	N1-C6	-5.92	1.33	1.37
22	BA	974	G	C5-C6	-5.31	1.37	1.42
22	BA	2286	G	N9-C4	-5.15	1.33	1.38
22	BA	675	A	N9-C4	-5.14	1.34	1.37
22	BA	2813	A	N9-C4	-5.14	1.34	1.37
22	BA	1661	G	N9-C4	-5.04	1.33	1.38
22	BA	2278	A	N9-C4	-5.01	1.34	1.37
22	BA	1936	A	N3-C4	-5.00	1.31	1.34

All (539) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	528	A	N1-C6-N6	15.09	127.66	118.60
22	BA	974	G	C4-C5-N7	14.38	116.55	110.80
22	BA	984	A	C2-N3-C4	-13.21	103.99	110.60
22	BA	984	A	N3-C4-C5	12.10	135.27	126.80
22	BA	1936	A	C2-N3-C4	-11.70	104.75	110.60
22	BA	974	G	C5-N7-C8	-11.55	98.52	104.30
22	BA	984	A	N3-C4-N9	-11.20	118.44	127.40
22	BA	528	A	C6-C5-N7	-10.86	124.70	132.30
22	BA	2286	G	N3-C4-C5	10.30	133.75	128.60
22	BA	727	A	N1-C6-N6	10.26	124.76	118.60
22	BA	1658	C	N3-C4-C5	10.22	125.99	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	586	A	O5'-P-OP1	-10.19	96.53	105.70
22	BA	1936	A	N3-C4-C5	10.16	133.91	126.80
22	BA	752	A	C5-N7-C8	-9.91	98.94	103.90
25	BD	151	THR	C-N-CD	-9.75	99.14	120.60
22	BA	2697	G	C8-N9-C4	-9.66	102.53	106.40
22	BA	752	A	N1-C6-N6	9.64	124.39	118.60
22	BA	528	A	C2-N3-C4	-9.59	105.80	110.60
22	BA	1936	A	N3-C4-N9	-9.54	119.77	127.40
22	BA	1142	A	C2-N3-C4	-9.51	105.85	110.60
22	BA	1142	A	N3-C4-N9	-9.47	119.82	127.40
22	BA	974	G	N3-C4-C5	9.21	133.20	128.60
22	BA	11	C	C6-N1-C2	9.11	123.94	120.30
22	BA	1900	A	O5'-P-OP1	-9.03	97.58	105.70
22	BA	1658	C	C6-N1-C2	8.99	123.89	120.30
22	BA	533	G	C5-C6-O6	-8.96	123.22	128.60
22	BA	528	A	C4-C5-N7	8.81	115.11	110.70
22	BA	1142	A	N3-C4-C5	8.76	132.93	126.80
22	BA	528	A	C5-N7-C8	-8.73	99.54	103.90
22	BA	1618	A	O5'-P-OP2	-8.66	97.91	105.70
22	BA	532	A	O5'-P-OP1	-8.63	97.93	105.70
22	BA	2286	G	C2-N3-C4	-8.56	107.62	111.90
22	BA	974	G	N1-C6-O6	8.52	125.01	119.90
22	BA	752	A	C4-C5-N7	8.42	114.91	110.70
22	BA	2621	G	C8-N9-C4	-8.35	103.06	106.40
22	BA	2276	G	O5'-P-OP1	-8.34	98.19	105.70
22	BA	783	A	C5-N7-C8	-8.23	99.78	103.90
22	BA	1428	C	C6-N1-C2	8.18	123.57	120.30
22	BA	2506	U	O5'-P-OP1	-8.17	98.35	105.70
22	BA	1187	G	N3-C4-N9	8.12	130.88	126.00
22	BA	974	G	C6-C5-N7	-8.03	125.58	130.40
22	BA	2626	C	C6-N1-C2	7.92	123.47	120.30
22	BA	727	A	C5-C6-N6	-7.83	117.43	123.70
22	BA	664	G	O5'-P-OP2	-7.83	98.66	105.70
22	BA	2286	G	N3-C4-N9	-7.82	121.31	126.00
22	BA	533	G	N1-C6-O6	7.77	124.56	119.90
22	BA	821	A	O5'-P-OP2	-7.68	98.78	105.70
23	BB	41	G	O5'-P-OP1	-7.67	98.80	105.70
22	BA	26	G	C5-C6-O6	-7.64	124.02	128.60
22	BA	1655	A	N1-C6-N6	7.63	123.18	118.60
22	BA	705	A	N1-C6-N6	7.59	123.15	118.60
22	BA	2448	A	N1-C6-N6	7.58	123.15	118.60
22	BA	2712	C	C6-N1-C2	7.56	123.32	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	2505	G	N1-C6-O6	-7.52	115.39	119.90
22	BA	974	G	C5-C6-O6	-7.48	124.11	128.60
22	BA	528	A	O4'-C1'-N9	-7.47	102.22	108.20
22	BA	1658	C	C2-N3-C4	-7.47	116.16	119.90
22	BA	2538	C	C6-N1-C2	7.43	123.27	120.30
22	BA	990	A	O5'-P-OP1	-7.41	99.04	105.70
22	BA	2422	C	C6-N1-C2	7.37	123.25	120.30
22	BA	528	A	C5-C6-N1	-7.34	114.03	117.70
22	BA	783	A	C4-C5-N7	7.33	114.36	110.70
22	BA	801	G	N9-C4-C5	7.32	108.33	105.40
22	BA	502	A	O5'-P-OP1	-7.32	99.12	105.70
22	BA	1779	U	N3-C2-O2	-7.26	117.12	122.20
22	DA	691	C	C6-N1-C2	-7.25	117.40	120.30
22	BA	727	A	C6-C5-N7	-7.24	127.23	132.30
22	BA	533	G	C4-C5-N7	7.24	113.70	110.80
22	BA	727	A	N9-C4-C5	-7.24	102.91	105.80
22	BA	1681	G	N1-C6-O6	7.23	124.24	119.90
22	BA	698	C	C6-N1-C2	7.22	123.19	120.30
22	BA	533	G	C6-C5-N7	-7.18	126.09	130.40
22	BA	2606	C	N3-C4-C5	7.17	124.77	121.90
24	BC	182	ARG	NE-CZ-NH2	7.16	123.88	120.30
22	BA	2496	C	C6-N1-C2	-7.15	117.44	120.30
22	BA	2057	G	N3-C2-N2	-7.14	114.91	119.90
22	BA	2250	G	C2-N3-C4	-7.10	108.35	111.90
22	BA	2499	C	N1-C2-O2	-7.09	114.65	118.90
22	BA	2606	C	C6-N1-C2	7.09	123.13	120.30
1	CA	900	A	O5'-P-OP1	-7.08	99.33	105.70
22	BA	1192	G	N1-C6-O6	-7.04	115.68	119.90
22	BA	1187	G	C4-N9-C1'	7.03	135.64	126.50
22	BA	1187	G	N3-C4-C5	-7.02	125.09	128.60
22	BA	704	G	O4'-C1'-N9	6.98	113.79	108.20
22	BA	1452	G	C5-N7-C8	-6.98	100.81	104.30
22	BA	1278	C	C6-N1-C2	6.97	123.09	120.30
22	BA	1291	C	O5'-P-OP2	-6.95	99.45	105.70
22	BA	772	C	C6-N1-C2	6.93	123.07	120.30
22	BA	1784	A	N1-C6-N6	6.93	122.76	118.60
22	BA	2045	C	N3-C4-C5	6.92	124.67	121.90
22	BA	2889	C	N1-C2-O2	-6.91	114.75	118.90
22	BA	1478	G	N3-C2-N2	-6.90	115.07	119.90
22	BA	835	C	N3-C2-O2	6.88	126.72	121.90
22	BA	984	A	O4'-C1'-N9	6.86	113.69	108.20
22	BA	528	A	N7-C8-N9	6.85	117.23	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	1187	G	C8-N9-C1'	-6.84	118.11	127.00
22	BA	1658	C	C5-C4-N4	-6.84	115.42	120.20
22	BA	2045	C	C6-N1-C2	6.83	123.03	120.30
22	BA	2033	A	C5-C6-N1	6.82	121.11	117.70
22	BA	383	C	C6-N1-C2	6.75	123.00	120.30
22	BA	528	A	C5-C6-N6	-6.73	118.31	123.70
22	BA	943	A	C2-N3-C4	-6.72	107.24	110.60
22	BA	2250	G	C5-N7-C8	-6.72	100.94	104.30
22	BA	984	A	C4-N9-C1'	-6.72	114.20	126.30
22	BA	1164	C	O5'-P-OP2	-6.71	99.66	105.70
1	CA	35	G	O5'-P-OP1	-6.68	99.69	105.70
22	BA	531	C	C6-N1-C2	-6.67	117.63	120.30
22	BA	752	A	O4'-C1'-N9	6.65	113.52	108.20
22	BA	2714	G	C5-C6-O6	-6.63	124.62	128.60
22	BA	1251	C	C5-C4-N4	-6.62	115.57	120.20
22	BA	2505	G	C5-C6-O6	6.62	132.57	128.60
22	BA	1299	G	N3-C4-C5	-6.61	125.29	128.60
22	BA	1936	A	N1-C6-N6	6.61	122.57	118.60
22	BA	835	C	C6-N1-C2	6.61	122.94	120.30
22	BA	984	A	O5'-P-OP1	-6.60	99.76	105.70
1	AA	906	A	O5'-P-OP1	-6.59	99.77	105.70
1	AA	1484	C	N1-C2-O2	-6.58	114.95	118.90
22	BA	2000	C	N3-C4-C5	6.55	124.52	121.90
22	BA	684	G	C2-N3-C4	-6.54	108.63	111.90
22	BA	727	A	C4-C5-N7	6.54	113.97	110.70
22	BA	858	G	O5'-P-OP2	-6.54	99.81	105.70
22	BA	672	C	C6-N1-C2	6.54	122.91	120.30
22	BA	808	G	C5-C6-O6	-6.54	124.68	128.60
22	BA	954	G	OP2-P-O3'	6.53	119.57	105.20
22	DA	2427	C	C6-N1-C2	-6.52	117.69	120.30
22	BA	974	G	C2-N3-C4	-6.51	108.64	111.90
22	BA	2030	A	N9-C4-C5	6.51	108.40	105.80
22	BA	801	G	C4-C5-N7	-6.50	108.20	110.80
22	BA	783	A	N1-C6-N6	6.50	122.50	118.60
22	BA	560	C	N3-C4-C5	6.49	124.50	121.90
22	BA	752	A	N7-C8-N9	6.46	117.03	113.80
22	BA	836	G	C5-C6-O6	-6.45	124.73	128.60
23	BB	83	G	N1-C6-O6	-6.42	116.05	119.90
22	BA	801	G	N3-C2-N2	-6.41	115.41	119.90
22	BA	2490	G	N3-C4-N9	6.40	129.84	126.00
22	BA	528	A	C4-C5-C6	6.40	120.20	117.00
22	BA	1394	U	O5'-P-OP1	-6.39	99.95	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	2813	A	C8-N9-C4	6.39	108.36	105.80
22	BA	490	C	C6-N1-C2	-6.39	117.75	120.30
22	BA	1299	G	N3-C4-N9	6.38	129.83	126.00
22	BA	1475	G	O4'-C1'-N9	6.37	113.29	108.20
22	BA	1663	G	O5'-P-OP2	-6.35	99.98	105.70
22	BA	525	U	OP2-P-O3'	6.35	119.17	105.20
22	BA	2354	C	C6-N1-C2	-6.32	117.77	120.30
22	BA	2490	G	N3-C4-C5	-6.31	125.44	128.60
22	BA	948	C	C6-N1-C2	-6.31	117.78	120.30
22	BA	1829	A	C8-N9-C4	6.31	108.32	105.80
22	BA	946	C	N3-C4-N4	6.30	122.41	118.00
22	BA	208	C	C6-N1-C2	6.29	122.82	120.30
22	BA	1605	C	N1-C2-O2	-6.29	115.13	118.90
22	BA	2030	A	C5-C6-N6	6.29	128.73	123.70
22	BA	678	C	N3-C4-C5	6.28	124.41	121.90
22	BA	2642	G	N1-C6-O6	-6.27	116.14	119.90
22	BA	2645	G	O4'-C1'-N9	6.26	113.21	108.20
22	BA	678	C	C5-C4-N4	-6.25	115.82	120.20
22	BA	2773	C	C6-N1-C2	6.25	122.80	120.30
22	BA	571	U	N1-C2-O2	-6.24	118.43	122.80
22	BA	1020	A	N1-C6-N6	6.24	122.34	118.60
6	CF	86	ARG	NE-CZ-NH1	6.24	123.42	120.30
22	BA	2444	G	OP2-P-O3'	6.22	118.88	105.20
22	BA	1428	C	C5-C6-N1	-6.21	117.90	121.00
22	BA	1681	G	N3-C2-N2	-6.21	115.55	119.90
1	AA	1286	U	C2-N1-C1'	6.20	125.14	117.70
22	BA	2588	G	O5'-P-OP2	-6.18	100.14	105.70
22	BA	752	A	C6-C5-N7	-6.17	127.98	132.30
22	BA	2581	G	O4'-C1'-N9	6.17	113.14	108.20
22	BA	1029	A	C8-N9-C4	-6.15	103.34	105.80
22	BA	2594	C	O5'-P-OP2	-6.14	100.17	105.70
1	CA	234	C	C6-N1-C2	6.14	122.75	120.30
22	BA	2354	C	N3-C2-O2	-6.12	117.61	121.90
22	BA	1760	C	C6-N1-C2	6.12	122.75	120.30
22	BA	2483	C	O5'-P-OP1	-6.09	100.22	105.70
22	BA	194	G	C6-C5-N7	-6.08	126.75	130.40
22	BA	197	A	O5'-P-OP1	-6.08	100.22	105.70
22	BA	2581	G	N1-C6-O6	-6.08	116.25	119.90
22	BA	2614	A	C8-N9-C4	6.07	108.23	105.80
22	BA	974	G	N7-C8-N9	6.07	116.13	113.10
22	BA	2054	A	OP2-P-O3'	6.06	118.53	105.20
22	BA	911	A	C5-C6-N6	-6.05	118.86	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	2275	C	N3-C2-O2	-6.05	117.66	121.90
22	BA	1452	G	C4-C5-N7	6.04	113.22	110.80
1	AA	1484	C	N3-C2-O2	6.04	126.12	121.90
22	BA	675	A	C5-C6-N6	-6.03	118.88	123.70
22	BA	572	A	O5'-P-OP1	-6.03	100.28	105.70
1	CA	207	C	C6-N1-C2	-6.02	117.89	120.30
22	BA	15	G	C5-C6-O6	6.02	132.21	128.60
22	BA	2420	C	N3-C4-C5	6.01	124.31	121.90
22	BA	2700	A	C5-C6-N1	6.01	120.71	117.70
22	BA	675	A	C4-C5-N7	6.01	113.71	110.70
22	BA	2645	G	C6-C5-N7	-6.00	126.80	130.40
22	BA	829	A	C8-N9-C4	5.99	108.19	105.80
22	BA	1695	G	O5'-P-OP1	-5.98	100.32	105.70
22	BA	2782	G	C5-C6-O6	-5.98	125.02	128.60
22	DA	1313	U	C2-N1-C1'	5.97	124.87	117.70
1	AA	279	A	N1-C6-N6	5.97	122.18	118.60
22	BA	578	G	N3-C4-C5	-5.96	125.62	128.60
1	AA	578	C	O5'-P-OP1	-5.96	100.34	105.70
22	BA	2642	G	C5-C6-O6	5.95	132.17	128.60
22	DA	2447	G	C4-N9-C1'	-5.95	118.76	126.50
6	AF	54	LEU	CA-CB-CG	5.95	128.99	115.30
1	CA	575	G	N3-C4-C5	5.95	131.57	128.60
22	BA	1706	C	C6-N1-C2	5.94	122.68	120.30
22	BA	2621	G	N7-C8-N9	5.94	116.07	113.10
22	BA	1791	A	OP2-P-O3'	5.93	118.25	105.20
22	BA	835	C	N1-C2-O2	-5.93	115.34	118.90
22	BA	2773	C	N3-C4-C5	5.93	124.27	121.90
22	BA	2272	U	C5-C4-O4	-5.91	122.36	125.90
22	BA	2359	C	C6-N1-C2	-5.89	117.94	120.30
22	BA	1683	U	O5'-P-OP2	-5.88	100.41	105.70
22	BA	1934	C	C2-N1-C1'	-5.88	112.33	118.80
22	BA	2211	A	P-O3'-C3'	5.88	126.76	119.70
1	AA	333	U	O5'-P-OP2	-5.88	100.41	105.70
23	BB	80	U	O5'-P-OP1	-5.88	100.41	105.70
22	BA	1187	G	C6-C5-N7	-5.86	126.88	130.40
22	BA	752	A	C2-N3-C4	-5.86	107.67	110.60
1	AA	1279	G	C8-N9-C4	-5.86	104.06	106.40
22	BA	502	A	O5'-P-OP2	5.85	117.72	110.70
22	BA	1779	U	N3-C4-O4	-5.84	115.31	119.40
22	BA	1302	A	N1-C6-N6	5.84	122.10	118.60
22	BA	772	C	N3-C4-C5	5.83	124.23	121.90
22	BA	782	A	O5'-P-OP1	-5.83	100.45	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	1034	G	N1-C6-O6	5.83	123.40	119.90
22	BA	2697	G	N9-C4-C5	5.83	107.73	105.40
22	BA	2442	C	N3-C4-C5	5.83	124.23	121.90
22	BA	906	U	C2-N1-C1'	-5.83	110.71	117.70
22	BA	523	C	C6-N1-C2	5.82	122.63	120.30
22	BA	1651	G	C8-N9-C4	-5.82	104.07	106.40
22	BA	2502	G	O4'-C1'-N9	5.82	112.86	108.20
22	BA	2698	U	C5-C4-O4	-5.82	122.41	125.90
22	BA	2067	G	N1-C2-N2	-5.81	110.97	116.20
22	BA	2442	C	C5-C4-N4	-5.81	116.13	120.20
22	BA	984	A	C8-N9-C1'	5.81	138.16	127.70
22	BA	1002	G	N1-C6-O6	-5.81	116.42	119.90
22	BA	1779	U	C5-C6-N1	-5.79	119.80	122.70
22	BA	2276	G	N3-C4-C5	-5.79	125.70	128.60
22	BA	523	C	N3-C4-C5	5.78	124.21	121.90
22	BA	952	G	C4-C5-N7	5.78	113.11	110.80
22	BA	1649	G	O5'-P-OP2	-5.77	100.51	105.70
35	BN	71	ARG	NE-CZ-NH2	5.76	123.18	120.30
22	BA	705	A	C5-C6-N6	-5.75	119.10	123.70
22	BA	2819	G	N1-C6-O6	5.74	123.34	119.90
22	BA	760	G	N3-C2-N2	-5.73	115.89	119.90
22	BA	2248	C	N1-C2-O2	5.73	122.34	118.90
22	BA	2201	G	C8-N9-C4	-5.73	104.11	106.40
22	BA	572	A	OP2-P-O3'	5.72	117.78	105.20
22	BA	2887	A	C5-C6-N6	-5.71	119.13	123.70
22	BA	1147	A	O5'-P-OP2	-5.71	100.56	105.70
22	BA	974	G	N9-C4-C5	-5.71	103.11	105.40
22	BA	1428	C	C2-N1-C1'	-5.71	112.52	118.80
1	AA	1201	A	P-O3'-C3'	5.71	126.55	119.70
22	BA	2689	U	N3-C4-O4	-5.71	115.40	119.40
1	AA	819	A	O5'-P-OP1	-5.69	100.58	105.70
22	BA	783	A	N3-C4-C5	5.69	130.78	126.80
35	BN	71	ARG	NE-CZ-NH1	-5.69	117.46	120.30
22	BA	1250	G	O5'-P-OP1	-5.68	100.58	105.70
22	BA	254	G	N1-C6-O6	5.68	123.31	119.90
22	BA	1784	A	C5-C6-N1	-5.68	114.86	117.70
22	BA	953	G	N3-C4-N9	-5.68	122.59	126.00
22	BA	561	G	N3-C4-C5	5.67	131.44	128.60
22	BA	837	C	N1-C2-O2	-5.66	115.50	118.90
22	BA	2505	G	OP2-P-O3'	5.66	117.65	105.20
22	BA	2286	G	C4-N9-C1'	-5.66	119.15	126.50
22	BA	1681	G	C5-C6-O6	-5.65	125.21	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	2578	G	C4-N9-C1'	-5.65	119.16	126.50
22	BA	1829	A	N7-C8-N9	-5.65	110.98	113.80
22	BA	1783	A	N1-C6-N6	5.64	121.99	118.60
1	AA	503	C	C6-N1-C2	-5.64	118.04	120.30
22	BA	764	A	O4'-C1'-N9	5.63	112.70	108.20
22	BA	2013	A	O5'-P-OP2	-5.63	100.63	105.70
22	BA	2331	G	N1-C6-O6	5.63	123.28	119.90
22	BA	1452	G	N3-C4-C5	5.63	131.41	128.60
22	BA	216	A	O5'-P-OP2	-5.62	100.64	105.70
22	BA	733	G	C5-C6-O6	-5.62	125.23	128.60
22	BA	2799	A	N1-C6-N6	5.62	121.97	118.60
23	BB	94	A	N1-C6-N6	5.62	121.97	118.60
22	BA	998	C	N3-C4-C5	-5.62	119.65	121.90
1	AA	890	G	O4'-C1'-N9	5.61	112.69	108.20
22	DA	757	G	N3-C4-C5	5.61	131.41	128.60
22	BA	1962	C	O5'-P-OP1	-5.61	100.65	105.70
22	BA	2890	G	C6-C5-N7	-5.61	127.03	130.40
22	BA	956	G	N3-C4-N9	-5.61	122.63	126.00
22	BA	794	A	N1-C6-N6	5.60	121.96	118.60
22	BA	1955	U	C6-N1-C2	5.60	124.36	121.00
22	BA	2873	A	C8-N9-C4	-5.59	103.56	105.80
22	BA	2057	G	N1-C6-O6	5.59	123.25	119.90
22	BA	801	G	C8-N9-C4	-5.58	104.17	106.40
22	BA	2479	U	N1-C2-O2	-5.57	118.90	122.80
22	BA	1192	G	C5-C6-O6	5.57	131.94	128.60
22	BA	974	G	N9-C1'-C2'	5.56	121.23	114.00
22	BA	1228	G	OP2-P-O3'	5.56	117.44	105.20
22	BA	946	C	C5-C4-N4	-5.56	116.31	120.20
22	BA	953	G	C5-C6-N1	-5.56	108.72	111.50
1	AA	332	G	C8-N9-C4	5.56	108.62	106.40
22	BA	1618	A	N1-C6-N6	5.56	121.93	118.60
22	BA	561	G	N3-C2-N2	-5.55	116.01	119.90
22	BA	2328	A	C8-N9-C4	-5.55	103.58	105.80
22	DA	740	C	C6-N1-C2	5.55	122.52	120.30
22	BA	748	G	C4-N9-C1'	-5.55	119.29	126.50
22	BA	533	G	N9-C4-C5	-5.54	103.18	105.40
22	BA	2763	G	N1-C6-O6	5.54	123.23	119.90
22	BA	1659	G	N1-C6-O6	-5.54	116.58	119.90
22	BA	2326	C	C6-N1-C2	-5.54	118.09	120.30
22	BA	142	A	N1-C6-N6	5.53	121.92	118.60
1	AA	4	U	C2-N1-C1'	5.53	124.34	117.70
22	BA	2495	G	C8-N9-C4	-5.53	104.19	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	209	U	C2-N1-C1'	5.53	124.33	117.70
22	BA	2782	G	N9-C4-C5	-5.52	103.19	105.40
22	BA	784	G	P-O3'-C3'	5.52	126.33	119.70
22	BA	941	A	N1-C6-N6	5.52	121.91	118.60
22	BA	2380	C	OP2-P-O3'	5.52	117.33	105.20
22	BA	189	G	C5-C6-O6	-5.51	125.29	128.60
22	BA	564	C	C5-C4-N4	5.51	124.06	120.20
22	BA	967	U	C5-C4-O4	5.51	129.21	125.90
22	BA	1790	C	O5'-P-OP2	-5.50	100.75	105.70
22	BA	2782	G	N1-C6-O6	5.50	123.20	119.90
22	BA	537	G	C6-C5-N7	-5.50	127.10	130.40
22	BA	564	C	C6-N1-C2	-5.50	118.10	120.30
22	BA	771	G	C5-C6-O6	-5.50	125.30	128.60
22	BA	256	A	N1-C6-N6	-5.49	115.31	118.60
22	BA	564	C	N3-C4-C5	-5.49	119.70	121.90
22	BA	198	C	N3-C4-C5	-5.48	119.71	121.90
22	BA	1996	C	C6-N1-C2	5.48	122.49	120.30
22	BA	2439	A	N1-C6-N6	5.48	121.89	118.60
22	BA	2000	C	C6-N1-C2	5.47	122.49	120.30
22	BA	1667	G	C4-C5-N7	5.47	112.99	110.80
22	BA	540	C	N3-C4-C5	5.47	124.09	121.90
22	BA	672	C	N3-C2-O2	5.46	125.72	121.90
22	BA	1330	C	OP2-P-O3'	5.46	117.22	105.20
22	BA	2496	C	C5-C4-N4	5.46	124.02	120.20
22	BA	757	G	N3-C2-N2	5.46	123.72	119.90
22	BA	981	A	C8-N9-C4	5.46	107.98	105.80
1	AA	25	C	N1-C2-O2	-5.45	115.63	118.90
22	BA	1134	A	OP1-P-OP2	5.45	127.77	119.60
22	BA	2766	A	N9-C4-C5	-5.45	103.62	105.80
22	BA	1288	G	O4'-C1'-N9	5.44	112.55	108.20
22	BA	537	G	C5-C6-O6	-5.43	125.34	128.60
22	BA	771	G	N1-C6-O6	5.43	123.16	119.90
22	BA	1349	C	O5'-P-OP2	-5.43	100.82	105.70
22	BA	1681	G	C6-C5-N7	-5.43	127.14	130.40
22	BA	873	C	C5-C4-N4	-5.42	116.40	120.20
22	BA	2720	U	C2-N1-C1'	-5.42	111.19	117.70
22	BA	2890	G	N9-C4-C5	-5.42	103.23	105.40
22	BA	2501	C	C2-N1-C1'	-5.40	112.86	118.80
22	BA	2055	C	N1-C2-O2	-5.39	115.66	118.90
22	BA	2863	C	C6-N1-C2	5.39	122.46	120.30
1	AA	115	G	P-O3'-C3'	5.39	126.17	119.70
22	BA	984	A	C5-C6-N1	-5.39	115.00	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	1759	A	C5-C6-N1	5.39	120.39	117.70
22	BA	1142	A	C5-N7-C8	-5.38	101.21	103.90
22	BA	2250	G	N3-C4-N9	-5.37	122.78	126.00
22	BA	745	G	N3-C4-C5	-5.37	125.91	128.60
22	BA	1929	G	N3-C4-N9	5.37	129.22	126.00
22	BA	2714	G	N1-C6-O6	5.37	123.12	119.90
22	DA	2591	C	C6-N1-C2	-5.37	118.15	120.30
22	BA	2813	A	N3-C4-C5	5.37	130.56	126.80
22	BA	1267	U	C6-N1-C2	-5.36	117.78	121.00
22	BA	675	A	N1-C6-N6	5.36	121.82	118.60
22	BA	1669	A	C5-C6-N1	5.36	120.38	117.70
22	BA	1305	C	N3-C4-C5	5.36	124.04	121.90
22	BA	2868	A	N1-C6-N6	5.35	121.81	118.60
22	DA	1606	C	C6-N1-C2	-5.34	118.16	120.30
22	BA	1620	G	C2-N3-C4	-5.34	109.23	111.90
22	BA	2697	G	N7-C8-N9	5.34	115.77	113.10
22	BA	2766	A	N1-C6-N6	5.34	121.80	118.60
22	BA	914	G	N1-C6-O6	5.33	123.10	119.90
22	BA	2519	U	O5'-P-OP1	-5.33	100.91	105.70
22	BA	1999	C	N1-C2-O2	-5.32	115.71	118.90
22	BA	1984	G	C5-C6-O6	-5.32	125.41	128.60
22	BA	2422	C	N3-C2-O2	5.32	125.62	121.90
22	BA	981	A	OP2-P-O3'	5.32	116.90	105.20
22	BA	808	G	C4-C5-N7	5.32	112.93	110.80
22	BA	658	U	O5'-P-OP1	-5.31	100.92	105.70
22	BA	1961	C	C6-N1-C2	5.31	122.42	120.30
22	BA	2035	G	N1-C6-O6	-5.31	116.71	119.90
22	BA	2276	G	N1-C6-O6	-5.31	116.71	119.90
22	BA	2731	G	N1-C2-N2	-5.31	111.42	116.20
22	BA	1245	G	C8-N9-C4	5.30	108.52	106.40
22	BA	1651	G	OP1-P-O3'	5.30	116.86	105.20
22	BA	2483	C	C5-C4-N4	-5.29	116.50	120.20
1	CA	770	C	C6-N1-C2	5.29	122.42	120.30
1	CA	575	G	C4-N9-C1'	-5.29	119.62	126.50
22	BA	560	C	C2-N3-C4	-5.28	117.26	119.90
1	CA	575	G	C8-N9-C4	5.28	108.51	106.40
22	BA	2071	A	OP1-P-O3'	5.28	116.82	105.20
22	DA	974	G	C4-C5-N7	5.28	112.91	110.80
22	BA	1034	G	C6-C5-N7	-5.28	127.23	130.40
22	BA	1134	A	O5'-P-OP1	-5.28	100.95	105.70
22	BA	2645	G	C4-N9-C1'	5.28	133.36	126.50
1	CA	553	A	O5'-P-OP2	-5.27	100.95	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	243	U	C5-C4-O4	-5.27	122.74	125.90
22	BA	1143	A	N1-C6-N6	-5.27	115.44	118.60
22	BA	2762	C	N1-C2-O2	-5.27	115.74	118.90
22	BA	2598	A	OP2-P-O3'	5.27	116.79	105.20
22	BA	1606	C	C6-N1-C2	-5.27	118.19	120.30
22	BA	2867	G	C8-N9-C4	5.26	108.51	106.40
22	BA	733	G	N1-C6-O6	5.26	123.06	119.90
22	BA	2731	G	N3-C2-N2	5.26	123.58	119.90
22	DA	2447	G	C8-N9-C1'	5.26	133.84	127.00
22	BA	565	C	C5-C4-N4	-5.26	116.52	120.20
22	BA	2063	C	C2-N1-C1'	5.25	124.58	118.80
1	AA	400	C	C6-N1-C2	5.25	122.40	120.30
1	CA	207	C	C2-N1-C1'	5.25	124.58	118.80
22	DA	444	C	C6-N1-C2	-5.25	118.20	120.30
22	BA	1830	C	C6-N1-C2	5.25	122.40	120.30
22	BA	2020	A	OP2-P-O3'	5.25	116.75	105.20
22	BA	198	C	C2-N1-C1'	5.25	124.57	118.80
22	BA	1266	G	O5'-P-OP1	-5.25	100.98	105.70
22	BA	1788	C	C5-C4-N4	-5.24	116.53	120.20
22	BA	1024	G	C2-N3-C4	-5.24	109.28	111.90
22	BA	520	G	N1-C6-O6	-5.24	116.76	119.90
22	DA	105	C	C6-N1-C2	-5.24	118.21	120.30
22	BA	309	A	N1-C6-N6	5.23	121.74	118.60
1	CA	402	G	N1-C6-O6	-5.23	116.76	119.90
22	BA	2534	A	N1-C6-N6	5.23	121.74	118.60
22	DA	974	G	C6-C5-N7	-5.23	127.26	130.40
22	BA	537	G	N1-C6-O6	5.23	123.04	119.90
22	BA	2890	G	C4-C5-N7	5.23	112.89	110.80
22	BA	1557	C	C6-N1-C2	5.22	122.39	120.30
22	BA	2887	A	N1-C6-N6	5.22	121.73	118.60
22	BA	1455	G	C8-N9-C4	-5.22	104.31	106.40
22	BA	938	G	C4-N9-C1'	-5.22	119.72	126.50
22	BA	1415	U	C2-N1-C1'	5.21	123.96	117.70
22	BA	483	A	C8-N9-C4	5.21	107.88	105.80
22	BA	783	A	C2-N3-C4	-5.21	108.00	110.60
22	BA	1990	C	C6-N1-C2	5.21	122.38	120.30
22	BA	2540	C	C2-N1-C1'	-5.21	113.07	118.80
22	BA	571	U	N3-C2-O2	5.20	125.84	122.20
22	BA	1760	C	N3-C2-O2	5.20	125.54	121.90
22	BA	1478	G	N1-C6-O6	5.20	123.02	119.90
22	BA	2558	C	OP2-P-O3'	5.20	116.64	105.20
22	BA	1377	G	N3-C4-C5	-5.19	126.00	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	1210	G	C5-C6-O6	-5.19	125.48	128.60
22	BA	689	A	N9-C4-C5	5.19	107.88	105.80
22	BA	2581	G	C5-C6-O6	5.19	131.71	128.60
22	BA	1284	A	N1-C6-N6	5.19	121.71	118.60
22	BA	2250	G	N3-C4-C5	5.19	131.19	128.60
1	AA	351	G	C4-C5-N7	5.18	112.87	110.80
22	BA	2447	G	C8-N9-C4	5.18	108.47	106.40
22	BA	911	A	N1-C6-N6	5.18	121.71	118.60
23	BB	94	A	C5-C6-N6	-5.18	119.56	123.70
22	BA	565	C	OP2-P-O3'	5.18	116.59	105.20
32	BK	76	VAL	CB-CA-C	-5.18	101.56	111.40
22	BA	2501	C	N3-C4-C5	5.17	123.97	121.90
22	DA	1313	U	C5-C6-N1	5.17	125.28	122.70
22	BA	1192	G	C6-C5-N7	5.17	133.50	130.40
22	BA	1297	C	N1-C2-O2	-5.16	115.80	118.90
22	BA	491	G	O5'-P-OP2	-5.16	101.06	105.70
22	BA	1358	G	N9-C4-C5	-5.16	103.34	105.40
22	BA	2726	A	N9-C4-C5	5.16	107.86	105.80
40	BS	8	ARG	NE-CZ-NH2	-5.16	117.72	120.30
22	BA	561	G	C5-C6-O6	-5.15	125.51	128.60
22	BA	783	A	O4'-C1'-N9	5.15	112.32	108.20
1	AA	299	G	C4-C5-N7	5.15	112.86	110.80
22	BA	2824	C	N3-C4-N4	5.15	121.61	118.00
22	BA	671	C	N3-C4-C5	5.15	123.96	121.90
22	BA	2782	G	C4-C5-N7	5.15	112.86	110.80
22	BA	2359	C	O5'-P-OP1	-5.15	101.07	105.70
22	BA	2496	C	N3-C4-C5	-5.15	119.84	121.90
22	DA	1257	C	C6-N1-C2	-5.15	118.24	120.30
29	BH	121	VAL	C-N-CA	5.15	134.56	121.70
22	BA	918	A	OP2-P-O3'	5.14	116.52	105.20
23	BB	108	A	N1-C6-N6	5.14	121.69	118.60
22	BA	395	U	O4'-C1'-N1	5.14	112.31	108.20
22	BA	2598	A	O5'-P-OP1	-5.14	101.07	105.70
22	BA	2250	G	N7-C8-N9	5.14	115.67	113.10
22	BA	1193	G	N3-C4-C5	-5.14	126.03	128.60
22	BA	2867	G	N3-C4-C5	5.14	131.17	128.60
22	BA	1343	G	C4-N9-C1'	5.13	133.17	126.50
22	BA	752	A	N3-C4-C5	5.13	130.39	126.80
22	BA	2438	U	C6-N1-C2	5.13	124.08	121.00
22	BA	2763	G	C2-N3-C4	-5.13	109.34	111.90
22	BA	753	A	N1-C6-N6	-5.12	115.53	118.60
22	BA	1683	U	O5'-P-OP1	5.12	116.85	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	2518	A	O4'-C1'-N9	-5.12	104.10	108.20
22	BA	2822	G	C2-N3-C4	-5.12	109.34	111.90
22	BA	2548	U	C5-C4-O4	-5.12	122.83	125.90
22	BA	2269	G	O5'-P-OP1	-5.12	101.09	105.70
22	BA	1278	C	C5-C6-N1	-5.11	118.44	121.00
22	BA	2503	A	N1-C2-N3	-5.11	126.74	129.30
22	BA	922	C	C6-N1-C2	5.11	122.34	120.30
22	BA	2782	G	C6-C5-N7	-5.11	127.33	130.40
1	AA	1488	G	OP2-P-O3'	5.11	116.43	105.20
22	BA	241	A	O5'-P-OP1	-5.11	101.11	105.70
22	BA	692	C	OP2-P-O3'	5.10	116.42	105.20
22	BA	2359	C	N3-C4-C5	-5.10	119.86	121.90
22	DA	1677	A	N1-C6-N6	5.10	121.66	118.60
22	BA	1210	G	O5'-P-OP2	-5.10	101.11	105.70
22	BA	1936	A	C5-C6-N1	-5.10	115.15	117.70
1	AA	1502	A	O5'-P-OP2	-5.09	101.12	105.70
22	BA	1924	C	O4'-C1'-N1	5.09	112.27	108.20
22	DA	729	G	O4'-C1'-N9	5.09	112.27	108.20
22	BA	1663	G	N1-C6-O6	5.08	122.95	119.90
23	BB	75	G	C5-C6-O6	-5.08	125.55	128.60
1	AA	1529	G	N9-C4-C5	-5.08	103.37	105.40
22	BA	533	G	O5'-P-OP2	5.08	116.80	110.70
22	DA	1779	U	C5-C4-O4	5.08	128.95	125.90
22	BA	705	A	N9-C4-C5	-5.08	103.77	105.80
22	BA	1784	A	C4-C5-C6	5.08	119.54	117.00
1	AA	971	G	O4'-C1'-N9	5.08	112.26	108.20
22	BA	467	G	N3-C4-C5	-5.08	126.06	128.60
22	BA	942	G	N3-C4-C5	5.07	131.14	128.60
22	BA	1187	G	C4-C5-C6	5.07	121.84	118.80
22	BA	772	C	C5-C4-N4	-5.07	116.65	120.20
22	BA	2279	G	C2-N3-C4	-5.07	109.37	111.90
22	BA	939	G	N3-C2-N2	-5.07	116.35	119.90
22	BA	2001	C	O5'-P-OP2	-5.06	101.14	105.70
22	BA	921	C	N1-C2-O2	-5.06	115.86	118.90
22	BA	1584	U	C2-N1-C1'	5.06	123.77	117.70
22	BA	2624	G	N3-C4-C5	5.06	131.13	128.60
22	BA	2279	G	C4-C5-N7	5.05	112.82	110.80
22	BA	2765	A	N9-C4-C5	-5.05	103.78	105.80
22	BA	515	A	C8-N9-C4	-5.05	103.78	105.80
22	BA	2512	C	N3-C4-C5	5.05	123.92	121.90
22	BA	1266	G	C5-C6-O6	5.05	131.63	128.60
22	BA	1293	C	C6-N1-C2	5.05	122.32	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	BA	2558	C	N3-C4-N4	-5.05	114.47	118.00
22	BA	2890	G	N1-C6-O6	5.05	122.93	119.90
22	BA	1270	C	N3-C4-C5	-5.04	119.88	121.90
22	BA	2729	G	N3-C4-N9	5.04	129.02	126.00
22	BA	26	G	N1-C6-O6	5.03	122.92	119.90
22	BA	528	A	C8-N9-C4	-5.03	103.79	105.80
22	BA	735	A	C8-N9-C4	5.03	107.81	105.80
22	DA	2053	G	C4-N9-C1'	-5.03	119.96	126.50
22	BA	564	C	N3-C2-O2	-5.03	118.38	121.90
22	BA	2890	G	C5-C6-O6	-5.03	125.58	128.60
22	BA	1965	C	C2-N1-C1'	5.02	124.32	118.80
22	BA	11	C	N3-C4-C5	5.02	123.91	121.90
22	BA	1028	A	O5'-P-OP1	-5.02	101.19	105.70
22	BA	1225	G	N3-C4-C5	-5.01	126.09	128.60
22	BA	2825	G	N3-C4-C5	-5.01	126.09	128.60
22	BA	1245	G	N3-C4-C5	5.01	131.11	128.60
22	BA	1259	G	N3-C2-N2	5.01	123.41	119.90
22	BA	560	C	C6-N1-C2	5.01	122.30	120.30
22	BA	752	A	C5-C6-N6	-5.01	119.69	123.70
22	BA	2820	A	N1-C6-N6	5.01	121.61	118.60
22	BA	666	A	N1-C6-N6	-5.01	115.60	118.60
22	BA	2818	U	O5'-P-OP2	5.01	116.71	110.70
22	BA	1452	G	N3-C4-N9	-5.00	123.00	126.00
22	BA	2276	G	N1-C2-N2	-5.00	111.70	116.20

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
11	AK	126	LYS	Peptide
21	AU	39	GLU	Peptide
25	BD	151	THR	Peptide
5	CE	102	GLY	Peptide
6	CF	54	LEU	Peptide
12	CL	24	LEU	Peptide
21	CU	39	GLU	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	32995	0	16607	1123	4
1	CA	33015	0	16617	1084	0
2	AB	1705	0	1732	191	0
2	CB	1705	0	1732	131	0
3	AC	1625	0	1696	83	0
3	CC	1625	0	1696	69	0
4	AD	1643	0	1707	149	0
4	CD	1643	0	1707	119	0
5	AE	1106	0	1148	74	0
5	CE	1106	0	1148	112	0
6	AF	818	0	808	67	0
6	CF	818	0	808	56	0
7	AG	1182	0	1238	55	0
7	CG	1182	0	1238	65	0
8	AH	979	0	1031	68	0
8	CH	979	0	1031	41	0
9	AI	1022	0	1070	79	0
9	CI	1022	0	1070	63	0
10	AJ	787	0	828	80	0
10	CJ	787	0	828	50	0
11	AK	877	0	887	66	0
11	CK	877	0	887	67	0
12	AL	955	0	1016	66	0
12	CL	955	0	1016	77	0
13	AM	884	0	941	66	0
13	CM	884	0	941	47	0
14	AN	774	0	824	65	0
14	CN	774	0	824	48	0
15	AO	710	0	728	31	0
15	CO	710	0	728	42	0
16	AP	649	0	666	61	0
16	CP	649	0	666	28	0
17	AQ	649	0	691	70	0
17	CQ	649	0	691	53	0
18	AR	456	0	478	21	0
18	CR	456	0	478	33	0
19	AS	638	0	665	54	0
19	CS	638	0	665	36	0
20	AT	665	0	714	56	0
20	CT	665	0	714	43	0
21	AU	426	0	449	58	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
21	CU	426	0	449	54	0
22	BA	62195	0	31280	1616	0
22	DA	62195	0	31280	2231	0
23	BB	2549	0	1291	52	0
23	DB	2529	0	1281	62	0
24	BC	2083	0	2154	122	0
24	DC	2083	0	2154	127	0
25	BD	1565	0	1616	66	0
25	DD	1565	0	1616	81	0
26	BE	1552	0	1619	69	0
26	DE	1552	0	1619	78	0
27	BF	1411	0	1444	94	0
27	DF	1411	0	1444	62	0
28	BG	1323	0	1371	50	0
28	DG	1323	0	1371	52	0
29	BH	1110	0	1147	154	0
29	DH	1110	0	1148	120	4
30	BI	1032	0	1085	70	0
30	DI	1032	0	1085	67	0
31	BJ	1129	0	1162	37	0
31	DJ	1129	0	1162	54	0
32	BK	939	0	1012	46	0
32	DK	939	0	1012	50	0
33	BL	1045	0	1117	61	0
33	DL	1045	0	1117	66	0
34	BM	1074	0	1157	27	0
34	DM	1074	0	1157	30	0
35	BN	961	0	1000	44	0
35	DN	961	0	1000	70	0
36	BO	892	0	923	55	0
36	DO	892	0	923	44	0
37	BP	917	0	962	31	0
37	DP	917	0	962	45	0
38	BQ	947	0	1019	49	0
38	DQ	947	0	1019	50	0
39	BR	816	0	839	71	0
39	DR	816	0	839	47	0
40	BS	857	0	922	36	0
40	DS	857	0	922	46	0
41	BT	739	0	807	41	0
41	DT	739	0	807	59	0
42	BU	780	0	831	28	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	DU	780	0	831	73	0
43	BV	753	0	780	27	0
43	DV	753	0	780	27	0
44	BW	580	0	594	17	0
44	DW	569	0	581	16	0
45	BX	625	0	652	24	0
45	DX	625	0	652	47	0
46	BY	509	0	543	33	0
46	DY	509	0	543	45	0
47	BZ	449	0	488	10	0
47	DZ	449	0	488	18	0
48	B0	444	0	458	24	0
48	D0	444	0	458	18	0
49	B1	410	0	440	25	0
49	D1	410	0	440	16	0
50	B2	377	0	418	15	0
50	D2	377	0	418	24	0
51	B3	504	0	572	27	0
51	D3	504	0	572	20	0
52	B4	302	0	340	14	0
52	D4	302	0	342	15	0
53	B5	1142	0	865	48	0
54	AA	71	0	0	0	0
54	AN	1	0	0	0	0
54	BA	193	0	0	0	0
54	BB	4	0	0	0	0
54	BD	1	0	0	0	0
54	BQ	1	0	0	0	0
54	CA	56	0	0	0	0
54	D2	1	0	0	0	0
54	DA	166	0	0	0	0
54	DB	3	0	0	0	0
54	DQ	1	0	0	0	0
55	BA	38	0	35	5	0
55	DA	38	0	35	15	0
56	B4	1	0	0	0	0
56	D4	1	0	0	0	0
57	AA	192	0	0	25	0
57	AL	2	0	0	0	0
57	AN	6	0	0	1	0
57	AT	2	0	0	0	0
57	AU	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	B2	1	0	0	0	0
57	B3	2	0	0	0	0
57	B4	2	0	0	0	0
57	BA	620	0	0	65	0
57	BB	13	0	0	0	0
57	BC	7	0	0	1	0
57	BD	3	0	0	2	0
57	BE	4	0	0	0	0
57	BF	1	0	0	1	0
57	BJ	1	0	0	0	0
57	BL	5	0	0	0	0
57	BN	3	0	0	0	0
57	BQ	1	0	0	0	0
57	BS	1	0	0	0	0
57	BT	1	0	0	0	0
57	BV	1	0	0	0	0
57	CA	191	0	0	26	0
57	CL	1	0	0	0	0
57	CN	2	0	0	0	0
57	CT	2	0	0	0	0
57	CU	2	0	0	1	0
57	D2	1	0	0	1	0
57	D3	2	0	0	0	0
57	D4	1	0	0	0	0
57	DA	607	0	0	105	0
57	DB	13	0	0	0	0
57	DC	12	0	0	2	0
57	DD	4	0	0	2	0
57	DE	6	0	0	2	0
57	DJ	1	0	0	0	0
57	DL	4	0	0	1	0
57	DN	2	0	0	0	0
57	DT	1	0	0	0	0
57	DU	1	0	0	0	0
57	DV	1	0	0	0	0
All	All	288258	0	192859	10766	4

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 23.

All (10766) 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)
22:BA:1153:C:OP2	57:BA:3360:HOH:O	1.56	1.23
22:BA:621:A:OP2	57:BA:3293:HOH:O	1.57	1.23
29:BH:117:LEU:O	29:BH:121:VAL:HG23	1.34	1.22
29:BH:123:ARG:HH22	1:CA:367:U:P	1.69	1.15
29:BH:117:LEU:O	29:BH:121:VAL:CG2	1.95	1.14
29:BH:123:ARG:NH2	1:CA:367:U:OP2	1.82	1.13
25:DD:151:THR:O	25:DD:153:GLY:N	1.80	1.12
22:DA:2199:A:O4'	29:DH:28:ASN:ND2	1.84	1.11
22:DA:2503:A:H8	55:DA:3001:VIR:H22	1.13	1.11
22:BA:2033:A:OP1	57:BA:3479:HOH:O	1.71	1.09
22:DA:2199:A:C1'	29:DH:28:ASN:ND2	2.14	1.09
29:BH:123:ARG:O	29:BH:124:THR:CG2	2.01	1.09
22:BA:842:U:O4	57:BA:3589:HOH:O	1.68	1.08
22:BA:797:G:O6	57:BA:3323:HOH:O	1.71	1.08
22:DA:2711:A:OP2	57:DA:3544:HOH:O	1.69	1.07
23:DB:28:C:OP1	36:DO:36:TYR:OH	1.72	1.07
22:BA:2728:U:O2'	22:BA:2729:G:OP2	1.73	1.05
22:BA:1916:A:C4	22:BA:1917:U:H1'	1.91	1.04
22:DA:2271:G:O6	57:DA:3506:HOH:O	1.76	1.04
2:AB:21:ARG:O	2:AB:23:TRP:N	1.89	1.04
22:DA:602:A:O2'	22:DA:604:G:O2'	1.77	1.03
22:BA:1439:A:OP2	57:BA:3638:HOH:O	1.75	1.02
22:DA:789:A:N1	57:DA:3308:HOH:O	1.93	1.01
22:DA:761:A:OP2	57:DA:3292:HOH:O	1.77	1.01
1:AA:1077:G:N7	57:AA:1788:HOH:O	1.92	1.01
22:DA:58:G:OP1	41:DT:78:SER:OG	1.79	1.00
29:BH:117:LEU:HD21	29:BH:121:VAL:H	1.23	1.00
25:BD:140:HIS:NE2	57:BD:402:HOH:O	1.93	0.99
29:BH:123:ARG:O	29:BH:124:THR:HG23	1.61	0.99
22:DA:370:G:N7	57:DA:3555:HOH:O	1.93	0.99
22:DA:2627:G:O2'	22:DA:2781:A:N1	1.96	0.99
22:DA:618:G:O6	57:DA:3288:HOH:O	1.80	0.99
1:CA:412:A:O2'	1:CA:413:G:O5'	1.81	0.98
22:BA:1342:A:OP2	57:BA:3719:HOH:O	1.79	0.98
22:DA:2056:G:OP1	57:DA:3664:HOH:O	1.82	0.98
22:BA:194:G:N7	57:BA:3764:HOH:O	1.97	0.98
13:AM:11:ASP:OD1	13:AM:12:HIS:N	1.97	0.97
5:AE:99:ALA:O	5:AE:101:GLU:N	1.96	0.97
22:DA:1050:A:N6	22:DA:1109:C:O2	1.95	0.96
29:DH:40:THR:O	29:DH:42:LYS:N	1.98	0.96
24:BC:70:ASN:O	24:BC:72:ASP:N	1.97	0.96
1:AA:533:A:OP1	57:AA:1847:HOH:O	1.82	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:CR:25:ASP:O	18:CR:27:ALA:N	1.99	0.96
22:DA:2093:G:OP1	29:DH:23:ALA:HB3	1.63	0.96
24:DC:157:SER:O	24:DC:160:THR:OG1	1.84	0.95
29:BH:120:GLY:C	29:BH:122:LEU:HA	1.85	0.95
22:BA:2498:C:OP2	57:BA:3689:HOH:O	1.82	0.95
22:DA:2094:A:H5'	29:DH:25:TYR:CG	2.02	0.95
1:CA:858:G:N7	57:CA:1819:HOH:O	2.00	0.95
14:CN:41:ARG:NH1	14:CN:42:TRP:O	1.99	0.95
22:BA:198:C:OP2	57:BA:3766:HOH:O	1.83	0.94
22:DA:2093:G:H4'	29:DH:25:TYR:N	1.81	0.94
1:AA:509:A:OP2	57:AA:1722:HOH:O	1.85	0.94
2:AB:82:ASP:O	2:AB:85:LEU:N	2.00	0.94
24:BC:244:PRO:O	24:BC:251:GLN:NE2	2.01	0.94
27:DF:122:PHE:O	27:DF:124:GLY:N	2.02	0.93
3:AC:36:ASP:OD1	3:AC:59:ARG:NH1	2.02	0.93
22:BA:2017:U:OP2	57:BA:3271:HOH:O	1.84	0.93
22:BA:1179:G:C5	22:BA:1180:U:H1'	2.03	0.93
22:BA:2278:A:OP1	34:BM:10:ARG:NH2	2.02	0.93
1:AA:980:C:OP1	57:AA:1836:HOH:O	1.87	0.93
22:DA:514:A:N3	22:DA:581:C:O2'	2.02	0.93
22:BA:572:A:OP2	39:BR:80:ARG:NH2	2.02	0.92
22:DA:2507:C:OP1	57:DA:3707:HOH:O	1.87	0.92
6:CF:12:PRO:O	6:CF:15:SER:OG	1.87	0.92
22:DA:2199:A:H1'	29:DH:28:ASN:ND2	1.82	0.92
22:DA:2550:G:OP1	57:DA:3719:HOH:O	1.85	0.92
22:BA:2720:U:OP1	37:BP:53:ARG:NH2	2.03	0.92
22:DA:1395:A:OP2	57:DA:3400:HOH:O	1.86	0.92
1:CA:1500:A:OP2	57:CA:1883:HOH:O	1.88	0.91
1:AA:1317:C:OP1	14:AN:56:SER:OG	1.88	0.91
22:DA:621:A:OP2	57:DA:3289:HOH:O	1.87	0.91
22:DA:1010:A:OP2	57:DA:3776:HOH:O	1.88	0.91
22:DA:684:G:OP1	50:D2:16:HIS:ND1	2.03	0.91
29:DH:83:LYS:HG3	29:DH:149:GLU:CG	2.02	0.90
22:DA:2503:A:C8	55:DA:3001:VIR:H22	2.05	0.90
22:DA:1267:U:O3'	57:DA:3374:HOH:O	1.88	0.90
22:DA:1439:A:OP2	57:DA:3627:HOH:O	1.90	0.90
6:AF:91:ARG:O	6:AF:92:THR:OG1	1.89	0.90
12:CL:22:PRO:O	12:CL:24:LEU:N	2.04	0.89
22:DA:784:G:OP1	57:DA:3310:HOH:O	1.91	0.89
1:CA:1198:G:N7	57:CA:1852:HOH:O	2.04	0.89
1:CA:532:A:N6	3:CC:192:THR:OG1	2.04	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2094:A:OP1	29:DH:22:LYS:HG3	1.72	0.89
22:DA:2588:G:OP1	57:DA:3310:HOH:O	1.89	0.89
22:BA:1009:A:OP2	31:BJ:39:LYS:NZ	2.05	0.89
22:DA:2005:A:OP1	57:DA:3379:HOH:O	1.91	0.89
1:CA:537:G:OP1	12:CL:110:ARG:NH2	2.06	0.89
24:BC:182:ARG:NH2	24:BC:183:LYS:O	2.07	0.88
22:DA:2243:U:OP1	57:DA:3736:HOH:O	1.91	0.88
1:CA:1211:U:O2'	1:CA:1212:U:OP2	1.89	0.88
22:DA:1652:A:OP1	35:DN:8:ARG:NH2	2.07	0.88
22:DA:1154:G:OP2	38:DQ:58:ARG:NH1	2.05	0.88
35:DN:87:PHE:O	35:DN:89:SER:N	2.06	0.88
4:CD:192:SER:OG	4:CD:193:ALA:N	2.04	0.88
29:BH:123:ARG:O	29:BH:124:THR:HG22	1.74	0.88
2:CB:103:ASN:ND2	2:CB:106:THR:OG1	2.07	0.88
29:BH:117:LEU:C	29:BH:121:VAL:HG23	1.93	0.87
22:DA:2505:G:OP2	55:DA:3001:VIR:H17	1.74	0.87
22:BA:627:A:OP1	33:BL:78:ARG:NH1	2.07	0.87
22:DA:2093:G:H4'	29:DH:25:TYR:H	1.38	0.87
22:BA:1180:U:O2'	22:BA:1181:U:OP1	1.92	0.87
1:AA:980:C:OP2	57:AA:1835:HOH:O	1.91	0.87
22:DA:2506:U:C4	22:DA:2585:U:O4	2.28	0.87
14:AN:64:CYS:SG	14:AN:67:THR:OG1	2.28	0.87
1:AA:1222:G:O6	57:AA:1835:HOH:O	1.91	0.87
29:DH:83:LYS:HG3	29:DH:149:GLU:HG2	1.56	0.87
4:AD:100:ASN:OD1	4:AD:111:ARG:NH1	2.07	0.87
1:CA:684:U:O2'	11:CK:40:ASN:O	1.93	0.87
22:BA:2742:G:O6	57:BA:3796:HOH:O	1.92	0.86
22:BA:1309:G:H4'	50:B2:7:PRO:HB2	1.57	0.86
22:DA:784:G:OP2	57:DA:3309:HOH:O	1.94	0.86
12:CL:25:GLU:O	12:CL:27:CYS:N	2.09	0.86
22:DA:528:A:OP1	57:DA:3245:HOH:O	1.93	0.86
22:BA:1073:A:H3'	22:BA:1074:G:C5'	2.04	0.86
29:BH:147:VAL:HG12	29:BH:149:GLU:HG3	1.57	0.86
22:DA:2032:G:N7	57:DA:3529:HOH:O	2.07	0.86
22:DA:790:U:OP2	57:DA:3752:HOH:O	1.93	0.86
3:AC:14:ILE:O	3:AC:16:LYS:N	2.08	0.86
14:AN:90:ARG:NH1	14:AN:92:GLU:OE2	2.08	0.86
22:DA:1187:G:N7	57:DA:3574:HOH:O	2.07	0.86
22:DA:821:A:O3'	57:DA:3341:HOH:O	1.94	0.85
1:AA:79:G:N2	1:AA:91:U:O4	2.09	0.85
22:DA:1013:C:OP2	57:DA:3596:HOH:O	1.94	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:481:G:C4	22:BA:507:A:C2	2.65	0.85
22:DA:299:A:N3	22:DA:319:G:O2'	2.09	0.85
36:BO:31:THR:O	36:BO:102:ARG:NH1	2.10	0.85
22:DA:422:A:OP2	57:DA:3556:HOH:O	1.94	0.85
22:BA:2445:G:OP1	26:BE:69:ARG:NH2	2.10	0.85
22:BA:2683:C:O2	32:BK:70:ARG:NH2	2.10	0.85
22:DA:2115:G:O2'	22:DA:2117:A:N6	2.09	0.85
15:AO:64:ARG:NH2	15:AO:68:ASP:OD1	2.09	0.85
22:DA:2199:A:H1'	29:DH:28:ASN:HD22	1.40	0.85
20:CT:5:LYS:O	20:CT:7:ALA:N	2.09	0.85
22:BA:1509:A:O2'	22:BA:1510:G:OP2	1.95	0.84
13:AM:31:LYS:NZ	13:AM:41:GLU:OE1	2.10	0.84
12:CL:116:LYS:O	12:CL:117:TYR:CG	2.30	0.84
1:CA:1124:G:O2'	1:CA:1145:A:N6	2.10	0.84
11:CK:125:LYS:O	21:CU:34:ARG:NE	2.08	0.84
1:AA:1232:U:OP1	9:AI:126:GLN:NE2	2.11	0.84
22:DA:1619:G:N7	57:DA:3640:HOH:O	2.09	0.84
1:CA:1097:C:OP1	2:CB:139:ARG:NH2	2.10	0.84
29:BH:117:LEU:O	29:BH:119:ASN:N	2.07	0.84
22:BA:1917:U:C4	22:BA:1918:A:C4	2.65	0.84
29:DH:82:SER:O	29:DH:84:ALA:N	2.10	0.84
29:BH:117:LEU:HD21	29:BH:121:VAL:N	1.93	0.84
1:AA:702:A:N6	22:BA:1846:G:O2'	2.11	0.84
12:AL:21:VAL:HG23	12:AL:95:TYR:CE2	2.13	0.84
22:DA:182:A:O2'	22:DA:433:C:O2'	1.95	0.84
22:DA:2144:G:N2	22:DA:2148:G:O6	2.11	0.84
14:AN:33:ASP:O	14:AN:35:ASN:N	2.11	0.83
17:CQ:21:ILE:N	17:CQ:48:ASP:OD2	2.11	0.83
22:BA:1973:G:OP1	57:BA:3467:HOH:O	1.95	0.83
22:DA:1378:A:O2'	22:DA:1380:G:N7	2.11	0.83
1:CA:1001:C:H2'	1:CA:1002:G:C8	2.13	0.83
11:AK:29:ASN:OD1	11:AK:30:THR:N	2.12	0.83
1:AA:452:A:N6	1:AA:480:U:O2	2.12	0.83
29:DH:94:ILE:HB	29:DH:122:LEU:HD12	1.60	0.83
22:BA:1070:A:O2'	22:BA:1097:U:OP1	1.96	0.83
22:DA:2579:C:OP1	57:DA:3536:HOH:O	1.95	0.83
1:AA:1500:A:OP2	57:AA:1870:HOH:O	1.95	0.83
22:DA:2162:G:H4'	22:DA:2163:A:OP1	1.79	0.83
22:BA:1779:U:H5	22:BA:1784:A:N7	1.76	0.83
22:BA:1917:U:C5	22:BA:1918:A:C5	2.66	0.83
29:BH:123:ARG:NH2	1:CA:367:U:O5'	2.12	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CE:102:GLY:O	5:CE:104:GLY:N	2.12	0.82
1:AA:1031:C:O2'	1:AA:1032:G:OP2	1.97	0.82
1:CA:484:G:H4'	1:CA:485:U:O5'	1.78	0.82
1:AA:536:C:OP1	57:AA:1882:HOH:O	1.96	0.82
1:CA:1049:U:OP1	57:CA:1846:HOH:O	1.96	0.82
5:CE:99:ALA:O	5:CE:101:GLU:N	2.12	0.82
22:BA:2005:A:OP1	57:BA:3384:HOH:O	1.98	0.82
22:DA:450:G:O6	57:DA:3241:HOH:O	1.96	0.82
17:AQ:17:MET:N	17:AQ:17:MET:SD	2.52	0.82
29:BH:120:GLY:C	29:BH:122:LEU:CA	2.47	0.82
22:BA:2061:G:OP2	57:BA:3494:HOH:O	1.97	0.82
22:BA:1275:A:N1	22:BA:1295:C:O2'	2.13	0.82
32:BK:70:ARG:NH1	32:BK:74:GLY:O	2.12	0.82
5:CE:137:VAL:O	5:CE:138:ARG:CB	2.28	0.82
22:DA:18:U:O4	57:DA:3205:HOH:O	1.97	0.82
3:CC:155:GLY:O	3:CC:157:LEU:N	2.12	0.82
22:BA:576:U:OP1	57:BA:3674:HOH:O	1.97	0.82
22:BA:1916:A:N3	22:BA:1917:U:H1'	1.94	0.82
22:DA:118:A:C8	22:DA:119:A:C8	2.68	0.82
22:BA:999:U:P	57:BA:3363:HOH:O	2.38	0.81
22:DA:2057:G:OP2	57:DA:3483:HOH:O	1.97	0.81
1:CA:736:C:OP1	18:CR:61:ARG:NH1	2.13	0.81
22:DA:1377:G:OP2	57:DA:3391:HOH:O	1.97	0.81
1:CA:533:A:OP1	57:CA:1763:HOH:O	1.98	0.81
1:CA:558:G:OP1	57:CA:1729:HOH:O	1.97	0.81
2:CB:15:HIS:O	2:CB:17:GLY:N	2.13	0.81
1:AA:1145:A:O2'	1:AA:1146:A:O5'	1.98	0.81
4:CD:70:ARG:O	4:CD:74:ASN:ND2	2.12	0.81
25:DD:12:THR:OG1	25:DD:13:ARG:N	2.12	0.81
1:CA:645:G:N7	57:CA:1790:HOH:O	2.13	0.81
2:AB:73:LYS:O	2:AB:75:ALA:N	2.13	0.81
22:DA:2006:C:OP1	57:DA:3375:HOH:O	1.98	0.81
22:DA:1667:G:O2'	22:DA:1991:U:O4	1.97	0.81
22:BA:1845:G:OP1	24:BC:256:LYS:NZ	2.14	0.81
22:DA:185:G:C6	22:DA:212:G:C2	2.69	0.81
22:BA:517:C:OP2	48:B0:10:ARG:NH2	2.14	0.81
22:BA:500:G:N2	22:BA:502:A:H3'	1.96	0.81
1:AA:405:U:O4	4:AD:2:ALA:N	2.14	0.81
22:DA:2056:G:OP2	57:DA:3483:HOH:O	1.98	0.80
22:DA:2115:G:HO2'	22:DA:2117:A:N6	1.79	0.80
22:DA:310:A:O2'	22:DA:311:A:OP2	1.99	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2843:G:N2	22:DA:2875:C:C2	2.49	0.80
6:CF:91:ARG:O	6:CF:92:THR:OG1	1.97	0.80
22:DA:1995:U:OP1	57:DA:3804:HOH:O	1.98	0.80
40:DS:28:LYS:O	40:DS:30:SER:N	2.14	0.80
29:BH:123:ARG:NH2	1:CA:367:U:P	2.46	0.80
22:DA:2714:G:OP2	57:DA:3544:HOH:O	1.99	0.80
22:BA:1998:A:OP2	25:BD:141:ARG:NH2	2.15	0.80
50:D2:43:THR:OG1	50:D2:44:VAL:N	2.11	0.80
22:BA:999:U:OP2	57:BA:3363:HOH:O	2.00	0.80
22:BA:2728:U:HO2'	22:BA:2729:G:P	2.04	0.80
31:DJ:80:HIS:O	31:DJ:82:GLY:N	2.15	0.80
4:AD:163:GLU:OE2	4:AD:164:GLN:N	2.15	0.79
22:BA:1187:G:OP2	57:BA:3371:HOH:O	2.00	0.79
39:BR:49:ILE:HG22	39:BR:53:PHE:N	1.97	0.79
2:AB:115:LYS:O	2:AB:117:LEU:N	2.15	0.79
39:BR:24:LYS:HA	39:BR:94:THR:HG23	1.64	0.79
22:BA:783:A:O2'	22:BA:785:G:OP1	2.00	0.79
24:DC:2:ALA:N	24:DC:199:GLU:OE1	2.14	0.79
22:BA:2128:G:H2'	22:BA:2129:C:O4'	1.82	0.79
1:CA:978:A:OP2	1:CA:1362:A:N6	2.15	0.79
22:BA:1603:A:OP1	57:BA:3413:HOH:O	1.99	0.79
25:DD:140:HIS:NE2	57:DD:303:HOH:O	2.13	0.79
22:DA:1300:G:O6	22:DA:1626:A:O2'	2.01	0.79
1:AA:263:A:OP2	20:AT:74:ARG:NH1	2.16	0.79
1:AA:67:C:O2'	1:AA:171:A:N3	2.15	0.79
22:DA:732:C:OP2	57:DA:3295:HOH:O	2.00	0.79
22:BA:2800:A:H3'	22:BA:2801:G:H5'	1.64	0.79
11:AK:76:GLU:C	22:BA:2141:G:OP1	2.21	0.79
47:BZ:40:ASP:OD2	47:BZ:45:ARG:NH1	2.16	0.79
22:BA:1277:G:H5'	35:BN:20:MET:CE	2.13	0.79
22:BA:1379:U:C6	22:BA:1379:U:OP1	2.36	0.79
22:DA:2125:G:N1	22:DA:2171:A:OP1	2.16	0.79
27:BF:40:VAL:O	27:BF:42:GLU:N	2.16	0.79
1:CA:515:G:N7	57:CA:1765:HOH:O	2.15	0.78
22:DA:1509:A:O2'	22:DA:1510:G:OP2	2.01	0.78
21:AU:35:ARG:O	21:AU:37:PHE:N	2.16	0.78
22:DA:27:G:O2'	22:DA:28:A:OP2	2.01	0.78
25:DD:30:GLU:O	25:DD:52:THR:OG1	2.01	0.78
22:BA:118:A:C8	22:BA:119:A:C8	2.70	0.78
29:BH:83:LYS:HG3	1:CA:55:A:N3	1.98	0.78
24:DC:204:VAL:O	24:DC:206:GLY:N	2.15	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1607:C:N4	22:DA:1622:G:N7	2.30	0.78
21:AU:36:GLU:O	21:AU:37:PHE:HB2	1.82	0.78
24:DC:210:ALA:HA	24:DC:213:TRP:CE2	2.17	0.78
22:DA:1344:U:O2'	22:DA:1345:C:OP2	2.01	0.78
27:BF:52:ASN:ND2	27:BF:147:ASP:OD2	2.15	0.78
12:CL:34:CYS:HA	12:CL:55:VAL:HA	1.64	0.78
39:DR:8:GLY:O	39:DR:10:LYS:NZ	2.15	0.78
23:DB:34:A:N6	23:DB:44:G:O2'	2.16	0.78
22:BA:2287:A:OP1	49:B1:30:LYS:NZ	2.17	0.78
22:DA:2504:U:C5	55:DA:3001:VIR:C16	2.67	0.78
22:BA:511:U:C5	22:BA:512:G:C5	2.70	0.78
32:DK:30:ARG:NH2	32:DK:37:ASP:OD1	2.17	0.78
29:BH:86:ASP:HB2	1:CA:359:G:O2'	1.82	0.78
1:CA:412:A:HO2'	1:CA:413:G:P	2.07	0.78
22:BA:572:A:H5''	22:BA:573:U:OP2	1.82	0.78
22:BA:563:A:C2	22:BA:564:C:C2	2.71	0.78
22:BA:571:U:C5	22:BA:575:A:C5	2.72	0.78
22:DA:381:G:OP1	45:DX:18:ARG:NH2	2.17	0.78
23:DB:29:A:O2'	23:DB:58:A:N1	2.15	0.77
28:BG:174:ALA:O	28:BG:175:LYS:HB3	1.83	0.77
6:AF:7:VAL:O	6:AF:7:VAL:HG22	1.83	0.77
1:CA:209:U:H4'	1:CA:210:C:OP2	1.85	0.77
4:CD:100:ASN:OD1	4:CD:111:ARG:NH1	2.17	0.77
22:BA:2728:U:O2'	22:BA:2729:G:P	2.42	0.77
22:BA:2448:A:OP2	57:BA:3689:HOH:O	2.01	0.77
1:CA:1007:U:O4	1:CA:1022:A:N6	2.17	0.77
22:DA:2111:U:C5	22:DA:2145:C:H2'	2.19	0.77
49:D1:15:ALA:O	49:D1:17:THR:N	2.17	0.77
22:DA:2261:C:C2	22:DA:2280:G:N2	2.53	0.77
1:AA:1397:C:O2'	1:AA:1398:A:OP1	2.02	0.77
4:CD:62:ARG:NH1	4:CD:69:GLU:OE1	2.17	0.77
1:CA:706:A:C5	1:CA:707:U:C5	2.72	0.77
1:AA:1322:C:OP1	19:AS:78:ARG:NH2	2.17	0.77
1:AA:1003:G:N2	1:AA:1037:C:O2	2.17	0.77
1:CA:249:U:HO2'	1:CA:252:U:HO2'	1.20	0.77
22:DA:2286:G:H4'	22:DA:2287:A:O5'	1.85	0.77
22:BA:1124:G:N7	57:BA:3609:HOH:O	2.17	0.77
29:DH:1:MET:SD	29:DH:27:ARG:NH1	2.58	0.77
1:AA:875:U:O2'	8:AH:15:ARG:NH1	2.17	0.77
22:BA:2291:U:H2'	22:BA:2292:U:C6	2.18	0.77
9:AI:57:MET:SD	9:AI:58:VAL:N	2.58	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2091:C:H3'	22:DA:2092:U:H5''	1.67	0.77
22:DA:161:A:H3'	22:DA:162:U:H5''	1.67	0.77
22:DA:2504:U:C5	55:DA:3001:VIR:H162	2.21	0.76
6:CF:81:ASN:OD1	6:CF:83:ALA:N	2.19	0.76
22:DA:1464:G:N7	57:DA:3633:HOH:O	2.18	0.76
29:BH:89:LYS:HG2	1:CA:359:G:OP1	1.86	0.76
22:DA:187:G:C2	22:DA:210:C:C2	2.73	0.76
13:CM:13:LYS:O	13:CM:14:HIS:ND1	2.19	0.76
22:DA:1476:U:H1'	22:DA:1732:C:C2	2.21	0.76
1:AA:1350:A:OP1	9:AI:123:ARG:NE	2.18	0.76
22:BA:2189:U:H2'	22:BA:2190:G:C1'	2.15	0.76
22:BA:1916:A:O5'	22:BA:1917:U:OP2	2.02	0.76
12:CL:25:GLU:O	12:CL:26:ALA:C	2.24	0.76
29:DH:45:GLU:O	29:DH:49:ALA:N	2.19	0.76
29:DH:53:GLU:O	29:DH:55:GLU:N	2.19	0.76
22:DA:380:G:N2	22:DA:395:U:O2	2.19	0.76
1:AA:1109:C:OP2	3:AC:176:HIS:ND1	2.19	0.76
22:BA:744:U:OP1	57:BA:3656:HOH:O	2.03	0.76
22:DA:1091:G:O2'	22:DA:1092:C:OP2	2.03	0.76
22:DA:488:G:N2	22:DA:493:G:O6	2.18	0.76
4:AD:22:LYS:O	4:AD:24:GLY:N	2.19	0.76
1:AA:64:G:C8	1:AA:99:C:N4	2.54	0.76
22:BA:370:G:N7	57:BA:3563:HOH:O	2.19	0.76
11:CK:17:SER:O	11:CK:80:LYS:N	2.19	0.76
22:DA:827:U:OP2	57:DA:3695:HOH:O	2.04	0.76
22:BA:528:A:C8	22:BA:528:A:H3'	2.21	0.76
39:BR:49:ILE:HG22	39:BR:53:PHE:CA	2.16	0.76
1:CA:71:A:C2	1:CA:72:A:C8	2.74	0.76
20:AT:69:LYS:O	20:AT:71:LYS:N	2.18	0.76
22:BA:1605:C:H2'	22:BA:1606:C:H5'	1.66	0.76
23:DB:31:C:O2'	23:DB:53:A:N1	2.18	0.75
22:DA:2268:A:OP1	57:DA:3505:HOH:O	2.04	0.75
41:DT:17:SER:O	41:DT:19:LYS:N	2.19	0.75
1:AA:965:U:OP2	57:AA:1831:HOH:O	2.03	0.75
1:CA:966:G:O2'	9:CI:130:ARG:OXT	2.04	0.75
1:CA:32:A:C2	1:CA:33:A:C5	2.75	0.75
40:DS:66:ILE:O	40:DS:68:ASP:N	2.19	0.75
29:DH:124:THR:OG1	29:DH:125:THR:N	2.17	0.75
27:BF:2:ALA:O	27:BF:4:LEU:N	2.19	0.75
22:DA:1340:U:C4	22:DA:1603:A:C8	2.75	0.75
17:AQ:16:LYS:C	17:AQ:17:MET:SD	2.65	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:15:G:OP2	57:BA:3553:HOH:O	2.04	0.75
22:BA:1776:G:OP2	57:BA:3451:HOH:O	2.05	0.75
22:BA:1266:G:OP1	48:B0:16:ARG:NE	2.19	0.75
45:DX:33:LEU:O	45:DX:34:HIS:ND1	2.19	0.75
22:DA:1808:A:N1	45:DX:28:ARG:HD2	2.02	0.75
27:BF:36:LEU:HD21	27:BF:99:PHE:CE2	2.22	0.75
22:DA:2498:C:OP2	57:DA:3680:HOH:O	2.05	0.75
22:DA:668:A:N6	22:DA:670:A:O2'	2.18	0.75
22:DA:2057:G:OP1	57:DA:3667:HOH:O	2.04	0.75
24:BC:260:ASN:O	24:BC:262:ARG:N	2.19	0.75
22:BA:2057:G:OP2	57:BA:3490:HOH:O	2.04	0.75
22:BA:770:G:N7	57:BA:3724:HOH:O	2.19	0.75
25:BD:125:TRP:CE3	25:BD:160:LYS:HD3	2.21	0.75
22:BA:2886:A:C5	22:BA:2887:A:C8	2.74	0.75
22:BA:2321:U:H5'	22:BA:2322:A:OP2	1.85	0.74
22:BA:1450:G:C6	22:BA:1451:C:N4	2.55	0.74
39:DR:82:HIS:ND1	39:DR:82:HIS:O	2.20	0.74
22:BA:528:A:H2'	22:BA:529:A:H5''	1.67	0.74
4:AD:32:CYS:O	4:AD:33:LYS:HB2	1.87	0.74
22:DA:1266:G:O2'	22:DA:2012:G:O6	2.02	0.74
22:DA:1269:A:OP2	57:DA:3377:HOH:O	2.04	0.74
22:BA:2048:G:O6	57:BA:3682:HOH:O	2.05	0.74
16:AP:46:LYS:HD3	16:AP:47:GLU:N	2.03	0.74
22:DA:822:G:OP2	57:DA:3343:HOH:O	2.05	0.74
1:CA:1004:A:O2'	1:CA:1036:A:N1	2.18	0.74
29:BH:117:LEU:HD11	29:BH:122:LEU:HD12	1.69	0.74
29:BH:88:GLY:O	29:BH:125:THR:OG1	2.04	0.74
22:BA:1069:A:N1	22:BA:1073:A:N6	2.34	0.74
29:BH:123:ARG:C	29:BH:124:THR:HG23	2.06	0.74
22:DA:2004:G:OP2	57:DA:3797:HOH:O	2.04	0.74
36:BO:64:TYR:O	36:BO:67:ASN:ND2	2.21	0.74
14:AN:46:LEU:O	14:AN:48:LEU:N	2.20	0.74
22:DA:2551:C:OP2	57:DA:3718:HOH:O	2.06	0.74
22:BA:998:C:O3'	57:BA:3363:HOH:O	2.04	0.74
22:DA:1427:A:N6	22:DA:1571:A:OP2	2.20	0.74
22:DA:2592:G:OP1	57:DA:3458:HOH:O	2.04	0.74
22:DA:2094:A:C5'	29:DH:25:TYR:CG	2.70	0.74
46:DY:45:GLN:O	46:DY:47:ARG:N	2.21	0.74
1:AA:254:G:OP1	17:AQ:70:THR:HB	1.87	0.73
22:DA:587:C:OP2	33:DL:21:ARG:NH1	2.21	0.73
22:DA:2128:G:O6	22:DA:2160:C:N4	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:842:U:O4	57:DA:3577:HOH:O	2.05	0.73
22:DA:196:A:O2'	22:DA:805:G:O6	2.02	0.73
55:DA:3001:VIR:H352	55:DA:3001:VIR:H311	1.68	0.73
1:AA:516:U:O4	57:AA:1847:HOH:O	2.04	0.73
22:BA:585:G:N7	38:BQ:6:ARG:NH1	2.36	0.73
22:DA:334:C:OP1	22:DA:335:C:N4	2.22	0.73
22:BA:1131:G:OP1	31:BJ:82:GLY:HA2	1.88	0.73
22:BA:1371:G:N7	57:BA:3403:HOH:O	2.21	0.73
22:BA:1925:C:H4'	22:BA:1926:U:C4	2.23	0.73
6:AF:47:LEU:HD13	6:AF:51:ILE:HG23	1.70	0.73
1:CA:976:G:OP2	1:CA:1358:U:O2'	2.05	0.73
1:CA:152:A:N6	1:CA:170:U:C2	2.56	0.73
22:DA:53:A:C8	22:DA:54:G:C8	2.77	0.73
41:DT:21:SER:O	41:DT:23:ALA:N	2.21	0.73
33:BL:79:LEU:HB2	33:BL:114:GLY:O	1.88	0.73
22:DA:108:G:O2'	22:DA:347:A:N3	2.20	0.73
33:DL:102:GLY:N	57:DL:202:HOH:O	2.21	0.73
1:AA:455:G:C2	1:AA:478:A:C2	2.76	0.73
22:DA:466:A:N1	22:DA:795:C:O2'	2.22	0.73
22:BA:1071:G:C8	22:BA:1089:A:N6	2.57	0.73
17:AQ:16:LYS:N	17:AQ:17:MET:SD	2.62	0.73
22:BA:2757:A:N1	28:BG:67:THR:HG21	2.04	0.73
22:DA:978:G:N7	57:DA:3587:HOH:O	2.21	0.73
22:DA:826:U:O2'	33:DL:53:GLY:HA3	1.89	0.73
22:DA:910:A:N3	22:DA:2264:C:O2'	2.22	0.72
24:BC:91:ILE:HD12	24:BC:103:TYR:CD1	2.24	0.72
3:AC:139:GLN:O	3:AC:141:ALA:N	2.22	0.72
2:AB:167:ASP:OD1	2:AB:168:HIS:N	2.21	0.72
22:DA:616:A:H4'	26:DE:101:TYR:CZ	2.24	0.72
2:CB:193:PRO:O	2:CB:195:GLY:N	2.22	0.72
47:DZ:8:THR:OG1	47:DZ:35:THR:OG1	2.07	0.72
22:DA:2821:A:OP2	25:DD:115:GLY:N	2.22	0.72
22:BA:1746:A:H2'	22:BA:1747:U:C6	2.24	0.72
22:DA:1530:G:N2	22:DA:1542:U:O2	2.22	0.72
31:BJ:19:ASP:O	31:BJ:23:LYS:HE2	1.90	0.72
33:DL:93:ASN:O	33:DL:95:LEU:N	2.22	0.72
53:B5:50:ILE:C	53:B5:52:PRO:HD3	2.09	0.72
1:AA:1014:A:N3	19:AS:34:TRP:CH2	2.57	0.72
45:DX:54:LYS:O	45:DX:57:ARG:N	2.21	0.72
41:DT:27:SER:O	41:DT:29:THR:N	2.22	0.72
22:BA:1141:U:H4'	22:BA:1142:A:O4'	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DD:151:THR:O	25:DD:152:PRO:C	2.23	0.72
7:AG:27:VAL:HG12	7:AG:43:VAL:HG21	1.71	0.72
38:BQ:24:TYR:O	38:BQ:25:TYR:CB	2.38	0.72
1:AA:1406:U:C5	1:AA:1407:C:C5	2.77	0.72
22:DA:2594:C:N4	22:DA:2595:G:O6	2.23	0.72
31:DJ:41:LYS:O	31:DJ:43:GLU:N	2.22	0.72
22:DA:2199:A:C1'	29:DH:28:ASN:HD21	2.00	0.72
22:DA:2838:G:O2'	35:DN:45:ARG:NH1	2.22	0.72
4:AD:168:PRO:O	4:AD:169:THR:OG1	2.06	0.72
40:BS:63:GLY:O	40:BS:64:ALA:HB3	1.89	0.72
22:BA:2520:C:C6	22:BA:2567:G:H1'	2.24	0.72
22:BA:783:A:C2'	22:BA:785:G:OP1	2.38	0.72
22:BA:783:A:H2'	22:BA:785:G:OP1	1.90	0.72
22:DA:608:A:H2'	22:DA:609:A:C8	2.25	0.72
1:AA:212:G:N2	1:AA:213:G:C4	2.58	0.72
22:BA:1385:A:H1'	22:BA:1386:C:C6	2.25	0.72
32:BK:78:ARG:NH1	37:BP:71:GLU:OE2	2.22	0.72
22:BA:2428:G:H5''	22:BA:2429:G:OP1	1.90	0.72
26:DE:58:LYS:NZ	26:DE:70:SER:O	2.23	0.72
1:AA:1299:A:H2'	1:AA:1299:A:N3	2.04	0.72
28:BG:121:ILE:HD12	28:BG:141:ILE:HG22	1.72	0.72
39:DR:49:ILE:HG22	39:DR:54:VAL:N	2.05	0.72
22:BA:1619:G:N7	57:BA:3649:HOH:O	2.22	0.72
1:CA:412:A:HO2'	1:CA:413:G:C5'	2.03	0.71
22:DA:526:A:O5'	57:DA:3246:HOH:O	2.07	0.71
22:DA:820:A:N1	57:DA:3768:HOH:O	2.22	0.71
22:BA:2839:G:OP1	35:BN:46:ARG:HD2	1.90	0.71
22:DA:1088:A:N6	30:DI:135:SER:OG	2.23	0.71
17:AQ:14:SER:HB3	17:AQ:22:VAL:CG1	2.19	0.71
22:DA:733:G:OP2	57:DA:3293:HOH:O	2.06	0.71
22:DA:1359:A:C8	22:DA:1373:A:N1	2.58	0.71
22:DA:740:C:H5'	22:DA:1784:A:C2'	2.20	0.71
22:BA:2786:U:OP1	25:BD:70:LYS:NZ	2.20	0.71
22:DA:449:A:OP2	57:DA:3242:HOH:O	2.08	0.71
22:DA:2757:A:N1	28:DG:67:THR:HG21	2.05	0.71
1:AA:109:A:H2'	1:AA:326:G:N2	2.05	0.71
29:DH:31:VAL:HB	29:DH:32:PRO:CD	2.20	0.71
22:DA:1376:C:O5'	57:DA:3395:HOH:O	2.07	0.71
1:CA:939:G:OP1	7:CG:95:ARG:NH2	2.24	0.71
22:BA:571:U:C5	22:BA:575:A:C6	2.78	0.71
2:CB:134:ALA:O	2:CB:138:THR:OG1	2.03	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CI:102:GLY:O	9:CI:104:VAL:N	2.24	0.71
1:AA:154:U:C2	1:AA:168:G:N2	2.58	0.71
22:DA:998:C:OP2	38:DQ:58:ARG:NH2	2.23	0.71
39:BR:49:ILE:HB	39:BR:52:PRO:C	2.11	0.71
37:DP:89:ARG:NH1	37:DP:115:ASN:OXT	2.23	0.71
22:DA:116:C:HO2'	22:DA:126:A:HO2'	1.28	0.71
22:DA:1477:A:N6	22:DA:1514:G:O2'	2.24	0.71
13:AM:29:ARG:CZ	13:AM:63:PHE:HB2	2.20	0.71
1:AA:1352:C:H2'	1:AA:1353:G:C8	2.26	0.71
22:DA:2171:A:O2'	22:DA:2173:A:OP1	2.09	0.71
31:DJ:99:ARG:NH1	31:DJ:102:GLU:OE1	2.23	0.71
22:DA:2093:G:O2'	29:DH:25:TYR:HA	1.91	0.71
22:DA:2198:A:C4	29:DH:29:PHE:HB2	2.26	0.71
22:BA:1921:G:C2	22:BA:1922:G:C8	2.79	0.71
12:CL:66:TYR:O	12:CL:97:THR:OG1	2.09	0.71
1:CA:1266:G:N2	1:CA:1269:A:OP2	2.23	0.71
22:BA:1360:G:OP2	57:BA:3620:HOH:O	2.09	0.71
1:CA:182:A:C5	1:CA:184:G:N7	2.59	0.71
5:CE:155:ALA:HB1	8:CH:66:PHE:CD2	2.25	0.71
5:AE:157:ARG:O	5:AE:159:LYS:N	2.23	0.71
16:CP:23:ASP:O	16:CP:25:ARG:N	2.23	0.71
22:DA:1638:C:O2	22:DA:2698:U:O2'	2.07	0.70
1:AA:652:U:O4	1:AA:752:G:O2'	2.07	0.70
1:CA:411:A:C6	1:CA:429:U:C5	2.79	0.70
22:BA:509:C:O3'	57:BA:3777:HOH:O	2.09	0.70
22:DA:671:C:O2'	22:DA:672:C:O5'	2.09	0.70
5:CE:137:VAL:O	5:CE:138:ARG:HB2	1.89	0.70
22:DA:1469:A:H2'	22:DA:1470:A:C8	2.26	0.70
22:BA:1918:A:O2'	22:BA:1920:C:N4	2.24	0.70
1:AA:1236:A:H2'	1:AA:1237:C:C6	2.26	0.70
22:BA:301:G:OP2	42:BU:82:ARG:NH1	2.23	0.70
4:AD:3:ARG:CZ	4:AD:115:ARG:HD3	2.21	0.70
1:CA:55:A:C6	1:CA:56:U:C2	2.80	0.70
32:DK:76:VAL:HG12	37:DP:73:VAL:HG22	1.73	0.70
22:DA:2407:A:OP2	57:DA:3558:HOH:O	2.09	0.70
1:CA:667:G:OP1	1:CA:732:C:O2'	2.08	0.70
33:BL:87:GLY:O	33:BL:89:VAL:N	2.22	0.70
22:DA:1378:A:O2'	57:DA:3749:HOH:O	2.08	0.70
22:DA:362:A:C4	22:DA:363:G:C8	2.80	0.70
27:BF:158:THR:O	57:BF:201:HOH:O	2.09	0.70
22:BA:797:G:N7	57:BA:3321:HOH:O	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1922:G:N2	22:BA:1923:U:O4'	2.23	0.70
3:AC:85:GLU:OE1	3:AC:88:ARG:NH1	2.24	0.70
22:DA:2415:G:C6	22:DA:2416:C:C4	2.80	0.70
3:AC:205:GLY:O	3:AC:206:GLU:HG3	1.90	0.70
17:AQ:4:LYS:O	17:AQ:4:LYS:HD2	1.91	0.70
22:DA:1209:U:O2	22:DA:1210:G:N2	2.23	0.70
22:DA:1651:G:N2	22:DA:2007:U:O2	2.25	0.70
22:BA:1508:A:O2'	22:BA:1509:A:O4'	2.09	0.70
22:DA:83:A:OP2	42:DU:92:LYS:NZ	2.20	0.70
9:AI:45:ARG:HG2	9:AI:46:MET:SD	2.31	0.70
53:B5:48:LEU:HA	53:B5:208:THR:CB	2.22	0.70
1:AA:1225:A:H2'	1:AA:1226:C:C5	2.27	0.70
22:BA:250:G:C6	22:BA:251:A:C6	2.80	0.70
1:CA:495:A:C2	1:CA:496:A:C6	2.79	0.70
22:DA:593:U:H2'	22:DA:594:U:C6	2.27	0.70
29:BH:94:ILE:HG22	29:BH:99:ILE:HG13	1.72	0.70
22:DA:2504:U:C5	55:DA:3001:VIR:H161	2.26	0.70
1:AA:872:A:C4	1:AA:874:G:N7	2.60	0.70
39:BR:49:ILE:CG2	39:BR:53:PHE:N	2.54	0.70
53:B5:65:LEU:O	53:B5:67:HIS:N	2.25	0.70
1:CA:632:U:H2'	1:CA:632:U:O2	1.92	0.70
4:AD:59:GLN:O	4:AD:63:ARG:HG2	1.92	0.70
31:DJ:41:LYS:O	31:DJ:44:TYR:N	2.23	0.70
28:DG:11:VAL:O	28:DG:48:ASN:ND2	2.25	0.70
5:CE:82:GLN:OE1	5:CE:150:PRO:HD3	1.91	0.70
1:CA:728:A:H2'	1:CA:729:A:C8	2.27	0.70
22:BA:2305:U:C2	27:BF:151:GLY:HA3	2.27	0.70
22:DA:1251:C:OP2	38:DQ:6:ARG:NH2	2.24	0.70
1:AA:799:G:O6	57:AA:1815:HOH:O	2.09	0.70
29:BH:123:ARG:CZ	1:CA:367:U:OP2	2.40	0.69
5:CE:115:LEU:O	5:CE:120:VAL:HG23	1.91	0.69
4:AD:11:LEU:HD22	4:AD:63:ARG:HD3	1.72	0.69
22:DA:1776:G:N2	22:DA:1789:A:H1'	2.07	0.69
22:DA:2811:G:H2'	22:DA:2812:G:O4'	1.91	0.69
1:AA:1014:A:C2	19:AS:34:TRP:CH2	2.80	0.69
12:CL:92:GLY:O	12:CL:94:ARG:N	2.24	0.69
30:BI:122:ILE:O	30:BI:126:THR:OG1	2.10	0.69
22:DA:1006:C:OP2	57:DA:3777:HOH:O	2.09	0.69
22:DA:1153:C:P	57:DA:3356:HOH:O	2.49	0.69
22:DA:489:G:H4'	22:DA:490:C:OP1	1.92	0.69
20:AT:29:ARG:O	20:AT:33:LYS:HG2	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:DB:48:U:H4'	36:DO:100:HIS:CD2	2.27	0.69
1:CA:1072:G:C6	1:CA:1073:U:C4	2.81	0.69
35:DN:79:LEU:O	35:DN:81:ASN:N	2.26	0.69
22:BA:2063:C:O2	22:BA:2450:A:N1	2.26	0.69
22:BA:981:A:OP1	57:BA:3597:HOH:O	2.09	0.69
7:AG:55:GLY:O	7:AG:57:SER:N	2.25	0.69
2:CB:54:LEU:HA	2:CB:57:LEU:HB3	1.74	0.69
40:BS:84:ARG:HB2	40:BS:96:ILE:HG13	1.74	0.69
22:DA:1843:C:H4'	24:DC:251:GLN:CD	2.13	0.69
1:AA:781:A:OP2	57:AA:1812:HOH:O	2.10	0.69
22:BA:1421:G:C2	22:BA:1422:G:C8	2.81	0.69
22:BA:990:A:H5''	22:BA:991:C:OP1	1.93	0.69
22:DA:526:A:N6	22:DA:2626:C:H4'	2.07	0.69
22:DA:2209:G:C2	22:DA:2216:G:C2	2.80	0.69
22:BA:2190:G:C2	22:BA:2191:A:C4	2.80	0.69
17:AQ:60:GLU:OE2	17:AQ:77:ARG:NH1	2.26	0.69
50:B2:43:THR:O	50:B2:44:VAL:CB	2.41	0.69
22:DA:1342:A:OP2	57:DA:3710:HOH:O	2.09	0.69
22:DA:990:A:N1	39:DR:78:ARG:NH1	2.41	0.69
14:CN:61:ARG:O	14:CN:62:ASN:HB2	1.92	0.69
1:CA:980:C:N3	57:CA:1845:HOH:O	2.25	0.69
20:AT:6:SER:OG	20:AT:7:ALA:N	2.24	0.69
22:DA:1671:U:OP2	57:DA:3430:HOH:O	2.11	0.69
22:DA:301:G:C2	22:DA:302:C:C2	2.81	0.69
22:BA:1180:U:HO2'	22:BA:1181:U:P	2.15	0.69
22:DA:118:A:N3	22:DA:178:G:HI'	2.08	0.69
1:AA:131:A:H2'	1:AA:132:C:C6	2.27	0.69
33:BL:61:LEU:O	51:B3:13:ARG:HD3	1.92	0.69
22:DA:764:A:N1	22:DA:1789:A:O2'	2.25	0.69
4:CD:148:LYS:O	4:CD:149:ALA:HB3	1.93	0.69
22:DA:2055:C:OP2	57:DA:3569:HOH:O	2.09	0.69
1:AA:979:C:OP1	57:AA:1835:HOH:O	2.10	0.69
22:DA:1009:A:N3	22:DA:1153:C:O2'	2.24	0.69
1:AA:90:C:C2	1:AA:91:U:C5	2.81	0.69
1:AA:1014:A:N7	1:AA:1015:G:C5	2.61	0.69
6:CF:45:ARG:O	6:CF:56:LYS:HA	1.93	0.69
22:DA:2136:G:N1	22:DA:2156:G:HI'	2.08	0.69
2:CB:206:ALA:O	2:CB:208:ARG:N	2.26	0.69
22:DA:995:C:O2	31:DJ:3:THR:OG1	2.10	0.69
22:DA:289:G:C2	22:DA:352:A:C2	2.81	0.69
22:DA:813:U:H2'	22:DA:814:C:C6	2.29	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:CM:40:ALA:O	13:CM:42:ASP:N	2.26	0.69
2:AB:23:TRP:CH2	2:AB:25:PRO:HA	2.28	0.68
1:AA:468:A:C2	1:AA:469:C:C4	2.80	0.68
22:BA:2325:G:C6	22:BA:2326:C:N4	2.61	0.68
1:CA:1198:G:OP1	57:CA:1837:HOH:O	2.11	0.68
35:DN:1:MET:O	35:DN:3:HIS:N	2.27	0.68
12:AL:44:LYS:CB	12:AL:45:PRO:CD	2.71	0.68
22:DA:2484:G:OP1	34:DM:44:ARG:NH2	2.25	0.68
22:DA:247:G:H4'	22:DA:386:G:C4	2.29	0.68
6:CF:97:THR:O	6:CF:98:GLU:HB3	1.93	0.68
43:BV:14:LYS:HD2	43:BV:18:ARG:NH1	2.08	0.68
22:DA:1096:A:H2'	22:DA:1097:U:O4'	1.94	0.68
15:AO:63:ARG:HG2	15:AO:67:LEU:HD12	1.76	0.68
22:DA:1394:U:H4'	22:DA:1603:A:H4'	1.75	0.68
22:DA:2126:A:O2'	22:DA:2162:G:O6	2.11	0.68
22:BA:2127:G:H4'	22:BA:2128:G:OP1	1.93	0.68
22:DA:1265:A:OP1	57:DA:3743:HOH:O	2.11	0.68
11:AK:69:ARG:HD2	22:BA:2146:C:N3	2.08	0.68
24:DC:62:TYR:CE2	24:DC:63:ARG:O	2.47	0.68
1:AA:80:A:C2	1:AA:90:C:N3	2.62	0.68
17:CQ:48:ASP:OD1	17:CQ:48:ASP:N	2.24	0.68
48:B0:34:SER:OG	48:B0:36:GLU:HG3	1.93	0.68
22:BA:1936:A:H2	22:BA:1943:U:H3	1.39	0.68
1:CA:374:A:H5''	1:CA:452:A:N1	2.08	0.68
22:DA:2575:C:OP2	57:DA:3706:HOH:O	2.10	0.68
1:AA:91:U:H2'	1:AA:92:U:O4'	1.93	0.68
9:AI:25:ASN:N	9:AI:62:ASP:OD1	2.27	0.68
1:CA:552:U:C4	1:CA:553:A:N7	2.62	0.68
22:BA:451:U:OP2	57:BA:3238:HOH:O	2.12	0.68
22:BA:587:C:C6	22:BA:671:C:H1'	2.27	0.68
12:AL:86:ARG:CZ	12:AL:88:LYS:HB3	2.24	0.68
1:AA:466:A:H5'	1:AA:467:U:OP2	1.92	0.68
24:BC:117:GLN:N	24:BC:128:ASN:OD1	2.25	0.68
23:BB:33:G:O2'	23:BB:34:A:H5'	1.94	0.68
1:AA:1145:A:O2'	1:AA:1146:A:P	2.52	0.68
22:DA:1509:A:C4	22:DA:1510:G:C8	2.81	0.68
4:AD:23:SER:O	4:AD:24:GLY:O	2.12	0.68
22:BA:2023:C:C2'	22:BA:2024:G:H5'	2.23	0.68
1:AA:1181:G:O2'	1:AA:1182:G:C5	2.45	0.68
29:BH:97:ARG:HD3	1:CA:370:C:H5'	1.76	0.68
26:BE:7:ASP:O	26:BE:9:GLN:N	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BF:105:THR:CG2	27:BF:106:ILE:HG23	2.23	0.68
31:BJ:17:VAL:HG23	31:BJ:137:PRO:HB2	1.76	0.68
1:CA:527:G:C2	1:CA:528:C:C6	2.82	0.68
4:CD:145:ILE:HG21	4:CD:150:LYS:HA	1.74	0.68
1:AA:1422:G:O3'	32:BK:49:ARG:NH2	2.26	0.68
49:B1:23:THR:OG1	49:B1:24:THR:N	2.26	0.68
1:AA:1053:G:H4'	1:AA:1054:C:H5'	1.74	0.68
25:DD:33:ARG:NH2	25:DD:74:GLU:O	2.27	0.68
22:DA:247:G:H4'	22:DA:386:G:C5	2.29	0.68
22:DA:912:C:N4	22:DA:913:U:O4	2.27	0.68
1:AA:537:G:OP1	12:AL:110:ARG:NH2	2.26	0.68
22:DA:1935:G:H1'	22:DA:1964:G:N2	2.08	0.67
44:DW:33:ALA:N	44:DW:64:ASP:OD1	2.27	0.67
14:CN:91:GLY:O	14:CN:93:ILE:N	2.27	0.67
6:CF:88:MET:HE1	18:CR:64:TYR:CD2	2.29	0.67
22:BA:1754:A:C6	22:BA:1755:A:C6	2.82	0.67
22:BA:1853:A:N1	22:BA:2087:G:H1'	2.09	0.67
9:AI:30:ILE:HD11	9:AI:38:TYR:CD1	2.30	0.67
2:CB:16:PHE:CE2	2:CB:18:HIS:CE1	2.82	0.67
1:CA:1361:G:C3'	1:CA:1362:A:H5''	2.24	0.67
53:B5:50:ILE:HG22	53:B5:51:ASP:N	2.09	0.67
28:BG:80:THR:HG22	28:BG:81:GLU:N	2.09	0.67
9:CI:41:ARG:O	9:CI:45:ARG:NH1	2.27	0.67
11:AK:102:ALA:O	11:AK:104:GLY:N	2.27	0.67
22:DA:856:G:N2	22:DA:922:C:C2	2.62	0.67
29:BH:122:LEU:HD23	29:BH:123:ARG:N	2.10	0.67
22:DA:320:A:H4'	22:DA:322:A:N7	2.09	0.67
22:DA:2725:A:C4	22:DA:2727:A:C8	2.81	0.67
4:CD:29:ASP:O	4:CD:31:LYS:N	2.25	0.67
22:DA:250:G:OP2	51:D3:13:ARG:NH1	2.27	0.67
14:AN:61:ARG:O	14:AN:62:ASN:HB2	1.95	0.67
17:CQ:8:LEU:HB2	17:CQ:61:ILE:CG2	2.24	0.67
24:DC:45:ASN:OD1	24:DC:46:ASN:N	2.27	0.67
37:BP:31:TRP:CE2	37:BP:40:LEU:HD11	2.29	0.67
22:DA:2504:U:C6	55:DA:3001:VIR:H161	2.29	0.67
22:BA:1907:G:C5	22:BA:1908:C:C5	2.83	0.67
22:BA:1187:G:H5'	39:BR:83:TYR:CE2	2.29	0.67
29:BH:97:ARG:NH1	1:CA:370:C:O4'	2.26	0.67
22:BA:1079:C:C5	22:BA:1088:A:C2	2.82	0.67
13:AM:46:SER:O	13:AM:47:GLU:HB3	1.93	0.67
46:BY:21:LEU:O	46:BY:22:LEU:O	2.11	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:113:MET:O	32:BK:116:ILE:HG13	1.93	0.67
22:BA:1429:G:O2'	22:BA:1430:G:H5'	1.94	0.67
26:BE:119:ILE:HB	26:BE:187:VAL:CG2	2.25	0.67
22:DA:2111:U:C4	22:DA:2145:C:H2'	2.29	0.67
22:BA:1061:U:O2'	22:BA:1062:G:O5'	2.10	0.67
5:AE:81:LEU:HD12	5:AE:147:MET:SD	2.35	0.67
22:DA:2834:G:O6	22:DA:2879:A:O2'	2.06	0.67
22:BA:245:G:N7	51:B3:8:ARG:NH1	2.42	0.67
34:DM:66:ARG:NH1	34:DM:104:GLU:OE1	2.28	0.67
42:DU:96:PHE:CE1	42:DU:103:ILE:HG13	2.29	0.67
22:BA:1869:G:H3'	22:BA:1870:C:H5'	1.76	0.67
22:DA:1050:A:C2	22:DA:2751:G:C4	2.83	0.67
2:AB:222:ARG:CZ	2:AB:222:ARG:HB3	2.24	0.67
1:AA:315:A:C8	1:AA:330:C:H5'	2.29	0.67
32:DK:34:GLY:O	32:DK:36:GLY:N	2.27	0.67
22:DA:729:G:OP2	24:DC:207:LYS:NZ	2.25	0.67
1:CA:992:U:C5	1:CA:1043:G:C8	2.83	0.67
1:AA:451:A:C8	1:AA:452:A:C2	2.83	0.67
50:B2:43:THR:O	50:B2:44:VAL:HB	1.94	0.67
22:BA:276:U:O2	22:BA:276:U:H2'	1.95	0.67
22:DA:1855:U:C5	22:DA:1856:U:C5	2.83	0.67
1:AA:620:C:H1'	4:AD:132:ILE:HD11	1.75	0.67
22:BA:1776:G:OP2	57:BA:3449:HOH:O	2.12	0.67
22:DA:631:A:N3	22:DA:2415:G:O2'	2.24	0.67
1:CA:1181:G:O2'	1:CA:1182:G:N7	2.28	0.67
47:BZ:10:THR:HG22	47:BZ:54:MET:C	2.15	0.67
29:BH:27:ARG:O	29:BH:28:ASN:HB2	1.95	0.67
35:BN:66:ALA:O	35:BN:69:ARG:O	2.13	0.67
22:DA:1652:A:C2	22:DA:2006:C:N3	2.63	0.67
39:BR:51:VAL:HG23	39:BR:52:PRO:HD2	1.76	0.67
1:CA:1361:G:H3'	1:CA:1362:A:H5''	1.76	0.67
1:AA:1014:A:H2'	1:AA:1015:G:O4'	1.95	0.67
22:DA:82:U:N3	22:DA:83:A:N7	2.43	0.67
1:AA:1152:A:OP1	10:AJ:70:HIS:ND1	2.28	0.67
1:AA:1149:C:OP2	9:AI:11:ARG:NH2	2.28	0.67
27:BF:132:VAL:HG22	27:BF:152:LEU:HB2	1.77	0.67
22:DA:996:A:C2	22:DA:997:G:C8	2.83	0.67
22:BA:560:C:OP2	57:BA:3250:HOH:O	2.13	0.67
1:AA:201:G:C2	1:AA:217:C:O2	2.48	0.67
22:DA:1651:G:C2	22:DA:2007:U:O2	2.49	0.66
22:BA:1395:A:OP1	57:BA:3413:HOH:O	2.11	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:50:PHE:HA	2:AB:213:TYR:OH	1.94	0.66
47:BZ:36:VAL:HG21	47:BZ:38:ARG:NH2	2.09	0.66
2:CB:100:MET:HA	2:CB:107:VAL:HG21	1.77	0.66
25:BD:105:LYS:O	25:BD:177:VAL:HG13	1.95	0.66
22:BA:395:U:O2'	22:BA:396:G:N7	2.28	0.66
52:B4:36:ARG:HG2	52:B4:37:GLN:N	2.09	0.66
22:DA:2199:A:C4'	29:DH:28:ASN:ND2	2.59	0.66
22:BA:528:A:H3'	22:BA:528:A:H8	1.59	0.66
25:BD:103:ASP:OD1	25:BD:104:VAL:N	2.28	0.66
22:DA:297:G:H5''	42:DU:85:PHE:HB2	1.77	0.66
22:BA:653:U:OP2	22:BA:653:U:C6	2.48	0.66
39:BR:68:ARG:HD3	39:BR:92:TRP:CZ2	2.31	0.66
14:AN:51:LEU:O	14:AN:53:ARG:N	2.29	0.66
50:D2:35:ARG:O	50:D2:38:GLY:N	2.27	0.66
33:BL:68:SER:O	33:BL:69:ARG:HB2	1.95	0.66
20:CT:44:LYS:NZ	20:CT:86:LEU:O	2.26	0.66
29:BH:94:ILE:CG2	29:BH:99:ILE:HG13	2.26	0.66
22:DA:1351:C:H2'	22:DA:1352:U:O4'	1.95	0.66
22:BA:528:A:C8	22:BA:528:A:C3'	2.78	0.66
22:DA:2133:G:N2	22:DA:2158:A:C6	2.64	0.66
41:BT:18:GLU:O	41:BT:22:THR:HG23	1.95	0.66
22:BA:1073:A:H3'	22:BA:1074:G:H5''	1.74	0.66
22:BA:1265:A:OP1	57:BA:3753:HOH:O	2.12	0.66
22:DA:1141:U:H4'	22:DA:1142:A:O4'	1.94	0.66
10:AJ:54:SER:O	14:AN:81:ARG:NH2	2.28	0.66
11:AK:52:PHE:HB3	11:AK:56:ARG:HB3	1.77	0.66
2:CB:21:ARG:HA	2:CB:21:ARG:CZ	2.25	0.66
1:CA:378:G:C2	1:CA:386:C:O2	2.49	0.66
7:AG:15:ASP:OD1	7:AG:44:TYR:OH	2.14	0.66
5:CE:101:GLU:O	5:CE:103:THR:N	2.29	0.66
5:CE:105:ILE:HG23	5:CE:105:ILE:O	1.94	0.66
22:DA:450:G:N1	22:DA:454:A:OP2	2.26	0.66
39:BR:49:ILE:CG2	39:BR:52:PRO:C	2.64	0.66
22:BA:1605:C:C2'	22:BA:1606:C:H5'	2.26	0.66
1:CA:805:C:C2	1:CA:806:C:C5	2.84	0.66
1:CA:475:C:H2'	1:CA:476:U:C6	2.30	0.66
33:BL:35:HIS:O	33:BL:36:LYS:HB2	1.95	0.66
22:BA:1057:A:C2	22:BA:1086:A:C2	2.83	0.66
1:CA:1151:A:C2	1:CA:1152:A:C5	2.84	0.66
1:AA:1353:G:C2	1:AA:1354:U:C5	2.84	0.66
4:CD:31:LYS:HD3	4:CD:31:LYS:N	2.10	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:35:ARG:O	2:CB:38:VAL:HG12	1.96	0.66
1:AA:1313:U:P	19:AS:6:LYS:HB3	2.35	0.66
1:CA:666:G:C6	1:CA:741:G:C6	2.84	0.66
1:CA:572:A:H5'	1:CA:573:A:OP2	1.96	0.66
22:DA:1973:G:C6	22:DA:1974:C:C4	2.83	0.66
8:AH:51:VAL:O	8:AH:51:VAL:HG22	1.94	0.66
1:CA:1298:U:O2	1:CA:1298:U:H2'	1.94	0.66
1:CA:1048:G:OP2	57:CA:1849:HOH:O	2.14	0.66
14:CN:21:PHE:O	14:CN:23:LYS:N	2.28	0.66
23:DB:14:U:O2	23:DB:14:U:H2'	1.95	0.66
25:BD:133:THR:HG23	25:BD:134:HIS:N	2.11	0.66
10:CJ:77:VAL:O	10:CJ:79:PRO:HD3	1.95	0.66
22:BA:319:G:C4	22:BA:333:G:N2	2.63	0.66
9:CI:95:ARG:O	9:CI:99:ARG:N	2.29	0.66
22:BA:1917:U:C4	22:BA:1918:A:C5	2.84	0.66
22:DA:1359:A:C2	22:DA:1360:G:H1'	2.31	0.66
31:BJ:81:ILE:HG23	31:BJ:82:GLY:N	2.10	0.66
26:BE:119:ILE:HB	26:BE:187:VAL:HG23	1.78	0.66
22:DA:1019:U:OP1	22:DA:1035:U:O2'	2.13	0.66
22:BA:159:G:O2'	22:BA:167:A:N6	2.28	0.66
22:BA:48:G:N2	22:BA:49:A:N1	2.42	0.66
2:CB:119:THR:O	2:CB:120:GLN:CB	2.43	0.66
34:BM:47:GLU:OE2	34:BM:51:ARG:NE	2.29	0.66
22:BA:1073:A:H3'	22:BA:1074:G:H5'	1.78	0.66
22:DA:2128:G:N3	22:DA:2173:A:O2'	2.29	0.66
33:BL:85:VAL:HG11	33:BL:94:THR:HG22	1.78	0.66
20:AT:44:LYS:NZ	20:AT:86:LEU:O	2.28	0.66
22:BA:1428:C:C5	22:BA:1569:A:H5''	2.30	0.66
4:AD:123:ILE:N	4:AD:123:ILE:HD13	2.11	0.66
4:CD:46:PRO:O	4:CD:47:ARG:C	2.35	0.66
22:DA:1097:U:C5	22:DA:1098:A:H1'	2.31	0.66
22:DA:39:G:C6	22:DA:40:U:C4	2.84	0.66
49:B1:17:THR:HG21	49:B1:42:VAL:HB	1.78	0.66
22:BA:1585:C:C2'	22:BA:1586:A:H5'	2.26	0.66
6:CF:19:PRO:HA	6:CF:22:ILE:HB	1.78	0.66
1:AA:269:C:H2'	1:AA:270:A:C8	2.31	0.66
22:DA:2093:G:C6	22:DA:2225:A:C8	2.85	0.65
24:BC:182:ARG:CG	24:BC:182:ARG:HH21	2.09	0.65
22:DA:2692:G:O4'	22:DA:2846:G:N2	2.29	0.65
1:AA:1311:A:C2	1:AA:1327:C:N3	2.64	0.65
22:BA:1132:U:H3'	22:BA:1133:A:H5''	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:259:G:OP2	57:CA:1727:HOH:O	2.12	0.65
35:DN:69:ARG:O	35:DN:71:ARG:N	2.26	0.65
1:AA:914:A:C4	1:AA:915:A:C8	2.84	0.65
20:AT:68:HIS:HB3	20:AT:69:LYS:HE3	1.77	0.65
22:DA:613:A:OP2	22:DA:614:A:N7	2.29	0.65
2:AB:160:ALA:O	2:AB:161:LEU:HB2	1.97	0.65
45:DX:31:PRO:O	45:DX:33:LEU:N	2.29	0.65
24:BC:125:LYS:HG2	24:BC:128:ASN:ND2	2.11	0.65
10:AJ:74:VAL:HG12	10:AJ:75:ASP:N	2.12	0.65
23:DB:81:G:C5	23:DB:82:U:C5	2.84	0.65
7:AG:99:LEU:O	7:AG:102:ARG:N	2.30	0.65
1:CA:1089:G:C5	1:CA:1090:U:C5	2.84	0.65
22:BA:1417:C:H2'	22:BA:1418:G:O4'	1.96	0.65
29:BH:14:SER:O	29:BH:15:LEU:HB2	1.95	0.65
22:DA:563:A:C4	22:DA:2018:G:C2	2.84	0.65
22:BA:1426:G:H1'	22:BA:1573:G:O6	1.96	0.65
1:AA:21:G:N2	1:AA:22:G:C6	2.64	0.65
32:DK:118:LEU:O	32:DK:119:ALA:HB3	1.97	0.65
22:BA:819:A:C4	22:BA:1189:A:C2	2.84	0.65
1:AA:1006:G:OP1	1:AA:1037:C:O2'	2.14	0.65
1:CA:1317:C:OP1	14:CN:56:SER:OG	2.09	0.65
2:CB:85:LEU:HG	2:CB:85:LEU:O	1.94	0.65
25:DD:104:VAL:O	25:DD:105:LYS:CB	2.44	0.65
24:DC:70:ASN:O	24:DC:72:ASP:N	2.29	0.65
1:AA:824:G:H1'	8:AH:2:SER:N	2.12	0.65
27:BF:25:VAL:O	27:BF:28:VAL:HG12	1.97	0.65
8:AH:42:GLU:N	8:AH:42:GLU:OE1	2.30	0.65
1:CA:64:G:C8	1:CA:99:C:N4	2.64	0.65
1:AA:208:U:C5	1:AA:210:C:C4	2.84	0.65
22:DA:783:A:O2'	22:DA:1779:U:O2	2.09	0.65
22:DA:740:C:H5'	22:DA:1784:A:C3'	2.26	0.65
46:BY:18:LEU:O	46:BY:22:LEU:HB2	1.96	0.65
14:AN:91:GLY:O	14:AN:93:ILE:N	2.27	0.65
17:CQ:19:LYS:O	17:CQ:71:LYS:NZ	2.23	0.65
22:DA:1715:G:O2'	22:DA:1743:G:O6	2.11	0.65
27:BF:14:LYS:O	27:BF:18:THR:CG2	2.44	0.65
22:DA:777:G:C2	22:DA:778:G:C8	2.84	0.65
29:BH:139:PHE:O	29:BH:140:ALA:CB	2.44	0.65
22:DA:1253:A:OP1	38:DQ:33:ARG:NH1	2.29	0.65
22:DA:447:A:OP2	57:DA:3210:HOH:O	2.15	0.65
22:BA:2307:G:N3	22:BA:2308:G:O6	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1162:C:C2	1:CA:1175:G:N2	2.65	0.65
1:CA:536:C:OP1	57:CA:1769:HOH:O	2.15	0.65
29:BH:114:GLU:HB3	29:BH:133:GLN:O	1.97	0.65
22:BA:580:U:H2'	22:BA:581:C:C6	2.30	0.65
1:AA:928:G:O2'	1:AA:1533:C:OP1	2.13	0.65
22:DA:1604:C:OP1	57:DA:3403:HOH:O	2.14	0.65
4:CD:202:GLU:OE1	5:CE:105:ILE:CG2	2.44	0.65
1:CA:73:C:O2'	1:CA:74:A:O5'	2.14	0.65
10:AJ:63:ASP:HB3	10:AJ:65:TYR:CE1	2.31	0.65
22:DA:1317:G:C2	22:DA:1336:A:C2	2.84	0.65
44:BW:10:THR:O	44:BW:11:ARG:HB2	1.97	0.65
26:BE:149:ILE:HD11	26:BE:172:ALA:HA	1.79	0.65
51:B3:27:ALA:O	51:B3:28:ASN:HB2	1.96	0.65
30:DI:58:VAL:HG12	30:DI:59:ILE:N	2.12	0.65
2:CB:82:ASP:N	2:CB:82:ASP:OD1	2.28	0.65
5:CE:24:THR:HA	5:CE:29:ARG:HA	1.78	0.65
22:DA:2886:A:C2	22:DA:2887:A:H1'	2.32	0.65
39:BR:46:GLU:N	39:BR:46:GLU:OE1	2.30	0.65
30:DI:21:SER:HB3	30:DI:22:PRO:HD3	1.79	0.65
42:BU:39:ILE:HG22	42:BU:40:ASN:H	1.61	0.65
8:CH:125:ILE:HD11	8:CH:128:TYR:CE1	2.31	0.65
22:DA:2612:C:H5''	22:DA:2613:U:OP1	1.97	0.65
1:AA:983:A:C2'	1:AA:983:A:N3	2.59	0.65
22:DA:1779:U:H5	22:DA:1784:A:N7	1.94	0.65
24:BC:227:PRO:HA	24:BC:233:GLY:HA2	1.77	0.65
1:CA:604:G:H2'	1:CA:605:U:O4'	1.97	0.65
22:DA:1289:C:O2'	22:DA:1330:C:H4'	1.97	0.65
22:DA:142:A:C6	22:DA:143:C:N4	2.65	0.65
1:AA:104:G:C2	1:AA:105:G:C8	2.84	0.65
26:DE:98:LYS:NZ	57:DE:306:HOH:O	2.29	0.65
22:BA:2211:A:O2'	22:BA:2212:A:OP1	2.13	0.65
22:BA:1509:A:O2'	22:BA:1510:G:P	2.55	0.65
32:BK:113:MET:SD	32:BK:116:ILE:HD11	2.36	0.65
9:AI:36:GLU:OE2	9:AI:36:GLU:N	2.30	0.65
46:BY:56:LEU:O	46:BY:57:LEU:HB2	1.97	0.65
2:AB:33:GLY:O	2:AB:34:ALA:CB	2.45	0.65
1:AA:988:G:C6	1:AA:989:U:C4	2.85	0.65
1:AA:483:C:O2	16:AP:13:LYS:NZ	2.29	0.65
25:DD:112:THR:O	25:DD:195:GLY:HA2	1.96	0.65
1:AA:872:A:C5	1:AA:874:G:C8	2.84	0.64
22:BA:1340:U:H4'	22:BA:1341:G:OP2	1.96	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2189:U:H2'	22:BA:2190:G:H1'	1.78	0.64
1:AA:411:A:C5	1:AA:429:U:C5	2.86	0.64
1:AA:1353:G:C2	1:AA:1354:U:C6	2.85	0.64
22:DA:398:C:OP1	45:DX:32:ASN:ND2	2.30	0.64
22:BA:636:G:C6	33:BL:111:ILE:HD11	2.31	0.64
1:AA:328:C:O2	1:AA:328:C:H2'	1.97	0.64
29:BH:122:LEU:C	29:BH:123:ARG:HG2	2.17	0.64
1:AA:859:G:H2'	1:AA:860:A:C8	2.32	0.64
10:AJ:44:THR:HG22	10:AJ:70:HIS:HA	1.78	0.64
12:CL:86:ARG:CZ	12:CL:88:LYS:HB3	2.27	0.64
22:BA:1917:U:O4	22:BA:1918:A:C2	2.50	0.64
1:AA:982:U:H4'	1:AA:983:A:H5'	1.77	0.64
12:CL:116:LYS:O	12:CL:117:TYR:CD2	2.50	0.64
11:AK:126:LYS:C	21:AU:34:ARG:NH2	2.51	0.64
22:DA:160:A:N3	22:DA:2208:C:O2'	2.30	0.64
22:DA:1525:A:C2	22:DA:1526:C:C2	2.84	0.64
22:DA:2407:A:OP1	57:DA:3560:HOH:O	2.15	0.64
22:DA:2164:C:H2'	22:DA:2165:C:C6	2.31	0.64
1:AA:825:A:O2'	8:AH:13:ARG:NH1	2.30	0.64
22:DA:13:A:N1	22:DA:525:U:H2'	2.11	0.64
1:CA:898:G:O2'	1:CA:900:A:N7	2.20	0.64
1:AA:1410:A:C4	1:AA:1491:G:N2	2.66	0.64
22:BA:1090:A:H2'	22:BA:1091:G:H5'	1.78	0.64
22:DA:82:U:C2	22:DA:83:A:C8	2.85	0.64
22:DA:948:C:O2	22:DA:984:A:O2'	2.14	0.64
47:DZ:14:ILE:HG22	47:DZ:15:GLY:N	2.12	0.64
7:CG:88:PRO:HD2	7:CG:151:PHE:O	1.97	0.64
1:AA:705:G:C5	1:AA:706:A:C8	2.85	0.64
26:BE:106:LYS:HG3	26:BE:200:LEU:HG	1.80	0.64
1:AA:1493:A:O2'	1:AA:1494:G:OP2	2.16	0.64
22:BA:1061:U:HO2'	22:BA:1062:G:P	2.19	0.64
2:CB:141:LEU:O	2:CB:144:LEU:N	2.30	0.64
1:AA:507:C:C4	1:AA:508:U:C4	2.86	0.64
39:DR:101:ILE:O	39:DR:103:ALA:N	2.30	0.64
22:BA:142:A:C5	22:BA:143:C:C4	2.85	0.64
22:BA:2377:A:C2'	22:BA:2378:A:H5'	2.28	0.64
2:AB:82:ASP:O	2:AB:84:ALA:N	2.30	0.64
50:B2:43:THR:O	50:B2:44:VAL:HG12	1.98	0.64
22:DA:352:A:H2'	22:DA:353:C:O4'	1.97	0.64
46:DY:56:LEU:O	46:DY:57:LEU:CB	2.46	0.64
28:DG:116:GLN:NE2	28:DG:117:LEU:O	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CD:35:GLU:HG3	4:CD:36:GLN:HG3	1.79	0.64
1:CA:689:C:OP2	11:CK:53:ARG:NH2	2.29	0.64
22:DA:1060:U:O4'	22:DA:1062:G:H5'	1.98	0.64
22:DA:781:A:H2'	22:DA:1777:U:O2'	1.98	0.64
1:CA:373:A:C2	1:CA:374:A:C8	2.86	0.64
22:BA:2707:U:O2	35:BN:71:ARG:NH1	2.30	0.64
35:BN:58:ASP:OD2	35:BN:63:ARG:NH2	2.31	0.64
12:AL:24:LEU:O	12:AL:25:GLU:C	2.35	0.64
33:DL:77:ILE:O	33:DL:110:VAL:O	2.16	0.64
25:BD:16:THR:OG1	25:BD:18:ASP:OD1	2.11	0.64
12:CL:38:TYR:HB2	12:CL:52:VAL:HG13	1.80	0.64
46:BY:11:VAL:O	46:BY:15:ASN:ND2	2.30	0.64
31:DJ:110:PRO:O	31:DJ:115:GLY:HA3	1.98	0.64
22:BA:1914:C:C2	22:BA:1915:U:C6	2.86	0.64
25:DD:140:HIS:CE1	57:DD:303:HOH:O	2.50	0.64
1:CA:72:A:N6	1:CA:73:C:N4	2.46	0.64
1:CA:1005:A:O3'	1:CA:1037:C:O2'	2.16	0.64
1:CA:811:C:N4	1:CA:812:G:C6	2.66	0.64
9:AI:43:THR:O	9:AI:44:ALA:CB	2.46	0.64
21:AU:14:VAL:HG13	21:AU:16:LEU:HG	1.78	0.64
22:BA:832:U:H2'	22:BA:833:A:C8	2.33	0.64
1:AA:1129:C:O2	1:AA:1130:A:N6	2.31	0.64
22:DA:1754:A:N6	22:DA:1755:A:C6	2.66	0.64
15:CO:35:GLN:NE2	15:CO:39:LEU:HD22	2.12	0.64
22:DA:370:G:O2'	22:DA:424:G:OP1	2.14	0.64
5:CE:136:VAL:O	5:CE:140:THR:OG1	2.15	0.64
22:BA:2191:A:C6	22:BA:2192:U:O4	2.51	0.64
8:AH:2:SER:O	8:AH:4:GLN:N	2.31	0.64
1:AA:832:G:C2	1:AA:833:G:C8	2.86	0.64
22:DA:747:U:O2	22:DA:2014:A:H1'	1.98	0.64
22:DA:201:C:C4	22:DA:202:U:C5	2.86	0.64
22:BA:1667:G:O2'	22:BA:1991:U:O4	2.13	0.64
22:BA:1179:G:H3'	22:BA:1180:U:H4'	1.78	0.64
22:DA:1603:A:OP1	57:DA:3406:HOH:O	2.15	0.64
1:CA:72:A:C6	1:CA:73:C:C4	2.86	0.64
35:DN:1:MET:H1	35:DN:1:MET:HE2	1.62	0.64
19:AS:64:ASP:O	19:AS:65:GLU:HB3	1.98	0.64
30:BI:113:LYS:HD3	30:BI:117:MET:HG2	1.80	0.64
22:BA:1932:A:H5''	22:BA:1933:G:OP2	1.97	0.64
30:BI:125:MET:O	30:BI:128:SER:OG	2.15	0.64
7:CG:92:ARG:NE	7:CG:93:PRO:HD2	2.13	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BI:97:LYS:HG3	30:BI:139:VAL:HG22	1.80	0.64
12:AL:76:GLU:O	12:AL:77:HIS:HB2	1.97	0.64
6:AF:76:THR:O	6:AF:79:ARG:N	2.31	0.64
1:AA:858:G:OP2	57:AA:1821:HOH:O	2.15	0.63
22:BA:1180:U:O2'	22:BA:1181:U:P	2.56	0.63
1:CA:1361:G:H3'	1:CA:1362:A:C5'	2.27	0.63
22:BA:1776:G:P	57:BA:3451:HOH:O	2.56	0.63
22:BA:278:A:C2	22:BA:362:A:C8	2.86	0.63
1:AA:572:A:H5'	1:AA:573:A:OP2	1.97	0.63
6:AF:14:GLN:OE1	6:AF:17:GLN:HB2	1.98	0.63
1:CA:115:G:C2	1:CA:289:G:N7	2.66	0.63
22:DA:2868:A:C2	22:DA:2869:G:C4	2.86	0.63
29:DH:117:LEU:CD1	29:DH:130:VAL:HG22	2.28	0.63
22:BA:2637:U:C2'	22:BA:2638:G:H5'	2.29	0.63
22:DA:2202:U:O2'	22:DA:2204:G:OP1	2.12	0.63
22:DA:2226:C:H2'	22:DA:2227:A:O4'	1.98	0.63
22:DA:1440:U:O4	57:DA:3628:HOH:O	2.13	0.63
1:CA:899:C:O2'	22:DA:1832:C:OP1	2.11	0.63
5:AE:137:VAL:O	5:AE:138:ARG:CB	2.46	0.63
1:AA:663:A:N1	1:AA:743:A:C2	2.66	0.63
22:DA:846:U:HO2'	22:DA:847:U:P	2.21	0.63
1:CA:427:U:OP1	4:CD:13:ARG:NH2	2.32	0.63
4:AD:143:VAL:O	4:AD:143:VAL:CG2	2.46	0.63
1:CA:686:U:O2'	1:CA:687:A:OP2	2.13	0.63
1:CA:960:U:C5	1:CA:1225:A:C8	2.87	0.63
22:DA:1045:C:O2	22:DA:1047:G:N1	2.31	0.63
22:BA:2190:G:C6	22:BA:2191:A:C6	2.87	0.63
20:AT:5:LYS:O	20:AT:7:ALA:N	2.31	0.63
24:BC:230:HIS:CD2	24:BC:247:PRO:HA	2.34	0.63
22:DA:1438:U:C5	22:DA:1552:A:C2	2.86	0.63
1:CA:791:G:C6	1:CA:792:A:N7	2.67	0.63
22:DA:2454:G:H1'	57:DA:3529:HOH:O	1.97	0.63
22:DA:2550:G:O6	22:DA:2551:C:N4	2.32	0.63
22:DA:511:U:O3'	22:DA:1215:G:N2	2.31	0.63
22:DA:1469:A:C2	22:DA:1470:A:C5	2.85	0.63
4:CD:145:ILE:CG2	4:CD:150:LYS:HA	2.29	0.63
5:AE:82:GLN:NE2	5:AE:150:PRO:HD3	2.12	0.63
22:DA:537:G:N1	22:DA:555:G:C2	2.67	0.63
42:DU:11:VAL:HG12	42:DU:72:ILE:HA	1.80	0.63
22:BA:1083:U:O2	22:BA:1086:A:N1	2.31	0.63
16:AP:39:PHE:CD2	16:AP:74:LEU:HD11	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:106:C:O2	1:CA:379:C:H4'	1.99	0.63
22:BA:947:A:O2'	22:BA:984:A:C2	2.50	0.63
27:BF:176:PRO:O	27:BF:177:PHE:HB2	1.98	0.63
6:AF:3:HIS:O	6:AF:92:THR:OG1	2.16	0.63
22:DA:2143:C:H2'	22:DA:2144:G:O4'	1.97	0.63
22:DA:1509:A:O2'	22:DA:1510:G:P	2.57	0.63
22:BA:2191:A:C2	22:BA:2192:U:N3	2.67	0.63
12:AL:44:LYS:HB2	12:AL:45:PRO:CD	2.29	0.63
30:BI:117:MET:SD	30:BI:129:ILE:HD11	2.39	0.63
29:DH:117:LEU:HG	29:DH:120:GLY:O	1.98	0.63
22:DA:846:U:O2'	22:DA:847:U:O5'	2.15	0.63
30:BI:28:LEU:HD12	30:BI:28:LEU:O	1.99	0.63
24:DC:117:GLN:N	24:DC:128:ASN:OD1	2.31	0.63
22:BA:2808:G:N2	22:BA:2891:U:C6	2.66	0.63
1:CA:1277:C:HO2'	1:CA:1279:G:H8	1.43	0.63
22:DA:1793:C:N4	57:DA:3780:HOH:O	2.31	0.63
4:CD:174:ASP:O	4:CD:175:ALA:HB2	1.98	0.63
14:AN:83:LYS:NZ	14:AN:86:GLU:OE1	2.24	0.63
5:AE:104:GLY:O	5:AE:105:ILE:HG22	1.99	0.63
1:CA:1296:C:H4'	1:CA:1302:C:C4	2.33	0.63
1:CA:451:A:C8	1:CA:452:A:C6	2.86	0.63
1:AA:157:U:O2'	1:AA:158:G:H5'	1.98	0.63
19:CS:10:PHE:O	19:CS:39:THR:OG1	2.17	0.63
15:CO:87:LEU:O	15:CO:88:ARG:HB3	1.98	0.63
4:CD:4:TYR:O	4:CD:5:LEU:HB2	1.99	0.63
26:BE:25:GLU:O	26:BE:26:ALA:C	2.37	0.63
1:AA:1000:A:C2	1:AA:1041:G:C2	2.86	0.63
22:DA:2199:A:O4'	29:DH:28:ASN:CG	2.36	0.63
3:AC:16:LYS:HG3	3:AC:17:PRO:HD2	1.80	0.63
3:AC:7:PRO:HG2	3:AC:184:TYR:CG	2.34	0.63
22:DA:47:C:HO2'	22:DA:52:A:HO2'	1.43	0.63
22:BA:1020:A:C2	22:BA:1141:U:C2	2.87	0.63
25:BD:103:ASP:O	25:BD:105:LYS:N	2.31	0.63
22:DA:776:G:C8	22:DA:793:A:C4	2.87	0.63
22:DA:983:A:N6	22:DA:984:A:C2	2.67	0.63
21:AU:10:GLU:CG	21:AU:11:PRO:HD3	2.28	0.63
40:BS:25:ARG:NH2	40:BS:74:ILE:O	2.31	0.63
1:CA:1308:U:OP1	13:CM:97:VAL:N	2.32	0.63
1:CA:31:G:O4'	1:CA:306:A:C2	2.52	0.63
1:CA:860:A:N6	1:CA:861:G:C2	2.67	0.63
2:CB:73:LYS:NZ	2:CB:204:ASP:O	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1147:C:O2	9:CI:18:ARG:NH2	2.31	0.63
1:AA:429:U:H1'	1:AA:430:A:H5''	1.81	0.63
22:DA:89:A:C2	22:DA:90:U:C2	2.87	0.63
1:CA:463:U:H5'	1:CA:464:U:OP2	1.99	0.63
22:DA:2586:U:C5	22:DA:2608:G:N2	2.67	0.63
22:BA:1317:G:C2	22:BA:1336:A:C2	2.86	0.63
22:BA:2646:C:OP2	22:BA:2732:G:O2'	2.17	0.63
25:BD:125:TRP:CD2	25:BD:160:LYS:HD3	2.33	0.63
4:AD:58:LYS:NZ	4:AD:69:GLU:OE2	2.32	0.63
12:AL:110:ARG:NH1	12:AL:112:GLN:O	2.31	0.63
27:BF:14:LYS:O	27:BF:18:THR:HG23	1.98	0.63
22:DA:1826:G:O2'	22:DA:1971:U:OP2	2.16	0.63
1:CA:1080:A:OP1	5:CE:52:LYS:HE2	1.98	0.63
22:BA:1442:U:H2'	22:BA:1443:U:C6	2.34	0.63
22:DA:2788:C:H2'	22:DA:2789:C:C6	2.33	0.63
35:DN:55:ALA:HA	35:DN:80:PHE:CE1	2.34	0.63
22:BA:1851:U:C4	22:BA:1852:U:C4	2.86	0.63
1:CA:1386:G:C2	1:CA:1387:G:C8	2.86	0.63
28:BG:30:ASN:CG	28:BG:30:ASN:O	2.36	0.63
1:AA:724:G:C2	1:AA:725:G:C8	2.87	0.63
1:AA:454:G:N2	1:AA:479:U:O2	2.31	0.62
39:BR:49:ILE:HB	39:BR:52:PRO:O	1.99	0.62
5:CE:56:VAL:N	5:CE:57:PRO:HD2	2.14	0.62
22:DA:1225:G:C6	22:DA:1226:A:N6	2.67	0.62
1:AA:1417:G:C6	1:AA:1482:G:C6	2.87	0.62
1:CA:1408:A:C2	1:CA:1494:G:C4	2.87	0.62
16:AP:42:ILE:HG22	16:AP:42:ILE:O	1.99	0.62
22:BA:1876:A:C2	22:BA:1877:A:C4	2.87	0.62
22:DA:24:G:C5	22:DA:25:U:C5	2.87	0.62
22:DA:1951:U:H2'	22:DA:1953:A:OP2	1.99	0.62
22:BA:475:C:C4	22:BA:481:G:O6	2.52	0.62
12:AL:63:VAL:HG21	12:AL:95:TYR:CE1	2.34	0.62
1:AA:71:A:H3'	1:AA:71:A:OP2	1.99	0.62
24:DC:17:VAL:HB	24:DC:204:VAL:HG22	1.81	0.62
1:AA:1014:A:N3	19:AS:34:TRP:CZ3	2.67	0.62
1:CA:1377:A:C5	7:CG:7:ILE:HD12	2.35	0.62
1:CA:790:A:C6	1:CA:791:G:C6	2.87	0.62
9:CI:84:THR:HG21	9:CI:103:PHE:HB3	1.80	0.62
3:AC:83:ASP:O	3:AC:86:LYS:HG3	1.99	0.62
1:CA:891:U:C5	1:CA:906:A:C2	2.87	0.62
22:BA:2548:U:C4	22:BA:2549:G:N7	2.67	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1528:A:H2'	22:BA:1529:G:O4'	1.99	0.62
22:DA:2726:A:O2'	22:DA:2727:A:O5'	2.12	0.62
22:DA:306:U:O2	22:DA:312:G:N2	2.32	0.62
39:DR:82:HIS:CG	39:DR:82:HIS:O	2.52	0.62
2:AB:49:MET:O	2:AB:53:ALA:HB2	1.98	0.62
19:AS:5:LEU:CD2	19:AS:9:PRO:HA	2.29	0.62
24:BC:225:MET:HE3	24:BC:230:HIS:HB2	1.82	0.62
22:BA:948:C:O2	22:BA:984:A:O2'	2.17	0.62
22:DA:1826:G:C5	22:DA:1827:U:C5	2.87	0.62
27:BF:73:SER:OG	27:BF:80:ARG:HA	1.99	0.62
24:DC:124:ILE:HG22	24:DC:124:ILE:O	1.99	0.62
27:DF:106:ILE:HD11	27:DF:139:PRO:HG2	1.80	0.62
5:CE:96:MET:HE3	5:CE:111:MET:CE	2.29	0.62
22:DA:1350:C:C2	22:DA:1382:G:C2	2.87	0.62
48:B0:55:ILE:HG22	48:B0:56:ALA:N	2.14	0.62
13:AM:3:ARG:HA	13:AM:9:ILE:HA	1.81	0.62
9:CI:49:ARG:NH2	9:CI:52:LEU:O	2.33	0.62
25:DD:104:VAL:HG23	25:DD:177:VAL:HG11	1.81	0.62
22:BA:580:U:H2'	22:BA:581:C:H6	1.65	0.62
30:DI:69:PHE:N	30:DI:69:PHE:CD1	2.68	0.62
1:AA:728:A:C6	1:AA:729:A:C6	2.86	0.62
35:BN:73:ASN:HA	35:BN:76:VAL:HG12	1.81	0.62
28:BG:124:GLU:OE1	28:BG:125:CYS:N	2.31	0.62
1:AA:792:A:H4'	1:AA:793:U:O5'	1.98	0.62
23:BB:54:G:H21	27:BF:26:MET:HE2	1.64	0.62
22:DA:1206:G:C5	22:DA:1207:C:C5	2.87	0.62
22:BA:2554:U:C4	22:BA:2555:U:O4	2.52	0.62
22:DA:307:G:N2	22:DA:310:A:C8	2.67	0.62
1:AA:1304:G:N1	1:AA:1305:G:N2	2.47	0.62
10:AJ:53:ILE:HG22	10:AJ:61:ALA:HB1	1.81	0.62
1:CA:811:C:O2'	1:CA:901:A:N1	2.31	0.62
4:AD:150:LYS:O	4:AD:152:GLN:NE2	2.32	0.62
1:CA:176:C:OP1	20:CT:20:HIS:NE2	2.33	0.62
22:DA:663:G:O6	22:DA:664:G:C6	2.53	0.62
26:BE:77:ILE:O	26:BE:77:ILE:HG22	2.00	0.62
1:CA:1521:C:C4	1:CA:1522:U:C5	2.87	0.62
1:CA:409:U:H2'	1:CA:410:G:O4'	2.00	0.62
22:DA:2502:G:H5'	22:DA:2503:A:H5''	1.81	0.62
21:AU:25:LYS:O	21:AU:27:GLY:N	2.32	0.62
27:BF:79:ILE:HG21	27:BF:85:ILE:CD1	2.30	0.62
1:CA:890:G:O2'	1:CA:891:U:OP2	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1316:U:C2	22:DA:1337:G:N2	2.67	0.62
22:DA:830:G:C2	22:DA:2448:A:N7	2.68	0.62
15:CO:56:LEU:O	15:CO:59:MET:N	2.33	0.62
3:AC:25:ASN:O	3:AC:27:LYS:N	2.32	0.62
22:DA:1333:G:C2	22:DA:1334:G:C8	2.87	0.62
22:DA:2752:C:C5	22:DA:2753:A:N7	2.68	0.62
3:CC:179:ARG:O	3:CC:206:GLU:O	2.18	0.62
1:CA:207:C:O2	1:CA:207:C:H2'	2.00	0.62
14:CN:33:ASP:O	14:CN:35:ASN:N	2.33	0.62
22:BA:1179:G:C5	22:BA:1180:U:C1'	2.83	0.62
4:AD:191:LEU:O	4:AD:192:SER:HB2	1.99	0.62
22:BA:1073:A:C3'	22:BA:1074:G:H5''	2.29	0.62
22:DA:1355:G:C6	22:DA:1377:G:N2	2.67	0.62
1:AA:131:A:C2	1:AA:132:C:C4	2.87	0.62
4:AD:29:ASP:O	4:AD:31:LYS:HD3	1.99	0.62
47:DZ:8:THR:HG1	47:DZ:35:THR:HG1	1.46	0.62
13:AM:83:LEU:HD21	19:AS:65:GLU:HG2	1.82	0.62
1:CA:409:U:OP1	4:CD:24:GLY:HA3	2.00	0.62
40:BS:29:VAL:CG1	40:BS:55:ILE:HD11	2.29	0.62
26:BE:91:ASP:OD1	26:BE:93:SER:OG	2.17	0.62
1:CA:372:C:O2	57:CA:1891:HOH:O	2.11	0.62
5:CE:98:PRO:O	5:CE:99:ALA:HB3	2.00	0.62
22:DA:740:C:N4	22:DA:758:C:O2	2.32	0.62
22:BA:980:A:C6	22:BA:981:A:N1	2.68	0.62
24:BC:125:LYS:HB2	24:BC:126:PRO:HD2	1.82	0.62
14:AN:52:PRO:O	14:AN:53:ARG:HB3	1.99	0.62
22:DA:2520:C:HO2'	22:DA:2565:A:HO2'	1.44	0.62
15:AO:19:ALA:O	15:AO:20:ASN:CB	2.48	0.62
19:CS:55:ARG:CZ	19:CS:79:THR:HG22	2.30	0.62
22:DA:1197:G:H2'	22:DA:1198:U:C6	2.35	0.62
22:DA:305:C:H1'	22:DA:313:G:N2	2.15	0.62
4:AD:98:LEU:O	4:AD:101:VAL:N	2.32	0.62
1:AA:96:U:O2'	1:AA:97:G:P	2.58	0.62
37:DP:113:ARG:O	37:DP:114:LEU:C	2.38	0.62
20:AT:81:ALA:O	20:AT:85:LYS:HG2	1.99	0.62
48:B0:15:MET:O	48:B0:18:SER:HB3	2.00	0.62
22:DA:425:G:N2	22:DA:426:C:C2	2.68	0.62
42:BU:12:ILE:HG21	42:BU:80:ALA:HB2	1.81	0.62
1:CA:263:A:P	20:CT:74:ARG:NH1	2.73	0.62
22:DA:1444:G:C2	22:DA:1548:A:C2	2.87	0.62
21:CU:4:ILE:N	21:CU:19:PHE:CE2	2.68	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:BC:107:PRO:HB3	24:BC:142:HIS:CE1	2.34	0.62
9:CI:120:LYS:HG3	9:CI:123:ARG:HB3	1.80	0.62
1:CA:1321:U:O3'	19:CS:78:ARG:NH2	2.33	0.62
14:AN:49:GLN:OE1	14:AN:49:GLN:HA	1.98	0.62
35:DN:90:ARG:CZ	35:DN:116:VAL:HG11	2.29	0.62
22:BA:819:A:OP2	22:BA:1187:G:N2	2.32	0.62
22:BA:1142:A:C4	22:BA:1144:A:C8	2.88	0.62
22:DA:1094:U:H2'	22:DA:1096:A:OP2	2.00	0.62
22:DA:1335:C:N4	57:DA:3389:HOH:O	2.27	0.62
1:CA:765:G:C6	1:CA:812:G:C4	2.88	0.62
22:DA:508:A:N6	40:DS:9:HIS:CE1	2.67	0.62
23:DB:2:G:N2	23:DB:3:C:C2	2.68	0.62
22:DA:2511:U:C5	22:DA:2512:C:C5	2.88	0.62
23:DB:62:C:H2'	23:DB:63:C:C6	2.33	0.62
22:DA:590:A:C6	22:DA:591:U:C4	2.88	0.62
22:BA:1911:U:H2'	22:BA:1918:A:C2	2.35	0.61
1:CA:1124:G:N2	1:CA:1127:G:C2	2.68	0.61
1:CA:32:A:OP1	1:CA:398:U:H1'	2.00	0.61
29:DH:32:PRO:O	29:DH:33:GLN:CB	2.48	0.61
27:BF:105:THR:HG23	27:BF:106:ILE:HG23	1.82	0.61
22:BA:2346:A:H4'	22:BA:2347:C:OP2	2.00	0.61
22:BA:139:U:HO2'	22:BA:141:G:H1	1.45	0.61
5:AE:137:VAL:O	5:AE:138:ARG:HB2	1.99	0.61
3:CC:42:TYR:CE2	3:CC:90:VAL:HG21	2.35	0.61
7:CG:68:ASN:OD1	7:CG:130:ASN:ND2	2.32	0.61
3:AC:130:PHE:CZ	3:AC:131:ARG:HD2	2.34	0.61
42:DU:7:ARG:O	42:DU:25:VAL:HB	2.00	0.61
9:AI:127:PHE:CD1	9:AI:127:PHE:O	2.52	0.61
22:DA:2094:A:H5'	29:DH:25:TYR:CB	2.30	0.61
22:DA:223:A:C5	22:DA:422:A:C8	2.88	0.61
4:AD:101:VAL:HG12	4:AD:101:VAL:O	1.99	0.61
22:DA:1131:G:OP1	31:DJ:82:GLY:HA2	2.01	0.61
22:BA:2292:U:H2'	22:BA:2293:G:C8	2.35	0.61
22:BA:2188:U:H2'	22:BA:2189:U:C6	2.35	0.61
4:AD:26:ARG:HD2	4:AD:31:LYS:HE3	1.82	0.61
22:BA:1078:U:H1'	22:BA:1088:A:C2	2.34	0.61
1:CA:577:G:C2	1:CA:578:C:C6	2.88	0.61
8:CH:88:ARG:O	8:CH:122:GLY:HA3	2.01	0.61
8:CH:59:LEU:HD12	8:CH:60:GLU:N	2.16	0.61
1:CA:568:G:O6	12:CL:2:ALA:HB2	2.00	0.61
22:DA:1389:G:N2	22:DA:1398:C:N3	2.49	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2897:U:H2'	22:BA:2898:U:C6	2.35	0.61
30:DI:97:LYS:HD2	30:DI:97:LYS:N	2.15	0.61
22:BA:1916:A:H2'	22:BA:1917:U:C4'	2.30	0.61
1:AA:683:G:N2	11:AK:39:GLY:O	2.34	0.61
53:B5:213:VAL:O	53:B5:214:TYR:CB	2.49	0.61
34:DM:19:GLY:O	34:DM:38:ARG:NH1	2.32	0.61
4:CD:168:PRO:CB	4:CD:171:LEU:HD12	2.31	0.61
22:BA:2339:C:H2'	22:BA:2340:A:C8	2.35	0.61
22:DA:59:U:O2'	22:DA:74:A:OP2	2.09	0.61
1:AA:532:A:N6	3:AC:192:THR:OG1	2.32	0.61
22:DA:2360:G:H1'	33:DL:60:ARG:HD3	1.82	0.61
22:DA:1395:A:O2'	22:DA:1397:U:C6	2.53	0.61
22:BA:528:A:C2'	22:BA:529:A:H5''	2.30	0.61
22:BA:2298:A:C6	22:BA:2321:U:O4	2.53	0.61
1:CA:862:C:C4	1:CA:863:U:C5	2.88	0.61
1:AA:1378:C:H2'	1:AA:1379:G:O5'	2.01	0.61
22:DA:1313:U:H2'	22:DA:1313:U:O2	1.99	0.61
22:DA:192:C:P	57:DA:3738:HOH:O	2.57	0.61
28:DG:166:ASP:OD1	28:DG:166:ASP:N	2.33	0.61
2:AB:75:ALA:O	2:AB:76:ALA:HB2	2.00	0.61
6:AF:92:THR:HG22	6:AF:93:LYS:N	2.15	0.61
33:BL:93:ASN:O	33:BL:94:THR:CB	2.48	0.61
6:CF:18:VAL:HG12	6:CF:19:PRO:N	2.15	0.61
22:DA:777:G:N7	22:DA:793:A:H2	1.97	0.61
9:AI:9:THR:HG22	9:AI:10:GLY:N	2.15	0.61
36:BO:79:ALA:HB2	36:BO:110:ALA:HA	1.82	0.61
1:CA:1260:G:OP1	1:CA:1284:C:O2'	2.16	0.61
1:CA:268:U:H2'	1:CA:269:C:C6	2.35	0.61
1:CA:1359:C:OP2	14:CN:75:ARG:NH1	2.34	0.61
1:AA:1477:U:H2'	1:AA:1478:U:C6	2.35	0.61
1:AA:1306:A:C4	1:AA:1307:U:C6	2.88	0.61
49:D1:10:LYS:O	49:D1:51:GLU:HG2	2.00	0.61
22:DA:43:G:N2	22:DA:437:U:C6	2.69	0.61
26:BE:31:VAL:HG21	26:BE:104:ALA:HB2	1.82	0.61
22:DA:1299:G:H5'	22:DA:1301:A:O4'	2.00	0.61
46:BY:45:GLN:O	46:BY:46:VAL:HB	2.00	0.61
22:DA:2032:G:H1'	25:DD:150:GLN:NE2	2.15	0.61
29:DH:83:LYS:H	29:DH:149:GLU:HG2	1.64	0.61
13:AM:16:VAL:HG22	13:AM:41:GLU:O	2.00	0.61
50:D2:18:PHE:O	50:D2:19:ARG:C	2.39	0.61
39:BR:49:ILE:HB	39:BR:51:VAL:O	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AI:52:LEU:HB3	9:AI:57:MET:HG3	1.81	0.61
22:DA:1266:G:OP1	48:D0:16:ARG:NE	2.34	0.61
35:BN:75:ILE:O	35:BN:79:LEU:HD12	2.01	0.61
1:CA:21:G:H2'	1:CA:22:G:C8	2.36	0.61
23:BB:37:C:C5	23:BB:38:C:C4	2.88	0.61
19:CS:19:VAL:HG21	19:CS:44:MET:HG2	1.83	0.61
1:CA:920:U:H2'	1:CA:921:U:C6	2.35	0.61
22:BA:1695:G:H1'	24:BC:8:PRO:O	1.99	0.61
22:BA:1176:U:C4	22:BA:1177:G:O6	2.53	0.61
4:CD:202:GLU:OE1	5:CE:105:ILE:HG22	2.01	0.61
1:AA:1366:C:O2'	10:AJ:62:ARG:NH2	2.33	0.61
4:CD:168:PRO:HB2	4:CD:171:LEU:HD12	1.83	0.61
24:BC:141:VAL:HG11	24:BC:190:ALA:HB1	1.82	0.61
8:CH:30:SER:OG	8:CH:33:LYS:HG3	2.01	0.61
25:BD:151:THR:HG22	25:BD:152:PRO:CD	2.31	0.61
22:DA:2058:A:N6	22:DA:2059:A:N6	2.49	0.61
2:AB:75:ALA:O	2:AB:76:ALA:CB	2.48	0.61
19:CS:4:SER:O	19:CS:5:LEU:HB2	1.99	0.61
1:AA:173:U:C6	1:AA:197:A:C2	2.89	0.61
21:AU:35:ARG:O	21:AU:36:GLU:C	2.39	0.61
22:DA:586:A:H1'	22:DA:672:C:H1'	1.83	0.61
1:CA:495:A:C2	1:CA:496:A:N6	2.69	0.61
22:DA:1817:G:OP1	24:DC:62:TYR:OH	2.14	0.61
7:AG:80:VAL:O	7:AG:82:GLY:N	2.34	0.61
37:BP:106:LYS:O	37:BP:109:ARG:HD3	2.01	0.61
40:BS:37:THR:OG1	40:BS:48:LYS:NZ	2.32	0.61
22:DA:295:G:C2	22:DA:296:U:C5	2.89	0.61
1:CA:1222:G:O6	57:CA:1864:HOH:O	2.14	0.61
22:DA:674:G:H1'	26:DE:69:ARG:NE	2.16	0.61
7:AG:4:ARG:O	7:AG:6:VAL:N	2.33	0.61
5:CE:131:THR:O	5:CE:132:ASN:C	2.39	0.61
22:BA:998:C:C3'	57:BA:3363:HOH:O	2.49	0.61
22:BA:1188:U:C2'	22:BA:1189:A:H5'	2.31	0.61
17:AQ:12:VAL:HG12	17:AQ:13:VAL:N	2.15	0.61
12:CL:90:LEU:HB2	12:CL:93:VAL:HG21	1.83	0.61
2:CB:53:ALA:O	2:CB:57:LEU:HB2	2.00	0.61
22:DA:1814:G:C6	22:DA:1815:A:N6	2.69	0.61
17:CQ:47:HIS:HB2	17:CQ:67:LEU:CD1	2.31	0.61
17:AQ:52:GLU:N	17:AQ:52:GLU:OE1	2.33	0.61
1:CA:76:G:N2	1:CA:95:C:C2	2.69	0.61
22:DA:749:A:C5	22:DA:750:A:N7	2.68	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1309:G:C6	1:CA:1329:A:C2	2.88	0.61
22:DA:2118:U:O4	22:DA:2149:U:H1'	2.00	0.61
50:D2:18:PHE:O	50:D2:21:ARG:N	2.34	0.61
28:BG:174:ALA:O	28:BG:175:LYS:CB	2.49	0.61
22:BA:2297:A:N1	22:BA:2321:U:C5	2.69	0.61
1:AA:1054:C:C5	1:AA:1196:A:H2'	2.35	0.61
25:BD:104:VAL:O	25:BD:105:LYS:HB2	2.00	0.61
22:DA:1262:A:OP1	40:DS:99:ARG:NH2	2.34	0.61
22:DA:219:A:N3	22:DA:234:U:O2'	2.32	0.61
1:AA:844:G:C6	1:AA:846:G:O2'	2.54	0.61
22:BA:495:G:H1'	40:BS:57:ASN:ND2	2.15	0.61
22:DA:2028:U:O4	57:DA:3475:HOH:O	2.14	0.61
1:AA:1059:C:N3	1:AA:1060:U:C5	2.69	0.61
1:AA:983:A:H2'	1:AA:983:A:N3	2.15	0.60
1:CA:577:G:C8	1:CA:816:A:C6	2.89	0.60
6:CF:86:ARG:HH11	6:CF:86:ARG:CG	2.14	0.60
22:BA:630:G:H5''	22:BA:631:A:OP2	2.00	0.60
38:BQ:110:VAL:O	38:BQ:114:LYS:HG3	2.02	0.60
36:BO:10:ARG:NH2	36:BO:96:GLY:O	2.34	0.60
53:B5:212:SER:CB	53:B5:221:PRO:CB	2.79	0.60
2:AB:63:ARG:O	2:AB:64:LYS:HB2	2.00	0.60
22:DA:543:G:C2	22:DA:551:G:C5	2.88	0.60
9:CI:12:ARG:CD	9:CI:107:ASP:HB3	2.31	0.60
1:CA:724:G:OP2	1:CA:833:G:O2'	2.16	0.60
22:DA:1325:U:OP1	22:DA:1647:U:O2'	2.17	0.60
22:BA:1653:G:H3'	35:BN:2:ARG:HG3	1.82	0.60
29:BH:121:VAL:N	29:BH:122:LEU:HB2	2.16	0.60
22:DA:684:G:OP1	50:D2:16:HIS:CE1	2.54	0.60
6:AF:68:GLN:HA	6:AF:71:ILE:CG2	2.32	0.60
22:BA:999:U:C5	22:BA:1154:G:C5	2.88	0.60
22:DA:2345:G:C4	22:DA:2381:A:C2	2.90	0.60
20:AT:70:ASN:N	20:AT:70:ASN:OD1	2.32	0.60
22:BA:1417:C:HO2'	22:BA:1587:G:HO2'	1.47	0.60
22:DA:1196:C:H1'	22:DA:1226:A:C4	2.36	0.60
22:BA:2140:G:N3	22:BA:2140:G:H2'	2.16	0.60
43:BV:6:ALA:HB1	43:BV:40:ILE:HG23	1.81	0.60
22:DA:1682:G:H2'	22:DA:1683:U:C6	2.36	0.60
29:BH:117:LEU:O	29:BH:121:VAL:HG22	1.93	0.60
1:CA:1041:G:H2'	1:CA:1042:A:C8	2.36	0.60
5:CE:98:PRO:O	5:CE:99:ALA:CB	2.49	0.60
22:DA:1359:A:C8	22:DA:1373:A:C2	2.89	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BI:127:ARG:HA	30:BI:130:GLU:HG3	1.82	0.60
27:BF:108:VAL:CG1	27:BF:114:PHE:CZ	2.84	0.60
1:CA:957:U:O3'	19:CS:79:THR:OG1	2.19	0.60
23:BB:43:C:O2	27:BF:92:ARG:NH2	2.34	0.60
1:CA:280:C:N3	17:CQ:41:THR:OG1	2.34	0.60
24:DC:9:THR:O	24:DC:10:SER:CB	2.49	0.60
22:DA:1274:A:N3	22:DA:1297:C:H1'	2.16	0.60
4:CD:19:LEU:HD22	4:CD:64:ILE:HG13	1.84	0.60
29:BH:100:ALA:HB1	29:BH:112:LYS:HA	1.83	0.60
22:BA:1915:U:H2'	22:BA:1916:A:C8	2.35	0.60
13:AM:3:ARG:CG	13:AM:4:ILE:N	2.64	0.60
11:AK:126:LYS:O	21:AU:34:ARG:NE	2.34	0.60
36:DO:100:HIS:CD2	36:DO:101:GLY:N	2.70	0.60
10:AJ:73:LEU:O	10:AJ:74:VAL:HB	2.02	0.60
4:CD:174:ASP:OD2	4:CD:175:ALA:N	2.34	0.60
22:DA:2800:A:C2	22:DA:2895:G:H1'	2.35	0.60
9:AI:90:TYR:O	9:AI:91:ASP:CG	2.40	0.60
7:CG:37:SER:O	7:CG:41:SER:OG	2.14	0.60
23:DB:43:C:O2	27:DF:92:ARG:NH2	2.34	0.60
33:DL:29:LYS:HG3	33:DL:30:THR:HG23	1.82	0.60
3:AC:144:LEU:HD13	3:AC:144:LEU:N	2.16	0.60
23:DB:7:G:H5'	36:DO:29:HIS:CE1	2.36	0.60
29:DH:126:GLY:O	29:DH:146:VAL:HG23	2.00	0.60
29:BH:117:LEU:CD2	29:BH:121:VAL:HA	2.31	0.60
22:DA:526:A:P	57:DA:3246:HOH:O	2.59	0.60
22:BA:1073:A:OP1	22:BA:1073:A:C8	2.55	0.60
11:AK:76:GLU:O	11:AK:77:TYR:CD1	2.55	0.60
53:B5:204:GLY:O	53:B5:205:ALA:CB	2.48	0.60
1:CA:1255:G:C6	1:CA:1279:G:C8	2.90	0.60
22:BA:287:G:C2	22:BA:354:A:C2	2.90	0.60
22:BA:1106:G:N2	22:BA:1107:G:H1'	2.16	0.60
22:BA:2503:A:H5'	22:BA:2503:A:N3	2.16	0.60
21:CU:53:VAL:HG13	21:CU:54:LYS:N	2.17	0.60
22:BA:2051:A:H8	22:BA:2051:A:OP2	1.83	0.60
1:CA:404:G:N7	4:CD:2:ALA:HB3	2.16	0.60
22:DA:2361:G:C5	22:DA:2362:C:C5	2.90	0.60
32:DK:64:ARG:HD3	32:DK:102:PRO:O	2.02	0.60
39:BR:49:ILE:HG22	39:BR:52:PRO:C	2.21	0.60
1:CA:66:A:C6	1:CA:67:C:C5	2.90	0.60
22:BA:1922:G:N2	22:BA:1923:U:C1'	2.65	0.60
4:CD:34:ILE:O	4:CD:35:GLU:HB3	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1225:A:H2'	1:CA:1226:C:C5	2.37	0.60
4:CD:174:ASP:O	4:CD:175:ALA:CB	2.49	0.60
22:DA:295:G:H2'	22:DA:295:G:N3	2.15	0.60
22:BA:265:A:H4'	22:BA:266:G:OP1	2.01	0.60
22:BA:1731:G:C6	22:BA:1733:G:C5	2.89	0.60
1:AA:381:C:H2'	1:AA:382:A:O4'	2.01	0.60
41:DT:12:ARG:O	41:DT:13:ALA:HB2	2.02	0.60
22:DA:931:U:OP1	47:DZ:30:ARG:NH1	2.34	0.60
22:BA:2334:U:C4	36:BO:16:ARG:HD3	2.37	0.60
1:CA:1391:U:H2'	1:CA:1392:G:C8	2.36	0.60
22:DA:2550:G:C6	22:DA:2551:C:N4	2.69	0.60
1:CA:1096:C:H2'	1:CA:1097:C:H6	1.67	0.60
1:CA:1004:A:C6	1:CA:1005:A:C6	2.90	0.60
17:AQ:69:LYS:O	17:AQ:70:THR:HB	2.01	0.60
22:DA:630:G:H5''	22:DA:631:A:OP2	2.01	0.60
12:CL:93:VAL:O	12:CL:93:VAL:HG23	2.01	0.60
33:BL:30:THR:O	33:BL:33:ARG:HG2	2.02	0.60
31:BJ:17:VAL:CG2	31:BJ:137:PRO:HB2	2.31	0.60
22:BA:1416:G:HO2'	22:BA:1417:C:H6	1.50	0.60
22:DA:1179:G:C6	22:DA:1180:U:H1'	2.36	0.60
24:BC:239:ASN:ND2	57:BC:304:HOH:O	2.34	0.60
10:AJ:33:GLY:O	10:AJ:34:ALA:HB3	2.00	0.60
22:BA:2110:G:N2	22:BA:2180:U:C2	2.70	0.60
1:CA:1108:G:O6	57:CA:1857:HOH:O	2.16	0.60
22:BA:63:A:C2	22:BA:64:A:C5	2.90	0.60
22:DA:834:G:H1'	22:DA:2358:A:N3	2.17	0.60
5:CE:83:HIS:CD2	8:CH:96:MET:CE	2.85	0.60
29:BH:86:ASP:H	1:CA:359:G:H4'	1.66	0.60
22:BA:1907:G:C6	22:BA:1908:C:C4	2.90	0.60
22:BA:1918:A:O2'	22:BA:1920:C:C4	2.54	0.60
3:AC:7:PRO:HG2	3:AC:184:TYR:CD2	2.36	0.60
17:CQ:14:SER:OG	17:CQ:22:VAL:HG12	2.02	0.60
11:AK:125:LYS:CG	11:AK:126:LYS:N	2.63	0.60
22:DA:2264:C:C2	22:DA:2277:G:N2	2.70	0.60
22:DA:2415:G:C5	22:DA:2416:C:C4	2.90	0.60
12:AL:25:GLU:O	12:AL:26:ALA:C	2.40	0.60
49:D1:51:GLU:HG3	49:D1:52:ALA:N	2.16	0.60
22:DA:137:U:H2'	22:DA:140:C:C2	2.37	0.60
26:DE:150:THR:OG1	26:DE:151:GLY:N	2.34	0.60
1:AA:1462:C:C2	1:AA:1463:U:C6	2.90	0.60
22:DA:2291:U:H2'	22:DA:2292:U:C6	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CT:69:LYS:HB2	20:CT:70:ASN:OD1	2.02	0.60
13:CM:10:PRO:O	13:CM:11:ASP:HB2	2.02	0.60
34:BM:42:THR:HG22	34:BM:93:VAL:HG12	1.83	0.60
22:BA:2615:U:C2	48:B0:4:GLN:HA	2.36	0.60
24:DC:121:ASP:OD1	24:DC:121:ASP:N	2.33	0.60
1:AA:1255:G:O2'	1:AA:1258:G:N3	2.32	0.60
1:AA:16:A:O2'	1:AA:17:U:H5'	2.01	0.60
22:DA:2056:G:C2	22:DA:2057:G:C8	2.90	0.60
22:DA:684:G:C2	22:DA:794:A:C2	2.90	0.60
1:CA:1040:U:H2'	1:CA:1041:G:C8	2.37	0.60
1:AA:89:U:O2'	1:AA:90:C:C5'	2.50	0.60
1:AA:1504:G:O3'	57:AA:1868:HOH:O	2.16	0.60
22:DA:46:G:C2	22:DA:47:C:C6	2.89	0.60
1:CA:558:G:P	57:CA:1729:HOH:O	2.59	0.60
1:CA:1022:A:C5	1:CA:1023:U:C4	2.90	0.60
2:CB:210:VAL:CG2	2:CB:211:THR:N	2.65	0.60
4:AD:122:ALA:O	4:AD:123:ILE:HG23	2.02	0.60
22:DA:982:C:H4'	22:DA:983:A:OP1	2.02	0.60
22:DA:2341:G:C5	22:DA:2342:C:C4	2.90	0.60
46:DY:11:VAL:O	46:DY:15:ASN:ND2	2.34	0.60
22:DA:2074:U:H2'	22:DA:2075:U:C6	2.37	0.60
41:DT:61:LEU:HD12	41:DT:62:VAL:N	2.17	0.60
4:AD:174:ASP:O	4:AD:175:ALA:HB2	2.02	0.60
45:DX:5:CYS:SG	45:DX:52:SER:HB3	2.41	0.60
1:CA:955:U:H2'	1:CA:956:U:O4'	2.02	0.60
22:DA:471:A:OP1	26:DE:79:ARG:NH1	2.34	0.60
30:BI:72:LYS:N	30:BI:72:LYS:CD	2.65	0.60
35:DN:12:ARG:CZ	35:DN:20:MET:CE	2.80	0.60
45:BX:2:SER:O	45:BX:4:VAL:N	2.34	0.60
22:BA:1178:C:H2'	22:BA:1179:G:N7	2.17	0.60
22:DA:455:C:N3	22:DA:472:A:H2'	2.17	0.60
22:BA:2061:G:C6	55:BA:3001:VIR:H19	2.37	0.60
1:AA:207:C:O2	1:AA:213:G:N2	2.34	0.60
1:AA:831:A:C2	1:AA:832:G:C8	2.90	0.60
1:CA:862:C:N3	1:CA:863:U:C5	2.69	0.60
1:AA:736:C:H2'	1:AA:737:C:C6	2.36	0.60
1:AA:283:U:C5	1:AA:284:C:C5	2.90	0.60
1:AA:47:C:O2	1:AA:49:U:C5	2.55	0.60
1:CA:17:U:H2'	1:CA:18:C:C6	2.37	0.60
8:AH:125:ILE:O	8:AH:125:ILE:CG1	2.49	0.60
22:BA:1435:G:O2'	22:BA:1436:G:H5'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:CH:55:THR:C	8:CH:57:PRO:HD3	2.23	0.60
1:CA:1297:G:O2'	7:CG:114:LYS:NZ	2.27	0.60
22:DA:2854:G:C2	22:DA:2864:G:C2	2.90	0.60
31:BJ:74:TYR:CD1	31:BJ:92:MET:HG3	2.36	0.60
1:AA:205:A:OP1	1:AA:205:A:H4'	2.01	0.60
11:CK:107:ILE:O	11:CK:107:ILE:HG23	2.02	0.60
53:B5:180:SER:CB	53:B5:188:ASP:CB	2.79	0.60
2:AB:106:THR:O	2:AB:107:VAL:HB	2.02	0.60
22:BA:1180:U:O2'	22:BA:1181:U:H5'	2.02	0.59
1:AA:1227:A:H2'	1:AA:1228:C:O5'	2.02	0.59
1:CA:1000:A:H2'	1:CA:1001:C:O4'	2.02	0.59
22:DA:1304:A:C6	22:DA:1305:C:C4	2.89	0.59
22:BA:511:U:H5	22:BA:512:G:C5	2.17	0.59
22:DA:1810:A:H2'	22:DA:1811:G:O4'	2.01	0.59
3:AC:206:GLU:O	3:AC:207:ILE:O	2.19	0.59
4:CD:148:LYS:O	4:CD:149:ALA:CB	2.49	0.59
2:CB:203:ASN:OD1	2:CB:204:ASP:N	2.35	0.59
22:BA:12:U:O2	22:BA:12:U:H2'	2.00	0.59
25:DD:48:ILE:HG23	25:DD:84:LEU:CD2	2.32	0.59
22:DA:1450:G:C6	22:DA:1451:C:N4	2.70	0.59
22:DA:1567:G:H2'	24:DC:85:PRO:HG3	1.83	0.59
41:BT:88:LYS:O	41:BT:89:GLU:CG	2.49	0.59
29:BH:99:ILE:HB	29:BH:115:VAL:HG11	1.84	0.59
22:BA:973:A:O4'	22:BA:1188:U:C6	2.55	0.59
22:BA:2297:A:N1	22:BA:2321:U:H5	1.99	0.59
12:CL:90:LEU:O	12:CL:93:VAL:HG22	2.01	0.59
20:AT:44:LYS:CD	20:AT:87:ALA:HA	2.32	0.59
22:DA:287:G:C2	22:DA:354:A:C2	2.89	0.59
40:BS:37:THR:HG22	40:BS:38:TYR:CD1	2.37	0.59
41:BT:54:GLU:HB3	41:BT:88:LYS:HG3	1.84	0.59
22:DA:197:A:H62	22:DA:2430:A:H2'	1.67	0.59
1:AA:645:G:C6	1:AA:646:G:N7	2.71	0.59
22:BA:619:G:O6	26:BE:98:LYS:NZ	2.34	0.59
22:BA:78:U:H2'	22:BA:79:C:C6	2.37	0.59
30:DI:6:GLN:O	30:DI:7:ALA:CB	2.50	0.59
22:DA:2199:A:C4	22:DA:2225:A:C2	2.90	0.59
4:AD:98:LEU:O	4:AD:100:ASN:N	2.35	0.59
22:DA:300:A:N6	57:DA:3551:HOH:O	2.35	0.59
1:CA:429:U:O3'	4:CD:22:LYS:HE3	2.02	0.59
22:DA:1805:A:C2	22:DA:1813:G:C2	2.90	0.59
22:DA:1288:G:C4	22:DA:1327:A:C2	2.91	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:10:GLY:O	16:AP:11:ALA:HB2	2.02	0.59
22:BA:636:G:N7	33:BL:109:LYS:HE2	2.16	0.59
43:BV:13:GLY:O	43:BV:17:SER:OG	2.21	0.59
22:DA:1649:G:C6	22:DA:2009:A:C6	2.90	0.59
22:BA:669:G:C5	22:BA:801:G:C6	2.90	0.59
24:BC:4:VAL:HG12	24:BC:5:LYS:O	2.02	0.59
1:CA:718:A:C5	11:CK:118:HIS:CD2	2.90	0.59
29:BH:94:ILE:HG22	29:BH:99:ILE:CG1	2.32	0.59
22:DA:2144:G:C2	22:DA:2146:C:O2	2.55	0.59
22:DA:1338:G:O2'	22:DA:1393:A:N1	2.22	0.59
14:AN:46:LEU:HG	14:AN:47:LYS:N	2.17	0.59
22:DA:1789:A:H5''	24:DC:219:THR:O	2.02	0.59
31:DJ:4:PHE:O	38:DQ:64:ARG:NH2	2.34	0.59
22:BA:1415:U:H2'	22:BA:1415:U:O2	2.02	0.59
1:CA:31:G:C5	1:CA:306:A:H1'	2.37	0.59
40:DS:80:PRO:HD2	40:DS:100:THR:OG1	2.01	0.59
50:B2:29:GLN:O	50:B2:33:ARG:HG3	2.03	0.59
13:AM:6:GLY:O	13:AM:8:ASN:N	2.35	0.59
53:B5:167:ASP:CB	53:B5:176:VAL:O	2.51	0.59
22:DA:1121:C:C2	22:DA:1122:G:C8	2.90	0.59
22:DA:2420:C:OP1	51:D3:34:THR:HB	2.02	0.59
22:BA:1917:U:H2'	22:BA:1917:U:O2	2.02	0.59
22:BA:1277:G:C5'	35:BN:20:MET:HE1	2.33	0.59
13:AM:29:ARG:O	13:AM:33:ILE:HG12	2.02	0.59
1:AA:1181:G:C2	1:AA:1182:G:N2	2.70	0.59
22:DA:2816:G:N3	22:DA:2883:A:O2'	2.34	0.59
22:BA:273:G:N2	22:BA:365:U:C2	2.70	0.59
1:CA:38:G:C2	1:CA:397:A:C2	2.90	0.59
1:AA:144:G:C4	1:AA:179:A:C2	2.90	0.59
42:DU:18:ASP:N	42:DU:18:ASP:OD1	2.35	0.59
1:AA:68:G:C5	1:AA:69:G:H1'	2.38	0.59
1:AA:1142:G:C4	1:AA:1143:G:H1'	2.38	0.59
23:BB:2:G:C2	23:BB:119:A:C2	2.90	0.59
22:DA:1907:G:C2	22:DA:1924:C:C2	2.90	0.59
22:DA:294:A:C2	22:DA:346:A:N6	2.70	0.59
22:DA:1440:U:H2'	22:DA:1441:G:O4'	2.03	0.59
4:AD:2:ALA:O	4:AD:68:LEU:HD21	2.02	0.59
22:BA:1087:G:N2	22:BA:1090:A:C8	2.71	0.59
1:AA:1257:A:H4'	1:AA:1258:G:OP2	2.02	0.59
22:BA:669:G:C6	22:BA:801:G:O6	2.56	0.59
22:BA:1712:U:OP2	22:BA:1713:A:O2'	2.20	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:DG:19:ILE:O	28:DG:21:GLY:N	2.35	0.59
31:BJ:42:ALA:O	38:BQ:64:ARG:HG2	2.01	0.59
22:DA:1998:A:OP2	25:DD:141:ARG:NH2	2.35	0.59
22:BA:1654:A:OP2	35:BN:1:MET:HA	2.02	0.59
1:AA:570:G:O6	1:AA:865:A:N6	2.35	0.59
1:CA:951:G:C6	1:CA:952:U:C4	2.91	0.59
11:CK:52:PHE:CZ	11:CK:62:ALA:HA	2.37	0.59
48:D0:54:VAL:O	48:D0:56:ALA:N	2.36	0.59
22:DA:2093:G:O2'	29:DH:25:TYR:CA	2.50	0.59
22:BA:1916:A:C5	22:BA:1917:U:C6	2.91	0.59
1:CA:1074:G:H4'	2:CB:103:ASN:HB3	1.83	0.59
22:BA:1073:A:C3'	22:BA:1074:G:C5'	2.80	0.59
5:CE:101:GLU:CD	5:CE:101:GLU:O	2.41	0.59
1:AA:173:U:C2	1:AA:197:A:N1	2.71	0.59
29:DH:126:GLY:O	29:DH:146:VAL:N	2.35	0.59
8:AH:125:ILE:O	8:AH:125:ILE:HG13	2.02	0.59
1:AA:1277:C:O2'	1:AA:1279:G:H1'	2.03	0.59
3:CC:3:GLN:OE1	3:CC:3:GLN:N	2.36	0.59
22:DA:1230:A:H2'	22:DA:1231:U:C6	2.38	0.59
29:BH:1:MET:O	29:BH:20:ASN:ND2	2.35	0.59
22:DA:1936:A:H2	22:DA:1943:U:H3	1.51	0.59
22:DA:893:C:H2'	22:DA:894:U:O4'	2.02	0.59
22:BA:197:A:N6	22:BA:2430:A:H2'	2.17	0.59
23:BB:48:U:H2'	23:BB:49:C:C6	2.37	0.59
22:DA:2104:C:H2'	22:DA:2105:U:O4'	2.03	0.59
22:DA:724:U:H2'	22:DA:725:G:O4'	2.02	0.59
38:DQ:72:ASN:HB3	38:DQ:110:VAL:HG11	1.85	0.59
22:DA:388:G:N7	22:DA:390:U:H2'	2.17	0.59
22:DA:2842:G:H2'	22:DA:2843:G:O4'	2.02	0.59
1:CA:1377:A:C5	7:CG:7:ILE:CD1	2.85	0.59
2:AB:54:LEU:HD12	2:AB:220:THR:HG21	1.85	0.59
46:BY:15:ASN:O	46:BY:19:LEU:HG	2.02	0.59
5:AE:137:VAL:O	5:AE:137:VAL:CG2	2.51	0.59
22:BA:1875:G:HO2'	22:BA:1876:A:H8	1.50	0.59
43:DV:51:GLN:OE1	43:DV:57:TYR:OH	2.21	0.59
24:BC:167:ARG:O	24:BC:168:ASP:HB3	2.03	0.59
1:CA:8:A:C6	4:CD:206:LYS:HB3	2.37	0.59
2:AB:72:THR:O	2:AB:73:LYS:HB3	2.03	0.59
5:CE:99:ALA:O	5:CE:122:ASN:ND2	2.35	0.59
22:BA:564:C:O2	22:BA:578:G:N2	2.35	0.59
22:DA:54:G:C2	22:DA:55:G:C8	2.90	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1277:G:C5'	35:BN:20:MET:CE	2.81	0.59
4:AD:32:CYS:SG	4:AD:33:LYS:N	2.76	0.59
33:BL:93:ASN:O	33:BL:94:THR:HB	2.02	0.59
22:BA:1585:C:H2'	22:BA:1586:A:O4'	2.03	0.59
4:AD:174:ASP:OD2	4:AD:176:GLY:N	2.35	0.59
22:DA:104:A:H2'	22:DA:105:C:O4'	2.03	0.59
36:BO:87:ILE:HG22	36:BO:88:LYS:N	2.17	0.59
1:AA:667:G:H4'	15:AO:51:HIS:ND1	2.18	0.59
24:BC:30:PHE:CZ	24:BC:32:PRO:HG2	2.38	0.59
22:BA:1209:U:O2'	22:BA:1237:A:N1	2.30	0.59
22:DA:1783:A:C6	22:DA:2587:A:C2	2.91	0.59
1:CA:1302:C:C5	13:CM:17:ILE:HD13	2.38	0.59
35:DN:76:VAL:HA	35:DN:79:LEU:HD12	1.84	0.59
37:BP:31:TRP:CE2	37:BP:40:LEU:CD1	2.86	0.59
22:DA:1179:G:C5	22:DA:1180:U:H1'	2.38	0.59
22:DA:479:A:H4'	22:DA:480:A:OP1	2.02	0.59
27:DF:147:ASP:O	27:DF:148:ARG:HB2	2.03	0.59
1:AA:438:U:C2	1:AA:494:G:C6	2.90	0.59
22:DA:2199:A:N7	22:DA:2225:A:C6	2.71	0.58
2:AB:83:ALA:HA	2:AB:86:SER:OG	2.03	0.58
29:BH:83:LYS:HD2	1:CA:55:A:O2'	2.02	0.58
1:AA:923:A:O4'	1:AA:1398:A:C2	2.56	0.58
22:DA:82:U:C2	22:DA:83:A:N7	2.71	0.58
22:DA:2134:A:OP2	22:DA:2157:G:N2	2.36	0.58
22:DA:1805:A:O2'	24:DC:50:THR:HA	2.03	0.58
32:BK:118:LEU:O	32:BK:119:ALA:HB3	2.03	0.58
1:CA:1125:U:C6	10:CJ:40:ILE:HD13	2.37	0.58
4:CD:167:LYS:HE2	4:CD:173:VAL:HG11	1.85	0.58
1:AA:657:U:O2	15:AO:22:THR:CG2	2.50	0.58
13:CM:114:LYS:HB2	13:CM:115:PRO:HD3	1.84	0.58
22:BA:2666:C:C5	22:BA:2667:C:C5	2.91	0.58
30:BI:39:CYS:HA	30:BI:42:PHE:HB3	1.84	0.58
22:BA:1824:G:N3	24:BC:252:THR:HG21	2.17	0.58
22:DA:936:A:C2	22:DA:937:C:C2	2.91	0.58
22:BA:1467:U:C4	22:BA:1546:G:C2	2.91	0.58
1:AA:484:G:H4'	1:AA:485:U:OP1	2.02	0.58
22:DA:1075:C:H2'	22:DA:1076:C:C6	2.38	0.58
22:BA:1485:U:H2'	22:BA:1486:U:C6	2.37	0.58
31:DJ:30:THR:HG22	31:DJ:31:GLU:N	2.17	0.58
22:BA:1494:A:C2	22:BA:1495:A:C4	2.91	0.58
3:AC:10:ILE:O	3:AC:10:ILE:HG13	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:B5:40:GLU:HA	53:B5:181:PHE:HA	1.85	0.58
24:BC:182:ARG:HH21	24:BC:182:ARG:HG3	1.67	0.58
22:DA:2843:G:C2	22:DA:2875:C:N3	2.71	0.58
4:AD:26:ARG:CD	4:AD:31:LYS:HE3	2.33	0.58
40:BS:59:GLU:HA	40:BS:64:ALA:HB2	1.84	0.58
52:D4:19:ARG:O	52:D4:20:ASP:HB2	2.03	0.58
1:AA:645:G:N7	57:AA:1749:HOH:O	2.32	0.58
22:BA:1734:G:C4	22:BA:1735:A:C8	2.91	0.58
7:AG:71:PRO:O	7:AG:96:ARG:CG	2.51	0.58
4:CD:126:ASN:OD1	4:CD:142:VAL:HG23	2.02	0.58
22:DA:7:G:H4'	31:DJ:15:TRP:CH2	2.39	0.58
35:DN:83:LEU:HD23	35:DN:86:ARG:CZ	2.33	0.58
22:DA:1640:A:H2'	22:DA:1641:A:C8	2.37	0.58
24:DC:260:ASN:O	24:DC:261:LYS:HB2	2.03	0.58
6:AF:97:THR:O	6:AF:98:GLU:HB3	2.02	0.58
2:AB:9:MET:SD	2:AB:9:MET:N	2.76	0.58
1:CA:227:G:H2'	1:CA:228:A:O4'	2.02	0.58
22:DA:2094:A:H5'	29:DH:25:TYR:HB2	1.85	0.58
22:BA:1914:C:H2'	22:BA:1914:C:O2	2.03	0.58
22:BA:1179:G:C6	22:BA:1180:U:H1'	2.37	0.58
1:AA:982:U:H4'	1:AA:983:A:C5'	2.33	0.58
1:CA:1211:U:C2'	1:CA:1212:U:OP2	2.51	0.58
22:DA:187:G:C2	22:DA:210:C:O2	2.54	0.58
1:AA:408:A:C2	1:AA:435:A:C2	2.91	0.58
1:AA:428:G:O4'	1:AA:430:A:C8	2.56	0.58
16:AP:43:ALA:O	16:AP:46:LYS:HD2	2.03	0.58
4:CD:26:ARG:HG3	4:CD:27:ALA:N	2.18	0.58
4:AD:62:ARG:HG3	4:AD:72:PHE:CD2	2.38	0.58
22:DA:1034:G:C6	22:DA:1035:U:N3	2.71	0.58
1:AA:102:G:C2	1:AA:103:U:C6	2.91	0.58
25:DD:48:ILE:HG23	25:DD:84:LEU:HD21	1.85	0.58
1:CA:1490:U:H2'	1:CA:1491:G:O4'	2.03	0.58
24:DC:3:VAL:CG1	24:DC:202:LEU:HD23	2.33	0.58
1:CA:247:G:C6	1:CA:278:G:C2	2.92	0.58
24:DC:148:PRO:CD	24:DC:185:GLU:OE2	2.51	0.58
1:AA:194:C:C2'	1:AA:195:A:H5'	2.33	0.58
22:BA:2773:C:H5''	25:BD:169:ARG:HG2	1.85	0.58
22:DA:533:G:H5'	38:DQ:24:TYR:CE1	2.38	0.58
2:AB:67:ILE:O	2:AB:68:LEU:HB2	2.01	0.58
22:DA:371:A:N3	45:DX:61:LYS:NZ	2.50	0.58
22:BA:31:C:O2'	22:BA:32:C:H5'	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CK:44:TRP:CE3	11:CK:44:TRP:O	2.57	0.58
1:CA:1133:G:C2	1:CA:1142:G:C2	2.91	0.58
24:BC:86:ASN:HD22	24:BC:86:ASN:N	2.01	0.58
28:DG:159:GLY:O	28:DG:163:ARG:NH1	2.37	0.58
22:DA:2196:C:O2'	22:DA:2197:U:H5'	2.03	0.58
1:CA:858:G:O6	1:CA:869:G:H3'	2.03	0.58
35:DN:1:MET:CE	35:DN:1:MET:H1	2.16	0.58
22:BA:245:G:O6	51:B3:8:ARG:HD3	2.03	0.58
10:AJ:15:HIS:CG	10:AJ:16:ARG:N	2.72	0.58
22:DA:1973:G:C5	22:DA:1974:C:C4	2.92	0.58
22:DA:579:G:N2	22:DA:1262:A:C4	2.72	0.58
1:CA:1080:A:OP1	5:CE:52:LYS:CE	2.52	0.58
6:AF:98:GLU:O	6:AF:99:ALA:O	2.22	0.58
22:DA:2343:U:O2'	22:DA:2373:G:O2'	2.14	0.58
22:BA:2458:G:N3	22:BA:2490:G:N2	2.52	0.58
22:BA:2593:U:N3	22:BA:2594:C:C5	2.71	0.58
3:CC:59:ARG:HB2	3:CC:63:SER:O	2.03	0.58
3:CC:40:ARG:HG2	3:CC:55:ILE:HD11	1.84	0.58
1:CA:949:A:O2'	1:CA:971:G:O6	2.16	0.58
22:DA:696:G:C6	22:DA:767:U:C2	2.92	0.58
3:CC:150:LYS:HG2	3:CC:201:TRP:CE3	2.38	0.58
22:BA:878:A:H5'	22:BA:879:G:OP2	2.03	0.58
17:CQ:12:VAL:HG23	17:CQ:57:ASP:O	2.03	0.58
22:BA:1915:U:O2'	22:BA:1916:A:H5'	2.02	0.58
22:BA:1924:C:O2	22:BA:1926:U:O4	2.21	0.58
27:BF:105:THR:HG23	27:BF:106:ILE:CG2	2.33	0.58
22:DA:197:A:C8	22:DA:2430:A:C8	2.90	0.58
1:AA:373:A:C2	1:AA:374:A:C8	2.92	0.58
1:CA:622:A:H5''	1:CA:623:C:OP2	2.04	0.58
4:AD:37:ALA:HA	4:AD:42:GLY:HA3	1.84	0.58
1:CA:555:U:H2'	1:CA:556:C:C6	2.38	0.58
22:DA:1436:G:N2	22:DA:1557:C:C2	2.72	0.58
13:CM:93:ARG:CZ	13:CM:93:ARG:HB3	2.31	0.58
2:AB:126:PHE:N	2:AB:126:PHE:HD1	2.02	0.58
22:BA:1246:A:C2'	22:BA:1247:A:O5'	2.51	0.58
22:DA:973:A:OP2	39:DR:81:LYS:NZ	2.27	0.58
22:BA:2684:U:C4	22:BA:2685:G:N7	2.72	0.58
5:AE:157:ARG:HD2	8:AH:43:GLU:O	2.04	0.58
1:AA:1053:G:N7	1:AA:1199:U:H3'	2.18	0.58
17:CQ:46:VAL:HG22	17:CQ:61:ILE:HD11	1.85	0.58
22:DA:1323:C:C4	22:DA:1324:G:N7	2.72	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:861:G:C5	1:CA:862:C:C5	2.92	0.58
22:BA:65:U:H2'	22:BA:66:C:H6	1.68	0.58
1:CA:16:A:C2'	1:CA:17:U:H5'	2.34	0.58
26:BE:59:PRO:HD3	26:BE:71:GLY:O	2.04	0.58
5:AE:90:THR:HG22	5:AE:91:GLY:N	2.17	0.58
38:BQ:50:ARG:O	38:BQ:54:LYS:HE2	2.04	0.58
23:BB:30:C:H2'	23:BB:31:C:H5'	1.86	0.58
29:DH:34:GLY:O	29:DH:35:LYS:CB	2.51	0.58
1:AA:767:A:H2'	1:AA:768:A:O4'	2.03	0.58
22:DA:2025:C:H2'	22:DA:2026:U:C6	2.38	0.58
1:CA:1055:A:C6	1:CA:1206:G:C5	2.92	0.58
1:AA:11:G:C6	1:AA:12:U:C4	2.91	0.58
1:CA:109:A:O2'	1:CA:326:G:N2	2.37	0.58
29:BH:31:VAL:N	29:BH:32:PRO:HD2	2.19	0.58
36:DO:33:ARG:O	36:DO:34:HIS:CB	2.52	0.58
14:CN:41:ARG:HG2	14:CN:42:TRP:N	2.19	0.58
22:BA:2846:G:OP1	37:BP:53:ARG:NH1	2.37	0.58
22:DA:2142:A:C2	22:DA:2150:C:N3	2.72	0.58
22:DA:2163:A:OP1	22:DA:2171:A:C8	2.56	0.58
22:DA:2842:G:C6	22:DA:2876:G:C6	2.92	0.58
39:BR:49:ILE:CB	39:BR:52:PRO:C	2.72	0.58
11:AK:13:ARG:N	22:BA:2141:G:H4'	2.19	0.58
22:BA:2531:A:OP2	28:BG:174:ALA:O	2.22	0.58
45:DX:30:LEU:HB3	45:DX:31:PRO:CD	2.34	0.58
22:DA:301:G:N3	22:DA:302:C:C2	2.72	0.58
1:AA:468:A:C2	1:AA:469:C:C5	2.91	0.58
2:AB:213:TYR:O	2:AB:217:VAL:HG23	2.02	0.58
10:AJ:15:HIS:O	10:AJ:17:LEU:N	2.34	0.58
35:BN:2:ARG:HA	35:BN:5:LYS:HD2	1.85	0.58
23:DB:94:A:OP1	43:DV:19:ARG:HD3	2.03	0.58
22:DA:1064:C:N3	22:DA:1074:G:N2	2.51	0.58
27:BF:143:TYR:O	27:BF:146:VAL:HG22	2.04	0.58
22:DA:2330:G:N2	22:DA:2386:A:C2	2.70	0.58
22:BA:1842:G:H2'	22:BA:1843:C:O4'	2.03	0.58
22:DA:1181:U:H2'	22:DA:1182:G:C8	2.38	0.58
41:BT:51:PHE:O	41:BT:52:GLU:C	2.42	0.58
1:AA:316:C:C2	1:AA:317:U:C5	2.92	0.58
25:BD:207:VAL:HG22	25:BD:207:VAL:O	2.04	0.58
5:CE:38:VAL:HG12	5:CE:117:VAL:HG21	1.86	0.58
22:DA:588:U:H1'	26:DE:85:PHE:CD1	2.38	0.58
22:DA:70:G:N2	22:DA:71:A:N1	2.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:518:C:H4'	1:CA:519:C:O5'	2.03	0.58
22:DA:27:G:N2	22:DA:512:G:H1'	2.19	0.58
22:DA:587:C:N3	33:DL:33:ARG:NH2	2.51	0.58
10:AJ:52:LEU:HD11	10:AJ:59:LYS:HA	1.84	0.58
17:CQ:19:LYS:HD3	17:CQ:49:GLU:HA	1.85	0.58
22:DA:524:G:C5	22:DA:525:U:C5	2.91	0.58
1:AA:507:C:C2	1:AA:508:U:C5	2.92	0.58
22:DA:1965:C:OP1	22:DA:1966:A:H2'	2.03	0.58
1:CA:609:A:N7	57:CA:1797:HOH:O	2.32	0.58
1:CA:981:U:H5	1:CA:982:U:HO2'	1.51	0.58
32:DK:92:GLU:O	32:DK:93:GLN:HB2	2.03	0.58
22:DA:938:G:C2	22:DA:939:G:N7	2.72	0.58
8:AH:79:SER:HA	8:AH:85:ILE:HG12	1.85	0.58
22:BA:570:G:H2'	22:BA:2030:A:N7	2.19	0.58
9:CI:30:ILE:HA	9:CI:65:ILE:HG13	1.86	0.58
32:BK:107:LEU:O	32:BK:109:SER:N	2.37	0.58
1:CA:846:G:C2	1:CA:847:G:C8	2.92	0.58
36:DO:18:LEU:O	36:DO:22:GLY:N	2.37	0.58
25:BD:121:THR:HB	25:BD:127:PHE:CD2	2.39	0.58
14:AN:20:TYR:CE1	14:AN:52:PRO:HG2	2.39	0.58
10:AJ:66:GLU:HB3	14:AN:99:ALA:CB	2.33	0.58
10:CJ:35:GLN:HG2	10:CJ:77:VAL:HB	1.85	0.58
22:DA:607:U:O4	22:DA:619:G:H2'	2.03	0.58
1:AA:554:A:H5'	12:AL:26:ALA:HB1	1.85	0.58
22:BA:357:C:H2'	22:BA:358:U:C6	2.39	0.58
30:BI:82:LYS:O	30:BI:83:ALA:HB2	2.02	0.58
1:CA:1092:A:C2	1:CA:1183:U:O2	2.57	0.58
22:DA:190:A:O2'	22:DA:679:C:O2'	2.16	0.58
4:AD:191:LEU:O	4:AD:192:SER:CB	2.51	0.58
39:BR:66:HIS:CE1	39:BR:94:THR:HB	2.38	0.58
14:CN:52:PRO:O	14:CN:53:ARG:HB3	2.03	0.58
22:BA:1925:C:C4'	22:BA:1926:U:C4	2.87	0.58
22:BA:2747:G:O2'	28:BG:67:THR:HB	2.04	0.58
22:DA:740:C:H5'	22:DA:1784:A:H3'	1.85	0.58
22:DA:279:A:C2	22:DA:362:A:H4'	2.38	0.58
1:AA:406:G:O5'	4:AD:5:LEU:HD21	2.04	0.58
19:AS:5:LEU:HD22	19:AS:9:PRO:HA	1.86	0.58
4:AD:107:PHE:CG	4:AD:145:ILE:HD11	2.39	0.58
5:CE:57:PRO:O	5:CE:60:ILE:HG13	2.04	0.58
35:BN:78:LYS:C	35:BN:79:LEU:O	2.41	0.58
22:BA:2502:G:H5'	22:BA:2503:A:H5''	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1072:G:H2'	1:AA:1073:U:C6	2.38	0.58
22:DA:77:G:OP1	46:DY:52:ARG:HD3	2.03	0.58
24:BC:85:PRO:HG2	24:BC:86:ASN:ND2	2.19	0.58
2:AB:126:PHE:CD1	2:AB:126:PHE:N	2.72	0.58
1:CA:513:C:H2'	1:CA:514:C:C6	2.39	0.58
1:CA:892:A:O2'	1:CA:1415:G:H4'	2.04	0.58
37:DP:29:LYS:HB3	37:DP:40:LEU:HD21	1.86	0.58
22:BA:2669:G:O2'	22:BA:2670:A:H5'	2.04	0.58
13:CM:20:THR:HG22	13:CM:26:GLY:C	2.24	0.58
32:BK:92:GLU:HG3	32:BK:111:LYS:NZ	2.19	0.58
19:CS:80:TYR:O	19:CS:81:ARG:CB	2.51	0.58
25:DD:133:THR:HG23	25:DD:134:HIS:N	2.19	0.58
35:BN:103:ARG:HB2	35:BN:110:MET:HE3	1.86	0.58
36:DO:33:ARG:O	36:DO:34:HIS:CD2	2.57	0.57
22:BA:1439:A:C2	22:BA:1553:A:C4	2.92	0.57
13:AM:11:ASP:CG	13:AM:12:HIS:N	2.57	0.57
18:CR:72:ASP:C	18:CR:73:ARG:HG2	2.25	0.57
22:DA:2267:A:H5''	22:DA:2268:A:C5'	2.34	0.57
9:CI:57:MET:SD	9:CI:58:VAL:N	2.76	0.57
22:BA:322:A:C5	22:BA:340:A:C2	2.92	0.57
22:DA:945:A:C8	22:DA:2448:A:C2	2.91	0.57
10:AJ:33:GLY:O	10:AJ:34:ALA:CB	2.52	0.57
41:DT:39:THR:O	41:DT:41:ALA:N	2.38	0.57
1:AA:1288:A:C6	1:AA:1289:A:C5	2.91	0.57
22:DA:2822:G:H2'	22:DA:2823:A:H5''	1.86	0.57
35:DN:117:ASP:O	35:DN:118:ARG:HG3	2.04	0.57
1:AA:135:C:N3	16:AP:1:MET:N	2.52	0.57
22:DA:1823:G:N7	57:DA:3651:HOH:O	2.37	0.57
22:DA:1199:U:H2'	22:DA:1200:C:C6	2.39	0.57
29:DH:108:VAL:O	29:DH:110:VAL:N	2.36	0.57
22:BA:686:U:H2'	22:BA:788:A:N1	2.19	0.57
22:BA:989:G:C8	47:BZ:14:ILE:HD11	2.39	0.57
33:BL:85:VAL:CG1	33:BL:94:THR:HG22	2.33	0.57
24:DC:251:GLN:HG2	24:DC:255:LYS:HB2	1.84	0.57
22:DA:864:G:C6	22:DA:865:C:N4	2.72	0.57
26:BE:21:ARG:HD3	26:BE:106:LYS:HB3	1.86	0.57
3:CC:42:TYR:CZ	3:CC:46:GLU:HG3	2.39	0.57
13:CM:10:PRO:O	13:CM:11:ASP:CB	2.52	0.57
2:AB:103:ASN:O	2:AB:106:THR:N	2.37	0.57
1:AA:1141:C:O2'	1:AA:1142:G:P	2.62	0.57
1:AA:1141:C:O2'	1:AA:1142:G:O5'	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2824:C:N4	22:DA:2825:G:N7	2.52	0.57
22:DA:1401:G:C5	22:DA:1402:U:C5	2.92	0.57
16:AP:79:ASN:O	16:AP:80:LYS:HB2	2.04	0.57
22:BA:700:G:O2'	22:BA:1632:A:N3	2.33	0.57
22:BA:2584:U:H2'	22:BA:2585:U:H2'	1.86	0.57
22:DA:1847:A:O2'	22:DA:1848:A:C8	2.57	0.57
1:AA:1310:G:OP2	13:AM:87:ARG:NH2	2.37	0.57
29:DH:62:LEU:C	29:DH:62:LEU:HD13	2.25	0.57
2:AB:88:ASP:C	2:AB:89:GLN:HG3	2.23	0.57
22:DA:225:C:H2'	22:DA:226:A:O4'	2.03	0.57
1:CA:994:A:N3	1:CA:994:A:H2'	2.19	0.57
22:DA:526:A:C6	22:DA:2626:C:H4'	2.39	0.57
36:BO:66:GLY:HA2	36:BO:102:ARG:NH2	2.19	0.57
22:DA:2683:C:OP1	37:DP:51:ARG:NH2	2.37	0.57
22:BA:2318:G:C6	22:BA:2319:G:N1	2.72	0.57
1:AA:208:U:C5	1:AA:210:C:N3	2.73	0.57
9:AI:35:LEU:HD11	9:AI:48:VAL:HG21	1.87	0.57
2:CB:210:VAL:O	2:CB:214:LEU:HB2	2.05	0.57
24:DC:61:ALA:O	24:DC:63:ARG:NH2	2.37	0.57
22:DA:2834:G:H2'	22:DA:2879:A:N6	2.20	0.57
1:CA:1181:G:O2'	1:CA:1182:G:C8	2.58	0.57
7:CG:151:PHE:O	7:CG:152:ALA:HB2	2.04	0.57
33:DL:59:ARG:CZ	33:DL:59:ARG:HB3	2.34	0.57
7:AG:79:ARG:NH1	7:AG:82:GLY:O	2.37	0.57
1:AA:596:A:C6	1:AA:645:G:C2	2.92	0.57
36:BO:87:ILE:O	36:BO:88:LYS:O	2.23	0.57
35:DN:117:ASP:O	35:DN:118:ARG:CB	2.52	0.57
32:BK:121:GLU:O	32:BK:122:VAL:OXT	2.21	0.57
24:BC:77:VAL:HG23	24:BC:114:ASP:O	2.03	0.57
39:BR:48:LYS:HG2	39:BR:48:LYS:O	2.02	0.57
22:BA:1474:U:H2'	22:BA:1475:G:H5'	1.86	0.57
39:BR:27:ILE:CG2	39:BR:63:VAL:HG21	2.34	0.57
22:BA:877:A:O2'	22:BA:900:A:N6	2.35	0.57
22:DA:1774:C:O2	24:DC:11:PRO:HB2	2.03	0.57
5:CE:104:GLY:O	5:CE:105:ILE:HG22	2.04	0.57
2:CB:21:ARG:HA	2:CB:21:ARG:NH1	2.20	0.57
24:DC:72:ASP:HA	24:DC:118:SER:O	2.04	0.57
16:AP:10:GLY:HA3	16:AP:15:PRO:HA	1.86	0.57
29:DH:117:LEU:HB3	29:DH:120:GLY:O	2.05	0.57
21:AU:12:PHE:N	21:AU:12:PHE:CD1	2.72	0.57
24:DC:136:PRO:O	24:DC:139:SER:OG	2.18	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:192:C:O2'	22:DA:802:A:N3	2.36	0.57
17:AQ:49:GLU:O	17:AQ:50:ASN:OD1	2.21	0.57
22:DA:2262:U:H1'	22:DA:2328:A:H1'	1.86	0.57
22:BA:186:G:O2'	22:BA:187:G:H5'	2.04	0.57
1:CA:1084:G:C5	1:CA:1085:U:C4	2.92	0.57
1:CA:1179:A:O3'	9:CI:105:THR:OG1	2.22	0.57
4:AD:65:TYR:CG	4:AD:94:LEU:HD22	2.38	0.57
3:AC:11:ARG:O	3:AC:14:ILE:N	2.37	0.57
23:BB:28:C:OP1	36:BO:31:THR:HG21	2.03	0.57
22:DA:2125:G:H5'	22:DA:2126:A:OP2	2.04	0.57
1:AA:1145:A:O2'	1:AA:1146:A:C5'	2.51	0.57
22:DA:2683:C:H4'	25:DD:13:ARG:NH1	2.18	0.57
1:AA:71:A:O2'	1:AA:72:A:P	2.63	0.57
22:DA:1638:C:H4'	22:DA:2710:C:O2	2.05	0.57
22:DA:2379:G:H4'	36:DO:21:LEU:HD11	1.85	0.57
2:AB:106:THR:O	2:AB:107:VAL:CB	2.52	0.57
41:DT:44:LYS:O	41:DT:48:GLN:HG2	2.04	0.57
42:DU:98:SER:O	42:DU:99:ASN:HB3	2.03	0.57
22:DA:2474:U:H5''	22:DA:2475:C:OP2	2.04	0.57
7:CG:145:ALA:O	7:CG:146:GLU:HB2	2.04	0.57
22:DA:836:G:C5	22:DA:837:C:C4	2.92	0.57
27:BF:67:ILE:HD12	27:BF:67:ILE:O	2.04	0.57
44:BW:38:VAL:HG23	44:BW:59:LEU:HB2	1.85	0.57
22:DA:484:C:N4	22:DA:497:A:C2	2.72	0.57
22:DA:577:G:O2'	22:DA:1254:A:OP1	2.22	0.57
39:BR:49:ILE:CB	39:BR:52:PRO:O	2.53	0.57
40:BS:63:GLY:O	40:BS:64:ALA:CB	2.53	0.57
1:AA:315:A:O2'	1:AA:330:C:H4'	2.04	0.57
39:BR:46:GLU:O	39:BR:46:GLU:OE1	2.22	0.57
9:AI:36:GLU:HA	9:AI:40:GLY:HA3	1.86	0.57
22:BA:947:A:O2'	22:BA:984:A:H2	1.86	0.57
22:DA:595:C:O2	22:DA:663:G:C2	2.58	0.57
22:BA:588:U:H2'	22:BA:589:U:C6	2.39	0.57
22:DA:2272:U:H5''	22:DA:2273:A:OP1	2.04	0.57
1:AA:1126:U:O4'	1:AA:1281:C:O2	2.23	0.57
27:BF:34:ILE:HD11	27:BF:96:MET:HG3	1.87	0.57
30:BI:16:GLY:CA	30:BI:51:LYS:HB3	2.35	0.57
22:BA:2694:G:C2	22:BA:2695:U:C2	2.93	0.57
2:AB:93:ASN:OD1	2:AB:94:HIS:ND1	2.38	0.57
51:D3:31:HIS:ND1	51:D3:32:ILE:HG13	2.19	0.57
22:BA:1688:U:H1'	22:BA:1701:A:C6	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BF:5:HIS:O	27:BF:8:TYR:HB3	2.05	0.57
29:BH:95:GLY:HA2	29:BH:117:LEU:HD22	1.87	0.57
29:DH:21:VAL:HG22	29:DH:22:LYS:N	2.19	0.57
1:CA:990:C:C4	1:CA:991:U:O4	2.57	0.57
3:AC:6:HIS:CD2	3:AC:7:PRO:HD2	2.39	0.57
1:AA:89:U:O2'	1:AA:90:C:H5''	2.05	0.57
22:DA:161:A:C3'	22:DA:162:U:H5''	2.34	0.57
22:DA:1808:A:H3'	22:DA:1809:A:C8	2.39	0.57
22:DA:649:G:H2'	22:DA:650:C:C6	2.40	0.57
46:BY:22:LEU:O	46:BY:23:ARG:C	2.43	0.57
1:CA:456:A:C6	1:CA:457:G:C5	2.92	0.57
22:DA:38:A:C2	22:DA:442:G:C6	2.93	0.57
22:DA:1323:C:N4	22:DA:1324:G:O6	2.37	0.57
22:DA:1171:G:C2	22:DA:1179:G:O6	2.58	0.57
22:BA:2636:C:H2'	22:BA:2637:U:C6	2.38	0.57
21:AU:10:GLU:HG3	21:AU:11:PRO:HD3	1.87	0.57
23:BB:54:G:H21	27:BF:26:MET:CE	2.17	0.57
15:CO:53:ARG:O	15:CO:56:LEU:HB3	2.05	0.57
22:DA:2511:U:C4	22:DA:2512:C:C4	2.93	0.57
22:DA:5:A:C2	22:DA:2899:A:C2	2.92	0.57
22:DA:1691:C:C4	22:DA:1692:U:C5	2.93	0.57
2:AB:187:VAL:HG23	2:AB:187:VAL:O	2.04	0.57
1:AA:389:A:C6	1:AA:390:U:H1'	2.39	0.57
35:BN:49:GLU:OE2	35:BN:95:THR:HG22	2.04	0.57
22:BA:372:G:O2'	22:BA:400:G:O6	2.19	0.57
22:DA:1272:A:C5	22:DA:1618:A:H1'	2.39	0.57
22:BA:1584:U:H2'	22:BA:1584:U:O2	2.04	0.57
1:CA:4:U:H5''	1:CA:5:U:OP1	2.05	0.57
12:CL:51:LYS:N	12:CL:51:LYS:HD2	2.19	0.57
22:DA:2199:A:C5	22:DA:2225:A:C6	2.93	0.57
6:AF:93:LYS:O	6:AF:93:LYS:HG2	2.04	0.57
22:DA:2216:G:H2'	22:DA:2217:G:C8	2.40	0.57
1:CA:197:A:O2'	1:CA:220:G:N2	2.38	0.57
22:DA:583:G:C6	22:DA:584:C:C4	2.93	0.57
53:B5:64:SER:O	53:B5:65:LEU:CB	2.52	0.57
1:AA:1160:G:O2'	1:AA:1161:C:P	2.63	0.57
22:BA:244:A:OP2	51:B3:8:ARG:NH2	2.30	0.57
4:AD:123:ILE:CD1	4:AD:123:ILE:N	2.67	0.57
4:AD:105:MET:HB2	4:AD:107:PHE:CE2	2.40	0.57
22:BA:1866:A:N1	22:BA:1876:A:C8	2.72	0.57
1:AA:1142:G:H2'	1:AA:1143:G:O4'	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1196:C:O4'	22:BA:1226:A:C2	2.58	0.57
3:AC:15:VAL:HG11	3:AC:179:ARG:O	2.05	0.57
11:CK:89:PRO:HD3	21:CU:29:LEU:CD1	2.34	0.57
2:CB:47:VAL:HB	2:CB:48:PRO:HD3	1.85	0.57
22:DA:2112:G:H2'	22:DA:2112:G:N3	2.20	0.57
1:AA:1441:A:H2'	1:AA:1442:G:O5'	2.04	0.57
1:CA:881:G:C6	1:CA:882:C:C4	2.93	0.57
29:BH:117:LEU:HD21	29:BH:121:VAL:CA	2.35	0.57
29:BH:132:PHE:CE2	29:BH:142:VAL:HG21	2.40	0.57
1:AA:90:C:H1'	1:AA:91:U:H5'	1.86	0.57
1:AA:451:A:H5''	16:AP:70:ARG:NH2	2.20	0.57
1:AA:261:U:C5	20:AT:74:ARG:NH1	2.72	0.57
22:DA:1566:A:N1	24:DC:213:TRP:CE3	2.73	0.57
25:BD:62:LYS:N	25:BD:63:PRO:CD	2.68	0.57
1:CA:728:A:C6	1:CA:729:A:C6	2.92	0.57
30:DI:58:VAL:O	30:DI:69:PHE:HB3	2.04	0.57
30:BI:19:ASN:N	30:BI:20:PRO:CD	2.68	0.57
1:CA:607:A:C2	1:CA:608:A:C4	2.93	0.57
32:BK:87:LEU:HD13	32:BK:92:GLU:HB3	1.87	0.57
22:DA:2349:G:OP1	51:D3:45:ARG:NH2	2.37	0.57
1:CA:679:C:O2	1:CA:712:A:C2	2.58	0.57
42:DU:33:LYS:HB3	42:DU:64:ALA:HB1	1.86	0.57
1:CA:1463:U:H2'	1:CA:1464:U:C6	2.39	0.57
22:DA:1080:A:N6	22:DA:1087:G:OP2	2.36	0.57
9:CI:54:LEU:O	9:CI:55:VAL:HG22	2.04	0.57
22:DA:720:U:H2'	22:DA:721:A:C8	2.39	0.57
22:DA:1731:G:C6	22:DA:1733:G:C5	2.93	0.57
22:DA:564:C:H1'	38:DQ:37:GLN:NE2	2.20	0.57
49:B1:32:GLU:OE2	49:B1:32:GLU:N	2.37	0.57
10:CJ:25:ILE:HD13	10:CJ:25:ILE:O	2.04	0.57
1:AA:901:A:N7	1:AA:902:G:H1'	2.18	0.57
29:BH:117:LEU:CD2	29:BH:121:VAL:H	2.08	0.57
22:DA:2199:A:C6	22:DA:2200:C:C2	2.92	0.57
22:DA:24:G:C6	22:DA:25:U:C4	2.93	0.57
22:DA:449:A:C5	22:DA:450:G:C8	2.93	0.57
22:BA:2452:C:C2	55:BA:3001:VIR:H131	2.39	0.57
6:AF:7:VAL:CG2	6:AF:7:VAL:O	2.50	0.57
9:AI:58:VAL:O	9:AI:59:GLU:CG	2.52	0.57
22:BA:1606:C:HO2'	22:BA:1607:C:P	2.27	0.57
22:BA:2520:C:O2'	22:BA:2521:C:H5'	2.05	0.57
4:CD:22:LYS:O	4:CD:23:SER:C	2.43	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:108:G:C6	20:AT:10:ARG:HG2	2.40	0.57
1:AA:203:G:N2	1:AA:215:C:C2	2.73	0.57
22:DA:945:A:C5	22:DA:2448:A:C2	2.93	0.57
22:DA:749:A:C4	22:DA:750:A:C8	2.93	0.57
36:BO:88:LYS:O	36:BO:89:ASP:HB2	2.05	0.57
22:BA:686:U:H4'	22:BA:687:C:OP2	2.05	0.57
1:AA:19:A:N3	1:AA:917:G:C2	2.72	0.57
22:BA:905:A:C6	22:BA:906:U:C5	2.93	0.57
31:DJ:105:VAL:HG12	31:DJ:109:LEU:HD12	1.87	0.57
22:DA:1627:G:C2	22:DA:1628:G:N7	2.73	0.57
5:CE:141:ILE:O	5:CE:143:GLY:N	2.38	0.57
22:DA:1390:U:H2'	22:DA:1391:U:H5'	1.87	0.57
12:AL:122:PRO:O	12:AL:124:ALA:N	2.38	0.57
1:CA:96:U:O2'	1:CA:97:G:P	2.63	0.57
2:AB:15:HIS:O	2:AB:16:PHE:C	2.42	0.57
22:BA:1433:A:O2'	22:BA:1434:A:H5'	2.05	0.57
1:AA:721:G:H4'	1:AA:722:G:O4'	2.05	0.57
22:DA:2624:G:H1'	48:D0:19:HIS:CE1	2.40	0.56
5:CE:106:ILE:HD11	5:CE:124:LEU:HD23	1.86	0.56
22:DA:2345:G:C5	22:DA:2347:C:C5	2.93	0.56
22:DA:187:G:N2	22:DA:210:C:C2	2.73	0.56
1:CA:35:G:O2'	12:CL:115:SER:O	2.20	0.56
1:AA:213:G:C8	1:AA:214:C:C5	2.93	0.56
1:CA:1161:C:O2	1:CA:1176:A:C2	2.58	0.56
22:BA:2345:G:C4	22:BA:2381:A:C2	2.93	0.56
1:AA:102:G:C2	1:AA:103:U:C5	2.93	0.56
1:AA:663:A:C2	1:AA:743:A:C2	2.93	0.56
1:CA:256:U:H2'	1:CA:257:G:O4'	2.04	0.56
26:BE:108:ILE:HD11	26:BE:180:LEU:HB3	1.87	0.56
22:DA:532:A:N3	22:DA:532:A:H2'	2.20	0.56
24:BC:76:ALA:HB2	24:BC:96:TYR:CD2	2.40	0.56
27:DF:5:HIS:HB2	27:DF:97:TRP:CG	2.40	0.56
22:DA:2297:A:N1	22:DA:2321:U:C5	2.73	0.56
37:DP:103:ARG:HB3	37:DP:108:ALA:HB2	1.87	0.56
42:DU:45:HIS:HB3	42:DU:58:ILE:HG12	1.87	0.56
1:AA:8:A:C6	4:AD:206:LYS:HB3	2.40	0.56
22:DA:2308:G:C5'	22:DA:2309:A:OP2	2.53	0.56
1:AA:119:A:C2	1:AA:240:G:C8	2.93	0.56
29:BH:123:ARG:NH2	1:CA:367:U:C5'	2.68	0.56
22:DA:2199:A:C1'	29:DH:28:ASN:HD22	2.00	0.56
1:AA:874:G:C6	1:AA:875:U:C4	2.93	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:994:A:C8	1:CA:1216:A:H4'	2.40	0.56
21:CU:36:GLU:OE1	21:CU:36:GLU:HA	2.05	0.56
22:BA:2452:C:C4	22:BA:2453:A:C6	2.93	0.56
39:BR:49:ILE:C	39:BR:51:VAL:O	2.44	0.56
22:DA:2261:C:C2	22:DA:2280:G:C2	2.92	0.56
2:CB:54:LEU:HD12	2:CB:220:THR:HG21	1.86	0.56
22:DA:1020:A:C2	22:DA:1141:U:C2	2.93	0.56
1:AA:1315:U:O4	1:AA:1316:G:C6	2.58	0.56
6:CF:22:ILE:O	6:CF:26:THR:OG1	2.23	0.56
7:AG:97:ASN:HA	7:AG:100:ALA:HB3	1.87	0.56
17:CQ:69:LYS:O	17:CQ:70:THR:CB	2.53	0.56
1:AA:843:U:OP1	1:AA:846:G:N2	2.38	0.56
22:BA:1730:C:O2'	22:BA:1731:G:C4	2.50	0.56
22:BA:536:G:C6	22:BA:537:G:C4	2.94	0.56
18:CR:33:ILE:HA	18:CR:40:VAL:HG23	1.86	0.56
1:CA:1095:U:P	57:CA:1855:HOH:O	2.62	0.56
22:BA:1750:G:C6	22:BA:1751:U:C4	2.92	0.56
22:DA:634:C:H2'	22:DA:635:C:C6	2.40	0.56
1:AA:402:G:C5	1:AA:403:C:C5	2.94	0.56
22:BA:2355:G:O3'	44:BW:24:LYS:NZ	2.38	0.56
1:CA:1299:A:O2'	1:CA:1301:U:O4'	2.21	0.56
38:DQ:102:ASP:OD2	39:DR:2:TYR:OH	2.18	0.56
22:BA:682:G:H5'	50:B2:26:ASN:OD1	2.05	0.56
9:AI:61:LEU:N	9:AI:61:LEU:CD2	2.68	0.56
22:DA:1773:A:N7	22:DA:1829:A:H1'	2.19	0.56
2:AB:21:ARG:HA	2:AB:21:ARG:CZ	2.35	0.56
27:DF:122:PHE:CE1	27:DF:166:GLY:HA3	2.40	0.56
22:DA:514:A:C2	22:DA:515:A:C4	2.93	0.56
37:BP:52:ASN:O	37:BP:53:ARG:HD3	2.05	0.56
22:DA:570:G:H2'	22:DA:571:U:H5'	1.86	0.56
22:BA:479:A:H4'	22:BA:480:A:OP1	2.04	0.56
13:AM:16:VAL:HG13	13:AM:41:GLU:HB2	1.88	0.56
12:AL:21:VAL:CG2	12:AL:95:TYR:CE2	2.88	0.56
22:DA:2142:A:N6	22:DA:2143:C:N4	2.53	0.56
17:CQ:14:SER:C	17:CQ:17:MET:HE1	2.25	0.56
22:DA:1594:U:H2'	22:DA:1595:C:C6	2.41	0.56
22:BA:26:G:H1'	22:BA:514:A:N6	2.20	0.56
22:BA:2192:U:C4	22:BA:2193:G:C8	2.94	0.56
22:DA:1091:G:N3	22:DA:1092:C:C5	2.74	0.56
22:BA:1923:U:O2'	22:BA:1924:C:H5'	2.06	0.56
17:AQ:12:VAL:O	17:AQ:13:VAL:HB	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CD:29:ASP:C	4:CD:31:LYS:H	2.08	0.56
22:DA:301:G:H1'	22:DA:302:C:C6	2.40	0.56
22:DA:247:G:OP2	22:DA:249:C:N4	2.37	0.56
1:CA:369:G:OP2	1:CA:388:G:N1	2.34	0.56
6:CF:88:MET:SD	6:CF:90:MET:SD	3.03	0.56
30:DI:28:LEU:HD13	30:DI:38:PHE:CD2	2.40	0.56
1:AA:990:C:N3	1:AA:991:U:C4	2.73	0.56
5:AE:137:VAL:O	5:AE:137:VAL:HG22	2.05	0.56
4:AD:155:VAL:HG11	4:AD:178:MET:HE1	1.87	0.56
22:BA:1106:G:C2	22:BA:1107:G:C8	2.94	0.56
6:AF:39:LEU:O	6:AF:40:GLU:HG3	2.05	0.56
1:AA:1126:U:C6	1:AA:1281:C:N3	2.74	0.56
46:DY:27:ASN:HA	46:DY:30:MET:HB2	1.87	0.56
4:AD:70:ARG:O	4:AD:74:ASN:OD1	2.23	0.56
22:BA:2052:A:H4'	25:BD:148:GLN:O	2.03	0.56
5:CE:154:ALA:HA	5:CE:157:ARG:HB3	1.85	0.56
22:BA:120:U:P	57:BA:3216:HOH:O	2.64	0.56
22:BA:417:C:H2'	22:BA:418:C:H6	1.70	0.56
12:CL:40:THR:HG22	12:CL:41:THR:N	2.20	0.56
27:DF:46:ASP:N	27:DF:46:ASP:OD1	2.39	0.56
36:BO:43:ASN:OD1	36:BO:45:SER:N	2.35	0.56
13:CM:6:GLY:O	13:CM:8:ASN:N	2.38	0.56
22:DA:771:G:C2	22:DA:772:C:C6	2.93	0.56
22:DA:2478:A:C8	22:DA:2529:G:C5	2.94	0.56
1:CA:436:C:C2	1:CA:437:U:C5	2.94	0.56
42:DU:95:PHE:HA	42:DU:102:THR:HA	1.88	0.56
1:CA:355:C:H2'	1:CA:356:A:O4'	2.06	0.56
45:DX:78:TYR:CD1	45:DX:78:TYR:OXT	2.58	0.56
22:BA:102:U:C2	46:BY:2:LYS:HE3	2.40	0.56
22:BA:2444:G:OP2	26:BE:63:LYS:CD	2.53	0.56
22:BA:958:U:OP2	34:BM:14:LYS:HE2	2.04	0.56
29:DH:83:LYS:N	29:DH:149:GLU:HG2	2.20	0.56
1:CA:401:C:OP2	4:CD:70:ARG:HD3	2.05	0.56
22:DA:1343:G:H1'	22:DA:1597:A:C4	2.40	0.56
27:BF:132:VAL:CG2	27:BF:152:LEU:HB2	2.34	0.56
14:AN:52:PRO:O	14:AN:53:ARG:CB	2.53	0.56
2:AB:104:TRP:CZ2	2:AB:154:MET:HB3	2.41	0.56
22:DA:1676:A:H2'	22:DA:1677:A:O4'	2.05	0.56
15:CO:14:GLU:O	15:CO:84:ARG:NH2	2.39	0.56
26:DE:52:VAL:HG21	26:DE:81:GLY:HA2	1.86	0.56
22:DA:1411:U:H2'	22:DA:1412:U:O4'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:DY:18:LEU:O	46:DY:22:LEU:CB	2.52	0.56
19:AS:44:MET:HA	19:AS:47:LEU:HD12	1.86	0.56
36:DO:2:ASP:O	36:DO:6:ALA:HB2	2.06	0.56
30:BI:57:VAL:HG22	30:BI:58:VAL:N	2.21	0.56
22:DA:627:A:OP1	33:DL:78:ARG:NH1	2.38	0.56
2:CB:183:VAL:N	2:CB:197:ASP:OD1	2.38	0.56
24:BC:52:ARG:HB2	24:BC:53:HIS:CD2	2.39	0.56
5:AE:108:GLY:O	5:AE:109:GLY:C	2.43	0.56
33:BL:64:PHE:CD1	51:B3:47:LYS:HE2	2.39	0.56
29:BH:89:LYS:CG	1:CA:359:G:OP1	2.53	0.56
40:BS:84:ARG:HB2	40:BS:96:ILE:CG1	2.36	0.56
22:BA:1801:A:N7	24:BC:262:ARG:NH2	2.53	0.56
22:DA:289:G:N2	22:DA:352:A:C2	2.73	0.56
41:BT:16:VAL:O	41:BT:17:SER:HB3	2.06	0.56
1:AA:157:U:C2'	1:AA:158:G:H5'	2.36	0.56
4:AD:150:LYS:O	4:AD:151:LYS:C	2.44	0.56
22:BA:1246:A:H2'	22:BA:1247:A:O5'	2.06	0.56
2:AB:166:ALA:HB2	2:AB:187:VAL:HG12	1.87	0.56
36:DO:26:LEU:HD23	36:DO:117:PHE:CE2	2.41	0.56
10:AJ:81:GLU:O	10:AJ:84:VAL:HG12	2.04	0.56
22:BA:2267:A:H5''	22:BA:2268:A:H5'	1.88	0.56
22:DA:1581:G:C6	22:DA:1582:C:C4	2.93	0.56
23:BB:91:C:OP2	34:BM:18:ARG:HG2	2.05	0.56
11:AK:23:ILE:O	11:AK:23:ILE:HG13	2.04	0.56
22:DA:2392:A:C8	22:DA:2429:G:C2	2.94	0.56
40:DS:29:VAL:CG1	40:DS:55:ILE:HD11	2.34	0.56
22:DA:2094:A:H5''	29:DH:25:TYR:CD2	2.41	0.56
1:AA:913:A:OP1	12:AL:88:LYS:NZ	2.34	0.56
22:DA:26:G:C6	22:DA:27:G:N1	2.74	0.56
22:BA:2318:G:C6	22:BA:2319:G:C6	2.94	0.56
27:BF:108:VAL:N	27:BF:109:PRO:HD2	2.21	0.56
22:DA:2796:U:O4	22:DA:2798:U:C4	2.58	0.56
22:DA:1965:C:OP1	22:DA:1966:A:C2'	2.54	0.56
10:CJ:88:MET:O	10:CJ:89:ARG:CB	2.53	0.56
2:AB:41:ILE:HG21	2:AB:202:GLY:HA2	1.88	0.56
36:BO:43:ASN:OD1	36:BO:45:SER:HB2	2.04	0.56
5:AE:109:GLY:O	5:AE:110:ALA:HB2	2.06	0.56
3:AC:155:GLY:HA2	3:AC:163:ALA:HB1	1.88	0.56
22:DA:2552:U:C2	22:DA:2554:U:H5'	2.41	0.56
1:AA:587:G:C2	1:AA:755:G:C5	2.93	0.56
24:BC:40:SER:C	24:BC:42:GLY:H	2.08	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BG:109:PHE:HE1	28:BG:152:ARG:CZ	2.17	0.56
22:DA:1736:U:H2'	22:DA:1737:G:O4'	2.05	0.56
27:BF:23:ASN:N	27:BF:23:ASN:OD1	2.39	0.56
33:DL:50:PHE:CZ	33:DL:52:GLY:O	2.59	0.56
1:AA:1493:A:C8	1:AA:1493:A:OP2	2.58	0.56
1:CA:995:C:N3	1:CA:1046:A:O2'	2.39	0.56
22:DA:2146:C:H5''	22:DA:2147:A:OP1	2.06	0.56
2:CB:16:PHE:CZ	2:CB:18:HIS:CE1	2.94	0.56
1:AA:64:G:C8	1:AA:99:C:C4	2.93	0.56
22:BA:1452:G:C4	22:BA:2702:G:C6	2.93	0.56
12:AL:44:LYS:CB	12:AL:45:PRO:HD3	2.35	0.56
22:DA:1068:G:N3	22:DA:1068:G:H2'	2.20	0.56
29:BH:97:ARG:HD2	1:CA:369:G:O2'	2.06	0.56
22:DA:1828:G:P	57:DA:3450:HOH:O	2.63	0.56
1:AA:1378:C:C2'	1:AA:1379:G:O5'	2.54	0.56
2:AB:67:ILE:HG21	2:AB:69:PHE:CE1	2.40	0.56
22:BA:2694:G:C6	22:BA:2695:U:N3	2.74	0.56
10:AJ:36:VAL:HG12	10:AJ:36:VAL:O	2.05	0.56
29:BH:40:THR:OG1	29:BH:43:ASN:OD1	2.24	0.56
6:CF:9:MET:HB2	6:CF:85:ILE:HG13	1.87	0.56
20:AT:55:GLN:N	20:AT:56:PRO:HD2	2.21	0.56
22:BA:455:C:N3	22:BA:472:A:H2'	2.20	0.56
22:DA:15:G:OP2	57:DA:3545:HOH:O	2.17	0.56
22:DA:271:G:H4'	22:DA:272:A:OP1	2.04	0.56
1:CA:477:C:H2'	1:CA:478:A:C8	2.41	0.56
28:DG:27:LYS:O	28:DG:27:LYS:HG3	2.04	0.56
1:CA:844:G:O4'	1:CA:844:G:P	2.64	0.56
22:BA:1796:U:H2'	22:BA:1797:G:H8	1.71	0.56
22:BA:1157:G:N2	22:BA:1158:C:C2	2.74	0.56
2:AB:21:ARG:NE	2:AB:21:ARG:HA	2.20	0.56
22:BA:198:C:P	57:BA:3766:HOH:O	2.60	0.56
22:BA:1180:U:H2'	22:BA:1181:U:H5'	1.86	0.56
22:BA:1061:U:H3'	22:BA:1062:G:H5'	1.87	0.56
22:DA:1361:G:C2	22:DA:1362:C:C6	2.94	0.56
1:CA:938:A:N6	1:CA:939:G:C6	2.74	0.56
1:CA:552:U:C2	1:CA:553:A:C8	2.93	0.56
5:AE:82:GLN:H	5:AE:147:MET:HE1	1.71	0.56
42:DU:72:ILE:HD11	42:DU:83:VAL:HG23	1.87	0.56
2:CB:91:PHE:O	2:CB:150:GLY:HA3	2.05	0.56
22:DA:2164:C:H5''	22:DA:2165:C:C5	2.41	0.56
22:DA:1826:G:C6	22:DA:1827:U:C4	2.93	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:DI:6:GLN:O	30:DI:7:ALA:HB3	2.06	0.56
41:DT:38:ALA:O	41:DT:39:THR:HB	2.06	0.56
23:DB:71:C:H2'	23:DB:72:G:H5'	1.87	0.56
1:AA:39:G:C2	1:AA:40:C:C6	2.93	0.56
22:DA:147:C:N4	22:DA:148:U:O4	2.39	0.56
1:AA:896:C:O2'	1:AA:897:C:H5'	2.05	0.56
22:BA:1095:A:H2'	22:BA:1096:A:C8	2.40	0.56
31:BJ:30:THR:CG2	31:BJ:31:GLU:N	2.69	0.56
22:DA:2734:A:N6	22:DA:2770:G:O2'	2.37	0.56
2:CB:163:VAL:HG23	2:CB:185:ALA:HB2	1.86	0.56
52:D4:16:ILE:HD13	52:D4:25:VAL:HG22	1.87	0.56
22:BA:1180:U:C2'	22:BA:1181:U:H5'	2.36	0.56
2:CB:15:HIS:ND1	2:CB:15:HIS:C	2.58	0.56
1:AA:1023:U:H2'	1:AA:1024:G:C8	2.41	0.56
22:BA:511:U:O4	22:BA:512:G:N1	2.39	0.56
22:DA:2091:C:C3'	22:DA:2092:U:H5''	2.35	0.56
4:AD:25:VAL:HG12	4:AD:26:ARG:N	2.21	0.56
1:AA:254:G:OP1	17:AQ:68:SER:OG	2.23	0.56
22:BA:1747:U:H2'	22:BA:1748:C:C6	2.40	0.56
10:AJ:57:VAL:O	10:AJ:58:ASN:HB2	2.06	0.56
26:BE:18:THR:HA	26:BE:106:LYS:HG2	1.88	0.56
1:AA:1130:A:O3'	9:AI:5:GLN:NE2	2.39	0.56
22:DA:1993:U:H4'	25:DD:133:THR:CG2	2.36	0.56
2:AB:28:LYS:N	2:AB:29:PRO:CD	2.69	0.56
1:AA:560:A:H5'	1:AA:566:G:N2	2.21	0.56
2:AB:203:ASN:OD1	2:AB:204:ASP:N	2.39	0.56
22:DA:341:C:H2'	22:DA:342:A:C8	2.41	0.56
11:CK:64:GLN:O	11:CK:68:GLU:HG3	2.06	0.56
2:AB:111:ILE:N	2:AB:111:ILE:HD13	2.21	0.56
8:CH:86:TYR:O	8:CH:87:LYS:HD2	2.05	0.56
1:AA:340:U:H2'	1:AA:341:C:H6	1.71	0.56
1:AA:1173:U:H2'	1:AA:1174:G:C8	2.41	0.56
4:AD:83:LYS:HD3	4:AD:84:GLY:N	2.20	0.56
22:BA:137:U:H2'	22:BA:140:C:C2	2.40	0.56
1:CA:328:C:H4'	1:CA:329:A:H5''	1.88	0.56
22:BA:2198:A:C2	29:BH:29:PHE:HB2	2.41	0.56
29:BH:123:ARG:NH1	1:CA:367:U:OP2	2.39	0.56
1:CA:1072:G:C5	1:CA:1073:U:C4	2.93	0.56
17:CQ:16:LYS:C	17:CQ:17:MET:SD	2.84	0.56
1:CA:519:C:OP2	12:CL:47:SER:OG	2.23	0.56
22:DA:2683:C:OP1	37:DP:56:HIS:HB3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:185:G:N1	22:DA:212:G:C2	2.73	0.56
22:DA:2843:G:N2	22:DA:2875:C:N3	2.54	0.56
22:BA:2800:A:H3'	22:BA:2801:G:C5'	2.35	0.56
11:AK:126:LYS:HA	21:AU:34:ARG:NH2	2.20	0.56
9:AI:57:MET:N	9:AI:57:MET:SD	2.78	0.56
22:BA:2192:U:C4	22:BA:2193:G:N7	2.74	0.56
13:AM:29:ARG:NH1	13:AM:63:PHE:HB2	2.20	0.56
12:CL:74:LEU:HD21	12:CL:104:CYS:SG	2.46	0.56
1:CA:411:A:C5	1:CA:429:U:C5	2.94	0.56
22:BA:2345:G:C5	22:BA:2381:A:C2	2.94	0.56
17:CQ:52:GLU:HG2	17:CQ:53:CYS:H	1.71	0.56
5:AE:136:VAL:HG22	5:AE:137:VAL:N	2.20	0.56
22:DA:1313:U:H4'	22:DA:1332:G:H4'	1.88	0.56
42:DU:13:VAL:HG21	42:DU:39:ILE:CG2	2.36	0.56
16:AP:61:VAL:CG2	16:AP:67:ILE:HD11	2.36	0.56
30:DI:10:LYS:HB2	30:DI:56:PRO:HB3	1.88	0.56
53:B5:125:GLY:O	53:B5:126:SER:CB	2.53	0.56
22:BA:1198:U:H2'	22:BA:1199:U:C6	2.41	0.56
22:BA:388:G:N7	22:BA:390:U:H2'	2.21	0.56
12:AL:3:THR:HG22	12:AL:4:VAL:N	2.21	0.56
12:CL:29:GLN:O	12:CL:30:LYS:HG2	2.06	0.56
47:DZ:52:SER:HA	47:DZ:55:VAL:HG22	1.88	0.56
22:BA:1678:A:C2'	22:BA:1679:A:H5'	2.36	0.56
22:DA:457:A:N1	22:DA:470:A:H5''	2.21	0.56
25:BD:39:ASP:CG	25:BD:40:LEU:N	2.60	0.56
28:DG:86:LYS:HB3	28:DG:165:ALA:HB3	1.86	0.56
6:AF:16:GLU:OE2	4:CD:188:ARG:NH1	2.39	0.56
22:DA:2250:G:H8	22:DA:2250:G:O5'	1.89	0.56
22:DA:276:U:H2'	22:DA:276:U:O2	2.06	0.56
22:DA:2093:G:O2'	22:DA:2094:A:H5'	2.06	0.55
12:AL:21:VAL:O	12:AL:21:VAL:HG13	2.06	0.55
13:CM:14:HIS:HB2	13:CM:17:ILE:CD1	2.36	0.55
1:CA:170:U:O2'	1:CA:171:A:H5'	2.05	0.55
36:DO:100:HIS:CG	36:DO:101:GLY:N	2.74	0.55
1:AA:1053:G:C4'	1:AA:1054:C:H5'	2.35	0.55
46:BY:18:LEU:O	46:BY:22:LEU:CB	2.54	0.55
16:AP:78:VAL:O	16:AP:78:VAL:HG13	2.04	0.55
2:AB:147:SER:O	2:AB:148:LEU:CB	2.54	0.55
1:AA:1264:U:O2	1:AA:1272:G:C2	2.59	0.55
11:CK:19:GLY:O	11:CK:82:LEU:HA	2.06	0.55
1:AA:499:A:H4'	1:AA:500:G:OP1	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:18:VAL:N	6:AF:19:PRO:HD2	2.20	0.55
22:BA:1593:A:H2'	22:BA:1594:U:O4'	2.05	0.55
22:DA:1833:C:C4	22:DA:1834:U:C4	2.94	0.55
22:BA:2076:U:O4'	22:BA:2076:U:O2	2.23	0.55
36:BO:33:ARG:HG2	36:BO:33:ARG:O	2.06	0.55
3:AC:97:VAL:HB	3:AC:98:PRO:HD2	1.87	0.55
35:BN:9:GLN:O	35:BN:11:ASN:N	2.39	0.55
1:AA:577:G:C8	1:AA:816:A:C6	2.94	0.55
22:DA:571:U:C4	22:DA:575:A:C5	2.94	0.55
1:CA:1316:G:N2	1:CA:1318:A:H3'	2.22	0.55
1:AA:259:G:N2	1:AA:260:G:H1'	2.21	0.55
22:DA:1362:C:C2'	22:DA:1363:C:H5'	2.37	0.55
39:DR:81:LYS:O	39:DR:82:HIS:C	2.44	0.55
22:BA:1922:G:N3	22:BA:1922:G:H2'	2.21	0.55
50:B2:43:THR:O	50:B2:44:VAL:CG1	2.53	0.55
22:BA:2328:A:H2'	22:BA:2329:U:C6	2.41	0.55
22:DA:247:G:N7	22:DA:249:C:C2	2.74	0.55
5:AE:144:LEU:O	5:AE:147:MET:HB3	2.06	0.55
1:CA:457:G:N2	1:CA:476:U:C2	2.74	0.55
22:DA:40:U:H2'	22:DA:41:C:C6	2.41	0.55
22:DA:2681:C:C2	22:DA:2724:U:O4	2.59	0.55
22:BA:1720:U:H2'	22:BA:1721:G:O4'	2.06	0.55
1:CA:1486:G:H2'	1:CA:1487:G:O4'	2.05	0.55
1:CA:1288:A:N6	1:CA:1289:A:N6	2.55	0.55
4:CD:197:GLU:O	4:CD:201:VAL:HG23	2.06	0.55
22:BA:18:U:O3'	38:BQ:23:GLY:HA2	2.06	0.55
11:CK:23:ILE:HD11	11:CK:86:VAL:HG13	1.88	0.55
22:DA:600:G:C5	22:DA:601:C:C4	2.94	0.55
7:AG:64:VAL:O	7:AG:68:ASN:ND2	2.39	0.55
1:CA:642:A:C5	8:CH:107:SER:HA	2.41	0.55
1:CA:121:U:H3'	1:CA:122:G:H5'	1.88	0.55
38:DQ:79:PHE:CZ	38:DQ:83:LEU:HD11	2.41	0.55
20:CT:48:GLN:O	20:CT:52:ASN:ND2	2.39	0.55
22:BA:1028:A:N6	22:BA:1125:G:H2'	2.21	0.55
38:BQ:19:LYS:O	38:BQ:22:LYS:HG3	2.06	0.55
25:DD:150:GLN:O	25:DD:150:GLN:HG3	2.06	0.55
22:DA:2550:G:C6	22:DA:2551:C:C4	2.95	0.55
1:CA:1361:G:H2'	1:CA:1362:A:H5''	1.87	0.55
1:CA:32:A:H2'	1:CA:32:A:N3	2.20	0.55
22:BA:1022:G:N2	22:BA:1142:A:C2	2.75	0.55
39:DR:49:ILE:CD1	39:DR:52:PRO:HA	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:CL:90:LEU:HB2	12:CL:93:VAL:CG2	2.36	0.55
25:BD:104:VAL:HG23	25:BD:105:LYS:N	2.21	0.55
22:BA:1084:A:C5	22:BA:1085:A:C6	2.95	0.55
1:CA:568:G:N2	1:CA:883:C:C2	2.75	0.55
30:BI:79:LEU:HD22	30:BI:109:ILE:HG22	1.88	0.55
1:CA:892:A:C5	1:CA:893:C:C5	2.95	0.55
27:BF:8:TYR:HA	27:BF:12:VAL:CG2	2.36	0.55
10:AJ:6:ILE:HD12	10:AJ:76:ILE:O	2.05	0.55
4:CD:90:LEU:CD2	4:CD:200:ILE:HD11	2.37	0.55
38:BQ:49:ASP:HA	38:BQ:52:GLN:HB2	1.87	0.55
37:DP:106:LYS:HD2	37:DP:109:ARG:CZ	2.37	0.55
8:CH:105:SER:O	8:CH:123:GLY:HA3	2.06	0.55
22:BA:70:G:H4'	22:BA:71:A:OP1	2.05	0.55
22:DA:2038:G:H2'	22:DA:2039:U:O4'	2.06	0.55
1:CA:130:A:C2	1:CA:264:C:N1	2.73	0.55
22:DA:2712:C:OP1	22:DA:2714:G:H4'	2.06	0.55
22:DA:1651:G:C6	22:DA:1652:A:C5	2.95	0.55
22:DA:49:A:N6	22:DA:177:G:C4	2.74	0.55
22:DA:52:A:N7	22:DA:117:G:N2	2.54	0.55
22:BA:998:C:H3'	57:BA:3363:HOH:O	2.05	0.55
22:DA:1356:G:N2	22:DA:1357:C:H1'	2.20	0.55
11:AK:34:ILE:HB	11:AK:74:VAL:HG11	1.88	0.55
6:CF:81:ASN:OD1	6:CF:81:ASN:C	2.44	0.55
22:DA:396:G:C1'	45:DX:29:PHE:HB3	2.36	0.55
22:BA:1926:U:O2	22:BA:1926:U:H2'	2.05	0.55
1:AA:1182:G:H4'	1:AA:1183:U:H5'	1.88	0.55
42:DU:4:LYS:O	42:DU:94:ARG:NH2	2.40	0.55
19:AS:3:ARG:O	19:AS:4:SER:CB	2.53	0.55
22:BA:1428:C:C5	22:BA:1569:A:C5'	2.89	0.55
4:CD:36:GLN:O	4:CD:37:ALA:HB2	2.07	0.55
22:DA:1226:A:OP1	38:DQ:16:LYS:NZ	2.39	0.55
22:DA:806:C:H2'	22:DA:807:U:C6	2.41	0.55
5:AE:153:VAL:O	5:AE:156:LYS:HB2	2.05	0.55
32:BK:40:LYS:NZ	32:BK:89:ASN:OD1	2.37	0.55
22:BA:851:C:H2'	22:BA:852:U:C6	2.41	0.55
23:BB:116:G:H4'	36:BO:54:VAL:HG13	1.89	0.55
16:AP:36:VAL:HG13	16:AP:36:VAL:O	2.06	0.55
43:BV:63:ILE:HD12	43:BV:72:VAL:HG21	1.88	0.55
22:BA:2681:C:C2	22:BA:2724:U:O4	2.60	0.55
22:BA:894:U:H2'	22:BA:895:U:C6	2.41	0.55
39:BR:14:VAL:HG13	39:BR:15:SER:N	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BH:86:ASP:O	29:BH:87:GLU:CB	2.53	0.55
1:CA:1006:G:H2'	1:CA:1007:U:C6	2.42	0.55
4:CD:32:CYS:O	4:CD:33:LYS:HB3	2.06	0.55
22:BA:2310:C:H2'	22:BA:2311:A:H5'	1.88	0.55
35:BN:79:LEU:O	35:BN:80:PHE:HB2	2.07	0.55
1:CA:833:G:C5	1:CA:834:U:C5	2.95	0.55
22:BA:2502:G:C5'	22:BA:2503:A:H5''	2.37	0.55
1:CA:1365:G:H2'	1:CA:1366:C:O4'	2.07	0.55
1:CA:968:A:C8	1:CA:1062:U:H4'	2.41	0.55
22:DA:2297:A:N1	22:DA:2321:U:H5	2.04	0.55
1:AA:152:A:N6	1:AA:170:U:C2	2.73	0.55
1:AA:1190:G:OP2	3:AC:5:VAL:HB	2.06	0.55
10:CJ:15:HIS:CE1	10:CJ:16:ARG:HD3	2.42	0.55
1:CA:1273:C:H2'	1:CA:1274:A:O4'	2.05	0.55
1:CA:563:A:H2'	1:CA:567:G:C8	2.41	0.55
40:DS:41:LYS:O	40:DS:42:LYS:C	2.43	0.55
11:CK:101:ASN:C	11:CK:101:ASN:OD1	2.45	0.55
1:CA:692:U:H1'	1:CA:695:A:N7	2.21	0.55
1:AA:1356:G:H2'	1:AA:1357:A:C8	2.42	0.55
1:CA:501:C:H1'	1:CA:549:C:H1'	1.88	0.55
29:BH:98:ASP:O	29:BH:102:ALA:HB3	2.07	0.55
22:BA:1912:A:C2	22:BA:1919:A:C4	2.94	0.55
1:CA:829:G:C6	1:CA:858:G:N2	2.75	0.55
31:DJ:80:HIS:O	31:DJ:81:ILE:C	2.45	0.55
38:BQ:89:GLU:H	39:BR:49:ILE:CD1	2.18	0.55
22:DA:1545:A:H2'	22:DA:1546:G:O4'	2.06	0.55
22:BA:2024:G:OP2	22:BA:2034:U:H4'	2.07	0.55
22:DA:1060:U:H4'	22:DA:1061:U:H5'	1.88	0.55
1:CA:184:G:N2	1:CA:185:U:C2	2.74	0.55
6:CF:97:THR:O	6:CF:98:GLU:CB	2.53	0.55
22:BA:587:C:N3	33:BL:33:ARG:NH2	2.54	0.55
8:AH:10:MET:O	8:AH:12:THR:N	2.40	0.55
35:BN:73:ASN:HA	35:BN:76:VAL:CG1	2.37	0.55
8:CH:89:LYS:HG3	8:CH:90:ASP:N	2.21	0.55
1:CA:455:G:N2	1:CA:478:A:C2	2.75	0.55
24:BC:15:HIS:O	24:BC:204:VAL:CG2	2.55	0.55
1:CA:154:U:C2	1:CA:168:G:N2	2.75	0.55
38:BQ:109:LEU:HD11	39:BR:40:MET:CE	2.36	0.55
22:DA:1838:C:C6	22:DA:1899:A:C6	2.95	0.55
33:DL:92:LEU:HA	33:DL:125:LEU:HD11	1.89	0.55
7:CG:83:SER:O	7:CG:85:TYR:N	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:DU:16:GLY:O	42:DU:17:LYS:HB2	2.06	0.55
1:CA:1417:G:C6	1:CA:1482:G:C6	2.95	0.55
1:AA:1418:A:C2	1:AA:1483:A:C2	2.94	0.55
4:CD:179:GLU:O	4:CD:179:GLU:HG3	2.05	0.55
42:BU:72:ILE:HD12	42:BU:72:ILE:O	2.07	0.55
24:BC:136:PRO:O	24:BC:139:SER:OG	2.15	0.55
38:DQ:98:ILE:HG22	38:DQ:106:PHE:HB2	1.89	0.55
16:AP:56:ARG:O	16:AP:59:HIS:N	2.39	0.55
22:DA:690:G:H1'	22:DA:779:U:O3'	2.06	0.55
22:DA:1109:C:H3'	22:DA:1110:G:C8	2.42	0.55
22:BA:1169:A:N1	22:BA:1180:U:O4	2.39	0.55
22:BA:1176:U:H2'	22:BA:1177:G:C4	2.42	0.55
12:CL:110:ARG:NH1	12:CL:112:GLN:O	2.40	0.55
1:AA:255:G:H4'	17:AQ:19:LYS:HD2	1.89	0.55
22:DA:45:G:O3'	22:DA:46:G:O4'	2.25	0.55
22:DA:1992:G:N2	22:DA:1996:C:O2'	2.40	0.55
1:AA:72:A:C2'	1:AA:73:C:H5'	2.37	0.55
21:AU:37:PHE:HB3	21:AU:41:PRO:HG3	1.87	0.55
22:DA:2214:C:C2	22:DA:2215:C:C6	2.95	0.55
22:DA:1526:C:N4	22:DA:1527:G:C6	2.75	0.55
22:BA:2887:A:H5'	22:BA:2888:C:OP2	2.06	0.55
25:DD:105:LYS:O	25:DD:177:VAL:HG12	2.07	0.55
24:DC:9:THR:O	24:DC:10:SER:OG	2.24	0.55
22:DA:2796:U:C4	22:DA:2798:U:C4	2.94	0.55
1:CA:1206:G:C6	1:CA:1207:G:C5	2.95	0.55
5:CE:65:GLU:OE2	5:CE:69:ARG:NH2	2.40	0.55
22:DA:503:A:C2	22:DA:506:G:C4	2.95	0.55
36:BO:76:LYS:HE3	36:BO:80:GLU:OE2	2.07	0.55
1:CA:1169:A:H2'	1:CA:1170:A:C8	2.42	0.55
22:DA:2466:C:OP1	52:D4:4:ARG:HB3	2.07	0.55
22:DA:2365:G:H4'	44:DW:60:PHE:CE2	2.41	0.55
22:DA:235:U:C4	22:DA:236:C:C5	2.94	0.55
2:AB:119:THR:O	2:AB:120:GLN:CB	2.54	0.55
26:BE:189:THR:O	26:BE:190:ALA:C	2.45	0.55
22:DA:1678:A:N7	22:DA:1679:A:N7	2.55	0.55
29:BH:121:VAL:N	29:BH:122:LEU:CA	2.69	0.55
29:BH:120:GLY:CA	29:BH:122:LEU:HA	2.37	0.55
29:BH:86:ASP:CB	1:CA:359:G:O2'	2.51	0.55
22:DA:445:C:O2'	22:DA:449:A:N3	2.38	0.55
22:BA:2191:A:C2	22:BA:2192:U:C4	2.93	0.55
4:AD:30:THR:C	4:AD:31:LYS:HD3	2.27	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AN:46:LEU:HD12	14:AN:46:LEU:C	2.27	0.55
22:DA:1530:G:C2	22:DA:1542:U:O2	2.60	0.55
4:CD:33:LYS:O	4:CD:33:LYS:HG2	2.05	0.55
22:DA:1208:C:C4	22:DA:1209:U:C5	2.95	0.55
8:AH:75:ILE:HD13	8:AH:129:VAL:HG22	1.89	0.55
1:AA:338:A:N1	1:AA:351:G:O6	2.40	0.55
1:CA:679:C:C2	1:CA:712:A:C2	2.95	0.55
26:DE:52:VAL:HG21	26:DE:81:GLY:CA	2.35	0.55
22:BA:18:U:OP1	38:BQ:30:ARG:NH2	2.39	0.55
1:AA:919:A:O2'	1:AA:920:U:H5'	2.07	0.55
21:AU:4:ILE:HA	21:AU:20:LYS:HE3	1.88	0.55
22:DA:2019:A:H4'	38:DQ:34:VAL:HG21	1.88	0.55
40:DS:46:LEU:O	40:DS:50:VAL:HG23	2.07	0.55
1:AA:1363:A:O2'	1:AA:1365:G:N7	2.36	0.55
22:DA:1027:A:N7	22:DA:1126:A:C2	2.75	0.55
2:CB:87:CYS:O	2:CB:89:GLN:N	2.39	0.55
29:BH:121:VAL:N	29:BH:122:LEU:CB	2.70	0.55
22:DA:2720:U:OP1	37:DP:53:ARG:NH2	2.39	0.55
22:DA:488:G:H2'	22:DA:489:G:H2'	1.89	0.55
1:AA:254:G:OP1	17:AQ:70:THR:CB	2.55	0.55
29:DH:31:VAL:HB	29:DH:32:PRO:HD3	1.89	0.55
22:BA:1422:G:C4	22:BA:1423:G:C8	2.95	0.55
35:DN:1:MET:CE	35:DN:1:MET:N	2.70	0.55
24:DC:68:LYS:HD3	24:DC:149:GLY:O	2.07	0.55
11:AK:51:GLY:O	11:AK:52:PHE:O	2.25	0.55
22:DA:847:U:O2	22:DA:847:U:H2'	2.06	0.55
1:CA:686:U:O2	1:CA:687:A:C8	2.59	0.55
24:BC:78:VAL:HG21	24:BC:110:LEU:CD2	2.36	0.55
1:AA:382:A:C2	1:AA:383:A:C4	2.94	0.55
12:CL:44:LYS:HB2	12:CL:45:PRO:HD3	1.89	0.55
22:BA:861:A:C2	22:BA:917:A:C4	2.95	0.55
22:DA:753:A:H2'	22:DA:754:U:C6	2.42	0.55
1:AA:760:G:N7	1:AA:761:G:C8	2.75	0.55
9:AI:86:ALA:C	9:AI:88:MET:N	2.61	0.55
4:AD:60:LYS:NZ	4:AD:194:ASP:O	2.40	0.55
22:DA:1532:A:C2	22:DA:1540:G:C6	2.95	0.55
29:BH:90:LEU:CD2	29:BH:93:SER:HA	2.36	0.55
25:DD:151:THR:HG22	25:DD:152:PRO:N	2.22	0.55
22:BA:1094:U:N3	22:BA:1097:U:OP2	2.39	0.55
22:BA:1509:A:HO2'	22:BA:1510:G:P	2.28	0.55
11:CK:127:ARG:HB2	21:CU:34:ARG:NH1	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2111:U:OP1	22:DA:2118:U:O2'	2.24	0.55
22:DA:449:A:N7	57:DA:3243:HOH:O	2.33	0.55
17:AQ:17:MET:O	17:AQ:19:LYS:N	2.40	0.55
23:DB:39:A:H2'	23:DB:40:U:C6	2.41	0.55
1:CA:66:A:H4'	1:CA:173:U:C5	2.42	0.55
17:AQ:69:LYS:O	17:AQ:70:THR:CB	2.54	0.55
22:BA:1022:G:C5	22:BA:1140:C:C4	2.95	0.55
22:BA:1022:G:O6	31:BJ:68:LYS:NZ	2.39	0.55
7:AG:40:GLU:HA	7:AG:43:VAL:HG23	1.89	0.55
33:BL:29:LYS:HG2	33:BL:30:THR:N	2.22	0.55
32:DK:118:LEU:HD23	32:DK:118:LEU:N	2.22	0.55
4:AD:147:GLU:HA	4:AD:150:LYS:CD	2.36	0.55
1:AA:844:G:N2	1:AA:846:G:H4'	2.21	0.55
1:CA:324:G:N2	1:CA:327:A:C8	2.75	0.55
36:DO:22:GLY:O	36:DO:42:PRO:HB3	2.07	0.55
23:BB:90:C:C2'	23:BB:91:C:O5'	2.55	0.55
36:BO:33:ARG:CG	36:BO:33:ARG:O	2.55	0.55
1:CA:130:A:C2	1:CA:264:C:C6	2.95	0.55
6:CF:8:PHE:CE1	6:CF:60:VAL:HB	2.42	0.55
22:BA:735:A:H3'	22:BA:736:C:H6	1.72	0.55
2:AB:186:ILE:HA	2:AB:200:ILE:O	2.07	0.55
22:DA:2847:U:H2'	22:DA:2848:G:H5'	1.88	0.55
13:AM:40:ALA:HB3	13:AM:43:VAL:HG13	1.89	0.55
29:BH:10:ALA:O	29:BH:12:LEU:N	2.40	0.55
22:BA:2884:U:O4'	22:BA:2884:U:O2	2.25	0.55
1:CA:313:A:H2'	1:CA:314:C:C6	2.41	0.55
34:BM:69:PRO:O	34:BM:70:ASP:CG	2.45	0.55
22:DA:2339:C:H2'	22:DA:2340:A:C8	2.42	0.55
22:DA:308:G:C8	22:DA:501:A:H1'	2.42	0.55
45:BX:7:VAL:HG23	45:BX:51:VAL:HG12	1.89	0.55
22:DA:2200:C:O2	22:DA:2226:C:N4	2.40	0.54
1:AA:1407:C:O2'	22:BA:1912:A:N6	2.40	0.54
24:DC:160:THR:HG23	24:DC:177:ARG:HG2	1.88	0.54
5:CE:122:ASN:O	5:CE:123:VAL:O	2.25	0.54
1:AA:1002:G:C2	1:AA:1003:G:H1'	2.42	0.54
22:BA:1394:U:H2'	22:BA:1395:A:O4'	2.06	0.54
11:AK:125:LYS:HG2	11:AK:126:LYS:N	2.22	0.54
22:BA:2187:U:C5	22:BA:2188:U:C4	2.95	0.54
22:BA:1925:C:C5'	22:BA:1926:U:O4	2.55	0.54
22:BA:1343:G:C4	22:BA:1344:U:C5	2.95	0.54
1:AA:268:U:H2'	1:AA:269:C:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:30:SER:O	8:AH:31:LYS:C	2.45	0.54
4:CD:35:GLU:O	4:CD:38:PRO:HD3	2.06	0.54
1:CA:106:C:O2	1:CA:379:C:H5'	2.07	0.54
1:CA:861:G:N7	1:CA:862:C:C5	2.75	0.54
24:BC:143:ASN:OD1	24:BC:152:GLY:HA3	2.07	0.54
5:CE:83:HIS:CD2	8:CH:96:MET:HE2	2.42	0.54
13:AM:64:VAL:O	13:AM:69:LEU:HB2	2.07	0.54
10:CJ:81:GLU:HA	10:CJ:84:VAL:HG12	1.89	0.54
2:AB:16:PHE:O	2:AB:41:ILE:HD12	2.07	0.54
5:CE:109:GLY:O	5:CE:110:ALA:HB3	2.07	0.54
11:CK:84:VAL:HG11	11:CK:97:ILE:HG22	1.89	0.54
22:DA:2519:U:C6	22:DA:2542:A:N6	2.75	0.54
22:BA:2678:C:H2'	22:BA:2679:A:O4'	2.07	0.54
22:BA:465:G:H2'	22:BA:466:A:C8	2.42	0.54
22:BA:1934:C:H4'	22:BA:1974:C:O3'	2.07	0.54
22:BA:839:U:H2'	22:BA:840:C:C6	2.41	0.54
1:AA:126:G:H2'	1:AA:127:G:O4'	2.05	0.54
19:CS:75:ALA:N	19:CS:76:PRO:CD	2.69	0.54
27:BF:33:LYS:HG3	27:BF:33:LYS:O	2.07	0.54
41:BT:61:LEU:C	41:BT:61:LEU:HD12	2.28	0.54
28:BG:11:VAL:CG2	28:BG:11:VAL:O	2.56	0.54
44:DW:21:LEU:HA	44:DW:39:ARG:HB2	1.89	0.54
29:BH:90:LEU:HA	29:BH:125:THR:HG23	1.89	0.54
22:BA:1439:A:C2	22:BA:1553:A:C5	2.95	0.54
41:BT:57:VAL:HG22	41:BT:58:VAL:N	2.22	0.54
22:BA:2128:G:H5'	53:B5:36:ALA:HA	1.88	0.54
1:CA:1361:G:C2'	1:CA:1362:A:H5''	2.36	0.54
1:CA:976:G:N2	1:CA:1363:A:N3	2.55	0.54
37:DP:91:ALA:HB2	37:DP:113:ARG:HA	1.89	0.54
22:DA:2684:U:O4'	32:DK:70:ARG:NH1	2.40	0.54
22:BA:2271:G:OP1	44:BW:19:LYS:O	2.25	0.54
1:AA:1160:G:O6	1:AA:1181:G:C6	2.61	0.54
1:CA:790:A:H2'	1:CA:791:G:C8	2.43	0.54
22:DA:2511:U:C4	22:DA:2512:C:C5	2.96	0.54
1:CA:38:G:N2	1:CA:397:A:C4	2.76	0.54
1:CA:247:G:C6	1:CA:278:G:N1	2.75	0.54
1:AA:194:C:O2'	1:AA:195:A:H5'	2.06	0.54
26:DE:48:THR:O	26:DE:52:VAL:HG23	2.07	0.54
22:DA:1582:C:O2'	22:DA:1585:C:N3	2.32	0.54
1:CA:1379:G:N7	7:CG:2:PRO:HB2	2.22	0.54
46:BY:49:ASP:O	46:BY:52:ARG:N	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BY:54:LYS:O	46:BY:58:ASN:HB2	2.07	0.54
28:DG:176:LYS:O	28:DG:177:LYS:HB2	2.07	0.54
1:AA:1296:C:H4'	1:AA:1302:C:N4	2.23	0.54
42:BU:18:ASP:O	42:BU:19:LYS:C	2.45	0.54
1:CA:818:G:O2'	1:CA:819:A:H5'	2.06	0.54
22:DA:152:A:C2	22:DA:175:G:C2	2.95	0.54
11:AK:72:ASP:O	11:AK:73:ALA:HB2	2.06	0.54
22:BA:2258:C:O2'	22:BA:2427:C:OP2	2.21	0.54
4:AD:125:VAL:O	4:AD:127:GLY:N	2.32	0.54
22:BA:1316:U:C2	22:BA:1337:G:N2	2.76	0.54
1:AA:1086:U:O2'	1:AA:1087:G:H5'	2.08	0.54
44:BW:52:GLY:HA3	44:BW:60:PHE:CE1	2.42	0.54
22:DA:1127:A:H2'	22:DA:1128:G:H5''	1.88	0.54
22:DA:682:G:H2'	22:DA:682:G:N3	2.21	0.54
13:CM:72:GLU:O	13:CM:76:SER:OG	2.24	0.54
22:BA:1916:A:H2'	22:BA:1917:U:C1'	2.38	0.54
22:BA:1912:A:C8	22:BA:1917:U:O4	2.60	0.54
1:AA:197:A:N3	1:AA:198:G:H1'	2.22	0.54
24:DC:17:VAL:HG23	24:DC:204:VAL:CG2	2.37	0.54
6:CF:38:ARG:HG3	6:CF:63:ASN:HB2	1.89	0.54
1:AA:1161:C:H2'	1:AA:1162:C:H6	1.72	0.54
22:BA:1754:A:N6	22:BA:1755:A:C6	2.76	0.54
42:DU:74:ASN:HA	42:DU:96:PHE:CZ	2.42	0.54
22:DA:186:G:C2	22:DA:211:C:C2	2.96	0.54
2:CB:91:PHE:CD1	2:CB:150:GLY:HA3	2.42	0.54
1:CA:31:G:N7	1:CA:306:A:H1'	2.22	0.54
1:CA:1521:C:N3	1:CA:1522:U:C5	2.75	0.54
2:AB:154:MET:CE	2:AB:158:PRO:HG3	2.37	0.54
22:DA:1076:C:H2'	22:DA:1077:A:O4'	2.08	0.54
22:DA:2824:C:C4	22:DA:2825:G:C5	2.95	0.54
22:DA:1032:A:H4'	52:D4:16:ILE:HD12	1.88	0.54
16:CP:67:ILE:HG23	16:CP:71:VAL:CG1	2.38	0.54
2:CB:169:GLU:O	2:CB:171:ILE:N	2.40	0.54
21:CU:10:GLU:N	21:CU:12:PHE:CE2	2.75	0.54
33:BL:62:PRO:HG2	51:B3:25:LYS:HD3	1.90	0.54
1:AA:769:G:H4'	1:AA:1513:A:H4'	1.89	0.54
1:CA:1201:A:H4'	1:CA:1202:U:O5'	2.07	0.54
29:DH:79:THR:HA	29:DH:145:ASN:HB2	1.89	0.54
22:DA:204:A:H5'	22:DA:206:U:O4'	2.07	0.54
1:AA:803:G:C6	1:AA:804:U:C4	2.96	0.54
1:CA:509:A:P	57:CA:1758:HOH:O	2.64	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:99:GLY:HA2	2:CB:102:THR:HG22	1.90	0.54
1:AA:90:C:C2	1:AA:91:U:C6	2.96	0.54
1:CA:483:C:H2'	1:CA:484:G:C8	2.42	0.54
11:AK:76:GLU:HA	22:BA:2141:G:P	2.48	0.54
22:DA:2415:G:C6	22:DA:2416:C:N3	2.75	0.54
33:BL:68:SER:O	33:BL:69:ARG:CB	2.56	0.54
6:CF:16:GLU:O	6:CF:18:VAL:N	2.40	0.54
22:DA:475:C:N3	22:DA:481:G:C6	2.76	0.54
1:CA:109:A:C6	1:CA:327:A:C6	2.95	0.54
22:DA:1581:G:C5	22:DA:1582:C:C4	2.96	0.54
22:BA:1125:G:C6	22:BA:1126:A:N6	2.75	0.54
22:BA:956:G:OP2	34:BM:86:LYS:HE2	2.07	0.54
22:DA:1321:A:N6	22:DA:1322:A:C2	2.76	0.54
9:CI:28:ILE:HB	9:CI:35:LEU:HB2	1.87	0.54
1:CA:1077:G:N1	1:CA:1081:A:C6	2.76	0.54
35:DN:58:ASP:OD2	35:DN:63:ARG:NH2	2.41	0.54
30:DI:29:GLY:HA2	30:DI:33:VAL:HB	1.88	0.54
28:BG:84:THR:OG1	28:BG:134:LYS:HG2	2.08	0.54
22:BA:96:C:H4'	46:BY:41:HIS:CD2	2.42	0.54
46:DY:28:LEU:HD22	46:DY:37:LEU:HD11	1.89	0.54
22:DA:1835:G:C5	22:DA:1836:C:C5	2.96	0.54
1:AA:1286:U:H2'	1:AA:1286:U:O2	2.07	0.54
22:DA:1681:G:O2'	22:DA:1762:A:N3	2.36	0.54
1:AA:51:A:C2	1:AA:353:A:N1	2.75	0.54
22:DA:1213:A:O2'	22:DA:1239:G:O4'	2.24	0.54
22:DA:1028:A:N6	22:DA:1125:G:H2'	2.22	0.54
29:BH:103:VAL:HG21	29:BH:132:PHE:CE1	2.42	0.54
22:BA:2033:A:P	57:BA:3479:HOH:O	2.56	0.54
1:AA:82:G:O6	1:AA:87:C:N4	2.40	0.54
22:BA:1379:U:OP1	22:BA:1379:U:C5	2.61	0.54
1:CA:1022:A:C6	1:CA:1023:U:C4	2.95	0.54
22:DA:2134:A:C2	22:DA:2135:A:C8	2.96	0.54
22:DA:2134:A:N6	22:DA:2157:G:O2'	2.38	0.54
6:CF:37:HIS:O	6:CF:38:ARG:HB3	2.08	0.54
1:CA:1160:G:O2'	1:CA:1161:C:P	2.66	0.54
14:CN:21:PHE:CD2	14:CN:25:ALA:HB2	2.42	0.54
22:BA:1570:A:C6	22:BA:1571:A:C6	2.95	0.54
22:BA:1588:G:C2	22:BA:1589:U:C6	2.96	0.54
29:BH:14:SER:OG	29:BH:17:ASP:CG	2.46	0.54
1:AA:591:U:OP2	8:AH:31:LYS:HD2	2.07	0.54
12:AL:22:PRO:C	12:AL:24:LEU:N	2.61	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:577:G:C2	1:CA:578:C:C5	2.95	0.54
6:CF:86:ARG:HH11	6:CF:86:ARG:HG2	1.72	0.54
22:DA:1231:U:H2'	22:DA:1232:G:C8	2.43	0.54
41:DT:37:ASP:OD1	41:DT:38:ALA:N	2.35	0.54
22:BA:877:A:C6	22:BA:899:A:C6	2.96	0.54
22:DA:2266:A:C2	22:DA:2272:U:C5	2.95	0.54
1:AA:125:U:O2'	1:AA:126:G:H5'	2.07	0.54
22:DA:875:G:N2	22:DA:903:C:C2	2.76	0.54
1:CA:104:G:C2	1:CA:105:G:C8	2.95	0.54
22:BA:45:G:C5'	22:BA:46:G:OP1	2.55	0.54
29:BH:77:THR:O	29:BH:77:THR:CG2	2.56	0.54
12:CL:102:LEU:HD12	12:CL:102:LEU:N	2.22	0.54
20:CT:36:TYR:CD1	20:CT:36:TYR:C	2.81	0.54
30:BI:86:ILE:HD12	30:BI:86:ILE:N	2.23	0.54
1:CA:690:G:H2'	1:CA:691:G:O4'	2.08	0.54
22:DA:2314:A:C2	22:DA:2315:G:C4	2.95	0.54
22:DA:2094:A:H4'	29:DH:25:TYR:CZ	2.43	0.54
22:DA:1109:C:H5''	22:DA:1110:G:OP2	2.08	0.54
1:CA:1072:G:OP1	5:CE:62:LYS:NZ	2.40	0.54
22:DA:2345:G:C5	22:DA:2381:A:C2	2.95	0.54
4:AD:171:LEU:O	4:AD:171:LEU:HD12	2.07	0.54
39:DR:39:LEU:HA	39:DR:49:ILE:HG21	1.88	0.54
1:CA:728:A:C8	15:CO:54:ARG:CZ	2.91	0.54
1:CA:15:G:O4'	5:CE:29:ARG:NH2	2.40	0.54
12:AL:22:PRO:C	12:AL:24:LEU:H	2.11	0.54
22:DA:847:U:O2	22:DA:934:U:H1'	2.07	0.54
48:B0:54:VAL:O	48:B0:56:ALA:N	2.40	0.54
1:CA:263:A:OP1	20:CT:74:ARG:NH1	2.40	0.54
24:BC:107:PRO:HB3	24:BC:142:HIS:HE1	1.73	0.54
22:DA:192:C:C5	22:DA:193:U:C2	2.96	0.54
51:D3:34:THR:HG22	51:D3:35:LYS:N	2.21	0.54
1:CA:1077:G:N2	1:CA:1081:A:C4	2.75	0.54
1:CA:1244:G:C6	1:CA:1245:C:N4	2.76	0.54
22:DA:2107:G:C2	22:DA:2183:A:C2	2.96	0.54
22:BA:645:C:O2'	22:BA:646:U:H5''	2.08	0.54
1:AA:450:G:C8	1:AA:481:G:O6	2.60	0.54
1:AA:503:C:OP1	57:AA:1881:HOH:O	2.18	0.54
32:BK:86:LEU:N	32:BK:86:LEU:HD23	2.22	0.54
10:AJ:19:ASP:N	10:AJ:19:ASP:OD1	2.41	0.54
22:BA:1912:A:C2	22:BA:1919:A:C5	2.96	0.54
22:DA:1651:G:N2	22:DA:2007:U:C2	2.76	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1277:G:H5'	35:BN:20:MET:HE1	1.86	0.54
30:BI:124:ALA:O	30:BI:127:ARG:HG2	2.08	0.54
22:BA:244:A:C2	22:BA:255:A:C4	2.96	0.54
22:BA:1414:C:C4	22:BA:1415:U:H5	2.25	0.54
25:DD:104:VAL:O	25:DD:105:LYS:HB3	2.07	0.54
24:BC:225:MET:CE	24:BC:230:HIS:HB2	2.36	0.54
40:BS:29:VAL:HG13	40:BS:55:ILE:HD11	1.88	0.54
15:AO:19:ALA:O	15:AO:20:ASN:HB2	2.07	0.54
5:AE:90:THR:HG22	5:AE:91:GLY:H	1.72	0.54
22:BA:570:G:H2'	22:BA:2030:A:C8	2.43	0.54
22:DA:2328:A:H2'	22:DA:2329:U:C6	2.43	0.54
21:CU:9:ASN:N	21:CU:12:PHE:HE2	2.06	0.54
22:DA:136:G:N2	22:DA:144:A:C5	2.76	0.54
28:DG:158:LYS:O	28:DG:160:LYS:N	2.40	0.54
22:DA:189:G:P	45:DX:26:LYS:HE2	2.48	0.54
22:DA:1844:C:H5'	24:DC:254:GLY:O	2.08	0.54
24:DC:160:THR:CG2	24:DC:177:ARG:HG2	2.38	0.54
1:CA:992:U:O4'	1:CA:993:G:N2	2.41	0.54
22:DA:1304:A:C5	22:DA:1305:C:C5	2.96	0.54
17:CQ:15:ASP:HA	17:CQ:21:ILE:HD12	1.90	0.54
22:DA:2127:G:H4'	22:DA:2128:G:OP1	2.08	0.54
22:DA:1371:G:N7	57:DA:3396:HOH:O	2.34	0.54
22:DA:396:G:O4'	45:DX:29:PHE:HB3	2.07	0.54
17:AQ:68:SER:O	17:AQ:70:THR:N	2.41	0.54
25:BD:62:LYS:HB2	25:BD:63:PRO:HD3	1.88	0.54
43:BV:14:LYS:CD	43:BV:18:ARG:NH1	2.71	0.54
10:AJ:11:LYS:HG3	10:AJ:97:ASP:HB3	1.90	0.54
49:B1:17:THR:CG2	49:B1:42:VAL:HB	2.36	0.54
1:AA:663:A:H5'	1:AA:836:G:OP1	2.08	0.54
22:DA:830:G:C4	22:DA:2448:A:C5	2.96	0.54
22:BA:64:A:H2'	22:BA:65:U:C6	2.43	0.54
8:CH:96:MET:HB2	8:CH:99:LEU:O	2.08	0.54
41:DT:62:VAL:HG12	41:DT:63:VAL:N	2.22	0.54
1:AA:596:A:C5	1:AA:645:G:C2	2.96	0.54
5:CE:116:GLU:HG3	5:CE:117:VAL:N	2.23	0.54
22:DA:627:A:C6	22:DA:637:A:C8	2.95	0.54
10:AJ:36:VAL:HG22	10:AJ:76:ILE:HG12	1.90	0.54
1:CA:328:C:O2	1:CA:328:C:C2'	2.55	0.54
22:DA:2037:A:C6	22:DA:2038:G:C6	2.96	0.54
21:CU:8:GLU:HB3	21:CU:12:PHE:CE2	2.43	0.54
22:BA:622:G:OP2	57:BA:3291:HOH:O	2.18	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:54:ASP:OD1	8:AH:55:THR:N	2.39	0.54
1:CA:983:A:OP1	14:CN:9:ARG:NH2	2.41	0.54
22:DA:2079:U:H2'	22:DA:2080:A:O4'	2.06	0.54
8:AH:105:SER:O	8:AH:123:GLY:HA3	2.07	0.54
34:BM:132:THR:HG22	34:BM:133:LYS:N	2.23	0.54
22:DA:1428:C:C4	22:DA:1569:A:H5''	2.43	0.54
1:CA:246:A:N3	1:CA:279:A:N6	2.55	0.54
22:BA:2479:U:OP1	22:BA:2537:U:H1'	2.07	0.54
23:BB:50:A:OP1	36:BO:68:LYS:HE2	2.07	0.54
22:DA:547:A:N7	22:DA:548:G:N3	2.56	0.54
3:CC:16:LYS:NZ	3:CC:181:ASP:OD1	2.40	0.54
22:BA:1299:G:O2'	22:BA:1301:A:C5	2.60	0.54
22:BA:2243:U:H2'	22:BA:2244:U:C6	2.43	0.54
28:BG:89:LEU:CD1	28:BG:89:LEU:N	2.71	0.54
11:AK:112:ASP:OD1	11:AK:112:ASP:C	2.46	0.54
1:CA:1412:C:H2'	1:CA:1413:A:C8	2.43	0.54
22:BA:571:U:C4	22:BA:575:A:C5	2.96	0.54
22:BA:1098:A:C5	22:BA:1099:G:C6	2.95	0.54
22:DA:1344:U:O2'	22:DA:1345:C:P	2.65	0.54
23:DB:29:A:H2'	23:DB:30:C:C6	2.43	0.54
22:DA:2344:U:H4'	22:DA:2345:G:OP1	2.08	0.54
22:DA:489:G:HO2'	22:DA:491:G:H8	1.56	0.54
40:DS:67:ASP:N	40:DS:67:ASP:OD1	2.41	0.54
22:BA:2309:A:N6	22:BA:2310:C:N4	2.56	0.54
6:CF:38:ARG:NH2	6:CF:98:GLU:O	2.40	0.54
10:AJ:52:LEU:HD22	10:AJ:62:ARG:HG2	1.89	0.54
42:BU:39:ILE:HG22	42:BU:40:ASN:N	2.22	0.54
22:DA:2868:A:C6	22:DA:2869:G:C6	2.95	0.54
22:DA:844:A:C2	22:DA:845:A:N7	2.76	0.54
1:CA:919:A:C2	1:CA:920:U:C5	2.96	0.54
22:BA:1436:G:N2	22:BA:1557:C:C2	2.75	0.54
1:CA:879:C:C2'	1:CA:880:C:O5'	2.56	0.54
1:AA:340:U:H2'	1:AA:341:C:C6	2.43	0.54
21:CU:11:PRO:C	21:CU:12:PHE:CG	2.79	0.54
1:AA:1367:C:OP2	9:AI:114:LYS:NZ	2.41	0.54
22:DA:2457:U:C4	22:DA:2458:G:C6	2.96	0.54
1:AA:130:A:N7	17:AQ:65:ARG:HB2	2.23	0.54
22:BA:1008:A:N6	22:BA:1136:G:C6	2.76	0.54
22:DA:560:C:O2	38:DQ:48:ARG:NH1	2.40	0.54
23:BB:78:A:C2	23:BB:99:A:C4	2.96	0.54
10:AJ:67:ILE:HG22	10:AJ:67:ILE:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:597:G:C8	1:CA:598:U:C5	2.95	0.54
1:CA:1053:G:N7	1:CA:1200:C:H5''	2.23	0.54
1:AA:92:U:H2'	1:AA:93:U:C6	2.43	0.54
37:DP:53:ARG:N	37:DP:57:SER:OG	2.40	0.54
1:CA:978:A:P	1:CA:1362:A:N6	2.81	0.54
1:AA:96:U:O2'	1:AA:97:G:O5'	2.23	0.54
23:DB:57:A:C2	27:DF:26:MET:SD	3.00	0.54
1:CA:252:U:O4	1:CA:253:A:N6	2.40	0.54
1:CA:72:A:C6	1:CA:73:C:N4	2.77	0.54
22:BA:1925:C:H4'	22:BA:1926:U:C5	2.42	0.54
53:B5:50:ILE:CG2	53:B5:51:ASP:N	2.70	0.54
22:BA:826:U:O2'	33:BL:53:GLY:HA3	2.07	0.54
17:AQ:12:VAL:O	17:AQ:13:VAL:CB	2.56	0.54
25:BD:104:VAL:O	25:BD:105:LYS:CB	2.55	0.54
22:DA:1323:C:C5	22:DA:1324:G:N7	2.76	0.54
22:DA:1912:A:OP2	22:DA:1918:A:N6	2.39	0.54
40:BS:37:THR:HG22	40:BS:38:TYR:CE1	2.42	0.54
51:D3:34:THR:CG2	51:D3:35:LYS:N	2.70	0.54
1:AA:1442:G:H2'	1:AA:1443:C:H6	1.73	0.54
11:AK:23:ILE:HG22	11:AK:32:VAL:HG22	1.90	0.54
22:DA:753:A:C2	22:DA:754:U:C2	2.96	0.54
1:AA:33:A:H2'	1:AA:34:C:C6	2.43	0.54
31:DJ:125:TYR:HH	31:DJ:132:HIS:CE1	2.26	0.54
27:BF:124:GLY:C	27:BF:125:ARG:HG2	2.27	0.54
1:AA:100:G:N7	1:AA:101:A:N7	2.55	0.54
36:DO:80:GLU:HA	36:DO:83:LEU:HD12	1.90	0.54
51:B3:31:HIS:CD2	51:B3:31:HIS:C	2.81	0.54
33:BL:115:GLU:N	33:BL:115:GLU:OE2	2.41	0.54
24:DC:87:ARG:NH1	24:DC:87:ARG:HB3	2.22	0.54
23:DB:100:G:H2'	23:DB:101:A:O4'	2.08	0.54
36:DO:33:ARG:O	36:DO:34:HIS:HB2	2.09	0.53
12:CL:110:ARG:NE	12:CL:117:TYR:CD2	2.76	0.53
22:DA:1623:G:C6	22:DA:1624:U:C5	2.96	0.53
4:AD:157:ALA:O	4:AD:160:GLU:HB3	2.08	0.53
22:DA:1383:A:C2	22:DA:1384:A:C5	2.96	0.53
1:CA:1269:A:C2	1:CA:1313:U:O4'	2.61	0.53
22:DA:249:C:O5'	22:DA:2394:C:O2'	2.26	0.53
22:BA:2284:A:OP1	49:B1:4:GLY:O	2.25	0.53
22:BA:2345:G:C5	22:BA:2347:C:C5	2.96	0.53
22:DA:1171:G:N2	22:DA:1178:C:O2	2.40	0.53
1:CA:960:U:O2'	1:CA:1223:C:H4'	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CQ:12:VAL:HG21	17:CQ:54:GLY:O	2.08	0.53
22:DA:497:A:H2'	22:DA:498:G:O4'	2.07	0.53
39:BR:14:VAL:HG21	39:BR:20:VAL:HG21	1.89	0.53
26:BE:189:THR:O	26:BE:192:ALA:N	2.41	0.53
22:DA:1027:A:C6	22:DA:1126:A:C4	2.96	0.53
2:AB:164:ILE:O	2:AB:186:ILE:HG12	2.07	0.53
22:DA:2658:C:OP1	28:DG:158:LYS:NZ	2.40	0.53
37:BP:90:GLY:O	37:BP:113:ARG:NH1	2.41	0.53
1:CA:803:G:C6	1:CA:804:U:N3	2.76	0.53
22:BA:2587:A:OP1	57:BA:3547:HOH:O	2.18	0.53
19:CS:29:LYS:CB	19:CS:30:PRO:HD2	2.38	0.53
1:CA:757:U:OP1	1:CA:822:U:O2'	2.22	0.53
37:BP:22:PRO:HA	37:BP:47:VAL:HG12	1.89	0.53
22:DA:389:G:C8	22:DA:2413:G:H4'	2.43	0.53
49:D1:4:GLY:O	49:D1:6:ARG:N	2.41	0.53
22:DA:2094:A:C5'	29:DH:25:TYR:CD2	2.91	0.53
50:D2:15:SER:O	50:D2:16:HIS:ND1	2.41	0.53
4:AD:188:ARG:O	4:AD:190:ASP:O	2.26	0.53
1:AA:1342:C:O2'	9:AI:126:GLN:HG3	2.08	0.53
12:AL:86:ARG:HA	12:AL:94:ARG:HA	1.90	0.53
25:DD:13:ARG:HD2	25:DD:15:PHE:CE2	2.43	0.53
39:BR:25:LEU:H	39:BR:94:THR:HG23	1.73	0.53
22:DA:1407:G:N2	22:DA:1596:A:C4	2.76	0.53
1:CA:1296:C:H4'	1:CA:1302:C:N4	2.22	0.53
1:AA:411:A:C6	1:AA:429:U:C5	2.95	0.53
1:AA:1320:C:O2	19:AS:36:ARG:NH1	2.41	0.53
1:AA:202:G:C2	1:AA:216:U:O2	2.61	0.53
22:DA:2693:G:N2	22:DA:2717:C:C2	2.76	0.53
27:BF:108:VAL:N	27:BF:109:PRO:CD	2.71	0.53
1:CA:862:C:C2	1:CA:863:U:C6	2.96	0.53
22:DA:1682:G:N3	22:DA:1757:A:H1'	2.22	0.53
1:AA:1278:G:H4'	1:AA:1279:G:C8	2.42	0.53
11:AK:71:ALA:O	11:AK:73:ALA:N	2.42	0.53
1:CA:1082:A:C6	1:CA:1083:U:N3	2.77	0.53
8:AH:105:SER:HB2	8:AH:126:ILE:HD11	1.89	0.53
22:DA:2615:U:C4	48:D0:3:VAL:O	2.61	0.53
43:BV:56:PHE:O	43:BV:61:LEU:HD11	2.08	0.53
33:DL:68:SER:O	33:DL:69:ARG:CB	2.56	0.53
26:BE:193:VAL:O	26:BE:197:GLU:HB2	2.08	0.53
22:BA:1268:A:C2	22:BA:2013:A:C4	2.96	0.53
22:BA:1269:A:H2'	22:BA:1270:C:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:19:A:C2	1:CA:20:U:C2	2.97	0.53
1:CA:211:G:N3	1:CA:211:G:H2'	2.24	0.53
15:AO:2:SER:O	15:AO:3:LEU:CB	2.55	0.53
1:AA:142:G:H2'	1:AA:142:G:N3	2.22	0.53
22:DA:1926:U:H2'	22:DA:1928:A:N7	2.24	0.53
22:BA:229:C:N3	22:BA:230:G:H1'	2.24	0.53
4:CD:48:LEU:HD23	4:CD:53:VAL:N	2.24	0.53
1:AA:76:G:H2'	1:AA:76:G:N3	2.22	0.53
46:BY:37:LEU:C	46:BY:37:LEU:HD12	2.29	0.53
22:BA:332:A:C2	22:BA:335:C:C5	2.96	0.53
22:BA:2564:A:OP1	22:BA:2648:G:H4'	2.09	0.53
22:BA:1439:A:P	57:BA:3638:HOH:O	2.53	0.53
20:CT:3:ASN:O	20:CT:5:LYS:N	2.41	0.53
22:BA:998:C:OP2	38:BQ:58:ARG:NH2	2.36	0.53
22:DA:466:A:C2	22:DA:796:C:O4'	2.61	0.53
22:DA:333:G:C5	22:DA:334:C:C5	2.97	0.53
6:AF:85:ILE:O	6:AF:86:ARG:HG2	2.08	0.53
22:DA:811:U:O2	22:DA:1251:C:C5	2.62	0.53
20:AT:44:LYS:HB3	20:AT:87:ALA:HB1	1.90	0.53
22:DA:1805:A:N3	22:DA:1813:G:C2	2.76	0.53
8:AH:51:VAL:CG2	8:AH:51:VAL:O	2.56	0.53
12:AL:23:ALA:O	12:AL:24:LEU:O	2.26	0.53
19:AS:64:ASP:HB3	27:BF:115:ARG:NH2	2.22	0.53
22:DA:2204:G:C5	22:DA:2221:G:C2	2.96	0.53
21:AU:12:PHE:HD1	21:AU:12:PHE:N	2.05	0.53
17:AQ:48:ASP:OD2	17:AQ:52:GLU:OE1	2.27	0.53
1:AA:1059:C:C4	1:AA:1060:U:C5	2.96	0.53
1:CA:624:C:H2'	1:CA:625:U:O4'	2.08	0.53
38:BQ:108:ALA:HB1	39:BR:48:LYS:HZ1	1.74	0.53
22:DA:1087:G:N1	22:DA:1089:A:C2	2.76	0.53
22:BA:2444:G:OP2	26:BE:63:LYS:HD3	2.08	0.53
22:DA:1838:C:C5	22:DA:1899:A:C5	2.96	0.53
1:CA:1511:G:C5	1:CA:1512:U:C5	2.96	0.53
22:DA:2533:U:OP1	22:DA:2665:A:O2'	2.22	0.53
22:DA:1885:A:C6	22:DA:1886:U:C2	2.96	0.53
22:BA:815:C:O2'	22:BA:816:C:H5'	2.08	0.53
22:DA:350:G:C2	22:DA:351:C:C2	2.96	0.53
1:CA:1191:A:H5''	3:CC:4:LYS:HE3	1.89	0.53
22:BA:1203:U:H1'	33:BL:4:ASN:HB3	1.90	0.53
42:BU:54:GLN:N	42:BU:55:PRO:CD	2.72	0.53
27:BF:171:ALA:O	27:BF:174:ASP:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:CG:90:GLU:OE1	7:CG:90:GLU:N	2.41	0.53
1:AA:1405:G:O4'	1:AA:1519:A:H4'	2.08	0.53
1:CA:1138:G:C2	1:CA:1140:C:C4	2.96	0.53
18:CR:25:ASP:O	18:CR:28:THR:N	2.40	0.53
22:BA:1180:U:H2'	22:BA:1181:U:C5'	2.38	0.53
11:CK:126:LYS:O	11:CK:127:ARG:HB2	2.09	0.53
1:AA:452:A:C8	1:AA:453:G:C8	2.96	0.53
22:BA:2061:G:C2	55:BA:3001:VIR:H22	2.44	0.53
4:AD:68:LEU:HD22	4:AD:68:LEU:N	2.23	0.53
50:D2:44:VAL:HG13	50:D2:45:SER:N	2.23	0.53
1:AA:199:A:C2	1:AA:200:G:C4	2.96	0.53
11:AK:34:ILE:HG12	11:AK:70:CYS:SG	2.49	0.53
1:AA:1350:A:C5	1:AA:1351:U:C4	2.97	0.53
1:AA:408:A:OP1	4:AD:110:THR:HG21	2.08	0.53
38:BQ:24:TYR:O	38:BQ:25:TYR:HB2	2.07	0.53
29:DH:32:PRO:O	29:DH:33:GLN:HB2	2.08	0.53
2:CB:141:LEU:O	2:CB:145:GLU:N	2.38	0.53
4:AD:11:LEU:CD2	4:AD:63:ARG:HD3	2.36	0.53
2:AB:219:ALA:HA	2:AB:222:ARG:NH2	2.22	0.53
2:CB:85:LEU:O	2:CB:85:LEU:CG	2.57	0.53
1:AA:102:G:N3	1:AA:103:U:C6	2.76	0.53
22:DA:1916:A:H2'	22:DA:1917:U:O4'	2.08	0.53
22:BA:495:G:C1'	40:BS:57:ASN:ND2	2.71	0.53
53:B5:45:HIS:CD2	53:B5:176:VAL:HA	2.44	0.53
22:DA:1998:A:H2'	22:DA:1999:C:O4'	2.09	0.53
1:AA:667:G:OP1	1:AA:732:C:O2'	2.13	0.53
22:DA:1012:U:O4	31:DJ:30:THR:HG21	2.08	0.53
10:CJ:22:THR:HA	10:CJ:25:ILE:HG22	1.90	0.53
10:AJ:35:GLN:CG	10:AJ:77:VAL:HB	2.39	0.53
22:BA:2243:U:O2	22:BA:2434:A:C2	2.61	0.53
22:BA:695:G:C2	22:BA:696:G:C8	2.96	0.53
1:CA:1535:C:O2'	1:CA:1536:C:C5	2.62	0.53
22:BA:2032:G:N7	57:BA:3535:HOH:O	2.33	0.53
24:DC:141:VAL:HG11	24:DC:190:ALA:HB1	1.89	0.53
3:CC:7:PRO:O	3:CC:11:ARG:HG3	2.08	0.53
28:DG:61:GLY:O	28:DG:64:GLN:N	2.41	0.53
22:DA:2882:A:H5'	35:DN:96:ARG:HB2	1.90	0.53
4:AD:109:ALA:N	4:AD:113:GLU:OE2	2.39	0.53
48:D0:50:ARG:O	48:D0:52:ARG:NH1	2.41	0.53
1:AA:872:A:C4	1:AA:874:G:C8	2.96	0.53
22:DA:602:A:N3	22:DA:655:A:C2	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:190:ASP:O	4:AD:191:LEU:O	2.26	0.53
1:AA:71:A:O2'	1:AA:72:A:OP2	2.20	0.53
22:DA:668:A:C2	22:DA:670:A:C5	2.97	0.53
22:BA:2685:G:OP1	32:BK:78:ARG:NH2	2.42	0.53
30:BI:130:GLU:HB3	30:BI:134:ARG:HH21	1.74	0.53
1:AA:1179:A:H2'	1:AA:1180:A:O4'	2.08	0.53
1:CA:369:G:OP2	1:CA:388:G:N2	2.41	0.53
22:DA:250:G:H2'	22:DA:251:A:C8	2.44	0.53
22:BA:1413:A:C6	22:BA:1414:C:N3	2.76	0.53
22:DA:2886:A:C2	48:D0:29:SER:HB3	2.42	0.53
9:CI:114:LYS:HG3	9:CI:120:LYS:HA	1.90	0.53
22:DA:219:A:N6	22:DA:220:G:C6	2.76	0.53
13:AM:66:GLU:O	13:AM:69:LEU:N	2.41	0.53
22:DA:478:A:N6	22:DA:500:G:O2'	2.41	0.53
32:BK:105:ARG:NH2	32:BK:122:VAL:O	2.41	0.53
10:CJ:19:ASP:HA	10:CJ:22:THR:HB	1.90	0.53
1:CA:1169:A:C2	1:CA:1170:A:C4	2.97	0.53
1:CA:575:G:C6	1:CA:821:G:N7	2.76	0.53
34:BM:6:ARG:O	34:BM:7:THR:HG23	2.09	0.53
19:AS:51:VAL:HG22	19:AS:71:LEU:HD13	1.90	0.53
22:BA:541:A:C6	22:BA:542:C:C4	2.96	0.53
34:BM:62:LYS:HD3	34:BM:64:TRP:CZ2	2.44	0.53
22:DA:2236:U:H2'	22:DA:2237:G:O4'	2.09	0.53
22:BA:1789:A:OP1	24:BC:221:ARG:HD3	2.07	0.53
20:CT:78:ASN:O	20:CT:82:GLN:HG2	2.08	0.53
1:AA:720:C:H5''	18:AR:41:PRO:HA	1.89	0.53
29:BH:147:VAL:CG1	29:BH:149:GLU:HG3	2.36	0.53
27:DF:122:PHE:CE1	27:DF:166:GLY:C	2.82	0.53
12:CL:58:THR:CG2	12:CL:59:ASN:N	2.71	0.53
1:CA:485:U:OP2	1:CA:485:U:H4'	2.08	0.53
1:AA:262:A:C6	1:AA:263:A:C6	2.96	0.53
3:AC:141:ALA:O	3:AC:146:ALA:HB3	2.09	0.53
33:DL:100:ILE:CG1	33:DL:100:ILE:O	2.57	0.53
2:CB:117:LEU:HB3	2:CB:141:LEU:HD11	1.89	0.53
22:BA:2308:G:O6	22:BA:2311:A:N7	2.42	0.53
12:CL:92:GLY:O	12:CL:93:VAL:C	2.47	0.53
9:CI:49:ARG:C	9:CI:49:ARG:HD3	2.29	0.53
1:CA:1089:G:C4	1:CA:1090:U:C6	2.97	0.53
22:DA:1263:U:C5	22:DA:1264:A:N6	2.77	0.53
30:DI:58:VAL:CG1	30:DI:59:ILE:N	2.72	0.53
1:AA:16:A:C2'	1:AA:17:U:H5'	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1993:U:H4'	25:DD:133:THR:HG21	1.90	0.53
22:BA:1794:A:H2'	22:BA:1795:C:C6	2.43	0.53
1:AA:9:G:N7	1:AA:558:G:O2'	2.41	0.53
43:BV:80:HIS:CE1	43:BV:83:LYS:HG2	2.44	0.53
1:AA:1062:U:H2'	1:AA:1063:C:C6	2.42	0.53
22:BA:2851:A:H2'	22:BA:2852:G:O4'	2.09	0.53
24:DC:224:ALA:O	57:DC:302:HOH:O	2.18	0.53
22:DA:900:A:C2	22:DA:901:C:H1'	2.43	0.53
22:BA:945:A:H4'	22:BA:946:C:OP2	2.08	0.53
29:DH:103:VAL:HA	29:DH:106:ALA:HB3	1.89	0.53
28:BG:38:ASN:O	28:BG:39:ASP:CB	2.57	0.53
1:AA:1241:G:C2	1:AA:1242:G:C5	2.97	0.53
2:AB:10:LEU:HD23	2:AB:11:LYS:N	2.24	0.53
8:AH:14:ILE:O	8:AH:15:ARG:C	2.47	0.53
25:BD:140:HIS:CE1	57:BD:402:HOH:O	2.50	0.53
2:AB:85:LEU:HG	2:AB:86:SER:N	2.23	0.53
6:AF:3:HIS:HB2	6:AF:92:THR:HG23	1.89	0.53
5:CE:103:THR:O	5:CE:122:ASN:HA	2.09	0.53
5:CE:101:GLU:HA	5:CE:122:ASN:HB2	1.91	0.53
18:CR:58:ALA:O	18:CR:61:ARG:N	2.42	0.53
22:DA:307:G:N1	22:DA:310:A:OP2	2.42	0.53
22:DA:2874:C:H2'	22:DA:2875:C:C6	2.43	0.53
22:DA:1082:U:OP1	30:DI:124:ALA:CB	2.56	0.53
22:BA:1924:C:H2'	22:BA:1925:C:C5'	2.38	0.53
1:AA:946:A:O2'	1:AA:1333:A:N3	2.35	0.53
9:AI:45:ARG:O	9:AI:48:VAL:HG23	2.09	0.53
22:DA:2133:G:H2'	22:DA:2157:G:H22	1.73	0.53
13:AM:46:SER:O	13:AM:47:GLU:CB	2.57	0.53
22:DA:1335:C:H2'	22:DA:1336:A:C8	2.44	0.53
40:BS:74:ILE:HG23	40:BS:74:ILE:O	2.08	0.53
22:BA:1876:A:N1	22:BA:1877:A:C4	2.77	0.53
1:CA:1521:C:C2	1:CA:1522:U:C6	2.97	0.53
10:CJ:52:LEU:HB2	14:CN:81:ARG:HD2	1.90	0.53
1:AA:1211:U:HO2'	1:AA:1212:U:P	2.32	0.53
22:DA:1679:A:N6	57:DA:3436:HOH:O	2.39	0.53
40:DS:5:ALA:O	40:DS:50:VAL:HG12	2.09	0.53
21:CU:12:PHE:O	21:CU:13:ASP:CB	2.56	0.53
45:DX:25:THR:HG22	45:DX:25:THR:O	2.07	0.53
22:BA:1800:C:H3'	24:BC:146:MET:HE1	1.91	0.53
1:CA:1337:G:H5''	1:CA:1338:G:OP1	2.08	0.53
45:BX:68:LEU:HD13	45:BX:78:TYR:CE1	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AI:12:ARG:NH2	9:AI:107:ASP:OD2	2.42	0.53
22:BA:545:U:H3'	22:BA:546:U:H4'	1.89	0.53
22:BA:1223:G:C6	22:BA:1227:G:C6	2.97	0.53
22:BA:553:G:C5	22:BA:554:U:C5	2.97	0.53
10:CJ:27:GLU:O	10:CJ:31:ARG:HB3	2.09	0.53
22:DA:1255:U:C5	26:DE:68:ALA:HA	2.44	0.53
26:DE:75:SER:HB3	26:DE:78:TRP:CE3	2.43	0.53
22:BA:2352:A:C4	22:BA:2366:A:C2	2.96	0.53
29:DH:2:GLN:O	29:DH:3:VAL:HG22	2.09	0.53
22:DA:469:G:O6	50:D2:37:LYS:NZ	2.35	0.53
22:BA:864:G:O2'	22:BA:865:C:H5'	2.09	0.53
1:AA:1435:G:H2'	1:AA:1436:U:C6	2.44	0.53
2:AB:91:PHE:CD1	2:AB:150:GLY:HA3	2.43	0.53
22:BA:1045:C:C3'	22:BA:1046:A:H5'	2.39	0.53
32:DK:113:MET:O	32:DK:116:ILE:HG13	2.08	0.53
1:AA:1495:U:O2'	22:BA:1919:A:N1	2.42	0.53
22:BA:1168:G:H2'	22:BA:1169:A:O4'	2.08	0.53
22:DA:1187:G:H5''	39:DR:83:TYR:CE2	2.43	0.53
22:DA:2499:C:N4	22:DA:2500:U:O4	2.41	0.53
18:CR:63:ARG:HB3	18:CR:70:TYR:CZ	2.43	0.53
22:BA:1061:U:O2'	22:BA:1062:G:C5'	2.57	0.53
22:BA:1378:A:O2'	22:BA:1380:G:OP2	2.27	0.53
11:AK:126:LYS:C	21:AU:34:ARG:CZ	2.77	0.53
22:DA:1566:A:N3	24:DC:213:TRP:HB2	2.23	0.53
22:BA:2291:U:H2'	22:BA:2292:U:C5	2.42	0.53
1:AA:1350:A:C6	1:AA:1351:U:C4	2.97	0.53
22:DA:972:A:N1	22:DA:973:A:N6	2.57	0.53
33:DL:95:LEU:O	33:DL:100:ILE:HG23	2.09	0.53
22:DA:2849:U:C6	22:DA:2867:G:N2	2.77	0.53
1:AA:999:C:H2'	1:AA:1000:A:C8	2.44	0.53
1:CA:578:C:C2	1:CA:579:A:C8	2.97	0.53
22:DA:749:A:C6	22:DA:750:A:N7	2.76	0.53
2:AB:154:MET:HE3	2:AB:158:PRO:HG3	1.91	0.53
6:AF:38:ARG:HB3	6:AF:63:ASN:HB2	1.91	0.53
22:DA:696:G:N1	22:DA:767:U:C2	2.76	0.53
46:DY:18:LEU:O	46:DY:22:LEU:HB3	2.08	0.53
1:CA:129:A:H1'	1:CA:130:A:C8	2.44	0.53
22:DA:2186:G:C5	22:DA:2187:U:C5	2.97	0.53
40:BS:43:ALA:O	40:BS:47:VAL:HG12	2.08	0.53
29:DH:37:VAL:CG2	29:DH:38:PRO:HD2	2.39	0.53
39:DR:34:GLU:HG2	39:DR:60:LYS:HG2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2052:A:OP1	25:DD:146:ILE:HG12	2.09	0.53
3:CC:173:VAL:O	3:CC:175:LEU:N	2.40	0.53
22:BA:2794:C:H2'	22:BA:2795:C:H6	1.73	0.53
22:BA:684:G:OP1	50:B2:21:ARG:NH1	2.41	0.53
23:BB:110:C:C4	23:BB:111:U:C5	2.97	0.53
20:CT:58:VAL:HG13	20:CT:72:ALA:CB	2.39	0.53
26:DE:77:ILE:CG1	26:DE:77:ILE:O	2.57	0.53
27:DF:36:LEU:O	27:DF:88:LYS:HA	2.08	0.53
22:BA:1917:U:C5	22:BA:1918:A:C6	2.97	0.53
1:CA:183:C:O2'	1:CA:184:G:O5'	2.27	0.53
30:BI:130:GLU:HB3	30:BI:134:ARG:NH2	2.24	0.53
1:CA:374:A:H5''	1:CA:452:A:C2	2.44	0.53
2:AB:46:THR:O	2:AB:49:MET:HB2	2.08	0.53
1:AA:22:G:C5	1:AA:23:C:C5	2.97	0.53
22:DA:776:G:N7	22:DA:793:A:C4	2.77	0.53
1:CA:577:G:C8	1:CA:816:A:N1	2.77	0.53
1:CA:16:A:H2'	1:CA:17:U:H5'	1.90	0.53
22:DA:478:A:C2	22:DA:480:A:C4	2.97	0.53
22:DA:481:G:C4	22:DA:507:A:C2	2.97	0.53
22:DA:532:A:N1	22:DA:2020:A:H1'	2.23	0.53
22:DA:1436:G:C2	22:DA:1437:C:H1'	2.44	0.53
1:CA:1092:A:N1	1:CA:1183:U:O2	2.42	0.53
35:DN:117:ASP:O	35:DN:118:ARG:HB2	2.09	0.53
2:AB:87:CYS:HB2	2:AB:89:GLN:CD	2.30	0.53
10:CJ:87:LEU:HD13	10:CJ:88:MET:N	2.24	0.53
9:AI:61:LEU:N	9:AI:61:LEU:HD22	2.24	0.53
2:AB:120:GLN:O	2:AB:120:GLN:HG2	2.08	0.53
1:AA:1466:C:H2'	1:AA:1467:C:O4'	2.08	0.53
1:CA:344:A:OP2	1:CA:345:C:N4	2.40	0.53
22:BA:281:C:H2'	22:BA:282:A:C8	2.44	0.53
45:DX:7:VAL:HG23	45:DX:51:VAL:HG12	1.91	0.53
28:DG:91:GLY:O	28:DG:94:TYR:CD2	2.61	0.53
34:DM:76:LYS:NZ	34:DM:85:GLY:O	2.42	0.53
1:CA:649:A:H2'	1:CA:650:G:O4'	2.08	0.53
22:BA:1014:A:C2	22:BA:1149:G:N3	2.77	0.53
1:CA:203:G:N2	1:CA:215:C:C2	2.77	0.53
1:AA:958:A:C6	1:AA:959:A:N1	2.76	0.53
37:DP:65:SER:O	37:DP:66:ASN:C	2.47	0.53
22:DA:2857:G:N2	22:DA:2860:A:OP2	2.40	0.53
27:DF:16:LEU:HD11	27:DF:169:LEU:HD12	1.91	0.53
22:BA:1353:A:C8	22:BA:1378:A:N6	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1544:A:N6	22:DA:1545:A:N1	2.57	0.53
20:AT:67:ILE:HG13	20:AT:71:LYS:CG	2.39	0.53
22:BA:770:G:O2'	22:BA:771:G:H5'	2.09	0.53
22:BA:1386:C:H2'	22:BA:1387:A:C8	2.44	0.53
26:DE:58:LYS:HD3	26:DE:60:TRP:O	2.09	0.53
22:BA:250:G:OP2	51:B3:13:ARG:NH1	2.42	0.53
10:CJ:35:GLN:O	10:CJ:36:VAL:HB	2.09	0.53
46:BY:6:LEU:HD13	46:BY:56:LEU:HD22	1.91	0.53
1:CA:1291:U:H4'	9:CI:42:GLU:HG2	1.90	0.53
1:AA:144:G:C5	1:AA:179:A:C2	2.97	0.53
22:DA:1999:C:O2	22:DA:2687:U:O2'	2.25	0.53
22:DA:2312:U:OP1	27:DF:70:ALA:HA	2.09	0.53
2:AB:119:THR:O	2:AB:120:GLN:HB2	2.08	0.53
1:AA:562:U:OP2	12:AL:14:ARG:NH1	2.41	0.53
22:BA:1356:G:N2	22:BA:1357:C:H1'	2.24	0.53
30:BI:108:GLU:HA	30:BI:111:GLN:HB3	1.90	0.53
22:DA:1666:G:O3'	32:DK:6:THR:HG23	2.09	0.53
22:BA:1109:C:C5	22:BA:1110:G:C6	2.97	0.53
22:BA:201:C:OP1	45:BX:18:ARG:NH1	2.41	0.53
1:CA:977:A:N3	1:CA:977:A:H3'	2.24	0.53
18:AR:31:ASN:OD1	18:AR:31:ASN:N	2.42	0.53
25:DD:8:LYS:HD3	25:DD:196:ALA:O	2.08	0.53
29:DH:40:THR:O	29:DH:41:LYS:C	2.48	0.52
22:DA:575:A:C2	22:DA:576:U:C6	2.97	0.52
22:DA:2142:A:C6	22:DA:2143:C:C4	2.97	0.52
22:BA:1779:U:C5	22:BA:1784:A:N7	2.67	0.52
22:BA:2097:A:C2	22:BA:2193:G:C6	2.97	0.52
22:BA:2023:C:H2'	22:BA:2024:G:H5'	1.89	0.52
40:BS:59:GLU:HA	40:BS:64:ALA:CB	2.39	0.52
3:AC:87:LEU:O	3:AC:88:ARG:C	2.47	0.52
11:AK:69:ARG:CD	22:BA:2146:C:N3	2.72	0.52
1:AA:1157:A:C4	1:AA:1181:G:C6	2.97	0.52
42:DU:74:ASN:HB2	42:DU:81:ASP:OD2	2.10	0.52
22:BA:2344:U:H4'	22:BA:2345:G:OP1	2.08	0.52
8:AH:30:SER:OG	8:AH:33:LYS:HG3	2.09	0.52
22:DA:1327:A:H2'	22:DA:1328:A:O4'	2.10	0.52
22:DA:1754:A:C6	22:DA:1755:A:C6	2.97	0.52
22:DA:305:C:C2	22:DA:313:G:N1	2.78	0.52
7:AG:71:PRO:HD2	7:AG:96:ARG:O	2.08	0.52
1:CA:840:C:N3	1:CA:842:U:H4'	2.24	0.52
46:DY:17:GLU:HB2	46:DY:53:VAL:HG11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1786:A:H1'	22:DA:1938:A:N6	2.24	0.52
30:DI:117:MET:SD	30:DI:125:MET:HG2	2.48	0.52
7:CG:4:ARG:HG3	7:CG:5:ARG:N	2.23	0.52
12:AL:38:TYR:O	12:AL:39:THR:HG22	2.08	0.52
22:BA:1565:C:OP1	24:BC:18:LYS:CE	2.57	0.52
22:DA:195:A:C6	22:DA:198:C:C5	2.97	0.52
23:DB:32:U:C2	23:DB:51:G:N2	2.77	0.52
13:CM:4:ILE:HA	13:CM:57:ARG:CZ	2.39	0.52
2:AB:80:VAL:N	2:AB:82:ASP:OD2	2.42	0.52
39:DR:78:ARG:HB3	39:DR:83:TYR:CD1	2.44	0.52
6:AF:51:ILE:HD12	6:AF:86:ARG:CZ	2.39	0.52
28:BG:121:ILE:HD12	28:BG:141:ILE:CG2	2.38	0.52
29:DH:31:VAL:CB	29:DH:32:PRO:CD	2.86	0.52
14:CN:24:ARG:HG2	14:CN:27:LEU:HD12	1.91	0.52
40:DS:12:SER:O	40:DS:99:ARG:O	2.28	0.52
7:CG:74:GLU:O	7:CG:88:PRO:HA	2.08	0.52
22:BA:2553:G:H2'	22:BA:2554:U:O4'	2.09	0.52
22:DA:85:G:OP1	42:DU:7:ARG:N	2.42	0.52
22:DA:2815:C:H2'	22:DA:2816:G:O4'	2.10	0.52
43:DV:51:GLN:HB3	43:DV:56:PHE:CG	2.43	0.52
22:BA:1842:G:O4'	24:BC:243:HIS:CE1	2.62	0.52
11:CK:27:PHE:CZ	11:CK:89:PRO:HG2	2.44	0.52
23:DB:71:C:C2'	23:DB:72:G:H5'	2.40	0.52
29:BH:77:THR:HA	29:BH:143:ILE:O	2.09	0.52
22:BA:1300:G:H5''	22:BA:1301:A:H5'	1.92	0.52
28:BG:38:ASN:O	28:BG:39:ASP:HB2	2.07	0.52
22:BA:283:G:C5	22:BA:284:U:C5	2.98	0.52
22:DA:1430:G:H2'	22:DA:1431:A:O4'	2.09	0.52
7:AG:49:THR:O	7:AG:53:ARG:HB3	2.09	0.52
25:DD:149:ASN:OD1	25:DD:150:GLN:N	2.42	0.52
22:BA:572:A:C2	22:BA:2033:A:C2	2.97	0.52
1:AA:861:G:HO2'	1:AA:874:G:HO2'	1.54	0.52
22:DA:370:G:C6	22:DA:424:G:C5	2.97	0.52
22:DA:370:G:O2'	22:DA:423:A:H3'	2.10	0.52
22:DA:1379:U:H2'	22:DA:1379:U:O2	2.09	0.52
3:AC:7:PRO:HD2	3:AC:184:TYR:CD1	2.44	0.52
39:DR:83:TYR:C	39:DR:83:TYR:CD1	2.83	0.52
22:DA:116:C:C5	22:DA:117:G:N7	2.78	0.52
1:AA:71:A:N1	1:AA:99:C:O2'	2.43	0.52
22:DA:1509:A:N3	22:DA:1510:G:C8	2.77	0.52
1:CA:1302:C:C4	13:CM:17:ILE:CD1	2.93	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:CL:65:SER:HB2	12:CL:82:ILE:HD11	1.91	0.52
1:AA:1237:C:C4	1:AA:1336:C:N3	2.77	0.52
4:AD:58:LYS:HG3	4:AD:59:GLN:N	2.24	0.52
43:BV:14:LYS:HD2	43:BV:18:ARG:HH12	1.73	0.52
1:AA:1269:A:C2	1:AA:1313:U:O4'	2.63	0.52
22:BA:1416:G:O2'	22:BA:1417:C:H6	1.93	0.52
51:B3:27:ALA:O	51:B3:28:ASN:CB	2.57	0.52
46:DY:57:LEU:HA	46:DY:60:LYS:HB3	1.90	0.52
22:BA:1442:U:H2'	22:BA:1443:U:H6	1.73	0.52
1:CA:833:G:C4	1:CA:834:U:C6	2.98	0.52
22:BA:2140:G:C2	22:BA:2152:G:N1	2.77	0.52
30:BI:72:LYS:N	30:BI:72:LYS:HD3	2.24	0.52
22:BA:590:A:H2'	22:BA:591:U:C6	2.44	0.52
6:AF:99:ALA:O	6:AF:100:SER:CB	2.57	0.52
22:BA:1700:A:H5'	22:BA:1701:A:OP2	2.09	0.52
1:CA:154:U:C2'	1:CA:155:A:H5'	2.40	0.52
21:AU:20:LYS:CE	21:AU:20:LYS:HA	2.40	0.52
22:BA:1565:C:OP1	24:BC:18:LYS:HE2	2.09	0.52
22:BA:164:C:H2'	22:BA:165:A:O4'	2.09	0.52
2:AB:162:PHE:HA	2:AB:184:PHE:O	2.09	0.52
24:DC:34:LEU:O	24:DC:35:GLU:HB3	2.09	0.52
19:CS:31:LEU:O	19:CS:33:THR:N	2.40	0.52
5:AE:149:SER:OG	5:AE:152:MET:HB2	2.10	0.52
22:DA:2635:A:N6	22:DA:2636:C:C4	2.77	0.52
34:DM:72:PRO:HB3	34:DM:92:TRP:CZ3	2.44	0.52
22:DA:2469:A:H4'	34:DM:55:ARG:HD3	1.90	0.52
30:BI:64:ASP:O	30:BI:66:SER:N	2.42	0.52
43:DV:21:ARG:HA	43:DV:25:LYS:O	2.09	0.52
22:DA:2850:A:OP2	22:DA:2866:U:N3	2.36	0.52
20:CT:79:LEU:O	20:CT:83:ILE:HG23	2.09	0.52
1:CA:134:G:H2'	1:CA:135:C:O4'	2.08	0.52
29:DH:72:ILE:HG22	29:DH:72:ILE:O	2.09	0.52
22:BA:1353:A:C6	22:BA:1354:A:C6	2.97	0.52
1:CA:706:A:C1'	11:CK:31:ILE:HD11	2.40	0.52
40:DS:66:ILE:O	40:DS:67:ASP:C	2.47	0.52
22:BA:2747:G:C2	22:BA:2756:U:C5	2.97	0.52
53:B5:52:PRO:O	53:B5:53:ARG:HB2	2.09	0.52
1:AA:544:G:C5	1:AA:545:C:C5	2.97	0.52
4:AD:58:LYS:HG2	4:AD:203:LEU:HD22	1.92	0.52
35:DN:72:ASP:CG	35:DN:75:ILE:HG12	2.30	0.52
22:DA:995:C:C5	38:DQ:57:PHE:CE2	2.98	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:63:ASP:OD2	14:AN:85:ARG:HD2	2.10	0.52
22:BA:1585:C:H2'	22:BA:1586:A:H5'	1.91	0.52
22:DA:186:G:N1	22:DA:211:C:C2	2.77	0.52
24:BC:141:VAL:HG13	24:BC:191:THR:C	2.30	0.52
22:BA:65:U:H2'	22:BA:66:C:C6	2.45	0.52
31:DJ:31:GLU:HG3	31:DJ:142:ILE:HD11	1.91	0.52
22:BA:1717:A:C2	22:BA:1718:G:H1'	2.45	0.52
22:DA:190:A:C2'	22:DA:679:C:O2'	2.58	0.52
22:DA:2824:C:N4	22:DA:2825:G:C5	2.77	0.52
22:DA:1731:G:N1	22:DA:1733:G:C4	2.78	0.52
22:DA:271:G:H1'	22:DA:272:A:O5'	2.09	0.52
22:BA:736:C:C2	22:BA:737:C:C5	2.97	0.52
23:BB:109:A:C6	23:BB:110:C:N3	2.77	0.52
17:AQ:8:LEU:HD23	17:AQ:25:ILE:HD12	1.91	0.52
43:BV:48:MET:O	43:BV:51:GLN:HG3	2.10	0.52
1:AA:1123:U:H4'	10:AJ:39:PRO:HD2	1.91	0.52
22:DA:2461:A:C2	22:DA:2490:G:N2	2.77	0.52
22:DA:2467:C:N4	22:DA:2468:A:C6	2.78	0.52
30:DI:51:LYS:N	30:DI:51:LYS:HD3	2.24	0.52
1:AA:1048:G:N3	1:AA:1050:G:C8	2.78	0.52
1:AA:4:U:O2	1:AA:4:U:H2'	2.09	0.52
9:AI:21:ILE:HG22	9:AI:22:LYS:N	2.25	0.52
1:CA:1314:C:C5	19:CS:6:LYS:HE2	2.44	0.52
1:CA:149:A:C2	1:CA:150:U:C2	2.97	0.52
22:DA:2198:A:C2	29:DH:29:PHE:HB2	2.44	0.52
4:AD:190:ASP:OD1	4:AD:190:ASP:N	2.42	0.52
22:DA:53:A:C8	22:DA:54:G:N7	2.77	0.52
27:BF:2:ALA:O	27:BF:3:LYS:C	2.48	0.52
22:BA:2748:A:H1'	28:BG:67:THR:HG22	1.90	0.52
22:DA:1530:G:N2	22:DA:1542:U:C2	2.76	0.52
7:AG:40:GLU:HA	7:AG:43:VAL:CG2	2.40	0.52
22:BA:1423:G:O6	57:BA:3629:HOH:O	2.19	0.52
27:BF:105:THR:HG22	27:BF:106:ILE:HG23	1.90	0.52
16:AP:11:ALA:O	16:AP:12:LYS:C	2.47	0.52
22:BA:139:U:O2'	22:BA:141:G:N1	2.36	0.52
33:DL:81:ASP:O	33:DL:82:LEU:HB3	2.09	0.52
1:CA:960:U:C4	1:CA:1225:A:C8	2.97	0.52
9:CI:50:GLN:N	9:CI:51:PRO:HD2	2.25	0.52
5:CE:83:HIS:NE2	8:CH:96:MET:HE3	2.23	0.52
35:DN:20:MET:HG3	35:DN:21:PHE:N	2.24	0.52
1:CA:716:A:N3	11:CK:119:ASN:O	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CK:51:GLY:O	11:CK:52:PHE:O	2.28	0.52
1:CA:1288:A:N1	1:CA:1371:G:H1'	2.25	0.52
1:CA:155:A:N1	1:CA:167:A:C6	2.78	0.52
1:CA:246:A:C4	1:CA:279:A:C6	2.98	0.52
1:CA:211:G:O2'	1:CA:212:G:H4'	2.10	0.52
22:DA:1938:A:C6	22:DA:2590:A:H1'	2.45	0.52
25:BD:8:LYS:HB2	25:BD:201:LEU:HD11	1.92	0.52
22:DA:1695:G:H3'	22:DA:1695:G:N3	2.24	0.52
29:BH:51:ARG:NH1	29:BH:55:GLU:OE1	2.43	0.52
22:DA:16:C:O3'	48:D0:11:SER:OG	2.28	0.52
22:DA:1445:G:C2	22:DA:1547:C:N3	2.77	0.52
10:AJ:28:THR:HG22	10:AJ:86:ALA:HB1	1.91	0.52
22:DA:1820:U:O2	24:DC:200:HIS:HB3	2.09	0.52
22:DA:2765:A:H5'	22:DA:2766:A:OP2	2.09	0.52
49:B1:35:GLU:HG2	49:B1:50:LYS:HG3	1.91	0.52
22:BA:595:C:H2'	22:BA:596:U:C6	2.44	0.52
22:DA:1655:A:C2	22:DA:1656:C:H1'	2.44	0.52
22:DA:657:U:C2	22:DA:658:U:C5	2.97	0.52
1:CA:731:G:H5'	1:CA:766:A:H4'	1.90	0.52
36:BO:12:THR:O	36:BO:12:THR:HG22	2.09	0.52
22:DA:2050:C:C4	22:DA:2051:A:C6	2.97	0.52
22:BA:1244:A:OP1	33:BL:7:SER:OG	2.26	0.52
22:BA:1525:A:N7	22:BA:1526:C:C5	2.77	0.52
22:DA:2506:U:C5	22:DA:2585:U:O4	2.62	0.52
22:BA:1916:A:C4	22:BA:1917:U:C1'	2.79	0.52
1:AA:984:C:N3	1:AA:1222:G:C2	2.78	0.52
22:DA:527:C:OP1	57:DA:3246:HOH:O	2.18	0.52
22:DA:1011:G:C2	22:DA:1013:C:C2	2.97	0.52
22:DA:1623:G:C5	22:DA:1624:U:C5	2.97	0.52
1:AA:702:A:H3'	1:AA:703:G:C5'	2.39	0.52
22:DA:2145:C:H5''	22:DA:2146:C:OP1	2.08	0.52
22:DA:53:A:C2	22:DA:179:C:H4'	2.44	0.52
22:DA:1343:G:C6	22:DA:1344:U:O4	2.63	0.52
22:DA:1465:G:C5	22:DA:1466:U:C4	2.98	0.52
22:DA:463:G:C2	22:DA:467:G:C6	2.97	0.52
1:AA:209:U:H4'	1:AA:210:C:OP2	2.09	0.52
20:AT:79:LEU:O	20:AT:82:GLN:HB2	2.10	0.52
39:BR:68:ARG:HD3	39:BR:92:TRP:CE2	2.45	0.52
22:DA:2707:U:O2	35:DN:71:ARG:NH1	2.42	0.52
10:AJ:37:ARG:HB2	10:AJ:75:ASP:HB3	1.91	0.52
2:AB:33:GLY:O	2:AB:34:ALA:HB2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:83:LEU:HD21	19:AS:65:GLU:CG	2.39	0.52
1:CA:1226:C:H2'	13:CM:102:THR:HB	1.91	0.52
22:DA:1827:U:H2'	22:DA:1828:G:O4'	2.09	0.52
4:CD:166:GLU:O	4:CD:167:LYS:HB2	2.07	0.52
1:CA:409:U:OP1	4:CD:24:GLY:CA	2.57	0.52
42:DU:7:ARG:HD3	42:DU:7:ARG:C	2.29	0.52
46:BY:45:GLN:O	46:BY:46:VAL:CB	2.57	0.52
24:BC:235:GLY:O	24:BC:236:GLU:HB2	2.10	0.52
4:AD:34:ILE:O	4:AD:35:GLU:CB	2.57	0.52
4:AD:36:GLN:O	4:AD:37:ALA:HB2	2.09	0.52
29:DH:34:GLY:O	29:DH:35:LYS:HB2	2.08	0.52
29:DH:34:GLY:O	29:DH:35:LYS:HD2	2.10	0.52
22:DA:132:G:N2	22:DA:148:U:C2	2.78	0.52
1:AA:557:G:C6	1:AA:558:G:C6	2.98	0.52
19:CS:58:VAL:HG11	19:CS:75:ALA:HA	1.92	0.52
10:CJ:27:GLU:O	10:CJ:27:GLU:HG2	2.09	0.52
24:BC:18:LYS:HB3	24:BC:18:LYS:HZ2	1.74	0.52
30:BI:11:LEU:HD12	30:BI:24:VAL:HG12	1.91	0.52
17:AQ:53:CYS:SG	17:AQ:75:LEU:HD23	2.50	0.52
23:DB:46:A:C5	23:DB:47:C:C5	2.98	0.52
1:AA:188:C:N3	1:AA:189:A:C2	2.77	0.52
22:BA:804:A:H5''	22:BA:805:G:OP1	2.10	0.52
25:BD:99:GLU:HG2	25:BD:182:ALA:HB2	1.90	0.52
1:AA:1010:U:H2'	1:AA:1011:C:C6	2.44	0.52
20:AT:48:GLN:OE1	20:AT:52:ASN:ND2	2.43	0.52
9:AI:84:THR:HG21	9:AI:103:PHE:CB	2.38	0.52
1:CA:50:A:N6	1:CA:361:G:H4'	2.25	0.52
1:AA:233:C:H2'	1:AA:234:C:C6	2.45	0.52
15:AO:45:GLU:HG2	15:AO:46:HIS:N	2.25	0.52
22:BA:2812:G:H2'	22:BA:2813:A:O4'	2.09	0.52
46:BY:34:SER:O	46:BY:35:GLY:C	2.47	0.52
45:BX:56:MET:O	45:BX:59:ILE:N	2.42	0.52
1:CA:238:A:O2'	1:CA:239:U:H5'	2.10	0.52
1:AA:818:G:O2'	1:AA:819:A:H5'	2.09	0.52
29:BH:94:ILE:HD12	29:BH:98:ASP:HB3	1.92	0.52
22:BA:1179:G:C8	22:BA:1180:U:O4'	2.62	0.52
6:AF:90:MET:HG2	18:AR:61:ARG:NH2	2.25	0.52
4:AD:95:GLU:OE2	4:AD:100:ASN:ND2	2.42	0.52
22:BA:1064:C:O2	22:BA:1074:G:N2	2.43	0.52
1:AA:64:G:C2	1:AA:67:C:N4	2.77	0.52
22:BA:1925:C:H5''	22:BA:1926:U:O4	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1160:G:HO2'	1:AA:1161:C:P	2.32	0.52
22:BA:1754:A:N6	22:BA:1755:A:N6	2.57	0.52
10:AJ:17:LEU:HD23	10:AJ:18:ILE:N	2.24	0.52
8:AH:3:MET:O	8:AH:5:ASP:N	2.43	0.52
39:BR:46:GLU:CA	39:BR:46:GLU:OE1	2.58	0.52
1:AA:662:U:H2'	1:AA:663:A:C8	2.45	0.52
1:CA:62:U:O2'	1:CA:379:C:O2	2.25	0.52
22:BA:2808:G:C2	22:BA:2891:U:C6	2.97	0.52
1:CA:1386:G:N3	1:CA:1387:G:C8	2.77	0.52
1:CA:1513:A:H2'	1:CA:1514:G:C8	2.45	0.52
22:BA:12:U:C2'	22:BA:12:U:O2	2.58	0.52
2:AB:67:ILE:O	2:AB:68:LEU:CB	2.58	0.52
2:AB:68:LEU:HD21	2:AB:92:VAL:HG23	1.92	0.52
1:CA:309:A:H1'	1:CA:608:A:C2	2.45	0.52
22:DA:1401:G:C6	22:DA:1402:U:C4	2.98	0.52
22:DA:2898:U:H2'	22:DA:2899:A:C8	2.45	0.52
1:AA:8:A:H5'	5:AE:125:ALA:O	2.10	0.52
28:DG:41:VAL:HG12	28:DG:42:GLU:N	2.24	0.52
12:AL:38:TYR:HB2	12:AL:52:VAL:HG23	1.91	0.52
7:CG:42:ILE:HG21	7:CG:116:MET:HG3	1.91	0.52
22:DA:969:G:H2'	22:DA:970:U:C6	2.45	0.52
38:BQ:9:ILE:HG13	38:BQ:10:ALA:N	2.24	0.52
1:CA:282:A:C8	1:CA:283:U:C5	2.98	0.52
22:BA:1365:A:O5'	45:BX:28:ARG:NH2	2.43	0.52
1:CA:945:G:C2	1:CA:946:A:C8	2.97	0.52
22:DA:2808:G:H4'	22:DA:2809:A:O5'	2.09	0.52
29:DH:25:TYR:CZ	29:DH:30:LEU:HD21	2.45	0.52
22:BA:2187:U:H2'	22:BA:2188:U:O4'	2.10	0.52
4:AD:29:ASP:C	4:AD:30:THR:O	2.42	0.52
22:DA:972:A:C6	22:DA:973:A:C6	2.98	0.52
1:AA:1299:A:C6	1:AA:1301:U:O2	2.63	0.52
30:DI:54:PRO:O	30:DI:75:PRO:HD2	2.10	0.52
1:AA:109:A:H4'	1:AA:110:C:OP2	2.10	0.52
22:DA:249:C:P	22:DA:2394:C:HO2'	2.33	0.52
22:DA:1817:G:C2'	22:DA:1818:U:H5'	2.40	0.52
1:AA:1161:C:H2'	1:AA:1162:C:C6	2.45	0.52
22:BA:1857:G:N2	22:BA:1884:G:H1'	2.24	0.52
2:CB:21:ARG:HA	2:CB:21:ARG:NE	2.24	0.52
4:AD:143:VAL:HG23	4:AD:143:VAL:O	2.09	0.52
6:AF:98:GLU:CG	6:AF:99:ALA:N	2.72	0.52
22:BA:1939:U:OP1	22:BA:2604:U:O2'	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1119:C:OP1	9:AI:85:ARG:NH2	2.41	0.52
28:DG:176:LYS:O	28:DG:177:LYS:CB	2.58	0.52
22:DA:2184:A:H2'	22:DA:2185:U:C6	2.44	0.52
29:BH:2:GLN:O	29:BH:3:VAL:HG22	2.10	0.52
5:CE:126:LYS:HE3	5:CE:126:LYS:HA	1.91	0.52
22:BA:468:G:N7	50:B2:39:ARG:NH2	2.55	0.52
53:B5:83:LYS:HB3	53:B5:87:ALA:CB	2.40	0.52
41:BT:11:LEU:CD2	41:BT:11:LEU:N	2.73	0.52
5:AE:45:ARG:HA	5:AE:72:ILE:O	2.10	0.52
22:DA:1515:A:O2'	22:DA:1556:C:O2'	2.18	0.52
26:DE:146:VAL:HA	26:DE:185:LYS:O	2.10	0.52
1:CA:774:G:C6	1:CA:775:G:C5	2.97	0.52
1:CA:1364:U:C2'	1:CA:1364:U:O2	2.58	0.52
24:DC:267:ILE:O	24:DC:267:ILE:HG22	2.09	0.52
20:CT:71:LYS:HE3	20:CT:75:HIS:CE1	2.45	0.52
26:DE:76:PRO:HA	26:DE:82:GLY:HA2	1.92	0.52
22:DA:1154:G:OP1	38:DQ:58:ARG:HD3	2.10	0.52
12:CL:25:GLU:C	12:CL:27:CYS:N	2.59	0.52
1:CA:978:A:C5	1:CA:1318:A:N6	2.78	0.52
24:DC:16:VAL:HG22	24:DC:206:GLY:HA3	1.92	0.52
22:BA:1605:C:C3'	22:BA:1606:C:H5'	2.40	0.52
1:AA:1014:A:C2	19:AS:34:TRP:CZ2	2.98	0.52
22:DA:811:U:O2	22:DA:1251:C:C6	2.63	0.52
13:AM:47:GLU:O	13:AM:49:SER:N	2.43	0.52
46:BY:16:THR:HA	46:BY:19:LEU:HB2	1.91	0.52
22:DA:295:G:N2	22:DA:296:U:C6	2.77	0.52
41:DT:64:LYS:HA	41:DT:79:ASP:OD2	2.10	0.52
22:DA:1120:G:C6	22:DA:1121:C:C4	2.98	0.52
31:DJ:30:THR:CG2	31:DJ:31:GLU:N	2.73	0.52
24:DC:148:PRO:HD3	24:DC:185:GLU:OE2	2.10	0.52
2:AB:147:SER:O	2:AB:148:LEU:HG	2.09	0.52
23:BB:112:G:N2	36:BO:45:SER:O	2.37	0.52
22:DA:2428:G:H5''	22:DA:2429:G:OP1	2.10	0.52
24:BC:146:MET:SD	24:BC:154:LEU:HD21	2.50	0.52
7:AG:49:THR:O	7:AG:53:ARG:CB	2.58	0.52
22:DA:2223:G:C6	22:DA:2224:G:C4	2.98	0.52
1:CA:158:G:C5	1:CA:164:G:C6	2.98	0.52
34:DM:107:GLY:C	34:DM:108:VAL:HG22	2.30	0.52
30:BI:44:ALA:O	30:BI:45:LYS:HD3	2.09	0.52
22:BA:441:U:H2'	22:BA:442:G:C8	2.45	0.52
22:DA:1203:U:O2'	33:DL:4:ASN:OD1	2.28	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BI:59:ILE:HG22	30:BI:61:VAL:HG23	1.91	0.52
1:CA:41:G:H2'	1:CA:42:G:C8	2.45	0.52
22:DA:2663:G:H2'	22:DA:2664:G:O4'	2.10	0.52
27:DF:73:SER:HB2	27:DF:81:GLN:CB	2.40	0.52
1:CA:570:G:H2'	1:CA:571:U:C6	2.45	0.52
17:CQ:29:VAL:O	17:CQ:29:VAL:CG2	2.56	0.52
42:BU:49:VAL:O	42:BU:49:VAL:HG13	2.09	0.52
13:CM:37:ALA:CB	13:CM:56:LEU:HG	2.40	0.52
29:DH:23:ALA:O	29:DH:27:ARG:N	2.38	0.52
1:AA:1077:G:N2	1:AA:1080:A:OP2	2.42	0.52
13:AM:3:ARG:HG3	13:AM:4:ILE:N	2.24	0.52
22:DA:565:C:H4'	22:DA:1253:A:N6	2.24	0.52
17:AQ:15:ASP:C	17:AQ:17:MET:SD	2.89	0.52
22:DA:46:G:C2	22:DA:47:C:C5	2.97	0.52
22:DA:1355:G:O2'	22:DA:1356:G:H5'	2.09	0.52
1:CA:520:A:OP1	12:CL:49:LEU:HB2	2.09	0.52
1:AA:220:G:C5	1:AA:221:C:C5	2.98	0.52
11:AK:126:LYS:HA	21:AU:34:ARG:HH21	1.73	0.52
11:AK:126:LYS:CA	21:AU:34:ARG:HH21	2.23	0.52
5:AE:157:ARG:CD	8:AH:43:GLU:O	2.58	0.52
14:AN:10:GLU:OE2	14:AN:61:ARG:HB3	2.10	0.52
35:BN:70:THR:OG1	35:BN:71:ARG:N	2.42	0.52
22:BA:321:U:OP2	26:BE:131:THR:HG23	2.09	0.52
17:CQ:51:ASN:O	17:CQ:52:GLU:O	2.27	0.52
22:BA:1454:C:H5'	35:BN:63:ARG:HD2	1.92	0.52
1:AA:724:G:N3	1:AA:725:G:C8	2.78	0.52
1:CA:949:A:C2	1:CA:1233:G:N3	2.78	0.52
41:DT:38:ALA:O	41:DT:39:THR:CB	2.58	0.52
16:AP:77:GLU:C	16:AP:79:ASN:H	2.12	0.52
2:AB:94:HIS:O	2:AB:95:ARG:C	2.47	0.52
26:DE:83:VAL:HG11	26:DE:86:ALA:HA	1.92	0.52
1:AA:587:G:N2	1:AA:755:G:C5	2.78	0.52
12:AL:3:THR:CG2	12:AL:4:VAL:N	2.72	0.52
1:CA:1243:C:N4	1:CA:1244:G:O6	2.43	0.52
22:BA:2794:C:H2'	22:BA:2795:C:C6	2.44	0.52
22:BA:381:G:OP1	45:BX:18:ARG:NH2	2.42	0.52
1:AA:815:A:H4'	1:AA:817:C:C4	2.45	0.52
1:CA:774:G:C5	1:CA:775:G:C8	2.98	0.52
22:DA:443:A:N7	26:DE:40:ARG:HG3	2.25	0.52
1:AA:41:G:H2'	1:AA:42:G:H8	1.74	0.52
1:CA:809:G:OP2	15:CO:48:LYS:NZ	2.35	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:935:A:C2	1:AA:936:C:C2	2.97	0.52
28:DG:123:ALA:HB2	28:DG:133:LEU:HA	1.92	0.52
28:BG:86:LYS:HG2	28:BG:132:VAL:HG13	1.91	0.52
14:AN:21:PHE:HA	14:AN:25:ALA:HB3	1.92	0.52
21:CU:14:VAL:O	21:CU:16:LEU:HG	2.09	0.52
1:AA:933:G:N7	7:AG:3:ARG:NH1	2.58	0.52
2:CB:99:GLY:HA2	2:CB:175:GLU:OE1	2.11	0.51
4:AD:98:LEU:O	4:AD:99:ASP:C	2.46	0.51
22:DA:319:G:H2'	22:DA:320:A:O4'	2.10	0.51
13:AM:16:VAL:CG1	13:AM:41:GLU:HB2	2.40	0.51
11:CK:124:PRO:HB2	11:CK:126:LYS:HE3	1.91	0.51
22:DA:445:C:H2'	22:DA:446:G:C8	2.45	0.51
22:BA:511:U:O4	22:BA:512:G:C2	2.63	0.51
40:BS:83:LYS:O	40:BS:84:ARG:HD3	2.10	0.51
22:DA:2135:A:C2	22:DA:2136:G:H1'	2.45	0.51
22:BA:2196:C:O2'	22:BA:2197:U:H5'	2.09	0.51
22:DA:2707:U:H2'	22:DA:2708:G:C8	2.45	0.51
22:BA:1414:C:C4	22:BA:1415:U:C5	2.98	0.51
29:BH:110:VAL:HG22	29:BH:114:GLU:HB2	1.90	0.51
26:BE:149:ILE:CD1	26:BE:172:ALA:HA	2.39	0.51
9:AI:91:ASP:OD1	9:AI:93:SER:N	2.42	0.51
22:DA:1231:U:H2'	22:DA:1232:G:H8	1.74	0.51
1:CA:4:U:O2	1:CA:4:U:H2'	2.08	0.51
22:BA:1750:G:C5	22:BA:1751:U:C4	2.98	0.51
5:CE:157:ARG:O	5:CE:159:LYS:N	2.40	0.51
16:AP:61:VAL:HG22	16:AP:67:ILE:HD11	1.90	0.51
1:CA:130:A:O2'	1:CA:131:A:O5'	2.28	0.51
22:BA:545:U:H2'	22:BA:546:U:O3'	2.10	0.51
20:CT:35:VAL:HG11	20:CT:79:LEU:HD13	1.92	0.51
14:CN:3:LYS:HB3	14:CN:6:MET:HG2	1.92	0.51
1:CA:600:A:C2	1:CA:639:G:C2	2.97	0.51
2:CB:94:HIS:CD2	2:CB:146:ASN:HB2	2.44	0.51
28:BG:54:PRO:HG3	28:BG:62:TRP:CE2	2.45	0.51
22:BA:1459:G:C5	22:BA:1461:C:C4	2.98	0.51
1:AA:772:U:C2'	1:AA:773:G:O5'	2.58	0.51
7:CG:75:VAL:HG21	7:CG:144:MET:HG2	1.91	0.51
7:CG:11:LYS:N	7:CG:11:LYS:HD2	2.25	0.51
22:BA:2114:A:H2'	22:BA:2114:A:N3	2.24	0.51
23:DB:5:U:H2'	23:DB:6:G:C8	2.46	0.51
22:DA:2372:U:O4'	49:D1:46:HIS:ND1	2.42	0.51
44:BW:47:ALA:HB1	44:BW:51:VAL:O	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2602:A:H4'	22:DA:2603:G:C5'	2.40	0.51
16:AP:38:PHE:CZ	16:AP:51:ARG:HB2	2.45	0.51
21:CU:35:ARG:NH2	57:CU:102:HOH:O	2.43	0.51
22:DA:126:A:N7	22:DA:127:A:N1	2.58	0.51
1:CA:515:G:H2'	1:CA:516:U:O4'	2.10	0.51
22:DA:1566:A:C2	24:DC:213:TRP:CE3	2.98	0.51
22:BA:2286:G:H4'	22:BA:2287:A:O5'	2.09	0.51
1:AA:411:A:C6	1:AA:429:U:C4	2.99	0.51
39:DR:49:ILE:HD13	39:DR:52:PRO:HA	1.92	0.51
12:CL:80:ILE:HD12	12:CL:97:THR:CG2	2.40	0.51
1:AA:108:G:C5'	1:AA:108:G:N3	2.74	0.51
6:CF:88:MET:CE	18:CR:64:TYR:CD2	2.93	0.51
5:AE:82:GLN:HG2	5:AE:150:PRO:HB3	1.91	0.51
1:AA:1270:G:O3'	1:AA:1314:C:H5'	2.10	0.51
22:BA:2377:A:O2'	22:BA:2378:A:H5'	2.10	0.51
22:DA:425:G:C2	22:DA:426:C:C4	2.98	0.51
1:AA:1478:U:H2'	1:AA:1479:C:C6	2.45	0.51
24:BC:235:GLY:HA3	24:BC:239:ASN:HB2	1.92	0.51
22:BA:1494:A:C2'	22:BA:1495:A:O5'	2.58	0.51
16:AP:73:ALA:O	16:AP:77:GLU:HB2	2.10	0.51
22:DA:146:A:C2	22:DA:147:C:C2	2.98	0.51
4:CD:90:LEU:HD21	4:CD:200:ILE:HD11	1.91	0.51
1:CA:695:A:H2'	1:CA:696:A:C8	2.45	0.51
49:B1:50:LYS:O	49:B1:51:GLU:HB3	2.09	0.51
1:CA:39:G:N2	1:CA:40:C:C2	2.79	0.51
14:CN:2:ALA:O	14:CN:3:LYS:CB	2.57	0.51
17:AQ:54:GLY:N	17:AQ:57:ASP:OD2	2.40	0.51
2:AB:27:MET:HG2	2:AB:189:THR:HA	1.92	0.51
26:BE:79:ARG:O	26:BE:80:SER:CB	2.59	0.51
22:BA:2010:G:O2'	22:BA:2011:U:H5'	2.10	0.51
8:AH:113:ASP:OD2	8:AH:117:ARG:NH2	2.44	0.51
19:CS:11:ILE:HG13	19:CS:12:ASP:N	2.25	0.51
5:CE:72:ILE:HD13	5:CE:145:GLU:HG3	1.93	0.51
22:DA:159:G:O2'	22:DA:167:A:N6	2.38	0.51
24:DC:144:VAL:HB	24:DC:154:LEU:HB2	1.92	0.51
22:DA:1668:A:O4'	22:DA:1669:A:C2	2.63	0.51
16:CP:51:ARG:C	16:CP:51:ARG:HD3	2.31	0.51
22:DA:1483:G:C6	22:DA:1484:U:C4	2.97	0.51
22:BA:1122:G:N3	22:BA:1122:G:H2'	2.24	0.51
39:DR:58:VAL:HG13	39:DR:102:SER:HB2	1.91	0.51
22:DA:1563:U:H2'	22:DA:1564:C:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2061:G:H5''	22:DA:2503:A:C2	2.45	0.51
22:DA:370:G:C6	22:DA:424:G:N7	2.79	0.51
22:DA:422:A:C2	22:DA:423:A:C4	2.98	0.51
18:CR:24:LYS:C	18:CR:26:ILE:H	2.14	0.51
29:DH:121:VAL:O	29:DH:122:LEU:HB2	2.11	0.51
37:DP:53:ARG:O	37:DP:56:HIS:N	2.42	0.51
1:AA:797:C:OP2	11:AK:126:LYS:HE2	2.11	0.51
22:BA:1922:G:C2	22:BA:1923:U:C6	2.97	0.51
6:CF:38:ARG:HG3	6:CF:62:MET:O	2.10	0.51
10:AJ:11:LYS:HA	10:AJ:70:HIS:O	2.10	0.51
1:AA:1315:U:C4	1:AA:1316:G:C6	2.99	0.51
19:AS:4:SER:HB2	19:AS:5:LEU:HD12	1.93	0.51
22:DA:40:U:C4	22:DA:41:C:N4	2.78	0.51
11:CK:52:PHE:CE1	11:CK:62:ALA:HB1	2.45	0.51
1:AA:1277:C:HO2'	1:AA:1279:G:H8	1.52	0.51
22:DA:2731:G:C6	22:DA:2732:G:O6	2.64	0.51
1:CA:121:U:H3'	1:CA:122:G:C5'	2.39	0.51
1:CA:1166:G:O2'	1:CA:1169:A:N6	2.43	0.51
34:BM:69:PRO:O	34:BM:70:ASP:OD2	2.28	0.51
22:DA:680:C:H2'	22:DA:681:G:C8	2.45	0.51
22:BA:544:C:H5'	22:BA:545:U:OP2	2.10	0.51
22:BA:1356:G:C2	22:BA:1376:C:O2	2.63	0.51
1:AA:189:A:H2'	1:AA:190:A:O4'	2.10	0.51
1:CA:237:G:C6	1:CA:238:A:C5	2.99	0.51
1:AA:819:A:H4'	1:AA:820:U:OP2	2.11	0.51
36:BO:100:HIS:O	36:BO:104:GLN:HB3	2.10	0.51
43:DV:9:ARG:CG	43:DV:41:GLU:HB3	2.40	0.51
41:DT:34:VAL:HG21	41:DT:43:ILE:HD11	1.92	0.51
22:DA:1790:C:O2'	24:DC:208:ALA:HB2	2.10	0.51
22:DA:1248:G:C4	38:DQ:3:ARG:HG3	2.46	0.51
22:DA:1248:G:N7	26:DE:46:GLN:NE2	2.58	0.51
1:AA:756:C:H2'	1:AA:757:U:O4'	2.10	0.51
22:DA:374:A:N6	22:DA:400:G:O2'	2.43	0.51
1:CA:1328:C:H5''	13:CM:28:THR:HG21	1.92	0.51
22:DA:1007:C:OP1	31:DJ:37:ARG:NH2	2.43	0.51
21:CU:44:GLU:OE1	21:CU:45:ARG:NH1	2.43	0.51
42:DU:38:GLY:HA2	42:DU:41:LEU:CD2	2.40	0.51
29:BH:99:ILE:O	29:BH:103:VAL:CG2	2.58	0.51
3:CC:155:GLY:O	3:CC:156:ARG:C	2.49	0.51
22:BA:576:U:H2'	22:BA:577:G:C8	2.46	0.51
22:DA:1362:C:H2'	22:DA:1363:C:C5'	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:669:G:N2	22:DA:670:A:N1	2.59	0.51
12:CL:65:SER:OG	12:CL:97:THR:HG23	2.10	0.51
5:CE:82:GLN:OE1	5:CE:150:PRO:CD	2.58	0.51
22:DA:301:G:O4'	22:DA:317:G:N2	2.44	0.51
2:CB:206:ALA:O	2:CB:207:ILE:C	2.47	0.51
41:BT:17:SER:O	41:BT:18:GLU:C	2.49	0.51
22:DA:1317:G:N2	22:DA:1336:A:C2	2.78	0.51
1:CA:811:C:N4	1:CA:812:G:O6	2.43	0.51
1:CA:811:C:H4'	1:CA:900:A:N6	2.26	0.51
27:BF:108:VAL:HG11	27:BF:176:PRO:HG2	1.91	0.51
22:DA:533:G:C5	22:DA:534:U:C4	2.99	0.51
1:AA:1211:U:O2'	1:AA:1212:U:P	2.68	0.51
7:AG:130:ASN:HA	7:AG:135:VAL:HG11	1.92	0.51
13:AM:40:ALA:HB3	13:AM:43:VAL:CG1	2.41	0.51
26:BE:196:VAL:O	26:BE:197:GLU:C	2.47	0.51
22:DA:2657:A:C4	22:DA:2665:A:C6	2.98	0.51
32:DK:6:THR:O	32:DK:8:LEU:HD12	2.11	0.51
17:AQ:5:ILE:O	17:AQ:6:ARG:HB2	2.10	0.51
22:DA:1930:G:O2'	22:DA:1931:U:P	2.68	0.51
22:BA:811:U:C2	22:BA:1251:C:C5	2.98	0.51
51:D3:52:LYS:O	51:D3:55:LEU:N	2.44	0.51
2:CB:19:GLN:HB3	2:CB:189:THR:OG1	2.09	0.51
22:DA:2845:U:H5''	37:DP:52:ASN:O	2.11	0.51
22:DA:2294:G:P	36:DO:94:ARG:HH12	2.33	0.51
22:BA:2040:G:H2'	22:BA:2041:U:O4'	2.09	0.51
38:BQ:76:TYR:CZ	38:BQ:80:ILE:HG13	2.46	0.51
22:DA:2679:A:C2	22:DA:2680:U:C2	2.98	0.51
1:CA:330:C:H2'	1:CA:330:C:O2	2.10	0.51
16:AP:76:LYS:O	16:AP:76:LYS:HG3	2.11	0.51
10:AJ:10:LEU:O	10:AJ:71:LEU:HA	2.11	0.51
32:DK:107:LEU:O	32:DK:109:SER:N	2.43	0.51
1:CA:322:C:O2	1:CA:332:G:N2	2.43	0.51
29:BH:132:PHE:O	29:BH:139:PHE:HB3	2.11	0.51
29:BH:94:ILE:CG2	29:BH:99:ILE:CG1	2.88	0.51
29:DH:26:ALA:HA	29:DH:30:LEU:HB2	1.92	0.51
22:BA:1916:A:H2'	22:BA:1917:U:O4'	2.10	0.51
2:AB:72:THR:O	2:AB:73:LYS:CB	2.57	0.51
2:AB:82:ASP:C	2:AB:84:ALA:N	2.62	0.51
22:BA:1176:U:H2'	22:BA:1177:G:N9	2.25	0.51
22:BA:627:A:C6	22:BA:637:A:C8	2.99	0.51
22:DA:55:G:C2	22:DA:56:A:C8	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BH:85:GLY:HA2	29:BH:91:PHE:CE2	2.46	0.51
22:DA:2345:G:C6	22:DA:2347:C:N4	2.79	0.51
29:DH:53:GLU:O	29:DH:54:LEU:C	2.49	0.51
22:BA:1923:U:C2	22:BA:1924:C:C6	2.99	0.51
22:DA:609:A:H2'	22:DA:610:C:O4'	2.10	0.51
22:DA:1843:C:H4'	24:DC:251:GLN:NE2	2.25	0.51
1:AA:1157:A:C4	1:AA:1181:G:N1	2.78	0.51
1:AA:1157:A:C5	1:AA:1181:G:C6	2.98	0.51
1:CA:527:G:N1	1:CA:528:C:C5	2.79	0.51
1:CA:1160:G:O6	1:CA:1181:G:C6	2.64	0.51
27:BF:132:VAL:HG22	27:BF:152:LEU:CB	2.40	0.51
1:AA:1314:C:H41	19:AS:4:SER:HA	1.75	0.51
1:AA:507:C:N3	1:AA:508:U:C4	2.79	0.51
30:BI:116:ASP:O	30:BI:117:MET:CB	2.58	0.51
22:BA:2637:U:H2'	22:BA:2638:G:H5'	1.92	0.51
15:CO:53:ARG:O	15:CO:56:LEU:N	2.44	0.51
23:BB:37:C:C5	23:BB:38:C:C5	2.99	0.51
22:DA:483:A:C8	42:DU:45:HIS:CD2	2.98	0.51
26:DE:52:VAL:HB	26:DE:74:LYS:HD3	1.93	0.51
26:DE:47:LYS:O	26:DE:83:VAL:HB	2.10	0.51
1:AA:353:A:C2'	1:AA:354:G:OP2	2.59	0.51
57:BA:3291:HOH:O	33:BL:99:ASN:ND2	2.42	0.51
22:DA:1926:U:H1'	22:DA:1929:G:C6	2.46	0.51
21:CU:14:VAL:HG12	21:CU:16:LEU:HG	1.93	0.51
17:AQ:5:ILE:O	17:AQ:6:ARG:CB	2.58	0.51
22:DA:315:G:H2'	22:DA:316:C:O4'	2.10	0.51
22:BA:1173:U:C2'	22:BA:1174:U:O5'	2.59	0.51
1:AA:551:U:H2'	1:AA:552:U:O5'	2.10	0.51
16:CP:44:SER:O	16:CP:46:LYS:HG3	2.09	0.51
1:CA:1431:A:C6	1:CA:1432:G:C6	2.98	0.51
31:DJ:140:LEU:HD12	31:DJ:141:ASP:N	2.24	0.51
19:AS:50:ALA:HB1	19:AS:57:HIS:HB3	1.93	0.51
1:CA:1356:G:H2'	1:CA:1357:A:C8	2.46	0.51
22:BA:191:A:H2'	22:BA:192:C:C6	2.46	0.51
22:BA:2691:C:C4	22:BA:2719:G:N2	2.79	0.51
22:BA:1668:A:H4'	22:BA:1669:A:O5'	2.11	0.51
22:DA:1584:U:H3'	22:DA:1584:U:O2	2.11	0.51
27:DF:163:ASP:N	27:DF:163:ASP:OD1	2.43	0.51
22:DA:2325:G:C6	22:DA:2326:C:N4	2.78	0.51
29:BH:117:LEU:CD2	29:BH:121:VAL:N	2.70	0.51
1:CA:1213:A:C5	1:CA:1215:G:C4	2.99	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:89:U:O2'	1:AA:90:C:H5'	2.10	0.51
22:DA:1307:A:H2'	22:DA:1308:A:O4'	2.11	0.51
1:AA:452:A:H2'	1:AA:453:G:C5'	2.39	0.51
5:CE:100:SER:O	5:CE:101:GLU:C	2.48	0.51
22:DA:447:A:H5'	22:DA:449:A:C5	2.45	0.51
5:CE:133:PRO:HA	5:CE:136:VAL:CG1	2.41	0.51
29:BH:91:PHE:HB3	1:CA:55:A:C4	2.45	0.51
22:DA:1344:U:HO2'	22:DA:1345:C:P	2.30	0.51
22:BA:26:G:H1'	22:BA:514:A:H61	1.76	0.51
22:DA:2267:A:H5''	22:DA:2268:A:H5'	1.92	0.51
22:BA:1921:G:N3	22:BA:1922:G:C8	2.77	0.51
22:BA:533:G:OP1	38:BQ:24:TYR:O	2.29	0.51
22:DA:286:U:H2'	22:DA:287:G:C8	2.46	0.51
32:BK:116:ILE:O	32:BK:118:LEU:O	2.28	0.51
42:DU:83:VAL:HG11	42:DU:94:ARG:CD	2.41	0.51
1:CA:573:A:C2	1:CA:574:A:C2	2.99	0.51
22:BA:1582:C:O2'	22:BA:1585:C:N3	2.39	0.51
10:CJ:40:ILE:HG22	10:CJ:42:LEU:HG	1.92	0.51
26:BE:31:VAL:HG21	26:BE:104:ALA:CB	2.40	0.51
22:BA:2151:U:H2'	22:BA:2152:G:N7	2.26	0.51
1:AA:179:A:OP2	57:AA:1879:HOH:O	2.19	0.51
22:BA:1718:G:C2	22:BA:1719:G:C8	2.99	0.51
23:DB:94:A:H2'	23:DB:95:U:O4'	2.09	0.51
30:BI:82:LYS:O	30:BI:83:ALA:CB	2.58	0.51
2:AB:147:SER:O	2:AB:148:LEU:CG	2.59	0.51
1:AA:721:G:C6	1:AA:733:G:C2	2.98	0.51
1:CA:1093:A:O2'	1:CA:1095:U:OP1	2.19	0.51
22:BA:735:A:H3'	22:BA:736:C:C6	2.46	0.51
2:AB:10:LEU:HD23	2:AB:10:LEU:C	2.30	0.51
22:DA:2743:U:OP1	52:D4:34:LYS:NZ	2.39	0.51
1:CA:987:G:C6	1:CA:988:G:C5	2.98	0.51
9:CI:25:ASN:O	9:CI:27:LYS:N	2.42	0.51
22:DA:1053:C:C2	22:DA:1107:G:C2	2.98	0.51
22:BA:747:U:C5	22:BA:2613:U:C5	2.99	0.51
22:BA:753:A:H2'	22:BA:754:U:H6	1.74	0.51
32:BK:43:ILE:HD12	32:BK:56:ASP:HB2	1.92	0.51
22:BA:1114:C:O2'	22:BA:1115:G:H5'	2.10	0.51
22:DA:914:G:H5'	22:DA:915:C:OP2	2.11	0.51
43:BV:55:GLU:H	43:BV:55:GLU:CD	2.13	0.51
42:BU:42:VAL:O	42:BU:60:GLU:HA	2.11	0.51
24:BC:212:ARG:HD2	24:BC:216:VAL:O	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:DS:73:LYS:CB	40:DS:106:VAL:HB	2.40	0.51
5:CE:50:TYR:O	5:CE:51:GLY:O	2.28	0.51
36:DO:33:ARG:O	36:DO:34:HIS:CG	2.63	0.51
22:DA:1378:A:C2'	22:DA:1380:G:N7	2.74	0.51
1:CA:1042:A:H2'	1:CA:1043:G:C1'	2.41	0.51
1:CA:1211:U:O2'	1:CA:1212:U:P	2.69	0.51
22:DA:570:G:C2'	22:DA:571:U:H5'	2.41	0.51
11:AK:38:GLN:O	11:AK:40:ASN:N	2.44	0.51
14:CN:54:ASP:HA	14:CN:59:ARG:HD3	1.92	0.51
1:AA:198:G:C4	1:AA:199:A:C8	2.99	0.51
27:BF:40:VAL:HG12	27:BF:85:ILE:C	2.31	0.51
22:DA:1056:G:N1	22:DA:1102:C:OP2	2.44	0.51
22:DA:2136:G:C2	22:DA:2156:G:H1'	2.46	0.51
25:BD:101:PHE:O	25:BD:103:ASP:N	2.43	0.51
8:AH:8:ALA:HB2	8:AH:77:ARG:CD	2.40	0.51
30:DI:28:LEU:C	30:DI:28:LEU:HD12	2.30	0.51
3:CC:42:TYR:CZ	3:CC:90:VAL:HG21	2.46	0.51
35:DN:12:ARG:CZ	35:DN:20:MET:HE1	2.41	0.51
17:CQ:11:ARG:HB2	17:CQ:57:ASP:O	2.10	0.51
38:BQ:50:ARG:O	38:BQ:54:LYS:CE	2.59	0.51
22:DA:1401:G:C5	22:DA:1402:U:C4	2.99	0.51
30:BI:16:GLY:HA3	30:BI:51:LYS:HB3	1.91	0.51
22:DA:1691:C:N4	22:DA:1692:U:O4	2.44	0.51
15:CO:10:LYS:O	15:CO:14:GLU:HG3	2.11	0.51
22:BA:2564:A:C2	22:BA:2647:U:H4'	2.46	0.51
7:CG:116:MET:HA	7:CG:119:ARG:HD3	1.92	0.51
53:B5:83:LYS:HB3	53:B5:87:ALA:HB3	1.92	0.51
1:CA:771:G:C4	1:CA:809:G:N2	2.79	0.51
28:DG:174:ALA:O	28:DG:175:LYS:O	2.27	0.51
32:BK:21:CYS:HA	32:BK:41:ILE:HG22	1.93	0.51
22:BA:1786:A:C4	22:BA:1938:A:C6	2.99	0.51
43:BV:21:ARG:HA	43:BV:25:LYS:O	2.11	0.51
1:AA:1049:U:O2	1:AA:1201:A:C5	2.63	0.51
16:AP:20:VAL:HG21	16:AP:32:PHE:CG	2.46	0.51
23:BB:114:C:H1'	36:BO:47:VAL:HG11	1.91	0.51
21:CU:40:LYS:N	21:CU:41:PRO:CD	2.74	0.51
36:BO:36:TYR:CD1	36:BO:36:TYR:N	2.78	0.51
22:DA:200:U:C4	22:DA:248:G:C2	2.99	0.51
5:AE:77:ASN:O	5:AE:78:ASN:CB	2.59	0.51
3:CC:64:ILE:HG12	3:CC:66:VAL:HG23	1.92	0.51
29:BH:100:ALA:CB	29:BH:112:LYS:HA	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BH:117:LEU:CD2	29:BH:121:VAL:CA	2.89	0.51
22:DA:2058:A:C6	22:DA:2059:A:N6	2.79	0.51
12:CL:61:PHE:CD1	12:CL:61:PHE:N	2.79	0.51
1:AA:1031:C:HO2'	1:AA:1032:G:P	2.30	0.51
38:BQ:58:ARG:HA	38:BQ:61:TRP:CE3	2.46	0.51
4:AD:160:GLU:O	4:AD:162:ALA:N	2.44	0.51
22:BA:2012:G:OP1	40:BS:98:LYS:NZ	2.39	0.51
40:BS:96:ILE:CD1	40:BS:98:LYS:CG	2.89	0.51
22:DA:537:G:C6	22:DA:555:G:C2	2.98	0.51
22:DA:297:G:H5''	42:DU:85:PHE:CB	2.41	0.51
23:DB:14:U:OP2	23:DB:70:C:O2'	2.29	0.51
4:AD:124:MET:HE2	4:AD:146:ARG:HD2	1.93	0.51
22:DA:563:A:H1'	22:DA:2018:G:N2	2.26	0.51
1:CA:254:G:OP1	17:CQ:69:LYS:O	2.28	0.51
22:DA:984:A:H5''	22:DA:985:C:OP2	2.11	0.51
6:AF:79:ARG:NE	6:AF:79:ARG:HA	2.26	0.51
22:BA:1441:G:H2'	22:BA:1442:U:H6	1.76	0.51
1:CA:1190:G:H5'	3:CC:176:HIS:CE1	2.46	0.51
2:AB:149:GLY:O	2:AB:151:ILE:N	2.43	0.51
22:DA:1733:G:C5	22:DA:1734:G:C8	2.99	0.51
1:AA:900:A:N1	1:AA:901:A:C2	2.79	0.51
1:CA:1093:A:C5	1:CA:1095:U:O4'	2.63	0.51
1:AA:457:G:C6	1:AA:458:U:C2	2.99	0.51
1:CA:1379:G:N2	1:CA:1381:U:O4	2.40	0.51
22:DA:204:A:O4'	22:DA:206:U:C6	2.63	0.51
37:BP:22:PRO:HD3	37:BP:50:ILE:HD12	1.93	0.51
22:BA:1789:A:P	24:BC:221:ARG:HH11	2.34	0.51
1:AA:957:U:C2	1:AA:959:A:OP2	2.64	0.51
22:DA:2636:C:H2'	22:DA:2637:U:C6	2.45	0.51
22:BA:593:U:H2'	22:BA:594:U:C6	2.46	0.51
22:BA:1115:G:N3	22:BA:1116:G:C8	2.78	0.51
22:DA:200:U:O4	22:DA:248:G:C2	2.63	0.51
29:DH:5:LEU:HA	29:DH:36:ALA:HA	1.93	0.51
1:AA:29:U:H5'	1:AA:296:U:OP1	2.11	0.51
22:DA:1029:A:N1	22:DA:2465:C:O2'	2.43	0.51
1:AA:1057:G:O3'	3:AC:197:GLY:HA3	2.11	0.51
46:DY:1:MET:N	46:DY:4:LYS:HD3	2.26	0.51
7:CG:118:LEU:O	7:CG:122:ASN:ND2	2.44	0.51
2:AB:133:GLU:O	2:AB:137:ARG:N	2.44	0.51
39:DR:66:HIS:CG	39:DR:94:THR:HG23	2.46	0.51
1:CA:927:G:O2'	1:CA:1503:A:N7	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:DU:54:GLN:N	42:DU:55:PRO:HD3	2.26	0.51
25:DD:151:THR:HG22	25:DD:152:PRO:CD	2.41	0.51
22:DA:222:A:H3'	22:DA:421:C:H5'	1.93	0.51
22:DA:2781:A:H5''	22:DA:2782:G:O5'	2.10	0.51
1:CA:1071:C:H2'	1:CA:1072:G:C8	2.46	0.51
22:DA:2159:G:H2'	22:DA:2160:C:C6	2.46	0.51
5:CE:137:VAL:O	5:CE:138:ARG:HB3	2.06	0.51
22:DA:116:C:C4	22:DA:117:G:N7	2.78	0.51
22:BA:2127:G:C4'	22:BA:2128:G:OP1	2.57	0.51
1:CA:1317:C:O2'	14:CN:49:GLN:HG2	2.10	0.51
22:DA:491:G:C6	22:DA:492:A:C6	2.99	0.51
5:CE:155:ALA:HB1	8:CH:66:PHE:CE2	2.46	0.51
3:AC:88:ARG:HG3	3:AC:99:ALA:O	2.10	0.51
22:BA:587:C:OP2	33:BL:21:ARG:NH1	2.44	0.51
2:AB:217:VAL:O	2:AB:220:THR:HG22	2.10	0.51
1:AA:1151:A:C4	1:AA:1152:A:N7	2.79	0.51
1:CA:76:G:N2	1:CA:95:C:N3	2.59	0.51
23:DB:7:G:C5'	36:DO:29:HIS:CE1	2.94	0.51
22:DA:2291:U:OP1	22:DA:2380:C:O2'	2.25	0.51
22:DA:2853:C:H2'	22:DA:2854:G:C8	2.46	0.51
13:AM:64:VAL:O	13:AM:64:VAL:HG12	2.11	0.51
22:DA:102:U:C2	46:DY:2:LYS:HE2	2.46	0.51
22:DA:1662:U:O2	22:DA:2687:U:C5'	2.59	0.51
1:AA:1277:C:H1'	1:AA:1282:C:O2	2.11	0.51
22:BA:1734:G:N3	22:BA:1735:A:C8	2.79	0.51
22:BA:2592:G:N7	57:BA:3793:HOH:O	2.35	0.51
40:DS:55:ILE:O	40:DS:58:ALA:HB3	2.11	0.51
22:DA:600:G:C5'	26:DE:27:LEU:HD22	2.41	0.51
1:AA:920:U:H2'	1:AA:921:U:C6	2.46	0.51
32:DK:113:MET:SD	32:DK:116:ILE:HD11	2.51	0.51
26:BE:46:GLN:O	26:BE:88:ARG:NH1	2.44	0.51
22:BA:2038:G:H2'	22:BA:2039:U:O4'	2.11	0.51
22:DA:538:A:O2'	31:DJ:8:PRO:CG	2.58	0.51
43:BV:36:ALA:O	43:BV:93:ARG:NH2	2.41	0.51
22:BA:2116:G:C6	22:BA:2171:A:N6	2.79	0.51
1:AA:1508:A:H2'	1:AA:1509:C:O4'	2.11	0.51
9:CI:91:ASP:OD1	9:CI:93:SER:N	2.42	0.51
9:AI:63:LEU:N	9:AI:63:LEU:CD2	2.74	0.51
22:DA:121:G:H1'	22:DA:131:A:N1	2.26	0.51
22:BA:612:G:H2'	22:BA:614:A:C8	2.46	0.51
2:CB:132:LYS:O	2:CB:136:MET:HB3	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1909:C:H5'	22:BA:1910:G:OP2	2.10	0.51
1:CA:1070:U:C2	1:CA:1071:C:C5	2.98	0.51
1:AA:702:A:H3'	1:AA:703:G:H5'	1.92	0.51
22:DA:118:A:N7	22:DA:119:A:C8	2.78	0.51
22:DA:1355:G:C2	22:DA:1356:G:C8	2.98	0.51
2:CB:16:PHE:N	2:CB:16:PHE:CD1	2.79	0.51
39:BR:49:ILE:HB	39:BR:52:PRO:CA	2.41	0.51
22:BA:2192:U:H2'	22:BA:2193:G:O4'	2.10	0.51
4:AD:166:GLU:O	4:AD:167:LYS:HB2	2.10	0.51
1:CA:495:A:N1	1:CA:496:A:N6	2.59	0.51
12:CL:92:GLY:O	12:CL:94:ARG:HG2	2.11	0.51
12:AL:43:LYS:O	12:AL:44:LYS:C	2.49	0.51
37:BP:31:TRP:CD2	37:BP:40:LEU:HD12	2.46	0.51
11:AK:52:PHE:CB	11:AK:56:ARG:HB3	2.40	0.51
1:CA:773:G:N3	1:CA:807:A:C2	2.78	0.51
29:BH:14:SER:OG	29:BH:17:ASP:OD1	2.29	0.51
22:DA:2849:U:OP2	37:DP:93:ARG:NH2	2.44	0.51
15:CO:52:SER:O	15:CO:55:GLY:N	2.44	0.51
22:BA:2339:C:H2'	22:BA:2340:A:H8	1.74	0.51
4:CD:12:SER:HA	4:CD:19:LEU:HD12	1.92	0.51
22:DA:1734:G:H2'	22:DA:1735:A:C8	2.46	0.51
1:AA:8:A:C5	4:AD:206:LYS:HB3	2.45	0.51
22:DA:2308:G:H5''	22:DA:2309:A:OP2	2.10	0.51
23:BB:90:C:H2'	23:BB:91:C:O5'	2.11	0.51
1:CA:1480:A:H2'	1:CA:1481:U:O4'	2.11	0.51
1:CA:597:G:N7	1:CA:598:U:C5	2.79	0.51
24:BC:154:LEU:HD23	24:BC:154:LEU:N	2.26	0.51
45:BX:78:TYR:CG	45:BX:78:TYR:OXT	2.64	0.51
22:BA:1356:G:C2	22:BA:1357:C:C2	2.99	0.51
1:AA:188:C:O2	1:AA:188:C:H2'	2.10	0.51
1:CA:158:G:C6	1:CA:159:G:C5	2.99	0.51
1:AA:41:G:H2'	1:AA:42:G:C8	2.45	0.51
16:CP:5:ARG:O	16:CP:19:VAL:HA	2.11	0.51
3:AC:42:TYR:CZ	3:AC:90:VAL:HG21	2.46	0.51
22:DA:1881:C:H2'	22:DA:1882:U:O4'	2.10	0.51
22:BA:1363:C:H2'	22:BA:1364:G:H8	1.76	0.51
35:BN:52:ILE:HG21	35:BN:94:TYR:CD2	2.46	0.51
31:BJ:38:GLY:O	31:BJ:44:TYR:HB2	2.10	0.51
22:DA:1576:U:O2'	22:DA:1577:C:H5'	2.11	0.51
24:DC:147:LYS:HB2	24:DC:150:LYS:HB2	1.92	0.51
22:BA:2071:A:H2'	22:BA:2072:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:DB:64:G:H2'	23:DB:65:U:C6	2.46	0.51
1:CA:547:A:P	57:CA:1775:HOH:O	2.69	0.51
22:DA:2199:A:C4	22:DA:2225:A:N1	2.80	0.50
22:BA:1916:A:H2'	22:BA:1917:U:H4'	1.93	0.50
1:AA:1227:A:C2'	1:AA:1228:C:O5'	2.58	0.50
2:CB:103:ASN:CG	2:CB:103:ASN:O	2.48	0.50
22:DA:1607:C:O2	22:DA:1621:U:C5	2.64	0.50
12:AL:94:ARG:HB2	12:AL:95:TYR:CE1	2.45	0.50
29:BH:83:LYS:HA	29:BH:148:ALA:HA	1.93	0.50
49:B1:33:LYS:HA	49:B1:52:ALA:HB3	1.92	0.50
9:AI:58:VAL:O	9:AI:59:GLU:HG2	2.11	0.50
4:CD:124:MET:HG3	4:CD:146:ARG:HG2	1.93	0.50
2:CB:68:LEU:HD13	2:CB:161:LEU:HD13	1.93	0.50
22:DA:1288:G:C8	22:DA:1327:A:C6	2.99	0.50
22:DA:13:A:N3	22:DA:14:A:N6	2.58	0.50
46:DY:60:LYS:O	46:DY:62:GLY:N	2.42	0.50
35:BN:77:ALA:O	35:BN:79:LEU:O	2.29	0.50
22:DA:1645:G:H4'	22:DA:1646:C:C6	2.46	0.50
1:AA:1461:G:C5	1:AA:1462:C:C5	2.99	0.50
22:BA:1208:C:C4	22:BA:1209:U:C4	2.99	0.50
17:CQ:57:ASP:HB3	17:CQ:80:GLU:O	2.11	0.50
1:CA:1084:G:H5'	1:CA:1102:A:OP2	2.11	0.50
2:AB:151:ILE:O	2:AB:152:LYS:C	2.50	0.50
24:BC:40:SER:C	24:BC:42:GLY:N	2.64	0.50
1:AA:339:C:H2'	1:AA:340:U:H6	1.76	0.50
33:DL:68:SER:O	33:DL:69:ARG:HB2	2.10	0.50
20:CT:54:MET:HE1	20:CT:58:VAL:HG21	1.93	0.50
22:DA:2602:A:H4'	22:DA:2603:G:H5'	1.93	0.50
2:AB:193:PRO:O	2:AB:195:GLY:N	2.39	0.50
7:AG:113:ASP:HB2	7:AG:119:ARG:HG3	1.93	0.50
8:CH:21:ASN:O	8:CH:22:LYS:C	2.49	0.50
25:DD:90:PHE:CE2	25:DD:96:ILE:HD11	2.46	0.50
1:AA:375:U:C4	1:AA:376:G:N7	2.79	0.50
22:BA:2014:A:H2'	22:BA:2015:A:C8	2.47	0.50
27:BF:136:ILE:N	27:BF:136:ILE:HD12	2.26	0.50
39:BR:62:GLU:O	39:BR:64:VAL:CG1	2.58	0.50
1:CA:734:G:C2	1:CA:735:C:C6	2.99	0.50
22:BA:1502:A:C2	22:BA:1503:A:C4	2.99	0.50
22:BA:2020:A:H5'	48:B0:9:THR:CG2	2.42	0.50
1:CA:566:G:O6	57:CA:1730:HOH:O	2.19	0.50
1:AA:694:A:N1	1:AA:787:A:O2'	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DD:125:TRP:CG	25:DD:160:LYS:HB3	2.46	0.50
22:BA:2341:G:H2'	22:BA:2342:C:C6	2.46	0.50
22:BA:1327:A:N6	22:BA:1328:A:C2	2.79	0.50
22:BA:870:U:C4	22:BA:871:U:C5	2.99	0.50
16:CP:36:VAL:O	16:CP:36:VAL:HG13	2.10	0.50
4:AD:130:VAL:HG11	4:AD:135:TYR:CD2	2.46	0.50
6:CF:29:ILE:HG22	6:CF:34:GLY:O	2.10	0.50
3:CC:77:ILE:HA	3:CC:84:VAL:HG23	1.92	0.50
22:DA:2093:G:C5	22:DA:2225:A:C8	2.99	0.50
22:BA:796:C:H2'	22:BA:797:G:C8	2.47	0.50
24:DC:158:ALA:HB1	24:DC:197:ASN:O	2.11	0.50
4:AD:3:ARG:NH2	4:AD:115:ARG:HD3	2.25	0.50
1:AA:453:G:H2'	1:AA:454:G:C8	2.47	0.50
1:CA:736:C:H2'	1:CA:737:C:C6	2.46	0.50
22:BA:1075:C:H2'	22:BA:1076:C:C6	2.46	0.50
1:CA:209:U:H2'	1:CA:209:U:O2	2.12	0.50
1:CA:502:A:H2'	1:CA:503:C:O4'	2.11	0.50
22:DA:1359:A:N7	22:DA:1373:A:C2	2.79	0.50
22:DA:572:A:OP2	39:DR:80:ARG:NH2	2.44	0.50
39:DR:80:ARG:O	39:DR:82:HIS:N	2.41	0.50
22:BA:1090:A:C2'	22:BA:1091:G:H5'	2.41	0.50
1:AA:212:G:C2	1:AA:213:G:C4	2.99	0.50
22:BA:1936:A:C2	22:BA:1945:G:C8	2.99	0.50
9:AI:30:ILE:HA	9:AI:65:ILE:O	2.11	0.50
22:BA:1083:U:O2	22:BA:1086:A:C2	2.64	0.50
1:AA:1315:U:C5	1:AA:1316:G:C5	2.99	0.50
22:BA:322:A:H4'	22:BA:323:C:OP2	2.12	0.50
27:BF:28:VAL:O	27:BF:28:VAL:HG13	2.11	0.50
22:DA:933:A:H5'	22:DA:934:U:OP2	2.11	0.50
27:BF:107:ALA:N	27:BF:109:PRO:HD2	2.26	0.50
4:AD:152:GLN:O	4:AD:153:SER:C	2.49	0.50
1:AA:1059:C:C2	1:AA:1060:U:C6	3.00	0.50
10:CJ:15:HIS:HB3	10:CJ:70:HIS:CD2	2.45	0.50
1:AA:1302:C:C4	13:AM:17:ILE:HD13	2.47	0.50
33:BL:62:PRO:CG	51:B3:25:LYS:HD3	2.41	0.50
1:CA:803:G:OP1	57:CA:1801:HOH:O	2.18	0.50
22:DA:2543:G:N3	22:DA:2765:A:H2'	2.26	0.50
41:BT:11:LEU:HD21	41:BT:46:ALA:HB3	1.93	0.50
1:CA:375:U:C4	1:CA:376:G:N7	2.79	0.50
51:D3:52:LYS:O	51:D3:54:ASP:N	2.44	0.50
27:BF:112:ARG:O	27:BF:113:ASP:HB2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BX:74:ARG:NH2	45:BX:76:GLU:HG3	2.26	0.50
22:BA:360:U:H3'	22:BA:361:G:C8	2.46	0.50
7:AG:50:LEU:O	7:AG:50:LEU:HD13	2.12	0.50
1:AA:1167:A:N7	1:AA:1169:A:C5	2.78	0.50
41:DT:4:GLU:HA	41:DT:7:LEU:HB2	1.92	0.50
30:DI:90:SER:HB3	30:DI:93:PRO:HG3	1.93	0.50
22:DA:2093:G:O2'	29:DH:25:TYR:CB	2.59	0.50
22:DA:222:A:C8	22:DA:224:U:C5	2.99	0.50
29:DH:44:ILE:O	29:DH:48:GLU:HB2	2.11	0.50
1:CA:991:U:C4	1:CA:1212:U:O4'	2.64	0.50
22:DA:1304:A:C6	22:DA:1305:C:C5	2.99	0.50
50:D2:18:PHE:O	50:D2:20:ALA:N	2.45	0.50
22:BA:784:G:H5'	22:BA:785:G:OP1	2.11	0.50
22:BA:2191:A:N1	22:BA:2192:U:C4	2.79	0.50
27:BF:36:LEU:HD11	27:BF:99:PHE:CZ	2.47	0.50
45:DX:10:LYS:HE3	45:DX:54:LYS:CD	2.42	0.50
4:AD:165:ARG:O	4:AD:167:LYS:N	2.45	0.50
22:DA:2415:G:C2	22:DA:2416:C:C2	2.99	0.50
10:AJ:52:LEU:CB	14:AN:81:ARG:HE	2.24	0.50
1:CA:386:C:N4	1:CA:387:U:O4	2.43	0.50
2:CB:67:ILE:HG22	2:CB:68:LEU:N	2.26	0.50
2:AB:35:ARG:HB3	2:AB:40:ILE:HD11	1.93	0.50
21:AU:14:VAL:O	21:AU:16:LEU:HG	2.11	0.50
22:DA:1917:U:H2'	22:DA:1918:A:H5'	1.94	0.50
1:CA:207:C:C2'	1:CA:207:C:O2	2.59	0.50
17:AQ:52:GLU:N	17:AQ:52:GLU:CD	2.64	0.50
1:CA:76:G:C2	1:CA:95:C:N3	2.79	0.50
35:DN:12:ARG:O	35:DN:17:ARG:NH2	2.44	0.50
22:BA:669:G:C6	22:BA:801:G:C6	2.99	0.50
23:BB:30:C:OP1	36:BO:3:LYS:NZ	2.44	0.50
35:DN:114:GLU:OE2	35:DN:118:ARG:HD2	2.11	0.50
1:CA:755:G:C2	1:CA:756:C:C5	3.00	0.50
1:AA:142:G:H3'	1:AA:143:A:C8	2.46	0.50
1:AA:1405:G:H1'	1:AA:1519:A:O4'	2.11	0.50
17:AQ:46:VAL:HG13	17:AQ:73:TRP:O	2.10	0.50
4:AD:130:VAL:HG11	4:AD:135:TYR:CG	2.46	0.50
22:DA:1415:U:C2	22:DA:1588:G:C2	2.99	0.50
1:CA:998:C:H2'	1:CA:999:C:C6	2.46	0.50
23:DB:96:G:C6	23:DB:97:C:C4	2.99	0.50
28:DG:45:HIS:O	28:DG:46:ALA:HB3	2.11	0.50
1:AA:32:A:OP1	1:AA:398:U:H1'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1055:A:C6	1:AA:1206:G:C5	2.98	0.50
38:BQ:78:LYS:O	38:BQ:81:ASN:N	2.44	0.50
2:AB:208:ARG:O	2:AB:210:VAL:N	2.44	0.50
2:AB:118:GLU:HA	2:AB:121:SER:HB2	1.93	0.50
40:DS:37:THR:OG1	40:DS:48:LYS:NZ	2.41	0.50
5:CE:147:MET:HG2	5:CE:147:MET:O	2.10	0.50
1:AA:1525:G:OP1	11:AK:122:ARG:NH2	2.39	0.50
22:BA:1885:A:C5	22:BA:1886:U:C5	2.99	0.50
22:BA:608:A:C6	22:BA:609:A:C6	3.00	0.50
2:CB:128:LYS:O	2:CB:129:LEU:HB2	2.11	0.50
29:BH:80:ILE:O	29:BH:147:VAL:N	2.44	0.50
1:AA:701:U:H4'	1:AA:702:A:O5'	2.12	0.50
5:CE:102:GLY:O	5:CE:104:GLY:CA	2.59	0.50
24:DC:210:ALA:HA	24:DC:213:TRP:NE1	2.26	0.50
22:DA:1343:G:N2	22:DA:1405:U:C2	2.80	0.50
23:DB:58:A:H2'	23:DB:59:A:O4'	2.12	0.50
22:DA:585:G:H2'	22:DA:586:A:N7	2.26	0.50
22:DA:2415:G:C5	22:DA:2416:C:C5	3.00	0.50
2:CB:50:PHE:CD1	2:CB:54:LEU:HD23	2.46	0.50
22:BA:669:G:C2'	22:BA:669:G:N3	2.73	0.50
30:BI:39:CYS:CA	30:BI:42:PHE:HB3	2.41	0.50
22:BA:1842:G:C5	22:BA:1843:C:C5	2.99	0.50
1:AA:39:G:N7	1:AA:547:A:H8	2.09	0.50
22:DA:2037:A:N6	22:DA:2038:G:O6	2.45	0.50
22:DA:2019:A:H4'	38:DQ:34:VAL:CG2	2.41	0.50
22:DA:1027:A:C6	22:DA:1126:A:N3	2.79	0.50
22:DA:2469:A:O2'	34:DM:55:ARG:CZ	2.60	0.50
1:CA:135:C:O2	16:CP:1:MET:HB2	2.11	0.50
14:AN:3:LYS:O	14:AN:4:GLN:C	2.50	0.50
22:DA:158:U:O4	22:DA:159:G:C6	2.64	0.50
1:CA:734:G:N3	1:CA:735:C:C6	2.79	0.50
22:DA:1794:A:H1'	22:DA:1900:A:C2	2.46	0.50
22:BA:2018:G:O2'	22:BA:2019:A:H5'	2.11	0.50
22:DA:510:C:OP1	57:DA:3765:HOH:O	2.19	0.50
4:CD:119:SER:O	4:CD:131:ASN:OD1	2.30	0.50
1:AA:1107:C:C4	1:AA:1108:G:N7	2.80	0.50
2:CB:62:SER:C	2:CB:64:LYS:N	2.63	0.50
22:BA:2514:U:H2'	22:BA:2515:C:C6	2.46	0.50
1:AA:579:A:O2'	15:AO:54:ARG:NH1	2.45	0.50
39:BR:29:THR:HG22	39:BR:29:THR:O	2.12	0.50
24:BC:174:LEU:HD13	24:BC:174:LEU:N	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BT:64:LYS:HA	41:BT:79:ASP:OD1	2.10	0.50
35:DN:28:LEU:O	35:DN:32:GLU:HA	2.12	0.50
5:AE:115:LEU:HG	5:AE:120:VAL:HG21	1.94	0.50
2:CB:83:ALA:O	2:CB:86:SER:OG	2.24	0.50
22:DA:2094:A:H5'	29:DH:25:TYR:CD1	2.45	0.50
55:DA:3001:VIR:H352	55:DA:3001:VIR:C31	2.32	0.50
1:AA:1407:C:O2'	22:BA:1912:A:C6	2.60	0.50
1:AA:829:G:C6	1:AA:858:G:C2	2.99	0.50
22:DA:760:G:C6	22:DA:761:A:C4	3.00	0.50
4:AD:161:LEU:HD22	4:AD:161:LEU:N	2.27	0.50
22:DA:1544:A:C6	22:DA:1545:A:N1	2.79	0.50
22:DA:1363:C:O2'	22:DA:1809:A:N3	2.42	0.50
1:AA:212:G:C2	1:AA:213:G:C5	2.99	0.50
22:DA:740:C:H5'	22:DA:1784:A:O2'	2.11	0.50
7:AG:57:SER:OG	7:AG:58:GLU:N	2.43	0.50
42:DU:96:PHE:CZ	42:DU:103:ILE:CG1	2.95	0.50
39:BR:71:LYS:HA	39:BR:90:ARG:HG2	1.92	0.50
1:AA:1313:U:OP2	19:AS:6:LYS:HB3	2.12	0.50
10:CJ:6:ILE:HD11	10:CJ:79:PRO:HA	1.93	0.50
26:BE:149:ILE:HD11	26:BE:172:ALA:CA	2.41	0.50
22:DA:1323:C:N4	22:DA:1324:G:C6	2.78	0.50
22:DA:619:G:O6	26:DE:98:LYS:NZ	2.31	0.50
21:AU:14:VAL:CG1	21:AU:16:LEU:CD2	2.90	0.50
48:B0:55:ILE:O	48:B0:56:ALA:HB3	2.12	0.50
4:AD:147:GLU:O	4:AD:148:LYS:C	2.49	0.50
1:AA:1478:U:H2'	1:AA:1479:C:H6	1.76	0.50
1:AA:1101:A:H4'	1:AA:1102:A:O5'	2.11	0.50
1:AA:69:G:O6	1:AA:98:A:N6	2.45	0.50
1:CA:8:A:N6	4:CD:206:LYS:HB3	2.26	0.50
1:AA:485:U:O4'	1:AA:485:U:O2	2.29	0.50
22:DA:2373:G:C6	22:DA:2374:C:N4	2.80	0.50
22:BA:2593:U:C2	22:BA:2594:C:C5	3.00	0.50
4:AD:35:GLU:O	4:AD:38:PRO:HD3	2.12	0.50
22:DA:1677:A:H5''	57:DA:3433:HOH:O	2.11	0.50
1:AA:880:C:OP2	12:AL:3:THR:HG21	2.11	0.50
12:CL:28:PRO:HB2	12:CL:29:GLN:OE1	2.12	0.50
22:DA:1833:C:N4	22:DA:1834:U:O4	2.45	0.50
1:CA:1380:U:C5	7:CG:3:ARG:HA	2.47	0.50
45:BX:78:TYR:CD1	45:BX:78:TYR:OXT	2.65	0.50
22:BA:1525:A:C5	22:BA:1526:C:C5	2.99	0.50
5:CE:125:ALA:O	5:CE:126:LYS:HB3	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:699:A:H2'	22:DA:700:G:O4'	2.11	0.50
22:DA:2440:C:C4	22:DA:2441:U:H1'	2.46	0.50
22:DA:980:A:C4	22:DA:1136:G:O4'	2.63	0.50
29:BH:66:ASN:OD1	29:BH:138:VAL:HG21	2.11	0.50
1:AA:723:U:H5''	21:AU:49:LYS:HG2	1.93	0.50
22:DA:269:C:N3	22:DA:270:A:C8	2.79	0.50
22:DA:1726:C:H2'	22:DA:1727:C:H6	1.76	0.50
4:CD:161:LEU:HD23	4:CD:162:ALA:N	2.26	0.50
22:BA:2166:U:O4	22:BA:2170:A:N7	2.45	0.50
20:CT:57:ILE:O	20:CT:61:GLN:HG2	2.12	0.50
22:BA:571:U:C4	22:BA:575:A:C4	3.00	0.50
22:BA:1917:U:H2'	22:BA:1918:A:H5'	1.94	0.50
1:AA:828:U:H2'	1:AA:829:G:O5'	2.11	0.50
36:BO:101:GLY:O	36:BO:103:VAL:N	2.45	0.50
22:DA:1305:C:N4	22:DA:1607:C:OP2	2.44	0.50
50:D2:12:ARG:NH2	50:D2:44:VAL:CG1	2.75	0.50
31:DJ:81:ILE:HG12	31:DJ:82:GLY:N	2.27	0.50
1:CA:1317:C:N4	1:CA:1318:A:N3	2.60	0.50
21:AU:37:PHE:HA	21:AU:40:LYS:HE3	1.94	0.50
22:BA:2023:C:O2'	22:BA:2024:G:H5'	2.11	0.50
22:BA:1022:G:N7	31:BJ:68:LYS:HE2	2.27	0.50
53:B5:65:LEU:HD11	53:B5:191:ARG:CA	2.41	0.50
1:AA:1157:A:N6	1:AA:1180:A:N7	2.60	0.50
1:AA:1329:A:H5''	13:AM:26:GLY:N	2.26	0.50
19:AS:5:LEU:O	19:AS:6:LYS:HD2	2.11	0.50
22:BA:1587:G:C4	22:BA:1588:G:C8	3.00	0.50
2:CB:68:LEU:HD12	2:CB:158:PRO:HG2	1.92	0.50
1:CA:1162:C:C2	1:CA:1175:G:C2	3.00	0.50
9:AI:43:THR:O	9:AI:44:ALA:HB3	2.12	0.50
22:DA:2849:U:OP2	37:DP:93:ARG:NE	2.45	0.50
27:BF:119:ALA:HB2	27:BF:177:PHE:CD1	2.47	0.50
1:AA:998:C:H2'	1:AA:999:C:C6	2.47	0.50
22:BA:1866:A:C2	22:BA:1876:A:C4	2.99	0.50
25:DD:84:LEU:HD13	25:DD:88:GLU:HB2	1.94	0.50
43:DV:51:GLN:HA	43:DV:56:PHE:HB2	1.93	0.50
28:DG:169:VAL:O	28:DG:169:VAL:HG12	2.11	0.50
22:BA:688:U:OP2	50:B2:2:LYS:NZ	2.44	0.50
17:AQ:50:ASN:O	17:AQ:51:ASN:C	2.49	0.50
27:BF:8:TYR:HA	27:BF:12:VAL:HG23	1.92	0.50
1:AA:721:G:H4'	1:AA:722:G:C5'	2.42	0.50
1:AA:1163:A:H2'	1:AA:1164:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:DI:10:LYS:HB2	30:DI:56:PRO:CB	2.42	0.50
1:CA:1478:U:H2'	1:CA:1479:C:C6	2.46	0.50
1:CA:1416:G:N2	1:CA:1485:U:H1'	2.25	0.50
29:DH:5:LEU:HD11	29:DH:13:GLY:HA2	1.93	0.50
2:AB:132:LYS:O	2:AB:136:MET:HB2	2.12	0.50
28:DG:12:PRO:HD2	28:DG:15:VAL:HG21	1.94	0.50
4:CD:116:GLN:HG3	4:CD:120:HIS:CE1	2.46	0.50
1:CA:1422:G:C2	1:CA:1423:G:C8	2.99	0.50
1:AA:1008:U:H2'	1:AA:1009:U:C6	2.47	0.50
22:DA:2785:C:H2'	22:DA:2786:U:O4'	2.12	0.50
28:DG:96:ALA:N	28:DG:128:GLN:O	2.45	0.50
1:AA:582:C:C4	1:AA:583:A:N7	2.80	0.50
20:CT:25:ARG:O	20:CT:29:ARG:HG3	2.10	0.50
22:BA:487:C:O2	40:BS:53:SER:OG	2.29	0.50
1:CA:1437:A:C2	1:CA:1465:A:C2	3.00	0.50
25:BD:28:GLU:OE2	25:BD:30:GLU:HG3	2.12	0.50
8:CH:126:ILE:HD12	8:CH:126:ILE:N	2.26	0.50
22:BA:2153:C:H2'	22:BA:2154:A:O4'	2.12	0.50
27:DF:126:GLY:O	27:DF:158:THR:CG2	2.60	0.50
22:BA:84:A:N1	22:BA:98:G:O2'	2.33	0.50
22:BA:2176:A:C6	22:BA:2177:C:N4	2.80	0.50
40:DS:49:LYS:O	40:DS:53:SER:HB2	2.12	0.50
43:DV:38:LEU:HD23	43:DV:40:ILE:CD1	2.42	0.50
41:BT:57:VAL:CG2	41:BT:58:VAL:N	2.74	0.50
2:CB:102:THR:HG23	2:CB:102:THR:O	2.11	0.50
22:DA:1308:A:H2'	22:DA:1309:G:O4'	2.10	0.50
22:DA:1605:C:H2'	22:DA:1606:C:H5'	1.93	0.50
1:AA:686:U:O4	1:AA:703:G:O2'	2.21	0.50
39:BR:51:VAL:HB	39:BR:52:PRO:CD	2.42	0.50
1:AA:1324:A:C6	1:AA:1325:C:C4	3.00	0.50
22:DA:1464:G:C4	22:DA:1465:G:C8	3.00	0.50
22:BA:1746:A:H2'	22:BA:1747:U:H6	1.73	0.50
1:AA:211:G:N2	1:AA:212:G:C8	2.80	0.50
12:CL:74:LEU:HD11	12:CL:80:ILE:HG21	1.93	0.50
4:CD:31:LYS:O	4:CD:32:CYS:HB3	2.10	0.50
1:CA:805:C:H2'	1:CA:806:C:H6	1.77	0.50
32:DK:99:ILE:HD13	32:DK:118:LEU:HD12	1.94	0.50
8:AH:42:GLU:OE1	8:AH:42:GLU:CA	2.60	0.50
33:DL:101:ILE:O	33:DL:105:ILE:HG13	2.12	0.50
22:DA:1224:U:C4	22:DA:1225:G:C6	2.99	0.50
1:CA:1027:C:N4	1:CA:1034:G:N1	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BF:80:ARG:HG2	27:BF:81:GLN:N	2.27	0.50
1:AA:937:A:C2	1:AA:1379:G:O6	2.65	0.50
20:CT:69:LYS:CB	20:CT:70:ASN:OD1	2.59	0.50
13:AM:6:GLY:C	13:AM:8:ASN:N	2.61	0.50
16:AP:67:ILE:HG23	16:AP:71:VAL:HG12	1.94	0.50
1:CA:756:C:C2	1:CA:757:U:C6	3.00	0.50
43:BV:50:MET:HE2	43:BV:56:PHE:HE1	1.77	0.50
22:BA:545:U:H1'	22:BA:548:G:OP2	2.12	0.50
1:AA:819:A:N7	1:AA:1529:G:C2	2.80	0.50
5:AE:50:TYR:CE1	5:AE:134:ILE:HD11	2.47	0.50
33:DL:117:THR:HG22	33:DL:118:THR:N	2.26	0.50
24:DC:30:PHE:CE2	24:DC:32:PRO:HG2	2.46	0.50
4:AD:17:THR:CG2	4:AD:18:ASP:N	2.73	0.50
53:B5:174:ALA:O	53:B5:175:PRO:CB	2.59	0.50
42:DU:12:ILE:HG13	42:DU:21:LYS:O	2.11	0.50
32:DK:31:ARG:HB3	32:DK:32:TYR:CE1	2.47	0.50
22:DA:1471:G:H2'	22:DA:1472:C:C6	2.46	0.50
22:DA:1958:C:P	57:DA:3729:HOH:O	2.69	0.50
4:AD:138:SER:N	4:AD:141:ASP:OD2	2.43	0.50
1:AA:1406:U:C6	1:AA:1407:C:C5	3.00	0.50
22:BA:1176:U:H4'	22:BA:1176:U:OP1	2.11	0.50
22:DA:1378:A:C4	22:DA:1380:G:N7	2.80	0.50
22:DA:528:A:C2	22:DA:2043:C:H5'	2.46	0.50
22:BA:480:A:H2'	22:BA:481:G:OP1	2.12	0.50
22:DA:1310:G:N2	22:DA:1605:C:C2	2.80	0.50
22:DA:1623:G:C2	22:DA:1624:U:C6	3.00	0.50
22:DA:1544:A:C6	22:DA:1545:A:C6	3.00	0.50
22:DA:396:G:H4'	45:DX:29:PHE:O	2.12	0.50
22:DA:82:U:O2	22:DA:83:A:C8	2.65	0.50
1:CA:552:U:H4'	12:CL:83:ARG:CG	2.42	0.50
24:BC:123:ALA:O	24:BC:125:LYS:N	2.45	0.50
34:BM:55:ARG:CZ	34:BM:55:ARG:CB	2.90	0.50
17:CQ:47:HIS:HA	17:CQ:71:LYS:HE2	1.94	0.50
46:BY:56:LEU:O	46:BY:57:LEU:CB	2.59	0.50
22:DA:947:A:HO2'	22:DA:984:A:H2	1.60	0.50
22:BA:142:A:N7	22:BA:143:C:C4	2.80	0.50
12:AL:24:LEU:HB2	12:AL:59:ASN:ND2	2.27	0.50
7:CG:93:PRO:O	7:CG:97:ASN:ND2	2.45	0.50
6:AF:17:GLN:OE1	6:AF:24:ARG:NH2	2.45	0.50
24:BC:141:VAL:HG13	24:BC:191:THR:O	2.11	0.50
22:DA:218:A:C2	22:DA:219:A:C4	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:95:ARG:NH1	2:AB:97:LEU:HA	2.27	0.50
29:BH:43:ASN:O	29:BH:46:PHE:HB3	2.12	0.50
22:DA:2734:A:C8	22:DA:2735:G:C8	3.00	0.50
12:AL:3:THR:HB	12:AL:6:GLN:HG3	1.93	0.50
12:AL:3:THR:HG22	12:AL:5:ASN:N	2.26	0.50
1:CA:1411:C:H2'	1:CA:1412:C:C6	2.47	0.50
19:AS:51:VAL:HG22	19:AS:71:LEU:CD1	2.41	0.50
1:CA:160:A:C6	1:CA:346:G:O6	2.65	0.50
16:CP:19:VAL:HG12	16:CP:37:GLY:C	2.31	0.50
1:AA:582:C:C2	1:AA:583:A:C8	3.00	0.50
22:DA:404:A:C4'	22:DA:405:U:OP2	2.60	0.50
23:BB:13:G:H21	23:BB:16:G:H1'	1.76	0.50
21:CU:24:GLU:HG3	21:CU:28:VAL:HG21	1.94	0.50
13:CM:91:HIS:HA	13:CM:109:ARG:HH21	1.77	0.50
17:AQ:81:LYS:N	17:AQ:81:LYS:CD	2.75	0.50
1:CA:540:G:C6	1:CA:541:G:C5	2.99	0.50
2:AB:51:ASN:O	2:AB:52:GLU:HB2	2.12	0.50
22:DA:2547:A:H2'	22:DA:2548:U:C6	2.47	0.50
22:BA:2419:U:OP1	51:B3:41:LYS:HE2	2.12	0.50
5:CE:15:LEU:C	5:CE:15:LEU:HD12	2.31	0.50
39:DR:29:THR:O	39:DR:63:VAL:O	2.30	0.50
30:DI:101:ILE:O	30:DI:102:SER:CB	2.59	0.50
19:AS:23:VAL:HG12	19:AS:24:GLU:N	2.27	0.50
22:DA:2199:A:C4'	29:DH:28:ASN:HD21	2.23	0.50
4:AD:3:ARG:CZ	4:AD:115:ARG:CD	2.89	0.50
22:DA:1082:U:OP1	30:DI:124:ALA:HB2	2.11	0.50
11:CK:17:SER:OG	11:CK:18:ASP:N	2.45	0.50
1:AA:206:C:H2'	1:AA:207:C:O4'	2.12	0.50
22:BA:1372:U:O2'	22:BA:1373:A:H5'	2.12	0.50
1:CA:429:U:H4'	1:CA:430:A:OP1	2.11	0.50
22:BA:508:A:H4'	22:BA:509:C:OP2	2.12	0.50
22:DA:584:C:N4	22:DA:585:G:C6	2.80	0.50
53:B5:65:LEU:HD11	53:B5:191:ARG:CB	2.42	0.50
6:CF:38:ARG:CG	6:CF:63:ASN:HB2	2.41	0.50
22:BA:1429:G:N2	22:BA:1430:G:C4	2.80	0.50
1:AA:1314:C:O2'	1:AA:1315:U:H5'	2.12	0.50
22:BA:142:A:H2'	22:BA:143:C:O4'	2.12	0.50
1:CA:1279:G:OP1	10:CJ:9:ARG:NH2	2.45	0.50
4:CD:173:VAL:O	4:CD:174:ASP:HB3	2.11	0.50
1:CA:716:A:C2	1:CA:717:U:O2	2.65	0.50
22:DA:1924:C:H2'	22:DA:1925:C:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:18:HIS:O	2:AB:19:GLN:HB2	2.10	0.50
3:AC:97:VAL:HB	3:AC:98:PRO:CD	2.42	0.50
26:BE:15:SER:N	26:BE:197:GLU:OE2	2.38	0.50
22:BA:1376:C:H2'	22:BA:1377:G:O4'	2.11	0.50
12:AL:38:TYR:O	12:AL:39:THR:CG2	2.60	0.50
15:AO:46:HIS:O	15:AO:48:LYS:N	2.42	0.50
1:CA:1240:U:OP2	7:CG:116:MET:HB3	2.12	0.50
1:CA:774:G:C5	1:CA:775:G:N7	2.79	0.50
9:AI:115:LYS:O	9:AI:116:VAL:C	2.50	0.50
10:CJ:67:ILE:HG13	14:CN:96:LEU:HD13	1.94	0.50
22:BA:86:G:C2	22:BA:97:C:C2	2.99	0.50
37:BP:93:ARG:O	37:BP:94:LYS:HB2	2.11	0.50
25:BD:38:LYS:O	25:BD:46:ARG:HA	2.11	0.50
23:BB:85:G:O2'	23:BB:86:G:H5'	2.12	0.50
28:DG:83:PHE:CE2	28:DG:138:LYS:HB2	2.46	0.50
34:DM:59:ARG:O	34:DM:59:ARG:CD	2.60	0.50
15:CO:27:VAL:HG12	15:CO:28:GLN:N	2.26	0.50
22:BA:2360:G:H1'	33:BL:60:ARG:HD3	1.93	0.50
14:AN:75:ARG:O	14:AN:76:LYS:C	2.51	0.50
22:BA:2825:G:H2'	22:BA:2826:A:H5'	1.93	0.50
13:AM:95:LEU:HB3	13:AM:96:PRO:HD2	1.94	0.50
5:AE:104:GLY:HA3	5:AE:122:ASN:HA	1.94	0.49
22:DA:53:A:N7	22:DA:54:G:C8	2.80	0.49
48:B0:10:ARG:HB2	48:B0:13:ARG:NH2	2.26	0.49
39:BR:66:HIS:CE1	39:BR:94:THR:CG2	2.95	0.49
1:AA:1322:C:O2'	1:AA:1323:G:OP2	2.24	0.49
39:DR:80:ARG:C	39:DR:82:HIS:H	2.15	0.49
22:BA:2756:U:OP2	52:B4:19:ARG:NE	2.45	0.49
1:AA:545:C:H5'	4:AD:69:GLU:HG3	1.94	0.49
2:CB:81:LYS:HG2	2:CB:85:LEU:HD23	1.93	0.49
8:AH:11:LEU:HD12	8:AH:77:ARG:HG2	1.94	0.49
17:CQ:49:GLU:O	17:CQ:50:ASN:CG	2.50	0.49
1:CA:811:C:C4	1:CA:812:G:C6	3.00	0.49
27:BF:108:VAL:HG13	27:BF:114:PHE:CZ	2.47	0.49
1:CA:207:C:HO2'	1:CA:213:G:N2	2.10	0.49
20:AT:54:MET:HA	20:AT:57:ILE:HG22	1.94	0.49
22:DA:479:A:H1'	22:DA:481:G:H5'	1.94	0.49
22:BA:1842:G:C6	22:BA:1843:C:C4	3.00	0.49
22:BA:2583:G:H2'	22:BA:2584:U:O5'	2.11	0.49
22:BA:1474:U:C2'	22:BA:1475:G:H5'	2.42	0.49
1:CA:355:C:C4	1:CA:356:A:N7	2.79	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BQ:109:LEU:HD11	39:BR:40:MET:HE1	1.93	0.49
13:AM:40:ALA:O	13:AM:43:VAL:HG22	2.12	0.49
29:DH:127:GLU:HG3	29:DH:145:ASN:HA	1.93	0.49
22:DA:1862:G:C2	22:DA:1881:C:C2	3.00	0.49
41:DT:72:GLN:O	41:DT:73:ARG:C	2.51	0.49
22:BA:2391:G:O2'	22:BA:2424:C:N4	2.42	0.49
44:BW:46:HIS:CE1	44:BW:77:ARG:HD3	2.47	0.49
22:BA:567:U:C2'	22:BA:568:U:O5'	2.59	0.49
4:AD:170:TRP:CD2	4:AD:186:PRO:HG3	2.47	0.49
36:DO:64:TYR:O	36:DO:67:ASN:ND2	2.45	0.49
36:DO:74:VAL:O	36:DO:78:VAL:HG23	2.12	0.49
15:AO:24:SER:O	15:AO:25:THR:C	2.49	0.49
32:BK:2:ILE:HG23	32:BK:6:THR:HG21	1.92	0.49
3:AC:71:ALA:O	3:AC:72:ARG:HG2	2.12	0.49
22:DA:1115:G:O2'	22:DA:1116:G:OP2	2.24	0.49
6:AF:64:VAL:HG12	6:AF:65:GLU:N	2.27	0.49
8:CH:18:GLN:NE2	8:CH:70:ALA:HB1	2.27	0.49
29:BH:99:ILE:O	29:BH:99:ILE:HG22	2.12	0.49
22:BA:2727:A:H2'	22:BA:2728:U:H5'	1.94	0.49
22:DA:602:A:H2'	22:DA:655:A:N1	2.26	0.49
6:AF:68:GLN:HA	6:AF:71:ILE:HG22	1.94	0.49
1:CA:1213:A:C6	1:CA:1215:G:N3	2.81	0.49
4:AD:190:ASP:O	4:AD:191:LEU:HD12	2.11	0.49
1:AA:258:G:C4	1:AA:259:G:C8	3.00	0.49
11:AK:74:VAL:C	11:AK:76:GLU:N	2.62	0.49
1:CA:55:A:N7	1:CA:56:U:C5	2.80	0.49
20:AT:67:ILE:HG13	20:AT:71:LYS:HG2	1.94	0.49
22:DA:379:G:C6	22:DA:396:G:C6	2.99	0.49
1:CA:976:G:N2	1:CA:1363:A:C2	2.81	0.49
4:AD:168:PRO:HG2	4:AD:171:LEU:HD11	1.95	0.49
1:AA:1236:A:H4'	1:AA:1304:G:H4'	1.94	0.49
1:AA:202:G:N2	1:AA:216:U:O2	2.44	0.49
10:AJ:8:ILE:O	10:AJ:73:LEU:O	2.30	0.49
27:BF:119:ALA:HB1	27:BF:167:ARG:CD	2.43	0.49
1:AA:792:A:H1'	1:AA:794:A:N7	2.27	0.49
4:AD:155:VAL:CG1	4:AD:178:MET:HE1	2.42	0.49
22:BA:1026:G:H2'	22:BA:1027:A:C8	2.47	0.49
24:BC:17:VAL:HB	24:BC:204:VAL:HG13	1.94	0.49
1:CA:155:A:C2	1:CA:167:A:C5	3.00	0.49
22:DA:681:G:C2	22:DA:682:G:C8	3.00	0.49
1:AA:141:G:C2	1:AA:142:G:H1'	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DO:53:THR:HG23	36:DO:74:VAL:HG21	1.94	0.49
3:CC:145:GLY:O	3:CC:146:ALA:O	2.29	0.49
22:DA:2285:C:HO2'	22:DA:2288:A:HO2'	1.60	0.49
1:AA:114:U:O2'	1:AA:115:G:H5'	2.12	0.49
28:DG:118:PRO:HG3	28:DG:144:VAL:CG2	2.41	0.49
18:CR:67:LEU:HD23	18:CR:67:LEU:N	2.27	0.49
14:AN:43:ASN:O	14:AN:45:VAL:N	2.45	0.49
4:CD:196:ASN:HB3	4:CD:198:HIS:CD2	2.47	0.49
22:BA:304:U:H2'	22:BA:305:C:C6	2.46	0.49
30:BI:96:ASP:O	30:BI:98:VAL:HG23	2.12	0.49
22:BA:404:A:H1'	22:BA:405:U:OP2	2.12	0.49
3:AC:167:TRP:HE3	3:AC:167:TRP:C	2.15	0.49
44:BW:20:ARG:HD2	44:BW:20:ARG:N	2.26	0.49
28:DG:129:THR:C	28:DG:130:GLU:HG2	2.31	0.49
22:DA:952:G:C2	22:DA:966:G:C2	3.00	0.49
31:DJ:7:LYS:O	31:DJ:11:VAL:HG23	2.11	0.49
29:BH:86:ASP:O	29:BH:87:GLU:HB2	2.11	0.49
22:DA:2093:G:N7	22:DA:2225:A:H2'	2.27	0.49
22:BA:1911:U:H2'	22:BA:1918:A:N1	2.27	0.49
22:DA:1047:G:N2	22:DA:1110:G:O2'	2.45	0.49
3:AC:40:ARG:NH1	3:AC:57:ILE:HD12	2.27	0.49
11:AK:25:ALA:HA	11:AK:30:THR:HG22	1.94	0.49
22:DA:49:A:C5	22:DA:177:G:C6	3.00	0.49
22:BA:1263:U:OP1	48:B0:13:ARG:NH1	2.45	0.49
1:AA:73:C:HO2'	1:AA:74:A:C5'	2.26	0.49
22:BA:2191:A:C6	22:BA:2192:U:C4	3.00	0.49
20:AT:69:LYS:NZ	20:AT:70:ASN:OD1	2.42	0.49
22:DA:377:G:C6	22:DA:378:C:C4	3.01	0.49
1:CA:976:G:C2	1:CA:1363:A:C2	3.00	0.49
22:BA:1142:A:C2	22:BA:1144:A:C1'	2.95	0.49
22:DA:362:A:C5	22:DA:363:G:C8	3.00	0.49
22:BA:1935:G:C6	22:BA:1962:C:C5	2.99	0.49
22:BA:1588:G:N3	22:BA:1589:U:C6	2.80	0.49
1:AA:507:C:C4	1:AA:508:U:C5	3.00	0.49
1:CA:1386:G:C2	1:CA:1387:G:N7	2.80	0.49
22:DA:1194:A:H2'	22:DA:1195:G:O5'	2.12	0.49
32:DK:63:VAL:O	32:DK:64:ARG:HG2	2.11	0.49
33:BL:64:PHE:CE1	51:B3:47:LYS:HE2	2.47	0.49
22:BA:1791:A:O2'	24:BC:206:GLY:CA	2.61	0.49
1:CA:1077:G:C2	1:CA:1081:A:C2	3.00	0.49
46:DY:20:ASN:O	46:DY:24:GLU:HB2	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1014:A:C2	22:BA:1149:G:C2	3.00	0.49
38:BQ:76:TYR:CE2	38:BQ:80:ILE:HG13	2.47	0.49
14:AN:43:ASN:C	14:AN:45:VAL:N	2.66	0.49
22:DA:2119:A:C2	22:DA:2170:A:C4	3.00	0.49
48:B0:27:SER:O	48:B0:28:LEU:C	2.50	0.49
1:CA:1300:G:C6	1:CA:1335:U:C6	3.00	0.49
32:BK:34:GLY:O	32:BK:35:VAL:C	2.50	0.49
16:CP:70:ARG:O	16:CP:74:LEU:HD23	2.11	0.49
9:CI:26:GLY:N	9:CI:61:LEU:O	2.45	0.49
3:AC:150:LYS:HG3	3:AC:201:TRP:CE3	2.47	0.49
22:DA:1462:C:C2	22:DA:1463:C:C5	3.00	0.49
1:CA:930:C:C4	1:CA:931:C:C5	3.00	0.49
1:CA:405:U:OP1	1:CA:406:G:O2'	2.21	0.49
1:AA:1407:C:O2'	22:BA:1912:A:N1	2.39	0.49
22:DA:222:A:H3'	22:DA:421:C:C5'	2.43	0.49
22:DA:223:A:C4	22:DA:408:G:HI1'	2.47	0.49
29:DH:81:ALA:C	29:DH:149:GLU:HB3	2.33	0.49
4:AD:95:GLU:OE2	4:AD:104:ARG:NH1	2.46	0.49
36:BO:67:ASN:HA	36:BO:102:ARG:HD3	1.95	0.49
22:BA:1847:A:H2'	22:BA:1848:A:C8	2.47	0.49
12:AL:86:ARG:NH2	12:AL:88:LYS:HD2	2.28	0.49
1:AA:1394:A:N1	1:AA:1500:A:O2'	2.33	0.49
1:CA:533:A:H2'	57:CA:1762:HOH:O	2.11	0.49
1:AA:96:U:HO2'	1:AA:97:G:P	2.36	0.49
22:DA:208:C:H2'	22:DA:209:C:C6	2.48	0.49
40:BS:96:ILE:CD1	40:BS:98:LYS:HG3	2.42	0.49
1:AA:212:G:N2	1:AA:213:G:N3	2.61	0.49
33:BL:91:ASP:O	33:BL:94:THR:HB	2.12	0.49
31:BJ:136:GLN:N	31:BJ:137:PRO:CD	2.74	0.49
22:BA:278:A:N1	22:BA:362:A:C8	2.80	0.49
34:BM:51:ARG:O	34:BM:55:ARG:HG3	2.12	0.49
30:DI:28:LEU:HD13	30:DI:38:PHE:CE2	2.48	0.49
15:CO:42:HIS:O	15:CO:45:GLU:O	2.30	0.49
2:AB:104:TRP:CH2	2:AB:154:MET:HB3	2.48	0.49
1:CA:1061:G:N7	1:CA:1062:U:C5	2.80	0.49
39:BR:27:ILE:HG22	39:BR:63:VAL:HG21	1.94	0.49
1:CA:96:U:O2'	1:CA:97:G:OP1	2.25	0.49
1:AA:402:G:C6	1:AA:403:C:C4	3.00	0.49
22:BA:1796:U:H2'	22:BA:1797:G:C8	2.47	0.49
22:BA:852:U:H2'	22:BA:853:C:C6	2.48	0.49
1:CA:1417:G:N2	1:CA:1484:C:C4	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:184:PHE:CZ	2:AB:198:PHE:CD2	3.00	0.49
1:AA:1048:G:OP1	14:AN:3:LYS:HA	2.11	0.49
22:DA:2223:G:H2'	22:DA:2224:G:H5'	1.94	0.49
8:AH:66:PHE:CD2	8:AH:67:GLN:HG2	2.47	0.49
43:BV:89:ILE:HG21	43:BV:91:PHE:CZ	2.48	0.49
22:BA:1899:A:O2'	22:BA:1900:A:H5''	2.11	0.49
38:DQ:25:TYR:CD2	38:DQ:26:GLY:N	2.80	0.49
22:DA:1688:U:C4	22:DA:1698:A:C2	3.01	0.49
14:CN:80:SER:O	14:CN:83:LYS:N	2.46	0.49
22:DA:2283:C:C2	22:DA:2389:G:C2	3.00	0.49
32:BK:25:LEU:HD12	32:BK:38:ILE:HG22	1.93	0.49
1:CA:186:C:O4'	20:CT:76:LYS:HD2	2.12	0.49
22:DA:2652:C:C4	22:DA:2653:U:C4	3.01	0.49
22:DA:1280:G:C6	22:DA:1281:G:C5	3.00	0.49
1:CA:662:U:H2'	1:CA:663:A:C8	2.47	0.49
27:DF:142:ASP:O	27:DF:145:LYS:N	2.43	0.49
22:DA:757:G:N3	22:DA:757:G:H2'	2.27	0.49
9:CI:97:GLU:OE2	9:CI:97:GLU:N	2.45	0.49
2:AB:207:ILE:HD13	2:AB:207:ILE:N	2.27	0.49
1:CA:922:G:H4'	5:CE:25:VAL:HA	1.95	0.49
22:BA:2093:G:O2'	22:BA:2094:A:H5'	2.12	0.49
1:AA:1426:G:H2'	1:AA:1427:C:O4'	2.11	0.49
22:BA:231:A:C6	22:BA:232:G:C2	3.00	0.49
26:DE:149:ILE:HG23	26:DE:188:MET:HG2	1.95	0.49
22:BA:1917:U:C2	22:BA:1918:A:O4'	2.66	0.49
22:DA:769:U:C4	22:DA:770:G:N7	2.81	0.49
2:CB:139:ARG:HD2	2:CB:139:ARG:C	2.33	0.49
22:DA:732:C:H2'	22:DA:733:G:O4'	2.12	0.49
22:DA:2091:C:H1'	45:DX:34:HIS:CD2	2.47	0.49
22:BA:826:U:OP1	22:BA:2428:G:H3'	2.13	0.49
35:DN:1:MET:HE3	35:DN:1:MET:N	2.27	0.49
12:AL:110:ARG:NH2	12:AL:117:TYR:CE2	2.80	0.49
5:AE:81:LEU:HD22	5:AE:81:LEU:N	2.28	0.49
2:CB:20:THR:O	2:CB:21:ARG:NH1	2.45	0.49
22:BA:2345:G:C4	22:BA:2347:C:C5	3.01	0.49
22:BA:1132:U:C3'	22:BA:1133:A:H5''	2.41	0.49
10:CJ:41:PRO:O	10:CJ:42:LEU:HB2	2.12	0.49
15:CO:70:LEU:HD13	15:CO:78:TYR:HA	1.94	0.49
1:CA:206:C:H2'	1:CA:207:C:C5'	2.43	0.49
40:BS:29:VAL:HG11	40:BS:55:ILE:HD11	1.93	0.49
22:BA:1721:G:O2'	22:BA:1739:A:N6	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1491:G:H5''	12:CL:44:LYS:HD2	1.94	0.49
1:CA:247:G:O6	1:CA:278:G:C6	2.65	0.49
22:DA:696:G:C6	22:DA:767:U:O2	2.65	0.49
2:CB:221:VAL:O	2:CB:223:GLU:N	2.45	0.49
22:DA:136:G:N2	22:DA:144:A:N7	2.60	0.49
22:DA:547:A:H3'	22:DA:548:G:C5'	2.42	0.49
1:AA:142:G:H3'	1:AA:143:A:H8	1.77	0.49
17:AQ:7:THR:O	17:AQ:8:LEU:HD12	2.12	0.49
6:CF:32:ALA:O	6:CF:34:GLY:N	2.44	0.49
32:BK:38:ILE:HD11	32:BK:112:PHE:HZ	1.77	0.49
15:CO:37:ASN:O	15:CO:40:GLN:CB	2.61	0.49
9:CI:13:LYS:O	9:CI:13:LYS:HG2	2.13	0.49
22:DA:321:U:OP2	26:DE:130:LYS:HA	2.13	0.49
43:BV:8:VAL:HG23	43:BV:9:ARG:N	2.27	0.49
22:BA:1566:A:O2'	22:BA:1567:G:H5'	2.12	0.49
22:DA:535:G:C6	22:DA:559:G:C6	3.00	0.49
25:BD:172:VAL:CG2	25:BD:194:PRO:HD3	2.42	0.49
3:CC:117:ALA:HB1	3:CC:187:SER:CB	2.42	0.49
29:DH:112:LYS:CG	29:DH:113:SER:N	2.76	0.49
32:DK:2:ILE:N	32:DK:33:ALA:O	2.42	0.49
11:AK:19:GLY:O	11:AK:82:LEU:HA	2.13	0.49
22:DA:71:A:OP2	22:DA:113:U:H5'	2.12	0.49
22:DA:1109:C:C4	22:DA:1110:G:O6	2.66	0.49
22:DA:581:C:OP2	38:DQ:33:ARG:NE	2.46	0.49
1:AA:684:U:O2	11:AK:41:ALA:HB3	2.13	0.49
1:AA:926:G:C6	1:AA:1505:G:C5	3.01	0.49
22:BA:1059:G:H3'	22:BA:1060:U:H2'	1.95	0.49
22:DA:310:A:H5''	42:DU:15:THR:CG2	2.42	0.49
22:DA:1384:A:O2'	22:DA:1404:C:O2	2.30	0.49
16:AP:46:LYS:CD	16:AP:47:GLU:N	2.75	0.49
14:AN:46:LEU:O	14:AN:47:LYS:C	2.50	0.49
1:CA:728:A:N1	1:CA:729:A:C6	2.81	0.49
22:BA:2271:G:H2'	22:BA:2272:U:C6	2.47	0.49
22:DA:247:G:C8	22:DA:249:C:C6	3.01	0.49
22:BA:2469:A:C2	22:BA:2482:A:C4	3.01	0.49
1:AA:824:G:H1'	8:AH:2:SER:CA	2.43	0.49
33:DL:111:ILE:HD12	33:DL:111:ILE:N	2.27	0.49
1:CA:1125:U:H4'	10:CJ:7:ARG:NH1	2.27	0.49
1:AA:792:A:N3	1:AA:794:A:C5	2.80	0.49
22:DA:105:C:H2'	22:DA:106:C:C6	2.47	0.49
24:BC:31:ALA:HB3	24:BC:32:PRO:HD3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:134:G:C2	22:DA:146:A:C2	3.00	0.49
22:DA:147:C:C4	22:DA:148:U:C4	3.01	0.49
1:AA:340:U:C2	1:AA:341:C:C5	3.01	0.49
46:DY:24:GLU:HB3	46:DY:46:VAL:HG21	1.95	0.49
28:BG:89:LEU:HD12	28:BG:89:LEU:N	2.27	0.49
1:CA:803:G:C5	1:CA:804:U:C4	3.01	0.49
22:DA:2671:G:N2	22:DA:2672:U:O2	2.45	0.49
2:AB:91:PHE:CD1	2:AB:150:GLY:CA	2.95	0.49
22:DA:2635:A:N1	22:DA:2636:C:C2	2.81	0.49
1:CA:570:G:C4	1:CA:571:U:C5	3.01	0.49
1:AA:757:U:O2'	1:AA:879:C:H1'	2.12	0.49
9:AI:28:ILE:HG13	9:AI:63:LEU:HD21	1.95	0.49
8:CH:78:VAL:N	8:CH:126:ILE:O	2.45	0.49
22:BA:84:A:H4'	22:BA:85:G:O5'	2.11	0.49
9:CI:13:LYS:O	9:CI:14:SER:HB3	2.13	0.49
1:AA:31:G:O2'	1:AA:48:C:N4	2.45	0.49
22:DA:1869:G:C2	22:DA:1873:G:N1	2.80	0.49
35:DN:49:GLU:N	35:DN:50:PRO:CD	2.75	0.49
22:DA:2179:C:H2'	22:DA:2180:U:C6	2.48	0.49
1:CA:439:U:H4'	4:CD:121:LYS:HG3	1.93	0.49
1:AA:448:A:C4	1:AA:487:A:C2	3.00	0.49
1:AA:593:U:O2'	1:AA:594:U:H5'	2.13	0.49
22:DA:1286:A:N6	22:DA:1329:U:C2	2.80	0.49
24:BC:65:VAL:HG12	24:BC:67:PHE:CD2	2.48	0.49
42:BU:95:PHE:C	42:BU:95:PHE:CD1	2.85	0.49
1:CA:86:G:H1'	1:CA:87:C:O4'	2.12	0.49
3:AC:154:SER:OG	3:AC:165:THR:HG22	2.12	0.49
22:BA:1918:A:H4'	22:BA:1919:A:OP1	2.13	0.49
38:DQ:76:TYR:CZ	38:DQ:80:ILE:HG13	2.47	0.49
4:AD:99:ASP:OD2	4:AD:115:ARG:NH2	2.46	0.49
22:BA:1073:A:C2'	22:BA:1074:G:H5''	2.41	0.49
1:AA:1144:G:N1	1:AA:1145:A:C2	2.80	0.49
38:BQ:87:SER:HB2	39:BR:51:VAL:HA	1.93	0.49
11:AK:127:ARG:N	21:AU:34:ARG:CZ	2.75	0.49
45:DX:27:ARG:NE	45:DX:28:ARG:O	2.45	0.49
22:BA:1022:G:C6	22:BA:1140:C:C4	3.01	0.49
14:AN:61:ARG:O	14:AN:62:ASN:CB	2.61	0.49
25:BD:103:ASP:O	25:BD:104:VAL:HG22	2.11	0.49
22:DA:1831:G:C6	22:DA:1832:C:C4	3.00	0.49
30:DI:20:PRO:HB2	30:DI:23:PRO:HD2	1.93	0.49
16:AP:39:PHE:O	16:AP:41:PRO:HD3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1223:G:OP2	39:DR:68:ARG:NH1	2.45	0.49
22:DA:1917:U:C2'	22:DA:1918:A:H5'	2.42	0.49
22:BA:2502:G:H5'	22:BA:2503:A:C5'	2.43	0.49
5:CE:38:VAL:HG12	5:CE:39:VAL:N	2.28	0.49
1:CA:892:A:C6	1:CA:893:C:C4	3.00	0.49
10:CJ:85:ASP:HA	10:CJ:88:MET:HB2	1.95	0.49
30:DI:33:VAL:HG22	30:DI:67:PHE:CE1	2.48	0.49
22:DA:155:A:C2	22:DA:172:A:C2	3.00	0.49
2:AB:27:MET:HE3	2:AB:193:PRO:HG3	1.95	0.49
8:AH:113:ASP:O	8:AH:117:ARG:HB2	2.12	0.49
22:DA:374:A:C6	22:DA:401:A:C8	3.01	0.49
22:BA:1324:G:C4	22:BA:1328:A:N6	2.81	0.49
22:DA:321:U:C6	26:DE:159:LEU:HD22	2.47	0.49
27:BF:61:SER:O	27:BF:63:GLN:N	2.42	0.49
26:BE:44:ARG:HG2	26:BE:45:ALA:N	2.27	0.49
22:DA:2531:A:C5'	28:DG:157:TYR:CZ	2.96	0.49
24:DC:78:VAL:HG21	24:DC:110:LEU:HD21	1.95	0.49
1:CA:721:G:H4'	1:CA:722:G:O5'	2.12	0.49
22:BA:1832:C:N4	22:BA:1833:C:C4	2.81	0.49
24:DC:230:HIS:ND1	24:DC:231:PRO:HD2	2.28	0.49
1:AA:1035:A:C2	1:AA:1036:A:C4	3.00	0.49
22:BA:2236:U:H2'	22:BA:2237:G:O4'	2.12	0.49
22:BA:1411:U:H2'	22:BA:1412:U:O4'	2.12	0.49
26:BE:29:HIS:CE1	33:BL:8:PRO:HB3	2.48	0.49
1:CA:1203:C:H4'	14:CN:67:THR:HB	1.94	0.49
1:CA:223:A:C6	1:CA:224:U:C4	3.01	0.49
30:DI:53:LEU:HD21	30:DI:82:LYS:HE2	1.93	0.49
13:AM:98:ARG:HB2	13:AM:100:GLN:OE1	2.13	0.49
24:DC:108:LYS:HA	24:DC:196:GLY:HA2	1.94	0.49
35:BN:118:ARG:O	35:BN:120:GLU:N	2.46	0.49
22:DA:2062:A:C2	55:DA:3001:VIR:H313	2.48	0.49
37:BP:53:ARG:O	37:BP:54:GLY:C	2.50	0.49
1:CA:1215:G:C5	1:CA:1216:A:N7	2.81	0.49
2:CB:103:ASN:O	2:CB:103:ASN:OD1	2.30	0.49
22:DA:822:G:O6	22:DA:943:A:H2	1.96	0.49
22:BA:481:G:O2'	22:BA:507:A:N1	2.35	0.49
22:BA:1190:G:OP1	33:BL:32:GLY:HA2	2.13	0.49
22:DA:1057:A:C2	22:DA:1082:U:N3	2.81	0.49
1:CA:64:G:C2	1:CA:67:C:N4	2.81	0.49
14:CN:61:ARG:O	14:CN:62:ASN:CB	2.60	0.49
22:DA:1802:A:OP2	22:DA:1815:A:N6	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1181:G:H4'	1:AA:1182:G:OP1	2.11	0.49
4:CD:146:ARG:O	4:CD:150:LYS:N	2.46	0.49
9:CI:45:ARG:HG2	9:CI:46:MET:N	2.28	0.49
26:DE:45:ALA:HA	26:DE:87:ALA:O	2.13	0.49
19:AS:63:THR:O	19:AS:65:GLU:N	2.43	0.49
4:AD:105:MET:CB	4:AD:107:PHE:CE2	2.96	0.49
1:AA:737:C:H2'	1:AA:738:C:H6	1.78	0.49
22:BA:589:U:H2'	22:BA:590:A:C8	2.48	0.49
42:DU:88:GLU:O	42:DU:89:ASP:CB	2.60	0.49
22:BA:1795:C:C4	22:BA:1796:U:C5	3.00	0.49
7:CG:78:ARG:HB2	7:CG:85:TYR:HB2	1.95	0.49
22:DA:2848:G:OP2	37:DP:95:ALA:N	2.45	0.49
23:BB:99:A:H2'	23:BB:99:A:N3	2.27	0.49
29:DH:72:ILE:O	29:DH:141:LYS:O	2.30	0.49
1:AA:1122:U:C4	1:AA:1123:U:C5	2.99	0.49
22:DA:1655:A:C6	22:DA:1656:C:C2	3.00	0.49
30:BI:11:LEU:O	30:BI:24:VAL:HG11	2.13	0.49
14:CN:3:LYS:HD3	14:CN:6:MET:HG2	1.94	0.49
13:AM:71:ARG:NH2	27:BF:136:ILE:HG22	2.28	0.49
1:AA:1166:G:N1	1:AA:1169:A:OP2	2.45	0.49
2:AB:206:ALA:O	2:AB:208:ARG:N	2.45	0.49
2:CB:64:LYS:HD3	2:CB:64:LYS:C	2.33	0.49
32:DK:31:ARG:CB	32:DK:32:TYR:CD1	2.96	0.49
22:DA:2563:U:H1'	22:DA:2566:A:C6	2.48	0.49
40:DS:84:ARG:HB2	40:DS:96:ILE:CG1	2.43	0.49
2:CB:184:PHE:CE2	2:CB:198:PHE:CD2	3.00	0.49
28:BG:127:THR:HG22	28:BG:128:GLN:N	2.28	0.49
40:BS:41:LYS:O	40:BS:44:ALA:HB3	2.11	0.49
15:CO:82:ILE:HG13	15:CO:83:GLU:N	2.26	0.49
22:DA:1447:C:H2'	22:DA:1448:G:C8	2.48	0.49
6:AF:84:VAL:O	6:AF:84:VAL:CG2	2.60	0.49
24:BC:21:ASN:OD1	24:BC:21:ASN:C	2.50	0.49
6:CF:93:LYS:O	6:CF:93:LYS:HG2	2.12	0.49
2:AB:131:LYS:HE2	2:AB:131:LYS:HA	1.94	0.49
22:DA:2244:U:H2'	22:DA:2245:U:O4'	2.12	0.49
22:DA:2896:C:C4	22:DA:2897:U:C5	3.01	0.49
34:BM:2:LEU:HB3	34:BM:68:PHE:CE2	2.48	0.49
22:BA:1914:C:H2'	22:BA:1915:U:O5'	2.13	0.49
22:BA:1918:A:HO2'	22:BA:1920:C:N4	2.10	0.49
2:AB:21:ARG:C	2:AB:23:TRP:N	2.64	0.49
22:DA:226:A:N6	22:DA:227:A:N1	2.61	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1109:C:C4	22:DA:1110:G:C6	3.01	0.49
22:BA:1179:G:N7	22:BA:1180:U:C1'	2.76	0.49
22:BA:1179:G:N7	22:BA:1180:U:O4'	2.45	0.49
36:BO:101:GLY:O	36:BO:102:ARG:C	2.51	0.49
1:AA:451:A:H4'	1:AA:452:A:O5'	2.13	0.49
1:AA:452:A:N6	1:AA:480:U:C2	2.81	0.49
5:CE:99:ALA:HB2	5:CE:124:LEU:CD1	2.42	0.49
22:BA:577:G:C6	22:BA:578:G:O6	2.65	0.49
39:BR:51:VAL:CG2	39:BR:52:PRO:HD2	2.43	0.49
22:DA:1383:A:C2	22:DA:1384:A:C4	3.01	0.49
22:DA:1597:A:O3'	22:DA:1598:A:H8	1.96	0.49
12:CL:80:ILE:HD12	12:CL:97:THR:HG21	1.93	0.49
22:DA:1670:C:C5	22:DA:1671:U:C4	3.01	0.49
5:AE:97:GLN:O	5:AE:123:VAL:HG12	2.13	0.49
2:CB:119:THR:O	2:CB:120:GLN:HB3	2.12	0.49
22:BA:2469:A:O2'	34:BM:55:ARG:NH1	2.45	0.49
4:AD:124:MET:CE	4:AD:146:ARG:HD2	2.43	0.49
6:CF:25:TYR:CD1	6:CF:25:TYR:N	2.77	0.49
26:BE:149:ILE:C	26:BE:149:ILE:HD12	2.32	0.49
1:CA:15:G:OP1	1:CA:1396:A:O2'	2.26	0.49
2:AB:33:GLY:N	2:AB:40:ILE:O	2.45	0.49
33:DL:77:ILE:HG23	33:DL:81:ASP:OD1	2.13	0.49
1:CA:216:U:H5''	1:CA:464:U:H4'	1.95	0.49
21:CU:51:SER:O	21:CU:52:ALA:C	2.50	0.49
22:BA:686:U:O4	50:B2:12:ARG:HB2	2.13	0.49
22:DA:1730:C:O2'	22:DA:1731:G:C2	2.66	0.49
1:CA:321:A:C8	1:CA:328:C:C2	3.00	0.49
21:CU:12:PHE:O	21:CU:13:ASP:HB2	2.13	0.49
1:CA:158:G:C4	1:CA:159:G:C8	3.01	0.49
22:DA:374:A:C2	22:DA:401:A:C4	3.00	0.49
28:DG:118:PRO:O	28:DG:119:ALA:C	2.51	0.49
27:DF:142:ASP:O	27:DF:144:ASP:N	2.46	0.49
35:BN:114:GLU:OE2	35:BN:118:ARG:NH2	2.46	0.49
1:AA:1095:U:H2'	1:AA:1096:C:C6	2.48	0.49
26:DE:42:GLY:HA3	26:DE:90:GLN:O	2.13	0.49
23:DB:87:U:O2'	23:DB:88:C:H5'	2.12	0.49
22:BA:2572:A:H2'	25:BD:149:ASN:HD22	1.78	0.49
22:BA:368:A:C5	22:BA:369:U:C4	3.00	0.49
24:BC:162:VAL:CG1	24:BC:163:GLN:N	2.75	0.49
1:CA:445:G:C2	1:CA:490:C:C2	3.00	0.49
45:DX:58:VAL:HG12	45:DX:59:ILE:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:145:ALA:O	7:AG:147:ALA:N	2.44	0.49
38:BQ:79:PHE:CZ	38:BQ:83:LEU:HD11	2.47	0.49
12:AL:67:ILE:HG21	12:AL:72:HIS:CD2	2.47	0.49
33:BL:77:ILE:HD11	33:BL:101:ILE:HG21	1.94	0.49
22:DA:892:A:H2'	22:DA:892:A:N3	2.28	0.49
43:DV:44:HIS:CE1	43:DV:85:LYS:HB2	2.48	0.49
1:AA:1337:G:H5''	1:AA:1338:G:OP1	2.13	0.49
22:BA:1917:U:C3'	22:BA:1918:A:H5'	2.42	0.49
22:BA:1916:A:C2	22:BA:1917:U:H1'	2.48	0.49
22:BA:1917:U:O2	22:BA:1918:A:O4'	2.30	0.49
1:AA:829:G:C6	1:AA:858:G:N2	2.81	0.49
1:AA:1080:A:OP1	5:AE:52:LYS:CE	2.60	0.49
1:AA:1317:C:H4'	14:AN:49:GLN:HG2	1.94	0.49
1:CA:992:U:C6	1:CA:1043:G:N7	2.81	0.49
1:AA:1109:C:P	3:AC:176:HIS:CE1	3.05	0.49
22:BA:2305:U:C4	22:BA:2306:C:C4	3.01	0.49
22:DA:2133:G:N3	22:DA:2158:A:N1	2.61	0.49
2:CB:211:THR:HA	2:CB:214:LEU:HB2	1.94	0.49
22:BA:2327:A:H2'	22:BA:2328:A:C8	2.48	0.49
1:CA:373:A:N3	1:CA:374:A:C8	2.81	0.49
10:AJ:66:GLU:HG2	14:AN:99:ALA:HB2	1.94	0.49
1:CA:773:G:C2	1:CA:807:A:C2	3.01	0.49
22:BA:1085:A:C6	22:BA:1086:A:N6	2.80	0.49
22:BA:142:A:C6	22:BA:143:C:N3	2.81	0.49
22:DA:2849:U:H4'	22:DA:2868:A:C2	2.48	0.49
35:DN:84:GLY:N	35:DN:85:PRO:HD2	2.28	0.49
19:CS:53:ASN:OD1	19:CS:55:ARG:HG3	2.13	0.49
22:BA:1105:U:H2'	22:BA:1106:G:H8	1.78	0.49
22:BA:1736:U:H2'	22:BA:1737:G:O4'	2.12	0.49
1:CA:109:A:C2	1:CA:327:A:N1	2.81	0.49
1:AA:316:C:C5	1:AA:351:G:C2	3.01	0.49
1:CA:1381:U:O2	7:CG:78:ARG:O	2.31	0.49
37:BP:114:LEU:O	37:BP:115:ASN:HB3	2.12	0.49
1:CA:211:G:O2'	1:CA:212:G:C4'	2.60	0.49
22:DA:291:G:N1	22:DA:350:G:N7	2.61	0.49
1:CA:162:A:H2'	1:CA:163:C:O4'	2.12	0.49
1:CA:375:U:C2	1:CA:376:G:C8	3.00	0.49
17:AQ:5:ILE:HG22	17:AQ:5:ILE:O	2.12	0.49
39:DR:29:THR:O	39:DR:29:THR:HG22	2.13	0.49
22:DA:1867:G:O6	22:DA:1875:G:C2	2.66	0.49
18:AR:48:ARG:HD2	18:AR:48:ARG:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CI:19:VAL:HG21	9:CI:82:GLY:HA3	1.94	0.49
21:AU:22:SER:C	21:AU:23:CYS:SG	2.91	0.49
28:BG:118:PRO:O	28:BG:119:ALA:C	2.51	0.49
1:AA:1293:C:H2'	1:AA:1294:G:O4'	2.13	0.49
24:BC:3:VAL:O	24:BC:3:VAL:HG23	2.13	0.49
1:AA:673:A:H2'	1:AA:674:G:C8	2.48	0.49
22:BA:936:A:H2'	22:BA:937:C:C6	2.48	0.49
1:AA:299:G:H2'	1:AA:300:A:C8	2.48	0.49
1:CA:748:G:H2'	1:CA:749:A:C8	2.48	0.49
1:AA:85:U:O4'	1:AA:86:G:N2	2.46	0.49
22:BA:2517:C:C6	22:BA:2542:A:N7	2.81	0.49
1:CA:651:C:N4	1:CA:753:A:OP2	2.44	0.49
26:BE:145:ASP:HB3	26:BE:184:ASP:OD2	2.13	0.49
19:CS:63:THR:HG22	19:CS:64:ASP:N	2.27	0.49
26:DE:187:VAL:HG12	26:DE:187:VAL:O	2.13	0.49
50:D2:34:ARG:HB2	50:D2:42:LEU:CD1	2.43	0.49
22:BA:1999:C:H5''	22:BA:2723:C:O2'	2.13	0.49
22:DA:748:G:C8	40:DS:89:ALA:HB1	2.48	0.48
13:AM:11:ASP:O	13:AM:12:HIS:HB2	2.13	0.48
22:BA:1167:C:H2'	22:BA:1168:G:H5''	1.95	0.48
22:DA:1953:A:O2'	22:DA:2559:C:O2'	2.26	0.48
22:BA:1092:C:H2'	22:BA:1093:G:O4'	2.12	0.48
22:DA:569:U:H5''	22:DA:821:A:C2	2.48	0.48
1:AA:1504:G:OP2	1:AA:1507:A:O2'	2.28	0.48
18:CR:71:THR:OG1	18:CR:72:ASP:N	2.46	0.48
22:DA:306:U:O4	22:DA:307:G:C6	2.65	0.48
22:DA:2874:C:OP2	57:DA:3801:HOH:O	2.20	0.48
22:DA:1465:G:H2'	22:DA:1466:U:C6	2.48	0.48
22:DA:1358:G:C8	22:DA:1371:G:O6	2.66	0.48
22:DA:1362:C:H2'	22:DA:1363:C:H5'	1.95	0.48
4:AD:165:ARG:O	4:AD:166:GLU:C	2.51	0.48
22:DA:410:G:C2	22:DA:2407:A:C5	3.01	0.48
1:AA:545:C:C2'	1:AA:546:A:H5'	2.43	0.48
30:BI:122:ILE:HG22	30:BI:122:ILE:O	2.13	0.48
9:CI:57:MET:O	9:CI:60:LYS:HB2	2.13	0.48
25:BD:104:VAL:CG2	25:BD:105:LYS:N	2.76	0.48
1:CA:456:A:N6	1:CA:457:G:C6	2.81	0.48
19:AS:4:SER:O	19:AS:6:LYS:N	2.46	0.48
22:DA:1973:G:C5	22:DA:1974:C:C5	3.01	0.48
1:CA:718:A:H5'	11:CK:119:ASN:ND2	2.28	0.48
13:AM:66:GLU:HA	13:AM:66:GLU:OE1	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:972:C:H4'	10:CJ:59:LYS:HG2	1.94	0.48
22:DA:1936:A:N6	22:DA:1963:U:C4	2.81	0.48
22:DA:329:G:O4'	22:DA:477:A:H1'	2.13	0.48
22:BA:1735:A:C2	22:BA:1736:U:C1'	2.96	0.48
1:CA:1491:G:H2'	1:CA:1492:A:C8	2.48	0.48
22:DA:2298:A:C4	22:DA:2321:U:C5	3.00	0.48
36:DO:115:LEU:O	36:DO:117:PHE:N	2.46	0.48
2:AB:188:ASP:HB2	2:AB:204:ASP:OD2	2.13	0.48
1:AA:1368:A:O2'	1:AA:1369:C:H5'	2.13	0.48
41:DT:7:LEU:CD2	41:DT:46:ALA:HA	2.43	0.48
41:DT:73:ARG:HA	41:DT:73:ARG:NH2	2.28	0.48
22:BA:2659:G:OP1	28:BG:158:LYS:HE3	2.13	0.48
25:BD:12:THR:HG23	37:BP:9:GLU:OE2	2.12	0.48
1:AA:1349:A:C2	1:AA:1374:A:C4	3.01	0.48
13:CM:79:ARG:O	13:CM:83:LEU:HD23	2.12	0.48
22:DA:265:A:H4'	22:DA:266:G:OP1	2.13	0.48
22:DA:661:A:H2'	22:DA:662:G:O4'	2.13	0.48
1:CA:1186:G:H5'	9:CI:112:GLU:OE1	2.13	0.48
16:AP:19:VAL:CG1	16:AP:37:GLY:C	2.82	0.48
22:BA:1644:C:O2	22:BA:1644:C:H2'	2.11	0.48
1:AA:1176:A:H3'	1:AA:1177:G:C8	2.48	0.48
47:BZ:30:ARG:O	47:BZ:31:ARG:HB3	2.13	0.48
29:BH:139:PHE:O	29:BH:140:ALA:HB2	2.14	0.48
29:DH:21:VAL:CG2	29:DH:22:LYS:N	2.76	0.48
22:DA:604:G:N1	22:DA:605:G:C5	2.81	0.48
22:DA:224:U:OP2	22:DA:408:G:N2	2.46	0.48
6:CF:13:ASP:O	6:CF:15:SER:N	2.39	0.48
12:CL:61:PHE:N	12:CL:61:PHE:HD1	2.11	0.48
22:BA:578:G:OP1	22:BA:1255:U:O2'	2.31	0.48
22:DA:2286:G:H5'	22:DA:2287:A:O4'	2.13	0.48
22:DA:187:G:N1	22:DA:210:C:N3	2.60	0.48
1:CA:173:U:C6	1:CA:197:A:C2	3.01	0.48
22:DA:465:G:C6	22:DA:466:A:N6	2.82	0.48
22:BA:1385:A:C2	22:BA:1386:C:C2	3.01	0.48
22:BA:250:G:C5	22:BA:251:A:C5	3.00	0.48
20:AT:44:LYS:HD3	20:AT:87:ALA:HA	1.94	0.48
1:AA:215:C:H2'	1:AA:216:U:O4'	2.13	0.48
4:CD:150:LYS:O	4:CD:151:LYS:C	2.51	0.48
27:BF:38:MET:HG3	27:BF:152:LEU:CD1	2.43	0.48
25:BD:103:ASP:C	25:BD:103:ASP:OD1	2.52	0.48
7:AG:97:ASN:OD1	7:AG:97:ASN:N	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:877:G:H21	8:AH:2:SER:N	2.11	0.48
4:CD:35:GLU:HG3	4:CD:36:GLN:N	2.27	0.48
1:CA:216:U:H2'	1:CA:217:C:C6	2.47	0.48
22:DA:664:G:H4'	22:DA:941:A:OP1	2.13	0.48
26:BE:108:ILE:CD1	26:BE:180:LEU:HB3	2.43	0.48
1:CA:1365:G:C6	1:CA:1366:C:N3	2.81	0.48
22:DA:1783:A:N1	22:DA:2587:A:C2	2.81	0.48
1:CA:455:G:C2	1:CA:478:A:N1	2.81	0.48
1:AA:976:G:OP2	1:AA:1358:U:O2'	2.31	0.48
13:AM:14:HIS:HB2	13:AM:17:ILE:HD12	1.94	0.48
22:BA:644:A:H2'	22:BA:645:C:O4'	2.12	0.48
22:BA:280:U:H2'	22:BA:281:C:O4'	2.13	0.48
1:CA:158:G:C5	1:CA:159:G:N7	2.81	0.48
1:CA:1422:G:C6	1:CA:1423:G:N7	2.81	0.48
1:AA:1035:A:C2	1:AA:1036:A:C5	3.01	0.48
2:CB:162:PHE:HA	2:CB:184:PHE:O	2.13	0.48
40:BS:17:VAL:HG12	40:BS:76:VAL:HG21	1.96	0.48
22:BA:2580:U:H5''	25:BD:135:GLY:O	2.13	0.48
30:DI:72:LYS:HG3	30:DI:116:ASP:CG	2.33	0.48
35:DN:108:ALA:HB3	35:DN:110:MET:CE	2.43	0.48
37:BP:58:ALA:HB1	37:BP:74:PHE:O	2.13	0.48
22:DA:1520:U:O4	22:DA:1521:G:C6	2.66	0.48
1:AA:1391:U:H2'	1:AA:1392:G:C8	2.48	0.48
22:DA:728:G:C2	22:DA:730:A:C4	3.01	0.48
1:CA:923:A:H2'	1:CA:924:C:O4'	2.13	0.48
32:BK:66:LYS:HD3	32:BK:80:ASP:O	2.13	0.48
22:DA:1858:A:C2	22:DA:1859:U:C2	3.01	0.48
25:DD:35:THR:O	25:DD:36:GLN:HB2	2.13	0.48
28:BG:24:ILE:HG21	28:BG:72:LEU:HD21	1.95	0.48
35:DN:30:ARG:HD2	35:DN:31:HIS:NE2	2.28	0.48
29:BH:121:VAL:H	29:BH:122:LEU:HB2	1.77	0.48
40:DS:89:ALA:O	40:DS:90:LYS:HB2	2.13	0.48
1:CA:1041:G:C6	1:CA:1042:A:N6	2.82	0.48
22:BA:1094:U:O4	22:BA:1097:U:OP2	2.31	0.48
22:DA:686:U:H6	22:DA:788:A:N1	2.10	0.48
1:AA:90:C:O2'	1:AA:91:U:OP2	2.26	0.48
22:BA:1482:G:C6	22:BA:1508:A:C6	3.00	0.48
21:CU:34:ARG:CD	21:CU:35:ARG:HB2	2.43	0.48
3:CC:130:PHE:CE1	3:CC:131:ARG:HD3	2.48	0.48
22:BA:586:A:C2	22:BA:1254:A:C2	3.01	0.48
14:CN:51:LEU:O	14:CN:53:ARG:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:131:A:O2'	1:AA:262:A:N3	2.33	0.48
22:DA:2286:G:C4'	22:DA:2287:A:O5'	2.59	0.48
39:DR:52:PRO:O	39:DR:53:PHE:CB	2.61	0.48
22:DA:279:A:N6	22:DA:361:G:O2'	2.45	0.48
22:BA:2326:C:H1'	22:BA:2327:A:OP1	2.13	0.48
1:CA:451:A:H61	1:CA:481:G:H5'	1.79	0.48
22:BA:319:G:N9	22:BA:333:G:N2	2.61	0.48
34:BM:55:ARG:CZ	34:BM:55:ARG:HB3	2.43	0.48
22:DA:845:A:N1	22:DA:847:U:C6	2.81	0.48
1:CA:1126:U:C6	1:CA:1281:C:C4	3.01	0.48
3:AC:77:ILE:HD11	3:AC:103:ILE:HG12	1.95	0.48
1:CA:577:G:C1'	1:CA:816:A:H2'	2.44	0.48
26:BE:108:ILE:HD11	26:BE:180:LEU:HD13	1.96	0.48
1:AA:645:G:C4	1:AA:646:G:C8	3.01	0.48
1:AA:135:C:H2'	1:AA:136:C:H5'	1.94	0.48
22:DA:1272:A:C6	22:DA:1618:A:H1'	2.48	0.48
1:AA:1442:G:H2'	1:AA:1443:C:C6	2.48	0.48
1:CA:881:G:C5	1:CA:882:C:C5	3.02	0.48
22:BA:2076:U:O5'	22:BA:2076:U:O2	2.30	0.48
1:CA:202:G:H2'	1:CA:203:G:O4'	2.14	0.48
1:AA:233:C:H2'	1:AA:234:C:H6	1.78	0.48
22:DA:1555:G:N2	22:DA:1556:C:H1'	2.28	0.48
41:DT:73:ARG:HA	41:DT:73:ARG:CZ	2.43	0.48
22:BA:1802:A:N1	22:BA:1822:C:H1'	2.28	0.48
22:BA:531:C:H4'	22:BA:532:A:H5''	1.95	0.48
38:DQ:14:HIS:O	38:DQ:18:LEU:HD23	2.12	0.48
24:BC:157:SER:O	24:BC:160:THR:HG23	2.12	0.48
22:DA:12:U:O2	22:DA:12:U:H2'	2.12	0.48
1:AA:223:A:H2'	1:AA:224:U:C6	2.49	0.48
6:AF:9:MET:CE	18:AR:65:LEU:HD22	2.43	0.48
43:BV:65:VAL:HG22	43:BV:65:VAL:O	2.12	0.48
1:CA:963:G:O2'	1:CA:964:A:H5'	2.12	0.48
1:AA:1446:A:C2'	1:AA:1447:A:H5'	2.43	0.48
22:DA:2790:U:H5'	22:DA:2893:A:N7	2.28	0.48
1:AA:828:U:O4	1:AA:859:G:C8	2.67	0.48
1:AA:829:G:C2	1:AA:830:G:C8	3.02	0.48
1:CA:1144:G:C2	1:CA:1145:A:C2	3.01	0.48
1:CA:1149:C:N4	1:CA:1150:A:C6	2.80	0.48
5:CE:115:LEU:HG	5:CE:123:VAL:HG21	1.95	0.48
1:CA:644:U:C2	1:CA:645:G:C8	3.01	0.48
22:BA:973:A:H5''	39:BR:81:LYS:HG3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:DC:17:VAL:CB	24:DC:204:VAL:HG22	2.44	0.48
22:BA:1124:G:H1'	52:B4:38:GLY:OXT	2.14	0.48
22:DA:1358:G:H1'	22:DA:1374:G:N2	2.28	0.48
22:BA:2886:A:C4	22:BA:2887:A:C8	3.01	0.48
22:BA:2839:G:C2'	22:BA:2840:C:O5'	2.62	0.48
20:AT:80:THR:O	20:AT:83:ILE:HG13	2.14	0.48
20:AT:83:ILE:O	20:AT:87:ALA:CB	2.61	0.48
7:AG:99:LEU:O	7:AG:100:ALA:C	2.52	0.48
1:AA:831:A:C2	1:AA:832:G:N9	2.82	0.48
1:CA:1279:G:H4'	1:CA:1280:A:OP1	2.13	0.48
1:AA:65:A:C2	1:AA:381:C:C6	3.02	0.48
1:CA:1108:G:H5''	3:CC:176:HIS:CD2	2.48	0.48
24:DC:3:VAL:HG11	24:DC:202:LEU:HD23	1.95	0.48
22:DA:1435:G:C2'	22:DA:1436:G:H5'	2.43	0.48
22:BA:2694:G:N1	22:BA:2695:U:C2	2.82	0.48
42:BU:16:GLY:O	42:BU:18:ASP:N	2.46	0.48
46:DY:50:VAL:O	46:DY:54:LYS:HG3	2.13	0.48
22:DA:2182:U:H2'	22:DA:2183:A:C8	2.48	0.48
46:BY:37:LEU:HD11	46:BY:39:GLN:O	2.14	0.48
22:BA:2032:G:C8	57:BA:3535:HOH:O	2.66	0.48
5:AE:77:ASN:O	5:AE:78:ASN:HB3	2.14	0.48
9:CI:90:TYR:O	9:CI:91:ASP:CG	2.52	0.48
22:DA:2438:U:O2'	22:DA:2440:C:OP1	2.25	0.48
1:CA:406:G:C2	1:CA:407:U:C6	3.02	0.48
22:DA:1285:A:N6	22:DA:1329:U:C6	2.82	0.48
22:DA:2244:U:C5	22:DA:2245:U:C5	3.01	0.48
1:AA:1446:A:H2'	1:AA:1447:A:H5'	1.94	0.48
1:AA:38:G:C2	1:AA:397:A:C2	3.02	0.48
36:BO:69:ASP:O	36:BO:70:ALA:C	2.51	0.48
22:DA:693:A:C5	22:DA:694:U:C4	3.02	0.48
1:CA:243:A:H4'	1:CA:244:U:H5''	1.95	0.48
9:CI:87:LEU:C	9:CI:89:GLU:H	2.16	0.48
22:BA:1445:G:C6	22:BA:1446:C:C4	3.01	0.48
1:CA:260:G:C6	1:CA:261:U:C4	3.01	0.48
33:DL:135:ILE:HG22	33:DL:140:GLY:HA2	1.95	0.48
22:DA:2736:A:C2	22:DA:2769:U:O2	2.66	0.48
22:DA:2001:C:H4'	22:DA:2689:U:H2'	1.94	0.48
24:BC:37:ASN:O	24:BC:38:SER:HB3	2.14	0.48
16:CP:81:ALA:O	16:CP:82:ALA:HB2	2.14	0.48
22:DA:1529:G:C6	22:DA:1543:G:N2	2.81	0.48
22:DA:2024:G:OP2	22:DA:2034:U:H4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:88:ASP:N	2:CB:88:ASP:OD1	2.46	0.48
6:CF:6:ILE:HD12	6:CF:6:ILE:N	2.27	0.48
21:AU:47:ARG:HA	21:AU:47:ARG:HE	1.77	0.48
7:AG:13:LEU:HD22	7:AG:13:LEU:N	2.29	0.48
22:BA:1338:G:N7	41:BT:66:LYS:NZ	2.60	0.48
22:BA:693:A:C5	22:BA:694:U:C4	3.01	0.48
25:DD:150:GLN:C	25:DD:151:THR:O	2.50	0.48
55:DA:3001:VIR:N9	55:DA:3001:VIR:C4	2.77	0.48
14:CN:36:ALA:HB2	14:CN:42:TRP:CH2	2.47	0.48
22:BA:1171:G:C5	22:BA:1172:C:C4	3.01	0.48
50:D2:11:LYS:O	50:D2:15:SER:N	2.46	0.48
22:BA:1097:U:H3'	22:BA:1098:A:H4'	1.94	0.48
5:CE:121:HIS:O	5:CE:122:ASN:HB3	2.13	0.48
22:BA:577:G:C6	22:BA:578:G:C6	3.01	0.48
22:DA:310:A:O2'	22:DA:311:A:P	2.72	0.48
50:D2:43:THR:O	50:D2:44:VAL:HB	2.13	0.48
14:CN:52:PRO:O	14:CN:53:ARG:CB	2.60	0.48
22:BA:1340:U:C5	22:BA:1603:A:C8	3.01	0.48
1:AA:72:A:H2'	1:AA:73:C:H5'	1.95	0.48
24:DC:15:HIS:O	24:DC:204:VAL:HG21	2.13	0.48
22:DA:2212:A:C2	22:DA:2214:C:N4	2.81	0.48
1:CA:72:A:C5	1:CA:73:C:C5	3.02	0.48
22:DA:465:G:C6	22:DA:466:A:C6	3.01	0.48
4:CD:29:ASP:O	4:CD:31:LYS:NZ	2.44	0.48
22:DA:2889:C:H2'	22:DA:2890:G:C8	2.48	0.48
1:AA:463:U:H3'	1:AA:464:U:C6	2.47	0.48
1:CA:371:A:H1'	1:CA:482:A:H1'	1.94	0.48
22:DA:856:G:C2	22:DA:922:C:N3	2.82	0.48
22:BA:1871:A:C8	22:BA:1872:A:C6	3.02	0.48
22:DA:1855:U:C4	22:DA:1856:U:C4	3.01	0.48
22:BA:1057:A:N1	22:BA:1081:U:O4	2.47	0.48
1:CA:572:A:H5'	1:CA:573:A:P	2.54	0.48
22:DA:186:G:C2	22:DA:211:C:O2	2.66	0.48
2:CB:81:LYS:HG3	2:CB:91:PHE:CZ	2.48	0.48
4:AD:147:GLU:HA	4:AD:150:LYS:HD3	1.94	0.48
1:CA:577:G:N3	1:CA:578:C:C6	2.82	0.48
22:DA:2379:G:C6	22:DA:2380:C:C4	3.02	0.48
1:CA:718:A:C8	1:CA:719:C:C5	3.01	0.48
22:BA:1735:A:C4	22:BA:1736:U:C6	3.01	0.48
22:DA:533:G:H5'	38:DQ:24:TYR:CD1	2.48	0.48
35:BN:103:ARG:HD3	35:BN:110:MET:HE3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2694:G:C6	22:BA:2695:U:C4	3.02	0.48
1:AA:1263:C:H2'	1:AA:1264:U:O4'	2.14	0.48
1:AA:761:G:H2'	1:AA:762:U:C6	2.49	0.48
2:AB:164:ILE:HG23	2:AB:165:ASP:N	2.29	0.48
21:CU:12:PHE:N	21:CU:12:PHE:CD1	2.80	0.48
1:CA:1201:A:H1'	1:CA:1202:U:OP2	2.14	0.48
29:DH:127:GLU:HG3	29:DH:144:VAL:O	2.13	0.48
22:DA:158:U:O2	22:DA:169:G:C2	2.67	0.48
7:AG:146:GLU:O	7:AG:149:LYS:CB	2.62	0.48
22:DA:1042:G:C6	22:DA:1043:C:C4	3.02	0.48
1:CA:676:A:C2	1:CA:677:U:C4	3.02	0.48
22:DA:1146:C:N4	22:DA:1147:A:N6	2.62	0.48
22:BA:189:G:OP2	45:BX:26:LYS:HE3	2.13	0.48
22:BA:2714:G:C2'	22:BA:2715:C:H5'	2.43	0.48
1:CA:909:A:H2'	1:CA:910:C:O4'	2.13	0.48
22:DA:21:A:C2	22:DA:520:G:C2	3.02	0.48
22:BA:1138:G:O2'	31:BJ:107:GLY:HA3	2.13	0.48
32:DK:10:VAL:CG1	32:DK:12:ASP:OD1	2.61	0.48
1:AA:1135:U:C2'	1:AA:1136:C:O5'	2.62	0.48
1:CA:1105:A:C2	1:CA:1106:G:C5	3.01	0.48
36:BO:24:THR:HG22	36:BO:42:PRO:CG	2.44	0.48
34:DM:124:LEU:N	34:DM:124:LEU:HD23	2.28	0.48
7:CG:126:ASP:N	7:CG:126:ASP:OD1	2.45	0.48
27:DF:8:TYR:OH	27:DF:29:PRO:O	2.32	0.48
36:BO:59:ALA:O	36:BO:60:GLU:C	2.51	0.48
22:BA:1182:G:H2'	22:BA:1183:U:O4'	2.14	0.48
35:DN:53:THR:HA	35:DN:56:LYS:HG3	1.96	0.48
5:CE:133:PRO:HA	5:CE:136:VAL:HG12	1.96	0.48
11:AK:127:ARG:N	21:AU:34:ARG:NH2	2.62	0.48
20:AT:67:ILE:CG1	20:AT:71:LYS:HG2	2.44	0.48
22:DA:396:G:H1'	45:DX:29:PHE:HB3	1.95	0.48
46:DY:48:ARG:O	46:DY:51:ALA:HB3	2.12	0.48
1:CA:1358:U:H5''	14:CN:73:PHE:O	2.13	0.48
22:BA:1384:A:H1'	22:BA:1405:U:H1'	1.95	0.48
1:AA:652:U:C4	1:AA:752:G:N3	2.80	0.48
5:CE:77:ASN:HB2	5:CE:82:GLN:HG2	1.95	0.48
22:DA:868:U:C4	22:DA:869:G:N7	2.81	0.48
10:AJ:52:LEU:HB3	14:AN:81:ARG:HE	1.78	0.48
1:CA:386:C:C4	1:CA:387:U:C5	3.02	0.48
22:DA:2221:G:C2'	22:DA:2222:C:H5'	2.43	0.48
22:BA:569:U:O2'	22:BA:983:A:N1	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2555:U:C5	22:BA:2556:C:C2	3.01	0.48
22:DA:233:A:C2	22:DA:234:U:H1'	2.48	0.48
22:BA:1106:G:C2	22:BA:1107:G:N9	2.82	0.48
22:DA:78:U:OP2	46:DY:2:LYS:HD2	2.14	0.48
22:DA:1435:G:O2'	22:DA:1436:G:H5'	2.14	0.48
31:BJ:30:THR:HG22	31:BJ:31:GLU:N	2.28	0.48
22:DA:1838:C:H4'	22:DA:1839:G:H8	1.79	0.48
22:DA:1906:G:C8	22:DA:1929:G:H2'	2.49	0.48
1:AA:1048:G:N3	1:AA:1050:G:N7	2.62	0.48
22:DA:2326:C:H1'	22:DA:2327:A:OP1	2.14	0.48
1:CA:145:G:C2	1:CA:146:G:C8	3.01	0.48
32:DK:10:VAL:HG12	32:DK:12:ASP:OD1	2.13	0.48
26:BE:125:SER:OG	26:BE:126:VAL:N	2.45	0.48
22:BA:2804:U:H2'	22:BA:2805:C:C6	2.48	0.48
41:BT:29:THR:OG1	41:BT:86:THR:HG23	2.14	0.48
22:DA:704:G:H1'	22:DA:726:G:N2	2.29	0.48
1:AA:146:G:C2	1:AA:177:G:N7	2.82	0.48
22:BA:1880:U:H2'	22:BA:1881:C:C6	2.48	0.48
22:BA:1656:C:O5'	22:BA:1656:C:H6	1.97	0.48
48:D0:28:LEU:HD13	48:D0:28:LEU:O	2.13	0.48
22:DA:1046:A:O2'	22:DA:1047:G:OP1	2.26	0.48
4:AD:188:ARG:NH2	4:AD:197:GLU:OE2	2.46	0.48
22:BA:2742:G:OP2	52:B4:24:ARG:NH1	2.47	0.48
1:AA:685:G:N1	1:AA:686:U:O4	2.47	0.48
5:CE:101:GLU:C	5:CE:103:THR:N	2.66	0.48
9:AI:57:MET:HA	9:AI:60:LYS:HB2	1.94	0.48
1:CA:1302:C:C4	13:CM:17:ILE:HD11	2.49	0.48
22:BA:2190:G:C6	22:BA:2191:A:C5	3.01	0.48
22:DA:1360:G:C2	22:DA:1361:G:H1'	2.48	0.48
22:DA:1360:G:H2'	22:DA:1361:G:H5'	1.94	0.48
22:BA:2888:C:O2	22:BA:2888:C:H2'	2.13	0.48
22:BA:2318:G:C5	22:BA:2319:G:C6	3.02	0.48
30:DI:54:PRO:HG2	30:DI:78:VAL:HG21	1.95	0.48
1:AA:469:C:H2'	1:AA:470:C:O4'	2.14	0.48
11:AK:102:ALA:C	11:AK:104:GLY:N	2.67	0.48
26:BE:119:ILE:HB	26:BE:187:VAL:HG22	1.95	0.48
22:DA:1716:U:C5	22:DA:1743:G:C2	3.01	0.48
1:CA:765:G:N1	1:CA:812:G:H1'	2.29	0.48
22:BA:569:U:H1'	22:BA:947:A:O4'	2.14	0.48
1:CA:1034:G:H2'	1:CA:1035:A:C8	2.48	0.48
24:BC:78:VAL:HG21	24:BC:110:LEU:HD21	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DD:84:LEU:CD1	25:DD:88:GLU:HB2	2.44	0.48
22:DA:197:A:C8	22:DA:2430:A:N7	2.82	0.48
22:DA:1783:A:N1	22:DA:2587:A:N3	2.61	0.48
22:DA:500:G:N2	22:DA:502:A:C8	2.82	0.48
22:BA:1816:C:C5	24:BC:62:TYR:CE2	3.02	0.48
17:CQ:11:ARG:HA	17:CQ:58:VAL:HA	1.95	0.48
22:BA:1688:U:N3	22:BA:1698:A:C2	2.82	0.48
22:DA:1390:U:C2'	22:DA:1391:U:H5'	2.43	0.48
22:DA:825:A:H4'	22:DA:2428:G:C5	2.48	0.48
1:AA:895:G:C6	1:AA:896:C:C4	3.02	0.48
1:AA:557:G:C6	1:AA:558:G:N1	2.81	0.48
33:DL:92:LEU:HD23	33:DL:125:LEU:HD12	1.95	0.48
1:CA:1169:A:C6	1:CA:1170:A:C6	3.02	0.48
9:AI:88:MET:CG	9:AI:89:GLU:N	2.76	0.48
46:DY:28:LEU:HB3	46:DY:43:LEU:HD23	1.95	0.48
1:CA:775:G:C2'	1:CA:776:G:H5'	2.43	0.48
2:AB:210:VAL:O	2:AB:211:THR:C	2.51	0.48
22:DA:2284:A:O2'	22:DA:2288:A:N1	2.32	0.48
22:BA:2517:C:C5	22:BA:2542:A:C5	3.01	0.48
15:CO:15:PHE:CZ	15:CO:85:LEU:HD11	2.49	0.48
7:CG:60:GLU:HA	7:CG:63:GLU:HB3	1.95	0.48
22:DA:358:U:N3	22:DA:359:G:N7	2.62	0.48
29:BH:135:HIS:CD2	29:BH:137:GLU:HG3	2.48	0.48
23:BB:57:A:H2'	23:BB:58:A:O4'	2.14	0.48
1:CA:296:U:C4	1:CA:297:G:N7	2.81	0.48
10:CJ:57:VAL:HG13	10:CJ:58:ASN:N	2.29	0.48
22:DA:646:U:H3'	22:DA:647:G:C4'	2.44	0.48
49:B1:9:ILE:HG22	49:B1:53:LYS:HB2	1.96	0.48
15:AO:37:ASN:O	15:AO:38:HIS:C	2.52	0.48
22:BA:1954:G:O2'	22:BA:1956:U:O4	2.20	0.48
40:DS:39:THR:O	40:DS:39:THR:HG22	2.13	0.48
22:DA:919:U:H2'	22:DA:920:A:O4'	2.13	0.48
19:AS:15:LEU:HD13	19:AS:33:THR:HG21	1.96	0.48
22:DA:582:A:N7	57:DA:3283:HOH:O	2.35	0.48
25:DD:193:VAL:HB	25:DD:194:PRO:CD	2.44	0.48
13:AM:91:HIS:HA	13:AM:109:ARG:NH2	2.29	0.48
22:BA:523:C:O2'	22:BA:524:G:H5'	2.13	0.48
29:BH:103:VAL:HG21	29:BH:132:PHE:CZ	2.49	0.48
22:DA:2505:G:HO2'	22:DA:2506:U:H6	1.58	0.48
22:DA:2504:U:C4	55:DA:3001:VIR:H162	2.48	0.48
22:DA:748:G:O6	22:DA:751:A:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:224:U:C4	22:DA:225:C:C5	3.02	0.48
1:CA:857:C:H2'	1:CA:858:G:O4'	2.13	0.48
1:AA:979:C:H1'	1:AA:1317:C:N4	2.29	0.48
12:CL:23:ALA:HA	12:CL:61:PHE:CD2	2.49	0.48
38:DQ:62:ILE:HG23	38:DQ:76:TYR:CE2	2.49	0.48
1:CA:1071:C:H2'	1:CA:1072:G:H8	1.77	0.48
22:DA:527:C:OP2	22:DA:2779:U:N3	2.46	0.48
17:CQ:13:VAL:HG12	17:CQ:22:VAL:HG13	1.95	0.48
1:AA:451:A:C5'	16:AP:70:ARG:NH2	2.77	0.48
5:CE:101:GLU:OE1	5:CE:101:GLU:O	2.32	0.48
5:CE:36:LEU:HD21	5:CE:137:VAL:HG11	1.95	0.48
22:DA:125:A:H3'	50:D2:19:ARG:HG3	1.96	0.48
23:DB:57:A:H1'	27:DF:27:GLN:HA	1.96	0.48
22:DA:489:G:C2	22:DA:491:G:H1'	2.49	0.48
22:DA:1339:G:H5'	22:DA:1393:A:N6	2.28	0.48
22:BA:1775:U:H2'	22:BA:1776:G:O5'	2.14	0.48
22:DA:972:A:N1	22:DA:973:A:C6	2.82	0.48
39:DR:81:LYS:N	39:DR:81:LYS:HD3	2.29	0.48
22:BA:1924:C:H2'	22:BA:1925:C:H5''	1.95	0.48
33:DL:93:ASN:OD1	33:DL:94:THR:N	2.47	0.48
12:CL:82:ILE:HD11	12:CL:95:TYR:HB2	1.96	0.48
1:CA:182:A:C4	1:CA:184:G:N7	2.81	0.48
22:DA:629:G:H4'	22:DA:650:C:O2	2.13	0.48
4:AD:62:ARG:NH2	4:AD:63:ARG:NH2	2.61	0.48
35:DN:75:ILE:O	35:DN:79:LEU:HD12	2.14	0.48
22:BA:1675:C:N3	25:BD:133:THR:HG21	2.28	0.48
6:CF:18:VAL:O	6:CF:21:MET:N	2.46	0.48
12:AL:24:LEU:HG	12:AL:25:GLU:N	2.28	0.48
35:DN:80:PHE:O	35:DN:85:PRO:HD3	2.13	0.48
1:CA:890:G:O2'	1:CA:906:A:N6	2.45	0.48
23:BB:37:C:C6	23:BB:38:C:C5	3.02	0.48
1:CA:1291:U:OP1	7:CG:37:SER:CB	2.62	0.48
1:AA:316:C:O2	1:AA:316:C:H2'	2.13	0.48
22:DA:627:A:O2'	33:DL:76:GLU:OE1	2.29	0.48
10:AJ:6:ILE:CD1	10:AJ:76:ILE:HB	2.43	0.48
22:BA:140:C:O2	22:BA:140:C:O4'	2.29	0.48
1:AA:141:G:N2	1:AA:142:G:H1'	2.29	0.48
40:BS:47:VAL:O	40:BS:50:VAL:N	2.47	0.48
19:CS:6:LYS:HB2	19:CS:7:LYS:HE3	1.95	0.48
1:AA:233:C:C2	1:AA:234:C:C5	3.02	0.48
2:AB:132:LYS:CG	2:AB:133:GLU:N	2.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2566:A:N1	32:DK:28:SER:OG	2.33	0.48
33:BL:77:ILE:CD1	33:BL:95:LEU:HD13	2.43	0.48
16:AP:60:TRP:O	16:AP:63:GLN:N	2.45	0.48
31:DJ:94:ALA:O	31:DJ:96:ARG:N	2.47	0.48
1:CA:618:C:H5''	1:CA:619:U:H5''	1.96	0.48
22:BA:1366:A:C2	22:BA:1367:A:H1'	2.48	0.48
22:DA:2189:U:H2'	22:DA:2190:G:H5'	1.95	0.48
36:DO:104:GLN:O	36:DO:107:ALA:N	2.47	0.48
22:BA:657:U:H2'	22:BA:658:U:C6	2.49	0.48
22:DA:851:C:O2'	47:DZ:43:ALA:O	2.29	0.48
22:BA:933:A:H5'	22:BA:934:U:OP2	2.14	0.48
22:BA:1112:G:C5	22:BA:1113:U:C5	3.02	0.48
31:BJ:99:ARG:O	31:BJ:103:ILE:HD12	2.14	0.48
1:AA:992:U:C2	1:AA:1043:G:N7	2.82	0.48
2:AB:128:LYS:O	2:AB:129:LEU:C	2.51	0.48
1:AA:974:A:OP1	14:AN:69:ARG:NH1	2.47	0.48
22:BA:1232:G:C5	22:BA:1233:C:C5	3.02	0.48
41:BT:73:ARG:NH2	41:BT:73:ARG:HB3	2.29	0.48
16:AP:50:THR:HG22	16:AP:50:THR:O	2.14	0.48
46:BY:59:GLU:HG2	46:BY:59:GLU:O	2.12	0.48
22:DA:67:U:C2	22:DA:68:G:C8	3.01	0.48
22:DA:1494:A:H2'	22:DA:1495:A:C8	2.49	0.48
22:BA:1515:A:H2'	22:BA:1516:G:O4'	2.13	0.48
31:DJ:77:HIS:HA	31:DJ:83:GLY:O	2.14	0.48
18:CR:25:ASP:O	18:CR:26:ILE:C	2.51	0.48
24:DC:160:THR:N	24:DC:195:VAL:HG13	2.28	0.48
50:D2:11:LYS:NZ	57:D2:201:HOH:O	2.45	0.48
22:BA:1009:A:P	31:BJ:39:LYS:HZ1	2.27	0.48
22:DA:1354:A:C8	22:DA:1355:G:C8	3.01	0.48
22:DA:185:G:N1	22:DA:212:G:N3	2.62	0.48
6:AF:5:GLU:O	6:AF:6:ILE:HB	2.13	0.48
11:CK:46:THR:O	11:CK:50:SER:OG	2.23	0.48
46:DY:45:GLN:C	46:DY:47:ARG:N	2.67	0.48
53:B5:50:ILE:O	53:B5:52:PRO:HD3	2.14	0.48
22:BA:1860:G:C6	22:BA:1883:U:O2	2.67	0.48
22:DA:856:G:C2	22:DA:922:C:C2	3.02	0.48
22:BA:1869:G:O2'	22:BA:1872:A:N6	2.46	0.48
1:AA:1315:U:C4	1:AA:1316:G:C5	3.02	0.48
1:AA:270:A:H2'	1:AA:271:C:C6	2.48	0.48
22:DA:2700:A:C2	22:DA:2708:G:C2	3.02	0.48
1:AA:328:C:C2'	1:AA:328:C:O2	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:117:G:O6	1:CA:289:G:H1'	2.14	0.48
1:AA:1000:A:C2	1:AA:1041:G:N2	2.81	0.48
1:AA:1138:G:C2	1:AA:1140:C:C5	3.01	0.48
1:CA:879:C:H2'	1:CA:880:C:O5'	2.13	0.48
22:DA:1680:U:O2'	22:DA:1763:G:N7	2.40	0.48
1:AA:129:A:H1'	1:AA:130:A:C8	2.49	0.48
22:DA:2615:U:C2	48:D0:4:GLN:HA	2.48	0.48
1:AA:958:A:N6	1:AA:959:A:N1	2.62	0.48
22:DA:1785:A:N1	22:DA:1787:A:H1'	2.28	0.48
1:CA:39:G:O2'	1:CA:40:C:H5'	2.14	0.48
2:CB:130:THR:HB	2:CB:132:LYS:HB3	1.95	0.48
22:DA:858:G:N2	22:DA:919:U:O4	2.45	0.48
22:DA:67:U:H2'	22:DA:68:G:O4'	2.14	0.48
53:B5:100:ILE:CG2	53:B5:104:ILE:CB	2.92	0.48
22:DA:2690:U:O2'	22:DA:2872:A:H1'	2.13	0.48
2:AB:31:ILE:HD13	2:AB:39:HIS:CD2	2.48	0.48
1:AA:57:G:H2'	1:AA:58:C:C6	2.49	0.48
9:CI:31:ASN:O	9:CI:32:GLN:C	2.51	0.48
26:DE:181:ILE:HG23	33:DL:2:ARG:HD3	1.95	0.48
24:DC:247:PRO:HB2	24:DC:248:TRP:CZ3	2.49	0.48
18:CR:20:GLU:O	18:CR:22:ASP:N	2.46	0.48
22:DA:553:G:H2'	22:DA:554:U:O4'	2.13	0.48
1:AA:1360:A:C8	14:AN:58:SER:HB3	2.48	0.48
18:AR:52:GLN:HA	18:AR:52:GLN:OE1	2.13	0.48
39:BR:74:ILE:N	39:BR:74:ILE:CD1	2.76	0.48
22:DA:2418:A:H2'	22:DA:2419:U:O4'	2.13	0.48
25:BD:66:GLY:O	25:BD:69:ALA:HB3	2.14	0.48
1:CA:1219:A:N6	1:CA:1220:G:O6	2.47	0.48
31:DJ:76:HIS:CE1	31:DJ:85:LYS:HB2	2.48	0.48
22:BA:996:A:C2	22:BA:997:G:C8	3.01	0.48
22:DA:2195:U:C2	22:DA:2196:C:C6	3.02	0.48
22:BA:2727:A:C2'	22:BA:2728:U:H5'	2.43	0.48
22:BA:1098:A:H5'	22:BA:1099:G:OP2	2.13	0.48
22:BA:1189:A:H2'	22:BA:1190:G:O4'	2.14	0.48
22:DA:1404:C:O2'	22:DA:1405:U:H5'	2.14	0.48
22:DA:1545:A:C8	22:DA:1546:G:C8	3.02	0.48
1:CA:502:A:OP1	12:CL:115:SER:CB	2.62	0.48
22:DA:572:A:H5''	22:DA:573:U:OP2	2.14	0.48
22:DA:2747:G:O6	22:DA:2755:C:H5''	2.13	0.48
1:AA:652:U:O2'	1:AA:653:U:OP2	2.25	0.48
22:DA:586:A:N1	22:DA:809:G:O2'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BI:127:ARG:HA	30:BI:130:GLU:CG	2.43	0.48
6:CF:99:ALA:O	6:CF:100:SER:HB3	2.13	0.48
1:CA:552:U:N3	1:CA:553:A:N7	2.62	0.48
22:BA:451:U:C2	22:BA:453:A:N7	2.82	0.48
19:AS:5:LEU:HD23	19:AS:9:PRO:HA	1.96	0.48
19:AS:5:LEU:C	19:AS:6:LYS:HG3	2.32	0.48
22:BA:167:A:H2'	22:BA:168:G:O4'	2.13	0.48
22:DA:2706:A:C2	22:DA:2707:U:C2	3.02	0.48
1:CA:1280:A:C8	10:CJ:42:LEU:HD23	2.49	0.48
28:BG:97:ALA:HA	28:BG:125:CYS:SG	2.54	0.48
1:AA:49:U:O4	1:AA:365:U:H5	1.97	0.48
6:AF:38:ARG:NH1	6:AF:99:ALA:HB3	2.29	0.48
4:AD:38:PRO:HD2	4:AD:42:GLY:HA3	1.95	0.48
38:BQ:108:ALA:HB1	39:BR:48:LYS:NZ	2.29	0.48
22:DA:2387:U:H1'	44:DW:41:ARG:CD	2.43	0.48
1:AA:1173:U:OP1	7:AG:5:ARG:NH1	2.47	0.48
22:BA:1678:A:H2'	22:BA:1679:A:H5'	1.95	0.48
7:AG:129:GLU:O	7:AG:130:ASN:C	2.51	0.48
1:AA:760:G:C5	1:AA:761:G:C8	3.02	0.48
1:AA:803:G:C5	1:AA:804:U:C4	3.02	0.48
22:DA:389:G:N9	22:DA:2413:G:H4'	2.29	0.48
22:BA:1356:G:C6	22:BA:1357:C:C4	3.02	0.48
9:AI:84:THR:HG21	9:AI:103:PHE:HB3	1.96	0.48
7:CG:113:ASP:HB2	7:CG:119:ARG:HG3	1.96	0.48
24:DC:147:LYS:O	24:DC:150:LYS:HB3	2.13	0.48
22:BA:871:U:H2'	22:BA:872:U:C6	2.49	0.48
13:CM:96:PRO:HB3	13:CM:100:GLN:NE2	2.29	0.48
42:BU:95:PHE:O	42:BU:95:PHE:CD1	2.67	0.48
1:CA:504:C:O4'	1:CA:510:A:C2	2.66	0.48
1:CA:1426:G:H2'	1:CA:1427:C:O4'	2.14	0.48
22:DA:2350:C:H2'	22:DA:2351:G:O4'	2.13	0.48
22:DA:150:U:H2'	22:DA:151:C:C6	2.49	0.48
22:BA:2202:U:H5''	22:BA:2203:U:OP1	2.13	0.48
4:CD:105:MET:SD	4:CD:143:VAL:HG13	2.54	0.48
22:DA:2567:G:H2'	22:DA:2568:U:C6	2.48	0.48
22:BA:2500:U:O2	22:BA:2504:U:C4	2.67	0.48
22:DA:122:G:H2'	22:DA:123:G:O4'	2.13	0.48
42:DU:52:LEU:O	42:DU:53:ASN:CG	2.52	0.48
27:DF:176:PRO:O	27:DF:177:PHE:HB2	2.14	0.48
1:CA:412:A:O2'	1:CA:413:G:H4'	2.14	0.47
3:AC:22:TRP:CZ2	3:AC:32:ASN:HB3	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:513:A:C2	22:DA:514:A:C8	3.02	0.47
36:BO:103:VAL:O	36:BO:106:LEU:N	2.47	0.47
1:AA:451:A:C2	1:AA:480:U:C4	3.02	0.47
22:DA:35:G:N2	22:DA:450:G:H1'	2.29	0.47
22:DA:35:G:C4	22:DA:454:A:C2	3.02	0.47
17:AQ:16:LYS:O	17:AQ:17:MET:HE3	2.14	0.47
22:DA:56:A:C2	22:DA:115:C:C2	3.02	0.47
22:DA:511:U:O2'	22:DA:1215:G:N2	2.46	0.47
29:BH:91:PHE:O	1:CA:55:A:C6	2.67	0.47
22:DA:161:A:P	22:DA:162:U:H3'	2.53	0.47
1:AA:409:U:OP1	4:AD:24:GLY:HA3	2.14	0.47
22:DA:671:C:C2'	22:DA:672:C:O5'	2.61	0.47
1:AA:781:A:C5	1:AA:802:A:C2	3.02	0.47
2:AB:53:ALA:O	2:AB:57:LEU:HB2	2.13	0.47
17:CQ:50:ASN:O	17:CQ:52:GLU:N	2.47	0.47
1:AA:105:G:H2'	1:AA:106:C:C6	2.49	0.47
1:AA:1539:C:O3'	21:AU:18:ARG:HB3	2.14	0.47
30:BI:116:ASP:O	30:BI:117:MET:HB2	2.13	0.47
22:DA:845:A:N3	22:DA:845:A:H3'	2.30	0.47
1:CA:790:A:N6	1:CA:791:G:C6	2.82	0.47
1:AA:1307:U:C2	1:AA:1308:U:C5	3.02	0.47
1:AA:842:U:H3'	1:AA:843:U:C5'	2.43	0.47
22:BA:265:A:N1	22:BA:427:U:O2'	2.36	0.47
22:BA:2334:U:O4	36:BO:16:ARG:HD3	2.14	0.47
1:AA:645:G:C5	1:AA:646:G:N7	2.82	0.47
1:AA:373:A:N3	1:AA:374:A:C8	2.82	0.47
1:AA:350:G:O2'	1:AA:351:G:H5'	2.14	0.47
37:DP:29:LYS:HB3	37:DP:40:LEU:CD2	2.43	0.47
22:DA:2823:A:C5	22:DA:2824:C:C5	3.01	0.47
2:AB:151:ILE:HG23	2:AB:152:LYS:N	2.28	0.47
2:AB:96:TRP:CZ3	2:AB:175:GLU:OE2	2.67	0.47
22:DA:2552:U:C2	22:DA:2554:U:C5'	2.97	0.47
40:DS:7:HIS:HB2	40:DS:50:VAL:CG2	2.43	0.47
11:CK:97:ILE:HG13	11:CK:98:ARG:N	2.29	0.47
35:DN:58:ASP:OD1	35:DN:63:ARG:HD2	2.13	0.47
22:DA:189:G:OP1	45:DX:26:LYS:HE2	2.13	0.47
22:BA:468:G:C6	22:BA:469:G:C4	3.02	0.47
22:BA:1487:U:C2	22:BA:1503:A:C2	3.01	0.47
1:AA:1167:A:N7	1:AA:1169:A:C6	2.81	0.47
35:BN:32:GLU:HA	35:BN:115:LEU:HD12	1.95	0.47
22:DA:694:U:C3'	22:DA:695:G:H5''	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CI:31:ASN:HA	9:CI:66:THR:HG22	1.95	0.47
32:DK:73:ASP:O	37:DP:75:GLN:HG3	2.14	0.47
1:AA:1197:A:OP1	1:AA:1198:G:OP2	2.32	0.47
1:CA:688:G:O2'	1:CA:704:A:N1	2.34	0.47
7:AG:75:VAL:HB	7:AG:86:GLN:HG3	1.95	0.47
16:CP:56:ARG:O	16:CP:59:HIS:N	2.46	0.47
22:BA:1283:G:N2	22:BA:1285:A:H3'	2.29	0.47
1:AA:598:U:H4'	8:AH:86:TYR:CD2	2.49	0.47
22:DA:1432:G:C2	22:DA:1433:A:C4	3.02	0.47
22:DA:1806:C:N4	22:DA:1807:G:C5	2.82	0.47
22:BA:1011:G:H1'	22:BA:1013:C:O4'	2.14	0.47
1:AA:1191:A:OP2	3:AC:3:GLN:NE2	2.47	0.47
1:AA:1346:A:C8	7:AG:10:ARG:NH2	2.82	0.47
1:AA:1402:C:H2'	1:AA:1403:C:O4'	2.14	0.47
21:CU:39:GLU:CD	21:CU:42:THR:HG1	2.18	0.47
22:BA:215:G:H4'	22:BA:216:A:H4'	1.96	0.47
22:BA:1680:U:H2'	22:BA:1681:G:O4'	2.14	0.47
24:BC:75:PRO:HG2	24:BC:97:LYS:HD2	1.96	0.47
41:DT:51:PHE:O	41:DT:53:VAL:HG22	2.14	0.47
26:DE:173:THR:HG23	26:DE:199:MET:SD	2.54	0.47
10:AJ:49:PHE:CD2	14:AN:77:PHE:CE2	3.02	0.47
53:B5:44:VAL:HG23	53:B5:179:ALA:HB2	1.97	0.47
29:BH:116:ARG:O	29:BH:118:PRO:HD3	2.14	0.47
14:CN:41:ARG:NH2	14:CN:43:ASN:OD1	2.47	0.47
22:DA:686:U:H2'	22:DA:788:A:N1	2.29	0.47
22:BA:674:G:H1'	26:BE:69:ARG:HD3	1.96	0.47
22:DA:53:A:N7	22:DA:54:G:N7	2.61	0.47
22:DA:1360:G:C2'	22:DA:1361:G:H5'	2.44	0.47
22:DA:1060:U:OP2	30:DI:75:PRO:HA	2.14	0.47
30:DI:75:PRO:HG2	30:DI:78:VAL:HG21	1.96	0.47
4:AD:123:ILE:H	4:AD:123:ILE:HD13	1.78	0.47
22:DA:38:A:H2'	22:DA:39:G:O4'	2.14	0.47
30:DI:24:VAL:CG2	30:DI:28:LEU:HD23	2.45	0.47
22:DA:141:G:H3'	22:DA:142:A:C8	2.48	0.47
29:DH:117:LEU:HD11	29:DH:130:VAL:HG22	1.95	0.47
5:AE:136:VAL:O	5:AE:140:THR:OG1	2.32	0.47
4:AD:153:SER:O	4:AD:155:VAL:N	2.47	0.47
1:AA:365:U:H5''	1:AA:366:A:OP1	2.13	0.47
42:DU:13:VAL:HG21	42:DU:39:ILE:HG23	1.95	0.47
31:DJ:15:TRP:O	31:DJ:137:PRO:HA	2.14	0.47
22:DA:2262:U:OP2	44:DW:16:SER:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CE:151:GLU:O	5:CE:154:ALA:HB3	2.14	0.47
22:BA:417:C:O2'	22:BA:418:C:H5'	2.14	0.47
1:AA:39:G:N3	1:AA:40:C:C6	2.82	0.47
22:DA:451:U:H2'	22:DA:453:A:N7	2.30	0.47
6:AF:15:SER:O	6:AF:18:VAL:HG23	2.14	0.47
24:BC:15:HIS:O	24:BC:204:VAL:HG21	2.14	0.47
22:BA:2749:A:OP1	28:BG:2:SER:N	2.47	0.47
22:BA:646:U:H5'	22:BA:647:G:H5''	1.96	0.47
1:AA:1369:C:H2'	1:AA:1370:G:C8	2.50	0.47
22:BA:1789:A:OP2	24:BC:221:ARG:NH1	2.47	0.47
13:CM:54:ASP:HA	13:CM:57:ARG:HB3	1.95	0.47
24:DC:147:LYS:HB2	24:DC:150:LYS:CB	2.44	0.47
22:DA:269:C:O2	22:DA:269:C:H2'	2.14	0.47
1:CA:406:G:C2	1:CA:407:U:C5	3.02	0.47
35:DN:31:HIS:O	35:DN:33:ILE:HG22	2.13	0.47
22:DA:693:A:C6	22:DA:694:U:C4	3.03	0.47
22:DA:228:C:C5'	22:DA:229:C:C6	2.97	0.47
26:BE:128:ALA:HB1	26:BE:129:PRO:HD2	1.96	0.47
23:BB:22:U:H2'	23:BB:23:G:C8	2.48	0.47
2:CB:164:ILE:HG23	2:CB:165:ASP:N	2.29	0.47
22:DA:2599:G:N7	24:DC:235:GLY:O	2.47	0.47
1:CA:380:G:N2	1:CA:383:A:OP2	2.45	0.47
22:BA:2249:U:H4'	22:BA:2250:G:OP2	2.14	0.47
22:BA:995:C:H5'	22:BA:995:C:H6	1.78	0.47
31:DJ:84:ILE:O	31:DJ:84:ILE:HG23	2.13	0.47
31:DJ:13:ARG:HG2	31:DJ:51:GLY:O	2.15	0.47
45:BX:45:ARG:HG2	45:BX:46:PHE:N	2.30	0.47
38:DQ:94:ILE:HD13	39:DR:11:GLN:HB2	1.96	0.47
1:AA:444:G:C6	1:AA:445:G:N7	2.82	0.47
22:BA:1185:G:H5''	22:BA:1186:G:OP1	2.15	0.47
6:AF:90:MET:O	6:AF:91:ARG:O	2.32	0.47
4:CD:202:GLU:CD	5:CE:105:ILE:CG2	2.83	0.47
22:DA:45:G:H4'	22:DA:46:G:O4'	2.15	0.47
22:DA:1351:C:O2'	22:DA:1571:A:H1'	2.13	0.47
40:BS:83:LYS:C	40:BS:84:ARG:HG2	2.32	0.47
22:DA:1364:G:H1'	22:DA:1368:G:N2	2.30	0.47
22:DA:463:G:N2	22:DA:466:A:OP2	2.33	0.47
37:DP:89:ARG:HD2	37:DP:113:ARG:CZ	2.44	0.47
22:DA:1469:A:C2	22:DA:1470:A:C4	3.03	0.47
22:DA:1813:G:H2'	22:DA:1814:G:O4'	2.14	0.47
10:CJ:35:GLN:O	10:CJ:36:VAL:CB	2.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:CQ:45:HIS:O	17:CQ:71:LYS:HA	2.14	0.47
1:AA:986:U:C2	1:AA:987:G:C8	3.02	0.47
1:AA:624:C:H4'	16:AP:11:ALA:HB2	1.96	0.47
33:DL:81:ASP:O	33:DL:82:LEU:CD2	2.63	0.47
46:BY:9:LYS:HE2	46:BY:11:VAL:CG2	2.44	0.47
1:CA:1028:C:C6	1:CA:1034:G:N2	2.83	0.47
1:AA:181:A:N6	1:AA:195:A:C8	2.83	0.47
22:DA:1182:G:H2'	22:DA:1183:U:O4'	2.15	0.47
32:DK:92:GLU:O	32:DK:93:GLN:CB	2.62	0.47
29:DH:62:LEU:O	29:DH:62:LEU:HD22	2.14	0.47
2:AB:95:ARG:HG2	2:AB:95:ARG:HH11	1.78	0.47
22:BA:419:U:H2'	22:BA:420:C:C6	2.49	0.47
2:AB:111:ILE:CD1	2:AB:111:ILE:N	2.78	0.47
1:AA:503:C:H6	1:AA:503:C:O5'	1.97	0.47
22:DA:547:A:H3'	22:DA:548:G:H5'	1.95	0.47
22:BA:1299:G:H8	22:BA:1299:G:O5'	1.98	0.47
22:DA:1799:G:N1	22:DA:1819:A:OP2	2.36	0.47
17:AQ:53:CYS:SG	17:AQ:75:LEU:CD2	3.03	0.47
16:AP:51:ARG:CZ	16:AP:51:ARG:HB3	2.44	0.47
22:DA:1870:C:C3'	22:DA:1871:A:H5'	2.43	0.47
22:DA:358:U:C2	22:DA:359:G:C8	3.02	0.47
1:AA:57:G:H2'	1:AA:58:C:O4'	2.14	0.47
1:AA:1452:C:O4'	1:AA:1453:G:C2	2.66	0.47
28:BG:52:PHE:CE1	28:BG:69:ARG:HA	2.49	0.47
22:BA:1374:G:C5	22:BA:1375:U:C5	3.02	0.47
1:AA:578:C:P	57:AA:1739:HOH:O	2.73	0.47
1:CA:636:U:H2'	1:CA:637:C:C6	2.49	0.47
18:CR:45:THR:HG1	18:CR:47:THR:CG2	2.27	0.47
22:BA:55:G:C2	22:BA:56:A:C8	3.02	0.47
1:CA:913:A:H4'	1:CA:914:A:OP1	2.14	0.47
22:DA:2571:U:C4	22:DA:2574:G:C8	3.02	0.47
9:CI:17:ALA:HB2	9:CI:67:VAL:HB	1.96	0.47
37:DP:54:GLY:O	37:DP:77:HIS:NE2	2.46	0.47
22:BA:1031:G:H4'	52:B4:6:SER:HB2	1.96	0.47
22:DA:2861:U:C2	22:DA:2862:G:C8	3.02	0.47
41:BT:33:LYS:HG3	41:BT:80:TRP:CE3	2.49	0.47
22:DA:2518:A:H2'	22:DA:2518:A:N3	2.29	0.47
41:BT:49:LYS:N	41:BT:49:LYS:HD3	2.29	0.47
11:CK:72:ASP:O	11:CK:73:ALA:HB3	2.14	0.47
2:CB:102:THR:HB	2:CB:175:GLU:HG2	1.97	0.47
1:CA:1074:G:H4'	2:CB:103:ASN:CB	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:99:GLY:O	2:CB:103:ASN:N	2.46	0.47
22:BA:1064:C:H2'	22:BA:1064:C:O2	2.13	0.47
22:DA:319:G:O2'	22:DA:320:A:H5'	2.15	0.47
11:AK:27:PHE:CE2	11:AK:89:PRO:HG2	2.49	0.47
22:DA:454:A:H4'	22:DA:455:C:OP2	2.14	0.47
22:DA:56:A:C2	22:DA:57:C:C2	3.03	0.47
22:BA:999:U:H5''	22:BA:1154:G:O6	2.14	0.47
1:AA:262:A:H2'	1:AA:263:A:C8	2.49	0.47
1:AA:198:G:C5	1:AA:220:G:C2	3.02	0.47
21:AU:37:PHE:HB3	21:AU:41:PRO:CG	2.44	0.47
22:DA:1525:A:H2'	22:DA:1526:C:O4'	2.14	0.47
1:CA:1295:U:H2'	1:CA:1296:C:C6	2.49	0.47
14:CN:62:ASN:HB3	14:CN:73:PHE:CD2	2.49	0.47
12:CL:21:VAL:HG12	12:CL:95:TYR:CE1	2.49	0.47
22:DA:301:G:C2	22:DA:302:C:N3	2.83	0.47
25:BD:4:LEU:HD22	25:BD:101:PHE:HE1	1.79	0.47
14:AN:20:TYR:O	14:AN:23:LYS:HB3	2.14	0.47
1:CA:377:G:O2'	1:CA:378:G:H5'	2.14	0.47
27:BF:14:LYS:O	27:BF:18:THR:HG22	2.15	0.47
29:BH:111:ALA:O	29:BH:114:GLU:HB2	2.13	0.47
1:CA:604:G:C6	1:CA:605:U:N3	2.82	0.47
9:CI:51:PRO:HB3	9:CI:84:THR:HG23	1.96	0.47
1:CA:207:C:O2'	1:CA:213:G:N2	2.47	0.47
22:DA:590:A:C5	22:DA:591:U:C5	3.02	0.47
2:AB:56:GLU:HA	2:AB:59:LYS:HB3	1.96	0.47
1:AA:1073:U:O2'	2:AB:103:ASN:OD1	2.29	0.47
22:DA:600:G:OP1	26:DE:24:ASN:ND2	2.45	0.47
19:CS:75:ALA:N	19:CS:76:PRO:HD3	2.28	0.47
1:CA:756:C:C2'	1:CA:757:U:H5'	2.45	0.47
2:AB:91:PHE:CE1	2:AB:150:GLY:CA	2.97	0.47
41:BT:1:MET:HB2	41:BT:2:ILE:HD12	1.97	0.47
1:CA:600:A:C2	1:CA:639:G:C4	3.03	0.47
18:AR:48:ARG:N	18:AR:48:ARG:CD	2.77	0.47
1:AA:57:G:C5	1:AA:58:C:C4	3.02	0.47
22:DA:228:C:H4'	22:DA:229:C:H5''	1.96	0.47
22:DA:2300:C:C2	22:DA:2317:A:C2	3.03	0.47
14:CN:16:LEU:HB3	14:CN:55:SER:HA	1.96	0.47
24:DC:176:LEU:HD12	24:DC:180:GLU:HB3	1.96	0.47
22:DA:9:G:C6	22:DA:2629:U:C6	3.03	0.47
23:BB:14:U:O2	23:BB:107:G:H4'	2.14	0.47
49:B1:11:LEU:HD23	49:B1:11:LEU:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:DL:85:VAL:O	33:DL:86:GLU:HB3	2.14	0.47
22:DA:2744:G:C6	22:DA:2761:A:C6	3.02	0.47
22:DA:2110:G:C6	22:DA:2120:G:C8	3.02	0.47
48:B0:41:HIS:HA	48:B0:49:TYR:OH	2.14	0.47
13:AM:51:GLY:O	13:AM:55:THR:HG23	2.14	0.47
1:AA:695:A:N1	1:AA:696:A:C2	2.82	0.47
11:AK:88:GLY:N	11:AK:114:THR:HG22	2.29	0.47
22:BA:2529:G:OP1	28:BG:172:LYS:NZ	2.48	0.47
12:AL:51:LYS:N	12:AL:51:LYS:CD	2.76	0.47
28:DG:111:HIS:O	28:DG:111:HIS:ND1	2.47	0.47
9:CI:127:PHE:CD1	9:CI:127:PHE:C	2.87	0.47
22:BA:1239:G:H2'	22:BA:1240:U:O4'	2.14	0.47
29:BH:117:LEU:HD23	29:BH:121:VAL:HA	1.95	0.47
22:DA:2094:A:H4'	29:DH:25:TYR:CE1	2.49	0.47
22:DA:751:A:C6	22:DA:789:A:C6	3.03	0.47
22:DA:2624:G:C2'	22:DA:2625:G:H5'	2.45	0.47
11:AK:30:THR:HG21	11:AK:91:PRO:O	2.15	0.47
22:BA:999:U:H5	22:BA:1154:G:C5	2.29	0.47
22:DA:1355:G:C2'	22:DA:1356:G:H5'	2.43	0.47
4:AD:157:ALA:O	4:AD:161:LEU:HD22	2.15	0.47
22:BA:1188:U:H2'	22:BA:1189:A:H5'	1.95	0.47
1:AA:200:G:C2	1:AA:218:U:O2	2.67	0.47
11:AK:126:LYS:CA	21:AU:34:ARG:NH2	2.76	0.47
22:BA:2531:A:C6	22:BA:2532:G:C5	3.03	0.47
20:AT:67:ILE:O	20:AT:68:HIS:C	2.52	0.47
1:AA:965:U:C2	1:AA:969:A:C2	3.03	0.47
22:BA:1359:A:C8	22:BA:1373:A:C2	3.02	0.47
22:DA:1638:C:H5''	22:DA:2710:C:O2'	2.14	0.47
22:DA:1843:C:H4'	24:DC:251:GLN:OE1	2.15	0.47
15:AO:63:ARG:HG2	15:AO:67:LEU:CD1	2.43	0.47
24:DC:67:PHE:CE2	24:DC:156:ARG:CZ	2.97	0.47
10:AJ:53:ILE:HD11	14:AN:85:ARG:NH1	2.29	0.47
1:AA:1328:C:H2'	1:AA:1329:A:O4'	2.15	0.47
22:BA:1414:C:C5	22:BA:1415:U:H5	2.33	0.47
22:DA:1754:A:N1	22:DA:2716:C:O2'	2.47	0.47
1:CA:1226:C:C4	13:CM:103:LYS:HA	2.49	0.47
27:BF:107:ALA:C	27:BF:109:PRO:HD2	2.35	0.47
22:DA:1350:C:N3	22:DA:1382:G:C2	2.82	0.47
22:BA:221:A:C8	22:BA:266:G:O6	2.66	0.47
1:CA:716:A:C6	1:CA:717:U:N3	2.82	0.47
1:AA:178:C:H2'	1:AA:179:A:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:178:C:OP2	20:AT:60:ARG:NH2	2.48	0.47
6:AF:40:GLU:HB2	6:AF:61:LEU:HB3	1.97	0.47
1:CA:608:A:H2'	1:CA:609:A:O4'	2.14	0.47
1:AA:19:A:C2	1:AA:917:G:C4	3.02	0.47
27:DF:31:VAL:CG1	27:DF:97:TRP:CH2	2.98	0.47
26:DE:72:SER:O	26:DE:74:LYS:N	2.46	0.47
5:AE:108:GLY:O	5:AE:110:ALA:N	2.48	0.47
22:DA:134:G:N2	22:DA:146:A:N3	2.63	0.47
1:AA:895:G:H2'	1:AA:896:C:C6	2.49	0.47
40:DS:7:HIS:HB2	40:DS:50:VAL:HG21	1.96	0.47
22:BA:2259:U:C6	22:BA:2427:C:C4	3.02	0.47
13:CM:68:ASP:O	13:CM:72:GLU:HG3	2.13	0.47
9:CI:28:ILE:CB	9:CI:35:LEU:HB2	2.45	0.47
22:BA:45:G:H5'	22:BA:46:G:OP1	2.15	0.47
3:CC:181:ASP:OD2	3:CC:204:LYS:HB2	2.14	0.47
23:BB:15:A:C8	23:BB:109:A:C6	3.02	0.47
22:DA:2371:G:C2	22:DA:2372:U:C5	3.02	0.47
17:AQ:81:LYS:N	17:AQ:81:LYS:HD3	2.29	0.47
24:DC:33:LEU:C	24:DC:64:ILE:HD12	2.34	0.47
19:AS:58:VAL:CG1	19:AS:75:ALA:HB1	2.44	0.47
53:B5:78:ILE:HG23	53:B5:78:ILE:O	2.14	0.47
1:AA:392:C:C2	1:AA:393:A:C8	3.02	0.47
22:BA:1000:A:C4	22:BA:1155:A:C6	3.02	0.47
22:BA:61:C:C2	22:BA:94:A:C2	3.03	0.47
1:CA:562:U:H1'	12:CL:12:ARG:HG3	1.96	0.47
2:CB:186:ILE:HA	2:CB:200:ILE:O	2.14	0.47
1:AA:810:C:H2'	1:AA:810:C:O2	2.14	0.47
21:AU:29:LEU:C	21:AU:29:LEU:HD23	2.34	0.47
1:CA:78:A:C2	1:CA:92:U:O2	2.67	0.47
1:AA:1082:A:C2	1:AA:1083:U:C2	3.02	0.47
19:AS:29:LYS:O	19:AS:30:PRO:O	2.32	0.47
3:AC:36:ASP:O	3:AC:39:VAL:HG22	2.15	0.47
22:BA:1171:G:C6	22:BA:1172:C:N3	2.83	0.47
22:DA:822:G:H5''	57:DA:3341:HOH:O	2.14	0.47
1:AA:90:C:N3	1:AA:91:U:C5	2.82	0.47
13:AM:16:VAL:HG13	13:AM:34:LEU:HD13	1.97	0.47
1:CA:519:C:H2'	1:CA:520:A:O4'	2.13	0.47
2:CB:17:GLY:O	2:CB:40:ILE:HA	2.14	0.47
22:DA:669:G:N2	22:DA:670:A:C2	2.83	0.47
22:BA:2298:A:N6	22:BA:2318:G:H1'	2.29	0.47
17:AQ:45:HIS:CB	17:AQ:70:THR:HG23	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1345:U:C2	1:CA:1377:A:N1	2.82	0.47
1:AA:1353:G:N3	1:AA:1354:U:C6	2.83	0.47
3:AC:205:GLY:O	3:AC:206:GLU:CG	2.61	0.47
20:AT:44:LYS:HG2	20:AT:87:ALA:HA	1.97	0.47
22:DA:995:C:C6	38:DQ:57:PHE:CE2	3.02	0.47
22:DA:1034:G:C6	22:DA:1035:U:C4	3.02	0.47
8:AH:5:ASP:OD2	8:AH:8:ALA:HB2	2.15	0.47
17:CQ:19:LYS:CD	17:CQ:49:GLU:HA	2.45	0.47
17:CQ:47:HIS:HB2	17:CQ:67:LEU:HD13	1.95	0.47
30:DI:8:TYR:CD1	30:DI:8:TYR:O	2.68	0.47
1:AA:989:U:C2'	1:AA:990:C:O5'	2.63	0.47
1:CA:769:G:H4'	1:CA:1513:A:H4'	1.96	0.47
22:DA:802:A:C5	22:DA:803:U:C4	3.03	0.47
22:BA:2502:G:C5'	22:BA:2503:A:C5'	2.92	0.47
41:BT:41:ALA:O	41:BT:44:LYS:N	2.48	0.47
1:CA:607:A:N1	1:CA:608:A:C2	2.82	0.47
1:CA:892:A:C2	1:CA:907:A:C4	3.03	0.47
22:BA:1584:U:C2'	22:BA:1584:U:O2	2.62	0.47
1:AA:1210:C:N4	1:AA:1211:U:C4	2.82	0.47
1:AA:557:G:H2'	1:AA:558:G:C8	2.49	0.47
6:AF:18:VAL:N	6:AF:19:PRO:CD	2.77	0.47
10:AJ:19:ASP:HA	10:AJ:22:THR:HB	1.96	0.47
43:BV:47:VAL:O	43:BV:50:MET:HB2	2.15	0.47
1:AA:1371:G:OP1	9:AI:13:LYS:HD3	2.14	0.47
22:DA:2186:G:C5	22:DA:2187:U:C4	3.03	0.47
27:DF:16:LEU:HD11	27:DF:169:LEU:CD1	2.44	0.47
22:BA:1047:G:N2	22:BA:1110:G:C4	2.82	0.47
39:DR:58:VAL:O	39:DR:58:VAL:HG22	2.15	0.47
30:DI:101:ILE:HG22	30:DI:102:SER:N	2.30	0.47
22:DA:2119:A:N1	22:DA:2170:A:C5	2.83	0.47
1:AA:223:A:C6	1:AA:224:U:C4	3.03	0.47
44:BW:28:GLY:O	44:BW:66:LYS:HG2	2.14	0.47
22:BA:1548:A:H2'	22:BA:1549:A:C8	2.50	0.47
22:DA:2817:U:O2	22:DA:2836:U:H1'	2.14	0.47
47:BZ:47:MET:O	47:BZ:51:VAL:HG22	2.15	0.47
22:BA:181:A:C2	22:BA:182:A:C4	3.02	0.47
22:BA:651:G:C2'	22:BA:652:U:H5'	2.45	0.47
1:AA:953:G:C2'	1:AA:954:G:H5'	2.45	0.47
7:CG:69:VAL:HG12	7:CG:134:ALA:O	2.15	0.47
10:AJ:92:LEU:O	10:AJ:93:ALA:HB3	2.14	0.47
13:CM:43:VAL:O	13:CM:43:VAL:HG23	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DJ:39:LYS:HE3	31:DJ:39:LYS:HA	1.95	0.47
2:CB:217:VAL:HG12	2:CB:218:ALA:N	2.29	0.47
22:BA:798:G:O6	57:BA:3323:HOH:O	2.20	0.47
22:BA:1916:A:C2'	22:BA:1917:U:H4'	2.44	0.47
3:AC:22:TRP:CB	3:AC:59:ARG:HG2	2.44	0.47
6:AF:91:ARG:C	6:AF:92:THR:HG1	2.05	0.47
1:CA:1073:U:H5'	1:CA:1074:G:OP2	2.15	0.47
22:DA:1306:C:C2	22:DA:1307:A:C8	3.03	0.47
22:BA:1846:G:O3'	22:BA:1847:A:O4'	2.33	0.47
12:AL:88:LYS:O	12:AL:89:ASP:HB2	2.15	0.47
17:AQ:16:LYS:CG	17:AQ:16:LYS:O	2.63	0.47
22:DA:52:A:N3	22:DA:178:G:N2	2.51	0.47
39:BR:49:ILE:HB	39:BR:52:PRO:HA	1.97	0.47
24:DC:2:ALA:CA	24:DC:199:GLU:OE1	2.62	0.47
1:CA:1323:G:H2'	1:CA:1324:A:C8	2.49	0.47
14:CN:49:GLN:C	14:CN:51:LEU:H	2.18	0.47
25:DD:30:GLU:HG2	25:DD:185:ASN:ND2	2.30	0.47
22:BA:2286:G:C4'	22:BA:2287:A:O5'	2.63	0.47
22:BA:26:G:C6	22:BA:27:G:N1	2.82	0.47
1:CA:706:A:H1'	11:CK:31:ILE:HD11	1.95	0.47
22:DA:1526:C:C4	22:DA:1527:G:C5	3.03	0.47
20:AT:67:ILE:HD11	20:AT:71:LYS:CE	2.45	0.47
41:DT:17:SER:O	41:DT:20:ALA:N	2.47	0.47
22:BA:1450:G:N2	22:BA:1452:G:O6	2.47	0.47
1:CA:68:G:N2	1:CA:152:A:H1'	2.29	0.47
22:DA:1062:G:C5	22:DA:1088:A:H2'	2.49	0.47
1:CA:667:G:C2	1:CA:740:U:O2	2.68	0.47
22:DA:1208:C:C4	22:DA:1209:U:C4	3.03	0.47
22:BA:250:G:C6	22:BA:251:A:C5	3.02	0.47
22:DA:1006:C:P	57:DA:3777:HOH:O	2.72	0.47
12:AL:44:LYS:HB2	12:AL:45:PRO:HD3	1.93	0.47
22:DA:1817:G:H2'	22:DA:1818:U:H5'	1.95	0.47
22:DA:867:C:C5	22:DA:868:U:C5	3.03	0.47
22:BA:1856:U:O4	22:BA:1857:G:C6	2.68	0.47
1:CA:664:G:H2'	1:CA:666:G:OP1	2.14	0.47
49:B1:17:THR:HG21	49:B1:43:VAL:HG13	1.96	0.47
29:BH:14:SER:O	29:BH:15:LEU:CB	2.61	0.47
1:CA:604:G:N7	1:CA:605:U:C5	2.83	0.47
22:DA:1177:G:H2'	22:DA:1178:C:O4'	2.14	0.47
7:CG:151:PHE:O	7:CG:152:ALA:CB	2.63	0.47
22:BA:138:U:OP2	22:BA:139:U:H2'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2636:C:H2'	22:BA:2637:U:H6	1.80	0.47
19:CS:55:ARG:CZ	19:CS:79:THR:CG2	2.92	0.47
9:CI:120:LYS:CG	9:CI:123:ARG:HB3	2.44	0.47
8:CH:88:ARG:O	8:CH:89:LYS:HB3	2.15	0.47
22:DA:542:C:N3	22:DA:551:G:O6	2.48	0.47
22:DA:2799:A:O2'	22:DA:2800:A:H5''	2.15	0.47
22:BA:2180:U:H5''	22:BA:2181:U:OP2	2.14	0.47
22:DA:2341:G:C6	22:DA:2342:C:C4	3.03	0.47
2:AB:103:ASN:O	2:AB:106:THR:O	2.33	0.47
20:AT:54:MET:HE1	20:AT:58:VAL:HG21	1.97	0.47
22:BA:1717:A:C5	22:BA:1718:G:C8	3.02	0.47
1:AA:196:A:N3	1:AA:222:C:H1'	2.29	0.47
37:DP:39:ARG:HG3	37:DP:40:LEU:N	2.29	0.47
22:DA:1847:A:C2'	22:DA:1848:A:OP2	2.63	0.47
22:DA:1847:A:O2'	22:DA:1848:A:P	2.73	0.47
46:DY:23:ARG:NH1	46:DY:27:ASN:OD1	2.48	0.47
36:BO:43:ASN:OD1	36:BO:45:SER:CB	2.62	0.47
1:CA:264:C:H2'	1:CA:265:G:O4'	2.14	0.47
9:AI:88:MET:HG2	9:AI:89:GLU:N	2.30	0.47
1:CA:1076:U:C2	1:CA:1082:A:C2	3.03	0.47
1:CA:821:G:H2'	1:CA:822:U:H6	1.79	0.47
1:AA:1371:G:P	9:AI:13:LYS:HD3	2.55	0.47
1:CA:157:U:O2'	1:CA:158:G:H5'	2.15	0.47
22:DA:155:A:H2'	22:DA:156:A:C8	2.50	0.47
28:DG:133:LEU:CD1	28:DG:141:ILE:HB	2.44	0.47
1:AA:774:G:C4	1:AA:775:G:C8	3.03	0.47
29:DH:5:LEU:HD13	29:DH:13:GLY:HA3	1.96	0.47
22:BA:1601:G:OP1	41:BT:64:LYS:NZ	2.46	0.47
32:DK:1:MET:HB2	32:DK:67:LYS:HG3	1.96	0.47
22:DA:1869:G:C3'	22:DA:1870:C:H5'	2.44	0.47
22:BA:2009:A:OP1	40:BS:41:LYS:HE2	2.14	0.47
22:DA:819:A:C8	22:DA:1188:U:O4	2.68	0.47
22:DA:703:U:C5	22:DA:704:G:C5	3.03	0.47
22:DA:1494:A:C2	22:DA:1495:A:C4	3.03	0.47
22:DA:2419:U:O4	57:DA:3661:HOH:O	2.20	0.47
24:BC:144:VAL:HG12	24:BC:145:GLU:O	2.15	0.47
52:D4:36:ARG:HG2	52:D4:37:GLN:N	2.30	0.47
22:BA:1447:C:H2'	22:BA:1448:G:C8	2.50	0.47
22:DA:2443:C:H2'	22:DA:2444:G:O4'	2.14	0.47
51:D3:7:VAL:O	51:D3:10:ALA:HB3	2.15	0.47
1:AA:655:A:C2	1:AA:656:G:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CT:60:ARG:O	20:CT:64:LYS:HB2	2.15	0.47
42:BU:26:LYS:N	42:BU:35:ILE:O	2.47	0.47
3:AC:156:ARG:HD3	3:AC:193:TYR:O	2.15	0.47
17:CQ:4:LYS:HG2	17:CQ:5:ILE:N	2.28	0.47
7:CG:46:ALA:HB2	7:CG:117:ALA:HA	1.97	0.47
24:BC:171:TYR:CD1	24:BC:185:GLU:HA	2.49	0.47
22:BA:2065:C:H2'	22:BA:2066:C:H6	1.80	0.47
3:AC:148:GLY:HA3	3:AC:172:ARG:O	2.15	0.47
8:AH:20:ALA:O	8:AH:21:ASN:C	2.53	0.47
1:CA:36:C:OP1	12:CL:120:LYS:HE3	2.15	0.47
41:DT:45:ALA:O	41:DT:49:LYS:HG2	2.15	0.47
22:BA:817:C:P	57:BA:3584:HOH:O	2.72	0.47
1:AA:600:A:C2	1:AA:601:G:C4	3.03	0.47
24:DC:130:LEU:CD1	24:DC:135:ILE:HG13	2.44	0.47
24:DC:130:LEU:HD12	24:DC:135:ILE:HG13	1.96	0.47
1:CA:49:U:O4	1:CA:365:U:H5	1.98	0.47
22:BA:57:C:H2'	22:BA:58:G:O4'	2.15	0.47
24:BC:184:VAL:CG1	24:BC:188:CYS:SG	3.02	0.47
11:AK:63:ALA:CB	11:AK:92:GLY:HA3	2.44	0.47
21:AU:6:VAL:O	21:AU:6:VAL:HG23	2.15	0.47
22:DA:30:G:C6	22:DA:31:C:N3	2.83	0.47
22:BA:1499:C:C2'	22:BA:1500:G:H5'	2.45	0.47
35:BN:36:THR:HG23	35:BN:37:THR:O	2.15	0.47
44:BW:22:GLY:N	44:BW:39:ARG:O	2.44	0.47
46:BY:7:ARG:HG3	46:BY:7:ARG:O	2.14	0.47
22:DA:654:A:H3'	22:DA:654:A:N3	2.30	0.47
17:AQ:34:TYR:O	17:AQ:36:LYS:N	2.48	0.47
44:DW:38:VAL:HG21	44:DW:80:ILE:CD1	2.45	0.47
35:BN:64:ARG:O	35:BN:67:PHE:N	2.48	0.47
7:CG:25:LYS:O	7:CG:29:ILE:HG12	2.13	0.47
19:AS:22:ALA:O	19:AS:26:GLY:N	2.39	0.47
11:AK:97:ILE:HG13	11:AK:98:ARG:N	2.30	0.47
38:DQ:76:TYR:OH	38:DQ:92:ARG:NH1	2.47	0.47
1:AA:451:A:C5'	16:AP:70:ARG:HH22	2.28	0.47
22:BA:999:U:H5	22:BA:1154:G:N7	2.13	0.47
22:DA:185:G:C6	22:DA:212:G:N2	2.82	0.47
21:AU:40:LYS:HB3	21:AU:41:PRO:HD3	1.96	0.47
1:AA:1319:A:C8	1:AA:1323:G:C6	3.02	0.47
22:DA:2346:A:H3'	22:DA:2347:C:H5''	1.96	0.47
22:DA:1090:A:N1	22:DA:1091:G:C5	2.82	0.47
1:CA:71:A:N1	1:CA:72:A:N7	2.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1809:A:C6	22:DA:1810:A:C5	3.03	0.47
33:DL:94:THR:O	33:DL:98:ALA:N	2.45	0.47
17:AQ:12:VAL:CG1	17:AQ:55:ILE:HA	2.45	0.47
17:AQ:55:ILE:HD13	17:AQ:56:GLY:N	2.29	0.47
22:DA:630:G:C3'	22:DA:631:A:H5''	2.45	0.47
22:DA:593:U:N3	22:DA:594:U:C4	2.83	0.47
1:AA:1492:A:OP1	12:AL:44:LYS:HA	2.14	0.47
22:BA:1250:G:OP2	33:BL:21:ARG:NH2	2.47	0.47
22:DA:2835:A:C2	22:DA:2879:A:N7	2.83	0.47
10:AJ:61:ALA:O	10:AJ:62:ARG:HB2	2.14	0.47
2:AB:161:LEU:HD12	2:AB:181:ILE:HG21	1.96	0.47
22:BA:141:G:H5''	22:BA:142:A:C6	2.49	0.47
5:AE:16:ILE:HD13	5:AE:137:VAL:HG11	1.96	0.47
3:AC:103:ILE:O	3:AC:103:ILE:HD12	2.15	0.47
1:CA:1513:A:H2'	1:CA:1514:G:H8	1.79	0.47
1:AA:1461:G:H2'	1:AA:1462:C:H6	1.79	0.47
8:AH:125:ILE:HD11	8:AH:128:TYR:CE1	2.50	0.47
1:AA:205:A:N3	1:AA:205:A:H2'	2.29	0.47
22:DA:197:A:N6	22:DA:2430:A:H2'	2.30	0.47
48:D0:55:ILE:O	48:D0:56:ALA:HB3	2.15	0.47
1:CA:137:U:H1'	1:CA:227:G:N2	2.28	0.47
10:CJ:25:ILE:HD11	10:CJ:87:LEU:CD2	2.45	0.47
1:AA:901:A:C5	1:AA:902:G:H1'	2.49	0.47
26:DE:48:THR:HG22	26:DE:86:ALA:HB3	1.96	0.47
1:CA:755:G:C2	1:CA:756:C:C6	3.03	0.47
1:CA:766:A:H2'	1:CA:767:A:O4'	2.15	0.47
24:DC:267:ILE:CG2	24:DC:267:ILE:O	2.62	0.47
22:BA:1503:A:C6	22:BA:1504:A:C5	3.02	0.47
36:DO:39:VAL:HG23	36:DO:78:VAL:CG1	2.44	0.47
26:DE:149:ILE:CG2	26:DE:188:MET:HG2	2.45	0.47
22:DA:1285:A:N6	22:DA:1329:U:C5	2.83	0.47
34:BM:2:LEU:O	34:BM:3:GLN:HB3	2.14	0.47
41:DT:69:ARG:HB2	41:DT:74:ILE:CG2	2.45	0.47
24:BC:245:VAL:CB	24:BC:250:VAL:O	2.63	0.47
8:AH:39:VAL:CG1	8:AH:112:THR:HG22	2.44	0.47
22:DA:2521:C:C2	22:DA:2545:G:N2	2.83	0.47
1:CA:273:U:C2'	1:CA:274:A:H5'	2.44	0.47
20:CT:24:ARG:HB2	20:CT:66:LEU:HD21	1.97	0.47
31:DJ:20:ALA:HA	31:DJ:23:LYS:HG3	1.95	0.47
1:CA:126:G:C2'	1:CA:127:G:O5'	2.63	0.47
22:BA:729:G:H4'	22:BA:763:G:C5'	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:75:G:H4'	46:BY:48:ARG:NH2	2.30	0.47
6:AF:46:GLN:HA	6:AF:56:LYS:HG2	1.96	0.47
1:CA:866:C:C4	1:CA:867:G:H1'	2.50	0.47
22:BA:211:C:O2'	22:BA:212:G:H5'	2.15	0.47
22:BA:225:C:H2'	22:BA:226:A:O4'	2.15	0.47
4:CD:203:LEU:HD12	4:CD:203:LEU:O	2.15	0.47
42:BU:99:ASN:OD1	42:BU:99:ASN:C	2.52	0.47
1:AA:1250:A:H2'	1:AA:1251:A:O4'	2.15	0.47
12:AL:90:LEU:HB3	12:AL:93:VAL:CG2	2.45	0.47
22:BA:2357:G:C2	22:BA:2361:G:C5	3.03	0.47
13:AM:85:CYS:O	13:AM:89:LEU:HG	2.14	0.47
1:AA:1225:A:O2'	1:AA:1225:A:N3	2.48	0.47
38:DQ:61:TRP:HB3	38:DQ:92:ARG:O	2.14	0.47
1:CA:1074:G:O2'	2:CB:102:THR:CG2	2.63	0.47
1:CA:1144:G:N2	1:CA:1145:A:C2	2.83	0.47
22:DA:1308:A:N6	22:DA:1309:G:C2	2.83	0.47
22:DA:2846:G:OP1	37:DP:53:ARG:NH1	2.48	0.47
1:AA:73:C:O2'	1:AA:74:A:H5''	2.15	0.47
22:DA:160:A:C6	22:DA:161:A:C6	3.02	0.47
22:DA:210:C:OP1	50:D2:29:GLN:NE2	2.48	0.47
4:AD:23:SER:HB2	4:AD:110:THR:HB	1.96	0.47
1:CA:632:U:O2	1:CA:632:U:C2'	2.63	0.47
4:AD:4:TYR:CE2	4:AD:6:GLY:O	2.67	0.47
4:CD:148:LYS:CD	4:CD:148:LYS:H	2.28	0.47
22:DA:1805:A:N3	22:DA:1813:G:N2	2.62	0.47
24:DC:65:VAL:HG12	24:DC:67:PHE:CD1	2.50	0.47
25:BD:177:VAL:CG2	25:BD:177:VAL:O	2.61	0.47
1:AA:22:G:C6	1:AA:23:C:C4	3.02	0.47
30:BI:118:THR:O	30:BI:125:MET:HB3	2.15	0.47
16:AP:67:ILE:HG23	16:AP:71:VAL:CG1	2.45	0.47
22:DA:1680:U:H2'	22:DA:1681:G:O4'	2.15	0.47
22:DA:1239:G:C6	22:DA:1240:U:C4	3.02	0.47
40:BS:43:ALA:HA	40:BS:46:LEU:HD12	1.97	0.47
22:DA:2808:G:N2	22:DA:2891:U:C6	2.83	0.47
22:BA:38:A:N3	26:BE:43:THR:HB	2.30	0.47
41:DT:2:ILE:HG23	41:DT:4:GLU:N	2.29	0.47
22:DA:699:A:C2'	22:DA:700:G:H5'	2.45	0.47
8:CH:126:ILE:CD1	8:CH:126:ILE:N	2.78	0.47
32:DK:31:ARG:HB3	32:DK:32:TYR:CD1	2.49	0.47
17:AQ:81:LYS:O	17:AQ:82:ALA:C	2.53	0.47
27:DF:117:LEU:CD2	27:DF:176:PRO:HG2	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2599:G:C8	24:DC:236:GLU:HB2	2.50	0.47
49:B1:10:LYS:C	49:B1:11:LEU:HD23	2.34	0.47
23:DB:76:G:H2'	23:DB:77:U:O4'	2.15	0.47
34:DM:68:PHE:O	34:DM:69:PRO:O	2.32	0.47
19:CS:73:GLU:HB2	19:CS:74:PHE:CD2	2.50	0.47
1:CA:143:A:H5'	1:CA:144:G:C5'	2.45	0.47
7:CG:65:ALA:O	7:CG:127:ALA:HB1	2.14	0.47
22:DA:906:U:C2'	22:DA:907:G:O5'	2.63	0.47
1:AA:504:C:H1'	1:AA:510:A:C4	2.50	0.47
20:CT:55:GLN:N	20:CT:56:PRO:HD2	2.30	0.47
31:DJ:58:ASN:OD1	31:DJ:127:GLY:O	2.33	0.47
22:BA:610:C:O2'	22:BA:611:C:H5'	2.14	0.47
22:BA:1169:A:H2'	22:BA:1170:C:O4'	2.14	0.47
11:CK:36:ASP:OD2	11:CK:40:ASN:HB2	2.15	0.47
36:BO:31:THR:HG22	36:BO:34:HIS:N	2.30	0.47
20:CT:6:SER:O	20:CT:8:LYS:N	2.48	0.47
11:AK:35:THR:OG1	11:AK:41:ALA:N	2.48	0.47
3:CC:130:PHE:CE2	3:CC:157:LEU:HB3	2.49	0.47
39:BR:49:ILE:O	39:BR:51:VAL:O	2.33	0.47
22:DA:2209:G:C2	22:DA:2216:G:N3	2.82	0.47
1:AA:1304:G:C2	1:AA:1305:G:N2	2.83	0.47
22:DA:410:G:H2'	22:DA:2407:A:C8	2.49	0.47
22:DA:301:G:N2	22:DA:302:C:O2	2.47	0.47
1:AA:202:G:O2'	1:AA:468:A:H2'	2.15	0.47
22:DA:1097:U:O2	30:DI:9:VAL:HG11	2.15	0.47
4:CD:107:PHE:CG	4:CD:145:ILE:HD11	2.49	0.47
49:B1:6:ARG:HG2	49:B1:24:THR:HB	1.95	0.47
6:CF:88:MET:HE1	18:CR:64:TYR:HD2	1.77	0.47
1:CA:1298:U:O2	1:CA:1298:U:C2'	2.62	0.47
32:DK:118:LEU:O	32:DK:119:ALA:CB	2.60	0.47
26:BE:17:THR:O	26:BE:106:LYS:HE3	2.15	0.47
22:DA:845:A:H5'	22:DA:846:U:OP2	2.15	0.47
24:DC:124:ILE:CD1	24:DC:136:PRO:HD3	2.45	0.47
1:AA:1308:U:O2'	1:AA:1309:G:H5'	2.15	0.47
22:DA:1682:G:C2	22:DA:1757:A:O4'	2.68	0.47
11:CK:89:PRO:HD3	21:CU:29:LEU:HD11	1.96	0.47
22:DA:1627:G:C2	22:DA:1628:G:C8	3.02	0.47
1:AA:474:G:C5	1:AA:475:C:C5	3.03	0.47
22:BA:1027:A:C6	22:BA:1126:A:N3	2.83	0.47
28:BG:2:SER:C	28:BG:4:VAL:N	2.68	0.47
22:DA:2356:U:O3'	44:DW:20:ARG:HD3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CI:28:ILE:CG2	9:CI:35:LEU:HB2	2.45	0.47
3:CC:16:LYS:HG3	3:CC:17:PRO:HD2	1.97	0.47
1:AA:1516:G:N2	1:AA:1519:A:OP2	2.46	0.47
22:BA:1045:C:H3'	22:BA:1046:A:H5'	1.96	0.47
20:CT:83:ILE:HD12	20:CT:84:ASN:N	2.30	0.47
1:AA:188:C:O2	1:AA:188:C:C2'	2.63	0.47
1:CA:39:G:H2'	1:CA:40:C:H6	1.80	0.47
1:CA:570:G:C5	1:CA:873:A:C6	3.03	0.47
22:DA:158:U:O2	22:DA:169:G:N1	2.47	0.47
22:BA:84:A:H62	22:BA:101:A:H2	1.62	0.47
15:CO:37:ASN:O	15:CO:40:GLN:HB2	2.15	0.47
22:DA:1285:A:C6	22:DA:1329:U:C5	3.03	0.47
22:DA:1866:A:N7	22:DA:1867:G:C8	2.83	0.47
22:DA:727:A:H2'	22:DA:728:G:C8	2.50	0.47
33:DL:136:GLU:HA	33:DL:140:GLY:HA3	1.96	0.47
22:DA:1529:G:O6	22:DA:1543:G:C2	2.68	0.47
1:AA:1449:C:C2'	1:AA:1450:U:H5'	2.45	0.47
1:AA:370:C:O2'	1:AA:371:A:H5'	2.15	0.47
1:CA:1163:A:C2	1:CA:1174:G:C2	3.03	0.47
43:DV:63:ILE:HG13	43:DV:72:VAL:CG2	2.45	0.47
22:DA:1636:U:H2'	22:DA:1637:A:C8	2.50	0.47
3:CC:29:PHE:O	3:CC:33:LEU:HB2	2.14	0.47
23:DB:23:G:C2	23:DB:24:G:O6	2.68	0.47
37:BP:27:GLU:HG3	37:BP:27:GLU:O	2.15	0.47
32:DK:104:THR:HA	32:DK:122:VAL:HB	1.97	0.47
22:BA:2182:U:H2'	22:BA:2183:A:C8	2.50	0.47
31:DJ:36:LEU:HG	31:DJ:54:ILE:CD1	2.45	0.47
5:CE:44:GLY:O	5:CE:45:ARG:C	2.52	0.47
22:DA:2516:A:N6	22:DA:2517:C:N4	2.62	0.47
23:DB:66:A:N6	23:DB:107:G:H2'	2.31	0.47
30:DI:127:ARG:HA	30:DI:130:GLU:HB2	1.95	0.47
22:BA:2821:A:OP2	25:BD:115:GLY:N	2.47	0.47
11:AK:17:SER:HA	11:AK:79:ILE:HA	1.96	0.47
33:DL:74:THR:HG22	33:DL:107:PHE:HB2	1.96	0.47
5:AE:100:SER:O	5:AE:101:GLU:C	2.53	0.46
3:AC:22:TRP:CD1	3:AC:59:ARG:CD	2.98	0.46
6:CF:15:SER:HB2	6:CF:44:ARG:NH1	2.30	0.46
35:DN:87:PHE:CD1	35:DN:90:ARG:HD2	2.50	0.46
1:CA:1072:G:C5	1:CA:1073:U:C5	3.03	0.46
22:BA:1098:A:N7	22:BA:1099:G:O6	2.48	0.46
22:DA:821:A:H4'	57:DA:3341:HOH:O	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BR:25:LEU:H	39:BR:94:THR:CG2	2.28	0.46
22:BA:1923:U:N3	22:BA:1924:C:C6	2.82	0.46
1:AA:168:G:C6	1:AA:169:C:N3	2.83	0.46
22:DA:288:U:H2'	22:DA:289:G:C8	2.50	0.46
1:CA:451:A:H4'	1:CA:452:A:O5'	2.15	0.46
1:CA:1181:G:O2'	1:CA:1182:G:C5	2.68	0.46
10:CJ:34:ALA:O	10:CJ:78:GLU:HB3	2.15	0.46
35:DN:22:ARG:HG3	35:DN:70:THR:HA	1.97	0.46
22:DA:976:G:O6	22:DA:988:A:C2	2.67	0.46
22:BA:832:U:H2'	22:BA:833:A:H8	1.79	0.46
1:CA:1258:G:H2'	1:CA:1259:C:C6	2.49	0.46
1:AA:1307:U:C2	1:AA:1308:U:C6	3.03	0.46
21:CU:51:SER:O	21:CU:53:VAL:N	2.48	0.46
22:DA:1998:A:O3'	22:DA:2724:U:H4'	2.15	0.46
1:CA:951:G:C5	1:CA:952:U:C5	3.03	0.46
2:AB:148:LEU:HA	2:AB:151:ILE:HG22	1.96	0.46
46:DY:18:LEU:O	46:DY:22:LEU:HB2	2.15	0.46
30:BI:57:VAL:CG2	30:BI:58:VAL:N	2.78	0.46
22:DA:453:A:N3	22:DA:457:A:O2'	2.48	0.46
1:AA:151:A:H2'	1:AA:152:A:O4'	2.15	0.46
1:CA:312:C:H2'	1:CA:313:A:O4'	2.15	0.46
21:CU:14:VAL:HG12	21:CU:16:LEU:HD23	1.98	0.46
1:CA:375:U:N3	1:CA:376:G:N7	2.63	0.46
22:BA:747:U:C4	22:BA:2613:U:C5	3.03	0.46
18:CR:38:LYS:HD2	21:CU:24:GLU:OE1	2.14	0.46
22:BA:215:G:H4'	22:BA:216:A:OP1	2.14	0.46
11:AK:88:GLY:H	11:AK:114:THR:HG22	1.80	0.46
41:DT:69:ARG:NH1	41:DT:69:ARG:HB3	2.30	0.46
53:B5:99:GLU:O	53:B5:103:LYS:CB	2.64	0.46
22:BA:1082:U:H5''	30:BI:119:GLY:HA2	1.97	0.46
41:DT:82:LYS:HG2	41:DT:83:ALA:N	2.30	0.46
22:BA:2660:A:H2'	22:BA:2661:G:O4'	2.15	0.46
22:BA:634:C:H2'	22:BA:635:C:C6	2.50	0.46
26:BE:23:PHE:CD1	26:BE:111:GLU:HG3	2.51	0.46
1:CA:110:C:H2'	1:CA:111:G:O4'	2.16	0.46
22:BA:790:U:O2'	22:BA:791:C:P	2.73	0.46
35:BN:106:ASP:O	35:BN:107:ASN:HB3	2.15	0.46
22:BA:337:C:H2'	22:BA:338:G:O4'	2.15	0.46
22:BA:2729:G:O2'	25:BD:191:GLY:HA3	2.15	0.46
1:AA:872:A:C2	1:AA:874:G:C6	3.03	0.46
22:BA:1342:A:OP1	41:BT:40:LYS:NZ	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:105:ILE:HG23	5:AE:105:ILE:O	2.15	0.46
22:DA:1439:A:C8	22:DA:1440:U:C5	3.03	0.46
11:CK:126:LYS:C	21:CU:34:ARG:NH2	2.69	0.46
22:DA:2127:G:C2	22:DA:2162:G:C8	3.03	0.46
27:BF:41:GLY:HA2	27:BF:85:ILE:HG13	1.97	0.46
4:CD:95:GLU:OE2	4:CD:100:ASN:ND2	2.47	0.46
1:CA:73:C:O2'	1:CA:74:A:P	2.73	0.46
17:AQ:67:LEU:O	17:AQ:68:SER:HB3	2.15	0.46
22:BA:1923:U:N3	22:BA:1924:C:C5	2.83	0.46
1:AA:203:G:C2	1:AA:215:C:C2	3.03	0.46
10:CJ:35:GLN:HB2	10:CJ:78:GLU:HB2	1.98	0.46
1:CA:115:G:H4'	1:CA:116:A:O5'	2.15	0.46
1:CA:1255:G:C6	1:CA:1279:G:N7	2.83	0.46
15:AO:19:ALA:O	15:AO:20:ASN:CG	2.53	0.46
24:BC:8:PRO:HB3	24:BC:14:ARG:HB2	1.97	0.46
22:DA:2377:A:O2'	22:DA:2378:A:H5'	2.15	0.46
22:DA:883:G:N2	22:DA:894:U:O2	2.49	0.46
16:CP:29:ASN:N	16:CP:29:ASN:OD1	2.48	0.46
22:DA:1581:G:C5	22:DA:1582:C:N4	2.83	0.46
1:AA:995:C:N3	1:AA:1046:A:O2'	2.45	0.46
1:AA:559:A:H2'	1:AA:559:A:N3	2.30	0.46
22:DA:291:G:N2	22:DA:350:G:C8	2.83	0.46
24:DC:231:PRO:O	24:DC:242:LYS:HD2	2.15	0.46
21:AU:29:LEU:HD23	21:AU:29:LEU:O	2.15	0.46
22:DA:1500:G:N1	22:DA:1501:G:C5	2.84	0.46
1:AA:1387:G:C6	1:AA:1388:C:N4	2.83	0.46
22:DA:2367:G:O2'	22:DA:2368:C:H5'	2.15	0.46
25:DD:3:GLY:C	25:DD:82:PHE:CE1	2.89	0.46
2:CB:173:ILE:O	2:CB:177:ASN:ND2	2.49	0.46
22:BA:1228:G:H2'	22:BA:1229:C:C6	2.49	0.46
3:CC:20:SER:HB2	14:CN:92:GLU:O	2.14	0.46
15:CO:89:ARG:NH1	22:DA:716:A:OP1	2.43	0.46
1:CA:851:G:C2	1:CA:852:G:C8	3.03	0.46
1:AA:237:G:OP1	17:AQ:42:THR:OG1	2.33	0.46
10:AJ:91:ASP:OD2	10:AJ:91:ASP:N	2.47	0.46
28:DG:107:LEU:O	28:DG:152:ARG:NH2	2.48	0.46
8:AH:59:LEU:HD11	8:AH:61:LEU:HD21	1.98	0.46
24:DC:51:THR:CG2	24:DC:54:ILE:HD11	2.45	0.46
1:CA:793:U:O2'	1:CA:1516:G:H1'	2.15	0.46
29:BH:132:PHE:CD2	29:BH:142:VAL:CG2	2.99	0.46
1:AA:1407:C:HO2'	22:BA:1912:A:N6	2.13	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1408:A:H5'	22:BA:1912:A:N6	2.30	0.46
13:AM:10:PRO:O	13:AM:11:ASP:CB	2.63	0.46
29:DH:41:LYS:O	29:DH:44:ILE:HG12	2.15	0.46
22:BA:2847:U:C2'	22:BA:2848:G:H5'	2.45	0.46
22:BA:1073:A:H2'	22:BA:1074:G:H5''	1.96	0.46
22:DA:1607:C:H4'	22:DA:1608:A:O5'	2.16	0.46
22:DA:1623:G:C6	22:DA:1624:U:C4	3.04	0.46
11:AK:25:ALA:O	11:AK:89:PRO:O	2.33	0.46
22:DA:454:A:H3'	22:DA:455:C:H5'	1.96	0.46
55:BA:3001:VIR:H17	55:BA:3001:VIR:H213	1.69	0.46
22:DA:49:A:N6	22:DA:177:G:C5	2.83	0.46
37:DP:51:ARG:HB3	37:DP:58:ALA:O	2.16	0.46
39:BR:39:LEU:HA	39:BR:49:ILE:CG2	2.45	0.46
1:CA:1296:C:C5'	1:CA:1302:C:N4	2.78	0.46
22:BA:526:A:O2'	22:BA:2043:C:O2	2.32	0.46
1:CA:64:G:N2	1:CA:67:C:N3	2.63	0.46
2:AB:167:ASP:O	2:AB:170:HIS:N	2.49	0.46
22:DA:740:C:C4	22:DA:758:C:O2	2.69	0.46
46:BY:22:LEU:O	46:BY:23:ARG:O	2.34	0.46
4:AD:122:ALA:HA	4:AD:146:ARG:HG3	1.97	0.46
9:CI:84:THR:HB	9:CI:98:LEU:HD21	1.96	0.46
2:AB:63:ARG:O	2:AB:64:LYS:CB	2.64	0.46
22:DA:2798:U:H4'	22:DA:2799:A:H5'	1.97	0.46
1:CA:1291:U:OP1	7:CG:37:SER:HB3	2.16	0.46
30:BI:18:ALA:HB2	30:BI:42:PHE:CE2	2.50	0.46
35:DN:29:VAL:HG13	35:DN:83:LEU:CD1	2.45	0.46
1:AA:196:A:OP1	20:AT:64:LYS:HE2	2.15	0.46
16:AP:1:MET:O	16:AP:24:SER:OG	2.20	0.46
16:AP:61:VAL:HG22	16:AP:67:ILE:CD1	2.46	0.46
22:DA:690:G:O2'	22:DA:780:G:OP1	2.26	0.46
9:AI:80:ARG:NH1	9:AI:103:PHE:CD1	2.83	0.46
1:AA:376:G:H5''	16:AP:5:ARG:HB2	1.96	0.46
1:AA:1035:A:H2'	1:AA:1036:A:C1'	2.45	0.46
7:CG:103:TRP:CD2	7:CG:137:LYS:HG2	2.50	0.46
22:DA:1975:G:C6	22:DA:1976:U:C4	3.04	0.46
23:BB:41:G:H5''	27:BF:66:LEU:HD13	1.97	0.46
4:AD:91:LEU:HD21	4:AD:195:ILE:CD1	2.45	0.46
22:BA:858:G:H3'	22:BA:859:G:C8	2.50	0.46
1:CA:841:C:H2'	1:CA:843:U:O4'	2.16	0.46
16:AP:4:ILE:HG13	16:AP:21:VAL:HG22	1.97	0.46
30:BI:103:ARG:HB3	30:BI:142:ASP:HA	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:524:G:C6	1:AA:525:C:N4	2.83	0.46
22:BA:2359:C:O2'	51:B3:54:ASP:OD2	2.29	0.46
33:BL:128:THR:O	33:BL:129:LYS:C	2.54	0.46
22:BA:150:U:H2'	22:BA:151:C:C6	2.51	0.46
42:DU:57:GLY:O	42:DU:59:VAL:N	2.48	0.46
29:BH:80:ILE:HG21	29:BH:94:ILE:CG1	2.45	0.46
22:BA:1916:A:C6	22:BA:1917:U:C6	3.02	0.46
18:CR:25:ASP:C	18:CR:27:ALA:N	2.67	0.46
1:CA:1499:A:H3'	57:CA:1883:HOH:O	2.16	0.46
4:CD:192:SER:O	4:CD:193:ALA:HB3	2.16	0.46
22:DA:571:U:N3	22:DA:575:A:N7	2.64	0.46
22:DA:1309:G:H4'	50:D2:7:PRO:HB2	1.97	0.46
22:BA:998:C:P	38:BQ:92:ARG:NH2	2.89	0.46
20:AT:67:ILE:HD11	20:AT:71:LYS:HE3	1.97	0.46
22:BA:2886:A:C2	22:BA:2887:A:H1'	2.50	0.46
22:BA:1384:A:H5''	22:BA:1385:A:OP2	2.15	0.46
6:CF:99:ALA:O	6:CF:100:SER:CB	2.63	0.46
24:DC:145:GLU:OE2	24:DC:149:GLY:N	2.46	0.46
10:AJ:56:HIS:O	10:AJ:57:VAL:HG12	2.14	0.46
39:DR:101:ILE:HG22	39:DR:101:ILE:O	2.15	0.46
22:DA:2221:G:C5	22:DA:2222:C:C5	3.04	0.46
1:CA:862:C:C2	1:CA:863:U:C5	3.04	0.46
1:CA:464:U:C2	1:CA:466:A:OP2	2.68	0.46
1:CA:269:C:H2'	1:CA:270:A:C8	2.51	0.46
1:CA:920:U:C2	1:CA:921:U:C5	3.04	0.46
1:AA:364:A:C2	1:AA:365:U:O4	2.68	0.46
1:CA:716:A:C2'	1:CA:717:U:O5'	2.64	0.46
7:AG:71:PRO:O	7:AG:96:ARG:HG3	2.15	0.46
22:BA:2489:U:O2	22:BA:2491:U:C4	2.68	0.46
1:CA:949:A:C2	1:CA:1233:G:C4	3.03	0.46
22:DA:1676:A:N7	57:DA:3763:HOH:O	2.36	0.46
7:CG:146:GLU:HA	7:CG:149:LYS:HE2	1.98	0.46
26:DE:83:VAL:CG1	26:DE:86:ALA:HA	2.46	0.46
4:CD:188:ARG:O	4:CD:191:LEU:HD12	2.15	0.46
1:AA:457:G:H5'	1:AA:458:U:OP2	2.15	0.46
1:AA:500:G:H2'	1:AA:501:C:C6	2.51	0.46
22:BA:71:A:H5'	22:BA:73:A:C8	2.51	0.46
1:CA:155:A:C2	1:CA:167:A:C6	3.03	0.46
1:AA:1370:G:C5'	9:AI:111:VAL:HG21	2.45	0.46
24:DC:141:VAL:CG1	24:DC:142:HIS:N	2.78	0.46
19:AS:51:VAL:CG2	19:AS:71:LEU:HD13	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:909:A:C2	22:BA:912:C:H1'	2.51	0.46
1:CA:160:A:C2	1:CA:343:U:H1'	2.50	0.46
1:CA:161:A:H2'	1:CA:162:A:O4'	2.16	0.46
13:CM:39:ILE:HG13	13:CM:56:LEU:HD21	1.96	0.46
1:AA:773:G:H2'	1:AA:774:G:O4'	2.14	0.46
43:DV:9:ARG:NH2	43:DV:17:SER:OG	2.48	0.46
22:DA:1769:U:O2'	22:DA:1958:C:OP1	2.29	0.46
22:BA:567:U:H2'	22:BA:568:U:O5'	2.16	0.46
22:DA:21:A:N1	22:DA:520:G:C5	2.84	0.46
22:DA:1806:C:C4	22:DA:1807:G:N7	2.83	0.46
1:AA:1251:A:C5	1:AA:1252:A:N7	2.84	0.46
1:CA:144:G:C5	1:CA:179:A:C2	3.03	0.46
1:AA:370:C:C2	1:AA:371:A:C8	3.02	0.46
22:DA:962:G:C2'	22:DA:963:U:H5'	2.46	0.46
2:AB:163:VAL:HG22	2:AB:185:ALA:HB1	1.96	0.46
22:BA:2655:G:O2'	22:BA:2664:G:O6	2.29	0.46
45:DX:40:VAL:HG22	45:DX:45:ARG:O	2.16	0.46
24:BC:11:PRO:C	24:BC:13:ARG:H	2.19	0.46
7:CG:8:GLY:O	7:CG:9:GLN:HB3	2.16	0.46
36:DO:49:VAL:HG12	36:DO:50:ALA:N	2.31	0.46
28:DG:24:ILE:HD11	28:DG:43:VAL:HG11	1.98	0.46
27:DF:108:VAL:N	27:DF:109:PRO:HD2	2.31	0.46
40:DS:32:ALA:O	40:DS:35:ILE:N	2.48	0.46
22:BA:1206:G:C5	22:BA:1207:C:C5	3.03	0.46
28:DG:35:ARG:NE	28:DG:71:LEU:HD22	2.31	0.46
49:D1:5:ILE:CG2	49:D1:28:ARG:HD3	2.45	0.46
3:CC:43:LEU:HD21	3:CC:68:ILE:HD11	1.98	0.46
15:AO:56:LEU:HD12	15:AO:56:LEU:O	2.14	0.46
26:BE:65:THR:O	26:BE:67:ARG:N	2.48	0.46
29:BH:94:ILE:HG23	29:BH:98:ASP:HB2	1.98	0.46
23:DB:27:C:OP1	36:DO:34:HIS:NE2	2.47	0.46
8:AH:14:ILE:O	8:AH:16:ASN:N	2.48	0.46
1:AA:1080:A:OP1	5:AE:52:LYS:HE3	2.16	0.46
13:AM:12:HIS:HA	13:AM:44:LYS:HE3	1.97	0.46
4:CD:192:SER:HB2	4:CD:195:ILE:CG1	2.46	0.46
1:AA:478:A:H2'	1:AA:479:U:O4'	2.16	0.46
1:AA:257:G:C2	1:AA:258:G:C8	3.03	0.46
21:AU:44:GLU:OE2	21:AU:45:ARG:NH1	2.49	0.46
22:DA:1476:U:H1'	22:DA:1732:C:O2	2.15	0.46
52:D4:19:ARG:O	52:D4:20:ASP:CB	2.64	0.46
32:DK:70:ARG:HG2	32:DK:76:VAL:HG23	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:545:C:H2'	1:AA:546:A:H5'	1.98	0.46
1:AA:204:G:N3	1:AA:465:A:C2	2.83	0.46
37:BP:31:TRP:CZ2	37:BP:40:LEU:CD1	2.99	0.46
2:AB:50:PHE:HA	2:AB:53:ALA:HB3	1.96	0.46
32:DK:34:GLY:O	32:DK:35:VAL:C	2.53	0.46
22:DA:297:G:H2'	22:DA:298:G:O4'	2.16	0.46
42:DU:4:LYS:HG2	42:DU:85:PHE:CZ	2.51	0.46
22:BA:1993:U:H4'	25:BD:133:THR:HG21	1.97	0.46
1:AA:270:A:C5	1:AA:271:C:C4	3.04	0.46
22:BA:1866:A:C2	22:BA:1876:A:C5	3.03	0.46
40:BS:55:ILE:HG23	40:BS:66:ILE:HG12	1.97	0.46
22:DA:1388:G:N2	22:DA:1389:G:H1'	2.31	0.46
22:BA:2897:U:H2'	22:BA:2898:U:H6	1.81	0.46
22:DA:219:A:N7	22:DA:220:G:N7	2.64	0.46
53:B5:212:SER:HA	53:B5:221:PRO:CB	2.46	0.46
8:AH:75:ILE:HD12	8:AH:128:TYR:O	2.16	0.46
22:DA:1923:U:H2'	22:DA:1924:C:C6	2.50	0.46
1:CA:301:G:H2'	1:CA:302:G:C8	2.51	0.46
41:DT:39:THR:HG23	41:DT:42:GLU:H	1.80	0.46
22:BA:687:C:H2'	22:BA:688:U:O4'	2.16	0.46
2:AB:147:SER:O	2:AB:148:LEU:HB2	2.15	0.46
45:DX:68:LEU:HD22	45:DX:78:TYR:CE1	2.50	0.46
22:BA:1795:C:C4	22:BA:1796:U:C4	3.03	0.46
16:AP:67:ILE:CG2	16:AP:68:SER:N	2.78	0.46
39:BR:2:TYR:HA	39:BR:14:VAL:O	2.16	0.46
22:DA:1027:A:N6	22:DA:1126:A:N3	2.63	0.46
22:BA:736:C:N3	22:BA:737:C:C5	2.83	0.46
1:CA:1533:C:H4'	1:CA:1534:A:OP1	2.16	0.46
23:BB:109:A:C5	23:BB:110:C:C4	3.04	0.46
16:CP:42:ILE:O	16:CP:43:ALA:HB3	2.16	0.46
2:AB:211:THR:O	2:AB:215:GLY:N	2.44	0.46
1:AA:927:G:N1	1:AA:1391:U:C2	2.84	0.46
1:AA:397:A:C6	1:AA:548:G:N7	2.84	0.46
22:BA:2804:U:H2'	22:BA:2805:C:H6	1.80	0.46
6:AF:55:HIS:O	6:AF:56:LYS:O	2.33	0.46
11:AK:16:VAL:O	11:AK:17:SER:HB3	2.15	0.46
37:DP:21:ARG:HD2	37:DP:22:PRO:HD2	1.97	0.46
24:DC:212:ARG:NE	24:DC:216:VAL:O	2.49	0.46
26:DE:97:ASN:HB2	26:DE:100:MET:SD	2.55	0.46
22:BA:1469:A:C2	22:BA:1470:A:C4	3.03	0.46
45:BX:33:LEU:O	45:BX:34:HIS:CG	2.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1460:C:N4	1:CA:1461:G:C6	2.84	0.46
22:BA:1575:C:H2'	22:BA:1576:U:O4'	2.15	0.46
1:AA:866:C:C4	1:AA:867:G:H1'	2.49	0.46
22:BA:2519:U:OP1	22:BA:2519:U:H3'	2.16	0.46
22:BA:2394:C:OP2	51:B3:30:ARG:HD3	2.15	0.46
1:AA:1066:C:O2	1:AA:1066:C:H2'	2.15	0.46
2:CB:181:ILE:HD13	2:CB:181:ILE:N	2.29	0.46
2:CB:123:ASP:O	2:CB:124:GLY:C	2.54	0.46
22:BA:1770:G:C5	22:BA:1983:G:C6	3.04	0.46
22:DA:950:G:H2'	22:DA:951:C:O4'	2.15	0.46
29:BH:37:VAL:CG2	29:BH:38:PRO:HD2	2.45	0.46
29:BH:90:LEU:HD23	29:BH:93:SER:HA	1.97	0.46
22:DA:2093:G:C2	22:DA:2094:A:C5	3.04	0.46
22:DA:70:G:H5''	22:DA:112:U:O2	2.14	0.46
22:BA:2031:A:C6	22:BA:2498:C:H1'	2.50	0.46
2:AB:79:ALA:C	2:AB:82:ASP:OD2	2.54	0.46
22:DA:770:G:H1'	22:DA:1379:U:C4	2.50	0.46
22:DA:323:C:O4'	22:DA:323:C:O2	2.32	0.46
11:AK:38:GLN:O	11:AK:40:ASN:ND2	2.49	0.46
22:BA:1846:G:H2'	22:BA:1847:A:C1'	2.46	0.46
1:AA:71:A:N3	1:AA:72:A:C8	2.83	0.46
9:AI:120:LYS:HG3	9:AI:123:ARG:CB	2.45	0.46
22:BA:528:A:C2	22:BA:2043:C:H4'	2.51	0.46
1:CA:151:A:H2'	1:CA:152:A:O4'	2.16	0.46
22:DA:347:A:C2	22:DA:348:A:C4	3.03	0.46
22:BA:1090:A:C6	22:BA:1091:G:N7	2.84	0.46
37:BP:62:ARG:HB2	37:BP:71:GLU:HG2	1.96	0.46
22:BA:2428:G:C5'	22:BA:2429:G:OP1	2.61	0.46
22:BA:1078:U:H5''	22:BA:1079:C:OP1	2.15	0.46
10:AJ:65:TYR:CB	14:AN:96:LEU:HD11	2.45	0.46
2:CB:119:THR:O	2:CB:120:GLN:HB2	2.15	0.46
22:BA:1570:A:N6	22:BA:1571:A:N6	2.64	0.46
8:AH:10:MET:CE	8:AH:33:LYS:HA	2.46	0.46
22:DA:776:G:C8	22:DA:793:A:C2	3.04	0.46
22:BA:581:C:H2'	22:BA:582:A:C8	2.50	0.46
27:BF:104:ILE:HG22	27:BF:176:PRO:HD2	1.98	0.46
22:BA:2808:G:C2	22:BA:2891:U:C5	3.04	0.46
21:AU:11:PRO:O	21:AU:12:PHE:HB3	2.16	0.46
22:DA:294:A:N6	22:DA:345:A:C4	2.84	0.46
43:DV:48:MET:SD	43:DV:86:LEU:HG	2.56	0.46
12:CL:44:LYS:HB2	12:CL:45:PRO:CD	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1101:A:H4'	1:CA:1102:A:O5'	2.16	0.46
11:CK:89:PRO:HD3	21:CU:29:LEU:HD13	1.97	0.46
1:CA:96:U:HO2'	1:CA:97:G:P	2.38	0.46
22:DA:483:A:H1'	42:DU:45:HIS:HB2	1.97	0.46
1:CA:437:U:C2'	1:CA:438:U:H5'	2.44	0.46
1:CA:1481:U:H2'	1:CA:1482:G:C8	2.51	0.46
46:DY:28:LEU:CD1	46:DY:46:VAL:HG21	2.46	0.46
1:AA:1370:G:H5''	9:AI:111:VAL:CG2	2.46	0.46
4:CD:48:LEU:HD23	4:CD:52:GLY:C	2.35	0.46
22:BA:2352:A:N3	22:BA:2366:A:C2	2.84	0.46
1:CA:945:G:N3	1:CA:945:G:H2'	2.31	0.46
22:DA:2563:U:H1'	22:DA:2566:A:N6	2.31	0.46
48:B0:49:TYR:O	48:B0:50:ARG:HB2	2.16	0.46
22:BA:729:G:H4'	22:BA:763:G:H5'	1.97	0.46
16:AP:22:ALA:HA	16:AP:33:ILE:HG13	1.97	0.46
22:DA:1878:G:H2'	22:DA:1879:C:O4'	2.16	0.46
35:DN:44:LEU:O	35:DN:48:VAL:HG23	2.15	0.46
22:DA:2787:C:O4'	25:DD:63:PRO:HA	2.16	0.46
22:BA:2025:C:OP2	57:BA:3475:HOH:O	2.20	0.46
48:B0:30:VAL:CG1	48:B0:35:GLY:HA2	2.46	0.46
40:DS:14:ALA:HB1	40:DS:18:ARG:CZ	2.46	0.46
27:BF:37:ASN:O	27:BF:153:ASP:HB2	2.16	0.46
1:CA:743:A:C2	1:CA:744:C:C6	3.04	0.46
40:DS:47:VAL:HG23	40:DS:103:ILE:HG21	1.98	0.46
48:B0:52:ARG:NH2	48:B0:52:ARG:HB2	2.31	0.46
24:DC:266:PHE:CD1	24:DC:266:PHE:N	2.82	0.46
25:BD:1:MET:HG3	25:BD:205:PRO:HG2	1.96	0.46
1:AA:628:G:H2'	1:AA:629:A:O4'	2.16	0.46
1:AA:1406:U:C5	1:AA:1407:C:C4	3.04	0.46
1:AA:960:U:H2'	1:AA:1225:A:H62	1.81	0.46
1:AA:71:A:HO2'	1:AA:72:A:P	2.35	0.46
47:BZ:40:ASP:CG	47:BZ:45:ARG:HH11	2.19	0.46
1:CA:252:U:H5'	1:CA:253:A:OP2	2.16	0.46
1:AA:1350:A:C5	1:AA:1351:U:C5	3.04	0.46
22:DA:2264:C:O2	22:DA:2277:G:C2	2.69	0.46
4:CD:26:ARG:HD2	4:CD:31:LYS:CE	2.46	0.46
22:DA:2131:U:H5'	22:DA:2132:U:H5''	1.97	0.46
12:AL:44:LYS:HB2	12:AL:44:LYS:NZ	2.30	0.46
1:CA:1157:A:H4'	1:CA:1158:C:O5'	2.16	0.46
22:DA:1262:A:C6	22:DA:1263:U:N3	2.83	0.46
22:DA:1718:G:C6	22:DA:1743:G:N3	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:103:U:C2	1:AA:104:G:C8	3.04	0.46
1:AA:1410:A:C2	1:AA:1491:G:C2	3.04	0.46
46:DY:56:LEU:O	46:DY:57:LEU:HB3	2.16	0.46
4:CD:38:PRO:HD2	4:CD:42:GLY:CA	2.45	0.46
21:AU:14:VAL:HG12	21:AU:16:LEU:HD21	1.96	0.46
22:DA:1754:A:N6	22:DA:1755:A:N1	2.63	0.46
30:BI:97:LYS:HB3	30:BI:139:VAL:CG2	2.46	0.46
22:DA:1196:C:O4'	22:DA:1226:A:C6	2.69	0.46
34:DM:38:ARG:HG3	34:DM:98:PRO:HD3	1.98	0.46
22:DA:1682:G:N2	22:DA:1757:A:O4'	2.48	0.46
8:AH:78:VAL:HG11	8:AH:125:ILE:HD11	1.97	0.46
1:AA:1133:G:N2	1:AA:1142:G:C4	2.84	0.46
22:DA:7:G:HO2'	31:DJ:15:TRP:HZ2	1.63	0.46
29:DH:34:GLY:O	29:DH:35:LYS:CG	2.64	0.46
1:CA:842:U:O2'	1:CA:846:G:C6	2.69	0.46
22:BA:1688:U:C5'	22:BA:1689:A:OP1	2.64	0.46
22:DA:1581:G:C6	22:DA:1582:C:N4	2.83	0.46
44:DW:19:LYS:O	44:DW:21:LEU:N	2.48	0.46
45:DX:7:VAL:HG12	45:DX:8:THR:N	2.29	0.46
25:DD:114:LYS:HE2	25:DD:196:ALA:HA	1.97	0.46
1:CA:50:A:H1'	1:CA:52:C:O4'	2.16	0.46
7:CG:42:ILE:HG21	7:CG:116:MET:CG	2.45	0.46
1:CA:158:G:C6	1:CA:164:G:C6	3.03	0.46
16:AP:38:PHE:CD1	16:AP:38:PHE:C	2.89	0.46
22:BA:2120:G:N2	22:BA:2179:C:C2	2.84	0.46
21:CU:32:VAL:HG12	21:CU:32:VAL:O	2.15	0.46
22:DA:21:A:N1	22:DA:520:G:C6	2.83	0.46
16:CP:52:LEU:HD21	16:CP:57:ILE:CD1	2.46	0.46
22:DA:64:A:H2'	22:DA:65:U:O4'	2.16	0.46
42:DU:34:VAL:HG13	42:DU:67:VAL:HG23	1.97	0.46
1:AA:531:U:H5''	3:AC:161:GLU:OE2	2.16	0.46
22:DA:1969:A:O2'	22:DA:1972:G:N3	2.40	0.46
22:BA:2485:G:OP1	34:BM:45:GLN:NE2	2.48	0.46
49:B1:12:VAL:HG12	49:B1:13:SER:N	2.30	0.46
16:CP:4:ILE:N	16:CP:4:ILE:HD12	2.31	0.46
22:BA:1820:U:OP1	24:BC:177:ARG:NH2	2.49	0.46
26:DE:23:PHE:CD1	26:DE:111:GLU:HG3	2.50	0.46
24:DC:24:LEU:HD21	24:DC:90:ASN:ND2	2.30	0.46
24:BC:28:LYS:HB3	24:BC:29:PRO:HD2	1.97	0.46
22:DA:1709:U:H2'	22:DA:1710:G:C8	2.51	0.46
12:AL:101:ALA:O	12:AL:102:LEU:C	2.54	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:DQ:86:ALA:O	38:DQ:87:SER:CB	2.62	0.46
10:CJ:48:ARG:NH1	10:CJ:66:GLU:OE1	2.49	0.46
3:AC:126:ARG:O	3:AC:127:ARG:CB	2.62	0.46
22:BA:1477:A:N6	22:BA:1514:G:O2'	2.46	0.46
22:DA:1278:C:O2'	35:DN:27:SER:HB3	2.16	0.46
20:CT:81:ALA:O	20:CT:85:LYS:HG2	2.14	0.46
22:DA:2199:A:C5	22:DA:2225:A:N1	2.83	0.46
2:AB:21:ARG:NE	2:AB:21:ARG:CA	2.79	0.46
27:DF:122:PHE:O	27:DF:123:ASP:C	2.54	0.46
22:DA:621:A:C5	22:DA:622:G:H1'	2.50	0.46
22:BA:1094:U:C4	22:BA:1097:U:OP2	2.68	0.46
21:CU:34:ARG:HE	21:CU:35:ARG:HB2	1.80	0.46
1:AA:913:A:H4'	1:AA:914:A:OP1	2.14	0.46
22:DA:185:G:C5	22:DA:212:G:N2	2.84	0.46
22:DA:306:U:C5	22:DA:307:G:C5	3.04	0.46
1:AA:1005:A:H2'	1:AA:1006:G:O4'	2.15	0.46
1:AA:1024:G:C2'	1:AA:1025:U:O5'	2.64	0.46
1:AA:219:U:H2'	1:AA:220:G:C8	2.50	0.46
22:BA:2801:G:H2'	22:BA:2802:G:C8	2.51	0.46
22:BA:744:U:C4	22:BA:745:G:C5	3.03	0.46
22:BA:370:G:O2'	22:BA:423:A:H3'	2.16	0.46
22:BA:1071:G:N7	22:BA:1089:A:N6	2.64	0.46
31:DJ:41:LYS:NZ	31:DJ:52:ASP:OD1	2.46	0.46
1:AA:109:A:C6	1:AA:326:G:C6	3.04	0.46
22:DA:1376:C:C5'	57:DA:3395:HOH:O	2.62	0.46
27:BF:38:MET:HE3	27:BF:152:LEU:HD11	1.98	0.46
14:AN:51:LEU:CB	14:AN:52:PRO:HD2	2.45	0.46
22:BA:1056:G:H5''	22:BA:1057:A:C4'	2.46	0.46
1:AA:1314:C:N4	19:AS:4:SER:HA	2.31	0.46
1:AA:21:G:H2'	1:AA:22:G:C8	2.50	0.46
22:DA:1288:G:C5	22:DA:1327:A:C2	3.04	0.46
1:AA:1130:A:O5'	1:AA:1130:A:H8	1.98	0.46
22:DA:1223:G:N2	22:DA:1226:A:OP2	2.38	0.46
1:CA:890:G:HO2'	1:CA:891:U:P	2.39	0.46
40:BS:57:ASN:O	40:BS:61:ASN:HB2	2.16	0.46
13:AM:6:GLY:HA3	13:AM:66:GLU:HG3	1.98	0.46
1:CA:8:A:N6	4:CD:54:GLN:OE1	2.49	0.46
28:DG:159:GLY:HA2	28:DG:169:VAL:HG11	1.98	0.46
41:BT:41:ALA:O	41:BT:42:GLU:C	2.54	0.46
30:BI:50:GLU:C	30:BI:51:LYS:HD3	2.37	0.46
22:DA:782:A:O2'	24:DC:224:ALA:O	2.32	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1014:A:C2	22:BA:1149:G:C4	3.03	0.46
17:AQ:61:ILE:CG2	17:AQ:73:TRP:CE3	2.99	0.46
22:DA:658:U:O2'	26:DE:95:LYS:NZ	2.34	0.46
36:BO:12:THR:O	36:BO:12:THR:CG2	2.63	0.46
22:DA:859:G:O2'	22:DA:916:G:O6	2.19	0.46
26:DE:117:ARG:NH1	33:DL:2:ARG:HD2	2.30	0.46
1:CA:1426:G:C4	1:CA:1475:G:C2	3.03	0.46
22:BA:181:A:H2'	22:BA:182:A:C8	2.51	0.46
22:BA:2834:G:O6	22:BA:2879:A:H2'	2.15	0.46
36:DO:71:ALA:HB2	36:DO:102:ARG:HB2	1.98	0.46
9:CI:47:VAL:O	9:CI:80:ARG:HG2	2.15	0.46
22:BA:483:A:C8	22:BA:484:C:C5	3.03	0.46
22:BA:2350:C:H2'	22:BA:2351:G:O4'	2.16	0.46
8:CH:92:LEU:CD2	8:CH:113:ASP:HB2	2.46	0.46
22:DA:642:U:O2'	22:DA:644:A:N7	2.38	0.46
3:CC:22:TRP:CH2	3:CC:32:ASN:HB3	2.51	0.46
30:BI:80:LEU:HD13	30:BI:136:MET:SD	2.56	0.46
22:BA:1686:C:H2'	22:BA:1687:G:O4'	2.15	0.46
22:DA:1722:A:C2	22:DA:1739:A:H1'	2.50	0.46
22:DA:1739:A:C5	22:DA:1740:G:C5	3.03	0.46
2:AB:32:PHE:O	2:AB:32:PHE:CG	2.68	0.46
22:BA:2810:A:H2'	22:BA:2811:G:O4'	2.16	0.46
22:DA:2784:U:H4'	25:DD:42:ASN:O	2.15	0.46
22:DA:2094:A:C4	22:DA:2095:A:C8	3.04	0.46
22:BA:574:A:H4'	22:BA:575:A:O5'	2.16	0.46
1:AA:828:U:C5	1:AA:859:G:C4	3.04	0.46
13:AM:4:ILE:HD11	13:AM:10:PRO:HG2	1.98	0.46
2:AB:78:GLU:C	2:AB:80:VAL:H	2.19	0.46
22:BA:1176:U:H2'	22:BA:1177:G:C8	2.50	0.46
22:BA:1098:A:N7	22:BA:1099:G:C6	2.83	0.46
1:AA:455:G:C2	1:AA:478:A:N1	2.84	0.46
39:BR:49:ILE:HG22	39:BR:53:PHE:C	2.36	0.46
1:CA:55:A:C8	1:CA:56:U:C5	3.04	0.46
22:DA:1830:C:C4'	24:DC:15:HIS:HE1	2.29	0.46
22:DA:1403:A:C2	22:DA:1404:C:C2	3.04	0.46
22:DA:1598:A:C2'	22:DA:1599:U:H5'	2.46	0.46
1:CA:34:C:H2'	1:CA:35:G:C8	2.51	0.46
22:DA:667:U:C4	22:DA:668:A:N7	2.84	0.46
6:AF:52:ASN:O	6:AF:53:LYS:CB	2.63	0.46
22:DA:2811:G:OP1	25:DD:61:THR:HB	2.16	0.46
2:CB:57:LEU:O	2:CB:60:ILE:CD1	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:207:ILE:HG12	2:CB:208:ARG:N	2.30	0.46
22:BA:2262:U:H4'	22:BA:2328:A:C2	2.50	0.46
22:DA:1096:A:H2'	22:DA:1097:U:H5''	1.97	0.46
22:BA:1883:U:O4	22:BA:1884:G:N1	2.49	0.46
17:CQ:70:THR:HG22	17:CQ:71:LYS:H	1.81	0.46
30:DI:17:MET:HB3	30:DI:20:PRO:HB3	1.97	0.46
1:CA:1387:G:H2'	1:CA:1388:C:C6	2.51	0.46
22:BA:1876:A:C2	22:BA:1877:A:N9	2.84	0.46
22:BA:2547:A:C5'	32:BK:29:HIS:NE2	2.79	0.46
19:CS:55:ARG:NH2	19:CS:79:THR:HG22	2.31	0.46
35:DN:12:ARG:NE	35:DN:20:MET:CE	2.79	0.46
40:DS:79:GLY:N	40:DS:100:THR:O	2.47	0.46
22:BA:1495:A:N3	22:BA:1578:U:O2'	2.43	0.46
1:CA:278:G:OP2	17:CQ:43:LYS:NZ	2.48	0.46
1:CA:880:C:C2	1:CA:881:G:C8	3.04	0.46
5:AE:109:GLY:HA2	5:AE:112:ARG:HB3	1.97	0.46
1:CA:844:G:N3	1:CA:844:G:H2'	2.31	0.46
7:CG:2:PRO:O	7:CG:3:ARG:C	2.54	0.46
41:BT:61:LEU:HD12	41:BT:61:LEU:O	2.15	0.46
22:DA:2355:G:C6	22:DA:2356:U:N3	2.84	0.46
22:DA:2461:A:H1'	22:DA:2492:U:C2	2.51	0.46
22:DA:16:C:C3'	48:D0:11:SER:HG	2.29	0.46
22:BA:1242:U:H2'	22:BA:1243:C:C6	2.51	0.46
22:DA:486:C:H1'	22:DA:495:G:N2	2.31	0.46
22:DA:1577:C:H2'	22:DA:1578:U:O4'	2.15	0.46
1:CA:499:A:C6	1:CA:547:A:C8	3.04	0.46
22:BA:2176:A:C5	22:BA:2177:C:N4	2.84	0.46
32:BK:6:THR:HG22	32:BK:7:MET:N	2.30	0.46
1:AA:1096:C:O2'	1:AA:1097:C:H5'	2.16	0.46
1:AA:1135:U:C2	1:AA:1137:C:N3	2.84	0.46
1:AA:1387:G:H2'	1:AA:1388:C:C6	2.51	0.46
17:AQ:26:GLU:OE1	17:AQ:39:LYS:HB3	2.15	0.46
22:BA:2001:C:C2	22:BA:2002:G:C8	3.04	0.46
20:AT:3:ASN:O	20:AT:4:ILE:C	2.54	0.46
22:DA:529:A:H4'	22:DA:530:G:OP1	2.16	0.46
47:DZ:6:LYS:HB2	47:DZ:58:GLU:HG3	1.96	0.46
22:BA:1946:U:H2'	22:BA:1947:C:C6	2.51	0.46
27:DF:131:GLY:HA2	27:DF:153:ASP:HA	1.98	0.46
29:DH:60:GLU:HA	29:DH:60:GLU:OE2	2.15	0.46
2:AB:66:LYS:HG2	2:AB:156:GLY:O	2.16	0.46
22:DA:2060:A:O4'	22:DA:2502:G:H1'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:4:TYR:CD2	6:AF:71:ILE:HD13	2.51	0.46
1:CA:683:G:H2'	1:CA:684:U:O4'	2.15	0.46
23:BB:28:C:H2'	23:BB:29:A:O4'	2.16	0.46
1:AA:914:A:C5	1:AA:915:A:N7	2.84	0.46
5:CE:99:ALA:O	5:CE:100:SER:C	2.54	0.46
22:DA:118:A:N7	22:DA:119:A:N7	2.64	0.46
14:CN:53:ARG:O	14:CN:59:ARG:HD2	2.17	0.46
1:AA:167:A:H2'	1:AA:168:G:O4'	2.15	0.46
4:CD:9:LEU:HD11	4:CD:29:ASP:OD2	2.16	0.46
4:CD:29:ASP:C	4:CD:31:LYS:N	2.66	0.46
33:BL:85:VAL:CG1	33:BL:94:THR:CG2	2.93	0.46
22:DA:1800:C:C2	22:DA:1802:A:C8	3.04	0.46
14:AN:61:ARG:HA	57:AN:301:HOH:O	2.16	0.46
11:AK:53:ARG:N	11:AK:56:ARG:HB2	2.31	0.46
1:CA:741:G:OP2	15:CO:2:SER:OG	2.30	0.46
22:DA:2700:A:H2'	22:DA:2701:U:C6	2.51	0.46
1:AA:824:G:H1'	8:AH:2:SER:HA	1.98	0.46
30:DI:57:VAL:HG22	30:DI:58:VAL:N	2.31	0.46
46:BY:5:GLU:HA	46:BY:8:GLU:HG3	1.98	0.46
16:AP:10:GLY:O	16:AP:11:ALA:CB	2.64	0.46
33:DL:77:ILE:HD11	33:DL:101:ILE:HG21	1.97	0.46
1:CA:289:G:C2	1:CA:290:C:C5	3.04	0.46
1:CA:1388:C:C2	1:CA:1389:C:C5	3.03	0.46
22:DA:674:G:N2	22:DA:2445:G:OP1	2.49	0.46
22:BA:287:G:H2'	22:BA:288:U:C6	2.51	0.46
12:CL:44:LYS:CB	12:CL:45:PRO:CD	2.93	0.46
38:BQ:112:LYS:HD3	39:BR:48:LYS:HD2	1.98	0.46
1:CA:711:G:N2	1:CA:712:A:C4	2.84	0.46
22:DA:2478:A:N7	22:DA:2529:G:C6	2.83	0.46
40:DS:29:VAL:HG21	40:DS:107:VAL:HG21	1.98	0.46
7:AG:127:ALA:O	7:AG:130:ASN:N	2.49	0.46
22:DA:2473:U:O4	28:DG:176:LYS:NZ	2.49	0.46
22:DA:1428:C:C5	22:DA:1569:A:H5"	2.51	0.46
1:CA:1413:A:C2	1:CA:1488:G:C2	3.04	0.46
19:AS:40:ILE:HG12	19:AS:71:LEU:HD23	1.98	0.46
19:CS:15:LEU:HD13	19:CS:33:THR:HG21	1.97	0.46
41:BT:2:ILE:HG23	41:BT:4:GLU:HA	1.98	0.46
1:CA:774:G:C4	1:CA:775:G:C8	3.04	0.46
22:DA:2603:G:C6	22:DA:2604:U:C4	3.04	0.46
22:DA:200:U:C4	22:DA:248:G:N2	2.83	0.46
32:DK:1:MET:HG2	32:DK:32:TYR:CD2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:DJ:94:ALA:O	31:DJ:95:ARG:C	2.54	0.46
1:CA:1426:G:C5	1:CA:1475:G:C2	3.04	0.46
6:AF:81:ASN:OD1	6:AF:83:ALA:HB3	2.16	0.46
1:AA:595:A:C6	1:AA:641:U:C6	3.04	0.46
26:DE:109:LEU:O	26:DE:112:LEU:N	2.49	0.46
1:AA:1202:U:C5	1:AA:1203:C:C5	3.04	0.46
3:CC:19:ASN:OD1	3:CC:54:ARG:NE	2.49	0.46
1:CA:1467:C:H2'	1:CA:1468:A:C8	2.51	0.46
1:AA:1377:A:C5	7:AG:7:ILE:HD11	2.51	0.46
34:BM:72:PRO:HB3	34:BM:92:TRP:CZ3	2.51	0.46
3:CC:79:LYS:O	3:CC:81:GLY:N	2.49	0.46
15:AO:70:LEU:HD21	15:AO:77:ARG:CB	2.46	0.46
29:BH:79:THR:HG23	29:BH:147:VAL:HB	1.98	0.45
29:BH:90:LEU:HD21	29:BH:93:SER:HA	1.97	0.45
29:DH:39:ALA:O	29:DH:41:LYS:N	2.47	0.45
12:CL:23:ALA:O	12:CL:24:LEU:O	2.33	0.45
36:BO:31:THR:HG22	36:BO:34:HIS:H	1.82	0.45
39:BR:39:LEU:HA	39:BR:49:ILE:HG23	1.98	0.45
1:CA:1360:A:C2	1:CA:1361:G:H1'	2.51	0.45
45:DX:30:LEU:HB3	45:DX:31:PRO:HD2	1.97	0.45
31:BJ:81:ILE:HG23	31:BJ:82:GLY:H	1.79	0.45
22:BA:1142:A:N3	22:BA:1144:A:C8	2.84	0.45
31:DJ:4:PHE:CD2	38:DQ:100:VAL:HG11	2.51	0.45
24:DC:67:PHE:O	24:DC:151:GLY:O	2.34	0.45
24:DC:67:PHE:CE2	24:DC:156:ARG:NH2	2.84	0.45
22:BA:587:C:C5	22:BA:671:C:H1'	2.51	0.45
1:AA:1422:G:O2'	32:BK:49:ARG:NH2	2.49	0.45
12:AL:116:LYS:O	12:AL:117:TYR:HB2	2.16	0.45
9:CI:49:ARG:NH2	9:CI:53:GLU:HA	2.30	0.45
11:AK:102:ALA:O	11:AK:103:ALA:C	2.54	0.45
37:BP:40:LEU:HD21	37:BP:82:ASP:OD2	2.16	0.45
22:DA:1176:U:H2'	22:DA:1177:G:N9	2.31	0.45
1:CA:577:G:C8	1:CA:816:A:C2	3.04	0.45
1:AA:844:G:N3	1:AA:845:A:N7	2.64	0.45
22:BA:1106:G:C4	22:BA:1107:G:C8	3.03	0.45
11:CK:107:ILE:HD11	11:CK:110:ILE:HG12	1.98	0.45
13:AM:6:GLY:C	13:AM:8:ASN:H	2.20	0.45
22:DA:2307:G:H4'	22:DA:2308:G:O5'	2.16	0.45
22:DA:2307:G:N2	22:DA:2312:U:C2	2.84	0.45
1:AA:192:A:C6	1:AA:193:C:C4	3.04	0.45
22:DA:1838:C:C5	22:DA:1899:A:C6	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1835:G:C4	22:DA:1836:C:C6	3.04	0.45
22:DA:2314:A:C2	22:DA:2315:G:C5	3.04	0.45
22:BA:1014:A:C5	22:BA:1015:U:C5	3.04	0.45
20:CT:67:ILE:HA	20:CT:67:ILE:HD12	1.76	0.45
14:AN:21:PHE:O	14:AN:22:ALA:HB3	2.17	0.45
1:CA:560:A:H5'	1:CA:566:G:N2	2.30	0.45
22:DA:699:A:H2'	22:DA:700:G:H5'	1.98	0.45
22:DA:404:A:C1'	22:DA:405:U:OP2	2.63	0.45
9:CI:13:LYS:CG	9:CI:13:LYS:O	2.63	0.45
1:AA:1095:U:H2'	1:AA:1096:C:O4'	2.16	0.45
16:CP:79:ASN:ND2	16:CP:82:ALA:OXT	2.48	0.45
22:DA:1529:G:O6	22:DA:1543:G:N2	2.49	0.45
22:DA:149:A:C5	22:DA:150:U:C4	3.04	0.45
22:DA:1806:C:N4	22:DA:1807:G:C6	2.84	0.45
1:CA:562:U:OP2	12:CL:14:ARG:NH2	2.49	0.45
17:AQ:41:THR:HG22	17:AQ:42:THR:N	2.30	0.45
1:CA:743:A:C6	1:CA:744:C:C4	3.04	0.45
22:DA:871:U:OP1	34:DM:4:PRO:HA	2.16	0.45
1:AA:575:G:C6	1:AA:821:G:C8	3.04	0.45
22:BA:813:U:H2'	22:BA:814:C:C6	2.51	0.45
22:DA:2902:C:OP1	22:DA:2903:U:C5	2.69	0.45
45:DX:43:GLU:O	45:DX:44:LYS:C	2.54	0.45
22:DA:2324:U:O2	22:DA:2385:C:C5	2.69	0.45
3:CC:9:GLY:HA2	3:CC:12:LEU:HG	1.96	0.45
28:BG:154:PRO:HD3	28:BG:162:VAL:O	2.15	0.45
1:AA:1412:C:H2'	1:AA:1413:A:C8	2.51	0.45
42:DU:22:ARG:CZ	42:DU:73:PHE:CE2	2.99	0.45
1:CA:446:G:N3	1:CA:446:G:H2'	2.31	0.45
30:BI:10:LYS:CB	30:BI:56:PRO:HB2	2.47	0.45
42:BU:87:PHE:CE1	42:BU:92:LYS:HB2	2.52	0.45
22:BA:1616:A:H4'	22:BA:1617:C:OP2	2.16	0.45
1:AA:908:A:C2	1:AA:909:A:C4	3.04	0.45
29:BH:94:ILE:HG23	29:BH:98:ASP:CB	2.47	0.45
22:DA:71:A:OP2	22:DA:113:U:H4'	2.16	0.45
22:DA:2056:G:N3	22:DA:2056:G:H2'	2.30	0.45
5:AE:98:PRO:O	5:AE:99:ALA:HB3	2.15	0.45
24:BC:72:ASP:HA	24:BC:118:SER:O	2.16	0.45
1:AA:509:A:P	57:AA:1722:HOH:O	2.62	0.45
3:AC:59:ARG:HA	3:AC:63:SER:O	2.15	0.45
11:CK:35:THR:OG1	11:CK:40:ASN:N	2.48	0.45
11:CK:126:LYS:O	21:CU:34:ARG:CZ	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:914:A:C2	1:AA:915:A:C8	3.04	0.45
1:AA:1394:A:C5	1:AA:1501:C:H4'	2.51	0.45
22:DA:53:A:N7	22:DA:54:G:C5	2.84	0.45
1:CA:516:U:O4	57:CA:1763:HOH:O	2.18	0.45
1:CA:517:G:H5'	1:CA:519:C:C2	2.51	0.45
1:AA:1004:A:OP1	1:AA:1024:G:O6	2.34	0.45
1:CA:1318:A:O2'	19:CS:37:ARG:HD3	2.16	0.45
22:DA:1363:C:H2'	22:DA:1364:G:C8	2.51	0.45
7:AG:27:VAL:HG23	7:AG:28:ASN:N	2.30	0.45
1:AA:110:C:H2'	1:AA:111:G:O4'	2.17	0.45
22:BA:301:G:C4	22:BA:302:C:C5	3.04	0.45
20:AT:5:LYS:O	20:AT:6:SER:C	2.55	0.45
22:BA:1854:A:C2'	22:BA:1855:U:H5'	2.45	0.45
17:CQ:46:VAL:CG2	17:CQ:61:ILE:HD11	2.46	0.45
37:BP:31:TRP:CD2	37:BP:40:LEU:CD1	2.99	0.45
2:AB:54:LEU:HD22	2:AB:54:LEU:N	2.32	0.45
22:BA:276:U:O2'	22:BA:278:A:N7	2.47	0.45
1:AA:620:C:H1'	4:AD:132:ILE:CD1	2.42	0.45
1:CA:1089:G:C5	1:CA:1090:U:C6	3.04	0.45
1:AA:590:U:H2'	1:AA:591:U:C6	2.52	0.45
22:DA:1287:A:H2'	22:DA:1288:G:H5'	1.98	0.45
22:DA:982:C:H5''	22:DA:983:A:P	2.56	0.45
4:AD:107:PHE:CD1	4:AD:145:ILE:CD1	3.00	0.45
22:BA:782:A:C2	24:BC:225:MET:SD	3.09	0.45
22:DA:303:G:C6	22:DA:304:U:N3	2.84	0.45
42:DU:8:ASP:O	42:DU:9:ASP:HB2	2.16	0.45
34:DM:17:ASN:O	34:DM:38:ARG:HD3	2.16	0.45
1:CA:833:G:N2	1:CA:834:U:H1'	2.31	0.45
8:CH:95:VAL:HG12	8:CH:96:MET:N	2.31	0.45
1:AA:737:C:H2'	1:AA:738:C:C6	2.51	0.45
2:AB:106:THR:O	2:AB:107:VAL:HG23	2.16	0.45
22:BA:591:U:HO2'	51:B3:2:PRO:N	2.13	0.45
1:CA:1366:C:O2'	10:CJ:62:ARG:NH2	2.50	0.45
22:BA:1577:C:H2'	22:BA:1578:U:C1'	2.45	0.45
1:AA:1475:G:OP1	22:BA:1689:A:H1'	2.16	0.45
1:CA:1439:G:C2	1:CA:1463:U:O2	2.70	0.45
22:DA:2478:A:C8	22:DA:2529:G:C6	3.04	0.45
22:BA:2267:A:H5''	22:BA:2268:A:C5'	2.47	0.45
1:CA:1484:C:H2'	1:CA:1485:U:O4'	2.16	0.45
22:BA:2259:U:C5	22:BA:2427:C:N4	2.84	0.45
1:CA:756:C:N3	1:CA:757:U:C6	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BX:77:LYS:HE3	45:BX:78:TYR:N	2.32	0.45
22:BA:684:G:C6	22:BA:774:G:C4	3.04	0.45
22:DA:2637:U:O4	22:DA:2638:G:N1	2.49	0.45
22:DA:1694:C:H4'	22:DA:1695:G:O5'	2.14	0.45
38:BQ:62:ILE:HG23	38:BQ:76:TYR:CE1	2.51	0.45
27:DF:126:GLY:O	27:DF:158:THR:HG23	2.16	0.45
22:BA:2177:C:N4	22:BA:2178:C:O2	2.49	0.45
30:DI:80:LEU:HD11	30:DI:133:ALA:HB2	1.98	0.45
29:DH:112:LYS:HG2	29:DH:113:SER:N	2.32	0.45
43:DV:83:LYS:O	43:DV:85:LYS:N	2.49	0.45
1:AA:927:G:C2	1:AA:1391:U:O2	2.69	0.45
52:D4:36:ARG:HG2	52:D4:37:GLN:H	1.81	0.45
1:AA:1012:A:N1	1:AA:1018:G:N7	2.64	0.45
2:AB:58:ASN:O	2:AB:61:ALA:N	2.49	0.45
1:AA:636:U:O2'	1:AA:637:C:H5'	2.16	0.45
22:BA:1809:A:N1	22:BA:1810:A:C2	2.84	0.45
22:DA:2557:G:H2'	22:DA:2558:C:C6	2.51	0.45
22:BA:1559:U:H4'	22:BA:1560:G:OP2	2.16	0.45
8:AH:96:MET:O	8:AH:97:ALA:HB3	2.16	0.45
22:BA:1403:A:H2'	22:BA:1404:C:C6	2.51	0.45
22:DA:546:U:O2	22:DA:546:U:H3'	2.16	0.45
1:AA:618:C:H1'	16:AP:14:ARG:NH1	2.32	0.45
40:DS:61:ASN:O	40:DS:62:ASP:CB	2.64	0.45
20:CT:73:ALA:O	20:CT:77:ALA:CB	2.64	0.45
13:CM:63:PHE:O	13:CM:65:VAL:HG13	2.16	0.45
22:BA:2727:A:C6	22:BA:2728:U:O4	2.69	0.45
1:AA:859:G:H2'	1:AA:860:A:H8	1.76	0.45
24:DC:160:THR:H	24:DC:195:VAL:HG13	1.82	0.45
22:DA:1353:A:C8	22:DA:1378:A:N6	2.83	0.45
6:AF:3:HIS:CB	6:AF:92:THR:HG23	2.46	0.45
22:BA:2742:G:P	52:B4:24:ARG:HH12	2.39	0.45
3:AC:11:ARG:O	3:AC:14:ILE:O	2.34	0.45
5:CE:133:PRO:O	5:CE:137:VAL:HG13	2.17	0.45
22:BA:1060:U:H4'	22:BA:1061:U:H3'	1.98	0.45
2:AB:113:ARG:O	2:AB:117:LEU:HB2	2.16	0.45
1:AA:260:G:H2'	1:AA:261:U:C6	2.52	0.45
1:AA:261:U:C6	20:AT:74:ARG:NH1	2.84	0.45
22:DA:2347:C:O2'	49:D1:39:PHE:HB3	2.15	0.45
1:CA:73:C:HO2'	1:CA:74:A:C5'	2.27	0.45
1:CA:68:G:C6	1:CA:69:G:H1'	2.51	0.45
22:BA:1022:G:C5	22:BA:1140:C:N4	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:108:G:N3	1:AA:108:G:H5'	2.32	0.45
22:BA:1935:G:C6	22:BA:1962:C:C6	3.04	0.45
22:BA:1754:A:N1	22:BA:2716:C:O2'	2.43	0.45
9:CI:52:LEU:HD13	9:CI:57:MET:HG2	1.98	0.45
37:BP:31:TRP:CE3	37:BP:40:LEU:HD12	2.51	0.45
8:AH:10:MET:O	8:AH:11:LEU:C	2.54	0.45
22:DA:2164:C:H2'	22:DA:2165:C:C5	2.51	0.45
22:DA:2716:C:H2'	22:DA:2717:C:C6	2.51	0.45
30:BI:100:LYS:HB3	30:BI:139:VAL:HB	1.97	0.45
21:AU:11:PRO:O	21:AU:12:PHE:CB	2.65	0.45
1:CA:258:G:C2	1:CA:269:C:O2	2.69	0.45
6:CF:86:ARG:NH1	6:CF:86:ARG:CG	2.77	0.45
22:BA:2591:C:H2'	22:BA:2592:G:C8	2.51	0.45
22:DA:696:G:C2	22:DA:767:U:O2	2.70	0.45
1:CA:607:A:C2	1:CA:608:A:N3	2.84	0.45
10:CJ:18:ILE:HG23	10:CJ:19:ASP:N	2.32	0.45
42:DU:88:GLU:OE1	42:DU:102:THR:OG1	2.26	0.45
15:CO:11:ILE:HA	15:CO:14:GLU:OE1	2.17	0.45
1:AA:193:C:O4'	20:AT:55:GLN:OE1	2.34	0.45
22:DA:452:G:N2	22:DA:457:A:H1'	2.32	0.45
1:CA:1170:A:H3'	1:CA:1171:A:H8	1.81	0.45
2:AB:186:ILE:HA	2:AB:200:ILE:HB	1.98	0.45
22:DA:1127:A:C2'	22:DA:1128:G:H5''	2.46	0.45
1:AA:353:A:H2'	1:AA:354:G:OP2	2.17	0.45
22:BA:1121:C:H2'	22:BA:1122:G:O4'	2.15	0.45
51:D3:52:LYS:O	51:D3:53:GLY:C	2.55	0.45
25:DD:125:TRP:CE3	25:DD:160:LYS:HD3	2.50	0.45
22:DA:1869:G:N2	22:DA:1871:A:O2'	2.50	0.45
41:BT:71:GLY:O	41:BT:73:ARG:N	2.46	0.45
1:AA:908:A:O2'	1:AA:909:A:H5'	2.16	0.45
22:DA:1845:G:OP1	24:DC:256:LYS:NZ	2.44	0.45
36:BO:93:ASP:OD1	36:BO:95:SER:N	2.43	0.45
7:CG:70:ARG:HG3	7:CG:96:ARG:HG2	1.97	0.45
11:AK:61:PHE:O	11:AK:64:GLN:N	2.50	0.45
4:CD:17:THR:CG2	4:CD:18:ASP:N	2.80	0.45
7:AG:17:LYS:HD3	7:AG:18:PHE:CE2	2.51	0.45
22:DA:487:C:C2	22:DA:494:G:N2	2.84	0.45
22:BA:1951:U:H2'	22:BA:1953:A:OP2	2.15	0.45
1:CA:681:A:C2	1:CA:710:G:C4	3.04	0.45
1:AA:1429:A:C4	1:AA:1430:A:C8	3.04	0.45
18:AR:23:TYR:CE1	18:AR:24:LYS:HG2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1891:G:C6	22:BA:1892:C:C4	3.04	0.45
20:AT:9:LYS:O	20:AT:13:GLN:HB2	2.16	0.45
22:BA:1431:A:H2'	22:BA:1432:G:H8	1.81	0.45
22:BA:1252:G:H5''	57:BA:3285:HOH:O	2.15	0.45
13:AM:11:ASP:O	13:AM:12:HIS:CB	2.64	0.45
36:BO:66:GLY:HA2	36:BO:102:ARG:HH22	1.81	0.45
22:BA:1059:G:C6	22:BA:1080:A:C2	3.05	0.45
1:AA:1004:A:H2'	1:AA:1005:A:O4'	2.16	0.45
6:AF:52:ASN:O	6:AF:53:LYS:HB3	2.17	0.45
1:AA:652:U:C2	1:AA:752:G:N2	2.85	0.45
22:DA:2415:G:N1	22:DA:2416:C:C2	2.83	0.45
4:AD:4:TYR:CE2	4:AD:11:LEU:HD11	2.52	0.45
20:AT:33:LYS:O	20:AT:34:LYS:C	2.54	0.45
2:CB:208:ARG:O	2:CB:210:VAL:N	2.49	0.45
1:AA:468:A:H5''	1:AA:468:A:N3	2.31	0.45
30:BI:110:ALA:O	30:BI:113:LYS:HG3	2.17	0.45
27:BF:119:ALA:HB1	27:BF:167:ARG:HD2	1.98	0.45
1:CA:861:G:C6	1:CA:862:C:C4	3.05	0.45
15:AO:20:ASN:O	15:AO:22:THR:N	2.50	0.45
22:DA:1646:C:H5''	22:DA:1647:U:C5'	2.47	0.45
22:DA:2815:C:C4	22:DA:2816:G:N7	2.85	0.45
29:DH:34:GLY:O	29:DH:35:LYS:CD	2.65	0.45
5:CE:13:GLU:HB2	5:CE:39:VAL:HG12	1.99	0.45
30:BI:83:ALA:HB1	30:BI:109:ILE:CD1	2.46	0.45
2:AB:94:HIS:ND1	2:AB:146:ASN:HB2	2.31	0.45
22:DA:236:C:H4'	22:DA:431:U:O2'	2.17	0.45
22:DA:752:A:O2'	22:DA:753:A:P	2.74	0.45
22:DA:308:G:N1	22:DA:309:A:C2	2.84	0.45
22:DA:1454:C:H5'	35:DN:63:ARG:HD3	1.98	0.45
1:CA:160:A:H4'	1:CA:344:A:N1	2.32	0.45
1:CA:775:G:O2'	1:CA:776:G:H5'	2.16	0.45
21:CU:15:ALA:O	21:CU:16:LEU:C	2.54	0.45
22:BA:753:A:H2'	22:BA:754:U:C6	2.51	0.45
2:AB:206:ALA:O	2:AB:210:VAL:HG22	2.16	0.45
1:CA:146:G:N2	1:CA:147:G:H1'	2.31	0.45
50:D2:30:VAL:O	50:D2:34:ARG:HG3	2.17	0.45
16:CP:79:ASN:O	16:CP:80:LYS:HB2	2.17	0.45
1:AA:1043:G:O6	1:AA:1044:A:N6	2.49	0.45
22:BA:324:A:N6	22:BA:338:G:O2'	2.40	0.45
2:AB:61:ALA:HA	2:AB:65:GLY:CA	2.46	0.45
30:BI:10:LYS:HB3	30:BI:56:PRO:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DD:56:LYS:O	25:DD:58:ASN:N	2.50	0.45
22:DA:2353:G:H2'	22:DA:2354:C:O4'	2.16	0.45
22:DA:327:G:H2'	22:DA:328:U:O4'	2.15	0.45
22:DA:324:A:N6	22:DA:338:G:O2'	2.47	0.45
24:DC:238:ARG:O	24:DC:239:ASN:O	2.35	0.45
34:DM:135:VAL:O	34:DM:136:MET:CB	2.64	0.45
10:AJ:40:ILE:O	10:AJ:72:ARG:HA	2.16	0.45
26:DE:136:GLN:O	26:DE:138:LEU:N	2.49	0.45
22:DA:2580:U:H5''	22:DA:2581:G:OP2	2.16	0.45
5:CE:11:LEU:HG	5:CE:12:GLN:N	2.31	0.45
36:DO:7:ARG:CD	36:DO:97:PHE:CZ	2.99	0.45
1:AA:1154:G:N3	1:AA:1154:G:H2'	2.31	0.45
42:BU:61:LYS:HE3	42:BU:61:LYS:HA	1.99	0.45
22:DA:2258:C:O2'	22:DA:2427:C:OP2	2.25	0.45
22:BA:2467:C:OP1	52:B4:8:LYS:NZ	2.29	0.45
25:BD:150:GLN:O	25:BD:153:GLY:N	2.50	0.45
17:CQ:14:SER:OG	17:CQ:17:MET:CE	2.65	0.45
22:DA:54:G:C6	22:DA:55:G:N7	2.85	0.45
39:BR:50:GLY:C	39:BR:51:VAL:O	2.50	0.45
22:BA:2131:U:H5'	22:BA:2132:U:H5''	1.98	0.45
1:CA:546:A:P	4:CD:69:GLU:HB3	2.56	0.45
22:BA:2292:U:H2'	22:BA:2293:G:H8	1.79	0.45
22:BA:2189:U:H2'	22:BA:2190:G:O4'	2.16	0.45
22:DA:1358:G:N2	22:DA:1374:G:C6	2.84	0.45
22:BA:1344:U:O2'	22:BA:1345:C:P	2.74	0.45
1:CA:182:A:C8	1:CA:184:G:N7	2.85	0.45
53:B5:65:LEU:HD11	53:B5:191:ARG:HA	1.97	0.45
12:CL:64:THR:HG23	12:CL:93:VAL:HA	1.97	0.45
6:CF:38:ARG:HB3	6:CF:97:THR:HG23	1.99	0.45
24:BC:125:LYS:HG2	24:BC:128:ASN:HD22	1.80	0.45
46:BY:23:ARG:HA	46:BY:27:ASN:OD1	2.17	0.45
22:DA:579:G:C2	22:DA:1262:A:C5	3.04	0.45
22:DA:1262:A:N1	22:DA:1263:U:C2	2.84	0.45
22:BA:580:U:O3'	38:BQ:31:VAL:HG13	2.16	0.45
30:DI:57:VAL:HG23	30:DI:71:THR:N	2.32	0.45
1:CA:791:G:C5	1:CA:792:A:N7	2.85	0.45
5:CE:56:VAL:O	5:CE:60:ILE:HG23	2.17	0.45
1:CA:782:A:C8	1:CA:783:C:C5	3.05	0.45
36:BO:7:ARG:HA	36:BO:10:ARG:CZ	2.47	0.45
33:DL:29:LYS:O	33:DL:30:THR:CB	2.64	0.45
2:AB:103:ASN:O	2:AB:104:TRP:C	2.54	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:970:C:OP1	10:CJ:59:LYS:NZ	2.40	0.45
2:AB:151:ILE:O	2:AB:153:ASP:N	2.49	0.45
29:BH:40:THR:O	29:BH:42:LYS:N	2.48	0.45
1:AA:39:G:C2	1:AA:40:C:C5	3.04	0.45
4:AD:83:LYS:C	4:AD:83:LYS:HD3	2.37	0.45
9:CI:28:ILE:HG21	9:CI:35:LEU:HB2	1.98	0.45
45:DX:17:ASN:HB2	45:DX:25:THR:HB	1.97	0.45
40:BS:50:VAL:CG1	40:BS:105:VAL:HG23	2.46	0.45
22:DA:2637:U:C4	22:DA:2638:G:C6	3.05	0.45
17:CQ:29:VAL:O	17:CQ:29:VAL:HG22	2.14	0.45
28:DG:123:ALA:CB	28:DG:133:LEU:HA	2.46	0.45
21:CU:15:ALA:O	21:CU:17:ARG:N	2.49	0.45
30:DI:133:ALA:C	30:DI:138:LEU:HD12	2.37	0.45
15:CO:37:ASN:O	15:CO:40:GLN:N	2.49	0.45
16:AP:19:VAL:HG13	16:AP:37:GLY:C	2.37	0.45
22:BA:693:A:C5	22:BA:694:U:C5	3.04	0.45
2:AB:128:LYS:HG3	2:AB:129:LEU:N	2.30	0.45
16:CP:52:LEU:HD23	16:CP:53:ASP:N	2.31	0.45
22:BA:651:G:OP1	51:B3:17:THR:OG1	2.34	0.45
22:BA:2223:G:OP1	24:BC:171:TYR:OH	2.23	0.45
16:CP:4:ILE:HD11	16:CP:65:ALA:HB1	1.97	0.45
22:DA:2432:A:N1	45:DX:21:ALA:HA	2.31	0.45
1:CA:1527:U:H2'	1:CA:1528:U:C6	2.51	0.45
36:BO:35:ILE:HG21	36:BO:71:ALA:HA	1.99	0.45
21:CU:18:ARG:O	21:CU:21:ARG:N	2.49	0.45
22:BA:2538:C:H2'	22:BA:2539:C:C6	2.52	0.45
3:CC:10:ILE:HD12	14:CN:98:LYS:HG3	1.99	0.45
22:DA:734:A:C5	22:DA:735:A:C8	3.05	0.45
22:BA:868:U:C4	22:BA:869:G:N7	2.85	0.45
22:DA:2685:G:C4	22:DA:2686:G:C8	3.04	0.45
46:BY:14:LEU:HA	46:BY:17:GLU:HB3	1.97	0.45
22:DA:2409:G:C6	22:DA:2410:G:C5	3.05	0.45
1:AA:626:G:C6	1:AA:627:G:C5	3.04	0.45
29:DH:147:VAL:HG12	29:DH:148:ALA:N	2.32	0.45
22:DA:861:A:H2'	22:DA:862:G:O4'	2.17	0.45
25:DD:148:GLN:CD	25:DD:148:GLN:N	2.70	0.45
1:AA:955:U:O4'	1:AA:1227:A:N6	2.49	0.45
12:CL:110:ARG:NE	12:CL:117:TYR:CE2	2.84	0.45
22:DA:527:C:H4'	22:DA:528:A:O5'	2.17	0.45
22:DA:1304:A:C2	22:DA:1305:C:C6	3.05	0.45
1:AA:451:A:C8	1:AA:452:A:N1	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CE:80:THR:HA	5:CE:120:VAL:HG12	1.99	0.45
18:CR:59:ILE:O	18:CR:63:ARG:HD2	2.16	0.45
49:D1:17:THR:HG21	49:D1:42:VAL:HB	1.97	0.45
1:AA:1319:A:C8	1:AA:1323:G:C5	3.05	0.45
1:AA:1324:A:C5	1:AA:1325:C:C4	3.04	0.45
22:DA:2287:A:C8	22:DA:2289:G:C8	3.04	0.45
9:AI:120:LYS:HG3	9:AI:123:ARG:HB3	1.99	0.45
1:AA:429:U:H4'	1:AA:430:A:OP1	2.17	0.45
6:AF:53:LYS:O	6:AF:54:LEU:CD1	2.64	0.45
1:AA:1299:A:C2	1:AA:1301:U:C2	3.04	0.45
22:BA:2839:G:H2'	22:BA:2840:C:O5'	2.15	0.45
22:DA:1469:A:N1	22:DA:1470:A:C6	2.84	0.45
22:BA:250:G:O6	22:BA:251:A:C6	2.69	0.45
1:CA:728:A:C6	1:CA:729:A:N6	2.85	0.45
22:BA:2311:A:N7	27:BF:77:PHE:CD1	2.85	0.45
1:AA:108:G:O6	20:AT:10:ARG:HG2	2.16	0.45
2:CB:206:ALA:C	2:CB:208:ARG:N	2.70	0.45
1:AA:1118:U:C5'	9:AI:106:ARG:HG3	2.47	0.45
22:DA:2834:G:O6	22:DA:2879:A:C2'	2.64	0.45
1:AA:1152:A:H5''	10:AJ:15:HIS:CD2	2.52	0.45
22:DA:1831:G:C5	22:DA:1832:C:C4	3.05	0.45
17:CQ:45:HIS:ND1	17:CQ:70:THR:HG21	2.32	0.45
22:DA:1287:A:O4'	35:DN:103:ARG:NH1	2.50	0.45
22:DA:1328:A:H2'	22:DA:1330:C:C5	2.52	0.45
22:DA:143:C:O2	41:DT:1:MET:N	2.46	0.45
22:DA:983:A:C6	22:DA:984:A:C2	3.04	0.45
24:BC:142:HIS:O	24:BC:143:ASN:HB3	2.17	0.45
7:AG:80:VAL:O	7:AG:81:GLY:C	2.54	0.45
1:CA:403:C:O2'	1:CA:404:G:H5'	2.17	0.45
41:DT:61:LEU:CD1	41:DT:62:VAL:N	2.79	0.45
11:CK:118:HIS:O	11:CK:119:ASN:HB2	2.17	0.45
22:BA:1696:G:C6	22:BA:1697:G:C4	3.04	0.45
22:BA:877:A:N6	22:BA:899:A:N6	2.64	0.45
2:AB:71:GLY:O	2:AB:93:ASN:HA	2.17	0.45
10:CJ:84:VAL:O	10:CJ:88:MET:HB2	2.17	0.45
39:BR:14:VAL:CG1	39:BR:98:ILE:HG13	2.47	0.45
1:AA:971:G:H1'	1:AA:1365:G:O2'	2.17	0.45
1:AA:761:G:H2'	1:AA:762:U:H6	1.81	0.45
22:DA:189:G:C4	22:DA:205:G:N2	2.84	0.45
1:AA:34:C:H2'	1:AA:35:G:C8	2.51	0.45
22:BA:2648:G:H2'	22:BA:2649:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:CM:54:ASP:HA	13:CM:57:ARG:CB	2.47	0.45
6:CF:32:ALA:O	6:CF:33:GLU:C	2.55	0.45
32:BK:2:ILE:N	32:BK:33:ALA:O	2.47	0.45
22:BA:222:A:C6	22:BA:224:U:C2	3.05	0.45
26:DE:128:ALA:O	26:DE:130:LYS:N	2.50	0.45
40:DS:84:ARG:HB2	40:DS:96:ILE:HG12	1.98	0.45
27:DF:103:LEU:O	27:DF:108:VAL:HG23	2.16	0.45
45:DX:41:GLU:O	45:DX:44:LYS:HD2	2.17	0.45
1:CA:974:A:OP1	14:CN:69:ARG:NH1	2.49	0.45
27:DF:58:ALA:O	27:DF:61:SER:O	2.34	0.45
28:BG:176:LYS:O	28:BG:177:LYS:HB2	2.16	0.45
2:CB:30:PHE:CD1	2:CB:30:PHE:N	2.81	0.45
30:DI:49:ILE:O	30:DI:50:GLU:HB2	2.16	0.45
23:BB:66:A:O5'	23:BB:108:A:N6	2.49	0.45
22:BA:1944:U:C5	22:BA:1955:U:C2	3.04	0.45
22:BA:1867:G:O2'	22:BA:1868:C:H5'	2.16	0.45
23:DB:37:C:C5	23:DB:38:C:C4	3.05	0.45
22:BA:1963:U:H6	22:BA:1963:U:O5'	2.00	0.45
1:CA:872:A:C4	1:CA:874:G:C8	3.04	0.45
22:BA:616:A:C2	22:BA:617:G:H1'	2.52	0.45
29:BH:72:ILE:HG23	29:BH:142:VAL:HG22	1.99	0.45
55:DA:3001:VIR:C19	55:DA:3001:VIR:O15	2.64	0.45
22:DA:2714:G:P	57:DA:3544:HOH:O	2.71	0.45
2:AB:80:VAL:CA	2:AB:82:ASP:OD2	2.65	0.45
29:DH:83:LYS:HG3	29:DH:149:GLU:HG3	1.94	0.45
1:CA:991:U:H4'	1:CA:992:U:H5''	1.98	0.45
22:DA:1153:C:H2'	22:DA:1154:G:O4'	2.16	0.45
5:CE:104:GLY:O	5:CE:105:ILE:CB	2.65	0.45
22:DA:116:C:O2'	22:DA:126:A:O2'	2.03	0.45
1:AA:1124:G:H3'	1:AA:1145:A:N6	2.32	0.45
22:DA:2726:A:HO2'	22:DA:2727:A:C5'	2.25	0.45
22:BA:500:G:H22	22:BA:502:A:H3'	1.77	0.45
22:BA:2127:G:H5'	22:BA:2128:G:OP1	2.15	0.45
1:AA:260:G:O6	57:AA:1702:HOH:O	2.20	0.45
21:AU:41:PRO:O	21:AU:45:ARG:HD3	2.16	0.45
23:DB:40:U:N3	23:DB:44:G:OP2	2.37	0.45
22:BA:2286:G:H5'	22:BA:2287:A:O4'	2.16	0.45
22:BA:744:U:O4	22:BA:745:G:C6	2.70	0.45
1:CA:1036:A:H2'	1:CA:1036:A:N3	2.31	0.45
29:DH:31:VAL:CG1	29:DH:32:PRO:HD3	2.47	0.45
25:DD:33:ARG:HB3	25:DD:95:SER:OG	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1856:U:C4	22:BA:1857:G:C6	3.04	0.45
22:DA:563:A:C2	22:DA:2018:G:H1'	2.51	0.45
27:BF:81:GLN:HG3	27:BF:82:GLY:N	2.32	0.45
4:AD:153:SER:O	4:AD:154:ARG:C	2.55	0.45
3:AC:25:ASN:O	3:AC:26:THR:C	2.55	0.45
22:DA:1332:G:C6	22:DA:1609:A:N7	2.85	0.45
1:AA:1306:A:C5	1:AA:1307:U:C5	3.04	0.45
2:AB:104:TRP:CZ2	2:AB:154:MET:CB	3.00	0.45
22:DA:2009:A:N6	57:DA:3370:HOH:O	2.36	0.45
6:AF:63:ASN:ND2	6:AF:96:VAL:CG2	2.79	0.45
19:CS:80:TYR:O	19:CS:81:ARG:HB2	2.16	0.45
22:DA:2262:U:O2'	22:DA:2263:C:H5'	2.16	0.45
30:BI:16:GLY:HA2	30:BI:51:LYS:CG	2.46	0.45
36:DO:117:PHE:CD1	36:DO:117:PHE:C	2.90	0.45
22:DA:147:C:C4	22:DA:148:U:O4	2.69	0.45
22:DA:2734:A:N7	22:DA:2735:G:N7	2.65	0.45
1:CA:821:G:H2'	1:CA:822:U:C6	2.51	0.45
22:BA:2852:G:C6	22:BA:2853:C:N3	2.84	0.45
22:BA:863:A:O2'	22:BA:864:G:H5'	2.16	0.45
27:DF:36:LEU:HD11	27:DF:99:PHE:CZ	2.52	0.45
23:DB:42:C:C4	27:DF:88:LYS:HE3	2.52	0.45
1:CA:570:G:C6	1:CA:873:A:N1	2.85	0.45
1:AA:787:A:C5	1:AA:788:U:C5	3.03	0.45
21:CU:31:GLU:HG2	21:CU:32:VAL:N	2.32	0.45
22:BA:2360:G:C1'	33:BL:60:ARG:HD3	2.47	0.45
28:BG:127:THR:HG22	28:BG:128:GLN:H	1.81	0.45
7:AG:145:ALA:O	7:AG:146:GLU:HB3	2.16	0.45
22:DA:30:G:C5	22:DA:31:C:C4	3.05	0.45
44:DW:38:VAL:CG2	44:DW:80:ILE:CD1	2.94	0.45
6:AF:45:ARG:O	6:AF:56:LYS:HA	2.15	0.45
1:CA:743:A:C6	1:CA:744:C:C5	3.05	0.45
22:DA:1409:U:H2'	22:DA:1410:G:O4'	2.15	0.45
28:BG:8:PRO:HB3	28:BG:51:THR:HG22	1.98	0.45
22:DA:2228:G:C5	22:DA:2229:U:C5	3.04	0.45
22:DA:1486:U:C2	22:DA:1504:A:C2	3.04	0.45
22:BA:2221:G:C6	22:BA:2222:C:C4	3.05	0.45
1:AA:604:G:C6	1:AA:605:U:C4	3.05	0.45
1:CA:671:G:O2'	1:CA:672:U:H5'	2.16	0.45
29:DH:93:SER:HB3	29:DH:123:ARG:HG3	1.99	0.45
53:B5:43:GLU:HA	53:B5:178:LYS:HA	1.98	0.45
41:BT:69:ARG:HA	41:BT:74:ILE:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:828:U:O2	2:AB:25:PRO:HG2	2.17	0.45
3:AC:22:TRP:CD1	3:AC:59:ARG:HD3	2.52	0.45
22:BA:1185:G:H5'	22:BA:1186:G:P	2.56	0.45
6:CF:13:ASP:C	6:CF:15:SER:H	2.20	0.45
35:DN:90:ARG:NH2	35:DN:116:VAL:HG21	2.32	0.45
2:CB:174:LYS:HG2	2:CB:175:GLU:N	2.31	0.45
1:CA:484:G:C5	1:CA:486:U:H1'	2.51	0.45
22:DA:53:A:N3	22:DA:179:C:H4'	2.32	0.45
22:BA:503:A:H4'	22:BA:504:A:O5'	2.17	0.45
27:BF:40:VAL:CG1	27:BF:41:GLY:N	2.80	0.45
23:DB:29:A:OP2	36:DO:32:PRO:HD2	2.17	0.45
45:DX:33:LEU:O	45:DX:34:HIS:CG	2.69	0.45
22:DA:1338:G:H4'	41:DT:18:GLU:OE2	2.17	0.45
40:BS:96:ILE:HD12	40:BS:98:LYS:HG3	1.99	0.45
22:DA:1268:A:H2'	22:DA:1269:A:O4'	2.17	0.45
17:AQ:67:LEU:O	17:AQ:68:SER:CB	2.65	0.45
22:BA:1024:G:N2	22:BA:1142:A:H2	2.15	0.45
4:CD:31:LYS:CD	4:CD:31:LYS:N	2.78	0.45
22:DA:352:A:C6	22:DA:353:C:N3	2.85	0.45
42:DU:4:LYS:HG2	42:DU:85:PHE:CE2	2.51	0.45
22:DA:38:A:C6	22:DA:39:G:C5	3.05	0.45
16:AP:12:LYS:O	16:AP:13:LYS:HB2	2.17	0.45
22:DA:2716:C:H2'	22:DA:2717:C:H6	1.81	0.45
22:DA:1754:A:H4'	37:DP:99:TYR:CE2	2.52	0.45
1:AA:1481:U:H2'	1:AA:1482:G:C8	2.52	0.45
1:CA:1408:A:N1	1:CA:1494:G:C5	2.85	0.45
1:CA:1408:A:N1	1:CA:1494:G:C6	2.85	0.45
1:CA:213:G:C5	1:CA:214:C:C2	3.04	0.45
9:CI:12:ARG:O	9:CI:12:ARG:HG3	2.17	0.45
1:AA:65:A:C4	1:AA:381:C:C5	3.05	0.45
1:AA:665:A:C2	1:AA:732:C:C4	3.05	0.45
22:DA:480:A:O3'	42:DU:44:LYS:HG3	2.16	0.45
2:AB:95:ARG:HG2	2:AB:95:ARG:NH1	2.32	0.45
28:BG:150:ALA:C	28:BG:152:ARG:H	2.20	0.45
22:BA:136:G:C6	22:BA:137:U:O4	2.69	0.45
21:CU:10:GLU:CB	21:CU:11:PRO:HD3	2.47	0.45
1:CA:756:C:C4	1:CA:757:U:C5	3.05	0.45
22:DA:1248:G:C5	38:DQ:3:ARG:HB2	2.52	0.45
22:BA:1501:G:O2'	22:BA:1502:A:H5'	2.17	0.45
22:BA:2178:C:H2'	22:BA:2179:C:C5	2.52	0.45
39:DR:29:THR:HG23	39:DR:65:ALA:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2283:C:C4	22:DA:2389:G:C5	3.05	0.45
22:BA:531:C:C5	22:BA:2035:G:C2	3.05	0.45
22:BA:693:A:C6	22:BA:694:U:C4	3.05	0.45
22:BA:996:A:OP2	38:BQ:93:LYS:NZ	2.38	0.45
1:CA:143:A:H5'	1:CA:144:G:H5'	1.98	0.45
16:AP:21:VAL:HG12	16:AP:33:ILE:HD12	1.99	0.45
1:CA:743:A:C5	1:CA:744:C:C5	3.05	0.45
22:BA:1809:A:C6	22:BA:1810:A:N1	2.85	0.45
8:CH:27:MET:HB2	8:CH:28:PRO:HD2	1.99	0.45
52:D4:30:GLU:HG3	52:D4:32:LYS:HB2	1.99	0.45
32:DK:47:ILE:HB	32:DK:48:PRO:HD2	1.98	0.45
15:CO:17:ARG:O	15:CO:18:ASP:HB3	2.16	0.45
22:DA:230:G:C2	22:DA:231:A:C8	3.04	0.45
22:BA:812:C:H4'	38:BQ:13:ARG:HH22	1.81	0.45
44:DW:49:ALA:O	44:DW:50:ASN:HB2	2.17	0.45
13:CM:85:CYS:O	13:CM:89:LEU:HG	2.16	0.45
35:DN:100:CYS:CB	35:DN:112:TYR:HD1	2.30	0.45
1:CA:620:C:C6	4:CD:132:ILE:HD13	2.51	0.45
22:DA:1984:G:C6	22:DA:1985:C:C4	3.05	0.45
34:DM:78:LEU:O	34:DM:79:ALA:HB3	2.17	0.45
22:BA:2315:G:H2'	22:BA:2316:G:H8	1.80	0.45
1:AA:1128:C:H4'	1:AA:1148:U:O2	2.16	0.45
9:AI:95:ARG:HA	9:AI:98:LEU:HB2	1.98	0.45
1:CA:218:U:C4	1:CA:219:U:C5	3.04	0.45
23:BB:83:G:C6	23:BB:84:G:C5	3.05	0.45
31:BJ:58:ASN:HA	31:BJ:126:ALA:O	2.16	0.45
22:DA:2773:C:H2'	22:DA:2774:C:C6	2.51	0.45
22:DA:743:A:OP1	25:DD:135:GLY:HA2	2.17	0.45
1:AA:660:C:OP1	15:AO:5:THR:HG21	2.17	0.45
1:AA:1521:C:C2	1:AA:1522:U:C6	3.05	0.45
52:B4:26:ILE:CD1	52:B4:26:ILE:N	2.79	0.45
22:DA:1211:C:H5''	22:DA:1212:G:C8	2.51	0.45
27:DF:170:LEU:O	27:DF:175:PHE:HB3	2.17	0.45
29:BH:76:GLU:HA	29:BH:142:VAL:CG1	2.46	0.45
1:AA:858:G:O2'	1:AA:859:G:C5'	2.65	0.45
22:DA:574:A:H4'	22:DA:575:A:C5'	2.47	0.45
21:CU:34:ARG:NE	21:CU:35:ARG:HB2	2.31	0.45
22:BA:1847:A:H2'	22:BA:1848:A:N7	2.31	0.45
1:AA:455:G:N3	1:AA:478:A:C2	2.84	0.45
4:CD:202:GLU:OE1	5:CE:105:ILE:HG21	2.17	0.45
1:CA:978:A:O2'	1:CA:1322:C:H5	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:229:U:O2'	1:AA:230:G:H5'	2.17	0.45
24:DC:17:VAL:CG2	24:DC:204:VAL:HG22	2.47	0.45
22:DA:2345:G:H4'	22:DA:2346:A:O5'	2.17	0.45
22:DA:1544:A:N1	22:DA:1545:A:C2	2.84	0.45
22:BA:2187:U:H2'	22:BA:2188:U:C1'	2.47	0.45
1:AA:409:U:H2'	1:AA:410:G:C8	2.52	0.45
1:CA:1004:A:N6	1:CA:1005:A:C6	2.85	0.45
31:BJ:80:HIS:O	31:BJ:81:ILE:C	2.55	0.45
22:BA:1071:G:P	22:BA:1071:G:H8	2.40	0.45
22:DA:2264:C:O2	22:DA:2277:G:N2	2.49	0.45
1:CA:938:A:C2	1:CA:1345:U:O4	2.70	0.45
1:AA:1118:U:O4'	1:AA:1179:A:H1'	2.16	0.45
22:DA:2834:G:O6	22:DA:2879:A:H2'	2.17	0.45
1:AA:973:G:H1'	10:AJ:56:HIS:HD2	1.82	0.45
17:CQ:47:HIS:N	17:CQ:73:TRP:O	2.47	0.45
2:AB:33:GLY:HA3	2:AB:40:ILE:N	2.32	0.45
1:AA:555:U:H2'	1:AA:556:C:C6	2.52	0.45
4:AD:107:PHE:CD1	4:AD:145:ILE:HD11	2.52	0.45
1:CA:1225:A:C2'	1:CA:1225:A:N3	2.80	0.45
1:AA:532:A:OP2	1:AA:532:A:O4'	2.35	0.45
1:AA:1306:A:C2	1:AA:1307:U:H1'	2.51	0.45
32:DK:63:VAL:HB	32:DK:103:VAL:HG12	1.99	0.45
22:BA:1735:A:C2	22:BA:1736:U:H1'	2.52	0.45
1:CA:1133:G:N3	1:CA:1133:G:H2'	2.32	0.45
22:DA:696:G:O2'	22:DA:697:G:H5'	2.16	0.45
1:CA:109:A:N1	1:CA:327:A:C6	2.85	0.45
32:DK:91:SER:O	32:DK:92:GLU:O	2.35	0.45
22:BA:2694:G:C5	22:BA:2695:U:C4	3.05	0.45
2:AB:144:LEU:HD23	2:AB:144:LEU:N	2.32	0.45
1:AA:19:A:C2	1:AA:917:G:C2	3.05	0.45
22:BA:536:G:O6	22:BA:537:G:C2	2.69	0.45
8:CH:86:TYR:CD2	8:CH:124:GLU:HB2	2.52	0.45
29:BH:12:LEU:HG	29:BH:13:GLY:N	2.31	0.45
46:DY:36:GLN:O	46:DY:37:LEU:C	2.56	0.45
1:AA:1370:G:O5'	9:AI:111:VAL:HG21	2.16	0.45
34:BM:6:ARG:O	34:BM:7:THR:CG2	2.65	0.45
22:DA:2468:A:C2	22:DA:2481:G:C2	3.05	0.45
1:CA:282:A:N7	1:CA:283:U:C5	2.85	0.45
1:AA:772:U:H2'	1:AA:773:G:O5'	2.17	0.45
26:BE:79:ARG:O	26:BE:80:SER:HB2	2.17	0.45
22:BA:1041:G:C6	22:BA:1115:G:O6	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1363:C:H2'	22:BA:1364:G:C8	2.52	0.45
43:BV:89:ILE:CG2	43:BV:90:ASP:N	2.80	0.45
22:DA:2651:C:O2'	22:DA:2652:C:H5'	2.17	0.45
3:AC:154:SER:O	3:AC:196:ILE:HG23	2.16	0.45
22:DA:2531:A:H5''	28:DG:157:TYR:CZ	2.52	0.45
1:AA:1446:A:N6	1:AA:1447:A:N6	2.65	0.45
24:BC:37:ASN:O	24:BC:38:SER:CB	2.64	0.45
22:BA:2714:G:O2'	22:BA:2715:C:H5'	2.17	0.45
31:BJ:96:ARG:HD3	31:BJ:99:ARG:HG2	1.99	0.45
1:AA:1042:A:H2'	1:AA:1043:G:C1'	2.47	0.45
20:CT:73:ALA:O	20:CT:77:ALA:HB2	2.17	0.45
35:DN:37:THR:OG1	35:DN:40:LYS:HB2	2.17	0.45
9:CI:21:ILE:HG12	9:CI:62:ASP:O	2.16	0.45
20:AT:28:MET:O	20:AT:32:ILE:HG13	2.17	0.45
24:DC:125:LYS:HB2	24:DC:126:PRO:HD2	1.98	0.45
19:CS:16:LEU:O	19:CS:20:GLU:HG2	2.17	0.45
13:AM:20:THR:HA	13:AM:25:VAL:HG23	1.99	0.45
1:AA:581:G:C5	1:AA:758:C:C5	3.05	0.45
27:DF:3:LYS:HD3	27:DF:101:GLU:CD	2.37	0.45
47:DZ:41:THR:HG23	47:DZ:44:ILE:HG12	1.99	0.45
24:BC:46:ASN:O	24:BC:48:ARG:HG2	2.16	0.45
29:DH:86:ASP:C	29:DH:88:GLY:H	2.19	0.45
33:BL:9:ALA:HB3	33:BL:12:SER:OG	2.17	0.45
27:DF:135:GLN:OE1	27:DF:135:GLN:N	2.48	0.45
26:BE:5:LEU:O	26:BE:6:LYS:HB3	2.17	0.45
1:AA:622:A:C8	1:AA:623:C:C6	3.04	0.45
10:AJ:25:ILE:HG22	10:AJ:26:VAL:N	2.31	0.45
22:BA:80:G:O5'	22:BA:346:A:H1'	2.17	0.45
22:DA:1342:A:C6	22:DA:1397:U:C5	3.05	0.45
22:DA:1651:G:C2	22:DA:2007:U:C2	3.04	0.45
35:DN:38:LEU:HB3	35:DN:39:PRO:HD3	1.98	0.45
25:BD:13:ARG:HA	25:BD:22:ILE:O	2.17	0.45
1:CA:1096:C:C2	1:CA:1097:C:C5	3.05	0.45
1:AA:1145:A:O2'	1:AA:1146:A:H5''	2.15	0.45
22:DA:2208:C:O2	22:DA:2217:G:C2	2.70	0.45
1:CA:73:C:HO2'	1:CA:74:A:P	2.40	0.45
1:CA:33:A:H2'	1:CA:34:C:H6	1.81	0.45
45:DX:10:LYS:HE3	45:DX:54:LYS:HD2	1.99	0.45
1:AA:1299:A:C5	1:AA:1301:U:O2	2.70	0.45
27:BF:158:THR:HG22	27:BF:160:ALA:HB3	1.99	0.45
22:BA:1855:U:C5	22:BA:1856:U:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:7:A:N6	5:AE:97:GLN:OE1	2.50	0.45
22:BA:2345:G:H4'	22:BA:2346:A:O5'	2.17	0.45
24:BC:227:PRO:CA	24:BC:233:GLY:HA2	2.45	0.45
1:CA:1255:G:N1	1:CA:1279:G:C8	2.85	0.45
4:AD:151:LYS:HB2	4:AD:156:LYS:HE3	1.99	0.45
1:AA:47:C:O2	1:AA:49:U:C4	2.69	0.45
20:AT:58:VAL:HG12	20:AT:72:ALA:CB	2.47	0.45
22:DA:78:U:H2'	22:DA:79:C:O4'	2.17	0.45
1:CA:228:A:H4'	16:CP:63:GLN:HG2	1.98	0.45
2:AB:68:LEU:CD2	2:AB:92:VAL:HG23	2.46	0.45
5:CE:157:ARG:C	5:CE:159:LYS:H	2.19	0.45
7:AG:127:ALA:O	7:AG:128:ALA:C	2.55	0.45
1:AA:975:A:H8	1:AA:1357:A:HO2'	1.61	0.45
9:AI:85:ARG:O	9:AI:88:MET:CB	2.65	0.45
2:AB:200:ILE:O	2:AB:201:PRO:O	2.35	0.45
46:DY:28:LEU:CD2	46:DY:37:LEU:HD11	2.46	0.45
1:CA:1052:U:H5''	1:CA:1053:G:OP2	2.16	0.45
22:DA:195:A:C5	22:DA:198:C:C5	3.05	0.45
7:CG:11:LYS:CD	7:CG:11:LYS:N	2.80	0.45
22:BA:1174:U:O2	22:BA:1174:U:O4'	2.35	0.45
27:BF:63:GLN:NE2	27:BF:90:THR:O	2.50	0.45
24:DC:240:PHE:CE1	24:DC:242:LYS:O	2.69	0.45
22:DA:1432:G:H2'	22:DA:1433:A:C8	2.52	0.45
1:AA:695:A:C6	1:AA:696:A:N1	2.85	0.45
22:BA:1431:A:H2'	22:BA:1432:G:C8	2.52	0.45
25:BD:85:ALA:HB3	25:BD:88:GLU:HG3	1.99	0.45
26:BE:48:THR:HG22	26:BE:86:ALA:HB3	1.98	0.45
1:CA:708:C:O2'	1:CA:709:U:H5'	2.17	0.45
1:CA:542:G:C2	1:CA:543:U:C5	3.04	0.45
25:DD:186:LEU:HD21	37:DP:4:ILE:CG2	2.47	0.45
22:BA:1930:G:N2	22:BA:1968:G:H2'	2.32	0.45
34:BM:17:ASN:O	34:BM:38:ARG:HD3	2.17	0.45
27:DF:60:ILE:HG23	27:DF:138:PHE:CE2	2.52	0.45
27:DF:38:MET:HG3	27:DF:152:LEU:HB3	1.99	0.45
42:BU:6:ARG:O	42:BU:9:ASP:HB2	2.17	0.45
26:BE:199:MET:HE2	26:BE:199:MET:HB3	1.91	0.45
29:DH:15:LEU:N	29:DH:15:LEU:HD22	2.32	0.45
34:DM:97:GLN:OE1	34:DM:97:GLN:N	2.50	0.45
22:DA:1644:C:H2'	22:DA:1644:C:O2	2.17	0.45
12:CL:108:LYS:O	12:CL:109:ASP:HB2	2.17	0.45
24:BC:209:GLY:O	24:BC:210:ALA:C	2.55	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2504:U:C4	55:DA:3001:VIR:C16	2.99	0.44
55:DA:3001:VIR:HC42	55:DA:3001:VIR:N9	2.32	0.44
1:AA:960:U:O2'	1:AA:1223:C:C5'	2.64	0.44
13:AM:16:VAL:HG13	13:AM:41:GLU:CB	2.47	0.44
3:CC:130:PHE:CD1	3:CC:157:LEU:HD23	2.52	0.44
1:AA:1144:G:H5''	1:AA:1145:A:OP2	2.17	0.44
22:DA:1667:G:N2	22:DA:1992:G:OP2	2.43	0.44
38:BQ:89:GLU:H	39:BR:49:ILE:HD12	1.82	0.44
21:AU:40:LYS:N	21:AU:41:PRO:CD	2.77	0.44
22:DA:1566:A:C6	24:DC:213:TRP:CE3	3.05	0.44
46:DY:45:GLN:O	46:DY:48:ARG:N	2.50	0.44
5:CE:150:PRO:O	5:CE:153:VAL:HG22	2.18	0.44
5:CE:82:GLN:OE1	5:CE:149:SER:HA	2.17	0.44
35:DN:69:ARG:O	35:DN:70:THR:HG23	2.17	0.44
22:DA:563:A:C2	22:DA:2018:G:N3	2.85	0.44
2:CB:68:LEU:HD23	2:CB:91:PHE:HA	1.99	0.44
17:CQ:52:GLU:CG	17:CQ:75:LEU:HD21	2.48	0.44
22:DA:1717:A:H2'	22:DA:1718:G:O4'	2.17	0.44
30:DI:22:PRO:HB2	30:DI:23:PRO:HD3	1.99	0.44
22:DA:2164:C:H2'	22:DA:2165:C:H6	1.79	0.44
7:CG:92:ARG:HB3	7:CG:93:PRO:HD2	1.99	0.44
22:BA:983:A:C6	22:BA:984:A:C2	3.05	0.44
33:DL:56:PRO:HD2	33:DL:59:ARG:HB2	1.99	0.44
41:DT:12:ARG:O	41:DT:13:ALA:CB	2.64	0.44
1:AA:736:C:H2'	1:AA:737:C:H6	1.81	0.44
1:AA:737:C:C2	1:AA:738:C:C5	3.04	0.44
22:DA:1648:U:H2'	22:DA:1649:G:O4'	2.17	0.44
36:BO:3:LYS:O	36:BO:6:ALA:HB3	2.17	0.44
41:BT:51:PHE:O	41:BT:53:VAL:HG13	2.17	0.44
35:DN:117:ASP:O	35:DN:118:ARG:CG	2.65	0.44
22:BA:2266:A:H4'	22:BA:2267:A:O5'	2.17	0.44
1:AA:559:A:H4'	1:AA:560:A:O5'	2.17	0.44
16:AP:67:ILE:CG2	16:AP:71:VAL:HG12	2.47	0.44
26:DE:24:ASN:O	26:DE:28:VAL:HG23	2.17	0.44
7:AG:68:ASN:OD1	7:AG:130:ASN:HB3	2.18	0.44
1:CA:1416:G:C2	1:CA:1485:U:O2	2.70	0.44
13:CM:64:VAL:HG13	13:CM:68:ASP:OD2	2.17	0.44
21:CU:12:PHE:CD1	21:CU:13:ASP:N	2.85	0.44
46:DY:28:LEU:HD12	46:DY:46:VAL:HG21	1.98	0.44
29:DH:5:LEU:CD1	29:DH:13:GLY:CA	2.95	0.44
22:BA:360:U:C4	22:BA:361:G:O6	2.70	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CC:141:ALA:O	3:CC:146:ALA:HB3	2.16	0.44
3:AC:149:ILE:HG13	3:AC:201:TRP:O	2.18	0.44
7:AG:146:GLU:O	7:AG:149:LYS:HB3	2.17	0.44
24:BC:36:LYS:O	24:BC:37:ASN:HB2	2.17	0.44
33:DL:2:ARG:HB3	33:DL:5:THR:OG1	2.17	0.44
22:DA:228:C:H4'	22:DA:229:C:C5'	2.47	0.44
28:BG:69:ARG:HD3	28:BG:69:ARG:C	2.38	0.44
2:CB:200:ILE:HG22	2:CB:200:ILE:O	2.17	0.44
22:BA:2064:C:H2'	22:BA:2065:C:C6	2.52	0.44
47:BZ:8:THR:HG23	47:BZ:34:HIS:O	2.17	0.44
1:AA:1089:G:C2'	1:AA:1090:U:H5'	2.48	0.44
8:AH:111:MET:SD	8:AH:116:ALA:HA	2.56	0.44
1:AA:563:A:C8	1:AA:567:G:O4'	2.70	0.44
25:DD:142:VAL:HB	25:DD:143:PRO:CD	2.46	0.44
22:BA:1799:G:O6	24:BC:178:SER:HB3	2.17	0.44
22:BA:2595:G:C6	22:BA:2599:G:O6	2.70	0.44
27:BF:142:ASP:OD2	27:BF:145:LYS:HG2	2.17	0.44
22:BA:389:G:C8	22:BA:2413:G:H4'	2.52	0.44
2:CB:24:ASN:O	2:CB:26:LYS:N	2.51	0.44
28:DG:98:VAL:HG22	28:DG:125:CYS:SG	2.57	0.44
34:BM:105:MET:CG	34:BM:106:ASP:N	2.80	0.44
38:DQ:8:VAL:HG12	38:DQ:9:ILE:N	2.33	0.44
45:BX:11:ARG:HB2	45:BX:12:PRO:HD2	1.98	0.44
1:AA:1147:C:O2	9:AI:18:ARG:NH1	2.50	0.44
22:BA:1310:G:N7	22:BA:1311:G:C5	2.85	0.44
43:DV:35:GLU:CD	43:DV:35:GLU:N	2.70	0.44
24:BC:24:LEU:HD12	24:BC:24:LEU:HA	1.74	0.44
1:AA:614:C:H2'	1:AA:615:G:O4'	2.18	0.44
11:CK:71:ALA:O	11:CK:75:LYS:HG3	2.16	0.44
34:DM:33:LEU:HB2	34:DM:117:PHE:CD2	2.52	0.44
27:DF:18:THR:O	27:DF:19:GLU:HG3	2.17	0.44
3:CC:111:LEU:HD21	3:CC:144:LEU:HB2	1.99	0.44
29:BH:100:ALA:HB2	29:BH:115:VAL:HG21	1.98	0.44
29:DH:1:MET:CE	29:DH:27:ARG:NH1	2.80	0.44
22:DA:655:A:H4'	22:DA:656:G:H5'	2.00	0.44
22:DA:70:G:HO2'	22:DA:71:A:P	2.40	0.44
1:AA:979:C:C6	1:AA:1318:A:N1	2.85	0.44
12:CL:58:THR:HG23	12:CL:59:ASN:N	2.32	0.44
11:CK:127:ARG:N	21:CU:34:ARG:NH2	2.65	0.44
22:DA:1355:G:C6	22:DA:1377:G:C2	3.05	0.44
1:CA:517:G:C5'	1:CA:519:C:C2	2.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1024:G:H2'	1:AA:1025:U:O5'	2.17	0.44
22:DA:1343:G:C5	22:DA:1344:U:O4	2.70	0.44
1:AA:1319:A:C5	1:AA:1323:G:C4	3.05	0.44
1:CA:1302:C:C4	13:CM:17:ILE:HD13	2.52	0.44
22:BA:2190:G:OP2	22:BA:2190:G:H8	2.00	0.44
1:CA:33:A:H2'	1:CA:34:C:C6	2.52	0.44
31:BJ:64:VAL:CG1	31:BJ:68:LYS:HB2	2.47	0.44
1:AA:207:C:H2'	1:AA:208:U:C2	2.52	0.44
22:DA:1779:U:C5	22:DA:1784:A:N7	2.82	0.44
1:AA:946:A:H2'	1:AA:947:G:C8	2.52	0.44
33:BL:91:ASP:HB3	33:BL:94:THR:HB	1.99	0.44
22:BA:2310:C:H2'	22:BA:2311:A:C5'	2.46	0.44
1:AA:1157:A:C6	1:AA:1180:A:C5	3.06	0.44
9:CI:57:MET:O	9:CI:59:GLU:N	2.51	0.44
22:BA:1429:G:H2'	22:BA:1430:G:H8	1.82	0.44
42:DU:71:ALA:HB1	42:DU:81:ASP:O	2.18	0.44
1:CA:1158:C:N3	1:CA:1160:G:C8	2.85	0.44
2:CB:20:THR:O	2:CB:21:ARG:CZ	2.65	0.44
1:AA:105:G:N2	1:AA:379:C:O3'	2.51	0.44
46:DY:56:LEU:O	46:DY:57:LEU:HB2	2.15	0.44
22:DA:2868:A:C6	22:DA:2869:G:C5	3.04	0.44
22:DA:846:U:O2'	22:DA:847:U:C5'	2.66	0.44
22:BA:1878:G:H2'	22:BA:1879:C:O4'	2.17	0.44
36:BO:109:ALA:O	36:BO:110:ALA:C	2.55	0.44
1:AA:1307:U:N3	1:AA:1308:U:C5	2.85	0.44
1:AA:735:C:H2'	1:AA:736:C:C6	2.52	0.44
22:DA:79:C:O2'	22:DA:346:A:N3	2.34	0.44
22:BA:1467:U:C4	22:BA:1546:G:N2	2.85	0.44
24:BC:86:ASN:N	24:BC:86:ASN:ND2	2.65	0.44
51:D3:31:HIS:CE1	51:D3:32:ILE:CD1	3.00	0.44
5:CE:156:LYS:CD	8:CH:71:VAL:HG13	2.47	0.44
1:CA:435:A:C2'	1:CA:436:C:O5'	2.66	0.44
19:AS:44:MET:HE1	19:AS:49:ILE:HD13	1.99	0.44
22:DA:482:A:N6	22:DA:506:G:O2'	2.51	0.44
22:DA:1678:A:C5	22:DA:1679:A:C8	3.05	0.44
22:DA:2847:U:C2'	22:DA:2848:G:H5'	2.46	0.44
19:CS:36:ARG:NH2	19:CS:75:ALA:O	2.50	0.44
1:CA:582:C:N3	1:CA:760:G:C6	2.85	0.44
22:DA:2234:G:C6	22:DA:2235:G:N7	2.86	0.44
22:DA:2186:G:C6	22:DA:2187:U:C4	3.04	0.44
22:BA:1377:G:OP2	57:BA:3398:HOH:O	2.21	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1108:U:H2'	22:BA:1109:C:O4'	2.17	0.44
1:CA:237:G:C4	1:CA:238:A:C8	3.05	0.44
20:CT:62:ALA:HA	20:CT:67:ILE:HG22	1.99	0.44
1:CA:376:G:H5'	16:CP:5:ARG:HB2	1.99	0.44
1:AA:551:U:C2'	1:AA:552:U:O5'	2.65	0.44
2:AB:133:GLU:HG3	2:AB:137:ARG:HG3	1.99	0.44
22:BA:1288:G:C4	22:BA:1327:A:C2	3.04	0.44
22:DA:2547:A:C8	22:DA:2566:A:C8	3.05	0.44
30:DI:80:LEU:HD13	30:DI:136:MET:SD	2.58	0.44
22:DA:2283:C:C4	22:DA:2389:G:C4	3.06	0.44
32:DK:12:ASP:OD2	32:DK:85:VAL:HG13	2.18	0.44
22:DA:906:U:H2'	22:DA:907:G:O5'	2.16	0.44
43:DV:63:ILE:HG13	43:DV:72:VAL:HG22	1.99	0.44
22:DA:963:U:H2'	22:DA:964:C:C6	2.52	0.44
22:BA:1820:U:H4'	22:BA:1821:A:OP2	2.17	0.44
47:DZ:6:LYS:HE2	47:DZ:58:GLU:OE2	2.16	0.44
22:DA:2305:U:C4	27:DF:152:LEU:HA	2.53	0.44
22:DA:128:C:H2'	22:DA:129:C:C6	2.52	0.44
33:DL:114:GLY:O	33:DL:115:GLU:C	2.56	0.44
1:AA:1069:C:H4'	1:AA:1192:C:O2	2.17	0.44
10:AJ:48:ARG:CD	14:AN:101:TRP:CZ3	3.00	0.44
29:BH:57:LYS:CG	29:BH:58:LEU:N	2.81	0.44
53:B5:131:ILE:HA	53:B5:135:ARG:CB	2.47	0.44
22:BA:2228:G:H2'	22:BA:2229:U:C6	2.52	0.44
22:DA:1083:U:O2	22:DA:1086:A:N1	2.50	0.44
22:DA:815:C:H2'	22:DA:816:C:C6	2.53	0.44
22:DA:1275:A:O4'	35:DN:16:HIS:CE1	2.70	0.44
24:DC:252:THR:HG22	24:DC:253:LYS:N	2.32	0.44
3:AC:68:ILE:HD11	3:AC:101:ILE:HD11	1.99	0.44
40:BS:73:LYS:HB2	40:BS:106:VAL:HB	1.99	0.44
5:CE:81:LEU:N	5:CE:81:LEU:CD1	2.80	0.44
22:BA:740:C:O2	22:BA:740:C:H2'	2.17	0.44
11:CK:45:ALA:HB3	11:CK:70:CYS:HB2	2.00	0.44
5:AE:79:GLY:O	5:AE:121:HIS:N	2.45	0.44
29:DH:25:TYR:O	29:DH:29:PHE:HB3	2.18	0.44
1:AA:860:A:C5'	1:AA:861:G:OP2	2.66	0.44
1:AA:872:A:C8	1:AA:874:G:C8	3.05	0.44
22:BA:1171:G:N2	22:BA:1178:C:O2	2.48	0.44
6:AF:93:LYS:O	6:AF:94:HIS:HB2	2.18	0.44
1:CA:1072:G:C6	1:CA:1073:U:O4	2.70	0.44
22:BA:1070:A:C2'	22:BA:1097:U:OP1	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AU:25:LYS:C	21:AU:27:GLY:H	2.20	0.44
22:DA:2127:G:N3	22:DA:2162:G:N7	2.65	0.44
22:DA:126:A:OP2	50:D2:19:ARG:HG3	2.17	0.44
22:DA:117:G:N1	22:DA:119:A:N6	2.65	0.44
22:DA:1464:G:N1	22:DA:1465:G:C5	2.85	0.44
9:CI:129:LYS:O	9:CI:130:ARG:CD	2.65	0.44
22:BA:1266:G:O2'	22:BA:2012:G:O6	2.27	0.44
22:DA:1364:G:N7	45:DX:2:SER:N	2.66	0.44
16:AP:46:LYS:CD	16:AP:47:GLU:H	2.30	0.44
4:AD:167:LYS:O	4:AD:168:PRO:O	2.35	0.44
1:AA:209:U:C4'	1:AA:210:C:OP2	2.65	0.44
22:BA:250:G:H2'	22:BA:251:A:C8	2.53	0.44
33:DL:81:ASP:HA	33:DL:84:LYS:NZ	2.32	0.44
22:BA:831:G:C6	22:BA:832:U:C4	3.05	0.44
27:BF:175:PHE:HD2	27:BF:177:PHE:CE2	2.35	0.44
4:CD:173:VAL:O	4:CD:174:ASP:CB	2.65	0.44
22:BA:2553:G:H5''	22:BA:2554:U:OP2	2.17	0.44
22:DA:1036:G:C6	22:DA:1120:G:C5	3.05	0.44
22:DA:1121:C:N3	22:DA:1122:G:C8	2.86	0.44
22:DA:2814:A:C6	22:DA:2815:C:C4	3.05	0.44
33:DL:76:GLU:O	33:DL:76:GLU:HG3	2.16	0.44
1:AA:557:G:C5	1:AA:558:G:C6	3.05	0.44
22:DA:2250:G:C8	22:DA:2250:G:O5'	2.70	0.44
29:DH:37:VAL:HG22	29:DH:38:PRO:HD2	1.98	0.44
23:DB:42:C:C6	27:DF:66:LEU:HD22	2.52	0.44
49:B1:35:GLU:CG	49:B1:50:LYS:HG3	2.48	0.44
22:DA:2326:C:C1'	22:DA:2327:A:OP1	2.66	0.44
40:DS:4:ILE:HG12	40:DS:106:VAL:HG22	1.99	0.44
3:AC:89:LYS:HG2	3:AC:90:VAL:N	2.32	0.44
2:AB:210:VAL:O	2:AB:212:LEU:N	2.50	0.44
36:DO:67:ASN:OD1	36:DO:69:ASP:N	2.49	0.44
35:BN:32:GLU:OE1	35:BN:118:ARG:HA	2.17	0.44
33:BL:100:ILE:O	33:BL:100:ILE:HD12	2.17	0.44
22:DA:662:G:O3'	33:DL:16:GLY:HA2	2.18	0.44
32:DK:121:GLU:O	32:DK:122:VAL:C	2.56	0.44
37:DP:28:VAL:HG12	37:DP:30:VAL:HG23	2.00	0.44
47:DZ:24:LEU:HD11	47:DZ:54:MET:CE	2.47	0.44
53:B5:21:TYR:O	53:B5:22:THR:HG23	2.17	0.44
1:CA:754:C:OP1	15:CO:72:ARG:NH2	2.50	0.44
11:CK:63:ALA:O	11:CK:66:ALA:N	2.50	0.44
22:BA:603:A:C8	22:BA:655:A:C6	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1110:A:N6	1:AA:1111:A:C6	2.85	0.44
22:BA:756:A:H2'	22:BA:757:G:O4'	2.17	0.44
8:CH:112:THR:HG23	8:CH:115:ALA:HB2	1.99	0.44
9:AI:99:ARG:HA	9:AI:104:VAL:HG22	1.99	0.44
22:DA:1473:G:C2	22:DA:1519:G:N3	2.85	0.44
11:CK:77:TYR:N	11:CK:77:TYR:CD1	2.85	0.44
26:DE:196:VAL:O	26:DE:196:VAL:HG12	2.17	0.44
2:CB:187:VAL:CG2	2:CB:187:VAL:O	2.66	0.44
1:AA:1419:G:C5	1:AA:1420:U:C5	3.06	0.44
15:AO:57:LEU:O	15:AO:60:VAL:N	2.50	0.44
22:DA:2198:A:N3	29:DH:29:PHE:HB2	2.32	0.44
1:AA:1517:G:H1'	22:BA:1919:A:O3'	2.16	0.44
1:AA:685:G:C2	1:AA:686:U:C4	3.06	0.44
1:AA:683:G:N2	11:AK:40:ASN:HA	2.33	0.44
22:DA:2111:U:O2	22:DA:2111:U:O4'	2.35	0.44
22:DA:2148:G:C2	22:DA:2149:U:C4	3.05	0.44
21:AU:25:LYS:C	21:AU:27:GLY:N	2.69	0.44
4:CD:74:ASN:HA	4:CD:77:LYS:HB2	1.98	0.44
22:DA:2729:G:H2'	22:DA:2730:C:O4'	2.18	0.44
38:BQ:89:GLU:H	39:BR:49:ILE:HD11	1.83	0.44
39:BR:25:LEU:N	39:BR:94:THR:HG23	2.32	0.44
22:BA:2131:U:OP1	22:BA:2132:U:H3'	2.17	0.44
1:CA:1362:A:H4'	1:CA:1362:A:OP1	2.17	0.44
1:AA:257:G:N2	1:AA:258:G:C4	2.86	0.44
22:BA:513:A:O2'	22:BA:514:A:H5'	2.18	0.44
22:DA:2208:C:O2	22:DA:2217:G:N2	2.50	0.44
22:DA:188:G:C2	22:DA:209:C:N3	2.86	0.44
1:CA:1376:U:O2	1:CA:1377:A:C5	2.71	0.44
1:CA:939:G:P	7:CG:95:ARG:NH2	2.91	0.44
4:CD:26:ARG:CD	4:CD:31:LYS:HE3	2.48	0.44
1:AA:61:G:OP2	20:AT:5:LYS:HE3	2.17	0.44
49:B1:4:GLY:O	49:B1:5:ILE:HB	2.17	0.44
42:DU:96:PHE:CZ	42:DU:103:ILE:HG12	2.53	0.44
35:BN:71:ARG:HH21	35:BN:71:ARG:CG	2.30	0.44
14:AN:51:LEU:HB3	14:AN:52:PRO:HD2	1.99	0.44
1:AA:1268:G:C6	1:AA:1269:A:N6	2.86	0.44
22:BA:340:A:H2'	22:BA:341:C:C5'	2.48	0.44
22:DA:39:G:C5	22:DA:40:U:C5	3.05	0.44
22:BA:142:A:O2'	22:BA:143:C:H5'	2.17	0.44
1:CA:463:U:H3'	1:CA:464:U:C6	2.52	0.44
1:CA:206:C:H2'	1:CA:207:C:C4'	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2074:U:C2	22:DA:2436:G:C2	3.05	0.44
10:CJ:52:LEU:HD22	10:CJ:59:LYS:HA	1.98	0.44
22:DA:477:A:H2'	22:DA:478:A:O5'	2.18	0.44
22:DA:480:A:N3	22:DA:480:A:H2'	2.32	0.44
6:AF:98:GLU:HG2	6:AF:99:ALA:N	2.32	0.44
29:BH:31:VAL:N	29:BH:32:PRO:CD	2.80	0.44
27:BF:31:VAL:CG2	27:BF:31:VAL:O	2.65	0.44
30:BI:47:ASP:HA	30:BI:51:LYS:HD2	2.00	0.44
22:BA:417:C:H2'	22:BA:418:C:C6	2.51	0.44
22:DA:206:U:C2	22:DA:207:A:C8	3.06	0.44
1:CA:1410:A:H2'	1:CA:1411:C:C6	2.52	0.44
22:DA:2665:A:N3	22:DA:2665:A:H2'	2.32	0.44
22:BA:2793:C:H2'	22:BA:2794:C:H6	1.83	0.44
18:AR:28:THR:O	18:AR:31:ASN:OD1	2.36	0.44
9:AI:80:ARG:HD2	9:AI:80:ARG:O	2.18	0.44
22:DA:443:A:C8	26:DE:40:ARG:HD3	2.53	0.44
22:DA:1668:A:O2'	22:DA:1674:G:N7	2.38	0.44
32:BK:35:VAL:HG12	32:BK:36:GLY:N	2.33	0.44
22:DA:1462:C:N3	22:DA:1463:C:C5	2.85	0.44
1:AA:592:G:C6	1:AA:648:A:C6	3.04	0.44
24:BC:19:VAL:O	24:BC:19:VAL:HG12	2.16	0.44
22:BA:1128:G:O4'	22:BA:2516:A:O2'	2.35	0.44
36:BO:24:THR:HG22	36:BO:42:PRO:HG3	1.99	0.44
1:CA:510:A:H5''	1:CA:511:C:P	2.57	0.44
24:DC:51:THR:O	24:DC:54:ILE:HG13	2.17	0.44
22:DA:129:C:H2'	22:DA:130:C:C6	2.52	0.44
1:AA:186:C:H2'	1:AA:187:G:O4'	2.17	0.44
25:BD:186:LEU:HD11	37:BP:8:LEU:HD11	1.99	0.44
25:DD:110:THR:HG22	25:DD:111:GLY:N	2.33	0.44
40:BS:19:LEU:HB3	48:B0:22:LEU:HD11	1.99	0.44
22:DA:2364:C:OP1	44:DW:55:ARG:HD3	2.18	0.44
1:AA:44:A:C2	1:AA:399:G:C2	3.05	0.44
22:BA:2233:U:H2'	22:BA:2234:G:C8	2.53	0.44
22:BA:666:A:H4'	33:BL:48:ARG:HD3	1.99	0.44
19:CS:50:ALA:HB1	19:CS:57:HIS:HB3	1.98	0.44
26:BE:32:VAL:HG23	26:BE:33:VAL:N	2.33	0.44
53:B5:73:VAL:CG2	53:B5:162:ILE:CB	2.95	0.44
33:DL:20:GLY:HA2	33:DL:28:GLY:HA2	1.98	0.44
29:BH:62:LEU:O	29:BH:62:LEU:HD12	2.17	0.44
1:CA:1286:U:O2	1:CA:1286:U:H2'	2.18	0.44
27:DF:85:ILE:HG13	27:DF:85:ILE:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:BC:84:ASP:OD2	24:BC:87:ARG:NE	2.45	0.44
1:AA:425:G:O2'	1:AA:426:U:H5'	2.17	0.44
36:BO:52:SER:O	36:BO:55:GLU:HG2	2.16	0.44
29:BH:89:LYS:HD3	1:CA:359:G:OP1	2.17	0.44
22:DA:2549:G:C2	22:DA:2560:A:C2	3.06	0.44
38:DQ:61:TRP:CD2	38:DQ:93:LYS:HA	2.53	0.44
22:DA:2111:U:C4	22:DA:2147:A:C2	3.05	0.44
22:BA:503:A:C6	22:BA:505:A:C6	3.06	0.44
22:DA:2842:G:C6	22:DA:2876:G:N1	2.85	0.44
14:CN:54:ASP:OD1	14:CN:59:ARG:NH1	2.51	0.44
1:AA:257:G:C2	1:AA:258:G:C5	3.05	0.44
22:DA:188:G:O2'	22:DA:1365:A:N6	2.50	0.44
22:DA:1373:A:H2'	22:DA:1374:G:O4'	2.18	0.44
22:DA:973:A:H5''	39:DR:81:LYS:HG3	1.99	0.44
22:BA:1922:G:N1	22:BA:1923:U:C6	2.85	0.44
45:DX:54:LYS:HA	45:DX:57:ARG:HB2	1.99	0.44
39:DR:51:VAL:O	39:DR:52:PRO:C	2.53	0.44
17:AQ:13:VAL:CG1	17:AQ:14:SER:N	2.80	0.44
22:DA:2747:G:O2'	28:DG:67:THR:HG22	2.17	0.44
1:CA:429:U:H3'	4:CD:9:LEU:HD23	1.99	0.44
22:DA:1097:U:C2'	30:DI:9:VAL:HG11	2.47	0.44
25:BD:133:THR:CG2	25:BD:134:HIS:N	2.80	0.44
22:BA:1413:A:O2'	22:BA:1414:C:H5'	2.18	0.44
22:DA:777:G:N2	22:DA:778:G:N9	2.66	0.44
22:DA:777:G:N7	22:DA:793:A:C2	2.83	0.44
30:DI:20:PRO:HG2	30:DI:24:VAL:CG2	2.47	0.44
1:CA:604:G:C5	1:CA:605:U:C4	3.06	0.44
22:DA:1169:A:N1	22:DA:1180:U:O4	2.50	0.44
22:BA:142:A:H2'	22:BA:143:C:C6	2.53	0.44
33:DL:110:VAL:C	33:DL:111:ILE:HD12	2.38	0.44
30:BI:112:THR:O	30:BI:113:LYS:C	2.55	0.44
1:CA:1279:G:O2'	1:CA:1281:C:OP2	2.29	0.44
1:AA:724:G:C4	1:AA:725:G:C8	3.06	0.44
4:AD:147:GLU:HA	4:AD:150:LYS:HD2	1.98	0.44
22:DA:193:U:C4	22:DA:194:G:N7	2.86	0.44
1:AA:1461:G:C4	1:AA:1462:C:C6	3.05	0.44
25:DD:122:VAL:HG21	25:DD:141:ARG:HB3	1.99	0.44
1:AA:437:U:C4	1:AA:438:U:C5	3.05	0.44
22:DA:2373:G:C6	22:DA:2374:C:C4	3.06	0.44
22:DA:190:A:C6	22:DA:191:A:C2	3.06	0.44
22:DA:2474:U:H2'	22:DA:2474:U:O2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1093:A:C4	1:CA:1095:U:O4'	2.71	0.44
22:BA:137:U:H2'	22:BA:140:C:N1	2.33	0.44
11:CK:82:LEU:O	11:CK:82:LEU:HD23	2.18	0.44
22:DA:144:A:N3	22:DA:144:A:H2'	2.32	0.44
1:CA:983:A:N3	1:CA:983:A:C2'	2.80	0.44
1:AA:1367:C:C4	1:AA:1368:A:N7	2.85	0.44
22:DA:1926:U:C2'	22:DA:1928:A:N7	2.81	0.44
30:DI:46:THR:HG22	30:DI:51:LYS:HG3	2.00	0.44
30:BI:9:VAL:HG23	30:BI:59:ILE:HG13	1.99	0.44
22:DA:1669:A:O4'	32:DK:5:GLN:HG3	2.18	0.44
1:AA:757:U:O2'	1:AA:879:C:O2	2.29	0.44
1:CA:1431:A:C5	1:CA:1432:G:C6	3.04	0.44
22:DA:1584:U:C2'	22:DA:1584:U:O2	2.65	0.44
22:BA:2116:G:O6	22:BA:2171:A:N6	2.49	0.44
22:DA:1726:C:H2'	22:DA:1727:C:C6	2.51	0.44
9:CI:13:LYS:O	9:CI:14:SER:CB	2.66	0.44
1:CA:490:C:H2'	1:CA:491:G:C8	2.52	0.44
22:BA:996:A:OP2	38:BQ:93:LYS:HD3	2.16	0.44
11:CK:72:ASP:OD2	11:CK:73:ALA:N	2.50	0.44
18:AR:22:ASP:OD1	18:AR:24:LYS:HG3	2.18	0.44
22:BA:812:C:OP1	38:BQ:13:ARG:NH2	2.51	0.44
29:BH:57:LYS:HG3	29:BH:58:LEU:N	2.33	0.44
35:DN:13:ASN:O	35:DN:16:HIS:N	2.47	0.44
22:BA:1165:A:H2'	22:BA:1166:G:H8	1.82	0.44
7:CG:148:ASN:C	7:CG:150:ALA:H	2.21	0.44
42:BU:97:LYS:O	42:BU:98:SER:CB	2.66	0.44
15:AO:89:ARG:NH1	22:BA:714:U:C5	2.85	0.44
30:BI:29:GLY:O	30:BI:30:GLN:HG3	2.17	0.44
30:BI:34:ASN:CB	30:BI:37:GLU:HB2	2.48	0.44
14:CN:65:ARG:HB2	14:CN:78:GLY:O	2.17	0.44
9:CI:22:LYS:O	9:CI:24:GLY:N	2.50	0.44
2:CB:10:LEU:HD21	2:CB:12:ALA:O	2.16	0.44
7:AG:137:LYS:O	7:AG:141:VAL:HG23	2.16	0.44
1:CA:1450:U:O2'	1:CA:1451:U:H2'	2.16	0.44
31:DJ:25:LEU:CD1	31:DJ:100:VAL:HG12	2.47	0.44
1:CA:198:G:O2'	1:CA:199:A:H5'	2.17	0.44
48:D0:40:ARG:O	48:D0:41:HIS:HB2	2.18	0.44
22:DA:2688:G:C8	22:DA:2719:G:C6	3.06	0.44
22:DA:1290:C:C2	22:DA:1291:C:C6	3.05	0.44
44:BW:49:ALA:O	44:BW:50:ASN:HB2	2.17	0.44
22:DA:1949:G:C6	22:DA:1950:G:C6	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:79:PHE:CD1	37:BP:70:VAL:HG22	2.53	0.44
22:BA:620:G:H4'	22:BA:621:A:O5'	2.17	0.44
1:AA:1406:U:H2'	1:AA:1407:C:H5'	1.99	0.44
22:BA:1907:G:C5	22:BA:1908:C:C4	3.05	0.44
22:DA:222:A:C8	22:DA:224:U:C6	3.05	0.44
22:BA:2846:G:H2'	22:BA:2847:U:O4'	2.17	0.44
1:CA:1000:A:C2	1:CA:1041:G:N2	2.86	0.44
4:AD:3:ARG:NE	4:AD:115:ARG:HD3	2.31	0.44
12:CL:25:GLU:CD	12:CL:27:CYS:SG	2.96	0.44
22:DA:528:A:N1	22:DA:2042:A:H2'	2.33	0.44
3:AC:6:HIS:CD2	3:AC:7:PRO:CD	3.01	0.44
22:DA:1622:G:C2	22:DA:1623:G:C8	3.06	0.44
22:DA:2147:A:H2'	22:DA:2148:G:O4'	2.17	0.44
22:BA:500:G:N1	22:BA:503:A:OP2	2.50	0.44
22:DA:2286:G:C5'	22:DA:2287:A:O4'	2.66	0.44
22:DA:1545:A:N7	22:DA:1546:G:C4	2.85	0.44
6:AF:51:ILE:O	6:AF:52:ASN:CB	2.65	0.44
33:DL:53:GLY:O	33:DL:54:GLN:O	2.36	0.44
28:BG:121:ILE:HD11	28:BG:140:VAL:HG12	2.00	0.44
1:AA:109:A:C4	1:AA:327:A:C2	3.05	0.44
22:BA:301:G:P	42:BU:82:ARG:NH1	2.91	0.44
35:DN:1:MET:H3	35:DN:1:MET:HE3	1.82	0.44
12:CL:83:ARG:N	12:CL:96:HIS:O	2.49	0.44
29:BH:97:ARG:O	29:BH:101:ASP:HB2	2.17	0.44
4:CD:102:VAL:HG13	4:CD:107:PHE:HB2	1.99	0.44
22:BA:1088:A:H5''	22:BA:1088:A:N3	2.31	0.44
1:AA:1313:U:C4	1:AA:1314:C:N4	2.86	0.44
4:AD:122:ALA:O	4:AD:123:ILE:CG2	2.65	0.44
8:AH:7:ILE:O	8:AH:11:LEU:HG	2.18	0.44
4:CD:37:ALA:HA	4:CD:42:GLY:HA3	2.00	0.44
1:AA:554:A:H2'	1:AA:555:U:C6	2.53	0.44
37:DP:92:VAL:HG13	37:DP:110:ILE:HG22	2.00	0.44
15:CO:67:LEU:HD23	15:CO:78:TYR:CE2	2.52	0.44
22:DA:305:C:C2	22:DA:313:G:C2	3.06	0.44
33:DL:56:PRO:O	33:DL:60:ARG:CB	2.65	0.44
26:BE:104:ALA:O	26:BE:108:ILE:HG23	2.18	0.44
20:CT:68:HIS:HB3	20:CT:69:LYS:HG3	1.99	0.44
22:BA:669:G:N2	22:BA:670:A:C2	2.85	0.44
13:AM:73:ILE:O	13:AM:77:ILE:HG13	2.17	0.44
1:AA:731:G:O2'	1:AA:732:C:H5'	2.18	0.44
22:BA:1495:A:O2'	22:BA:1496:A:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CC:184:TYR:CE1	3:CC:201:TRP:CE2	3.06	0.44
22:DA:1436:G:C2	22:DA:1557:C:C2	3.06	0.44
5:CE:16:ILE:CD1	5:CE:38:VAL:HG23	2.48	0.44
32:BK:92:GLU:HG3	32:BK:111:LYS:HZ3	1.83	0.44
22:DA:1773:A:N3	22:DA:1978:A:C2	2.86	0.44
11:AK:23:ILE:HD11	11:AK:86:VAL:HG13	1.99	0.44
1:AA:1210:C:C4	1:AA:1211:U:C4	3.06	0.44
22:DA:1833:C:C4	22:DA:1834:U:C5	3.06	0.44
3:AC:64:ILE:HG12	3:AC:66:VAL:HG23	1.99	0.44
11:CK:23:ILE:HG21	11:CK:96:THR:HG21	2.00	0.44
51:B3:31:HIS:CD2	51:B3:32:ILE:HD12	2.52	0.44
41:BT:11:LEU:HD23	41:BT:11:LEU:N	2.32	0.44
44:BW:37:ILE:HG21	44:BW:80:ILE:HG21	1.99	0.44
22:DA:1248:G:OP1	38:DQ:2:ALA:HB3	2.18	0.44
3:CC:64:ILE:HG23	3:CC:99:ALA:HB2	2.00	0.44
22:BA:2018:G:H2'	22:BA:2019:A:H8	1.82	0.44
33:BL:101:ILE:HG13	33:BL:102:GLY:N	2.32	0.44
1:CA:676:A:N1	1:CA:677:U:C4	2.86	0.44
1:AA:1386:G:H2'	1:AA:1387:G:C8	2.53	0.44
8:AH:50:LYS:O	8:AH:60:GLU:N	2.51	0.44
27:DF:55:ALA:HA	27:DF:58:ALA:HB3	1.99	0.44
27:DF:3:LYS:HD3	27:DF:101:GLU:OE2	2.18	0.44
22:DA:84:A:N1	22:DA:98:G:O2'	2.39	0.44
34:DM:57:VAL:O	34:DM:58:LYS:O	2.35	0.44
22:DA:2083:G:N7	22:DA:2084:C:C5	2.86	0.44
22:DA:1341:G:C2	41:DT:84:TYR:CD2	3.06	0.44
15:CO:19:ALA:O	15:CO:20:ASN:HB2	2.18	0.44
22:DA:2138:G:N2	22:DA:2154:A:H1'	2.33	0.44
8:CH:35:ALA:O	8:CH:39:VAL:HG23	2.16	0.44
1:AA:747:A:C5'	1:AA:748:G:OP2	2.66	0.44
15:CO:62:GLN:O	15:CO:66:LEU:HD23	2.18	0.44
1:CA:440:C:H2'	1:CA:441:A:O5'	2.18	0.44
1:AA:1027:C:N3	1:AA:1034:G:O6	2.51	0.44
22:DA:1801:A:C5	24:DC:262:ARG:NH2	2.86	0.44
39:BR:67:GLY:C	39:BR:93:PHE:CE1	2.90	0.44
22:BA:962:G:O2'	22:BA:963:U:H5'	2.18	0.44
40:BS:8:ARG:HB3	40:BS:102:HIS:ND1	2.33	0.44
32:DK:18:ARG:HB2	32:DK:45:GLU:HB3	1.99	0.44
22:BA:2058:A:N6	57:BA:3488:HOH:O	2.50	0.44
22:BA:1949:G:N2	22:BA:1958:C:C2	2.85	0.44
1:AA:827:U:C4	1:AA:870:U:C2	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BO:18:LEU:HD11	36:BO:91:SER:HB3	1.98	0.44
24:BC:108:LYS:HD2	24:BC:194:GLU:OE1	2.17	0.44
2:CB:205:ASP:N	2:CB:205:ASP:OD1	2.50	0.44
43:BV:10:LYS:H	43:BV:10:LYS:NZ	2.16	0.44
16:AP:52:LEU:O	16:AP:54:LEU:N	2.51	0.44
1:AA:174:A:C4	1:AA:175:C:C6	3.06	0.44
29:BH:89:LYS:CE	29:BH:124:THR:HG22	2.48	0.44
22:DA:760:G:C6	22:DA:761:A:C5	3.06	0.44
18:CR:24:LYS:O	18:CR:26:ILE:N	2.51	0.44
2:AB:76:ALA:O	2:AB:80:VAL:HG23	2.17	0.44
27:DF:122:PHE:CE1	27:DF:166:GLY:CA	3.01	0.44
22:BA:1169:A:C2	22:BA:1181:U:O2	2.70	0.44
22:BA:1007:C:OP1	31:BJ:37:ARG:NH2	2.51	0.44
25:BD:13:ARG:HD2	25:BD:15:PHE:CZ	2.53	0.44
22:DA:2127:G:O2'	22:DA:2173:A:N3	2.51	0.44
6:CF:3:HIS:ND1	6:CF:65:GLU:HG3	2.33	0.44
1:AA:965:U:H5'	1:AA:969:A:O4'	2.17	0.44
9:CI:128:SER:O	9:CI:129:LYS:C	2.56	0.44
22:DA:562:U:H2'	22:DA:572:A:O4'	2.18	0.44
31:DJ:41:LYS:O	31:DJ:42:ALA:C	2.56	0.44
29:DH:31:VAL:CB	29:DH:32:PRO:HD3	2.47	0.44
12:CL:65:SER:HB2	12:CL:82:ILE:CD1	2.47	0.44
1:AA:462:G:N7	1:AA:463:U:C5	2.86	0.44
10:CJ:34:ALA:O	10:CJ:35:GLN:CB	2.66	0.44
22:BA:1588:G:C2	22:BA:1589:U:C5	3.06	0.44
1:AA:102:G:C4	1:AA:103:U:C5	3.06	0.44
2:AB:40:ILE:HD13	2:AB:40:ILE:N	2.33	0.44
33:DL:111:ILE:C	33:DL:131:ALA:HB2	2.37	0.44
1:CA:123:U:O2'	1:CA:290:C:H1'	2.17	0.44
27:BF:107:ALA:O	27:BF:110:ARG:N	2.50	0.44
1:CA:1277:C:O2'	1:CA:1279:G:H1'	2.17	0.44
22:BA:1850:G:C5	22:BA:1851:U:C4	3.06	0.44
1:CA:1520:C:H2'	1:CA:1521:C:C6	2.53	0.44
3:CC:179:ARG:O	3:CC:179:ARG:HD2	2.18	0.44
22:BA:2173:A:C8	22:BA:2174:C:C5	3.06	0.44
1:AA:1479:C:H2'	1:AA:1480:A:O4'	2.18	0.44
1:AA:844:G:N1	1:AA:846:G:O2'	2.47	0.44
13:CM:11:ASP:HA	13:CM:45:ILE:HB	1.99	0.44
4:AD:174:ASP:O	4:AD:175:ALA:CB	2.65	0.44
1:CA:951:G:N3	1:CA:970:C:O2'	2.45	0.44
22:BA:1721:G:HO2'	22:BA:1722:A:H8	1.62	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:533:G:C5'	38:DQ:24:TYR:CD1	3.01	0.44
32:BK:109:SER:O	32:BK:110:GLU:C	2.55	0.44
1:CA:842:U:O2	1:CA:845:A:OP1	2.36	0.44
9:CI:55:VAL:CG2	9:CI:55:VAL:O	2.65	0.44
31:DJ:105:VAL:HG12	31:DJ:109:LEU:CD1	2.47	0.44
27:DF:31:VAL:HG11	27:DF:97:TRP:CH2	2.52	0.44
1:AA:119:A:C4	1:AA:240:G:N7	2.86	0.44
7:AG:125:SER:O	7:AG:128:ALA:HB3	2.17	0.44
22:BA:1791:A:O2'	24:BC:206:GLY:HA2	2.17	0.44
1:CA:154:U:H2'	1:CA:155:A:H5'	2.00	0.44
22:DA:72:U:C6	46:DY:54:LYS:HD3	2.53	0.44
24:DC:221:ARG:NH2	57:DC:309:HOH:O	2.50	0.44
1:AA:956:U:C2'	1:AA:957:U:H5'	2.47	0.44
9:AI:51:PRO:HB2	9:AI:83:ILE:CG2	2.48	0.44
15:AO:45:GLU:O	15:AO:46:HIS:HB2	2.17	0.44
16:CP:37:GLY:HA2	16:CP:51:ARG:NH1	2.33	0.44
41:DT:2:ILE:CG2	41:DT:4:GLU:HG3	2.48	0.44
19:AS:24:GLU:HG3	19:AS:24:GLU:O	2.16	0.44
1:CA:439:U:H4'	4:CD:121:LYS:CG	2.47	0.44
22:DA:1865:U:C5	22:DA:1875:G:C2	3.06	0.44
48:D0:28:LEU:HD12	48:D0:28:LEU:N	2.32	0.44
1:AA:1042:A:H2'	1:AA:1043:G:O4'	2.17	0.44
1:AA:695:A:C6	1:AA:696:A:C2	3.06	0.44
53:B5:78:ILE:HG22	53:B5:123:ALA:HA	2.00	0.44
41:DT:69:ARG:HA	41:DT:74:ILE:HG22	2.00	0.44
2:CB:173:ILE:HG22	2:CB:177:ASN:ND2	2.33	0.44
14:CN:87:ALA:HB1	14:CN:92:GLU:HB2	2.00	0.44
1:CA:1540:U:H4'	21:CU:18:ARG:HG2	2.00	0.44
22:BA:2538:C:H2'	22:BA:2539:C:H6	1.81	0.44
37:DP:4:ILE:O	37:DP:8:LEU:HB2	2.17	0.44
1:CA:442:G:C6	1:CA:443:C:C4	3.05	0.44
22:BA:1996:C:H4'	22:BA:1997:C:OP1	2.17	0.44
22:DA:2253:G:C5	22:DA:2254:C:C5	3.06	0.44
22:BA:1536:C:O4'	22:BA:1537:G:C2	2.71	0.44
9:AI:17:ALA:HB2	9:AI:67:VAL:CG2	2.48	0.44
32:BK:47:ILE:HB	32:BK:48:PRO:CD	2.46	0.44
1:CA:307:C:H5''	1:CA:308:C:OP2	2.17	0.44
22:DA:540:C:O2'	22:DA:541:A:H5'	2.17	0.44
52:B4:10:LEU:HD12	52:B4:33:HIS:CD2	2.53	0.44
5:AE:41:ASP:OD1	5:AE:43:ASN:N	2.43	0.44
25:DD:124:ARG:HA	25:DD:165:MET:CE	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BV:1:MET:SD	43:BV:1:MET:C	2.96	0.44
36:BO:117:PHE:CD1	36:BO:117:PHE:C	2.90	0.44
4:CD:129:VAL:O	4:CD:129:VAL:HG13	2.18	0.44
1:CA:291:U:H2'	1:CA:291:U:O2	2.18	0.44
51:D3:15:LYS:HD3	51:D3:23:LYS:HE2	1.99	0.44
34:DM:31:PHE:CD2	34:DM:113:ALA:HB2	2.53	0.44
1:CA:878:A:OP1	8:CH:80:ARG:HB3	2.17	0.44
1:AA:251:G:N1	1:AA:266:G:C6	2.86	0.44
10:CJ:91:ASP:O	10:CJ:92:LEU:HG	2.18	0.44
22:DA:2198:A:C5	29:DH:29:PHE:HB2	2.53	0.44
2:AB:21:ARG:O	2:AB:23:TRP:HB3	2.17	0.44
22:DA:513:A:N3	22:DA:514:A:C8	2.86	0.44
22:DA:770:G:P	50:D2:11:LYS:HE2	2.57	0.44
35:DN:90:ARG:NH2	35:DN:116:VAL:HG11	2.32	0.44
22:DA:575:A:C2	22:DA:576:U:C5	3.05	0.44
1:AA:684:U:C4	1:AA:685:G:C5	3.06	0.44
22:BA:999:U:C5	22:BA:1154:G:C6	3.05	0.44
22:DA:2874:C:P	57:DA:3801:HOH:O	2.76	0.44
1:AA:263:A:P	20:AT:74:ARG:NH1	2.90	0.44
22:BA:528:A:H2	22:BA:2043:C:H5'	1.82	0.44
40:DS:59:GLU:OE1	40:DS:66:ILE:HD11	2.18	0.44
22:DA:1809:A:N6	22:DA:1810:A:C6	2.86	0.44
33:BL:89:VAL:O	33:BL:94:THR:HG21	2.18	0.44
27:BF:158:THR:CG2	27:BF:160:ALA:HB3	2.47	0.44
15:AO:88:ARG:HB2	15:AO:88:ARG:NH1	2.33	0.44
5:AE:81:LEU:CD2	5:AE:81:LEU:N	2.81	0.44
1:AA:1268:G:H2'	1:AA:1269:A:C8	2.53	0.44
29:BH:4:ILE:HG23	29:BH:17:ASP:O	2.17	0.44
22:DA:947:A:H2'	22:DA:948:C:C6	2.53	0.44
12:CL:38:TYR:HB2	12:CL:52:VAL:CG1	2.47	0.44
1:CA:115:G:C2	1:CA:289:G:C8	3.05	0.44
1:AA:728:A:N6	1:AA:729:A:N6	2.66	0.44
22:DA:945:A:C4	22:DA:2448:A:C2	3.06	0.44
22:DA:677:A:O2'	22:DA:2071:A:H5'	2.18	0.44
22:DA:391:A:C5	22:DA:392:U:C5	3.06	0.44
1:CA:1259:C:N4	1:CA:1260:G:C4	2.85	0.44
22:DA:674:G:H1'	26:DE:69:ARG:CD	2.48	0.44
2:AB:101:LEU:HD11	2:AB:158:PRO:HG2	2.00	0.44
22:DA:77:G:H5''	46:DY:2:LYS:HB3	1.99	0.44
22:DA:481:G:C2	22:DA:507:A:C4	3.06	0.44
22:DA:7:G:H2'	22:DA:8:C:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:78:VAL:O	16:AP:79:ASN:HB2	2.18	0.44
22:DA:483:A:O2'	42:DU:56:GLY:HA3	2.18	0.44
1:AA:457:G:C6	1:AA:458:U:N3	2.86	0.44
22:DA:503:A:N3	22:DA:506:G:C8	2.86	0.44
22:BA:735:A:N7	22:BA:761:A:H2	2.15	0.44
8:AH:55:THR:C	8:AH:57:PRO:HD3	2.38	0.44
1:CA:756:C:O2'	1:CA:757:U:H5'	2.17	0.44
22:BA:38:A:C2	22:BA:442:G:C2	3.06	0.44
1:AA:770:C:O2'	1:AA:771:G:H5'	2.18	0.44
42:DU:38:GLY:HA2	42:DU:41:LEU:HD21	2.00	0.44
3:CC:64:ILE:HG22	3:CC:97:VAL:HG23	2.00	0.44
22:BA:2070:A:H2'	22:BA:2071:A:O4'	2.18	0.44
21:CU:24:GLU:HG3	21:CU:28:VAL:CG2	2.47	0.44
22:DA:1688:U:H1'	22:DA:1701:A:C6	2.53	0.44
25:DD:92:VAL:CG1	25:DD:93:GLY:N	2.81	0.44
27:DF:8:TYR:O	27:DF:12:VAL:HB	2.18	0.44
22:BA:2250:G:H8	22:BA:2250:G:O5'	2.01	0.44
11:AK:110:ILE:HB	21:AU:6:VAL:CG2	2.48	0.44
1:CA:179:A:H2'	1:CA:180:U:C6	2.53	0.44
45:DX:40:VAL:CG2	45:DX:45:ARG:O	2.65	0.44
22:BA:1206:G:C6	22:BA:1207:C:C4	3.06	0.44
24:DC:212:ARG:HA	24:DC:212:ARG:NE	2.33	0.44
42:DU:34:VAL:HG13	42:DU:67:VAL:CG2	2.47	0.44
22:DA:1276:A:N1	22:DA:1295:C:C2	2.86	0.44
22:BA:1949:G:N2	22:BA:1958:C:O2	2.51	0.44
32:DK:71:ARG:HB3	32:DK:72:PRO:HD2	2.00	0.44
27:BF:64:LYS:HA	27:BF:65:PRO:HD3	1.89	0.44
22:BA:2574:G:C6	22:BA:2575:C:C4	3.06	0.44
4:CD:89:ASN:O	4:CD:92:ALA:HB3	2.18	0.44
3:CC:134:MET:SD	3:CC:153:VAL:HG13	2.58	0.44
14:AN:13:ARG:NE	14:AN:54:ASP:OD1	2.49	0.44
1:CA:815:A:C2	1:CA:1529:G:C4	3.06	0.44
1:CA:1193:G:N2	1:CA:1194:U:C2	2.86	0.44
22:BA:1665:A:O2'	32:BK:1:MET:HB3	2.18	0.44
32:BK:68:GLY:HA3	32:BK:77:ILE:O	2.18	0.44
22:DA:1842:G:O4'	24:DC:243:HIS:NE2	2.51	0.44
22:BA:204:A:O4'	22:BA:206:U:C6	2.71	0.44
22:DA:1744:A:C4	22:DA:1745:A:C8	3.06	0.44
42:BU:102:THR:CG2	42:BU:103:ILE:N	2.80	0.44
33:BL:116:VAL:HG13	33:BL:116:VAL:O	2.18	0.44
26:DE:22:ASP:N	26:DE:22:ASP:OD1	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:BJ:71:ASP:N	31:BJ:71:ASP:OD1	2.51	0.44
7:AG:8:GLY:O	7:AG:9:GLN:HB3	2.18	0.44
27:BF:6:ASP:O	27:BF:7:TYR:C	2.54	0.44
29:BH:99:ILE:CD1	29:BH:117:LEU:HD13	2.48	0.44
1:AA:1494:G:C5	1:AA:1495:U:C5	3.06	0.44
22:BA:1910:G:H2'	22:BA:1911:U:O4'	2.18	0.44
1:AA:983:A:O2'	1:AA:983:A:N3	2.48	0.44
6:AF:91:ARG:O	6:AF:92:THR:CB	2.66	0.44
3:AC:14:ILE:N	3:AC:14:ILE:HD13	2.32	0.44
18:CR:70:TYR:O	18:CR:71:THR:O	2.36	0.44
1:CA:518:C:H2'	1:CA:530:G:C8	2.53	0.44
1:AA:133:U:H1'	1:AA:230:G:N2	2.33	0.44
1:AA:198:G:C6	1:AA:199:A:C5	3.06	0.44
22:DA:1599:U:C4	22:DA:1600:C:N4	2.85	0.44
49:B1:25:LYS:HE2	49:B1:30:LYS:O	2.17	0.44
22:BA:513:A:C2'	22:BA:514:A:H5'	2.48	0.44
22:BA:422:A:C2	22:BA:423:A:C4	3.06	0.44
30:DI:75:PRO:HG2	30:DI:78:VAL:CG2	2.47	0.44
4:CD:32:CYS:SG	4:CD:33:LYS:N	2.88	0.44
22:BA:2306:C:OP2	22:BA:2307:G:O2'	2.20	0.44
30:BI:124:ALA:C	30:BI:126:THR:N	2.72	0.44
22:DA:1067:A:O5'	22:DA:1068:G:OP2	2.36	0.44
24:DC:145:GLU:HA	24:DC:152:GLY:HA2	1.99	0.44
9:CI:40:GLY:O	9:CI:41:ARG:HB2	2.18	0.44
22:BA:244:A:H2'	22:BA:245:G:O4'	2.18	0.44
1:CA:1160:G:HO2'	1:CA:1161:C:P	2.41	0.44
30:DI:20:PRO:HG2	30:DI:24:VAL:HG23	1.98	0.44
22:DA:523:C:H2'	22:DA:524:G:C8	2.53	0.44
1:AA:1129:C:C2	1:AA:1139:G:C6	3.06	0.44
6:AF:76:THR:O	6:AF:77:THR:C	2.56	0.44
22:BA:2547:A:C2	22:BA:2548:U:N3	2.86	0.44
37:DP:39:ARG:HG3	37:DP:40:LEU:H	1.83	0.44
13:CM:20:THR:HG22	13:CM:26:GLY:O	2.18	0.44
38:BQ:105:ALA:O	38:BQ:106:PHE:C	2.57	0.44
2:AB:111:ILE:O	2:AB:114:LEU:N	2.50	0.44
1:AA:474:G:C4	1:AA:475:C:C5	3.06	0.44
6:AF:12:PRO:O	6:AF:15:SER:N	2.51	0.44
1:CA:820:U:H4'	1:CA:821:G:OP2	2.17	0.44
22:DA:2371:G:C2	22:DA:2372:U:C6	3.05	0.44
22:DA:167:A:C2	22:DA:168:G:H1'	2.52	0.44
22:DA:2464:G:H2'	22:DA:2465:C:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BT:76:ARG:NH2	41:BT:79:ASP:OD1	2.51	0.44
26:DE:149:ILE:CD1	26:DE:172:ALA:HA	2.47	0.44
1:AA:647:C:O2'	1:AA:648:A:H5'	2.17	0.44
22:DA:1866:A:C8	22:DA:1867:G:C8	3.05	0.44
1:AA:1374:A:C2	1:AA:1375:A:C8	3.06	0.44
1:AA:149:A:C1'	1:AA:1446:A:C2	3.01	0.44
22:DA:2033:A:H4'	22:DA:2034:U:OP1	2.18	0.44
22:DA:2040:G:H2'	22:DA:2041:U:O4'	2.17	0.44
22:BA:2714:G:C5	22:BA:2715:C:C5	3.06	0.44
1:CA:295:C:C4	1:CA:296:U:C5	3.05	0.44
19:AS:13:LEU:O	19:AS:15:LEU:N	2.50	0.44
42:DU:53:ASN:O	42:DU:53:ASN:ND2	2.51	0.44
37:DP:55:LEU:HA	37:DP:77:HIS:CD2	2.53	0.44
22:BA:1031:G:C4'	52:B4:6:SER:HB2	2.48	0.44
22:DA:2109:U:H5''	22:DA:2110:G:OP2	2.17	0.44
22:BA:1499:C:O2'	22:BA:1500:G:H5'	2.17	0.44
37:DP:21:ARG:HB3	37:DP:22:PRO:HD2	2.00	0.44
26:DE:23:PHE:CG	26:DE:111:GLU:HG3	2.53	0.44
12:AL:81:LEU:HB2	12:AL:102:LEU:HD22	1.99	0.44
1:AA:174:A:C2'	1:AA:175:C:H5'	2.48	0.44
1:AA:745:G:O2'	1:AA:746:A:H5'	2.18	0.44
22:BA:2856:A:N6	22:BA:2857:G:C6	2.86	0.44
27:BF:134:GLU:O	27:BF:137:ILE:HG23	2.18	0.44
22:BA:920:A:H2'	22:BA:921:C:O4'	2.17	0.44
48:B0:48:TYR:CE2	48:B0:53:LYS:HB2	2.53	0.44
22:BA:108:G:O2'	22:BA:109:C:H5'	2.17	0.44
21:AU:53:VAL:O	21:AU:54:LYS:HB2	2.18	0.44
22:BA:489:G:O4'	22:BA:1284:A:C8	2.71	0.44
38:DQ:50:ARG:O	38:DQ:54:LYS:HE3	2.18	0.44
13:AM:107:ARG:HH21	13:AM:113:ARG:HB3	1.83	0.44
22:DA:199:A:N6	22:DA:2434:A:C5	2.86	0.44
26:DE:152:GLU:O	26:DE:154:ASP:N	2.51	0.44
30:DI:123:GLU:HG3	30:DI:123:GLU:O	2.18	0.44
8:AH:83:LEU:CD2	8:AH:83:LEU:C	2.86	0.44
1:CA:84:U:O2'	1:CA:85:U:H5'	2.17	0.44
34:DM:36:VAL:HG13	43:DV:82:TYR:CD2	2.53	0.44
29:BH:89:LYS:HE3	29:BH:124:THR:HG22	1.99	0.43
22:DA:2196:C:N3	22:DA:2197:U:C4	2.86	0.43
1:AA:858:G:O2'	1:AA:859:G:H5'	2.18	0.43
22:DA:2751:G:N3	22:DA:2751:G:H2'	2.33	0.43
22:BA:1180:U:C2'	22:BA:1181:U:C5'	2.96	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:187:GLU:O	4:AD:188:ARG:C	2.57	0.43
22:DA:527:C:H2'	22:DA:2779:U:O2	2.17	0.43
25:BD:13:ARG:NH2	25:BD:15:PHE:CZ	2.87	0.43
1:AA:173:U:C5	1:AA:197:A:C2	3.06	0.43
11:AK:13:ARG:HG3	11:AK:77:TYR:HE1	1.82	0.43
1:AA:1323:G:H2'	1:AA:1324:A:C8	2.52	0.43
22:BA:1747:U:O2'	22:BA:1748:C:H5'	2.17	0.43
38:BQ:25:TYR:O	38:BQ:26:GLY:C	2.56	0.43
22:DA:609:A:C5	22:DA:610:C:C2	3.06	0.43
1:CA:426:U:OP1	4:CD:33:LYS:HE3	2.18	0.43
9:AI:42:GLU:O	9:AI:45:ARG:NH1	2.51	0.43
5:CE:149:SER:OG	5:CE:152:MET:HG3	2.17	0.43
22:DA:2812:G:N2	22:DA:2889:C:C2	2.86	0.43
20:AT:35:VAL:CG1	20:AT:79:LEU:HD22	2.48	0.43
1:AA:1182:G:C4'	1:AA:1183:U:H5'	2.48	0.43
22:DA:864:G:N2	22:DA:913:U:C2	2.86	0.43
1:CA:772:U:O2'	1:CA:773:G:H5'	2.18	0.43
22:DA:579:G:C2	22:DA:1262:A:C6	3.06	0.43
1:AA:877:G:N2	8:AH:2:SER:N	2.66	0.43
1:CA:790:A:C5	1:CA:791:G:C5	3.06	0.43
22:BA:1441:G:H2'	22:BA:1442:U:C6	2.52	0.43
22:BA:414:C:H5''	22:BA:1879:C:O2'	2.18	0.43
1:CA:781:A:H4'	1:CA:1522:U:O2'	2.18	0.43
21:CU:4:ILE:HG23	21:CU:20:LYS:HZ1	1.83	0.43
1:AA:1306:A:C5	1:AA:1332:A:C2	3.06	0.43
1:AA:1463:U:C2	1:AA:1464:U:C5	3.06	0.43
1:AA:1072:G:C5	1:AA:1073:U:C4	3.06	0.43
22:DA:533:G:C6	22:DA:534:U:C4	3.06	0.43
22:DA:2622:U:O2'	22:DA:2825:G:N7	2.47	0.43
22:DA:2387:U:H1'	44:DW:41:ARG:NE	2.33	0.43
22:DA:484:C:OP1	42:DU:48:PRO:HG3	2.17	0.43
2:AB:70:VAL:HG13	2:AB:70:VAL:O	2.18	0.43
22:DA:2898:U:O2'	31:DJ:134:ALA:O	2.34	0.43
1:CA:4:U:C2'	1:CA:4:U:O2	2.66	0.43
22:BA:2536:G:C6	22:BA:2537:U:C4	3.06	0.43
1:CA:1534:A:H5'	1:CA:1535:C:C5	2.53	0.43
22:DA:2234:G:C5	22:DA:2235:G:C8	3.06	0.43
41:BT:7:LEU:HD22	41:BT:46:ALA:HB2	2.00	0.43
22:DA:170:U:N3	22:DA:171:U:C5	2.87	0.43
22:DA:1483:G:C5	22:DA:1484:U:C5	3.06	0.43
38:BQ:76:TYR:C	38:BQ:76:TYR:CD2	2.91	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:DY:1:MET:HA	46:DY:4:LYS:HB2	2.00	0.43
1:CA:499:A:H4'	1:CA:500:G:OP1	2.18	0.43
2:CB:62:SER:O	2:CB:64:LYS:N	2.51	0.43
1:AA:148:G:H2'	1:AA:149:A:O5'	2.17	0.43
19:AS:15:LEU:HB2	19:AS:33:THR:HG21	2.00	0.43
1:CA:179:A:C5	1:CA:180:U:C4	3.06	0.43
1:AA:1386:G:H2'	1:AA:1387:G:H8	1.82	0.43
47:DZ:10:THR:HG22	47:DZ:54:MET:HA	1.99	0.43
15:CO:19:ALA:O	15:CO:20:ASN:CB	2.65	0.43
22:BA:108:G:C2'	22:BA:109:C:H5'	2.47	0.43
40:DS:85:ILE:HG22	40:DS:86:MET:N	2.32	0.43
22:BA:2740:A:C6	22:BA:2741:A:C6	3.05	0.43
15:AO:81:LEU:HD11	15:AO:85:LEU:HD23	2.00	0.43
22:DA:238:C:H2'	22:DA:239:C:O4'	2.18	0.43
30:DI:18:ALA:O	30:DI:19:ASN:HB3	2.17	0.43
22:BA:2673:G:C2	22:BA:2674:G:C8	3.06	0.43
4:AD:78:GLU:O	4:AD:79:ALA:C	2.56	0.43
22:BA:2302:U:O2'	22:BA:2303:G:H5'	2.18	0.43
15:CO:74:ASP:OD2	15:CO:77:ARG:HG3	2.18	0.43
22:BA:2865:U:C4	22:BA:2866:U:C4	3.06	0.43
1:CA:188:C:N4	1:CA:189:A:C6	2.86	0.43
22:DA:2831:G:N7	25:DD:59:ARG:NH1	2.66	0.43
22:BA:103:A:H2'	22:BA:104:A:O4'	2.18	0.43
22:BA:2507:C:H5''	22:BA:2573:C:N4	2.33	0.43
17:CQ:60:GLU:HB3	17:CQ:76:VAL:HG23	1.99	0.43
13:AM:48:LEU:HD22	13:AM:53:ILE:CG1	2.47	0.43
12:CL:31:ARG:HD2	12:CL:79:VAL:HG11	2.00	0.43
1:CA:1010:U:C2	1:CA:1020:G:N1	2.86	0.43
22:DA:476:G:O4'	22:DA:505:A:C2	2.71	0.43
39:BR:11:GLN:C	39:BR:12:HIS:CG	2.92	0.43
22:DA:2066:C:H5''	57:DA:3502:HOH:O	2.18	0.43
29:BH:89:LYS:CD	1:CA:359:G:OP1	2.66	0.43
29:BH:80:ILE:HG21	29:BH:94:ILE:HG13	2.00	0.43
22:DA:2094:A:P	29:DH:22:LYS:HG3	2.56	0.43
22:DA:2059:A:H2'	22:DA:2503:A:N1	2.33	0.43
1:AA:977:A:H1'	1:AA:982:U:O4	2.18	0.43
22:DA:1378:A:C4'	22:DA:1379:U:OP1	2.66	0.43
1:AA:1144:G:N1	1:AA:1145:A:H2	2.15	0.43
1:CA:1317:C:O2'	14:CN:49:GLN:CG	2.66	0.43
11:AK:70:CYS:O	11:AK:74:VAL:HG22	2.19	0.43
1:CA:55:A:N6	1:CA:56:U:C2	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:423:A:H5'	22:BA:424:G:H5'	2.00	0.43
1:CA:72:A:C5	1:CA:73:C:C4	3.06	0.43
1:AA:254:G:OP1	17:AQ:70:THR:CG2	2.66	0.43
28:BG:141:ILE:C	28:BG:141:ILE:HD12	2.39	0.43
22:BA:1421:G:C2	22:BA:1422:G:N7	2.85	0.43
17:AQ:60:GLU:OE2	17:AQ:77:ARG:HD3	2.18	0.43
2:CB:210:VAL:HG22	2:CB:211:THR:H	1.82	0.43
1:CA:527:G:C6	1:CA:528:C:C5	3.06	0.43
9:CI:46:MET:O	9:CI:49:ARG:HB3	2.18	0.43
1:AA:1216:A:H2'	1:AA:1217:C:H6	1.83	0.43
19:AS:65:GLU:OE2	19:AS:66:MET:N	2.51	0.43
30:BI:113:LYS:HD3	30:BI:117:MET:CG	2.46	0.43
24:BC:247:PRO:HD2	24:BC:248:TRP:CZ3	2.53	0.43
36:BO:94:ARG:O	36:BO:96:GLY:N	2.51	0.43
22:BA:2139:U:C2	22:BA:2140:G:C8	3.06	0.43
22:DA:833:A:H2'	22:DA:834:G:C8	2.53	0.43
22:DA:1120:G:C5	22:DA:1121:C:C5	3.06	0.43
42:DU:13:VAL:HG21	42:DU:39:ILE:HG21	2.01	0.43
43:DV:48:MET:O	43:DV:51:GLN:NE2	2.50	0.43
23:DB:95:U:OP2	43:DV:19:ARG:NH1	2.51	0.43
30:BI:75:PRO:O	30:BI:79:LEU:CD1	2.66	0.43
10:AJ:35:GLN:O	10:AJ:36:VAL:O	2.36	0.43
10:AJ:6:ILE:HD12	10:AJ:76:ILE:HB	1.99	0.43
12:AL:4:VAL:O	12:AL:8:VAL:HG23	2.18	0.43
29:DH:127:GLU:CG	29:DH:144:VAL:O	2.65	0.43
1:CA:756:C:H2'	1:CA:757:U:H5'	2.01	0.43
1:CA:1534:A:H4'	1:CA:1535:C:H2'	2.00	0.43
22:BA:540:C:O2'	22:BA:541:A:H5'	2.18	0.43
1:CA:160:A:H2'	1:CA:161:A:O4'	2.18	0.43
22:DA:2050:C:N4	22:DA:2051:A:C6	2.86	0.43
1:AA:775:G:O2'	1:AA:776:G:H5'	2.18	0.43
6:CF:59:TYR:HE2	18:CR:67:LEU:CD2	2.31	0.43
18:AR:47:THR:OG1	18:AR:48:ARG:N	2.51	0.43
1:CA:651:C:C4	1:CA:652:U:O4	2.70	0.43
22:DA:12:U:O2	22:DA:12:U:C2'	2.66	0.43
36:BO:62:LEU:HD22	36:BO:70:ALA:HA	1.99	0.43
22:DA:695:G:C6	22:DA:768:G:C5	3.06	0.43
22:DA:1043:C:C4	22:DA:1044:C:C4	3.06	0.43
10:AJ:49:PHE:CD1	10:AJ:49:PHE:N	2.86	0.43
1:AA:1450:U:H2'	1:AA:1452:C:C5	2.53	0.43
8:AH:49:PHE:HB3	8:AH:61:LEU:CD2	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:DS:18:ARG:HA	40:DS:21:ALA:HB3	1.99	0.43
22:BA:1820:U:OP1	24:BC:177:ARG:HG2	2.18	0.43
42:DU:10:GLU:OE2	42:DU:73:PHE:CD2	2.71	0.43
8:AH:95:VAL:HG12	8:AH:96:MET:N	2.33	0.43
4:AD:78:GLU:OE2	4:AD:81:ARG:NH1	2.50	0.43
17:CQ:60:GLU:HB3	17:CQ:76:VAL:CG2	2.48	0.43
9:CI:81:HIS:O	9:CI:85:ARG:HB2	2.18	0.43
22:BA:445:C:OP1	38:BQ:2:ALA:HA	2.18	0.43
39:BR:34:GLU:OE2	39:BR:60:LYS:NZ	2.47	0.43
4:CD:78:GLU:OE2	4:CD:81:ARG:NH1	2.51	0.43
22:DA:1707:G:H1'	22:DA:1756:G:C4	2.52	0.43
22:DA:438:G:C6	22:DA:439:A:C6	3.05	0.43
22:DA:993:G:N2	39:DR:23:GLU:OE1	2.50	0.43
26:DE:145:ASP:OD2	26:DE:166:LYS:HB3	2.18	0.43
5:AE:13:GLU:CB	5:AE:39:VAL:HG12	2.48	0.43
34:DM:20:LEU:N	34:DM:20:LEU:HD22	2.33	0.43
17:AQ:83:VAL:OXT	17:AQ:83:VAL:HG13	2.17	0.43
6:AF:36:ILE:O	6:AF:36:ILE:HG23	2.18	0.43
1:AA:346:G:C8	37:BP:37:LYS:HE2	2.53	0.43
22:BA:518:G:H2'	22:BA:519:U:C6	2.53	0.43
5:CE:41:ASP:O	5:CE:43:ASN:N	2.51	0.43
29:BH:96:THR:O	29:BH:100:ALA:N	2.50	0.43
22:BA:1915:U:H2'	22:BA:1916:A:H8	1.80	0.43
22:BA:1917:U:C6	22:BA:1918:A:N7	2.86	0.43
22:DA:655:A:H4'	22:DA:656:G:OP1	2.17	0.43
22:DA:1953:A:H1'	22:DA:2560:A:O4'	2.17	0.43
12:CL:24:LEU:HB2	12:CL:59:ASN:OD1	2.18	0.43
1:CA:1073:U:C4	1:CA:1074:G:N7	2.87	0.43
2:CB:96:TRP:CZ3	2:CB:175:GLU:OE2	2.71	0.43
22:BA:1309:G:H4'	50:B2:7:PRO:CB	2.40	0.43
1:AA:915:A:C2	1:AA:916:U:H1'	2.53	0.43
17:AQ:16:LYS:C	17:AQ:17:MET:CE	2.87	0.43
22:DA:120:U:O4	22:DA:177:G:C8	2.71	0.43
1:CA:401:C:P	4:CD:70:ARG:HD3	2.58	0.43
1:CA:1361:G:C3'	1:CA:1362:A:C5'	2.92	0.43
1:AA:66:A:C6	1:AA:67:C:C5	3.06	0.43
22:DA:511:U:O4	22:DA:512:G:N1	2.50	0.43
19:AS:34:TRP:O	19:AS:36:ARG:N	2.48	0.43
45:DX:54:LYS:C	45:DX:56:MET:N	2.71	0.43
22:BA:1384:A:H1'	22:BA:1405:U:C1'	2.48	0.43
22:DA:2157:G:O2'	22:DA:2158:A:O4'	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1158:C:O2	1:CA:1158:C:C2'	2.65	0.43
29:BH:27:ARG:O	29:BH:28:ASN:CB	2.66	0.43
10:AJ:52:LEU:HD11	10:AJ:58:ASN:O	2.16	0.43
1:CA:805:C:H2'	1:CA:806:C:C6	2.52	0.43
1:CA:899:C:OP1	1:CA:899:C:H6	2.01	0.43
22:BA:1570:A:H2'	22:BA:1571:A:C8	2.53	0.43
7:AG:102:ARG:O	7:AG:106:GLU:HB3	2.18	0.43
22:DA:1287:A:C2'	22:DA:1288:G:H5'	2.48	0.43
1:AA:987:G:C2	1:AA:988:G:C8	3.07	0.43
22:DA:589:U:N3	22:DA:590:A:N7	2.67	0.43
24:DC:10:SER:O	24:DC:13:ARG:HB3	2.18	0.43
22:BA:2502:G:H5''	22:BA:2503:A:O5'	2.19	0.43
26:DE:150:THR:C	26:DE:192:ALA:HB2	2.38	0.43
4:CD:125:VAL:HA	4:CD:142:VAL:O	2.18	0.43
22:DA:533:G:O5'	38:DQ:24:TYR:CD1	2.71	0.43
1:AA:316:C:C2	1:AA:317:U:H5	2.36	0.43
5:CE:38:VAL:CG1	5:CE:117:VAL:HG21	2.48	0.43
9:CI:30:ILE:HA	9:CI:65:ILE:O	2.18	0.43
22:DA:190:A:N6	22:DA:191:A:N1	2.66	0.43
42:DU:98:SER:O	42:DU:99:ASN:CB	2.66	0.43
2:AB:95:ARG:HH12	2:AB:97:LEU:HA	1.83	0.43
1:CA:1483:A:N1	22:DA:1959:G:O2'	2.45	0.43
42:BU:5:ILE:CD1	42:BU:72:ILE:HG23	2.48	0.43
29:BH:9:VAL:O	29:BH:10:ALA:O	2.36	0.43
22:DA:61:C:OP1	46:DY:44:LYS:HD3	2.18	0.43
5:AE:149:SER:CB	5:AE:152:MET:HB2	2.49	0.43
22:DA:2635:A:H5''	25:DD:79:LEU:O	2.19	0.43
22:BA:594:U:H2'	22:BA:595:C:C6	2.54	0.43
22:BA:458:G:N2	22:BA:469:G:H2'	2.33	0.43
22:DA:2294:G:OP1	36:DO:94:ARG:NH1	2.52	0.43
2:AB:118:GLU:O	2:AB:121:SER:HB3	2.18	0.43
8:CH:78:VAL:HB	8:CH:126:ILE:O	2.17	0.43
24:DC:31:ALA:HB3	24:DC:32:PRO:HD3	1.99	0.43
22:DA:2531:A:C4	22:DA:2532:G:C8	3.06	0.43
26:BE:145:ASP:CB	26:BE:184:ASP:OD2	2.66	0.43
22:DA:2023:C:O2'	22:DA:2024:G:H5'	2.18	0.43
45:BX:43:GLU:OE2	45:BX:45:ARG:NH2	2.50	0.43
32:DK:105:ARG:HG2	32:DK:122:VAL:HG12	2.00	0.43
22:DA:2230:G:C6	22:DA:2231:U:C4	3.07	0.43
22:BA:80:G:O2'	22:BA:294:A:N1	2.46	0.43
3:AC:101:ILE:O	3:AC:101:ILE:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1745:A:C2	22:DA:1746:A:C8	3.07	0.43
5:AE:95:PHE:CD1	5:AE:95:PHE:C	2.90	0.43
17:CQ:27:ARG:CG	17:CQ:40:ARG:HB3	2.49	0.43
29:BH:41:LYS:HA	29:BH:44:ILE:HG12	2.01	0.43
22:BA:170:U:C2	22:BA:171:U:C6	3.06	0.43
1:CA:583:A:C8	1:CA:584:G:C8	3.06	0.43
18:AR:62:ALA:CB	18:AR:68:LEU:HD12	2.47	0.43
1:CA:1446:A:N6	1:CA:1447:A:H62	2.15	0.43
19:AS:52:HIS:CD2	19:AS:54:GLY:H	2.36	0.43
3:CC:50:ALA:O	3:CC:51:SER:HB2	2.19	0.43
12:AL:56:ARG:NH1	12:AL:62:GLU:HG3	2.33	0.43
47:DZ:47:MET:O	47:DZ:51:VAL:HG22	2.19	0.43
22:BA:1637:A:H5'	22:BA:1760:C:O2'	2.18	0.43
1:CA:1014:A:H5''	19:CS:14:HIS:CD2	2.53	0.43
15:AO:39:LEU:O	15:AO:42:HIS:N	2.52	0.43
31:DJ:128:ASN:O	31:DJ:128:ASN:CG	2.57	0.43
7:CG:50:LEU:HD13	7:CG:50:LEU:O	2.18	0.43
47:DZ:3:LYS:CD	47:DZ:3:LYS:N	2.82	0.43
1:AA:993:G:O2'	1:AA:994:A:N7	2.51	0.43
22:DA:2514:U:H2'	22:DA:2515:C:C6	2.54	0.43
53:B5:66:PRO:HG2	53:B5:194:ILE:CB	2.48	0.43
22:BA:2373:G:H2'	22:BA:2374:C:C6	2.53	0.43
29:BH:76:GLU:HA	29:BH:142:VAL:HG12	2.00	0.43
5:AE:101:GLU:CB	5:AE:122:ASN:HB2	2.48	0.43
38:DQ:58:ARG:NH2	38:DQ:92:ARG:CZ	2.82	0.43
1:CA:1069:C:H2'	1:CA:1070:U:O4'	2.18	0.43
22:DA:2624:G:H2'	22:DA:2625:G:O4'	2.17	0.43
1:CA:1150:A:N6	1:CA:1151:A:H62	2.17	0.43
1:AA:263:A:H2'	1:AA:264:C:C5	2.53	0.43
22:DA:1544:A:N6	22:DA:1545:A:C6	2.86	0.43
2:CB:27:MET:HE3	2:CB:193:PRO:HG3	2.01	0.43
47:DZ:7:ILE:O	47:DZ:35:THR:HA	2.18	0.43
33:DL:94:THR:CG2	33:DL:95:LEU:N	2.81	0.43
31:BJ:64:VAL:HG13	31:BJ:68:LYS:HB2	1.99	0.43
12:CL:99:ARG:HD2	12:CL:104:CYS:SG	2.58	0.43
34:DM:1:MET:HE1	34:DM:44:ARG:HG3	2.00	0.43
22:DA:1817:G:O2'	22:DA:1818:U:H5'	2.18	0.43
22:DA:996:A:C2	22:DA:997:G:N9	2.86	0.43
42:DU:83:VAL:HG11	42:DU:94:ARG:HD2	1.99	0.43
10:CJ:37:ARG:NE	10:CJ:77:VAL:HG21	2.32	0.43
22:BA:2377:A:H2'	22:BA:2378:A:H5'	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BI:19:ASN:OD1	30:BI:28:LEU:HD11	2.18	0.43
22:BA:1850:G:C6	22:BA:1851:U:C4	3.06	0.43
22:DA:85:G:P	42:DU:7:ARG:HB2	2.59	0.43
42:DU:7:ARG:CG	42:DU:8:ASP:H	2.31	0.43
17:AQ:48:ASP:HB2	17:AQ:52:GLU:OE2	2.18	0.43
22:DA:931:U:O4	22:DA:1184:U:O4'	2.35	0.43
13:AM:65:VAL:HG23	13:AM:66:GLU:N	2.32	0.43
1:AA:863:U:H2'	1:AA:865:A:OP2	2.19	0.43
22:DA:1783:A:C2	22:DA:2587:A:C2	3.05	0.43
22:BA:2458:G:C2	22:BA:2490:G:N2	2.86	0.43
22:DA:697:G:C2	22:DA:766:U:O2	2.72	0.43
1:AA:316:C:N3	1:AA:317:U:C5	2.87	0.43
36:DO:18:LEU:HD13	36:DO:18:LEU:HA	1.89	0.43
22:DA:1823:G:C8	57:DA:3651:HOH:O	2.57	0.43
22:DA:1691:C:C4	22:DA:1692:U:C4	3.06	0.43
2:AB:17:GLY:O	2:AB:18:HIS:HB2	2.18	0.43
45:DX:68:LEU:HD22	45:DX:78:TYR:CZ	2.54	0.43
22:DA:2428:G:H5''	22:DA:2429:G:P	2.58	0.43
12:AL:5:ASN:O	12:AL:8:VAL:HB	2.18	0.43
26:DE:28:VAL:O	26:DE:32:VAL:HG23	2.18	0.43
22:DA:136:G:C2	22:DA:144:A:C5	3.06	0.43
22:BA:2536:G:C5	22:BA:2537:U:C4	3.06	0.43
22:DA:1906:G:H5''	22:DA:1929:G:O2'	2.18	0.43
22:BA:815:C:H2'	22:BA:816:C:H6	1.83	0.43
1:CA:570:G:H2'	1:CA:571:U:H6	1.82	0.43
39:DR:58:VAL:O	39:DR:102:SER:HB2	2.19	0.43
22:BA:792:A:N3	22:BA:2072:C:O2'	2.46	0.43
41:DT:2:ILE:HA	41:DT:3:ARG:CB	2.49	0.43
5:CE:25:VAL:N	5:CE:28:GLY:O	2.44	0.43
18:CR:20:GLU:HG3	18:CR:55:LEU:HD13	2.01	0.43
1:CA:1221:G:O3'	19:CS:77:THR:HG21	2.18	0.43
22:BA:1283:G:N1	22:BA:1286:A:OP2	2.50	0.43
1:AA:655:A:C2'	1:AA:656:G:O5'	2.66	0.43
5:AE:119:GLY:O	5:AE:121:HIS:ND1	2.51	0.43
23:DB:85:G:N2	23:DB:92:C:C2	2.86	0.43
35:DN:106:ASP:OD1	35:DN:107:ASN:N	2.51	0.43
1:CA:1172:C:H2'	1:CA:1173:U:C6	2.54	0.43
22:BA:477:A:H2'	22:BA:478:A:C8	2.52	0.43
23:BB:46:A:C5	23:BB:47:C:C5	3.06	0.43
26:DE:12:LEU:HD23	26:DE:13:THR:N	2.34	0.43
31:BJ:69:ARG:O	31:BJ:89:PHE:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:53:VAL:HG23	4:AD:54:GLN:N	2.33	0.43
45:BX:15:GLY:O	45:BX:27:ARG:HG2	2.19	0.43
23:DB:35:C:C2'	23:DB:36:C:O5'	2.66	0.43
22:BA:615:U:C4	26:BE:35:TYR:CZ	3.06	0.43
2:CB:55:ALA:O	2:CB:59:LYS:HB2	2.19	0.43
49:D1:45:GLN:HA	49:D1:45:GLN:OE1	2.18	0.43
36:DO:58:ILE:O	36:DO:58:ILE:HG22	2.18	0.43
31:BJ:125:TYR:OH	31:BJ:132:HIS:NE2	2.45	0.43
22:BA:435:C:H2'	22:BA:436:C:H5'	1.99	0.43
22:BA:348:A:H2'	22:BA:349:U:O4'	2.19	0.43
36:DO:33:ARG:HG2	36:DO:33:ARG:O	2.19	0.43
2:AB:21:ARG:C	2:AB:23:TRP:H	2.21	0.43
27:DF:122:PHE:CD1	27:DF:166:GLY:HA3	2.54	0.43
22:DA:1651:G:H4'	35:DN:39:PRO:HG2	2.00	0.43
4:AD:100:ASN:O	4:AD:104:ARG:HB2	2.19	0.43
22:BA:2683:C:OP1	37:BP:51:ARG:NH2	2.52	0.43
22:DA:1307:A:N6	22:DA:1606:C:O2	2.52	0.43
22:DA:183:C:C5	22:DA:184:C:C5	3.06	0.43
22:DA:2127:G:O2'	22:DA:2173:A:C2	2.72	0.43
22:DA:1352:U:C5	22:DA:1377:G:C6	3.07	0.43
2:CB:17:GLY:O	2:CB:39:HIS:O	2.37	0.43
1:CA:1323:G:H4'	1:CA:1362:A:C2	2.54	0.43
1:AA:66:A:O4'	1:AA:173:U:C4	2.71	0.43
22:DA:1599:U:O4	22:DA:1600:C:N4	2.52	0.43
22:DA:1360:G:C6	22:DA:1372:U:C2	3.06	0.43
53:B5:50:ILE:CG2	53:B5:51:ASP:H	2.31	0.43
39:DR:54:VAL:HG12	39:DR:55:ASP:N	2.34	0.43
37:DP:89:ARG:O	37:DP:112:GLU:HA	2.19	0.43
1:CA:182:A:N7	1:CA:184:G:N7	2.66	0.43
1:CA:411:A:C6	1:CA:429:U:C4	3.07	0.43
1:CA:496:A:C2	1:CA:497:G:C5	3.06	0.43
22:DA:593:U:C2	22:DA:594:U:C5	3.06	0.43
42:DU:71:ALA:HB3	42:DU:80:ALA:HB1	2.01	0.43
41:BT:16:VAL:O	41:BT:17:SER:CB	2.66	0.43
22:BA:1081:U:O2	22:BA:1081:U:H2'	2.18	0.43
1:AA:1314:C:P	19:AS:6:LYS:HZ2	2.41	0.43
22:DA:579:G:H5'	22:DA:2018:G:OP2	2.17	0.43
22:DA:1194:A:C2'	22:DA:1195:G:O5'	2.67	0.43
1:CA:1028:C:OP2	1:CA:1028:C:C6	2.71	0.43
19:CS:55:ARG:NE	19:CS:79:THR:CG2	2.82	0.43
22:DA:303:G:C2	22:DA:304:U:C2	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:674:G:H1'	26:DE:69:ARG:HD3	2.00	0.43
22:BA:2074:U:H4'	22:BA:2598:A:O4'	2.18	0.43
1:AA:1462:C:H2'	1:AA:1463:U:O4'	2.18	0.43
24:BC:31:ALA:N	24:BC:32:PRO:CD	2.81	0.43
1:AA:135:C:C2'	1:AA:136:C:H5'	2.49	0.43
27:BF:31:VAL:O	27:BF:31:VAL:HG23	2.18	0.43
2:AB:144:LEU:O	2:AB:145:GLU:C	2.56	0.43
22:DA:2321:U:H5'	22:DA:2322:A:OP2	2.19	0.43
18:CR:33:ILE:CA	18:CR:40:VAL:HG23	2.49	0.43
22:DA:626:A:C2	33:DL:78:ARG:HD3	2.53	0.43
22:DA:1581:G:C5	22:DA:1582:C:C5	3.07	0.43
24:BC:204:VAL:O	24:BC:206:GLY:N	2.51	0.43
26:BE:189:THR:HG22	26:BE:191:ASP:H	1.83	0.43
22:DA:1665:A:C6	22:DA:1666:G:C5	3.07	0.43
22:DA:157:C:H2'	22:DA:158:U:O4'	2.18	0.43
10:AJ:41:PRO:O	10:AJ:71:LEU:O	2.36	0.43
22:BA:1501:G:C2'	22:BA:1502:A:H5'	2.48	0.43
28:DG:118:PRO:HG3	28:DG:144:VAL:HG21	2.00	0.43
44:DW:23:VAL:HG22	44:DW:38:VAL:HG13	2.01	0.43
31:DJ:36:LEU:HD23	31:DJ:121:LYS:HB2	2.00	0.43
14:AN:13:ARG:O	14:AN:17:ALA:HB2	2.19	0.43
22:DA:402:A:H2'	22:DA:403:U:H5'	1.99	0.43
22:DA:1320:C:N4	22:DA:1331:G:N7	2.65	0.43
32:BK:12:ASP:OD1	32:BK:14:SER:HB3	2.19	0.43
22:BA:1050:A:C2	22:BA:2751:G:C5	3.06	0.43
1:CA:801:U:H2'	1:CA:802:A:C8	2.54	0.43
1:CA:1099:G:H2'	1:CA:1100:C:O4'	2.19	0.43
53:B5:94:TYR:O	53:B5:95:VAL:HG23	2.19	0.43
43:BV:26:PHE:HB2	43:BV:27:PRO:HD2	2.00	0.43
10:CJ:50:THR:OG1	10:CJ:64:GLN:HG2	2.19	0.43
22:BA:126:A:O5'	50:B2:19:ARG:HG3	2.19	0.43
1:CA:1112:C:N4	3:CC:178:LEU:HD23	2.34	0.43
10:CJ:83:THR:O	10:CJ:83:THR:HG23	2.18	0.43
26:DE:170:ARG:NH2	26:DE:176:ASP:OD1	2.51	0.43
22:BA:2477:U:O2	52:B4:4:ARG:NH2	2.52	0.43
31:DJ:9:GLU:O	31:DJ:10:THR:CG2	2.66	0.43
29:BH:94:ILE:CD1	29:BH:98:ASP:HB3	2.48	0.43
22:DA:58:G:N3	22:DA:70:G:N2	2.67	0.43
1:AA:81:A:O2'	1:AA:89:U:O2	2.20	0.43
11:CK:126:LYS:C	21:CU:34:ARG:CZ	2.87	0.43
22:DA:1608:A:C5	22:DA:1611:C:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:914:A:N3	1:AA:915:A:C8	2.87	0.43
12:AL:94:ARG:C	12:AL:95:TYR:CD1	2.92	0.43
5:CE:104:GLY:HA3	5:CE:122:ASN:HA	2.01	0.43
17:AQ:16:LYS:HG3	17:AQ:16:LYS:O	2.18	0.43
39:BR:25:LEU:N	39:BR:94:THR:CG2	2.81	0.43
1:AA:131:A:H2'	1:AA:132:C:H6	1.75	0.43
1:AA:131:A:C2	1:AA:132:C:C5	3.07	0.43
21:AU:41:PRO:HA	21:AU:44:GLU:HB2	2.00	0.43
49:B1:25:LYS:HD3	49:B1:52:ALA:O	2.18	0.43
22:DA:1056:G:H5''	22:DA:1057:A:O4'	2.18	0.43
22:DA:1809:A:C5	22:DA:1810:A:N7	2.86	0.43
38:BQ:25:TYR:CD1	38:BQ:26:GLY:N	2.87	0.43
1:AA:61:G:C5	1:AA:62:U:C4	3.07	0.43
22:DA:289:G:H2'	22:DA:290:U:O4'	2.19	0.43
1:AA:203:G:O2'	1:AA:465:A:N1	2.51	0.43
22:BA:1854:A:H2	22:BA:2087:G:N3	2.17	0.43
22:BA:1079:C:C4	22:BA:1088:A:C2	3.06	0.43
22:DA:186:G:N2	22:DA:211:C:C2	2.87	0.43
22:DA:1178:C:N4	22:DA:1180:U:N3	2.66	0.43
4:CD:38:PRO:HD2	4:CD:42:GLY:HA3	2.01	0.43
21:AU:14:VAL:O	21:AU:16:LEU:CD1	2.66	0.43
15:CO:56:LEU:O	15:CO:59:MET:HB2	2.18	0.43
22:DA:2546:U:O4'	22:DA:2565:A:C2	2.71	0.43
42:DU:24:LYS:HE3	42:DU:24:LYS:HB3	1.88	0.43
2:AB:101:LEU:HD13	2:AB:101:LEU:HA	1.91	0.43
42:DU:13:VAL:HG21	42:DU:39:ILE:HD12	2.00	0.43
1:AA:1140:C:O2'	1:AA:1141:C:P	2.76	0.43
22:DA:78:U:OP2	46:DY:2:LYS:CD	2.67	0.43
5:CE:13:GLU:OE1	5:CE:68:ARG:NH1	2.52	0.43
1:CA:1092:A:C6	1:CA:1183:U:O2	2.72	0.43
17:AQ:50:ASN:O	17:AQ:51:ASN:O	2.36	0.43
1:CA:354:G:C2	1:CA:355:C:C5	3.07	0.43
22:DA:271:G:C2	22:DA:367:G:C2	3.07	0.43
1:CA:1417:G:N2	1:CA:1484:C:N4	2.67	0.43
46:BY:49:ASP:O	46:BY:50:VAL:C	2.57	0.43
36:DO:79:ALA:O	36:DO:83:LEU:HG	2.19	0.43
1:CA:756:C:H2'	1:CA:757:U:C5'	2.49	0.43
22:BA:1355:G:C4	22:BA:1356:G:C8	3.06	0.43
22:DA:1059:G:H4'	30:DI:117:MET:HE3	2.01	0.43
22:DA:1241:A:C2	22:DA:1242:U:H1'	2.54	0.43
22:DA:1483:G:C4	22:DA:1484:U:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:DU:49:VAL:O	42:DU:54:GLN:HB3	2.18	0.43
39:BR:62:GLU:O	39:BR:64:VAL:HG13	2.18	0.43
7:AG:146:GLU:HA	7:AG:149:LYS:HB2	2.01	0.43
43:DV:44:HIS:NE2	43:DV:85:LYS:HB2	2.34	0.43
24:BC:157:SER:O	24:BC:158:ALA:C	2.56	0.43
22:DA:2100:G:C6	22:DA:2190:G:C5	3.07	0.43
22:BA:934:U:H2'	22:BA:935:C:C6	2.54	0.43
1:AA:1082:A:C2	1:AA:1083:U:O2	2.72	0.43
22:DA:2742:G:OP1	52:D4:36:ARG:HD3	2.19	0.43
1:CA:178:C:H2'	1:CA:179:A:O4'	2.18	0.43
2:AB:65:GLY:C	2:AB:66:LYS:HD3	2.39	0.43
1:AA:909:A:C2'	1:AA:910:C:O5'	2.67	0.43
14:AN:16:LEU:HD12	14:AN:54:ASP:HB2	2.01	0.43
2:CB:71:GLY:O	2:CB:93:ASN:HA	2.19	0.43
22:DA:786:C:H4'	22:DA:1780:A:N7	2.33	0.43
1:CA:341:C:O2	1:CA:349:A:C2	2.71	0.43
22:BA:1457:U:H5''	22:BA:1458:U:OP1	2.18	0.43
37:DP:31:TRP:C	37:DP:32:VAL:HG12	2.39	0.43
48:B0:25:VAL:HG13	48:B0:26:THR:N	2.32	0.43
27:DF:111:ILE:HB	27:DF:114:PHE:HB2	2.00	0.43
1:AA:306:A:H2'	1:AA:307:C:O4'	2.17	0.43
34:BM:28:PHE:HB2	34:BM:104:GLU:OE2	2.18	0.43
8:CH:8:ALA:HB2	8:CH:77:ARG:HG3	2.01	0.43
8:CH:101:ILE:HD11	8:CH:129:VAL:CG2	2.49	0.43
22:DA:1277:G:C2	35:DN:23:ASN:OD1	2.71	0.43
22:DA:1314:C:O2	22:DA:1314:C:H2'	2.19	0.43
1:CA:1086:U:H4'	1:CA:1086:U:OP1	2.18	0.43
22:DA:1524:G:H2'	22:DA:1524:G:N3	2.34	0.43
22:BA:2226:C:H2'	22:BA:2226:C:O2	2.19	0.43
1:CA:786:G:C2	1:CA:787:A:H1'	2.54	0.43
1:AA:716:A:C6	1:AA:717:U:N3	2.86	0.43
23:DB:109:A:C6	23:DB:110:C:C4	3.06	0.43
29:BH:103:VAL:O	29:BH:108:VAL:O	2.37	0.43
22:BA:1908:C:H2'	22:BA:1909:C:C6	2.54	0.43
21:CU:35:ARG:HG2	21:CU:36:GLU:O	2.18	0.43
1:AA:1031:C:H4'	1:AA:1032:G:O5'	2.17	0.43
1:CA:516:U:C4	1:CA:517:G:C6	3.07	0.43
2:CB:15:HIS:O	2:CB:15:HIS:CG	2.71	0.43
1:AA:66:A:H4'	1:AA:173:U:C5	2.54	0.43
33:DL:95:LEU:O	33:DL:100:ILE:CG2	2.67	0.43
22:BA:1344:U:H1'	22:BA:1384:A:H2'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:980:A:C6	22:BA:981:A:C2	3.06	0.43
1:AA:465:A:H2'	1:AA:466:A:C1'	2.48	0.43
5:AE:81:LEU:HD23	5:AE:123:VAL:HG13	2.01	0.43
4:AD:132:ILE:O	4:AD:132:ILE:HG13	2.19	0.43
10:AJ:17:LEU:HD21	10:AJ:96:VAL:HG22	2.00	0.43
1:CA:386:C:N4	1:CA:387:U:C4	2.86	0.43
25:BD:133:THR:O	25:BD:134:HIS:HB2	2.19	0.43
39:BR:42:ALA:HA	39:BR:46:GLU:HB2	2.00	0.43
22:BA:2636:C:H4'	25:BD:81:GLU:CD	2.39	0.43
3:AC:77:ILE:HA	3:AC:84:VAL:HG23	2.00	0.43
22:DA:1206:G:C6	22:DA:1207:C:C4	3.06	0.43
4:AD:147:GLU:OE1	4:AD:148:LYS:NZ	2.52	0.43
53:B5:214:TYR:O	53:B5:215:VAL:CB	2.66	0.43
22:DA:674:G:C1'	26:DE:69:ARG:HD3	2.48	0.43
1:AA:1141:C:HO2'	1:AA:1142:G:C5'	2.31	0.43
5:CE:38:VAL:HG11	5:CE:114:VAL:HA	2.00	0.43
22:BA:686:U:H2'	22:BA:788:A:C2	2.54	0.43
22:DA:965:C:H4'	22:DA:2273:A:H1'	2.00	0.43
1:AA:1442:G:H3'	1:AA:1442:G:OP2	2.18	0.43
28:BG:150:ALA:C	28:BG:152:ARG:N	2.72	0.43
22:DA:460:A:C2	22:DA:470:A:C4	3.07	0.43
1:CA:104:G:O2'	1:CA:105:G:H5'	2.18	0.43
1:AA:100:G:C6	1:AA:101:A:C5	3.07	0.43
1:AA:100:G:O6	1:AA:101:A:C6	2.72	0.43
1:CA:1140:C:O2'	1:CA:1141:C:P	2.76	0.43
24:DC:107:PRO:HB3	24:DC:142:HIS:CE1	2.54	0.43
22:DA:1665:A:H5''	32:DK:66:LYS:HG3	2.00	0.43
17:AQ:8:LEU:HD22	17:AQ:73:TRP:CH2	2.53	0.43
9:AI:80:ARG:NH1	9:AI:103:PHE:CE1	2.87	0.43
5:CE:107:ALA:HB2	5:CE:125:ALA:HB2	1.99	0.43
3:CC:66:VAL:HG12	3:CC:66:VAL:O	2.18	0.43
1:AA:1055:A:C5	1:AA:1206:G:C2	3.06	0.43
43:DV:38:LEU:HB3	43:DV:40:ILE:HD11	2.01	0.43
32:DK:32:TYR:N	32:DK:32:TYR:CD1	2.86	0.43
22:BA:368:A:C6	22:BA:369:U:C4	3.07	0.43
1:AA:300:A:H2'	1:AA:301:G:O4'	2.19	0.43
22:DA:818:G:H5'	22:DA:839:U:OP1	2.18	0.43
22:DA:21:A:C6	22:DA:520:G:C6	3.07	0.43
41:DT:74:ILE:HD12	41:DT:75:GLY:N	2.33	0.43
22:DA:1500:G:C6	22:DA:1501:G:C5	3.06	0.43
22:DA:1740:G:H2'	22:DA:1741:C:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1202:U:C2	1:AA:1203:C:C6	3.07	0.43
1:AA:909:A:H2'	1:AA:910:C:O5'	2.19	0.43
32:DK:17:ARG:HG2	32:DK:47:ILE:HG23	2.00	0.43
1:AA:616:G:N2	1:AA:617:G:C4	2.86	0.43
8:AH:6:PRO:O	8:AH:9:ASP:N	2.51	0.43
3:CC:83:ASP:O	3:CC:85:GLU:N	2.52	0.43
1:AA:472:U:C4	1:AA:473:U:O4	2.72	0.43
51:D3:4:ILE:HG21	51:D3:63:PRO:HG3	2.00	0.43
22:BA:2687:U:H2'	22:BA:2688:G:O4'	2.18	0.43
1:AA:1496:C:H2'	1:AA:1497:G:O4'	2.18	0.43
1:AA:310:G:H5''	16:AP:31:ARG:HB2	2.00	0.43
22:BA:1505:A:H2'	22:BA:1506:U:O4'	2.18	0.43
49:B1:48:ILE:H	49:B1:48:ILE:HD12	1.83	0.43
22:BA:2512:C:H2'	22:BA:2513:A:O4'	2.18	0.43
28:DG:140:VAL:HG12	28:DG:140:VAL:O	2.17	0.43
22:BA:2901:C:N4	22:BA:2902:C:C4	2.86	0.43
1:CA:784:A:C2	1:CA:785:G:C4	3.06	0.43
18:AR:37:GLY:O	18:AR:63:ARG:NH2	2.49	0.43
5:AE:83:HIS:HB2	5:AE:84:PRO:HD2	2.00	0.43
22:DA:2195:U:O2'	22:DA:2196:C:H5'	2.19	0.43
13:AM:11:ASP:OD1	13:AM:45:ILE:HB	2.19	0.43
1:AA:977:A:O2'	1:AA:979:C:OP2	2.36	0.43
29:DH:82:SER:O	29:DH:83:LYS:C	2.57	0.43
1:CA:1195:C:H2'	1:CA:1197:A:O4'	2.19	0.43
1:CA:6:G:H2'	5:CE:124:LEU:CD2	2.48	0.43
17:AQ:16:LYS:CA	17:AQ:17:MET:SD	3.07	0.43
22:DA:1426:G:C8	22:DA:1427:A:H2'	2.54	0.43
2:CB:16:PHE:CE2	2:CB:18:HIS:NE2	2.87	0.43
4:AD:68:LEU:N	4:AD:68:LEU:CD2	2.81	0.43
6:CF:3:HIS:O	6:CF:92:THR:HA	2.17	0.43
22:BA:2286:G:H5''	22:BA:2287:A:O5'	2.18	0.43
22:BA:511:U:O4	22:BA:512:G:C6	2.72	0.43
1:CA:173:U:H1'	1:CA:197:A:C5	2.54	0.43
41:DT:20:ALA:CB	41:DT:31:VAL:HG21	2.49	0.43
2:AB:167:ASP:C	2:AB:169:GLU:N	2.71	0.43
28:DG:63:ALA:O	28:DG:67:THR:HG23	2.19	0.43
22:BA:2329:U:H2'	22:BA:2330:G:C8	2.53	0.43
22:DA:1818:U:H2'	24:DC:156:ARG:CD	2.49	0.43
1:AA:1160:G:O2'	1:AA:1161:C:O5'	2.33	0.43
17:CQ:8:LEU:CD1	17:CQ:8:LEU:N	2.81	0.43
1:CA:666:G:C6	1:CA:741:G:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1317:G:H2'	22:DA:1318:U:O4'	2.19	0.43
30:DI:57:VAL:HG22	30:DI:58:VAL:H	1.84	0.43
22:DA:988:A:C8	47:DZ:14:ILE:HD12	2.53	0.43
1:CA:1408:A:C2	1:CA:1494:G:C5	3.06	0.43
1:CA:891:U:C4	1:CA:906:A:C2	3.07	0.43
22:DA:830:G:C6	22:DA:2448:A:C8	3.07	0.43
2:AB:59:LYS:O	2:AB:63:ARG:HG3	2.19	0.43
2:AB:60:ILE:O	2:AB:64:LYS:N	2.52	0.43
9:AI:90:TYR:O	9:AI:91:ASP:CB	2.67	0.43
8:AH:93:PRO:HG3	8:AH:125:ILE:CD1	2.49	0.43
22:BA:1716:U:C2'	22:BA:1717:A:H5'	2.49	0.43
1:CA:1133:G:C6	1:CA:1142:G:C6	3.07	0.43
22:BA:687:C:O2'	22:BA:1780:A:N1	2.42	0.43
29:DH:62:LEU:HD13	29:DH:63:ALA:N	2.34	0.43
2:AB:146:ASN:O	2:AB:147:SER:OG	2.36	0.43
21:CU:29:LEU:C	21:CU:29:LEU:HD23	2.39	0.43
1:AA:19:A:C2	1:AA:917:G:C5	3.07	0.43
52:D4:16:ILE:HG22	52:D4:17:VAL:N	2.34	0.43
38:BQ:52:GLN:HA	38:BQ:55:ARG:HD2	2.01	0.43
33:DL:66:PHE:CE2	33:DL:68:SER:HA	2.53	0.43
22:BA:863:A:H2'	22:BA:864:G:C8	2.54	0.43
22:BA:1047:G:N3	22:BA:1110:G:C2	2.87	0.43
22:DA:1785:A:O2'	22:DA:1786:A:H2'	2.18	0.43
30:BI:65:ARG:HG3	30:BI:66:SER:N	2.34	0.43
1:CA:771:G:C2	1:CA:809:G:C2	3.06	0.43
1:CA:1422:G:O3'	32:DK:49:ARG:NH2	2.52	0.43
4:CD:198:HIS:CD2	4:CD:199:LEU:H	2.36	0.43
1:CA:407:U:H2'	1:CA:408:A:C8	2.54	0.43
5:CE:25:VAL:HG22	5:CE:28:GLY:O	2.19	0.43
22:BA:995:C:H5'	22:BA:995:C:C6	2.53	0.43
22:DA:2744:G:C6	22:DA:2761:A:N6	2.86	0.43
4:CD:203:LEU:HD12	4:CD:203:LEU:C	2.39	0.43
22:BA:2658:C:N4	22:BA:2664:G:N2	2.67	0.43
22:DA:64:A:H2'	22:DA:65:U:C6	2.54	0.43
22:BA:2315:G:H2'	22:BA:2316:G:C8	2.54	0.43
1:AA:174:A:C5	1:AA:175:C:C5	3.07	0.43
37:BP:33:VAL:HA	37:BP:37:LYS:O	2.18	0.43
29:BH:45:GLU:HA	29:BH:48:GLU:HB2	2.01	0.43
1:CA:1343:G:C5	1:CA:1344:C:C4	3.06	0.43
22:BA:722:A:H2'	22:BA:723:C:O4'	2.18	0.43
35:BN:8:ARG:HB2	35:BN:43:GLU:OE1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BF:121:SER:HB2	27:BF:128:TYR:CE1	2.54	0.43
38:DQ:27:ALA:HB1	38:DQ:31:VAL:CG2	2.49	0.43
27:DF:9:LYS:O	27:DF:13:VAL:HG23	2.19	0.43
22:DA:96:C:H4'	46:DY:41:HIS:CD2	2.54	0.43
22:BA:2214:C:H2'	22:BA:2215:C:O4'	2.18	0.43
22:DA:2654:A:C2	22:DA:2656:U:O4	2.72	0.43
46:DY:9:LYS:HB3	46:DY:12:GLU:HG3	1.99	0.43
22:BA:1661:G:H2'	22:BA:1662:U:H6	1.83	0.43
22:DA:2660:A:H2'	22:DA:2661:G:O4'	2.19	0.43
22:DA:365:U:C4	22:DA:366:C:N4	2.87	0.43
13:CM:19:LEU:HD11	13:CM:33:ILE:HG21	2.01	0.43
36:BO:17:LYS:HD2	36:BO:21:LEU:CD1	2.48	0.43
22:BA:1224:U:H4'	39:BR:88:GLY:O	2.19	0.43
36:BO:83:LEU:HD23	36:BO:83:LEU:N	2.33	0.43
8:CH:49:PHE:C	8:CH:49:PHE:CD1	2.92	0.43
40:DS:63:GLY:O	40:DS:64:ALA:HB3	2.18	0.43
11:CK:67:ALA:HB1	11:CK:100:LEU:CD1	2.49	0.43
22:DA:666:A:H4'	33:DL:48:ARG:NE	2.34	0.43
33:BL:131:ALA:O	33:BL:132:ARG:C	2.56	0.43
22:BA:607:U:C5	22:BA:620:G:C4	3.06	0.43
22:DA:2093:G:P	29:DH:24:GLY:H	2.42	0.43
2:AB:21:ARG:O	2:AB:22:TYR:C	2.54	0.43
22:DA:581:C:OP1	38:DQ:33:ARG:HG3	2.19	0.43
22:DA:1340:U:C5	22:DA:1603:A:C8	3.07	0.43
1:CA:1069:C:C4	1:CA:1070:U:C5	3.06	0.43
4:AD:95:GLU:OE1	4:AD:191:LEU:HD22	2.19	0.43
22:DA:570:G:C4	22:DA:2030:A:N7	2.87	0.43
22:BA:480:A:C2'	22:BA:481:G:OP1	2.65	0.43
22:BA:2683:C:H4'	25:BD:13:ARG:NH1	2.34	0.43
20:CT:5:LYS:O	20:CT:6:SER:C	2.57	0.43
17:AQ:17:MET:CG	17:AQ:20:SER:HB3	2.49	0.43
22:DA:310:A:HO2'	22:DA:311:A:P	2.33	0.43
39:BR:51:VAL:O	39:BR:52:PRO:O	2.37	0.43
1:CA:55:A:N7	1:CA:56:U:C4	2.86	0.43
41:DT:20:ALA:O	41:DT:24:MET:HG3	2.18	0.43
31:BJ:81:ILE:HG12	31:BJ:82:GLY:H	1.83	0.43
22:BA:1023:U:O4	22:BA:1142:A:N1	2.52	0.43
20:AT:83:ILE:HD12	20:AT:84:ASN:N	2.33	0.43
6:CF:35:LYS:HG3	6:CF:37:HIS:NE2	2.33	0.43
1:AA:1157:A:C2	1:AA:1181:G:C4	3.06	0.43
27:BF:101:GLU:O	27:BF:105:THR:HB	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1056:G:C2	22:BA:1102:C:C5	3.07	0.43
22:BA:319:G:C5	22:BA:333:G:C2	3.06	0.43
30:DI:8:TYR:HB3	30:DI:59:ILE:O	2.18	0.43
2:AB:33:GLY:CA	2:AB:40:ILE:H	2.32	0.43
4:AD:105:MET:SD	4:AD:143:VAL:HG22	2.59	0.43
4:CD:166:GLU:O	4:CD:166:GLU:HG2	2.19	0.43
5:CE:94:VAL:CG1	5:CE:111:MET:CE	2.96	0.43
24:BC:14:ARG:O	24:BC:14:ARG:HG3	2.19	0.43
22:DA:2852:G:C2	22:DA:2853:C:C2	3.07	0.43
1:CA:718:A:H5'	11:CK:119:ASN:CG	2.39	0.43
22:DA:102:U:O4	46:DY:3:ALA:HB3	2.19	0.43
43:DV:57:TYR:HA	43:DV:74:ALA:HB3	2.00	0.43
22:DA:1692:U:O2'	22:DA:1693:U:H2'	2.19	0.43
1:CA:438:U:C2	1:CA:494:G:C6	3.07	0.43
22:BA:2443:C:O2'	22:BA:2444:G:H5'	2.19	0.43
1:AA:457:G:O6	1:AA:475:C:N3	2.51	0.43
1:CA:131:A:O2'	1:CA:262:A:N3	2.40	0.43
19:CS:51:VAL:O	19:CS:58:VAL:HG12	2.19	0.43
32:BK:53:LYS:HG3	32:BK:56:ASP:OD1	2.18	0.43
1:AA:579:A:C4	1:AA:580:C:C5	3.07	0.43
24:DC:30:PHE:CE2	24:DC:32:PRO:CG	3.02	0.43
18:CR:34:THR:HG22	18:CR:38:LYS:N	2.34	0.43
30:DI:84:ALA:HB1	30:DI:101:ILE:CD1	2.49	0.43
1:AA:1044:A:C5	1:AA:1045:C:H1'	2.54	0.43
7:CG:8:GLY:O	7:CG:9:GLN:CB	2.66	0.43
1:AA:55:A:C6	1:AA:56:U:C2	3.07	0.43
7:CG:148:ASN:C	7:CG:150:ALA:N	2.72	0.43
15:CO:58:ARG:O	15:CO:62:GLN:HB2	2.19	0.43
51:D3:15:LYS:HB3	51:D3:23:LYS:HE2	2.00	0.43
11:CK:100:LEU:C	11:CK:102:ALA:N	2.73	0.43
11:CK:67:ALA:HB1	11:CK:100:LEU:HD13	2.01	0.43
25:BD:5:VAL:HG21	25:BD:80:TRP:CD2	2.54	0.43
22:DA:1219:U:H2'	22:DA:1220:G:C8	2.53	0.43
17:CQ:10:GLY:HA3	17:CQ:25:ILE:HD13	2.01	0.43
28:BG:96:ALA:HB2	28:BG:105:LEU:HD23	1.99	0.43
15:CO:60:VAL:O	15:CO:63:ARG:N	2.51	0.43
25:DD:51:THR:OG1	25:DD:76:GLY:HA3	2.17	0.43
1:AA:586:C:O3'	8:AH:81:PRO:HB3	2.19	0.43
13:AM:78:LYS:O	13:AM:81:MET:N	2.52	0.43
22:BA:565:C:H2'	22:BA:566:U:O4'	2.19	0.43
22:BA:1478:G:H1	22:BA:1513:U:H3	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:855:U:H2'	1:AA:856:C:C6	2.53	0.43
22:BA:493:G:H2'	22:BA:494:G:O4'	2.19	0.43
22:BA:1408:G:C6	22:BA:1409:U:C4	3.07	0.43
21:AU:32:VAL:HG12	21:AU:32:VAL:O	2.18	0.43
1:AA:521:G:O2'	1:AA:522:C:H5'	2.19	0.43
1:CA:81:A:H2'	1:CA:82:G:C8	2.53	0.43
27:BF:48:LYS:O	27:BF:51:ASP:HB2	2.19	0.43
26:DE:25:GLU:OE1	33:DL:6:LEU:HA	2.19	0.43
22:DA:2032:G:C8	57:DA:3529:HOH:O	2.63	0.43
22:BA:1176:U:N3	22:BA:1177:G:C6	2.87	0.43
22:BA:1179:G:H3'	22:BA:1180:U:C4'	2.48	0.43
1:AA:1226:C:H4'	1:AA:1227:A:OP1	2.19	0.43
14:AN:72:GLY:O	14:AN:80:SER:HA	2.19	0.43
4:AD:190:ASP:C	4:AD:191:LEU:HG	2.38	0.43
22:DA:788:A:OP1	22:DA:790:U:O4	2.37	0.43
13:AM:34:LEU:HD23	13:AM:39:ILE:HB	2.01	0.43
1:AA:684:U:O2'	11:AK:40:ASN:O	2.37	0.43
22:DA:119:A:H4'	22:DA:120:U:O5'	2.19	0.43
22:DA:49:A:C8	22:DA:51:G:C2	3.07	0.43
22:DA:1351:C:H2'	22:DA:1352:U:C1'	2.48	0.43
19:CS:4:SER:O	19:CS:5:LEU:CB	2.66	0.43
1:AA:75:G:N3	1:AA:75:G:H2'	2.33	0.43
22:BA:1378:A:C4'	22:BA:1379:U:OP1	2.67	0.43
49:B1:34:LEU:HB3	49:B1:52:ALA:HB2	2.00	0.43
6:AF:6:ILE:C	6:AF:7:VAL:HG12	2.39	0.43
22:BA:2193:G:O2'	22:BA:2194:U:H5'	2.19	0.43
6:AF:47:LEU:CD1	6:AF:51:ILE:HG23	2.47	0.43
22:DA:672:C:C2	22:DA:809:G:N2	2.87	0.43
22:DA:353:C:H2'	22:DA:354:A:C8	2.54	0.43
6:CF:62:MET:O	6:CF:63:ASN:HB2	2.19	0.43
1:CA:370:C:C2	1:CA:371:A:C8	3.07	0.43
22:BA:1860:G:C6	22:BA:1883:U:C2	3.07	0.43
2:AB:219:ALA:O	2:AB:220:THR:HB	2.19	0.43
47:BZ:36:VAL:CG2	47:BZ:38:ARG:NH2	2.81	0.43
10:AJ:51:VAL:O	10:AJ:62:ARG:HA	2.19	0.43
9:AI:36:GLU:HA	9:AI:40:GLY:CA	2.48	0.43
15:CO:39:LEU:O	15:CO:42:HIS:HB3	2.19	0.43
4:AD:151:LYS:CB	4:AD:156:LYS:HE3	2.49	0.43
38:DQ:110:VAL:HG12	38:DQ:114:LYS:HD2	2.00	0.43
22:DA:477:A:C2'	22:DA:478:A:O5'	2.67	0.43
1:CA:302:G:O2'	1:CA:556:C:H5"	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:107:LEU:C	32:BK:109:SER:N	2.72	0.43
22:DA:1675:C:C5	22:DA:1676:A:C5	3.07	0.43
22:DA:1675:C:N3	25:DD:133:THR:HG21	2.34	0.43
2:AB:87:CYS:SG	2:AB:89:GLN:OE1	2.77	0.43
44:DW:15:ASP:OD1	44:DW:16:SER:N	2.52	0.43
22:DA:1731:G:C6	22:DA:1733:G:N7	2.87	0.43
22:BA:1594:U:H2'	22:BA:1595:C:C6	2.52	0.43
22:BA:1300:G:OP1	57:BA:3655:HOH:O	2.22	0.43
22:DA:2802:G:C2	22:DA:2803:G:C4	3.07	0.43
24:DC:34:LEU:O	24:DC:35:GLU:CB	2.66	0.43
22:BA:1459:G:C6	22:BA:1461:C:N3	2.87	0.43
22:BA:359:G:H2'	22:BA:360:U:O4'	2.19	0.43
24:BC:174:LEU:N	24:BC:174:LEU:CD1	2.82	0.43
24:DC:31:ALA:N	24:DC:32:PRO:HD2	2.34	0.43
1:CA:748:G:H2'	1:CA:749:A:H8	1.84	0.43
22:DA:818:G:O2'	22:DA:819:A:O4'	2.35	0.43
10:CJ:57:VAL:HG22	10:CJ:58:ASN:H	1.84	0.43
23:BB:14:U:OP2	23:BB:71:C:H5'	2.19	0.43
22:DA:2229:U:H2'	22:DA:2230:G:H8	1.83	0.43
22:BA:1930:G:HO2'	22:BA:1931:U:P	2.41	0.43
22:BA:1626:A:HO2'	22:BA:1627:G:P	2.41	0.43
1:CA:1252:A:H2'	1:CA:1253:G:O4'	2.18	0.43
22:BA:1563:U:H2'	22:BA:1564:C:C6	2.53	0.43
22:BA:846:U:O2'	22:BA:847:U:P	2.76	0.43
22:DA:1488:C:N3	22:DA:1489:C:C5	2.86	0.43
22:BA:310:A:HO2'	22:BA:311:A:P	2.42	0.43
15:CO:3:LEU:HA	15:CO:3:LEU:HD12	1.95	0.43
41:DT:89:GLU:HA	41:DT:89:GLU:OE2	2.19	0.43
22:BA:2703:C:O5'	22:BA:2703:C:H6	2.02	0.43
49:D1:12:VAL:C	49:D1:49:TYR:CD2	2.92	0.43
22:BA:1150:C:C2	22:BA:1151:A:C8	3.07	0.43
18:AR:34:THR:OG1	18:AR:35:GLU:N	2.49	0.43
1:CA:1235:U:H2'	1:CA:1236:A:O4'	2.19	0.43
43:DV:42:LEU:HD12	43:DV:47:VAL:HG21	2.01	0.43
29:BH:79:THR:CG2	29:BH:147:VAL:CG2	2.97	0.42
25:DD:148:GLN:HB2	25:DD:152:PRO:HG2	2.01	0.42
22:BA:1917:U:C2'	22:BA:1918:A:H5'	2.48	0.42
2:AB:22:TYR:CD1	2:AB:22:TYR:N	2.87	0.42
2:AB:24:ASN:HA	2:AB:25:PRO:HD2	1.85	0.42
24:DC:157:SER:O	24:DC:158:ALA:C	2.57	0.42
2:AB:74:ARG:O	2:AB:75:ALA:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2549:G:C2'	22:DA:2550:G:H5'	2.49	0.42
11:CK:126:LYS:O	11:CK:127:ARG:CB	2.66	0.42
12:AL:46:ASN:ND2	12:AL:89:ASP:OD2	2.48	0.42
17:CQ:14:SER:O	17:CQ:17:MET:HE1	2.19	0.42
22:BA:499:U:C4	22:BA:500:G:C6	3.07	0.42
1:AA:1002:G:N2	1:AA:1003:G:H1'	2.34	0.42
22:DA:1599:U:P	41:DT:40:LYS:HD2	2.58	0.42
4:CD:62:ARG:HG3	4:CD:72:PHE:CG	2.54	0.42
22:DA:1362:C:O2'	22:DA:1363:C:H5'	2.18	0.42
39:DR:52:PRO:O	39:DR:53:PHE:HB2	2.19	0.42
4:CD:26:ARG:HG3	4:CD:27:ALA:H	1.84	0.42
1:AA:495:A:C2	1:AA:496:A:N6	2.87	0.42
1:AA:545:C:O2	1:AA:545:C:H2'	2.19	0.42
22:DA:995:C:C4	38:DQ:57:PHE:CZ	3.07	0.42
22:DA:813:U:C2	22:DA:814:C:C5	3.07	0.42
22:BA:2271:G:H2'	22:BA:2272:U:H6	1.83	0.42
22:BA:323:C:C4	22:BA:333:G:C8	3.06	0.42
7:AG:102:ARG:O	7:AG:106:GLU:CB	2.67	0.42
22:DA:1171:G:C2	22:DA:1179:G:C6	3.07	0.42
1:AA:1539:C:H5''	21:AU:18:ARG:CB	2.49	0.42
22:DA:1791:A:C8	22:DA:1792:G:C8	3.06	0.42
27:BF:80:ARG:NE	27:BF:81:GLN:O	2.52	0.42
1:AA:1307:U:N3	1:AA:1308:U:C4	2.87	0.42
22:BA:1654:A:H1'	22:BA:2823:A:H5'	2.01	0.42
1:CA:1365:G:C5	1:CA:1366:C:C4	3.07	0.42
30:BI:42:PHE:CE2	30:BI:46:THR:HG21	2.53	0.42
22:BA:1737:G:C6	22:BA:1738:G:N1	2.87	0.42
22:BA:31:C:O2'	22:BA:1238:G:H5'	2.19	0.42
51:D3:31:HIS:C	51:D3:31:HIS:ND1	2.72	0.42
51:D3:45:ARG:N	51:D3:46:PRO:HD2	2.33	0.42
37:DP:103:ARG:HG2	37:DP:107:ALA:CB	2.49	0.42
5:CE:157:ARG:C	5:CE:159:LYS:N	2.72	0.42
1:AA:1163:A:C2	1:AA:1174:G:C2	3.06	0.42
1:CA:1053:G:O5'	1:CA:1054:C:H3'	2.19	0.42
37:BP:26:VAL:HG13	37:BP:47:VAL:HG23	2.00	0.42
46:BY:32:ALA:HB2	46:BY:37:LEU:HD23	2.00	0.42
7:CG:5:ARG:HA	7:CG:5:ARG:NE	2.34	0.42
22:DA:2766:A:N3	22:DA:2766:A:H2'	2.34	0.42
16:AP:20:VAL:HG23	16:AP:35:ARG:HA	2.00	0.42
22:BA:2120:G:N2	22:BA:2179:C:O2	2.52	0.42
7:CG:46:ALA:HA	7:CG:121:ALA:HB2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:110:C:N4	1:CA:111:G:C6	2.87	0.42
1:CA:793:U:O2	1:CA:1516:G:H4'	2.18	0.42
22:DA:2323:G:C6	22:DA:2324:U:C4	3.07	0.42
22:BA:1402:U:H2'	22:BA:1403:A:O5'	2.19	0.42
1:AA:43:C:H2'	1:AA:44:A:O4'	2.19	0.42
22:DA:2138:G:C2	22:DA:2154:A:N3	2.86	0.42
40:DS:85:ILE:CG2	40:DS:86:MET:N	2.82	0.42
22:BA:2740:A:H2'	22:BA:2741:A:C8	2.53	0.42
22:DA:439:A:H2'	22:DA:440:C:O4'	2.18	0.42
23:DB:109:A:C6	23:DB:110:C:N3	2.87	0.42
1:AA:1372:U:C4	1:AA:1373:G:C5	3.07	0.42
22:DA:416:U:H2'	22:DA:417:C:O4'	2.18	0.42
22:BA:720:U:H2'	22:BA:721:A:C8	2.53	0.42
22:BA:1827:U:C2'	22:BA:1828:G:O5'	2.67	0.42
30:DI:39:CYS:HA	30:DI:42:PHE:HB3	2.00	0.42
22:DA:2301:C:C2	22:DA:2316:G:N2	2.87	0.42
3:AC:29:PHE:O	3:AC:29:PHE:HD1	2.02	0.42
2:AB:109:GLN:OE1	2:AB:109:GLN:N	2.52	0.42
37:BP:34:GLU:O	37:BP:36:SER:N	2.52	0.42
40:DS:17:VAL:HG12	40:DS:76:VAL:HG21	2.00	0.42
52:B4:1:MET:CE	52:B4:34:LYS:HG2	2.49	0.42
1:CA:505:G:C6	1:CA:535:A:C2	3.07	0.42
22:BA:2738:A:C2	22:BA:2739:U:H1'	2.54	0.42
22:DA:2584:U:H3'	22:DA:2585:U:H5''	2.02	0.42
22:BA:1439:A:N3	22:BA:1553:A:C6	2.87	0.42
1:CA:1195:C:H5''	1:CA:1196:A:OP2	2.19	0.42
17:AQ:17:MET:HB2	17:AQ:20:SER:HB3	2.00	0.42
22:DA:1566:A:N3	24:DC:213:TRP:CB	2.81	0.42
22:DA:1403:A:H2'	22:DA:1404:C:C6	2.55	0.42
22:DA:1596:A:C6	22:DA:1597:A:C6	3.07	0.42
16:AP:44:SER:O	16:AP:46:LYS:HD2	2.20	0.42
1:CA:68:G:O4'	1:CA:171:A:H1'	2.19	0.42
53:B5:204:GLY:O	53:B5:205:ALA:HB2	2.18	0.42
22:BA:2685:G:O2'	22:BA:2686:G:H5'	2.19	0.42
39:DR:49:ILE:HG22	39:DR:53:PHE:C	2.37	0.42
1:CA:939:G:P	7:CG:95:ARG:HH22	2.43	0.42
22:DA:764:A:C2	22:DA:781:A:C2	3.07	0.42
12:CL:87:VAL:HB	12:CL:93:VAL:HG21	1.99	0.42
20:AT:5:LYS:HE2	20:AT:5:LYS:C	2.39	0.42
22:BA:1935:G:O2'	22:BA:1936:A:H5'	2.18	0.42
1:AA:1118:U:C1'	1:AA:1179:A:C4	3.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:17:LEU:HD23	10:AJ:17:LEU:C	2.38	0.42
10:AJ:53:ILE:HG22	10:AJ:61:ALA:CB	2.49	0.42
11:AK:53:ARG:O	11:AK:56:ARG:HG3	2.19	0.42
22:BA:2469:A:H4'	34:BM:55:ARG:HH12	1.83	0.42
22:DA:1262:A:N3	22:DA:1262:A:H2'	2.35	0.42
8:AH:30:SER:O	8:AH:32:LEU:N	2.53	0.42
8:AH:8:ALA:HB2	8:AH:77:ARG:HD2	2.00	0.42
1:AA:104:G:N3	1:AA:105:G:C8	2.87	0.42
33:BL:109:LYS:HG2	33:BL:126:ARG:CB	2.50	0.42
12:AL:23:ALA:C	12:AL:24:LEU:O	2.57	0.42
33:DL:101:ILE:HD12	33:DL:105:ILE:HG21	2.01	0.42
37:DP:92:VAL:CG1	37:DP:110:ILE:HG22	2.49	0.42
1:CA:205:A:N6	1:CA:213:G:O6	2.52	0.42
23:DB:61:G:C6	23:DB:62:C:C4	3.07	0.42
22:DA:589:U:C2	22:DA:590:A:N7	2.88	0.42
5:CE:83:HIS:CG	8:CH:96:MET:HE2	2.55	0.42
13:AM:69:LEU:HG	13:AM:73:ILE:HD11	2.01	0.42
6:AF:42:TRP:HZ2	6:AF:61:LEU:HD22	1.84	0.42
22:DA:532:A:H4'	22:DA:533:G:C8	2.54	0.42
41:BT:48:GLN:O	41:BT:52:GLU:HA	2.18	0.42
22:BA:685:A:H1'	22:BA:688:U:O4	2.19	0.42
1:CA:167:A:C2'	1:CA:168:G:O5'	2.67	0.42
22:DA:308:G:C6	22:DA:309:A:C6	3.07	0.42
28:DG:41:VAL:HG22	28:DG:64:GLN:HB3	2.01	0.42
10:CJ:27:GLU:O	10:CJ:27:GLU:CG	2.67	0.42
1:CA:1503:A:C2	1:CA:1531:A:H2	2.36	0.42
22:DA:2563:U:C1'	22:DA:2566:A:N6	2.81	0.42
30:DI:101:ILE:O	30:DI:102:SER:HB3	2.18	0.42
12:AL:51:LYS:N	12:AL:51:LYS:HD3	2.33	0.42
13:AM:88:GLY:O	13:AM:89:LEU:C	2.57	0.42
49:D1:5:ILE:HG22	49:D1:28:ARG:HD3	2.00	0.42
1:AA:604:G:C6	1:AA:605:U:N3	2.87	0.42
41:BT:69:ARG:HB3	41:BT:74:ILE:HG22	2.01	0.42
22:BA:477:A:C6	22:BA:478:A:C6	3.07	0.42
3:CC:126:ARG:O	3:CC:127:ARG:CB	2.66	0.42
22:BA:271:G:C4'	22:BA:272:A:OP1	2.67	0.42
4:AD:75:TYR:OH	4:AD:97:ARG:NH1	2.50	0.42
7:CG:26:PHE:HB2	7:CG:101:MET:SD	2.58	0.42
22:BA:1836:C:C2'	22:BA:1837:C:H5'	2.49	0.42
22:BA:207:A:O2'	22:BA:799:G:H4'	2.19	0.42
48:D0:25:VAL:HG13	48:D0:26:THR:H	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:DI:103:ARG:O	30:DI:107:GLN:N	2.49	0.42
3:CC:101:ILE:O	3:CC:101:ILE:CG2	2.67	0.42
2:CB:151:ILE:HG23	2:CB:151:ILE:O	2.18	0.42
22:BA:1016:G:C2	22:BA:1147:A:C2	3.07	0.42
23:BB:96:G:C2'	23:BB:97:C:H5'	2.48	0.42
22:BA:1692:U:H2'	22:BA:1694:C:C5	2.54	0.42
1:AA:903:G:H2'	1:AA:904:U:H6	1.84	0.42
29:BH:123:ARG:NH2	1:CA:367:U:H5'	2.33	0.42
22:BA:1915:U:H2'	22:BA:1916:A:O4'	2.19	0.42
5:AE:101:GLU:CD	5:AE:101:GLU:O	2.58	0.42
22:DA:513:A:C2	22:DA:514:A:N7	2.87	0.42
1:CA:1002:G:H2'	1:CA:1003:G:O4'	2.19	0.42
35:DN:56:LYS:NZ	35:DN:87:PHE:HB3	2.34	0.42
22:BA:1098:A:C6	22:BA:1099:G:C6	3.07	0.42
22:DA:568:U:H2'	22:DA:570:G:OP2	2.19	0.42
22:BA:475:C:N3	22:BA:481:G:C6	2.87	0.42
17:CQ:15:ASP:N	17:CQ:17:MET:HE1	2.34	0.42
1:AA:1505:G:P	57:AA:1868:HOH:O	2.76	0.42
22:DA:56:A:C6	22:DA:57:C:N3	2.87	0.42
25:DD:28:GLU:HA	25:DD:185:ASN:O	2.20	0.42
45:DX:18:ARG:HD2	45:DX:18:ARG:HA	1.84	0.42
22:BA:2887:A:H2'	22:BA:2887:A:N3	2.34	0.42
22:BA:2298:A:C6	22:BA:2321:U:C4	3.08	0.42
22:BA:1022:G:O6	31:BJ:68:LYS:CE	2.67	0.42
22:BA:2520:C:HO2'	22:BA:2565:A:HO2'	1.65	0.42
1:CA:1377:A:C4	7:CG:7:ILE:CD1	3.03	0.42
4:CD:26:ARG:HD2	4:CD:31:LYS:HE3	2.01	0.42
22:DA:277:G:C2'	22:DA:361:G:O6	2.67	0.42
9:AI:30:ILE:HB	9:AI:65:ILE:HD11	2.01	0.42
22:DA:251:A:H4'	33:DL:47:ARG:NH2	2.35	0.42
17:CQ:46:VAL:CG2	17:CQ:61:ILE:CD1	2.98	0.42
46:BY:23:ARG:O	46:BY:24:GLU:C	2.57	0.42
22:DA:1855:U:C6	22:DA:1856:U:C5	3.08	0.42
2:CB:34:ALA:O	2:CB:35:ARG:O	2.38	0.42
1:AA:1329:A:OP1	13:AM:26:GLY:N	2.49	0.42
19:AS:3:ARG:O	19:AS:4:SER:HB2	2.19	0.42
2:CB:120:GLN:HG2	2:CB:120:GLN:O	2.20	0.42
22:DA:988:A:P	47:DZ:12:SER:HB3	2.59	0.42
46:BY:9:LYS:HB3	46:BY:12:GLU:HG3	2.01	0.42
37:DP:99:TYR:CE2	37:DP:100:LEU:HD21	2.54	0.42
22:DA:2201:G:H2'	22:DA:2202:U:C6	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:820:A:H2'	22:BA:821:A:O4'	2.19	0.42
4:AD:150:LYS:O	4:AD:152:GLN:N	2.52	0.42
41:DT:63:VAL:HG12	41:DT:64:LYS:N	2.34	0.42
11:CK:107:ILE:HD13	11:CK:107:ILE:C	2.40	0.42
35:DN:83:LEU:HD23	35:DN:86:ARG:NH2	2.35	0.42
22:DA:1087:G:C2	22:DA:1089:A:C2	3.07	0.42
22:BA:418:C:H2'	22:BA:419:U:O4'	2.19	0.42
22:BA:420:C:O2'	22:BA:421:C:H5'	2.20	0.42
26:DE:81:GLY:HA2	57:DE:301:HOH:O	2.18	0.42
1:AA:192:A:H2'	1:AA:193:C:C6	2.54	0.42
35:BN:9:GLN:O	35:BN:10:LEU:C	2.58	0.42
1:AA:918:A:H2'	1:AA:919:A:C8	2.54	0.42
1:CA:1081:A:H2'	1:CA:1082:A:O4'	2.19	0.42
23:BB:50:A:H2'	23:BB:51:G:O5'	2.19	0.42
33:DL:68:SER:O	33:DL:69:ARG:HG3	2.19	0.42
22:DA:1857:G:C2	22:DA:1884:G:C4	3.08	0.42
28:BG:54:PRO:HG3	28:BG:62:TRP:NE1	2.34	0.42
22:DA:2370:G:C6	22:DA:2371:G:C6	3.08	0.42
22:DA:404:A:H1'	22:DA:405:U:OP2	2.19	0.42
22:DA:1281:G:H2'	22:DA:1282:U:C6	2.54	0.42
9:CI:83:ILE:O	9:CI:87:LEU:HG	2.20	0.42
1:AA:974:A:P	14:AN:69:ARG:HH12	2.42	0.42
53:B5:100:ILE:HG22	53:B5:104:ILE:CB	2.49	0.42
22:DA:2836:U:H2'	22:DA:2837:A:C8	2.55	0.42
27:DF:104:ILE:O	27:DF:109:PRO:HD3	2.18	0.42
13:CM:60:VAL:CG2	13:CM:65:VAL:HG21	2.50	0.42
1:AA:1468:A:H2'	1:AA:1469:C:O4'	2.19	0.42
10:AJ:25:ILE:O	10:AJ:26:VAL:C	2.57	0.42
15:CO:29:VAL:HG13	15:CO:63:ARG:HG3	2.00	0.42
34:DM:67:VAL:HG11	34:DM:96:ILE:CD1	2.49	0.42
22:BA:1361:G:C6	22:BA:1362:C:N4	2.87	0.42
1:AA:666:G:C5	1:AA:741:G:C6	3.07	0.42
22:DA:2540:C:C2	22:DA:2541:A:C8	3.07	0.42
1:CA:1177:G:C5	1:CA:1178:G:C5	3.07	0.42
12:AL:35:THR:C	12:AL:36:ARG:HD2	2.40	0.42
22:DA:1252:G:H5''	57:DA:3282:HOH:O	2.17	0.42
22:BA:2717:C:H2'	22:BA:2718:G:O4'	2.19	0.42
22:BA:228:C:N4	22:BA:2407:A:N3	2.66	0.42
1:CA:1031:C:H4'	1:CA:1032:G:C2	2.53	0.42
22:BA:328:U:H2'	22:BA:329:G:OP1	2.19	0.42
24:BC:161:TYR:CD1	24:BC:161:TYR:O	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:464:U:O2	22:BA:464:U:H2'	2.18	0.42
5:AE:117:VAL:HG23	5:AE:118:ALA:N	2.34	0.42
8:AH:34:VAL:O	8:AH:36:ILE:N	2.52	0.42
23:DB:68:C:H2'	23:DB:69:G:O4'	2.19	0.42
42:DU:3:ALA:O	42:DU:6:ARG:NH1	2.52	0.42
1:CA:797:C:O2'	1:CA:798:U:H5'	2.19	0.42
1:AA:828:U:C4	1:AA:859:G:C4	3.07	0.42
22:DA:605:G:N7	22:DA:606:U:C5	2.88	0.42
22:BA:1183:U:H2'	22:BA:1184:U:C6	2.54	0.42
22:DA:621:A:H2'	22:DA:622:G:O4'	2.19	0.42
22:BA:1007:C:OP1	31:BJ:39:LYS:HD2	2.20	0.42
22:DA:575:A:H1'	22:DA:2500:U:OP1	2.19	0.42
22:DA:1622:G:H2'	22:DA:1623:G:O4'	2.20	0.42
1:CA:6:G:O2'	1:CA:298:A:H1'	2.19	0.42
1:AA:219:U:H2'	1:AA:220:G:H8	1.85	0.42
22:DA:1509:A:C4	22:DA:1510:G:N7	2.87	0.42
22:DA:2209:G:C6	22:DA:2210:U:C4	3.08	0.42
41:DT:21:SER:O	41:DT:22:THR:C	2.57	0.42
22:DA:1358:G:O6	22:DA:1371:G:C8	2.72	0.42
22:DA:1360:G:N1	22:DA:1361:G:H1'	2.33	0.42
22:DA:1361:G:C5	22:DA:1371:G:N2	2.87	0.42
14:AN:46:LEU:CG	14:AN:47:LYS:N	2.82	0.42
1:CA:976:G:P	1:CA:1358:U:O2'	2.77	0.42
24:BC:91:ILE:CD1	24:BC:103:TYR:CD1	3.00	0.42
22:DA:1061:U:H3'	22:DA:1062:G:C5'	2.50	0.42
22:DA:783:A:C5	22:DA:785:G:H1'	2.53	0.42
1:AA:947:G:C6	1:AA:948:C:N3	2.88	0.42
22:DA:629:G:O6	22:DA:630:G:C6	2.72	0.42
12:AL:43:LYS:HG3	12:AL:44:LYS:HD3	2.02	0.42
22:BA:830:G:H4'	22:BA:831:G:OP2	2.20	0.42
1:CA:686:U:C2	1:CA:687:A:N7	2.87	0.42
5:CE:56:VAL:N	5:CE:57:PRO:CD	2.82	0.42
26:BE:77:ILE:CG2	26:BE:77:ILE:O	2.66	0.42
42:DU:7:ARG:HD3	42:DU:8:ASP:N	2.34	0.42
49:D1:9:ILE:HG13	49:D1:10:LYS:N	2.33	0.42
22:BA:1738:G:HO2'	22:BA:1739:A:P	2.42	0.42
5:CE:68:ARG:HA	5:CE:71:MET:HE2	2.01	0.42
30:BI:75:PRO:HB2	30:BI:78:VAL:HG13	2.01	0.42
1:AA:1287:A:H2'	1:AA:1288:A:C8	2.54	0.42
42:DU:97:LYS:O	42:DU:98:SER:OG	2.34	0.42
22:BA:372:G:P	45:BX:62:LYS:NZ	2.93	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:19:GLN:O	2:AB:38:VAL:HG23	2.20	0.42
22:DA:2310:C:C4	27:DF:77:PHE:CZ	3.07	0.42
22:DA:600:G:H5'	26:DE:27:LEU:HD22	2.02	0.42
1:CA:1479:C:C2	1:CA:1480:A:C8	3.06	0.42
40:DS:5:ALA:O	40:DS:50:VAL:CG1	2.67	0.42
16:CP:6:LEU:CD1	16:CP:71:VAL:HG23	2.48	0.42
22:BA:644:A:C2	22:BA:2369:A:H1'	2.54	0.42
33:BL:97:ALA:C	33:BL:99:ASN:H	2.22	0.42
1:AA:35:G:H2'	1:AA:36:C:C6	2.54	0.42
22:DA:291:G:O2'	22:DA:292:U:H5'	2.19	0.42
10:AJ:28:THR:O	10:AJ:28:THR:HG22	2.20	0.42
2:AB:27:MET:HE1	2:AB:193:PRO:HB3	2.01	0.42
4:AD:170:TRP:O	4:AD:183:LYS:HB3	2.19	0.42
22:DA:2285:C:O4'	22:DA:2288:A:C2	2.72	0.42
45:DX:58:VAL:CG1	45:DX:59:ILE:N	2.82	0.42
22:DA:1492:G:C5	22:DA:1496:A:N6	2.87	0.42
22:BA:216:A:C8	22:BA:432:A:C6	3.07	0.42
22:DA:2444:G:OP2	26:DE:63:LYS:HE2	2.20	0.42
1:AA:601:G:H2'	1:AA:602:A:C8	2.54	0.42
40:DS:27:LYS:HB2	40:DS:32:ALA:HB2	2.02	0.42
1:AA:615:G:C2	1:AA:616:G:C8	3.08	0.42
53:B5:73:VAL:HB	53:B5:75:VAL:HG23	2.00	0.42
3:CC:30:ALA:HB1	14:CN:65:ARG:NH2	2.34	0.42
22:DA:504:A:HO2'	22:DA:505:A:P	2.42	0.42
53:B5:79:ALA:HB3	53:B5:95:VAL:HG11	2.00	0.42
43:DV:6:ALA:CB	43:DV:42:LEU:HD22	2.49	0.42
22:BA:1827:U:H2'	22:BA:1828:G:O5'	2.20	0.42
30:DI:103:ARG:O	30:DI:107:GLN:HB2	2.19	0.42
1:AA:459:A:H2'	1:AA:460:A:C8	2.55	0.42
11:CK:59:THR:HA	11:CK:91:PRO:HB3	2.01	0.42
20:AT:19:LYS:O	20:AT:22:ALA:HB3	2.19	0.42
22:BA:959:A:C6	22:BA:960:A:N1	2.87	0.42
22:DA:2722:G:H4'	35:DN:4:ARG:HB2	2.01	0.42
22:BA:460:A:H2'	22:BA:461:C:O4'	2.19	0.42
24:DC:93:LEU:HD13	24:DC:103:TYR:CE1	2.54	0.42
22:BA:1834:U:H4'	22:BA:1969:A:C6	2.54	0.42
1:CA:826:C:H2'	1:CA:827:U:C6	2.54	0.42
22:BA:1100:C:H2'	22:BA:1101:U:C6	2.55	0.42
22:BA:2590:A:C2	22:BA:2605:U:C2	3.08	0.42
1:CA:392:C:C2	1:CA:393:A:C8	3.07	0.42
1:CA:1397:C:O2'	1:CA:1398:A:OP1	2.29	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2063:C:H2'	22:DA:2063:C:O2	2.18	0.42
1:AA:343:U:H2'	1:AA:345:C:C5	2.54	0.42
1:AA:1347:G:O2'	1:AA:1348:U:OP2	2.31	0.42
1:AA:714:G:H2'	1:AA:715:A:C8	2.54	0.42
22:BA:880:G:N2	22:BA:898:C:O2	2.52	0.42
11:CK:88:GLY:N	11:CK:114:THR:HG22	2.34	0.42
22:DA:1245:G:H4'	26:DE:33:VAL:HG11	2.02	0.42
4:CD:58:LYS:NZ	4:CD:59:GLN:OE1	2.45	0.42
22:DA:2093:G:O2'	29:DH:25:TYR:HB2	2.19	0.42
22:DA:2195:U:N3	22:DA:2196:C:C5	2.88	0.42
24:DC:158:ALA:HA	24:DC:195:VAL:HG22	2.02	0.42
22:DA:621:A:OP2	33:DL:99:ASN:OD1	2.38	0.42
22:DA:1619:G:N2	22:DA:1620:G:H1'	2.34	0.42
22:DA:2128:G:O6	22:DA:2160:C:C4	2.72	0.42
1:CA:1322:C:O4'	1:CA:1322:C:O2	2.36	0.42
1:AA:64:G:N7	1:AA:99:C:C4	2.88	0.42
11:CK:31:ILE:HB	11:CK:46:THR:HG22	2.02	0.42
9:AI:50:GLN:C	9:AI:52:LEU:H	2.23	0.42
22:DA:2209:G:N2	22:DA:2216:G:N3	2.67	0.42
22:DA:2208:C:C2	22:DA:2217:G:N2	2.87	0.42
22:BA:528:A:C2	22:BA:2042:A:H2'	2.54	0.42
22:BA:1090:A:H2'	22:BA:1091:G:C5'	2.47	0.42
7:AG:40:GLU:O	7:AG:43:VAL:HG23	2.19	0.42
22:BA:1385:A:C4	22:BA:1386:C:C5	3.08	0.42
39:DR:39:LEU:O	39:DR:49:ILE:HG12	2.20	0.42
1:CA:182:A:C5	1:CA:184:G:C5	3.07	0.42
1:CA:728:A:N6	1:CA:729:A:N6	2.67	0.42
20:AT:33:LYS:O	20:AT:35:VAL:N	2.52	0.42
20:AT:7:ALA:HB1	20:AT:10:ARG:HB2	2.02	0.42
35:DN:2:ARG:O	35:DN:3:HIS:C	2.57	0.42
4:CD:150:LYS:O	4:CD:152:GLN:OE1	2.37	0.42
22:DA:922:C:H2'	22:DA:923:G:C8	2.54	0.42
1:CA:1159:U:C4	1:CA:1182:G:C5	3.07	0.42
1:AA:1327:C:C2'	1:AA:1328:C:H5'	2.50	0.42
10:CJ:37:ARG:O	10:CJ:38:GLY:O	2.38	0.42
22:BA:2346:A:H3'	22:BA:2347:C:H5''	2.01	0.42
1:AA:102:G:N1	1:AA:103:U:C4	2.87	0.42
22:DA:636:G:C6	33:DL:111:ILE:HD11	2.55	0.42
33:DL:81:ASP:O	33:DL:82:LEU:CB	2.66	0.42
4:CD:173:VAL:HG13	4:CD:174:ASP:N	2.34	0.42
1:AA:157:U:O2	1:AA:165:G:C6	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:150:LYS:O	4:AD:152:GLN:HG2	2.19	0.42
4:AD:153:SER:OG	4:AD:154:ARG:N	2.52	0.42
1:AA:1059:C:C2	1:AA:1060:U:C5	3.06	0.42
1:CA:674:G:OP1	6:CF:86:ARG:NH2	2.39	0.42
32:DK:63:VAL:O	32:DK:64:ARG:CG	2.68	0.42
22:BA:64:A:C5	22:BA:65:U:C4	3.08	0.42
1:CA:951:G:C5	1:CA:952:U:C4	3.08	0.42
1:CA:972:C:H4'	10:CJ:59:LYS:CG	2.50	0.42
22:DA:1232:G:H2'	22:DA:1233:C:C6	2.55	0.42
30:BI:18:ALA:HB2	30:BI:42:PHE:CZ	2.54	0.42
22:BA:1196:C:H1'	22:BA:1226:A:C4	2.54	0.42
1:CA:881:G:H2'	1:CA:882:C:O4'	2.18	0.42
26:DE:52:VAL:CG2	26:DE:81:GLY:HA2	2.49	0.42
1:AA:558:G:C4	1:AA:559:A:C2	3.07	0.42
16:AP:57:ILE:O	16:AP:61:VAL:HG23	2.20	0.42
22:DA:1838:C:H4'	22:DA:1839:G:C8	2.54	0.42
22:DA:430:A:H2'	22:DA:431:U:H5'	2.00	0.42
1:AA:760:G:C8	1:AA:761:G:C8	3.08	0.42
22:DA:875:G:H2'	22:DA:876:C:O4'	2.19	0.42
24:DC:87:ARG:CZ	24:DC:87:ARG:HB3	2.48	0.42
22:DA:900:A:C5	22:DA:901:C:C6	3.07	0.42
22:BA:553:G:N7	22:BA:554:U:C5	2.87	0.42
22:DA:1665:A:N6	22:DA:1666:G:C6	2.87	0.42
1:AA:232:G:H2'	1:AA:233:C:O4'	2.18	0.42
22:DA:1248:G:C5	26:DE:46:GLN:NE2	2.88	0.42
22:DA:121:G:H1'	22:DA:131:A:C2	2.55	0.42
22:BA:404:A:C8	22:BA:406:G:C6	3.07	0.42
16:AP:19:VAL:HG13	16:AP:37:GLY:CA	2.49	0.42
22:BA:1881:C:H2'	22:BA:1882:U:O4'	2.19	0.42
22:BA:638:G:C5	22:BA:651:G:C2	3.07	0.42
8:AH:59:LEU:HD13	8:AH:60:GLU:N	2.35	0.42
8:CH:92:LEU:HD22	8:CH:113:ASP:HB2	2.01	0.42
20:CT:73:ALA:O	20:CT:77:ALA:N	2.49	0.42
1:CA:543:U:O2'	1:CA:544:G:H5'	2.19	0.42
29:BH:45:GLU:C	29:BH:47:PHE:N	2.72	0.42
13:CM:22:ILE:HG22	13:CM:23:TYR:N	2.34	0.42
22:BA:558:U:OP1	31:BJ:113:PRO:HD2	2.19	0.42
22:BA:289:G:H2'	22:BA:290:U:O4'	2.20	0.42
22:DA:1258:U:H2'	22:DA:1259:G:C8	2.54	0.42
22:DA:1259:G:H2'	22:DA:1260:A:C8	2.55	0.42
25:BD:106:LYS:HA	25:BD:175:LEU:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:678:U:H1'	1:AA:777:A:O3'	2.19	0.42
3:CC:165:THR:O	3:CC:166:GLU:HB3	2.20	0.42
12:CL:3:THR:O	12:CL:4:VAL:C	2.57	0.42
25:DD:14:ILE:HG12	25:DD:24:VAL:HG21	2.01	0.42
22:DA:1490:A:N3	22:DA:1490:A:H2'	2.35	0.42
22:DA:2745:C:O2'	28:DG:139:GLN:O	2.37	0.42
39:DR:69:GLY:O	39:DR:70:GLU:C	2.57	0.42
28:BG:37:LEU:HD13	28:BG:68:ALA:HB1	2.01	0.42
51:B3:39:LYS:HA	51:B3:42:ARG:NH2	2.34	0.42
22:DA:2838:G:C6	22:DA:2839:G:C5	3.08	0.42
36:BO:30:ARG:HG2	36:BO:31:THR:N	2.35	0.42
25:BD:13:ARG:HD3	25:BD:21:SER:OG	2.19	0.42
1:AA:451:A:OP2	16:AP:70:ARG:NH2	2.51	0.42
1:CA:485:U:O2	1:CA:485:U:O4'	2.37	0.42
22:DA:46:G:N2	22:DA:47:C:C2	2.88	0.42
11:AK:126:LYS:HD3	11:AK:126:LYS:H	1.83	0.42
22:BA:118:A:N3	22:BA:178:G:H1'	2.33	0.42
23:DB:39:A:H2'	23:DB:40:U:C5	2.55	0.42
1:CA:1007:U:H3'	1:CA:1008:U:H5''	2.02	0.42
45:DX:33:LEU:CD2	45:DX:50:ARG:CZ	2.98	0.42
22:DA:187:G:N1	22:DA:210:C:C2	2.88	0.42
1:CA:32:A:N3	1:CA:33:A:C8	2.88	0.42
1:CA:1004:A:C6	1:CA:1005:A:N1	2.88	0.42
22:DA:2756:U:H4'	22:DA:2757:A:OP1	2.18	0.42
29:DH:31:VAL:HG12	29:DH:32:PRO:HD3	2.02	0.42
1:AA:155:A:N1	1:AA:167:A:C2	2.87	0.42
22:BA:2311:A:C5	27:BF:77:PHE:HB3	2.54	0.42
22:BA:1936:A:C6	22:BA:1945:G:C4	3.07	0.42
1:AA:1160:G:N3	1:AA:1161:C:C6	2.87	0.42
22:BA:2196:C:P	4:CD:151:LYS:HZ1	2.42	0.42
9:AI:11:ARG:HB2	9:AI:15:SER:O	2.20	0.42
22:BA:2346:A:C5	22:BA:2383:G:C2	3.08	0.42
29:BH:114:GLU:CB	29:BH:133:GLN:O	2.66	0.42
1:CA:685:G:C2	1:CA:686:U:C4	3.07	0.42
22:DA:677:A:C2	22:DA:802:A:C2	3.07	0.42
1:CA:834:U:H2'	1:CA:835:U:C6	2.54	0.42
22:BA:2598:A:OP1	24:BC:235:GLY:N	2.53	0.42
1:AA:1462:C:C4	1:AA:1463:U:C5	3.08	0.42
22:BA:11:C:C2'	22:BA:12:U:H5'	2.49	0.42
1:AA:1277:C:O2'	1:AA:1279:G:C8	2.70	0.42
6:AF:99:ALA:O	6:AF:100:SER:HB2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:DC:148:PRO:HD2	24:DC:185:GLU:OE2	2.19	0.42
24:BC:62:TYR:HD1	24:BC:86:ASN:OD1	2.01	0.42
22:BA:2458:G:C4	22:BA:2490:G:C2	3.07	0.42
17:CQ:57:ASP:OD1	17:CQ:57:ASP:N	2.51	0.42
1:CA:623:C:C4	1:CA:624:C:C5	3.07	0.42
4:AD:38:PRO:HD2	4:AD:42:GLY:CA	2.50	0.42
1:CA:302:G:C6	1:CA:303:A:C5	3.08	0.42
25:DD:133:THR:HG23	25:DD:134:HIS:H	1.85	0.42
1:AA:1288:A:N6	1:AA:1289:A:C6	2.88	0.42
22:BA:2582:G:O2'	22:BA:2583:G:H5'	2.20	0.42
2:AB:70:VAL:HG21	2:AB:96:TRP:CD1	2.54	0.42
1:CA:1299:A:H2'	1:CA:1299:A:N3	2.34	0.42
11:AK:86:VAL:HG12	11:AK:93:ARG:NH1	2.35	0.42
1:AA:475:C:H2'	1:AA:476:U:O4'	2.19	0.42
22:DA:1127:A:C3'	22:DA:1128:G:H5''	2.50	0.42
22:DA:136:G:C2	22:DA:144:A:C6	3.07	0.42
22:BA:1301:A:C4	22:BA:1303:G:C8	3.08	0.42
9:AI:12:ARG:O	9:AI:13:LYS:C	2.58	0.42
37:DP:65:SER:O	37:DP:67:GLY:N	2.53	0.42
29:DH:72:ILE:O	29:DH:72:ILE:CG2	2.67	0.42
1:CA:237:G:C5	1:CA:238:A:N7	2.86	0.42
41:BT:2:ILE:HG12	41:BT:7:LEU:HD11	2.01	0.42
1:CA:997:U:H2'	1:CA:998:C:O4'	2.20	0.42
22:DA:1135:C:H5'	22:DA:1136:G:OP2	2.20	0.42
30:DI:80:LEU:HD23	30:DI:84:ALA:HB1	2.00	0.42
22:BA:2360:G:OP1	51:B3:51:SER:OG	2.35	0.42
26:DE:149:ILE:HG13	26:DE:188:MET:HE3	2.01	0.42
26:DE:130:LYS:HB2	26:DE:133:LEU:HB2	2.01	0.42
22:DA:1858:A:C2	22:DA:1859:U:H1'	2.54	0.42
22:DA:11:C:H2'	22:DA:12:U:H5'	2.01	0.42
22:BA:1315:C:C2	22:BA:1338:G:N2	2.88	0.42
1:CA:29:U:H4'	1:CA:295:C:O3'	2.19	0.42
22:DA:2100:G:C5	22:DA:2190:G:C6	3.07	0.42
1:AA:992:U:O2	1:AA:1043:G:N7	2.52	0.42
25:BD:66:GLY:O	25:BD:69:ALA:N	2.52	0.42
25:BD:69:ALA:O	25:BD:72:GLY:N	2.51	0.42
2:CB:199:VAL:C	2:CB:200:ILE:HD12	2.40	0.42
11:AK:110:ILE:O	21:AU:6:VAL:HG22	2.18	0.42
27:DF:108:VAL:N	27:DF:109:PRO:CD	2.82	0.42
14:CN:68:GLY:O	14:CN:69:ARG:C	2.57	0.42
27:DF:60:ILE:O	27:DF:102:ARG:NH2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:4:U:O2	22:BA:2900:A:C2	2.72	0.42
1:CA:441:A:H5''	1:CA:442:G:OP2	2.19	0.42
53:B5:66:PRO:CG	53:B5:194:ILE:CB	2.97	0.42
46:DY:9:LYS:O	46:DY:12:GLU:HG3	2.20	0.42
13:CM:33:ILE:HG23	13:CM:59:GLU:CB	2.50	0.42
5:AE:46:VAL:HG11	5:AE:118:ALA:HB2	2.01	0.42
48:B0:17:ARG:O	48:B0:19:HIS:N	2.53	0.42
7:AG:120:LEU:O	7:AG:124:LEU:HD23	2.19	0.42
27:BF:75:ALA:O	27:BF:76:GLY:C	2.56	0.42
22:BA:2468:A:C2	22:BA:2481:G:C2	3.07	0.42
1:AA:292:G:N7	1:AA:293:G:H1'	2.34	0.42
11:AK:31:ILE:HB	11:AK:46:THR:HG22	2.00	0.42
22:BA:661:A:H2'	22:BA:662:G:O4'	2.20	0.42
3:AC:53:SER:O	3:AC:54:ARG:HB2	2.19	0.42
22:BA:2415:G:C6	22:BA:2416:C:C4	3.07	0.42
33:BL:37:GLY:O	33:BL:41:ARG:HG2	2.19	0.42
3:AC:60:PRO:O	3:AC:61:ALA:O	2.38	0.42
1:AA:785:G:C2'	1:AA:786:G:H5'	2.50	0.42
33:BL:23:ILE:HD13	39:BR:84:ARG:HG2	2.00	0.42
23:BB:59:A:H2'	23:BB:60:C:O4'	2.20	0.42
29:DH:69:ALA:HB2	29:DH:138:VAL:HG12	2.02	0.42
14:CN:12:LYS:O	14:CN:14:VAL:N	2.53	0.42
14:CN:10:GLU:O	14:CN:14:VAL:HG23	2.19	0.42
11:CK:28:ASN:O	11:CK:57:LYS:HE3	2.19	0.42
2:CB:23:TRP:O	2:CB:23:TRP:CD1	2.73	0.42
6:AF:35:LYS:HD3	6:AF:35:LYS:N	2.35	0.42
22:DA:955:U:O4	22:DA:956:G:O6	2.37	0.42
29:BH:116:ARG:HB3	29:BH:131:SER:O	2.20	0.42
29:BH:118:PRO:O	29:BH:119:ASN:CB	2.68	0.42
29:BH:89:LYS:O	29:BH:90:LEU:C	2.58	0.42
29:DH:41:LYS:HE2	29:DH:44:ILE:CD1	2.50	0.42
2:AB:82:ASP:O	2:AB:83:ALA:C	2.58	0.42
22:BA:1184:U:H2'	22:BA:1185:G:O5'	2.20	0.42
22:DA:578:G:O2'	22:DA:580:U:OP2	2.31	0.42
22:DA:1394:U:H3'	22:DA:1394:U:H6	1.85	0.42
6:AF:3:HIS:O	6:AF:4:TYR:CG	2.73	0.42
22:BA:2129:C:H2'	22:BA:2130:U:C6	2.54	0.42
22:DA:732:C:C5	22:DA:733:G:N7	2.88	0.42
22:BA:27:G:N2	22:BA:512:G:H1'	2.34	0.42
23:DB:29:A:N1	23:DB:56:G:C6	2.88	0.42
41:DT:21:SER:O	41:DT:24:MET:N	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2297:A:C2	22:BA:2321:U:H5	2.37	0.42
22:BA:1450:G:O6	22:BA:1451:C:N4	2.53	0.42
31:BJ:80:HIS:O	31:BJ:83:GLY:N	2.50	0.42
2:CB:54:LEU:HA	2:CB:57:LEU:CB	2.47	0.42
22:DA:1805:A:N3	24:DC:50:THR:HB	2.34	0.42
5:AE:81:LEU:HD23	5:AE:123:VAL:CG1	2.50	0.42
5:AE:75:ALA:O	5:AE:82:GLN:NE2	2.52	0.42
42:DU:96:PHE:CE1	42:DU:103:ILE:CG1	3.02	0.42
39:BR:68:ARG:NH1	39:BR:90:ARG:HD3	2.35	0.42
22:DA:1262:A:C2	22:DA:1263:U:C2	3.08	0.42
17:CQ:52:GLU:HG2	17:CQ:53:CYS:N	2.35	0.42
1:AA:705:G:N7	1:AA:706:A:N7	2.67	0.42
28:DG:117:LEU:HB3	28:DG:121:ILE:O	2.20	0.42
22:DA:846:U:O2'	22:DA:847:U:P	2.73	0.42
35:DN:55:ALA:HB1	35:DN:80:PHE:H	1.83	0.42
4:AD:150:LYS:HE2	4:AD:177:LYS:O	2.20	0.42
22:DA:305:C:O2	22:DA:313:G:C2	2.73	0.42
33:DL:29:LYS:O	33:DL:30:THR:OG1	2.28	0.42
1:AA:1463:U:H2'	1:AA:1464:U:C6	2.54	0.42
13:CM:45:ILE:O	13:CM:45:ILE:HG22	2.20	0.42
22:DA:1998:A:H4'	22:DA:2724:U:O2'	2.19	0.42
22:DA:477:A:C4	22:DA:478:A:C8	3.08	0.42
22:DA:500:G:C2	22:DA:502:A:C8	3.08	0.42
1:AA:438:U:C2	1:AA:494:G:N1	2.87	0.42
3:CC:150:LYS:HB2	3:CC:169:ARG:CG	2.50	0.42
38:BQ:105:ALA:O	38:BQ:108:ALA:HB3	2.20	0.42
22:DA:965:C:H5'	57:DA:3336:HOH:O	2.20	0.42
27:BF:31:VAL:HG23	27:BF:96:MET:SD	2.60	0.42
22:BA:1583:A:O2'	22:BA:1584:U:O5'	2.36	0.42
10:AJ:80:THR:O	10:AJ:84:VAL:N	2.50	0.42
2:AB:28:LYS:HB3	2:AB:29:PRO:HD3	2.02	0.42
1:CA:328:C:H2'	1:CA:328:C:O2	2.19	0.42
22:BA:851:C:C2'	22:BA:852:U:O5'	2.68	0.42
7:CG:78:ARG:O	7:CG:79:ARG:HB2	2.20	0.42
22:BA:735:A:C8	22:BA:736:C:C5	3.08	0.42
46:DY:46:VAL:O	46:DY:50:VAL:HG23	2.19	0.42
22:DA:1884:G:O2'	22:DA:1885:A:OP2	2.33	0.42
22:DA:1751:U:O4'	22:DA:2860:A:C2	2.73	0.42
22:DA:2820:A:O2'	25:DD:114:LYS:HD3	2.20	0.42
21:CU:14:VAL:HG13	21:CU:15:ALA:N	2.34	0.42
22:DA:158:U:C4	22:DA:159:G:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CP:43:ALA:O	16:CP:46:LYS:CG	2.68	0.42
22:DA:1422:G:N2	22:DA:1577:C:H1'	2.34	0.42
25:DD:125:TRP:HB3	25:DD:160:LYS:HD3	2.01	0.42
20:CT:25:ARG:O	20:CT:26:SER:C	2.57	0.42
1:CA:1435:G:O6	1:CA:1465:A:N6	2.53	0.42
22:BA:222:A:C5	22:BA:224:U:C2	3.07	0.42
22:DA:2013:A:OP1	40:DS:96:ILE:HA	2.20	0.42
1:CA:1186:G:H4'	9:CI:112:GLU:CD	2.40	0.42
1:CA:296:U:C2	1:CA:297:G:C8	3.07	0.42
25:BD:65:ALA:O	25:BD:66:GLY:C	2.57	0.42
1:CA:402:G:H4'	1:CA:620:C:O2	2.20	0.42
22:DA:742:A:H2'	22:DA:743:A:C8	2.54	0.42
10:AJ:29:ALA:HA	10:AJ:32:THR:CG2	2.49	0.42
22:DA:993:G:H1'	39:DR:91:GLN:OE1	2.20	0.42
35:DN:106:ASP:C	35:DN:106:ASP:OD1	2.57	0.42
4:AD:48:LEU:HD21	4:AD:53:VAL:HG12	2.02	0.42
23:BB:96:G:O2'	23:BB:97:C:H5'	2.19	0.42
12:AL:55:VAL:HG21	12:AL:80:ILE:HD11	2.01	0.42
22:BA:2296:U:C2	22:BA:2333:A:C2	3.07	0.42
22:BA:28:A:C5	22:BA:29:U:C5	3.07	0.42
23:BB:24:G:N7	23:BB:56:G:H2'	2.34	0.42
22:BA:2219:U:H2'	22:BA:2220:U:O5'	2.20	0.42
22:BA:2136:G:H2'	22:BA:2137:U:C6	2.54	0.42
4:CD:187:GLU:O	4:CD:190:ASP:HB2	2.19	0.42
38:DQ:47:TYR:C	38:DQ:47:TYR:CD1	2.93	0.42
22:BA:2880:C:C2	22:BA:2881:U:C5	3.08	0.42
31:BJ:112:GLY:O	31:BJ:116:ARG:HG3	2.20	0.42
40:DS:33:LEU:HD21	40:DS:52:GLU:CG	2.49	0.42
27:DF:154:ILE:HG22	27:DF:155:THR:N	2.34	0.42
1:CA:1394:A:H4'	1:CA:1395:C:OP2	2.19	0.42
22:DA:659:G:C5	22:DA:660:C:C5	3.08	0.42
27:DF:178:ARG:CZ	27:DF:178:ARG:O	2.68	0.42
22:BA:2473:U:H2'	22:BA:2473:U:O2	2.19	0.42
22:BA:236:C:O2'	22:BA:237:C:H5'	2.20	0.42
36:DO:36:TYR:CD2	36:DO:36:TYR:N	2.88	0.42
22:DA:222:A:C5	22:DA:224:U:C2	3.08	0.42
14:CN:36:ALA:HB2	14:CN:41:ARG:HG3	2.02	0.42
3:AC:39:VAL:HG23	3:AC:40:ARG:N	2.35	0.42
22:BA:1009:A:P	31:BJ:39:LYS:NZ	2.92	0.42
1:CA:992:U:O4'	1:CA:993:G:C2	2.73	0.42
22:DA:2840:C:H4'	35:DN:94:TYR:OH	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:98:LEU:HD23	4:AD:118:VAL:CG2	2.50	0.42
4:AD:191:LEU:HD12	4:AD:192:SER:OG	2.20	0.42
22:BA:1066:U:O2	22:BA:1069:A:C8	2.73	0.42
14:AN:90:ARG:HB2	14:AN:92:GLU:HG3	2.01	0.42
22:DA:569:U:C4	22:DA:570:G:C6	3.08	0.42
22:DA:1607:C:O2	22:DA:1621:U:C4	2.73	0.42
3:CC:156:ARG:HD3	3:CC:160:ALA:O	2.18	0.42
18:CR:58:ALA:O	18:CR:59:ILE:C	2.58	0.42
22:DA:1352:U:H5	57:DA:3392:HOH:O	2.03	0.42
23:DB:29:A:C2	23:DB:56:G:C2	3.07	0.42
23:DB:58:A:C8	23:DB:59:A:N7	2.88	0.42
1:CA:546:A:OP1	4:CD:69:GLU:HB3	2.20	0.42
22:DA:2209:G:C5	22:DA:2210:U:C4	3.08	0.42
22:BA:1605:C:C3'	22:BA:1606:C:C5'	2.98	0.42
22:DA:1364:G:N2	22:DA:1367:A:OP2	2.41	0.42
22:DA:1370:C:C4'	22:DA:1810:A:H2	2.33	0.42
16:AP:45:GLU:O	16:AP:46:LYS:O	2.37	0.42
31:DJ:41:LYS:CE	31:DJ:52:ASP:OD1	2.68	0.42
22:DA:2755:C:C4	52:D4:19:ARG:NH1	2.88	0.42
22:BA:1360:G:C6	22:BA:1372:U:C2	3.08	0.42
1:CA:632:U:H3'	1:CA:633:G:H5'	2.02	0.42
9:AI:105:THR:HG22	9:AI:106:ARG:N	2.35	0.42
49:B1:4:GLY:C	49:B1:6:ARG:H	2.22	0.42
35:BN:69:ARG:O	35:BN:70:THR:HG23	2.19	0.42
10:AJ:65:TYR:HH	14:AN:85:ARG:HD2	1.85	0.42
23:DB:81:G:C4	23:DB:82:U:C6	3.07	0.42
17:CQ:49:GLU:C	17:CQ:50:ASN:CG	2.77	0.42
22:DA:777:G:H21	22:DA:778:G:H1'	1.85	0.42
30:BI:125:MET:HA	30:BI:128:SER:HB3	2.01	0.42
22:DA:2201:G:H2'	22:DA:2202:U:H6	1.85	0.42
16:AP:39:PHE:CG	16:AP:74:LEU:HD11	2.54	0.42
1:AA:1000:A:N1	1:AA:1041:G:N1	2.67	0.42
26:BE:108:ILE:HG13	26:BE:109:LEU:N	2.35	0.42
4:CD:12:SER:HA	4:CD:19:LEU:CD1	2.50	0.42
22:DA:2361:G:OP1	51:D3:26:HIS:HA	2.20	0.42
22:BA:1730:C:H4'	22:BA:1730:C:OP1	2.17	0.42
1:AA:284:C:H2'	1:AA:285:C:C6	2.54	0.42
20:AT:54:MET:CE	20:AT:58:VAL:HG21	2.49	0.42
31:DJ:31:GLU:HB3	31:DJ:142:ILE:HG12	2.02	0.42
43:DV:15:GLY:O	43:DV:19:ARG:HG3	2.20	0.42
1:CA:880:C:C2'	1:CA:881:G:H5'	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:123:G:H2'	22:BA:124:G:O4'	2.20	0.42
22:DA:2552:U:N3	22:DA:2554:U:H5'	2.35	0.42
22:DA:2732:G:H3'	22:DA:2733:A:O4'	2.19	0.42
1:AA:558:G:C5	1:AA:559:A:C2	3.08	0.42
1:CA:264:C:O2'	17:CQ:66:PRO:O	2.33	0.42
5:AE:151:GLU:C	5:AE:153:VAL:N	2.73	0.42
1:CA:1483:A:H5''	1:CA:1484:C:OP2	2.20	0.42
22:DA:681:G:C4	22:DA:682:G:C8	3.07	0.42
9:CI:28:ILE:HG21	9:CI:35:LEU:HD13	2.02	0.42
30:DI:67:PHE:CD1	30:DI:67:PHE:N	2.88	0.42
45:DX:7:VAL:HG12	45:DX:8:THR:HG23	2.01	0.42
22:DA:2820:A:C8	25:DD:196:ALA:HB1	2.55	0.42
19:CS:15:LEU:HD22	19:CS:35:SER:HB3	2.01	0.42
22:BA:1173:U:H2'	22:BA:1174:U:O5'	2.19	0.42
1:CA:1431:A:C6	1:CA:1432:G:O6	2.72	0.42
25:DD:2:ILE:HD13	25:DD:90:PHE:CZ	2.55	0.42
1:AA:787:A:H2'	1:AA:788:U:O5'	2.19	0.42
22:DA:321:U:H4'	26:DE:159:LEU:O	2.20	0.42
22:DA:228:C:H5''	22:DA:229:C:C6	2.55	0.42
22:DA:228:C:O2	22:DA:418:C:H4'	2.20	0.42
1:CA:49:U:C4	1:CA:364:A:C6	3.08	0.42
17:AQ:41:THR:CG2	17:AQ:42:THR:N	2.82	0.42
22:DA:64:A:H5''	41:DT:77:ARG:HA	2.02	0.42
42:BU:61:LYS:CE	42:BU:62:GLU:OE1	2.68	0.42
1:AA:1419:G:C4	1:AA:1420:U:C5	3.07	0.42
1:AA:172:A:C6	1:AA:174:A:C8	3.07	0.42
22:DA:402:A:C2'	22:DA:403:U:H5'	2.50	0.42
1:AA:666:G:C6	1:AA:741:G:C6	3.08	0.42
4:CD:59:GLN:O	4:CD:63:ARG:HG3	2.20	0.42
38:DQ:47:TYR:CZ	38:DQ:51:ARG:CZ	3.02	0.42
45:BX:66:THR:O	45:BX:69:ALA:HB3	2.20	0.42
22:BA:749:A:N3	22:BA:1618:A:H2'	2.34	0.42
2:CB:152:LYS:HG3	2:CB:153:ASP:N	2.34	0.42
22:DA:1512:C:C4	22:DA:1513:U:C4	3.07	0.42
12:AL:41:THR:HG22	12:AL:49:LEU:HD12	2.01	0.42
1:AA:1074:G:O3'	2:AB:102:THR:CG2	2.67	0.42
32:BK:4:GLU:O	32:BK:5:GLN:HB2	2.20	0.42
32:DK:22:ILE:O	32:DK:23:LYS:HB2	2.20	0.42
1:AA:782:A:H4'	1:AA:1514:G:O2'	2.19	0.42
22:BA:2895:G:H2'	22:BA:2896:C:C6	2.55	0.42
1:AA:134:G:H1'	1:AA:325:A:C5	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:73:ASP:OD1	32:BK:75:SER:OG	2.25	0.42
22:DA:545:U:H3'	22:DA:545:U:O2	2.20	0.42
8:CH:83:LEU:HD22	8:CH:83:LEU:C	2.39	0.42
22:BA:776:G:C8	22:BA:793:A:N3	2.88	0.42
41:DT:8:LEU:HD22	46:DY:26:PHE:HB2	2.01	0.42
29:BH:82:SER:HG	29:BH:90:LEU:HG	1.85	0.42
22:DA:2199:A:N7	22:DA:2225:A:N6	2.68	0.42
22:DA:2199:A:C4'	29:DH:28:ASN:CG	2.88	0.42
22:BA:1914:C:C2'	22:BA:1915:U:O5'	2.67	0.42
5:AE:34:THR:HG22	5:AE:52:LYS:HE2	2.01	0.42
22:DA:1311:G:N2	22:DA:1604:C:N4	2.68	0.42
11:CK:20:VAL:HB	11:CK:35:THR:CG2	2.50	0.42
22:DA:687:C:N3	22:DA:788:A:H5'	2.35	0.42
1:CA:1144:G:H5''	1:CA:1145:A:OP2	2.20	0.42
22:DA:2148:G:C2	22:DA:2149:U:C5	3.08	0.42
29:DH:121:VAL:O	29:DH:122:LEU:CB	2.67	0.42
22:DA:454:A:C3'	22:DA:455:C:H5'	2.50	0.42
27:BF:79:ILE:HG21	27:BF:85:ILE:HD12	2.00	0.42
22:DA:1509:A:C5	22:DA:1510:G:N7	2.87	0.42
21:AU:40:LYS:HA	21:AU:43:THR:HG23	2.02	0.42
1:CA:705:G:N2	11:CK:31:ILE:HD12	2.35	0.42
20:AT:69:LYS:HB2	20:AT:70:ASN:OD1	2.20	0.42
1:CA:35:G:N2	12:CL:115:SER:OG	2.48	0.42
12:AL:44:LYS:HB3	12:AL:45:PRO:HD3	2.01	0.42
22:DA:1095:A:H2'	22:DA:1096:A:C4	2.55	0.42
26:BE:119:ILE:O	26:BE:187:VAL:HA	2.20	0.42
1:CA:666:G:C5	1:CA:741:G:C6	3.08	0.42
22:DA:1831:G:O6	22:DA:1973:G:O6	2.38	0.42
2:AB:161:LEU:HD13	2:AB:176:ALA:HB2	2.02	0.42
27:BF:27:GLN:O	27:BF:28:VAL:C	2.57	0.42
30:BI:112:THR:O	30:BI:114:ALA:N	2.53	0.42
37:DP:92:VAL:C	37:DP:93:ARG:O	2.58	0.42
1:CA:1494:G:O2'	22:DA:1912:A:O2'	2.21	0.42
22:DA:590:A:H2'	22:DA:591:U:C6	2.54	0.42
42:DU:9:ASP:OD1	42:DU:9:ASP:C	2.58	0.42
1:CA:257:G:C2	1:CA:270:A:N1	2.87	0.42
13:CM:18:ALA:HB2	13:CM:45:ILE:HD11	2.02	0.42
20:AT:57:ILE:HD12	20:AT:60:ARG:HD2	2.01	0.42
1:CA:109:A:H2'	1:CA:326:G:N2	2.35	0.42
35:BN:108:ALA:O	35:BN:110:MET:HG2	2.20	0.42
22:DA:2823:A:H2'	22:DA:2824:C:H5'	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2583:G:C2'	22:BA:2584:U:O5'	2.67	0.42
2:AB:148:LEU:C	2:AB:151:ILE:HG22	2.40	0.42
22:BA:120:U:H5'	22:BA:122:G:OP2	2.18	0.42
36:DO:92:PHE:HB2	36:DO:117:PHE:CD1	2.55	0.42
22:DA:1539:U:N3	22:DA:1540:G:N7	2.68	0.42
29:DH:127:GLU:HA	29:DH:144:VAL:O	2.19	0.42
43:BV:50:MET:HE2	43:BV:56:PHE:CE1	2.55	0.42
22:BA:548:G:H4'	22:BA:549:G:N2	2.34	0.42
22:DA:2638:G:O2'	22:DA:2775:G:N2	2.43	0.42
1:AA:4:U:O2	1:AA:4:U:C2'	2.67	0.42
22:BA:468:G:O6	22:BA:469:G:C2	2.72	0.42
1:AA:771:G:O2'	1:AA:772:U:H5'	2.19	0.42
22:DA:1669:A:H3'	22:DA:1669:A:N3	2.35	0.42
7:AG:145:ALA:C	7:AG:147:ALA:H	2.23	0.42
12:AL:72:HIS:ND1	12:AL:72:HIS:C	2.73	0.42
19:AS:15:LEU:O	19:AS:19:VAL:HG23	2.20	0.42
22:DA:2760:C:O2'	22:DA:2761:A:H5'	2.19	0.42
2:CB:186:ILE:HA	2:CB:200:ILE:HB	2.00	0.42
22:BA:817:C:H2'	22:BA:818:G:O4'	2.20	0.42
24:BC:245:VAL:CA	24:BC:250:VAL:O	2.68	0.42
41:DT:65:GLY:HA3	41:DT:77:ARG:HB3	2.01	0.42
1:AA:626:G:H2'	1:AA:627:G:O4'	2.19	0.42
22:BA:1867:G:C2'	22:BA:1868:C:H5'	2.50	0.42
1:CA:620:C:H2'	1:CA:621:A:O4'	2.20	0.42
23:DB:109:A:C5	23:DB:110:C:C4	3.08	0.42
22:DA:2540:C:H2'	22:DA:2541:A:O4'	2.20	0.42
12:AL:35:THR:O	12:AL:36:ARG:HD2	2.19	0.42
22:BA:959:A:N1	22:BA:960:A:C2	2.88	0.42
11:CK:87:LYS:HA	11:CK:114:THR:HG22	2.02	0.42
22:BA:662:G:O3'	33:BL:16:GLY:HA2	2.19	0.42
13:CM:77:ILE:O	13:CM:81:MET:HG3	2.19	0.42
22:DA:792:A:H1'	22:DA:2072:C:O2'	2.19	0.42
1:AA:749:A:H2'	1:AA:750:C:H6	1.85	0.42
4:CD:97:ARG:O	4:CD:98:LEU:C	2.57	0.42
22:BA:43:G:C2'	22:BA:44:A:H5'	2.50	0.42
22:BA:68:G:H2'	22:BA:69:C:O4'	2.20	0.42
1:AA:790:A:C6	1:AA:791:G:C6	3.08	0.42
1:CA:112:G:C2'	1:CA:113:G:H5'	2.50	0.42
1:CA:468:A:O4'	1:CA:468:A:N3	2.52	0.42
22:BA:967:U:H2'	22:BA:968:C:C6	2.54	0.42
15:CO:32:LEU:O	15:CO:36:ILE:HG13	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BM:50:ARG:O	34:BM:53:MET:HG2	2.20	0.42
12:CL:75:GLN:O	12:CL:76:GLU:C	2.58	0.42
1:AA:631:C:H3'	1:AA:632:U:H5'	2.02	0.42
22:BA:1915:U:C2'	22:BA:1916:A:H5'	2.50	0.42
22:DA:1441:G:H2'	22:DA:1442:U:C6	2.55	0.42
1:CA:1195:C:C4	1:CA:1197:A:N7	2.88	0.42
1:CA:1002:G:C5	1:CA:1003:G:C8	3.08	0.42
1:AA:81:A:H2'	1:AA:82:G:H5''	2.02	0.42
22:DA:1620:G:C6	22:DA:1621:U:C4	3.08	0.42
1:AA:914:A:C6	1:AA:915:A:N7	2.88	0.42
5:CE:132:ASN:O	5:CE:136:VAL:HG12	2.19	0.42
22:BA:577:G:O2'	22:BA:1254:A:OP1	2.38	0.42
22:DA:1352:U:C5	22:DA:1377:G:O6	2.73	0.42
2:CB:16:PHE:CZ	2:CB:18:HIS:NE2	2.87	0.42
22:DA:1664:A:H1'	22:DA:2726:A:N1	2.35	0.42
22:BA:2286:G:C5'	22:BA:2287:A:O5'	2.68	0.42
22:DA:491:G:C6	22:DA:492:A:C5	3.08	0.42
22:DA:1338:G:O6	41:DT:66:LYS:NZ	2.45	0.42
16:AP:44:SER:OG	16:AP:46:LYS:HG3	2.20	0.42
22:BA:1924:C:H2'	22:BA:1925:C:H5'	2.02	0.42
22:BA:2746:U:H2'	22:BA:2747:G:H5'	2.02	0.42
1:AA:1014:A:O4'	19:AS:34:TRP:CZ3	2.72	0.42
29:DH:31:VAL:HB	29:DH:32:PRO:HD2	2.00	0.42
12:CL:82:ILE:CD1	12:CL:95:TYR:CB	2.98	0.42
20:AT:82:GLN:O	20:AT:83:ILE:C	2.58	0.42
22:DA:249:C:P	22:DA:2394:C:O2'	2.78	0.42
22:BA:457:A:O4'	22:BA:459:U:C6	2.73	0.42
33:BL:29:LYS:CG	33:BL:30:THR:N	2.80	0.42
1:AA:1157:A:C5	1:AA:1180:A:C6	3.08	0.42
26:BE:7:ASP:OD1	26:BE:8:ALA:N	2.45	0.42
22:DA:912:C:C4	22:DA:913:U:O4	2.73	0.42
22:DA:729:G:N3	22:DA:1775:U:H1'	2.35	0.42
22:DA:729:G:H2'	22:DA:1775:U:H1'	2.02	0.42
52:B4:37:GLN:NE2	52:B4:37:GLN:O	2.44	0.42
10:AJ:52:LEU:CB	14:AN:81:ARG:NE	2.83	0.42
1:AA:1312:G:N2	1:AA:1313:U:C2	2.88	0.42
1:AA:1330:U:C4	1:AA:1331:G:C6	3.07	0.42
22:DA:38:A:H4'	26:DE:45:ALA:HB2	2.02	0.42
29:BH:104:THR:CG2	29:BH:110:VAL:O	2.68	0.42
22:DA:981:A:H5''	22:DA:982:C:OP2	2.20	0.42
22:DA:1224:U:H4'	39:DR:88:GLY:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BG:125:CYS:HA	28:BG:130:GLU:O	2.20	0.42
1:CA:957:U:O2	1:CA:959:A:C8	2.72	0.42
22:DA:303:G:N1	22:DA:304:U:C2	2.88	0.42
22:DA:590:A:C5	22:DA:591:U:C4	3.08	0.42
3:CC:172:ARG:NH1	3:CC:174:PRO:HG3	2.34	0.42
1:CA:38:G:N2	1:CA:397:A:N3	2.68	0.42
24:BC:252:THR:HG22	24:BC:253:LYS:H	1.84	0.42
1:AA:195:A:H1'	1:AA:222:C:O2'	2.20	0.42
26:BE:59:PRO:CD	26:BE:71:GLY:O	2.67	0.42
1:CA:309:A:O2'	1:CA:607:A:N1	2.37	0.42
1:AA:1288:A:C2	1:AA:1289:A:C4	3.07	0.42
42:BU:4:LYS:O	42:BU:5:ILE:HD13	2.20	0.42
33:BL:97:ALA:C	33:BL:99:ASN:N	2.73	0.42
22:BA:2852:G:C6	22:BA:2853:C:C4	3.08	0.42
24:BC:146:MET:CG	24:BC:154:LEU:HD21	2.49	0.42
22:BA:549:G:N3	22:BA:549:G:O4'	2.52	0.42
1:CA:1239:A:H4'	1:CA:1240:U:H5''	2.00	0.42
21:CU:14:VAL:C	21:CU:16:LEU:HG	2.39	0.42
7:CG:111:ARG:CZ	7:CG:122:ASN:HB3	2.50	0.42
23:DB:64:G:C6	23:DB:65:U:C4	3.08	0.42
20:CT:25:ARG:HD2	20:CT:29:ARG:NH1	2.34	0.42
32:DK:28:SER:O	32:DK:29:HIS:HB2	2.19	0.42
22:BA:86:G:N2	22:BA:97:C:C2	2.88	0.42
9:CI:26:GLY:CA	9:CI:61:LEU:O	2.68	0.42
3:CC:117:ALA:HB1	3:CC:187:SER:HB3	2.02	0.42
22:DA:1874:C:H3'	22:DA:1875:G:C8	2.55	0.42
22:BA:2659:G:P	28:BG:158:LYS:HZ1	2.43	0.42
22:DA:265:A:C8	22:DA:428:A:C2	3.08	0.42
22:BA:189:G:P	45:BX:26:LYS:HE3	2.60	0.42
1:CA:382:A:H2'	1:CA:383:A:C8	2.54	0.42
33:BL:129:LYS:O	33:BL:130:GLY:C	2.58	0.42
42:DU:67:VAL:CG1	42:DU:67:VAL:O	2.68	0.42
1:AA:1431:A:O5'	1:AA:1431:A:H8	2.03	0.42
22:BA:713:G:C6	22:BA:714:U:C4	3.08	0.42
30:BI:34:ASN:HB2	30:BI:37:GLU:HB2	2.01	0.42
34:DM:57:VAL:HG11	34:DM:105:MET:HE2	2.01	0.42
22:BA:2507:C:N4	22:BA:2508:G:C6	2.87	0.42
22:BA:207:A:O2'	22:BA:799:G:C4'	2.68	0.42
23:DB:68:C:O2'	23:DB:69:G:H5'	2.20	0.42
23:BB:18:G:C6	23:BB:19:C:C4	3.08	0.42
7:CG:51:ALA:HB2	7:CG:58:GLU:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:848:C:H2'	22:DA:849:A:C8	2.55	0.42
22:DA:848:C:H2'	22:DA:849:A:H8	1.85	0.42
41:DT:10:VAL:HG12	41:DT:11:LEU:N	2.34	0.42
22:DA:633:A:H5''	33:DL:70:LYS:HD2	2.01	0.42
7:CG:38:THR:HG23	7:CG:38:THR:O	2.20	0.42
27:DF:136:ILE:O	27:DF:136:ILE:HG22	2.20	0.42
42:BU:74:ASN:O	42:BU:75:ALA:C	2.56	0.42
22:BA:1613:G:O2'	50:B2:3:ARG:HD2	2.19	0.42
2:CB:131:LYS:O	2:CB:135:LEU:N	2.47	0.42
29:BH:139:PHE:O	29:BH:140:ALA:HB3	2.20	0.41
22:DA:2714:G:C5	22:DA:2715:C:C5	3.08	0.41
22:BA:194:G:H2'	22:BA:195:A:H5'	2.01	0.41
22:DA:1045:C:H1'	22:DA:1047:G:C6	2.55	0.41
1:CA:1148:U:C5	1:CA:1149:C:C5	3.08	0.41
1:CA:1151:A:N3	1:CA:1152:A:C8	2.88	0.41
22:DA:1606:C:O2'	22:DA:1607:C:P	2.77	0.41
17:AQ:18:GLU:O	17:AQ:19:LYS:HB2	2.20	0.41
22:BA:563:A:N1	22:BA:564:C:N3	2.68	0.41
2:CB:15:HIS:O	2:CB:16:PHE:C	2.57	0.41
6:CF:3:HIS:CE1	6:CF:65:GLU:HG3	2.55	0.41
39:BR:66:HIS:ND1	39:BR:94:THR:HB	2.34	0.41
1:AA:258:G:C5	1:AA:259:G:C8	3.07	0.41
1:AA:410:G:H5''	1:AA:411:A:P	2.60	0.41
4:AD:23:SER:O	4:AD:24:GLY:C	2.58	0.41
22:DA:1358:G:H2'	22:DA:1359:A:OP2	2.19	0.41
22:DA:1364:G:N3	22:DA:1368:G:C2	2.88	0.41
1:CA:68:G:C5	1:CA:69:G:H1'	2.54	0.41
1:CA:69:G:H3'	1:CA:70:U:C6	2.55	0.41
53:B5:52:PRO:HG3	53:B5:205:ALA:O	2.20	0.41
1:AA:1014:A:C4	19:AS:34:TRP:CZ3	3.08	0.41
22:BA:1020:A:C2	22:BA:1141:U:O2	2.72	0.41
22:BA:2786:U:O2'	25:BD:63:PRO:O	2.35	0.41
1:AA:168:G:H5'	1:AA:169:C:OP2	2.20	0.41
1:CA:425:G:H2'	1:CA:426:U:O4'	2.20	0.41
1:AA:543:U:O2'	1:AA:544:G:H5'	2.20	0.41
1:AA:545:C:H5'	4:AD:69:GLU:CG	2.50	0.41
1:AA:1313:U:C2	1:AA:1314:C:C5	3.08	0.41
1:AA:1313:U:N3	1:AA:1314:C:C5	2.88	0.41
22:DA:1324:G:C2	22:DA:1328:A:C6	3.07	0.41
5:AE:140:THR:H	5:AE:140:THR:HG1	1.54	0.41
1:CA:1388:C:H2'	1:CA:1389:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1417:G:O6	1:AA:1482:G:C6	2.73	0.41
3:AC:27:LYS:H	3:AC:27:LYS:HD2	1.85	0.41
22:DA:425:G:C2	22:DA:426:C:N3	2.88	0.41
3:CC:42:TYR:CE1	3:CC:46:GLU:CG	3.03	0.41
1:AA:1100:C:O2'	1:AA:1102:A:OP1	2.33	0.41
10:CJ:52:LEU:CD2	10:CJ:59:LYS:HA	2.50	0.41
29:BH:1:MET:HE3	29:BH:23:ALA:HA	2.02	0.41
22:DA:707:G:C2'	22:DA:708:G:H5'	2.49	0.41
1:CA:247:G:C5	1:CA:278:G:C2	3.08	0.41
1:CA:309:A:H5''	16:CP:29:ASN:O	2.20	0.41
22:BA:2695:U:O2'	22:BA:2696:U:H5'	2.20	0.41
27:BF:8:TYR:OH	27:BF:30:ARG:HG2	2.21	0.41
5:AE:151:GLU:C	5:AE:153:VAL:H	2.23	0.41
5:CE:69:ARG:HG3	5:CE:70:ASN:OD1	2.20	0.41
1:AA:1362:A:H5''	1:AA:1363:A:OP2	2.19	0.41
1:AA:976:G:H1'	1:AA:1363:A:N6	2.35	0.41
19:CS:58:VAL:HA	19:CS:59:PRO:HD3	1.93	0.41
22:DA:2671:G:C2	22:DA:2672:U:C2	3.08	0.41
22:BA:1045:C:H3'	22:BA:1046:A:C5'	2.50	0.41
22:DA:2467:C:O2	34:DM:123:LYS:NZ	2.52	0.41
1:AA:1050:G:H2'	1:AA:1050:G:N3	2.34	0.41
1:AA:232:G:C5	1:AA:233:C:C5	3.08	0.41
19:AS:50:ALA:HB1	19:AS:57:HIS:CB	2.49	0.41
1:AA:1049:U:O4'	1:AA:1201:A:C8	2.72	0.41
2:AB:136:MET:SD	2:AB:136:MET:N	2.93	0.41
1:AA:1055:A:C4	1:AA:1206:G:C2	3.08	0.41
30:DI:76:ALA:O	30:DI:80:LEU:HD12	2.20	0.41
3:AC:150:LYS:HA	3:AC:168:TYR:O	2.20	0.41
22:DA:693:A:C5	22:DA:694:U:C5	3.07	0.41
22:DA:2024:G:C4	22:DA:2040:G:N2	2.88	0.41
22:DA:1495:A:C6	22:DA:1496:A:C6	3.09	0.41
1:CA:914:A:C6	1:CA:915:A:C5	3.08	0.41
1:CA:142:G:C2	1:CA:143:A:H1'	2.54	0.41
22:BA:1686:C:C2'	22:BA:1687:G:H5'	2.50	0.41
22:BA:1952:A:C5	32:BK:22:ILE:HG21	2.55	0.41
22:DA:1276:A:C2	22:DA:1295:C:O2	2.73	0.41
22:DA:1473:G:C4	22:DA:1519:G:C2	3.08	0.41
22:DA:1319:C:H2'	22:DA:1320:C:H5'	2.01	0.41
1:CA:1343:G:H2'	1:CA:1344:C:C6	2.56	0.41
1:AA:1347:G:HO2'	1:AA:1348:U:P	2.42	0.41
7:AG:46:ALA:HB3	7:AG:120:LEU:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:53:SER:CB	3:AC:115:LEU:HG	2.50	0.41
13:CM:73:ILE:O	13:CM:77:ILE:HG13	2.19	0.41
25:DD:1:MET:HG2	25:DD:205:PRO:HG2	2.02	0.41
26:BE:42:GLY:HA3	26:BE:90:GLN:O	2.19	0.41
8:AH:64:LYS:HE2	8:AH:64:LYS:HB3	1.87	0.41
26:BE:84:THR:HG22	26:BE:85:PHE:CD2	2.55	0.41
22:DA:1051:G:C5	22:DA:1052:C:C4	3.08	0.41
22:DA:2632:A:O2'	22:DA:2633:G:H5'	2.19	0.41
22:BA:2492:U:H2'	22:BA:2493:U:O5'	2.20	0.41
3:AC:114:LYS:HD3	3:AC:185:ASN:OD1	2.20	0.41
22:BA:1650:A:N6	57:BA:3803:HOH:O	2.53	0.41
1:AA:1213:A:C8	1:AA:1215:G:C6	3.08	0.41
21:CU:25:LYS:HD3	21:CU:26:ALA:H	1.85	0.41
23:BB:8:C:O2'	36:BO:40:ILE:HD13	2.20	0.41
3:AC:112:ASP:O	3:AC:116:VAL:HG23	2.20	0.41
1:CA:108:G:C6	20:CT:10:ARG:HG2	2.55	0.41
28:BG:10:VAL:HG23	28:BG:48:ASN:O	2.20	0.41
1:CA:940:C:H2'	1:CA:941:G:C8	2.55	0.41
35:BN:65:LEU:O	35:BN:65:LEU:HD12	2.20	0.41
22:BA:2112:G:N3	22:BA:2112:G:H2'	2.35	0.41
22:DA:2114:A:H2'	22:DA:2114:A:N3	2.34	0.41
22:BA:1708:C:H2'	22:BA:1709:U:C6	2.55	0.41
22:BA:521:U:H2'	22:BA:522:A:C8	2.55	0.41
22:BA:1917:U:H5'	22:BA:1918:A:OP2	2.20	0.41
41:BT:40:LYS:HD3	41:BT:58:VAL:O	2.20	0.41
5:AE:100:SER:O	5:AE:101:GLU:O	2.37	0.41
29:DH:40:THR:OG1	29:DH:43:ASN:ND2	2.53	0.41
1:CA:1197:A:C2	1:CA:1198:G:C8	3.08	0.41
22:DA:2838:G:C6	22:DA:2839:G:C6	3.08	0.41
22:DA:183:C:H1'	22:DA:433:C:H1'	2.01	0.41
22:DA:46:G:N2	22:DA:47:C:N1	2.68	0.41
22:DA:1355:G:O6	22:DA:1377:G:N2	2.53	0.41
4:AD:160:GLU:O	4:AD:163:GLU:OE1	2.38	0.41
1:AA:71:A:C3'	1:AA:71:A:OP2	2.67	0.41
27:BF:52:ASN:CG	27:BF:147:ASP:OD2	2.57	0.41
22:BA:511:U:C5	22:BA:512:G:C4	3.07	0.41
1:CA:706:A:C4	1:CA:707:U:C5	3.09	0.41
22:DA:2345:G:C4	22:DA:2347:C:C5	3.08	0.41
6:CF:81:ASN:OD1	6:CF:82:ASP:N	2.53	0.41
22:BA:744:U:H2'	22:BA:745:G:O4'	2.19	0.41
22:DA:1809:A:H2'	22:DA:1810:A:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:584:C:P	38:BQ:6:ARG:HG3	2.61	0.41
1:CA:184:G:C2	1:CA:185:U:C2	3.08	0.41
22:DA:277:G:H3'	22:DA:277:G:N3	2.35	0.41
6:CF:38:ARG:HG3	6:CF:63:ASN:CB	2.49	0.41
22:BA:1853:A:N6	22:BA:1889:A:C4	2.87	0.41
10:AJ:53:ILE:CG2	10:AJ:61:ALA:HB1	2.48	0.41
1:CA:386:C:C4	1:CA:387:U:C4	3.08	0.41
30:DI:20:PRO:HB2	30:DI:23:PRO:HG2	2.02	0.41
2:AB:35:ARG:CB	2:AB:40:ILE:HD11	2.49	0.41
22:DA:636:G:O2'	22:DA:638:G:O2'	2.34	0.41
1:CA:116:A:C2	1:CA:117:G:H1'	2.54	0.41
21:AU:11:PRO:C	21:AU:12:PHE:CD1	2.94	0.41
1:AA:283:U:C4	1:AA:284:C:C5	3.08	0.41
1:CA:17:U:N3	1:CA:18:C:C4	2.88	0.41
8:AH:75:ILE:HD13	8:AH:129:VAL:HG13	2.02	0.41
22:BA:1734:G:C2	22:BA:1735:A:C8	3.09	0.41
28:DG:90:VAL:HG21	28:DG:163:ARG:NE	2.35	0.41
27:DF:70:ALA:HB3	27:DF:80:ARG:O	2.20	0.41
5:CE:154:ALA:C	5:CE:156:LYS:N	2.72	0.41
24:BC:53:HIS:CE1	24:BC:219:THR:HA	2.55	0.41
1:AA:880:C:OP1	12:AL:9:ARG:NH2	2.52	0.41
1:CA:563:A:N7	1:CA:567:G:H1'	2.35	0.41
22:BA:2258:C:H4'	22:BA:2259:U:OP2	2.20	0.41
1:CA:1413:A:N1	1:CA:1488:G:C2	2.88	0.41
43:BV:61:LEU:HD13	43:BV:61:LEU:N	2.35	0.41
22:DA:154:U:H2'	22:DA:155:A:C8	2.55	0.41
1:CA:40:C:H2'	1:CA:41:G:O4'	2.20	0.41
28:BG:62:TRP:O	28:BG:63:ALA:C	2.56	0.41
22:DA:1930:G:O2'	22:DA:1931:U:OP2	2.38	0.41
10:AJ:10:LEU:HG	10:AJ:98:VAL:HG12	2.01	0.41
39:BR:62:GLU:O	39:BR:64:VAL:HG12	2.19	0.41
41:DT:7:LEU:HD22	41:DT:46:ALA:HA	2.02	0.41
22:DA:404:A:O4'	22:DA:405:U:OP2	2.38	0.41
24:BC:65:VAL:HG12	24:BC:67:PHE:CE2	2.55	0.41
1:AA:1374:A:N3	1:AA:1375:A:C8	2.88	0.41
28:BG:24:ILE:HD11	28:BG:43:VAL:HG11	2.01	0.41
53:B5:42:VAL:O	53:B5:179:ALA:N	2.53	0.41
22:BA:2249:U:O2'	22:BA:2252:G:OP2	2.24	0.41
7:CG:46:ALA:HB2	7:CG:117:ALA:CA	2.50	0.41
1:CA:836:G:C6	1:CA:851:G:C5	3.08	0.41
1:CA:851:G:N3	1:CA:851:G:H2'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:91:LEU:HD21	4:AD:195:ILE:HD12	2.01	0.41
42:DU:59:VAL:CG1	42:DU:61:LYS:HD3	2.50	0.41
48:B0:30:VAL:HG12	48:B0:35:GLY:HA2	2.02	0.41
22:DA:1710:G:C6	22:DA:1749:A:C2	3.08	0.41
22:DA:2902:C:OP1	22:DA:2903:U:C6	2.73	0.41
13:AM:19:LEU:O	13:AM:25:VAL:HG21	2.19	0.41
22:BA:435:C:C2'	22:BA:436:C:H5'	2.50	0.41
1:CA:1251:A:H2'	1:CA:1252:A:C8	2.54	0.41
22:BA:310:A:O2'	22:BA:311:A:P	2.78	0.41
22:BA:1825:U:H2'	22:BA:1826:G:C8	2.55	0.41
22:BA:1826:G:O2'	22:BA:1971:U:OP2	2.38	0.41
7:CG:101:MET:HA	7:CG:104:ILE:HD12	2.02	0.41
1:AA:785:G:N2	1:AA:798:U:C2	2.88	0.41
18:CR:23:TYR:HA	18:CR:29:LEU:HD21	2.02	0.41
22:BA:2204:G:C4	22:BA:2205:A:C8	3.07	0.41
25:DD:173:GLN:O	25:DD:175:LEU:N	2.53	0.41
5:CE:90:THR:HG22	5:CE:91:GLY:N	2.35	0.41
37:BP:96:LYS:HB3	37:BP:98:TYR:CE2	2.55	0.41
19:AS:80:TYR:CD1	19:AS:81:ARG:N	2.88	0.41
22:BA:675:A:OP1	26:BE:58:LYS:NZ	2.35	0.41
38:DQ:65:ILE:HD11	38:DQ:95:LEU:HB2	2.01	0.41
33:BL:49:GLY:O	33:BL:51:GLU:HG3	2.20	0.41
1:CA:389:A:C6	1:CA:390:U:H1'	2.55	0.41
11:CK:74:VAL:HG23	11:CK:74:VAL:O	2.19	0.41
28:DG:44:LYS:N	28:DG:44:LYS:HE3	2.35	0.41
26:DE:21:ARG:HD3	26:DE:106:LYS:HB3	2.01	0.41
22:BA:2733:A:C5	25:BD:208:LYS:HE2	2.56	0.41
1:CA:414:A:C2	1:CA:415:A:C4	3.08	0.41
3:CC:72:ARG:HB3	3:CC:75:ILE:HG22	2.01	0.41
38:BQ:35:ALA:O	38:BQ:38:ALA:N	2.53	0.41
22:DA:2225:A:H4'	22:DA:2226:C:O5'	2.20	0.41
22:BA:574:A:C2	25:BD:150:GLN:OE1	2.73	0.41
22:DA:1045:C:N4	22:DA:1111:A:H2'	2.35	0.41
14:AN:87:ALA:O	14:AN:92:GLU:HB2	2.20	0.41
39:DR:78:ARG:CB	39:DR:83:TYR:CD1	3.03	0.41
1:AA:1504:G:H3'	57:AA:1802:HOH:O	2.19	0.41
22:DA:2127:G:N3	22:DA:2162:G:C8	2.89	0.41
17:AQ:15:ASP:HA	17:AQ:21:ILE:HD11	2.01	0.41
12:CL:47:SER:O	12:CL:48:ALA:HB2	2.20	0.41
1:AA:220:G:O2'	1:AA:221:C:H5'	2.21	0.41
9:AI:50:GLN:O	9:AI:52:LEU:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AI:25:ASN:HB3	9:AI:59:GLU:OE1	2.20	0.41
22:DA:160:A:N6	22:DA:161:A:N6	2.69	0.41
22:DA:1090:A:C6	22:DA:1102:C:O2	2.73	0.41
1:CA:173:U:C2	1:CA:197:A:N1	2.88	0.41
22:BA:2885:G:H2'	22:BA:2886:A:C5'	2.50	0.41
22:DA:616:A:H4'	26:DE:101:TYR:CE2	2.54	0.41
1:AA:1014:A:N7	1:AA:1015:G:C4	2.88	0.41
17:AQ:12:VAL:HG11	17:AQ:55:ILE:HA	2.02	0.41
22:DA:2757:A:N1	28:DG:67:THR:CG2	2.78	0.41
22:DA:2131:U:O4'	22:DA:2133:G:H1'	2.19	0.41
22:DA:289:G:C2	22:DA:352:A:N1	2.88	0.41
22:DA:247:G:N7	22:DA:249:C:N1	2.68	0.41
32:BK:118:LEU:O	32:BK:119:ALA:CB	2.68	0.41
5:AE:74:VAL:HG11	5:AE:144:LEU:HB3	2.02	0.41
7:AG:15:ASP:C	7:AG:15:ASP:OD1	2.58	0.41
22:BA:320:A:H4'	22:BA:322:A:N7	2.35	0.41
32:DK:99:ILE:HD12	32:DK:99:ILE:N	2.34	0.41
2:CB:90:PHE:HB3	2:CB:150:GLY:O	2.20	0.41
1:AA:507:C:N3	1:AA:508:U:C5	2.89	0.41
33:DL:110:VAL:CG2	33:DL:127:VAL:HG22	2.50	0.41
5:AE:136:VAL:CG2	5:AE:137:VAL:N	2.83	0.41
22:BA:2808:G:N1	22:BA:2891:U:C5	2.88	0.41
22:DA:2520:C:O2'	22:DA:2565:A:O2'	2.20	0.41
19:CS:55:ARG:NE	19:CS:79:THR:HG22	2.35	0.41
1:AA:1306:A:C2	1:AA:1307:U:C1'	3.04	0.41
33:DL:29:LYS:O	33:DL:30:THR:HG23	2.20	0.41
3:CC:174:PRO:O	3:CC:176:HIS:N	2.53	0.41
22:DA:2341:G:H2'	22:DA:2342:C:C6	2.55	0.41
22:DA:676:A:H2	22:DA:2069:G:N3	2.18	0.41
22:BA:1939:U:O4'	22:BA:2591:C:O2'	2.30	0.41
5:CE:16:ILE:HD12	5:CE:16:ILE:N	2.35	0.41
30:BI:54:PRO:O	30:BI:75:PRO:HD2	2.21	0.41
16:AP:77:GLU:C	16:AP:79:ASN:N	2.74	0.41
1:CA:1289:A:H2'	1:CA:1290:G:H5'	2.01	0.41
11:CK:25:ALA:O	11:CK:89:PRO:O	2.38	0.41
22:DA:712:G:C2	22:DA:720:U:O2	2.74	0.41
1:CA:436:C:H2'	1:CA:437:U:C6	2.55	0.41
22:BA:1157:G:H2'	22:BA:1157:G:N3	2.35	0.41
22:DA:1833:C:N4	22:DA:1834:U:C4	2.88	0.41
1:CA:1480:A:C2	1:CA:1481:U:C2	3.08	0.41
21:AU:4:ILE:CA	21:AU:20:LYS:HE3	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:803:G:C6	1:AA:804:U:N3	2.89	0.41
1:CA:888:G:H4'	1:CA:1488:G:O2'	2.20	0.41
37:BP:113:ARG:O	37:BP:114:LEU:O	2.39	0.41
24:DC:221:ARG:NH1	24:DC:224:ALA:HB2	2.36	0.41
20:CT:51:PHE:CD2	20:CT:51:PHE:C	2.93	0.41
22:BA:1047:G:H1'	22:BA:1110:G:N2	2.35	0.41
22:DA:1819:A:H4'	22:DA:1820:U:H5''	2.03	0.41
9:AI:80:ARG:C	9:AI:80:ARG:HD2	2.41	0.41
7:CG:116:MET:O	7:CG:120:LEU:N	2.52	0.41
22:BA:1808:A:N1	45:BX:28:ARG:HD2	2.35	0.41
1:AA:934:C:H4'	1:AA:935:A:OP1	2.20	0.41
22:DA:2371:G:N1	22:DA:2372:U:C5	2.88	0.41
24:BC:212:ARG:HA	24:BC:212:ARG:HD2	1.82	0.41
2:AB:132:LYS:HG3	2:AB:133:GLU:N	2.36	0.41
22:BA:1489:C:C2	22:BA:1501:G:N2	2.89	0.41
2:CB:184:PHE:CD2	2:CB:198:PHE:HB2	2.55	0.41
24:BC:3:VAL:HG12	24:BC:19:VAL:HG22	2.02	0.41
7:AG:13:LEU:H	7:AG:13:LEU:HD22	1.84	0.41
22:DA:703:U:C5	22:DA:704:G:C6	3.08	0.41
33:DL:85:VAL:HG23	33:DL:86:GLU:N	2.35	0.41
42:BU:26:LYS:HA	42:BU:26:LYS:HD2	1.90	0.41
22:DA:1635:A:C8	22:DA:1636:U:C5	3.08	0.41
22:DA:2324:U:O2	22:DA:2385:C:N4	2.53	0.41
7:CG:66:LEU:HD23	7:CG:70:ARG:NE	2.35	0.41
22:DA:861:A:N3	23:DB:79:G:O2'	2.49	0.41
25:DD:121:THR:HG21	25:DD:143:PRO:HB3	2.03	0.41
10:AJ:48:ARG:HD3	14:AN:101:TRP:CZ3	2.55	0.41
1:CA:1192:C:C5	1:CA:1193:G:C8	3.08	0.41
21:AU:53:VAL:CG1	21:AU:54:LYS:N	2.83	0.41
22:BA:2673:G:N3	22:BA:2674:G:C8	2.89	0.41
5:AE:94:VAL:CG2	5:AE:95:PHE:N	2.83	0.41
1:CA:784:A:H2'	1:CA:785:G:O4'	2.20	0.41
22:BA:1826:G:H2'	22:BA:1827:U:H6	1.84	0.41
22:BA:749:A:H4'	22:BA:1271:G:N3	2.35	0.41
1:AA:790:A:H2'	1:AA:791:G:C8	2.55	0.41
1:CA:1246:A:C2	1:CA:1247:U:C2	3.08	0.41
15:AO:83:GLU:O	15:AO:86:GLY:N	2.53	0.41
22:DA:2691:C:HO2'	22:DA:2871:U:HO2'	1.68	0.41
17:CQ:31:HIS:CG	17:CQ:32:PRO:HD2	2.56	0.41
4:AD:15:GLU:HG3	4:AD:19:LEU:HD11	2.02	0.41
17:AQ:79:VAL:HG12	17:AQ:80:GLU:HG3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BL:20:GLY:HA2	33:BL:28:GLY:HA2	2.01	0.41
31:BJ:5:THR:HB	31:BJ:6:ALA:O	2.20	0.41
1:AA:963:G:C4	1:AA:964:A:C8	3.08	0.41
22:BA:827:U:H2'	22:BA:2068:U:C2	2.55	0.41
22:BA:914:G:H3'	22:BA:914:G:C8	2.55	0.41
22:BA:1333:G:C2	22:BA:1334:G:C8	3.08	0.41
26:DE:182:ALA:CB	33:DL:3:LEU:HD22	2.50	0.41
22:BA:2557:G:H2'	22:BA:2558:C:C6	2.54	0.41
29:BH:90:LEU:HD13	29:BH:125:THR:HA	2.03	0.41
22:BA:573:U:O2'	22:BA:574:A:H3'	2.21	0.41
22:DA:2782:G:OP2	22:DA:2782:G:C8	2.73	0.41
12:CL:25:GLU:CG	12:CL:27:CYS:SG	3.09	0.41
22:BA:1072:C:C2	22:BA:1093:G:O6	2.74	0.41
1:CA:1097:C:C2	1:CA:1098:C:C6	3.09	0.41
22:BA:563:A:N1	22:BA:564:C:C2	2.88	0.41
39:BR:52:PRO:O	39:BR:53:PHE:O	2.38	0.41
25:DD:30:GLU:O	25:DD:31:ALA:C	2.59	0.41
22:DA:2212:A:C2	22:DA:2214:C:C4	3.08	0.41
22:BA:2298:A:N1	22:BA:2321:U:C4	2.88	0.41
22:BA:1131:G:N2	22:BA:2024:G:H21	2.18	0.41
6:AF:47:LEU:HD13	6:AF:51:ILE:CG2	2.47	0.41
22:BA:826:U:O2'	33:BL:53:GLY:CA	2.68	0.41
22:DA:740:C:C5'	22:DA:1784:A:H3'	2.49	0.41
1:CA:667:G:N1	1:CA:740:U:C2	2.88	0.41
22:DA:279:A:H61	22:DA:361:G:C2'	2.34	0.41
4:AD:6:GLY:O	4:AD:7:PRO:C	2.58	0.41
20:AT:82:GLN:O	20:AT:85:LYS:HB2	2.20	0.41
22:DA:2133:G:H2'	22:DA:2157:G:N2	2.34	0.41
1:AA:464:U:C2	1:AA:466:A:H5''	2.55	0.41
9:AI:30:ILE:HB	9:AI:65:ILE:HG12	2.02	0.41
2:AB:47:VAL:C	2:AB:49:MET:N	2.73	0.41
10:AJ:52:LEU:HD22	10:AJ:62:ARG:CG	2.49	0.41
10:AJ:65:TYR:HB3	14:AN:96:LEU:HD11	2.01	0.41
1:AA:1329:A:C2'	1:AA:1330:U:H5'	2.49	0.41
22:BA:320:A:H2'	26:BE:131:THR:HG21	2.02	0.41
2:AB:161:LEU:HD12	2:AB:181:ILE:CG2	2.50	0.41
8:AH:2:SER:O	8:AH:3:MET:C	2.58	0.41
22:DA:777:G:N3	22:DA:778:G:C8	2.88	0.41
1:AA:825:A:O2'	1:AA:826:C:H5'	2.20	0.41
22:BA:142:A:C5	22:BA:143:C:N3	2.88	0.41
1:AA:724:G:N1	1:AA:725:G:C5	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:890:G:HO2'	1:CA:906:A:H61	1.68	0.41
1:CA:577:G:O2'	1:CA:578:C:H5'	2.20	0.41
34:BM:42:THR:HG22	34:BM:93:VAL:CG1	2.49	0.41
1:CA:715:A:O2'	1:CA:716:A:H5'	2.20	0.41
1:AA:145:G:N2	1:AA:178:C:C2	2.89	0.41
22:BA:197:A:H62	22:BA:2430:A:H2'	1.84	0.41
1:AA:194:C:H2'	1:AA:195:A:H5'	2.03	0.41
1:CA:555:U:C2	1:CA:556:C:C5	3.09	0.41
41:BT:44:LYS:HG3	41:BT:55:VAL:HG11	2.02	0.41
22:DA:1965:C:OP1	22:DA:1966:A:O2'	2.31	0.41
37:DP:39:ARG:HA	37:DP:39:ARG:HE	1.85	0.41
1:CA:1371:G:H2'	1:CA:1372:U:O4'	2.21	0.41
24:BC:76:ALA:HB2	24:BC:96:TYR:CG	2.55	0.41
1:AA:191:G:H2'	1:AA:192:A:C8	2.55	0.41
22:DA:875:G:N2	22:DA:903:C:O2	2.53	0.41
1:CA:779:C:C2'	1:CA:780:A:H5'	2.51	0.41
28:DG:94:TYR:HA	28:DG:106:SER:O	2.21	0.41
1:AA:1050:G:C2	1:AA:1209:C:O2	2.72	0.41
22:DA:1799:G:OP2	24:DC:258:ARG:HD2	2.21	0.41
22:BA:1525:A:C5	22:BA:1526:C:C6	3.09	0.41
22:DA:1483:G:N3	22:DA:1483:G:H2'	2.34	0.41
36:BO:98:GLN:O	36:BO:100:HIS:N	2.53	0.41
22:DA:2526:G:O2'	52:D4:34:LYS:HE3	2.20	0.41
22:DA:538:A:O2'	31:DJ:8:PRO:CD	2.68	0.41
22:BA:2018:G:H2'	22:BA:2019:A:C8	2.56	0.41
43:BV:89:ILE:HG22	43:BV:90:ASP:N	2.33	0.41
1:AA:592:G:C2	1:AA:593:U:C2	3.09	0.41
1:AA:149:A:H1'	1:AA:1446:A:C2	2.56	0.41
22:DA:693:A:H2'	22:DA:694:U:C6	2.56	0.41
1:CA:110:C:C4	1:CA:111:G:C5	3.08	0.41
24:DC:212:ARG:C	24:DC:214:ARG:H	2.23	0.41
22:BA:2519:U:C5	22:BA:2541:A:C6	3.09	0.41
22:DA:1746:A:H2'	22:DA:1747:U:C6	2.56	0.41
23:BB:46:A:C5	23:BB:47:C:C4	3.08	0.41
13:CM:19:LEU:O	13:CM:22:ILE:CD1	2.69	0.41
22:BA:271:G:C2	22:BA:272:A:C4	3.09	0.41
11:CK:112:ASP:C	11:CK:112:ASP:OD1	2.58	0.41
11:CK:112:ASP:OD1	11:CK:114:THR:HG23	2.21	0.41
41:DT:8:LEU:HD23	41:DT:50:LEU:HD21	2.03	0.41
1:CA:420:U:O2'	1:CA:421:U:H5''	2.20	0.41
45:DX:36:HIS:ND1	45:DX:37:ARG:O	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CF:50:PRO:CD	18:CR:74:HIS:HB3	2.50	0.41
22:DA:1418:G:C2	22:DA:1579:A:N7	2.89	0.41
22:BA:732:C:H2'	22:BA:733:G:O4'	2.20	0.41
35:DN:54:LEU:CD2	35:DN:66:ALA:HB2	2.50	0.41
27:BF:94:GLU:HG3	27:BF:98:GLU:OE1	2.20	0.41
1:CA:1306:A:C2	1:CA:1307:U:C2	3.08	0.41
11:AK:67:ALA:HB1	11:AK:100:LEU:HD13	2.03	0.41
1:CA:1349:A:C2	1:CA:1374:A:C4	3.09	0.41
43:DV:20:LEU:HD22	43:DV:26:PHE:HA	2.02	0.41
48:D0:33:THR:HG22	48:D0:34:SER:N	2.35	0.41
1:CA:947:G:H2'	1:CA:948:C:O4'	2.20	0.41
2:CB:111:ILE:O	2:CB:114:LEU:HB3	2.21	0.41
32:BK:17:ARG:HA	32:BK:17:ARG:HD3	1.88	0.41
32:BK:23:LYS:HE2	32:BK:23:LYS:HB2	1.80	0.41
39:DR:38:VAL:CG2	39:DR:38:VAL:O	2.67	0.41
29:DH:135:HIS:CG	29:DH:136:SER:N	2.89	0.41
23:BB:92:C:O2'	23:BB:93:C:H5'	2.20	0.41
23:BB:94:A:C6	23:BB:95:U:C4	3.09	0.41
22:BA:1988:G:H2'	22:BA:1989:G:O4'	2.20	0.41
25:DD:46:ARG:O	25:DD:47:ALA:HB2	2.20	0.41
22:DA:2506:U:O4	22:DA:2585:U:O4	2.38	0.41
13:AM:3:ARG:O	13:AM:4:ILE:O	2.38	0.41
22:DA:1253:A:O2'	22:DA:1254:A:H5'	2.21	0.41
22:DA:2839:G:C5	22:DA:2840:C:C5	3.08	0.41
22:DA:299:A:N7	22:DA:300:A:C6	2.89	0.41
1:AA:1342:C:O2'	9:AI:126:GLN:CG	2.68	0.41
1:AA:452:A:C8	1:AA:452:A:H3'	2.55	0.41
5:CE:36:LEU:HD21	5:CE:137:VAL:CG1	2.51	0.41
22:DA:176:A:N7	22:DA:177:G:C6	2.88	0.41
18:CR:59:ILE:HG22	18:CR:63:ARG:HD2	2.03	0.41
22:DA:2727:A:N1	22:DA:2728:U:C4	2.88	0.41
50:D2:31:LEU:HD21	50:D2:43:THR:CG2	2.50	0.41
4:AD:161:LEU:HD23	4:AD:162:ALA:N	2.35	0.41
1:AA:1037:C:H2'	1:AA:1038:C:C6	2.55	0.41
22:BA:2130:U:OP2	22:BA:2132:U:O4	2.38	0.41
1:AA:74:A:H2'	1:AA:75:G:C1'	2.51	0.41
23:DB:56:G:H4'	23:DB:57:A:OP1	2.21	0.41
22:DA:1526:C:H2'	22:DA:1527:G:O5'	2.20	0.41
30:DI:121:ASP:O	30:DI:124:ALA:HB3	2.20	0.41
22:DA:491:G:C5	22:DA:492:A:C5	3.08	0.41
22:DA:1362:C:C4	22:DA:1363:C:C5	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:BJ:81:ILE:CG2	31:BJ:82:GLY:N	2.78	0.41
8:AH:43:GLU:HA	8:AH:43:GLU:OE2	2.20	0.41
22:DA:277:G:H1'	22:DA:361:G:O6	2.20	0.41
9:AI:46:MET:N	9:AI:46:MET:SD	2.80	0.41
1:AA:406:G:C2	1:AA:407:U:C6	3.08	0.41
4:AD:4:TYR:O	4:AD:5:LEU:HB2	2.21	0.41
22:DA:2134:A:C2	22:DA:2135:A:C4	3.09	0.41
15:AO:88:ARG:CZ	15:AO:88:ARG:HB2	2.50	0.41
15:AO:67:LEU:HD22	15:AO:88:ARG:NH2	2.35	0.41
24:DC:68:LYS:CG	24:DC:151:GLY:HA2	2.50	0.41
42:DU:96:PHE:CZ	42:DU:103:ILE:HG13	2.56	0.41
22:DA:1775:U:P	57:DA:3444:HOH:O	2.78	0.41
22:BA:1413:A:H2'	22:BA:1414:C:O4'	2.21	0.41
22:BA:1588:G:C4	22:BA:1589:U:C5	3.09	0.41
2:CB:85:LEU:C	2:CB:85:LEU:HD12	2.41	0.41
46:BY:5:GLU:HG3	46:BY:56:LEU:HD11	2.01	0.41
1:AA:989:U:H2'	1:AA:990:C:O5'	2.20	0.41
22:DA:1176:U:C4	22:DA:1177:G:C6	3.08	0.41
22:DA:1177:G:H2'	22:DA:1178:C:C4'	2.50	0.41
22:DA:1444:G:N2	22:DA:1548:A:N3	2.68	0.41
22:DA:1298:C:N4	22:DA:1299:G:C6	2.88	0.41
24:BC:141:VAL:CG1	24:BC:190:ALA:HB1	2.50	0.41
1:CA:1309:G:C6	1:CA:1329:A:N1	2.88	0.41
22:DA:2378:A:N7	22:DA:2379:G:H1'	2.35	0.41
1:AA:49:U:O4	1:AA:365:U:C5	2.73	0.41
1:AA:596:A:C5	1:AA:645:G:N2	2.88	0.41
1:CA:1062:U:O4	3:CC:3:GLN:HG3	2.21	0.41
22:DA:1936:A:H2	22:DA:1943:U:N3	2.16	0.41
3:CC:40:ARG:HA	3:CC:55:ILE:CD1	2.51	0.41
27:BF:146:VAL:HG23	27:BF:146:VAL:O	2.20	0.41
22:DA:2330:G:N2	22:DA:2386:A:C4	2.88	0.41
22:DA:836:G:C6	22:DA:837:C:C4	3.08	0.41
2:AB:145:GLU:O	2:AB:149:GLY:N	2.53	0.41
22:DA:2421:G:N7	51:D3:31:HIS:CD2	2.88	0.41
1:AA:1441:A:C2'	1:AA:1442:G:O5'	2.65	0.41
22:BA:122:G:C2'	22:BA:123:G:H5'	2.50	0.41
22:DA:771:G:C6	22:DA:772:C:C5	3.09	0.41
22:DA:2478:A:C8	22:DA:2529:G:N7	2.88	0.41
26:DE:52:VAL:O	26:DE:74:LYS:HD3	2.21	0.41
1:AA:1273:C:H2'	1:AA:1274:A:O4'	2.21	0.41
1:CA:1478:U:C2	1:CA:1479:C:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:2235:G:C5	22:DA:2236:U:C5	3.08	0.41
22:DA:900:A:C2'	22:DA:901:C:H5'	2.51	0.41
1:AA:1242:G:C6	1:AA:1243:C:C4	3.09	0.41
30:DI:46:THR:CG2	30:DI:51:LYS:HG3	2.50	0.41
22:DA:673:C:H5''	26:DE:76:PRO:HD2	2.02	0.41
41:DT:34:VAL:HG22	41:DT:81:LYS:O	2.21	0.41
21:CU:40:LYS:HB3	21:CU:41:PRO:HD3	2.02	0.41
1:AA:29:U:O2'	1:AA:30:U:H5'	2.20	0.41
1:CA:1503:A:C4	1:CA:1531:A:N3	2.89	0.41
30:DI:91:GLY:O	30:DI:93:PRO:HD3	2.21	0.41
41:BT:65:GLY:N	41:BT:79:ASP:OD1	2.41	0.41
22:BA:2516:A:O2'	22:BA:2517:C:H5'	2.21	0.41
22:BA:1445:G:C5	22:BA:1446:C:C4	3.08	0.41
22:DA:2024:G:C2	22:DA:2040:G:N3	2.88	0.41
1:AA:953:G:H2'	1:AA:954:G:H5'	2.02	0.41
1:CA:442:G:C6	1:CA:443:C:N4	2.89	0.41
1:CA:81:A:C2	1:CA:89:U:C2	3.08	0.41
43:DV:42:LEU:N	43:DV:42:LEU:HD23	2.36	0.41
22:BA:1971:U:H4'	22:BA:1971:U:OP2	2.20	0.41
22:BA:880:G:C2	22:BA:898:C:O2	2.73	0.41
22:BA:29:U:H2'	22:BA:30:G:C8	2.55	0.41
1:AA:1075:U:OP1	2:AB:102:THR:HG21	2.20	0.41
1:AA:1074:G:O3'	2:AB:102:THR:HG22	2.20	0.41
23:DB:90:C:H5'	34:DM:18:ARG:HG2	2.01	0.41
39:DR:12:HIS:CE1	39:DR:22:LEU:HD22	2.55	0.41
22:DA:355:U:H2'	22:DA:356:G:C8	2.55	0.41
42:BU:36:VAL:O	42:BU:37:GLU:C	2.58	0.41
45:DX:69:ALA:O	45:DX:71:LEU:N	2.53	0.41
35:BN:25:ALA:HB1	35:BN:48:VAL:HG22	2.03	0.41
22:BA:1406:U:C2'	22:BA:1407:G:O5'	2.68	0.41
5:CE:76:LEU:HD12	5:CE:76:LEU:H	1.84	0.41
1:AA:423:G:H2'	1:AA:424:G:O4'	2.21	0.41
29:BH:33:GLN:O	29:BH:35:LYS:N	2.53	0.41
24:BC:79:GLU:N	24:BC:93:LEU:O	2.51	0.41
22:DA:2094:A:C2	22:DA:2196:C:C2	3.08	0.41
22:DA:2095:A:H2'	22:DA:2096:C:C6	2.56	0.41
5:AE:99:ALA:C	5:AE:101:GLU:N	2.71	0.41
22:BA:1171:G:N2	22:BA:1179:G:C6	2.89	0.41
35:DN:90:ARG:HD3	35:DN:94:TYR:HA	2.01	0.41
3:AC:7:PRO:O	3:AC:11:ARG:HG3	2.20	0.41
22:DA:942:G:H2'	22:DA:943:A:H5'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:42:PRO:HA	12:AL:89:ASP:O	2.21	0.41
22:DA:55:G:C6	22:DA:116:C:N3	2.88	0.41
4:AD:2:ALA:O	4:AD:68:LEU:CD2	2.68	0.41
38:BQ:87:SER:CB	39:BR:51:VAL:HA	2.50	0.41
1:CA:978:A:O2'	1:CA:1322:C:C5	2.69	0.41
22:DA:1343:G:C5	22:DA:1344:U:C4	3.09	0.41
22:DA:1593:A:C2	22:DA:1594:U:C2	3.08	0.41
22:BA:528:A:C4'	22:BA:528:A:C8	3.03	0.41
1:CA:64:G:C2	1:CA:67:C:C4	3.09	0.41
22:DA:1370:C:H2'	22:DA:1371:G:C8	2.56	0.41
22:BA:2888:C:C2	22:BA:2889:C:C5	3.08	0.41
22:DA:614:A:H4'	22:DA:616:A:N7	2.35	0.41
7:AG:24:ALA:HA	7:AG:27:VAL:HG22	2.02	0.41
22:DA:785:G:O2'	22:DA:1779:U:C5'	2.69	0.41
1:CA:428:G:C5	1:CA:430:A:C6	3.09	0.41
4:CD:28:ILE:O	4:CD:31:LYS:NZ	2.53	0.41
1:AA:946:A:C2	1:AA:1236:A:C2	3.09	0.41
27:BF:158:THR:HG22	27:BF:160:ALA:N	2.36	0.41
22:BA:2309:A:C6	22:BA:2310:C:C4	3.09	0.41
1:AA:1313:U:O4	1:AA:1314:C:N4	2.53	0.41
27:BF:28:VAL:CG1	27:BF:28:VAL:O	2.69	0.41
22:DA:1169:A:C6	22:DA:1180:U:O4	2.74	0.41
29:DH:130:VAL:CG1	29:DH:131:SER:N	2.82	0.41
4:CD:4:TYR:CE2	4:CD:11:LEU:HD11	2.55	0.41
3:AC:83:ASP:O	3:AC:84:VAL:C	2.58	0.41
1:AA:1379:G:C5	1:AA:1380:U:C5	3.09	0.41
22:DA:391:A:C4	22:DA:392:U:C6	3.08	0.41
1:AA:283:U:C4	1:AA:284:C:C4	3.09	0.41
22:DA:708:G:N2	22:DA:724:U:H1'	2.35	0.41
22:BA:31:C:C2'	22:BA:32:C:H5'	2.50	0.41
1:CA:702:A:C6	22:DA:1848:A:C6	3.09	0.41
22:BA:1677:A:C2	22:BA:1678:A:C4	3.08	0.41
5:AE:151:GLU:O	5:AE:154:ALA:N	2.50	0.41
26:BE:189:THR:HG22	26:BE:191:ASP:N	2.36	0.41
2:AB:165:ASP:C	2:AB:165:ASP:OD1	2.58	0.41
1:AA:124:C:C2'	1:AA:125:U:H5'	2.51	0.41
1:AA:125:U:C2'	1:AA:126:G:H5'	2.50	0.41
22:DA:2107:G:C6	22:DA:2183:A:N1	2.89	0.41
22:BA:1269:A:O5'	22:BA:1269:A:H8	2.04	0.41
22:BA:1047:G:C2	22:BA:1110:G:C4	3.08	0.41
22:DA:16:C:H4'	48:D0:11:SER:HG	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:45:ARG:HG2	5:AE:73:ASN:HB3	2.01	0.41
22:DA:2223:G:C2'	22:DA:2224:G:H5'	2.51	0.41
22:DA:167:A:H2'	22:DA:168:G:O4'	2.21	0.41
32:DK:31:ARG:HB2	32:DK:32:TYR:CD1	2.55	0.41
21:CU:28:VAL:O	21:CU:32:VAL:HG23	2.21	0.41
3:AC:167:TRP:CE3	3:AC:167:TRP:C	2.94	0.41
33:BL:95:LEU:O	33:BL:100:ILE:HG23	2.21	0.41
22:BA:1444:G:H2'	22:BA:1445:G:C8	2.55	0.41
22:DA:704:G:H1'	22:DA:726:G:H22	1.86	0.41
53:B5:100:ILE:HG23	53:B5:104:ILE:CB	2.50	0.41
22:BA:996:A:H4'	38:BQ:91:ASP:OD2	2.20	0.41
24:BC:97:LYS:HE3	24:BC:97:LYS:HA	2.03	0.41
22:BA:226:A:C6	22:BA:227:A:C6	3.08	0.41
26:BE:111:GLU:HG2	26:BE:114:ARG:NH1	2.36	0.41
22:DA:2331:G:N2	22:DA:2385:C:C2	2.88	0.41
3:CC:9:GLY:HA3	14:CN:89:MET:SD	2.59	0.41
22:BA:1952:A:C6	22:BA:1953:A:C6	3.09	0.41
1:AA:1497:G:HO2'	1:AA:1518:A:H2	1.63	0.41
27:BF:122:PHE:CE2	27:BF:128:TYR:HB2	2.56	0.41
22:BA:846:U:C2'	22:BA:847:U:OP2	2.68	0.41
8:AH:64:LYS:CB	8:AH:71:VAL:HG21	2.50	0.41
22:DA:2631:G:C6	22:DA:2632:A:N7	2.89	0.41
5:CE:89:HIS:CD2	5:CE:90:THR:OG1	2.73	0.41
22:DA:1022:G:C5	22:DA:1140:C:C4	3.09	0.41
27:BF:123:ASP:CG	27:BF:127:ASN:HB2	2.40	0.41
3:CC:140:ASN:HA	3:CC:143:ARG:HB3	2.03	0.41
22:BA:2209:G:C2	22:BA:2216:G:C2	3.08	0.41
22:BA:910:A:C6	22:BA:911:A:C6	3.09	0.41
33:BL:14:LYS:HD3	33:BL:15:ALA:HB3	2.02	0.41
1:CA:1262:C:C2'	1:CA:1263:C:H5'	2.50	0.41
8:AH:89:LYS:HG3	8:AH:90:ASP:H	1.85	0.41
24:BC:199:GLU:O	24:BC:200:HIS:C	2.58	0.41
4:CD:40:GLN:OE1	4:CD:41:HIS:NE2	2.53	0.41
1:AA:418:C:N4	57:AA:1718:HOH:O	2.53	0.41
3:CC:80:LYS:HE3	3:CC:80:LYS:HA	2.02	0.41
9:CI:33:ARG:HD3	9:CI:33:ARG:HA	1.84	0.41
6:AF:49:TYR:O	6:AF:49:TYR:CD1	2.73	0.41
29:BH:82:SER:HB3	29:BH:146:VAL:HG12	2.03	0.41
24:BC:70:ASN:O	24:BC:71:LYS:C	2.53	0.41
12:CL:116:LYS:O	12:CL:117:TYR:CB	2.68	0.41
22:DA:2499:C:C4	22:DA:2500:U:O4	2.74	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:182:A:H2'	22:DA:183:C:C6	2.55	0.41
5:CE:105:ILE:O	5:CE:105:ILE:CG2	2.63	0.41
5:CE:137:VAL:HA	5:CE:140:THR:OG1	2.21	0.41
22:BA:973:A:H5'	22:BA:1188:U:H1'	2.03	0.41
1:AA:64:G:N2	1:AA:67:C:C4	2.88	0.41
23:DB:58:A:N7	23:DB:59:A:C5	2.88	0.41
29:DH:53:GLU:C	29:DH:55:GLU:N	2.72	0.41
22:BA:528:A:C3'	22:BA:528:A:H8	2.25	0.41
1:CA:32:A:C2	1:CA:33:A:C4	3.08	0.41
1:CA:32:A:N1	1:CA:33:A:C6	2.89	0.41
22:DA:668:A:H3'	22:DA:669:G:H5''	2.02	0.41
22:BA:2885:G:H2'	22:BA:2886:A:C4'	2.51	0.41
22:BA:2886:A:C5	22:BA:2887:A:N7	2.88	0.41
1:AA:1299:A:N3	1:AA:1299:A:C2'	2.78	0.41
1:CA:496:A:H2'	1:CA:497:G:N7	2.35	0.41
20:AT:44:LYS:CG	20:AT:87:ALA:HA	2.51	0.41
22:BA:1936:A:H2	22:BA:1943:U:N3	2.13	0.41
4:CD:151:LYS:O	4:CD:152:GLN:OE1	2.38	0.41
10:AJ:17:LEU:HD21	10:AJ:96:VAL:CG2	2.51	0.41
1:CA:386:C:C5	1:CA:387:U:C5	3.08	0.41
1:CA:806:C:O2'	1:CA:807:A:H5'	2.20	0.41
22:BA:2380:C:C2	22:BA:2381:A:C8	3.09	0.41
6:CF:25:TYR:O	6:CF:26:THR:C	2.59	0.41
19:AS:45:ILE:HG23	19:AS:63:THR:HA	2.03	0.41
30:BI:19:ASN:N	30:BI:20:PRO:HD3	2.36	0.41
1:CA:1408:A:C2	1:CA:1494:G:C2	3.08	0.41
22:BA:1876:A:C6	22:BA:1877:A:C5	3.09	0.41
15:CO:52:SER:O	15:CO:53:ARG:C	2.58	0.41
22:DA:304:U:H2'	22:DA:305:C:C6	2.55	0.41
22:DA:193:U:H4'	22:DA:803:U:H5'	2.03	0.41
35:BN:79:LEU:HA	35:BN:83:LEU:HB2	2.03	0.41
22:DA:2852:G:H2'	22:DA:2853:C:O4'	2.21	0.41
22:DA:936:A:H2'	22:DA:937:C:C6	2.56	0.41
1:CA:325:A:N6	1:CA:326:G:C6	2.89	0.41
29:BH:30:LEU:C	29:BH:32:PRO:HD2	2.41	0.41
18:CR:33:ILE:O	18:CR:33:ILE:HG12	2.21	0.41
45:DX:64:ILE:HD11	45:DX:68:LEU:HD11	2.02	0.41
36:DO:28:VAL:HG11	36:DO:92:PHE:CZ	2.56	0.41
22:DA:145:C:H2'	22:DA:146:A:C8	2.56	0.41
22:BA:1678:A:H2'	22:BA:1679:A:C5'	2.50	0.41
22:DA:460:A:H2'	22:DA:461:C:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:97:VAL:CB	3:AC:98:PRO:HD2	2.51	0.41
1:CA:1272:G:O2'	1:CA:1273:C:H5'	2.21	0.41
22:DA:2355:G:C6	22:DA:2356:U:C4	3.09	0.41
22:DA:2107:G:N1	22:DA:2183:A:C2	2.88	0.41
43:BV:46:LYS:O	43:BV:47:VAL:C	2.59	0.41
43:BV:80:HIS:CD2	43:BV:83:LYS:HG3	2.55	0.41
1:AA:1436:U:H2'	1:AA:1437:A:C8	2.55	0.41
1:CA:283:U:C4	1:CA:284:C:C4	3.08	0.41
20:CT:67:ILE:CG1	20:CT:71:LYS:HE2	2.51	0.41
22:BA:1786:A:C5	22:BA:1938:A:C2	3.09	0.41
1:CA:1434:A:N6	1:CA:1435:G:C6	2.88	0.41
22:BA:2419:U:OP2	51:B3:33:LEU:HD13	2.20	0.41
22:DA:2283:C:C5	22:DA:2389:G:C4	3.09	0.41
22:BA:1248:G:OP1	26:BE:44:ARG:NH1	2.54	0.41
22:DA:2040:G:C2	22:DA:2041:U:C2	3.08	0.41
1:AA:1191:A:OP1	3:AC:4:LYS:HD3	2.21	0.41
22:DA:675:A:H4'	26:DE:62:GLN:OE1	2.21	0.41
1:AA:604:G:C5	1:AA:605:U:C4	3.09	0.41
1:AA:659:U:H2'	1:AA:660:C:C6	2.56	0.41
1:AA:251:G:C6	1:AA:266:G:O6	2.73	0.41
22:DA:1744:A:C5	22:DA:1745:A:C5	3.09	0.41
18:AR:67:LEU:O	18:AR:68:LEU:HG	2.19	0.41
15:AO:39:LEU:O	15:AO:41:GLY:N	2.54	0.41
1:CA:82:G:N2	1:CA:88:U:O2	2.54	0.41
22:BA:1828:G:H5''	57:BA:3454:HOH:O	2.20	0.41
22:BA:918:A:H4'	23:BB:97:C:O2	2.19	0.41
11:CK:88:GLY:H	11:CK:114:THR:HG22	1.85	0.41
22:BA:2415:G:C5	22:BA:2416:C:C5	3.08	0.41
6:CF:41:ASP:OD1	6:CF:43:GLY:N	2.54	0.41
1:AA:1186:G:N2	1:AA:1187:G:H1'	2.35	0.41
26:BE:121:VAL:O	26:BE:122:GLU:C	2.58	0.41
22:DA:2087:G:C2	22:DA:2233:U:O2	2.73	0.41
1:CA:1250:A:O3'	9:CI:69:GLY:HA2	2.21	0.41
53:B5:68:GLY:O	53:B5:69:LEU:HB2	2.20	0.41
2:CB:154:MET:SD	2:CB:156:GLY:O	2.78	0.41
9:AI:118:LEU:HD23	9:AI:122:ARG:O	2.20	0.41
3:AC:73:PRO:CG	3:AC:105:GLU:HG3	2.51	0.41
33:BL:55:MET:HA	33:BL:56:PRO:HD3	1.95	0.41
40:DS:70:LYS:N	40:DS:70:LYS:HD2	2.36	0.41
22:DA:1:G:C2	22:DA:2:G:C4	3.09	0.41
22:BA:1051:G:C6	22:BA:1052:C:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BW:36:ILE:HG23	44:BW:58:THR:HG23	2.02	0.41
22:DA:2335:A:OP1	36:DO:13:ARG:HD2	2.21	0.41
22:BA:247:G:H4'	22:BA:386:G:C5	2.55	0.41
1:CA:1505:G:C5'	1:CA:1506:U:O5'	2.68	0.41
1:CA:1130:A:C1'	1:CA:1146:A:C2	3.04	0.41
29:BH:100:ALA:HB2	29:BH:115:VAL:CG2	2.49	0.41
29:BH:95:GLY:HA2	29:BH:117:LEU:CD2	2.51	0.41
22:DA:1312:U:N3	22:DA:1603:A:C6	2.88	0.41
1:CA:1211:U:O4'	1:CA:1213:A:C2	2.74	0.41
14:AN:64:CYS:HB2	14:AN:80:SER:HB3	2.02	0.41
1:AA:91:U:C5	1:AA:92:U:C5	3.08	0.41
1:CA:1149:C:C4	1:CA:1150:A:C6	3.08	0.41
12:AL:95:TYR:N	12:AL:95:TYR:CD1	2.88	0.41
1:AA:453:G:C2'	1:AA:454:G:O5'	2.69	0.41
22:BA:563:A:C2	22:BA:564:C:N1	2.88	0.41
22:DA:2727:A:C6	22:DA:2728:U:C4	3.08	0.41
1:AA:132:C:H2'	1:AA:133:U:O4'	2.21	0.41
22:BA:511:U:C5	22:BA:512:G:N7	2.89	0.41
4:AD:29:ASP:O	4:AD:31:LYS:CD	2.66	0.41
41:DT:18:GLU:O	41:DT:22:THR:OG1	2.39	0.41
45:DX:28:ARG:O	45:DX:29:PHE:CD1	2.74	0.41
2:CB:140:GLU:O	2:CB:141:LEU:C	2.59	0.41
1:AA:406:G:C4	1:AA:495:A:C5	3.09	0.41
22:BA:974:G:H8	22:BA:990:A:H62	1.68	0.41
2:CB:210:VAL:HG22	2:CB:211:THR:N	2.33	0.41
10:AJ:66:GLU:HB3	14:AN:99:ALA:HB2	2.02	0.41
22:BA:1057:A:N3	22:BA:1086:A:C2	2.88	0.41
1:AA:1311:A:H2'	1:AA:1312:G:O5'	2.19	0.41
2:CB:68:LEU:CD2	2:CB:68:LEU:C	2.89	0.41
30:DI:20:PRO:HB2	30:DI:23:PRO:CG	2.51	0.41
22:DA:1178:C:H2'	22:DA:1179:G:C8	2.55	0.41
15:CO:70:LEU:HD22	15:CO:78:TYR:HB2	2.01	0.41
39:DR:87:GLN:HG2	39:DR:88:GLY:N	2.36	0.41
42:DU:36:VAL:O	42:DU:37:GLU:C	2.59	0.41
22:DA:193:U:C5	22:DA:194:G:N7	2.89	0.41
9:AI:91:ASP:C	9:AI:91:ASP:OD1	2.59	0.41
33:DL:29:LYS:O	33:DL:29:LYS:CG	2.68	0.41
1:AA:665:A:C2	1:AA:732:C:C5	3.09	0.41
22:BA:1719:G:N2	22:BA:1720:U:H1'	2.35	0.41
22:BA:2488:G:O2'	22:BA:2489:U:H5'	2.21	0.41
13:AM:80:LEU:HD21	13:AM:87:ARG:NE	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BR:48:LYS:HE2	39:BR:48:LYS:HB3	1.64	0.41
22:DA:2553:G:H2'	22:DA:2554:U:O4'	2.21	0.41
1:AA:40:C:O2	1:AA:40:C:H2'	2.20	0.41
22:DA:2733:A:C2	22:DA:2734:A:C4	3.09	0.41
1:AA:1272:G:C5	1:AA:1273:C:C4	3.09	0.41
22:DA:1838:C:C4	22:DA:1899:A:C4	3.09	0.41
22:DA:503:A:C6	22:DA:506:G:C6	3.09	0.41
40:DS:7:HIS:CE1	40:DS:46:LEU:HD23	2.55	0.41
46:DY:31:GLN:O	46:DY:32:ALA:C	2.58	0.41
1:CA:597:G:H2'	1:CA:598:U:H5'	2.01	0.41
22:DA:291:G:H2'	22:DA:292:U:C6	2.55	0.41
24:DC:107:PRO:HB3	24:DC:142:HIS:NE2	2.36	0.41
24:DC:129:THR:HG23	24:DC:190:ALA:O	2.20	0.41
22:BA:547:A:H3'	22:BA:548:G:C5'	2.51	0.41
29:DH:2:GLN:O	29:DH:3:VAL:O	2.38	0.41
34:DM:76:LYS:NZ	34:DM:83:GLY:O	2.52	0.41
1:AA:934:C:H5''	57:AA:1767:HOH:O	2.20	0.41
28:BG:86:LYS:HG2	28:BG:132:VAL:HG22	2.02	0.41
22:DA:495:G:H4'	40:DS:4:ILE:O	2.21	0.41
22:BA:2115:G:O2'	22:BA:2116:G:C8	2.72	0.41
2:AB:208:ARG:C	2:AB:210:VAL:N	2.74	0.41
1:AA:1106:G:C6	1:AA:1107:C:C4	3.09	0.41
22:DA:535:G:O2'	38:DQ:53:ARG:HG3	2.21	0.41
1:CA:1106:G:H2'	1:CA:1107:C:H6	1.86	0.41
22:BA:1366:A:C5	22:BA:1367:A:C8	3.08	0.41
20:CT:55:GLN:N	20:CT:56:PRO:CD	2.84	0.41
22:DA:2229:U:H2'	22:DA:2230:G:C8	2.56	0.41
1:AA:616:G:C2	1:AA:617:G:C8	3.09	0.41
22:BA:1536:C:H4'	22:BA:1537:G:H5''	2.03	0.41
8:CH:101:ILE:C	8:CH:101:ILE:HD12	2.41	0.41
49:B1:47:VAL:HG13	49:B1:48:ILE:N	2.36	0.41
15:CO:60:VAL:O	15:CO:63:ARG:HB3	2.21	0.41
1:CA:1397:C:O4'	1:CA:1397:C:O2	2.38	0.41
22:BA:2218:G:O2'	22:BA:2219:U:H5'	2.21	0.41
22:BA:447:A:C4	22:BA:473:G:N7	2.89	0.41
22:DA:2805:C:H2'	22:DA:2806:C:C6	2.55	0.41
1:CA:461:A:H2'	1:CA:462:G:O4'	2.21	0.41
23:BB:7:G:H5''	36:BO:29:HIS:CE1	2.56	0.41
10:AJ:87:LEU:HD13	10:AJ:88:MET:N	2.35	0.41
22:BA:116:C:H2'	22:BA:117:G:O4'	2.21	0.41
20:CT:43:ASP:HB3	20:CT:46:ALA:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1773:A:C2'	22:BA:1774:C:H5'	2.50	0.41
22:BA:2253:G:C5	22:BA:2254:C:C5	3.08	0.41
22:BA:1067:A:N3	22:BA:1067:A:H2'	2.35	0.41
51:B3:63:PRO:HG2	51:B3:64:TYR:CD2	2.56	0.41
22:BA:254:G:N7	51:B3:5:LYS:HE2	2.35	0.41
29:BH:89:LYS:HB3	1:CA:359:G:C5'	2.51	0.41
29:BH:90:LEU:HG	29:BH:92:GLY:C	2.41	0.41
22:DA:2093:G:H4'	29:DH:24:GLY:C	2.39	0.41
29:DH:1:MET:HB3	29:DH:21:VAL:O	2.20	0.41
22:DA:2061:G:H2'	22:DA:2501:C:O2'	2.20	0.41
1:AA:875:U:C4	1:AA:876:C:C5	3.09	0.41
1:AA:858:G:C2'	1:AA:859:G:H5'	2.50	0.41
13:AM:44:LYS:HB3	13:AM:44:LYS:HE2	1.91	0.41
5:AE:101:GLU:O	5:AE:101:GLU:CG	2.68	0.41
18:CR:24:LYS:O	18:CR:26:ILE:HG23	2.20	0.41
1:AA:977:A:C8	1:AA:1223:C:C2	3.09	0.41
22:DA:24:G:N2	22:DA:517:C:C2	2.89	0.41
22:DA:2549:G:N3	22:DA:2560:A:C2	2.89	0.41
6:AF:90:MET:SD	18:AR:61:ARG:CZ	3.09	0.41
1:CA:992:U:C6	1:CA:1043:G:C8	3.08	0.41
2:CB:96:TRP:HZ3	2:CB:175:GLU:OE2	2.04	0.41
22:BA:476:G:C2	22:BA:479:A:C8	3.08	0.41
13:AM:15:ALA:HB1	13:AM:34:LEU:HD21	2.03	0.41
1:AA:1501:C:C4	1:AA:1504:G:C5	3.08	0.41
1:CA:485:U:O2'	1:CA:486:U:OP1	2.37	0.41
1:AA:1124:G:P	10:AJ:38:GLY:HA3	2.60	0.41
22:DA:2873:A:H4'	57:DA:3801:HOH:O	2.21	0.41
6:CF:1:MET:HG2	6:CF:65:GLU:HG2	2.03	0.41
1:CA:1316:G:H1	19:CS:5:LEU:HD11	1.86	0.41
24:DC:6:CYS:SG	24:DC:16:VAL:HB	2.61	0.41
24:DC:15:HIS:O	24:DC:204:VAL:CG2	2.69	0.41
22:DA:1595:C:H2'	22:DA:1596:A:O4'	2.21	0.41
9:AI:57:MET:O	9:AI:58:VAL:HB	2.20	0.41
22:DA:1526:C:C2'	22:DA:1527:G:O5'	2.69	0.41
1:AA:411:A:OP2	4:AD:26:ARG:NH2	2.51	0.41
22:BA:2298:A:H61	22:BA:2318:G:H1'	1.85	0.41
53:B5:50:ILE:HG22	53:B5:51:ASP:H	1.83	0.41
38:BQ:24:TYR:O	38:BQ:25:TYR:HB3	2.17	0.41
1:AA:209:U:C5'	1:AA:210:C:OP2	2.69	0.41
2:CB:138:THR:C	2:CB:140:GLU:N	2.73	0.41
1:AA:167:A:H2'	1:AA:168:G:C1'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:945:G:H2'	1:AA:945:G:N3	2.36	0.41
22:DA:410:G:H2'	22:DA:2407:A:N7	2.36	0.41
1:AA:406:G:C2	1:AA:407:U:C5	3.08	0.41
1:AA:542:G:H2'	1:AA:543:U:H6	1.86	0.41
22:BA:2311:A:C8	27:BF:77:PHE:CD2	3.08	0.41
20:AT:84:ASN:HA	20:AT:87:ALA:HB3	2.03	0.41
2:CB:206:ALA:O	2:CB:210:VAL:HG13	2.21	0.41
1:AA:469:C:C4	1:AA:470:C:C4	3.09	0.41
1:AA:469:C:C5	1:AA:470:C:C5	3.09	0.41
6:CF:98:GLU:O	6:CF:99:ALA:HB3	2.19	0.41
22:DA:1095:A:C5	22:DA:1096:A:N1	2.89	0.41
15:AO:32:LEU:HD13	15:AO:63:ARG:HB2	2.02	0.41
24:DC:29:PRO:HG3	24:DC:63:ARG:CZ	2.51	0.41
26:BE:7:ASP:C	26:BE:9:GLN:H	2.23	0.41
1:AA:1053:G:C6	1:AA:1199:U:C2	3.08	0.41
22:BA:1855:U:C4	22:BA:1856:U:C4	3.08	0.41
22:BA:1429:G:C2	22:BA:1430:G:C5	3.09	0.41
27:BF:57:LEU:HD21	27:BF:152:LEU:HD11	2.03	0.41
22:BA:653:U:C2'	22:BA:654:A:OP1	2.69	0.41
22:BA:1569:A:N6	22:BA:1570:A:C6	2.89	0.41
4:AD:124:MET:HG3	4:AD:146:ARG:HG2	2.02	0.41
22:DA:37:C:H2'	22:DA:38:A:O4'	2.20	0.41
6:CF:14:GLN:C	6:CF:16:GLU:H	2.24	0.41
10:AJ:7:ARG:HD3	10:AJ:73:LEU:HD21	2.03	0.41
22:DA:2613:U:H5''	57:DA:3478:HOH:O	2.21	0.41
22:BA:2210:U:H4'	22:BA:2211:A:H5'	2.02	0.41
26:BE:106:LYS:HD2	26:BE:200:LEU:HB3	2.03	0.41
1:AA:1539:C:H5''	21:AU:18:ARG:CG	2.50	0.41
1:AA:832:G:N2	1:AA:833:G:H1'	2.36	0.41
22:DA:88:G:C2	22:DA:89:A:C8	3.09	0.41
22:BA:1877:A:H2'	22:BA:1878:G:O4'	2.21	0.41
5:CE:96:MET:HE3	5:CE:111:MET:HE2	2.02	0.41
21:CU:4:ILE:HA	21:CU:20:LYS:HZ1	1.85	0.41
1:AA:1476:A:H2'	1:AA:1477:U:O4'	2.21	0.41
22:BA:2151:U:H2'	22:BA:2152:G:C8	2.56	0.41
41:DT:62:VAL:CG1	41:DT:63:VAL:N	2.84	0.41
22:BA:77:G:H2'	22:BA:78:U:O4'	2.20	0.41
22:BA:588:U:O4	22:BA:670:A:H1'	2.21	0.41
22:DA:2103:C:H2'	22:DA:2104:C:C6	2.55	0.41
1:AA:437:U:N3	1:AA:438:U:C5	2.89	0.41
22:BA:2489:U:C2'	22:BA:2490:G:O5'	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CC:36:ASP:O	3:CC:40:ARG:HG3	2.20	0.41
32:BK:92:GLU:HG3	32:BK:111:LYS:HZ2	1.85	0.41
1:CA:1415:G:C2	1:CA:1486:G:C4	3.08	0.41
42:DU:82:ARG:HB2	42:DU:97:LYS:HG3	2.03	0.41
22:BA:1583:A:HO2'	22:BA:1584:U:P	2.44	0.41
1:CA:1095:U:H2'	1:CA:1095:U:O2	2.20	0.41
5:CE:156:LYS:HD3	8:CH:71:VAL:HG22	2.02	0.41
5:AE:109:GLY:O	5:AE:110:ALA:CB	2.67	0.41
1:AA:587:G:N2	1:AA:755:G:C8	2.88	0.41
8:CH:86:TYR:CE2	8:CH:124:GLU:HB2	2.56	0.41
3:AC:64:ILE:HG22	3:AC:98:PRO:O	2.20	0.41
1:CA:1381:U:C5	1:CA:1382:C:C5	3.09	0.41
2:CB:87:CYS:HB2	2:CB:89:GLN:CD	2.41	0.41
2:CB:89:GLN:OE1	2:CB:221:VAL:HB	2.19	0.41
9:AI:85:ARG:O	9:AI:88:MET:HB2	2.21	0.41
22:BA:734:A:C5	22:BA:735:A:C8	3.09	0.41
22:DA:1835:G:N3	22:DA:1836:C:C6	2.89	0.41
1:CA:1244:G:C6	1:CA:1245:C:C4	3.09	0.41
36:DO:83:LEU:HD11	36:DO:114:GLY:O	2.21	0.41
1:CA:780:A:C2	1:CA:803:G:N1	2.89	0.41
22:BA:229:C:C2	22:BA:230:G:H1'	2.55	0.41
28:DG:38:ASN:HB3	28:DG:41:VAL:HG23	2.03	0.41
22:BA:2352:A:C2	22:BA:2366:A:C2	3.09	0.41
20:CT:51:PHE:HA	20:CT:54:MET:HG2	2.03	0.41
13:CM:3:ARG:C	13:CM:4:ILE:HG12	2.40	0.41
1:AA:189:A:N6	1:AA:190:A:N1	2.68	0.41
22:BA:1365:A:P	45:BX:28:ARG:HH22	2.44	0.41
22:BA:458:G:O2'	22:BA:469:G:O6	2.25	0.41
10:AJ:10:LEU:O	10:AJ:71:LEU:HD13	2.20	0.41
22:BA:1288:G:C5	22:BA:1327:A:C2	3.09	0.41
2:AB:210:VAL:HG23	2:AB:211:THR:N	2.36	0.41
1:CA:1423:G:O2'	1:CA:1424:U:H5'	2.21	0.41
13:CM:96:PRO:HA	13:CM:109:ARG:HG2	2.03	0.41
25:BD:37:VAL:HG12	25:BD:38:LYS:N	2.36	0.41
2:AB:207:ILE:CD1	2:AB:207:ILE:N	2.84	0.41
1:CA:445:G:N3	1:CA:445:G:H2'	2.34	0.41
22:DA:1867:G:O6	22:DA:1875:G:N2	2.53	0.41
1:AA:672:U:O2'	1:AA:673:A:O5'	2.39	0.41
22:DA:2190:G:O2'	22:DA:2191:A:H5'	2.20	0.41
1:CA:1220:G:H2'	1:CA:1221:G:O4'	2.20	0.41
22:BA:996:A:N6	22:BA:1160:G:C6	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CP:53:ASP:OD1	16:CP:56:ARG:HG2	2.20	0.41
23:BB:106:G:H2'	23:BB:107:G:O4'	2.20	0.41
19:AS:29:LYS:HB3	19:AS:30:PRO:HD2	2.03	0.41
22:DA:675:A:N3	22:DA:2443:C:O2'	2.41	0.41
28:DG:71:LEU:O	28:DG:75:MET:HG3	2.21	0.41
36:DO:71:ALA:O	36:DO:75:GLY:N	2.49	0.41
15:AO:70:LEU:HD21	15:AO:77:ARG:HB2	2.03	0.41
1:AA:575:G:C6	1:AA:821:G:N7	2.89	0.41
22:BA:1810:A:C8	22:BA:1811:G:C8	3.09	0.41
18:AR:22:ASP:OD1	18:AR:24:LYS:HB2	2.19	0.41
22:DA:2230:G:C5	22:DA:2231:U:C4	3.09	0.41
13:AM:20:THR:HA	13:AM:25:VAL:CG2	2.50	0.41
1:CA:542:G:C2	1:CA:543:U:C6	3.09	0.41
34:BM:105:MET:HG2	34:BM:106:ASP:N	2.35	0.41
22:DA:1083:U:H2'	22:DA:1085:A:OP2	2.21	0.41
31:DJ:24:THR:O	31:DJ:25:LEU:C	2.59	0.41
22:BA:1769:U:O4'	22:BA:1958:C:H5''	2.21	0.41
1:CA:45:G:H5''	1:CA:307:C:O2'	2.21	0.41
27:BF:133:ARG:O	27:BF:134:GLU:CB	2.67	0.41
5:AE:94:VAL:HG22	5:AE:95:PHE:N	2.35	0.41
11:CK:100:LEU:O	11:CK:102:ALA:N	2.54	0.41
11:CK:59:THR:CA	11:CK:91:PRO:HB3	2.51	0.41
12:CL:3:THR:HB	12:CL:6:GLN:HG3	2.02	0.41
22:BA:2296:U:C2	22:BA:2333:A:H2	2.38	0.41
22:BA:2880:C:N3	22:BA:2881:U:C5	2.89	0.41
22:DA:959:A:H2'	22:DA:960:A:C8	2.56	0.41
22:DA:974:G:O2'	22:DA:989:G:N2	2.52	0.41
29:BH:129:GLU:C	29:BH:130:VAL:HG23	2.41	0.41
35:BN:14:SER:HA	35:BN:17:ARG:NH1	2.36	0.41
22:BA:397:U:OP2	45:BX:10:LYS:HD3	2.21	0.41
40:BS:65:ASP:OD1	40:BS:67:ASP:HB2	2.21	0.41
23:BB:63:C:O2'	23:BB:64:G:H5'	2.21	0.41
5:AE:56:VAL:N	5:AE:57:PRO:HD2	2.36	0.41
22:BA:2525:G:C2	22:BA:2526:G:C8	3.09	0.41
6:CF:42:TRP:N	6:CF:42:TRP:CD1	2.86	0.41
35:DN:65:LEU:O	35:DN:65:LEU:HD12	2.21	0.41
12:AL:114:ARG:HB2	12:AL:114:ARG:CZ	2.51	0.41
1:CA:762:U:O5'	1:CA:762:U:H6	2.04	0.41
22:BA:601:C:O2	22:BA:605:G:H4'	2.21	0.41
22:BA:2092:U:H4'	29:BH:24:GLY:HA3	2.03	0.41
8:AH:41:LYS:CD	8:AH:48:ASP:HA	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:D1:25:LYS:CE	49:D1:30:LYS:O	2.68	0.41
29:BH:129:GLU:C	29:BH:130:VAL:CG2	2.90	0.41
22:DA:961:C:C5	22:DA:2031:A:C2	3.08	0.41
22:BA:285:G:N2	22:BA:286:U:H1'	2.36	0.41
39:BR:3:ALA:HB3	39:BR:59:ILE:HD11	2.01	0.41
1:AA:303:A:O2'	1:AA:304:U:H5'	2.21	0.41
1:CA:191:G:O6	1:CA:192:A:N6	2.54	0.41
4:CD:160:GLU:O	4:CD:163:GLU:HB2	2.21	0.41
22:DA:458:G:O2'	22:DA:459:U:OP2	2.39	0.41
22:DA:1797:G:O2'	24:DC:257:THR:CG2	2.69	0.41
24:BC:56:GLY:O	24:BC:215:GLY:HA2	2.21	0.41
5:CE:30:ILE:HG23	5:CE:30:ILE:O	2.21	0.41
22:BA:892:A:N3	22:BA:892:A:H2'	2.35	0.41
1:AA:1343:G:H2'	1:AA:1344:C:C6	2.55	0.41
49:D1:47:VAL:HG12	49:D1:48:ILE:N	2.35	0.41
6:AF:8:PHE:CZ	6:AF:60:VAL:HG11	2.55	0.41
15:AO:61:SER:O	15:AO:65:LYS:HG3	2.21	0.41
31:DJ:71:ASP:O	31:DJ:73:VAL:CG2	2.69	0.41
25:DD:39:ASP:CG	25:DD:40:LEU:N	2.74	0.41
29:BH:132:PHE:CE2	29:BH:142:VAL:CG2	3.04	0.41
22:BA:1177:G:C2'	22:BA:1178:C:O5'	2.69	0.41
1:CA:1213:A:C8	1:CA:1215:G:C6	3.09	0.41
22:DA:942:G:H4'	22:DA:1190:G:H5'	2.02	0.41
22:BA:481:G:N3	22:BA:507:A:C2	2.87	0.41
12:AL:86:ARG:NE	12:AL:88:LYS:HB3	2.35	0.41
17:CQ:15:ASP:HA	17:CQ:21:ILE:CD1	2.50	0.41
22:BA:1076:C:H2'	22:BA:1077:A:N9	2.36	0.41
11:AK:74:VAL:C	11:AK:76:GLU:H	2.25	0.41
21:AU:36:GLU:OE2	21:AU:38:TYR:HD2	2.04	0.41
23:DB:31:C:H5'	27:DF:26:MET:CE	2.51	0.41
22:DA:1082:U:P	30:DI:124:ALA:HB1	2.61	0.41
22:DA:75:G:H4'	46:DY:48:ARG:NH1	2.36	0.41
22:BA:2748:A:C2	22:BA:2757:A:C4	3.08	0.41
3:AC:140:ASN:O	3:AC:141:ALA:HB2	2.21	0.41
22:BA:825:A:H4'	22:BA:2428:G:C5	2.55	0.41
17:AQ:13:VAL:HG12	17:AQ:22:VAL:O	2.21	0.41
33:BL:85:VAL:HG11	33:BL:94:THR:CG2	2.49	0.41
22:BA:453:A:H1'	22:BA:457:A:O2'	2.21	0.41
9:AI:105:THR:CG2	9:AI:106:ARG:N	2.84	0.41
1:CA:1160:G:O2'	1:CA:1161:C:O5'	2.39	0.41
52:B4:3:VAL:HA	52:B4:36:ARG:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1329:A:H2'	1:AA:1330:U:H5'	2.03	0.41
22:BA:1585:C:O2'	22:BA:1586:A:H5'	2.21	0.41
22:BA:2345:G:C5	22:BA:2381:A:N1	2.89	0.41
22:DA:579:G:C5'	22:DA:2018:G:OP2	2.69	0.41
22:DA:607:U:O4	22:DA:620:G:H5'	2.21	0.41
21:AU:16:LEU:H	21:AU:18:ARG:NH2	2.18	0.41
1:AA:833:G:C2'	1:AA:834:U:H5'	2.51	0.41
5:AE:132:ASN:O	5:AE:136:VAL:HG12	2.21	0.41
1:CA:463:U:H2'	1:CA:463:U:O2	2.20	0.41
5:CE:95:PHE:CG	5:CE:96:MET:N	2.89	0.41
48:B0:54:VAL:O	48:B0:55:ILE:C	2.58	0.41
4:AD:177:LYS:O	4:AD:178:MET:HB2	2.21	0.41
22:DA:945:A:N7	22:DA:2448:A:C2	2.88	0.41
22:DA:1197:G:H2'	22:DA:1198:U:H6	1.82	0.41
21:CU:4:ILE:N	21:CU:4:ILE:HD13	2.36	0.41
42:DU:39:ILE:HG22	42:DU:39:ILE:O	2.19	0.41
10:CJ:52:LEU:HD23	10:CJ:62:ARG:CG	2.51	0.41
22:DA:2262:U:OP1	44:DW:41:ARG:NH2	2.53	0.41
2:AB:96:TRP:HZ3	2:AB:175:GLU:OE2	2.04	0.41
22:DA:635:C:O2'	22:DA:639:U:H5''	2.21	0.41
24:BC:40:SER:O	24:BC:42:GLY:N	2.54	0.41
22:DA:1678:A:C8	22:DA:1679:A:C8	3.09	0.41
5:CE:109:GLY:O	5:CE:110:ALA:CB	2.69	0.41
22:DA:1835:G:C2	22:DA:1836:C:C6	3.09	0.41
22:BA:1301:A:C2	22:BA:1303:G:C6	3.09	0.41
1:AA:1063:C:H2'	1:AA:1064:G:C8	2.55	0.41
20:CT:58:VAL:HG12	20:CT:59:ASP:N	2.36	0.41
17:AQ:61:ILE:HG22	17:AQ:73:TRP:CE3	2.56	0.41
23:DB:46:A:C4	23:DB:47:C:C6	3.09	0.41
26:DE:146:VAL:O	26:DE:167:VAL:HA	2.21	0.41
14:AN:21:PHE:HA	14:AN:25:ALA:CB	2.50	0.41
21:CU:14:VAL:HG12	21:CU:16:LEU:CG	2.51	0.41
2:CB:142:GLU:O	2:CB:146:ASN:CG	2.60	0.41
22:DA:2327:A:C2	22:DA:2388:A:C2	3.10	0.41
41:DT:7:LEU:CD2	41:DT:46:ALA:CA	2.99	0.41
22:BA:303:G:C5	22:BA:304:U:C5	3.09	0.41
1:AA:1136:C:O2	1:AA:1136:C:O4'	2.38	0.41
26:BE:128:ALA:O	26:BE:130:LYS:N	2.53	0.41
19:AS:29:LYS:HG2	19:AS:30:PRO:HD2	2.03	0.41
31:DJ:126:ALA:O	31:DJ:127:GLY:O	2.39	0.41
1:CA:793:U:HO2'	1:CA:1516:G:C1'	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:DU:61:LYS:HD2	42:DU:61:LYS:HA	1.97	0.41
25:DD:62:LYS:N	25:DD:63:PRO:CD	2.84	0.41
3:CC:28:GLU:O	3:CC:32:ASN:HB2	2.21	0.41
36:BO:93:ASP:C	36:BO:93:ASP:OD1	2.59	0.41
7:CG:71:PRO:HD2	7:CG:96:ARG:O	2.21	0.41
2:CB:29:PRO:HB2	2:CB:30:PHE:CD1	2.56	0.41
22:DA:2773:C:H2'	22:DA:2774:C:H6	1.86	0.41
1:AA:621:A:H2'	1:AA:622:A:C8	2.56	0.41
10:AJ:26:VAL:O	10:AJ:29:ALA:HB3	2.20	0.41
10:AJ:32:THR:HG21	10:AJ:83:THR:HA	2.03	0.41
25:DD:186:LEU:HD21	37:DP:4:ILE:HG21	2.03	0.41
22:DA:2253:G:C6	22:DA:2254:C:C4	3.09	0.41
22:DA:42:A:C2	22:DA:438:G:C2	3.09	0.41
22:DA:599:A:N3	22:DA:659:G:C2	2.89	0.41
1:AA:1213:A:C5	1:AA:1215:G:C4	3.09	0.41
23:BB:94:A:C5	23:BB:95:U:C5	3.09	0.41
22:BA:247:G:N7	22:BA:249:C:C2	2.88	0.41
16:AP:2:VAL:CG2	16:AP:65:ALA:HB2	2.51	0.41
20:AT:21:ASN:O	20:AT:25:ARG:CB	2.69	0.41
38:BQ:40:ILE:HG22	38:BQ:41:LYS:N	2.36	0.41
16:AP:72:ALA:O	16:AP:75:ILE:HG13	2.21	0.41
3:CC:148:GLY:O	3:CC:203:PHE:N	2.45	0.41
25:DD:78:GLY:CA	25:DD:80:TRP:CH2	3.04	0.41
1:AA:1486:G:H2'	1:AA:1487:G:O4'	2.21	0.41
5:AE:65:GLU:OE2	5:AE:69:ARG:NH2	2.53	0.41
10:CJ:26:VAL:HG21	10:CJ:39:PRO:HG3	2.02	0.41
45:DX:66:THR:O	45:DX:70:GLU:HG3	2.21	0.41
22:BA:2080:A:C5'	45:BX:19:SER:HB2	2.51	0.41
24:BC:57:GLY:HA2	24:BC:213:TRP:HA	2.03	0.41
8:AH:18:GLN:NE2	8:AH:70:ALA:HB1	2.36	0.41
22:BA:2348:U:O2'	22:BA:2349:G:H5'	2.21	0.41
8:CH:51:VAL:O	8:CH:51:VAL:HG22	2.20	0.41
32:BK:51:LYS:NZ	32:BK:97:THR:HG23	2.36	0.41
39:DR:76:LYS:HB2	39:DR:85:LYS:HB3	2.03	0.41
42:BU:89:ASP:CG	42:BU:90:GLY:H	2.24	0.41
3:CC:70:THR:HG21	3:CC:76:VAL:HG21	2.03	0.41
29:BH:88:GLY:C	29:BH:125:THR:OG1	2.59	0.40
22:DA:2093:G:C5'	29:DH:24:GLY:HA3	2.50	0.40
22:DA:514:A:C2	22:DA:515:A:N3	2.89	0.40
22:DA:1394:U:H2'	22:DA:1395:A:O4'	2.21	0.40
22:DA:1603:A:P	22:DA:1604:C:OP2	2.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DN:90:ARG:HG2	35:DN:92:GLY:O	2.22	0.40
2:CB:96:TRP:CE3	2:CB:97:LEU:O	2.73	0.40
25:BD:13:ARG:O	25:BD:14:ILE:HD12	2.20	0.40
14:AN:30:ILE:HG22	14:AN:35:ASN:OD1	2.21	0.40
17:CQ:17:MET:CE	17:CQ:20:SER:O	2.68	0.40
17:AQ:18:GLU:O	17:AQ:19:LYS:CB	2.69	0.40
22:DA:1356:G:C2	22:DA:1357:C:H1'	2.57	0.40
14:CN:13:ARG:HG2	14:CN:54:ASP:CG	2.40	0.40
29:BH:91:PHE:HB3	1:CA:55:A:N3	2.36	0.40
1:AA:1322:C:O2	1:AA:1322:C:O4'	2.39	0.40
22:BA:2192:U:C2'	22:BA:2193:G:H5'	2.51	0.40
41:DT:17:SER:O	41:DT:18:GLU:C	2.59	0.40
1:CA:152:A:C6	1:CA:170:U:C2	3.10	0.40
17:AQ:12:VAL:CG1	17:AQ:13:VAL:N	2.84	0.40
4:CD:31:LYS:O	4:CD:32:CYS:CB	2.69	0.40
12:CL:94:ARG:HG2	12:CL:94:ARG:H	1.79	0.40
13:CM:40:ALA:O	13:CM:41:GLU:C	2.59	0.40
22:DA:1020:A:C2	22:DA:1141:U:O2	2.74	0.40
1:CA:773:G:C4	1:CA:807:A:N1	2.89	0.40
1:CA:474:G:C2	1:CA:475:C:C2	3.09	0.40
14:CN:23:LYS:HG3	14:CN:24:ARG:N	2.36	0.40
22:BA:1351:C:O2'	22:BA:1571:A:H1'	2.20	0.40
2:CB:67:ILE:HD13	2:CB:160:ALA:HB3	2.03	0.40
22:DA:2612:C:H5''	22:DA:2613:U:P	2.61	0.40
12:AL:59:ASN:OD1	12:AL:59:ASN:C	2.57	0.40
33:DL:77:ILE:HD13	33:DL:108:ALA:HB1	2.03	0.40
15:CO:45:GLU:O	15:CO:46:HIS:HB2	2.21	0.40
30:BI:115:ALA:O	30:BI:116:ASP:HB2	2.20	0.40
30:BI:117:MET:HA	30:BI:117:MET:HE2	2.03	0.40
24:BC:107:PRO:HD2	24:BC:110:LEU:HD22	2.03	0.40
22:BA:2334:U:H4'	22:BA:2335:A:OP2	2.20	0.40
1:AA:735:C:H2'	1:AA:736:C:H6	1.86	0.40
22:DA:1567:G:N7	24:DC:83:TYR:CE1	2.89	0.40
41:BT:88:LYS:O	41:BT:89:GLU:CB	2.67	0.40
1:CA:716:A:C2	1:CA:717:U:C2	3.09	0.40
42:DU:13:VAL:CG1	42:DU:18:ASP:O	2.69	0.40
22:DA:1922:G:H2'	22:DA:1923:U:O4'	2.21	0.40
22:BA:2593:U:C2	22:BA:2594:C:C6	3.09	0.40
35:BN:103:ARG:NH1	35:BN:110:MET:HE1	2.36	0.40
1:CA:437:U:O2'	1:CA:438:U:H5'	2.21	0.40
1:CA:355:C:C4	1:CA:356:A:C5	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:137:U:P	22:BA:140:C:C5	3.15	0.40
11:CK:82:LEU:N	11:CK:82:LEU:CD2	2.84	0.40
3:AC:97:VAL:CB	3:AC:98:PRO:CD	2.98	0.40
24:BC:17:VAL:N	24:BC:204:VAL:HG22	2.35	0.40
24:BC:124:ILE:HD12	24:BC:136:PRO:HD2	2.03	0.40
1:CA:174:A:C4	1:CA:175:C:C6	3.09	0.40
22:DA:189:G:C5	22:DA:205:G:N2	2.89	0.40
3:CC:16:LYS:HE3	3:CC:16:LYS:HA	2.02	0.40
22:DA:2533:U:H2'	22:DA:2534:A:O4'	2.21	0.40
19:AS:51:VAL:HG13	19:AS:71:LEU:HD12	2.03	0.40
22:BA:163:C:H2'	22:BA:164:C:C6	2.56	0.40
22:DA:2636:C:H4'	25:DD:81:GLU:OE1	2.21	0.40
22:DA:172:A:H2'	22:DA:173:A:C8	2.56	0.40
22:BA:1459:G:C6	22:BA:1461:C:C4	3.10	0.40
22:DA:2370:G:H4'	49:D1:44:ARG:NH1	2.35	0.40
1:CA:560:A:N7	1:CA:566:G:C4	2.89	0.40
25:BD:28:GLU:OE2	25:BD:30:GLU:CG	2.68	0.40
22:DA:2547:A:C2	22:DA:2562:U:C2	3.09	0.40
1:AA:115:G:C2	1:AA:289:G:N7	2.90	0.40
22:BA:222:A:N6	22:BA:231:A:C2	2.89	0.40
22:DA:558:U:H2'	22:DA:559:G:C8	2.56	0.40
43:DV:44:HIS:O	43:DV:45:ASP:C	2.59	0.40
22:DA:2892:G:H5''	22:DA:2894:G:N2	2.35	0.40
15:CO:15:PHE:CE2	15:CO:85:LEU:HD11	2.56	0.40
1:AA:1346:A:N7	7:AG:10:ARG:NH2	2.69	0.40
19:AS:29:LYS:CB	19:AS:30:PRO:HD2	2.51	0.40
20:CT:64:LYS:HE3	20:CT:64:LYS:HA	2.03	0.40
41:DT:49:LYS:HD3	41:DT:49:LYS:N	2.36	0.40
13:AM:88:GLY:C	13:AM:90:ARG:N	2.72	0.40
31:DJ:58:ASN:HA	31:DJ:126:ALA:O	2.20	0.40
45:DX:42:SER:OG	45:DX:43:GLU:N	2.54	0.40
3:CC:5:VAL:HG21	3:CC:10:ILE:HD13	2.03	0.40
22:BA:1151:A:C2	22:BA:1152:C:C2	3.09	0.40
7:CG:33:ASP:HB3	7:CG:35:LYS:HE3	2.03	0.40
1:AA:1248:A:C2	9:AI:72:ILE:HD11	2.56	0.40
36:BO:26:LEU:HD11	36:BO:78:VAL:HG21	2.02	0.40
3:CC:92:ALA:O	3:CC:96:GLY:N	2.52	0.40
22:DA:242:G:N7	51:D3:5:LYS:HG2	2.35	0.40
50:B2:23:ALA:C	50:B2:24:THR:HG23	2.41	0.40
1:AA:597:G:C2	1:AA:644:U:C2	3.09	0.40
47:DZ:4:THR:CG2	47:DZ:5:ILE:N	2.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1914:C:H3'	22:DA:1915:U:C6	2.57	0.40
1:AA:412:A:H4'	1:AA:413:G:OP1	2.20	0.40
22:BA:976:G:N3	22:BA:976:G:H2'	2.36	0.40
47:BZ:13:ALA:O	47:BZ:21:LYS:HE2	2.21	0.40
1:AA:342:C:C2	1:AA:348:G:C2	3.09	0.40
22:DA:2053:G:N2	22:DA:2054:A:H1'	2.36	0.40
34:DM:35:ALA:HB2	34:DM:102:LEU:HD11	2.02	0.40
22:BA:1332:G:C6	22:BA:1609:A:C5	3.09	0.40
40:DS:75:PHE:CZ	40:DS:104:THR:HG21	2.57	0.40
24:DC:109:GLY:O	24:DC:111:LYS:HE3	2.22	0.40
2:CB:133:GLU:O	2:CB:137:ARG:HB3	2.21	0.40
22:BA:571:U:O4	22:BA:575:A:C4	2.74	0.40
22:BA:2016:U:C4	22:BA:2017:U:C4	3.10	0.40
22:DA:517:C:H1'	40:DS:78:GLU:OE2	2.22	0.40
22:DA:580:U:O2'	22:DA:581:C:H5'	2.20	0.40
22:BA:1064:C:N4	22:BA:1070:A:OP2	2.54	0.40
22:DA:570:G:C5	22:DA:2030:A:C5	3.10	0.40
22:DA:820:A:H2'	22:DA:821:A:O4'	2.21	0.40
11:AK:89:PRO:HA	21:AU:25:LYS:HE2	2.03	0.40
1:AA:257:G:O2'	1:AA:258:G:H5'	2.22	0.40
1:AA:198:G:C2	1:AA:199:A:C8	3.09	0.40
22:DA:1466:U:O2'	22:DA:1546:G:O2'	2.16	0.40
22:DA:187:G:O2'	22:DA:1365:A:C2	2.66	0.40
1:CA:502:A:OP1	12:CL:115:SER:HB2	2.20	0.40
22:DA:1370:C:O4'	22:DA:1810:A:H2	2.04	0.40
22:DA:796:C:H2'	22:DA:797:G:C8	2.56	0.40
31:DJ:3:THR:HG22	31:DJ:4:PHE:N	2.36	0.40
22:DA:813:U:N3	22:DA:814:C:C4	2.89	0.40
1:CA:552:U:N3	1:CA:553:A:C8	2.89	0.40
26:BE:7:ASP:C	26:BE:9:GLN:N	2.74	0.40
22:BA:1889:A:H1'	22:BA:2086:U:O2'	2.21	0.40
22:DA:2834:G:H2'	22:DA:2879:A:H61	1.85	0.40
42:DU:74:ASN:ND2	42:DU:77:THR:HG23	2.36	0.40
2:CB:35:ARG:O	2:CB:37:LYS:N	2.54	0.40
22:DA:563:A:C6	22:DA:2018:G:C4	3.09	0.40
27:BF:111:ILE:O	27:BF:114:PHE:HB2	2.21	0.40
22:DA:1792:G:O2'	22:DA:1793:C:H5'	2.21	0.40
1:CA:781:A:H2'	1:CA:782:A:H5'	2.03	0.40
42:DU:25:VAL:HG22	42:DU:36:VAL:HG22	2.03	0.40
22:DA:192:C:H2'	22:DA:193:U:H5'	2.02	0.40
41:DT:61:LEU:C	41:DT:61:LEU:HD12	2.42	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AM:6:GLY:O	13:AM:7:ILE:C	2.59	0.40
42:DU:13:VAL:CG2	42:DU:39:ILE:HG21	2.50	0.40
1:CA:1061:G:C5	1:CA:1062:U:C5	3.10	0.40
22:DA:2105:U:C5	22:DA:2106:U:C4	3.09	0.40
6:AF:42:TRP:CZ2	6:AF:61:LEU:HD22	2.57	0.40
1:AA:389:A:N3	1:AA:389:A:H2'	2.36	0.40
2:AB:17:GLY:HA2	2:AB:41:ILE:HG23	2.03	0.40
22:DA:635:C:O2'	22:DA:639:U:OP1	2.39	0.40
22:BA:102:U:C4	46:BY:2:LYS:HD2	2.56	0.40
36:DO:2:ASP:O	36:DO:6:ALA:CB	2.69	0.40
2:AB:108:ARG:O	2:AB:111:ILE:HB	2.22	0.40
22:DA:681:G:N3	22:DA:682:G:C8	2.89	0.40
46:DY:31:GLN:HG2	46:DY:36:GLN:HB2	2.03	0.40
22:DA:2235:G:C4	22:DA:2236:U:C6	3.09	0.40
22:DA:2650:U:C2	22:DA:2671:G:N2	2.89	0.40
22:BA:2793:C:H2'	22:BA:2794:C:C6	2.56	0.40
22:BA:1356:G:C2	22:BA:1357:C:N1	2.89	0.40
1:CA:600:A:C2	1:CA:639:G:N3	2.88	0.40
16:CP:38:PHE:CE2	16:CP:51:ARG:HD2	2.56	0.40
52:D4:1:MET:HB3	52:D4:34:LYS:HE3	2.03	0.40
22:BA:2020:A:H5'	48:B0:9:THR:HG22	2.03	0.40
32:BK:6:THR:CG2	32:BK:7:MET:N	2.85	0.40
6:AF:64:VAL:CG1	6:AF:65:GLU:N	2.83	0.40
27:DF:142:ASP:O	27:DF:143:TYR:C	2.59	0.40
1:AA:1346:A:C5	7:AG:10:ARG:NH2	2.89	0.40
10:AJ:49:PHE:CE2	14:AN:77:PHE:CZ	3.09	0.40
16:AP:3:THR:CG2	16:AP:4:ILE:N	2.85	0.40
1:CA:440:C:C2'	1:CA:441:A:O5'	2.70	0.40
26:DE:170:ARG:CZ	26:DE:176:ASP:OD1	2.69	0.40
1:CA:505:G:H4'	1:CA:534:U:N3	2.37	0.40
22:DA:2540:C:H2'	22:DA:2541:A:H8	1.85	0.40
22:BA:1100:C:H2'	22:BA:1101:U:C5	2.56	0.40
3:AC:113:ALA:O	3:AC:116:VAL:HB	2.20	0.40
2:CB:112:LYS:C	2:CB:114:LEU:N	2.74	0.40
22:DA:1914:C:O4'	22:DA:1914:C:O2	2.39	0.40
30:BI:22:PRO:HB2	30:BI:23:PRO:HD3	2.03	0.40
19:AS:18:LYS:O	19:AS:31:LEU:HD21	2.22	0.40
25:DD:101:PHE:O	25:DD:102:ALA:C	2.58	0.40
13:CM:74:SER:O	13:CM:78:LYS:HG3	2.20	0.40
32:DK:58:LEU:HD11	32:DK:86:LEU:HB3	2.02	0.40
8:CH:10:MET:HE1	8:CH:36:ILE:HB	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DN:9:GLN:O	35:DN:10:LEU:C	2.60	0.40
28:DG:22:GLN:OE1	28:DG:37:LEU:CB	2.69	0.40
22:DA:2539:C:H4'	52:D4:3:VAL:HG11	2.03	0.40
1:CA:1087:G:C2'	1:CA:1088:G:H5'	2.51	0.40
22:DA:2641:G:H5''	31:DJ:78:THR:HB	2.03	0.40
22:BA:927:A:H2'	22:BA:928:A:O4'	2.21	0.40
5:AE:23:LYS:O	5:AE:24:THR:HB	2.20	0.40
1:CA:942:G:C2	1:CA:1342:C:C2	3.09	0.40
53:B5:35:THR:O	53:B5:35:THR:OG1	2.32	0.40
28:BG:101:ASN:CG	28:BG:101:ASN:O	2.59	0.40
1:AA:1340:A:H2'	1:AA:1341:U:O4'	2.21	0.40
22:BA:978:G:C2'	22:BA:979:A:H5'	2.51	0.40
14:AN:79:LEU:HB2	14:AN:84:VAL:HG23	2.02	0.40
29:DH:96:THR:O	29:DH:98:ASP:N	2.54	0.40
51:B3:61:CYS:O	51:B3:62:LEU:HD23	2.21	0.40
22:DA:1824:G:OP1	24:DC:53:HIS:CE1	2.74	0.40
51:B3:45:ARG:N	51:B3:46:PRO:HD2	2.36	0.40
22:DA:2093:G:O5'	29:DH:24:GLY:N	2.52	0.40
22:DA:1953:A:H1'	22:DA:2560:A:C1'	2.52	0.40
22:DA:1154:G:P	38:DQ:58:ARG:HH11	2.44	0.40
4:AD:101:VAL:CG1	4:AD:101:VAL:O	2.68	0.40
22:DA:2625:G:H2'	22:DA:2626:C:O4'	2.21	0.40
5:CE:104:GLY:O	5:CE:105:ILE:HB	2.21	0.40
22:DA:449:A:C5	22:DA:450:G:N7	2.89	0.40
22:DA:455:C:N4	22:DA:473:G:OP2	2.50	0.40
55:BA:3001:VIR:H28	55:BA:3001:VIR:H313	1.73	0.40
22:DA:2728:U:O2'	22:DA:2729:G:H5''	2.21	0.40
22:BA:1062:G:N2	22:BA:1077:A:C2	2.89	0.40
1:AA:1001:C:H2'	1:AA:1002:G:C8	2.56	0.40
1:AA:198:G:C5	1:AA:199:A:N7	2.89	0.40
22:DA:2345:G:H4'	22:DA:2346:A:C5'	2.51	0.40
1:AA:965:U:O4'	1:AA:969:A:N9	2.54	0.40
22:BA:1087:G:C2'	22:BA:1089:A:H1'	2.51	0.40
22:BA:1144:A:C6	22:BA:1145:C:C4	3.09	0.40
12:AL:43:LYS:CG	12:AL:44:LYS:HD3	2.52	0.40
22:DA:1068:G:N2	22:DA:1069:A:O4'	2.54	0.40
4:CD:145:ILE:N	4:CD:145:ILE:HD12	2.37	0.40
1:CA:1158:C:N3	1:CA:1160:G:N7	2.69	0.40
25:BD:101:PHE:C	25:BD:103:ASP:N	2.74	0.40
10:AJ:66:GLU:CG	14:AN:99:ALA:HB2	2.51	0.40
6:CF:18:VAL:HG12	6:CF:19:PRO:CD	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:181:ILE:O	2:AB:183:VAL:HG23	2.20	0.40
22:DA:201:C:C5	22:DA:202:U:C5	3.09	0.40
22:DA:2201:G:N3	22:DA:2202:U:C6	2.89	0.40
22:DA:2204:G:C5	22:DA:2221:G:N2	2.90	0.40
10:CJ:7:ARG:HD2	10:CJ:73:LEU:HD21	2.04	0.40
1:CA:216:U:H4'	1:CA:464:U:H4'	2.03	0.40
1:CA:216:U:C5'	1:CA:464:U:H4'	2.51	0.40
15:CO:56:LEU:O	15:CO:57:LEU:C	2.59	0.40
42:BU:12:ILE:HG13	42:BU:22:ARG:HG3	2.03	0.40
22:DA:1184:U:OP1	47:DZ:30:ARG:NH2	2.54	0.40
13:AM:7:ILE:HD12	13:AM:8:ASN:N	2.37	0.40
22:DA:105:C:H2'	22:DA:106:C:H6	1.87	0.40
22:BA:2592:G:C5	22:BA:2593:U:C5	3.10	0.40
22:DA:2330:G:C2	22:DA:2386:A:C2	3.09	0.40
22:DA:938:G:C2	22:DA:939:G:C8	3.09	0.40
10:CJ:89:ARG:O	10:CJ:90:LEU:HG	2.21	0.40
37:DP:103:ARG:HG2	37:DP:107:ALA:HB1	2.03	0.40
22:DA:2309:A:C6	22:DA:2310:C:N3	2.89	0.40
22:DA:690:G:O4'	22:DA:780:G:H5'	2.20	0.40
1:AA:1296:C:H4'	1:AA:1302:C:C4	2.56	0.40
9:CI:28:ILE:HG23	9:CI:63:LEU:HD11	2.03	0.40
22:DA:61:C:H5'	46:DY:43:LEU:HD12	2.03	0.40
22:DA:1214:A:H4'	22:DA:1239:G:H4'	2.03	0.40
22:BA:646:U:H3'	22:BA:647:G:C5'	2.52	0.40
51:B3:31:HIS:CD2	51:B3:32:ILE:HG13	2.57	0.40
1:CA:575:G:C5	1:CA:821:G:C8	3.09	0.40
1:AA:1048:G:C4	1:AA:1050:G:N7	2.89	0.40
1:CA:39:G:N3	1:CA:40:C:C6	2.89	0.40
28:DG:141:ILE:HG13	28:DG:142:GLY:N	2.36	0.40
44:BW:51:VAL:HG21	44:BW:80:ILE:O	2.22	0.40
16:CP:19:VAL:CG1	16:CP:37:GLY:CA	3.00	0.40
1:CA:1328:C:OP1	13:CM:28:THR:HG21	2.22	0.40
1:CA:330:C:C2'	1:CA:330:C:O2	2.70	0.40
41:DT:2:ILE:HG23	41:DT:3:ARG:C	2.41	0.40
1:CA:147:G:H2'	1:CA:148:G:C8	2.55	0.40
18:CR:34:THR:CG2	18:CR:38:LYS:HB2	2.52	0.40
6:AF:29:ILE:HG21	6:AF:64:VAL:CG1	2.51	0.40
25:DD:36:GLN:HA	25:DD:92:VAL:HG22	2.03	0.40
22:DA:647:G:N7	22:DA:648:G:N7	2.70	0.40
4:CD:105:MET:SD	4:CD:143:VAL:CG1	3.09	0.40
22:DA:1806:C:C4	22:DA:1807:G:C5	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:228:C:N3	22:DA:418:C:O4'	2.54	0.40
44:BW:66:LYS:HD2	44:BW:85:GLU:HB3	2.03	0.40
7:CG:103:TRP:O	7:CG:134:ALA:HB2	2.21	0.40
40:DS:24:ILE:CG2	40:DS:32:ALA:HB1	2.51	0.40
42:DU:67:VAL:HA	42:DU:70:VAL:HG22	2.03	0.40
36:DO:7:ARG:NH1	36:DO:97:PHE:CE2	2.89	0.40
27:DF:38:MET:CG	27:DF:152:LEU:HB3	2.51	0.40
22:BA:1050:A:C2	22:BA:2751:G:C4	3.09	0.40
22:BA:846:U:O2'	22:BA:847:U:OP2	2.38	0.40
6:AF:49:TYR:C	6:AF:49:TYR:CD1	2.94	0.40
22:BA:247:G:C8	22:BA:249:C:C6	3.09	0.40
22:DA:2054:A:C2	22:DA:2616:C:C2	3.09	0.40
22:DA:874:G:C2	22:DA:904:G:C2	3.10	0.40
2:AB:139:ARG:HG3	2:AB:140:GLU:N	2.36	0.40
22:DA:19:A:C2	22:DA:522:A:C2	3.09	0.40
37:DP:46:VAL:HG12	37:DP:47:VAL:N	2.36	0.40
39:DR:32:THR:HG22	39:DR:33:VAL:N	2.37	0.40
48:D0:17:ARG:HA	48:D0:20:ASP:OD2	2.21	0.40
22:DA:812:C:H1'	22:DA:1250:G:C2	2.56	0.40
20:CT:30:THR:O	20:CT:34:LYS:HG2	2.20	0.40
22:DA:29:U:H5''	38:DQ:7:GLY:HA3	2.02	0.40
57:BA:3254:HOH:O	31:BJ:111:LYS:HE2	2.21	0.40
22:DA:2880:C:O2	35:DN:93:GLY:HA3	2.22	0.40
35:BN:31:HIS:C	35:BN:33:ILE:H	2.24	0.40
22:BA:1400:U:O2'	22:BA:1401:G:H5'	2.20	0.40
13:AM:111:GLY:O	13:AM:112:PRO:O	2.38	0.40
3:CC:103:ILE:HD12	3:CC:103:ILE:N	2.36	0.40
1:AA:5:U:C2	1:AA:5:U:OP1	2.74	0.40
28:BG:139:GLN:O	28:BG:139:GLN:HG2	2.20	0.40
41:DT:32:LEU:HD12	41:DT:32:LEU:O	2.21	0.40
1:AA:1527:U:C4	1:AA:1528:U:O4	2.74	0.40
31:DJ:117:ALA:HA	31:DJ:120:ARG:HD2	2.04	0.40
1:AA:807:A:C5	1:AA:808:C:C5	3.09	0.40
1:AA:719:C:H1'	18:AR:38:LYS:HG2	2.02	0.40
23:DB:55:U:H4'	27:DF:25:VAL:HG12	2.03	0.40
22:DA:2704:C:H2'	22:DA:2705:A:O4'	2.21	0.40
38:DQ:61:TRP:CH2	38:DQ:93:LYS:HB2	2.56	0.40
22:DA:2043:C:H1'	22:DA:2779:U:O4	2.21	0.40
22:DA:686:U:H2'	22:DA:788:A:C2	2.57	0.40
5:CE:122:ASN:O	5:CE:123:VAL:C	2.60	0.40
1:CA:486:U:OP2	1:CA:486:U:C6	2.75	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DA:1351:C:C2'	22:DA:1352:U:O4'	2.68	0.40
22:BA:499:U:O4	22:BA:500:G:C6	2.75	0.40
50:D2:43:THR:HG1	50:D2:44:VAL:N	2.15	0.40
21:AU:34:ARG:CZ	21:AU:35:ARG:HB2	2.50	0.40
12:CL:33:VAL:O	12:CL:34:CYS:CB	2.70	0.40
49:B1:34:LEU:H	49:B1:52:ALA:HB2	1.86	0.40
22:DA:2215:C:C2	22:DA:2216:G:C8	3.09	0.40
22:DA:1464:G:C5	22:DA:1465:G:N7	2.90	0.40
22:DA:187:G:O2'	22:DA:1365:A:N3	2.35	0.40
1:CA:220:G:C2'	1:CA:221:C:H5'	2.51	0.40
1:CA:66:A:C5	1:CA:67:C:C5	3.09	0.40
22:DA:667:U:O2	51:D3:2:PRO:HG2	2.21	0.40
2:AB:167:ASP:O	2:AB:168:HIS:C	2.59	0.40
1:CA:430:A:OP1	4:CD:9:LEU:HB2	2.22	0.40
1:AA:945:G:C2	1:AA:946:A:C8	3.09	0.40
33:BL:63:LYS:HA	51:B3:13:ARG:HG3	2.02	0.40
22:DA:301:G:N2	22:DA:302:C:C2	2.89	0.40
24:DC:29:PRO:HA	24:DC:82:GLU:OE1	2.21	0.40
1:AA:1118:U:H5''	9:AI:106:ARG:HG3	2.03	0.40
22:BA:1854:A:H2'	22:BA:1855:U:H5'	2.02	0.40
10:AJ:66:GLU:O	14:AN:96:LEU:HD12	2.21	0.40
22:DA:776:G:C8	22:DA:793:A:C5	3.10	0.40
22:BA:2211:A:O2'	22:BA:2212:A:P	2.79	0.40
22:BA:141:G:H3'	22:BA:142:A:C8	2.56	0.40
22:DA:1195:G:O2'	22:DA:1226:A:N1	2.39	0.40
22:DA:1911:U:H2'	22:DA:1918:A:C2	2.57	0.40
22:DA:1206:G:C4	22:DA:1207:C:C6	3.10	0.40
22:DA:663:G:C6	22:DA:664:G:C5	3.09	0.40
22:DA:1645:G:H5''	22:DA:1646:C:O4'	2.20	0.40
22:DA:197:A:N3	22:DA:197:A:H2'	2.36	0.40
10:CJ:51:VAL:HB	14:CN:81:ARG:HB2	2.03	0.40
6:AF:38:ARG:HD2	6:AF:40:GLU:OE2	2.21	0.40
1:AA:184:G:N2	1:AA:194:C:C4	2.90	0.40
41:BT:44:LYS:O	41:BT:48:GLN:HG3	2.21	0.40
30:BI:54:PRO:HB2	30:BI:78:VAL:HG11	2.03	0.40
22:BA:1287:A:H5'	35:BN:103:ARG:HD2	2.03	0.40
7:CG:146:GLU:CD	7:CG:149:LYS:HE3	2.42	0.40
1:AA:1126:U:O2	1:AA:1280:A:H5''	2.20	0.40
2:AB:96:TRP:O	2:AB:97:LEU:C	2.59	0.40
22:BA:2069:G:C2	22:BA:2443:C:C2	3.09	0.40
1:AA:39:G:H2'	1:AA:40:C:H6	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:DI:10:LYS:CB	30:DI:56:PRO:HB2	2.52	0.40
22:BA:2681:C:C4	22:BA:2724:U:C5	3.10	0.40
1:AA:1190:G:P	3:AC:5:VAL:HB	2.61	0.40
21:AU:17:ARG:HH11	21:AU:20:LYS:HG2	1.86	0.40
22:DA:2355:G:O2'	44:DW:39:ARG:HD2	2.21	0.40
1:CA:983:A:N3	1:CA:983:A:H2'	2.36	0.40
36:DO:80:GLU:O	36:DO:84:GLU:N	2.51	0.40
1:CA:1140:C:HO2'	1:CA:1141:C:P	2.44	0.40
22:DA:900:A:H2'	22:DA:901:C:H5'	2.02	0.40
22:DA:2185:U:H2'	22:DA:2186:G:C8	2.57	0.40
1:CA:649:A:N3	1:CA:650:G:H1'	2.37	0.40
22:BA:1243:C:H2'	22:BA:1244:A:O4'	2.20	0.40
41:BT:1:MET:O	41:BT:2:ILE:HG13	2.22	0.40
43:DV:9:ARG:HG3	43:DV:41:GLU:HB3	2.02	0.40
1:CA:1327:C:C4	1:CA:1328:C:N4	2.90	0.40
17:AQ:5:ILE:N	17:AQ:5:ILE:HD12	2.37	0.40
22:DA:915:C:C4	22:DA:916:G:C5	3.09	0.40
35:BN:52:ILE:HG21	35:BN:94:TYR:CG	2.57	0.40
25:DD:90:PHE:CE2	25:DD:96:ILE:CD1	3.03	0.40
1:AA:1106:G:N1	1:AA:1107:C:C4	2.90	0.40
34:DM:59:ARG:HD3	34:DM:59:ARG:O	2.21	0.40
14:AN:43:ASN:HA	14:AN:45:VAL:HG22	2.03	0.40
22:DA:2119:A:C2	22:DA:2170:A:C5	3.09	0.40
22:DA:2893:A:O4'	22:DA:2894:G:C2	2.75	0.40
28:BG:52:PHE:N	28:BG:52:PHE:CD1	2.89	0.40
22:BA:54:G:H2'	22:BA:55:G:O5'	2.21	0.40
1:CA:36:C:H4'	12:CL:119:VAL:O	2.21	0.40
22:BA:2001:C:H4'	22:BA:2689:U:H2'	2.03	0.40
22:DA:1275:A:H4'	22:DA:1276:A:OP1	2.21	0.40
22:DA:1277:G:N1	22:DA:1294:U:C2	2.89	0.40
22:DA:1293:C:H2'	22:DA:1294:U:O4'	2.22	0.40
4:CD:59:GLN:HA	4:CD:59:GLN:OE1	2.21	0.40
22:DA:659:G:C5	22:DA:660:C:C4	3.10	0.40
22:BA:248:G:O5'	22:BA:249:C:H5''	2.22	0.40
49:D1:25:LYS:HE2	49:D1:30:LYS:O	2.21	0.40
38:BQ:41:LYS:HA	38:BQ:44:GLN:HB2	2.03	0.40
22:BA:259:G:O2'	22:BA:260:G:H5'	2.21	0.40
25:DD:4:LEU:CD1	25:DD:100:LEU:HD23	2.52	0.40
5:CE:46:VAL:HG22	5:CE:118:ALA:HB1	2.02	0.40
8:AH:115:ALA:O	8:AH:118:GLN:N	2.55	0.40
1:AA:1381:U:C4	1:AA:1382:C:C4	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:42:ASN:O	2:AB:43:LEU:C	2.58	0.40
4:AD:27:ALA:O	4:AD:28:ILE:C	2.60	0.40
23:BB:39:A:C2	23:BB:44:G:C4	3.09	0.40
24:DC:232:HIS:NE2	24:DC:244:PRO:HA	2.36	0.40
1:AA:882:C:O2'	1:AA:883:C:H5'	2.22	0.40
22:DA:1002:G:C2	22:DA:1003:G:H1'	2.56	0.40
44:BW:32:LEU:O	44:BW:33:ALA:C	2.59	0.40
48:B0:12:LYS:HA	48:B0:12:LYS:HD2	1.87	0.40
26:DE:7:ASP:N	26:DE:7:ASP:OD1	2.52	0.40
9:AI:130:ARG:HB3	9:AI:130:ARG:NH1	2.36	0.40
41:BT:50:LEU:N	41:BT:50:LEU:CD1	2.84	0.40
22:DA:2577:A:H2	48:D0:2:ALA:N	2.19	0.40
28:DG:149:ARG:HA	28:DG:162:VAL:CG1	2.51	0.40
1:AA:1438:G:C4	1:AA:1439:G:C8	3.09	0.40
7:AG:63:GLU:O	7:AG:67:GLU:N	2.53	0.40
29:BH:120:GLY:HA2	29:BH:122:LEU:HA	2.04	0.40
25:DD:151:THR:HG22	25:DD:152:PRO:HD3	2.03	0.40
23:DB:27:C:C5	23:DB:28:C:C4	3.09	0.40
22:DA:618:G:N3	22:DA:618:G:H2'	2.35	0.40
24:BC:118:SER:HA	24:BC:129:THR:O	2.22	0.40
18:CR:25:ASP:HB3	18:CR:28:THR:HB	2.02	0.40
14:CN:35:ASN:O	14:CN:42:TRP:CH2	2.74	0.40
22:BA:2720:U:C2	22:BA:2872:A:C5	3.09	0.40
25:BD:14:ILE:HD13	25:BD:24:VAL:HG21	2.03	0.40
1:AA:1501:C:C6	1:AA:1504:G:C8	3.09	0.40
1:AA:520:A:N1	1:AA:536:C:H1'	2.37	0.40
22:DA:55:G:C2	22:DA:116:C:C2	3.09	0.40
1:AA:199:A:C2	1:AA:200:G:N9	2.89	0.40
22:BA:10:A:C5	22:BA:2800:A:C6	3.09	0.40
22:DA:1566:A:C2	24:DC:213:TRP:CB	3.05	0.40
49:B1:34:LEU:CB	49:B1:52:ALA:HB2	2.51	0.40
50:D2:25:LYS:O	50:D2:29:GLN:HG3	2.22	0.40
1:AA:427:U:C4	1:AA:428:G:C6	3.09	0.40
31:DJ:44:TYR:C	31:DJ:44:TYR:CD2	2.95	0.40
22:BA:826:U:H2'	22:BA:828:U:O4'	2.21	0.40
12:CL:68:GLY:O	12:CL:99:ARG:NH1	2.54	0.40
1:AA:1304:G:C6	1:AA:1305:G:N2	2.89	0.40
22:BA:2262:U:P	44:BW:19:LYS:HE2	2.62	0.40
22:DA:1068:G:N3	22:DA:1096:A:C5'	2.85	0.40
1:AA:981:U:O2'	14:AN:61:ARG:NE	2.54	0.40
22:BA:1056:G:H5''	22:BA:1057:A:C5'	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:1083:U:O2	22:BA:1085:A:C8	2.75	0.40
12:CL:86:ARG:HD2	12:CL:88:LYS:N	2.36	0.40
15:CO:78:TYR:OH	15:CO:88:ARG:NE	2.54	0.40
42:DU:24:LYS:N	42:DU:37:GLU:HG2	2.36	0.40
22:DA:802:A:C5	22:DA:803:U:C5	3.10	0.40
22:BA:2059:A:C2	22:BA:2503:A:C6	3.09	0.40
2:AB:157:LEU:O	2:AB:158:PRO:C	2.59	0.40
27:DF:147:ASP:O	27:DF:148:ARG:CB	2.69	0.40
22:BA:1494:A:H2'	22:BA:1495:A:O5'	2.21	0.40
1:CA:1490:U:H2'	1:CA:1491:G:C8	2.56	0.40
22:DA:534:U:H1'	38:DQ:45:TYR:HB3	2.04	0.40
22:DA:1965:C:H3'	22:DA:1966:A:C8	2.57	0.40
1:AA:900:A:C6	1:AA:901:A:N1	2.90	0.40
1:AA:900:A:N6	1:AA:901:A:N1	2.69	0.40
37:DP:103:ARG:HD3	37:DP:108:ALA:HB2	2.03	0.40
30:BI:57:VAL:HG23	30:BI:71:THR:HA	2.02	0.40
22:BA:1795:C:C5	22:BA:1796:U:C5	3.08	0.40
1:AA:1190:G:P	3:AC:5:VAL:H	2.44	0.40
1:CA:1169:A:C2	1:CA:1170:A:N3	2.90	0.40
1:AA:125:U:H2'	1:AA:126:G:O4'	2.22	0.40
46:DY:31:GLN:OE1	46:DY:37:LEU:HD12	2.21	0.40
22:DA:1835:G:C6	22:DA:1836:C:C5	3.10	0.40
1:CA:104:G:H4'	1:CA:174:A:O4'	2.20	0.40
1:CA:1140:C:O2'	1:CA:1141:C:H6	2.05	0.40
22:DA:2820:A:C8	25:DD:196:ALA:CB	3.04	0.40
9:AI:51:PRO:HB3	9:AI:84:THR:HG23	2.02	0.40
1:AA:1079:G:C5'	5:AE:134:ILE:HD13	2.51	0.40
1:CA:491:G:H2'	1:CA:492:C:H6	1.85	0.40
33:BL:96:LYS:HG3	33:BL:101:ILE:HD11	2.03	0.40
32:DK:11:ALA:O	32:DK:12:ASP:HB3	2.22	0.40
1:CA:1105:A:C2	1:CA:1106:G:N7	2.90	0.40
3:AC:3:GLN:OE1	3:AC:3:GLN:N	2.54	0.40
22:DA:228:C:H5'	22:DA:229:C:C6	2.57	0.40
1:AA:444:G:C4	1:AA:445:G:C8	3.09	0.40
22:BA:1358:G:N2	22:BA:1374:G:C6	2.90	0.40
22:DA:1738:G:HO2'	22:DA:1739:A:P	2.45	0.40
14:AN:17:ALA:HA	14:AN:55:SER:O	2.22	0.40
1:AA:745:G:C2'	1:AA:746:A:H5'	2.51	0.40
18:AR:68:LEU:HA	18:AR:69:PRO:HD3	1.97	0.40
4:AD:53:VAL:CG2	4:AD:54:GLN:N	2.84	0.40
22:BA:615:U:C4	26:BE:35:TYR:CE2	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BA:2901:C:C4	22:BA:2902:C:C5	3.10	0.40
25:DD:14:ILE:HG12	25:DD:24:VAL:CG2	2.52	0.40
22:BA:28:A:C4	22:BA:29:U:C6	3.09	0.40
6:CF:43:GLY:HA2	6:CF:58:HIS:CD2	2.57	0.40
3:AC:73:PRO:HG3	3:AC:105:GLU:HG3	2.03	0.40
1:AA:1248:A:C5	1:AA:1249:C:C5	3.09	0.40
22:BA:979:A:H2'	22:BA:982:C:H42	1.87	0.40
18:AR:43:ARG:HG2	18:AR:44:ILE:HD13	2.04	0.40
8:AH:106:THR:HG21	8:AH:121:LEU:HD13	2.04	0.40
1:CA:181:A:C5	1:CA:194:C:C5	3.10	0.40
19:CS:40:ILE:HD13	19:CS:66:MET:HB3	2.03	0.40
23:DB:21:G:H2'	23:DB:22:U:O4'	2.22	0.40
1:AA:1039:G:O2'	1:AA:1040:U:H5'	2.22	0.40
27:DF:83:TYR:CG	27:DF:84:PRO:HD2	2.56	0.40
1:CA:102:G:N2	1:CA:103:U:C2	2.89	0.40
22:BA:2331:G:O2'	22:BA:2336:A:N1	2.44	0.40
31:DJ:116:ARG:NH1	31:DJ:116:ARG:HB2	2.36	0.40
43:BV:82:TYR:CD1	43:BV:82:TYR:N	2.89	0.40
22:BA:2578:G:N3	22:BA:2578:G:H2'	2.36	0.40
21:CU:47:ARG:HE	21:CU:47:ARG:HA	1.87	0.40
18:AR:20:GLU:O	18:AR:21:ILE:C	2.60	0.40
22:BA:428:A:H2'	22:BA:429:A:C8	2.56	0.40
11:CK:85:MET:HA	11:CK:111:THR:O	2.21	0.40

All (4) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:368:U:OP1	29:DH:93:SER:OG[4_455]	1.70	0.50
1:AA:367:U:O5'	29:DH:123:ARG:NH2[4_455]	2.02	0.18
1:AA:368:U:O4	29:DH:83:LYS:CE[4_455]	2.03	0.17
1:AA:368:U:O4	29:DH:83:LYS:CB[4_455]	2.13	0.07

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	AB	216/218 (99%)	126 (58%)	40 (18%)	50 (23%)	0	0
2	CB	216/218 (99%)	133 (62%)	52 (24%)	31 (14%)	0	0
3	AC	204/206 (99%)	149 (73%)	38 (19%)	17 (8%)	1	2
3	CC	204/206 (99%)	153 (75%)	40 (20%)	11 (5%)	2	7
4	AD	203/205 (99%)	139 (68%)	33 (16%)	31 (15%)	0	0
4	CD	203/205 (99%)	150 (74%)	31 (15%)	22 (11%)	0	1
5	AE	148/150 (99%)	104 (70%)	31 (21%)	13 (9%)	1	2
5	CE	148/150 (99%)	98 (66%)	28 (19%)	22 (15%)	0	0
6	AF	98/100 (98%)	66 (67%)	19 (19%)	13 (13%)	0	1
6	CF	98/100 (98%)	66 (67%)	16 (16%)	16 (16%)	0	0
7	AG	149/151 (99%)	111 (74%)	28 (19%)	10 (7%)	1	4
7	CG	149/151 (99%)	121 (81%)	20 (13%)	8 (5%)	2	7
8	AH	127/129 (98%)	91 (72%)	21 (16%)	15 (12%)	0	1
8	CH	127/129 (98%)	95 (75%)	24 (19%)	8 (6%)	2	5
9	AI	125/127 (98%)	91 (73%)	21 (17%)	13 (10%)	1	1
9	CI	125/127 (98%)	86 (69%)	28 (22%)	11 (9%)	1	2
10	AJ	96/98 (98%)	60 (62%)	15 (16%)	21 (22%)	0	0
10	CJ	96/98 (98%)	71 (74%)	13 (14%)	12 (12%)	0	1
11	AK	115/117 (98%)	84 (73%)	19 (16%)	12 (10%)	1	1
11	CK	115/117 (98%)	81 (70%)	24 (21%)	10 (9%)	1	2
12	AL	121/123 (98%)	92 (76%)	22 (18%)	7 (6%)	2	6
12	CL	121/123 (98%)	94 (78%)	12 (10%)	15 (12%)	0	1
13	AM	112/114 (98%)	81 (72%)	20 (18%)	11 (10%)	1	2
13	CM	112/114 (98%)	86 (77%)	17 (15%)	9 (8%)	1	3
14	AN	92/100 (92%)	62 (67%)	18 (20%)	12 (13%)	0	1
14	CN	92/100 (92%)	59 (64%)	18 (20%)	15 (16%)	0	0
15	AO	86/88 (98%)	65 (76%)	16 (19%)	5 (6%)	2	6
15	CO	86/88 (98%)	70 (81%)	12 (14%)	4 (5%)	3	11
16	AP	80/82 (98%)	53 (66%)	15 (19%)	12 (15%)	0	0
16	CP	80/82 (98%)	59 (74%)	16 (20%)	5 (6%)	2	5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	AQ	78/80 (98%)	54 (69%)	15 (19%)	9 (12%)	0	1
17	CQ	78/80 (98%)	56 (72%)	11 (14%)	11 (14%)	0	0
18	AR	53/55 (96%)	43 (81%)	10 (19%)	0	100	100
18	CR	53/55 (96%)	34 (64%)	13 (24%)	6 (11%)	0	1
19	AS	77/79 (98%)	54 (70%)	12 (16%)	11 (14%)	0	0
19	CS	77/79 (98%)	60 (78%)	12 (16%)	5 (6%)	1	4
20	AT	83/85 (98%)	60 (72%)	15 (18%)	8 (10%)	1	2
20	CT	83/85 (98%)	64 (77%)	12 (14%)	7 (8%)	1	2
21	AU	49/51 (96%)	27 (55%)	9 (18%)	13 (26%)	0	0
21	CU	49/51 (96%)	26 (53%)	12 (24%)	11 (22%)	0	0
24	BC	269/271 (99%)	211 (78%)	47 (18%)	11 (4%)	3	14
24	DC	269/271 (99%)	204 (76%)	50 (19%)	15 (6%)	2	7
25	BD	207/209 (99%)	180 (87%)	20 (10%)	7 (3%)	5	19
25	DD	207/209 (99%)	168 (81%)	29 (14%)	10 (5%)	3	10
26	BE	199/201 (99%)	167 (84%)	26 (13%)	6 (3%)	5	22
26	DE	199/201 (99%)	160 (80%)	28 (14%)	11 (6%)	2	7
27	BF	175/177 (99%)	144 (82%)	24 (14%)	7 (4%)	4	15
27	DF	175/177 (99%)	137 (78%)	24 (14%)	14 (8%)	1	3
28	BG	174/176 (99%)	149 (86%)	20 (12%)	5 (3%)	6	23
28	DG	174/176 (99%)	136 (78%)	29 (17%)	9 (5%)	2	8
29	BH	147/149 (99%)	89 (60%)	37 (25%)	21 (14%)	0	0
29	DH	147/149 (99%)	100 (68%)	32 (22%)	15 (10%)	1	2
30	BI	139/141 (99%)	85 (61%)	36 (26%)	18 (13%)	0	1
30	DI	139/141 (99%)	82 (59%)	44 (32%)	13 (9%)	1	2
31	BJ	140/142 (99%)	129 (92%)	10 (7%)	1 (1%)	26	63
31	DJ	140/142 (99%)	118 (84%)	17 (12%)	5 (4%)	4	18
32	BK	120/122 (98%)	99 (82%)	15 (12%)	6 (5%)	3	9
32	DK	120/122 (98%)	100 (83%)	13 (11%)	7 (6%)	2	6
33	BL	141/143 (99%)	112 (79%)	22 (16%)	7 (5%)	3	9
33	DL	141/143 (99%)	99 (70%)	29 (21%)	13 (9%)	1	2
34	BM	134/136 (98%)	123 (92%)	9 (7%)	2 (2%)	13	42

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	DM	134/136 (98%)	111 (83%)	15 (11%)	8 (6%)	2	6
35	BN	118/120 (98%)	104 (88%)	10 (8%)	4 (3%)	5	19
35	DN	118/120 (98%)	94 (80%)	16 (14%)	8 (7%)	1	4
36	BO	114/116 (98%)	87 (76%)	21 (18%)	6 (5%)	2	8
36	DO	114/116 (98%)	85 (75%)	22 (19%)	7 (6%)	2	5
37	BP	112/114 (98%)	99 (88%)	9 (8%)	4 (4%)	4	18
37	DP	112/114 (98%)	84 (75%)	16 (14%)	12 (11%)	0	1
38	BQ	115/117 (98%)	109 (95%)	4 (4%)	2 (2%)	11	38
38	DQ	115/117 (98%)	101 (88%)	13 (11%)	1 (1%)	21	57
39	BR	101/103 (98%)	84 (83%)	9 (9%)	8 (8%)	1	3
39	DR	101/103 (98%)	76 (75%)	18 (18%)	7 (7%)	1	4
40	BS	108/110 (98%)	98 (91%)	7 (6%)	3 (3%)	6	24
40	DS	108/110 (98%)	88 (82%)	12 (11%)	8 (7%)	1	3
41	BT	91/93 (98%)	72 (79%)	13 (14%)	6 (7%)	1	4
41	DT	91/93 (98%)	52 (57%)	28 (31%)	11 (12%)	0	1
42	BU	100/102 (98%)	76 (76%)	16 (16%)	8 (8%)	1	3
42	DU	100/102 (98%)	71 (71%)	16 (16%)	13 (13%)	0	1
43	BV	92/94 (98%)	87 (95%)	5 (5%)	0	100	100
43	DV	92/94 (98%)	79 (86%)	12 (13%)	1 (1%)	17	51
44	BW	74/76 (97%)	68 (92%)	5 (7%)	1 (1%)	14	44
44	DW	73/76 (96%)	63 (86%)	8 (11%)	2 (3%)	6	25
45	BX	75/77 (97%)	68 (91%)	6 (8%)	1 (1%)	15	46
45	DX	75/77 (97%)	55 (73%)	12 (16%)	8 (11%)	0	1
46	BY	61/63 (97%)	47 (77%)	7 (12%)	7 (12%)	0	1
46	DY	61/63 (97%)	43 (70%)	13 (21%)	5 (8%)	1	2
47	BZ	56/58 (97%)	53 (95%)	3 (5%)	0	100	100
47	DZ	56/58 (97%)	47 (84%)	6 (11%)	3 (5%)	2	7
48	B0	54/56 (96%)	44 (82%)	8 (15%)	2 (4%)	4	17
48	D0	54/56 (96%)	39 (72%)	13 (24%)	2 (4%)	4	17
49	B1	48/50 (96%)	39 (81%)	5 (10%)	4 (8%)	1	2
49	D1	48/50 (96%)	37 (77%)	8 (17%)	3 (6%)	2	5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
50	B2	44/46 (96%)	40 (91%)	3 (7%)	1 (2%)	8	30
50	D2	44/46 (96%)	33 (75%)	8 (18%)	3 (7%)	1	4
51	B3	62/64 (97%)	55 (89%)	6 (10%)	1 (2%)	12	40
51	D3	62/64 (97%)	46 (74%)	13 (21%)	3 (5%)	3	10
52	B4	36/38 (95%)	33 (92%)	3 (8%)	0	100	100
52	D4	36/38 (95%)	33 (92%)	2 (6%)	1 (3%)	6	24
53	B5	183/228 (80%)	97 (53%)	57 (31%)	29 (16%)	0	0
All	All	11418/11672 (98%)	8663 (76%)	1837 (16%)	918 (8%)	1	3

All (918) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AB	16	PHE
2	AB	21	ARG
2	AB	22	TYR
2	AB	34	ALA
2	AB	64	LYS
2	AB	73	LYS
2	AB	74	ARG
2	AB	75	ALA
2	AB	76	ALA
2	AB	107	VAL
2	AB	116	ASP
2	AB	120	GLN
2	AB	129	LEU
2	AB	134	ALA
2	AB	148	LEU
2	AB	152	LYS
2	AB	155	GLY
2	AB	201	PRO
2	AB	210	VAL
2	AB	211	THR
2	AB	220	THR
3	AC	15	VAL
3	AC	18	TRP
3	AC	26	THR
3	AC	61	ALA
3	AC	101	ILE
3	AC	127	ARG
3	AC	140	ASN

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Mol	Chain	Res	Type
3	AC	141	ALA
4	AD	23	SER
4	AD	24	GLY
4	AD	29	ASP
4	AD	33	LYS
4	AD	35	GLU
4	AD	125	VAL
4	AD	154	ARG
4	AD	160	GLU
4	AD	168	PRO
4	AD	174	ASP
4	AD	175	ALA
4	AD	191	LEU
4	AD	192	SER
5	AE	12	GLN
5	AE	100	SER
5	AE	158	GLY
6	AF	56	LYS
6	AF	91	ARG
6	AF	92	THR
6	AF	98	GLU
6	AF	99	ALA
7	AG	5	ARG
7	AG	15	ASP
7	AG	56	LYS
7	AG	81	GLY
7	AG	85	TYR
7	AG	130	ASN
8	AH	3	MET
8	AH	4	GLN
8	AH	67	GLN
9	AI	41	ARG
9	AI	44	ALA
9	AI	91	ASP
10	AJ	32	THR
10	AJ	34	ALA
10	AJ	36	VAL
10	AJ	57	VAL
10	AJ	61	ALA
10	AJ	101	SER
11	AK	39	GLY
11	AK	41	ALA

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Mol	Chain	Res	Type
11	AK	52	PHE
11	AK	72	ASP
11	AK	73	ALA
11	AK	103	ALA
12	AL	24	LEU
12	AL	26	ALA
12	AL	44	LYS
12	AL	123	LYS
13	AM	4	ILE
13	AM	7	ILE
13	AM	12	HIS
13	AM	112	PRO
14	AN	28	LYS
14	AN	34	VAL
14	AN	45	VAL
14	AN	47	LYS
14	AN	52	PRO
14	AN	53	ARG
14	AN	62	ASN
14	AN	92	GLU
15	AO	20	ASN
15	AO	73	LYS
16	AP	11	ALA
16	AP	46	LYS
16	AP	48	GLU
16	AP	53	ASP
17	AQ	18	GLU
17	AQ	51	ASN
17	AQ	68	SER
19	AS	4	SER
19	AS	5	LEU
19	AS	29	LYS
19	AS	30	PRO
19	AS	65	GLU
20	AT	4	ILE
20	AT	6	SER
20	AT	70	ASN
21	AU	10	GLU
21	AU	24	GLU
21	AU	35	ARG
21	AU	36	GLU
21	AU	37	PHE

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Mol	Chain	Res	Type
21	AU	40	LYS
24	BC	38	SER
24	BC	71	LYS
24	BC	124	ILE
24	BC	236	GLU
25	BD	105	LYS
25	BD	152	PRO
26	BE	86	ALA
27	BF	3	LYS
27	BF	41	GLY
27	BF	176	PRO
28	BG	119	ALA
29	BH	10	ALA
29	BH	34	GLY
29	BH	53	GLU
29	BH	87	GLU
29	BH	90	LEU
29	BH	118	PRO
29	BH	121	VAL
29	BH	140	ALA
30	BI	19	ASN
30	BI	45	LYS
30	BI	63	ALA
30	BI	75	PRO
30	BI	83	ALA
30	BI	113	LYS
30	BI	117	MET
33	BL	69	ARG
33	BL	94	THR
33	BL	115	GLU
34	BM	69	PRO
35	BN	10	LEU
35	BN	118	ARG
35	BN	119	SER
36	BO	88	LYS
37	BP	94	LYS
37	BP	114	LEU
38	BQ	25	TYR
39	BR	31	GLU
39	BR	49	ILE
39	BR	51	VAL
39	BR	53	PHE

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Mol	Chain	Res	Type
39	BR	55	ASP
39	BR	57	GLY
41	BT	89	GLU
42	BU	40	ASN
45	BX	3	ARG
46	BY	22	LEU
46	BY	23	ARG
50	B2	44	VAL
53	B5	62	THR
53	B5	126	SER
53	B5	134	PRO
53	B5	154	ILE
53	B5	174	ALA
53	B5	175	PRO
53	B5	181	PHE
53	B5	183	PRO
53	B5	205	ALA
53	B5	214	TYR
53	B5	221	PRO
2	CB	16	PHE
2	CB	124	GLY
2	CB	193	PRO
2	CB	194	ASP
2	CB	203	ASN
2	CB	207	ILE
2	CB	220	THR
3	CC	146	ALA
3	CC	156	ARG
3	CC	192	THR
4	CD	29	ASP
4	CD	153	SER
5	CE	45	ARG
5	CE	98	PRO
5	CE	100	SER
5	CE	103	THR
5	CE	105	ILE
5	CE	123	VAL
5	CE	138	ARG
6	CF	55	HIS
6	CF	56	LYS
6	CF	86	ARG
6	CF	92	THR

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Mol	Chain	Res	Type
6	CF	93	LYS
6	CF	98	GLU
7	CG	9	GLN
7	CG	56	LYS
7	CG	130	ASN
9	CI	26	GLY
9	CI	41	ARG
9	CI	103	PHE
9	CI	120	LYS
10	CJ	35	GLN
10	CJ	38	GLY
10	CJ	89	ARG
10	CJ	92	LEU
11	CK	52	PHE
11	CK	127	ARG
12	CL	23	ALA
12	CL	24	LEU
12	CL	26	ALA
12	CL	44	LYS
12	CL	76	GLU
12	CL	77	HIS
12	CL	89	ASP
12	CL	93	VAL
12	CL	117	TYR
13	CM	11	ASP
13	CM	41	GLU
14	CN	29	ALA
14	CN	34	VAL
14	CN	52	PRO
14	CN	92	GLU
15	CO	73	LYS
16	CP	24	SER
17	CQ	13	VAL
17	CQ	51	ASN
17	CQ	52	GLU
18	CR	26	ILE
18	CR	47	THR
18	CR	71	THR
19	CS	5	LEU
19	CS	32	ARG
20	CT	4	ILE
20	CT	6	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
21	CU	9	ASN
21	CU	12	PHE
21	CU	24	GLU
21	CU	36	GLU
21	CU	40	LYS
21	CU	53	VAL
24	DC	10	SER
24	DC	35	GLU
24	DC	58	HIS
24	DC	71	LYS
24	DC	122	ALA
24	DC	239	ASN
25	DD	31	ALA
25	DD	105	LYS
25	DD	151	THR
25	DD	152	PRO
25	DD	174	SER
26	DE	83	VAL
26	DE	153	LEU
27	DF	9	LYS
27	DF	21	ASN
27	DF	31	VAL
27	DF	123	ASP
28	DG	20	ASN
28	DG	119	ALA
28	DG	175	LYS
29	DH	3	VAL
29	DH	10	ALA
29	DH	33	GLN
29	DH	35	LYS
29	DH	41	LYS
29	DH	53	GLU
29	DH	54	LEU
29	DH	83	LYS
29	DH	109	GLU
30	DI	7	ALA
30	DI	101	ILE
30	DI	102	SER
30	DI	106	LEU
30	DI	115	ALA
31	DJ	25	LEU
31	DJ	42	ALA

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Mol	Chain	Res	Type
31	DJ	81	ILE
31	DJ	95	ARG
32	DK	35	VAL
32	DK	92	GLU
32	DK	108	ARG
33	DL	115	GLU
34	DM	69	PRO
35	DN	2	ARG
35	DN	70	THR
35	DN	88	ALA
35	DN	104	ALA
35	DN	118	ARG
36	DO	34	HIS
36	DO	116	GLN
37	DP	36	SER
37	DP	66	ASN
39	DR	102	SER
40	DS	29	VAL
40	DS	62	ASP
40	DS	67	ASP
41	DT	18	GLU
41	DT	21	SER
41	DT	22	THR
41	DT	28	ASN
41	DT	39	THR
41	DT	40	LYS
41	DT	77	ARG
42	DU	9	ASP
42	DU	41	LEU
42	DU	55	PRO
42	DU	89	ASP
44	DW	20	ARG
45	DX	32	ASN
45	DX	62	LYS
47	DZ	14	ILE
49	D1	16	GLY
50	D2	44	VAL
52	D4	20	ASP
2	AB	12	ALA
2	AB	68	LEU
2	AB	83	ALA
2	AB	117	LEU

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Mol	Chain	Res	Type
2	AB	124	GLY
2	AB	126	PHE
2	AB	128	LYS
2	AB	150	GLY
2	AB	194	ASP
2	AB	207	ILE
2	AB	212	LEU
3	AC	17	PRO
3	AC	139	GLN
4	AD	17	THR
4	AD	25	VAL
4	AD	34	ILE
4	AD	99	ASP
4	AD	151	LYS
4	AD	153	SER
4	AD	169	THR
5	AE	51	GLY
5	AE	78	ASN
5	AE	101	GLU
5	AE	109	GLY
5	AE	110	ALA
5	AE	138	ARG
5	AE	151	GLU
6	AF	7	VAL
6	AF	68	GLN
6	AF	69	GLU
6	AF	95	ALA
8	AH	11	LEU
8	AH	31	LYS
8	AH	96	MET
9	AI	13	LYS
9	AI	57	MET
9	AI	59	GLU
9	AI	116	VAL
10	AJ	17	LEU
10	AJ	74	VAL
10	AJ	92	LEU
11	AK	14	LYS
12	AL	25	GLU
12	AL	89	ASP
13	AM	11	ASP
13	AM	47	GLU

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Mol	Chain	Res	Type
14	AN	48	LEU
16	AP	68	SER
16	AP	80	LYS
17	AQ	13	VAL
17	AQ	69	LYS
17	AQ	70	THR
19	AS	35	SER
20	AT	68	HIS
21	AU	12	PHE
21	AU	26	ALA
21	AU	27	GLY
21	AU	38	TYR
24	BC	122	ALA
24	BC	238	ARG
24	BC	261	LYS
26	BE	8	ALA
26	BE	62	GLN
26	BE	66	GLY
28	BG	39	ASP
28	BG	152	ARG
28	BG	175	LYS
29	BH	3	VAL
29	BH	11	ASN
29	BH	14	SER
29	BH	15	LEU
29	BH	66	ASN
29	BH	119	ASN
30	BI	4	LYS
30	BI	58	VAL
30	BI	60	THR
30	BI	65	ARG
30	BI	134	ARG
32	BK	35	VAL
32	BK	91	SER
32	BK	108	ARG
33	BL	88	GLY
36	BO	60	GLU
36	BO	99	TYR
37	BP	35	GLY
37	BP	105	GLY
38	BQ	7	GLY
40	BS	64	ALA

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Mol	Chain	Res	Type
40	BS	66	ILE
41	BT	71	GLY
42	BU	9	ASP
42	BU	52	LEU
44	BW	54	GLY
46	BY	24	GLU
46	BY	36	GLN
46	BY	46	VAL
46	BY	57	LEU
48	B0	18	SER
48	B0	55	ILE
49	B1	17	THR
53	B5	51	ASP
53	B5	60	ARG
53	B5	86	GLU
53	B5	180	SER
53	B5	215	VAL
2	CB	35	ARG
2	CB	36	ASN
2	CB	51	ASN
2	CB	116	ASP
2	CB	120	GLN
2	CB	166	ALA
2	CB	170	HIS
2	CB	208	ARG
2	CB	222	ARG
3	CC	66	VAL
3	CC	127	ARG
3	CC	175	LEU
4	CD	23	SER
4	CD	28	ILE
4	CD	30	THR
4	CD	32	CYS
4	CD	33	LYS
4	CD	35	GLU
4	CD	174	ASP
4	CD	175	ALA
5	CE	12	GLN
5	CE	51	GLY
5	CE	99	ALA
5	CE	101	GLU
5	CE	122	ASN

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Mol	Chain	Res	Type
5	CE	142	ASP
6	CF	13	ASP
6	CF	14	GLN
6	CF	17	GLN
6	CF	33	GLU
6	CF	91	ARG
7	CG	84	THR
7	CG	146	GLU
8	CH	89	LYS
10	CJ	36	VAL
10	CJ	41	PRO
10	CJ	57	VAL
10	CJ	95	GLY
11	CK	15	GLN
11	CK	78	GLY
11	CK	92	GLY
11	CK	126	LYS
12	CL	15	LYS
12	CL	17	ALA
12	CL	43	LYS
13	CM	7	ILE
13	CM	25	VAL
14	CN	22	ALA
14	CN	23	LYS
14	CN	53	ARG
14	CN	59	ARG
14	CN	62	ASN
15	CO	20	ASN
16	CP	80	LYS
17	CQ	5	ILE
17	CQ	12	VAL
17	CQ	20	SER
17	CQ	76	VAL
18	CR	21	ILE
20	CT	7	ALA
21	CU	13	ASP
21	CU	52	ALA
24	DC	205	LEU
24	DC	240	PHE
24	DC	251	GLN
25	DD	36	GLN
25	DD	195	GLY

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Mol	Chain	Res	Type
26	DE	86	ALA
27	DF	79	ILE
27	DF	143	TYR
27	DF	148	ARG
27	DF	176	PRO
28	DG	8	PRO
28	DG	159	GLY
29	DH	31	VAL
29	DH	77	THR
29	DH	118	PRO
30	DI	72	LYS
30	DI	84	ALA
30	DI	93	PRO
31	DJ	127	GLY
33	DL	30	THR
33	DL	54	GLN
33	DL	69	ARG
33	DL	111	ILE
34	DM	58	LYS
35	DN	3	HIS
36	DO	57	ALA
37	DP	24	ASP
37	DP	80	VAL
37	DP	93	ARG
37	DP	114	LEU
39	DR	50	GLY
40	DS	63	GLY
40	DS	69	LEU
42	DU	7	ARG
42	DU	53	ASN
42	DU	57	GLY
42	DU	98	SER
42	DU	102	THR
44	DW	49	ALA
46	DY	46	VAL
46	DY	57	LEU
47	DZ	53	PHE
48	D0	55	ILE
49	D1	52	ALA
50	D2	45	SER
2	AB	13	GLY
2	AB	25	PRO

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Mol	Chain	Res	Type
2	AB	95	ARG
2	AB	183	VAL
2	AB	193	PRO
2	AB	209	ALA
3	AC	3	GLN
3	AC	166	GLU
3	AC	206	GLU
4	AD	32	CYS
4	AD	166	GLU
5	AE	45	ARG
6	AF	6	ILE
7	AG	9	GLN
7	AG	12	ILE
7	AG	78	ARG
8	AH	21	ASN
8	AH	100	GLY
8	AH	115	ALA
9	AI	88	MET
10	AJ	16	ARG
10	AJ	38	GLY
10	AJ	75	ASP
10	AJ	100	ILE
11	AK	108	THR
13	AM	114	LYS
14	AN	42	TRP
14	AN	44	ALA
15	AO	25	THR
16	AP	10	GLY
16	AP	12	LYS
16	AP	44	SER
17	AQ	12	VAL
17	AQ	82	ALA
19	AS	9	PRO
20	AT	5	LYS
21	AU	23	CYS
21	AU	52	ALA
24	BC	167	ARG
24	BC	210	ALA
26	BE	6	LYS
26	BE	200	LEU
29	BH	9	VAL
29	BH	30	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
29	BH	85	GLY
29	BH	93	SER
29	BH	105	ALA
30	BI	72	LYS
31	BJ	81	ILE
32	BK	93	GLN
33	BL	36	LYS
35	BN	79	LEU
39	BR	52	PRO
41	BT	17	SER
41	BT	52	GLU
42	BU	8	ASP
42	BU	17	LYS
49	B1	52	ALA
53	B5	65	LEU
53	B5	66	PRO
53	B5	67	HIS
2	CB	13	GLY
2	CB	17	GLY
2	CB	34	ALA
2	CB	41	ILE
2	CB	63	ARG
2	CB	88	ASP
2	CB	141	LEU
2	CB	209	ALA
3	CC	12	LEU
3	CC	80	LYS
3	CC	89	LYS
4	CD	4	TYR
4	CD	85	ASN
5	CE	24	THR
5	CE	147	MET
8	CH	54	ASP
8	CH	120	GLY
10	CJ	17	LEU
10	CJ	90	LEU
10	CJ	91	ASP
12	CL	4	VAL
13	CM	12	HIS
13	CM	24	GLY
13	CM	49	SER
13	CM	114	LYS

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Mol	Chain	Res	Type
14	CN	13	ARG
16	CP	44	SER
16	CP	77	GLU
17	CQ	17	MET
17	CQ	53	CYS
18	CR	25	ASP
18	CR	34	THR
19	CS	6	LYS
20	CT	68	HIS
21	CU	10	GLU
21	CU	35	ARG
24	DC	143	ASN
25	DD	194	PRO
26	DE	129	PRO
27	DF	175	PHE
27	DF	177	PHE
28	DG	12	PRO
28	DG	28	GLY
29	DH	16	GLY
29	DH	40	THR
30	DI	100	LYS
33	DL	53	GLY
35	DN	14	SER
36	DO	114	GLY
37	DP	94	LYS
37	DP	95	ALA
37	DP	111	LYS
38	DQ	102	ASP
39	DR	31	GLU
39	DR	70	GLU
40	DS	107	VAL
41	DT	7	LEU
41	DT	73	ARG
42	DU	20	GLY
42	DU	60	GLU
42	DU	99	ASN
43	DV	84	PRO
45	DX	70	GLU
46	DY	61	ALA
2	AB	19	GLN
2	AB	20	THR
2	AB	33	GLY

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Mol	Chain	Res	Type
2	AB	43	LEU
2	AB	97	LEU
3	AC	146	ALA
4	AD	98	LEU
4	AD	109	ALA
4	AD	126	ASN
4	AD	161	LEU
4	AD	167	LYS
4	AD	182	PHE
6	AF	54	LEU
8	AH	50	LYS
8	AH	57	PRO
8	AH	69	LYS
9	AI	9	THR
9	AI	50	GLN
10	AJ	43	PRO
11	AK	126	LYS
11	AK	127	ARG
12	AL	102	LEU
13	AM	48	LEU
16	AP	43	ALA
16	AP	49	GLY
16	AP	50	THR
19	AS	6	LYS
20	AT	7	ALA
21	AU	25	LYS
25	BD	86	GLU
25	BD	114	LYS
25	BD	148	GLN
27	BF	21	ASN
27	BF	175	PHE
29	BH	83	LYS
30	BI	6	GLN
30	BI	7	ALA
32	BK	119	ALA
33	BL	114	GLY
36	BO	77	ALA
41	BT	18	GLU
49	B1	23	THR
51	B3	28	ASN
53	B5	176	VAL
2	CB	19	GLN

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Mol	Chain	Res	Type
2	CB	126	PHE
4	CD	10	LYS
4	CD	36	GLN
4	CD	47	ARG
4	CD	149	ALA
4	CD	154	ARG
4	CD	192	SER
5	CE	155	ALA
6	CF	15	SER
6	CF	18	VAL
6	CF	54	LEU
6	CF	95	ALA
7	CG	3	ARG
8	CH	31	LYS
8	CH	67	GLN
9	CI	39	PHE
9	CI	55	VAL
9	CI	129	LYS
12	CL	34	CYS
13	CM	44	LYS
14	CN	3	LYS
14	CN	50	THR
15	CO	46	HIS
17	CQ	70	THR
19	CS	28	LYS
20	CT	41	ALA
20	CT	67	ILE
21	CU	11	PRO
24	DC	29	PRO
24	DC	158	ALA
24	DC	253	LYS
25	DD	57	ALA
26	DE	18	THR
26	DE	122	GLU
27	DF	103	LEU
28	DG	47	ASP
29	DH	9	VAL
30	DI	15	ALA
32	DK	48	PRO
32	DK	93	GLN
33	DL	29	LYS
33	DL	42	SER

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Mol	Chain	Res	Type
33	DL	138	ALA
34	DM	21	ALA
34	DM	59	ARG
34	DM	79	ALA
37	DP	105	GLY
42	DU	58	ILE
45	DX	7	VAL
45	DX	51	VAL
46	DY	37	LEU
48	D0	52	ARG
51	D3	52	LYS
2	AB	161	LEU
3	AC	54	ARG
3	AC	89	LYS
4	AD	26	ARG
4	AD	37	ALA
5	AE	88	VAL
5	AE	157	ARG
6	AF	93	LYS
9	AI	58	VAL
10	AJ	28	THR
10	AJ	35	GLN
10	AJ	41	PRO
10	AJ	42	LEU
10	AJ	62	ARG
10	AJ	93	ALA
11	AK	89	PRO
13	AM	10	PRO
13	AM	111	GLY
14	AN	49	GLN
19	AS	64	ASP
24	BC	161	TYR
25	BD	2	ILE
25	BD	104	VAL
27	BF	146	VAL
30	BI	24	VAL
30	BI	84	ALA
30	BI	98	VAL
32	BK	110	GLU
36	BO	87	ILE
41	BT	28	ASN
42	BU	19	LYS

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Mol	Chain	Res	Type
46	BY	20	ASN
53	B5	53	ARG
53	B5	90	ALA
53	B5	141	PRO
53	B5	182	PRO
53	B5	207	GLY
53	B5	217	THR
2	CB	12	ALA
2	CB	127	ASP
4	CD	148	LYS
5	CE	102	GLY
5	CE	113	ALA
6	CF	94	HIS
7	CG	82	GLY
8	CH	57	PRO
8	CH	96	MET
9	CI	53	GLU
10	CJ	42	LEU
11	CK	93	ARG
12	CL	78	SER
14	CN	60	GLN
14	CN	64	CYS
15	CO	18	ASP
16	CP	42	ILE
17	CQ	80	GLU
25	DD	94	GLN
26	DE	61	ARG
26	DE	80	SER
27	DF	174	ASP
30	DI	134	ARG
33	DL	4	ASN
33	DL	36	LYS
33	DL	94	THR
36	DO	77	ALA
39	DR	82	HIS
40	DS	14	ALA
41	DT	10	VAL
45	DX	50	ARG
46	DY	36	GLN
47	DZ	4	THR
49	D1	5	ILE
51	D3	53	GLY

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Mol	Chain	Res	Type
2	AB	53	ALA
2	AB	79	ALA
2	AB	166	ALA
3	AC	66	VAL
7	AG	140	ASP
8	AH	14	ILE
8	AH	78	VAL
15	AO	21	ASP
15	AO	46	HIS
17	AQ	35	GLY
19	AS	13	LEU
19	AS	14	HIS
20	AT	67	ILE
20	AT	82	GLN
27	BF	78	LYS
29	BH	120	GLY
33	BL	86	GLU
39	BR	50	GLY
42	BU	98	SER
49	B1	51	GLU
53	B5	151	GLY
2	CB	86	SER
3	CC	174	PRO
4	CD	5	LEU
4	CD	37	ALA
4	CD	165	ARG
8	CH	75	ILE
24	DC	218	PRO
26	DE	62	GLN
30	DI	13	VAL
32	DK	110	GLU
32	DK	120	PRO
35	DN	109	PRO
36	DO	66	GLY
37	DP	14	LYS
37	DP	84	ILE
39	DR	53	PHE
40	DS	66	ILE
45	DX	44	LYS
4	AD	101	VAL
11	AK	16	VAL
13	AM	64	VAL

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Mol	Chain	Res	Type
28	BG	79	VAL
53	B5	204	GLY
2	CB	149	GLY
5	CE	42	GLY
5	CE	57	PRO
8	AH	34	VAL
9	AI	51	PRO
9	AI	72	ILE
34	BM	26	VAL
2	CB	33	GLY
9	CI	58	VAL
9	CI	104	VAL
11	CK	89	PRO
11	CK	120	GLY
26	DE	82	GLY
30	DI	140	VAL
34	DM	57	VAL
2	AB	80	VAL
2	AB	182	PRO
6	AF	36	ILE
42	BU	39	ILE
53	B5	213	VAL
3	CC	84	VAL
7	CG	12	ILE
14	CN	11	VAL
19	CS	30	PRO
24	DC	85	PRO
26	DE	73	ILE
27	DF	149	VAL
33	DL	140	GLY
34	DM	3	GLN
36	DO	90	VAL
41	DT	13	ALA
45	DX	31	PRO
51	D3	20	GLY
2	AB	149	GLY
10	AJ	39	PRO
24	BC	234	GLY
40	BS	74	ILE
9	CI	23	PRO
11	CK	91	PRO
20	CT	42	GLY

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Mol	Chain	Res	Type
34	DM	23	GLY
50	D2	38	GLY
36	BO	103	VAL
5	CE	143	GLY
5	CE	158	GLY
27	DF	85	ILE
28	DG	154	PRO
39	DR	101	ILE

### 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	
2	AB	180/180 (100%)	133 (74%)	47 (26%)	0	2
2	CB	180/180 (100%)	140 (78%)	40 (22%)	1	3
3	AC	170/170 (100%)	134 (79%)	36 (21%)	1	4
3	CC	170/170 (100%)	136 (80%)	34 (20%)	1	5
4	AD	172/172 (100%)	136 (79%)	36 (21%)	1	4
4	CD	172/172 (100%)	145 (84%)	27 (16%)	3	9
5	AE	113/113 (100%)	87 (77%)	26 (23%)	1	3
5	CE	113/113 (100%)	87 (77%)	26 (23%)	1	3
6	AF	87/87 (100%)	61 (70%)	26 (30%)	0	1
6	CF	87/87 (100%)	62 (71%)	25 (29%)	0	1
7	AG	124/124 (100%)	95 (77%)	29 (23%)	1	2
7	CG	124/124 (100%)	89 (72%)	35 (28%)	0	1
8	AH	104/104 (100%)	87 (84%)	17 (16%)	3	8
8	CH	104/104 (100%)	84 (81%)	20 (19%)	2	5
9	AI	105/105 (100%)	71 (68%)	34 (32%)	0	1
9	CI	105/105 (100%)	77 (73%)	28 (27%)	0	2
10	AJ	86/86 (100%)	69 (80%)	17 (20%)	1	5

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	CJ	86/86 (100%)	67 (78%)	19 (22%)	1	3
11	AK	90/90 (100%)	70 (78%)	20 (22%)	1	3
11	CK	90/90 (100%)	68 (76%)	22 (24%)	1	2
12	AL	103/103 (100%)	87 (84%)	16 (16%)	3	10
12	CL	103/103 (100%)	83 (81%)	20 (19%)	2	5
13	AM	92/92 (100%)	72 (78%)	20 (22%)	1	3
13	CM	92/92 (100%)	71 (77%)	21 (23%)	1	3
14	AN	79/83 (95%)	64 (81%)	15 (19%)	2	6
14	CN	79/83 (95%)	65 (82%)	14 (18%)	2	7
15	AO	75/76 (99%)	61 (81%)	14 (19%)	2	6
15	CO	75/76 (99%)	58 (77%)	17 (23%)	1	3
16	AP	65/65 (100%)	50 (77%)	15 (23%)	1	3
16	CP	65/65 (100%)	51 (78%)	14 (22%)	1	4
17	AQ	74/74 (100%)	52 (70%)	22 (30%)	0	1
17	CQ	74/74 (100%)	50 (68%)	24 (32%)	0	1
18	AR	48/48 (100%)	37 (77%)	11 (23%)	1	3
18	CR	48/48 (100%)	37 (77%)	11 (23%)	1	3
19	AS	70/70 (100%)	58 (83%)	12 (17%)	2	7
19	CS	70/70 (100%)	59 (84%)	11 (16%)	3	9
20	AT	65/65 (100%)	50 (77%)	15 (23%)	1	3
20	CT	65/65 (100%)	48 (74%)	17 (26%)	0	2
21	AU	44/44 (100%)	26 (59%)	18 (41%)	0	0
21	CU	44/44 (100%)	25 (57%)	19 (43%)	0	0
24	BC	216/216 (100%)	184 (85%)	32 (15%)	4	11
24	DC	216/216 (100%)	185 (86%)	31 (14%)	4	12
25	BD	164/164 (100%)	152 (93%)	12 (7%)	17	45
25	DD	164/164 (100%)	146 (89%)	18 (11%)	8	23
26	BE	165/165 (100%)	142 (86%)	23 (14%)	4	12
26	DE	165/165 (100%)	142 (86%)	23 (14%)	4	12
27	BF	148/148 (100%)	121 (82%)	27 (18%)	2	6
27	DF	148/148 (100%)	124 (84%)	24 (16%)	3	9

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
28	BG	137/137 (100%)	127 (93%)	10 (7%)	17	45
28	DG	137/137 (100%)	121 (88%)	16 (12%)	7	19
29	BH	114/114 (100%)	88 (77%)	26 (23%)	1	3
29	DH	114/114 (100%)	88 (77%)	26 (23%)	1	3
30	BI	109/109 (100%)	80 (73%)	29 (27%)	0	2
30	DI	109/109 (100%)	84 (77%)	25 (23%)	1	3
31	BJ	116/116 (100%)	111 (96%)	5 (4%)	35	71
31	DJ	116/116 (100%)	101 (87%)	15 (13%)	5	16
32	BK	103/103 (100%)	91 (88%)	12 (12%)	7	19
32	DK	103/103 (100%)	96 (93%)	7 (7%)	20	49
33	BL	102/102 (100%)	88 (86%)	14 (14%)	4	13
33	DL	102/102 (100%)	89 (87%)	13 (13%)	5	16
34	BM	109/109 (100%)	102 (94%)	7 (6%)	22	53
34	DM	109/109 (100%)	101 (93%)	8 (7%)	17	45
35	BN	100/100 (100%)	90 (90%)	10 (10%)	9	28
35	DN	100/100 (100%)	80 (80%)	20 (20%)	1	5
36	BO	86/86 (100%)	70 (81%)	16 (19%)	2	6
36	DO	86/86 (100%)	73 (85%)	13 (15%)	3	11
37	BP	99/99 (100%)	91 (92%)	8 (8%)	15	39
37	DP	99/99 (100%)	84 (85%)	15 (15%)	3	10
38	BQ	89/89 (100%)	81 (91%)	8 (9%)	12	34
38	DQ	89/89 (100%)	78 (88%)	11 (12%)	6	17
39	BR	84/84 (100%)	72 (86%)	12 (14%)	4	12
39	DR	84/84 (100%)	68 (81%)	16 (19%)	2	6
40	BS	93/93 (100%)	80 (86%)	13 (14%)	4	12
40	DS	93/93 (100%)	80 (86%)	13 (14%)	4	12
41	BT	80/80 (100%)	68 (85%)	12 (15%)	3	11
41	DT	80/80 (100%)	66 (82%)	14 (18%)	2	7
42	BU	83/83 (100%)	73 (88%)	10 (12%)	6	18
42	DU	83/83 (100%)	66 (80%)	17 (20%)	1	4
43	BV	78/78 (100%)	69 (88%)	9 (12%)	7	21

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
43	DV	78/78 (100%)	65 (83%)	13 (17%)	3	8
44	BW	57/58 (98%)	50 (88%)	7 (12%)	6	17
44	DW	56/58 (97%)	51 (91%)	5 (9%)	12	35
45	BX	67/67 (100%)	56 (84%)	11 (16%)	3	8
45	DX	67/67 (100%)	54 (81%)	13 (19%)	2	5
46	BY	55/55 (100%)	47 (86%)	8 (14%)	4	12
46	DY	55/55 (100%)	45 (82%)	10 (18%)	2	6
47	BZ	48/48 (100%)	44 (92%)	4 (8%)	14	38
47	DZ	48/48 (100%)	37 (77%)	11 (23%)	1	3
48	B0	47/47 (100%)	41 (87%)	6 (13%)	5	16
48	D0	47/47 (100%)	43 (92%)	4 (8%)	13	37
49	B1	45/45 (100%)	38 (84%)	7 (16%)	3	10
49	D1	45/45 (100%)	41 (91%)	4 (9%)	12	35
50	B2	38/38 (100%)	33 (87%)	5 (13%)	5	14
50	D2	38/38 (100%)	31 (82%)	7 (18%)	2	6
51	B3	51/51 (100%)	48 (94%)	3 (6%)	24	58
51	D3	51/51 (100%)	44 (86%)	7 (14%)	4	13
52	B4	34/34 (100%)	28 (82%)	6 (18%)	2	7
52	D4	34/34 (100%)	30 (88%)	4 (12%)	6	19
53	B5	61/180 (34%)	48 (79%)	13 (21%)	1	4
All	All	9386/9518 (99%)	7728 (82%)	1658 (18%)	2	7

All (1658) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	AB	9	MET
2	AB	14	VAL
2	AB	15	HIS
2	AB	16	PHE
2	AB	21	ARG
2	AB	27	MET
2	AB	32	PHE
2	AB	41	ILE
2	AB	43	LEU
2	AB	50	PHE

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Mol	Chain	Res	Type
2	AB	54	LEU
2	AB	64	LYS
2	AB	66	LYS
2	AB	68	LEU
2	AB	85	LEU
2	AB	87	CYS
2	AB	88	ASP
2	AB	95	ARG
2	AB	100	MET
2	AB	101	LEU
2	AB	107	VAL
2	AB	111	ILE
2	AB	117	LEU
2	AB	122	GLN
2	AB	123	ASP
2	AB	126	PHE
2	AB	129	LEU
2	AB	132	LYS
2	AB	133	GLU
2	AB	135	LEU
2	AB	136	MET
2	AB	140	GLU
2	AB	143	LYS
2	AB	144	LEU
2	AB	148	LEU
2	AB	153	ASP
2	AB	161	LEU
2	AB	164	ILE
2	AB	186	ILE
2	AB	188	ASP
2	AB	199	VAL
2	AB	207	ILE
2	AB	208	ARG
2	AB	212	LEU
2	AB	213	TYR
2	AB	225	ARG
2	AB	226	SER
3	AC	3	GLN
3	AC	14	ILE
3	AC	16	LYS
3	AC	18	TRP
3	AC	20	SER

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Mol	Chain	Res	Type
3	AC	21	THR
3	AC	26	THR
3	AC	27	LYS
3	AC	28	GLU
3	AC	29	PHE
3	AC	33	LEU
3	AC	37	PHE
3	AC	38	LYS
3	AC	41	GLN
3	AC	52	VAL
3	AC	55	ILE
3	AC	58	GLU
3	AC	59	ARG
3	AC	63	SER
3	AC	75	ILE
3	AC	88	ARG
3	AC	107	ARG
3	AC	122	SER
3	AC	127	ARG
3	AC	131	ARG
3	AC	139	GLN
3	AC	140	ASN
3	AC	143	ARG
3	AC	144	LEU
3	AC	151	VAL
3	AC	165	THR
3	AC	167	TRP
3	AC	168	TYR
3	AC	185	ASN
3	AC	191	THR
3	AC	207	ILE
4	AD	5	LEU
4	AD	13	ARG
4	AD	17	THR
4	AD	23	SER
4	AD	31	LYS
4	AD	32	CYS
4	AD	34	ILE
4	AD	35	GLU
4	AD	44	ARG
4	AD	45	LYS
4	AD	47	ARG

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Mol	Chain	Res	Type
4	AD	58	LYS
4	AD	63	ARG
4	AD	69	GLU
4	AD	93	LEU
4	AD	104	ARG
4	AD	111	ARG
4	AD	116	GLN
4	AD	123	ILE
4	AD	132	ILE
4	AD	142	VAL
4	AD	143	VAL
4	AD	144	SER
4	AD	148	LYS
4	AD	150	LYS
4	AD	151	LYS
4	AD	161	LEU
4	AD	163	GLU
4	AD	164	GLN
4	AD	172	GLU
4	AD	173	VAL
4	AD	177	LYS
4	AD	190	ASP
4	AD	195	ILE
4	AD	198	HIS
4	AD	206	LYS
5	AE	10	GLU
5	AE	14	LYS
5	AE	15	LEU
5	AE	18	VAL
5	AE	19	ASN
5	AE	25	VAL
5	AE	26	LYS
5	AE	38	VAL
5	AE	46	VAL
5	AE	72	ILE
5	AE	73	ASN
5	AE	74	VAL
5	AE	83	HIS
5	AE	85	VAL
5	AE	114	VAL
5	AE	115	LEU
5	AE	123	VAL

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Mol	Chain	Res	Type
5	AE	124	LEU
5	AE	126	LYS
5	AE	130	SER
5	AE	134	ILE
5	AE	136	VAL
5	AE	140	THR
5	AE	147	MET
5	AE	149	SER
5	AE	153	VAL
6	AF	5	GLU
6	AF	7	VAL
6	AF	9	MET
6	AF	14	GLN
6	AF	15	SER
6	AF	17	GLN
6	AF	24	ARG
6	AF	35	LYS
6	AF	39	LEU
6	AF	45	ARG
6	AF	51	ILE
6	AF	52	ASN
6	AF	53	LYS
6	AF	54	LEU
6	AF	55	HIS
6	AF	62	MET
6	AF	68	GLN
6	AF	72	ASP
6	AF	82	ASP
6	AF	84	VAL
6	AF	86	ARG
6	AF	87	SER
6	AF	89	VAL
6	AF	93	LYS
6	AF	96	VAL
6	AF	98	GLU
7	AG	4	ARG
7	AG	6	VAL
7	AG	10	ARG
7	AG	13	LEU
7	AG	22	LEU
7	AG	23	LEU
7	AG	32	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
7	AG	36	LYS
7	AG	43	VAL
7	AG	47	LEU
7	AG	48	GLU
7	AG	49	THR
7	AG	50	LEU
7	AG	59	LEU
7	AG	63	GLU
7	AG	70	ARG
7	AG	76	LYS
7	AG	78	ARG
7	AG	79	ARG
7	AG	80	VAL
7	AG	83	SER
7	AG	90	GLU
7	AG	91	VAL
7	AG	115	SER
7	AG	120	LEU
7	AG	125	SER
7	AG	136	LYS
7	AG	139	GLU
7	AG	142	HIS
8	AH	3	MET
8	AH	7	ILE
8	AH	22	LYS
8	AH	42	GLU
8	AH	46	ILE
8	AH	51	VAL
8	AH	59	LEU
8	AH	75	ILE
8	AH	77	ARG
8	AH	83	LEU
8	AH	89	LYS
8	AH	104	VAL
8	AH	108	LYS
8	AH	111	MET
8	AH	121	LEU
8	AH	125	ILE
8	AH	129	VAL
9	AI	14	SER
9	AI	22	LYS
9	AI	30	ILE

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Mol	Chain	Res	Type
9	AI	36	GLU
9	AI	39	PHE
9	AI	43	THR
9	AI	46	MET
9	AI	47	VAL
9	AI	48	VAL
9	AI	49	ARG
9	AI	55	VAL
9	AI	57	MET
9	AI	60	LYS
9	AI	61	LEU
9	AI	63	LEU
9	AI	64	TYR
9	AI	65	ILE
9	AI	68	LYS
9	AI	85	ARG
9	AI	88	MET
9	AI	89	GLU
9	AI	90	TYR
9	AI	94	LEU
9	AI	97	GLU
9	AI	99	ARG
9	AI	106	ARG
9	AI	111	VAL
9	AI	114	LYS
9	AI	115	LYS
9	AI	116	VAL
9	AI	119	ARG
9	AI	127	PHE
9	AI	129	LYS
9	AI	130	ARG
10	AJ	6	ILE
10	AJ	8	ILE
10	AJ	11	LYS
10	AJ	19	ASP
10	AJ	27	GLU
10	AJ	44	THR
10	AJ	45	ARG
10	AJ	52	LEU
10	AJ	57	VAL
10	AJ	59	LYS
10	AJ	69	THR

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Mol	Chain	Res	Type
10	AJ	73	LEU
10	AJ	84	VAL
10	AJ	89	ARG
10	AJ	91	ASP
10	AJ	92	LEU
10	AJ	102	LEU
11	AK	16	VAL
11	AK	17	SER
11	AK	23	ILE
11	AK	31	ILE
11	AK	50	SER
11	AK	52	PHE
11	AK	58	SER
11	AK	65	VAL
11	AK	76	GLU
11	AK	81	ASN
11	AK	95	SER
11	AK	97	ILE
11	AK	100	LEU
11	AK	108	THR
11	AK	111	THR
11	AK	112	ASP
11	AK	126	LYS
11	AK	127	ARG
11	AK	128	ARG
11	AK	129	VAL
12	AL	10	LYS
12	AL	12	ARG
12	AL	15	LYS
12	AL	16	VAL
12	AL	29	GLN
12	AL	33	VAL
12	AL	36	ARG
12	AL	44	LYS
12	AL	54	ARG
12	AL	62	GLU
12	AL	88	LYS
12	AL	89	ASP
12	AL	102	LEU
12	AL	105	SER
12	AL	114	ARG
12	AL	121	ARG

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Mol	Chain	Res	Type
13	AM	4	ILE
13	AM	11	ASP
13	AM	13	LYS
13	AM	16	VAL
13	AM	29	ARG
13	AM	42	ASP
13	AM	59	GLU
13	AM	63	PHE
13	AM	65	VAL
13	AM	71	ARG
13	AM	72	GLU
13	AM	75	MET
13	AM	79	ARG
13	AM	80	LEU
13	AM	87	ARG
13	AM	90	ARG
13	AM	93	ARG
13	AM	103	LYS
13	AM	107	ARG
13	AM	113	ARG
14	AN	4	GLN
14	AN	10	GLU
14	AN	24	ARG
14	AN	26	GLU
14	AN	28	LYS
14	AN	31	ILE
14	AN	46	LEU
14	AN	49	GLN
14	AN	51	LEU
14	AN	59	ARG
14	AN	69	ARG
14	AN	81	ARG
14	AN	85	ARG
14	AN	98	LYS
14	AN	100	SER
15	AO	6	GLU
15	AO	17	ARG
15	AO	22	THR
15	AO	31	LEU
15	AO	35	GLN
15	AO	38	HIS
15	AO	39	LEU

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Mol	Chain	Res	Type
15	AO	40	GLN
15	AO	67	LEU
15	AO	83	GLU
15	AO	85	LEU
15	AO	87	LEU
15	AO	88	ARG
15	AO	89	ARG
16	AP	1	MET
16	AP	2	VAL
16	AP	6	LEU
16	AP	8	ARG
16	AP	18	GLN
16	AP	19	VAL
16	AP	20	VAL
16	AP	36	VAL
16	AP	46	LYS
16	AP	51	ARG
16	AP	63	GLN
16	AP	70	ARG
16	AP	75	ILE
16	AP	77	GLU
16	AP	78	VAL
17	AQ	4	LYS
17	AQ	13	VAL
17	AQ	17	MET
17	AQ	21	ILE
17	AQ	25	ILE
17	AQ	26	GLU
17	AQ	27	ARG
17	AQ	29	VAL
17	AQ	30	LYS
17	AQ	38	ILE
17	AQ	42	THR
17	AQ	51	ASN
17	AQ	52	GLU
17	AQ	55	ILE
17	AQ	59	VAL
17	AQ	61	ILE
17	AQ	64	CYS
17	AQ	68	SER
17	AQ	69	LYS
17	AQ	70	THR

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Mol	Chain	Res	Type
17	AQ	75	LEU
17	AQ	81	LYS
18	AR	25	ASP
18	AR	29	LEU
18	AR	30	LYS
18	AR	31	ASN
18	AR	33	ILE
18	AR	34	THR
18	AR	43	ARG
18	AR	48	ARG
18	AR	55	LEU
18	AR	61	ARG
18	AR	71	THR
19	AS	6	LYS
19	AS	13	LEU
19	AS	21	LYS
19	AS	24	GLU
19	AS	27	ASP
19	AS	29	LYS
19	AS	33	THR
19	AS	55	ARG
19	AS	58	VAL
19	AS	63	THR
19	AS	65	GLU
19	AS	71	LEU
20	AT	3	ASN
20	AT	5	LYS
20	AT	6	SER
20	AT	8	LYS
20	AT	12	ILE
20	AT	16	LYS
20	AT	24	ARG
20	AT	27	MET
20	AT	29	ARG
20	AT	34	LYS
20	AT	36	TYR
20	AT	54	MET
20	AT	69	LYS
20	AT	70	ASN
20	AT	74	ARG
21	AU	9	ASN
21	AU	10	GLU

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Mol	Chain	Res	Type
21	AU	12	PHE
21	AU	13	ASP
21	AU	16	LEU
21	AU	18	ARG
21	AU	19	PHE
21	AU	20	LYS
21	AU	23	CYS
21	AU	25	LYS
21	AU	28	VAL
21	AU	33	ARG
21	AU	34	ARG
21	AU	36	GLU
21	AU	37	PHE
21	AU	38	TYR
21	AU	47	ARG
21	AU	54	LYS
24	BC	5	LYS
24	BC	13	ARG
24	BC	20	VAL
24	BC	24	LEU
24	BC	63	ARG
24	BC	64	ILE
24	BC	70	ASN
24	BC	86	ASN
24	BC	97	LYS
24	BC	105	LEU
24	BC	111	LYS
24	BC	121	ASP
24	BC	125	LYS
24	BC	130	LEU
24	BC	147	LYS
24	BC	154	LEU
24	BC	156	ARG
24	BC	164	ILE
24	BC	172	VAL
24	BC	174	LEU
24	BC	177	ARG
24	BC	182	ARG
24	BC	183	LYS
24	BC	187	ASP
24	BC	195	VAL
24	BC	203	ARG

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Mol	Chain	Res	Type
24	BC	205	LEU
24	BC	213	TRP
24	BC	225	MET
24	BC	252	THR
24	BC	258	ARG
24	BC	265	LYS
25	BD	4	LEU
25	BD	12	THR
25	BD	14	ILE
25	BD	70	LYS
25	BD	89	GLU
25	BD	95	SER
25	BD	97	SER
25	BD	121	THR
25	BD	133	THR
25	BD	141	ARG
25	BD	183	GLU
25	BD	186	LEU
26	BE	9	GLN
26	BE	10	SER
26	BE	12	LEU
26	BE	44	ARG
26	BE	63	LYS
26	BE	88	ARG
26	BE	93	SER
26	BE	94	GLN
26	BE	107	SER
26	BE	108	ILE
26	BE	116	ASP
26	BE	120	VAL
26	BE	123	LYS
26	BE	126	VAL
26	BE	131	THR
26	BE	149	ILE
26	BE	159	LEU
26	BE	176	ASP
26	BE	180	LEU
26	BE	185	LYS
26	BE	194	LYS
26	BE	198	GLU
26	BE	200	LEU
27	BF	3	LYS

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Mol	Chain	Res	Type
27	BF	18	THR
27	BF	21	ASN
27	BF	23	ASN
27	BF	33	LYS
27	BF	34	ILE
27	BF	35	THR
27	BF	36	LEU
27	BF	42	GLU
27	BF	44	ILE
27	BF	48	LYS
27	BF	49	LEU
27	BF	81	GLN
27	BF	83	TYR
27	BF	85	ILE
27	BF	89	VAL
27	BF	95	ARG
27	BF	100	PHE
27	BF	104	ILE
27	BF	105	THR
27	BF	106	ILE
27	BF	112	ARG
27	BF	133	ARG
27	BF	147	ASP
27	BF	152	LEU
27	BF	153	ASP
27	BF	164	GLU
28	BG	11	VAL
28	BG	27	LYS
28	BG	67	THR
28	BG	77	ILE
28	BG	87	LEU
28	BG	98	VAL
28	BG	124	GLU
28	BG	152	ARG
28	BG	155	GLU
28	BG	170	ARG
29	BH	1	MET
29	BH	3	VAL
29	BH	6	LEU
29	BH	12	LEU
29	BH	15	LEU
29	BH	27	ARG

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Mol	Chain	Res	Type
29	BH	50	ARG
29	BH	60	GLU
29	BH	62	LEU
29	BH	66	ASN
29	BH	75	LEU
29	BH	77	THR
29	BH	79	THR
29	BH	86	ASP
29	BH	91	PHE
29	BH	112	LYS
29	BH	119	ASN
29	BH	122	LEU
29	BH	123	ARG
29	BH	125	THR
29	BH	129	GLU
29	BH	131	SER
29	BH	137	GLU
29	BH	142	VAL
29	BH	145	ASN
29	BH	146	VAL
30	BI	8	TYR
30	BI	9	VAL
30	BI	11	LEU
30	BI	24	VAL
30	BI	28	LEU
30	BI	31	GLN
30	BI	34	ASN
30	BI	38	PHE
30	BI	45	LYS
30	BI	50	GLU
30	BI	58	VAL
30	BI	60	THR
30	BI	62	TYR
30	BI	68	THR
30	BI	69	PHE
30	BI	72	LYS
30	BI	73	THR
30	BI	82	LYS
30	BI	86	ILE
30	BI	87	LYS
30	BI	95	LYS
30	BI	96	ASP

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Mol	Chain	Res	Type
30	BI	97	LYS
30	BI	100	LYS
30	BI	101	ILE
30	BI	103	ARG
30	BI	108	GLU
30	BI	132	THR
30	BI	134	ARG
31	BJ	5	THR
31	BJ	23	LYS
31	BJ	30	THR
31	BJ	40	HIS
31	BJ	61	LYS
32	BK	41	ILE
32	BK	44	LYS
32	BK	45	GLU
32	BK	49	ARG
32	BK	58	LEU
32	BK	66	LYS
32	BK	86	LEU
32	BK	88	ASN
32	BK	92	GLU
32	BK	108	ARG
32	BK	117	SER
32	BK	121	GLU
33	BL	35	HIS
33	BL	40	SER
33	BL	60	ARG
33	BL	69	ARG
33	BL	78	ARG
33	BL	82	LEU
33	BL	85	VAL
33	BL	86	GLU
33	BL	89	VAL
33	BL	93	ASN
33	BL	100	ILE
33	BL	115	GLU
33	BL	136	GLU
33	BL	144	GLU
34	BM	22	GLN
34	BM	24	THR
34	BM	55	ARG
34	BM	70	ASP

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Mol	Chain	Res	Type
34	BM	86	LYS
34	BM	115	GLU
34	BM	126	ILE
35	BN	2	ARG
35	BN	6	SER
35	BN	8	ARG
35	BN	27	SER
35	BN	69	ARG
35	BN	71	ARG
35	BN	74	GLU
35	BN	96	ARG
35	BN	118	ARG
35	BN	120	GLU
36	BO	2	ASP
36	BO	3	LYS
36	BO	4	LYS
36	BO	9	ARG
36	BO	17	LYS
36	BO	18	LEU
36	BO	24	THR
36	BO	25	ARG
36	BO	31	THR
36	BO	36	TYR
36	BO	45	SER
36	BO	47	VAL
36	BO	54	VAL
36	BO	56	LYS
36	BO	83	LEU
36	BO	88	LYS
37	BP	29	LYS
37	BP	63	LYS
37	BP	68	GLU
37	BP	73	VAL
37	BP	93	ARG
37	BP	102	GLU
37	BP	110	ILE
37	BP	114	LEU
38	BQ	6	ARG
38	BQ	18	LEU
38	BQ	30	ARG
38	BQ	51	ARG
38	BQ	58	ARG

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Mol	Chain	Res	Type
38	BQ	112	LYS
38	BQ	114	LYS
38	BQ	117	LEU
39	BR	10	LYS
39	BR	29	THR
39	BR	38	VAL
39	BR	46	GLU
39	BR	48	LYS
39	BR	60	LYS
39	BR	64	VAL
39	BR	74	ILE
39	BR	85	LYS
39	BR	87	GLN
39	BR	94	THR
39	BR	102	SER
40	BS	7	HIS
40	BS	11	ARG
40	BS	19	LEU
40	BS	31	GLN
40	BS	53	SER
40	BS	59	GLU
40	BS	69	LEU
40	BS	81	SER
40	BS	86	MET
40	BS	97	LEU
40	BS	107	VAL
40	BS	108	SER
40	BS	109	ASP
41	BT	5	GLU
41	BT	11	LEU
41	BT	12	ARG
41	BT	18	GLU
41	BT	22	THR
41	BT	30	ILE
41	BT	33	LYS
41	BT	36	LYS
41	BT	49	LYS
41	BT	73	ARG
41	BT	86	THR
41	BT	89	GLU
42	BU	7	ARG
42	BU	9	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
42	BU	26	LYS
42	BU	31	SER
42	BU	33	LYS
42	BU	52	LEU
42	BU	61	LYS
42	BU	68	SER
42	BU	91	LYS
42	BU	99	ASN
43	BV	1	MET
43	BV	10	LYS
43	BV	17	SER
43	BV	29	ILE
43	BV	34	LYS
43	BV	41	GLU
43	BV	61	LEU
43	BV	65	VAL
43	BV	70	ILE
44	BW	20	ARG
44	BW	29	GLU
44	BW	38	VAL
44	BW	39	ARG
44	BW	41	ARG
44	BW	55	ARG
44	BW	72	LYS
45	BX	2	SER
45	BX	5	CYS
45	BX	18	ARG
45	BX	25	THR
45	BX	28	ARG
45	BX	45	ARG
45	BX	48	THR
45	BX	54	LYS
45	BX	64	ILE
45	BX	76	GLU
45	BX	77	LYS
46	BY	6	LEU
46	BY	16	THR
46	BY	22	LEU
46	BY	29	ARG
46	BY	37	LEU
46	BY	56	LEU
46	BY	58	ASN

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Mol	Chain	Res	Type
46	BY	59	GLU
47	BZ	3	LYS
47	BZ	36	VAL
47	BZ	57	VAL
47	BZ	58	GLU
48	B0	6	ASN
48	B0	18	SER
48	B0	23	THR
48	B0	29	SER
48	B0	40	ARG
48	B0	53	LYS
49	B1	8	LYS
49	B1	11	LEU
49	B1	25	LYS
49	B1	28	ARG
49	B1	37	LYS
49	B1	46	HIS
49	B1	51	GLU
50	B2	16	HIS
50	B2	21	ARG
50	B2	39	ARG
50	B2	42	LEU
50	B2	45	SER
51	B3	15	LYS
51	B3	30	ARG
51	B3	31	HIS
52	B4	4	ARG
52	B4	6	SER
52	B4	9	LYS
52	B4	18	LYS
52	B4	26	ILE
52	B4	37	GLN
53	B5	21	TYR
53	B5	23	ILE
53	B5	38	PHE
53	B5	41	THR
53	B5	47	LYS
53	B5	48	LEU
53	B5	59	VAL
53	B5	64	SER
53	B5	65	LEU
53	B5	73	VAL

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Mol	Chain	Res	Type
53	B5	76	LEU
53	B5	78	ILE
53	B5	88	GLU
2	CB	11	LYS
2	CB	15	HIS
2	CB	16	PHE
2	CB	20	THR
2	CB	21	ARG
2	CB	24	ASN
2	CB	27	MET
2	CB	40	ILE
2	CB	43	LEU
2	CB	49	MET
2	CB	50	PHE
2	CB	66	LYS
2	CB	67	ILE
2	CB	68	LEU
2	CB	78	GLU
2	CB	80	VAL
2	CB	85	LEU
2	CB	88	ASP
2	CB	94	HIS
2	CB	95	ARG
2	CB	96	TRP
2	CB	102	THR
2	CB	103	ASN
2	CB	106	THR
2	CB	116	ASP
2	CB	117	LEU
2	CB	126	PHE
2	CB	130	THR
2	CB	144	LEU
2	CB	145	GLU
2	CB	148	LEU
2	CB	163	VAL
2	CB	174	LYS
2	CB	187	VAL
2	CB	207	ILE
2	CB	210	VAL
2	CB	213	TYR
2	CB	220	THR
2	CB	222	ARG

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Mol	Chain	Res	Type
2	CB	225	ARG
3	CC	3	GLN
3	CC	16	LYS
3	CC	18	TRP
3	CC	29	PHE
3	CC	32	ASN
3	CC	33	LEU
3	CC	36	ASP
3	CC	37	PHE
3	CC	38	LYS
3	CC	43	LEU
3	CC	45	LYS
3	CC	53	SER
3	CC	55	ILE
3	CC	70	THR
3	CC	80	LYS
3	CC	83	ASP
3	CC	103	ILE
3	CC	107	ARG
3	CC	110	GLU
3	CC	119	SER
3	CC	121	THR
3	CC	131	ARG
3	CC	140	ASN
3	CC	151	VAL
3	CC	153	VAL
3	CC	167	TRP
3	CC	168	TYR
3	CC	170	GLU
3	CC	172	ARG
3	CC	175	LEU
3	CC	179	ARG
3	CC	192	THR
3	CC	193	TYR
3	CC	206	GLU
4	CD	8	LYS
4	CD	9	LEU
4	CD	17	THR
4	CD	32	CYS
4	CD	48	LEU
4	CD	50	ASP
4	CD	54	GLN

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Mol	Chain	Res	Type
4	CD	55	LEU
4	CD	56	ARG
4	CD	58	LYS
4	CD	59	GLN
4	CD	83	LYS
4	CD	104	ARG
4	CD	142	VAL
4	CD	148	LYS
4	CD	152	GLN
4	CD	155	VAL
4	CD	161	LEU
4	CD	177	LYS
4	CD	183	LYS
4	CD	191	LEU
4	CD	192	SER
4	CD	194	ASP
4	CD	198	HIS
4	CD	200	ILE
4	CD	203	LEU
4	CD	206	LYS
5	CE	15	LEU
5	CE	18	VAL
5	CE	26	LYS
5	CE	32	SER
5	CE	45	ARG
5	CE	52	LYS
5	CE	65	GLU
5	CE	66	LYS
5	CE	76	LEU
5	CE	81	LEU
5	CE	86	LYS
5	CE	96	MET
5	CE	97	GLN
5	CE	101	GLU
5	CE	105	ILE
5	CE	114	VAL
5	CE	115	LEU
5	CE	120	VAL
5	CE	124	LEU
5	CE	126	LYS
5	CE	131	THR
5	CE	137	VAL

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Mol	Chain	Res	Type
5	CE	140	THR
5	CE	149	SER
5	CE	151	GLU
5	CE	156	LYS
6	CF	1	MET
6	CF	2	ARG
6	CF	7	VAL
6	CF	9	MET
6	CF	15	SER
6	CF	24	ARG
6	CF	26	THR
6	CF	30	THR
6	CF	35	LYS
6	CF	36	ILE
6	CF	38	ARG
6	CF	51	ILE
6	CF	53	LYS
6	CF	54	LEU
6	CF	55	HIS
6	CF	63	ASN
6	CF	64	VAL
6	CF	68	GLN
6	CF	79	ARG
6	CF	80	PHE
6	CF	85	ILE
6	CF	87	SER
6	CF	89	VAL
6	CF	93	LYS
6	CF	97	THR
7	CG	4	ARG
7	CG	6	VAL
7	CG	11	LYS
7	CG	12	ILE
7	CG	22	LEU
7	CG	23	LEU
7	CG	30	LEU
7	CG	38	THR
7	CG	45	SER
7	CG	47	LEU
7	CG	48	GLU
7	CG	53	ARG
7	CG	59	LEU

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Mol	Chain	Res	Type
7	CG	62	PHE
7	CG	67	GLU
7	CG	69	VAL
7	CG	70	ARG
7	CG	72	THR
7	CG	73	VAL
7	CG	75	VAL
7	CG	78	ARG
7	CG	87	VAL
7	CG	91	VAL
7	CG	92	ARG
7	CG	97	ASN
7	CG	120	LEU
7	CG	123	GLU
7	CG	125	SER
7	CG	126	ASP
7	CG	129	GLU
7	CG	133	THR
7	CG	136	LYS
7	CG	140	ASP
7	CG	142	HIS
7	CG	146	GLU
8	CH	13	ARG
8	CH	22	LYS
8	CH	31	LYS
8	CH	47	GLU
8	CH	49	PHE
8	CH	54	ASP
8	CH	55	THR
8	CH	67	GLN
8	CH	73	GLU
8	CH	74	SER
8	CH	75	ILE
8	CH	77	ARG
8	CH	83	LEU
8	CH	87	LYS
8	CH	92	LEU
8	CH	104	VAL
8	CH	111	MET
8	CH	112	THR
8	CH	121	LEU
8	CH	125	ILE

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Mol	Chain	Res	Type
9	CI	9	THR
9	CI	13	LYS
9	CI	18	ARG
9	CI	28	ILE
9	CI	32	GLN
9	CI	33	ARG
9	CI	39	PHE
9	CI	43	THR
9	CI	45	ARG
9	CI	49	ARG
9	CI	55	VAL
9	CI	57	MET
9	CI	61	LEU
9	CI	62	ASP
9	CI	68	LYS
9	CI	80	ARG
9	CI	85	ARG
9	CI	88	MET
9	CI	89	GLU
9	CI	90	TYR
9	CI	94	LEU
9	CI	97	GLU
9	CI	99	ARG
9	CI	100	LYS
9	CI	105	THR
9	CI	115	LYS
9	CI	127	PHE
9	CI	129	LYS
10	CJ	5	ARG
10	CJ	16	ARG
10	CJ	22	THR
10	CJ	25	ILE
10	CJ	26	VAL
10	CJ	27	GLU
10	CJ	32	THR
10	CJ	59	LYS
10	CJ	63	ASP
10	CJ	69	THR
10	CJ	77	VAL
10	CJ	80	THR
10	CJ	83	THR
10	CJ	84	VAL

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Mol	Chain	Res	Type
10	CJ	87	LEU
10	CJ	89	ARG
10	CJ	91	ASP
10	CJ	92	LEU
10	CJ	102	LEU
11	CK	14	LYS
11	CK	15	GLN
11	CK	31	ILE
11	CK	64	GLN
11	CK	65	VAL
11	CK	74	VAL
11	CK	80	LYS
11	CK	81	ASN
11	CK	82	LEU
11	CK	83	GLU
11	CK	86	VAL
11	CK	93	ARG
11	CK	96	THR
11	CK	100	LEU
11	CK	101	ASN
11	CK	106	ARG
11	CK	107	ILE
11	CK	108	THR
11	CK	109	ASN
11	CK	126	LYS
11	CK	127	ARG
11	CK	128	ARG
12	CL	3	THR
12	CL	4	VAL
12	CL	5	ASN
12	CL	10	LYS
12	CL	12	ARG
12	CL	16	VAL
12	CL	18	LYS
12	CL	20	ASN
12	CL	29	GLN
12	CL	34	CYS
12	CL	44	LYS
12	CL	59	ASN
12	CL	63	VAL
12	CL	82	ILE
12	CL	86	ARG

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Mol	Chain	Res	Type
12	CL	89	ASP
12	CL	94	ARG
12	CL	97	THR
12	CL	110	ARG
12	CL	121	ARG
13	CM	8	ASN
13	CM	14	HIS
13	CM	19	LEU
13	CM	29	ARG
13	CM	31	LYS
13	CM	41	GLU
13	CM	48	LEU
13	CM	53	ILE
13	CM	54	ASP
13	CM	59	GLU
13	CM	63	PHE
13	CM	66	GLU
13	CM	76	SER
13	CM	83	LEU
13	CM	90	ARG
13	CM	91	HIS
13	CM	92	ARG
13	CM	93	ARG
13	CM	100	GLN
13	CM	101	ARG
13	CM	102	THR
14	CN	4	GLN
14	CN	16	LEU
14	CN	18	ASP
14	CN	21	PHE
14	CN	23	LYS
14	CN	26	GLU
14	CN	28	LYS
14	CN	48	LEU
14	CN	49	GLN
14	CN	60	GLN
14	CN	67	THR
14	CN	75	ARG
14	CN	80	SER
14	CN	90	ARG
15	CO	4	SER
15	CO	6	GLU

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Mol	Chain	Res	Type
15	CO	10	LYS
15	CO	13	SER
15	CO	17	ARG
15	CO	18	ASP
15	CO	26	GLU
15	CO	35	GLN
15	CO	38	HIS
15	CO	39	LEU
15	CO	62	GLN
15	CO	64	ARG
15	CO	67	LEU
15	CO	70	LEU
15	CO	85	LEU
15	CO	87	LEU
15	CO	88	ARG
16	CP	1	MET
16	CP	2	VAL
16	CP	18	GLN
16	CP	25	ARG
16	CP	29	ASN
16	CP	31	ARG
16	CP	36	VAL
16	CP	46	LYS
16	CP	51	ARG
16	CP	57	ILE
16	CP	69	ASP
16	CP	74	LEU
16	CP	77	GLU
16	CP	80	LYS
17	CQ	4	LYS
17	CQ	5	ILE
17	CQ	12	VAL
17	CQ	13	VAL
17	CQ	14	SER
17	CQ	17	MET
17	CQ	18	GLU
17	CQ	23	VAL
17	CQ	28	PHE
17	CQ	36	LYS
17	CQ	38	ILE
17	CQ	40	ARG
17	CQ	41	THR

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Mol	Chain	Res	Type
17	CQ	48	ASP
17	CQ	50	ASN
17	CQ	52	GLU
17	CQ	55	ILE
17	CQ	57	ASP
17	CQ	62	ARG
17	CQ	65	ARG
17	CQ	69	LYS
17	CQ	75	LEU
17	CQ	79	VAL
17	CQ	81	LYS
18	CR	20	GLU
18	CR	25	ASP
18	CR	26	ILE
18	CR	29	LEU
18	CR	33	ILE
18	CR	45	THR
18	CR	47	THR
18	CR	57	ARG
18	CR	61	ARG
18	CR	63	ARG
18	CR	67	LEU
19	CS	5	LEU
19	CS	6	LYS
19	CS	11	ILE
19	CS	19	VAL
19	CS	21	LYS
19	CS	23	VAL
19	CS	33	THR
19	CS	36	ARG
19	CS	43	ASN
19	CS	49	ILE
19	CS	56	GLN
20	CT	6	SER
20	CT	8	LYS
20	CT	12	ILE
20	CT	14	SER
20	CT	15	GLU
20	CT	24	ARG
20	CT	27	MET
20	CT	29	ARG
20	CT	36	TYR

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Mol	Chain	Res	Type
20	CT	49	LYS
20	CT	54	MET
20	CT	58	VAL
20	CT	64	LYS
20	CT	67	ILE
20	CT	69	LYS
20	CT	70	ASN
20	CT	76	LYS
21	CU	5	LYS
21	CU	7	ARG
21	CU	10	GLU
21	CU	12	PHE
21	CU	14	VAL
21	CU	16	LEU
21	CU	19	PHE
21	CU	20	LYS
21	CU	24	GLU
21	CU	25	LYS
21	CU	28	VAL
21	CU	31	GLU
21	CU	34	ARG
21	CU	37	PHE
21	CU	38	TYR
21	CU	42	THR
21	CU	43	THR
21	CU	47	ARG
21	CU	53	VAL
24	DC	20	VAL
24	DC	36	LYS
24	DC	39	LYS
24	DC	46	ASN
24	DC	58	HIS
24	DC	80	ARG
24	DC	88	SER
24	DC	103	TYR
24	DC	110	LEU
24	DC	111	LYS
24	DC	130	LEU
24	DC	147	LYS
24	DC	153	GLN
24	DC	156	ARG
24	DC	160	THR

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Mol	Chain	Res	Type
24	DC	162	VAL
24	DC	167	ARG
24	DC	168	ASP
24	DC	174	LEU
24	DC	175	ARG
24	DC	178	SER
24	DC	182	ARG
24	DC	195	VAL
24	DC	202	LEU
24	DC	204	VAL
24	DC	229	ASP
24	DC	250	VAL
24	DC	255	LYS
24	DC	259	SER
24	DC	262	ARG
24	DC	267	ILE
25	DD	4	LEU
25	DD	12	THR
25	DD	18	ASP
25	DD	25	THR
25	DD	33	ARG
25	DD	39	ASP
25	DD	64	GLU
25	DD	73	VAL
25	DD	84	LEU
25	DD	86	GLU
25	DD	98	VAL
25	DD	103	ASP
25	DD	138	LEU
25	DD	139	SER
25	DD	150	GLN
25	DD	170	VAL
25	DD	183	GLU
25	DD	189	VAL
26	DE	22	ASP
26	DE	40	ARG
26	DE	44	ARG
26	DE	61	ARG
26	DE	69	ARG
26	DE	77	ILE
26	DE	90	GLN
26	DE	105	LEU

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Mol	Chain	Res	Type
26	DE	107	SER
26	DE	108	ILE
26	DE	114	ARG
26	DE	118	LEU
26	DE	126	VAL
26	DE	133	LEU
26	DE	145	ASP
26	DE	149	ILE
26	DE	159	LEU
26	DE	163	ASN
26	DE	164	LEU
26	DE	170	ARG
26	DE	173	THR
26	DE	189	THR
26	DE	199	MET
27	DF	4	LEU
27	DF	14	LYS
27	DF	21	ASN
27	DF	26	MET
27	DF	28	VAL
27	DF	35	THR
27	DF	36	LEU
27	DF	44	ILE
27	DF	46	ASP
27	DF	52	ASN
27	DF	64	LYS
27	DF	67	ILE
27	DF	74	VAL
27	DF	81	GLN
27	DF	106	ILE
27	DF	110	ARG
27	DF	117	LEU
27	DF	125	ARG
27	DF	134	GLU
27	DF	149	VAL
27	DF	150	ARG
27	DF	152	LEU
27	DF	157	THR
27	DF	174	ASP
28	DG	11	VAL
28	DG	29	LYS
28	DG	30	ASN

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Mol	Chain	Res	Type
28	DG	33	LEU
28	DG	34	THR
28	DG	44	LYS
28	DG	45	HIS
28	DG	72	LEU
28	DG	95	ARG
28	DG	117	LEU
28	DG	124	GLU
28	DG	127	THR
28	DG	130	GLU
28	DG	152	ARG
28	DG	155	GLU
28	DG	166	ASP
29	DH	7	ASP
29	DH	12	LEU
29	DH	41	LYS
29	DH	42	LYS
29	DH	48	GLU
29	DH	50	ARG
29	DH	53	GLU
29	DH	54	LEU
29	DH	57	LYS
29	DH	62	LEU
29	DH	77	THR
29	DH	78	VAL
29	DH	87	GLU
29	DH	89	LYS
29	DH	94	ILE
29	DH	109	GLU
29	DH	114	GLU
29	DH	116	ARG
29	DH	117	LEU
29	DH	119	ASN
29	DH	121	VAL
29	DH	124	THR
29	DH	125	THR
29	DH	129	GLU
29	DH	142	VAL
29	DH	149	GLU
30	DI	3	LYS
30	DI	4	LYS
30	DI	8	TYR

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Mol	Chain	Res	Type
30	DI	11	LEU
30	DI	17	MET
30	DI	24	VAL
30	DI	31	GLN
30	DI	40	LYS
30	DI	55	ILE
30	DI	68	THR
30	DI	69	PHE
30	DI	72	LYS
30	DI	79	LEU
30	DI	86	ILE
30	DI	92	LYS
30	DI	97	LYS
30	DI	102	SER
30	DI	105	GLN
30	DI	117	MET
30	DI	122	ILE
30	DI	123	GLU
30	DI	125	MET
30	DI	127	ARG
30	DI	128	SER
30	DI	134	ARG
31	DJ	5	THR
31	DJ	17	VAL
31	DJ	30	THR
31	DJ	39	LYS
31	DJ	40	HIS
31	DJ	44	TYR
31	DJ	57	LEU
31	DJ	61	LYS
31	DJ	70	THR
31	DJ	76	HIS
31	DJ	81	ILE
31	DJ	85	LYS
31	DJ	86	GLN
31	DJ	109	LEU
31	DJ	118	MET
32	DK	1	MET
32	DK	49	ARG
32	DK	66	LYS
32	DK	73	ASP
32	DK	104	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	DK	110	GLU
32	DK	121	GLU
33	DL	2	ARG
33	DL	29	LYS
33	DL	42	SER
33	DL	48	ARG
33	DL	59	ARG
33	DL	69	ARG
33	DL	78	ARG
33	DL	82	LEU
33	DL	94	THR
33	DL	100	ILE
33	DL	118	THR
33	DL	120	VAL
33	DL	126	ARG
34	DM	6	ARG
34	DM	60	GLN
34	DM	70	ASP
34	DM	74	THR
34	DM	100	LYS
34	DM	108	VAL
34	DM	124	LEU
34	DM	128	THR
35	DN	1	MET
35	DN	2	ARG
35	DN	14	SER
35	DN	15	SER
35	DN	18	GLN
35	DN	20	MET
35	DN	33	ILE
35	DN	48	VAL
35	DN	52	ILE
35	DN	53	THR
35	DN	63	ARG
35	DN	69	ARG
35	DN	70	THR
35	DN	71	ARG
35	DN	73	ASN
35	DN	76	VAL
35	DN	90	ARG
35	DN	100	CYS
35	DN	114	GLU

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Mol	Chain	Res	Type
35	DN	116	VAL
36	DO	9	ARG
36	DO	18	LEU
36	DO	24	THR
36	DO	26	LEU
36	DO	28	VAL
36	DO	31	THR
36	DO	36	TYR
36	DO	48	LEU
36	DO	56	LYS
36	DO	78	VAL
36	DO	88	LYS
36	DO	103	VAL
36	DO	116	GLN
37	DP	4	ILE
37	DP	7	GLN
37	DP	32	VAL
37	DP	34	GLU
37	DP	36	SER
37	DP	37	LYS
37	DP	66	ASN
37	DP	81	VAL
37	DP	83	SER
37	DP	89	ARG
37	DP	92	VAL
37	DP	94	LYS
37	DP	109	ARG
37	DP	110	ILE
37	DP	114	LEU
38	DQ	5	LYS
38	DQ	8	VAL
38	DQ	9	ILE
38	DQ	11	ARG
38	DQ	17	ILE
38	DQ	22	LYS
38	DQ	30	ARG
38	DQ	41	LYS
38	DQ	51	ARG
38	DQ	52	GLN
38	DQ	104	VAL
39	DR	12	HIS
39	DR	38	VAL

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Mol	Chain	Res	Type
39	DR	39	LEU
39	DR	40	MET
39	DR	41	ILE
39	DR	43	ASN
39	DR	46	GLU
39	DR	48	LYS
39	DR	49	ILE
39	DR	58	VAL
39	DR	79	ARG
39	DR	82	HIS
39	DR	85	LYS
39	DR	94	THR
39	DR	97	LYS
39	DR	99	THR
40	DS	3	THR
40	DS	6	LYS
40	DS	19	LEU
40	DS	22	ASP
40	DS	23	LEU
40	DS	24	ILE
40	DS	40	ASN
40	DS	53	SER
40	DS	67	ASP
40	DS	69	LEU
40	DS	80	PRO
40	DS	86	MET
40	DS	96	ILE
41	DT	2	ILE
41	DT	3	ARG
41	DT	7	LEU
41	DT	16	VAL
41	DT	22	THR
41	DT	24	MET
41	DT	30	ILE
41	DT	31	VAL
41	DT	32	LEU
41	DT	44	LYS
41	DT	49	LYS
41	DT	69	ARG
41	DT	73	ARG
41	DT	77	ARG
42	DU	7	ARG

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Mol	Chain	Res	Type
42	DU	10	GLU
42	DU	11	VAL
42	DU	15	THR
42	DU	18	ASP
42	DU	30	SER
42	DU	34	VAL
42	DU	35	ILE
42	DU	40	ASN
42	DU	41	LEU
42	DU	45	HIS
42	DU	46	GLN
42	DU	49	VAL
42	DU	54	GLN
42	DU	61	LYS
42	DU	72	ILE
42	DU	99	ASN
43	DV	1	MET
43	DV	2	PHE
43	DV	3	THR
43	DV	8	VAL
43	DV	29	ILE
43	DV	35	GLU
43	DV	42	LEU
43	DV	49	ASN
43	DV	50	MET
43	DV	53	LYS
43	DV	61	LEU
43	DV	63	ILE
43	DV	65	VAL
44	DW	20	ARG
44	DW	30	SER
44	DW	38	VAL
44	DW	41	ARG
44	DW	72	LYS
45	DX	2	SER
45	DX	4	VAL
45	DX	11	ARG
45	DX	23	ASN
45	DX	25	THR
45	DX	33	LEU
45	DX	46	PHE
45	DX	47	VAL

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Mol	Chain	Res	Type
45	DX	52	SER
45	DX	58	VAL
45	DX	64	ILE
45	DX	71	LEU
45	DX	76	GLU
46	DY	2	LYS
46	DY	6	LEU
46	DY	9	LYS
46	DY	16	THR
46	DY	25	GLN
46	DY	37	LEU
46	DY	45	GLN
46	DY	49	ASP
46	DY	56	LEU
46	DY	58	ASN
47	DZ	3	LYS
47	DZ	4	THR
47	DZ	10	THR
47	DZ	25	LEU
47	DZ	31	ARG
47	DZ	36	VAL
47	DZ	39	GLU
47	DZ	41	THR
47	DZ	45	ARG
47	DZ	57	VAL
47	DZ	58	GLU
48	D0	28	LEU
48	D0	37	LYS
48	D0	46	ASP
48	D0	52	ARG
49	D1	12	VAL
49	D1	45	GLN
49	D1	46	HIS
49	D1	51	GLU
50	D2	4	THR
50	D2	10	LEU
50	D2	24	THR
50	D2	25	LYS
50	D2	34	ARG
50	D2	44	VAL
50	D2	46	LYS
51	D3	6	THR

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Mol	Chain	Res	Type
51	D3	23	LYS
51	D3	30	ARG
51	D3	31	HIS
51	D3	34	THR
51	D3	45	ARG
51	D3	47	LYS
52	D4	2	LYS
52	D4	11	CYS
52	D4	12	ARG
52	D4	26	ILE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (37) such sidechains are listed below:

Mol	Chain	Res	Type
2	AB	39	HIS
3	AC	6	HIS
4	AD	74	ASN
6	AF	3	HIS
15	AO	46	HIS
19	AS	52	HIS
24	BC	53	HIS
24	BC	243	HIS
24	BC	251	GLN
29	BH	119	ASN
29	BH	135	HIS
36	BO	29	HIS
39	BR	89	HIS
48	B0	38	HIS
2	CB	15	HIS
2	CB	103	ASN
3	CC	176	HIS
4	CD	74	ASN
4	CD	198	HIS
7	CG	130	ASN
8	CH	18	GLN
10	CJ	70	HIS
15	CO	46	HIS
17	CQ	50	ASN
24	DC	15	HIS
25	DD	140	HIS
25	DD	150	GLN
28	DG	48	ASN

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Mol	Chain	Res	Type
29	DH	28	ASN
29	DH	128	HIS
36	DO	29	HIS
40	DS	7	HIS
42	DU	74	ASN
46	DY	15	ASN
46	DY	41	HIS
48	D0	19	HIS
51	D3	31	HIS

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1537/1539 (99%)	321 (20%)	13 (0%)
1	CA	1538/1539 (99%)	312 (20%)	8 (0%)
22	BA	2895/2903 (99%)	513 (17%)	22 (0%)
22	DA	2895/2903 (99%)	635 (21%)	23 (0%)
23	BB	118/119 (99%)	18 (15%)	0
23	DB	117/119 (98%)	22 (18%)	0
All	All	9100/9122 (99%)	1821 (20%)	66 (0%)

All (1821) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	4	U
1	AA	5	U
1	AA	6	G
1	AA	9	G
1	AA	13	U
1	AA	22	G
1	AA	28	A
1	AA	32	A
1	AA	39	G
1	AA	47	C
1	AA	48	C
1	AA	50	A
1	AA	51	A
1	AA	70	U
1	AA	71	A
1	AA	72	A
1	AA	73	C

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Mol	Chain	Res	Type
1	AA	74	A
1	AA	75	G
1	AA	76	G
1	AA	81	A
1	AA	82	G
1	AA	83	C
1	AA	84	U
1	AA	85	U
1	AA	86	G
1	AA	89	U
1	AA	90	C
1	AA	91	U
1	AA	94	G
1	AA	95	C
1	AA	97	G
1	AA	108	G
1	AA	110	C
1	AA	116	A
1	AA	117	G
1	AA	121	U
1	AA	122	G
1	AA	130	A
1	AA	131	A
1	AA	136	C
1	AA	137	U
1	AA	141	G
1	AA	143	A
1	AA	144	G
1	AA	149	A
1	AA	158	G
1	AA	163	C
1	AA	168	G
1	AA	169	C
1	AA	181	A
1	AA	182	A
1	AA	183	C
1	AA	188	C
1	AA	195	A
1	AA	197	A
1	AA	205	A
1	AA	209	U
1	AA	210	C

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Mol	Chain	Res	Type
1	AA	226	G
1	AA	240	G
1	AA	245	U
1	AA	247	G
1	AA	251	G
1	AA	263	A
1	AA	266	G
1	AA	267	C
1	AA	289	G
1	AA	320	A
1	AA	321	A
1	AA	328	C
1	AA	329	A
1	AA	330	C
1	AA	332	G
1	AA	346	G
1	AA	347	G
1	AA	352	C
1	AA	353	A
1	AA	354	G
1	AA	365	U
1	AA	367	U
1	AA	372	C
1	AA	384	G
1	AA	398	U
1	AA	406	G
1	AA	408	A
1	AA	411	A
1	AA	412	A
1	AA	413	G
1	AA	414	A
1	AA	421	U
1	AA	422	C
1	AA	429	U
1	AA	430	A
1	AA	435	A
1	AA	453	G
1	AA	454	G
1	AA	457	G
1	AA	458	U
1	AA	463	U
1	AA	465	A

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Mol	Chain	Res	Type
1	AA	466	A
1	AA	467	U
1	AA	468	A
1	AA	475	C
1	AA	479	U
1	AA	484	G
1	AA	485	U
1	AA	486	U
1	AA	492	C
1	AA	495	A
1	AA	498	A
1	AA	509	A
1	AA	511	C
1	AA	512	U
1	AA	518	C
1	AA	521	G
1	AA	527	G
1	AA	530	G
1	AA	532	A
1	AA	533	A
1	AA	545	C
1	AA	547	A
1	AA	562	U
1	AA	564	C
1	AA	572	A
1	AA	573	A
1	AA	576	C
1	AA	596	A
1	AA	615	G
1	AA	650	G
1	AA	653	U
1	AA	661	G
1	AA	665	A
1	AA	702	A
1	AA	721	G
1	AA	723	U
1	AA	724	G
1	AA	731	G
1	AA	733	G
1	AA	734	G
1	AA	746	A
1	AA	748	G

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Mol	Chain	Res	Type
1	AA	755	G
1	AA	772	U
1	AA	773	G
1	AA	774	G
1	AA	777	A
1	AA	788	U
1	AA	793	U
1	AA	794	A
1	AA	802	A
1	AA	810	C
1	AA	814	A
1	AA	815	A
1	AA	817	C
1	AA	821	G
1	AA	825	A
1	AA	828	U
1	AA	832	G
1	AA	835	U
1	AA	836	G
1	AA	841	C
1	AA	842	U
1	AA	843	U
1	AA	845	A
1	AA	846	G
1	AA	849	G
1	AA	859	G
1	AA	867	G
1	AA	902	G
1	AA	910	C
1	AA	914	A
1	AA	922	G
1	AA	926	G
1	AA	927	G
1	AA	932	C
1	AA	934	C
1	AA	935	A
1	AA	960	U
1	AA	964	A
1	AA	966	G
1	AA	969	A
1	AA	971	G
1	AA	972	C

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Mol	Chain	Res	Type
1	AA	975	A
1	AA	976	G
1	AA	977	A
1	AA	983	A
1	AA	987	G
1	AA	992	U
1	AA	993	G
1	AA	1002	G
1	AA	1003	G
1	AA	1004	A
1	AA	1008	U
1	AA	1009	U
1	AA	1015	G
1	AA	1016	A
1	AA	1019	A
1	AA	1022	A
1	AA	1025	U
1	AA	1026	G
1	AA	1027	C
1	AA	1028	C
1	AA	1030	U
1	AA	1031	C
1	AA	1032	G
1	AA	1033	G
1	AA	1034	G
1	AA	1036	A
1	AA	1037	C
1	AA	1042	A
1	AA	1043	G
1	AA	1044	A
1	AA	1047	G
1	AA	1049	U
1	AA	1050	G
1	AA	1053	G
1	AA	1054	C
1	AA	1055	A
1	AA	1056	U
1	AA	1061	G
1	AA	1065	U
1	AA	1066	C
1	AA	1086	U
1	AA	1090	U

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Mol	Chain	Res	Type
1	AA	1091	U
1	AA	1092	A
1	AA	1094	G
1	AA	1095	U
1	AA	1098	C
1	AA	1101	A
1	AA	1124	G
1	AA	1125	U
1	AA	1127	G
1	AA	1133	G
1	AA	1135	U
1	AA	1136	C
1	AA	1137	C
1	AA	1138	G
1	AA	1139	G
1	AA	1140	C
1	AA	1141	C
1	AA	1142	G
1	AA	1145	A
1	AA	1146	A
1	AA	1151	A
1	AA	1152	A
1	AA	1154	G
1	AA	1159	U
1	AA	1160	G
1	AA	1161	C
1	AA	1167	A
1	AA	1168	U
1	AA	1171	A
1	AA	1183	U
1	AA	1184	G
1	AA	1196	A
1	AA	1197	A
1	AA	1198	G
1	AA	1201	A
1	AA	1202	U
1	AA	1212	U
1	AA	1213	A
1	AA	1214	C
1	AA	1215	G
1	AA	1227	A
1	AA	1228	C

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Mol	Chain	Res	Type
1	AA	1238	A
1	AA	1239	A
1	AA	1240	U
1	AA	1253	G
1	AA	1256	A
1	AA	1257	A
1	AA	1258	G
1	AA	1263	C
1	AA	1280	A
1	AA	1286	U
1	AA	1287	A
1	AA	1293	C
1	AA	1298	U
1	AA	1300	G
1	AA	1302	C
1	AA	1304	G
1	AA	1305	G
1	AA	1320	C
1	AA	1323	G
1	AA	1328	C
1	AA	1332	A
1	AA	1335	U
1	AA	1336	C
1	AA	1337	G
1	AA	1338	G
1	AA	1353	G
1	AA	1363	A
1	AA	1364	U
1	AA	1370	G
1	AA	1378	C
1	AA	1379	G
1	AA	1398	A
1	AA	1401	G
1	AA	1408	A
1	AA	1441	A
1	AA	1442	G
1	AA	1443	C
1	AA	1446	A
1	AA	1450	U
1	AA	1452	C
1	AA	1455	G
1	AA	1493	A

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Mol	Chain	Res	Type
1	AA	1497	G
1	AA	1503	A
1	AA	1505	G
1	AA	1506	U
1	AA	1517	G
1	AA	1529	G
1	AA	1530	G
1	AA	1534	A
1	AA	1535	C
1	AA	1538	C
22	BA	10	A
22	BA	13	A
22	BA	34	U
22	BA	39	G
22	BA	45	G
22	BA	46	G
22	BA	61	C
22	BA	63	A
22	BA	71	A
22	BA	74	A
22	BA	75	G
22	BA	102	U
22	BA	103	A
22	BA	118	A
22	BA	119	A
22	BA	120	U
22	BA	131	A
22	BA	138	U
22	BA	139	U
22	BA	140	C
22	BA	141	G
22	BA	142	A
22	BA	166	U
22	BA	181	A
22	BA	196	A
22	BA	206	U
22	BA	207	A
22	BA	215	G
22	BA	216	A
22	BA	221	A
22	BA	222	A
22	BA	245	G

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Mol	Chain	Res	Type
22	BA	248	G
22	BA	255	A
22	BA	265	A
22	BA	266	G
22	BA	272	A
22	BA	276	U
22	BA	277	G
22	BA	278	A
22	BA	279	A
22	BA	302	C
22	BA	310	A
22	BA	311	A
22	BA	325	G
22	BA	329	G
22	BA	330	A
22	BA	331	C
22	BA	352	A
22	BA	353	C
22	BA	355	U
22	BA	361	G
22	BA	362	A
22	BA	371	A
22	BA	372	G
22	BA	386	G
22	BA	396	G
22	BA	404	A
22	BA	405	U
22	BA	411	G
22	BA	420	C
22	BA	424	G
22	BA	443	A
22	BA	455	C
22	BA	481	G
22	BA	491	G
22	BA	492	A
22	BA	497	A
22	BA	504	A
22	BA	505	A
22	BA	509	C
22	BA	510	C
22	BA	528	A
22	BA	531	C

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Mol	Chain	Res	Type
22	BA	532	A
22	BA	533	G
22	BA	546	U
22	BA	547	A
22	BA	548	G
22	BA	549	G
22	BA	550	C
22	BA	563	A
22	BA	573	U
22	BA	575	A
22	BA	586	A
22	BA	603	A
22	BA	613	A
22	BA	614	A
22	BA	615	U
22	BA	622	G
22	BA	627	A
22	BA	631	A
22	BA	637	A
22	BA	645	C
22	BA	647	G
22	BA	648	G
22	BA	653	U
22	BA	654	A
22	BA	655	A
22	BA	686	U
22	BA	729	G
22	BA	730	A
22	BA	738	G
22	BA	747	U
22	BA	764	A
22	BA	765	C
22	BA	775	G
22	BA	776	G
22	BA	781	A
22	BA	782	A
22	BA	784	G
22	BA	785	G
22	BA	789	A
22	BA	791	C
22	BA	792	A
22	BA	802	A

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Mol	Chain	Res	Type
22	BA	805	G
22	BA	812	C
22	BA	819	A
22	BA	826	U
22	BA	827	U
22	BA	828	U
22	BA	845	A
22	BA	846	U
22	BA	847	U
22	BA	852	U
22	BA	858	G
22	BA	859	G
22	BA	866	A
22	BA	877	A
22	BA	878	A
22	BA	879	G
22	BA	885	C
22	BA	896	A
22	BA	900	A
22	BA	905	A
22	BA	907	G
22	BA	908	C
22	BA	909	A
22	BA	910	A
22	BA	914	G
22	BA	915	C
22	BA	927	A
22	BA	932	U
22	BA	941	A
22	BA	946	C
22	BA	961	C
22	BA	974	G
22	BA	981	A
22	BA	982	C
22	BA	983	A
22	BA	984	A
22	BA	985	C
22	BA	995	C
22	BA	996	A
22	BA	999	U
22	BA	1012	U
22	BA	1013	C

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Mol	Chain	Res	Type
22	BA	1022	G
22	BA	1024	G
22	BA	1026	G
22	BA	1027	A
22	BA	1033	U
22	BA	1046	A
22	BA	1047	G
22	BA	1054	A
22	BA	1057	A
22	BA	1058	U
22	BA	1061	U
22	BA	1062	G
22	BA	1063	G
22	BA	1066	U
22	BA	1067	A
22	BA	1068	G
22	BA	1070	A
22	BA	1071	G
22	BA	1072	C
22	BA	1073	A
22	BA	1074	G
22	BA	1075	C
22	BA	1077	A
22	BA	1078	U
22	BA	1079	C
22	BA	1081	U
22	BA	1088	A
22	BA	1089	A
22	BA	1092	C
22	BA	1097	U
22	BA	1098	A
22	BA	1100	C
22	BA	1103	A
22	BA	1104	C
22	BA	1112	G
22	BA	1132	U
22	BA	1133	A
22	BA	1135	C
22	BA	1136	G
22	BA	1138	G
22	BA	1139	G
22	BA	1142	A

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Mol	Chain	Res	Type
22	BA	1155	A
22	BA	1168	G
22	BA	1171	G
22	BA	1172	C
22	BA	1173	U
22	BA	1174	U
22	BA	1175	A
22	BA	1176	U
22	BA	1178	C
22	BA	1179	G
22	BA	1180	U
22	BA	1181	U
22	BA	1182	G
22	BA	1185	G
22	BA	1189	A
22	BA	1238	G
22	BA	1250	G
22	BA	1253	A
22	BA	1256	G
22	BA	1266	G
22	BA	1271	G
22	BA	1272	A
22	BA	1273	U
22	BA	1280	G
22	BA	1286	A
22	BA	1293	C
22	BA	1300	G
22	BA	1301	A
22	BA	1303	G
22	BA	1305	C
22	BA	1325	U
22	BA	1345	C
22	BA	1352	U
22	BA	1359	A
22	BA	1365	A
22	BA	1368	G
22	BA	1379	U
22	BA	1383	A
22	BA	1384	A
22	BA	1386	C
22	BA	1406	U
22	BA	1407	G

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Mol	Chain	Res	Type
22	BA	1415	U
22	BA	1416	G
22	BA	1419	A
22	BA	1427	A
22	BA	1428	C
22	BA	1435	G
22	BA	1450	G
22	BA	1452	G
22	BA	1453	A
22	BA	1461	C
22	BA	1482	G
22	BA	1493	C
22	BA	1495	A
22	BA	1504	A
22	BA	1508	A
22	BA	1510	G
22	BA	1515	A
22	BA	1523	U
22	BA	1532	A
22	BA	1533	C
22	BA	1534	U
22	BA	1535	A
22	BA	1536	C
22	BA	1554	U
22	BA	1555	G
22	BA	1560	G
22	BA	1569	A
22	BA	1578	U
22	BA	1583	A
22	BA	1584	U
22	BA	1585	C
22	BA	1606	C
22	BA	1607	C
22	BA	1608	A
22	BA	1609	A
22	BA	1632	A
22	BA	1634	A
22	BA	1647	U
22	BA	1648	U
22	BA	1649	G
22	BA	1652	A
22	BA	1674	G

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Mol	Chain	Res	Type
22	BA	1688	U
22	BA	1703	G
22	BA	1715	G
22	BA	1717	A
22	BA	1718	G
22	BA	1729	U
22	BA	1730	C
22	BA	1732	C
22	BA	1738	G
22	BA	1739	A
22	BA	1744	A
22	BA	1764	C
22	BA	1766	G
22	BA	1773	A
22	BA	1774	C
22	BA	1776	G
22	BA	1800	C
22	BA	1801	A
22	BA	1808	A
22	BA	1816	C
22	BA	1828	G
22	BA	1829	A
22	BA	1859	U
22	BA	1865	U
22	BA	1866	A
22	BA	1870	C
22	BA	1871	A
22	BA	1872	A
22	BA	1873	G
22	BA	1885	A
22	BA	1890	A
22	BA	1900	A
22	BA	1906	G
22	BA	1909	C
22	BA	1912	A
22	BA	1913	A
22	BA	1914	C
22	BA	1915	U
22	BA	1916	A
22	BA	1917	U
22	BA	1923	U
22	BA	1925	C

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Mol	Chain	Res	Type
22	BA	1926	U
22	BA	1927	A
22	BA	1929	G
22	BA	1930	G
22	BA	1931	U
22	BA	1932	A
22	BA	1937	A
22	BA	1938	A
22	BA	1955	U
22	BA	1964	G
22	BA	1965	C
22	BA	1967	C
22	BA	1970	A
22	BA	1972	G
22	BA	1981	A
22	BA	1991	U
22	BA	1992	G
22	BA	1993	U
22	BA	1997	C
22	BA	2009	A
22	BA	2018	G
22	BA	2020	A
22	BA	2022	U
22	BA	2023	C
22	BA	2031	A
22	BA	2032	G
22	BA	2033	A
22	BA	2043	C
22	BA	2055	C
22	BA	2056	G
22	BA	2060	A
22	BA	2061	G
22	BA	2062	A
22	BA	2069	G
22	BA	2072	C
22	BA	2077	A
22	BA	2092	U
22	BA	2093	G
22	BA	2098	U
22	BA	2100	G
22	BA	2101	A
22	BA	2102	G

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Mol	Chain	Res	Type
22	BA	2110	G
22	BA	2111	U
22	BA	2112	G
22	BA	2113	U
22	BA	2115	G
22	BA	2116	G
22	BA	2117	A
22	BA	2118	U
22	BA	2119	A
22	BA	2122	U
22	BA	2123	G
22	BA	2126	A
22	BA	2127	G
22	BA	2128	G
22	BA	2132	U
22	BA	2133	G
22	BA	2134	A
22	BA	2136	G
22	BA	2140	G
22	BA	2145	C
22	BA	2147	A
22	BA	2148	G
22	BA	2149	U
22	BA	2157	G
22	BA	2162	G
22	BA	2164	C
22	BA	2165	C
22	BA	2167	U
22	BA	2169	A
22	BA	2170	A
22	BA	2171	A
22	BA	2172	U
22	BA	2173	A
22	BA	2176	A
22	BA	2178	C
22	BA	2179	C
22	BA	2181	U
22	BA	2187	U
22	BA	2190	G
22	BA	2198	A
22	BA	2203	U
22	BA	2204	G

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Mol	Chain	Res	Type
22	BA	2211	A
22	BA	2212	A
22	BA	2220	U
22	BA	2225	A
22	BA	2238	G
22	BA	2239	G
22	BA	2248	C
22	BA	2250	G
22	BA	2258	C
22	BA	2268	A
22	BA	2269	G
22	BA	2273	A
22	BA	2283	C
22	BA	2287	A
22	BA	2289	G
22	BA	2296	U
22	BA	2305	U
22	BA	2308	G
22	BA	2309	A
22	BA	2322	A
22	BA	2327	A
22	BA	2335	A
22	BA	2345	G
22	BA	2347	C
22	BA	2361	G
22	BA	2378	A
22	BA	2383	G
22	BA	2385	C
22	BA	2389	G
22	BA	2402	U
22	BA	2403	C
22	BA	2406	A
22	BA	2424	C
22	BA	2425	A
22	BA	2429	G
22	BA	2430	A
22	BA	2431	U
22	BA	2435	A
22	BA	2441	U
22	BA	2447	G
22	BA	2448	A
22	BA	2453	A

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Mol	Chain	Res	Type
22	BA	2476	A
22	BA	2478	A
22	BA	2490	G
22	BA	2491	U
22	BA	2502	G
22	BA	2503	A
22	BA	2504	U
22	BA	2505	G
22	BA	2506	U
22	BA	2518	A
22	BA	2525	G
22	BA	2529	G
22	BA	2554	U
22	BA	2555	U
22	BA	2566	A
22	BA	2567	G
22	BA	2573	C
22	BA	2578	G
22	BA	2582	G
22	BA	2584	U
22	BA	2602	A
22	BA	2603	G
22	BA	2609	U
22	BA	2613	U
22	BA	2615	U
22	BA	2621	G
22	BA	2629	U
22	BA	2663	G
22	BA	2682	A
22	BA	2689	U
22	BA	2690	U
22	BA	2726	A
22	BA	2729	G
22	BA	2744	G
22	BA	2748	A
22	BA	2757	A
22	BA	2765	A
22	BA	2778	A
22	BA	2791	G
22	BA	2798	U
22	BA	2799	A
22	BA	2800	A

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Mol	Chain	Res	Type
22	BA	2811	G
22	BA	2820	A
22	BA	2821	A
22	BA	2825	G
22	BA	2836	U
22	BA	2840	C
22	BA	2858	C
22	BA	2867	G
22	BA	2873	A
22	BA	2874	C
22	BA	2880	C
22	BA	2883	A
22	BA	2884	U
22	BA	2885	G
22	BA	2886	A
22	BA	2887	A
22	BA	2891	U
22	BA	2901	C
22	BA	2903	U
23	BB	2	G
23	BB	9	G
23	BB	13	G
23	BB	15	A
23	BB	16	G
23	BB	25	U
23	BB	35	C
23	BB	37	C
23	BB	41	G
23	BB	44	G
23	BB	45	A
23	BB	56	G
23	BB	66	A
23	BB	67	G
23	BB	84	G
23	BB	89	U
23	BB	109	A
23	BB	119	A
1	CA	5	U
1	CA	6	G
1	CA	9	G
1	CA	17	U
1	CA	19	A

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Mol	Chain	Res	Type
1	CA	31	G
1	CA	32	A
1	CA	39	G
1	CA	47	C
1	CA	48	C
1	CA	51	A
1	CA	56	U
1	CA	70	U
1	CA	71	A
1	CA	73	C
1	CA	74	A
1	CA	80	A
1	CA	83	C
1	CA	84	U
1	CA	85	U
1	CA	87	C
1	CA	88	U
1	CA	91	U
1	CA	93	U
1	CA	94	G
1	CA	95	C
1	CA	97	G
1	CA	108	G
1	CA	116	A
1	CA	117	G
1	CA	120	A
1	CA	121	U
1	CA	122	G
1	CA	124	C
1	CA	129	A
1	CA	130	A
1	CA	131	A
1	CA	143	A
1	CA	144	G
1	CA	154	U
1	CA	155	A
1	CA	156	C
1	CA	169	C
1	CA	173	U
1	CA	182	A
1	CA	183	C
1	CA	195	A

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Mol	Chain	Res	Type
1	CA	204	G
1	CA	207	C
1	CA	208	U
1	CA	210	C
1	CA	211	G
1	CA	212	G
1	CA	213	G
1	CA	240	G
1	CA	245	U
1	CA	247	G
1	CA	251	G
1	CA	266	G
1	CA	267	C
1	CA	280	C
1	CA	289	G
1	CA	294	U
1	CA	298	A
1	CA	304	U
1	CA	316	C
1	CA	321	A
1	CA	328	C
1	CA	329	A
1	CA	330	C
1	CA	331	G
1	CA	332	G
1	CA	348	G
1	CA	351	G
1	CA	352	C
1	CA	354	G
1	CA	357	G
1	CA	367	U
1	CA	372	C
1	CA	376	G
1	CA	378	G
1	CA	379	C
1	CA	384	G
1	CA	398	U
1	CA	399	G
1	CA	406	G
1	CA	412	A
1	CA	413	G
1	CA	418	C

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Mol	Chain	Res	Type
1	CA	421	U
1	CA	422	C
1	CA	429	U
1	CA	430	A
1	CA	440	C
1	CA	441	A
1	CA	446	G
1	CA	459	A
1	CA	463	U
1	CA	466	A
1	CA	467	U
1	CA	468	A
1	CA	469	C
1	CA	478	A
1	CA	479	U
1	CA	481	G
1	CA	482	A
1	CA	484	G
1	CA	485	U
1	CA	486	U
1	CA	498	A
1	CA	505	G
1	CA	510	A
1	CA	511	C
1	CA	518	C
1	CA	519	C
1	CA	521	G
1	CA	527	G
1	CA	532	A
1	CA	533	A
1	CA	536	C
1	CA	545	C
1	CA	547	A
1	CA	550	G
1	CA	559	A
1	CA	564	C
1	CA	568	G
1	CA	571	U
1	CA	572	A
1	CA	573	A
1	CA	576	C
1	CA	577	G

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Mol	Chain	Res	Type
1	CA	581	G
1	CA	596	A
1	CA	622	A
1	CA	628	G
1	CA	650	G
1	CA	653	U
1	CA	665	A
1	CA	687	A
1	CA	702	A
1	CA	721	G
1	CA	723	U
1	CA	724	G
1	CA	733	G
1	CA	747	A
1	CA	755	G
1	CA	758	C
1	CA	760	G
1	CA	777	A
1	CA	785	G
1	CA	787	A
1	CA	792	A
1	CA	793	U
1	CA	794	A
1	CA	809	G
1	CA	812	G
1	CA	814	A
1	CA	815	A
1	CA	817	C
1	CA	819	A
1	CA	821	G
1	CA	828	U
1	CA	829	G
1	CA	832	G
1	CA	841	C
1	CA	842	U
1	CA	843	U
1	CA	844	G
1	CA	845	A
1	CA	846	G
1	CA	859	G
1	CA	874	G
1	CA	880	C

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Mol	Chain	Res	Type
1	CA	885	G
1	CA	902	G
1	CA	914	A
1	CA	919	A
1	CA	922	G
1	CA	926	G
1	CA	934	C
1	CA	960	U
1	CA	966	G
1	CA	967	C
1	CA	969	A
1	CA	971	G
1	CA	975	A
1	CA	976	G
1	CA	977	A
1	CA	983	A
1	CA	987	G
1	CA	991	U
1	CA	992	U
1	CA	993	G
1	CA	994	A
1	CA	995	C
1	CA	1004	A
1	CA	1008	U
1	CA	1009	U
1	CA	1018	G
1	CA	1022	A
1	CA	1025	U
1	CA	1026	G
1	CA	1027	C
1	CA	1028	C
1	CA	1030	U
1	CA	1031	C
1	CA	1032	G
1	CA	1033	G
1	CA	1034	G
1	CA	1037	C
1	CA	1039	G
1	CA	1043	G
1	CA	1044	A
1	CA	1050	G
1	CA	1054	C

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Mol	Chain	Res	Type
1	CA	1065	U
1	CA	1066	C
1	CA	1070	U
1	CA	1072	G
1	CA	1073	U
1	CA	1086	U
1	CA	1088	G
1	CA	1094	G
1	CA	1095	U
1	CA	1101	A
1	CA	1104	G
1	CA	1124	G
1	CA	1125	U
1	CA	1129	C
1	CA	1133	G
1	CA	1134	G
1	CA	1136	C
1	CA	1137	C
1	CA	1139	G
1	CA	1140	C
1	CA	1141	C
1	CA	1142	G
1	CA	1145	A
1	CA	1155	A
1	CA	1157	A
1	CA	1159	U
1	CA	1160	G
1	CA	1161	C
1	CA	1168	U
1	CA	1184	G
1	CA	1186	G
1	CA	1196	A
1	CA	1202	U
1	CA	1212	U
1	CA	1213	A
1	CA	1227	A
1	CA	1230	C
1	CA	1236	A
1	CA	1238	A
1	CA	1240	U
1	CA	1246	A
1	CA	1253	G

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Mol	Chain	Res	Type
1	CA	1257	A
1	CA	1260	G
1	CA	1269	A
1	CA	1275	A
1	CA	1280	A
1	CA	1285	A
1	CA	1286	U
1	CA	1287	A
1	CA	1292	G
1	CA	1293	C
1	CA	1297	G
1	CA	1299	A
1	CA	1304	G
1	CA	1305	G
1	CA	1317	C
1	CA	1318	A
1	CA	1320	C
1	CA	1322	C
1	CA	1336	C
1	CA	1337	G
1	CA	1338	G
1	CA	1346	A
1	CA	1353	G
1	CA	1362	A
1	CA	1363	A
1	CA	1364	U
1	CA	1370	G
1	CA	1379	G
1	CA	1382	C
1	CA	1398	A
1	CA	1418	A
1	CA	1429	A
1	CA	1440	U
1	CA	1441	A
1	CA	1442	G
1	CA	1446	A
1	CA	1448	C
1	CA	1452	C
1	CA	1454	G
1	CA	1455	G
1	CA	1475	G
1	CA	1492	A

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Mol	Chain	Res	Type
1	CA	1493	A
1	CA	1497	G
1	CA	1499	A
1	CA	1505	G
1	CA	1506	U
1	CA	1507	A
1	CA	1509	C
1	CA	1517	G
1	CA	1529	G
1	CA	1530	G
1	CA	1533	C
1	CA	1535	C
1	CA	1536	C
22	DA	10	A
22	DA	15	G
22	DA	23	G
22	DA	34	U
22	DA	39	G
22	DA	42	A
22	DA	46	G
22	DA	47	C
22	DA	57	C
22	DA	58	G
22	DA	61	C
22	DA	71	A
22	DA	73	A
22	DA	74	A
22	DA	75	G
22	DA	80	G
22	DA	81	G
22	DA	82	U
22	DA	83	A
22	DA	84	A
22	DA	91	A
22	DA	96	C
22	DA	98	G
22	DA	101	A
22	DA	102	U
22	DA	118	A
22	DA	119	A
22	DA	120	U
22	DA	121	G

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Mol	Chain	Res	Type
22	DA	138	U
22	DA	139	U
22	DA	140	C
22	DA	141	G
22	DA	142	A
22	DA	145	C
22	DA	146	A
22	DA	149	A
22	DA	150	U
22	DA	155	A
22	DA	162	U
22	DA	163	C
22	DA	166	U
22	DA	181	A
22	DA	196	A
22	DA	199	A
22	DA	206	U
22	DA	215	G
22	DA	216	A
22	DA	222	A
22	DA	223	A
22	DA	225	C
22	DA	229	C
22	DA	233	A
22	DA	245	G
22	DA	248	G
22	DA	249	C
22	DA	253	C
22	DA	255	A
22	DA	256	A
22	DA	265	A
22	DA	266	G
22	DA	271	G
22	DA	272	A
22	DA	276	U
22	DA	279	A
22	DA	281	C
22	DA	282	A
22	DA	284	U
22	DA	285	G
22	DA	294	A
22	DA	299	A

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Mol	Chain	Res	Type
22	DA	311	A
22	DA	322	A
22	DA	329	G
22	DA	330	A
22	DA	331	C
22	DA	361	G
22	DA	362	A
22	DA	367	G
22	DA	371	A
22	DA	372	G
22	DA	374	A
22	DA	380	G
22	DA	383	C
22	DA	385	C
22	DA	386	G
22	DA	387	U
22	DA	392	U
22	DA	396	G
22	DA	405	U
22	DA	411	G
22	DA	412	A
22	DA	417	C
22	DA	424	G
22	DA	426	C
22	DA	430	A
22	DA	432	A
22	DA	435	C
22	DA	448	U
22	DA	451	U
22	DA	452	G
22	DA	455	C
22	DA	478	A
22	DA	479	A
22	DA	480	A
22	DA	481	G
22	DA	490	C
22	DA	491	G
22	DA	504	A
22	DA	505	A
22	DA	508	A
22	DA	510	C
22	DA	528	A

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Mol	Chain	Res	Type
22	DA	529	A
22	DA	531	C
22	DA	532	A
22	DA	533	G
22	DA	543	G
22	DA	544	C
22	DA	546	U
22	DA	547	A
22	DA	548	G
22	DA	549	G
22	DA	550	C
22	DA	563	A
22	DA	569	U
22	DA	573	U
22	DA	575	A
22	DA	586	A
22	DA	588	U
22	DA	603	A
22	DA	613	A
22	DA	614	A
22	DA	627	A
22	DA	630	G
22	DA	631	A
22	DA	637	A
22	DA	645	C
22	DA	646	U
22	DA	647	G
22	DA	648	G
22	DA	651	G
22	DA	654	A
22	DA	655	A
22	DA	662	G
22	DA	672	C
22	DA	685	A
22	DA	686	U
22	DA	695	G
22	DA	701	G
22	DA	702	U
22	DA	717	C
22	DA	726	G
22	DA	727	A
22	DA	728	G

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Mol	Chain	Res	Type
22	DA	729	G
22	DA	730	A
22	DA	740	C
22	DA	747	U
22	DA	748	G
22	DA	751	A
22	DA	752	A
22	DA	757	G
22	DA	758	C
22	DA	764	A
22	DA	771	G
22	DA	775	G
22	DA	776	G
22	DA	782	A
22	DA	784	G
22	DA	785	G
22	DA	798	G
22	DA	802	A
22	DA	805	G
22	DA	812	C
22	DA	819	A
22	DA	827	U
22	DA	828	U
22	DA	830	G
22	DA	844	A
22	DA	845	A
22	DA	846	U
22	DA	847	U
22	DA	858	G
22	DA	859	G
22	DA	865	C
22	DA	878	A
22	DA	881	G
22	DA	882	G
22	DA	885	C
22	DA	896	A
22	DA	897	C
22	DA	902	C
22	DA	910	A
22	DA	913	U
22	DA	914	G
22	DA	915	C

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Mol	Chain	Res	Type
22	DA	931	U
22	DA	932	U
22	DA	941	A
22	DA	946	C
22	DA	953	G
22	DA	958	U
22	DA	961	C
22	DA	963	U
22	DA	974	G
22	DA	983	A
22	DA	985	C
22	DA	995	C
22	DA	996	A
22	DA	1012	U
22	DA	1013	C
22	DA	1022	G
22	DA	1025	G
22	DA	1026	G
22	DA	1033	U
22	DA	1041	G
22	DA	1046	A
22	DA	1047	G
22	DA	1048	A
22	DA	1053	C
22	DA	1058	U
22	DA	1060	U
22	DA	1061	U
22	DA	1062	G
22	DA	1065	U
22	DA	1066	U
22	DA	1068	G
22	DA	1070	A
22	DA	1071	G
22	DA	1072	C
22	DA	1074	G
22	DA	1077	A
22	DA	1079	C
22	DA	1082	U
22	DA	1088	A
22	DA	1089	A
22	DA	1092	C
22	DA	1094	U

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Mol	Chain	Res	Type
22	DA	1097	U
22	DA	1098	A
22	DA	1100	C
22	DA	1101	U
22	DA	1104	C
22	DA	1110	G
22	DA	1111	A
22	DA	1112	G
22	DA	1115	G
22	DA	1116	G
22	DA	1119	U
22	DA	1122	G
22	DA	1128	G
22	DA	1132	U
22	DA	1133	A
22	DA	1135	C
22	DA	1136	G
22	DA	1139	G
22	DA	1142	A
22	DA	1153	C
22	DA	1155	A
22	DA	1156	A
22	DA	1171	G
22	DA	1172	C
22	DA	1175	A
22	DA	1176	U
22	DA	1179	G
22	DA	1180	U
22	DA	1186	G
22	DA	1187	G
22	DA	1195	G
22	DA	1204	A
22	DA	1211	C
22	DA	1212	G
22	DA	1221	C
22	DA	1227	G
22	DA	1230	A
22	DA	1231	U
22	DA	1236	G
22	DA	1238	G
22	DA	1246	A
22	DA	1250	G

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Mol	Chain	Res	Type
22	DA	1253	A
22	DA	1254	A
22	DA	1255	U
22	DA	1256	G
22	DA	1258	U
22	DA	1264	A
22	DA	1266	G
22	DA	1271	G
22	DA	1272	A
22	DA	1273	U
22	DA	1276	A
22	DA	1288	G
22	DA	1300	G
22	DA	1301	A
22	DA	1318	U
22	DA	1321	A
22	DA	1345	C
22	DA	1352	U
22	DA	1355	G
22	DA	1359	A
22	DA	1365	A
22	DA	1368	G
22	DA	1376	C
22	DA	1378	A
22	DA	1379	U
22	DA	1380	G
22	DA	1383	A
22	DA	1384	A
22	DA	1386	C
22	DA	1387	A
22	DA	1391	U
22	DA	1393	A
22	DA	1395	A
22	DA	1411	U
22	DA	1416	G
22	DA	1419	A
22	DA	1423	G
22	DA	1426	G
22	DA	1428	C
22	DA	1434	A
22	DA	1452	G
22	DA	1456	G

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Mol	Chain	Res	Type
22	DA	1458	U
22	DA	1462	C
22	DA	1471	G
22	DA	1478	G
22	DA	1482	G
22	DA	1493	C
22	DA	1504	A
22	DA	1509	A
22	DA	1510	G
22	DA	1511	G
22	DA	1515	A
22	DA	1523	U
22	DA	1527	G
22	DA	1530	G
22	DA	1531	C
22	DA	1533	C
22	DA	1534	U
22	DA	1535	A
22	DA	1536	C
22	DA	1537	G
22	DA	1538	G
22	DA	1540	G
22	DA	1542	U
22	DA	1560	G
22	DA	1564	C
22	DA	1566	A
22	DA	1569	A
22	DA	1576	U
22	DA	1578	U
22	DA	1581	G
22	DA	1582	C
22	DA	1583	A
22	DA	1584	U
22	DA	1585	C
22	DA	1587	G
22	DA	1591	A
22	DA	1599	U
22	DA	1603	A
22	DA	1606	C
22	DA	1607	C
22	DA	1608	A
22	DA	1610	A

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Mol	Chain	Res	Type
22	DA	1611	C
22	DA	1613	G
22	DA	1616	A
22	DA	1619	G
22	DA	1623	G
22	DA	1625	C
22	DA	1626	A
22	DA	1646	C
22	DA	1647	U
22	DA	1648	U
22	DA	1649	G
22	DA	1651	G
22	DA	1660	G
22	DA	1663	G
22	DA	1664	A
22	DA	1674	G
22	DA	1690	A
22	DA	1694	C
22	DA	1695	G
22	DA	1715	G
22	DA	1728	C
22	DA	1729	U
22	DA	1730	C
22	DA	1732	C
22	DA	1733	G
22	DA	1738	G
22	DA	1740	G
22	DA	1744	A
22	DA	1750	G
22	DA	1756	G
22	DA	1758	U
22	DA	1764	C
22	DA	1773	A
22	DA	1791	A
22	DA	1800	C
22	DA	1808	A
22	DA	1811	G
22	DA	1816	C
22	DA	1822	C
22	DA	1829	A
22	DA	1833	C
22	DA	1848	A

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Mol	Chain	Res	Type
22	DA	1858	A
22	DA	1869	G
22	DA	1870	C
22	DA	1871	A
22	DA	1872	A
22	DA	1873	G
22	DA	1874	C
22	DA	1876	A
22	DA	1880	U
22	DA	1889	A
22	DA	1903	G
22	DA	1906	G
22	DA	1913	A
22	DA	1914	C
22	DA	1920	C
22	DA	1924	C
22	DA	1927	A
22	DA	1929	G
22	DA	1930	G
22	DA	1934	C
22	DA	1937	A
22	DA	1938	A
22	DA	1945	G
22	DA	1955	U
22	DA	1965	C
22	DA	1966	A
22	DA	1967	C
22	DA	1970	A
22	DA	1971	U
22	DA	1972	G
22	DA	1991	U
22	DA	1993	U
22	DA	1997	C
22	DA	2004	G
22	DA	2009	A
22	DA	2018	G
22	DA	2020	A
22	DA	2022	U
22	DA	2023	C
22	DA	2030	A
22	DA	2031	A
22	DA	2033	A

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Mol	Chain	Res	Type
22	DA	2043	C
22	DA	2055	C
22	DA	2056	G
22	DA	2060	A
22	DA	2061	G
22	DA	2062	A
22	DA	2069	G
22	DA	2080	A
22	DA	2083	G
22	DA	2092	U
22	DA	2093	G
22	DA	2095	A
22	DA	2108	A
22	DA	2110	G
22	DA	2111	U
22	DA	2112	G
22	DA	2113	U
22	DA	2115	G
22	DA	2116	G
22	DA	2117	A
22	DA	2118	U
22	DA	2119	A
22	DA	2125	G
22	DA	2126	A
22	DA	2127	G
22	DA	2128	G
22	DA	2131	U
22	DA	2132	U
22	DA	2133	G
22	DA	2135	A
22	DA	2137	U
22	DA	2146	C
22	DA	2147	A
22	DA	2149	U
22	DA	2158	A
22	DA	2162	G
22	DA	2163	A
22	DA	2164	C
22	DA	2165	C
22	DA	2166	U
22	DA	2169	A
22	DA	2170	A

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Mol	Chain	Res	Type
22	DA	2171	A
22	DA	2172	U
22	DA	2173	A
22	DA	2178	C
22	DA	2179	C
22	DA	2184	A
22	DA	2189	U
22	DA	2190	G
22	DA	2194	U
22	DA	2198	A
22	DA	2203	U
22	DA	2204	G
22	DA	2212	A
22	DA	2214	C
22	DA	2225	A
22	DA	2226	C
22	DA	2230	G
22	DA	2238	G
22	DA	2241	A
22	DA	2243	U
22	DA	2246	G
22	DA	2250	G
22	DA	2268	A
22	DA	2273	A
22	DA	2278	A
22	DA	2280	G
22	DA	2283	C
22	DA	2287	A
22	DA	2293	G
22	DA	2305	U
22	DA	2307	G
22	DA	2308	G
22	DA	2309	A
22	DA	2310	C
22	DA	2311	A
22	DA	2312	U
22	DA	2316	G
22	DA	2321	U
22	DA	2322	A
22	DA	2324	U
22	DA	2325	G
22	DA	2327	A

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Mol	Chain	Res	Type
22	DA	2333	A
22	DA	2344	U
22	DA	2347	C
22	DA	2350	C
22	DA	2354	C
22	DA	2357	G
22	DA	2361	G
22	DA	2383	G
22	DA	2385	C
22	DA	2402	U
22	DA	2403	C
22	DA	2406	A
22	DA	2407	A
22	DA	2410	G
22	DA	2422	C
22	DA	2423	U
22	DA	2424	C
22	DA	2425	A
22	DA	2428	G
22	DA	2429	G
22	DA	2430	A
22	DA	2431	U
22	DA	2435	A
22	DA	2440	C
22	DA	2441	U
22	DA	2446	G
22	DA	2447	G
22	DA	2448	A
22	DA	2449	U
22	DA	2457	U
22	DA	2470	G
22	DA	2474	U
22	DA	2476	A
22	DA	2484	G
22	DA	2491	U
22	DA	2502	G
22	DA	2503	A
22	DA	2504	U
22	DA	2505	G
22	DA	2518	A
22	DA	2525	G
22	DA	2529	G

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Mol	Chain	Res	Type
22	DA	2535	G
22	DA	2547	A
22	DA	2550	G
22	DA	2554	U
22	DA	2566	A
22	DA	2567	G
22	DA	2572	A
22	DA	2573	C
22	DA	2578	G
22	DA	2579	C
22	DA	2581	G
22	DA	2582	G
22	DA	2585	U
22	DA	2586	U
22	DA	2602	A
22	DA	2603	G
22	DA	2609	U
22	DA	2610	C
22	DA	2613	U
22	DA	2629	U
22	DA	2630	G
22	DA	2646	C
22	DA	2663	G
22	DA	2682	A
22	DA	2689	U
22	DA	2690	U
22	DA	2714	G
22	DA	2716	C
22	DA	2726	A
22	DA	2727	A
22	DA	2733	A
22	DA	2748	A
22	DA	2751	G
22	DA	2757	A
22	DA	2765	A
22	DA	2776	A
22	DA	2778	A
22	DA	2781	A
22	DA	2782	G
22	DA	2791	G
22	DA	2794	C
22	DA	2798	U

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Mol	Chain	Res	Type
22	DA	2799	A
22	DA	2803	G
22	DA	2807	U
22	DA	2809	A
22	DA	2812	G
22	DA	2820	A
22	DA	2823	A
22	DA	2826	A
22	DA	2834	G
22	DA	2861	U
22	DA	2867	G
22	DA	2873	A
22	DA	2879	A
22	DA	2880	C
22	DA	2883	A
22	DA	2886	A
22	DA	2891	U
22	DA	2903	U
23	DB	13	G
23	DB	15	A
23	DB	22	U
23	DB	24	G
23	DB	31	C
23	DB	35	C
23	DB	36	C
23	DB	44	G
23	DB	51	G
23	DB	56	G
23	DB	64	G
23	DB	66	A
23	DB	73	A
23	DB	88	C
23	DB	89	U
23	DB	90	C
23	DB	91	C
23	DB	98	G
23	DB	99	A
23	DB	105	G
23	DB	109	A
23	DB	110	C

All (66) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	115	G
1	AA	209	U
1	AA	351	G
1	AA	429	U
1	AA	575	G
1	AA	793	U
1	AA	1031	C
1	AA	1049	U
1	AA	1145	A
1	AA	1201	A
1	AA	1211	U
1	AA	1378	C
1	AA	1533	C
22	BA	70	G
22	BA	199	A
22	BA	271	G
22	BA	404	A
22	BA	764	A
22	BA	784	G
22	BA	846	U
22	BA	984	A
22	BA	995	C
22	BA	1078	U
22	BA	1180	U
22	BA	1344	U
22	BA	1378	A
22	BA	1606	C
22	BA	1610	A
22	BA	2127	G
22	BA	2211	A
22	BA	2282	G
22	BA	2326	C
22	BA	2406	A
22	BA	2756	U
22	BA	2873	A
1	CA	96	U
1	CA	115	G
1	CA	209	U
1	CA	429	U
1	CA	1049	U
1	CA	1201	A
1	CA	1211	U
1	CA	1279	G

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Mol	Chain	Res	Type
22	DA	271	G
22	DA	404	A
22	DA	479	A
22	DA	613	A
22	DA	846	U
22	DA	982	C
22	DA	1275	A
22	DA	1344	U
22	DA	1378	A
22	DA	1606	C
22	DA	1847	A
22	DA	2109	U
22	DA	2127	G
22	DA	2146	C
22	DA	2162	G
22	DA	2211	A
22	DA	2225	A
22	DA	2286	G
22	DA	2308	G
22	DA	2326	C
22	DA	2602	A
22	DA	2756	U
22	DA	2873	A

## 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 502 ligands modelled in this entry, 500 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	$\# Z  > 2$
55	VIR	BA	3001	-	34,40,40	3.41	10 (29%)	37,55,55	3.31	17 (45%)
55	VIR	DA	3001	-	34,40,40	3.37	10 (29%)	37,55,55	3.09	13 (35%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
55	VIR	BA	3001	-	-	0/42/58/58	0/1/3/3
55	VIR	DA	3001	-	-	1/42/58/58	0/1/3/3

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	BA	3001	VIR	C4-N5	-2.99	1.42	1.47
55	DA	3001	VIR	C4-N5	-2.92	1.42	1.47
55	BA	3001	VIR	C22-C20	2.01	1.50	1.45
55	DA	3001	VIR	C16-C14	2.18	1.54	1.51
55	DA	3001	VIR	C1-C37	2.42	1.56	1.47
55	BA	3001	VIR	C8-C6	2.61	1.56	1.50
55	BA	3001	VIR	C28-C26	2.63	1.53	1.48
55	DA	3001	VIR	C28-C26	2.65	1.53	1.48
55	BA	3001	VIR	O36-C37	4.25	1.44	1.34
55	DA	3001	VIR	O36-C37	4.79	1.45	1.34
55	BA	3001	VIR	C1-N5	5.48	1.47	1.39
55	DA	3001	VIR	C19-C20	5.70	1.54	1.34
55	DA	3001	VIR	C1-N5	5.90	1.47	1.39
55	BA	3001	VIR	C19-C20	6.05	1.55	1.34
55	DA	3001	VIR	C28-C29	8.43	1.54	1.32
55	DA	3001	VIR	C22-C23	8.60	1.55	1.31
55	BA	3001	VIR	C28-C29	8.69	1.55	1.32
55	BA	3001	VIR	C22-C23	8.80	1.56	1.31
55	BA	3001	VIR	C26-N25	10.09	1.49	1.34
55	DA	3001	VIR	C26-N25	10.27	1.49	1.34

All (30) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	DA	3001	VIR	C23-C22-C20	-9.33	111.52	125.75
55	BA	3001	VIR	C23-C22-C20	-8.73	112.42	125.75
55	BA	3001	VIR	C37-C1-N5	-8.06	113.59	122.91
55	DA	3001	VIR	C37-C1-N5	-7.46	114.29	122.91
55	BA	3001	VIR	C2-C1-C37	-6.10	112.31	128.84
55	DA	3001	VIR	C21-C20-C22	-6.08	107.97	118.10
55	DA	3001	VIR	C2-C1-C37	-5.86	112.96	128.84
55	BA	3001	VIR	C24-N25-C26	-4.95	116.16	121.76
55	DA	3001	VIR	C24-C23-C22	-4.64	111.74	125.31
55	BA	3001	VIR	C21-C20-C22	-4.56	110.50	118.10
55	BA	3001	VIR	C21-C20-C19	-4.44	108.47	122.60
55	DA	3001	VIR	C21-C20-C19	-3.64	111.03	122.60
55	BA	3001	VIR	O27-C26-C28	-3.33	116.60	123.01
55	BA	3001	VIR	C32-O36-C37	-3.09	111.33	117.61
55	BA	3001	VIR	O36-C37-O38	-2.88	117.56	123.30
55	DA	3001	VIR	C30-C32-C33	-2.85	108.98	115.98
55	BA	3001	VIR	O27-C26-N25	-2.84	118.87	122.53
55	BA	3001	VIR	C24-C23-C22	-2.77	117.21	125.31
55	BA	3001	VIR	C31-C30-C32	-2.61	106.10	111.08
55	BA	3001	VIR	C30-C32-C33	-2.16	110.66	115.98
55	DA	3001	VIR	O36-C37-O38	-2.09	119.12	123.30
55	BA	3001	VIR	C31-C30-C29	-2.08	104.97	110.07
55	DA	3001	VIR	C24-N25-C26	-2.01	119.49	121.76
55	DA	3001	VIR	C28-C26-N25	2.02	119.52	114.87
55	DA	3001	VIR	O7-C6-N5	2.16	123.60	119.98
55	DA	3001	VIR	C4-N5-C6	3.74	124.60	118.80
55	BA	3001	VIR	C4-N5-C6	4.02	125.04	118.80
55	BA	3001	VIR	C28-C26-N25	4.18	124.49	114.87
55	DA	3001	VIR	O36-C37-C1	6.20	119.54	110.77
55	BA	3001	VIR	O36-C37-C1	6.45	119.90	110.77

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
55	DA	3001	VIR	C17-C19-C20-C21

There are no ring outliers.

2 monomers are involved in 20 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
55	BA	3001	VIR	5	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
55	DA	3001	VIR	15	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	1538/1539 (99%)	-0.12	24 (1%) 74 72	12, 51, 134, 181	0
1	CA	1539/1539 (100%)	0.19	61 (3%) 42 35	25, 70, 145, 177	0
2	AB	218/218 (100%)	1.03	32 (14%) 3 2	38, 75, 100, 123	0
2	CB	218/218 (100%)	1.25	60 (27%) 1 0	61, 87, 107, 126	0
3	AC	206/206 (100%)	0.26	11 (5%) 30 23	35, 57, 78, 93	0
3	CC	206/206 (100%)	1.64	76 (36%) 0 0	51, 80, 95, 105	0
4	AD	205/205 (100%)	0.33	6 (2%) 55 49	33, 56, 78, 104	0
4	CD	205/205 (100%)	0.03	6 (2%) 55 49	17, 38, 63, 87	0
5	AE	150/150 (100%)	0.09	2 (1%) 79 78	32, 48, 79, 101	0
5	CE	150/150 (100%)	0.26	5 (3%) 50 42	30, 56, 82, 103	0
6	AF	100/100 (100%)	-0.10	1 (1%) 84 82	34, 57, 73, 87	0
6	CF	100/100 (100%)	0.31	6 (6%) 25 18	45, 74, 94, 105	0
7	AG	151/151 (100%)	0.64	16 (10%) 8 5	54, 77, 96, 103	0
7	CG	151/151 (100%)	2.69	86 (56%) 0 0	82, 101, 110, 115	0
8	AH	129/129 (100%)	0.21	1 (0%) 87 86	31, 49, 66, 75	0
8	CH	129/129 (100%)	0.47	8 (6%) 24 17	50, 65, 81, 92	0
9	AI	127/127 (100%)	1.01	24 (18%) 2 1	44, 74, 96, 110	0
9	CI	127/127 (100%)	2.18	55 (43%) 0 0	73, 94, 111, 122	0
10	AJ	98/98 (100%)	0.73	12 (12%) 5 3	39, 66, 92, 122	0
10	CJ	98/98 (100%)	2.95	59 (60%) 0 0	71, 95, 111, 126	0
11	AK	117/117 (100%)	0.63	12 (10%) 9 5	26, 65, 92, 117	0
11	CK	117/117 (100%)	0.44	6 (5%) 32 25	38, 67, 80, 92	0
12	AL	123/123 (100%)	0.19	5 (4%) 41 34	21, 35, 64, 98	0
12	CL	123/123 (100%)	0.43	6 (4%) 33 27	36, 52, 78, 99	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	AM	114/114 (100%)	0.51	8 (7%) 19 13	48, 69, 94, 103	0
13	CM	114/114 (100%)	3.06	81 (71%) 0 0	97, 109, 118, 119	0
14	AN	96/100 (96%)	0.75	14 (14%) 3 2	41, 61, 94, 103	0
14	CN	96/100 (96%)	2.60	52 (54%) 0 0	70, 95, 113, 120	0
15	AO	88/88 (100%)	0.25	3 (3%) 49 41	28, 51, 65, 89	0
15	CO	88/88 (100%)	0.28	3 (3%) 49 41	40, 63, 81, 98	0
16	AP	82/82 (100%)	0.70	7 (8%) 13 8	33, 47, 85, 101	0
16	CP	82/82 (100%)	1.21	16 (19%) 1 1	44, 61, 89, 106	0
17	AQ	80/80 (100%)	0.29	4 (5%) 32 26	28, 52, 77, 122	0
17	CQ	80/80 (100%)	1.12	16 (20%) 1 1	44, 76, 98, 103	0
18	AR	55/55 (100%)	0.13	3 (5%) 29 22	39, 52, 79, 108	0
18	CR	55/55 (100%)	0.37	4 (7%) 18 12	39, 55, 79, 111	0
19	AS	79/79 (100%)	1.01	20 (25%) 1 0	54, 69, 89, 101	0
19	CS	79/79 (100%)	4.50	62 (78%) 0 0	90, 110, 119, 125	0
20	AT	85/85 (100%)	0.58	4 (4%) 35 29	35, 48, 71, 101	0
20	CT	85/85 (100%)	1.62	29 (34%) 0 0	55, 74, 92, 99	0
21	AU	51/51 (100%)	1.07	9 (17%) 2 1	46, 75, 97, 106	0
21	CU	51/51 (100%)	0.68	7 (13%) 4 2	45, 72, 97, 105	0
22	BA	2897/2903 (99%)	0.09	110 (3%) 44 37	1, 15, 131, 195	0
22	DA	2897/2903 (99%)	0.32	111 (3%) 44 37	40, 82, 146, 181	0
23	BB	119/119 (100%)	-0.31	0 100 100	3, 25, 52, 85	0
23	DB	118/119 (99%)	0.17	4 (3%) 49 41	67, 112, 133, 144	0
24	BC	271/271 (100%)	-0.15	3 (1%) 82 80	5, 21, 36, 54	0
24	DC	271/271 (100%)	0.72	28 (10%) 9 5	43, 62, 77, 90	0
25	BD	209/209 (100%)	-0.25	0 100 100	1, 11, 35, 68	0
25	DD	209/209 (100%)	1.03	41 (19%) 1 1	49, 68, 84, 96	0
26	BE	201/201 (100%)	-0.26	1 (0%) 91 90	1, 23, 53, 91	0
26	DE	201/201 (100%)	1.67	74 (36%) 0 0	46, 85, 102, 109	0
27	BF	177/177 (100%)	0.32	8 (4%) 37 31	24, 43, 77, 90	0
27	DF	177/177 (100%)	3.33	129 (72%) 0 0	91, 108, 120, 126	0
28	BG	176/176 (100%)	0.13	5 (2%) 56 50	17, 38, 62, 83	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
28	DG	176/176 (100%)	2.18	90 (51%) 0 0	72, 94, 106, 116	0
29	BH	149/149 (100%)	3.54	87 (58%) 0 0	25, 102, 121, 129	0
29	DH	149/149 (100%)	2.18	75 (50%) 0 0	25, 92, 107, 115	0
30	BI	141/141 (100%)	3.75	95 (67%) 0 0	90, 112, 122, 133	0
30	DI	141/141 (100%)	5.06	124 (87%) 0 0	102, 119, 129, 132	0
31	BJ	142/142 (100%)	-0.35	0 100 100	2, 7, 21, 37	0
31	DJ	142/142 (100%)	0.84	15 (10%) 8 5	50, 66, 79, 94	0
32	BK	122/122 (100%)	-0.36	0 100 100	4, 13, 32, 69	0
32	DK	122/122 (100%)	1.21	30 (24%) 1 0	47, 64, 83, 97	0
33	BL	143/143 (100%)	-0.19	0 100 100	1, 19, 44, 73	0
33	DL	143/143 (100%)	1.78	49 (34%) 0 0	46, 80, 95, 115	0
34	BM	136/136 (100%)	-0.30	0 100 100	2, 11, 31, 83	0
34	DM	136/136 (100%)	1.05	28 (20%) 1 1	42, 69, 82, 101	0
35	BN	120/120 (100%)	-0.33	0 100 100	3, 8, 19, 53	0
35	DN	120/120 (100%)	1.44	28 (23%) 1 0	56, 76, 89, 116	0
36	BO	116/116 (100%)	-0.17	0 100 100	12, 27, 45, 52	0
36	DO	116/116 (100%)	2.50	68 (58%) 0 0	81, 95, 105, 115	0
37	BP	114/114 (100%)	-0.29	0 100 100	7, 18, 43, 66	0
37	DP	114/114 (100%)	0.96	20 (17%) 2 1	58, 70, 85, 93	0
38	BQ	117/117 (100%)	-0.25	0 100 100	1, 4, 15, 30	0
38	DQ	117/117 (100%)	0.97	16 (13%) 4 2	54, 67, 79, 83	0
39	BR	103/103 (100%)	-0.34	0 100 100	1, 13, 33, 67	0
39	DR	103/103 (100%)	1.50	31 (30%) 1 0	52, 78, 88, 99	0
40	BS	110/110 (100%)	-0.28	0 100 100	1, 5, 24, 79	0
40	DS	110/110 (100%)	1.90	47 (42%) 0 0	57, 75, 89, 101	0
41	BT	93/93 (100%)	0.24	4 (4%) 39 32	8, 26, 75, 104	0
41	DT	93/93 (100%)	2.69	52 (55%) 0 0	68, 87, 103, 119	0
42	BU	102/102 (100%)	-0.19	2 (1%) 68 64	14, 29, 63, 92	0
42	DU	102/102 (100%)	3.34	65 (63%) 0 0	75, 92, 111, 120	0
43	BV	94/94 (100%)	-0.21	0 100 100	6, 20, 41, 55	0
43	DV	94/94 (100%)	0.91	15 (15%) 3 1	70, 85, 96, 104	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	BW	76/76 (100%)	-0.14	1 (1%) 79 78	7, 13, 29, 53	0
44	DW	75/76 (98%)	1.81	27 (36%) 0 0	61, 80, 90, 104	0
45	BX	77/77 (100%)	-0.26	0 100 100	7, 23, 51, 72	0
45	DX	77/77 (100%)	0.93	11 (14%) 4 2	52, 70, 84, 88	0
46	BY	63/63 (100%)	0.16	3 (4%) 34 28	21, 39, 72, 94	0
46	DY	63/63 (100%)	1.60	22 (34%) 0 0	78, 95, 102, 106	0
47	BZ	58/58 (100%)	-0.20	0 100 100	1, 8, 24, 41	0
47	DZ	58/58 (100%)	0.73	8 (13%) 4 2	58, 71, 82, 95	0
48	B0	56/56 (100%)	-0.29	0 100 100	1, 12, 36, 69	0
48	D0	56/56 (100%)	1.52	17 (30%) 1 0	58, 79, 92, 102	0
49	B1	50/50 (100%)	-0.03	2 (4%) 42 35	18, 29, 48, 76	0
49	D1	50/50 (100%)	1.46	14 (28%) 1 0	70, 86, 94, 105	0
50	B2	46/46 (100%)	-0.19	1 (2%) 65 60	4, 9, 15, 86	0
50	D2	46/46 (100%)	1.97	19 (41%) 0 0	55, 69, 80, 102	0
51	B3	64/64 (100%)	-0.17	0 100 100	5, 10, 20, 33	0
51	D3	64/64 (100%)	1.40	19 (29%) 1 0	58, 71, 79, 82	0
52	B4	38/38 (100%)	-0.04	0 100 100	9, 18, 37, 53	0
52	D4	38/38 (100%)	2.14	18 (47%) 0 0	59, 75, 87, 101	0
53	B5	191/228 (83%)	6.88	184 (96%) 0 0	101, 117, 128, 136	0
All	All	20734/20794 (99%)	0.65	2723 (13%) 5 3	1, 63, 121, 195	0

All (2723) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
30	DI	2	ALA	27.3
53	B5	208	THR	24.1
53	B5	207	GLY	21.9
53	B5	111	PHE	20.5
30	BI	53	LEU	18.0
53	B5	55	SER	17.6
53	B5	48	LEU	17.3
53	B5	204	GLY	16.8
22	BA	2103	C	16.7
22	BA	2184	A	16.4
9	CI	128	SER	16.4

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Mol	Chain	Res	Type	RSRZ
22	BA	2100	G	15.6
53	B5	66	PRO	15.1
7	CG	62	PHE	15.1
30	DI	68	THR	15.0
1	AA	1535	C	14.9
22	BA	2102	G	14.6
29	BH	130	VAL	14.5
53	B5	107	GLY	14.1
30	BI	3	LYS	14.0
30	BI	2	ALA	13.8
2	AB	155	GLY	13.7
53	B5	203	GLU	13.6
29	BH	96	THR	13.4
22	BA	2158	A	13.3
53	B5	212	SER	13.2
53	B5	199	ALA	13.2
30	DI	6	GLN	13.2
22	BA	2135	A	13.1
22	BA	2178	C	13.1
53	B5	52	PRO	12.9
22	BA	2101	A	12.9
30	DI	67	PHE	12.7
53	B5	50	ILE	12.7
53	B5	218	THR	12.4
22	BA	2140	G	12.3
29	BH	54	LEU	12.1
29	BH	144	VAL	12.1
29	BH	146	VAL	12.1
53	B5	194	ILE	12.1
53	B5	174	ALA	11.9
53	B5	183	PRO	11.9
19	CS	24	GLU	11.9
22	BA	2104	C	11.9
7	CG	66	LEU	11.8
29	BH	148	ALA	11.8
53	B5	225	ILE	11.7
30	BI	11	LEU	11.6
29	BH	113	SER	11.5
22	BA	2177	C	11.5
22	BA	2144	G	11.4
53	B5	182	PRO	11.4
42	DU	78	GLY	11.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
29	BH	97	ARG	11.1
30	BI	12	GLN	11.1
22	BA	2145	C	11.1
10	AJ	102	LEU	11.1
53	B5	69	LEU	11.1
53	B5	67	HIS	11.0
53	B5	165	ARG	11.0
30	DI	4	LYS	10.9
53	B5	70	GLY	10.9
22	BA	2136	G	10.9
22	BA	2107	G	10.8
42	DU	26	LYS	10.8
1	CA	1535	C	10.8
27	DF	130	MET	10.7
22	BA	2148	G	10.7
30	BI	79	LEU	10.6
30	DI	3	LYS	10.6
22	BA	2174	C	10.6
53	B5	173	HIS	10.6
30	DI	58	VAL	10.6
19	CS	29	LYS	10.6
42	DU	60	GLU	10.5
22	BA	2159	G	10.5
22	BA	2183	A	10.5
42	DU	20	GLY	10.4
1	CA	1536	C	10.3
30	DI	69	PHE	10.3
30	DI	60	THR	10.3
22	BA	2165	C	10.3
44	DW	52	GLY	10.2
42	DU	36	VAL	10.2
29	BH	58	LEU	10.1
53	B5	179	ALA	10.1
13	CM	83	LEU	10.1
30	DI	66	SER	10.1
22	BA	2150	C	10.1
53	B5	62	THR	10.1
1	CA	1539	C	10.0
53	B5	45	HIS	10.0
53	B5	46	ALA	10.0
29	BH	136	SER	10.0
30	DI	61	VAL	9.9

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Mol	Chain	Res	Type	RSRZ
53	B5	109	MET	9.8
29	BH	105	ALA	9.8
19	CS	42	PRO	9.6
29	BH	102	ALA	9.6
30	DI	25	GLY	9.6
22	BA	2175	C	9.6
53	B5	20	VAL	9.6
30	DI	32	GLY	9.5
22	BA	2143	C	9.5
22	BA	2156	G	9.5
27	DF	154	ILE	9.5
53	B5	68	GLY	9.5
53	B5	65	LEU	9.4
27	DF	156	ILE	9.4
30	BI	13	VAL	9.4
30	DI	34	ASN	9.3
1	AA	1536	C	9.3
30	BI	68	THR	9.3
19	CS	13	LEU	9.3
30	BI	115	ALA	9.3
16	CP	47	GLU	9.3
53	B5	206	LYS	9.2
14	CN	36	ALA	9.2
53	B5	97	GLY	9.2
14	CN	47	LYS	9.2
30	DI	59	ILE	9.2
53	B5	223	VAL	9.2
22	BA	2127	G	9.2
30	DI	8	TYR	9.1
29	BH	115	VAL	9.1
19	CS	41	PHE	9.0
33	DL	92	LEU	9.0
22	BA	2138	G	9.0
22	DA	1175	A	9.0
50	D2	42	LEU	9.0
53	B5	200	HIS	9.0
22	BA	2099	U	8.9
29	BH	91	PHE	8.9
22	BA	2117	A	8.9
53	B5	161	ARG	8.8
30	DI	31	GLN	8.8
17	AQ	83	VAL	8.8

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Mol	Chain	Res	Type	RSRZ
29	BH	120	GLY	8.7
19	CS	60	VAL	8.7
30	BI	69	PHE	8.7
22	BA	2112	G	8.7
53	B5	217	THR	8.7
53	B5	49	GLY	8.7
29	BH	112	LYS	8.7
22	BA	2185	U	8.6
19	CS	67	VAL	8.6
41	DT	34	VAL	8.6
19	CS	30	PRO	8.6
53	B5	209	PHE	8.6
53	B5	54	ARG	8.6
27	DF	128	TYR	8.6
30	BI	114	ALA	8.5
29	BH	124	THR	8.5
27	DF	117	LEU	8.5
33	DL	144	GLU	8.5
53	B5	164	PHE	8.5
22	BA	2162	G	8.5
40	DS	19	LEU	8.5
29	BH	68	ARG	8.4
22	BA	2147	A	8.4
29	BH	69	ALA	8.4
20	CT	4	ILE	8.4
2	AB	157	LEU	8.4
53	B5	110	ASP	8.4
53	B5	59	VAL	8.3
53	B5	213	VAL	8.3
30	DI	5	VAL	8.3
53	B5	157	ILE	8.3
12	AL	124	ALA	8.3
30	DI	70	VAL	8.2
53	B5	195	ARG	8.2
26	DE	119	ILE	8.2
30	BI	4	LYS	8.2
29	DH	142	VAL	8.2
53	B5	86	GLU	8.2
53	B5	198	GLU	8.2
29	BH	110	VAL	8.2
52	D4	10	LEU	8.2
53	B5	222	SER	8.2

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Mol	Chain	Res	Type	RSRZ
41	DT	43	ILE	8.2
19	CS	66	MET	8.2
53	B5	122	GLY	8.1
53	B5	108	TRP	8.1
30	DI	13	VAL	8.1
19	CS	74	PHE	8.1
30	BI	5	VAL	8.1
2	AB	156	GLY	8.1
22	BA	2160	C	8.1
30	DI	63	ALA	8.1
30	DI	11	LEU	8.0
53	B5	210	LEU	8.0
19	CS	44	MET	8.0
22	BA	2163	A	8.0
19	CS	37	ARG	8.0
29	BH	85	GLY	8.0
27	DF	23	ASN	8.0
19	CS	31	LEU	8.0
53	B5	42	VAL	7.9
22	BA	2179	C	7.9
29	BH	106	ALA	7.9
53	B5	172	ILE	7.9
10	CJ	74	VAL	7.9
29	BH	86	ASP	7.9
30	DI	7	ALA	7.9
53	B5	167	ASP	7.9
53	B5	214	TYR	7.8
53	B5	156	GLU	7.8
19	CS	64	ASP	7.8
36	DO	24	THR	7.8
36	DO	40	ILE	7.8
22	BA	2139	U	7.8
41	DT	15	HIS	7.8
41	DT	1	MET	7.8
53	B5	132	LEU	7.7
41	DT	71	GLY	7.7
22	BA	2123	G	7.7
53	B5	166	ASN	7.7
27	DF	122	PHE	7.7
29	DH	47	PHE	7.7
27	DF	176	PRO	7.7
22	BA	2182	U	7.7

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Mol	Chain	Res	Type	RSRZ
22	BA	2124	G	7.6
42	DU	77	THR	7.6
1	AA	1538	C	7.6
42	DU	52	LEU	7.6
30	DI	53	LEU	7.6
53	B5	79	ALA	7.6
19	CS	59	PRO	7.6
8	AH	2	SER	7.6
22	BA	2125	G	7.6
53	B5	134	PRO	7.5
30	BI	41	ALA	7.5
30	BI	22	PRO	7.5
53	B5	158	LYS	7.5
9	AI	41	ARG	7.5
22	BA	2114	A	7.5
53	B5	220	GLY	7.5
1	CA	1032	G	7.4
13	CM	84	GLY	7.4
30	DI	54	PRO	7.4
30	DI	47	ASP	7.4
3	CC	37	PHE	7.4
13	CM	10	PRO	7.4
53	B5	211	ARG	7.4
41	DT	2	ILE	7.4
19	CS	15	LEU	7.4
53	B5	77	ALA	7.3
13	CM	85	CYS	7.3
30	BI	99	GLY	7.3
53	B5	141	PRO	7.3
30	BI	14	ALA	7.3
19	CS	48	THR	7.3
29	BH	67	ALA	7.3
22	BA	2157	G	7.2
53	B5	202	PRO	7.2
14	CN	43	ASN	7.2
42	DU	80	ALA	7.2
29	BH	87	GLU	7.2
29	BH	101	ASP	7.2
30	DI	15	ALA	7.2
1	AA	1534	A	7.2
2	AB	9	MET	7.2
53	B5	94	TYR	7.2

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Mol	Chain	Res	Type	RSRZ
12	CL	124	ALA	7.2
53	B5	38	PHE	7.1
29	BH	55	GLU	7.1
53	B5	95	VAL	7.1
1	AA	1539	C	7.1
53	B5	155	ARG	7.1
42	DU	58	ILE	7.1
22	BA	2152	G	7.1
53	B5	73	VAL	7.1
53	B5	147	GLY	7.1
14	CN	20	TYR	7.0
29	BH	119	ASN	7.0
30	DI	78	VAL	7.0
53	B5	53	ARG	7.0
53	B5	197	LEU	7.0
19	CS	12	ASP	7.0
19	CS	11	ILE	7.0
27	DF	65	PRO	7.0
7	CG	59	LEU	7.0
10	CJ	77	VAL	7.0
30	BI	67	PHE	7.0
53	B5	41	THR	6.9
30	BI	23	PRO	6.9
30	DI	36	MET	6.9
29	BH	98	ASP	6.9
53	B5	84	ILE	6.9
7	CG	17	LYS	6.9
49	D1	53	LYS	6.9
42	DU	79	LYS	6.9
29	BH	116	ARG	6.9
9	CI	68	LYS	6.9
27	DF	157	THR	6.9
42	DU	27	ASN	6.8
22	DA	1537	G	6.8
22	BA	2161	C	6.8
53	B5	221	PRO	6.8
30	BI	71	THR	6.8
2	CB	9	MET	6.8
53	B5	98	GLU	6.8
27	DF	132	VAL	6.8
53	B5	96	GLY	6.8
53	B5	160	GLY	6.8

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Mol	Chain	Res	Type	RSRZ
22	BA	2121	G	6.7
7	CG	18	PHE	6.7
29	DH	119	ASN	6.7
53	B5	58	ASN	6.7
10	CJ	73	LEU	6.7
7	CG	88	PRO	6.7
29	BH	84	ALA	6.7
22	BA	2171	A	6.7
53	B5	151	GLY	6.7
22	BA	2120	G	6.7
27	DF	89	VAL	6.7
53	B5	47	LYS	6.7
22	BA	2142	A	6.7
27	DF	32	GLU	6.7
30	DI	133	ALA	6.7
53	B5	162	ILE	6.7
4	CD	25	VAL	6.7
27	DF	35	THR	6.6
30	BI	133	ALA	6.6
30	BI	54	PRO	6.6
14	CN	27	LEU	6.6
9	CI	43	THR	6.6
19	CS	43	ASN	6.6
53	B5	154	ILE	6.6
19	CS	51	VAL	6.6
22	BA	2153	C	6.6
42	DU	39	ILE	6.6
41	DT	8	LEU	6.6
22	BA	2176	A	6.5
53	B5	224	ARG	6.5
53	B5	78	ILE	6.5
53	B5	131	ILE	6.5
29	BH	123	ARG	6.5
30	BI	82	LYS	6.5
13	CM	95	LEU	6.5
27	DF	21	ASN	6.5
53	B5	219	MET	6.5
30	DI	129	ILE	6.5
19	CS	71	LEU	6.5
22	BA	2115	G	6.5
53	B5	61	GLY	6.5
53	B5	159	ALA	6.5

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Mol	Chain	Res	Type	RSRZ
14	AN	21	PHE	6.4
53	B5	63	VAL	6.4
45	DX	49	LEU	6.4
28	DG	103	ILE	6.4
22	BA	2149	U	6.4
7	CG	103	TRP	6.4
27	DF	152	LEU	6.4
29	BH	137	GLU	6.4
16	AP	80	LYS	6.3
9	AI	130	ARG	6.3
10	CJ	12	ALA	6.3
30	DI	126	THR	6.3
13	CM	45	ILE	6.3
30	DI	80	LEU	6.3
53	B5	72	GLN	6.3
1	CA	1534	A	6.3
27	DF	106	ILE	6.3
28	DG	52	PHE	6.3
36	DO	106	LEU	6.3
9	CI	108	ALA	6.2
7	CG	41	SER	6.2
36	DO	19	GLN	6.2
27	DF	114	PHE	6.2
42	DU	12	ILE	6.2
27	DF	170	LEU	6.2
14	CN	24	ARG	6.2
22	BA	2164	C	6.2
53	B5	170	GLY	6.2
29	BH	121	VAL	6.2
42	DU	51	ALA	6.2
36	DO	65	THR	6.2
14	CN	44	ALA	6.1
19	CS	72	GLY	6.1
19	CS	16	LEU	6.1
53	B5	76	LEU	6.1
22	BA	2134	A	6.1
53	B5	121	MET	6.1
13	CM	40	ALA	6.1
10	CJ	72	ARG	6.1
22	BA	2106	U	6.1
27	DF	155	THR	6.1
30	DI	62	TYR	6.1

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Mol	Chain	Res	Type	RSRZ
53	B5	89	GLU	6.1
22	BA	2110	G	6.1
42	DU	35	ILE	6.1
25	DD	97	SER	6.0
30	DI	44	ALA	6.0
53	B5	143	ALA	6.0
22	BA	2155	U	6.0
30	BI	8	TYR	6.0
10	CJ	71	LEU	6.0
13	CM	30	SER	6.0
27	DF	175	PHE	6.0
53	B5	201	LYS	6.0
53	B5	140	ASN	6.0
35	DN	25	ALA	6.0
30	DI	28	LEU	6.0
29	BH	72	ILE	6.0
33	DL	101	ILE	6.0
30	BI	34	ASN	6.0
30	DI	45	LYS	6.0
27	DF	129	SER	6.0
13	CM	63	PHE	6.0
28	DG	9	VAL	5.9
2	CB	132	LYS	5.9
53	B5	39	ASP	5.9
16	CP	39	PHE	5.9
53	B5	148	PHE	5.9
10	CJ	67	ILE	5.9
53	B5	205	ALA	5.9
13	AM	114	LYS	5.9
30	DI	65	ARG	5.9
28	DG	148	LEU	5.9
53	B5	19	LYS	5.9
9	AI	43	THR	5.9
30	BI	87	LYS	5.9
30	DI	64	ASP	5.9
30	DI	46	THR	5.9
29	DH	136	SER	5.9
19	CS	39	THR	5.9
41	DT	76	ARG	5.9
53	B5	133	GLY	5.9
27	DF	164	GLU	5.9
28	DG	57	GLY	5.8

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Mol	Chain	Res	Type	RSRZ
22	BA	2172	U	5.8
24	DC	27	GLY	5.8
9	CI	130	ARG	5.8
30	DI	21	SER	5.8
1	AA	78	A	5.8
46	BY	63	ALA	5.8
10	CJ	41	PRO	5.8
19	CS	49	ILE	5.8
27	DF	105	THR	5.8
7	CG	72	THR	5.8
30	DI	17	MET	5.8
53	B5	106	ASP	5.8
30	DI	130	GLU	5.8
28	DG	105	LEU	5.8
10	CJ	63	ASP	5.8
40	DS	40	ASN	5.8
19	CS	58	VAL	5.8
53	B5	136	GLY	5.8
1	CA	1538	C	5.8
7	CG	85	TYR	5.8
9	CI	38	TYR	5.8
42	DU	89	ASP	5.8
38	DQ	29	SER	5.8
19	CS	63	THR	5.7
21	AU	38	TYR	5.7
30	BI	21	SER	5.7
30	DI	22	PRO	5.7
53	B5	51	ASP	5.7
30	DI	120	ALA	5.7
19	CS	23	VAL	5.7
26	DE	103	GLY	5.7
3	CC	144	LEU	5.7
14	CN	48	LEU	5.7
29	BH	109	GLU	5.7
9	CI	67	VAL	5.7
26	DE	175	ILE	5.7
14	CN	46	LEU	5.7
21	CU	38	TYR	5.7
53	B5	188	ASP	5.7
22	BA	2141	G	5.7
27	DF	113	ASP	5.7
27	DF	34	ILE	5.6

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Mol	Chain	Res	Type	RSRZ
22	BA	2116	G	5.6
22	BA	138	U	5.6
53	B5	176	VAL	5.6
40	DS	92	ARG	5.6
7	CG	43	VAL	5.6
39	DR	35	PHE	5.6
53	B5	57	GLN	5.6
42	DU	87	PHE	5.6
28	DG	102	VAL	5.6
9	CI	83	ILE	5.6
2	CB	129	LEU	5.6
30	DI	30	GLN	5.6
3	CC	32	ASN	5.6
28	DG	10	VAL	5.6
22	BA	2108	A	5.5
3	CC	39	VAL	5.5
29	DH	11	ASN	5.5
22	BA	2154	A	5.5
53	B5	104	ILE	5.5
41	DT	36	LYS	5.5
7	CG	151	PHE	5.5
53	B5	169	THR	5.5
29	DH	72	ILE	5.5
22	BA	2169	A	5.5
29	DH	19	VAL	5.5
29	DH	15	LEU	5.5
30	DI	76	ALA	5.4
7	CG	52	GLN	5.4
10	CJ	10	LEU	5.4
27	DF	36	LEU	5.4
30	DI	55	ILE	5.4
53	B5	150	ILE	5.4
13	CM	46	SER	5.4
36	DO	90	VAL	5.4
32	DK	111	LYS	5.4
27	DF	100	PHE	5.4
28	DG	45	HIS	5.4
30	DI	142	ASP	5.4
53	B5	93	ASP	5.4
30	BI	17	MET	5.4
53	B5	24	ASP	5.4
7	CG	13	LEU	5.4

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Mol	Chain	Res	Type	RSRZ
40	DS	84	ARG	5.4
22	BA	2168	G	5.4
33	DL	106	GLU	5.4
42	DU	13	VAL	5.4
42	DU	25	VAL	5.4
42	DU	41	LEU	5.4
30	BI	98	VAL	5.4
1	CA	1537	U	5.4
14	CN	51	LEU	5.4
46	DY	59	GLU	5.4
19	CS	38	SER	5.3
30	DI	35	ILE	5.3
7	CG	91	VAL	5.3
10	CJ	45	ARG	5.3
13	CM	64	VAL	5.3
30	DI	121	ASP	5.3
20	AT	68	HIS	5.3
20	CT	39	ILE	5.3
6	CF	39	LEU	5.3
53	B5	187	ALA	5.3
30	DI	12	GLN	5.3
39	DR	19	THR	5.3
27	DF	133	ARG	5.3
27	DF	119	ALA	5.3
29	DH	78	VAL	5.3
30	DI	85	GLY	5.3
22	DA	1536	C	5.3
30	BI	30	GLN	5.3
27	DF	66	LEU	5.3
53	B5	83	LYS	5.3
44	DW	83	GLU	5.3
2	CB	164	ILE	5.3
53	B5	180	SER	5.3
30	BI	52	GLY	5.3
53	B5	168	LYS	5.3
42	DU	71	ALA	5.3
29	BH	129	GLU	5.3
53	B5	90	ALA	5.3
53	B5	184	GLU	5.3
43	DV	94	ALA	5.3
2	CB	148	LEU	5.3
22	DA	2174	C	5.3

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Mol	Chain	Res	Type	RSRZ
30	BI	25	GLY	5.3
53	B5	92	ALA	5.2
53	B5	149	ASN	5.3
14	CN	30	ILE	5.2
14	CN	42	TRP	5.2
1	AA	86	G	5.2
16	CP	80	LYS	5.2
19	CS	50	ALA	5.2
53	B5	56	ASP	5.2
29	DH	92	GLY	5.2
20	CT	3	ASN	5.2
29	DH	20	ASN	5.2
29	BH	83	LYS	5.2
53	B5	153	ILE	5.2
53	B5	192	ALA	5.2
27	DF	173	PHE	5.2
50	D2	46	LYS	5.2
30	DI	89	GLY	5.2
19	CS	47	LEU	5.2
22	BA	2181	U	5.2
42	DU	75	ALA	5.2
7	CG	75	VAL	5.2
41	DT	16	VAL	5.2
38	DQ	23	GLY	5.2
49	D1	36	LEU	5.2
25	DD	55	LYS	5.2
27	DF	109	PRO	5.2
35	DN	83	LEU	5.2
53	B5	64	SER	5.2
10	CJ	16	ARG	5.2
39	DR	96	VAL	5.2
1	CA	1302	C	5.1
30	DI	57	VAL	5.1
33	DL	121	THR	5.1
48	D0	57	LYS	5.1
53	B5	22	THR	5.1
53	B5	181	PHE	5.1
29	BH	122	LEU	5.1
3	AC	168	TYR	5.1
10	CJ	102	LEU	5.1
52	D4	9	LYS	5.1
13	CM	33	ILE	5.1

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Mol	Chain	Res	Type	RSRZ
30	DI	99	GLY	5.1
52	D4	1	MET	5.1
26	DE	127	GLU	5.1
30	DI	37	GLU	5.1
7	CG	133	THR	5.1
29	DH	10	ALA	5.1
53	B5	44	VAL	5.1
10	CJ	19	ASP	5.1
53	B5	23	ILE	5.1
19	AS	39	THR	5.1
30	DI	83	ALA	5.1
39	DR	50	GLY	5.0
22	BA	2173	A	5.0
14	CN	58	SER	5.0
48	D0	34	SER	5.0
2	CB	67	ILE	5.0
26	DE	134	LEU	5.0
14	CN	45	VAL	5.0
22	BA	2166	U	5.0
53	B5	196	ALA	5.0
36	DO	78	VAL	5.0
41	DT	55	VAL	5.0
14	CN	99	ALA	5.0
42	DU	28	VAL	5.0
7	AG	5	ARG	5.0
29	BH	95	GLY	5.0
40	DS	110	ARG	5.0
53	B5	91	GLY	5.0
29	BH	59	ALA	5.0
1	CA	1031	C	5.0
22	DA	1093	G	5.0
53	B5	146	VAL	5.0
46	DY	24	GLU	5.0
27	DF	91	LEU	5.0
53	B5	145	THR	5.0
35	DN	120	GLU	5.0
39	DR	20	VAL	5.0
26	DE	172	ALA	4.9
42	DU	76	ALA	4.9
50	D2	32	ALA	4.9
30	DI	24	VAL	4.9
36	DO	64	TYR	4.9

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Mol	Chain	Res	Type	RSRZ
33	DL	3	LEU	4.9
9	CI	129	LYS	4.9
1	CA	94	G	4.9
30	DI	18	ALA	4.9
44	DW	63	ALA	4.9
30	BI	38	PHE	4.9
30	DI	33	VAL	4.9
17	CQ	53	CYS	4.9
30	DI	52	GLY	4.9
16	AP	81	ALA	4.9
31	DJ	119	PHE	4.9
19	CS	28	LYS	4.9
30	BI	58	VAL	4.9
29	DH	43	ASN	4.9
42	DU	43	LYS	4.9
28	DG	87	LEU	4.9
13	CM	36	ALA	4.9
29	BH	147	VAL	4.9
49	D1	47	VAL	4.9
53	B5	99	GLU	4.9
33	DL	82	LEU	4.9
30	BI	91	GLY	4.9
24	DC	49	ILE	4.9
1	CA	211	G	4.9
14	CN	29	ALA	4.9
41	DT	80	TRP	4.9
29	BH	142	VAL	4.9
53	B5	71	LYS	4.9
26	DE	17	THR	4.9
33	DL	77	ILE	4.9
35	DN	119	SER	4.9
53	B5	87	ALA	4.9
42	DU	3	ALA	4.8
27	DF	120	LYS	4.8
1	AA	87	C	4.8
22	BA	1925	C	4.8
35	DN	38	LEU	4.8
40	DS	46	LEU	4.8
2	CB	32	PHE	4.8
30	BI	116	ASP	4.8
26	DE	143	LEU	4.8
10	CJ	47	GLU	4.8

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Mol	Chain	Res	Type	RSRZ
19	CS	69	HIS	4.8
29	BH	139	PHE	4.8
13	CM	70	ARG	4.8
7	CG	148	ASN	4.8
29	BH	64	ALA	4.8
30	BI	48	SER	4.8
2	AB	88	ASP	4.8
26	DE	104	ALA	4.8
30	BI	55	ILE	4.8
9	CI	64	TYR	4.8
9	CI	58	VAL	4.8
30	BI	142	ASP	4.8
53	B5	216	THR	4.8
36	DO	50	ALA	4.8
22	BA	2105	U	4.8
30	DI	72	LYS	4.8
30	BI	83	ALA	4.8
27	DF	43	ALA	4.8
25	DD	185	ASN	4.8
36	DO	103	VAL	4.8
13	CM	68	ASP	4.8
42	DU	31	SER	4.7
48	D0	26	THR	4.7
13	CM	99	GLY	4.7
22	BA	2186	G	4.7
26	DE	128	ALA	4.7
7	CG	16	PRO	4.7
37	DP	102	GLU	4.7
13	CM	29	ARG	4.7
29	BH	80	ILE	4.7
36	DO	57	ALA	4.7
36	DO	117	PHE	4.7
30	BI	78	VAL	4.7
22	BA	2146	C	4.7
29	BH	143	ILE	4.7
29	BH	89	LYS	4.7
53	B5	85	LYS	4.7
28	DG	62	TRP	4.7
30	DI	139	VAL	4.7
30	BI	26	PRO	4.7
53	B5	103	LYS	4.7
30	DI	49	ILE	4.7

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Mol	Chain	Res	Type	RSRZ
25	DD	186	LEU	4.7
16	CP	17	TYR	4.7
28	DG	32	GLU	4.7
30	BI	36	MET	4.7
47	DZ	2	ALA	4.7
28	DG	80	THR	4.7
13	CM	47	GLU	4.7
3	CC	193	TYR	4.7
28	DG	106	SER	4.7
48	D0	27	SER	4.7
25	DD	31	ALA	4.7
10	CJ	100	ILE	4.7
28	DG	2	SER	4.7
29	DH	82	SER	4.7
30	DI	48	SER	4.7
30	DI	140	VAL	4.7
33	DL	89	VAL	4.7
29	DH	6	LEU	4.6
9	CI	20	PHE	4.6
53	B5	193	PHE	4.6
19	CS	14	HIS	4.6
33	DL	70	LYS	4.6
50	D2	33	ARG	4.6
34	DM	17	ASN	4.6
7	CG	60	GLU	4.6
22	DA	1172	C	4.6
29	DH	130	VAL	4.6
27	DF	14	LYS	4.6
27	DF	116	GLY	4.6
30	BI	100	LYS	4.6
30	DI	82	LYS	4.6
19	CS	61	PHE	4.6
53	B5	175	PRO	4.6
29	BH	19	VAL	4.6
32	DK	68	GLY	4.6
30	DI	38	PHE	4.6
7	CG	12	ILE	4.6
15	AO	89	ARG	4.6
51	D3	24	HIS	4.6
27	DF	62	GLY	4.6
29	DH	12	LEU	4.6
30	DI	114	ALA	4.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
35	DN	111	ALA	4.6
42	DU	81	ASP	4.6
42	DU	63	ALA	4.6
44	DW	71	VAL	4.6
14	CN	35	ASN	4.6
33	DL	71	ALA	4.6
16	AP	4	ILE	4.6
48	D0	35	GLY	4.6
7	CG	68	ASN	4.5
29	DH	36	ALA	4.5
35	DN	26	GLY	4.5
50	B2	46	LYS	4.5
13	CM	79	ARG	4.5
1	AA	1030	U	4.5
53	B5	120	VAL	4.5
53	B5	74	ARG	4.5
28	DG	167	GLU	4.5
41	DT	42	GLU	4.5
26	DE	165	HIS	4.5
22	DA	1171	G	4.5
1	CA	1540	U	4.5
22	DA	138	U	4.5
3	CC	79	LYS	4.5
27	DF	174	ASP	4.5
13	CM	98	ARG	4.5
41	DT	30	ILE	4.5
28	DG	33	LEU	4.5
13	CM	2	ALA	4.5
30	BI	81	LYS	4.5
19	CS	68	GLY	4.5
13	CM	12	HIS	4.4
30	DI	90	SER	4.4
27	DF	17	MET	4.4
27	DF	151	GLY	4.4
19	CS	25	SER	4.4
12	CL	44	LYS	4.4
9	CI	103	PHE	4.4
7	CG	65	ALA	4.4
9	CI	98	LEU	4.4
40	DS	3	THR	4.4
53	B5	152	GLU	4.4
10	CJ	17	LEU	4.4

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Mol	Chain	Res	Type	RSRZ
30	DI	79	LEU	4.4
30	DI	110	ALA	4.4
13	CM	62	LYS	4.4
30	BI	7	ALA	4.4
35	DN	24	MET	4.4
40	DS	85	ILE	4.4
45	DX	20	HIS	4.4
8	CH	2	SER	4.4
28	DG	43	VAL	4.4
1	CA	82	G	4.4
28	DG	20	ASN	4.4
7	CG	67	GLU	4.4
10	CJ	99	GLN	4.4
9	AI	129	LYS	4.4
2	AB	69	PHE	4.4
28	DG	4	VAL	4.4
30	BI	24	VAL	4.4
30	BI	66	SER	4.4
41	DT	85	VAL	4.4
1	CA	999	C	4.4
22	BA	2126	A	4.4
30	BI	101	ILE	4.4
9	CI	39	PHE	4.4
53	B5	82	GLU	4.4
30	DI	94	ASN	4.3
13	CM	39	ILE	4.3
27	DF	85	ILE	4.3
39	DR	27	ILE	4.3
28	DG	56	ASP	4.3
7	CG	49	THR	4.3
39	DR	75	VAL	4.3
7	CG	5	ARG	4.3
41	DT	35	ALA	4.3
53	B5	163	GLU	4.3
2	CB	213	TYR	4.3
13	CM	75	MET	4.3
13	CM	38	GLY	4.3
30	DI	96	ASP	4.3
36	DO	60	GLU	4.3
28	DG	58	TYR	4.3
9	AI	20	PHE	4.3
22	DA	1067	A	4.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
34	DM	129	THR	4.3
42	DU	40	ASN	4.3
53	B5	43	GLU	4.3
10	CJ	8	ILE	4.3
30	BI	20	PRO	4.3
53	B5	215	VAL	4.3
7	CG	118	LEU	4.3
14	AN	36	ALA	4.3
53	B5	27	ALA	4.3
29	DH	79	THR	4.3
14	CN	63	ARG	4.3
27	DF	153	ASP	4.3
28	DG	166	ASP	4.3
44	DW	38	VAL	4.3
50	D2	36	ALA	4.3
14	CN	52	PRO	4.3
26	DE	164	LEU	4.3
1	CA	1021	A	4.3
19	CS	21	LYS	4.2
7	CG	54	SER	4.2
21	AU	4	ILE	4.2
30	BI	59	ILE	4.2
10	CJ	20	GLN	4.2
10	CJ	91	ASP	4.2
30	BI	61	VAL	4.2
36	DO	54	VAL	4.2
30	DI	106	LEU	4.2
22	BA	2170	A	4.2
30	DI	56	PRO	4.2
25	DD	27	ILE	4.2
32	DK	112	PHE	4.2
53	B5	101	ILE	4.2
53	B5	126	SER	4.2
13	CM	48	LEU	4.2
29	BH	62	LEU	4.2
41	DT	33	LYS	4.2
48	D0	55	ILE	4.2
40	DS	39	THR	4.2
1	CA	1312	G	4.2
7	CG	73	VAL	4.2
52	D4	25	VAL	4.2
11	CK	126	LYS	4.2

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Mol	Chain	Res	Type	RSRZ
22	BA	2111	U	4.2
36	DO	88	LYS	4.2
30	BI	35	ILE	4.2
7	CG	15	ASP	4.2
30	BI	76	ALA	4.2
13	CM	115	PRO	4.2
3	CC	180	ALA	4.2
29	DH	58	LEU	4.2
7	CG	57	SER	4.2
13	CM	31	LYS	4.2
27	DF	112	ARG	4.2
53	B5	130	ARG	4.2
9	AI	90	TYR	4.2
32	DK	104	THR	4.2
4	AD	28	ILE	4.2
40	DS	4	ILE	4.2
29	DH	1	MET	4.2
33	DL	78	ARG	4.2
29	BH	11	ASN	4.2
44	DW	79	PHE	4.2
10	CJ	40	ILE	4.2
51	D3	14	PHE	4.1
24	DC	172	VAL	4.1
26	DE	190	ALA	4.1
27	DF	131	GLY	4.1
53	B5	88	GLU	4.1
13	CM	71	ARG	4.1
52	D4	8	LYS	4.1
53	B5	142	LYS	4.1
27	DF	8	TYR	4.1
30	DI	42	PHE	4.1
30	DI	77	ALA	4.1
9	CI	11	ARG	4.1
30	DI	98	VAL	4.1
37	DP	3	ASN	4.1
30	BI	47	ASP	4.1
27	DF	177	PHE	4.1
33	DL	142	ILE	4.1
7	CG	39	ALA	4.1
9	CI	40	GLY	4.1
13	CM	51	GLY	4.1
28	DG	132	VAL	4.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
28	DG	169	VAL	4.1
38	DQ	101	PHE	4.1
6	CF	91	ARG	4.1
27	DF	39	GLY	4.1
10	CJ	94	ALA	4.1
13	CM	32	ALA	4.1
2	CB	96	TRP	4.1
35	DN	28	LEU	4.1
36	DO	21	LEU	4.1
27	DF	87	CYS	4.1
7	CG	53	ARG	4.1
30	BI	40	LYS	4.1
53	B5	191	ARG	4.1
4	AD	36	GLN	4.1
2	AB	135	LEU	4.1
13	CM	86	TYR	4.1
42	DU	29	LEU	4.1
22	BA	2128	G	4.1
27	DF	115	ARG	4.1
30	BI	96	ASP	4.1
7	CG	134	ALA	4.1
10	CJ	26	VAL	4.1
10	CJ	42	LEU	4.1
19	AS	3	ARG	4.1
41	DT	6	ARG	4.1
10	CJ	49	PHE	4.1
14	CN	50	THR	4.1
44	DW	60	PHE	4.1
42	DU	90	GLY	4.0
17	CQ	5	ILE	4.0
29	DH	100	ALA	4.0
33	DL	108	ALA	4.0
53	B5	37	LYS	4.0
1	CA	1020	G	4.0
30	DI	71	THR	4.0
29	DH	22	LYS	4.0
32	DK	69	VAL	4.0
29	BH	118	PRO	4.0
42	DU	88	GLU	4.0
40	DS	68	ASP	4.0
41	DT	70	HIS	4.0
43	DV	58	SER	4.0

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Mol	Chain	Res	Type	RSRZ
7	CG	4	ARG	4.0
1	AA	1537	U	4.0
22	BA	2131	U	4.0
28	DG	133	LEU	4.0
18	CR	20	GLU	4.0
2	AB	65	GLY	4.0
29	DH	90	LEU	4.0
40	DS	97	LEU	4.0
30	DI	88	SER	4.0
30	BI	62	TYR	4.0
13	CM	109	ARG	4.0
21	CU	45	ARG	4.0
53	B5	60	ARG	4.0
14	CN	11	VAL	4.0
20	CT	24	ARG	4.0
24	DC	103	TYR	4.0
20	CT	85	LYS	4.0
19	AS	49	ILE	4.0
27	DF	40	VAL	4.0
30	BI	135	SER	4.0
13	CM	43	VAL	4.0
40	DS	47	VAL	4.0
41	DT	81	LYS	4.0
42	DU	32	GLY	4.0
26	DE	155	GLU	3.9
10	CJ	93	ALA	3.9
9	CI	48	VAL	3.9
10	CJ	25	ILE	3.9
27	DF	38	MET	3.9
14	CN	34	VAL	3.9
42	DU	5	ILE	3.9
36	DO	107	ALA	3.9
33	DL	90	VAL	3.9
28	DG	104	ASN	3.9
30	DI	43	ASN	3.9
43	DV	56	PHE	3.9
10	CJ	86	ALA	3.9
27	DF	13	VAL	3.9
10	CJ	66	GLU	3.9
19	CS	46	GLY	3.9
1	AA	412	A	3.9
3	CC	27	LYS	3.9

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Mol	Chain	Res	Type	RSRZ
30	BI	112	THR	3.9
10	CJ	15	HIS	3.9
13	CM	37	ALA	3.9
2	CB	133	GLU	3.9
25	DD	96	ILE	3.9
41	BT	2	ILE	3.9
2	CB	136	MET	3.9
10	CJ	76	ILE	3.9
16	AP	47	GLU	3.9
35	DN	82	GLU	3.9
27	DF	110	ARG	3.9
28	DG	53	GLY	3.9
36	DO	26	LEU	3.9
42	DU	59	VAL	3.9
46	DY	56	LEU	3.9
35	DN	62	ASN	3.9
13	CM	103	LYS	3.9
27	DF	172	ALA	3.9
2	CB	163	VAL	3.9
13	CM	60	VAL	3.9
13	CM	80	LEU	3.9
9	CI	127	PHE	3.9
30	DI	39	CYS	3.9
42	DU	95	PHE	3.9
19	CS	20	GLU	3.9
20	CT	9	LYS	3.9
36	DO	23	ALA	3.9
3	CC	120	ILE	3.9
10	CJ	90	LEU	3.9
26	DE	196	VAL	3.9
3	CC	29	PHE	3.9
43	DV	57	TYR	3.9
46	DY	30	MET	3.9
27	DF	165	GLU	3.8
22	DA	2126	A	3.8
40	DS	5	ALA	3.8
9	CI	66	THR	3.8
13	CM	58	ASP	3.8
9	CI	16	ALA	3.8
30	DI	14	ALA	3.8
53	B5	144	GLY	3.8
27	DF	79	ILE	3.8

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Mol	Chain	Res	Type	RSRZ
29	DH	144	VAL	3.8
31	DJ	142	ILE	3.8
46	DY	14	LEU	3.8
7	CG	78	ARG	3.8
34	DM	136	MET	3.8
50	D2	43	THR	3.8
19	CS	27	ASP	3.8
13	CM	89	LEU	3.8
7	CG	87	VAL	3.8
14	AN	30	ILE	3.8
26	DE	147	LEU	3.8
40	DS	36	LEU	3.8
36	DO	39	VAL	3.8
53	B5	100	ILE	3.8
13	CM	96	PRO	3.8
50	D2	1	MET	3.8
9	AI	63	LEU	3.8
1	AA	1492	A	3.8
41	DT	58	VAL	3.8
14	CN	57	PRO	3.8
30	BI	39	CYS	3.8
29	DH	83	LYS	3.8
36	DO	25	ARG	3.8
41	DT	49	LYS	3.8
30	DI	27	ALA	3.8
3	CC	173	VAL	3.8
7	CG	27	VAL	3.8
42	DU	62	GLU	3.8
30	DI	75	PRO	3.8
17	CQ	82	ALA	3.8
29	BH	141	LYS	3.8
9	AI	23	PRO	3.8
19	CS	76	PRO	3.8
22	DA	1170	C	3.8
33	DL	104	GLN	3.8
19	CS	26	GLY	3.8
29	DH	81	ALA	3.8
7	CG	23	LEU	3.8
34	DM	124	LEU	3.8
53	B5	40	GLU	3.8
7	CG	141	VAL	3.8
27	DF	149	VAL	3.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
35	DN	113	ILE	3.8
29	BH	73	ASN	3.8
20	CT	42	GLY	3.8
34	DM	99	GLY	3.8
41	DT	41	ALA	3.8
21	CU	35	ARG	3.8
19	CS	40	ILE	3.8
30	DI	101	ILE	3.8
21	AU	21	ARG	3.7
40	DS	95	ARG	3.7
27	DF	7	TYR	3.7
20	CT	67	ILE	3.7
36	DO	52	SER	3.7
30	BI	92	LYS	3.7
10	CJ	89	ARG	3.7
36	DO	12	THR	3.7
22	DA	2168	G	3.7
32	DK	89	ASN	3.7
27	DF	96	MET	3.7
22	BA	2113	U	3.7
29	BH	90	LEU	3.7
46	DY	21	LEU	3.7
51	D3	61	CYS	3.7
7	CG	109	ARG	3.7
19	CS	17	LYS	3.7
30	DI	87	LYS	3.7
42	DU	61	LYS	3.7
53	B5	28	ARG	3.7
32	DK	65	THR	3.7
32	DK	101	GLY	3.7
30	DI	19	ASN	3.7
1	CA	1441	A	3.7
27	DF	139	PRO	3.7
1	CA	1320	C	3.7
27	DF	142	ASP	3.7
16	CP	60	TRP	3.7
10	CJ	22	THR	3.7
27	DF	118	SER	3.7
2	CB	108	ARG	3.7
30	DI	20	PRO	3.7
18	CR	74	HIS	3.7
53	B5	105	LEU	3.7

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Mol	Chain	Res	Type	RSRZ
27	DF	60	ILE	3.7
28	BG	24	ILE	3.7
14	CN	60	GLN	3.7
9	CI	17	ALA	3.7
22	BA	2118	U	3.7
42	DU	50	PRO	3.7
2	CB	18	HIS	3.7
26	DE	158	PHE	3.7
33	DL	57	LEU	3.7
46	DY	28	LEU	3.7
36	DO	63	LYS	3.7
20	CT	87	ALA	3.7
51	D3	48	ALA	3.7
26	DE	129	PRO	3.7
22	DA	1073	A	3.7
2	CB	151	ILE	3.7
30	BI	140	VAL	3.7
35	DN	47	VAL	3.7
3	CC	62	LYS	3.7
7	AG	4	ARG	3.7
7	CG	70	ARG	3.7
27	DF	63	GLN	3.7
27	DF	76	GLY	3.7
44	DW	25	ARG	3.7
1	CA	206	C	3.7
13	CM	61	ALA	3.7
26	DE	55	SER	3.7
26	DE	150	THR	3.7
27	DF	68	THR	3.7
28	DG	25	THR	3.7
36	DO	46	GLU	3.7
32	DK	2	ILE	3.7
27	DF	64	LYS	3.6
30	BI	28	LEU	3.6
17	CQ	78	VAL	3.6
29	DH	21	VAL	3.6
4	CD	36	GLN	3.6
20	CT	86	LEU	3.6
22	DA	2124	G	3.6
27	DF	93	GLY	3.6
30	DI	16	GLY	3.6
30	DI	119	GLY	3.6

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Mol	Chain	Res	Type	RSRZ
13	CM	108	THR	3.6
22	DA	1870	C	3.6
29	DH	25	TYR	3.6
7	CG	26	PHE	3.6
2	AB	131	LYS	3.6
26	DE	183	PHE	3.6
2	CB	74	ARG	3.6
9	CI	72	ILE	3.6
16	CP	57	ILE	3.6
22	BA	2130	U	3.6
28	DG	48	ASN	3.6
10	CJ	80	THR	3.6
4	AD	37	ALA	3.6
7	CG	61	ALA	3.6
13	CM	67	GLY	3.6
16	CP	52	LEU	3.6
27	DF	169	LEU	3.6
26	DE	152	GLU	3.6
1	CA	209	U	3.6
3	CC	146	ALA	3.6
36	DO	92	PHE	3.6
2	AB	221	VAL	3.6
27	DF	37	ASN	3.6
35	DN	63	ARG	3.6
2	CB	135	LEU	3.6
13	CM	19	LEU	3.6
26	DE	14	VAL	3.6
27	DF	31	VAL	3.6
30	BI	43	ASN	3.6
53	B5	135	ARG	3.6
22	BA	2180	U	3.6
20	AT	36	TYR	3.6
2	AB	67	ILE	3.6
22	DA	2150	C	3.6
24	DC	26	LYS	3.6
12	CL	25	GLU	3.5
29	DH	104	THR	3.5
30	DI	112	THR	3.5
3	CC	196	ILE	3.5
27	DF	97	TRP	3.5
36	DO	74	VAL	3.5
38	DQ	15	LYS	3.5

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Mol	Chain	Res	Type	RSRZ
32	DK	82	ASN	3.5
28	DG	50	LEU	3.5
19	CS	18	LYS	3.5
13	CM	54	ASP	3.5
30	DI	86	ILE	3.5
14	CN	2	ALA	3.5
53	B5	129	GLY	3.5
35	DN	102	PHE	3.5
42	DU	47	LYS	3.5
2	CB	40	ILE	3.5
17	CQ	44	LEU	3.5
26	DE	24	ASN	3.5
22	DA	2172	U	3.5
42	DU	86	ARG	3.5
30	BI	95	LYS	3.5
36	DO	51	ALA	3.5
6	CF	8	PHE	3.5
10	CJ	39	PRO	3.5
35	DN	73	ASN	3.5
4	AD	151	LYS	3.5
26	DE	191	ASP	3.5
10	CJ	87	LEU	3.5
31	DJ	95	ARG	3.5
10	CJ	46	LYS	3.5
13	CM	78	LYS	3.5
29	BH	61	VAL	3.5
10	CJ	97	ASP	3.5
40	DS	109	ASP	3.5
1	AA	1032	G	3.5
33	DL	87	GLY	3.5
24	DC	92	ALA	3.5
22	BA	2189	U	3.5
25	DD	60	VAL	3.5
53	B5	81	GLY	3.5
36	DO	59	ALA	3.5
53	B5	102	GLN	3.5
25	DD	166	GLY	3.5
26	DE	168	ASP	3.5
36	DO	2	ASP	3.5
46	DY	10	SER	3.5
2	CB	90	PHE	3.5
10	CJ	27	GLU	3.4

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Mol	Chain	Res	Type	RSRZ
13	CM	72	GLU	3.4
33	DL	100	ILE	3.4
36	DO	16	ARG	3.4
1	CA	1271	A	3.4
28	DG	86	LYS	3.4
29	BH	63	ALA	3.4
38	DQ	2	ALA	3.4
14	CN	26	GLU	3.4
30	BI	80	LEU	3.4
36	DO	62	LEU	3.4
41	DT	60	THR	3.4
7	AG	80	VAL	3.4
26	DE	102	ARG	3.4
30	DI	81	LYS	3.4
33	DL	122	VAL	3.4
41	DT	73	ARG	3.4
27	DF	67	ILE	3.4
36	DO	105	ALA	3.4
49	D1	34	LEU	3.4
3	CC	71	ALA	3.4
28	DG	74	SER	3.4
7	CG	30	LEU	3.4
14	CN	79	LEU	3.4
36	DO	115	LEU	3.4
53	B5	137	LEU	3.4
33	DL	62	PRO	3.4
13	CM	4	ILE	3.4
10	AJ	89	ARG	3.4
22	BA	2151	U	3.4
41	DT	53	VAL	3.4
27	DF	140	GLU	3.4
33	DL	132	ARG	3.4
33	DL	6	LEU	3.4
41	DT	87	LEU	3.4
9	CI	41	ARG	3.4
46	DY	13	GLU	3.4
52	D4	15	LYS	3.4
53	B5	171	ALA	3.4
22	DA	2173	A	3.4
13	CM	113	ARG	3.4
29	DH	97	ARG	3.4
31	DJ	74	TYR	3.4

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Mol	Chain	Res	Type	RSRZ
53	B5	178	LYS	3.4
17	CQ	21	ILE	3.4
24	DC	64	ILE	3.4
19	AS	74	PHE	3.4
20	CT	72	ALA	3.4
29	DH	13	GLY	3.4
3	AC	101	ILE	3.4
24	BC	240	PHE	3.4
7	AG	79	ARG	3.4
44	BW	10	THR	3.4
25	DD	187	LEU	3.4
44	DW	62	LYS	3.4
22	DA	613	A	3.3
26	DE	1	MET	3.3
16	CP	81	ALA	3.3
36	DO	3	LYS	3.3
40	DS	73	LYS	3.3
28	DG	111	HIS	3.3
27	DF	86	GLY	3.3
34	DM	41	LEU	3.3
36	DO	38	GLN	3.3
7	CG	144	MET	3.3
3	CC	107	ARG	3.3
13	CM	77	ILE	3.3
19	CS	80	TYR	3.3
29	DH	35	LYS	3.3
26	DE	144	GLU	3.3
30	BI	138	LEU	3.3
51	D3	57	LEU	3.3
25	DD	104	VAL	3.3
30	DI	127	ARG	3.3
7	CG	20	SER	3.3
28	DG	24	ILE	3.3
36	DO	14	ALA	3.3
22	DA	1087	G	3.3
1	AA	1031	C	3.3
3	CC	109	PRO	3.3
22	DA	2313	C	3.3
16	CP	45	GLU	3.3
25	DD	74	GLU	3.3
3	CC	9	GLY	3.3
19	AS	71	LEU	3.3

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Mol	Chain	Res	Type	RSRZ
30	DI	29	GLY	3.3
39	DR	18	GLN	3.3
41	DT	40	LYS	3.3
37	DP	115	ASN	3.3
22	DA	2125	G	3.3
1	CA	1030	U	3.3
22	DA	2158	A	3.3
27	DF	138	PHE	3.3
29	BH	132	PHE	3.3
36	DO	66	GLY	3.3
27	DF	4	LEU	3.3
2	AB	18	HIS	3.3
27	DF	12	VAL	3.3
16	CP	82	ALA	3.3
36	DO	20	GLU	3.3
50	D2	34	ARG	3.3
2	CB	152	LYS	3.3
10	CJ	82	LYS	3.3
22	DA	1077	A	3.3
25	DD	8	LYS	3.3
36	DO	85	LYS	3.3
20	CT	43	ASP	3.3
13	AM	19	LEU	3.3
22	DA	1049	C	3.3
19	CS	19	VAL	3.3
6	CF	80	PHE	3.3
7	CG	152	ALA	3.3
29	DH	139	PHE	3.3
37	DP	110	ILE	3.3
50	D2	37	LYS	3.3
1	AA	1019	A	3.3
1	CA	1270	G	3.3
2	CB	161	LEU	3.3
2	CB	191	SER	3.3
26	DE	116	ASP	3.3
27	DF	143	TYR	3.3
7	CG	129	GLU	3.3
10	CJ	98	VAL	3.3
29	DH	146	VAL	3.3
53	B5	80	LYS	3.3
14	CN	31	ILE	3.3
14	CN	95	GLY	3.3

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Mol	Chain	Res	Type	RSRZ
28	DG	84	THR	3.3
30	DI	118	THR	3.3
30	DI	131	GLY	3.3
22	DA	101	A	3.3
9	CI	125	PRO	3.3
10	CJ	101	SER	3.3
28	DG	12	PRO	3.3
51	D3	64	TYR	3.3
19	CS	62	VAL	3.2
42	DU	83	VAL	3.2
26	DE	124	PHE	3.2
41	DT	83	ALA	3.2
7	CG	8	GLY	3.2
34	DM	54	THR	3.2
32	DK	98	ARG	3.2
36	DO	61	GLN	3.2
46	BY	23	ARG	3.2
14	CN	10	GLU	3.2
6	CF	10	VAL	3.2
25	DD	209	ALA	3.2
27	DF	136	ILE	3.2
7	CG	111	ARG	3.2
52	D4	12	ARG	3.2
13	CM	114	LYS	3.2
14	CN	74	LEU	3.2
22	DA	1095	A	3.2
53	B5	75	VAL	3.2
1	CA	210	C	3.2
10	CJ	9	ARG	3.2
7	CG	110	LYS	3.2
11	AK	14	LYS	3.2
24	DC	47	GLY	3.2
29	DH	80	ILE	3.2
30	BI	15	ALA	3.2
41	DT	50	LEU	3.2
28	DG	112	PRO	3.2
3	CC	154	SER	3.2
9	AI	33	ARG	3.2
25	DD	73	VAL	3.2
5	CE	110	ALA	3.2
14	CN	21	PHE	3.2
33	DL	50	PHE	3.2

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Mol	Chain	Res	Type	RSRZ
25	DD	14	ILE	3.2
2	AB	57	LEU	3.2
14	CN	16	LEU	3.2
26	DE	138	LEU	3.2
32	DK	108	ARG	3.2
35	DN	36	THR	3.2
45	DX	50	ARG	3.2
7	CG	44	TYR	3.2
29	DH	3	VAL	3.2
40	DS	105	VAL	3.2
22	BA	2122	U	3.2
14	CN	53	ARG	3.2
27	DF	80	ARG	3.2
5	AE	159	LYS	3.2
9	AI	22	LYS	3.2
42	DU	21	LYS	3.2
11	AK	111	THR	3.2
8	CH	25	VAL	3.2
17	CQ	23	VAL	3.2
10	CJ	65	TYR	3.2
20	AT	87	ALA	3.2
25	DD	90	PHE	3.2
36	DO	77	ALA	3.2
53	B5	26	ALA	3.2
29	DH	135	HIS	3.2
31	DJ	47	HIS	3.2
51	D3	49	MET	3.2
2	CB	114	LEU	3.2
26	DE	154	ASP	3.2
13	CM	23	TYR	3.2
36	DO	87	ILE	3.2
49	D1	48	ILE	3.2
27	DF	69	LYS	3.2
30	DI	95	LYS	3.2
33	DL	81	ASP	3.2
7	CG	19	GLY	3.2
7	AG	151	PHE	3.2
22	DA	1174	U	3.2
9	CI	79	ILE	3.2
2	AB	85	LEU	3.2
2	AB	139	ARG	3.1
2	CB	139	ARG	3.1

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Mol	Chain	Res	Type	RSRZ
17	CQ	50	ASN	3.1
25	DD	154	LYS	3.1
27	DF	25	VAL	3.1
28	DG	92	VAL	3.1
32	DK	35	VAL	3.1
32	DK	61	VAL	3.1
33	DL	102	GLY	3.1
2	CB	206	ALA	3.1
27	DF	107	ALA	3.1
30	BI	84	ALA	3.1
31	DJ	97	PRO	3.1
7	CG	38	THR	3.1
37	DP	84	ILE	3.1
41	DT	74	ILE	3.1
14	CN	100	SER	3.1
39	DR	7	SER	3.1
44	DW	46	HIS	3.1
45	DX	78	TYR	3.1
26	DE	28	VAL	3.1
29	DH	91	PHE	3.1
41	DT	59	ASN	3.1
22	BA	2137	U	3.1
27	DF	104	ILE	3.1
30	BI	122	ILE	3.1
39	DR	52	PRO	3.1
3	CC	43	LEU	3.1
26	DE	118	LEU	3.1
41	DT	3	ARG	3.1
12	AL	25	GLU	3.1
18	AR	20	GLU	3.1
2	AB	90	PHE	3.1
9	AI	19	VAL	3.1
42	DU	70	VAL	3.1
44	DW	45	PHE	3.1
16	AP	22	ALA	3.1
10	CJ	11	LYS	3.1
2	CB	104	TRP	3.1
9	CI	37	GLN	3.1
39	DR	29	THR	3.1
3	CC	197	GLY	3.1
7	CG	83	SER	3.1
9	AI	39	PHE	3.1

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Mol	Chain	Res	Type	RSRZ
26	DE	11	ALA	3.1
22	DA	1044	C	3.1
9	CI	126	GLN	3.1
32	DK	3	GLN	3.1
11	CK	42	LEU	3.1
7	AG	78	ARG	3.1
19	CS	32	ARG	3.1
27	DF	121	SER	3.1
3	CC	91	VAL	3.1
25	DD	101	PHE	3.1
28	DG	40	ALA	3.1
36	DO	28	VAL	3.1
40	DS	20	VAL	3.1
46	DY	33	ALA	3.1
2	AB	152	LYS	3.1
7	CG	84	THR	3.1
49	D1	52	ALA	3.1
22	BA	1100	C	3.1
14	AN	48	LEU	3.1
14	AN	52	PRO	3.1
29	BH	128	HIS	3.1
38	DQ	106	PHE	3.1
8	CH	110	VAL	3.1
25	DD	26	VAL	3.1
27	DF	28	VAL	3.1
35	DN	76	VAL	3.1
39	DR	14	VAL	3.1
41	BT	69	ARG	3.1
24	DC	249	GLY	3.1
26	DE	180	LEU	3.1
26	DE	200	LEU	3.1
42	DU	14	LEU	3.1
22	DA	1535	A	3.1
1	CA	1454	G	3.0
7	CG	77	SER	3.0
17	AQ	20	SER	3.0
21	AU	24	GLU	3.0
22	DA	1068	G	3.0
25	DD	75	ALA	3.0
26	DE	120	VAL	3.0
27	DF	95	ARG	3.0
28	DG	65	ALA	3.0

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Mol	Chain	Res	Type	RSRZ
32	DK	110	GLU	3.0
42	DU	30	SER	3.0
44	DW	23	VAL	3.0
9	AI	21	ILE	3.0
22	BA	1926	U	3.0
34	DM	61	GLY	3.0
34	DM	88	ASN	3.0
21	AU	7	ARG	3.0
50	D2	18	PHE	3.0
2	AB	136	MET	3.0
19	CS	45	ILE	3.0
31	DJ	140	LEU	3.0
9	CI	31	ASN	3.0
22	DA	228	C	3.0
32	DK	33	ALA	3.0
28	BG	26	ILE	3.0
29	DH	14	SER	3.0
40	DS	37	THR	3.0
27	DF	92	ARG	3.0
21	CU	37	PHE	3.0
41	DT	92	ASN	3.0
27	DF	54	ALA	3.0
10	AJ	35	GLN	3.0
7	CG	37	SER	3.0
40	DS	24	ILE	3.0
46	DY	7	ARG	3.0
20	CT	34	LYS	3.0
24	DC	154	LEU	3.0
35	DN	42	LYS	3.0
22	DA	2110	G	3.0
22	BA	885	C	3.0
25	DD	132	ALA	3.0
48	D0	38	HIS	3.0
29	BH	13	GLY	3.0
36	DO	114	GLY	3.0
8	CH	61	LEU	3.0
13	CM	69	LEU	3.0
25	DD	25	THR	3.0
39	DR	45	GLU	3.0
44	DW	59	LEU	3.0
27	DF	29	PRO	3.0
30	BI	120	ALA	3.0

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Mol	Chain	Res	Type	RSRZ
40	DS	71	VAL	3.0
41	DT	10	VAL	3.0
44	DW	64	ASP	3.0
13	CM	52	GLN	3.0
20	CT	71	LYS	3.0
22	BA	1175	A	3.0
22	BA	2129	C	3.0
22	DA	896	A	3.0
29	DH	89	LYS	3.0
44	DW	44	LYS	3.0
51	D3	52	LYS	3.0
13	CM	56	LEU	3.0
29	BH	12	LEU	3.0
33	DL	86	GLU	3.0
42	DU	37	GLU	3.0
26	DE	131	THR	3.0
21	AU	35	ARG	3.0
27	DF	102	ARG	3.0
19	CS	75	ALA	3.0
26	DE	169	VAL	3.0
28	DG	99	LYS	3.0
35	DN	9	GLN	3.0
22	DA	2175	C	3.0
33	DL	107	PHE	3.0
3	CC	36	ASP	3.0
7	CG	69	VAL	3.0
36	DO	70	ALA	3.0
3	CC	102	ASN	3.0
9	CI	4	ASN	3.0
29	DH	149	GLU	3.0
3	CC	167	TRP	3.0
32	DK	115	ILE	3.0
33	DL	58	TYR	3.0
30	DI	73	THR	2.9
30	DI	26	PRO	2.9
51	D3	65	ALA	2.9
27	DF	41	GLY	2.9
48	D0	46	ASP	2.9
33	DL	126	ARG	2.9
14	AN	23	LYS	2.9
1	CA	1028	C	2.9
22	BA	1847	A	2.9

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Mol	Chain	Res	Type	RSRZ
22	DA	2165	C	2.9
26	DE	153	LEU	2.9
37	DP	63	LYS	2.9
10	CJ	96	VAL	2.9
13	CM	88	GLY	2.9
28	DG	126	PRO	2.9
52	D4	38	GLY	2.9
27	DF	103	LEU	2.9
34	DM	33	LEU	2.9
3	AC	193	TYR	2.9
7	CG	45	SER	2.9
7	CG	74	GLU	2.9
7	CG	112	GLY	2.9
29	DH	140	ALA	2.9
30	BI	70	VAL	2.9
33	DL	124	GLY	2.9
3	CC	192	THR	2.9
38	DQ	71	GLN	2.9
44	DW	32	LEU	2.9
2	AB	30	PHE	2.9
7	CG	79	ARG	2.9
34	DM	103	TYR	2.9
2	CB	23	TRP	2.9
30	DI	41	ALA	2.9
39	DR	88	GLY	2.9
1	AA	844	G	2.9
22	DA	549	G	2.9
27	DF	51	ASP	2.9
27	DF	147	ASP	2.9
29	DH	96	THR	2.9
27	BF	80	ARG	2.9
28	DG	72	LEU	2.9
29	DH	54	LEU	2.9
8	CH	60	GLU	2.9
19	CS	10	PHE	2.9
9	CI	7	TYR	2.9
11	AK	19	GLY	2.9
42	DU	2	ALA	2.9
9	CI	32	GLN	2.9
40	DS	106	VAL	2.9
2	CB	88	ASP	2.9
32	DK	37	ASP	2.9

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Mol	Chain	Res	Type	RSRZ
15	CO	89	ARG	2.9
9	CI	63	LEU	2.9
22	DA	356	G	2.9
22	DA	914	G	2.9
22	DA	2127	G	2.9
25	DD	133	THR	2.9
29	BH	94	ILE	2.9
32	DK	107	LEU	2.9
35	DN	98	LEU	2.9
16	CP	38	PHE	2.9
27	DF	20	PHE	2.9
29	DH	133	GLN	2.9
34	DM	36	VAL	2.9
29	BH	93	SER	2.9
30	BI	103	ARG	2.9
39	DR	92	TRP	2.9
9	CI	53	GLU	2.9
22	DA	1094	U	2.9
30	DI	23	PRO	2.9
27	DF	18	THR	2.9
28	DG	127	THR	2.9
29	BH	76	GLU	2.9
1	CA	79	G	2.9
33	DL	114	GLY	2.9
22	DA	1103	A	2.9
2	CB	107	VAL	2.9
25	DD	77	ARG	2.9
27	DF	171	ALA	2.9
29	DH	123	ARG	2.9
36	DO	37	ALA	2.9
29	DH	86	ASP	2.9
7	CG	63	GLU	2.9
9	CI	21	ILE	2.9
52	D4	6	SER	2.9
10	CJ	43	PRO	2.9
29	DH	137	GLU	2.9
17	CQ	17	MET	2.9
10	CJ	70	HIS	2.9
13	CM	55	THR	2.9
51	D3	6	THR	2.9
31	DJ	13	ARG	2.9
11	AK	129	VAL	2.9

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Mol	Chain	Res	Type	RSRZ
28	DG	164	TYR	2.9
41	DT	72	GLN	2.9
1	CA	1314	C	2.9
28	DG	77	ILE	2.9
30	DI	122	ILE	2.9
33	DL	8	PRO	2.9
50	D2	35	ARG	2.9
3	CC	69	HIS	2.9
29	DH	65	ALA	2.9
32	DK	60	ALA	2.9
36	DO	109	ALA	2.9
41	BT	92	ASN	2.9
2	CB	92	VAL	2.8
30	BI	9	VAL	2.8
46	DY	25	GLN	2.8
13	CM	11	ASP	2.8
28	DG	130	GLU	2.8
41	DT	4	GLU	2.8
1	CA	207	C	2.8
22	BA	2132	U	2.8
22	DA	546	U	2.8
19	AS	13	LEU	2.8
26	DE	148	ILE	2.8
29	BH	44	ILE	2.8
33	DL	79	LEU	2.8
47	DZ	48	ILE	2.8
21	AU	11	PRO	2.8
24	DC	244	PRO	2.8
26	DE	10	SER	2.8
42	DU	100	SER	2.8
29	BH	92	GLY	2.8
40	DS	16	LYS	2.8
2	AB	187	VAL	2.8
38	DQ	39	VAL	2.8
28	DG	69	ARG	2.8
22	DA	2157	G	2.8
30	BI	49	ILE	2.8
30	DI	51	LYS	2.8
47	DZ	56	LYS	2.8
27	DF	24	SER	2.8
22	BA	2167	U	2.8
3	AC	100	GLN	2.8

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Mol	Chain	Res	Type	RSRZ
10	CJ	51	VAL	2.8
48	D0	30	VAL	2.8
14	AN	20	TYR	2.8
9	AI	83	ILE	2.8
26	DE	157	LEU	2.8
30	DI	138	LEU	2.8
40	DS	103	ILE	2.8
9	CI	57	MET	2.8
24	DC	18	LYS	2.8
42	DU	93	VAL	2.8
48	D0	54	VAL	2.8
26	DE	13	THR	2.8
44	DW	43	THR	2.8
3	CC	77	ILE	2.8
24	DC	104	ILE	2.8
7	CG	81	GLY	2.8
27	BF	176	PRO	2.8
36	DO	30	ARG	2.8
28	DG	96	ALA	2.8
30	DI	125	MET	2.8
3	CC	86	LYS	2.8
44	DW	75	LYS	2.8
9	CI	19	VAL	2.8
37	DP	104	THR	2.8
3	CC	124	LEU	2.8
42	DU	72	ILE	2.8
9	CI	12	ARG	2.8
51	D3	22	PHE	2.8
3	CC	45	LYS	2.8
2	CB	34	ALA	2.8
43	DV	54	ALA	2.8
22	BA	549	G	2.8
52	D4	13	ASN	2.8
22	BA	139	U	2.8
22	DA	139	U	2.8
31	DJ	21	THR	2.8
33	DL	5	THR	2.8
2	AB	213	TYR	2.8
33	DL	73	ILE	2.8
35	DN	97	ILE	2.8
49	D1	21	TYR	2.8
20	CT	38	ALA	2.8

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Mol	Chain	Res	Type	RSRZ
39	DR	28	ALA	2.8
1	CA	1317	C	2.8
2	CB	147	SER	2.8
50	D2	30	VAL	2.8
13	AM	4	ILE	2.8
22	BA	277	G	2.8
22	BA	2133	G	2.8
27	DF	111	ILE	2.8
28	DG	26	ILE	2.8
40	DS	98	LYS	2.8
43	DV	91	PHE	2.8
44	DW	74	PRO	2.8
48	D0	2	ALA	2.8
46	DY	31	GLN	2.8
10	CJ	31	ARG	2.8
14	CN	32	SER	2.8
25	DD	95	SER	2.8
29	DH	147	VAL	2.8
32	DK	103	VAL	2.8
33	DL	85	VAL	2.8
2	AB	81	LYS	2.8
19	AS	21	LYS	2.8
38	DQ	22	LYS	2.8
42	DU	19	LYS	2.8
52	D4	33	HIS	2.8
3	CC	171	GLY	2.8
22	DA	1066	U	2.8
2	CB	189	THR	2.8
3	CC	174	PRO	2.8
30	DI	100	LYS	2.8
34	DM	109	PRO	2.8
48	D0	5	GLN	2.8
39	DR	1	MET	2.8
13	CM	76	SER	2.7
36	DO	80	GLU	2.7
27	DF	16	LEU	2.7
29	BH	51	ARG	2.7
2	AB	35	ARG	2.7
27	BF	113	ASP	2.7
27	DF	50	LEU	2.7
37	DP	114	LEU	2.7
42	DU	65	ILE	2.7

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Mol	Chain	Res	Type	RSRZ
28	DG	30	ASN	2.7
29	BH	20	ASN	2.7
52	D4	2	LYS	2.7
22	DA	1046	A	2.7
29	BH	81	ALA	2.7
13	AM	10	PRO	2.7
25	DD	180	VAL	2.7
26	DE	122	GLU	2.7
32	DK	81	GLY	2.7
11	AK	53	ARG	2.7
42	DU	22	ARG	2.7
9	CI	14	SER	2.7
1	CA	90	C	2.7
24	DC	240	PHE	2.7
29	BH	75	LEU	2.7
43	DV	42	LEU	2.7
24	DC	112	ALA	2.7
36	DO	113	ALA	2.7
20	CT	36	TYR	2.7
39	DR	6	GLN	2.7
46	DY	45	GLN	2.7
22	BA	613	A	2.7
2	CB	182	PRO	2.7
14	AN	24	ARG	2.7
21	CU	47	ARG	2.7
26	DE	21	ARG	2.7
29	DH	40	THR	2.7
17	CQ	4	LYS	2.7
22	DA	1099	G	2.7
26	DE	133	LEU	2.7
30	BI	42	PHE	2.7
48	D0	39	LEU	2.7
51	D3	28	ASN	2.7
9	AI	27	LYS	2.7
9	CI	9	THR	2.7
11	CK	19	GLY	2.7
26	DE	126	VAL	2.7
44	DW	73	GLY	2.7
45	DX	47	VAL	2.7
53	B5	125	GLY	2.7
3	CC	182	ILE	2.7
10	CJ	6	ILE	2.7

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Mol	Chain	Res	Type	RSRZ
28	DG	107	LEU	2.7
22	BA	546	U	2.7
3	CC	92	ALA	2.7
27	DF	135	GLN	2.7
11	AK	126	LYS	2.7
25	DD	84	LEU	2.7
26	DE	23	PHE	2.7
31	DJ	54	ILE	2.7
42	DU	9	ASP	2.7
29	BH	149	GLU	2.7
49	D1	13	SER	2.7
24	DC	28	LYS	2.7
26	DE	8	ALA	2.7
53	B5	124	VAL	2.7
3	CC	33	LEU	2.7
7	AG	109	ARG	2.7
39	DR	53	PHE	2.7
13	AM	33	ILE	2.7
26	BE	7	ASP	2.7
30	DI	97	LYS	2.7
35	DN	77	ALA	2.7
38	DQ	37	GLN	2.7
22	DA	1100	C	2.7
49	B1	4	GLY	2.7
1	CA	1455	G	2.7
3	CC	153	VAL	2.7
12	CL	14	ARG	2.7
45	DX	3	ARG	2.7
7	CG	120	LEU	2.7
10	AJ	10	LEU	2.7
14	AN	51	LEU	2.7
28	DG	83	PHE	2.7
45	DX	46	PHE	2.7
26	DE	149	ILE	2.7
27	DF	101	GLU	2.7
32	DK	38	ILE	2.7
52	D4	16	ILE	2.7
14	CN	33	ASP	2.7
37	DP	42	ALA	2.7
2	CB	71	GLY	2.7
25	DD	87	GLY	2.7
33	DL	80	SER	2.7

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Mol	Chain	Res	Type	RSRZ
29	DH	51	ARG	2.7
31	DJ	35	ARG	2.7
45	DX	11	ARG	2.7
1	CA	204	G	2.6
10	CJ	92	LEU	2.6
22	DA	1084	A	2.6
25	DD	1	MET	2.6
27	BF	83	TYR	2.6
37	DP	43	PHE	2.6
40	DS	38	TYR	2.6
8	CH	75	ILE	2.6
26	DE	173	THR	2.6
28	BG	166	ASP	2.6
1	CA	208	U	2.6
19	CS	3	ARG	2.6
41	DT	91	GLN	2.6
29	DH	95	GLY	2.6
30	BI	33	VAL	2.6
34	DM	80	VAL	2.6
10	CJ	81	GLU	2.6
27	DF	83	TYR	2.6
20	CT	60	ARG	2.6
30	DI	107	GLN	2.6
13	CM	44	LYS	2.6
28	DG	41	VAL	2.6
29	DH	9	VAL	2.6
10	AJ	90	LEU	2.6
24	DC	93	LEU	2.6
28	DG	73	ASN	2.6
27	DF	22	TYR	2.6
9	CI	51	PRO	2.6
22	DA	1057	A	2.6
12	AL	123	LYS	2.6
19	AS	68	GLY	2.6
24	DC	242	LYS	2.6
27	BF	72	LYS	2.6
28	DG	134	LYS	2.6
47	DZ	33	GLY	2.6
3	CC	195	VAL	2.6
9	CI	42	GLU	2.6
3	CC	127	ARG	2.6
3	CC	156	ARG	2.6

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Mol	Chain	Res	Type	RSRZ
28	DG	170	ARG	2.6
29	BH	47	PHE	2.6
27	DF	26	MET	2.6
36	DO	41	ALA	2.6
19	CS	52	HIS	2.6
21	CU	44	GLU	2.6
24	DC	232	HIS	2.6
41	DT	47	VAL	2.6
9	AI	34	SER	2.6
40	DS	101	SER	2.6
3	AC	62	LYS	2.6
29	DH	141	LYS	2.6
36	DO	56	LYS	2.6
39	DR	43	ASN	2.6
19	AS	56	GLN	2.6
22	BA	1067	A	2.6
47	DZ	9	GLN	2.6
7	CG	139	GLU	2.6
13	CM	50	GLU	2.6
22	DA	2402	U	2.6
22	BA	2193	G	2.6
22	DA	1407	G	2.6
27	DF	162	SER	2.6
29	DH	93	SER	2.6
3	CC	155	GLY	2.6
31	DJ	118	MET	2.6
38	DQ	65	ILE	2.6
3	CC	168	TYR	2.6
7	CG	108	ALA	2.6
10	CJ	75	ASP	2.6
14	CN	92	GLU	2.6
30	BI	44	ALA	2.6
1	CA	1022	A	2.6
29	DH	61	VAL	2.6
27	DF	159	THR	2.6
46	DY	37	LEU	2.6
26	DE	151	GLY	2.6
20	CT	45	ALA	2.6
22	BA	2109	U	2.6
22	BA	2885	G	2.6
29	BH	145	ASN	2.6
31	DJ	98	GLU	2.6

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Mol	Chain	Res	Type	RSRZ
37	DP	9	GLU	2.6
30	DI	40	LYS	2.6
43	DV	34	LYS	2.6
48	D0	37	LYS	2.6
29	DH	128	HIS	2.6
2	CB	101	LEU	2.6
49	D1	17	THR	2.6
3	CC	75	ILE	2.6
30	DI	115	ALA	2.6
42	BU	53	ASN	2.6
46	DY	32	ALA	2.6
1	AA	79	G	2.6
22	DA	75	G	2.6
41	DT	62	VAL	2.6
7	CG	143	ARG	2.5
12	AL	14	ARG	2.5
33	DL	130	GLY	2.5
29	DH	148	ALA	2.5
22	DA	1176	U	2.5
2	CB	91	PHE	2.5
7	CG	89	VAL	2.5
9	CI	47	VAL	2.5
30	DI	9	VAL	2.5
40	DS	45	VAL	2.5
52	D4	7	VAL	2.5
28	DG	6	LYS	2.5
28	DG	85	LYS	2.5
28	DG	172	LYS	2.5
35	DN	56	LYS	2.5
11	AK	110	ILE	2.5
4	CD	37	ALA	2.5
24	BC	272	SER	2.5
27	DF	75	ALA	2.5
29	BH	125	THR	2.5
3	CC	72	ARG	2.5
7	AG	143	ARG	2.5
7	CG	130	ASN	2.5
7	AG	75	VAL	2.5
27	DF	108	VAL	2.5
34	DM	77	PRO	2.5
21	CU	24	GLU	2.5
22	DA	1045	C	2.5

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Mol	Chain	Res	Type	RSRZ
42	DU	33	LYS	2.5
3	CC	207	ILE	2.5
10	AJ	8	ILE	2.5
28	DG	131	ILE	2.5
2	CB	154	MET	2.5
13	CM	81	MET	2.5
20	AT	64	LYS	2.5
37	DP	111	LYS	2.5
44	DW	72	LYS	2.5
9	AI	89	GLU	2.5
9	CI	89	GLU	2.5
26	DE	178	VAL	2.5
41	DT	25	GLU	2.5
41	DT	67	VAL	2.5
9	CI	61	LEU	2.5
3	CC	136	ARG	2.5
22	DA	2116	G	2.5
22	DA	2121	G	2.5
28	DG	174	ALA	2.5
45	DX	61	LYS	2.5
21	AU	13	ASP	2.5
29	DH	132	PHE	2.5
34	DM	26	VAL	2.5
44	DW	70	GLU	2.5
28	DG	151	TYR	2.5
18	AR	68	LEU	2.5
33	DL	139	GLY	2.5
36	DO	81	ARG	2.5
9	CI	30	ILE	2.5
19	CS	70	LYS	2.5
26	DE	9	GLN	2.5
1	CA	86	G	2.5
13	CM	82	ASP	2.5
36	DO	93	ASP	2.5
1	AA	842	U	2.5
2	AB	74	ARG	2.5
50	D2	28	ARG	2.5
2	AB	66	LYS	2.5
26	DE	98	LYS	2.5
22	DA	357	C	2.5
22	DA	1606	C	2.5
7	CG	128	ALA	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
34	DM	60	GLN	2.5
30	DI	117	MET	2.5
50	D2	22	MET	2.5
21	AU	32	VAL	2.5
27	DF	61	SER	2.5
29	DH	29	PHE	2.5
14	CN	76	LYS	2.5
19	CS	6	LYS	2.5
17	CQ	8	LEU	2.5
27	DF	52	ASN	2.5
30	BI	45	LYS	2.5
51	D3	23	LYS	2.5
1	CA	1269	A	2.5
3	CC	10	ILE	2.5
44	DW	61	ALA	2.5
2	CB	35	ARG	2.5
5	CE	151	GLU	2.5
27	BF	42	GLU	2.5
30	DI	50	GLU	2.5
46	DY	29	ARG	2.5
7	CG	137	LYS	2.5
27	DF	48	LYS	2.5
28	DG	11	VAL	2.5
36	DO	76	LYS	2.5
43	DV	26	PHE	2.5
16	AP	6	LEU	2.5
19	AS	9	PRO	2.5
22	BA	2098	U	2.5
22	DA	2109	U	2.5
2	CB	186	ILE	2.5
3	CC	55	ILE	2.5
7	CG	42	ILE	2.5
9	AI	32	GLN	2.5
22	DA	345	A	2.5
28	DG	124	GLU	2.5
30	DI	84	ALA	2.5
40	DS	96	ILE	2.5
49	D1	5	ILE	2.5
14	CN	98	LYS	2.5
22	DA	1117	C	2.5
26	DE	193	VAL	2.5
3	CC	70	THR	2.4

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Mol	Chain	Res	Type	RSRZ
6	AF	61	LEU	2.4
17	CQ	75	LEU	2.4
28	DG	8	PRO	2.4
28	DG	49	THR	2.4
50	D2	31	LEU	2.4
50	D2	21	ARG	2.4
19	CS	65	GLU	2.4
20	CT	57	ILE	2.4
22	DA	277	G	2.4
7	CG	131	LYS	2.4
32	DK	99	ILE	2.4
48	D0	43	ILE	2.4
22	DA	279	A	2.4
1	AA	1027	C	2.4
22	DA	885	C	2.4
3	CC	5	VAL	2.4
3	CC	78	GLY	2.4
3	CC	145	GLY	2.4
6	CF	89	VAL	2.4
13	CM	65	VAL	2.4
25	DD	144	GLY	2.4
30	BI	64	ASP	2.4
2	CB	225	ARG	2.4
13	CM	3	ARG	2.4
35	DN	30	ARG	2.4
20	CT	66	LEU	2.4
20	CT	79	LEU	2.4
28	DG	71	LEU	2.4
13	CM	8	ASN	2.4
26	DE	189	THR	2.4
46	DY	16	THR	2.4
22	DA	1179	G	2.4
22	DA	2107	G	2.4
2	AB	217	VAL	2.4
3	CC	65	ARG	2.4
24	BC	235	GLY	2.4
24	DC	48	ARG	2.4
25	DD	200	ASP	2.4
27	DF	10	ASP	2.4
39	DR	47	VAL	2.4
40	DS	17	VAL	2.4
13	CM	41	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
28	BG	107	LEU	2.4
41	DT	89	GLU	2.4
28	DG	22	GLN	2.4
29	DH	131	SER	2.4
7	CG	46	ALA	2.4
1	AA	82	G	2.4
2	CB	162	PHE	2.4
9	CI	10	GLY	2.4
13	CM	16	VAL	2.4
22	DA	1530	G	2.4
28	DG	161	GLY	2.4
36	DO	89	ASP	2.4
30	BI	97	LYS	2.4
39	DR	51	VAL	2.4
43	DV	1	MET	2.4
25	DD	4	LEU	2.4
32	DK	91	SER	2.4
16	CP	35	ARG	2.4
17	CQ	74	THR	2.4
2	CB	30	PHE	2.4
3	CC	159	GLY	2.4
23	DB	119	A	2.4
28	DG	82	GLY	2.4
42	DU	17	LYS	2.4
14	AN	26	GLU	2.4
27	BF	74	VAL	2.4
39	DR	33	VAL	2.4
5	CE	124	LEU	2.4
33	DL	19	LEU	2.4
30	DI	104	ALA	2.4
34	DM	6	ARG	2.4
2	AB	151	ILE	2.4
11	CK	43	GLY	2.4
39	DR	99	THR	2.4
41	DT	54	GLU	2.4
22	DA	2903	U	2.4
19	AS	5	LEU	2.4
19	AS	15	LEU	2.4
33	DL	21	ARG	2.4
40	DS	82	MET	2.4
7	CG	76	LYS	2.4
9	CI	44	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
22	DA	1063	G	2.4
36	DO	116	GLN	2.4
52	D4	35	GLN	2.4
34	DM	8	LYS	2.4
3	CC	85	GLU	2.4
3	CC	206	GLU	2.4
14	CN	65	ARG	2.4
16	CP	20	VAL	2.4
29	BH	17	ASP	2.4
39	DR	63	VAL	2.4
10	AJ	34	ALA	2.4
11	AK	43	GLY	2.4
22	DA	883	G	2.4
2	CB	110	SER	2.4
14	AN	55	SER	2.4
14	CN	101	TRP	2.4
40	DS	26	GLY	2.4
15	CO	15	PHE	2.4
36	DO	99	TYR	2.4
42	DU	53	ASN	2.4
50	D2	39	ARG	2.4
2	CB	210	VAL	2.4
36	DO	53	THR	2.4
40	DS	7	HIS	2.4
43	DV	60	VAL	2.4
22	DA	1048	A	2.4
31	DJ	20	ALA	2.4
10	CJ	33	GLY	2.4
19	AS	40	ILE	2.4
28	DG	78	GLY	2.4
22	DA	2120	G	2.4
26	DE	125	SER	2.4
49	B1	53	LYS	2.4
29	DH	117	LEU	2.3
2	CB	122	GLN	2.3
7	CG	51	ALA	2.3
22	DA	143	C	2.3
22	DA	2177	C	2.3
40	DS	35	ILE	2.3
9	CI	100	LYS	2.3
40	DS	48	LYS	2.3
40	DS	13	SER	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
3	CC	87	LEU	2.3
22	DA	1228	G	2.3
27	DF	90	THR	2.3
1	CA	4	U	2.3
22	DA	2169	A	2.3
41	DT	77	ARG	2.3
34	DM	116	ALA	2.3
36	DO	73	ALA	2.3
42	DU	4	LYS	2.3
46	DY	9	LYS	2.3
3	CC	138	VAL	2.3
9	CI	33	ARG	2.3
10	AJ	7	ARG	2.3
10	AJ	75	ASP	2.3
26	DE	33	VAL	2.3
14	CN	41	ARG	2.3
27	DF	46	ASP	2.3
30	BI	102	SER	2.3
20	CT	68	HIS	2.3
1	CA	1305	G	2.3
22	DA	1248	G	2.3
25	DD	38	LYS	2.3
30	DI	91	GLY	2.3
41	DT	68	LYS	2.3
49	D1	18	GLY	2.3
53	B5	123	ALA	2.3
28	DG	141	ILE	2.3
39	DR	101	ILE	2.3
2	CB	69	PHE	2.3
34	DM	130	PHE	2.3
3	CC	179	ARG	2.3
30	BI	65	ARG	2.3
9	AI	54	LEU	2.3
51	D3	47	LYS	2.3
1	AA	81	A	2.3
22	DA	1085	A	2.3
22	BA	1171	G	2.3
22	BA	2190	G	2.3
20	CT	51	PHE	2.3
30	DI	134	ARG	2.3
4	CD	143	VAL	2.3
10	AJ	98	VAL	2.3

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Mol	Chain	Res	Type	RSRZ
3	CC	183	ASP	2.3
27	DF	33	LYS	2.3
34	DM	62	LYS	2.3
33	DL	7	SER	2.3
51	D3	51	SER	2.3
7	AG	65	ALA	2.3
10	CJ	61	ALA	2.3
33	DL	49	GLY	2.3
47	DZ	34	HIS	2.3
13	AM	92	ARG	2.3
24	DC	101	ARG	2.3
30	BI	118	THR	2.3
7	AG	18	PHE	2.3
12	AL	15	LYS	2.3
45	DX	26	LYS	2.3
26	DE	186	VAL	2.3
53	B5	25	GLU	2.3
1	CA	1136	C	2.3
15	AO	31	LEU	2.3
22	DA	544	C	2.3
22	DA	795	C	2.3
14	AN	43	ASN	2.3
14	CN	61	ARG	2.3
1	CA	80	A	2.3
44	DW	78	LYS	2.3
3	CC	106	VAL	2.3
1	CA	1033	G	2.3
7	CG	86	GLN	2.3
13	CM	34	LEU	2.3
22	DA	214	G	2.3
4	CD	24	GLY	2.3
22	DA	1064	C	2.3
42	DU	82	ARG	2.3
2	CB	226	SER	2.3
29	BH	82	SER	2.3
34	DM	56	ALA	2.3
50	D2	13	ASN	2.3
38	DQ	19	LYS	2.3
3	CC	103	ILE	2.3
5	AE	31	PHE	2.3
22	DA	2176	A	2.3
27	DF	99	PHE	2.3

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Mol	Chain	Res	Type	RSRZ
29	BH	4	ILE	2.3
37	DP	74	PHE	2.3
9	CI	84	THR	2.3
25	DD	125	TRP	2.3
36	DO	27	VAL	2.3
40	DS	107	VAL	2.3
7	CG	50	LEU	2.3
24	DC	205	LEU	2.3
22	DA	361	G	2.3
22	DA	2112	G	2.3
28	DG	7	ALA	2.3
18	AR	32	TYR	2.3
3	CC	134	MET	2.3
5	CE	10	GLU	2.3
10	AJ	100	ILE	2.3
39	DR	37	GLU	2.3
1	CA	1248	A	2.3
1	CA	1274	A	2.3
22	BA	2119	A	2.3
27	BF	149	VAL	2.3
28	DG	168	VAL	2.3
29	BH	78	VAL	2.3
45	DX	7	VAL	2.3
13	AM	80	LEU	2.3
29	DH	5	LEU	2.3
1	CA	83	C	2.2
2	AB	226	SER	2.2
14	CN	56	SER	2.2
29	DH	113	SER	2.2
39	DR	66	HIS	2.2
1	CA	1492	A	2.2
28	DG	79	VAL	2.2
9	AI	40	GLY	2.2
46	DY	36	GLN	2.2
1	CA	1321	U	2.2
8	CH	130	ALA	2.2
9	AI	51	PRO	2.2
40	DS	94	ASP	2.2
29	BH	111	ALA	2.2
15	AO	17	ARG	2.2
19	AS	41	PHE	2.2
34	DM	105	MET	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
14	AN	16	LEU	2.2
30	BI	29	GLY	2.2
41	DT	61	LEU	2.2
19	AS	24	GLU	2.2
33	DL	15	ALA	2.2
33	DL	72	ALA	2.2
2	CB	31	ILE	2.2
28	DG	27	LYS	2.2
22	DA	275	C	2.2
51	D3	43	HIS	2.2
2	CB	187	VAL	2.2
2	CB	217	VAL	2.2
22	DA	1450	G	2.2
2	AB	83	ALA	2.2
9	CI	62	ASP	2.2
13	CM	5	ALA	2.2
29	BH	39	ALA	2.2
38	DQ	99	ALA	2.2
48	D0	23	THR	2.2
48	D0	33	THR	2.2
3	CC	130	PHE	2.2
1	CA	1132	C	2.2
41	DT	24	MET	2.2
3	CC	52	VAL	2.2
4	AD	128	ARG	2.2
26	DE	170	ARG	2.2
28	DG	95	ARG	2.2
29	DH	116	ARG	2.2
18	CR	29	LEU	2.2
22	DA	280	U	2.2
40	DS	31	GLN	2.2
41	BT	32	LEU	2.2
47	DZ	29	LEU	2.2
49	D1	45	GLN	2.2
1	CA	1024	G	2.2
23	DB	18	G	2.2
14	CN	94	PRO	2.2
29	DH	38	PRO	2.2
30	BI	75	PRO	2.2
9	AI	79	ILE	2.2
13	CM	22	ILE	2.2
1	CA	985	C	2.2

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Mol	Chain	Res	Type	RSRZ
18	CR	51	TYR	2.2
22	DA	2129	C	2.2
25	DD	10	GLY	2.2
29	DH	24	GLY	2.2
10	AJ	74	VAL	2.2
3	CC	104	ALA	2.2
22	DA	344	A	2.2
27	DF	56	ASP	2.2
33	DL	91	ASP	2.2
11	AK	96	THR	2.2
16	CP	3	THR	2.2
29	DH	32	PRO	2.2
17	CQ	73	TRP	2.2
38	DQ	84	LYS	2.2
1	CA	87	C	2.2
9	CI	94	LEU	2.2
26	DE	15	SER	2.2
26	DE	30	GLN	2.2
30	BI	6	GLN	2.2
40	DS	15	GLN	2.2
43	DV	49	ASN	2.2
27	DF	49	LEU	2.2
3	CC	61	ALA	2.2
3	CC	54	ARG	2.2
11	AK	52	PHE	2.2
13	CM	87	ARG	2.2
28	DG	16	ASP	2.2
36	DO	13	ARG	2.2
16	CP	76	LYS	2.2
34	DM	7	THR	2.2
40	DS	41	LYS	2.2
2	CB	149	GLY	2.2
22	DA	1225	G	2.2
24	DC	99	GLY	2.2
26	DE	54	GLY	2.2
43	DV	32	GLY	2.2
3	CC	22	TRP	2.2
3	CC	42	TYR	2.2
7	AG	23	LEU	2.2
14	CN	49	GLN	2.2
7	AG	83	SER	2.2
30	BI	77	ALA	2.2

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Mol	Chain	Res	Type	RSRZ
37	DP	91	ALA	2.2
40	DS	56	ALA	2.2
1	CA	1362	A	2.2
19	AS	64	ASP	2.2
3	CC	204	LYS	2.2
17	AQ	16	LYS	2.2
1	AA	88	U	2.2
7	AG	7	ILE	2.2
29	BH	99	ILE	2.2
32	DK	47	ILE	2.2
2	CB	65	GLY	2.2
28	DG	31	GLY	2.2
31	DJ	22	GLY	2.2
33	DL	88	GLY	2.2
1	CA	1018	G	2.2
3	AC	178	LEU	2.2
5	CE	114	VAL	2.2
19	AS	32	ARG	2.2
29	DH	68	ARG	2.2
42	BU	52	LEU	2.2
52	D4	36	ARG	2.2
7	CG	107	ALA	2.2
19	CS	22	ALA	2.2
22	DA	268	C	2.1
22	DA	2163	A	2.1
46	DY	26	PHE	2.1
26	DE	25	GLU	2.1
28	BG	12	PRO	2.1
30	BI	109	ILE	2.1
39	DR	62	GLU	2.1
3	AC	136	ARG	2.1
15	CO	17	ARG	2.1
2	AB	161	LEU	2.1
11	AK	82	LEU	2.1
24	DC	33	LEU	2.1
14	CN	22	ALA	2.1
20	CT	8	LYS	2.1
22	DA	141	G	2.1
22	DA	1408	G	2.1
22	DA	2304	G	2.1
23	DB	20	G	2.1
30	BI	27	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
34	DM	64	TRP	2.1
25	DD	139	SER	2.1
32	DK	75	SER	2.1
29	DH	55	GLU	2.1
43	DV	41	GLU	2.1
20	CT	25	ARG	2.1
28	DG	108	GLY	2.1
40	DS	87	PRO	2.1
42	DU	48	PRO	2.1
2	CB	70	VAL	2.1
19	AS	48	THR	2.1
24	DC	94	VAL	2.1
28	DG	17	VAL	2.1
29	DH	8	LYS	2.1
29	DH	112	LYS	2.1
30	BI	106	LEU	2.1
3	AC	22	TRP	2.1
44	DW	85	GLU	2.1
22	DA	329	G	2.1
35	DN	45	ARG	2.1
50	D2	14	ARG	2.1
3	AC	155	GLY	2.1
52	D4	26	ILE	2.1
7	CG	105	VAL	2.1
20	CT	58	VAL	2.1
27	DF	57	LEU	2.1
33	DL	74	THR	2.1
36	DO	48	LEU	2.1
53	B5	186	LEU	2.1
13	CM	35	ALA	2.1
43	DV	36	ALA	2.1
24	DC	238	ARG	2.1
20	CT	64	LYS	2.1
25	DD	6	GLY	2.1
1	CA	203	G	2.1
22	BA	2191	A	2.1
22	DA	343	C	2.1
22	DA	1076	C	2.1
22	DA	2123	G	2.1
7	CG	71	PRO	2.1
3	CC	128	VAL	2.1
3	CC	169	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
17	AQ	8	LEU	2.1
29	BH	9	VAL	2.1
29	BH	117	LEU	2.1
14	AN	22	ALA	2.1
37	DP	95	ALA	2.1
44	DW	55	ARG	2.1
26	DE	18	THR	2.1
2	CB	66	LYS	2.1
13	CM	27	LYS	2.1
16	AP	16	PHE	2.1
19	AS	10	PHE	2.1
29	BH	25	TYR	2.1
41	DT	84	TYR	2.1
1	CA	1209	C	2.1
1	CA	1247	U	2.1
23	DB	118	C	2.1
1	CA	1242	G	2.1
1	CA	1453	G	2.1
9	AI	104	VAL	2.1
9	CI	75	GLN	2.1
17	CQ	77	ARG	2.1
22	DA	1112	G	2.1
22	DA	1116	G	2.1
35	DN	29	VAL	2.1
51	D3	55	LEU	2.1
4	AD	22	LYS	2.1
7	CG	101	MET	2.1
14	CN	7	LYS	2.1
19	CS	57	HIS	2.1
36	DO	4	LYS	2.1
2	CB	159	ASP	2.1
2	CB	202	GLY	2.1
26	DE	171	ASP	2.1
25	DD	126	ASN	2.1
53	B5	21	TYR	2.1
2	AB	186	ILE	2.1
4	CD	28	ILE	2.1
29	BH	131	SER	2.1
7	AG	2	PRO	2.1
22	DA	2376	A	2.1
2	CB	37	LYS	2.1
14	CN	19	LYS	2.1

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Mol	Chain	Res	Type	RSRZ
19	AS	47	LEU	2.1
24	DC	250	VAL	2.1
28	DG	42	GLU	2.1
37	DP	40	LEU	2.1
37	DP	70	VAL	2.1
46	DY	4	LYS	2.1
3	AC	134	MET	2.1
25	DD	54	ALA	2.1
29	BH	88	GLY	2.1
29	DH	85	GLY	2.1
27	DF	150	ARG	2.1
13	CM	73	ILE	2.1
26	DE	156	ASN	2.1
28	DG	101	ASN	2.1
16	CP	44	SER	2.1
22	BA	1094	U	2.1
30	BI	72	LYS	2.1
30	DI	128	SER	2.1
36	DO	112	GLU	2.1
42	DU	44	LYS	2.1
51	D3	41	LYS	2.1
22	DA	183	C	2.1
36	DO	49	VAL	2.1
3	CC	50	ALA	2.1
1	AA	1020	G	2.1
2	CB	95	ARG	2.1
13	AM	51	GLY	2.1
36	DO	22	GLY	2.1
49	D1	39	PHE	2.1
22	DA	882	G	2.1
27	DF	6	ASP	2.1
28	DG	39	ASP	2.1
30	BI	94	ASN	2.1
40	DS	2	GLU	2.1
40	DS	6	LYS	2.1
42	DU	69	ASN	2.1
8	CH	118	GLN	2.1
12	CL	2	ALA	2.1
39	DR	103	ALA	2.1
1	CA	1313	U	2.0
10	CJ	38	GLY	2.0
30	BI	16	GLY	2.0

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Mol	Chain	Res	Type	RSRZ
3	CC	190	HIS	2.0
51	D3	39	LYS	2.0
2	AB	78	GLU	2.0
25	DD	88	GLU	2.0
28	DG	51	THR	2.0
9	CI	5	GLN	2.0
19	CS	4	SER	2.0
42	DU	6	ARG	2.0
1	CA	1324	A	2.0
24	DC	233	GLY	2.0
46	BY	62	GLY	2.0
53	B5	177	GLY	2.0
12	CL	123	LYS	2.0
13	CM	13	LYS	2.0
27	DF	78	LYS	2.0
3	CC	14	ILE	2.0
1	AA	121	U	2.0
13	CM	57	ARG	2.0
14	CN	69	ARG	2.0
22	DA	1173	U	2.0
28	DG	34	THR	2.0
34	DM	16	ARG	2.0
38	DQ	53	ARG	2.0
44	DW	77	ARG	2.0
3	AC	91	VAL	2.0
13	CM	25	VAL	2.0
37	DP	97	LEU	2.0
7	CG	125	SER	2.0
11	CK	45	ALA	2.0
26	DE	179	SER	2.0
32	DK	109	SER	2.0
41	DT	9	LYS	2.0
49	D1	31	PRO	2.0
52	D4	32	LYS	2.0
39	DR	46	GLU	2.0
41	DT	56	GLU	2.0
22	BA	1065	U	2.0
22	DA	1065	U	2.0
17	CQ	65	ARG	2.0
27	DF	44	ILE	2.0
32	DK	39	ILE	2.0
20	CT	13	GLN	2.0

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Mol	Chain	Res	Type	RSRZ
30	DI	105	GLN	2.0
11	AK	81	ASN	2.0
29	BH	71	LYS	2.0
2	CB	201	PRO	2.0
7	AG	26	PHE	2.0
11	CK	55	SER	2.0
13	CM	112	PRO	2.0
22	DA	2602	A	2.0
28	DG	125	CYS	2.0
38	DQ	89	GLU	2.0
22	DA	267	C	2.0
28	DG	35	ARG	2.0
26	DE	22	ASP	2.0
9	AI	37	GLN	2.0
20	CT	5	LYS	2.0
30	DI	111	GLN	2.0
37	DP	38	LYS	2.0
41	DT	82	LYS	2.0
34	DM	89	VAL	2.0
37	DP	98	TYR	2.0
26	DE	142	ALA	2.0
35	DN	81	ASN	2.0
47	DZ	8	THR	2.0
14	CN	55	SER	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
54	MG	BA	3058	1/1	0.72	0.50	50.92	50,50,50,50	0
54	MG	BA	3145	1/1	0.91	0.61	48.56	37,37,37,37	0
54	MG	DA	3114	1/1	0.34	0.79	34.53	85,85,85,85	0
54	MG	AA	1643	1/1	0.79	1.28	30.45	61,61,61,61	0
54	MG	BA	3016	1/1	0.78	0.53	27.78	65,65,65,65	0
54	MG	DA	3003	1/1	0.84	0.49	25.94	95,95,95,95	0
54	MG	BA	3056	1/1	0.86	0.40	25.55	53,53,53,53	0
54	MG	DA	3117	1/1	0.88	0.47	24.52	73,73,73,73	0
54	MG	AA	1634	1/1	0.73	0.38	24.18	74,74,74,74	0
54	MG	BA	3139	1/1	0.98	0.41	23.88	3,3,3,3	0
54	MG	AA	1670	1/1	0.90	0.39	16.86	40,40,40,40	0
54	MG	BA	3035	1/1	0.98	0.34	11.74	44,44,44,44	0
54	MG	BA	3041	1/1	0.81	0.37	11.64	2,2,2,2	0
54	MG	BA	3151	1/1	0.94	0.27	11.61	33,33,33,33	0
54	MG	BA	3084	1/1	0.84	0.23	9.83	41,41,41,41	0
54	MG	BA	3155	1/1	0.93	0.29	9.69	18,18,18,18	0
54	MG	BA	3168	1/1	0.91	0.22	8.49	19,19,19,19	0
54	MG	AA	1654	1/1	0.96	0.21	8.48	42,42,42,42	0
54	MG	AA	1610	1/1	0.86	0.29	8.09	69,69,69,69	0
54	MG	DA	3125	1/1	0.76	0.58	8.04	92,92,92,92	0
54	MG	DA	3009	1/1	0.78	0.40	8.02	82,82,82,82	0
54	MG	BA	3185	1/1	0.99	0.20	7.71	13,13,13,13	0
54	MG	BA	3134	1/1	0.82	0.34	6.90	47,47,47,47	0
54	MG	DA	3042	1/1	0.75	0.39	6.73	64,64,64,64	0
54	MG	AA	1621	1/1	0.96	0.21	6.42	16,16,16,16	0
55	VIR	BA	3001	38/38	0.97	0.23	6.18	3,15,28,31	0
54	MG	BA	3147	1/1	0.94	0.19	5.92	42,42,42,42	0
54	MG	BA	3137	1/1	0.92	0.28	5.36	60,60,60,60	0
54	MG	AA	1662	1/1	0.97	0.25	4.82	51,51,51,51	0
54	MG	DA	3110	1/1	0.79	0.29	4.51	46,46,46,46	0
54	MG	CA	1632	1/1	0.93	0.24	3.64	77,77,77,77	0
54	MG	DA	3029	1/1	0.81	0.37	3.59	74,74,74,74	0
54	MG	BA	3132	1/1	0.94	0.20	3.56	44,44,44,44	0
54	MG	DA	3050	1/1	0.85	0.31	3.39	89,89,89,89	0
54	MG	BA	3153	1/1	0.96	0.25	3.33	6,6,6,6	0
54	MG	DA	3072	1/1	0.70	0.27	3.32	81,81,81,81	0
54	MG	BA	3105	1/1	0.99	0.21	3.13	0,0,0,0	0
55	VIR	DA	3001	38/38	0.92	0.28	2.60	27,39,47,53	0
54	MG	BA	3110	1/1	0.96	0.20	2.11	2,2,2,2	0
54	MG	BA	3183	1/1	0.98	0.18	2.11	26,26,26,26	0
54	MG	BA	3109	1/1	0.94	0.19	2.04	1,1,1,1	0
54	MG	DA	3033	1/1	0.83	0.26	1.95	76,76,76,76	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	DA	3133	1/1	0.83	0.34	1.92	72,72,72,72	0
54	MG	BA	3174	1/1	0.85	0.17	1.81	21,21,21,21	0
54	MG	DA	3158	1/1	0.81	0.25	1.59	56,56,56,56	0
54	MG	CA	1630	1/1	0.33	0.49	1.39	111,111,111,111	0
54	MG	DA	3111	1/1	0.87	0.19	1.28	41,41,41,41	0
54	MG	DA	3073	1/1	0.84	0.21	1.27	74,74,74,74	0
54	MG	BA	3106	1/1	0.96	0.18	1.07	0,0,0,0	0
54	MG	DA	3040	1/1	0.93	0.21	1.03	57,57,57,57	0
54	MG	BA	3131	1/1	0.95	0.18	1.03	2,2,2,2	0
54	MG	BA	3165	1/1	0.97	0.17	1.03	2,2,2,2	0
54	MG	DA	3154	1/1	0.94	0.23	0.96	42,42,42,42	0
54	MG	DA	3065	1/1	0.91	0.19	0.75	49,49,49,49	0
54	MG	DA	3095	1/1	0.91	0.26	0.74	84,84,84,84	0
54	MG	BA	3159	1/1	0.90	0.15	0.71	21,21,21,21	0
54	MG	BA	3050	1/1	0.98	0.18	0.67	4,4,4,4	0
54	MG	AN	201	1/1	0.88	0.18	0.15	60,60,60,60	0
54	MG	DA	3098	1/1	0.95	0.19	0.13	71,71,71,71	0
54	MG	DA	3109	1/1	0.87	0.17	0.04	48,48,48,48	0
54	MG	DA	3106	1/1	0.88	0.19	0.03	73,73,73,73	0
54	MG	DA	3019	1/1	0.93	0.20	-0.11	84,84,84,84	0
54	MG	BA	3022	1/1	0.96	0.17	-0.13	1,1,1,1	0
54	MG	BA	3014	1/1	0.94	0.17	-0.13	0,0,0,0	0
54	MG	BA	3163	1/1	0.95	0.16	-0.15	29,29,29,29	0
54	MG	BA	3009	1/1	0.94	0.16	-0.21	3,3,3,3	0
54	MG	BA	3064	1/1	0.99	0.16	-0.28	1,1,1,1	0
54	MG	AA	1631	1/1	0.89	0.12	-0.40	47,47,47,47	0
54	MG	CA	1615	1/1	0.76	0.14	-0.46	57,57,57,57	0
54	MG	DA	3130	1/1	0.97	0.18	-0.47	37,37,37,37	0
54	MG	CA	1603	1/1	0.95	0.14	-0.49	36,36,36,36	0
54	MG	DB	202	1/1	0.85	0.13	-0.52	61,61,61,61	0
54	MG	DA	3020	1/1	0.78	0.26	-0.54	87,87,87,87	0
54	MG	BA	3074	1/1	0.84	0.17	-0.61	22,22,22,22	0
54	MG	DA	3116	1/1	0.91	0.21	-0.64	95,95,95,95	0
54	MG	CA	1635	1/1	0.71	0.21	-0.66	123,123,123,123	0
54	MG	CA	1614	1/1	0.87	0.09	-0.96	48,48,48,48	0
54	MG	BA	3133	1/1	0.93	0.14	-1.03	27,27,27,27	0
54	MG	AA	1641	1/1	0.97	0.15	-1.05	22,22,22,22	0
54	MG	DA	3121	1/1	0.72	0.16	-1.07	83,83,83,83	0
54	MG	BA	3024	1/1	0.88	0.15	-1.10	1,1,1,1	0
54	MG	BA	3063	1/1	0.83	0.17	-1.14	9,9,9,9	0
54	MG	DA	3025	1/1	0.77	0.18	-1.14	54,54,54,54	0
56	ZN	D4	101	1/1	0.99	0.10	-1.16	84,84,84,84	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	AA	1607	1/1	0.92	0.07	-1.45	51,51,51,51	0
54	MG	DA	3131	1/1	0.92	0.13	-1.50	69,69,69,69	0
54	MG	AA	1640	1/1	0.91	0.14	-1.50	21,21,21,21	0
54	MG	BA	3069	1/1	0.96	0.15	-1.52	7,7,7,7	0
54	MG	DA	3079	1/1	0.90	0.07	-1.56	96,96,96,96	0
54	MG	DB	201	1/1	0.80	0.12	-1.59	101,101,101,101	0
54	MG	CA	1616	1/1	0.96	0.14	-1.60	34,34,34,34	0
54	MG	BA	3013	1/1	0.98	0.16	-1.63	0,0,0,0	0
54	MG	BA	3029	1/1	0.98	0.16	-1.69	0,0,0,0	0
54	MG	CA	1612	1/1	0.97	0.07	-1.72	43,43,43,43	0
54	MG	DA	3099	1/1	0.74	0.12	-1.74	62,62,62,62	0
54	MG	BA	3078	1/1	0.95	0.10	-1.80	21,21,21,21	0
54	MG	DA	3070	1/1	0.77	0.13	-1.82	82,82,82,82	0
54	MG	BA	3051	1/1	0.96	0.12	-1.86	4,4,4,4	0
54	MG	BA	3019	1/1	0.98	0.11	-1.86	15,15,15,15	0
56	ZN	B4	101	1/1	0.99	0.12	-1.91	29,29,29,29	0
54	MG	BA	3108	1/1	0.96	0.15	-1.91	9,9,9,9	0
54	MG	BA	3117	1/1	0.97	0.14	-1.93	2,2,2,2	0
54	MG	DA	3137	1/1	0.80	0.11	-1.99	88,88,88,88	0
54	MG	BB	201	1/1	0.92	0.09	-2.07	36,36,36,36	0
54	MG	DA	3060	1/1	0.92	0.12	-2.18	41,41,41,41	0
54	MG	DA	3028	1/1	0.76	0.15	-2.22	87,87,87,87	0
54	MG	BA	3187	1/1	0.90	0.11	-2.24	30,30,30,30	0
54	MG	AA	1628	1/1	0.92	0.12	-2.26	53,53,53,53	0
54	MG	DA	3135	1/1	0.90	0.12	-2.28	54,54,54,54	0
54	MG	AA	1616	1/1	0.91	0.12	-2.31	47,47,47,47	0
54	MG	AA	1606	1/1	0.97	0.12	-2.41	35,35,35,35	0
54	MG	CA	1626	1/1	0.90	0.11	-2.52	52,52,52,52	0
54	MG	CA	1610	1/1	0.94	0.10	-2.52	63,63,63,63	0
54	MG	BA	3065	1/1	0.97	0.14	-2.58	0,0,0,0	0
54	MG	DA	3044	1/1	0.92	0.08	-2.61	57,57,57,57	0
54	MG	BA	3037	1/1	0.77	0.13	-2.65	26,26,26,26	0
54	MG	DA	3048	1/1	0.85	0.13	-2.68	61,61,61,61	0
54	MG	BA	3080	1/1	0.89	0.13	-2.73	22,22,22,22	0
54	MG	CA	1601	1/1	0.91	0.12	-2.88	35,35,35,35	0
54	MG	BA	3135	1/1	0.93	0.13	-2.95	1,1,1,1	0
54	MG	BA	3025	1/1	0.96	0.12	-3.00	3,3,3,3	0
54	MG	DA	3081	1/1	0.93	0.11	-3.04	83,83,83,83	0
54	MG	AA	1639	1/1	0.88	0.09	-3.04	53,53,53,53	0
54	MG	DA	3129	1/1	0.87	0.11	-3.10	81,81,81,81	0
54	MG	CA	1640	1/1	0.95	0.11	-3.15	31,31,31,31	0
54	MG	AA	1617	1/1	0.97	0.09	-3.32	33,33,33,33	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	DA	3080	1/1	0.75	0.07	-3.32	99,99,99,99	0
54	MG	CA	1617	1/1	0.86	0.11	-3.38	36,36,36,36	0
54	MG	BA	3098	1/1	0.96	0.10	-3.49	3,3,3,3	0
54	MG	CA	1634	1/1	0.95	0.10	-3.51	50,50,50,50	0
54	MG	DA	3064	1/1	0.87	0.12	-3.51	47,47,47,47	0
54	MG	DA	3024	1/1	0.83	0.07	-3.58	65,65,65,65	0
54	MG	DA	3075	1/1	0.77	0.13	-3.68	64,64,64,64	0
54	MG	AA	1604	1/1	0.91	0.05	-3.71	55,55,55,55	0
54	MG	DA	3018	1/1	0.80	0.11	-3.83	59,59,59,59	0
54	MG	DA	3066	1/1	0.91	0.10	-3.85	32,32,32,32	0
54	MG	BA	3054	1/1	0.98	0.12	-3.95	2,2,2,2	0
54	MG	DA	3013	1/1	0.91	0.13	-4.02	45,45,45,45	0
54	MG	BA	3097	1/1	0.98	0.12	-4.02	2,2,2,2	0
54	MG	BA	3023	1/1	0.97	0.14	-4.07	2,2,2,2	0
54	MG	BA	3130	1/1	0.98	0.14	-4.10	0,0,0,0	0
54	MG	DA	3051	1/1	0.93	0.07	-4.21	60,60,60,60	0
54	MG	BA	3186	1/1	0.97	0.09	-4.44	23,23,23,23	0
54	MG	BA	3028	1/1	0.92	0.11	-4.44	16,16,16,16	0
54	MG	AA	1629	1/1	0.79	0.11	-4.52	65,65,65,65	0
54	MG	DA	3023	1/1	0.96	0.08	-4.55	50,50,50,50	0
54	MG	CA	1622	1/1	0.77	0.10	-4.61	50,50,50,50	0
54	MG	BA	3033	1/1	0.96	0.15	-4.74	6,6,6,6	0
54	MG	DA	3055	1/1	0.90	0.10	-5.04	50,50,50,50	0
54	MG	BA	3152	1/1	0.96	0.10	-5.12	14,14,14,14	0
54	MG	CA	1607	1/1	0.95	0.09	-5.34	56,56,56,56	0
54	MG	DA	3107	1/1	0.86	0.11	-5.61	51,51,51,51	0
54	MG	AA	1609	1/1	0.94	0.07	-6.06	46,46,46,46	0
54	MG	CA	1619	1/1	0.86	0.11	-6.14	41,41,41,41	0
54	MG	BA	3018	1/1	0.94	0.12	-6.18	0,0,0,0	0
54	MG	BA	3111	1/1	0.94	0.08	-6.43	24,24,24,24	0
54	MG	DA	3052	1/1	0.96	0.07	-6.45	35,35,35,35	0
54	MG	BA	3094	1/1	0.97	0.08	-6.48	21,21,21,21	0
54	MG	BA	3006	1/1	0.96	0.08	-6.81	47,47,47,47	0
54	MG	BA	3066	1/1	0.97	0.08	-6.93	3,3,3,3	0
54	MG	AA	1632	1/1	0.90	0.10	-7.13	39,39,39,39	0
54	MG	BA	3059	1/1	0.86	0.06	-7.43	17,17,17,17	0
54	MG	BA	3170	1/1	0.97	0.07	-7.82	23,23,23,23	0
54	MG	BA	3072	1/1	0.96	0.06	-8.21	13,13,13,13	0
54	MG	AA	1613	1/1	0.98	0.06	-8.47	26,26,26,26	0
54	MG	DA	3067	1/1	0.94	0.07	-8.50	48,48,48,48	0
54	MG	BA	3071	1/1	0.99	0.08	-8.64	6,6,6,6	0
54	MG	BA	3003	1/1	0.90	0.09	-9.94	23,23,23,23	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	BA	3121	1/1	0.96	0.09	-10.60	4,4,4,4	0
54	MG	BA	3119	1/1	0.93	0.07	-10.78	12,12,12,12	0
54	MG	AA	1624	1/1	0.97	0.07	-11.45	32,32,32,32	0
54	MG	BA	3161	1/1	0.97	0.09	-13.62	11,11,11,11	0
54	MG	DA	3006	1/1	0.89	0.07	-24.48	99,99,99,99	0
54	MG	AA	1644	1/1	0.72	0.23	-	50,50,50,50	0
54	MG	CA	1649	1/1	0.82	0.11	-	68,68,68,68	0
54	MG	BA	3049	1/1	0.95	0.07	-	11,11,11,11	0
54	MG	DA	3108	1/1	0.92	0.08	-	74,74,74,74	0
54	MG	DA	3057	1/1	0.40	0.31	-	87,87,87,87	0
54	MG	DA	3035	1/1	0.98	0.06	-	43,43,43,43	0
54	MG	BA	3178	1/1	0.94	0.23	-	12,12,12,12	0
54	MG	DA	3061	1/1	0.48	0.54	-	85,85,85,85	0
54	MG	BA	3154	1/1	0.82	0.63	-	33,33,33,33	0
54	MG	CA	1651	1/1	0.90	0.38	-	50,50,50,50	0
54	MG	BA	3149	1/1	0.98	0.11	-	26,26,26,26	0
54	MG	DA	3127	1/1	0.80	0.24	-	81,81,81,81	0
54	MG	AA	1669	1/1	0.91	0.20	-	56,56,56,56	0
54	MG	AA	1614	1/1	0.47	0.14	-	66,66,66,66	0
54	MG	DA	3136	1/1	0.25	0.49	-	90,90,90,90	0
54	MG	CA	1613	1/1	0.96	0.16	-	15,15,15,15	0
54	MG	BA	3038	1/1	0.99	0.19	-	0,0,0,0	0
54	MG	BA	3031	1/1	0.93	0.14	-	3,3,3,3	0
54	MG	DA	3123	1/1	0.98	0.17	-	38,38,38,38	0
54	MG	BA	3060	1/1	0.90	0.13	-	19,19,19,19	0
54	MG	DA	3132	1/1	0.71	0.86	-	93,93,93,93	0
54	MG	DA	3162	1/1	0.82	0.25	-	67,67,67,67	0
54	MG	BB	204	1/1	0.98	0.33	-	6,6,6,6	0
54	MG	DA	3062	1/1	0.48	2.55	-	110,110,110,110	0
54	MG	CA	1624	1/1	0.82	0.08	-	49,49,49,49	0
54	MG	DA	3017	1/1	0.56	0.50	-	90,90,90,90	0
54	MG	CA	1628	1/1	0.74	0.17	-	99,99,99,99	0
54	MG	AA	1661	1/1	0.83	0.45	-	43,43,43,43	0
54	MG	DA	3093	1/1	0.36	0.60	-	108,108,108,108	0
54	MG	DA	3115	1/1	0.92	0.11	-	48,48,48,48	0
54	MG	BA	3143	1/1	0.96	0.33	-	15,15,15,15	0
54	MG	AA	1653	1/1	0.96	0.18	-	21,21,21,21	0
54	MG	CA	1618	1/1	0.86	0.15	-	38,38,38,38	0
54	MG	BA	3055	1/1	0.87	0.13	-	13,13,13,13	0
54	MG	BA	3127	1/1	0.94	0.16	-	9,9,9,9	0
54	MG	CA	1609	1/1	0.75	0.13	-	82,82,82,82	0
54	MG	DA	3161	1/1	0.83	0.21	-	35,35,35,35	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	AA	1651	1/1	0.83	0.36	-	52,52,52,52	0
54	MG	DA	3159	1/1	0.68	0.14	-	68,68,68,68	0
54	MG	BA	3103	1/1	0.91	0.11	-	8,8,8,8	0
54	MG	BA	3167	1/1	0.84	0.20	-	35,35,35,35	0
54	MG	CA	1642	1/1	0.89	0.20	-	26,26,26,26	0
54	MG	DA	3089	1/1	0.78	0.10	-	77,77,77,77	0
54	MG	AA	1630	1/1	0.93	0.17	-	53,53,53,53	0
54	MG	DA	3160	1/1	0.86	0.19	-	44,44,44,44	0
54	MG	BA	3150	1/1	0.89	0.22	-	41,41,41,41	0
54	MG	BA	3036	1/1	0.99	0.11	-	2,2,2,2	0
54	MG	DA	3002	1/1	0.88	0.19	-	64,64,64,64	0
54	MG	DA	3151	1/1	0.96	0.08	-	45,45,45,45	0
54	MG	DA	3088	1/1	0.92	0.03	-	61,61,61,61	0
54	MG	DA	3041	1/1	0.73	0.15	-	89,89,89,89	0
54	MG	DA	3086	1/1	0.90	0.18	-	83,83,83,83	0
54	MG	DA	3026	1/1	0.89	0.20	-	67,67,67,67	0
54	MG	DA	3077	1/1	0.97	0.11	-	62,62,62,62	0
54	MG	BA	3192	1/1	0.99	0.15	-	17,17,17,17	0
54	MG	BA	3164	1/1	0.95	0.29	-	15,15,15,15	0
54	MG	BA	3188	1/1	0.95	0.12	-	6,6,6,6	0
54	MG	DA	3043	1/1	0.77	0.18	-	84,84,84,84	0
54	MG	BB	202	1/1	0.95	0.07	-	8,8,8,8	0
54	MG	BA	3096	1/1	0.95	0.08	-	5,5,5,5	0
54	MG	BA	3081	1/1	0.75	0.11	-	19,19,19,19	0
54	MG	DA	3087	1/1	0.78	0.12	-	70,70,70,70	0
54	MG	AA	1623	1/1	0.81	0.11	-	39,39,39,39	0
54	MG	DA	3090	1/1	0.94	0.30	-	81,81,81,81	0
54	MG	DA	3149	1/1	0.57	0.24	-	63,63,63,63	0
54	MG	BA	3176	1/1	0.95	0.07	-	17,17,17,17	0
54	MG	DA	3138	1/1	0.88	0.61	-	46,46,46,46	0
54	MG	CA	1629	1/1	0.74	0.12	-	85,85,85,85	0
54	MG	DA	3092	1/1	0.89	0.09	-	79,79,79,79	0
54	MG	AA	1608	1/1	0.97	0.13	-	18,18,18,18	0
54	MG	AA	1635	1/1	0.78	0.27	-	53,53,53,53	0
54	MG	AA	1652	1/1	0.89	0.15	-	55,55,55,55	0
54	MG	AA	1636	1/1	0.99	0.12	-	11,11,11,11	0
54	MG	AA	1671	1/1	0.76	0.89	-	56,56,56,56	0
54	MG	CA	1652	1/1	0.96	0.07	-	65,65,65,65	0
54	MG	DA	3140	1/1	0.95	0.34	-	34,34,34,34	0
54	MG	BA	3180	1/1	0.96	0.13	-	31,31,31,31	0
54	MG	DA	3134	1/1	-0.06	1.03	-	105,105,105,105	0
54	MG	CA	1656	1/1	0.42	0.54	-	55,55,55,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	CA	1625	1/1	0.91	0.14	-	22,22,22,22	0
54	MG	DA	3148	1/1	0.47	0.46	-	58,58,58,58	0
54	MG	BA	3123	1/1	0.93	0.19	-	0,0,0,0	0
54	MG	AA	1601	1/1	0.89	0.14	-	56,56,56,56	0
54	MG	BA	3048	1/1	0.55	0.15	-	50,50,50,50	0
54	MG	DA	3164	1/1	0.82	0.67	-	67,67,67,67	0
54	MG	BA	3128	1/1	0.97	0.07	-	9,9,9,9	0
54	MG	DA	3032	1/1	0.91	0.12	-	61,61,61,61	0
54	MG	DA	3157	1/1	0.84	0.22	-	49,49,49,49	0
54	MG	BA	3100	1/1	0.94	0.08	-	8,8,8,8	0
54	MG	AA	1649	1/1	0.94	0.13	-	26,26,26,26	0
54	MG	DA	3007	1/1	0.83	0.20	-	104,104,104,104	0
54	MG	AA	1642	1/1	0.98	0.06	-	23,23,23,23	0
54	MG	AA	1645	1/1	0.98	0.19	-	58,58,58,58	0
54	MG	BA	3171	1/1	0.91	0.14	-	16,16,16,16	0
54	MG	CA	1604	1/1	0.92	0.12	-	88,88,88,88	0
54	MG	CA	1645	1/1	0.91	0.16	-	42,42,42,42	0
54	MG	BA	3116	1/1	0.92	0.15	-	48,48,48,48	0
54	MG	BA	3086	1/1	0.95	0.14	-	10,10,10,10	0
54	MG	DA	3046	1/1	0.76	0.12	-	78,78,78,78	0
54	MG	BA	3173	1/1	0.93	0.14	-	33,33,33,33	0
54	MG	CA	1646	1/1	0.43	0.35	-	66,66,66,66	0
54	MG	DA	3054	1/1	0.84	0.13	-	36,36,36,36	0
54	MG	DA	3010	1/1	0.93	0.09	-	71,71,71,71	0
54	MG	AA	1622	1/1	0.94	0.20	-	51,51,51,51	0
54	MG	BA	3040	1/1	0.96	0.15	-	0,0,0,0	0
54	MG	BA	3070	1/1	0.96	0.15	-	59,59,59,59	0
54	MG	DA	3144	1/1	0.94	0.15	-	63,63,63,63	0
54	MG	CA	1644	1/1	0.72	0.38	-	54,54,54,54	0
54	MG	DA	3005	1/1	0.38	0.36	-	96,96,96,96	0
54	MG	DA	3047	1/1	0.78	0.14	-	78,78,78,78	0
54	MG	AA	1612	1/1	0.93	0.12	-	43,43,43,43	0
54	MG	BQ	201	1/1	0.98	0.17	-	0,0,0,0	0
54	MG	BA	3118	1/1	0.98	0.10	-	5,5,5,5	0
54	MG	AA	1660	1/1	0.87	0.14	-	51,51,51,51	0
54	MG	DA	3058	1/1	0.88	0.13	-	75,75,75,75	0
54	MG	BA	3043	1/1	0.86	0.15	-	2,2,2,2	0
54	MG	BD	301	1/1	0.94	0.11	-	34,34,34,34	0
54	MG	BA	3141	1/1	0.92	0.13	-	22,22,22,22	0
54	MG	CA	1639	1/1	0.90	0.11	-	52,52,52,52	0
54	MG	BA	3057	1/1	0.97	0.12	-	6,6,6,6	0
54	MG	CA	1621	1/1	0.70	0.09	-	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	DA	3014	1/1	0.68	0.19	-	80,80,80,80	0
54	MG	BA	3002	1/1	0.94	0.06	-	15,15,15,15	0
54	MG	DA	3118	1/1	0.92	0.07	-	71,71,71,71	0
54	MG	DA	3071	1/1	0.66	0.11	-	97,97,97,97	0
54	MG	BA	3126	1/1	0.97	0.16	-	1,1,1,1	0
54	MG	DA	3150	1/1	0.89	0.23	-	42,42,42,42	0
54	MG	BA	3156	1/1	0.96	0.17	-	21,21,21,21	0
54	MG	BA	3007	1/1	0.97	0.08	-	17,17,17,17	0
54	MG	BA	3162	1/1	0.95	0.12	-	32,32,32,32	0
54	MG	DA	3143	1/1	0.97	0.10	-	32,32,32,32	0
54	MG	BA	3160	1/1	0.89	0.19	-	21,21,21,21	0
54	MG	AA	1638	1/1	0.89	0.08	-	61,61,61,61	0
54	MG	DA	3049	1/1	0.78	0.20	-	108,108,108,108	0
54	MG	BA	3194	1/1	0.98	0.06	-	28,28,28,28	0
54	MG	DA	3145	1/1	0.90	0.09	-	80,80,80,80	0
54	MG	DA	3021	1/1	0.96	0.19	-	56,56,56,56	0
54	MG	BA	3125	1/1	0.87	0.39	-	36,36,36,36	0
54	MG	DA	3076	1/1	0.80	0.10	-	65,65,65,65	0
54	MG	BA	3136	1/1	0.90	0.13	-	39,39,39,39	0
54	MG	DA	3063	1/1	0.63	0.61	-	95,95,95,95	0
54	MG	DA	3100	1/1	0.75	0.40	-	83,83,83,83	0
54	MG	BA	3114	1/1	0.89	0.17	-	0,0,0,0	0
54	MG	DA	3147	1/1	0.95	0.08	-	51,51,51,51	0
54	MG	DA	3034	1/1	0.90	0.06	-	64,64,64,64	0
54	MG	BA	3073	1/1	0.98	0.12	-	2,2,2,2	0
54	MG	BA	3052	1/1	0.99	0.12	-	8,8,8,8	0
54	MG	BA	3042	1/1	0.96	0.16	-	11,11,11,11	0
54	MG	BA	3010	1/1	0.98	0.10	-	0,0,0,0	0
54	MG	BA	3115	1/1	0.94	0.14	-	21,21,21,21	0
54	MG	BB	203	1/1	0.93	0.07	-	11,11,11,11	0
54	MG	AA	1655	1/1	0.95	0.15	-	37,37,37,37	0
54	MG	AA	1611	1/1	0.99	0.11	-	12,12,12,12	0
54	MG	CA	1655	1/1	0.85	0.12	-	44,44,44,44	0
54	MG	AA	1667	1/1	0.39	1.41	-	66,66,66,66	0
54	MG	AA	1656	1/1	0.99	0.11	-	37,37,37,37	0
54	MG	BA	3075	1/1	0.94	0.09	-	19,19,19,19	0
54	MG	BA	3107	1/1	0.98	0.23	-	1,1,1,1	0
54	MG	BA	3140	1/1	0.96	0.35	-	1,1,1,1	0
54	MG	DA	3156	1/1	0.87	0.25	-	64,64,64,64	0
54	MG	CA	1648	1/1	0.91	0.20	-	25,25,25,25	0
54	MG	DA	3083	1/1	0.94	0.07	-	54,54,54,54	0
54	MG	BA	3062	1/1	0.91	0.54	-	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	AA	1615	1/1	0.97	0.04	-	63,63,63,63	0
54	MG	AA	1633	1/1	0.97	0.14	-	38,38,38,38	0
54	MG	BA	3039	1/1	0.98	0.15	-	0,0,0,0	0
54	MG	DA	3128	1/1	0.67	0.11	-	67,67,67,67	0
54	MG	BA	3088	1/1	0.87	0.12	-	35,35,35,35	0
54	MG	BA	3092	1/1	0.90	0.06	-	53,53,53,53	0
54	MG	DA	3139	1/1	0.91	0.42	-	49,49,49,49	0
54	MG	BA	3112	1/1	0.97	0.10	-	7,7,7,7	0
54	MG	AA	1618	1/1	0.89	0.40	-	54,54,54,54	0
54	MG	AA	1657	1/1	0.74	0.50	-	68,68,68,68	0
54	MG	CA	1627	1/1	0.88	0.18	-	80,80,80,80	0
54	MG	BA	3034	1/1	0.98	0.20	-	0,0,0,0	0
54	MG	BA	3089	1/1	0.84	0.15	-	28,28,28,28	0
54	MG	DA	3165	1/1	0.91	0.21	-	56,56,56,56	0
54	MG	BA	3026	1/1	0.77	0.22	-	35,35,35,35	0
54	MG	CA	1637	1/1	0.82	0.15	-	66,66,66,66	0
54	MG	DA	3152	1/1	0.89	0.27	-	60,60,60,60	0
54	MG	BA	3017	1/1	0.89	0.18	-	24,24,24,24	0
54	MG	DA	3119	1/1	0.92	0.07	-	50,50,50,50	0
54	MG	BA	3169	1/1	0.95	0.10	-	24,24,24,24	0
54	MG	DA	3091	1/1	0.89	0.08	-	78,78,78,78	0
54	MG	DA	3167	1/1	0.89	0.14	-	47,47,47,47	0
54	MG	AA	1625	1/1	0.95	0.16	-	19,19,19,19	0
54	MG	BA	3142	1/1	0.97	0.35	-	0,0,0,0	0
54	MG	DA	3096	1/1	0.51	0.33	-	86,86,86,86	0
54	MG	CA	1605	1/1	0.69	0.30	-	91,91,91,91	0
54	MG	BA	3045	1/1	0.89	0.12	-	20,20,20,20	0
54	MG	CA	1653	1/1	0.93	0.06	-	40,40,40,40	0
54	MG	BA	3005	1/1	0.91	0.06	-	45,45,45,45	0
54	MG	DA	3084	1/1	0.82	0.11	-	68,68,68,68	0
54	MG	CA	1636	1/1	0.37	0.23	-	118,118,118,118	0
54	MG	CA	1608	1/1	0.84	0.11	-	61,61,61,61	0
54	MG	CA	1631	1/1	0.78	0.22	-	97,97,97,97	0
54	MG	BA	3157	1/1	0.91	0.20	-	20,20,20,20	0
54	MG	BA	3083	1/1	0.83	0.14	-	23,23,23,23	0
54	MG	BA	3181	1/1	0.96	0.20	-	31,31,31,31	0
54	MG	BA	3021	1/1	0.96	0.07	-	9,9,9,9	0
54	MG	CA	1641	1/1	0.60	0.37	-	69,69,69,69	0
54	MG	BA	3012	1/1	0.98	0.09	-	9,9,9,9	0
54	MG	AA	1626	1/1	0.90	0.28	-	56,56,56,56	0
54	MG	BA	3189	1/1	0.90	0.26	-	38,38,38,38	0
54	MG	BA	3091	1/1	0.96	0.11	-	21,21,21,21	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	CA	1647	1/1	0.95	0.10	-	42,42,42,42	0
54	MG	DA	3037	1/1	0.89	0.14	-	59,59,59,59	0
54	MG	BA	3076	1/1	0.94	0.14	-	12,12,12,12	0
54	MG	BA	3124	1/1	0.83	0.15	-	18,18,18,18	0
54	MG	DA	3155	1/1	0.95	0.12	-	42,42,42,42	0
54	MG	DA	3153	1/1	0.83	0.34	-	61,61,61,61	0
54	MG	AA	1647	1/1	0.99	0.08	-	54,54,54,54	0
54	MG	DA	3074	1/1	0.82	0.29	-	66,66,66,66	0
54	MG	BA	3020	1/1	0.89	0.21	-	2,2,2,2	0
54	MG	BA	3104	1/1	0.91	0.09	-	12,12,12,12	0
54	MG	BA	3011	1/1	0.99	0.12	-	0,0,0,0	0
54	MG	CA	1650	1/1	0.75	0.19	-	46,46,46,46	0
54	MG	DA	3053	1/1	0.94	0.05	-	53,53,53,53	0
54	MG	BA	3158	1/1	0.96	0.14	-	16,16,16,16	0
54	MG	DA	3078	1/1	0.30	0.37	-	89,89,89,89	0
54	MG	AA	1650	1/1	0.93	0.21	-	42,42,42,42	0
54	MG	DA	3039	1/1	0.90	0.13	-	65,65,65,65	0
54	MG	AA	1620	1/1	0.89	0.07	-	37,37,37,37	0
54	MG	DA	3031	1/1	0.93	0.24	-	65,65,65,65	0
54	MG	DA	3012	1/1	0.80	0.14	-	74,74,74,74	0
54	MG	DA	3094	1/1	0.63	0.51	-	101,101,101,101	0
54	MG	DA	3124	1/1	0.90	0.11	-	54,54,54,54	0
54	MG	DA	3011	1/1	0.90	0.13	-	57,57,57,57	0
54	MG	DA	3004	1/1	0.88	0.09	-	69,69,69,69	0
54	MG	BA	3047	1/1	0.94	0.13	-	4,4,4,4	0
54	MG	DA	3082	1/1	0.91	0.09	-	62,62,62,62	0
54	MG	BA	3087	1/1	0.98	0.17	-	2,2,2,2	0
54	MG	CA	1654	1/1	0.90	0.14	-	56,56,56,56	0
54	MG	BA	3175	1/1	0.97	0.11	-	20,20,20,20	0
54	MG	DA	3038	1/1	0.92	0.04	-	77,77,77,77	0
54	MG	AA	1668	1/1	0.91	0.08	-	36,36,36,36	0
54	MG	CA	1643	1/1	0.96	0.19	-	56,56,56,56	0
54	MG	BA	3068	1/1	0.98	0.21	-	0,0,0,0	0
54	MG	DA	3166	1/1	0.96	0.33	-	37,37,37,37	0
54	MG	AA	1646	1/1	0.84	0.28	-	53,53,53,53	0
54	MG	DA	3105	1/1	0.92	0.06	-	67,67,67,67	0
54	MG	BA	3184	1/1	0.98	0.21	-	11,11,11,11	0
54	MG	BA	3182	1/1	0.95	0.15	-	21,21,21,21	0
54	MG	BA	3008	1/1	0.91	0.11	-	32,32,32,32	0
54	MG	BA	3061	1/1	0.96	0.41	-	48,48,48,48	0
54	MG	CA	1602	1/1	0.71	0.08	-	79,79,79,79	0
54	MG	BA	3122	1/1	0.93	0.09	-	26,26,26,26	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	BA	3015	1/1	0.89	0.08	-	14,14,14,14	0
54	MG	BA	3079	1/1	0.91	0.05	-	41,41,41,41	0
54	MG	DQ	201	1/1	0.67	0.33	-	53,53,53,53	0
54	MG	AA	1603	1/1	0.95	0.16	-	49,49,49,49	0
54	MG	DA	3085	1/1	0.86	0.16	-	83,83,83,83	0
54	MG	CA	1620	1/1	0.96	0.05	-	59,59,59,59	0
54	MG	DA	3036	1/1	0.77	0.15	-	78,78,78,78	0
54	MG	DA	3056	1/1	0.94	0.09	-	61,61,61,61	0
54	MG	DA	3112	1/1	0.86	0.13	-	73,73,73,73	0
54	MG	BA	3177	1/1	0.94	0.52	-	37,37,37,37	0
54	MG	CA	1606	1/1	0.85	0.09	-	68,68,68,68	0
54	MG	BA	3032	1/1	0.90	0.09	-	6,6,6,6	0
54	MG	D2	101	1/1	0.80	0.22	-	78,78,78,78	0
54	MG	CA	1638	1/1	0.65	0.21	-	83,83,83,83	0
54	MG	BA	3129	1/1	0.98	0.16	-	3,3,3,3	0
54	MG	BA	3190	1/1	0.90	0.21	-	43,43,43,43	0
54	MG	DA	3015	1/1	0.95	0.08	-	46,46,46,46	0
54	MG	BA	3120	1/1	0.85	0.18	-	39,39,39,39	0
54	MG	BA	3093	1/1	0.94	0.08	-	33,33,33,33	0
54	MG	BA	3144	1/1	0.99	0.18	-	12,12,12,12	0
54	MG	BA	3004	1/1	0.91	0.13	-	27,27,27,27	0
54	MG	AA	1602	1/1	0.85	0.31	-	55,55,55,55	0
54	MG	BA	3044	1/1	0.93	0.07	-	21,21,21,21	0
54	MG	DA	3016	1/1	0.78	0.34	-	75,75,75,75	0
54	MG	DA	3059	1/1	0.69	0.41	-	79,79,79,79	0
54	MG	BA	3027	1/1	0.98	0.10	-	3,3,3,3	0
54	MG	DA	3104	1/1	0.79	0.15	-	67,67,67,67	0
54	MG	BA	3095	1/1	0.88	0.12	-	30,30,30,30	0
54	MG	BA	3053	1/1	0.83	0.12	-	8,8,8,8	0
54	MG	DA	3097	1/1	0.78	0.07	-	62,62,62,62	0
54	MG	BA	3085	1/1	0.80	0.21	-	30,30,30,30	0
54	MG	BA	3067	1/1	0.97	0.13	-	1,1,1,1	0
54	MG	BA	3077	1/1	0.59	0.64	-	74,74,74,74	0
54	MG	AA	1605	1/1	0.85	0.15	-	28,28,28,28	0
54	MG	DA	3101	1/1	0.58	0.21	-	81,81,81,81	0
54	MG	BA	3082	1/1	0.98	0.17	-	0,0,0,0	0
54	MG	BA	3030	1/1	0.97	0.12	-	14,14,14,14	0
54	MG	DA	3030	1/1	0.75	0.13	-	70,70,70,70	0
54	MG	DA	3022	1/1	0.96	0.20	-	56,56,56,56	0
54	MG	CA	1611	1/1	0.25	0.21	-	85,85,85,85	0
54	MG	AA	1619	1/1	0.83	0.07	-	61,61,61,61	0
54	MG	DA	3126	1/1	0.93	0.15	-	57,57,57,57	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
54	MG	AA	1627	1/1	0.96	0.07	-	39,39,39,39	0
54	MG	AA	1658	1/1	0.93	0.68	-	65,65,65,65	0
54	MG	CA	1633	1/1	0.64	0.30	-	81,81,81,81	0
54	MG	AA	1663	1/1	0.92	0.25	-	33,33,33,33	0
54	MG	BA	3172	1/1	0.96	0.09	-	26,26,26,26	0
54	MG	AA	1664	1/1	0.92	0.15	-	51,51,51,51	0
54	MG	BA	3166	1/1	0.87	0.25	-	40,40,40,40	0
54	MG	DA	3103	1/1	0.81	0.14	-	77,77,77,77	0
54	MG	BA	3102	1/1	0.94	0.10	-	9,9,9,9	0
54	MG	DA	3163	1/1	0.87	0.27	-	59,59,59,59	0
54	MG	AA	1666	1/1	0.89	0.27	-	43,43,43,43	0
54	MG	BA	3099	1/1	0.80	0.28	-	55,55,55,55	0
54	MG	DA	3045	1/1	0.12	0.40	-	102,102,102,102	0
54	MG	BA	3101	1/1	0.95	0.10	-	5,5,5,5	0
54	MG	AA	1665	1/1	0.88	0.25	-	37,37,37,37	0
54	MG	DA	3113	1/1	0.76	0.28	-	74,74,74,74	0
54	MG	DA	3122	1/1	0.94	0.10	-	39,39,39,39	0
54	MG	BA	3179	1/1	0.98	0.10	-	37,37,37,37	0
54	MG	DA	3069	1/1	0.92	0.17	-	53,53,53,53	0
54	MG	BA	3191	1/1	0.91	0.25	-	22,22,22,22	0
54	MG	BA	3090	1/1	0.95	0.07	-	3,3,3,3	0
54	MG	CA	1623	1/1	0.90	0.14	-	45,45,45,45	0
54	MG	AA	1648	1/1	0.80	0.37	-	49,49,49,49	0
54	MG	DA	3146	1/1	0.83	0.21	-	62,62,62,62	0
54	MG	DB	203	1/1	0.92	0.08	-	79,79,79,79	0
54	MG	DA	3142	1/1	0.87	0.24	-	41,41,41,41	0
54	MG	DA	3102	1/1	0.92	0.07	-	64,64,64,64	0
54	MG	DA	3141	1/1	0.80	0.37	-	40,40,40,40	0
54	MG	DA	3027	1/1	0.23	1.05	-	98,98,98,98	0
54	MG	BA	3113	1/1	0.95	0.13	-	14,14,14,14	0
54	MG	BA	3146	1/1	0.96	0.19	-	6,6,6,6	0
54	MG	AA	1637	1/1	0.74	0.08	-	79,79,79,79	0
54	MG	DA	3068	1/1	0.92	0.08	-	51,51,51,51	0
54	MG	DA	3008	1/1	0.71	0.41	-	104,104,104,104	0
54	MG	AA	1659	1/1	0.33	2.11	-	77,77,77,77	0
54	MG	BA	3138	1/1	0.98	0.43	-	7,7,7,7	0
54	MG	BA	3148	1/1	0.98	0.48	-	28,28,28,28	0
54	MG	BA	3046	1/1	0.97	0.08	-	5,5,5,5	0
54	MG	BA	3193	1/1	0.93	0.18	-	34,34,34,34	0
54	MG	DA	3120	1/1	0.75	0.58	-	102,102,102,102	0



## 6.5 Other polymers [i](#)

There are no such residues in this entry.