



# Full wwPDB X-ray Structure Validation Report ⓘ

May 13, 2020 – 02:29 pm BST

PDB ID : 6BY1  
Title : E. coli pH03H9 complex  
Authors : Amiri, H.; Noller, H.F.  
Deposited on : 2017-12-19  
Resolution : 3.94 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

<https://www.wwpdb.org/validation/2017/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
Xtriage (Phenix)	:	1.13
EDS	:	2.11
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.11

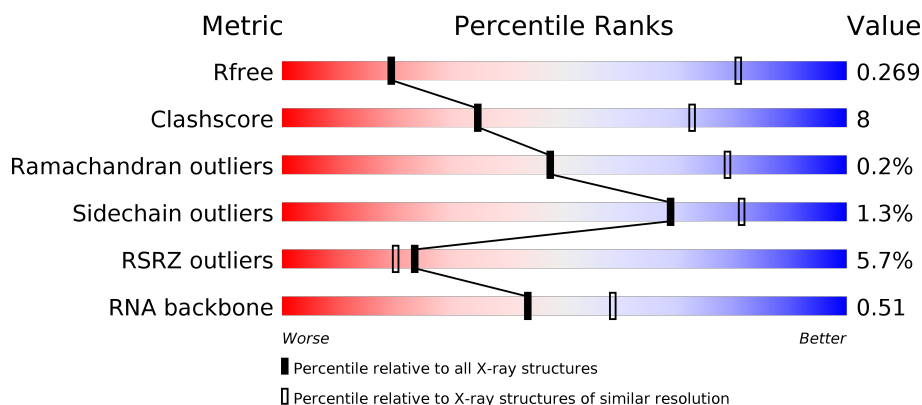
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 3.94 Å.

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



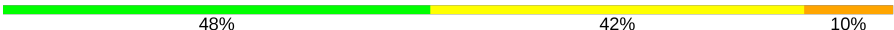

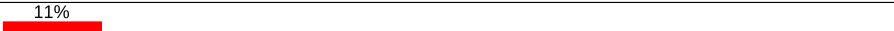
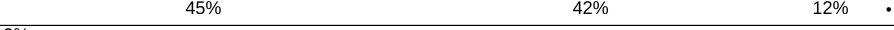



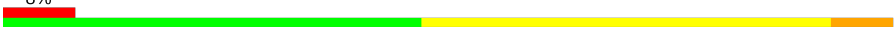
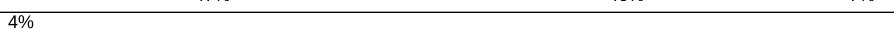


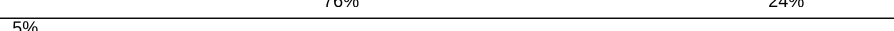




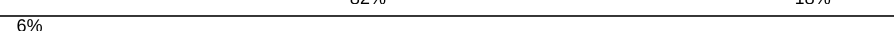








Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	1036 (4.20-3.68)
Clashscore	141614	1009 (4.18-3.70)
Ramachandran outliers	138981	1057 (4.20-3.68)
Sidechain outliers	138945	1049 (4.20-3.68)
RSRZ outliers	127900	1007 (4.24-3.64)
RNA backbone	3102	1041 (4.84-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . 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	1541	<div> <div>0%</div> <div> <div>45%</div> <div>44%</div> <div>10%</div> </div> </div>
1	BA	1541	<div> <div>2%</div> <div> <div>44%</div> <div>45%</div> <div>9%</div> </div> </div>
2	CA	2904	<div> <div>0%</div> <div> <div>52%</div> <div>39%</div> <div>8%</div> </div> </div>
2	DA	2904	<div> <div>2%</div> <div> <div>48%</div> <div>42%</div> <div>9%</div> </div> </div>

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Mol	Chain	Length	Quality of chain
3	CB	118	
3	DB	118	
4	AV	76	
4	AW	76	
4	AY	76	
4	BV	76	
4	BW	76	
5	CC	271	
5	DC	271	
6	CD	209	
6	DD	209	
7	CE	181	
7	DE	181	
8	CF	177	
8	DF	177	
9	CG	176	
9	DG	176	
10	CH	149	
10	DH	149	
11	C5	109	
12	CI	72	
12	DI	72	
13	CJ	142	
13	DJ	142	
14	CK	122	

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Mol	Chain	Length	Quality of chain
14	DK	122	
15	CL	143	
15	DL	143	
16	CM	136	
16	DM	136	
17	CN	121	
17	DN	121	
18	CO	116	
18	DO	116	
19	CP	114	
19	DP	114	
20	CQ	117	
20	DQ	117	
21	CR	103	
21	DR	103	
22	CS	110	
22	DS	110	
23	CT	93	
23	DT	93	
24	CU	102	
24	DU	102	
25	CV	94	
25	DV	94	
26	CW	75	
26	DW	75	

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Mol	Chain	Length	Quality of chain
27	CX	77	
27	DX	77	
28	CY	63	
28	DY	63	
29	CZ	58	
29	DZ	58	
30	C0	39	
30	D0	39	
31	C1	56	
31	D1	56	
32	C2	50	
32	D2	50	
33	C3	46	
33	D3	46	
34	C4	62	
34	D4	62	
35	C6	38	
35	D6	38	
36	AX	46	
36	BX	46	
37	AB	225	
37	BB	225	
38	AC	206	
38	BC	206	
39	AD	205	

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Mol	Chain	Length	Quality of chain
39	BD	205	
40	AE	150	
40	BE	150	
41	AF	100	
41	BF	100	
42	AG	179	
42	BG	179	
43	AH	129	
43	BH	129	
44	AI	130	
44	BI	130	
45	AJ	98	
45	BJ	98	
46	AK	117	
46	BK	117	
47	AL	123	
47	BL	123	
48	AM	114	
48	BM	114	
49	AN	101	
49	BN	101	
50	AO	89	
50	BO	89	
51	AP	82	
51	BP	82	

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Mol	Chain	Length	Quality of chain
52	AQ	80	
52	BQ	80	
53	AR	55	
53	BR	55	
54	AS	79	
54	BS	79	
55	AT	85	
55	BT	85	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
56	MG	AA	1640	-	-	-	X
56	MG	AA	1644	-	-	-	X
56	MG	BA	1608	-	-	-	X
56	MG	BA	1620	-	-	-	X
56	MG	BA	1628	-	-	-	X
56	MG	CA	3068	-	-	-	X
56	MG	DA	3094	-	-	-	X

## 2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 296390 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	AA	1540	Total	C	N	O	P	0	1	0
			33037	14735	6057	10705	1540			
1	BA	1541	Total	C	N	O	P	0	0	0
			33057	14744	6059	10713	1541			

- Molecule 2 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	CA	2867	Total	C	N	O	P	0	0	0
			61550	27457	11328	19898	2867			
2	DA	2869	Total	C	N	O	P	0	0	0
			61593	27477	11339	19908	2869			

- Molecule 3 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	CB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			
3	DB	118	Total	C	N	O	P	0	0	0
			2529	1126	464	821	118			

- Molecule 4 is a RNA chain called Valine-specific transfer RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AV	76	Total	C	N	O	P	0	0	0
			1623	723	292	532	76			
4	AY	76	Total	C	N	O	P	0	0	0
			1623	723	292	532	76			
4	AW	76	Total	C	N	O	P	0	0	0
			1623	723	292	532	76			
4	BV	76	Total	C	N	O	P	0	0	0
			1623	723	292	532	76			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	BW	76	Total	C	N	O	P	0	0	0
			1623	723	292	532	76			

- Molecule 5 is a protein called 50S ribosomal protein L2.

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

- Molecule 6 is a protein called 50S ribosomal protein L3.

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

- Molecule 7 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	CE	181	Total	C	N	O	S	0	0	0
			1404	881	261	258	4			
7	DE	180	Total	C	N	O	S	0	0	0
			1393	875	257	257	4			

- Molecule 8 is a protein called 50S ribosomal protein L5.

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

- Molecule 9 is a protein called 50S ribosomal protein L6.

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

- Molecule 10 is a protein called 50S ribosomal protein L9.

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

- Molecule 11 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	C5	109	Total	C	N	O	S	0	0	0
			825	521	149	151	4			

- Molecule 12 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	CI	71	Total	C	N	O	S	0	0	0
			511	313	93	102	3			
12	DI	72	Total	C	N	O	S	0	0	0
			518	317	94	104	3			

- Molecule 13 is a protein called 50S ribosomal protein L13.

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

- Molecule 14 is a protein called 50S ribosomal protein L14.

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

- Molecule 15 is a protein called 50S ribosomal protein L15.

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

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

- Molecule 16 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	CM	135	Total	C	N	O	S	0	0	0
			1065	681	204	175	5			
16	DM	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			

- Molecule 17 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	CN	121	Total	C	N	O	S	0	0	0
			969	599	198	167	5			
17	DN	121	Total	C	N	O	S	0	0	0
			969	599	198	167	5			

- Molecule 18 is a protein called 50S ribosomal protein L18.

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

- Molecule 19 is a protein called 50S ribosomal protein L19.

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

- Molecule 20 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	CQ	117	Total	C	N	O		0	0	0
			947	604	192	151				
20	DQ	117	Total	C	N	O		0	0	0
			947	604	192	151				

- Molecule 21 is a protein called 50S ribosomal protein L21.

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

- Molecule 22 is a protein called 50S ribosomal protein L22.

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

- Molecule 23 is a protein called 50S ribosomal protein L23.

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

- Molecule 24 is a protein called 50S ribosomal protein L24.

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

- Molecule 25 is a protein called 50S ribosomal protein L25.

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

- Molecule 26 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	CW	75	Total	C	N	O	S	0	0	0
			574	356	116	101	1			
26	DW	75	Total	C	N	O	S	0	0	0
			574	356	116	101	1			

- Molecule 27 is a protein called 50S ribosomal protein L28.

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

- Molecule 28 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	CY	61	Total	C	N	O	S	0	0	0
			499	308	97	92	2			
28	DY	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			

- Molecule 29 is a protein called 50S ribosomal protein L30.

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

- Molecule 30 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	C0	39	Total	C	N	O	S	0	0	0
			293	179	52	57	5			
30	D0	39	Total	C	N	O	S	0	0	0
			293	179	52	57	5			

- Molecule 31 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	C1	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	D1	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

- Molecule 32 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	C2	50	Total	C	N	O		0	0	0
			410	263	75	72				
32	D2	50	Total	C	N	O		0	0	0
			410	263	75	72				

- Molecule 33 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	C3	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			
33	D3	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 34 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	C4	61	Total	C	N	O	S	0	0	0
			479	306	102	69	2			
34	D4	62	Total	C	N	O	S	0	0	0
			486	311	103	70	2			

- Molecule 35 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	C6	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			
35	D6	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 36 is a RNA chain called Messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	AX	30	Total	C	N	O	P	0	0	0
			653	293	130	200	30			
36	BX	30	Total	C	N	O	P	0	0	0
			653	293	130	200	30			

- Molecule 37 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	AB	225	Total	C	N	O	S	0	0	0
			1757	1111	315	323	8			
37	BB	225	Total	C	N	O	S	0	0	0
			1757	1111	315	323	8			

- Molecule 38 is a protein called 30S ribosomal protein S3.

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

- Molecule 39 is a protein called 30S ribosomal protein S4.

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

- Molecule 40 is a protein called 30S ribosomal protein S5.

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

- Molecule 41 is a protein called 30S ribosomal protein S6.

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

- Molecule 42 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	AG	135	Total	C	N	O	S	0	0	0
			1058	659	203	192	4			
42	BG	132	Total	C	N	O	S	0	0	0
			1035	644	200	187	4			

- Molecule 43 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	AH	128	Total	C	N	O	S	0	0	0
			973	613	172	182	6			
43	BH	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			

- Molecule 44 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	AI	124	Total	C	N	O	S	0	0	0
			995	619	199	174	3			
44	BI	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			

- Molecule 45 is a protein called 30S ribosomal protein S10.

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

- Molecule 46 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	AK	116	Total	C	N	O	S	0	0	0
			869	535	173	158	3			
46	BK	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			

- Molecule 47 is a protein called 30S ribosomal protein S12.

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

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

- Molecule 48 is a protein called 30S ribosomal protein S13.

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

- Molecule 49 is a protein called 30S ribosomal protein S14.

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

- Molecule 50 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	AO	88	Total	C	N	O	S	0	0	0
			714	439	144	130	1			
50	BO	88	Total	C	N	O	S	0	0	0
			714	439	144	130	1			

- Molecule 51 is a protein called 30S ribosomal protein S16.

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

- Molecule 52 is a protein called 30S ribosomal protein S17.

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

- Molecule 53 is a protein called 30S ribosomal protein S18.

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

- Molecule 54 is a protein called 30S ribosomal protein S19.

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

- Molecule 55 is a protein called 30S ribosomal protein S20.

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

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	DQ	1	Total	Mg	0	0
			1	1		
56	CN	2	Total	Mg	0	0
			2	2		
56	CA	167	Total	Mg	0	0
			167	167		
56	C4	1	Total	Mg	0	0
			1	1		
56	CB	3	Total	Mg	0	0
			3	3		
56	CC	1	Total	Mg	0	0
			1	1		
56	AA	50	Total	Mg	0	0
			50	50		
56	CQ	1	Total	Mg	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	DA	166	Total 166	Mg 166	0	0
56	BA	49	Total 49	Mg 49	0	0
56	DN	1	Total 1	Mg 1	0	0
56	DB	3	Total 3	Mg 3	0	0

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	D0	1	Total 1	Zn 1	0	0
57	C0	1	Total 1	Zn 1	0	0
57	D6	1	Total 1	Zn 1	0	0
57	C6	1	Total 1	Zn 1	0	0

- Molecule 58 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	AA	481	Total 481	O 481	0	0
58	CA	1106	Total 1106	O 1106	0	0
58	CB	49	Total 49	O 49	0	0
58	AV	28	Total 28	O 28	0	0
58	AY	5	Total 5	O 5	0	0
58	CC	13	Total 13	O 13	0	0
58	CD	10	Total 10	O 10	0	0
58	CE	16	Total 16	O 16	0	0
58	CF	14	Total 14	O 14	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	CG	18	Total 18	O 18	0	0
58	CH	8	Total 8	O 8	0	0
58	C5	7	Total 7	O 7	0	0
58	CI	4	Total 4	O 4	0	0
58	CJ	9	Total 9	O 9	0	0
58	CK	7	Total 7	O 7	0	0
58	CL	8	Total 8	O 8	0	0
58	CM	4	Total 4	O 4	0	0
58	CN	6	Total 6	O 6	0	0
58	CO	8	Total 8	O 8	0	0
58	CP	8	Total 8	O 8	0	0
58	CQ	2	Total 2	O 2	0	0
58	CR	7	Total 7	O 7	0	0
58	CS	3	Total 3	O 3	0	0
58	CT	7	Total 7	O 7	0	0
58	CU	13	Total 13	O 13	0	0
58	CV	10	Total 10	O 10	0	0
58	CW	4	Total 4	O 4	0	0
58	CX	3	Total 3	O 3	0	0
58	CY	3	Total 3	O 3	0	0
58	CZ	1	Total 1	O 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	C1	5	Total	O	0	0
			5	5		
58	C2	1	Total	O	0	0
			1	1		
58	C3	2	Total	O	0	0
			2	2		
58	C4	2	Total	O	0	0
			2	2		
58	C6	3	Total	O	0	0
			3	3		
58	AX	4	Total	O	0	0
			4	4		
58	AW	32	Total	O	0	0
			32	32		
58	AB	7	Total	O	0	0
			7	7		
58	AC	15	Total	O	0	0
			15	15		
58	AD	10	Total	O	0	0
			10	10		
58	AE	12	Total	O	0	0
			12	12		
58	AF	6	Total	O	0	0
			6	6		
58	AG	5	Total	O	0	0
			5	5		
58	AH	7	Total	O	0	0
			7	7		
58	AI	6	Total	O	0	0
			6	6		
58	AJ	4	Total	O	0	0
			4	4		
58	AK	10	Total	O	0	0
			10	10		
58	AL	9	Total	O	0	0
			9	9		
58	AM	6	Total	O	0	0
			6	6		
58	AN	3	Total	O	0	0
			3	3		
58	AO	7	Total	O	0	0
			7	7		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	AP	4	Total 4	O 4	0	0
58	AQ	8	Total 8	O 8	0	0
58	AR	1	Total 1	O 1	0	0
58	AS	4	Total 4	O 4	0	0
58	AT	4	Total 4	O 4	0	0
58	BA	461	Total 461	O 461	0	0
58	DA	1005	Total 1005	O 1005	0	0
58	DB	32	Total 32	O 32	0	0
58	BV	13	Total 13	O 13	0	0
58	DC	28	Total 28	O 28	0	0
58	DD	15	Total 15	O 15	0	0
58	DE	12	Total 12	O 12	0	0
58	DF	4	Total 4	O 4	0	0
58	DG	6	Total 6	O 6	0	0
58	DH	4	Total 4	O 4	0	0
58	DJ	3	Total 3	O 3	0	0
58	DK	5	Total 5	O 5	0	0
58	DL	10	Total 10	O 10	0	0
58	DM	6	Total 6	O 6	0	0
58	DN	6	Total 6	O 6	0	0
58	DO	4	Total 4	O 4	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	DP	6	Total 6	O 6	0	0
58	DQ	5	Total 5	O 5	0	0
58	DR	13	Total 13	O 13	0	0
58	DS	9	Total 9	O 9	0	0
58	DT	10	Total 10	O 10	0	0
58	DU	14	Total 14	O 14	0	0
58	DV	7	Total 7	O 7	0	0
58	DW	3	Total 3	O 3	0	0
58	DX	3	Total 3	O 3	0	0
58	DY	7	Total 7	O 7	0	0
58	DZ	2	Total 2	O 2	0	0
58	D0	2	Total 2	O 2	0	0
58	D1	11	Total 11	O 11	0	0
58	D2	2	Total 2	O 2	0	0
58	D3	2	Total 2	O 2	0	0
58	D6	1	Total 1	O 1	0	0
58	BX	5	Total 5	O 5	0	0
58	BW	23	Total 23	O 23	0	0
58	BB	2	Total 2	O 2	0	0
58	BC	8	Total 8	O 8	0	0
58	BD	24	Total 24	O 24	0	0

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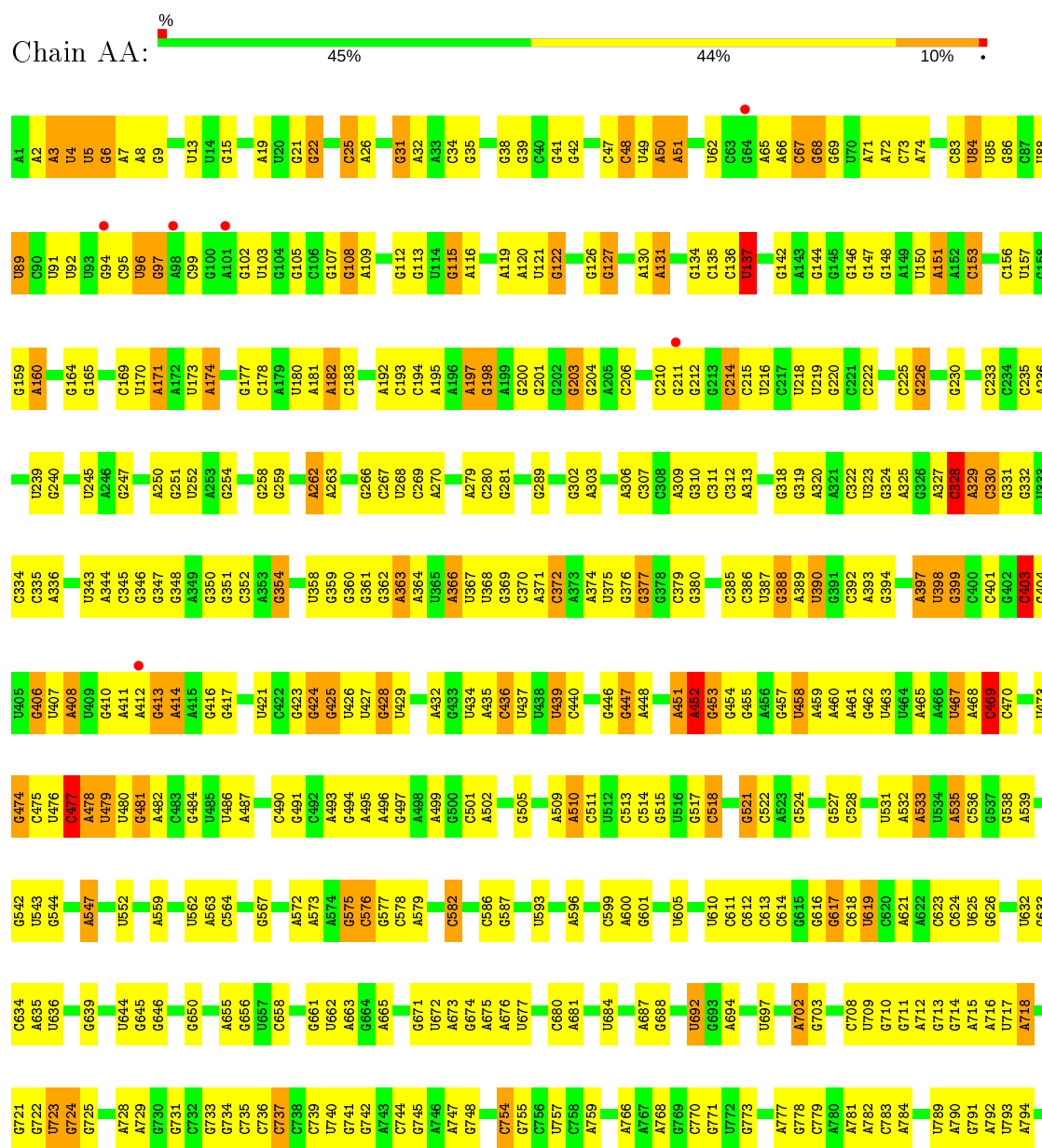
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	BE	18	Total 18	O 18	0	0
58	BF	6	Total 6	O 6	0	0
58	BG	4	Total 4	O 4	0	0
58	BH	12	Total 12	O 12	0	0
58	BI	9	Total 9	O 9	0	0
58	BJ	8	Total 8	O 8	0	0
58	BK	5	Total 5	O 5	0	0
58	BL	8	Total 8	O 8	0	0
58	BM	6	Total 6	O 6	0	0
58	BN	5	Total 5	O 5	0	0
58	BO	2	Total 2	O 2	0	0
58	BP	5	Total 5	O 5	0	0
58	BQ	10	Total 10	O 10	0	0
58	BR	1	Total 1	O 1	0	0
58	BS	3	Total 3	O 3	0	0
58	BT	2	Total 2	O 2	0	0

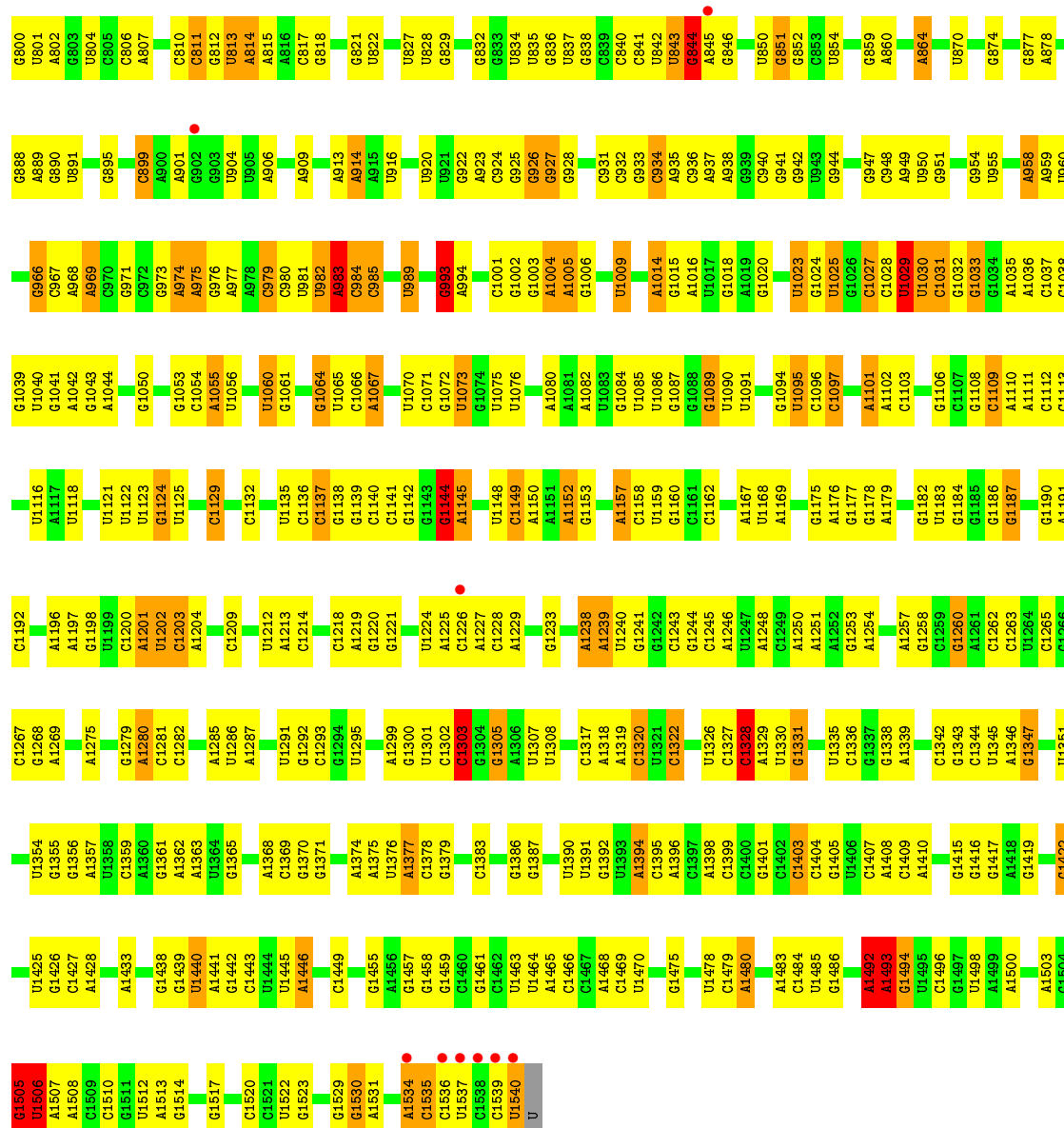


### 3 Residue-property plots [i](#)

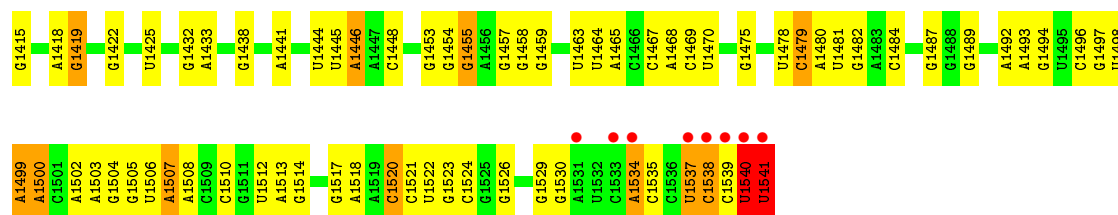
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are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

- Molecule 1: 16S ribosomal RNA

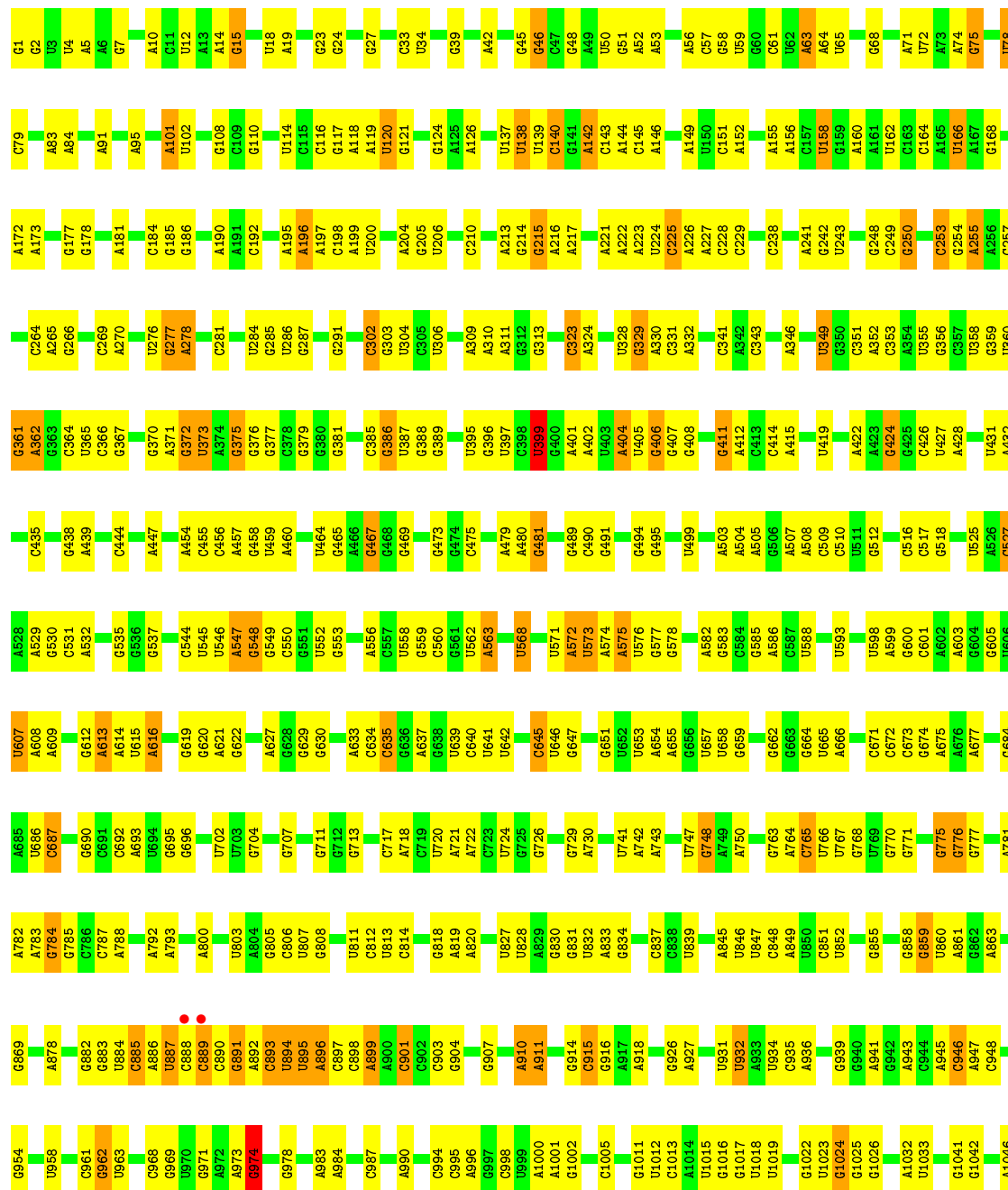




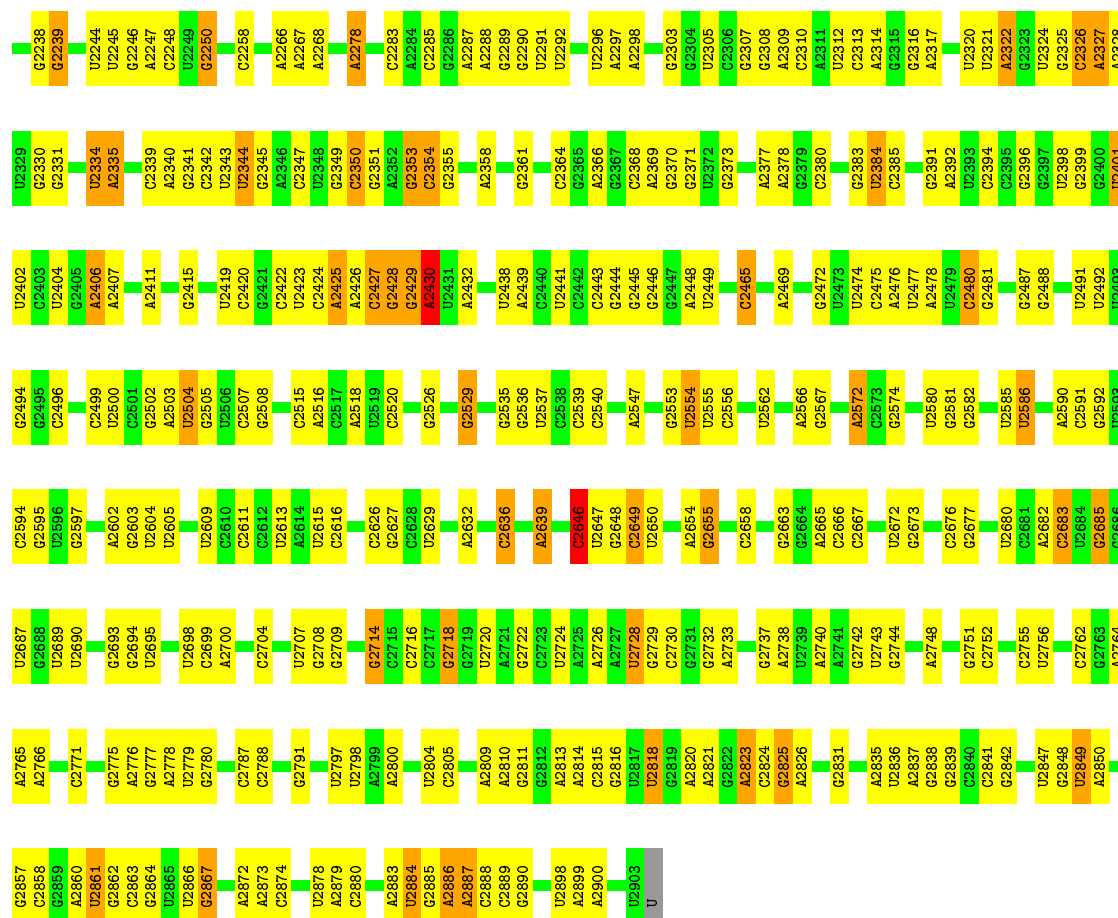
U1348	A1275	G1039	A988	G887	C806	G719	C632	C545	U464	A383	G299	C215
A1349	G1279	U1040	A969	G888	A907	G720	U633	A946	A465	G384	A300	U216
A1350	G1280	A1042	G970	A889	A907	G721	U633	A947	A466	U387	A306	C217
G1352	G1281	G1043	G972	U891	G809	G722	A635	C549	U467	C311	C311	U219
G1353	G1282	A1044	G973	A892	U813	G724	U639	C550	C469	A389	C322	G220
U1354	G1283	G1053	A974	G895	A814	A728	U646	U551	G474	U390	A315	C221
G1355	G1284	C1054	A975	G895	A815	A729	A642	U552	C475	G391	C316	C222
A1287	G1285	U1056	G976	G898	A816	G730	U644	A553	U476	C392	A321	A223
A1288	G1286	G1057	C979	G899	C817	G731	U644	C556	C477	G394	C322	G226
U1357	G1287	G1058	C980	A900	A818	G734	U647	A559	U478	C395	A325	G230
G1359	G1288	C1059	U981	U904	U820	G737	A648	A560	U479	C396	A325	U231
A1290	G1289	U1060	U982	U904	U821	C738	U652	U561	U480	A397	A325	G232
U1291	G1290	G1061	A983	A909	U822	C739	U652	A563	G481	U398	A325	G233
U1292	G1291	C1062	C985	A913	G823	U740	U652	C564	C482	C401	C328	C235
G1293	G1292	U1065	U989	A914	G824	U741	U652	U565	C483	C402	A329	G237
U1298	G1293	C1066	U992	A915	U827	G742	U652	U566	C484	C403	A329	A238
G1365	G1294	U1069	U992	A916	U828	G743	U652	U567	C485	C404	A329	A239
C1366	G1295	C1070	G993	U917	U829	G744	U652	C567	C486	C405	A329	G240
C1367	G1296	U1071	A994	A918	G830	G745	U652	A572	C487	C406	A329	U244
A1368	G1297	G1072	C995	A919	U837	A746	U652	A573	C488	C407	A329	U245
C1369	G1298	G1073	A996	U920	U838	A747	U652	A574	C489	C408	A329	A246
G1370	G1299	U1074	U997	U921	G839	G748	U652	A575	C490	C409	A329	G247
G1371	G1300	C1075	U998	U922	C941	U751	U652	A576	C491	C410	A329	C248
U1372	G1301	U1076	U999	G923	C942	U752	U652	A577	C492	C411	A329	U249
U1373	G1302	U1077	U999	G924	C943	U753	U652	A578	C493	C412	A329	G250
A1374	G1303	C1078	U999	G925	C944	U754	U652	A579	C494	C413	A329	G251
G1375	G1304	U1079	U999	G926	C945	U755	U652	A580	C495	C414	A329	U252
G1376	G1305	C1080	U999	G927	C946	U756	U652	A581	C496	C415	A329	A253
A1377	G1306	U1081	U999	G928	C947	U757	U652	A582	C497	C416	A329	G254
C1378	G1307	U1082	U999	G929	C948	U758	U652	A583	C498	C417	A329	G255
G1379	G1308	C1083	U999	G930	C949	U759	U652	A584	C499	C418	A329	G256
C1380	G1309	U1084	U999	G931	C950	U760	U652	A585	C500	C419	A329	G257
C1381	G1310	C1085	U999	G932	C951	U761	U652	A586	C501	C420	A329	G258
G1382	G1311	U1086	U999	G933	C952	U762	U652	A587	C502	C421	A329	G259
C1383	G1312	C1087	U999	G934	C953	U763	U652	A588	C503	C422	A329	G260
G1384	G1313	U1088	U999	G935	C954	U764	U652	A589	C504	C423	A329	U261
G1385	G1314	C1089	U999	G936	C955	U765	U652	A590	C505	C424	A329	A262
G1386	G1315	U1090	U999	G937	C956	U766	U652	A591	C506	C425	A329	A263
G1387	G1316	C1091	U999	G938	C957	U767	U652	A592	C507	C426	A329	C264
U1390	G1317	U1092	U999	G939	C958	U768	U652	A593	C508	C427	A329	G265
U1391	G1318	C1093	U999	G940	C959	U769	U652	A594	C509	C428	A329	G266
G1392	G1319	U1094	U999	G941	C960	U770	U652	A595	C510	C429	A329	C267
U1393	G1320	C1095	U999	G942	C961	U771	U652	A596	C511	C430	A329	U268
C1394	G1321	U1096	U999	G943	C962	U772	U652	A597	C512	C431	A329	C269
C1395	G1322	C1097	U999	G944	C963	U773	U652	A598	C513	C432	A329	A270
A1396	G1323	U1098	U999	G945	C964	U774	U652	A599	C514	C433	A329	G275
G1397	G1324	C1099	U999	G946	C965	U775	U652	A600	C515	C434	A329	A279
A1398	G1325	U1100	U999	G947	C966	U776	U652	A601	C516	C435	A329	C280
C1399	G1326	C1101	U999	G948	C967	U777	U652	A602	C517	C436	A329	G281
G1400	G1327	U1102	U999	G949	C968	U778	U652	A603	C518	C437	A329	C284
G1401	G1328	C1103	U999	G950	C969	U779	U652	A604	C519	C438	A329	G289
C1402	G1329	U1104	U999	G951	C970	U780	U652	A605	C520	C439	A329	U296
G1403	G1330	C1105	U999	G952	C971	U781	U652	A606	C521	C440	A329	A382
C1404	G1331	U1106	U999	G953	C972	U782	U652	A607	C522	C441	A329	A383
U1405	G1332	C1107	U999	G954	C973	U783	U652	A608	C523	C442	A329	A384
C1406	G1333	U1108	U999	G955	C974	U784	U652	A609	C524	C443	A329	A385
G1407	G1334	C1109	U999	G956	C975	U785	U652	A610	C525	C444	A329	A386
A1408	G1335	U1110	U999	G957	C976	U786	U652	A611	C526	C445	A329	A387
C1409	G1336	C1111	U999	G958	C977	U787	U652	A612	C527	C446	A329	A388
A1410	G1337	U1112	U999	G959	C978	U788	U652	A613	C528	C447	A329	A389
G1411	G1338	C1113	U999	G960	C979	U789	U652	A614	C529	C448	A329	A390
C1412	G1339	U1114	U999	G961	C980	U790	U652	A615	C530	C449	A329	A391
A1413	G1340	C1115	U999	G962	C981	U791	U652	A616	C531	C450	A329	A392
U1414	G1341	U1116	U999	G963	C982	U792	U652	A617	C532	C451	A329	A393
		C1117	U999	G964	C983	U793	U652	A618	C533	C452	A329	A394
		U1118	U999	G965	C984	U794	U652	A619	C534	C453	A329	A395
		C1119	U999	G966	C985	U795	U652	A620	C535	C454	A329	A396
		U1120	U999	G967	C986	U796	U652	A621	C536	C455	A329	A397
		C1121	U999	G968	C987	U797	U652	A622	C537	C456	A329	A398
		U1122	U999	G969	C988	U798	U652	A623	C538	C457	A329	A399
		C1123	U999	G970	C989	U799	U652	A624	C539	C458	A329	A400
		U1124	U999	G971	C990	U800	U652	A625	C540	C459	A329	A401
		C1125	U999	G972	C991	U801	U652	A626	C541	C460	A329	A402
		U1126	U999	G973	C992	U802	U652	A627	C542	C461	A329	A403
		C1127	U999	G974	C993	U803	U652	A628	C543	C462	A329	A404
		U1128	U999	G975	C994	U804	U652	A629	C544	C463	A329	A405
		C1129	U999	G976	C995	U805	U652	A630	C545	C464	A329	A406
		U1130	U999	G977	C996	U806	U652	A631	C546	C465	A329	A407
		C1131	U999	G978	C997	U807	U652	A632	C547	C466	A329	A408
		U1132	U999	G979	C998	U808	U652	A633	C548	C467	A329	A409
		C1133	U999	G980	C999	U809	U652	A634	C549	C468	A329	A410
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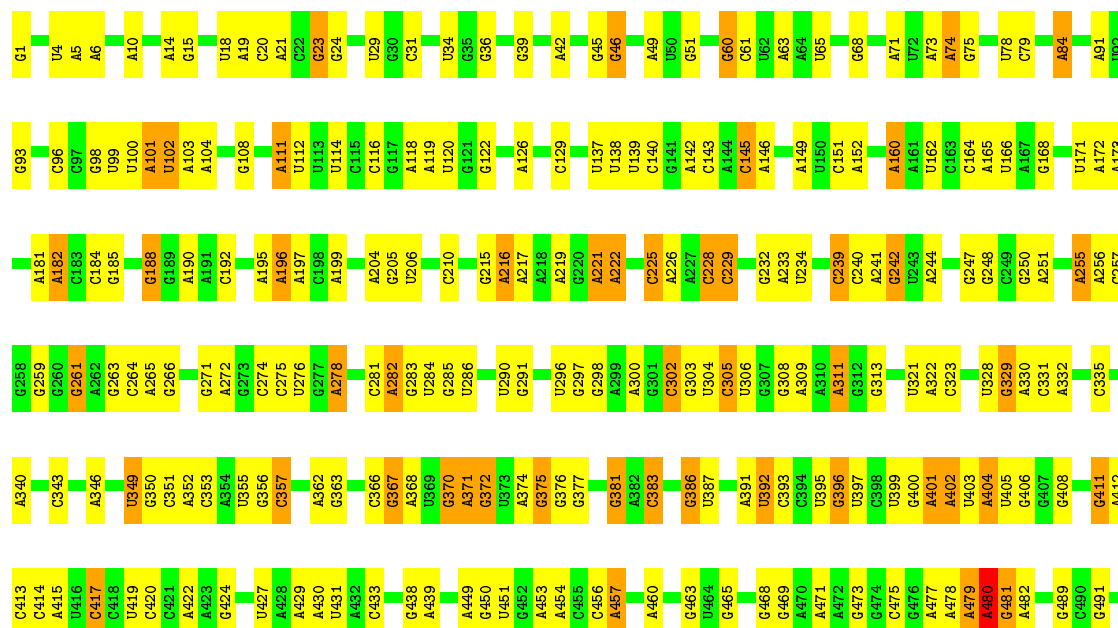
• Molecule 2: 23S ribosomal RNA



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• Molecule 2: 23S ribosomal RNA











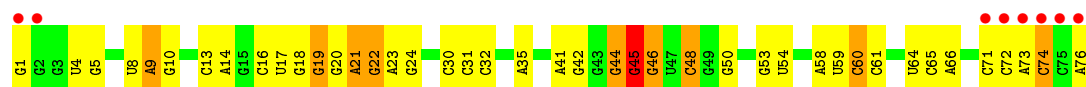
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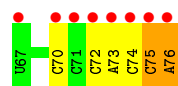
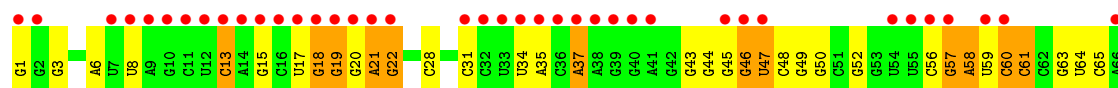
• Molecule 3: 5S ribosomal RNA



• Molecule 4: Valine-specific transfer RNA



• Molecule 4: Valine-specific transfer RNA



• Molecule 4: Valine-specific transfer RNA



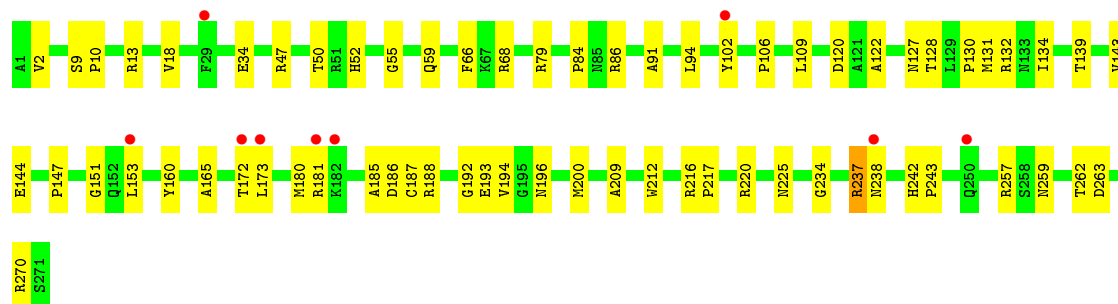
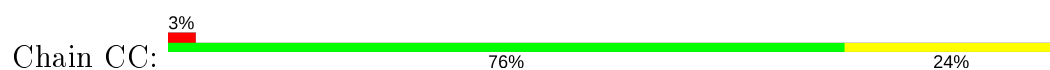
• Molecule 4: Valine-specific transfer RNA



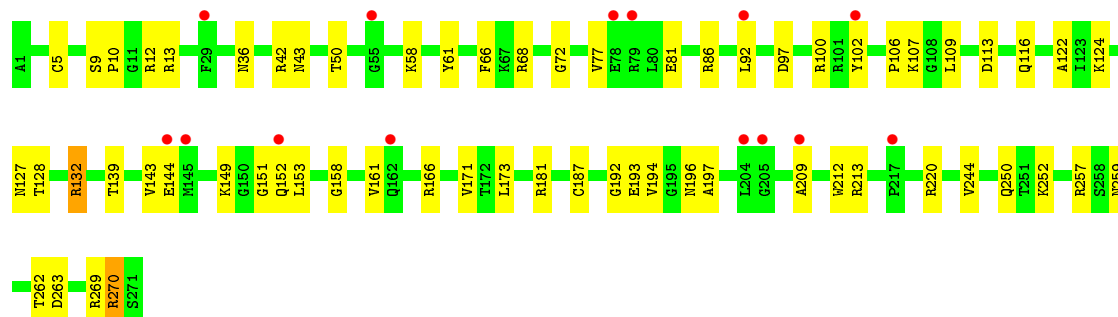
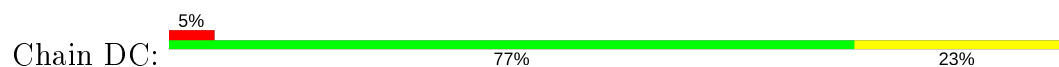
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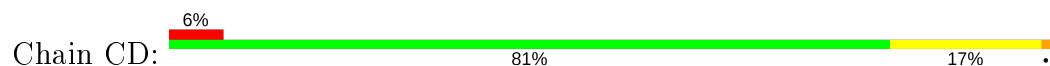
• Molecule 5: 50S ribosomal protein L2



• Molecule 5: 50S ribosomal protein L2

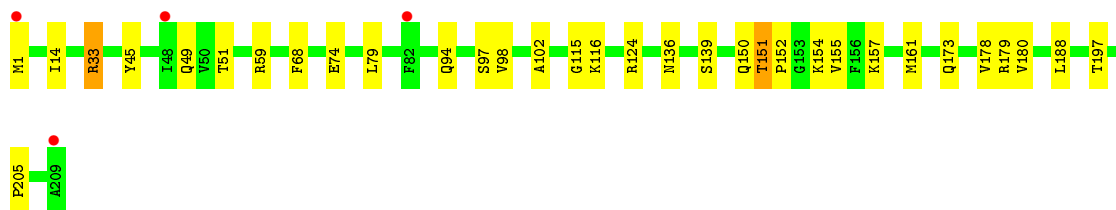
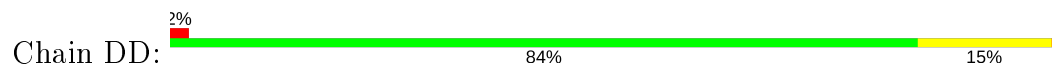


• Molecule 6: 50S ribosomal protein L3

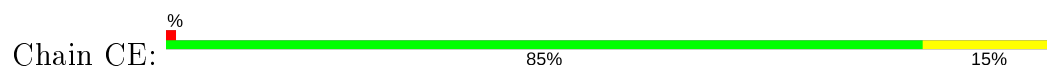




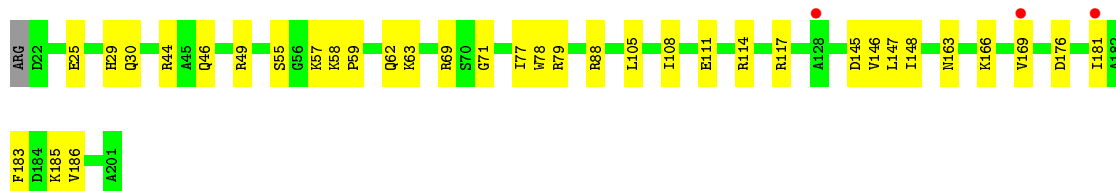
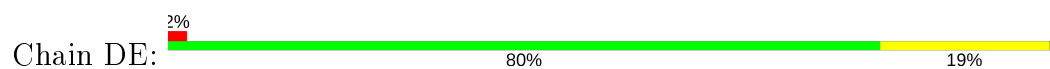
- Molecule 6: 50S ribosomal protein L3



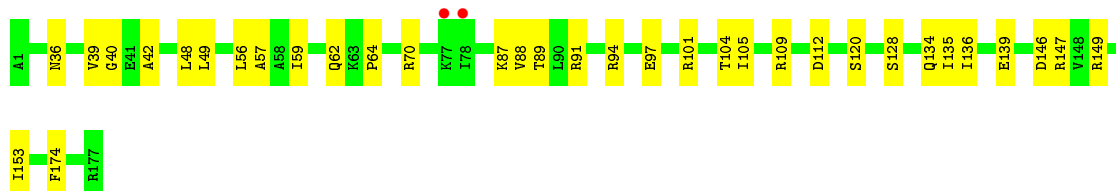
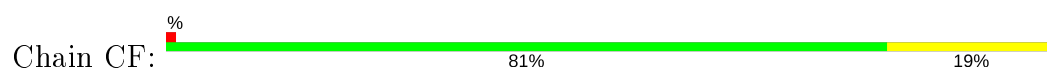
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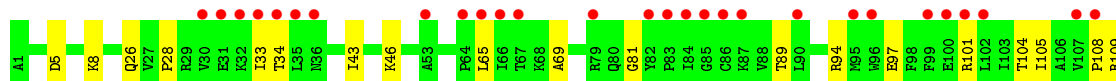
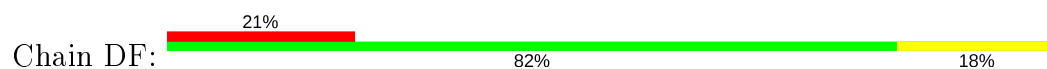
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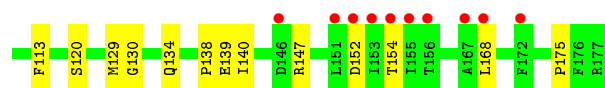


- Molecule 8: 50S ribosomal protein L5

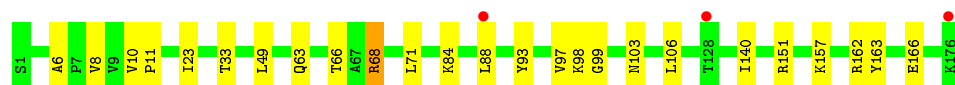
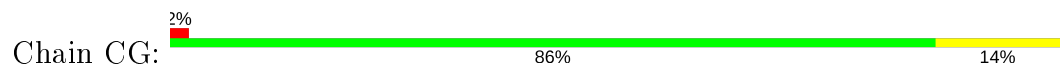


- Molecule 8: 50S ribosomal protein L5

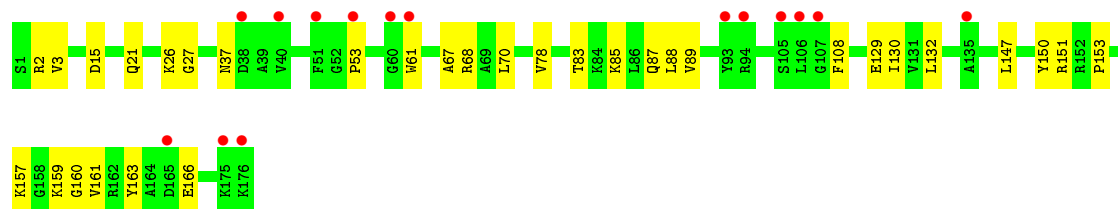
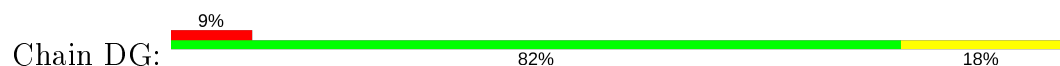




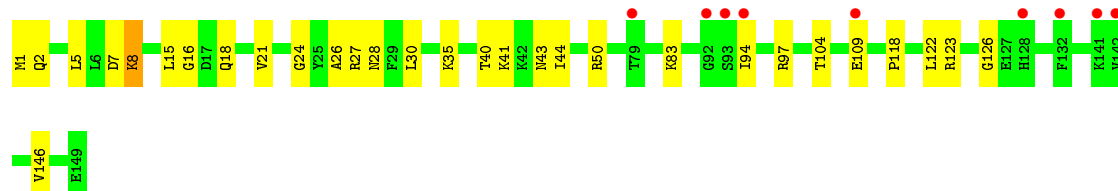
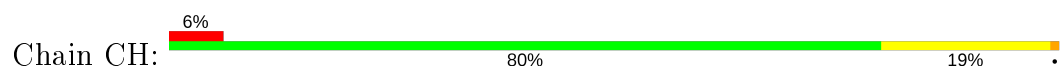
- Molecule 9: 50S ribosomal protein L6



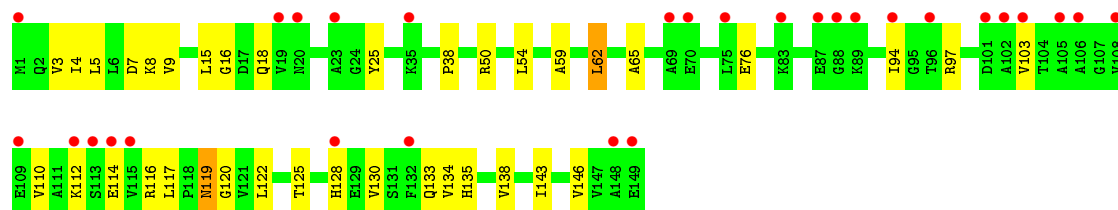
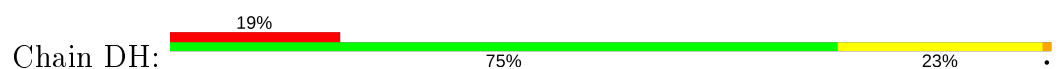
- Molecule 9: 50S ribosomal protein L6



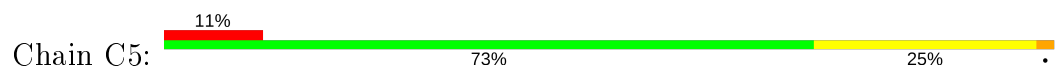
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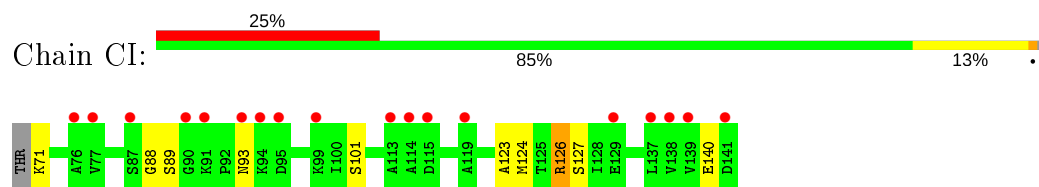
- Molecule 10: 50S ribosomal protein L9



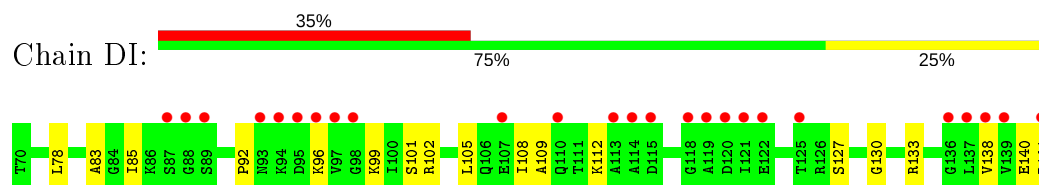
- Molecule 11: 50S ribosomal protein L10



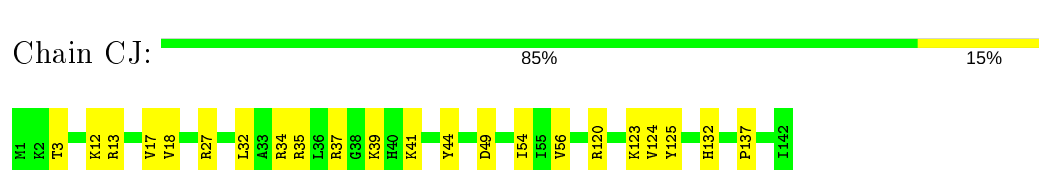
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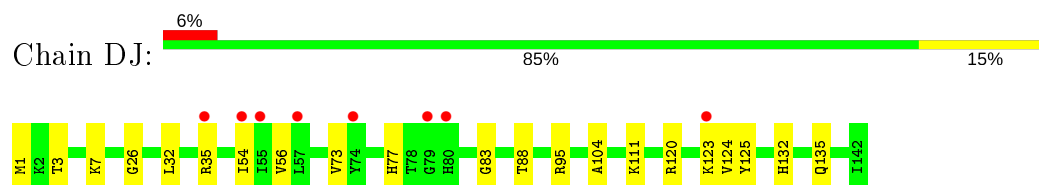
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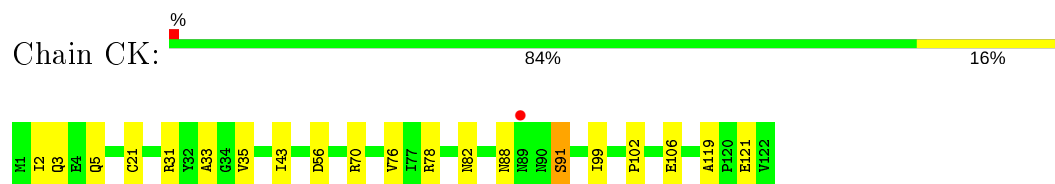
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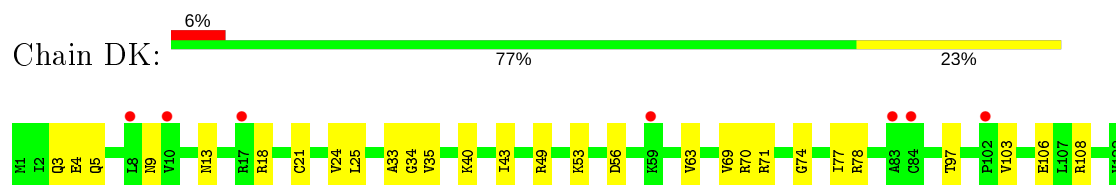
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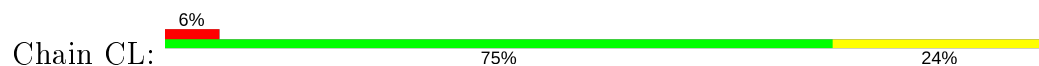
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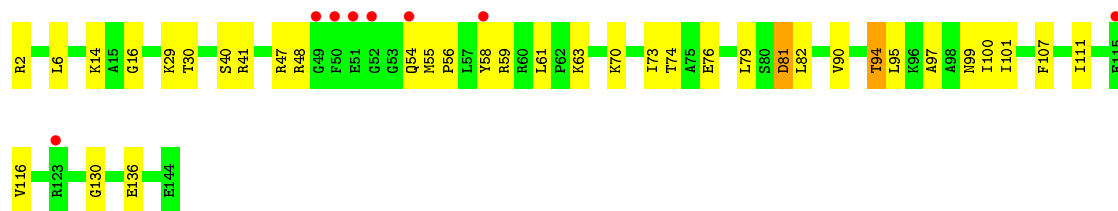


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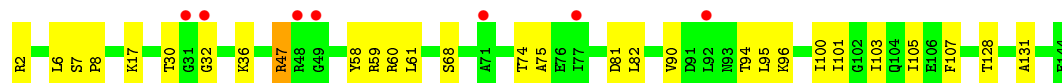
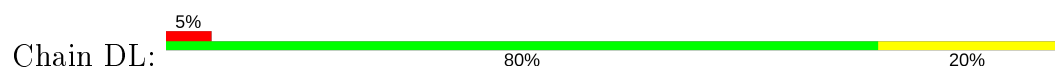


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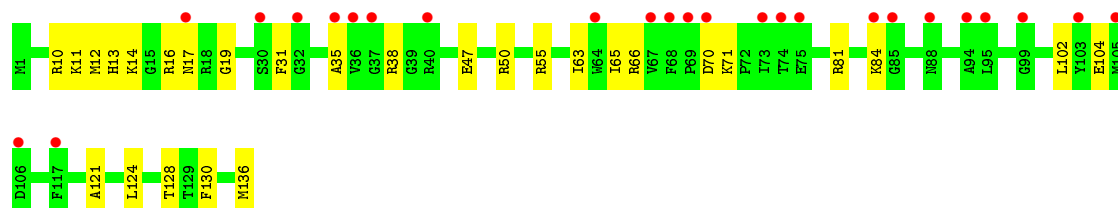
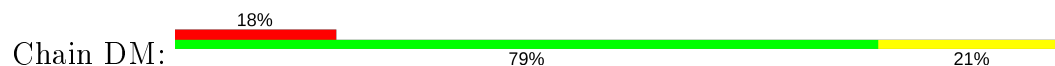
- Molecule 15: 50S ribosomal protein L15



- Molecule 16: 50S ribosomal protein L16



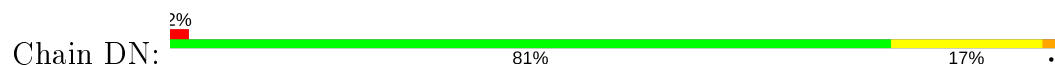
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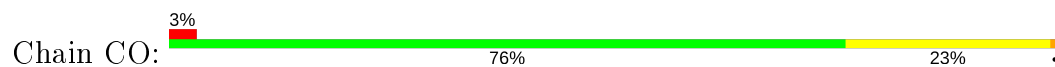
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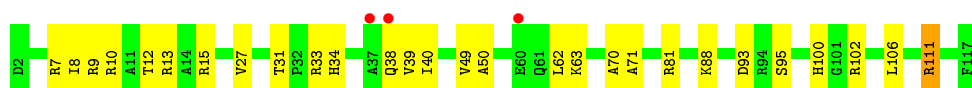


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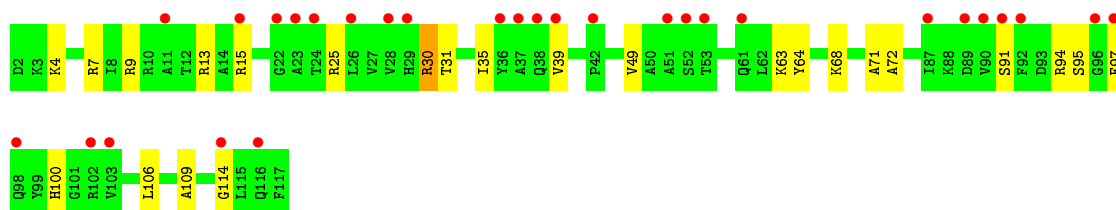
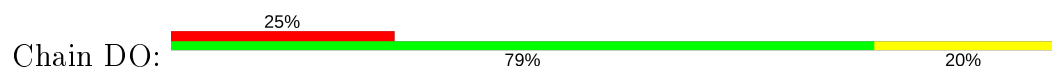


- Molecule 18: 50S ribosomal protein L18

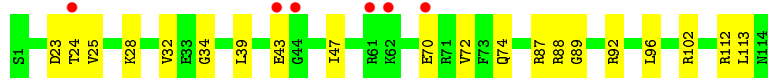
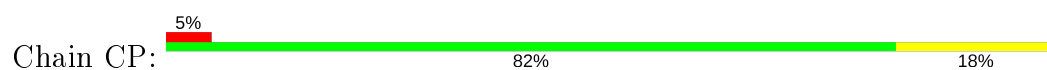




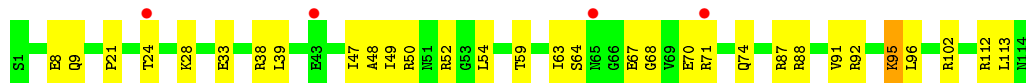
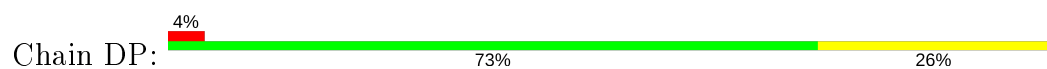
- Molecule 18: 50S ribosomal protein L18



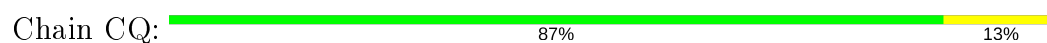
- Molecule 19: 50S ribosomal protein L19



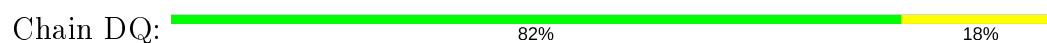
- Molecule 19: 50S ribosomal protein L19



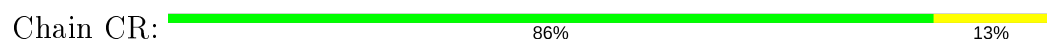
- Molecule 20: 50S ribosomal protein L20



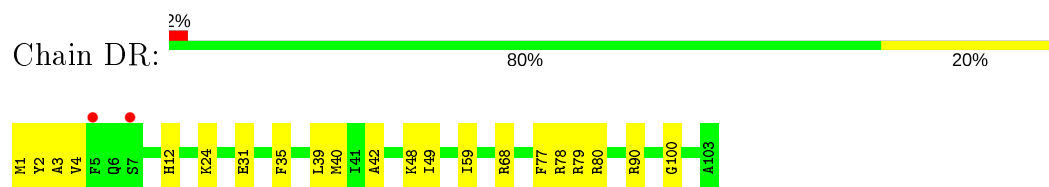
- Molecule 20: 50S ribosomal protein L20



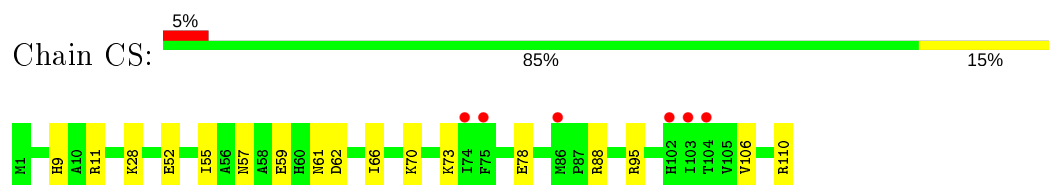
- Molecule 21: 50S ribosomal protein L21



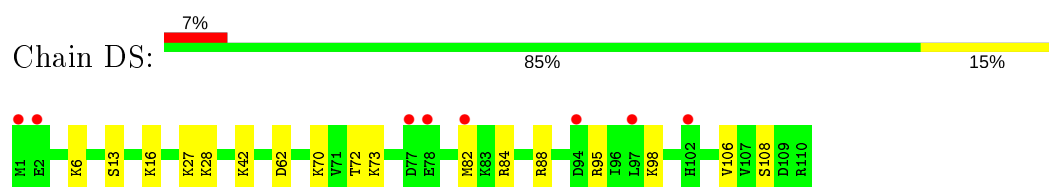
- Molecule 21: 50S ribosomal protein L21



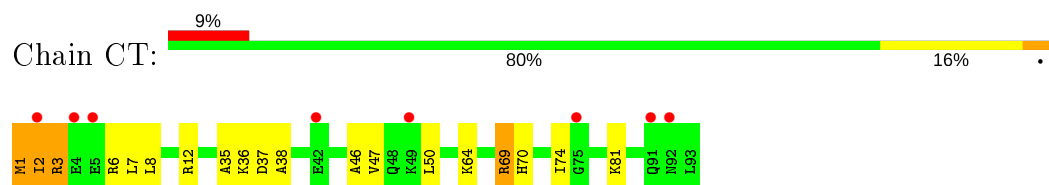
- Molecule 22: 50S ribosomal protein L22



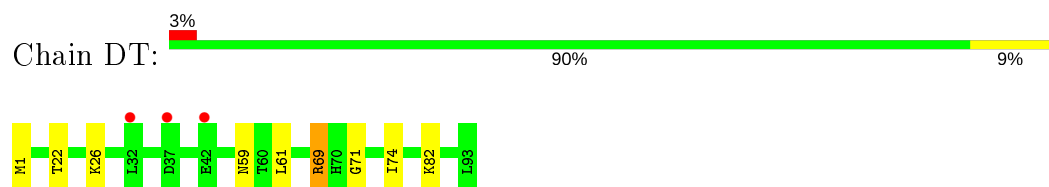
- Molecule 22: 50S ribosomal protein L22



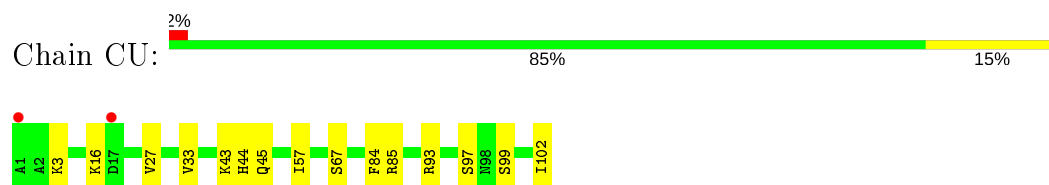
- Molecule 23: 50S ribosomal protein L23



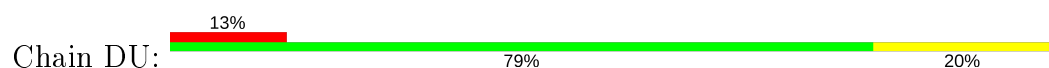
- Molecule 23: 50S ribosomal protein L23



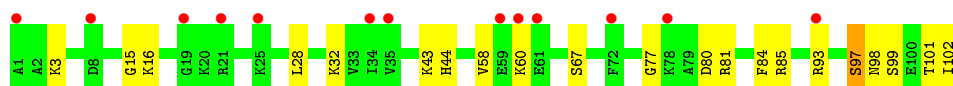
- Molecule 24: 50S ribosomal protein L24



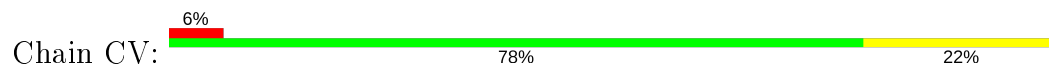
- Molecule 24: 50S ribosomal protein L24



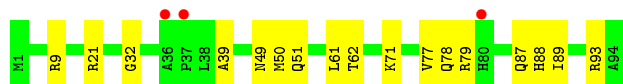
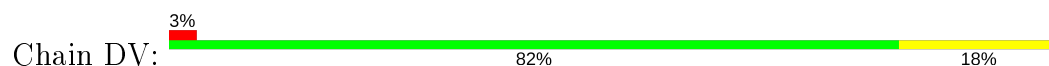




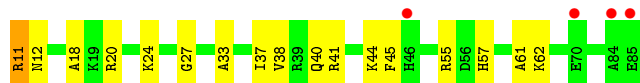
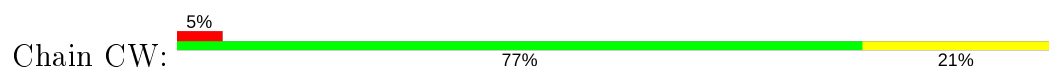
- Molecule 25: 50S ribosomal protein L25



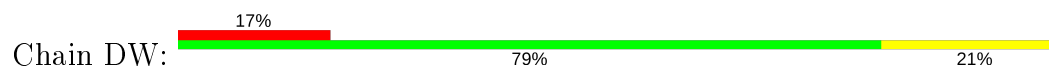
- Molecule 25: 50S ribosomal protein L25



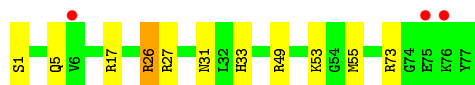
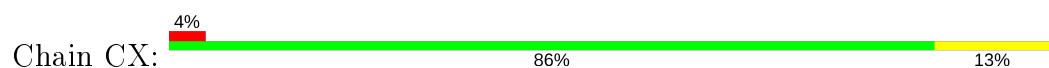
- Molecule 26: 50S ribosomal protein L27



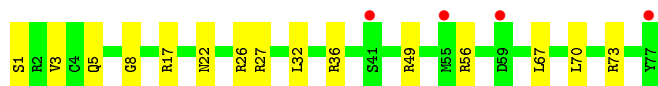
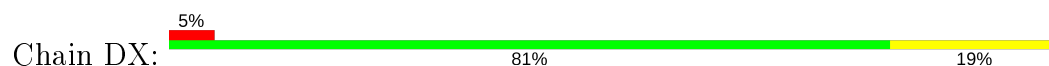
- Molecule 26: 50S ribosomal protein L27




- Molecule 27: 50S ribosomal protein L28



- Molecule 27: 50S ribosomal protein L28




- Molecule 28: 50S ribosomal protein L29

Chain CY:  87% 10%




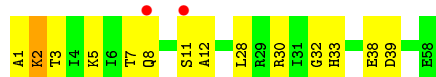
- Molecule 28: 50S ribosomal protein L29

Chain DY:  5% 76% 24%




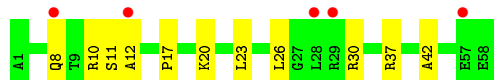
- Molecule 29: 50S ribosomal protein L30

Chain CZ:  3% 76% 22%



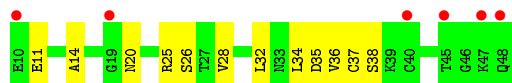
- Molecule 29: 50S ribosomal protein L30

Chain DZ:  9% 81% 19%



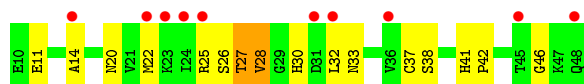
- Molecule 30: 50S ribosomal protein L31

Chain C0:  15% 69% 31%




- Molecule 30: 50S ribosomal protein L31

Chain D0:  26% 59% 36% 5%




- Molecule 31: 50S ribosomal protein L32

Chain C1:  82% 18%




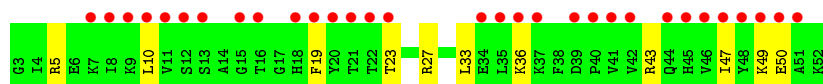
- Molecule 31: 50S ribosomal protein L32

Chain D1:  79% 21%




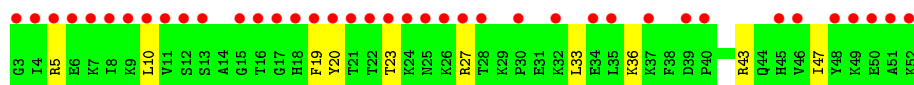
- Molecule 32: 50S ribosomal protein L33

Chain C2:  62% 78% 22%




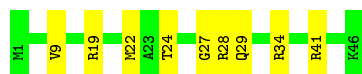
- Molecule 32: 50S ribosomal protein L33

Chain D2:  78% 80% 20%




- Molecule 33: 50S ribosomal protein L34

Chain C3:  80% 20%




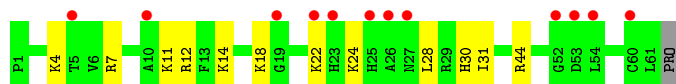
- Molecule 33: 50S ribosomal protein L34

Chain D3:  76% 22%




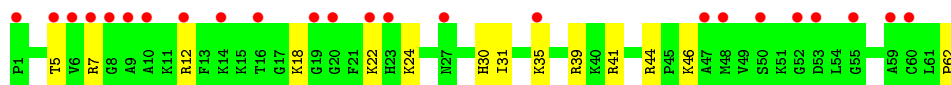
- Molecule 34: 50S ribosomal protein L35

Chain C4:  19% 79% 19%




- Molecule 34: 50S ribosomal protein L35

Chain D4:  39% 77% 23%



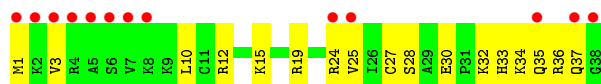
- Molecule 35: 50S ribosomal protein L36

Chain C6:  68% 32%




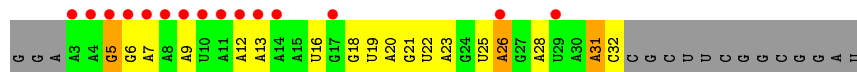
- Molecule 35: 50S ribosomal protein L36

Chain D6:  34% 55% 45%



- Molecule 36: Messenger RNA

Chain AX:  33% 26% 33% 7% 35%




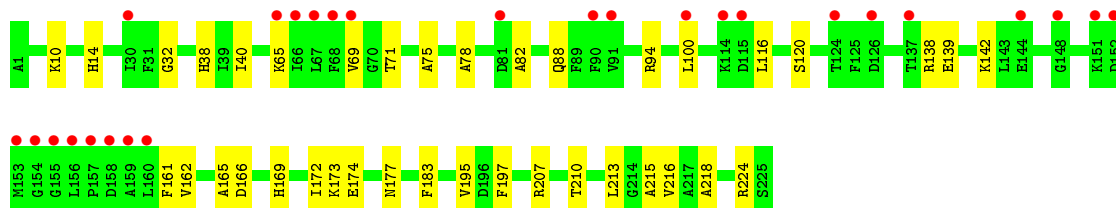
- Molecule 36: Messenger RNA

Chain BX:  37% 33% 30% 35%




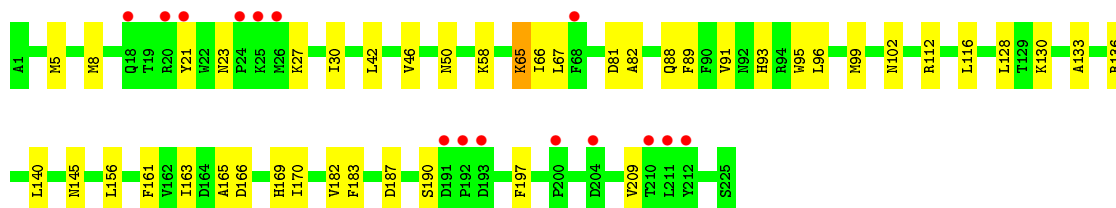
- Molecule 37: 30S ribosomal protein S2

Chain AB:  12% 83% 17%

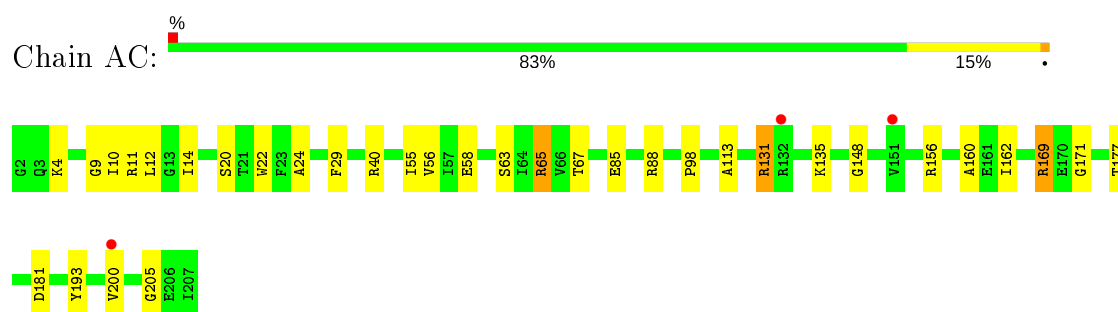


- Molecule 37: 30S ribosomal protein S2

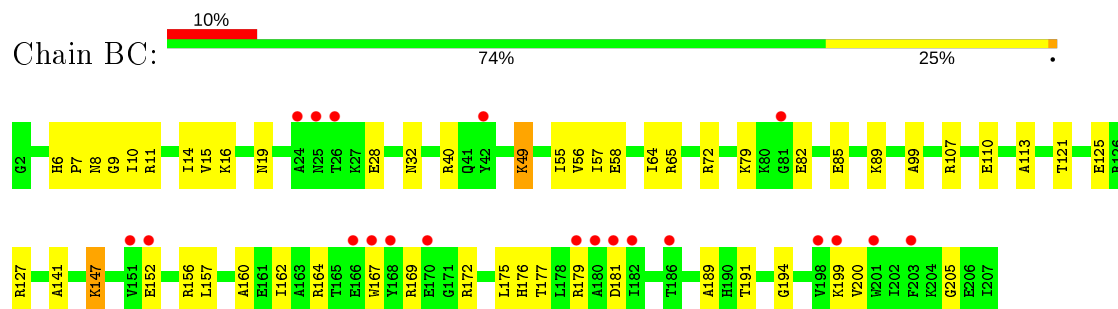
Chain BB:  7% 80% 19%



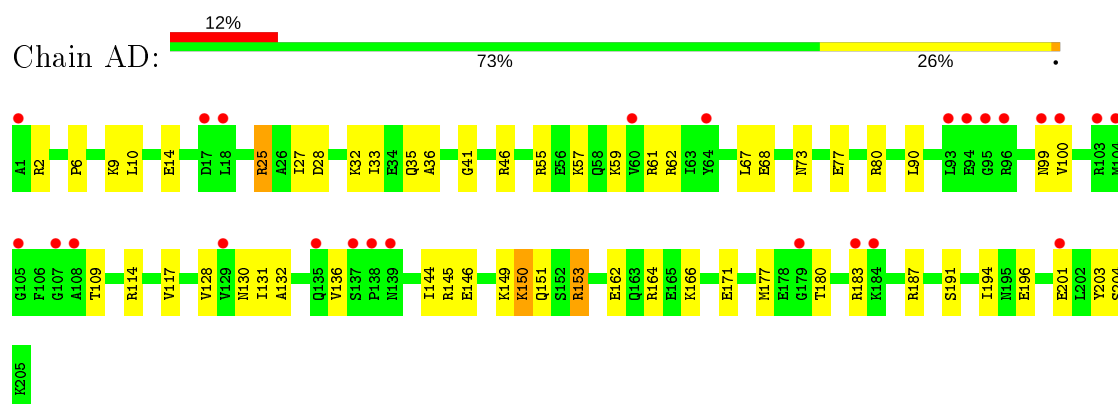
- Molecule 38: 30S ribosomal protein S3



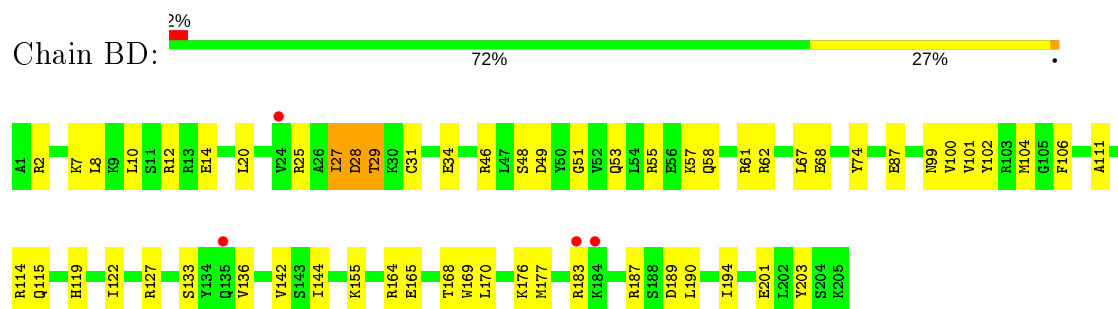
- Molecule 38: 30S ribosomal protein S3



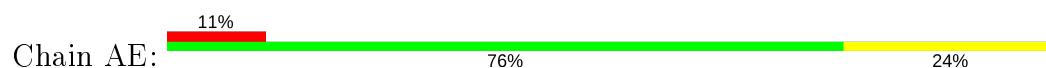
- Molecule 39: 30S ribosomal protein S4

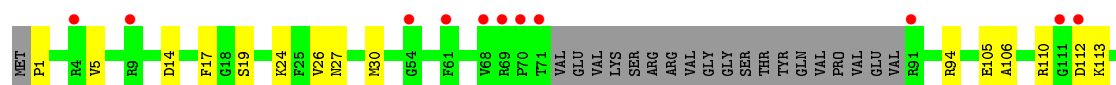


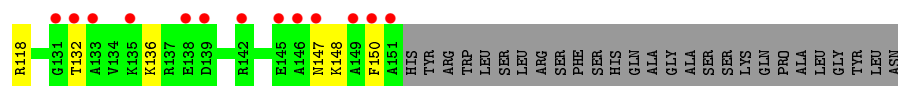
- Molecule 39: 30S ribosomal protein S4



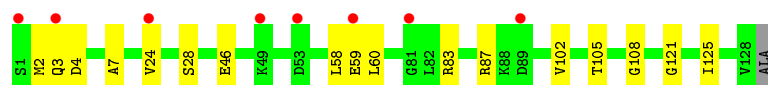
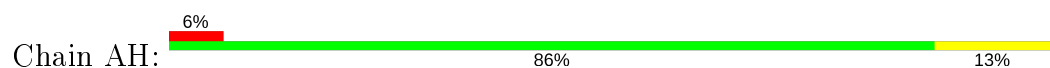
- Molecule 40: 30S ribosomal protein S5



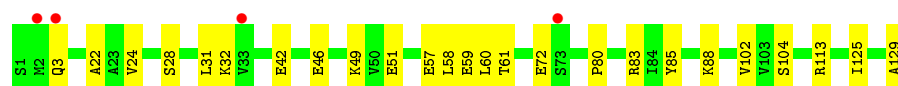
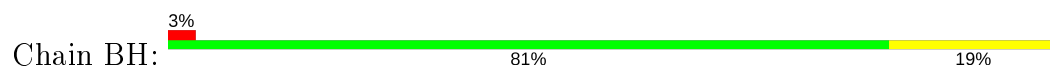




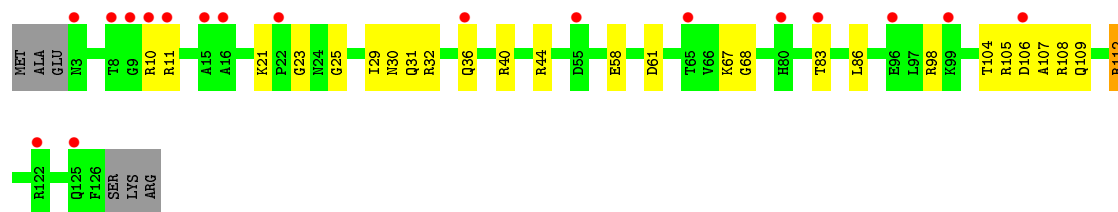
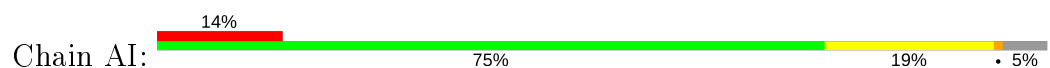
- Molecule 43: 30S ribosomal protein S8



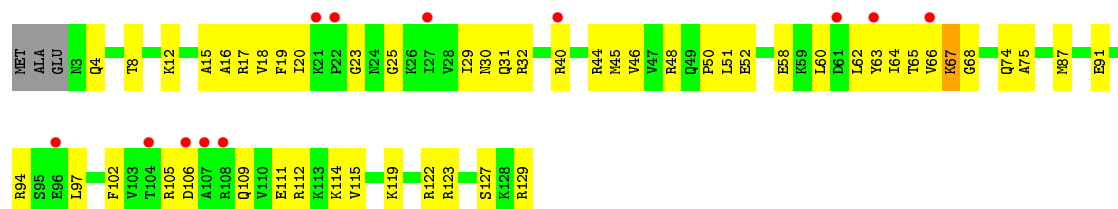
- Molecule 43: 30S ribosomal protein S8



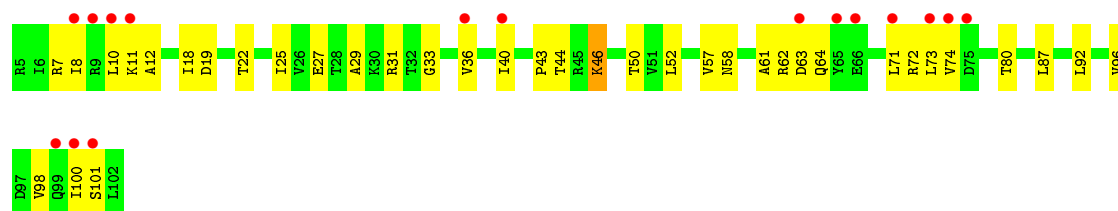
- Molecule 44: 30S ribosomal protein S9



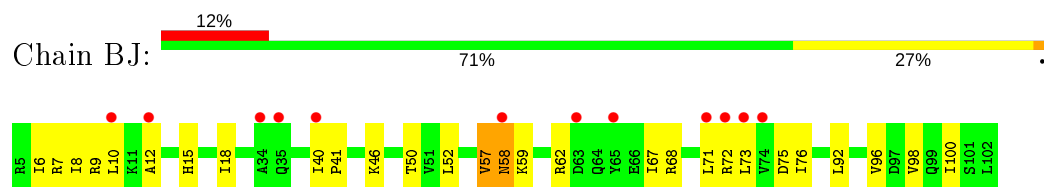
- Molecule 44: 30S ribosomal protein S9



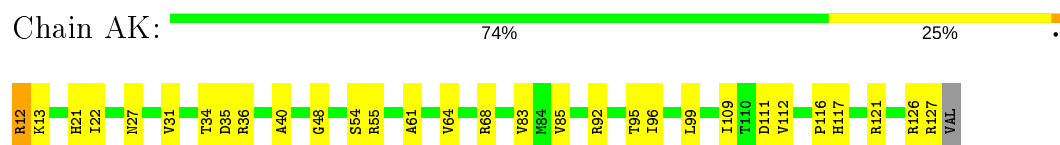
- Molecule 45: 30S ribosomal protein S10



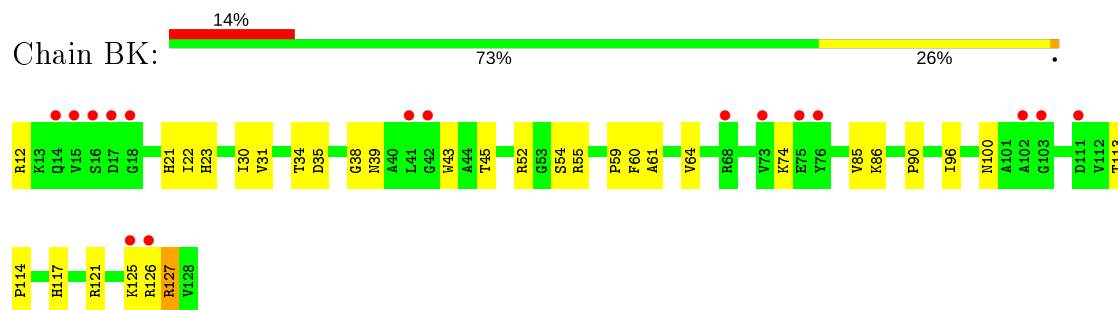
- Molecule 45: 30S ribosomal protein S10



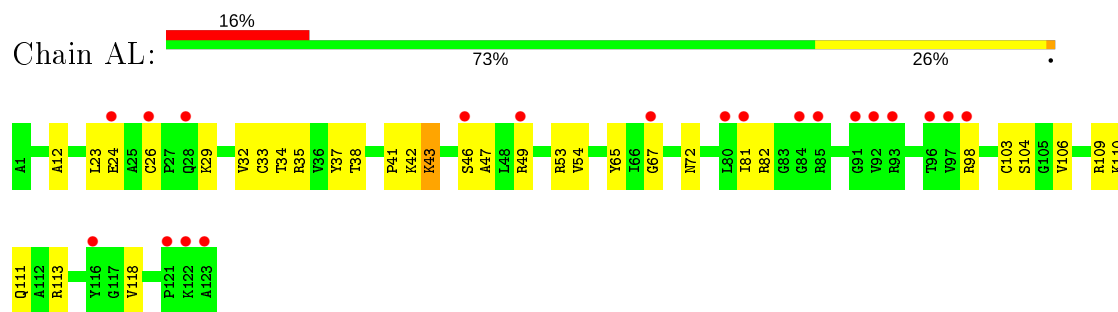
- Molecule 46: 30S ribosomal protein S11



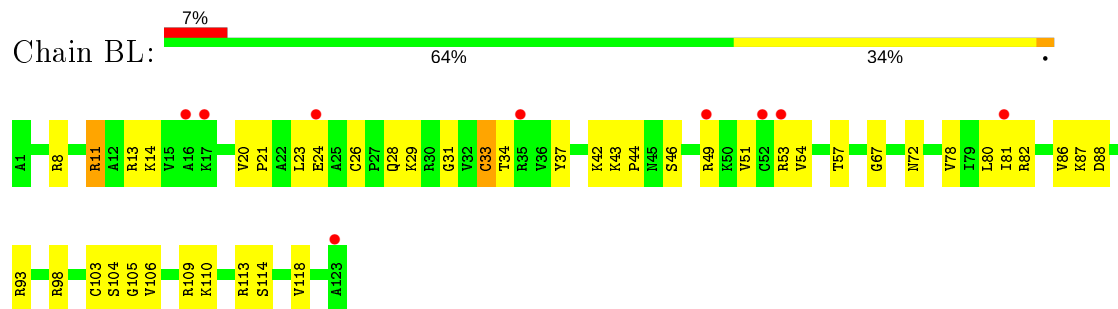
- Molecule 46: 30S ribosomal protein S11



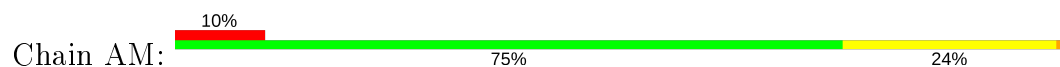
- Molecule 47: 30S ribosomal protein S12



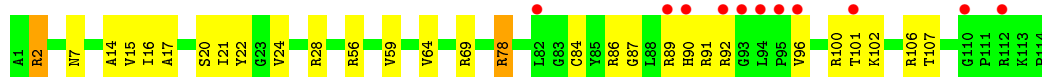
- Molecule 47: 30S ribosomal protein S12



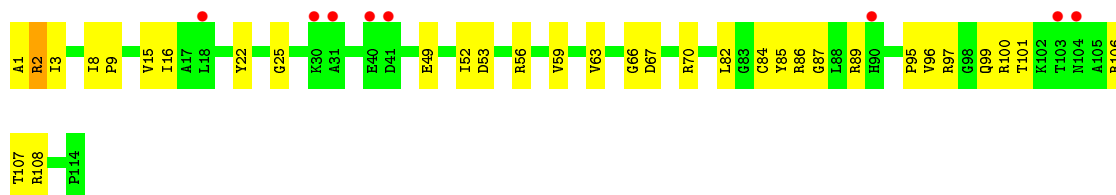
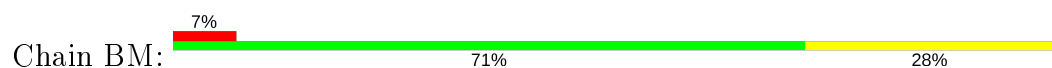
- Molecule 48: 30S ribosomal protein S13



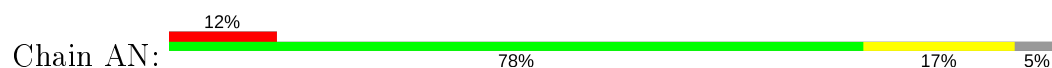




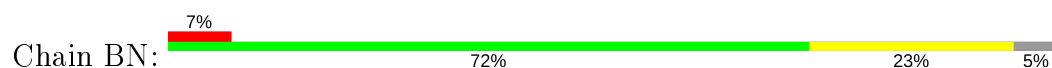
- Molecule 48: 30S ribosomal protein S13



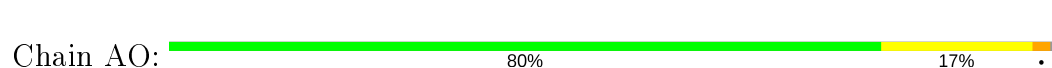
- Molecule 49: 30S ribosomal protein S14



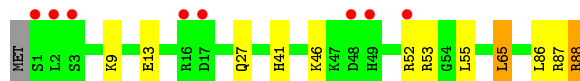
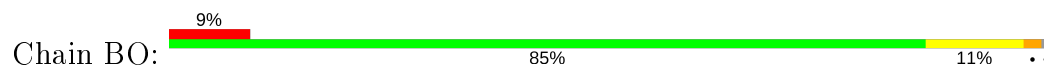
- Molecule 49: 30S ribosomal protein S14



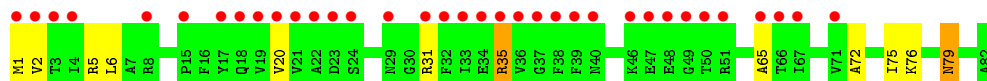
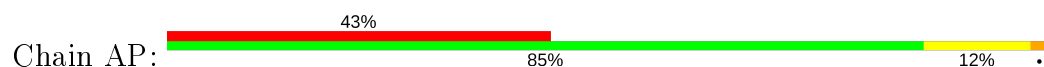
- Molecule 50: 30S ribosomal protein S15



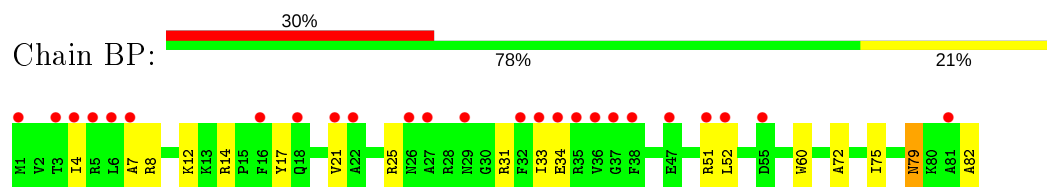
- Molecule 50: 30S ribosomal protein S15



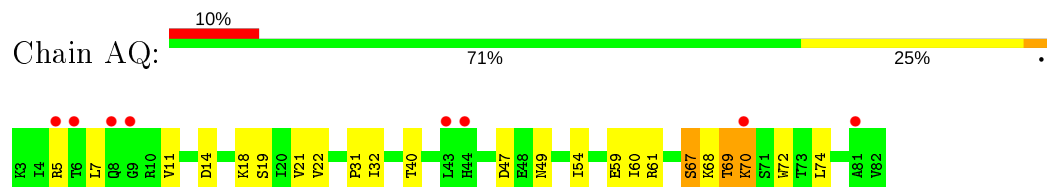
- Molecule 51: 30S ribosomal protein S16



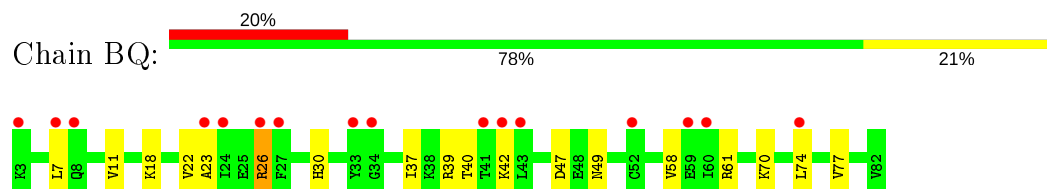
## • Molecule 51: 30S ribosomal protein S16



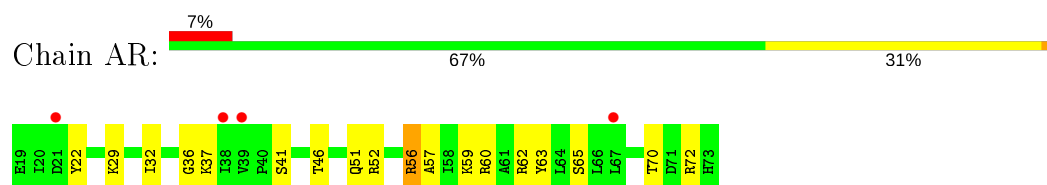
## • Molecule 52: 30S ribosomal protein S17



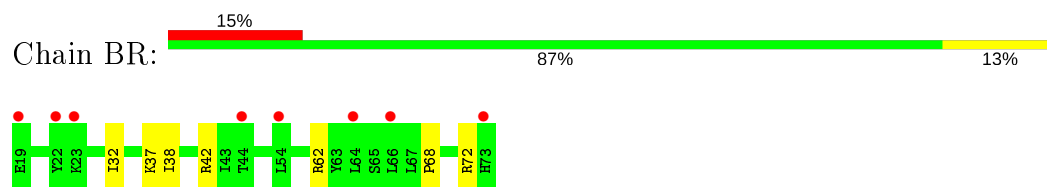
## • Molecule 52: 30S ribosomal protein S17



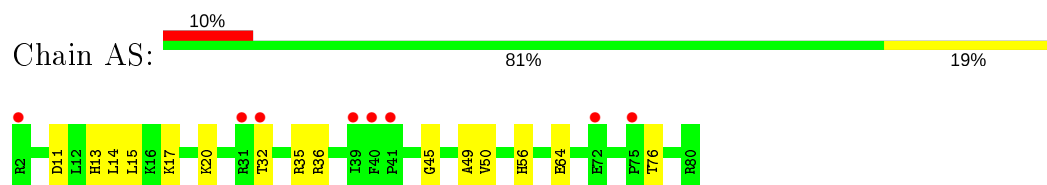
## • Molecule 53: 30S ribosomal protein S18



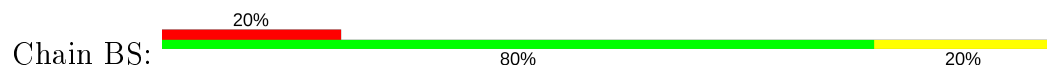
## • Molecule 53: 30S ribosomal protein S18

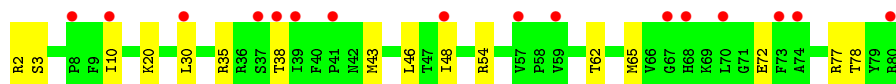


## • Molecule 54: 30S ribosomal protein S19

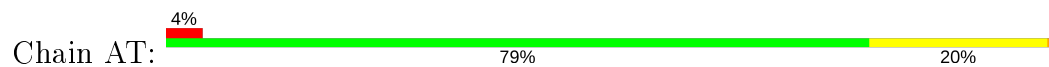


## • Molecule 54: 30S ribosomal protein S19

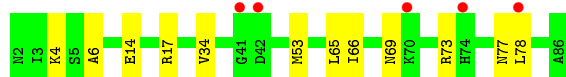
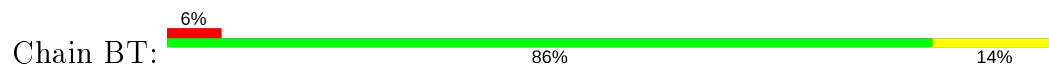




- Molecule 55: 30S ribosomal protein S20



- Molecule 55: 30S ribosomal protein S20



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	211.66Å 433.91Å 623.53Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	59.99 – 3.94 59.99 – 3.94	Depositor EDS
% Data completeness (in resolution range)	99.9 (59.99-3.94) 99.9 (59.99-3.94)	Depositor EDS
$R_{merge}$	0.57	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.21 (at 3.88Å)	Xtriage
Refinement program	PHENIX 1.12_2829	Depositor
R, $R_{free}$	0.249 , 0.269 0.249 , 0.269	Depositor DCC
$R_{free}$ test set	10092 reflections (2.01%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	137.5	Xtriage
Anisotropy	0.118	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.16 , 71.2	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.37$ , $\langle L^2 \rangle = 0.20$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	296390	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	136.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.47% 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, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: 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	0.44	0/36967	1.12	179/57663 (0.3%)
1	BA	0.47	0/37009	1.18	224/57723 (0.4%)
2	CA	0.49	2/68933 (0.0%)	1.10	263/107532 (0.2%)
2	DA	0.45	1/68974 (0.0%)	1.11	303/107576 (0.3%)
3	CB	0.47	0/2828	1.14	19/4410 (0.4%)
3	DB	0.39	0/2828	1.14	21/4410 (0.5%)
4	AV	0.47	1/1813 (0.1%)	1.16	18/2823 (0.6%)
4	AW	0.51	1/1813 (0.1%)	1.22	21/2823 (0.7%)
4	AY	0.42	1/1813 (0.1%)	1.06	5/2823 (0.2%)
4	BV	0.47	1/1813 (0.1%)	1.10	10/2823 (0.4%)
4	BW	0.48	1/1813 (0.1%)	1.18	13/2823 (0.5%)
5	CC	0.32	0/2122	0.60	0/2852
5	DC	0.31	0/2122	0.61	0/2852
6	CD	0.36	0/1586	0.60	0/2134
6	DD	0.33	0/1586	0.59	0/2134
7	CE	0.31	0/1422	0.57	0/1911
7	DE	0.30	0/1411	0.53	0/1897
8	CF	0.35	0/1435	0.64	0/1926
8	DF	0.36	0/1435	0.63	0/1926
9	CG	0.33	0/1343	0.55	0/1816
9	DG	0.30	0/1343	0.55	0/1816
10	CH	0.30	0/1121	0.62	0/1515
10	DH	0.32	0/1121	0.65	1/1515 (0.1%)
11	C5	0.31	0/835	0.63	0/1123
12	CI	0.29	0/513	0.54	0/684
12	DI	0.30	0/520	0.62	0/694
13	CJ	0.33	0/1152	0.55	0/1551
13	DJ	0.32	0/1152	0.53	0/1551
14	CK	0.33	0/948	0.61	0/1268
14	DK	0.33	0/948	0.63	0/1268
15	CL	0.32	0/1054	0.68	1/1403 (0.1%)
15	DL	0.30	0/1054	0.65	1/1403 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
16	CM	0.34	0/1084	0.66	1/1450 (0.1%)
16	DM	0.33	0/1093	0.65	1/1460 (0.1%)
17	CN	0.31	0/982	0.61	0/1312
17	DN	0.31	0/982	0.62	0/1312
18	CO	0.30	0/902	0.57	0/1209
18	DO	0.31	0/902	0.65	0/1209
19	CP	0.32	0/929	0.57	1/1242 (0.1%)
19	DP	0.31	0/929	0.59	1/1242 (0.1%)
20	CQ	0.34	0/960	0.50	0/1278
20	DQ	0.30	0/960	0.47	0/1278
21	CR	0.33	0/829	0.62	0/1107
21	DR	0.30	0/829	0.60	0/1107
22	CS	0.32	0/864	0.56	0/1156
22	DS	0.29	0/864	0.54	0/1156
23	CT	0.32	0/745	0.59	0/994
23	DT	0.29	0/745	0.57	0/994
24	CU	0.35	0/788	0.65	1/1051 (0.1%)
24	DU	0.33	0/788	0.63	1/1051 (0.1%)
25	CV	0.33	0/766	0.58	0/1025
25	DV	0.29	0/766	0.56	0/1025
26	CW	0.32	0/581	0.53	0/769
26	DW	0.31	0/581	0.55	0/769
27	CX	0.34	0/635	0.57	0/848
27	DX	0.29	0/635	0.53	0/848
28	CY	0.30	0/500	0.64	0/665
28	DY	0.29	0/510	0.61	0/677
29	CZ	0.30	0/453	0.56	0/605
29	DZ	0.30	0/453	0.58	0/605
30	C0	0.54	0/297	1.05	2/398 (0.5%)
30	D0	0.65	1/297 (0.3%)	0.89	1/398 (0.3%)
31	C1	0.32	0/450	0.61	0/599
31	D1	0.28	0/450	0.59	0/599
32	C2	0.30	0/417	0.61	0/554
32	D2	0.28	0/417	0.60	0/554
33	C3	0.30	0/380	0.53	0/498
33	D3	0.30	0/380	0.54	0/498
34	C4	0.30	0/486	0.57	0/639
34	D4	0.29	0/494	0.59	0/651
35	C6	0.36	0/303	0.65	0/397
35	D6	0.33	0/303	0.61	0/397
36	AX	0.43	0/735	1.26	7/1145 (0.6%)
36	BX	0.55	1/735 (0.1%)	1.34	9/1145 (0.8%)
37	AB	0.31	0/1788	0.60	0/2408

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
37	BB	0.31	0/1788	0.64	1/2408 (0.0%)
38	AC	0.31	0/1652	0.60	1/2225 (0.0%)
38	BC	0.30	0/1652	0.56	0/2225
39	AD	0.31	0/1665	0.65	1/2227 (0.0%)
39	BD	0.34	0/1665	0.65	0/2227
40	AE	0.33	0/1119	0.68	0/1504
40	BE	0.34	0/1119	0.69	0/1504
41	AF	0.32	0/836	0.64	0/1128
41	BF	0.32	0/836	0.69	1/1128 (0.1%)
42	AG	0.29	0/1069	0.54	0/1430
42	BG	0.28	0/1046	0.56	0/1398
43	AH	0.30	0/983	0.55	0/1319
43	BH	0.30	0/989	0.54	0/1326
44	AI	0.29	0/1007	0.60	0/1342
44	BI	0.29	0/1034	0.62	0/1375
45	AJ	0.29	0/797	0.70	1/1077 (0.1%)
45	BJ	0.29	0/797	0.67	1/1077 (0.1%)
46	AK	0.31	0/885	0.58	0/1195
46	BK	0.29	0/893	0.60	0/1205
47	AL	0.30	0/969	0.67	1/1300 (0.1%)
47	BL	0.32	0/969	0.65	1/1300 (0.1%)
48	AM	0.36	0/893	0.73	2/1193 (0.2%)
48	BM	0.44	1/893 (0.1%)	0.68	1/1193 (0.1%)
49	AN	0.29	0/785	0.60	0/1043
49	BN	0.28	0/785	0.60	0/1043
50	AO	0.30	0/722	0.63	0/964
50	BO	0.27	0/722	0.62	1/964 (0.1%)
51	AP	0.29	0/659	0.64	0/884
51	BP	0.30	0/659	0.62	0/884
52	AQ	0.35	0/658	0.75	1/881 (0.1%)
52	BQ	0.32	0/658	0.69	0/881
53	AR	0.28	0/463	0.56	0/621
53	BR	0.27	0/463	0.55	0/621
54	AS	0.30	0/653	0.59	0/877
54	BS	0.28	0/653	0.58	0/877
55	AT	0.29	0/671	0.57	0/888
55	BT	0.30	0/671	0.55	0/888
All	All	0.43	11/317592 (0.0%)	1.02	1117/475614 (0.2%)

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	CC	0	2
6	CD	0	1
6	DD	0	1
8	CF	0	1
10	DH	0	2
11	C5	0	1
14	CK	0	1
14	DK	0	1
15	CL	0	1
19	DP	0	1
23	CT	0	1
23	DT	0	1
25	DV	0	1
33	D3	0	1
34	C4	0	1
34	D4	0	1
37	AB	0	1
38	AC	0	1
39	AD	0	2
39	BD	0	2
40	BE	0	2
41	AF	0	1
41	BF	0	1
42	AG	0	1
45	BJ	0	1
48	AM	0	1
49	AN	0	1
52	AQ	0	1
52	BQ	0	1
All	All	0	34

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	BW	1	G	OP3-P	-10.75	1.48	1.61
4	BV	1	G	OP3-P	-10.71	1.48	1.61
4	AV	1	G	OP3-P	-10.67	1.48	1.61
4	AY	1	G	OP3-P	-10.64	1.48	1.61
4	AW	1	G	OP3-P	-10.49	1.48	1.61
2	CA	899	A	O3'-P	-9.52	1.49	1.61
36	BX	30	A	N9-C4	7.46	1.42	1.37
48	BM	2	ARG	CG-CD	-7.21	1.33	1.51
2	CA	896	A	N9-C4	6.62	1.41	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	DA	896	A	N9-C4	5.55	1.41	1.37
30	D0	28	VAL	CB-CG2	-5.18	1.42	1.52

All (1117) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	71	A	OP2-P-O3'	-33.97	30.46	105.20
2	DA	2219	U	O5'-P-OP1	-27.34	77.89	110.70
2	DA	2219	U	OP1-P-OP2	-24.36	83.07	119.60
2	DA	2219	U	O5'-P-OP2	19.93	134.61	110.70
2	CA	1521	G	OP2-P-O3'	-15.81	70.41	105.20
2	DA	2218	G	OP1-P-O3'	15.73	139.81	105.20
1	BA	980	C	N1-C2-O2	14.75	127.75	118.90
1	BA	71	A	O3'-P-O5'	14.31	131.19	104.00
2	DA	2218	G	OP2-P-O3'	-13.66	75.16	105.20
2	DA	896	A	C2-N3-C4	13.34	117.27	110.60
1	BA	980	C	N3-C2-O2	-12.42	113.21	121.90
2	CA	897	C	C5-C6-N1	12.33	127.16	121.00
1	AA	1506	U	O5'-P-OP2	-12.29	94.64	105.70
1	BA	980	C	C2-N1-C1'	12.28	132.31	118.80
30	C0	34	LEU	CB-CG-CD1	-11.94	90.70	111.00
2	CA	898	C	C6-N1-C2	-11.91	115.54	120.30
2	CA	898	C	C5-C6-N1	11.86	126.93	121.00
2	CA	897	C	C6-N1-C2	-11.82	115.57	120.30
2	CA	896	A	C2-N3-C4	11.76	116.48	110.60
1	AA	210	C	N1-C2-O2	11.74	125.95	118.90
2	CA	1914	C	N1-C2-O2	10.98	125.49	118.90
2	CA	1956	U	N3-C2-O2	-10.66	114.74	122.20
2	CA	2887	A	O5'-P-OP2	-10.60	96.17	105.70
2	DA	897	C	C5-C6-N1	10.54	126.27	121.00
2	DA	357	C	N1-C2-O2	10.42	125.15	118.90
1	AA	210	C	C2-N1-C1'	10.29	130.12	118.80
2	CA	1774	C	N1-C2-O2	10.23	125.04	118.90
36	BX	30	A	C2-N3-C4	10.22	115.71	110.60
2	DA	2248	C	N1-C2-O2	10.16	125.00	118.90
2	CA	1774	C	N3-C2-O2	-10.04	114.87	121.90
2	DA	888	C	N1-C2-O2	9.93	124.86	118.90
2	DA	1584	U	C2-N1-C1'	9.90	129.58	117.70
2	CA	2173	A	N1-C6-N6	-9.80	112.72	118.60
48	AM	2	ARG	CG-CD-NE	-9.67	91.49	111.80
2	DA	1076	C	N3-C2-O2	-9.62	115.17	121.90
1	AA	1148	U	N3-C2-O2	-9.55	115.51	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	210	C	N3-C2-O2	-9.48	115.27	121.90
1	AA	1066	C	N1-C2-O2	9.35	124.51	118.90
1	BA	980	C	C6-N1-C2	-9.28	116.59	120.30
2	CA	1914	C	N3-C2-O2	-9.27	115.41	121.90
2	DA	1584	U	N1-C2-O2	9.26	129.28	122.80
2	CA	2887	A	O5'-P-OP1	9.17	121.70	110.70
2	DA	1893	C	N1-C2-O2	9.16	124.40	118.90
2	DA	2683	C	N1-C2-O2	9.15	124.39	118.90
1	AA	1148	U	N1-C2-O2	9.12	129.18	122.80
2	DA	357	C	N3-C2-O2	-9.06	115.56	121.90
2	CA	1313	U	N3-C2-O2	-9.05	115.86	122.20
1	AA	1028	C	C6-N1-C2	-8.98	116.71	120.30
2	CA	1313	U	N1-C2-O2	8.94	129.06	122.80
2	DA	847	U	N3-C2-O2	-8.87	115.99	122.20
1	AA	203	G	C5-C6-O6	-8.80	123.32	128.60
2	DA	2063	C	N1-C2-O2	8.77	124.16	118.90
1	BA	1448	C	N1-C2-O2	8.75	124.15	118.90
2	CA	1313	U	C2-N1-C1'	8.70	128.14	117.70
1	AA	1493	A	N1-C2-N3	8.68	133.64	129.30
2	DA	1893	C	N3-C2-O2	-8.63	115.86	121.90
2	DA	1914	C	C2-N1-C1'	8.63	128.29	118.80
2	CA	1314	C	C2-N1-C1'	8.61	128.27	118.80
36	AX	25	U	N3-C2-O2	-8.58	116.19	122.20
1	BA	463	U	N1-C2-O2	8.57	128.80	122.80
2	CA	837	C	N1-C2-O2	8.55	124.03	118.90
36	AX	25	U	N1-C2-O2	8.52	128.76	122.80
1	BA	1541	U	C5-C6-N1	8.49	126.95	122.70
2	DA	1584	U	N3-C2-O2	-8.48	116.27	122.20
2	DA	1914	C	N1-C2-O2	8.46	123.97	118.90
1	BA	463	U	C2-N1-C1'	8.44	127.83	117.70
1	BA	611	C	N1-C2-O2	8.40	123.94	118.90
1	BA	1203	C	C5-C6-N1	8.37	125.19	121.00
1	AA	528	C	N1-C2-O2	8.36	123.91	118.90
2	CA	1521	G	OP1-P-O3'	-8.35	86.83	105.20
4	AV	32	C	N1-C2-O2	8.34	123.91	118.90
3	DB	26	C	N1-C2-O2	8.33	123.90	118.90
2	DA	1348	C	N1-C2-O2	8.33	123.90	118.90
2	DA	1314	C	C2-N1-C1'	8.29	127.92	118.80
2	DA	357	C	C2-N1-C1'	8.29	127.91	118.80
2	DA	357	C	C6-N1-C2	-8.28	116.99	120.30
2	CA	1956	U	N1-C2-O2	8.25	128.58	122.80
1	BA	980	C	C6-N1-C1'	-8.24	110.91	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	1390	U	N3-C2-O2	-8.24	116.43	122.20
30	C0	36	VAL	CG1-CB-CG2	-8.22	97.75	110.90
2	DA	1956	U	N3-C2-O2	-8.19	116.47	122.20
1	AA	1383	C	N1-C2-O2	8.18	123.81	118.90
2	DA	1390	U	N1-C2-O2	8.16	128.51	122.80
1	BA	463	U	N3-C2-O2	-8.15	116.49	122.20
2	CA	1522	A	O3'-P-O5'	-8.15	88.52	104.00
15	CL	82	LEU	CA-CB-CG	8.14	134.03	115.30
2	CA	1348	C	N1-C2-O2	8.13	123.78	118.90
2	DA	1993	U	N3-C2-O2	-8.11	116.52	122.20
2	CA	2556	C	N1-C2-O2	8.11	123.76	118.90
48	BM	2	ARG	NE-CZ-NH1	-8.10	116.25	120.30
2	DA	2248	C	N3-C2-O2	-8.09	116.24	121.90
1	BA	1158	C	C2-N1-C1'	8.08	127.69	118.80
2	DA	891	G	C4-N9-C1'	8.06	136.98	126.50
2	CA	1180	U	C2-N1-C1'	8.03	127.33	117.70
2	CA	2683	C	N1-C2-O2	7.99	123.69	118.90
2	DA	895	U	C5-C6-N1	7.97	126.68	122.70
1	AA	330	C	N1-C2-O2	7.94	123.66	118.90
2	DA	367	G	N3-C4-C5	-7.91	124.65	128.60
1	BA	1144	G	C8-N9-C4	-7.89	103.24	106.40
2	DA	1313	U	C2-N1-C1'	7.84	127.11	117.70
4	AV	45	G	C4-N9-C1'	7.73	136.54	126.50
1	BA	853	C	N3-C2-O2	-7.72	116.49	121.90
2	DA	2063	C	N3-C2-O2	-7.72	116.49	121.90
2	DA	1076	C	N1-C2-O2	7.72	123.53	118.90
16	DM	70	ASP	CB-CG-OD1	7.72	125.25	118.30
2	DA	1675	C	N1-C2-O2	7.71	123.53	118.90
2	CA	1582	C	C6-N1-C2	-7.70	117.22	120.30
39	AD	28	ASP	CB-CG-OD1	7.67	125.20	118.30
2	CA	1509	A	O4'-C1'-N9	7.66	114.33	108.20
2	CA	2226	C	N1-C2-O2	7.62	123.47	118.90
2	CA	1895	C	N3-C2-O2	-7.61	116.57	121.90
1	AA	1066	C	N3-C2-O2	-7.59	116.58	121.90
15	DL	82	LEU	CA-CB-CG	7.59	132.77	115.30
1	AA	1028	C	N1-C2-O2	7.59	123.45	118.90
3	CB	31	C	C2-N1-C1'	7.59	127.15	118.80
3	DB	11	C	N1-C2-O2	7.58	123.45	118.90
1	AA	611	C	N1-C2-O2	7.58	123.45	118.90
2	CA	1914	C	C2-N1-C1'	7.55	127.11	118.80
2	DA	1956	U	N1-C2-O2	7.55	128.08	122.80
1	AA	522	C	N1-C2-O2	7.54	123.42	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	CA	2180	U	N1-C2-O2	7.54	128.07	122.80
2	CA	1065	U	C2-N1-C1'	7.53	126.74	117.70
2	CA	1582	C	N1-C2-O2	7.52	123.41	118.90
2	DA	888	C	N3-C2-O2	-7.51	116.64	121.90
1	AA	203	G	N1-C6-O6	7.50	124.40	119.90
4	AW	64	U	N1-C2-O2	7.49	128.04	122.80
1	AA	926	G	C4-C5-N7	7.49	113.80	110.80
3	CB	31	C	N1-C2-O2	7.47	123.38	118.90
2	DA	1313	U	N1-C2-O2	7.46	128.02	122.80
1	AA	210	C	C6-N1-C2	-7.41	117.34	120.30
2	CA	1314	C	C6-N1-C2	-7.40	117.34	120.30
1	BA	1203	C	C2-N1-C1'	7.38	126.92	118.80
2	DA	897	C	C6-N1-C2	-7.38	117.35	120.30
1	BA	1322	C	C6-N1-C2	-7.37	117.35	120.30
2	DA	891	G	C8-N9-C1'	-7.36	117.43	127.00
16	CM	70	ASP	CB-CG-OD1	7.34	124.91	118.30
2	DA	888	C	C2-N1-C1'	7.32	126.86	118.80
1	AA	989	U	N3-C2-O2	-7.30	117.09	122.20
2	CA	1390	U	N1-C2-O2	7.30	127.91	122.80
2	CA	2342	C	N3-C2-O2	-7.29	116.79	121.90
2	DA	2683	C	N3-C2-O2	-7.29	116.80	121.90
2	CA	257	C	N1-C2-O2	7.28	123.27	118.90
2	CA	1534	U	N1-C2-O2	7.28	127.89	122.80
2	CA	2180	U	N3-C2-O2	-7.26	117.12	122.20
2	CA	2178	C	N3-C2-O2	-7.24	116.83	121.90
2	DA	1855	U	N1-C2-O2	7.24	127.87	122.80
2	CA	2072	C	C6-N1-C2	-7.23	117.41	120.30
2	DA	1914	C	N3-C2-O2	-7.23	116.84	121.90
2	DA	1062	G	N3-C4-N9	7.21	130.33	126.00
1	BA	611	C	N3-C2-O2	-7.18	116.87	121.90
2	DA	896	A	N1-C2-N3	-7.18	125.71	129.30
2	DA	2072	C	C2-N1-C1'	7.18	126.70	118.80
1	BA	1203	C	C6-N1-C2	-7.16	117.43	120.30
2	CA	1523	U	P-O5'-C5'	7.14	132.33	120.90
2	CA	1523	U	O5'-P-OP1	7.14	119.27	110.70
2	DA	367	G	C2-N3-C4	7.14	115.47	111.90
36	BX	30	A	N3-C4-C5	-7.13	121.81	126.80
4	AW	17	U	P-O3'-C3'	7.13	128.25	119.70
2	CA	1893	C	N3-C2-O2	-7.12	116.92	121.90
3	DB	26	C	N3-C2-O2	-7.11	116.92	121.90
1	AA	1073	U	C2-N1-C1'	7.11	126.23	117.70
1	AA	1109	C	N1-C2-O2	7.11	123.16	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	891	G	N3-C4-N9	7.10	130.26	126.00
2	CA	1993	U	N1-C2-O2	7.10	127.77	122.80
1	AA	436	C	N1-C2-O2	7.09	123.16	118.90
1	BA	1448	C	N3-C2-O2	-7.09	116.93	121.90
2	CA	2752	C	N1-C2-O2	7.08	123.15	118.90
2	DA	847	U	N1-C2-O2	7.07	127.75	122.80
2	CA	1893	C	N1-C2-O2	7.06	123.13	118.90
2	CA	2666	C	N1-C2-O2	7.05	123.13	118.90
1	BA	697	U	N1-C2-O2	7.05	127.73	122.80
1	BA	751	U	C2-N1-C1'	7.04	126.14	117.70
1	BA	316	C	C2-N1-C1'	7.03	126.53	118.80
4	AW	59	U	N1-C2-O2	7.02	127.72	122.80
1	BA	519	C	N1-C2-O2	7.02	123.11	118.90
2	DA	1313	U	N3-C2-O2	-7.01	117.29	122.20
2	DA	2248	C	C2-N1-C1'	7.01	126.51	118.80
2	CA	2136	G	C4-N9-C1'	7.00	135.60	126.50
1	AA	4	U	N1-C2-O2	6.98	127.69	122.80
1	AA	811	C	N1-C2-O2	6.98	123.09	118.90
1	BA	1364	U	N3-C4-C5	6.98	118.79	114.60
1	AA	1066	C	C2-N1-C1'	6.97	126.47	118.80
1	AA	844	G	C4-N9-C1'	6.97	135.56	126.50
2	CA	896	A	N3-C4-C5	-6.96	121.93	126.80
2	CA	1534	U	N3-C2-O2	-6.96	117.33	122.20
1	BA	1097	C	C6-N1-C2	-6.95	117.52	120.30
1	AA	1028	C	C2-N1-C1'	6.95	126.44	118.80
1	BA	1469	C	N1-C2-O2	6.95	123.07	118.90
2	CA	2342	C	N1-C2-O2	6.94	123.06	118.90
2	DA	1314	C	C6-N1-C2	-6.94	117.53	120.30
36	AX	25	U	C2-N1-C1'	6.93	126.01	117.70
2	DA	2072	C	N1-C2-O2	6.93	123.06	118.90
1	BA	1027	C	N1-C2-O2	6.92	123.05	118.90
1	AA	989	U	N1-C2-O2	6.92	127.64	122.80
1	AA	4	U	N3-C2-O2	-6.91	117.36	122.20
2	DA	1774	C	N1-C2-O2	6.91	123.04	118.90
1	BA	1109	C	N1-C2-O2	6.90	123.04	118.90
2	CA	1874	C	N1-C2-O2	6.90	123.04	118.90
2	CA	837	C	N3-C2-O2	-6.90	117.07	121.90
1	AA	469	C	N1-C2-O2	6.89	123.04	118.90
2	CA	2072	C	C5-C6-N1	6.89	124.44	121.00
2	DA	1582	C	N3-C2-O2	-6.89	117.08	121.90
1	AA	210	C	C6-N1-C1'	-6.88	112.54	120.80
1	BA	54	C	N1-C2-O2	6.87	123.02	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	311	C	N1-C2-O2	6.87	123.02	118.90
1	BA	469	C	N1-C2-O2	6.87	123.02	118.90
1	BA	1541	U	C6-N1-C2	-6.87	116.88	121.00
2	CA	2556	C	N3-C2-O2	-6.87	117.09	121.90
1	AA	1466	C	N1-C2-O2	6.84	123.00	118.90
1	BA	853	C	N1-C2-O2	6.83	123.00	118.90
2	CA	1870	C	P-O3'-C3'	6.83	127.90	119.70
2	DA	1582	C	N1-C2-O2	6.83	123.00	118.90
1	AA	1383	C	N3-C2-O2	-6.82	117.13	121.90
2	DA	974	G	C4-N9-C1'	6.82	135.36	126.50
1	BA	1101	A	P-O3'-C3'	6.81	127.87	119.70
1	BA	1303	C	C2-N1-C1'	6.80	126.28	118.80
1	AA	470	C	N1-C2-O2	6.80	122.98	118.90
1	BA	1149	C	C6-N1-C2	-6.80	117.58	120.30
2	DA	2196	C	N1-C2-O2	6.79	122.97	118.90
3	DB	30	C	N1-C2-O2	6.79	122.97	118.90
4	AV	32	C	N3-C2-O2	-6.78	117.15	121.90
1	BA	1320	C	N1-C2-O2	6.78	122.97	118.90
1	BA	411	A	P-O3'-C3'	6.78	127.83	119.70
2	CA	2884	U	N1-C2-O2	6.77	127.54	122.80
2	CA	1378	A	OP1-P-O3'	6.76	120.08	105.20
1	BA	178	C	C6-N1-C2	-6.76	117.59	120.30
2	DA	2666	C	N1-C2-O2	6.75	122.95	118.90
1	AA	623	C	N1-C2-O2	6.75	122.95	118.90
2	DA	776	G	C4-N9-C1'	6.75	135.28	126.50
4	AW	36	C	N1-C2-O2	6.74	122.95	118.90
1	BA	754	C	N1-C2-O2	6.74	122.95	118.90
1	AA	1267	C	N1-C2-O2	6.74	122.94	118.90
3	CB	26	C	N1-C2-O2	6.74	122.94	118.90
1	AA	1201	A	P-O3'-C3'	6.73	127.78	119.70
2	DA	1775	U	C5-C4-O4	-6.73	121.86	125.90
1	BA	403	C	N1-C2-O2	6.73	122.94	118.90
2	CA	140	C	N1-C2-O2	6.73	122.94	118.90
1	BA	980	C	C5-C6-N1	6.73	124.36	121.00
2	DA	323	C	N1-C2-O2	6.72	122.93	118.90
1	AA	436	C	C2-N1-C1'	6.72	126.19	118.80
4	BW	45	G	N3-C4-C5	-6.72	125.24	128.60
1	BA	1538	C	C5-C6-N1	6.71	124.36	121.00
1	AA	984	C	C5-C6-N1	6.71	124.36	121.00
2	DA	1855	U	N3-C2-O2	-6.70	117.51	122.20
2	CA	1522	A	OP1-P-OP2	6.70	129.65	119.60
2	CA	2062	A	C2-N3-C4	6.67	113.94	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	367	G	N3-C4-N9	6.66	130.00	126.00
2	DA	634	C	N1-C2-O2	6.66	122.89	118.90
2	CA	1993	U	N3-C2-O2	-6.65	117.54	122.20
1	AA	1066	C	C6-N1-C2	-6.65	117.64	120.30
2	CA	1760	C	N1-C2-O2	6.65	122.89	118.90
3	CB	25	U	N1-C2-O2	6.65	127.46	122.80
1	BA	697	U	N3-C2-O2	-6.65	117.55	122.20
4	AV	31	C	N1-C2-O2	6.65	122.89	118.90
2	DA	367	G	N1-C6-O6	-6.64	115.92	119.90
3	CB	71	C	N1-C2-O2	6.63	122.88	118.90
2	CA	1914	C	C6-N1-C2	-6.63	117.65	120.30
2	CA	974	G	C4-N9-C1'	6.63	135.12	126.50
1	AA	1028	C	C5-C6-N1	6.63	124.31	121.00
2	DA	343	C	N1-C2-O2	6.61	122.87	118.90
45	BJ	92	LEU	CA-CB-CG	6.61	130.50	115.30
2	DA	2656	U	N1-C2-O2	6.61	127.42	122.80
2	CA	323	C	N1-C2-O2	6.60	122.86	118.90
2	CA	1830	C	N1-C2-O2	6.60	122.86	118.90
2	CA	2884	U	N3-C2-O2	-6.60	117.58	122.20
2	CA	1390	U	C2-N1-C1'	6.59	125.61	117.70
4	AW	72	C	N1-C2-O2	6.59	122.85	118.90
2	CA	2072	C	C2-N1-C1'	6.58	126.04	118.80
2	CA	2354	C	C6-N1-C2	-6.58	117.67	120.30
1	BA	745	G	N3-C4-N9	6.57	129.94	126.00
1	BA	1356	G	C6-C5-N7	-6.57	126.45	130.40
1	AA	1073	U	C5-C6-N1	6.57	125.98	122.70
2	CA	343	C	N1-C2-O2	6.57	122.84	118.90
4	AW	64	U	N3-C2-O2	-6.57	117.60	122.20
1	BA	1263	C	N1-C2-O2	6.57	122.84	118.90
2	CA	1065	U	N1-C2-O2	6.57	127.40	122.80
4	AV	45	G	N3-C4-C5	-6.56	125.32	128.60
2	DA	1499	C	N3-C2-O2	-6.55	117.31	121.90
2	DA	1675	C	N3-C2-O2	-6.55	117.31	121.90
2	DA	1993	U	N1-C2-O2	6.55	127.39	122.80
1	BA	1136	C	N1-C2-O2	6.54	122.83	118.90
1	AA	1009	U	N1-C2-O2	6.54	127.38	122.80
1	BA	1080	A	N7-C8-N9	6.54	117.07	113.80
2	CA	1728	C	C2-N1-C1'	6.54	125.99	118.80
2	CA	1625	C	N1-C2-O2	6.53	122.82	118.90
2	CA	2884	U	C2-N1-C1'	6.53	125.54	117.70
2	CA	404	A	P-O3'-C3'	6.52	127.53	119.70
1	BA	1203	C	N1-C2-O2	6.51	122.81	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	2063	C	C6-N1-C2	-6.51	117.69	120.30
2	CA	1605	C	N1-C2-O2	6.51	122.81	118.90
4	AW	59	U	N3-C2-O2	-6.50	117.65	122.20
4	AV	31	C	N3-C2-O2	-6.50	117.35	121.90
1	AA	470	C	C6-N1-C2	-6.50	117.70	120.30
2	DA	305	C	C6-N1-C2	-6.49	117.70	120.30
2	CA	1760	C	N3-C2-O2	-6.49	117.36	121.90
2	CA	1941	C	N1-C2-O2	6.49	122.79	118.90
2	DA	2225	A	P-O3'-C3'	6.49	127.48	119.70
4	AV	45	G	N3-C4-N9	6.49	129.89	126.00
2	DA	1584	U	C6-N1-C1'	-6.49	112.12	121.20
2	DA	2354	C	C6-N1-C2	-6.48	117.71	120.30
2	CA	1348	C	N3-C2-O2	-6.47	117.37	121.90
2	DA	2556	C	N1-C2-O2	6.47	122.78	118.90
2	DA	635	C	C6-N1-C2	-6.46	117.71	120.30
2	CA	2465	C	C2-N1-C1'	6.46	125.91	118.80
1	BA	1080	A	C8-N9-C4	-6.46	103.22	105.80
2	DA	1378	A	P-O3'-C3'	6.46	127.45	119.70
3	DB	25	U	N1-C2-O2	6.46	127.32	122.80
47	AL	33	CYS	CA-CB-SG	6.46	125.62	114.00
2	DA	1774	C	N3-C2-O2	-6.46	117.38	121.90
1	BA	844	G	N3-C4-C5	-6.45	125.37	128.60
2	CA	1874	C	N3-C2-O2	-6.45	117.39	121.90
4	AV	30	C	C2-N1-C1'	6.45	125.89	118.80
1	BA	1028	C	N1-C2-O2	6.45	122.77	118.90
3	CB	25	U	N3-C2-O2	-6.45	117.69	122.20
2	CA	1178	C	C5-C6-N1	6.44	124.22	121.00
2	CA	12	U	N3-C2-O2	-6.44	117.69	122.20
1	BA	177	G	C4-N9-C1'	6.44	134.87	126.50
1	BA	1448	C	C2-N1-C1'	6.43	125.88	118.80
36	BX	30	A	N3-C4-N9	6.43	132.54	127.40
4	AV	45	G	C8-N9-C1'	-6.42	118.65	127.00
1	AA	210	C	C5-C6-N1	6.42	124.21	121.00
2	DA	1774	C	C6-N1-C2	-6.42	117.73	120.30
2	DA	1760	C	N1-C2-O2	6.42	122.75	118.90
2	DA	1348	C	N3-C2-O2	-6.42	117.41	121.90
1	AA	1101	A	P-O3'-C3'	6.41	127.39	119.70
2	DA	2254	C	N1-C2-O2	6.41	122.75	118.90
1	AA	754	C	C2-N1-C1'	6.40	125.84	118.80
2	DA	1314	C	C5-C6-N1	6.40	124.20	121.00
2	DA	2072	C	C6-N1-C2	-6.40	117.74	120.30
2	DA	1625	C	N1-C2-O2	6.39	122.73	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	403	C	C2-N1-C1'	6.38	125.82	118.80
2	DA	1390	U	C2-N1-C1'	6.38	125.36	117.70
4	BW	59	U	N1-C2-O2	6.38	127.26	122.80
1	BA	524	G	N3-C4-N9	6.38	129.83	126.00
2	DA	1378	A	OP1-P-O3'	6.37	119.22	105.20
1	AA	522	C	C6-N1-C2	-6.37	117.75	120.30
2	CA	1582	C	N3-C2-O2	-6.37	117.44	121.90
2	DA	2196	C	N3-C2-O2	-6.36	117.45	121.90
1	AA	1328	C	C5-C6-N1	6.36	124.18	121.00
2	CA	1314	C	N1-C2-O2	6.36	122.71	118.90
2	CA	1378	A	P-O3'-C3'	6.35	127.32	119.70
2	DA	392	U	C2-N3-C4	6.35	130.81	127.00
2	CA	2065	C	C5-C6-N1	6.34	124.17	121.00
4	AW	30	C	C2-N1-C1'	6.34	125.78	118.80
2	DA	2656	U	N3-C2-O2	-6.34	117.76	122.20
2	CA	893	C	P-O3'-C3'	6.34	127.31	119.70
2	CA	896	A	N3-C4-N9	6.33	132.47	127.40
1	AA	658	C	N1-C2-O2	6.32	122.69	118.90
2	CA	2225	A	P-O3'-C3'	6.32	127.28	119.70
1	BA	844	G	C2-N3-C4	6.32	115.06	111.90
2	CA	2173	A	C5-C6-N1	6.32	120.86	117.70
2	DA	1314	C	N1-C2-O2	6.31	122.69	118.90
2	CA	1582	C	C5-C6-N1	6.31	124.16	121.00
1	BA	563	A	C4-N9-C1'	6.31	137.66	126.30
1	BA	1356	G	N3-C4-N9	6.31	129.78	126.00
1	AA	477	C	N3-C2-O2	-6.30	117.49	121.90
1	AA	624	C	N3-C2-O2	-6.30	117.49	121.90
2	CA	891	G	P-O3'-C3'	6.30	127.26	119.70
1	AA	1493	A	C6-N1-C2	-6.29	114.83	118.60
1	AA	811	C	C2-N1-C1'	6.28	125.71	118.80
1	AA	1009	U	N3-C2-O2	-6.28	117.80	122.20
2	DA	2480	C	C2-N1-C1'	6.27	125.69	118.80
2	CA	2326	C	P-O3'-C3'	6.25	127.20	119.70
2	CA	2430	A	C2-N3-C4	6.25	113.72	110.60
3	CB	37	C	N3-C2-O2	-6.24	117.53	121.90
2	DA	2150	C	C5-C6-N1	6.24	124.12	121.00
1	BA	328	C	N1-C2-O2	6.23	122.64	118.90
1	AA	926	G	N9-C4-C5	-6.23	102.91	105.40
1	BA	1009	U	N1-C2-O2	6.22	127.16	122.80
1	AA	470	C	C5-C6-N1	6.22	124.11	121.00
4	AV	32	C	C6-N1-C2	-6.22	117.81	120.30
1	BA	580	C	C5-C6-N1	6.21	124.11	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1466	C	N3-C2-O2	-6.20	117.56	121.90
2	CA	1314	C	C5-C6-N1	6.20	124.10	121.00
3	DB	47	C	N1-C2-O2	6.20	122.62	118.90
2	CA	2586	U	N1-C2-O2	6.19	127.13	122.80
1	BA	1136	C	N3-C2-O2	-6.19	117.57	121.90
38	AC	131	ARG	NE-CZ-NH2	-6.19	117.21	120.30
1	BA	115	G	P-O3'-C3'	6.19	127.12	119.70
1	BA	1496	C	N1-C2-O2	6.19	122.61	118.90
1	AA	513	C	N1-C2-O2	6.19	122.61	118.90
1	AA	1109	C	N3-C2-O2	-6.19	117.57	121.90
1	BA	1158	C	N1-C2-O2	6.19	122.61	118.90
1	BA	1109	C	N3-C2-O2	-6.18	117.57	121.90
1	BA	177	G	C8-N9-C1'	-6.18	118.96	127.00
1	AA	137	U	N1-C2-O2	6.18	127.13	122.80
4	AV	30	C	N1-C2-O2	6.17	122.60	118.90
1	AA	528	C	N3-C2-O2	-6.17	117.58	121.90
4	BV	30	C	C6-N1-C2	-6.16	117.84	120.30
2	CA	2888	C	C5-C6-N1	6.15	124.07	121.00
2	DA	896	A	N3-C4-C5	-6.15	122.50	126.80
1	BA	1293	C	C5-C6-N1	6.14	124.07	121.00
2	CA	2226	C	N3-C2-O2	-6.14	117.60	121.90
1	AA	439	U	N1-C2-O2	6.14	127.10	122.80
2	CA	361	G	C5-C6-O6	-6.13	124.92	128.60
2	CA	901	C	N1-C2-O2	6.13	122.58	118.90
2	DA	367	G	C4-N9-C1'	6.13	134.47	126.50
2	DA	1582	C	C6-N1-C2	-6.13	117.85	120.30
4	BV	25	C	N3-C2-O2	-6.13	117.61	121.90
4	AV	16	C	N1-C2-O2	6.13	122.58	118.90
1	AA	1449	C	C5-C6-N1	6.12	124.06	121.00
2	DA	1079	C	N1-C2-O2	6.12	122.57	118.90
1	AA	307	C	C6-N1-C2	-6.12	117.85	120.30
1	AA	611	C	N3-C2-O2	-6.12	117.61	121.90
2	DA	2425	A	P-O3'-C3'	6.12	127.04	119.70
45	AJ	92	LEU	CA-CB-CG	6.12	129.37	115.30
4	AW	52	G	O5'-P-OP1	6.11	118.03	110.70
1	BA	467	U	C2-N1-C1'	6.11	125.03	117.70
1	BA	157	U	N1-C2-O2	6.11	127.08	122.80
19	DP	113	LEU	CA-CB-CG	6.11	129.34	115.30
2	DA	1062	G	N3-C4-C5	-6.10	125.55	128.60
1	BA	1538	C	C5-C4-N4	-6.09	115.93	120.20
2	DA	2072	C	C5-C6-N1	6.09	124.05	121.00
2	DA	1267	U	N1-C2-O2	6.09	127.06	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	993	G	C4-N9-C1'	6.09	134.42	126.50
3	DB	60	C	C6-N1-C2	-6.09	117.87	120.30
2	DA	2586	U	N1-C2-O2	6.07	127.05	122.80
2	DA	96	C	N1-C2-O2	6.07	122.54	118.90
2	DA	2656	U	C2-N1-C1'	6.07	124.98	117.70
3	DB	31	C	N1-C2-O2	6.07	122.54	118.90
2	DA	1538	G	N1-C6-O6	-6.07	116.26	119.90
1	BA	1534	A	P-O3'-C3'	6.07	126.98	119.70
1	AA	1073	U	N1-C2-O2	6.06	127.05	122.80
4	AV	30	C	C6-N1-C2	-6.06	117.88	120.30
1	BA	1097	C	C5-C6-N1	6.06	124.03	121.00
1	AA	1030	U	N1-C2-O2	6.05	127.04	122.80
1	BA	1265	C	C5-C6-N1	6.05	124.03	121.00
1	AA	923	A	N7-C8-N9	6.05	116.83	113.80
1	AA	1535	C	N1-C2-O2	6.05	122.53	118.90
2	DA	143	C	C2-N1-C1'	6.05	125.45	118.80
2	DA	1075	C	N1-C2-O2	6.05	122.53	118.90
2	CA	1961	C	N1-C2-O2	6.04	122.53	118.90
1	AA	153	C	N1-C2-O2	6.04	122.52	118.90
1	BA	519	C	N3-C2-O2	-6.04	117.67	121.90
1	BA	1383	C	C6-N1-C2	-6.04	117.89	120.30
2	CA	2136	G	N3-C4-C5	-6.03	125.58	128.60
2	DA	2752	C	N1-C2-O2	6.03	122.52	118.90
1	AA	4	U	C2-N1-C1'	6.03	124.93	117.70
2	DA	544	C	N1-C2-O2	6.03	122.52	118.90
2	CA	1534	U	C2-N1-C1'	6.02	124.93	117.70
1	BA	563	A	C8-N9-C1'	-6.02	116.86	127.70
2	DA	2408	U	C5-C6-N1	6.02	125.71	122.70
1	AA	1492	A	N1-C2-N3	6.01	132.31	129.30
1	AA	467	U	N1-C2-O2	6.01	127.01	122.80
1	AA	1030	U	C2-N1-C1'	6.00	124.90	117.70
3	CB	11	C	N1-C2-O2	6.00	122.50	118.90
4	BW	32	C	N1-C2-O2	6.00	122.50	118.90
2	DA	884	U	O4'-C1'-N1	6.00	113.00	108.20
1	BA	1027	C	C2-N1-C1'	6.00	125.40	118.80
2	CA	1294	U	C5-C6-N1	6.00	125.70	122.70
1	BA	436	C	N1-C2-O2	6.00	122.50	118.90
2	DA	974	G	C8-N9-C1'	-6.00	119.20	127.00
1	BA	1149	C	C5-C6-N1	5.99	124.00	121.00
1	BA	1328	C	N1-C2-O2	5.99	122.50	118.90
47	BL	33	CYS	CA-CB-SG	5.99	124.78	114.00
1	BA	176	C	N3-C2-O2	-5.99	117.71	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	1775	U	N3-C4-O4	5.99	123.59	119.40
2	CA	225	C	C2-N1-C1'	5.99	125.39	118.80
1	BA	436	C	C2-N1-C1'	5.99	125.38	118.80
2	DA	305	C	C5-C6-N1	5.98	123.99	121.00
1	BA	1348	U	N1-C2-O2	5.98	126.98	122.80
1	AA	1493	A	N1-C6-N6	-5.98	115.02	118.60
2	CA	2136	G	N3-C4-N9	5.97	129.58	126.00
1	BA	175	C	N3-C2-O2	-5.97	117.72	121.90
2	CA	860	U	N1-C2-O2	5.97	126.98	122.80
2	DA	343	C	C2-N1-C1'	5.97	125.37	118.80
1	BA	823	C	C6-N1-C2	-5.97	117.91	120.30
2	DA	776	G	C8-N9-C1'	-5.97	119.24	127.00
4	AW	52	G	O5'-P-OP2	-5.96	100.33	105.70
3	DB	11	C	N3-C2-O2	-5.96	117.72	121.90
2	CA	687	C	N1-C2-O2	5.96	122.47	118.90
2	CA	2136	G	C8-N9-C1'	-5.96	119.25	127.00
1	BA	1541	U	O5'-P-OP2	5.96	117.85	110.70
2	DA	60	G	P-O3'-C3'	5.96	126.85	119.70
1	BA	1009	U	C2-N1-C1'	5.95	124.84	117.70
2	DA	1914	C	C6-N1-C1'	-5.95	113.66	120.80
2	DA	897	C	C4-C5-C6	-5.95	114.42	117.40
2	DA	2150	C	N1-C2-O2	5.95	122.47	118.90
1	AA	330	C	N3-C2-O2	-5.95	117.74	121.90
2	DA	1372	U	N3-C2-O2	-5.95	118.04	122.20
2	DA	1523	U	P-O3'-C3'	5.95	126.84	119.70
1	BA	321	A	C6-N1-C2	-5.94	115.03	118.60
2	DA	1913	A	P-O3'-C3'	5.94	126.83	119.70
2	DA	404	A	P-O3'-C3'	5.93	126.82	119.70
2	DA	2884	U	N3-C2-O2	-5.93	118.05	122.20
3	DB	17	C	N1-C2-O2	5.93	122.46	118.90
1	BA	176	C	C6-N1-C1'	5.93	127.92	120.80
1	AA	115	G	P-O3'-C3'	5.93	126.81	119.70
1	BA	153	C	N1-C2-O2	5.93	122.46	118.90
2	CA	1913	A	P-O3'-C3'	5.92	126.81	119.70
1	AA	697	U	N3-C2-O2	-5.92	118.06	122.20
2	DA	137	U	N3-C2-O2	-5.92	118.06	122.20
2	DA	137	U	N1-C2-O2	5.91	126.94	122.80
1	AA	5	U	P-O3'-C3'	5.91	126.80	119.70
1	AA	469	C	N3-C2-O2	-5.91	117.76	121.90
2	CA	1728	C	C5-C6-N1	5.91	123.95	121.00
2	CA	2465	C	N1-C2-O2	5.91	122.44	118.90
1	AA	522	C	C2-N1-C1'	5.90	125.29	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	737	C	C5-C6-N1	5.90	123.95	121.00
4	AW	30	C	C6-N1-C2	-5.90	117.94	120.30
2	DA	2214	C	N1-C2-O2	5.90	122.44	118.90
2	CA	1625	C	N3-C2-O2	-5.89	117.78	121.90
4	AY	13	C	C6-N1-C2	-5.89	117.94	120.30
2	CA	1728	C	C6-N1-C2	-5.89	117.94	120.30
4	AW	72	C	N3-C2-O2	-5.88	117.78	121.90
2	CA	166	U	N1-C2-O2	5.88	126.92	122.80
2	DA	1533	C	C6-N1-C2	-5.88	117.95	120.30
2	DA	1728	C	C6-N1-C2	-5.88	117.95	120.30
4	AW	36	C	N3-C2-O2	-5.88	117.79	121.90
1	BA	1265	C	C6-N1-C2	-5.87	117.95	120.30
2	DA	876	C	N1-C2-O2	5.87	122.42	118.90
4	BV	25	C	N1-C2-O2	5.87	122.42	118.90
1	AA	844	G	C8-N9-C1'	-5.87	119.38	127.00
2	DA	1267	U	N3-C2-O2	-5.87	118.09	122.20
2	DA	353	C	C2-N1-C1'	5.86	125.25	118.80
3	DB	30	C	N3-C2-O2	-5.86	117.80	121.90
2	CA	1390	U	N3-C2-O2	-5.86	118.10	122.20
1	BA	1496	C	C6-N1-C2	-5.86	117.96	120.30
1	AA	477	C	N1-C2-O2	5.86	122.41	118.90
1	AA	697	U	N1-C2-O2	5.86	126.90	122.80
2	CA	323	C	C2-N1-C1'	5.85	125.24	118.80
2	CA	765	C	C2-N1-C1'	5.85	125.24	118.80
1	BA	467	U	N1-C2-O2	5.85	126.90	122.80
2	DA	889	C	N1-C2-O2	5.85	122.41	118.90
2	DA	1256	G	C4-N9-C1'	5.85	134.11	126.50
2	DA	1605	C	N1-C2-O2	5.85	122.41	118.90
1	BA	316	C	C6-N1-C2	-5.85	117.96	120.30
2	DA	1052	C	N1-C2-O2	5.85	122.41	118.90
2	DA	2149	U	C2-N1-C1'	5.84	124.71	117.70
1	BA	1496	C	C2-N1-C1'	5.84	125.22	118.80
4	BW	30	C	C2-N1-C1'	5.84	125.22	118.80
4	BW	45	G	N3-C4-N9	5.84	129.50	126.00
2	CA	1993	U	C2-N1-C1'	5.83	124.70	117.70
2	DA	357	C	C5-C6-N1	5.83	123.92	121.00
2	DA	2063	C	C2-N1-C1'	5.83	125.21	118.80
1	AA	1028	C	N3-C2-O2	-5.83	117.82	121.90
2	CA	1390	U	C5-C6-N1	5.83	125.61	122.70
1	AA	754	C	N1-C2-O2	5.81	122.39	118.90
2	CA	1313	U	C6-N1-C1'	-5.81	113.06	121.20
2	CA	2683	C	N3-C2-O2	-5.81	117.83	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	CP	113	LEU	CA-CB-CG	5.81	128.67	115.30
1	BA	214	C	N1-C2-O2	5.81	122.39	118.90
2	DA	1893	C	C6-N1-C2	-5.81	117.98	120.30
2	CA	1644	C	N3-C2-O2	-5.81	117.83	121.90
2	DA	305	C	N1-C2-O2	5.81	122.39	118.90
2	CA	1843	C	N1-C2-O2	5.81	122.38	118.90
2	DA	702	U	C2-N1-C1'	5.81	124.67	117.70
2	DA	2043	C	N1-C2-O2	5.81	122.38	118.90
1	AA	926	G	C6-N1-C2	5.80	128.58	125.10
1	BA	1356	G	N9-C4-C5	-5.80	103.08	105.40
2	DA	2506	U	N1-C2-O2	5.80	126.86	122.80
1	AA	1505	G	OP2-P-O3'	5.80	117.96	105.20
1	BA	754	C	C2-N1-C1'	5.80	125.18	118.80
2	CA	1855	U	N1-C2-O2	5.80	126.86	122.80
2	CA	137	U	N1-C2-O2	5.79	126.86	122.80
4	AY	13	C	C5-C6-N1	5.79	123.90	121.00
1	BA	1293	C	C2-N1-C1'	5.79	125.17	118.80
2	CA	1675	C	N1-C2-O2	5.79	122.38	118.90
24	CU	97	SER	C-N-CA	5.79	136.18	121.70
1	BA	993	G	N3-C4-N9	5.79	129.47	126.00
3	CB	71	C	C2-N1-C1'	5.78	125.16	118.80
2	CA	1644	C	N1-C2-O2	5.77	122.36	118.90
1	AA	467	U	N3-C2-O2	-5.77	118.16	122.20
2	CA	2214	C	N1-C2-O2	5.77	122.36	118.90
1	BA	993	G	C4-N9-C1'	5.77	134.00	126.50
2	DA	2473	U	N1-C2-O2	5.77	126.84	122.80
36	BX	5	G	C4-N9-C1'	5.77	134.00	126.50
1	AA	522	C	N3-C2-O2	-5.77	117.86	121.90
2	CA	1005	C	C6-N1-C2	-5.76	118.00	120.30
2	CA	2173	A	C2-N3-C4	5.76	113.48	110.60
1	AA	985	C	C5-C6-N1	5.76	123.88	121.00
2	CA	2425	A	P-O3'-C3'	5.76	126.61	119.70
2	CA	2480	C	C5-C6-N1	5.76	123.88	121.00
1	BA	488	C	C2-N1-C1'	5.76	125.13	118.80
2	DA	1076	C	C6-N1-C2	-5.75	118.00	120.30
1	AA	1137	C	N1-C2-O2	5.75	122.35	118.90
2	DA	1079	C	N3-C2-O2	-5.75	117.88	121.90
1	AA	328	C	N1-C2-O2	5.75	122.35	118.90
1	AA	811	C	C6-N1-C2	-5.75	118.00	120.30
1	BA	54	C	N3-C2-O2	-5.75	117.88	121.90
36	BX	5	G	N3-C4-N9	5.75	129.45	126.00
1	AA	582	C	N1-C2-O2	5.74	122.34	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	CA	1065	U	N3-C2-O2	-5.74	118.18	122.20
2	CA	1830	C	C2-N1-C1'	5.74	125.11	118.80
1	BA	1158	C	C6-N1-C2	-5.74	118.00	120.30
1	AA	311	C	N3-C2-O2	-5.74	117.88	121.90
1	BA	439	U	N3-C2-O2	-5.74	118.18	122.20
2	DA	2254	C	N3-C2-O2	-5.74	117.89	121.90
1	BA	1009	U	N3-C2-O2	-5.73	118.19	122.20
2	DA	323	C	C2-N1-C1'	5.73	125.10	118.80
2	DA	2606	C	N1-C2-O2	5.73	122.34	118.90
2	CA	140	C	N3-C2-O2	-5.73	117.89	121.90
2	CA	1344	U	P-O3'-C3'	5.73	126.57	119.70
1	BA	1293	C	C6-N1-C2	-5.72	118.01	120.30
3	DB	25	U	N3-C2-O2	-5.72	118.19	122.20
2	CA	1844	C	N1-C2-O2	5.71	122.33	118.90
2	CA	2401	U	OP1-P-O3'	5.71	117.77	105.20
2	DA	129	C	N1-C2-O2	5.71	122.33	118.90
1	BA	1172	C	N1-C2-O2	5.71	122.33	118.90
3	DB	37	C	N3-C2-O2	-5.71	117.90	121.90
1	AA	811	C	N3-C2-O2	-5.70	117.91	121.90
2	CA	459	U	N1-C2-O2	5.70	126.79	122.80
2	DA	542	C	C2-N1-C1'	5.70	125.07	118.80
1	BA	745	G	C4-N9-C1'	5.70	133.91	126.50
1	BA	738	C	C5-C6-N1	5.70	123.85	121.00
2	DA	2586	U	C2-N1-C1'	5.70	124.54	117.70
1	BA	580	C	C6-N1-C2	-5.70	118.02	120.30
1	BA	582	C	N1-C2-O2	5.70	122.32	118.90
1	AA	522	C	C5-C6-N1	5.69	123.85	121.00
2	CA	2072	C	N1-C2-O2	5.69	122.32	118.90
2	DA	1956	U	C2-N1-C1'	5.69	124.53	117.70
1	BA	439	U	N1-C2-O2	5.69	126.78	122.80
2	DA	145	C	C5-C6-N1	5.68	123.84	121.00
1	AA	467	U	C2-N1-C1'	5.68	124.52	117.70
1	BA	71	A	P-O3'-C3'	-5.68	112.89	119.70
4	AV	30	C	C5-C6-N1	5.68	123.84	121.00
1	BA	1366	C	N1-C2-O2	5.67	122.31	118.90
1	BA	1201	A	P-O3'-C3'	5.67	126.50	119.70
1	BA	178	C	C5-C6-N1	5.67	123.83	121.00
1	BA	207	C	N1-C2-O2	5.67	122.30	118.90
2	DA	2683	C	C2-N1-C1'	5.67	125.03	118.80
2	DA	2160	C	N1-C2-O2	5.67	122.30	118.90
3	CB	17	C	C6-N1-C2	-5.66	118.03	120.30
1	BA	1172	C	C2-N1-C1'	5.66	125.03	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	635	C	C5-C6-N1	5.66	123.83	121.00
2	CA	1561	C	N1-C2-O2	5.66	122.29	118.90
2	DA	2498	C	N1-C2-O2	5.66	122.29	118.90
3	CB	37	C	N1-C2-O2	5.66	122.29	118.90
2	CA	2616	C	N1-C2-O2	5.65	122.29	118.90
1	BA	1144	G	N7-C8-N9	5.65	115.92	113.10
2	DA	896	A	C8-N9-C4	-5.65	103.54	105.80
1	AA	469	C	C6-N1-C2	-5.64	118.04	120.30
2	DA	1914	C	C6-N1-C2	-5.64	118.04	120.30
4	BW	27	C	N1-C2-O2	5.64	122.28	118.90
1	BA	156	C	C5-C6-N1	5.64	123.82	121.00
1	BA	316	C	C5-C6-N1	5.64	123.82	121.00
2	DA	901	C	N1-C2-O2	5.64	122.28	118.90
1	BA	252	U	C2-N1-C1'	5.64	124.47	117.70
30	D0	28	VAL	CG1-CB-CG2	5.64	119.92	110.90
2	DA	229	C	N1-C2-O2	5.63	122.28	118.90
1	AA	89	U	C5-C6-N1	5.63	125.52	122.70
1	BA	207	C	C5-C6-N1	5.63	123.81	121.00
2	DA	1993	U	C2-N1-C1'	5.63	124.45	117.70
2	CA	899	A	P-O3'-C3'	5.62	126.45	119.70
1	AA	67	C	N1-C2-O2	5.62	122.27	118.90
52	AQ	68	LYS	CD-CE-NZ	5.62	124.62	111.70
2	CA	1398	C	N1-C2-O2	5.62	122.27	118.90
4	AW	59	U	C2-N1-C1'	5.62	124.44	117.70
3	DB	37	C	N1-C2-O2	5.62	122.27	118.90
2	CA	1289	C	N1-C2-O2	5.61	122.27	118.90
1	BA	316	C	N1-C2-O2	5.61	122.27	118.90
2	DA	2616	C	N1-C2-O2	5.61	122.27	118.90
1	AA	1144	G	C8-N9-C4	-5.61	104.16	106.40
4	BW	45	G	C4-N9-C1'	5.61	133.80	126.50
2	DA	353	C	C6-N1-C2	-5.61	118.06	120.30
1	BA	1303	C	C6-N1-C1'	-5.61	114.07	120.80
36	BX	5	G	N3-C4-C5	-5.60	125.80	128.60
1	AA	1470	U	N3-C2-O2	-5.60	118.28	122.20
1	AA	1109	C	C6-N1-C2	-5.60	118.06	120.30
2	CA	2646	C	N1-C2-O2	5.60	122.26	118.90
1	BA	983	A	C4-N9-C1'	5.60	136.38	126.30
2	DA	1584	U	C5-C6-N1	5.60	125.50	122.70
2	DA	1760	C	N3-C2-O2	-5.60	117.98	121.90
2	CA	1956	U	C6-N1-C2	-5.59	117.64	121.00
2	CA	2586	U	C2-N1-C1'	5.59	124.41	117.70
1	BA	1348	U	N3-C2-O2	-5.59	118.28	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	2704	C	N1-C2-O2	5.59	122.26	118.90
4	BV	30	C	C2-N1-C1'	5.59	124.95	118.80
2	DA	60	G	OP1-P-O3'	5.59	117.50	105.20
2	CA	1065	U	C5-C6-N1	5.59	125.49	122.70
2	CA	166	U	N3-C2-O2	-5.59	118.29	122.20
2	DA	2248	C	C6-N1-C2	-5.58	118.07	120.30
37	BB	128	LEU	CA-CB-CG	5.58	128.13	115.30
1	AA	1496	C	N1-C2-O2	5.58	122.25	118.90
36	AX	21	G	C4-N9-C1'	5.57	133.75	126.50
1	AA	1267	C	N3-C2-O2	-5.57	118.00	121.90
2	DA	2506	U	N3-C2-O2	-5.57	118.30	122.20
2	DA	897	C	OP1-P-OP2	-5.57	111.25	119.60
2	CA	2752	C	N3-C2-O2	-5.57	118.00	121.90
2	CA	399	U	N1-C2-O2	5.56	126.69	122.80
1	BA	1279	G	C8-N9-C4	-5.56	104.18	106.40
2	CA	257	C	N3-C2-O2	-5.56	118.01	121.90
1	BA	754	C	N3-C2-O2	-5.55	118.01	121.90
2	DA	544	C	N3-C2-O2	-5.55	118.01	121.90
1	AA	610	U	N1-C2-O2	5.55	126.69	122.80
2	DA	1063	G	N1-C2-N2	-5.55	111.20	116.20
1	BA	1027	C	N3-C2-O2	-5.54	118.02	121.90
1	BA	519	C	C6-N1-C2	-5.54	118.08	120.30
2	CA	1728	C	N1-C2-O2	5.54	122.22	118.90
2	CA	1761	C	N1-C2-O2	5.54	122.22	118.90
1	BA	844	G	N3-C4-N9	5.54	129.32	126.00
2	DA	2150	C	C2-N1-C1'	5.54	124.89	118.80
3	DB	17	C	C2-N1-C1'	5.54	124.89	118.80
3	CB	26	C	N3-C2-O2	-5.54	118.03	121.90
3	DB	26	C	C6-N1-C2	-5.53	118.09	120.30
1	AA	397	A	C2-N3-C4	5.53	113.37	110.60
4	AW	56	C	C2-N1-C1'	5.53	124.88	118.80
2	DA	1855	U	C2-N1-C1'	5.53	124.34	117.70
2	DA	974	G	N3-C4-N9	5.53	129.32	126.00
2	DA	278	A	C2-N3-C4	5.53	113.36	110.60
1	BA	180	U	N3-C2-O2	-5.53	118.33	122.20
2	DA	1526	C	C6-N1-C2	-5.52	118.09	120.30
2	CA	544	C	N1-C2-O2	5.52	122.21	118.90
1	BA	1290	G	C4-N9-C1'	5.52	133.68	126.50
24	DU	97	SER	C-N-CA	5.52	135.50	121.70
1	AA	610	U	N3-C2-O2	-5.52	118.34	122.20
1	AA	737	C	C6-N1-C2	-5.52	118.09	120.30
1	BA	1137	C	C6-N1-C2	-5.52	118.09	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	2104	C	N1-C2-O2	5.52	122.21	118.90
4	BW	45	G	C2-N3-C4	5.51	114.66	111.90
2	CA	341	C	N1-C2-O2	5.51	122.21	118.90
2	DA	915	C	N1-C2-O2	5.51	122.20	118.90
2	DA	1372	U	N1-C2-O2	5.51	126.66	122.80
2	CA	776	G	C4-N9-C1'	5.51	133.66	126.50
3	CB	47	C	N1-C2-O2	5.51	122.20	118.90
2	DA	2456	C	C6-N1-C2	-5.51	118.10	120.30
4	BW	59	U	N3-C2-O2	-5.51	118.34	122.20
3	CB	31	C	N3-C2-O2	-5.50	118.05	121.90
2	DA	2617	U	N3-C2-O2	-5.50	118.35	122.20
4	BW	8	U	C5-C4-O4	-5.50	122.60	125.90
2	CA	2065	C	C6-N1-C2	-5.50	118.10	120.30
2	CA	2756	U	OP1-P-O3'	5.49	117.29	105.20
1	AA	1470	U	N1-C2-O2	5.49	126.64	122.80
1	AA	470	C	N3-C2-O2	-5.49	118.06	121.90
2	DA	393	C	N1-C2-O2	5.49	122.19	118.90
1	AA	916	U	N3-C2-O2	-5.49	118.36	122.20
2	CA	1398	C	C2-N1-C1'	5.49	124.83	118.80
2	DA	2086	U	N3-C2-O2	-5.49	118.36	122.20
2	DA	2297	A	C2-N3-C4	5.49	113.34	110.60
2	CA	1314	C	C6-N1-C1'	-5.48	114.22	120.80
2	CA	353	C	C2-N1-C1'	5.48	124.83	118.80
2	CA	673	C	N1-C2-O2	5.48	122.19	118.90
1	BA	536	C	C2-N1-C1'	5.48	124.83	118.80
2	CA	510	C	N1-C2-O2	5.48	122.19	118.90
2	CA	634	C	N1-C2-O2	5.48	122.19	118.90
2	CA	1846	G	N3-C4-N9	-5.48	122.71	126.00
1	BA	217	C	N3-C2-O2	-5.48	118.07	121.90
2	CA	897	C	C4-C5-C6	-5.48	114.66	117.40
2	DA	1526	C	C5-C6-N1	5.47	123.74	121.00
1	AA	252	U	C5-C6-N1	5.47	125.44	122.70
1	AA	993	G	C8-N9-C1'	-5.47	119.89	127.00
2	CA	974	G	C8-N9-C1'	-5.47	119.89	127.00
4	BV	27	C	N1-C2-O2	5.47	122.18	118.90
2	CA	2507	C	N1-C2-O2	5.47	122.18	118.90
2	DA	1611	C	N1-C2-O2	5.47	122.18	118.90
2	DA	1625	C	N3-C2-O2	-5.47	118.07	121.90
2	CA	2666	C	N3-C2-O2	-5.47	118.07	121.90
2	CA	2886	A	OP2-P-O3'	-5.47	93.17	105.20
2	DA	1108	U	N1-C2-O2	5.47	126.63	122.80
1	AA	926	G	C6-C5-N7	-5.46	127.12	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	CA	765	C	N1-C2-O2	5.46	122.18	118.90
1	BA	463	U	C6-N1-C1'	-5.46	113.55	121.20
2	CA	837	C	C6-N1-C2	-5.46	118.11	120.30
2	CA	2180	U	C2-N1-C1'	5.46	124.25	117.70
2	DA	417	C	C5-C6-N1	5.46	123.73	121.00
2	DA	1894	C	N1-C2-O2	5.46	122.18	118.90
2	DA	2586	U	N3-C2-O2	-5.46	118.38	122.20
1	BA	1538	C	N3-C4-N4	5.46	121.82	118.00
2	DA	776	G	N3-C4-N9	5.46	129.27	126.00
2	DA	1644	C	N1-C2-O2	5.45	122.17	118.90
2	CA	366	C	C6-N1-C2	-5.45	118.12	120.30
2	CA	896	A	N1-C2-N3	-5.44	126.58	129.30
1	BA	1267	C	N1-C2-O2	5.44	122.17	118.90
1	BA	1279	G	N7-C8-N9	5.44	115.82	113.10
1	AA	440	C	N1-C2-O2	5.44	122.16	118.90
2	DA	985	C	N1-C2-O2	5.44	122.16	118.90
4	BV	30	C	C5-C6-N1	5.43	123.72	121.00
1	AA	225	C	N1-C2-O2	5.43	122.16	118.90
1	AA	916	U	N1-C2-O2	5.43	126.60	122.80
2	CA	353	C	N1-C2-O2	5.43	122.16	118.90
1	BA	1469	C	N3-C2-O2	-5.43	118.10	121.90
1	AA	403	C	N1-C2-O2	5.43	122.16	118.90
4	BW	13	C	C6-N1-C2	-5.43	118.13	120.30
2	CA	702	U	C2-N1-C1'	5.42	124.21	117.70
2	DA	2220	U	N3-C2-O2	-5.42	118.40	122.20
1	AA	563	A	C4-N9-C1'	5.42	136.06	126.30
2	DA	1728	C	C5-C6-N1	5.42	123.71	121.00
2	DA	2803	G	C4-N9-C1'	5.42	133.55	126.50
2	CA	1584	U	N1-C2-O2	5.42	126.59	122.80
1	BA	1158	C	C6-N1-C1'	-5.42	114.30	120.80
2	DA	1830	C	N1-C2-O2	5.42	122.15	118.90
1	BA	397	A	C4-N9-C1'	5.42	136.05	126.30
2	CA	137	U	N3-C2-O2	-5.41	118.41	122.20
2	DA	1585	C	N1-C2-O2	5.41	122.15	118.90
50	BO	65	LEU	CB-CG-CD2	-5.41	101.80	111.00
2	CA	1180	U	C6-N1-C1'	-5.41	113.62	121.20
2	DA	893	C	P-O3'-C3'	5.41	126.19	119.70
36	BX	31	A	C5'-C4'-O4'	5.41	115.59	109.10
1	AA	1148	U	C2-N1-C1'	5.41	124.19	117.70
1	BA	177	G	N3-C4-N9	5.41	129.24	126.00
2	DA	915	C	C5-C6-N1	5.41	123.70	121.00
1	AA	983	A	C2-N3-C4	5.40	113.30	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1265	C	N1-C2-O2	5.40	122.14	118.90
1	AA	1158	C	C2-N1-C1'	5.40	124.74	118.80
1	BA	745	G	C8-N9-C1'	-5.40	119.98	127.00
2	DA	164	C	N1-C2-O2	5.40	122.14	118.90
4	BW	34	U	C5-C6-N1	5.40	125.40	122.70
1	AA	1267	C	C6-N1-C2	-5.40	118.14	120.30
1	BA	217	C	N1-C2-O2	5.40	122.14	118.90
1	BA	989	U	N3-C2-O2	-5.39	118.42	122.20
1	AA	1303	C	N3-C2-O2	-5.39	118.13	121.90
1	BA	1520	C	C2-N1-C1'	5.39	124.73	118.80
2	DA	1561	C	N1-C2-O2	5.39	122.13	118.90
2	CA	1294	U	C2-N1-C1'	5.38	124.16	117.70
2	CA	1584	U	C2-N1-C1'	5.38	124.16	117.70
1	AA	993	G	N3-C4-N9	5.38	129.23	126.00
1	BA	1364	U	C5-C4-O4	-5.38	122.67	125.90
2	DA	919	U	N1-C2-O2	5.38	126.56	122.80
4	AW	30	C	N1-C2-O2	5.38	122.12	118.90
1	AA	1202	U	N1-C2-O2	5.37	126.56	122.80
1	AA	1449	C	C6-N1-C2	-5.37	118.15	120.30
1	BA	1202	U	N1-C2-O2	5.37	126.56	122.80
1	BA	156	C	C6-N1-C2	-5.37	118.15	120.30
2	DA	510	C	N1-C2-O2	5.37	122.12	118.90
1	AA	1383	C	C6-N1-C2	-5.36	118.16	120.30
2	DA	1507	C	C5-C6-N1	5.36	123.68	121.00
1	BA	58	C	C6-N1-C2	-5.36	118.16	120.30
4	AW	30	C	C5-C6-N1	5.36	123.68	121.00
2	DA	1492	G	N3-C4-N9	-5.36	122.79	126.00
2	CA	2394	C	N1-C2-O2	5.35	122.11	118.90
2	DA	2149	U	N3-C2-O2	-5.35	118.46	122.20
36	BX	31	A	O4'-C1'-N9	5.35	112.48	108.20
2	DA	890	C	P-O3'-C3'	5.35	126.12	119.70
2	DA	2430	A	C2-N3-C4	5.35	113.27	110.60
2	CA	225	C	N1-C2-O2	5.34	122.11	118.90
1	BA	1356	G	C4-C5-N7	5.34	112.94	110.80
1	BA	1470	U	N3-C2-O2	-5.34	118.46	122.20
2	CA	635	C	C6-N1-C2	-5.34	118.16	120.30
48	AM	2	ARG	NE-CZ-NH1	-5.34	117.63	120.30
2	DA	1313	U	C6-N1-C1'	-5.34	113.72	121.20
2	DA	2218	G	O3'-P-O5'	-5.34	93.85	104.00
2	CA	860	U	N3-C2-O2	-5.34	118.46	122.20
1	BA	993	G	C8-N9-C1'	-5.34	120.06	127.00
2	CA	915	C	N1-C2-O2	5.34	122.10	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	AW	56	C	N1-C2-O2	5.34	122.10	118.90
1	AA	844	G	N3-C4-C5	-5.34	125.93	128.60
1	AA	980	C	N1-C2-O2	5.34	122.10	118.90
2	DA	343	C	C5-C6-N1	5.34	123.67	121.00
2	DA	1108	U	N3-C2-O2	-5.34	118.47	122.20
1	BA	492	C	N1-C2-O2	5.33	122.10	118.90
1	AA	1103	C	C5-C6-N1	5.33	123.67	121.00
1	BA	1524	C	C5-C6-N1	5.33	123.67	121.00
1	BA	1540	U	O4'-C1'-N1	5.33	112.47	108.20
2	DA	1670	C	C5-C6-N1	5.33	123.67	121.00
2	DA	2226	C	N1-C2-O2	5.33	122.10	118.90
1	AA	137	U	N3-C2-O2	-5.33	118.47	122.20
1	AA	439	U	N3-C2-O2	-5.33	118.47	122.20
2	CA	1584	U	N3-C2-O2	-5.33	118.47	122.20
10	DH	62	LEU	CA-CB-CG	5.33	127.56	115.30
2	CA	459	U	N3-C2-O2	-5.33	118.47	122.20
1	BA	153	C	N3-C2-O2	-5.33	118.17	121.90
1	AA	614	C	C5-C6-N1	5.32	123.66	121.00
1	BA	563	A	N3-C4-N9	5.32	131.66	127.40
1	BA	157	U	N3-C2-O2	-5.32	118.48	122.20
1	BA	672	U	N3-C2-O2	-5.32	118.48	122.20
1	BA	844	G	C4-N9-C1'	5.32	133.41	126.50
2	DA	1417	C	N1-C2-O2	5.32	122.09	118.90
1	AA	528	C	C2-N1-C1'	5.32	124.65	118.80
2	CA	253	C	N1-C2-O2	5.32	122.09	118.90
2	CA	1855	U	N3-C2-O2	-5.32	118.48	122.20
2	DA	192	C	N1-C2-O2	5.32	122.09	118.90
2	DA	2515	C	C5-C6-N1	5.32	123.66	121.00
2	CA	1461	C	N1-C2-O2	5.31	122.09	118.90
2	DA	1564	C	N1-C2-O2	5.31	122.09	118.90
1	BA	1364	U	C4-C5-C6	-5.31	116.51	119.70
2	DA	366	C	C5-C6-N1	5.31	123.65	121.00
2	DA	1314	C	C6-N1-C1'	-5.31	114.43	120.80
4	BV	30	C	N1-C2-O2	5.31	122.08	118.90
1	BA	985	C	C6-N1-C2	-5.30	118.18	120.30
1	BA	1129	C	N1-C2-O2	5.30	122.08	118.90
4	AW	36	C	C6-N1-C2	-5.30	118.18	120.30
1	BA	492	C	C6-N1-C2	-5.30	118.18	120.30
1	BA	1158	C	N3-C2-O2	-5.30	118.19	121.90
2	DA	1398	C	C2-N1-C1'	5.30	124.62	118.80
1	AA	1534	A	P-O3'-C3'	5.29	126.05	119.70
2	CA	2401	U	P-O3'-C3'	5.29	126.05	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	588	U	N1-C2-O2	5.29	126.50	122.80
2	CA	2586	U	N3-C2-O2	-5.29	118.50	122.20
1	BA	1137	C	N1-C2-O2	5.29	122.07	118.90
2	DA	891	G	N3-C4-C5	-5.29	125.96	128.60
2	DA	2556	C	N3-C2-O2	-5.29	118.20	121.90
2	DA	1398	C	N1-C2-O2	5.29	122.07	118.90
1	AA	214	C	N3-C4-C5	5.28	124.01	121.90
1	AA	658	C	N3-C2-O2	-5.28	118.20	121.90
2	DA	1507	C	C6-N1-C2	-5.28	118.19	120.30
2	CA	2704	C	N1-C2-O2	5.28	122.07	118.90
2	DA	2884	U	C2-N1-C1'	5.28	124.03	117.70
1	AA	1344	C	N3-C2-O2	-5.28	118.20	121.90
1	BA	1356	G	N1-C6-O6	5.28	123.07	119.90
3	DB	19	C	C6-N1-C2	-5.28	118.19	120.30
1	AA	1097	C	N1-C2-O2	5.28	122.06	118.90
2	CA	2226	C	C6-N1-C2	-5.28	118.19	120.30
1	BA	764	C	C2-N1-C1'	5.28	124.60	118.80
2	DA	847	U	C2-N1-C1'	5.28	124.03	117.70
3	DB	26	C	C2-N1-C1'	5.28	124.60	118.80
3	CB	31	C	C6-N1-C1'	-5.27	114.47	120.80
2	DA	1605	C	C5-C6-N1	5.27	123.63	121.00
2	DA	2507	C	C6-N1-C2	-5.27	118.19	120.30
1	BA	1202	U	N3-C2-O2	-5.27	118.51	122.20
1	AA	99	C	C5-C6-N1	5.27	123.63	121.00
2	CA	323	C	C6-N1-C1'	-5.26	114.48	120.80
2	CA	2196	C	N1-C2-O2	5.26	122.06	118.90
2	DA	2064	C	N1-C2-O2	5.26	122.06	118.90
2	DA	1135	C	N1-C2-O2	5.26	122.06	118.90
2	DA	1513	U	N1-C2-O2	5.26	126.48	122.80
2	DA	1526	C	C2-N1-C1'	5.26	124.59	118.80
36	AX	25	U	C5-C6-N1	5.26	125.33	122.70
2	DA	1153	C	C2-N1-C1'	5.26	124.58	118.80
2	DA	2507	C	N1-C2-O2	5.26	122.05	118.90
1	BA	1364	U	C6-N1-C2	5.25	124.15	121.00
2	CA	2043	C	C2-N1-C1'	5.25	124.58	118.80
1	AA	252	U	C2-N1-C1'	5.25	124.00	117.70
1	BA	176	C	C2-N1-C1'	-5.25	113.03	118.80
4	AW	51	C	P-O3'-C3'	5.25	126.00	119.70
2	DA	1728	C	C2-N1-C1'	5.25	124.57	118.80
1	BA	563	A	N9-C4-C5	-5.24	103.70	105.80
4	BV	31	C	N1-C2-O2	5.24	122.05	118.90
2	DA	2149	U	N1-C2-O2	5.24	126.47	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	2480	C	N1-C2-O2	5.24	122.05	118.90
1	AA	1066	C	C5-C6-N1	5.24	123.62	121.00
4	AY	13	C	C2-N1-C1'	5.24	124.56	118.80
4	AV	32	C	C5-C6-N1	5.24	123.62	121.00
2	DA	888	C	C6-N1-C1'	-5.24	114.51	120.80
2	CA	2248	C	N1-C2-O2	5.24	122.04	118.90
1	BA	207	C	C2-N1-C1'	5.23	124.56	118.80
1	BA	989	U	N1-C2-O2	5.23	126.46	122.80
2	DA	892	A	OP1-P-O3'	5.23	116.71	105.20
2	DA	1172	C	N1-C2-O2	5.23	122.04	118.90
2	CA	1639	C	N1-C2-O2	5.23	122.04	118.90
4	AY	31	C	N1-C2-O2	5.23	122.04	118.90
2	CA	12	U	N1-C2-O2	5.23	126.46	122.80
1	BA	1320	C	C2-N1-C1'	5.22	124.55	118.80
2	CA	702	U	C5-C6-N1	5.22	125.31	122.70
1	BA	372	C	C5-C6-N1	5.22	123.61	121.00
2	DA	2189	U	P-O3'-C3'	5.22	125.97	119.70
2	CA	1005	C	C5-C6-N1	5.22	123.61	121.00
41	BF	39	LEU	CA-CB-CG	5.22	127.30	115.30
1	AA	1097	C	C6-N1-C2	-5.21	118.22	120.30
36	AX	25	U	C6-N1-C2	-5.21	117.87	121.00
1	AA	1202	U	N3-C2-O2	-5.21	118.55	122.20
2	CA	2507	C	C5-C6-N1	5.21	123.61	121.00
2	DA	2617	U	N1-C2-O2	5.21	126.45	122.80
2	DA	2874	C	N1-C2-O2	5.21	122.03	118.90
2	CA	2062	A	N3-C4-N9	5.21	131.57	127.40
36	AX	31	A	C4-N9-C1'	5.21	135.68	126.30
1	BA	672	U	N1-C2-O2	5.21	126.45	122.80
1	AA	692	U	P-O5'-C5'	-5.21	112.57	120.90
1	BA	1356	G	C8-N9-C1'	-5.21	120.23	127.00
2	CA	2248	C	C2-N1-C1'	5.20	124.52	118.80
2	CA	2480	C	N1-C2-O2	5.20	122.02	118.90
2	DA	1145	C	N1-C2-O2	5.20	122.02	118.90
2	CA	78	U	N1-C2-O2	5.20	126.44	122.80
2	CA	1526	C	C2-N1-C1'	5.20	124.52	118.80
2	CA	362	A	C4-N9-C1'	5.20	135.65	126.30
1	BA	983	A	N3-C4-N9	5.20	131.56	127.40
2	DA	2666	C	N3-C2-O2	-5.20	118.26	121.90
1	AA	1030	U	N3-C2-O2	-5.19	118.56	122.20
1	AA	1149	C	N1-C2-O2	5.19	122.02	118.90
2	CA	1523	U	O5'-P-OP2	5.19	116.93	110.70
1	BA	1524	C	C6-N1-C2	-5.19	118.22	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	BV	56	C	C6-N1-C2	-5.19	118.22	120.30
1	BA	397	A	C2-N3-C4	5.19	113.19	110.60
2	DA	1267	U	C2-N1-C1'	5.19	123.92	117.70
1	BA	180	U	N1-C2-O2	5.19	126.43	122.80
1	AA	754	C	C6-N1-C1'	-5.18	114.58	120.80
2	DA	545	U	C2-N1-C1'	5.18	123.92	117.70
2	DA	896	A	C5-C6-N1	5.18	120.29	117.70
2	CA	426	C	N1-C2-O2	5.18	122.01	118.90
2	DA	480	A	OP1-P-O3'	5.18	116.60	105.20
1	AA	153	C	N3-C2-O2	-5.18	118.27	121.90
2	CA	192	C	N1-C2-O2	5.18	122.01	118.90
4	AV	71	C	N1-C2-O2	5.18	122.00	118.90
1	BA	25	C	C5-C6-N1	5.18	123.59	121.00
1	BA	213	G	C4-N9-C1'	5.18	133.23	126.50
2	CA	2507	C	C6-N1-C2	-5.17	118.23	120.30
2	DA	370	G	O4'-C1'-N9	-5.17	104.06	108.20
2	CA	140	C	C2-N1-C1'	5.17	124.49	118.80
3	CB	11	C	N3-C2-O2	-5.17	118.28	121.90
2	DA	1843	C	N1-C2-O2	5.17	122.00	118.90
1	BA	397	A	N3-C4-N9	5.17	131.53	127.40
3	CB	17	C	C2-N1-C1'	5.16	124.48	118.80
3	DB	31	C	C2-N1-C1'	5.16	124.48	118.80
4	AV	45	G	C2-N3-C4	5.16	114.48	111.90
1	BA	524	G	C4-N9-C1'	5.16	133.21	126.50
1	BA	1496	C	C5-C6-N1	5.16	123.58	121.00
2	DA	1404	C	C5-C6-N1	5.16	123.58	121.00
2	CA	278	A	C4-N9-C1'	5.16	135.58	126.30
1	BA	180	U	C2-N1-C1'	5.16	123.89	117.70
2	DA	919	U	N3-C2-O2	-5.16	118.59	122.20
1	BA	1383	C	C5-C6-N1	5.16	123.58	121.00
2	CA	361	G	N1-C6-O6	5.15	122.99	119.90
2	DA	523	C	C5-C6-N1	5.15	123.58	121.00
2	DA	889	C	C2-N1-C1'	5.15	124.47	118.80
1	BA	214	C	N3-C2-O2	-5.15	118.30	121.90
1	AA	1263	C	C5-C6-N1	5.15	123.57	121.00
1	BA	96	U	P-O3'-C3'	5.15	125.88	119.70
1	BA	207	C	C6-N1-C2	-5.15	118.24	120.30
1	BA	501	C	C6-N1-C2	-5.14	118.24	120.30
36	BX	29	U	O4'-C1'-N1	5.14	112.31	108.20
2	CA	2887	A	P-O5'-C5'	5.14	129.12	120.90
2	DA	2884	U	N1-C2-O2	5.14	126.40	122.80
2	CA	2667	C	N1-C2-O2	5.14	121.98	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	151	A	C4-N9-C1'	5.14	135.54	126.30
2	DA	787	C	N1-C2-O2	5.14	121.98	118.90
2	DA	817	C	C6-N1-C2	-5.13	118.25	120.30
2	DA	2636	C	N1-C2-O2	5.13	121.98	118.90
2	DA	353	C	C5-C6-N1	5.13	123.57	121.00
2	DA	876	C	N3-C2-O2	-5.13	118.31	121.90
2	DA	1398	C	C5-C6-N1	5.13	123.57	121.00
2	DA	2473	U	N3-C2-O2	-5.13	118.61	122.20
4	BW	16	C	C6-N1-C2	-5.13	118.25	120.30
2	DA	2626	C	C5-C6-N1	5.13	123.56	121.00
2	DA	2805	C	C6-N1-C2	-5.13	118.25	120.30
2	CA	343	C	N3-C2-O2	-5.12	118.31	121.90
1	BA	284	C	C5-C6-N1	5.12	123.56	121.00
2	DA	1256	G	C8-N9-C1'	-5.12	120.34	127.00
2	CA	1760	C	C6-N1-C2	-5.12	118.25	120.30
1	BA	536	C	C5-C6-N1	5.12	123.56	121.00
2	DA	2043	C	C2-N1-C1'	5.12	124.43	118.80
2	CA	158	U	N1-C2-O2	5.12	126.38	122.80
2	CA	2888	C	O5'-P-OP2	-5.12	101.09	105.70
1	BA	1290	G	N3-C4-N9	5.12	129.07	126.00
2	CA	1173	U	P-O3'-C3'	5.12	125.84	119.70
2	DA	776	G	N3-C4-C5	-5.11	126.04	128.60
1	AA	617	G	N3-C4-N9	-5.10	122.94	126.00
1	AA	984	C	C6-N1-C2	-5.10	118.26	120.30
1	AA	1097	C	C5-C6-N1	5.10	123.55	121.00
1	BA	536	C	N1-C2-O2	5.10	121.96	118.90
4	BV	32	C	N1-C2-O2	5.10	121.96	118.90
1	AA	1203	C	O5'-P-OP2	-5.10	101.11	105.70
1	AA	1265	C	C5-C6-N1	5.10	123.55	121.00
2	CA	1416	G	O4'-C1'-N9	5.10	112.28	108.20
2	CA	2465	C	C5-C6-N1	5.10	123.55	121.00
1	BA	477	C	N1-C2-O2	5.09	121.96	118.90
4	AY	75	C	C6-N1-C2	-5.09	118.26	120.30
1	BA	1262	C	N1-C2-O2	5.09	121.95	118.90
2	DA	343	C	C6-N1-C2	-5.09	118.26	120.30
2	DA	2354	C	C2-N1-C1'	5.09	124.40	118.80
2	CA	1306	C	N1-C2-O2	5.09	121.95	118.90
2	CA	2889	C	C2-N1-C1'	5.09	124.40	118.80
3	CB	27	C	N1-C2-O2	5.09	121.95	118.90
1	AA	452	A	C2-N3-C4	5.09	113.14	110.60
2	CA	399	U	N3-C2-O2	-5.09	118.64	122.20
2	DA	2752	C	N3-C2-O2	-5.09	118.34	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	CA	2064	C	N1-C2-O2	5.09	121.95	118.90
1	BA	611	C	C2-N1-C1'	5.08	124.39	118.80
1	BA	1356	G	C4-N9-C1'	5.08	133.11	126.50
2	CA	373	U	N3-C2-O2	-5.08	118.64	122.20
2	CA	847	U	N3-C2-O2	-5.08	118.64	122.20
2	DA	1062	G	C4-N9-C1'	5.08	133.10	126.50
2	DA	2507	C	C5-C6-N1	5.08	123.54	121.00
2	CA	343	C	C2-N1-C1'	5.08	124.38	118.80
1	BA	1479	C	C5-C6-N1	5.08	123.54	121.00
1	BA	1230	C	N1-C2-O2	5.07	121.94	118.90
1	AA	1027	C	C6-N1-C2	-5.07	118.27	120.30
1	BA	1448	C	C6-N1-C2	-5.07	118.27	120.30
3	CB	31	C	C6-N1-C2	-5.07	118.27	120.30
1	BA	1209	C	N1-C2-O2	5.07	121.94	118.90
2	DA	545	U	N3-C2-O2	-5.06	118.66	122.20
3	DB	89	U	N3-C2-O2	-5.06	118.66	122.20
1	AA	1443	C	N1-C2-O2	5.06	121.94	118.90
2	CA	459	U	C2-N1-C1'	5.06	123.77	117.70
2	DA	1091	G	O4'-C1'-N9	5.06	112.25	108.20
1	AA	377	G	C4-N9-C1'	5.06	133.08	126.50
2	CA	164	C	N1-C2-O2	5.06	121.93	118.90
2	CA	885	C	OP1-P-O3'	5.06	116.32	105.20
1	BA	707	U	N3-C2-O2	-5.05	118.66	122.20
1	AA	811	C	C5-C6-N1	5.05	123.53	121.00
2	CA	158	U	C2-N1-C1'	5.05	123.76	117.70
2	CA	1967	C	N1-C2-O2	5.05	121.93	118.90
1	BA	1218	C	C5-C6-N1	5.05	123.53	121.00
1	BA	1383	C	N1-C2-O2	5.05	121.93	118.90
1	AA	1029	U	N1-C2-O2	5.05	126.33	122.80
2	CA	1837	C	C6-N1-C2	-5.05	118.28	120.30
2	CA	1920	C	C2-N1-C1'	5.05	124.35	118.80
2	CA	2649	C	N1-C2-O2	5.05	121.93	118.90
2	CA	1348	C	C2-N1-C1'	5.04	124.35	118.80
3	DB	17	C	C6-N1-C2	-5.04	118.28	120.30
2	DA	2676	C	N1-C2-O2	5.04	121.92	118.90
2	CA	607	U	N1-C2-O2	5.04	126.33	122.80
2	CA	1289	C	C2-N1-C1'	5.04	124.34	118.80
2	CA	1345	C	N1-C2-O2	5.04	121.92	118.90
2	CA	1920	C	N1-C2-O2	5.04	121.92	118.90
1	BA	1290	G	N3-C4-C5	-5.04	126.08	128.60
2	CA	373	U	N1-C2-O2	5.04	126.33	122.80
2	DA	813	U	N1-C2-O2	5.03	126.32	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	DA	2104	C	C6-N1-C2	-5.03	118.29	120.30
2	CA	2496	C	N1-C2-O2	5.03	121.92	118.90
2	DA	367	G	C8-N9-C1'	-5.03	120.46	127.00
2	DA	581	C	C5-C6-N1	5.03	123.52	121.00
2	CA	673	C	N3-C2-O2	-5.03	118.38	121.90
1	AA	623	C	C2-N1-C1'	5.03	124.33	118.80
2	CA	2889	C	N1-C2-O2	5.03	121.92	118.90
2	DA	114	U	C2-N1-C1'	5.03	123.73	117.70
1	AA	334	C	N1-C2-O2	5.02	121.92	118.90
2	DA	702	U	N1-C2-O2	5.02	126.32	122.80
2	DA	1289	C	C2-N1-C1'	5.02	124.32	118.80
2	CA	846	U	N3-C2-O2	-5.02	118.69	122.20
1	BA	467	U	N3-C2-O2	-5.02	118.69	122.20
1	AA	1023	U	N3-C2-O2	-5.02	118.69	122.20
4	AW	36	C	C2-N1-C1'	5.01	124.32	118.80
2	DA	2515	C	C6-N1-C2	-5.01	118.29	120.30
1	AA	25	C	C5-C6-N1	5.01	123.50	121.00
1	AA	624	C	C6-N1-C2	-5.01	118.30	120.30
2	CA	2874	C	C2-N1-C1'	5.01	124.31	118.80
2	DA	1644	C	N3-C2-O2	-5.01	118.39	121.90
1	AA	407	U	N1-C2-O2	5.01	126.30	122.80
2	CA	114	U	C2-N1-C1'	5.01	123.71	117.70
2	CA	137	U	C2-N1-C1'	5.01	123.71	117.70
2	DA	96	C	N3-C2-O2	-5.01	118.39	121.90
2	DA	2243	U	N3-C2-O2	-5.01	118.70	122.20
1	AA	1469	C	N1-C2-O2	5.00	121.90	118.90
1	BA	745	G	C6-C5-N7	-5.00	127.40	130.40
2	DA	225	C	C2-N1-C1'	5.00	124.30	118.80
4	AV	13	C	N1-C2-O2	5.00	121.90	118.90
1	BA	1253	G	N3-C4-N9	5.00	129.00	126.00
1	BA	1521	C	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

All (34) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
37	AB	65	LYS	Peptide
38	AC	65	ARG	Peptide
39	AD	183	ARG	Peptide
39	AD	46	ARG	Peptide
41	AF	51	ILE	Peptide
42	AG	128	GLU	Peptide

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Mol	Chain	Res	Type	Group
48	AM	64	VAL	Peptide
49	AN	52	PRO	Peptide
52	AQ	67	SER	Peptide
39	BD	29	THR	Peptide
39	BD	34	GLU	Peptide
40	BE	101	GLY	Peptide
40	BE	156	ARG	Peptide
41	BF	52	ASN	Peptide
45	BJ	57	VAL	Peptide
52	BQ	7	LEU	Peptide
34	C4	30	HIS	Peptide
11	C5	89	PRO	Peptide
5	CC	120	ASP	Peptide
5	CC	237	ARG	Peptide
6	CD	151	THR	Peptide
8	CF	174	PHE	Peptide
14	CK	91	SER	Peptide
15	CL	81	ASP	Peptide
23	CT	2	ILE	Peptide
33	D3	43	THR	Peptide
34	D4	30	HIS	Peptide
6	DD	151	THR	Peptide
10	DH	8	LYS	Peptide
10	DH	9	VAL	Peptide
14	DK	34	GLY	Peptide
19	DP	9	GLN	Peptide
23	DT	1	MET	Peptide
25	DV	50	MET	Peptide

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	33037	0	16628	487	3
1	BA	33057	0	16640	516	0
2	CA	61550	0	30959	698	0
2	DA	61593	0	30990	812	3
3	CB	2529	0	1281	36	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	DB	2529	0	1281	34	0
4	AV	1623	0	823	18	0
4	AW	1623	0	823	28	0
4	AY	1623	0	823	12	0
4	BV	1623	0	823	19	0
4	BW	1623	0	823	20	0
5	CC	2083	0	2157	48	0
5	DC	2083	0	2157	46	0
6	CD	1565	0	1616	30	2
6	DD	1565	0	1616	25	0
7	CE	1404	0	1466	22	0
7	DE	1393	0	1453	24	0
8	CF	1411	0	1447	27	0
8	DF	1411	0	1447	23	0
9	CG	1323	0	1374	15	0
9	DG	1323	0	1374	17	0
10	CH	1110	0	1148	17	0
10	DH	1110	0	1148	24	3
11	C5	825	0	856	17	0
12	CI	511	0	544	7	0
12	DI	518	0	551	12	0
13	CJ	1129	0	1162	15	0
13	DJ	1129	0	1162	15	0
14	CK	939	0	1012	14	0
14	DK	939	0	1012	16	0
15	CL	1045	0	1117	24	1
15	DL	1045	0	1117	23	0
16	CM	1065	0	1148	7	0
16	DM	1074	0	1157	20	0
17	CN	969	0	1012	32	0
17	DN	969	0	1013	20	0
18	CO	892	0	923	21	2
18	DO	892	0	923	15	0
19	CP	917	0	965	14	0
19	DP	917	0	965	22	0
20	CQ	947	0	1022	13	0
20	DQ	947	0	1022	20	0
21	CR	816	0	839	10	0
21	DR	816	0	839	17	2
22	CS	857	0	922	12	0
22	DS	857	0	922	12	0
23	CT	739	0	807	14	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
23	DT	739	0	807	5	0
24	CU	780	0	834	10	0
24	DU	780	0	834	16	0
25	CV	753	0	780	16	0
25	DV	753	0	780	12	0
26	CW	574	0	592	16	0
26	DW	574	0	592	14	0
27	CX	625	0	655	10	0
27	DX	625	0	655	11	0
28	CY	499	0	535	6	0
28	DY	509	0	543	9	0
29	CZ	449	0	491	16	1
29	DZ	449	0	491	8	0
30	C0	293	0	283	9	0
30	D0	293	0	284	18	0
31	C1	444	0	461	9	1
31	D1	444	0	461	9	0
32	C2	410	0	440	7	0
32	D2	410	0	440	7	0
33	C3	377	0	418	6	0
33	D3	377	0	418	8	0
34	C4	479	0	553	10	0
34	D4	486	0	560	10	0
35	C6	302	0	340	8	0
35	D6	302	0	340	11	0
36	AX	653	0	325	29	0
36	BX	653	0	325	24	0
37	AB	1757	0	1787	23	0
37	BB	1757	0	1787	25	0
38	AC	1625	0	1696	28	0
38	BC	1625	0	1696	40	0
39	AD	1643	0	1710	46	3
39	BD	1643	0	1710	41	0
40	AE	1106	0	1148	24	0
40	BE	1106	0	1148	21	0
41	AF	818	0	808	18	0
41	BF	818	0	808	13	3
42	AG	1058	0	1111	19	0
42	BG	1035	0	1087	16	0
43	AH	973	0	1029	11	0
43	BH	979	0	1034	20	0
44	AI	995	0	1039	42	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	BI	1022	0	1070	51	0
45	AJ	787	0	828	27	0
45	BJ	787	0	828	19	0
46	AK	869	0	878	23	0
46	BK	877	0	887	23	0
47	AL	955	0	1019	21	0
47	BL	955	0	1019	33	0
48	AM	884	0	944	23	0
48	BM	884	0	944	34	0
49	AN	774	0	827	12	0
49	BN	774	0	827	19	0
50	AO	714	0	737	23	0
50	BO	714	0	737	7	0
51	AP	649	0	666	9	0
51	BP	649	0	666	12	0
52	AQ	649	0	691	13	0
52	BQ	649	0	691	11	0
53	AR	456	0	478	15	0
53	BR	456	0	478	5	0
54	AS	638	0	665	16	0
54	BS	638	0	665	16	0
55	AT	665	0	714	14	0
55	BT	665	0	714	7	0
56	AA	50	0	0	0	0
56	BA	49	0	0	0	0
56	C4	1	0	0	0	0
56	CA	167	0	0	0	0
56	CB	3	0	0	0	0
56	CC	1	0	0	0	0
56	CN	2	0	0	0	0
56	CQ	1	0	0	0	0
56	DA	166	0	0	0	0
56	DB	3	0	0	0	0
56	DN	1	0	0	0	0
56	DQ	1	0	0	0	0
57	C0	1	0	0	0	0
57	C6	1	0	0	0	0
57	D0	1	0	0	0	0
57	D6	1	0	0	0	0
58	AA	481	0	0	8	0
58	AB	7	0	0	0	0
58	AC	15	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
58	AD	10	0	0	1	0
58	AE	12	0	0	1	0
58	AF	6	0	0	0	0
58	AG	5	0	0	0	0
58	AH	7	0	0	1	0
58	AI	6	0	0	0	0
58	AJ	4	0	0	0	0
58	AK	10	0	0	2	0
58	AL	9	0	0	0	0
58	AM	6	0	0	0	0
58	AN	3	0	0	0	0
58	AO	7	0	0	1	0
58	AP	4	0	0	0	0
58	AQ	8	0	0	1	0
58	AR	1	0	0	0	0
58	AS	4	0	0	1	0
58	AT	4	0	0	1	0
58	AV	28	0	0	0	0
58	AW	32	0	0	0	0
58	AX	4	0	0	0	0
58	AY	5	0	0	0	0
58	BA	461	0	0	14	0
58	BB	2	0	0	0	0
58	BC	8	0	0	1	0
58	BD	24	0	0	2	0
58	BE	18	0	0	0	0
58	BF	6	0	0	0	0
58	BG	4	0	0	0	0
58	BH	12	0	0	2	0
58	BI	9	0	0	0	0
58	BJ	8	0	0	1	0
58	BK	5	0	0	0	0
58	BL	8	0	0	0	0
58	BM	6	0	0	1	0
58	BN	5	0	0	0	0
58	BO	2	0	0	1	0
58	BP	5	0	0	1	0
58	BQ	10	0	0	0	0
58	BR	1	0	0	1	0
58	BS	3	0	0	0	0
58	BT	2	0	0	0	0
58	BV	13	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
58	BW	23	0	0	0	0
58	BX	5	0	0	0	0
58	C1	5	0	0	0	0
58	C2	1	0	0	0	0
58	C3	2	0	0	0	0
58	C4	2	0	0	0	0
58	C5	7	0	0	0	0
58	C6	3	0	0	0	0
58	CA	1106	0	0	22	0
58	CB	49	0	0	1	0
58	CC	13	0	0	0	0
58	CD	10	0	0	0	0
58	CE	16	0	0	0	0
58	CF	14	0	0	2	0
58	CG	18	0	0	0	0
58	CH	8	0	0	1	0
58	CI	4	0	0	0	0
58	CJ	9	0	0	0	0
58	CK	7	0	0	0	0
58	CL	8	0	0	1	0
58	CM	4	0	0	0	0
58	CN	6	0	0	2	0
58	CO	8	0	0	2	0
58	CP	8	0	0	0	0
58	CQ	2	0	0	0	0
58	CR	7	0	0	0	0
58	CS	3	0	0	0	0
58	CT	7	0	0	1	0
58	CU	13	0	0	0	0
58	CV	10	0	0	5	0
58	CW	4	0	0	0	0
58	CX	3	0	0	0	0
58	CY	3	0	0	0	0
58	CZ	1	0	0	0	0
58	D0	2	0	0	2	0
58	D1	11	0	0	0	0
58	D2	2	0	0	0	0
58	D3	2	0	0	0	0
58	D6	1	0	0	0	0
58	DA	1005	0	0	22	0
58	DB	32	0	0	1	0
58	DC	28	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
58	DD	15	0	0	0	0
58	DE	12	0	0	0	0
58	DF	4	0	0	0	0
58	DG	6	0	0	0	0
58	DH	4	0	0	0	0
58	DJ	3	0	0	0	0
58	DK	5	0	0	0	0
58	DL	10	0	0	0	0
58	DM	6	0	0	1	0
58	DN	6	0	0	0	0
58	DO	4	0	0	0	0
58	DP	6	0	0	0	0
58	DQ	5	0	0	0	0
58	DR	13	0	0	0	0
58	DS	9	0	0	0	0
58	DT	10	0	0	0	0
58	DU	14	0	0	1	0
58	DV	7	0	0	0	0
58	DW	3	0	0	0	0
58	DX	3	0	0	1	0
58	DY	7	0	0	0	0
58	DZ	2	0	0	0	0
All	All	296390	0	195117	3829	12

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 8.

All (3829) 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)
1:BA:1029:U:O2'	1:BA:1033:G:N2	1.59	1.29
30:D0:46:GLY:HA2	58:D0:201:HOH:O	1.29	1.28
2:CA:2278:A:OP2	26:CW:12:ASN:ND2	1.73	1.19
50:AO:2:LEU:HD13	50:AO:34:GLN:NE2	1.58	1.18
17:CN:94:TYR:C	17:CN:116:VAL:HG23	1.72	1.08
17:DN:33:ILE:HD13	17:DN:118:ARG:HH12	1.19	1.08
1:BA:246:A:H62	1:BA:281:G:N2	1.55	1.04
2:DA:2469:A:H62	2:DA:2481:G:H21	1.05	1.03
2:DA:2747:G:N2	2:DA:2757:A:H62	1.57	1.03
17:CN:93:GLY:O	17:CN:116:VAL:HG21	1.60	1.01
1:AA:1498:U:O2'	36:AX:19:U:OP1	1.79	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:180:U:H3	1:BA:195:A:H62	1.05	1.01
29:CZ:1:ALA:HB3	29:CZ:39:ASP:HB3	1.40	1.01
1:AA:1260:G:H21	1:AA:1275:A:H62	1.05	1.01
1:BA:1538:C:N3	36:BX:5:G:N1	2.08	1.01
1:BA:888:G:N2	1:BA:909:A:H62	1.58	1.00
44:AI:10:ARG:HG3	44:AI:105:ARG:HH21	1.25	1.00
1:BA:672:U:H3	1:BA:734:G:H1	1.07	1.00
2:CA:2695:U:H3	2:CA:2714:G:H1	1.10	1.00
3:DB:72:G:N2	3:DB:104:A:H62	1.58	0.99
1:BA:683:G:H1	1:BA:707:U:H3	1.03	0.99
4:BW:15:G:N2	4:BW:48:C:H42	1.57	0.99
1:AA:926:G:N1	36:AX:18:G:OP2	1.95	0.98
1:BA:950:U:H3	1:BA:1231:G:H1	1.09	0.98
2:DA:1218:G:H1	2:DA:1231:U:H3	1.12	0.98
17:DN:117:ASP:O	17:DN:119:SER:N	1.95	0.98
1:AA:895:G:H1	1:AA:904:U:H3	1.07	0.98
3:CB:9:G:H1	3:CB:111:U:H3	1.00	0.97
1:AA:1055:A:H62	1:AA:1200:C:H42	1.06	0.97
2:CA:2810:A:H62	2:CA:2890:G:H21	1.05	0.97
2:CA:2685:G:H1	2:CA:2724:U:H3	1.12	0.97
3:DB:72:G:H21	3:DB:104:A:N6	1.62	0.97
2:DA:2136:G:H1	2:DA:2155:U:H3	1.03	0.97
2:CA:158:U:H3	2:CA:168:G:H1	0.98	0.96
1:BA:888:G:H21	1:BA:909:A:N6	1.62	0.96
2:DA:2099:U:H3	2:DA:2190:G:H1	0.99	0.96
1:AA:582:C:N4	1:AA:759:A:H62	1.63	0.96
2:DA:1418:G:H21	2:DA:1580:A:N6	1.64	0.96
1:AA:109:A:H62	1:AA:324:G:N2	1.62	0.96
1:BA:246:A:N6	1:BA:281:G:H21	1.64	0.96
2:CA:2099:U:H3	2:CA:2190:G:H1	1.14	0.96
23:CT:46:ALA:O	23:CT:50:LEU:HB2	1.66	0.96
2:DA:2747:G:H21	2:DA:2757:A:N6	1.64	0.96
1:BA:1538:C:O2	36:BX:5:G:N2	1.98	0.95
2:DA:375:G:H1	2:DA:399:U:H3	1.14	0.95
2:CA:2639:A:H62	2:CA:2775:G:H21	1.05	0.95
2:DA:861:A:N6	2:DA:916:G:H21	1.64	0.95
2:DA:2068:U:H3	2:DA:2430:A:H62	1.13	0.95
2:DA:2657:A:N6	2:DA:2664:G:H21	1.63	0.95
4:AW:1:G:H5"	4:AW:1:G:H8	1.29	0.95
2:DA:1215:G:H1	2:DA:1234:U:H3	0.96	0.95
29:CZ:1:ALA:N	29:CZ:39:ASP:H	1.64	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:672:U:H3	1:AA:734:G:H1	0.95	0.94
2:DA:1166:G:H1	2:DA:1183:U:H3	1.03	0.94
2:DA:2639:A:H62	2:DA:2775:G:N2	1.64	0.94
2:DA:377:G:H1	2:DA:397:U:H3	1.08	0.94
2:DA:839:U:H3	2:DA:939:G:H1	0.95	0.94
1:BA:1357:A:H61	1:BA:1365:G:H1	1.14	0.94
1:BA:372:C:N4	1:BA:389:A:H62	1.64	0.94
2:DA:954:G:H1	2:DA:963:U:H3	1.07	0.94
2:DA:2657:A:H62	2:DA:2664:G:N2	1.63	0.94
2:CA:15:G:H1	2:CA:525:U:H3	1.00	0.94
2:DA:861:A:H62	2:DA:916:G:N2	1.64	0.94
1:AA:832:G:H1	1:AA:854:U:H3	1.10	0.94
2:CA:2136:G:H1	2:CA:2155:U:H3	1.08	0.94
2:CA:2202:U:H3	2:CA:2221:G:H1	1.02	0.94
17:DN:33:ILE:HD13	17:DN:118:ARG:NH1	1.82	0.93
1:BA:1009:U:H3	1:BA:1020:G:H1	1.11	0.93
44:AI:10:ARG:O	44:AI:105:ARG:CZ	2.17	0.93
2:DA:15:G:H1	2:DA:525:U:H3	0.94	0.93
2:DA:706:A:H62	2:DA:725:G:N2	1.66	0.93
2:DA:711:G:H1	2:DA:720:U:H3	0.93	0.93
2:CA:499:U:H3	2:CA:503:A:H62	0.97	0.93
2:DA:1418:G:N2	2:DA:1580:A:H62	1.66	0.93
2:CA:1356:G:H1	2:CA:1375:U:H3	1.03	0.93
1:AA:1116:U:H3	1:AA:1184:G:H1	1.11	0.92
2:DA:2139:U:H3	2:DA:2152:G:H1	0.99	0.92
2:DA:2735:G:H1	2:DA:2769:U:H3	0.96	0.92
2:CA:2472:G:H21	2:CA:2478:A:H62	1.15	0.92
2:CA:408:G:H1	2:CA:419:U:H3	1.09	0.92
1:AA:582:C:H42	1:AA:759:A:N6	1.67	0.92
4:AW:1:G:C8	4:AW:1:G:H5"	2.04	0.92
4:BW:15:G:H22	4:BW:48:C:N4	1.65	0.92
2:CA:1415:U:H3	2:CA:1587:G:H1	1.18	0.92
1:AA:180:U:H3	1:AA:195:A:H62	1.05	0.92
4:AW:15:G:H22	4:AW:48:C:H42	1.14	0.92
2:CA:2028:U:H3	2:CA:2033:A:H62	1.15	0.92
2:CA:285:G:H1	2:CA:355:U:H3	0.92	0.92
44:AI:32:ARG:HE	44:AI:32:ARG:HA	1.34	0.92
4:AW:15:G:N2	4:AW:48:C:H42	1.68	0.92
2:CA:707:G:H1	2:CA:724:U:H3	0.92	0.92
2:DA:1792:G:H1	2:DA:1827:U:H3	0.99	0.92
2:DA:2639:A:N6	2:DA:2775:G:H21	1.68	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:78:U:H3	2:DA:108:G:H1	0.98	0.92
1:BA:372:C:H42	1:BA:389:A:H62	1.15	0.91
29:CZ:1:ALA:H2	29:CZ:39:ASP:H	1.09	0.91
2:DA:706:A:N6	2:DA:725:G:H21	1.69	0.91
1:AA:1055:A:H62	1:AA:1200:C:N4	1.66	0.91
2:DA:304:U:H3	2:DA:313:G:H1	1.18	0.91
1:AA:416:G:H1	1:AA:427:U:H3	1.10	0.91
2:CA:1422:G:H1	2:CA:1576:U:H3	0.94	0.91
1:AA:109:A:H62	1:AA:324:G:H21	0.92	0.91
2:CA:2810:A:H62	2:CA:2890:G:N2	1.68	0.91
1:AA:740:U:OP1	50:AO:1:SER:N	2.03	0.91
2:CA:2639:A:H62	2:CA:2775:G:N2	1.67	0.91
1:AA:927:G:H1	1:AA:1390:U:H3	1.14	0.90
1:BA:1418:A:H62	1:BA:1482:G:H21	1.18	0.90
2:DA:2352:A:H62	2:DA:2365:G:N2	1.68	0.90
1:AA:1422:G:H1	1:AA:1478:U:H3	1.02	0.90
1:AA:454:G:H1	1:AA:479:U:H3	1.18	0.90
4:BW:15:G:H22	4:BW:48:C:H42	0.92	0.90
2:CA:1527:G:H21	2:CA:1545:A:H62	1.18	0.90
1:AA:410:G:H21	1:AA:432:A:H62	1.19	0.90
2:DA:328:U:H3	2:DA:332:A:H62	1.19	0.90
1:BA:1438:G:H1	1:BA:1463:U:H3	0.99	0.90
1:BA:1028:C:C2'	1:BA:1029:U:O5'	2.19	0.90
2:CA:1477:A:H62	2:CA:1514:G:H21	1.19	0.90
2:CA:304:U:H3	2:CA:313:G:H1	1.13	0.90
2:DA:1422:G:H1	2:DA:1576:U:H3	1.11	0.90
2:DA:2352:A:N6	2:DA:2365:G:H21	1.70	0.90
2:CA:1222:U:H3	2:CA:1227:G:H1	1.19	0.90
4:AW:15:G:H22	4:AW:48:C:N4	1.68	0.89
2:DA:1769:U:H3	2:DA:1983:G:H1	1.18	0.89
1:BA:249:U:H3	1:BA:275:G:H1	1.19	0.89
2:DA:1358:G:H21	2:DA:1373:A:H62	1.13	0.89
2:DA:639:U:H3	2:DA:649:G:H1	1.20	0.89
2:CA:284:U:H3	2:CA:356:G:H1	0.90	0.89
1:AA:1440:U:H3	1:AA:1461:G:H1	0.92	0.89
2:DA:585:G:H21	2:DA:1254:A:H62	1.14	0.89
2:DA:706:A:H62	2:DA:725:G:H21	0.91	0.89
2:DA:2352:A:H62	2:DA:2365:G:H21	0.92	0.89
44:BI:29:ILE:N	44:BI:32:ARG:O	2.05	0.89
44:BI:32:ARG:HE	44:BI:32:ARG:HA	1.38	0.89
2:CA:1687:G:H21	2:CA:1701:A:H62	1.13	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:861:A:H62	2:DA:916:G:H21	0.90	0.89
2:DA:2202:U:H3	2:DA:2221:G:H1	1.19	0.88
2:DA:694:U:H3	2:DA:768:G:H1	1.18	0.88
1:AA:836:G:H1	1:AA:850:U:H3	0.92	0.88
1:BA:781:A:H62	1:BA:801:U:H3	1.20	0.88
1:BA:372:C:H42	1:BA:389:A:N6	1.71	0.88
2:DA:2657:A:H62	2:DA:2664:G:H21	0.90	0.88
2:DA:696:G:H1	2:DA:766:U:H3	1.17	0.88
1:AA:376:G:H1	1:AA:387:U:H3	1.19	0.87
1:BA:895:G:H1	1:BA:904:U:H3	1.18	0.87
2:CA:2526:G:H1	2:CA:2537:U:H3	0.88	0.87
1:AA:925:G:H1	1:AA:1391:U:H3	0.87	0.87
2:CA:1527:G:H21	2:CA:1545:A:N6	1.71	0.87
2:DA:2639:A:H62	2:DA:2775:G:H21	0.91	0.87
1:AA:410:G:N2	1:AA:432:A:H62	1.71	0.87
2:CA:1664:A:H61	2:CA:1996:C:N4	1.71	0.87
2:CA:535:G:H1	2:CA:558:U:H3	1.19	0.87
2:DA:535:G:H1	2:DA:558:U:H3	1.18	0.87
2:DA:612:G:H21	2:DA:616:A:H62	1.17	0.87
2:CA:306:U:H3	2:CA:310:A:H62	1.18	0.86
1:BA:447:G:H21	1:BA:487:A:H62	1.21	0.86
17:DN:33:ILE:HG21	17:DN:118:ARG:NH1	1.90	0.86
50:AO:2:LEU:HD13	50:AO:34:GLN:HE22	1.37	0.86
1:AA:201:G:H1	1:AA:216:U:H3	0.86	0.86
40:BE:83:PRO:HA	40:BE:95:MET:O	1.76	0.86
2:DA:160:A:H62	2:DA:166:U:H3	1.24	0.86
21:DR:1:MET:HA	21:DR:42:ALA:O	1.76	0.85
1:AA:109:A:N6	1:AA:324:G:H21	1.73	0.85
1:BA:246:A:H62	1:BA:281:G:H21	0.88	0.85
3:DB:72:G:H21	3:DB:104:A:H62	0.85	0.85
1:AA:1055:A:N6	1:AA:1200:C:H42	1.75	0.85
29:CZ:1:ALA:N	29:CZ:39:ASP:N	2.25	0.85
2:DA:585:G:H21	2:DA:1254:A:N6	1.75	0.84
50:AO:2:LEU:CD1	50:AO:34:GLN:NE2	2.38	0.84
17:DN:117:ASP:C	17:DN:119:SER:H	1.79	0.84
50:AO:3:SER:O	50:AO:6:ALA:N	2.10	0.83
2:DA:2734:A:H62	2:DA:2770:G:H21	1.23	0.83
2:DA:1800:C:H42	2:DA:1817:G:N2	1.76	0.83
1:BA:1156:G:H21	1:BA:1179:A:H61	1.24	0.83
2:DA:2068:U:H3	2:DA:2430:A:N6	1.77	0.83
2:CA:1925:C:H42	2:CA:1929:G:N2	1.77	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:376:G:H1	1:BA:387:U:H3	0.85	0.83
2:CA:33:C:H42	2:CA:447:A:H62	1.25	0.83
1:BA:1028:C:H2'	1:BA:1029:U:O5'	1.77	0.83
2:CA:2810:A:N6	2:CA:2890:G:H21	1.76	0.83
2:DA:1468:U:H3	2:DA:1524:G:H1	1.24	0.83
1:AA:322:C:N4	1:AA:329:A:H62	1.76	0.82
1:BA:1351:U:H3	1:BA:1371:G:H1	1.26	0.82
1:BA:1538:C:N4	36:BX:5:G:O6	2.11	0.82
1:AA:322:C:H42	1:AA:329:A:H62	1.27	0.82
1:AA:1260:G:N2	1:AA:1275:A:H62	1.76	0.82
1:BA:925:G:H1	1:BA:1391:U:H3	0.85	0.82
2:DA:285:G:H1	2:DA:355:U:H3	1.27	0.82
2:DA:221:A:H62	2:DA:427:U:H3	1.28	0.82
1:AA:582:C:H42	1:AA:759:A:H62	0.85	0.82
44:AI:10:ARG:HG3	44:AI:105:ARG:NH2	1.94	0.81
2:DA:1042:G:H1	2:DA:1113:U:H3	1.28	0.81
2:DA:1035:U:H3	2:DA:1120:G:H1	1.28	0.81
2:CA:1925:C:H42	2:CA:1929:G:H22	1.27	0.81
2:CA:2472:G:H21	2:CA:2478:A:N6	1.78	0.81
44:BI:29:ILE:HG23	44:BI:32:ARG:HB2	1.62	0.81
2:DA:609:A:N6	2:DA:619:G:H21	1.77	0.81
2:DA:291:G:H1	2:DA:349:U:H3	0.85	0.81
2:DA:2469:A:H62	2:DA:2481:G:N2	1.78	0.81
1:AA:322:C:H42	1:AA:329:A:N6	1.79	0.81
36:AX:28:A:H5''	38:AC:131:ARG:HH22	1.46	0.81
1:BA:180:U:H3	1:BA:195:A:N6	1.76	0.81
2:DA:2637:U:H3	2:DA:2776:A:H62	1.28	0.81
2:DA:585:G:N2	2:DA:1254:A:H62	1.79	0.81
44:BI:29:ILE:O	44:BI:32:ARG:N	2.13	0.80
2:DA:1418:G:H21	2:DA:1580:A:H62	0.85	0.80
44:AI:29:ILE:HG22	44:AI:32:ARG:O	1.81	0.80
2:CA:1687:G:N2	2:CA:1701:A:H62	1.78	0.80
2:DA:2747:G:H21	2:DA:2757:A:H62	0.83	0.80
39:AD:150:LYS:HA	39:AD:150:LYS:HZ3	1.46	0.80
2:DA:1206:G:H1	2:DA:1240:U:H3	1.27	0.80
2:CA:2508:G:H1	2:CA:2580:U:H3	1.30	0.80
2:DA:2140:G:H1	2:DA:2151:U:H3	1.30	0.80
12:DI:92:PRO:O	12:DI:96:LYS:HA	1.82	0.80
2:CA:593:U:H3	2:CA:664:G:H1	0.86	0.80
2:DA:2695:U:H3	2:DA:2714:G:H1	1.30	0.80
1:BA:447:G:N2	1:BA:487:A:H62	1.80	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:1222:U:H3	2:DA:1227:G:H1	1.29	0.79
36:AX:19:U:O4	4:AW:35:A:N6	2.15	0.79
2:CA:839:U:H3	2:CA:939:G:H1	1.31	0.79
9:DG:89:VAL:O	9:DG:159:LYS:HA	1.82	0.79
2:DA:609:A:H62	2:DA:619:G:N2	1.81	0.79
2:DA:408:G:H1	2:DA:419:U:H3	1.29	0.79
1:AA:1506:U:OP2	36:AX:16:U:OP1	1.98	0.79
3:DB:78:A:H62	3:DB:98:G:H21	1.28	0.79
2:CA:607:U:H3	2:CA:621:A:H62	1.31	0.78
1:AA:1260:G:H21	1:AA:1275:A:N6	1.80	0.78
1:AA:834:U:H3	1:AA:852:G:H1	1.32	0.78
2:CA:1718:G:H1	2:CA:1742:U:H3	1.30	0.78
1:AA:410:G:H21	1:AA:432:A:N6	1.82	0.77
44:AI:32:ARG:NE	44:AI:32:ARG:HA	1.99	0.77
2:DA:2469:A:N6	2:DA:2481:G:H21	1.83	0.77
2:CA:572:A:H61	2:CA:2029:G:H21	1.32	0.77
1:BA:1157:A:H61	1:BA:1178:G:N2	1.83	0.77
2:CA:696:G:H1	2:CA:766:U:H3	1.31	0.77
10:DH:97:ARG:NH2	10:DH:112:LYS:HB2	1.99	0.77
11:C5:26:VAL:O	11:C5:82:ILE:HA	1.85	0.77
2:CA:2472:G:N2	2:CA:2478:A:H62	1.82	0.77
4:AW:50:G:H22	4:AW:64:U:H3	1.33	0.77
1:AA:323:U:H3	1:AA:327:A:H62	1.32	0.76
1:BA:112:G:H1	1:BA:315:A:H61	1.34	0.76
1:BA:1260:G:H21	1:BA:1275:A:H62	1.32	0.76
2:CA:2290:G:N1	2:CA:2343:U:O2	2.18	0.76
1:AA:1539:C:C2	36:AX:5:G:N2	2.54	0.76
44:BI:32:ARG:NE	44:BI:32:ARG:HA	2.01	0.76
2:DA:1529:G:H1	2:DA:1542:U:H3	1.34	0.76
1:AA:1347:G:C8	44:AI:108:ARG:HB3	2.21	0.76
1:AA:1357:A:H61	1:AA:1365:G:H1	1.34	0.76
1:AA:1438:G:H1	1:AA:1463:U:H3	1.34	0.76
21:CR:1:MET:HA	21:CR:42:ALA:O	1.85	0.76
2:DA:612:G:N2	2:DA:616:A:H62	1.84	0.76
2:CA:1925:C:N4	2:CA:1929:G:H22	1.84	0.75
2:DA:1800:C:N4	2:DA:1817:G:H22	1.84	0.75
2:CA:1527:G:N2	2:CA:1545:A:H62	1.84	0.75
2:CA:1478:G:H22	2:CA:1513:U:H3	1.33	0.75
1:BA:1444:U:H3	1:BA:1458:G:H1	1.33	0.75
1:AA:150:U:H3	1:AA:171:A:N6	1.84	0.75
2:CA:1800:C:H42	2:CA:1817:G:N2	1.83	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:666:G:H1	1:BA:740:U:H3	1.35	0.75
44:BI:29:ILE:HG22	44:BI:32:ARG:O	1.87	0.75
2:CA:1687:G:H21	2:CA:1701:A:N6	1.84	0.75
2:CA:1800:C:H42	2:CA:1817:G:H22	1.32	0.74
1:BA:1418:A:N6	1:BA:1482:G:H21	1.85	0.74
2:DA:2204:G:H1	2:DA:2220:U:H3	1.32	0.74
40:AE:106:ALA:H	40:AE:111:ARG:HH21	1.33	0.74
2:CA:1107:G:H5'	11:C5:57:ASN:HD22	1.51	0.74
44:AI:21:LYS:HB2	44:AI:61:ASP:HB2	1.69	0.74
2:CA:675:A:H62	2:CA:803:U:H3	1.36	0.74
1:AA:8:A:H62	39:AD:204:SER:HB2	1.52	0.73
2:DA:1800:C:H42	2:DA:1817:G:H22	1.36	0.73
10:DH:97:ARG:HE	10:DH:97:ARG:HA	1.53	0.73
13:CJ:125:TYR:HH	13:CJ:132:HIS:HE2	1.36	0.73
4:AY:22:G:N7	4:AY:46:G:N2	2.33	0.73
39:AD:90:LEU:HD13	39:AD:194:ILE:HD12	1.69	0.73
2:DA:2685:G:H1	2:DA:2724:U:H3	1.35	0.73
1:BA:1156:G:H21	1:BA:1179:A:N6	1.85	0.73
10:DH:97:ARG:NE	10:DH:97:ARG:HA	2.04	0.73
1:BA:1418:A:H62	1:BA:1482:G:N2	1.86	0.72
17:DN:33:ILE:CD1	17:DN:118:ARG:NH1	2.52	0.72
4:BV:50:G:H1	4:BV:64:U:H3	1.37	0.72
1:BA:927:G:H1	1:BA:1390:U:H3	1.35	0.71
30:D0:11:GLU:HA	30:D0:25:ARG:HA	1.72	0.71
40:AE:96:GLN:HB3	40:AE:123:LEU:HB2	1.71	0.71
1:AA:694:A:H5''	46:AK:54:SER:HB3	1.72	0.71
1:BA:888:G:H21	1:BA:909:A:H62	0.80	0.71
2:DA:2052:A:N6	58:DA:3206:HOH:O	2.23	0.71
1:AA:6:G:H1	40:AE:101:GLY:HA3	1.54	0.71
2:CA:328:U:H3	2:CA:332:A:H62	1.36	0.71
2:CA:1862:G:H1	2:CA:1880:U:H3	1.39	0.71
37:BB:187:ASP:H	37:BB:190:SER:HB2	1.56	0.71
2:CA:1477:A:H62	2:CA:1514:G:N2	1.89	0.71
2:DA:2334:U:H4'	18:DO:13:ARG:HE	1.56	0.71
2:CA:2085:U:H3	2:CA:2234:G:H1	1.39	0.70
15:CL:29:LYS:HG2	15:CL:30:THR:HG23	1.73	0.70
2:DA:160:A:N6	2:DA:166:U:H3	1.88	0.70
2:CA:1529:G:H1	2:CA:1542:U:H3	1.37	0.70
29:CZ:1:ALA:HB2	29:CZ:39:ASP:O	1.91	0.70
1:AA:258:G:H1	1:AA:268:U:H3	1.39	0.70
1:BA:1179:A:H4'	44:BI:105:ARG:H	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:1800:C:N4	2:CA:1817:G:H22	1.88	0.70
2:CA:2648:G:H1	2:CA:2672:U:H3	1.39	0.70
1:AA:1500:A:H5''	1:AA:1508:A:H5''	1.73	0.70
2:CA:2639:A:N6	2:CA:2775:G:H21	1.85	0.70
37:BB:165:ALA:O	37:BB:169:HIS:HB3	1.91	0.70
2:CA:1252:G:H1	20:CQ:36:GLN:HE21	1.39	0.70
45:AJ:27:GLU:O	45:AJ:31:ARG:HB2	1.91	0.69
2:CA:2475:C:H42	2:CA:2529:G:H22	1.39	0.69
2:DA:609:A:N6	2:DA:619:G:N2	2.38	0.69
44:AI:29:ILE:O	44:AI:30:ASN:C	2.28	0.69
1:BA:1157:A:N6	1:BA:1178:G:N2	2.39	0.69
2:CA:1394:U:H4'	2:CA:1603:A:H4'	1.73	0.69
11:C5:61:ARG:O	11:C5:65:GLU:HB2	1.93	0.69
44:AI:31:GLN:HA	44:AI:31:GLN:HE21	1.56	0.69
1:BA:763:G:N2	58:BA:1705:HOH:O	2.25	0.69
2:DA:1358:G:N2	2:DA:1373:A:H62	1.87	0.69
39:AD:150:LYS:NZ	39:AD:150:LYS:HA	2.07	0.69
40:AE:83:PRO:HA	40:AE:95:MET:O	1.90	0.69
4:BV:36:C:H42	36:BX:21:G:H1	1.39	0.69
2:CA:475:C:O2	2:CA:479:A:N6	2.25	0.69
2:DA:2508:G:H1	2:DA:2580:U:H3	1.41	0.69
36:AX:20:A:N6	4:AW:35:A:C6	2.61	0.69
1:BA:1160:G:H1	1:BA:1176:A:H61	1.41	0.69
17:CN:22:ARG:HG3	17:CN:70:THR:HA	1.74	0.69
1:AA:1071:C:H2'	1:AA:1072:G:H8	1.58	0.69
2:CA:2068:U:H3	2:CA:2430:A:H62	1.38	0.69
3:CB:22:U:H3	3:CB:61:G:H1	1.40	0.68
1:BA:1250:A:H4'	44:BI:68:GLY:HA2	1.73	0.68
45:AJ:10:LEU:HB2	45:AJ:72:ARG:HB2	1.75	0.68
4:BW:8:U:H3	4:BW:14:A:H62	1.39	0.68
4:AV:50:G:H1	4:AV:64:U:H3	1.39	0.68
17:CN:94:TYR:C	17:CN:116:VAL:CG2	2.59	0.68
44:AI:109:GLN:HE21	44:AI:109:GLN:HA	1.59	0.68
2:CA:78:U:H3	2:CA:108:G:H1	1.41	0.68
1:BA:258:G:H1	1:BA:268:U:H3	1.41	0.68
5:CC:143:VAL:HB	5:CC:153:LEU:HB2	1.75	0.68
2:DA:2734:A:H62	2:DA:2770:G:N2	1.91	0.68
29:CZ:1:ALA:H3	29:CZ:39:ASP:N	1.90	0.67
49:AN:69:ARG:HG2	49:AN:71:HIS:H	1.59	0.67
55:AT:34:VAL:HG21	55:AT:53:MET:HG2	1.76	0.67
1:BA:898:G:O2'	58:BA:1702:HOH:O	2.12	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:2364:C:OP1	26:CW:55:ARG:NH1	2.27	0.67
2:DA:2102:G:H1	2:DA:2187:U:H3	1.39	0.67
2:DA:2472:G:H21	2:DA:2478:A:H62	1.40	0.67
1:BA:585:G:N1	1:BA:757:U:N3	2.41	0.67
2:DA:1932:A:H62	2:DA:1968:G:H21	1.40	0.67
2:DA:1696:G:N2	2:DA:1977:A:O2'	2.28	0.67
2:DA:593:U:H3	2:DA:664:G:H1	1.43	0.67
1:AA:215:C:O2	1:AA:465:A:N6	2.27	0.67
44:BI:29:ILE:O	44:BI:30:ASN:C	2.31	0.67
2:CA:1471:G:N1	58:CA:3219:HOH:O	2.28	0.67
2:DA:818:G:H21	2:DA:1189:A:H62	1.42	0.67
1:AA:1506:U:P	36:AX:16:U:OP1	2.52	0.67
44:AI:23:GLY:H	44:AI:61:ASP:H	1.43	0.67
50:AO:2:LEU:CD1	50:AO:34:GLN:CD	2.64	0.67
1:BA:948:C:O2'	58:BA:1701:HOH:O	2.12	0.67
1:AA:1347:G:H8	44:AI:108:ARG:HB3	1.60	0.67
50:AO:2:LEU:HD12	50:AO:2:LEU:N	2.10	0.67
36:AX:18:G:O6	4:AW:37:A:N1	2.27	0.67
29:CZ:1:ALA:CB	29:CZ:39:ASP:O	2.43	0.67
2:CA:2349:G:H5''	34:C4:44:ARG:HH22	1.59	0.67
2:DA:1450:G:N2	2:DA:1452:G:O6	2.26	0.66
1:AA:150:U:N3	1:AA:171:A:N6	2.42	0.66
1:AA:372:C:H42	1:AA:389:A:H62	1.43	0.66
1:AA:951:G:OP2	48:AM:100:ARG:NH2	2.28	0.66
2:CA:814:C:H1'	2:CA:1225:G:H21	1.60	0.66
2:DA:1354:A:H62	2:DA:1377:G:N2	1.93	0.66
39:BD:61:ARG:HH21	39:BD:67:LEU:HA	1.59	0.66
1:AA:1006:G:N2	1:AA:1023:U:O2	2.28	0.66
37:AB:82:ALA:O	37:AB:88:GLN:NE2	2.27	0.66
51:BP:7:ALA:O	51:BP:17:TYR:HA	1.96	0.66
2:CA:572:A:H61	2:CA:2029:G:N2	1.92	0.66
2:CA:962:G:H21	2:CA:2250:G:H22	1.43	0.66
39:AD:150:LYS:HA	39:AD:150:LYS:CE	2.26	0.66
44:AI:25:GLY:H	44:AI:58:GLU:HA	1.61	0.66
1:BA:19:A:OP2	40:BE:131:ASN:ND2	2.29	0.66
46:BK:21:HIS:O	46:BK:31:VAL:HA	1.96	0.66
48:BM:3:ILE:HG22	48:BM:56:ARG:HE	1.61	0.66
2:CA:2526:G:O2'	35:C6:1:MET:N	2.28	0.66
2:CA:2032:G:N2	6:CD:151:THR:OG1	2.29	0.66
22:CS:73:LYS:HB2	22:CS:106:VAL:HB	1.77	0.66
52:AQ:18:LYS:HE3	52:AQ:49:ASN:H	1.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:1664:A:N6	2:CA:1996:C:N4	2.44	0.66
2:CA:713:G:N7	50:AO:88:ARG:NH2	2.39	0.66
26:CW:11:ARG:HD2	26:CW:11:ARG:N	2.11	0.66
5:DC:144:GLU:HB2	5:DC:187:CYS:HB3	1.75	0.66
44:BI:29:ILE:O	44:BI:32:ARG:HB2	1.96	0.66
2:CA:1268:A:H62	2:CA:2012:G:H21	1.40	0.66
3:CB:78:A:H62	3:CB:98:G:H21	1.41	0.66
2:DA:950:G:H1	2:DA:967:U:H3	1.42	0.66
1:BA:605:U:H3	1:BA:633:G:H1	1.42	0.66
4:AY:50:G:H22	4:AY:64:U:H3	1.44	0.65
1:BA:1128:C:O2'	44:BI:17:ARG:NH1	2.30	0.65
1:BA:447:G:H21	1:BA:487:A:N6	1.93	0.65
34:C4:14:LYS:HB3	34:C4:22:LYS:HE2	1.78	0.65
2:CA:1607:C:N4	2:CA:1622:G:OP2	2.29	0.65
2:CA:1482:G:H1'	2:CA:1509:A:H61	1.61	0.65
2:CA:775:G:N7	58:CA:3225:HOH:O	2.28	0.65
2:CA:994:C:OP1	20:CQ:52:ARG:NH2	2.29	0.65
1:AA:1512:U:H3	1:AA:1523:G:H1	1.43	0.65
48:BM:2:ARG:NH2	48:BM:49:GLU:OE2	2.29	0.65
3:CB:30:C:H1'	3:CB:57:A:H61	1.60	0.65
2:DA:1036:G:H1	2:DA:1119:U:H3	0.77	0.65
39:BD:48:SER:O	39:BD:51:GLY:N	2.30	0.65
11:C5:91:ALA:H	11:C5:94:ARG:HD3	1.60	0.65
1:BA:1157:A:N6	1:BA:1178:G:H21	1.94	0.65
3:CB:37:C:O2	18:CO:100:HIS:NE2	2.29	0.65
29:CZ:7:THR:HA	29:CZ:33:HIS:O	1.97	0.65
1:AA:514:C:H2'	1:AA:515:G:H8	1.61	0.65
1:AA:766:A:N6	1:AA:813:U:C2	2.65	0.65
1:AA:437:U:OP1	39:AD:151:GLN:OE1	2.15	0.65
1:BA:814:A:HO2'	1:BA:1510:C:HO2'	1.45	0.65
2:CA:1363:C:O2'	2:CA:1809:A:N3	2.30	0.65
1:AA:766:A:N6	1:AA:813:U:N3	2.45	0.65
43:AH:28:SER:HB2	43:AH:58:LEU:HB2	1.79	0.65
2:CA:600:G:H1	2:CA:657:U:H3	1.45	0.65
2:DA:2047:C:H2'	2:DA:2048:G:H8	1.61	0.65
1:AA:1129:C:N3	1:AA:1144:G:N2	2.44	0.64
2:CA:1390:U:H3	2:CA:1395:A:H62	1.44	0.64
2:CA:1419:A:O2'	2:CA:1421:G:N7	2.30	0.64
3:DB:30:C:H1'	3:DB:57:A:H61	1.61	0.64
1:BA:1308:U:H5''	48:BM:96:VAL:HG22	1.78	0.64
1:BA:1343:G:H4'	44:BI:123:ARG:HB3	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:516:C:OP1	31:C1:9:ARG:NH1	2.29	0.64
17:CN:93:GLY:O	17:CN:116:VAL:CG2	2.42	0.64
2:DA:2139:U:O2	2:DA:2152:G:N2	2.27	0.64
1:BA:1156:G:N2	1:BA:1179:A:H61	1.92	0.64
2:DA:1363:C:O2'	2:DA:1809:A:N3	2.29	0.64
1:AA:723:U:C4	36:AX:7:A:O2'	2.49	0.64
1:BA:481:G:O2'	1:BA:483:C:N4	2.30	0.64
2:CA:1753:G:H5''	19:CP:92:ARG:HD3	1.80	0.64
1:BA:1422:G:H1	1:BA:1478:U:H3	1.45	0.64
5:CC:122:ALA:O	5:CC:127:ASN:ND2	2.29	0.64
2:DA:1040:A:H61	2:DA:1115:G:H1	1.46	0.64
1:BA:1512:U:H3	1:BA:1523:G:H1	1.44	0.64
2:DA:572:A:H61	2:DA:2029:G:H21	1.45	0.64
2:DA:612:G:H21	2:DA:616:A:N6	1.92	0.64
1:BA:153:C:N3	1:BA:169:C:N4	2.46	0.64
21:DR:3:ALA:HA	21:DR:40:MET:O	1.97	0.64
44:AI:31:GLN:HA	44:AI:31:GLN:NE2	2.12	0.64
1:BA:20:U:O2'	1:BA:573:A:N6	2.30	0.64
2:CA:1181:U:H2'	2:CA:1182:G:H8	1.62	0.64
2:CA:2415:G:N2	58:CA:3239:HOH:O	2.31	0.64
2:CA:2824:C:OP2	2:CA:2825:G:N2	2.31	0.64
6:CD:46:ARG:HH12	6:CD:86:GLU:H	1.45	0.64
2:CA:848:C:H2'	2:CA:849:A:H8	1.63	0.64
19:CP:88:ARG:HB3	19:CP:112:ARG:HD3	1.80	0.64
1:AA:671:G:O2'	41:AF:79:ARG:NH2	2.31	0.64
4:BW:34:U:OP2	44:BI:129:ARG:NH1	2.31	0.64
2:CA:2289:G:N2	2:CA:2344:U:O2	2.30	0.64
2:CA:2298:A:OP1	8:CF:70:ARG:NH2	2.31	0.64
24:CU:3:LYS:O	24:CU:93:ARG:NH2	2.31	0.64
5:DC:122:ALA:O	5:DC:127:ASN:ND2	2.31	0.64
1:BA:683:G:N2	46:BK:38:GLY:O	2.31	0.63
2:CA:195:A:N6	2:CA:198:C:OP2	2.32	0.63
2:DA:2683:C:OP1	19:DP:50:ARG:NH2	2.30	0.63
2:DA:2873:A:N6	58:DA:3210:HOH:O	2.31	0.63
1:AA:148:G:H1	1:AA:174:A:H61	1.46	0.63
1:AA:934:C:H42	1:AA:938:A:H61	1.47	0.63
42:AG:138:GLU:HA	42:AG:141:HIS:HB3	1.80	0.63
2:CA:2478:A:O2'	2:CA:2536:G:N2	2.31	0.63
23:CT:38:ALA:O	23:CT:81:LYS:NZ	2.32	0.63
1:AA:358:U:H2'	1:AA:359:G:H8	1.61	0.63
44:BI:29:ILE:HG23	44:BI:32:ARG:CB	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:CK:102:PRO:HB3	14:CK:121:GLU:HB3	1.81	0.63
6:DD:51:THR:HG21	6:DD:68:PHE:HE1	1.63	0.63
4:AY:60:C:H5'	4:AY:61:C:H5	1.63	0.63
15:CL:74:THR:HG22	15:CL:107:PHE:HB2	1.81	0.63
48:AM:15:VAL:HG23	48:AM:16:ILE:HD12	1.80	0.63
1:BA:1106:G:O2'	38:BC:169:ARG:NH1	2.27	0.63
7:CE:21:ARG:N	7:CE:110:SER:HG	1.97	0.63
1:BA:900:A:N6	58:BA:1716:HOH:O	2.31	0.63
2:CA:1521:G:N3	58:CA:3219:HOH:O	2.30	0.63
10:CH:126:GLY:H	10:CH:146:VAL:HB	1.64	0.63
2:DA:2045:C:O2	31:D1:18:HIS:NE2	2.31	0.63
2:DA:2060:A:N7	7:DE:69:ARG:NH2	2.47	0.63
1:BA:1445:U:H3	1:BA:1457:G:H1	0.79	0.63
1:BA:237:G:H4'	52:BQ:26:ARG:HH22	1.63	0.63
3:DB:77:U:H3	3:DB:99:A:H62	1.46	0.63
2:CA:1060:U:H4'	2:CA:1061:U:H5'	1.81	0.63
2:CA:572:A:N6	2:CA:2029:G:H21	1.97	0.63
1:AA:1445:U:H3	1:AA:1457:G:H1	1.45	0.63
2:CA:1326:U:H2'	2:CA:1327:A:H8	1.64	0.63
41:AF:6:ILE:HB	41:AF:62:MET:HB2	1.79	0.62
1:BA:1500:A:H5''	1:BA:1508:A:H5''	1.79	0.62
1:BA:1106:G:HO2'	38:BC:169:ARG:HH12	1.47	0.62
1:BA:261:U:OP2	55:BT:73:ARG:NH2	2.31	0.62
2:CA:377:G:H1	2:CA:397:U:H3	1.46	0.62
2:CA:609:A:H62	2:CA:619:G:H21	1.45	0.62
1:BA:146:G:N2	1:BA:177:G:N7	2.47	0.62
2:CA:249:C:O2	34:C4:11:LYS:NZ	2.32	0.62
2:CA:954:G:H1	2:CA:963:U:H3	1.47	0.62
2:CA:1666:G:N3	14:CK:3:GLN:NE2	2.47	0.62
1:AA:544:G:OP1	39:AD:55:ARG:NH2	2.33	0.62
2:CA:1860:G:H1	2:CA:1882:U:H3	1.45	0.62
1:BA:1260:G:N2	1:BA:1275:A:H62	1.97	0.62
2:DA:2320:U:O2'	2:DA:2322:A:N6	2.32	0.62
3:DB:73:A:H62	3:DB:103:U:H3	1.46	0.62
1:BA:1357:A:N6	1:BA:1365:G:H1	1.91	0.62
41:BF:38:ARG:HH11	41:BF:97:THR:HA	1.63	0.62
2:CA:1824:G:OP2	5:CC:52:HIS:NE2	2.32	0.62
1:BA:1236:A:H4'	1:BA:1304:G:H4'	1.81	0.62
2:CA:563:A:OP2	21:CR:79:ARG:NH2	2.31	0.62
2:DA:475:C:O2	2:DA:479:A:N6	2.31	0.62
2:CA:2343:U:HO2'	2:CA:2373:G:HO2'	1.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CD:46:ARG:HH12	6:CD:86:GLU:N	1.97	0.62
1:AA:1218:C:H2'	1:AA:1219:A:H8	1.65	0.62
2:DA:1086:A:H5''	2:DA:1087:G:H5'	1.82	0.62
2:DA:1550:C:H5'	2:DA:1740:G:H22	1.64	0.62
16:DM:17:ASN:O	16:DM:38:ARG:NH1	2.32	0.62
1:AA:593:U:H3	1:AA:646:G:H1	1.47	0.62
40:AE:104:ILE:HD11	40:AE:114:LEU:HD23	1.81	0.62
52:AQ:7:LEU:O	52:AQ:59:GLU:HA	1.99	0.62
22:DS:13:SER:HB3	22:DS:16:LYS:HE2	1.81	0.62
1:BA:740:U:H2'	1:BA:741:G:H8	1.65	0.62
43:BH:24:VAL:O	43:BH:59:GLU:HA	2.00	0.62
52:BQ:26:ARG:HG3	52:BQ:39:ARG:HB3	1.82	0.62
2:CA:197:A:N6	2:CA:2430:A:O2'	2.33	0.62
9:DG:15:ASP:HB3	9:DG:26:LYS:HB3	1.80	0.62
10:DH:50:ARG:O	10:DH:54:LEU:HB2	1.99	0.62
44:AI:109:GLN:NE2	44:AI:109:GLN:HA	2.15	0.61
2:CA:2848:G:O2'	2:CA:2867:G:N2	2.33	0.61
30:D0:33:ASN:HB3	48:BM:2:ARG:NH1	2.16	0.61
2:DA:529:A:H62	2:DA:2041:U:H3	1.48	0.61
2:DA:2102:G:N2	2:DA:2187:U:O2	2.31	0.61
9:DG:153:PRO:HA	9:DG:160:GLY:HA3	1.82	0.61
1:BA:112:G:H21	1:BA:354:G:H5'	1.64	0.61
2:CA:2863:C:H2'	2:CA:2864:G:H8	1.63	0.61
1:AA:417:G:N1	1:AA:426:U:N3	2.46	0.61
39:AD:146:GLU:HA	39:AD:149:LYS:HE3	1.82	0.61
1:BA:1071:C:H2'	1:BA:1072:G:H8	1.66	0.61
2:CA:1608:A:H62	2:CA:1621:U:H3	1.49	0.61
2:CA:33:C:N4	2:CA:447:A:H62	1.96	0.61
1:AA:1291:U:O2'	44:AI:40:ARG:NH2	2.34	0.61
1:AA:401:C:OP1	39:AD:73:ASN:ND2	2.32	0.61
1:BA:945:G:N2	1:BA:1334:G:O2'	2.33	0.61
37:BB:165:ALA:HB3	37:BB:190:SER:HB3	1.82	0.61
4:BV:4:U:H3	4:BV:69:A:H61	1.49	0.61
2:DA:1253:A:OP1	20:DQ:32:ARG:NH1	2.32	0.61
1:BA:927:G:N2	1:BA:1390:U:O2	2.30	0.61
16:CM:20:LEU:HD23	25:CV:81:PRO:HG2	1.82	0.61
6:DD:14:ILE:HG13	6:DD:178:VAL:HG11	1.83	0.61
2:DA:1354:A:H62	2:DA:1377:G:H21	1.47	0.61
4:BW:8:U:O4	4:BW:14:A:N7	2.34	0.61
30:C0:20:ASN:ND2	30:C0:37:CYS:SG	2.72	0.61
2:DA:1206:G:O6	2:DA:1240:U:O4	2.19	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:DF:69:ALA:HB3	8:DF:81:GLY:H	1.65	0.61
2:CA:2627:G:N2	2:CA:2777:G:OP2	2.31	0.61
2:CA:895:U:OP2	58:CA:3201:HOH:O	2.16	0.61
2:DA:2821:A:H5''	6:DD:115:GLY:H	1.65	0.61
55:AT:4:LYS:HG3	55:AT:6:ALA:H	1.64	0.61
2:DA:674:G:H5''	7:DE:71:GLY:HA3	1.82	0.61
4:AV:44:G:N3	4:AV:45:G:N1	2.49	0.60
1:BA:975:A:N6	45:BJ:50:THR:O	2.33	0.60
51:AP:76:LYS:HD3	51:AP:79:ASN:HD21	1.67	0.60
40:BE:77:ASN:HB3	40:BE:79:THR:HG22	1.81	0.60
45:BJ:10:LEU:HA	45:BJ:98:VAL:HG12	1.82	0.60
1:BA:693:G:C4	36:BX:15:A:O4'	2.54	0.60
2:DA:2523:G:HO2'	2:DA:2764:A:HO2'	1.48	0.60
8:DF:139:GLU:HB2	8:DF:140:ILE:HD12	1.82	0.60
17:DN:77:ALA:O	17:DN:81:ASN:HB2	2.01	0.60
1:AA:1493:A:C2	36:AX:22:U:H1'	2.36	0.60
1:BA:157:U:H3	1:BA:164:G:H1	1.48	0.60
2:CA:1062:G:H2'	2:CA:1063:G:H8	1.65	0.60
11:C5:27:VAL:HB	11:C5:110:ALA:HB3	1.83	0.60
44:AI:11:ARG:HD2	44:AI:106:ASP:HB3	1.84	0.60
1:BA:201:G:H22	1:BA:468:A:H62	1.50	0.60
1:BA:406:G:H21	39:BD:115:GLN:HE22	1.49	0.60
17:CN:95:THR:N	17:CN:116:VAL:HG23	2.17	0.60
8:DF:138:PRO:HB3	30:D0:32:LEU:HD13	1.83	0.60
1:BA:67:C:N3	1:BA:103:U:O4	2.34	0.60
2:CA:1032:A:N1	2:CA:1122:G:O6	2.35	0.60
1:AA:1415:G:H1	1:AA:1485:U:H3	1.49	0.60
1:AA:372:C:N4	1:AA:390:U:O2	2.35	0.60
2:CA:499:U:O4	2:CA:503:A:N7	2.35	0.60
8:CF:147:ARG:HH11	8:CF:149:ARG:HG2	1.67	0.60
2:DA:1438:U:H2'	2:DA:1439:A:H8	1.66	0.60
45:BJ:10:LEU:HB2	45:BJ:72:ARG:HB2	1.84	0.60
2:CA:1636:U:H2'	2:CA:1637:A:H8	1.67	0.60
2:DA:1162:G:H4'	21:DR:24:LYS:HB3	1.83	0.60
1:AA:913:A:OP1	47:AL:42:LYS:NZ	2.34	0.60
37:AB:69:VAL:HB	37:AB:162:VAL:HA	1.84	0.60
30:C0:35:ASP:HB2	48:AM:2:ARG:HH22	1.67	0.60
4:AV:54:U:H3	4:AV:58:A:H62	1.48	0.60
43:BH:28:SER:HB2	43:BH:58:LEU:HB2	1.82	0.60
2:DA:1358:G:H21	2:DA:1373:A:N6	1.94	0.60
15:DL:74:THR:HG22	15:DL:107:PHE:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DS:73:LYS:HB2	22:DS:106:VAL:HB	1.83	0.60
1:BA:401:C:O2'	1:BA:621:A:N3	2.33	0.60
45:BJ:15:HIS:HA	45:BJ:18:ILE:HG22	1.84	0.60
2:DA:1394:U:H4'	2:DA:1603:A:H4'	1.83	0.60
6:DD:102:ALA:HA	6:DD:180:VAL:HG21	1.84	0.60
44:BI:15:ALA:HB3	44:BI:67:LYS:HE3	1.82	0.59
2:CA:1214:A:H62	2:CA:1235:G:H21	1.48	0.59
2:CA:1270:C:H5''	2:CA:1271:G:H5'	1.83	0.59
2:CA:2680:U:OP2	6:CD:116:LYS:NZ	2.35	0.59
30:D0:20:ASN:ND2	30:D0:37:CYS:SG	2.75	0.59
1:BA:689:C:OP2	46:BK:52:ARG:NH1	2.35	0.59
2:CA:1365:A:O5'	27:CX:27:ARG:NH2	2.35	0.59
2:DA:1326:U:H2'	2:DA:1327:A:H8	1.66	0.59
2:DA:468:G:N7	33:D3:39:ARG:NH2	2.48	0.59
1:AA:1191:A:OP1	38:AC:4:LYS:NZ	2.35	0.59
1:AA:766:A:N7	1:AA:813:U:O4	2.34	0.59
39:AD:32:LYS:HE2	39:AD:35:GLN:HG2	1.84	0.59
10:DH:116:ARG:HB2	10:DH:133:GLN:HE21	1.67	0.59
1:AA:235:C:H2'	1:AA:236:A:H8	1.68	0.59
2:CA:2081:U:H3	2:CA:2239:G:H1	1.50	0.59
5:CC:257:ARG:NH1	5:CC:263:ASP:OD1	2.35	0.59
8:CF:57:ALA:HB2	8:CF:64:PRO:HD3	1.84	0.59
2:DA:2573:C:N4	4:BV:75:C:O2'	2.35	0.59
3:DB:37:C:O2	18:DO:100:HIS:NE2	2.32	0.59
2:CA:1817:G:OP1	5:CC:86:ARG:NH2	2.35	0.59
18:CO:102:ARG:NH2	58:CO:201:HOH:O	2.34	0.59
39:AD:150:LYS:HZ3	39:AD:150:LYS:CA	2.16	0.59
1:AA:538:G:H5''	47:AL:110:LYS:HB2	1.84	0.59
1:BA:1029:U:O2'	1:BA:1033:G:C2	2.51	0.59
42:BG:26:VAL:O	42:BG:30:MET:HB2	2.02	0.59
46:BK:30:ILE:HG22	46:BK:45:THR:HG22	1.85	0.59
2:CA:1601:G:OP1	23:CT:64:LYS:NZ	2.35	0.59
2:CA:2647:U:H2'	2:CA:2648:G:H8	1.67	0.59
7:CE:170:ARG:NH2	7:CE:176:ASP:OD1	2.35	0.59
8:CF:97:GLU:OE2	30:C0:25:ARG:NH1	2.34	0.59
2:DA:707:G:H1	2:DA:724:U:H3	1.50	0.59
13:DJ:77:HIS:HA	13:DJ:83:GLY:O	2.03	0.59
1:AA:135:C:N3	51:AP:1:MET:N	2.50	0.59
1:AA:1522:U:H2'	1:AA:1523:G:H8	1.66	0.59
1:AA:150:U:O4	1:AA:171:A:N7	2.35	0.59
1:BA:322:C:H42	1:BA:329:A:H62	1.51	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BB:182:VAL:O	37:BB:197:PHE:HB2	2.02	0.59
1:BA:624:C:H1'	51:BP:14:ARG:HH12	1.67	0.59
2:DA:328:U:O4	2:DA:332:A:N7	2.36	0.59
2:DA:400:G:N7	27:DX:56:ARG:NH1	2.50	0.59
1:AA:1112:C:H42	38:AC:177:THR:HA	1.68	0.59
1:AA:958:A:N6	54:AS:76:THR:O	2.35	0.59
1:BA:300:A:O2'	1:BA:564:C:N4	2.36	0.59
1:BA:578:C:O2'	1:BA:728:A:N3	2.32	0.59
2:CA:1019:U:H3	2:CA:1142:A:H62	1.50	0.59
2:CA:1064:C:H5'	12:CI:88:GLY:HA3	1.85	0.59
2:CA:2102:G:N1	2:CA:2187:U:O2	2.34	0.59
2:CA:547:A:O2'	2:CA:548:G:N2	2.35	0.59
2:DA:1047:G:N2	2:DA:1110:G:O2'	2.36	0.59
2:DA:1326:U:HO2'	2:DA:2010:G:HO2'	1.50	0.59
2:DA:460:A:H62	2:DA:469:G:H21	1.48	0.59
17:DN:22:ARG:HG3	17:DN:70:THR:HA	1.84	0.59
42:AG:149:ALA:HB3	46:AK:55:ARG:HH21	1.66	0.59
44:BI:122:ARG:NH1	44:BI:123:ARG:O	2.36	0.59
8:DF:97:GLU:OE2	8:DF:101:ARG:NH1	2.34	0.59
10:DH:114:GLU:HA	10:DH:133:GLN:HB2	1.85	0.59
50:AO:25:GLU:HG3	50:AO:80:LEU:HD22	1.85	0.59
2:CA:629:G:N3	2:CA:639:U:O2'	2.34	0.59
3:CB:76:G:OP1	25:CV:9:ARG:NH2	2.36	0.59
2:DA:2133:G:O2'	2:DA:2134:A:N7	2.34	0.59
5:DC:259:ASN:ND2	5:DC:262:THR:OG1	2.36	0.59
6:DD:136:ASN:ND2	6:DD:139:SER:O	2.36	0.59
2:DA:906:U:O2'	16:DM:66:ARG:NH2	2.36	0.59
22:DS:72:THR:HG21	22:DS:108:SER:HB3	1.85	0.59
1:AA:672:U:H2'	1:AA:673:A:H8	1.68	0.58
39:AD:150:LYS:HA	39:AD:150:LYS:HE2	1.85	0.58
1:BA:782:A:H62	1:BA:800:G:H21	1.50	0.58
2:CA:2232:C:OP2	27:CX:26:ARG:NH2	2.35	0.58
2:CA:2849:U:OP1	19:CP:92:ARG:NH2	2.36	0.58
2:CA:2355:G:O2'	26:CW:24:LYS:NZ	2.36	0.58
2:DA:1721:G:O2'	2:DA:1739:A:N6	2.36	0.58
5:DC:106:PRO:HA	5:DC:194:VAL:HA	1.85	0.58
4:AV:65:C:H2'	4:AV:66:A:H8	1.68	0.58
1:BA:1464:U:H2'	1:BA:1465:A:H8	1.68	0.58
1:BA:361:G:N2	58:BA:1727:HOH:O	2.35	0.58
1:BA:362:G:N2	1:BA:365:U:OP2	2.35	0.58
1:BA:644:U:H4'	43:BH:83:ARG:HH22	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C5:99:PHE:HA	11:C5:102:ALA:HB3	1.85	0.58
2:CA:859:G:O2'	2:CA:916:G:O6	2.19	0.58
1:AA:770:C:O2'	1:AA:899:C:N3	2.34	0.58
42:AG:110:ARG:O	42:AG:118:ARG:NH2	2.36	0.58
42:AG:71:THR:HG22	42:AG:72:VAL:HG13	1.85	0.58
53:AR:29:LYS:HA	53:AR:32:ILE:HG12	1.85	0.58
37:BB:23:ASN:ND2	37:BB:190:SER:O	2.36	0.58
10:CH:28:ASN:N	10:CH:28:ASN:OD1	2.36	0.58
2:CA:1081:U:OP1	12:CI:126:ARG:NH2	2.36	0.58
2:DA:1088:A:N6	12:DI:130:GLY:O	2.36	0.58
13:DJ:125:TYR:OH	13:DJ:132:HIS:NE2	2.35	0.58
16:DM:13:HIS:O	16:DM:71:LYS:NZ	2.37	0.58
1:AA:1480:A:N6	58:AA:1728:HOH:O	2.36	0.58
1:AA:62:U:H3	1:AA:105:G:H1	1.50	0.58
1:AA:843:U:OP1	1:AA:844:G:N2	2.37	0.58
2:DA:160:A:N3	2:DA:2208:C:O2'	2.35	0.58
2:DA:453:A:N3	2:DA:457:A:O2'	2.37	0.58
23:DT:69:ARG:HB3	23:DT:74:ILE:HG22	1.86	0.58
1:AA:3:A:HO2'	1:AA:612:C:HO2'	1.51	0.58
1:AA:1075:U:OP1	37:AB:177:ASN:ND2	2.36	0.58
1:BA:1364:U:O4	58:BA:1701:HOH:O	2.15	0.58
2:CA:619:G:OP2	2:CA:620:G:N2	2.36	0.58
2:CA:990:A:N1	21:CR:78:ARG:NH1	2.52	0.58
2:DA:1315:C:O2'	2:DA:1392:A:N3	2.32	0.58
2:DA:2199:A:OP1	27:DX:36:ARG:NH1	2.35	0.58
1:AA:806:C:H2'	1:AA:807:A:H8	1.69	0.58
11:C5:23:LEU:HD13	11:C5:89:PRO:HD3	1.84	0.58
1:AA:1368:A:OP1	45:AJ:64:GLN:NE2	2.37	0.58
1:BA:1149:C:H2'	1:BA:1150:A:H8	1.68	0.58
1:BA:1425:U:H3	1:BA:1475:G:H1	1.50	0.58
1:BA:1103:C:H5"	37:BB:96:LEU:HD13	1.85	0.58
42:BG:112:ASP:O	42:BG:118:ARG:NH2	2.37	0.58
2:CA:1248:G:OP1	20:CQ:1:ALA:N	2.34	0.58
2:CA:1251:C:OP2	20:CQ:5:ARG:NH2	2.36	0.58
5:DC:143:VAL:HB	5:DC:153:LEU:HB2	1.86	0.58
16:DM:66:ARG:NH1	58:DM:201:HOH:O	2.36	0.58
2:CA:684:G:N1	58:CA:3225:HOH:O	2.30	0.58
3:DB:29:A:O2'	3:DB:58:A:N1	2.37	0.58
18:DO:7:ARG:NH1	18:DO:95:SER:O	2.37	0.58
18:DO:94:ARG:NH2	18:DO:97:PHE:O	2.36	0.58
1:AA:372:C:N4	1:AA:389:A:H62	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1130:A:O2'	44:BI:4:GLN:NE2	2.36	0.58
2:DA:2252:G:H1	4:BW:74:C:H42	1.50	0.58
30:C0:11:GLU:HA	30:C0:25:ARG:HA	1.86	0.58
2:CA:527:C:N4	2:CA:2779:U:OP2	2.35	0.58
2:DA:1201:U:H2'	2:DA:1202:G:H8	1.69	0.58
2:DA:1248:G:OP1	20:DQ:1:ALA:N	2.36	0.58
2:DA:2068:U:O4	2:DA:2430:A:N7	2.37	0.58
12:DI:83:ALA:HB1	12:DI:85:ILE:HG13	1.86	0.58
1:AA:936:C:H2'	1:AA:937:A:H8	1.69	0.58
1:BA:1028:C:O2'	1:BA:1029:U:O5'	2.22	0.58
1:BA:197:A:O2'	1:BA:220:G:N2	2.37	0.58
2:CA:978:G:HO2'	2:CA:1002:G:HO2'	1.52	0.58
2:DA:160:A:N7	2:DA:166:U:O4	2.37	0.58
2:DA:2291:U:OP1	2:DA:2380:C:O2'	2.22	0.58
2:DA:629:G:N3	2:DA:639:U:O2'	2.35	0.58
18:DO:71:ALA:HB1	18:DO:106:LEU:HB2	1.84	0.58
1:AA:1124:G:O2'	1:AA:1145:A:N6	2.37	0.57
1:AA:1209:C:O2'	1:AA:1214:C:N4	2.34	0.57
2:CA:2743:U:OP2	2:CA:2755:C:N4	2.36	0.57
52:AQ:21:VAL:O	58:AQ:2501:HOH:O	2.17	0.57
1:BA:269:C:H2'	1:BA:270:A:H8	1.69	0.57
2:CA:2028:U:O4	2:CA:2033:A:N7	2.37	0.57
2:CA:2351:G:H21	2:CA:2366:A:H62	1.53	0.57
2:CA:379:G:H1	2:CA:395:U:H3	1.52	0.57
18:CO:7:ARG:HA	18:CO:10:ARG:HE	1.69	0.57
2:DA:1863:G:N2	2:DA:1880:U:O2	2.37	0.57
1:AA:501:C:OP1	58:AA:1701:HOH:O	2.17	0.57
39:AD:61:ARG:HH21	39:AD:67:LEU:HA	1.69	0.57
1:BA:380:G:N2	1:BA:383:A:OP2	2.36	0.57
1:BA:464:U:N3	1:BA:467:U:OP2	2.35	0.57
1:BA:770:C:H2'	1:BA:771:G:H8	1.69	0.57
48:BM:97:ARG:HB2	48:BM:99:GLN:HE22	1.67	0.57
1:BA:974:A:OP1	49:BN:69:ARG:NH2	2.37	0.57
2:CA:2229:U:H2'	2:CA:2230:G:H8	1.70	0.57
2:CA:95:A:H4'	28:CY:39:GLN:HA	1.86	0.57
2:DA:1102:C:H2'	2:DA:1103:A:H8	1.69	0.57
2:DA:1682:G:OP2	2:DA:1699:G:N2	2.35	0.57
10:DH:97:ARG:HE	10:DH:97:ARG:CA	2.15	0.57
28:DY:57:LEU:HA	28:DY:60:LYS:HB2	1.87	0.57
39:AD:10:LEU:HB3	39:AD:62:ARG:HD3	1.85	0.57
40:AE:91:SER:HA	40:AE:128:GLY:HA3	1.84	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AV:19:G:OP1	4:AV:60:C:N4	2.37	0.57
1:BA:107:G:OP1	1:BA:325:A:N6	2.37	0.57
1:BA:1218:C:H2'	1:BA:1219:A:H8	1.68	0.57
1:BA:859:G:H2'	1:BA:860:A:H8	1.69	0.57
1:BA:1321:U:H3	54:BS:35:ARG:HH12	1.50	0.57
2:CA:1094:U:N3	2:CA:1097:U:OP2	2.38	0.57
2:CA:2857:G:N2	2:CA:2860:A:OP2	2.37	0.57
2:CA:621:A:OP2	15:CL:99:ASN:ND2	2.37	0.57
2:DA:2618:G:H21	6:DD:155:VAL:HG21	1.68	0.57
2:DA:2861:U:H2'	2:DA:2862:G:H8	1.68	0.57
1:AA:1307:U:O4	1:AA:1331:G:N2	2.38	0.57
37:AB:116:LEU:O	37:AB:120:SER:HB2	2.04	0.57
2:CA:388:G:O5'	4:AY:76:A:N6	2.36	0.57
1:BA:458:U:H3	1:BA:474:G:H1	1.53	0.57
53:BR:72:ARG:NH1	58:BR:101:HOH:O	2.31	0.57
2:CA:53:A:H62	2:CA:117:G:H21	1.52	0.57
2:DA:819:A:OP2	2:DA:1187:G:N2	2.36	0.57
2:DA:2500:U:O2'	2:DA:2504:U:OP1	2.21	0.57
2:DA:256:A:N6	58:DA:3281:HOH:O	2.35	0.57
1:AA:1064:G:O2'	1:AA:1190:G:N2	2.37	0.57
1:AA:579:A:H5'	1:AA:728:A:H1'	1.86	0.57
40:AE:15:ILE:HB	40:AE:35:LEU:HD23	1.86	0.57
1:BA:112:G:H1	1:BA:315:A:N6	2.01	0.57
1:BA:1268:G:N2	1:BA:1327:C:O4'	2.38	0.57
2:CA:1105:U:H2'	2:CA:1106:G:H8	1.69	0.57
9:CG:163:TYR:HB2	9:CG:166:GLU:HG2	1.86	0.57
2:DA:102:U:O4	28:DY:1:MET:N	2.35	0.57
13:DJ:56:VAL:HB	13:DJ:124:VAL:HG12	1.86	0.57
2:DA:563:A:OP2	21:DR:79:ARG:NH2	2.38	0.57
4:AY:18:G:N2	4:AY:58:A:OP2	2.32	0.57
1:BA:358:U:H2'	1:BA:359:G:H8	1.69	0.57
37:BB:161:PHE:HA	37:BB:183:PHE:O	2.04	0.57
44:BI:19:PHE:HB2	44:BI:63:TYR:HB3	1.87	0.57
2:CA:116:C:O2'	2:CA:126:A:N3	2.31	0.57
2:CA:2655:G:N2	2:CA:2665:A:OP2	2.37	0.57
2:CA:560:C:O2'	20:CQ:47:ARG:NH2	2.38	0.57
2:CA:1653:G:OP2	17:CN:2:ARG:NH1	2.37	0.57
2:DA:1231:U:H2'	2:DA:1232:G:H8	1.69	0.57
2:DA:377:G:N2	2:DA:397:U:O2	2.30	0.57
2:DA:992:C:OP1	20:DQ:46:TYR:OH	2.22	0.57
36:AX:26:A:H1'	38:AC:162:ILE:HG12	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AV:9:A:N7	4:AV:46:G:N2	2.53	0.57
36:AX:31:A:OP1	38:AC:135:LYS:NZ	2.27	0.57
4:AY:49:G:H1	4:AY:65:C:H42	1.52	0.57
1:BA:1396:A:O2'	40:BE:28:ARG:NH2	2.37	0.57
3:CB:9:G:OP2	18:CO:15:ARG:NH2	2.36	0.57
45:AJ:8:ILE:HA	45:AJ:100:ILE:HG22	1.85	0.57
1:AA:979:C:O2	49:AN:59:ARG:NH1	2.37	0.57
1:BA:490:C:H2'	1:BA:491:G:H8	1.70	0.57
1:BA:552:U:H2'	1:BA:553:A:H8	1.69	0.57
2:DA:2554:U:O4	4:BV:74:C:N4	2.37	0.57
2:CA:1476:U:H3	2:CA:1515:A:H62	1.52	0.57
2:CA:411:G:OP2	2:CA:2406:A:O2'	2.21	0.57
17:CN:79:LEU:HB3	17:CN:83:LEU:HD12	1.86	0.57
2:DA:2368:C:H2'	2:DA:2369:A:H8	1.70	0.57
27:DX:5:GLN:O	27:DX:73:ARG:NH1	2.38	0.57
37:AB:161:PHE:HA	37:AB:183:PHE:O	2.05	0.57
1:BA:28:A:O2'	1:BA:296:U:OP1	2.23	0.57
39:BD:187:ARG:NH2	39:BD:194:ILE:O	2.37	0.57
41:BF:79:ARG:NH2	41:BF:84:VAL:O	2.38	0.57
2:CA:160:A:N3	2:CA:2208:C:O2'	2.35	0.57
2:CA:242:G:N2	2:CA:255:A:OP2	2.38	0.57
25:CV:83:LYS:O	58:CV:101:HOH:O	2.17	0.57
30:D0:33:ASN:HB3	48:BM:2:ARG:HH12	1.70	0.57
2:DA:112:U:H5'	28:DY:58:ASN:HD21	1.69	0.57
2:DA:1745:A:H2'	2:DA:1746:A:H8	1.70	0.57
2:DA:1798:U:H5''	5:DC:257:ARG:HB2	1.87	0.57
2:DA:2848:G:O2'	2:DA:2867:G:N2	2.38	0.57
55:AT:24:ARG:NH2	58:AT:102:HOH:O	2.37	0.56
1:BA:437:U:O2'	39:BD:119:HIS:ND1	2.38	0.56
5:CC:66:PHE:HB3	5:CC:151:GLY:HA3	1.87	0.56
2:DA:1024:G:O2'	2:DA:1144:A:O2'	2.23	0.56
2:DA:2316:G:H2'	2:DA:2317:A:H8	1.70	0.56
2:DA:527:C:N4	2:DA:2779:U:OP2	2.38	0.56
2:DA:903:C:H2'	2:DA:904:G:H8	1.70	0.56
45:AJ:7:ARG:HB2	45:AJ:101:SER:O	2.04	0.56
1:BA:1157:A:C6	1:BA:1178:G:N2	2.72	0.56
49:BN:12:ARG:HG2	49:BN:54:ASP:HB3	1.87	0.56
37:AB:100:LEU:HD12	37:AB:174:GLU:HB2	1.86	0.56
1:BA:877:G:O2'	43:BH:3:GLN:NE2	2.37	0.56
1:BA:993:G:O2'	1:BA:994:A:N7	2.38	0.56
1:BA:405:U:OP2	39:BD:2:ARG:NH1	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:53:GLN:NE2	39:BD:201:GLU:OE1	2.38	0.56
1:BA:1537:U:O3'	53:BR:42:ARG:NH2	2.38	0.56
2:CA:2316:G:H2'	2:CA:2317:A:H8	1.69	0.56
2:CA:2477:U:O2	35:C6:4:ARG:NH1	2.37	0.56
9:CG:98:LYS:HE2	9:CG:103:ASN:HB2	1.87	0.56
2:DA:1263:U:O4	22:DS:95:ARG:NH1	2.30	0.56
2:DA:1466:U:HO2'	2:DA:1546:G:HO2'	1.52	0.56
1:BA:521:G:HO2'	1:BA:536:C:HO2'	1.54	0.56
35:C6:19:ARG:HD2	35:C6:24:ARG:HD2	1.87	0.56
2:CA:1248:G:OP1	7:CE:44:ARG:NH2	2.39	0.56
2:CA:971:G:OP2	2:CA:974:G:N2	2.39	0.56
2:CA:1972:G:OP2	5:CC:237:ARG:NH1	2.38	0.56
2:DA:978:G:HO2'	2:DA:1002:G:HO2'	1.54	0.56
2:DA:918:A:N3	3:DB:80:U:O2'	2.37	0.56
12:DI:101:SER:HA	12:DI:140:GLU:HB3	1.87	0.56
13:DJ:125:TYR:HH	13:DJ:132:HIS:HE2	1.52	0.56
42:AG:3:ARG:HG3	42:AG:4:ARG:HG2	1.87	0.56
1:BA:781:A:N7	1:BA:801:U:O4	2.38	0.56
1:BA:79:G:H1	1:BA:90:C:H42	1.53	0.56
16:CM:47:GLU:OE2	16:CM:50:ARG:NH1	2.35	0.56
2:DA:1716:U:H3	2:DA:1744:A:H62	1.54	0.56
2:DA:2229:U:H2'	2:DA:2230:G:H8	1.69	0.56
1:AA:676:A:H1'	46:AK:116:PRO:HB3	1.88	0.56
1:AA:1522:U:H5''	46:AK:127:ARG:HH22	1.71	0.56
1:BA:618:C:N4	1:BA:621:A:OP2	2.39	0.56
1:BA:1148:U:H5''	44:BI:8:THR:HG23	1.88	0.56
2:CA:665:U:H2'	2:CA:666:A:H8	1.68	0.56
2:DA:1386:C:O2'	2:DA:1469:A:N3	2.36	0.56
2:DA:2743:U:OP2	2:DA:2755:C:N4	2.38	0.56
2:DA:372:G:N2	2:DA:401:A:OP2	2.39	0.56
2:DA:475:C:N3	2:DA:479:A:N7	2.54	0.56
2:DA:704:G:H21	2:DA:727:A:H62	1.53	0.56
7:DE:147:LEU:HB3	7:DE:186:VAL:HG22	1.87	0.56
10:DH:122:LEU:HD12	10:DH:128:HIS:HB2	1.88	0.56
2:DA:2093:G:H4'	10:DH:25:TYR:HB2	1.88	0.56
1:BA:1077:G:H21	1:BA:1079:G:H8	1.52	0.56
1:BA:1124:G:H2'	1:BA:1145:A:H62	1.70	0.56
1:BA:544:G:OP1	39:BD:55:ARG:NH2	2.38	0.56
2:CA:1001:A:H62	2:CA:1154:G:H21	1.52	0.56
2:CA:2676:C:O2	2:CA:2732:G:N2	2.38	0.56
13:CJ:13:ARG:NH1	13:CJ:49:ASP:O	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:1266:G:O2'	2:DA:2012:G:O6	2.23	0.56
2:DA:2658:C:OP1	9:DG:157:LYS:NZ	2.38	0.56
2:DA:2882:A:OP1	17:DN:96:ARG:NH2	2.38	0.56
1:AA:1484:C:HO2'	2:CA:1960:A:HO2'	1.53	0.56
1:BA:683:G:N2	1:BA:707:U:O2	2.38	0.56
2:CA:598:U:H2'	2:CA:599:A:H8	1.70	0.56
8:CF:62:GLN:NE2	8:CF:89:THR:O	2.38	0.56
2:DA:1478:G:H1	2:DA:1513:U:H3	1.54	0.56
2:DA:2081:U:H2'	2:DA:2082:A:H8	1.71	0.56
2:DA:807:U:OP1	2:DA:830:G:N2	2.38	0.56
8:DF:5:ASP:HA	8:DF:8:LYS:HG2	1.87	0.56
36:AX:18:G:O6	4:AW:37:A:C6	2.59	0.56
1:BA:1029:U:O2	1:BA:1029:U:H2'	2.04	0.56
1:BA:12:U:H3	1:BA:22:G:H1	1.54	0.56
4:BV:65:C:H2'	4:BV:66:A:H8	1.70	0.56
2:CA:552:U:H2'	2:CA:553:G:H8	1.71	0.56
5:CC:259:ASN:ND2	5:CC:262:THR:OG1	2.38	0.56
2:CA:1813:G:N2	5:CC:50:THR:OG1	2.39	0.56
2:DA:1415:U:H3	2:DA:1587:G:H1	1.53	0.56
47:AL:23:LEU:HG	47:AL:24:GLU:HG3	1.87	0.56
1:AA:1220:G:H5''	54:AS:36:ARG:HH12	1.71	0.56
42:BG:110:ARG:HB3	42:BG:118:ARG:HB2	1.88	0.56
47:BL:110:LYS:O	47:BL:113:ARG:NH1	2.39	0.56
4:BV:50:G:O6	4:BV:64:U:O4	2.24	0.56
1:BA:1498:U:H2'	36:BX:19:U:OP1	2.05	0.56
2:CA:1800:C:N3	2:CA:1817:G:N1	2.53	0.56
2:CA:309:A:N3	2:CA:329:G:O2'	2.39	0.56
27:CX:5:GLN:O	27:CX:73:ARG:NH1	2.39	0.56
2:DA:1035:U:O4	2:DA:1120:G:O6	2.24	0.56
3:DB:102:G:N2	58:DB:304:HOH:O	2.39	0.56
5:DC:166:ARG:HA	5:DC:171:VAL:HG12	1.88	0.56
10:DH:5:LEU:HD12	10:DH:16:GLY:H	1.71	0.56
1:AA:392:C:H2'	1:AA:393:A:H8	1.71	0.56
1:AA:950:U:H3'	48:AM:100:ARG:HH22	1.71	0.56
1:BA:201:G:H21	1:BA:469:C:H1'	1.70	0.56
1:BA:222:C:H2'	1:BA:223:A:H8	1.71	0.56
1:BA:354:G:O2'	1:BA:389:A:OP1	2.24	0.56
1:BA:855:U:OP2	1:BA:871:U:N3	2.37	0.56
44:BI:32:ARG:CA	44:BI:32:ARG:HE	2.16	0.56
2:CA:1080:A:H1'	12:CI:127:SER:HA	1.86	0.56
15:CL:70:LYS:HD3	15:CL:73:ILE:HD11	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:2708:G:H1'	17:CN:71:ARG:HH21	1.71	0.56
5:DC:106:PRO:HG2	5:DC:109:LEU:HB2	1.88	0.56
41:AF:38:ARG:NH1	41:AF:98:GLU:O	2.39	0.55
52:AQ:14:ASP:HB2	52:AQ:54:ILE:HG23	1.87	0.55
1:BA:859:G:OP2	1:BA:869:G:N1	2.36	0.55
1:BA:15:G:H1	1:BA:920:U:H3	1.52	0.55
44:BI:17:ARG:O	44:BI:64:ILE:HA	2.06	0.55
2:CA:397:U:H5''	27:CX:31:ASN:HB2	1.87	0.55
2:DA:2347:C:HO2'	32:D2:20:TYR:HH	1.52	0.55
46:AK:48:GLY:O	46:AK:68:ARG:NH1	2.39	0.55
1:BA:1260:G:H21	1:BA:1275:A:N6	2.01	0.55
46:BK:59:PRO:HD3	46:BK:90:PRO:HB2	1.89	0.55
11:C5:61:ARG:HA	11:C5:64:VAL:HB	1.87	0.55
2:CA:1796:U:H2'	2:CA:1797:G:H8	1.72	0.55
2:CA:2296:U:OP2	18:CO:9:ARG:NH2	2.39	0.55
2:CA:2590:A:H5''	5:CC:237:ARG:HE	1.72	0.55
2:CA:328:U:O4	2:CA:332:A:N7	2.39	0.55
2:CA:861:A:H62	2:CA:916:G:H21	1.55	0.55
9:CG:8:VAL:HB	9:CG:49:LEU:HD12	1.88	0.55
17:CN:73:ASN:HA	17:CN:76:VAL:HG12	1.87	0.55
1:AA:1440:U:O4	1:AA:1461:G:O6	2.25	0.55
1:BA:1255:G:O2'	1:BA:1258:G:O2'	2.25	0.55
54:BS:30:LEU:HB2	54:BS:48:ILE:HG22	1.87	0.55
4:BW:50:G:H1	4:BW:64:U:H3	1.53	0.55
4:BW:50:G:H22	4:BW:64:U:H3	1.54	0.55
2:DA:2024:G:O2'	6:DD:154:LYS:NZ	2.39	0.55
52:AQ:60:ILE:HD11	52:AQ:72:TRP:HB3	1.88	0.55
1:BA:249:U:O4	1:BA:275:G:O6	2.25	0.55
45:BJ:8:ILE:HA	45:BJ:100:ILE:HG22	1.89	0.55
1:BA:362:G:OP1	47:BL:57:THR:OG1	2.25	0.55
2:DA:2848:G:OP1	19:DP:95:LYS:NZ	2.39	0.55
1:AA:993:G:O2'	1:AA:994:A:N7	2.40	0.55
1:BA:1305:G:HO2'	1:BA:1306:A:H8	1.54	0.55
44:BI:29:ILE:HG22	44:BI:32:ARG:C	2.27	0.55
4:BV:36:C:N4	36:BX:21:G:H1	2.04	0.55
2:CA:781:A:OP1	5:CC:216:ARG:NH2	2.39	0.55
13:CJ:17:VAL:HG23	13:CJ:137:PRO:HB2	1.88	0.55
2:DA:1029:A:N6	58:DA:3279:HOH:O	2.39	0.55
2:DA:2863:C:H2'	2:DA:2864:G:H8	1.71	0.55
15:DL:61:LEU:O	34:D4:12:ARG:NE	2.38	0.55
39:AD:68:GLU:OE2	39:AD:203:TYR:OH	2.25	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:AO:2:LEU:CD1	50:AO:2:LEU:H	2.19	0.55
4:AW:1:G:C8	4:AW:1:G:C5'	2.85	0.55
2:CA:1477:A:N6	2:CA:1514:G:H21	1.96	0.55
2:CA:1816:C:N4	5:CC:34:GLU:OE2	2.39	0.55
2:CA:832:U:H2'	2:CA:833:A:H8	1.71	0.55
6:CD:131:ASP:O	6:CD:136:ASN:ND2	2.36	0.55
17:CN:94:TYR:O	17:CN:116:VAL:HG23	2.03	0.55
2:DA:1307:A:OP2	2:DA:1606:C:N4	2.40	0.55
2:DA:2846:G:H5'	19:DP:52:ARG:HH12	1.72	0.55
2:DA:2620:C:O2'	6:DD:124:ARG:NH1	2.38	0.55
1:AA:1425:U:H2'	1:AA:1426:G:H8	1.71	0.55
1:AA:181:A:N6	1:AA:195:A:OP2	2.39	0.55
1:AA:779:C:O2'	46:AK:121:ARG:NH1	2.40	0.55
42:AG:56:SER:HB3	42:AG:59:GLU:HG2	1.89	0.55
51:AP:20:VAL:HG23	51:AP:35:ARG:HA	1.88	0.55
4:AW:15:G:N1	4:AW:48:C:N3	2.45	0.55
1:BA:406:G:O3'	39:BD:2:ARG:NH2	2.38	0.55
39:BD:68:GLU:OE2	39:BD:203:TYR:OH	2.24	0.55
1:BA:1338:G:H21	4:BW:41:A:H1'	1.71	0.55
2:CA:284:U:O2	2:CA:356:G:N2	2.28	0.55
2:CA:687:C:H42	2:CA:787:C:H4'	1.71	0.55
34:D4:5:THR:HG23	34:D4:62:PRO:HD2	1.89	0.55
1:AA:19:A:OP1	40:AE:134:ASN:ND2	2.40	0.55
1:AA:713:G:H2'	1:AA:714:G:C8	2.42	0.55
45:AJ:63:ASP:OD2	49:AN:85:ARG:NH1	2.40	0.55
1:BA:563:A:OP2	47:BL:11:ARG:NH2	2.40	0.55
38:BC:58:GLU:HB2	38:BC:65:ARG:HB3	1.89	0.55
45:BJ:46:LYS:HA	45:BJ:67:ILE:O	2.05	0.55
2:CA:1682:G:OP2	2:CA:1699:G:N2	2.37	0.55
2:CA:1700:A:H3'	2:CA:1701:A:H8	1.71	0.55
2:CA:2780:G:OP2	13:CJ:120:ARG:NE	2.40	0.55
35:D6:3:VAL:HG12	35:D6:36:ARG:HB3	1.87	0.55
2:DA:2307:G:H21	2:DA:2312:U:H3	1.54	0.55
2:DA:2813:A:H2'	2:DA:2814:A:H8	1.71	0.55
2:DA:261:G:HO2'	2:DA:610:C:HO2'	1.54	0.55
2:DA:99:U:H5''	2:DA:100:U:H5'	1.88	0.55
22:DS:82:MET:HB2	22:DS:98:LYS:HB2	1.89	0.55
1:BA:600:A:H5''	43:BH:88:LYS:HE3	1.89	0.55
1:BA:692:U:OP1	46:BK:126:ARG:NH2	2.35	0.55
40:BE:113:VAL:HG13	40:BE:114:LEU:HD22	1.89	0.55
43:BH:102:VAL:HG12	43:BH:125:ILE:HD13	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1147:C:O2	44:BI:17:ARG:NH2	2.40	0.55
2:CA:935:C:H2'	2:CA:936:A:H8	1.72	0.55
2:DA:188:G:O2'	2:DA:1365:A:N6	2.40	0.55
2:DA:2405:G:O2'	2:DA:2411:A:N6	2.40	0.55
2:DA:796:C:OP1	7:DE:57:LYS:NZ	2.36	0.55
2:DA:1817:G:OP1	5:DC:86:ARG:NH2	2.40	0.55
1:AA:1425:U:H3	1:AA:1475:G:H1	1.54	0.55
39:AD:130:ASN:HB3	39:AD:131:ILE:HD12	1.89	0.55
40:AE:79:THR:HB	40:AE:121:ASN:HD21	1.72	0.55
1:AA:969:A:OP2	45:AJ:58:ASN:ND2	2.40	0.55
50:AO:2:LEU:HD12	50:AO:2:LEU:H	1.71	0.55
42:BG:105:GLU:OE1	42:BG:136:LYS:NZ	2.40	0.55
49:BN:12:ARG:HB3	49:BN:60:GLN:HE21	1.72	0.55
2:CA:1266:G:O2'	2:CA:2012:G:O6	2.25	0.55
2:CA:903:C:H2'	2:CA:904:G:H8	1.72	0.55
2:DA:2351:G:O2'	2:DA:2366:A:N6	2.40	0.55
14:DK:77:ILE:HG12	19:DP:71:ARG:HG3	1.89	0.55
17:DN:117:ASP:C	17:DN:119:SER:N	2.47	0.55
1:AA:8:A:N6	39:AD:201:GLU:O	2.32	0.54
1:AA:864:A:H4'	40:AE:89:THR:HG23	1.89	0.54
1:BA:1126:U:O4	45:BJ:9:ARG:NH1	2.36	0.54
1:BA:1498:U:O2	1:BA:1499:A:N6	2.37	0.54
2:CA:306:U:O4	2:CA:310:A:N7	2.40	0.54
1:AA:1106:G:O2'	38:AC:169:ARG:NH2	2.40	0.54
1:AA:67:C:H42	1:AA:102:G:H22	1.55	0.54
47:AL:103:CYS:SG	47:AL:104:SER:N	2.80	0.54
1:BA:1541:U:OP1	37:BB:21:TYR:OH	2.12	0.54
1:BA:458:U:H2'	1:BA:459:A:H8	1.73	0.54
1:BA:1311:A:H62	54:BS:2:ARG:HH21	1.54	0.54
2:CA:158:U:O4	2:CA:168:G:O6	2.24	0.54
2:CA:2122:U:H2'	2:CA:2123:G:C8	2.42	0.54
2:CA:2500:U:O2'	2:CA:2504:U:OP1	2.21	0.54
2:CA:33:C:H42	2:CA:447:A:N6	2.02	0.54
6:CD:33:ARG:NH2	6:CD:74:GLU:O	2.40	0.54
22:CS:9:HIS:O	22:CS:11:ARG:NH1	2.40	0.54
1:AA:1186:G:H2'	1:AA:1187:G:H8	1.73	0.54
44:AI:11:ARG:CD	44:AI:106:ASP:HB3	2.38	0.54
41:BF:47:LEU:HD12	41:BF:55:HIS:HA	1.89	0.54
2:CA:1965:C:H5''	2:CA:1966:A:H2'	1.89	0.54
2:CA:641:U:O2'	2:CA:2350:C:OP1	2.25	0.54
2:DA:1354:A:N6	2:DA:1377:G:H21	2.04	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1467:C:H2'	1:BA:1468:A:H8	1.71	0.54
1:BA:806:C:H2'	1:BA:807:A:H8	1.72	0.54
2:CA:2515:C:H2'	2:CA:2516:A:H8	1.71	0.54
2:CA:593:U:O4	2:CA:664:G:O6	2.26	0.54
2:CA:707:G:O6	2:CA:724:U:O4	2.26	0.54
9:CG:6:ALA:O	9:CG:68:ARG:NE	2.41	0.54
15:CL:130:GLY:N	58:CL:203:HOH:O	2.37	0.54
2:DA:2637:U:O4	2:DA:2776:A:N7	2.39	0.54
2:DA:263:G:H21	2:DA:430:A:H2	1.54	0.54
3:DB:8:C:O2'	18:DO:25:ARG:NH1	2.41	0.54
1:AA:201:G:O6	1:AA:216:U:O4	2.25	0.54
1:AA:814:A:HO2'	1:AA:1510:C:HO2'	1.54	0.54
38:AC:20:SER:OG	38:AC:40:ARG:NH2	2.40	0.54
41:AF:41:ASP:OD1	41:AF:58:HIS:NE2	2.39	0.54
2:CA:375:G:O6	2:CA:399:U:O4	2.26	0.54
2:CA:15:G:O6	2:CA:525:U:O4	2.26	0.54
2:CA:767:U:H2'	2:CA:768:G:H8	1.72	0.54
2:DA:1549:A:O2'	2:DA:1740:G:N2	2.35	0.54
1:AA:1351:U:H3	1:AA:1371:G:H1	1.56	0.54
43:AH:24:VAL:HB	43:AH:60:LEU:HB2	1.89	0.54
1:BA:1343:G:N2	1:BA:1349:A:O2'	2.41	0.54
1:BA:742:G:H2'	1:BA:743:A:H8	1.72	0.54
1:BA:895:G:N2	1:BA:904:U:O2	2.38	0.54
32:C2:36:LYS:HG2	32:C2:47:ILE:HG13	1.89	0.54
2:CA:329:G:H1	24:CU:16:LYS:HE2	1.73	0.54
3:DB:77:U:OP1	25:DV:21:ARG:NH1	2.41	0.54
1:AA:1070:U:O3'	40:AE:53:ARG:NH2	2.41	0.54
1:BA:235:C:H2'	1:BA:236:A:H8	1.72	0.54
2:CA:2384:U:OP2	26:CW:55:ARG:NH2	2.31	0.54
17:CN:12:ARG:O	17:CN:17:ARG:NH2	2.40	0.54
2:DA:1158:C:H5''	29:DZ:30:ARG:HD3	1.89	0.54
2:DA:328:U:H3	2:DA:332:A:N6	1.98	0.54
2:DA:6:A:N3	13:DJ:135:GLN:NE2	2.55	0.54
20:DQ:27:ARG:HD3	20:DQ:33:VAL:HG12	1.90	0.54
37:AB:116:LEU:O	37:AB:120:SER:CB	2.56	0.54
1:BA:1237:C:HO2'	1:BA:1300:G:H1	1.53	0.54
1:BA:1538:C:C2	36:BX:5:G:N2	2.66	0.54
14:CK:35:VAL:HG11	14:CK:106:GLU:HB2	1.90	0.54
2:DA:1155:A:O3'	20:DQ:54:ARG:NH2	2.40	0.54
2:DA:1631:G:N2	2:DA:1634:A:OP2	2.41	0.54
10:DH:59:ALA:HA	10:DH:62:LEU:HG	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:DM:47:GLU:OE1	16:DM:50:ARG:NH1	2.40	0.54
1:AA:170:U:H2'	1:AA:171:A:H8	1.73	0.54
45:AJ:33:GLY:HA2	45:AJ:80:THR:HG21	1.90	0.54
1:BA:122:G:N2	58:BA:1714:HOH:O	2.39	0.54
33:C3:24:THR:HG23	33:C3:27:GLY:H	1.72	0.54
2:CA:585:G:H21	2:CA:1254:A:H62	1.56	0.54
9:CG:23:ILE:HD13	9:CG:71:LEU:HD21	1.88	0.54
10:CH:7:ASP:HB2	10:CH:35:LYS:HA	1.89	0.54
21:CR:14:VAL:HG21	21:CR:98:ILE:HG13	1.89	0.54
2:DA:1999:C:O2	2:DA:2687:U:O2'	2.23	0.54
15:DL:96:LYS:HE3	15:DL:103:ILE:HA	1.89	0.54
1:AA:1116:U:O2	1:AA:1184:G:N2	2.40	0.54
1:AA:269:C:H2'	1:AA:270:A:C8	2.43	0.54
41:AF:38:ARG:HD3	41:AF:97:THR:HA	1.90	0.54
1:AA:587:G:OP1	43:AH:83:ARG:NH2	2.41	0.54
1:BA:246:A:N6	1:BA:281:G:N2	2.36	0.54
1:BA:574:A:HO2'	1:BA:882:C:HO2'	1.54	0.54
55:BT:65:LEU:HD12	55:BT:66:ILE:HB	1.89	0.54
31:C1:38:LEU:HB2	31:C1:41:HIS:HB2	1.90	0.54
2:CA:1218:G:H1	2:CA:1231:U:H3	1.54	0.54
2:CA:1789:A:OP2	5:CC:220:ARG:NH1	2.40	0.54
5:CC:106:PRO:HA	5:CC:194:VAL:HA	1.89	0.54
2:DA:1797:G:OP2	5:DC:270:ARG:NH2	2.39	0.54
2:DA:1852:U:O2	2:DA:1890:A:N6	2.40	0.54
2:DA:748:G:OP1	22:DS:88:ARG:NH1	2.39	0.54
13:DJ:120:ARG:O	13:DJ:123:LYS:NZ	2.41	0.54
1:AA:1417:G:H21	1:AA:1483:A:H62	1.56	0.53
1:AA:376:G:O6	1:AA:387:U:O4	2.26	0.53
1:AA:810:C:H2'	1:AA:811:C:H6	1.73	0.53
37:AB:32:GLY:HA2	37:AB:38:HIS:HA	1.89	0.53
38:AC:9:GLY:HA3	49:AN:89:MET:HA	1.89	0.53
4:AY:19:G:O4'	4:AY:57:G:N2	2.41	0.53
1:BA:1349:A:OP2	44:BI:119:LYS:NZ	2.41	0.53
1:BA:1475:G:OP1	58:BA:1703:HOH:O	2.18	0.53
5:CC:131:MET:HA	5:CC:134:ILE:HD12	1.90	0.53
2:DA:663:G:H5''	15:DL:17:LYS:HD3	1.88	0.53
40:AE:132:PRO:HA	40:AE:135:VAL:HG22	1.90	0.53
41:AF:86:ARG:NH1	53:AR:63:TYR:O	2.36	0.53
1:BA:1189:U:HO2'	38:BC:176:HIS:HD1	1.55	0.53
1:BA:675:A:H1'	46:BK:117:HIS:CD2	2.43	0.53
48:BM:82:LEU:HD21	54:BS:65:MET:HG2	1.88	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:C6:2:LYS:NZ	35:C6:32:LYS:O	2.40	0.53
2:CA:2539:C:H5'	35:C6:3:VAL:HG21	1.90	0.53
2:CA:1789:A:H4'	5:CC:217:PRO:HB3	1.91	0.53
2:CA:1808:A:H3'	2:CA:1809:A:H8	1.73	0.53
2:CA:2122:U:H2'	2:CA:2123:G:H8	1.73	0.53
2:DA:1141:U:O2	2:DA:1142:A:N6	2.42	0.53
2:DA:2081:U:H3	2:DA:2239:G:H1	1.56	0.53
9:DG:85:LYS:HA	9:DG:130:ILE:O	2.08	0.53
1:AA:197:A:N6	1:AA:220:G:O2'	2.40	0.53
1:AA:397:A:N7	1:AA:547:A:O2'	2.39	0.53
45:AJ:25:ILE:HD11	45:AJ:87:LEU:HG	1.90	0.53
1:AA:740:U:P	50:AO:1:SER:H1	2.26	0.53
1:BA:1005:A:N6	1:BA:1024:G:O2'	2.41	0.53
38:BC:11:ARG:NH2	38:BC:177:THR:O	2.41	0.53
1:BA:410:G:OP1	39:BD:25:ARG:NH1	2.41	0.53
41:BF:47:LEU:HB2	41:BF:55:HIS:HB3	1.90	0.53
51:BP:21:VAL:HG12	51:BP:33:ILE:HD12	1.90	0.53
2:CA:1491:G:N2	58:CA:3356:HOH:O	2.40	0.53
2:CA:1667:G:N2	2:CA:1992:G:OP2	2.36	0.53
5:DC:257:ARG:NH2	5:DC:262:THR:OG1	2.41	0.53
2:DA:1813:G:N2	5:DC:50:THR:OG1	2.36	0.53
24:DU:85:ARG:NH1	24:DU:99:SER:OG	2.39	0.53
4:AW:58:A:O2'	4:AW:60:C:OP2	2.25	0.53
1:BA:1032:G:H2'	1:BA:1033:G:H4'	1.89	0.53
38:BC:49:LYS:HD2	38:BC:72:ARG:HH12	1.73	0.53
2:CA:184:C:H2'	2:CA:185:G:H8	1.72	0.53
18:CO:7:ARG:NH1	18:CO:95:SER:O	2.41	0.53
2:DA:1869:G:N2	2:DA:1871:A:OP2	2.41	0.53
2:DA:1668:A:H62	2:DA:1991:U:H3	1.57	0.53
2:DA:964:C:O2'	2:DA:2273:A:N3	2.39	0.53
2:DA:263:G:O2'	2:DA:429:A:N3	2.35	0.53
2:DA:4:U:H2'	2:DA:5:A:H8	1.74	0.53
1:AA:150:U:H2'	1:AA:151:A:H8	1.73	0.53
43:AH:24:VAL:O	43:AH:59:GLU:HA	2.08	0.53
36:AX:20:A:N6	4:AW:35:A:N6	2.57	0.53
1:BA:1404:C:H42	1:BA:1497:G:H1	1.55	0.53
1:BA:682:G:H2'	1:BA:683:G:H8	1.74	0.53
1:BA:8:A:N6	39:BD:201:GLU:O	2.37	0.53
47:BL:37:TYR:HB2	47:BL:51:VAL:HG13	1.90	0.53
48:BM:86:ARG:NH1	58:BM:201:HOH:O	2.40	0.53
2:CA:2023:C:H2'	2:CA:2024:G:H8	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:CG:106:LEU:O	9:CG:151:ARG:NH2	2.42	0.53
29:CZ:1:ALA:C	29:CZ:3:THR:H	2.11	0.53
2:DA:1270:C:H5''	2:DA:1271:G:H5'	1.91	0.53
2:DA:1283:G:H22	2:DA:1286:A:H5'	1.74	0.53
2:DA:2386:A:O3'	26:DW:55:ARG:NH1	2.42	0.53
2:DA:79:C:O2'	2:DA:346:A:N3	2.37	0.53
1:AA:122:G:H1	1:AA:239:U:H3	1.55	0.53
1:AA:840:C:H5''	37:BB:58:LYS:HD3	1.91	0.53
1:AA:1396:A:O2'	40:AE:28:ARG:NH2	2.42	0.53
38:AC:10:ILE:HD13	49:AN:98:LYS:HD3	1.89	0.53
1:BA:1086:U:O2'	1:BA:1087:G:O4'	2.27	0.53
1:BA:1438:G:O6	1:BA:1463:U:O4	2.26	0.53
39:BD:101:VAL:HG13	39:BD:106:PHE:HB2	1.91	0.53
39:BD:102:TYR:O	39:BD:164:ARG:NH2	2.41	0.53
2:CA:750:A:OP1	2:CA:1615:C:N4	2.42	0.53
2:DA:1529:G:O6	2:DA:1542:U:O4	2.27	0.53
2:DA:1789:A:OP2	5:DC:220:ARG:NH1	2.42	0.53
2:DA:244:A:OP2	34:D4:7:ARG:NH2	2.39	0.53
2:DA:537:G:H21	2:DA:556:A:H62	1.57	0.53
7:DE:111:GLU:HG2	15:DL:2:ARG:HH21	1.73	0.53
2:DA:1227:G:OP2	20:DQ:15:LYS:NZ	2.42	0.53
1:AA:1002:G:H2'	1:AA:1003:G:H8	1.74	0.53
1:AA:1536:C:C2	36:AX:9:A:N6	2.70	0.53
1:AA:309:A:H2'	1:AA:310:G:H8	1.73	0.53
4:AW:62:C:H2'	4:AW:63:G:H8	1.74	0.53
1:BA:1218:C:H2'	1:BA:1219:A:C8	2.42	0.53
1:BA:582:C:OP2	1:BA:758:C:N4	2.42	0.53
8:CF:101:ARG:NH1	30:C0:25:ARG:O	2.40	0.53
6:CD:46:ARG:NH1	6:CD:86:GLU:H	2.07	0.53
2:DA:1800:C:N3	2:DA:1817:G:N1	2.54	0.53
2:DA:2077:A:N1	58:DA:3256:HOH:O	2.33	0.53
2:DA:221:A:N7	2:DA:427:U:O4	2.42	0.53
2:DA:917:A:H5''	2:DA:2268:A:H61	1.73	0.53
1:AA:1220:G:H2'	1:AA:1221:G:H8	1.74	0.53
1:AA:1305:G:N2	58:AA:1762:HOH:O	2.42	0.53
1:AA:925:G:O6	1:AA:1391:U:O4	2.26	0.53
48:AM:100:ARG:HG2	48:AM:102:LYS:H	1.73	0.53
1:BA:404:G:OP2	39:BD:114:ARG:NH2	2.41	0.53
1:BA:925:G:O6	1:BA:1391:U:O4	2.27	0.53
38:BC:64:ILE:HG22	38:BC:99:ALA:HA	1.91	0.53
41:BF:2:ARG:HE	41:BF:68:GLN:HB3	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BS:10:ILE:HG22	54:BS:38:THR:H	1.73	0.53
3:CB:51:G:OP1	18:CO:63:LYS:NZ	2.39	0.53
6:CD:121:THR:HG21	6:CD:143:PRO:HB3	1.90	0.53
23:CT:8:LEU:O	28:CY:29:ARG:NH1	2.42	0.53
2:DA:1036:G:O6	2:DA:1119:U:O4	2.26	0.53
2:DA:165:A:N6	58:DA:3233:HOH:O	2.41	0.53
24:DU:85:ARG:NH2	24:DU:101:THR:OG1	2.41	0.53
55:AT:65:LEU:HD12	55:AT:66:ILE:HB	1.91	0.53
2:CA:1063:G:O2'	12:CI:89:SER:N	2.41	0.53
2:CA:1980:G:O2'	2:CA:1982:U:OP2	2.25	0.53
2:CA:444:C:OP2	7:CE:44:ARG:NH2	2.42	0.53
23:CT:35:ALA:HB3	23:CT:38:ALA:HB2	1.90	0.53
2:DA:1995:U:H3'	2:DA:1996:C:H2'	1.91	0.53
2:DA:2136:G:O6	2:DA:2155:U:O4	2.27	0.53
9:DG:83:THR:HA	9:DG:132:LEU:O	2.09	0.53
16:DM:10:ARG:NH1	4:BW:63:G:O2'	2.39	0.53
1:AA:562:U:O2	47:AL:12:ALA:N	2.41	0.53
46:AK:83:VAL:HB	46:AK:109:ILE:HA	1.91	0.53
44:BI:25:GLY:H	44:BI:58:GLU:HA	1.74	0.53
1:AA:1409:C:H2'	1:AA:1410:A:H8	1.74	0.52
1:AA:890:G:O2'	1:AA:906:A:N6	2.43	0.52
49:AN:34:ASN:HD22	49:AN:42:TRP:HZ2	1.56	0.52
50:AO:28:VAL:HA	50:AO:31:LEU:HD12	1.90	0.52
1:BA:564:C:OP1	47:BL:11:ARG:NH1	2.42	0.52
1:BA:864:A:H2'	1:BA:865:A:C8	2.44	0.52
41:BF:12:PRO:HG3	41:BF:57:ALA:HA	1.90	0.52
44:BI:97:LEU:HG	44:BI:102:PHE:HB2	1.90	0.52
42:BG:147:ASN:HD22	46:BK:55:ARG:HH12	1.57	0.52
2:CA:1231:U:H2'	2:CA:1232:G:H8	1.74	0.52
2:CA:1283:G:N1	2:CA:1286:A:OP2	2.40	0.52
2:CA:1590:A:H2'	2:CA:1591:A:H8	1.73	0.52
2:CA:1987:A:H2'	2:CA:1988:G:H8	1.72	0.52
2:CA:59:U:H3	2:CA:68:G:H1	1.56	0.52
9:CG:97:VAL:HG12	9:CG:99:GLY:H	1.73	0.52
23:CT:2:ILE:HG23	23:CT:7:LEU:HD12	1.90	0.52
24:CU:43:LYS:HE3	24:CU:45:GLN:HB3	1.91	0.52
2:DA:182:A:N6	58:DA:3253:HOH:O	2.42	0.52
22:DS:62:ASP:N	22:DS:62:ASP:OD1	2.40	0.52
24:DU:93:ARG:HB2	24:DU:102:ILE:HD12	1.91	0.52
4:AV:21:A:OP2	4:AV:48:C:N4	2.39	0.52
1:BA:951:G:OP2	48:BM:100:ARG:NH2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BL:72:ASN:ND2	47:BL:104:SER:OG	2.42	0.52
2:CA:1162:G:H21	21:CR:91:GLN:HE22	1.57	0.52
2:DA:1067:A:H3'	2:DA:1068:G:H8	1.75	0.52
2:DA:2079:U:O2'	27:DX:22:ASN:OD1	2.26	0.52
2:DA:2099:U:O4	2:DA:2190:G:O6	2.27	0.52
2:DA:355:U:H2'	2:DA:356:G:H8	1.74	0.52
10:DH:62:LEU:HB2	10:DH:135:HIS:HE1	1.72	0.52
1:AA:1357:A:N6	1:AA:1365:G:H1	2.03	0.52
1:AA:778:G:H1	1:AA:804:U:H3	1.55	0.52
1:AA:15:G:H1	1:AA:920:U:H3	1.57	0.52
40:AE:98:ALA:HB2	40:AE:123:LEU:HG	1.90	0.52
1:BA:1445:U:O4	1:BA:1457:G:O6	2.27	0.52
1:BA:666:G:N2	1:BA:740:U:O2	2.37	0.52
1:BA:952:U:H2'	1:BA:953:G:H8	1.74	0.52
1:BA:363:A:N6	47:BL:26:CYS:SG	2.80	0.52
2:CA:1102:C:H2'	2:CA:1103:A:H8	1.73	0.52
2:CA:1754:A:O2'	19:CP:102:ARG:NH2	2.36	0.52
2:CA:200:U:O2	2:CA:386:G:N2	2.43	0.52
2:CA:2194:U:H2'	2:CA:2195:U:H6	1.74	0.52
2:DA:1056:G:C2	2:DA:1103:A:N6	2.77	0.52
2:DA:1590:A:H2'	2:DA:1591:A:H8	1.74	0.52
2:DA:2372:U:H2'	2:DA:2373:G:H8	1.74	0.52
2:DA:2475:C:H42	2:DA:2529:G:H22	1.57	0.52
5:DC:77:VAL:HG21	5:DC:109:LEU:HD11	1.90	0.52
8:DF:139:GLU:HG3	30:D0:28:VAL:HA	1.90	0.52
3:DB:75:G:H21	25:DV:88:HIS:CE1	2.27	0.52
1:AA:107:G:H5''	1:AA:108:G:H21	1.75	0.52
1:AA:454:G:O6	1:AA:479:U:O4	2.27	0.52
38:BC:19:ASN:HD22	49:BN:92:GLU:HG2	1.75	0.52
2:CA:1496:A:HO2'	2:CA:1577:C:HO2'	1.48	0.52
2:CA:1310:G:H1'	2:CA:1611:C:H5''	1.92	0.52
2:CA:1324:G:N2	2:CA:1647:U:O4	2.42	0.52
2:CA:2136:G:O6	2:CA:2155:U:O4	2.27	0.52
2:CA:918:A:N3	3:CB:80:U:O2'	2.42	0.52
2:CA:658:U:O2'	7:CE:95:LYS:NZ	2.42	0.52
13:CJ:3:THR:HG21	20:CQ:60:TRP:HE1	1.74	0.52
6:DD:33:ARG:NH2	6:DD:74:GLU:O	2.42	0.52
1:AA:107:G:OP1	1:AA:325:A:N6	2.43	0.52
2:CA:1675:C:N3	6:CD:133:THR:OG1	2.41	0.52
2:CA:2081:U:H2'	2:CA:2082:A:H8	1.74	0.52
2:CA:2340:A:H2'	2:CA:2341:G:H8	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:414:C:H1'	2:CA:1864:U:H1'	1.91	0.52
2:CA:2353:G:O2'	26:CW:33:ALA:O	2.24	0.52
2:DA:111:A:O2'	28:DY:58:ASN:ND2	2.42	0.52
2:DA:375:G:O6	2:DA:399:U:O4	2.28	0.52
2:DA:2780:G:OP2	13:DJ:120:ARG:NE	2.42	0.52
25:DV:51:GLN:HE22	25:DV:79:ARG:HH22	1.56	0.52
1:AA:1116:U:O4	1:AA:1184:G:O6	2.28	0.52
1:AA:1403:C:N4	36:AX:20:A:OP1	2.43	0.52
1:AA:490:C:H2'	1:AA:491:G:H8	1.74	0.52
1:AA:672:U:O4	1:AA:734:G:O6	2.27	0.52
44:AI:29:ILE:O	44:AI:32:ARG:N	2.43	0.52
45:AJ:11:LYS:HG2	45:AJ:71:LEU:HG	1.92	0.52
48:AM:28:ARG:HH21	48:AM:59:VAL:HA	1.74	0.52
1:BA:1408:A:O2'	2:DA:1916:A:N1	2.42	0.52
1:BA:672:U:O4	1:BA:734:G:O6	2.27	0.52
1:BA:739:C:O2'	50:BO:41:HIS:ND1	2.43	0.52
2:CA:1534:U:H3'	2:CA:1536:C:H41	1.74	0.52
2:CA:1681:G:N2	2:CA:1763:G:OP2	2.40	0.52
2:CA:2092:U:OP2	2:CA:2199:A:O2'	2.28	0.52
2:CA:254:G:N2	58:CA:3262:HOH:O	2.34	0.52
2:CA:57:C:O2'	23:CT:36:LYS:NZ	2.43	0.52
9:CG:84:LYS:HD3	9:CG:140:ILE:HD13	1.92	0.52
2:DA:1527:G:N2	2:DA:1544:A:N7	2.58	0.52
2:DA:2414:G:H2'	2:DA:2415:G:H8	1.74	0.52
2:DA:2851:A:O3'	17:DN:64:ARG:NH2	2.43	0.52
2:DA:629:G:H1'	2:DA:639:U:H1'	1.91	0.52
2:DA:835:C:H2'	2:DA:836:G:H8	1.75	0.52
1:AA:1005:A:H3'	1:AA:1006:G:H8	1.74	0.52
1:AA:1464:U:H2'	1:AA:1465:A:H8	1.75	0.52
1:AA:180:U:H3	1:AA:195:A:N6	1.89	0.52
1:AA:413:G:N2	1:AA:428:G:O2'	2.39	0.52
1:AA:673:A:O3'	41:AF:86:ARG:NH2	2.43	0.52
41:AF:7:VAL:HA	41:AF:60:VAL:O	2.09	0.52
1:BA:1419:G:H1	1:BA:1481:U:H3	1.56	0.52
1:BA:544:G:OP1	39:BD:58:GLN:NE2	2.43	0.52
40:BE:15:ILE:HB	40:BE:35:LEU:HD23	1.90	0.52
47:BL:29:LYS:H	47:BL:81:ILE:HG22	1.73	0.52
2:CA:2320:U:O2'	2:CA:2322:A:N6	2.38	0.52
12:CI:101:SER:HA	12:CI:140:GLU:HB3	1.91	0.52
2:DA:1251:C:OP2	20:DQ:5:ARG:NH2	2.36	0.52
2:DA:438:G:H2'	2:DA:439:A:H8	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:DG:88:LEU:HG	9:DG:161:VAL:HG22	1.91	0.52
2:DA:1753:G:H5''	19:DP:92:ARG:HD3	1.91	0.52
1:AA:1494:G:HO2'	2:CA:1912:A:HO2'	1.56	0.52
1:AA:322:C:OP2	1:AA:328:C:N4	2.39	0.52
1:AA:323:U:O4	1:AA:327:A:N7	2.43	0.52
1:AA:417:G:O6	1:AA:426:U:O4	2.27	0.52
1:BA:948:C:H2'	1:BA:949:A:H8	1.75	0.52
2:CA:1041:G:H2'	2:CA:1042:G:H8	1.74	0.52
33:D3:24:THR:HG23	33:D3:27:GLY:H	1.74	0.52
2:DA:2722:G:O2'	17:DN:3:HIS:O	2.25	0.52
2:DA:411:G:OP2	2:DA:2406:A:O2'	2.23	0.52
5:DC:149:LYS:HE2	5:DC:152:GLN:HE22	1.73	0.52
9:DG:108:PHE:HE1	9:DG:151:ARG:HH21	1.58	0.52
2:DA:1138:G:O2'	13:DJ:104:ALA:O	2.28	0.52
18:DO:31:THR:H	18:DO:35:ILE:HG22	1.73	0.52
28:DY:21:LEU:HA	28:DY:25:GLN:HB3	1.92	0.52
1:AA:452:A:O2'	1:AA:453:G:O4'	2.27	0.52
1:AA:888:G:H21	1:AA:909:A:H62	1.58	0.52
50:AO:2:LEU:CD1	50:AO:2:LEU:N	2.73	0.52
1:BA:67:C:O2'	1:BA:171:A:N3	2.42	0.52
49:BN:27:LYS:HA	49:BN:31:SER:HB2	1.91	0.52
4:BV:8:U:O4	4:BV:14:A:N7	2.43	0.52
2:CA:172:A:H2'	2:CA:173:A:C8	2.45	0.52
2:CA:2320:U:HO2'	2:CA:2322:A:H62	1.57	0.52
2:CA:2813:A:H2'	2:CA:2814:A:H8	1.75	0.52
2:CA:2861:U:H2'	2:CA:2862:G:H8	1.74	0.52
20:CQ:65:ASN:HD21	20:CQ:69:ARG:HH11	1.57	0.52
2:DA:1164:C:H2'	2:DA:1165:A:H8	1.73	0.52
8:DF:108:PRO:HB3	30:D0:41:HIS:CG	2.44	0.52
23:DT:22:THR:O	23:DT:26:LYS:HB3	2.09	0.52
1:AA:1329:A:H5''	48:AM:24:VAL:HA	1.91	0.52
1:AA:148:G:H1	1:AA:174:A:N6	2.07	0.52
1:AA:535:A:N6	58:AA:1773:HOH:O	2.43	0.52
1:AA:673:A:H2'	1:AA:674:G:C8	2.45	0.52
39:AD:14:GLU:OE2	39:AD:55:ARG:NH1	2.43	0.52
44:AI:11:ARG:HH21	44:AI:108:ARG:HH21	1.57	0.52
48:AM:86:ARG:O	48:AM:90:HIS:ND1	2.33	0.52
48:AM:89:ARG:HH22	48:AM:101:THR:HG22	1.75	0.52
1:BA:1241:G:H2'	1:BA:1242:G:H8	1.74	0.52
1:BA:211:G:O2'	1:BA:212:G:O4'	2.28	0.52
1:BA:198:G:H1	1:BA:219:U:H3	1.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:80:LEU:HD13	40:BE:122:VAL:HG11	1.91	0.52
2:CA:1631:G:N2	2:CA:1634:A:OP2	2.38	0.52
2:CA:2446:G:N2	2:CA:2449:U:O2	2.41	0.52
3:CB:76:G:N3	25:CV:78:GLN:NE2	2.50	0.52
35:D6:19:ARG:HD2	35:D6:24:ARG:HD2	1.91	0.52
2:DA:219:A:N3	2:DA:234:U:O2'	2.37	0.52
2:DA:860:U:H2'	2:DA:861:A:H8	1.74	0.52
17:DN:29:VAL:HB	17:DN:75:ILE:HD12	1.92	0.52
1:AA:1096:C:H2'	1:AA:1097:C:H6	1.74	0.51
1:AA:1320:C:N3	54:AS:35:ARG:NH1	2.58	0.51
1:BA:392:C:H2'	1:BA:393:A:H8	1.75	0.51
1:BA:892:A:O2'	1:BA:1415:G:O2'	2.28	0.51
42:BG:150:PHE:HB3	46:BK:60:PHE:HB3	1.92	0.51
44:BI:12:LYS:HA	44:BI:109:GLN:HE22	1.74	0.51
2:CA:1796:U:H2'	2:CA:1797:G:C8	2.45	0.51
2:CA:1860:G:N2	2:CA:1882:U:O2	2.34	0.51
2:CA:195:A:H3'	2:CA:196:A:H4'	1.91	0.51
2:CA:609:A:H62	2:CA:619:G:N2	2.08	0.51
2:DA:1040:A:N6	2:DA:1115:G:H1	2.08	0.51
2:DA:2391:G:O2'	2:DA:2424:C:N4	2.42	0.51
2:DA:242:G:N2	2:DA:255:A:OP2	2.40	0.51
12:DI:105:LEU:HD23	12:DI:108:ILE:HD12	1.91	0.51
16:DM:50:ARG:HD3	16:DM:65:ILE:HD11	1.92	0.51
20:DQ:111:LYS:HG2	21:DR:48:LYS:HZ1	1.75	0.51
1:AA:62:U:O2'	1:AA:379:C:O2	2.28	0.51
41:AF:36:ILE:HA	41:AF:64:VAL:HG13	1.93	0.51
1:BA:501:C:H2'	1:BA:502:A:C8	2.45	0.51
43:BH:72:GLU:N	43:BH:129:ALA:O	2.42	0.51
1:BA:676:A:H5''	46:BK:114:PRO:HB3	1.92	0.51
2:CA:2032:G:O2'	6:CD:150:GLN:NE2	2.43	0.51
2:CA:2636:C:O2'	6:CD:45:TYR:OH	2.27	0.51
2:CA:2787:C:H1'	6:CD:63:PRO:HG3	1.93	0.51
31:D1:43:THR:OG1	31:D1:47:TYR:N	2.38	0.51
2:DA:1062:G:H2'	2:DA:1063:G:C8	2.45	0.51
2:DA:116:C:O2'	2:DA:126:A:N3	2.32	0.51
2:DA:1568:G:H4'	5:DC:58:LYS:HD2	1.93	0.51
2:DA:2324:U:H5''	2:DA:2325:G:H5''	1.92	0.51
2:DA:2406:A:H4'	2:DA:2407:A:H5''	1.92	0.51
2:DA:910:A:H62	16:DM:12:MET:HA	1.75	0.51
4:AW:40:G:H2'	4:AW:41:A:H8	1.75	0.51
41:BF:5:GLU:HA	41:BF:63:ASN:HA	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BO:27:GLN:HG3	50:BO:65:LEU:HD21	1.93	0.51
4:BV:68:C:H2'	4:BV:69:A:H8	1.75	0.51
2:CA:693:A:O2'	2:CA:1353:A:N3	2.43	0.51
7:CE:111:GLU:OE1	7:CE:114:ARG:NH1	2.43	0.51
8:CF:120:SER:O	58:CF:201:HOH:O	2.19	0.51
2:DA:1834:U:H5''	2:DA:1835:G:H5'	1.92	0.51
2:DA:2092:U:OP2	2:DA:2199:A:O2'	2.29	0.51
2:DA:2296:U:OP2	18:DO:9:ARG:NH2	2.43	0.51
2:DA:309:A:N3	2:DA:329:G:O2'	2.43	0.51
2:DA:471:A:OP1	7:DE:79:ARG:NH1	2.41	0.51
2:DA:910:A:N3	2:DA:2264:C:O2'	2.37	0.51
7:DE:111:GLU:OE1	7:DE:114:ARG:NH1	2.43	0.51
10:DH:117:LEU:HB2	10:DH:130:VAL:HG23	1.90	0.51
1:AA:473:U:H2'	1:AA:474:G:H8	1.74	0.51
1:AA:1075:U:O3'	37:AB:173:LYS:NZ	2.43	0.51
54:AS:49:ALA:HB1	54:AS:56:HIS:HB3	1.93	0.51
1:BA:1407:C:H2'	1:BA:1408:A:H8	1.76	0.51
1:BA:694:A:H5''	46:BK:54:SER:HB3	1.92	0.51
1:BA:861:G:O6	1:BA:869:G:N2	2.43	0.51
38:BC:79:LYS:HB2	38:BC:82:GLU:HB2	1.93	0.51
2:CA:210:C:OP1	33:C3:29:GLN:NE2	2.43	0.51
2:CA:1015:U:H2'	2:CA:1016:G:H8	1.75	0.51
2:CA:1826:G:O2'	2:CA:1971:U:OP2	2.29	0.51
17:CN:94:TYR:CA	17:CN:116:VAL:HG23	2.39	0.51
2:CA:1223:G:OP1	21:CR:68:ARG:NH2	2.43	0.51
2:DA:172:A:H2'	2:DA:173:A:H8	1.75	0.51
2:DA:29:U:O2	2:DA:1215:G:O2'	2.28	0.51
2:DA:68:G:N2	2:DA:74:A:O4'	2.44	0.51
2:DA:971:G:OP2	2:DA:974:G:N2	2.43	0.51
5:DC:257:ARG:NH1	5:DC:263:ASP:OD1	2.38	0.51
14:DK:43:ILE:HD13	14:DK:56:ASP:HB2	1.91	0.51
19:DP:47:ILE:HA	19:DP:96:LEU:HD12	1.92	0.51
2:DA:1011:G:OP2	20:DQ:65:ASN:ND2	2.42	0.51
47:AL:49:ARG:HB3	47:AL:65:TYR:HE1	1.75	0.51
1:BA:296:U:O2'	1:BA:556:C:O2	2.27	0.51
2:DA:714:U:OP2	50:BO:88:ARG:NH2	2.43	0.51
2:CA:1268:A:H62	2:CA:2012:G:N2	2.08	0.51
2:CA:2314:A:OP1	8:CF:87:LYS:NZ	2.43	0.51
2:CA:45:G:H5''	2:CA:46:G:H5'	1.93	0.51
2:DA:2619:C:OP1	6:DD:157:LYS:NZ	2.34	0.51
2:DA:311:A:N6	58:DA:3375:HOH:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:DC:113:ASP:N	58:DC:301:HOH:O	2.39	0.51
24:DU:3:LYS:O	24:DU:93:ARG:NH2	2.42	0.51
24:DU:58:VAL:HG12	24:DU:60:LYS:HG2	1.93	0.51
1:AA:1002:G:H22	1:AA:1038:C:H42	1.58	0.51
1:AA:148:G:O2'	1:AA:1446:A:N3	2.41	0.51
1:AA:674:G:H2'	1:AA:675:A:H8	1.74	0.51
1:AA:835:U:OP1	53:AR:52:ARG:NH2	2.40	0.51
1:AA:1116:U:O2'	44:AI:109:GLN:HG3	2.10	0.51
1:BA:1409:C:H2'	1:BA:1410:A:H8	1.76	0.51
1:BA:696:A:N3	1:BA:786:G:O2'	2.38	0.51
40:BE:155:LYS:HE2	43:BH:42:GLU:HB3	1.92	0.51
33:C3:22:MET:O	33:C3:28:ARG:NH1	2.43	0.51
2:CA:184:C:O2'	2:CA:217:A:N3	2.42	0.51
2:CA:2335:A:OP1	18:CO:13:ARG:NH1	2.44	0.51
2:CA:375:G:H1	2:CA:399:U:H3	1.58	0.51
6:CD:13:ARG:NH1	19:CP:74:GLN:OE1	2.37	0.51
25:CV:48:MET:O	58:CV:102:HOH:O	2.19	0.51
25:CV:4:ILE:HB	25:CV:63:ILE:HG12	1.92	0.51
33:D3:12:ARG:NH2	33:D3:44:VAL:O	2.34	0.51
2:DA:1042:G:O6	2:DA:1113:U:O4	2.28	0.51
10:DH:3:VAL:HA	10:DH:38:PRO:HA	1.92	0.51
1:AA:1330:U:H4'	48:AM:22:TYR:CE1	2.46	0.51
36:AX:18:G:C6	4:AW:37:A:C2	2.98	0.51
38:BC:125:GLU:O	38:BC:127:ARG:NH1	2.44	0.51
36:BX:28:A:N6	40:BE:17:VAL:HG12	2.26	0.51
58:BJ:201:HOH:O	49:BN:85:ARG:NH1	2.43	0.51
2:CA:1510:G:H2'	2:CA:1511:G:H8	1.76	0.51
2:CA:229:C:N4	58:CA:3303:HOH:O	2.36	0.51
2:CA:1:G:H2'	2:CA:2:G:H8	1.75	0.51
17:CN:11:ASN:ND2	58:CN:302:HOH:O	2.43	0.51
19:CP:32:VAL:HG12	19:CP:34:GLY:H	1.75	0.51
2:CA:381:G:OP1	27:CX:17:ARG:NH1	2.43	0.51
2:DA:1166:G:O6	2:DA:1183:U:O4	2.29	0.51
7:DE:46:GLN:O	7:DE:88:ARG:NH1	2.44	0.51
2:DA:2874:C:OP1	17:DN:4:ARG:NH1	2.44	0.51
1:AA:150:U:H3	1:AA:171:A:H62	1.41	0.51
47:AL:67:GLY:O	47:AL:98:ARG:NH1	2.41	0.51
1:BA:1225:A:OP1	48:BM:101:THR:N	2.41	0.51
39:BD:74:TYR:OH	39:BD:133:SER:OG	2.28	0.51
2:CA:1548:A:H2'	2:CA:1549:A:C8	2.46	0.51
2:CA:2291:U:OP1	2:CA:2380:C:O2'	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:2055:C:O2	2:CA:2572:A:N6	2.44	0.51
2:CA:431:U:H2'	2:CA:432:A:H8	1.76	0.51
3:CB:114:C:H2'	3:CB:115:A:C8	2.45	0.51
2:DA:226:A:H5'	2:DA:257:C:H4'	1.93	0.51
2:DA:600:G:N2	2:DA:605:G:O3'	2.43	0.51
2:DA:239:C:HO2'	2:DA:622:G:HO2'	1.52	0.51
2:DA:729:G:H5'	2:DA:730:A:H5''	1.93	0.51
16:DM:35:ALA:HB2	16:DM:102:LEU:HD11	1.93	0.51
1:AA:1320:C:O2	54:AS:35:ARG:NH2	2.44	0.51
1:AA:137:U:O4	1:AA:226:G:O6	2.29	0.51
1:AA:672:U:H2'	1:AA:673:A:C8	2.46	0.51
47:AL:32:VAL:H	47:AL:54:VAL:HG13	1.76	0.51
1:BA:864:A:O2'	1:BA:1078:U:O4	2.28	0.51
1:BA:1498:U:OP2	36:BX:18:G:O2'	2.28	0.51
10:CH:97:ARG:NE	1:BA:371:A:O3'	2.44	0.51
42:BG:1:PRO:HB3	42:BG:5:VAL:HG12	1.93	0.51
2:CA:2127:G:H1	2:CA:2161:C:H2'	1.75	0.51
2:CA:633:A:O2'	2:CA:2404:U:OP1	2.29	0.51
2:CA:2899:A:H2'	2:CA:2900:A:H8	1.76	0.51
2:CA:517:C:OP1	31:C1:12:ARG:NH2	2.42	0.51
2:CA:932:U:O2'	2:CA:934:U:O4	2.23	0.51
6:CD:25:THR:HG21	6:CD:193:VAL:HG22	1.92	0.51
29:CZ:1:ALA:HB1	29:CZ:2:LYS:HE3	1.92	0.51
2:DA:2258:C:O2'	2:DA:2427:C:OP2	2.29	0.51
7:DE:145:ASP:HA	7:DE:166:LYS:HB3	1.93	0.51
14:DK:71:ARG:NE	14:DK:106:GLU:OE2	2.44	0.51
38:AC:40:ARG:HG2	38:AC:55:ILE:HD11	1.92	0.51
40:AE:43:GLY:HA2	40:AE:73:VAL:HB	1.92	0.51
1:BA:1291:U:H2'	1:BA:1292:G:H8	1.76	0.51
1:BA:1348:U:H2'	1:BA:1349:A:H8	1.75	0.51
37:BB:166:ASP:HB2	37:BB:190:SER:HA	1.93	0.51
39:BD:10:LEU:HD22	39:BD:62:ARG:HD3	1.93	0.51
6:CD:105:LYS:HA	6:CD:177:VAL:HG12	1.91	0.51
23:CT:69:ARG:HB3	23:CT:74:ILE:HG22	1.93	0.51
2:DA:1638:C:O2	2:DA:2698:U:O2'	2.28	0.51
2:DA:2831:G:N7	6:DD:59:ARG:NH1	2.59	0.51
2:DA:2718:G:O2'	2:DA:2847:U:OP1	2.29	0.51
3:DB:111:U:H2'	3:DB:112:G:H8	1.76	0.51
2:DA:482:A:HO2'	24:DU:44:HIS:HE2	1.56	0.51
1:AA:1015:G:H2'	1:AA:1016:A:C8	2.46	0.50
1:AA:656:G:H4'	50:AO:61:GLN:HE22	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:674:G:H2'	1:AA:675:A:C8	2.46	0.50
39:AD:187:ARG:NE	39:AD:196:GLU:OE2	2.41	0.50
39:AD:36:ALA:HA	39:AD:41:GLY:HA3	1.93	0.50
54:AS:35:ARG:HG2	54:AS:50:VAL:HG13	1.93	0.50
1:BA:454:G:H2'	1:BA:455:G:H8	1.76	0.50
44:BI:19:PHE:O	44:BI:62:LEU:HA	2.11	0.50
30:C0:37:CYS:SG	30:C0:38:SER:N	2.84	0.50
2:CA:1341:G:OP1	2:CA:1397:U:N3	2.42	0.50
2:CA:1244:A:O2'	7:CE:29:HIS:NE2	2.39	0.50
26:CW:11:ARG:CD	26:CW:11:ARG:N	2.73	0.50
2:DA:2576:G:O2'	2:DA:2579:C:OP2	2.28	0.50
2:DA:349:U:H2'	2:DA:350:G:H8	1.75	0.50
2:DA:15:G:O6	2:DA:525:U:O4	2.29	0.50
2:DA:832:U:H2'	2:DA:833:A:H8	1.75	0.50
1:AA:1150:A:H4'	45:AJ:43:PRO:HB3	1.93	0.50
37:AB:10:LYS:HG2	37:AB:207:ARG:HH21	1.75	0.50
42:AG:14:ASP:OD2	42:AG:17:PHE:N	2.43	0.50
52:AQ:31:PRO:HG2	52:AQ:32:ILE:HD12	1.93	0.50
54:AS:11:ASP:HB2	54:AS:14:LEU:HB3	1.93	0.50
39:BD:201:GLU:HG2	40:BE:111:ARG:HH12	1.77	0.50
2:CA:1018:U:O2'	2:CA:1120:G:N2	2.44	0.50
2:CA:1295:C:H2'	2:CA:1296:G:H8	1.76	0.50
2:CA:2061:G:N3	2:CA:2063:C:N4	2.59	0.50
2:CA:2123:G:H2'	2:CA:2124:G:C8	2.46	0.50
2:CA:1073:A:H1'	2:CA:2474:U:H4'	1.93	0.50
2:CA:376:G:H2'	2:CA:377:G:H8	1.76	0.50
2:CA:675:A:N7	2:CA:803:U:O4	2.44	0.50
9:CG:162:ARG:HB2	9:CG:166:GLU:HG3	1.92	0.50
58:CA:3368:HOH:O	19:CP:92:ARG:NH1	2.44	0.50
2:DA:1478:G:H22	2:DA:1513:U:H3	1.59	0.50
2:DA:1636:U:H2'	2:DA:1637:A:H8	1.75	0.50
2:DA:2636:C:O2'	6:DD:45:TYR:OH	2.27	0.50
19:DP:88:ARG:HB3	19:DP:112:ARG:HD3	1.92	0.50
1:AA:927:G:N2	1:AA:1390:U:O2	2.37	0.50
1:AA:1539:C:N3	1:AA:1540:U:O2'	2.41	0.50
1:BA:41:G:H2'	1:BA:42:G:H8	1.76	0.50
4:BW:62:C:H2'	4:BW:63:G:H8	1.76	0.50
2:CA:1548:A:H2'	2:CA:1549:A:H8	1.77	0.50
2:CA:558:U:H2'	2:CA:559:G:H8	1.76	0.50
2:CA:742:A:H2'	2:CA:743:A:C8	2.46	0.50
2:CA:2831:G:OP2	6:CD:59:ARG:NH1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:CJ:125:TYR:OH	13:CJ:132:HIS:NE2	2.33	0.50
14:CK:43:ILE:HD13	14:CK:56:ASP:HB2	1.94	0.50
19:CP:23:ASP:OD1	19:CP:89:GLY:N	2.44	0.50
23:CT:12:ARG:HG3	28:CY:29:ARG:HD2	1.93	0.50
32:D2:10:LEU:HD21	32:D2:33:LEU:HD23	1.92	0.50
32:D2:36:LYS:HG2	32:D2:47:ILE:HG13	1.93	0.50
2:DA:575:A:OP2	2:DA:2499:C:O2'	2.24	0.50
2:DA:633:A:O2'	2:DA:2404:U:OP1	2.28	0.50
15:DL:100:ILE:HG23	15:DL:101:ILE:HG23	1.92	0.50
1:AA:1082:A:OP1	40:AE:22:LYS:NZ	2.39	0.50
46:AK:22:ILE:HG22	46:AK:31:VAL:HG22	1.93	0.50
1:BA:597:G:N2	43:BH:85:TYR:OH	2.45	0.50
2:CA:1024:G:N7	58:CA:3214:HOH:O	2.34	0.50
2:CA:1310:G:O6	2:CA:1605:C:N4	2.44	0.50
2:CA:1716:U:H3	2:CA:1744:A:H62	1.58	0.50
2:CA:2693:G:H2'	2:CA:2694:G:H8	1.76	0.50
2:CA:684:G:O2'	2:CA:788:A:N6	2.44	0.50
2:CA:818:G:H21	2:CA:1189:A:H62	1.60	0.50
2:CA:2358:A:H61	15:CL:54:GLN:HE22	1.59	0.50
2:DA:1409:U:H2'	2:DA:1410:G:H8	1.77	0.50
2:DA:351:C:H2'	2:DA:352:A:H8	1.77	0.50
2:DA:721:A:H2'	2:DA:722:A:C8	2.46	0.50
2:DA:839:U:O4	2:DA:939:G:O6	2.28	0.50
13:DJ:3:THR:HG21	20:DQ:60:TRP:HE1	1.76	0.50
17:DN:33:ILE:HG21	17:DN:118:ARG:CZ	2.42	0.50
42:AG:71:THR:O	42:AG:90:VAL:N	2.45	0.50
1:AA:1537:U:H3	36:AX:6:G:H22	1.59	0.50
1:BA:1397:C:O4'	36:BX:25:U:O4	2.30	0.50
1:BA:246:A:N6	1:BA:281:G:C2	2.79	0.50
42:BG:14:ASP:OD2	42:BG:17:PHE:N	2.45	0.50
1:BA:1308:U:OP1	48:BM:96:VAL:N	2.44	0.50
11:C5:45:GLY:O	11:C5:50:VAL:N	2.41	0.50
2:CA:2839:G:H1	2:CA:2878:U:H3	1.58	0.50
2:CA:2885:G:OP2	31:C1:39:ARG:NH2	2.44	0.50
2:CA:742:A:H2'	2:CA:743:A:H8	1.77	0.50
17:CN:28:LEU:HD13	17:CN:34:ILE:HG12	1.93	0.50
2:DA:1209:U:H2'	2:DA:1210:G:H21	1.77	0.50
2:DA:1223:G:OP2	21:DR:90:ARG:NH1	2.42	0.50
2:DA:1853:A:H2'	2:DA:1854:A:C8	2.46	0.50
2:DA:2472:G:N2	2:DA:2478:A:H62	2.09	0.50
2:DA:2515:C:H2'	2:DA:2516:A:H8	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:2850:A:OP2	2:DA:2866:U:N3	2.44	0.50
2:DA:2768:U:O3'	13:DJ:95:ARG:NH2	2.43	0.50
1:AA:1061:G:H5'	45:AJ:61:ALA:HB2	1.94	0.50
38:BC:110:GLU:HG3	38:BC:141:ALA:HA	1.94	0.50
13:CJ:18:VAL:HB	13:CJ:56:VAL:HG22	1.93	0.50
16:CM:74:THR:HG21	16:CM:86:LYS:HE3	1.92	0.50
17:CN:28:LEU:HD23	17:CN:48:VAL:HG21	1.94	0.50
22:CS:59:GLU:HB2	22:CS:66:ILE:HD11	1.93	0.50
2:DA:1153:C:OP1	20:DQ:91:ARG:NH2	2.45	0.50
2:DA:1500:G:N2	58:DA:3381:HOH:O	2.43	0.50
27:DX:67:LEU:HD23	27:DX:70:LEU:HD12	1.94	0.50
41:AF:5:GLU:HA	41:AF:63:ASN:HA	1.94	0.50
50:AO:3:SER:O	50:AO:5:GLU:N	2.44	0.50
1:AA:376:G:H5''	51:AP:5:ARG:HB2	1.94	0.50
4:AV:44:G:O2'	4:AV:46:G:OP2	2.30	0.50
1:BA:776:G:N1	1:BA:802:A:OP1	2.45	0.50
1:BA:842:U:O2'	1:BA:844:G:O6	2.23	0.50
1:BA:916:U:H2'	1:BA:917:G:H8	1.76	0.50
1:BA:518:C:O2	47:BL:46:SER:N	2.42	0.50
2:CA:987:C:O2'	2:CA:1000:A:N3	2.36	0.50
2:CA:1326:U:O2'	2:CA:2010:G:O2'	2.26	0.50
2:CA:1420:A:O2'	2:CA:2211:A:N7	2.43	0.50
2:CA:613:A:H62	7:CE:173:THR:HG21	1.77	0.50
3:CB:5:U:OP1	3:CB:61:G:O2'	2.23	0.50
8:CF:109:ARG:NH2	8:CF:135:ILE:O	2.43	0.50
2:DA:1388:G:HO2'	2:DA:1525:A:HO2'	1.57	0.50
2:DA:639:U:O2	2:DA:649:G:N2	2.43	0.50
2:DA:1079:C:C2	12:DI:130:GLY:HA3	2.47	0.50
19:DP:8:GLU:HA	19:DP:54:LEU:HD22	1.93	0.50
2:DA:1341:G:H21	23:DT:59:ASN:HD22	1.60	0.50
1:AA:1281:C:OP2	1:AA:1282:C:N4	2.34	0.50
1:AA:269:C:H2'	1:AA:270:A:H8	1.77	0.50
1:AA:374:A:H5'	1:AA:452:A:H62	1.77	0.50
1:AA:948:C:H2'	1:AA:949:A:H8	1.76	0.50
39:AD:128:VAL:HG21	39:AD:145:ARG:HH11	1.77	0.50
40:AE:106:ALA:O	40:AE:111:ARG:NH2	2.44	0.50
54:AS:17:LYS:HA	54:AS:20:LYS:HB2	1.93	0.50
1:BA:280:C:N3	52:BQ:40:THR:N	2.52	0.50
1:BA:537:G:OP1	47:BL:109:ARG:NH2	2.45	0.50
1:BA:762:U:H2'	1:BA:763:G:H8	1.77	0.50
45:BJ:7:ARG:NH1	45:BJ:75:ASP:OD1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BO:52:ARG:NH2	58:BO:101:HOH:O	2.44	0.50
2:CA:2258:C:O2'	2:CA:2427:C:OP2	2.30	0.50
2:DA:1953:A:O2'	2:DA:2559:C:O2	2.27	0.50
2:DA:2845:U:O3'	19:DP:52:ARG:NH1	2.44	0.50
19:DP:38:ARG:HE	19:DP:39:LEU:H	1.60	0.50
1:AA:67:C:H2'	1:AA:68:G:H8	1.76	0.50
37:AB:75:ALA:HA	37:AB:78:ALA:HB3	1.93	0.50
44:AI:11:ARG:NE	44:AI:106:ASP:CB	2.75	0.50
1:AA:280:C:N4	52:AQ:40:THR:OG1	2.41	0.50
40:BE:15:ILE:HG12	40:BE:109:ALA:HA	1.94	0.50
42:BG:106:ALA:HB1	42:BG:132:THR:HB	1.94	0.50
2:CA:2087:G:H2'	2:CA:2088:A:H8	1.77	0.50
2:CA:576:U:H2'	2:CA:577:G:C8	2.47	0.50
2:CA:7:G:N2	58:CA:3297:HOH:O	2.44	0.50
2:CA:946:C:H2'	2:CA:947:A:H8	1.77	0.50
58:CA:3317:HOH:O	6:CD:62:LYS:N	2.41	0.50
29:CZ:2:LYS:HD3	29:CZ:2:LYS:N	2.25	0.50
2:DA:2370:G:H1'	32:D2:43:ARG:HH12	1.77	0.50
2:DA:2683:C:O2	14:DK:70:ARG:NH2	2.45	0.50
2:DA:593:U:O4	2:DA:664:G:O6	2.29	0.50
2:DA:784:G:O6	2:DA:2072:C:O2'	2.30	0.50
1:AA:714:G:H2'	1:AA:715:A:C8	2.46	0.49
39:AD:187:ARG:NH2	39:AD:194:ILE:O	2.40	0.49
43:BH:3:GLN:HE22	43:BH:80:PRO:HG2	1.77	0.49
44:BI:105:ARG:NH1	44:BI:106:ASP:O	2.45	0.49
2:CA:1178:C:H2'	2:CA:1179:G:C8	2.47	0.49
2:CA:2368:C:H2'	2:CA:2369:A:H8	1.77	0.49
2:CA:243:U:OP2	34:C4:7:ARG:NH1	2.45	0.49
2:CA:2508:G:O6	2:CA:2580:U:O4	2.30	0.49
2:CA:2591:C:H2'	2:CA:2592:G:H8	1.77	0.49
2:CA:75:G:O3'	28:CY:48:ARG:NH1	2.45	0.49
2:CA:848:C:H2'	2:CA:849:A:C8	2.46	0.49
2:DA:1719:G:N1	2:DA:1742:U:N3	2.59	0.49
2:DA:197:A:O2'	2:DA:2244:U:OP1	2.30	0.49
2:DA:2693:G:H2'	2:DA:2694:G:H8	1.77	0.49
2:DA:704:G:O2'	2:DA:726:G:N1	2.41	0.49
2:DA:832:U:H2'	2:DA:833:A:C8	2.47	0.49
8:DF:134:GLN:NE2	8:DF:147:ARG:O	2.45	0.49
17:DN:28:LEU:HD23	17:DN:48:VAL:HG11	1.93	0.49
2:DA:1322:A:O2'	22:DS:84:ARG:NH1	2.45	0.49
37:AB:165:ALA:O	37:AB:169:HIS:HB3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:408:A:OP1	39:AD:109:THR:OG1	2.30	0.49
1:BA:1235:U:O2'	1:BA:1305:G:OP1	2.31	0.49
1:BA:1305:G:N2	1:BA:1331:G:O2'	2.43	0.49
1:BA:1504:G:OP2	1:BA:1507:A:O2'	2.27	0.49
44:BI:45:MET:HB2	44:BI:48:ARG:HB3	1.93	0.49
58:BA:1709:HOH:O	44:BI:4:GLN:NE2	2.44	0.49
44:BI:46:VAL:HG21	44:BI:75:ALA:HB1	1.93	0.49
2:CA:1779:U:OP2	2:CA:1784:A:N6	2.39	0.49
2:CA:1962:C:O2'	2:CA:1964:G:OP2	2.30	0.49
3:CB:44:G:N3	3:CB:47:C:N4	2.50	0.49
31:D1:30:ASP:OD2	31:D1:33:SER:N	2.42	0.49
2:DA:1125:G:H3'	2:DA:1126:A:H2'	1.93	0.49
2:DA:285:G:N2	2:DA:355:U:O2	2.37	0.49
10:DH:103:VAL:HB	10:DH:110:VAL:HG11	1.94	0.49
25:DV:32:GLY:O	25:DV:93:ARG:NH1	2.41	0.49
1:AA:877:G:H2'	1:AA:878:A:H8	1.77	0.49
39:AD:57:LYS:NZ	39:AD:68:GLU:OE1	2.43	0.49
38:BC:156:ARG:NH1	38:BC:160:ALA:O	2.45	0.49
2:CA:1077:A:O2'	12:CI:93:ASN:ND2	2.46	0.49
2:CA:598:U:H2'	2:CA:599:A:C8	2.47	0.49
8:CF:147:ARG:HB3	8:CF:149:ARG:HG3	1.93	0.49
13:CJ:37:ARG:NH1	13:CJ:44:TYR:OH	2.45	0.49
2:DA:1536:C:O2	2:DA:1537:G:N1	2.45	0.49
2:DA:2185:U:N3	2:DA:2186:G:N7	2.59	0.49
37:AB:138:ARG:O	37:AB:142:LYS:HB2	2.12	0.49
40:AE:14:LEU:HA	40:AE:35:LEU:O	2.11	0.49
1:AA:1375:A:O2'	42:AG:101:ARG:NH2	2.46	0.49
44:AI:29:ILE:CG2	44:AI:32:ARG:O	2.55	0.49
4:AY:46:G:H3'	4:AY:47:U:H4'	1.94	0.49
1:BA:1342:C:H2'	1:BA:1343:G:C8	2.47	0.49
1:BA:1522:U:H2'	1:BA:1523:G:H8	1.76	0.49
1:BA:938:A:O3'	42:BG:94:ARG:NH2	2.37	0.49
49:BN:67:THR:OG1	49:BN:80:SER:OG	2.29	0.49
1:BA:1314:C:H41	54:BS:3:SER:HA	1.77	0.49
2:CA:1222:U:O4	2:CA:1227:G:O6	2.29	0.49
2:CA:2837:A:H2'	2:CA:2838:G:H8	1.77	0.49
2:CA:1081:U:H4'	12:CI:123:ALA:HB1	1.94	0.49
2:DA:1863:G:H4'	2:DA:2411:A:H4'	1.94	0.49
2:DA:807:U:O2'	2:DA:2060:A:N1	2.45	0.49
2:DA:2241:A:H2'	2:DA:2242:G:H8	1.77	0.49
2:DA:259:G:N3	2:DA:621:A:O2'	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:438:G:H2'	2:DA:439:A:C8	2.47	0.49
10:DH:62:LEU:HB2	10:DH:135:HIS:CE1	2.47	0.49
1:AA:21:G:H2'	1:AA:22:G:C8	2.47	0.49
1:AA:454:G:H2'	1:AA:455:G:H8	1.77	0.49
1:AA:518:C:O2'	1:AA:1492:A:N6	2.46	0.49
37:AB:138:ARG:HH11	37:AB:142:LYS:HE2	1.77	0.49
4:AV:9:A:O2'	4:AV:10:G:N7	2.45	0.49
38:BC:6:HIS:HD2	38:BC:9:GLY:H	1.60	0.49
39:BD:122:ILE:HG23	39:BD:142:VAL:HG23	1.93	0.49
1:BA:958:A:OP1	54:BS:54:ARG:NH1	2.45	0.49
4:BW:44:G:H21	4:BW:45:G:H22	1.61	0.49
25:CV:80:HIS:ND1	58:CV:101:HOH:O	2.35	0.49
8:DF:108:PRO:HB3	30:D0:41:HIS:CD2	2.47	0.49
2:DA:684:G:OP1	33:D3:21:ARG:NH1	2.45	0.49
5:DC:132:ARG:O	5:DC:166:ARG:NH1	2.45	0.49
6:DD:1:MET:HB3	6:DD:205:PRO:HG2	1.94	0.49
38:AC:156:ARG:NH1	38:AC:160:ALA:O	2.45	0.49
1:BA:170:U:H2'	1:BA:171:A:H8	1.78	0.49
1:BA:407:U:H5''	39:BD:111:ALA:HB1	1.93	0.49
1:BA:429:U:OP2	39:BD:12:ARG:NH2	2.44	0.49
2:CA:1309:G:H5''	33:C3:9:VAL:HG23	1.94	0.49
2:CA:1123:C:H2'	2:CA:1124:G:H8	1.77	0.49
2:CA:1336:A:OP1	23:CT:70:HIS:NE2	2.39	0.49
2:CA:2107:G:H1	2:CA:2182:U:H3	1.60	0.49
2:CA:696:G:O6	2:CA:766:U:O4	2.31	0.49
10:CH:5:LEU:HB2	10:CH:16:GLY:H	1.78	0.49
2:DA:251:A:H4'	15:DL:47:ARG:HH22	1.77	0.49
2:DA:711:G:O6	2:DA:720:U:O4	2.30	0.49
1:AA:1014:A:H5'	54:AS:13:HIS:CG	2.48	0.49
37:AB:169:HIS:HA	37:AB:172:ILE:HD12	1.94	0.49
39:AD:150:LYS:NZ	39:AD:150:LYS:CA	2.73	0.49
1:BA:693:G:C8	36:BX:15:A:H5'	2.46	0.49
43:BH:28:SER:HA	43:BH:32:LYS:HD2	1.94	0.49
4:BW:2:G:H2'	4:BW:3:G:H8	1.77	0.49
2:CA:1266:G:OP2	31:C1:16:ARG:NE	2.43	0.49
2:CA:1385:A:O2'	2:CA:1396:U:O2	2.28	0.49
2:CA:372:G:N2	2:CA:401:A:OP2	2.43	0.49
2:CA:832:U:H2'	2:CA:833:A:C8	2.48	0.49
2:CA:903:C:H2'	2:CA:904:G:C8	2.47	0.49
5:CC:234:GLY:O	5:CC:238:ASN:ND2	2.45	0.49
23:CT:6:ARG:NH2	23:CT:37:ASP:O	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:2798:U:H4'	2:DA:2799:A:H5'	1.94	0.49
2:DA:547:A:O2'	2:DA:548:G:N2	2.45	0.49
2:DA:833:A:H2'	2:DA:834:G:C8	2.47	0.49
3:DB:57:A:H8	8:DF:26:GLN:OE1	1.96	0.49
10:DH:76:GLU:HG3	10:DH:143:ILE:HG21	1.95	0.49
18:DO:25:ARG:HA	18:DO:91:SER:HB2	1.95	0.49
1:BA:372:C:N4	1:BA:389:A:N6	2.38	0.49
1:BA:592:G:O6	1:BA:648:A:N6	2.46	0.49
38:BC:15:VAL:HG23	38:BC:16:LYS:HG2	1.95	0.49
2:CA:863:A:O3'	3:CB:100:G:N2	2.45	0.49
2:DA:511:U:H4'	2:DA:1235:G:H4'	1.95	0.49
6:DD:179:ARG:HD2	6:DD:188:LEU:HD12	1.95	0.49
3:DB:76:G:H5'	25:DV:9:ARG:HH12	1.78	0.49
1:AA:1031:C:O4'	1:AA:1032:G:N2	2.46	0.49
1:AA:1345:U:H3	1:AA:1376:U:H3	1.59	0.49
1:AA:96:U:H2'	1:AA:97:G:C8	2.48	0.49
1:BA:1330:U:H4'	48:BM:22:TYR:CE1	2.48	0.49
1:BA:453:G:O6	1:BA:479:U:N3	2.46	0.49
40:BE:64:GLU:OE2	40:BE:68:ARG:NH2	2.45	0.49
46:BK:125:LYS:HG3	46:BK:126:ARG:HG2	1.95	0.49
48:BM:53:ASP:HA	48:BM:56:ARG:HB3	1.95	0.49
1:BA:391:G:OP1	51:BP:8:ARG:NH1	2.46	0.49
2:CA:1571:A:H2'	2:CA:1572:A:H8	1.78	0.49
2:CA:2428:G:H5''	2:CA:2429:G:H5'	1.95	0.49
10:CH:40:THR:HG23	10:CH:43:ASN:H	1.78	0.49
16:CM:10:ARG:NH1	4:AW:63:G:O2'	2.45	0.49
17:CN:83:LEU:N	58:CN:301:HOH:O	2.42	0.49
2:DA:1181:U:H2'	2:DA:1182:G:C8	2.48	0.49
2:DA:2788:C:O2'	2:DA:2809:A:N3	2.39	0.49
2:DA:290:U:H3	2:DA:350:G:H1	1.61	0.49
2:DA:560:C:O2	20:DQ:47:ARG:NH1	2.46	0.49
2:DA:1365:A:O5'	27:DX:27:ARG:NH2	2.45	0.49
1:AA:1149:C:O2'	1:AA:1280:A:N1	2.45	0.49
1:AA:50:A:H4'	1:AA:51:A:H5'	1.94	0.49
45:AJ:10:LEU:HA	45:AJ:98:VAL:HG12	1.95	0.49
53:AR:70:THR:HG23	53:AR:72:ARG:H	1.77	0.49
2:CA:2554:U:H3	4:AV:74:C:H42	1.59	0.49
1:BA:1124:G:N2	1:BA:1125:U:O4	2.32	0.49
1:BA:366:A:O2'	1:BA:394:G:N2	2.46	0.49
38:BC:40:ARG:HG2	38:BC:55:ILE:HD11	1.94	0.49
39:BD:169:TRP:N	58:BD:304:HOH:O	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:42:TRP:HB2	41:BF:59:TYR:HB2	1.93	0.49
2:CA:1062:G:H2'	2:CA:1063:G:C8	2.47	0.49
3:CB:14:U:OP2	3:CB:70:C:O2'	2.31	0.49
31:D1:39:ARG:O	31:D1:41:HIS:ND1	2.42	0.49
2:DA:2039:U:H2'	2:DA:2040:G:C8	2.48	0.49
2:DA:298:G:O2'	2:DA:322:A:N1	2.38	0.49
2:DA:574:A:N6	2:DA:2034:U:OP1	2.46	0.49
16:DM:121:ALA:HA	16:DM:124:LEU:HD12	1.94	0.49
1:AA:262:A:H5'	55:AT:67:HIS:HB2	1.95	0.48
1:AA:895:G:O6	1:AA:904:U:O4	2.30	0.48
1:AA:926:G:H21	1:AA:1505:G:H2'	1.77	0.48
47:AL:38:THR:HA	47:AL:49:ARG:O	2.13	0.48
1:BA:62:U:O2	1:BA:379:C:O2'	2.31	0.48
38:BC:14:ILE:HG22	38:BC:15:VAL:HG13	1.94	0.48
39:BD:27:ILE:O	39:BD:29:THR:N	2.46	0.48
40:BE:106:ALA:H	40:BE:111:ARG:HH21	1.60	0.48
44:BI:29:ILE:O	44:BI:32:ARG:CB	2.60	0.48
2:CA:2574:G:H21	6:CD:147:GLY:HA2	1.78	0.48
3:CB:39:A:O2'	3:CB:46:A:N1	2.45	0.48
14:CK:2:ILE:HB	14:CK:33:ALA:HB3	1.95	0.48
2:CA:329:G:H22	24:CU:16:LYS:HE2	1.78	0.48
25:CV:51:GLN:OE1	25:CV:57:TYR:OH	2.26	0.48
34:D4:35:LYS:HB3	34:D4:39:ARG:HD3	1.95	0.48
2:DA:1103:A:OP2	2:DA:1104:C:N4	2.35	0.48
2:DA:1288:G:OP2	2:DA:1288:G:N2	2.36	0.48
2:DA:1468:U:O4	2:DA:1524:G:O6	2.31	0.48
2:DA:2144:G:O2'	2:DA:2147:A:N6	2.45	0.48
2:DA:601:C:O2'	2:DA:605:G:OP1	2.31	0.48
2:DA:854:C:H2'	2:DA:855:G:H8	1.78	0.48
3:DB:44:G:N3	3:DB:47:C:N4	2.50	0.48
2:DA:911:A:N6	16:DM:11:LYS:O	2.45	0.48
17:DN:8:ARG:NH2	17:DN:43:GLU:OE1	2.46	0.48
25:DV:78:GLN:HB2	25:DV:88:HIS:HB3	1.95	0.48
1:BA:919:A:O2'	1:BA:1080:A:N6	2.46	0.48
2:CA:882:G:O6	2:CA:894:U:C4	2.66	0.48
2:DA:1278:C:H2'	2:DA:1279:G:H8	1.77	0.48
2:DA:1351:C:O2'	2:DA:1571:A:N3	2.39	0.48
2:DA:1932:A:H62	2:DA:1968:G:N2	2.09	0.48
2:DA:2104:C:H3'	2:DA:2186:G:H21	1.77	0.48
2:DA:2691:C:H2'	2:DA:2692:G:H8	1.78	0.48
2:DA:770:G:H2'	2:DA:771:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DV:62:THR:HG22	25:DV:71:LYS:HG2	1.95	0.48
1:AA:319:G:H2'	1:AA:320:A:C8	2.48	0.48
1:AA:811:C:O2'	1:AA:901:A:N6	2.46	0.48
46:BK:34:THR:OG1	46:BK:35:ASP:N	2.46	0.48
1:BA:913:A:OP1	47:BL:42:LYS:NZ	2.47	0.48
2:CA:172:A:H2'	2:CA:173:A:H8	1.78	0.48
2:CA:1664:A:N6	2:CA:1996:C:H42	2.09	0.48
2:CA:721:A:H2'	2:CA:722:A:C8	2.48	0.48
6:CD:51:THR:HG21	6:CD:68:PHE:HE1	1.78	0.48
16:CM:19:GLY:O	16:CM:38:ARG:NH1	2.35	0.48
25:CV:3:THR:HA	25:CV:62:THR:O	2.13	0.48
2:DA:1150:C:H2'	2:DA:1151:A:H8	1.78	0.48
2:DA:1386:C:H2'	2:DA:1387:A:C8	2.48	0.48
2:DA:184:C:H2'	2:DA:185:G:C8	2.48	0.48
2:DA:2645:G:N2	2:DA:2645:G:OP2	2.36	0.48
5:DC:10:PRO:HA	5:DC:13:ARG:HG2	1.94	0.48
29:DZ:17:PRO:HA	29:DZ:20:LYS:HB2	1.95	0.48
1:AA:1391:U:H2'	1:AA:1392:G:C8	2.48	0.48
55:AT:4:LYS:NZ	55:AT:5:SER:OG	2.47	0.48
1:AA:1498:U:C2'	36:AX:19:U:OP1	2.62	0.48
1:BA:157:U:O4	1:BA:164:G:O6	2.31	0.48
1:BA:1108:G:H5''	38:BC:176:HIS:HD2	1.79	0.48
38:BC:191:THR:OG1	38:BC:194:GLY:N	2.47	0.48
40:BE:54:GLU:HG3	40:BE:56:PRO:HD2	1.93	0.48
35:C6:36:ARG:HG2	35:C6:37:GLN:H	1.79	0.48
2:CA:253:C:OP2	34:C4:4:LYS:NZ	2.40	0.48
5:CC:139:THR:O	5:CC:192:GLY:N	2.46	0.48
2:DA:1266:G:OP2	31:D1:16:ARG:NE	2.42	0.48
2:DA:1987:A:H2'	2:DA:1988:G:H8	1.79	0.48
2:DA:2250:G:OP1	16:DM:84:LYS:NZ	2.39	0.48
2:DA:2531:A:H61	2:DA:2662:A:H61	1.61	0.48
5:DC:139:THR:O	5:DC:192:GLY:N	2.45	0.48
14:DK:35:VAL:HG22	14:DK:69:VAL:HG12	1.95	0.48
27:DX:32:LEU:HB3	27:DX:49:ARG:HE	1.77	0.48
1:AA:1422:G:O6	1:AA:1478:U:O4	2.31	0.48
39:AD:171:GLU:HB2	39:AD:180:THR:H	1.78	0.48
1:AA:1187:G:O2'	44:AI:112:ARG:NH1	2.47	0.48
44:AI:32:ARG:NH1	44:AI:36:GLN:OE1	2.47	0.48
1:BA:927:G:H2'	1:BA:928:G:H8	1.77	0.48
37:BB:67:LEU:H	37:BB:89:PHE:HB2	1.77	0.48
4:BV:18:G:H1'	4:BV:57:G:H22	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:1084:A:H2'	2:CA:1085:A:C8	2.49	0.48
2:CA:291:G:O6	2:CA:349:U:O4	2.32	0.48
2:CA:651:G:H5'	34:C4:18:LYS:HG2	1.95	0.48
6:CD:179:ARG:HB2	6:CD:188:LEU:HD12	1.95	0.48
8:CF:128:SER:HA	8:CF:153:ILE:O	2.13	0.48
2:CA:2722:G:O2'	17:CN:3:HIS:O	2.30	0.48
26:CW:41:ARG:O	26:CW:57:HIS:ND1	2.46	0.48
2:CA:2366:A:H4'	26:CW:62:LYS:HE2	1.95	0.48
1:AA:814:A:O2'	1:AA:1510:C:O2'	2.25	0.48
1:AA:477:C:H2'	1:AA:478:A:C4	2.48	0.48
1:AA:975:A:N6	45:AJ:50:THR:O	2.46	0.48
55:AT:27:MET:HG3	55:AT:57:VAL:HG22	1.95	0.48
1:BA:674:G:H2'	1:BA:675:A:H8	1.79	0.48
1:BA:1400:C:O4'	36:BX:20:A:C6	2.66	0.48
2:CA:481:G:O2'	2:CA:507:A:N1	2.45	0.48
5:CC:10:PRO:HA	5:CC:13:ARG:HG2	1.94	0.48
2:DA:1125:G:N3	58:DA:3279:HOH:O	2.35	0.48
2:DA:1667:G:O2'	58:DA:3201:HOH:O	2.20	0.48
2:DA:195:A:H3'	2:DA:196:A:H4'	1.94	0.48
2:DA:2695:U:O4	2:DA:2714:G:O6	2.30	0.48
2:DA:372:G:N2	58:DA:3433:HOH:O	2.46	0.48
3:DB:25:U:O2	3:DB:117:G:O2'	2.32	0.48
1:AA:1060:U:O2'	58:AA:1702:HOH:O	2.20	0.48
1:AA:312:C:H2'	1:AA:313:A:C8	2.49	0.48
1:AA:413:G:O3'	1:AA:428:G:N2	2.46	0.48
1:AA:718:A:H2	53:AR:37:LYS:HE3	1.79	0.48
39:AD:114:ARG:HG3	39:AD:132:ALA:HB2	1.95	0.48
45:AJ:22:THR:HG21	45:AJ:72:ARG:HE	1.78	0.48
45:AJ:29:ALA:O	45:AJ:33:GLY:HA3	2.13	0.48
46:AK:96:ILE:HA	46:AK:99:LEU:HB2	1.95	0.48
2:CA:1704:C:H2'	2:CA:1705:A:C8	2.48	0.48
2:CA:2123:G:H2'	2:CA:2124:G:H8	1.79	0.48
2:CA:2581:G:N2	2:CA:2581:G:OP2	2.42	0.48
2:CA:741:U:H2'	2:CA:742:A:H8	1.78	0.48
2:CA:820:A:N3	2:CA:943:A:O2'	2.47	0.48
2:CA:83:A:N6	2:CA:101:A:N7	2.60	0.48
24:CU:85:ARG:NH1	24:CU:99:SER:HG	2.12	0.48
2:CA:2278:A:H5''	26:CW:12:ASN:ND2	2.28	0.48
29:CZ:8:GLN:HB2	29:CZ:28:LEU:HD13	1.95	0.48
2:DA:1803:A:H62	2:DA:1814:G:N2	2.12	0.48
2:DA:1830:C:H2'	2:DA:1831:G:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:503:A:N6	58:DA:3322:HOH:O	2.39	0.48
2:DA:558:U:H2'	2:DA:559:G:H8	1.79	0.48
2:DA:535:G:N2	2:DA:558:U:O2	2.35	0.48
7:DE:146:VAL:HG12	7:DE:185:LYS:HB2	1.95	0.48
14:DK:108:ARG:HH12	19:DP:33:GLU:HG3	1.79	0.48
2:DA:998:C:OP2	20:DQ:57:ARG:NH2	2.47	0.48
24:DU:84:PHE:HE1	24:DU:93:ARG:HG2	1.78	0.48
1:AA:974:A:H4'	1:AA:975:A:H3'	1.95	0.48
39:AD:6:PRO:HB2	39:AD:9:LYS:HD3	1.94	0.48
1:AA:1374:A:O2'	42:AG:27:ASN:O	2.31	0.48
44:AI:32:ARG:CA	44:AI:32:ARG:HE	2.16	0.48
1:BA:1224:U:O2'	1:BA:1322:C:OP1	2.28	0.48
1:BA:62:U:O2'	1:BA:379:C:O2	2.28	0.48
44:BI:23:GLY:H	44:BI:60:LEU:HA	1.78	0.48
2:CA:177:G:N2	2:CA:177:G:OP2	2.34	0.48
2:CA:2192:U:H2'	2:CA:2193:G:H8	1.79	0.48
2:CA:863:A:O2'	3:CB:100:G:N3	2.45	0.48
3:CB:9:G:O6	3:CB:111:U:O4	2.32	0.48
2:CA:2002:G:OP2	17:CN:9:GLN:NE2	2.47	0.48
23:CT:1:MET:HG2	23:CT:2:ILE:HG13	1.95	0.48
29:CZ:1:ALA:H2	29:CZ:39:ASP:N	1.89	0.48
2:DA:1716:U:H2'	2:DA:1717:A:H8	1.77	0.48
2:DA:1769:U:O2	2:DA:1983:G:N2	2.42	0.48
16:DM:19:GLY:O	16:DM:38:ARG:NH1	2.40	0.48
4:BV:53:G:O3'	16:DM:55:ARG:NH1	2.47	0.48
3:DB:8:C:H5''	18:DO:15:ARG:HH22	1.78	0.48
1:AA:458:U:H2'	1:AA:459:A:C8	2.48	0.48
1:BA:1106:G:HO2'	38:BC:169:ARG:NH1	2.07	0.48
1:BA:1458:G:H2'	1:BA:1459:G:H8	1.79	0.48
1:BA:376:G:O6	1:BA:387:U:O4	2.32	0.48
46:BK:22:ILE:HD11	46:BK:85:VAL:HG22	1.96	0.48
32:C2:10:LEU:O	32:C2:19:PHE:HA	2.13	0.48
2:CA:1165:A:H2'	2:CA:1166:G:H8	1.78	0.48
2:CA:1995:U:H3'	2:CA:1996:C:H2'	1.95	0.48
2:CA:465:G:N1	58:CA:3281:HOH:O	2.35	0.48
23:CT:47:VAL:O	58:CT:101:HOH:O	2.20	0.48
30:D0:14:ALA:HA	30:D0:32:LEU:HB3	1.96	0.48
2:DA:1316:U:H2'	2:DA:1317:G:H8	1.78	0.48
2:DA:578:G:OP1	2:DA:1255:U:O2'	2.32	0.48
2:DA:84:A:H62	2:DA:101:A:H2	1.61	0.48
12:DI:102:ARG:NH2	12:DI:141:ASP:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:DZ:11:SER:OG	29:DZ:12:ALA:N	2.46	0.48
1:AA:493:A:H2'	1:AA:494:G:C4	2.48	0.48
39:AD:162:GLU:HA	39:AD:166:LYS:HE3	1.96	0.48
43:AH:46:GLU:N	58:AH:201:HOH:O	2.38	0.48
53:AR:41:SER:HB3	53:AR:51:GLN:HG2	1.95	0.48
1:BA:1288:A:H2'	1:BA:1289:A:C8	2.49	0.48
37:BB:66:ILE:HG13	37:BB:88:GLN:HA	1.96	0.48
2:CA:124:G:N7	33:C3:19:ARG:NH1	2.61	0.48
7:CE:176:ASP:OD1	7:CE:179:SER:OG	2.24	0.48
17:CN:117:ASP:N	17:CN:117:ASP:OD1	2.27	0.48
25:CV:83:LYS:N	58:CV:101:HOH:O	2.47	0.48
8:DF:101:ARG:CZ	30:D0:26:SER:HA	2.44	0.48
2:DA:210:C:OP1	33:D3:29:GLN:NE2	2.47	0.48
2:DA:172:A:H2'	2:DA:173:A:C8	2.49	0.48
2:DA:2043:C:OP1	2:DA:2777:G:O2'	2.28	0.48
2:DA:2351:G:O6	34:D4:41:ARG:NH1	2.46	0.48
2:DA:494:G:H4'	22:DS:6:LYS:HG3	1.96	0.48
2:DA:329:G:H1	24:DU:16:LYS:HG3	1.79	0.48
1:AA:376:G:O3'	51:AP:5:ARG:NH1	2.45	0.47
1:AA:514:C:H2'	1:AA:515:G:C8	2.47	0.47
1:AA:84:U:O4	1:AA:88:U:O2'	2.31	0.47
45:AJ:52:LEU:HD23	45:AJ:62:ARG:HG2	1.95	0.47
1:AA:1539:C:C1'	36:AX:5:G:H22	2.27	0.47
1:BA:1203:C:H5''	49:BN:1:ALA:HB2	1.95	0.47
1:BA:230:G:OP1	51:BP:31:ARG:NH2	2.47	0.47
39:BD:49:ASP:OD2	39:BD:53:GLN:NE2	2.47	0.47
43:BH:49:LYS:HB2	43:BH:59:GLU:HB3	1.95	0.47
44:BI:20:ILE:HG12	44:BI:60:LEU:HD13	1.96	0.47
52:BQ:18:LYS:HE3	52:BQ:49:ASN:H	1.78	0.47
2:CA:575:A:OP2	2:CA:2499:C:O2'	2.29	0.47
28:CY:24:GLU:H	28:CY:27:ASN:HD22	1.62	0.47
2:DA:1106:G:H2'	2:DA:1107:G:H8	1.79	0.47
2:DA:704:G:N2	2:DA:727:A:H62	2.10	0.47
2:DA:742:A:H2'	2:DA:743:A:H8	1.79	0.47
2:DA:468:G:H5''	7:DE:55:SER:HB3	1.94	0.47
14:DK:25:LEU:HD21	14:DK:40:LYS:HG2	1.96	0.47
1:AA:575:G:H4'	1:AA:576:C:H5''	1.95	0.47
1:AA:67:C:H2'	1:AA:68:G:C8	2.49	0.47
44:AI:11:ARG:CD	44:AI:106:ASP:CB	2.92	0.47
44:AI:10:ARG:O	44:AI:105:ARG:NH2	2.46	0.47
46:AK:92:ARG:NH1	46:AK:111:ASP:OD1	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1032:G:N2	1:BA:1033:G:H1'	2.29	0.47
1:BA:579:A:H5'	1:BA:728:A:H1'	1.95	0.47
39:BD:144:ILE:HD12	39:BD:177:MET:HB3	1.95	0.47
39:BD:57:LYS:NZ	39:BD:68:GLU:OE1	2.46	0.47
2:CA:2202:U:O4	2:CA:2221:G:O6	2.32	0.47
2:DA:1796:U:H2'	2:DA:1797:G:H8	1.78	0.47
2:DA:1969:A:O2'	2:DA:1972:G:N3	2.35	0.47
2:DA:2495:G:H5''	16:DM:81:ARG:HD3	1.96	0.47
2:DA:2628:C:O2'	2:DA:2782:G:OP1	2.29	0.47
17:DN:40:LYS:O	17:DN:44:LEU:HB2	2.14	0.47
1:AA:1386:G:H2'	1:AA:1387:G:H8	1.79	0.47
1:AA:424:G:H2'	1:AA:425:G:H8	1.79	0.47
54:AS:14:LEU:HD13	54:AS:32:THR:HG21	1.95	0.47
2:CA:1799:G:O3'	5:CC:181:ARG:NH2	2.47	0.47
2:CA:277:G:N2	2:CA:360:U:O4	2.47	0.47
2:CA:291:G:H1	2:CA:349:U:H3	1.62	0.47
2:CA:460:A:H62	2:CA:469:G:H21	1.61	0.47
7:CE:97:ASN:ND2	7:CE:100:MET:SD	2.78	0.47
15:CL:81:ASP:N	15:CL:81:ASP:OD1	2.46	0.47
2:DA:1215:G:O6	2:DA:1234:U:O4	2.33	0.47
2:DA:1972:G:H2'	2:DA:1973:G:H8	1.78	0.47
2:DA:2355:G:O2'	26:DW:24:LYS:NZ	2.47	0.47
2:DA:2883:A:OP1	31:D1:48:TYR:OH	2.32	0.47
2:DA:413:C:N4	58:DA:3432:HOH:O	2.46	0.47
2:DA:970:U:O2	2:DA:984:A:O2'	2.32	0.47
1:AA:1067:A:N1	1:AA:1108:G:O2'	2.41	0.47
38:AC:58:GLU:HB3	38:AC:65:ARG:HB3	1.97	0.47
50:AO:2:LEU:HD11	50:AO:34:GLN:CD	2.35	0.47
1:BA:108:G:H5'	1:BA:109:A:H5''	1.96	0.47
1:BA:693:G:C5	36:BX:15:A:O4'	2.67	0.47
39:BD:168:THR:HG21	39:BD:183:ARG:HH21	1.78	0.47
2:CA:1422:G:O6	2:CA:1576:U:O4	2.32	0.47
2:CA:2091:C:O2	27:CX:33:HIS:NE2	2.48	0.47
2:CA:2788:C:O2'	2:CA:2809:A:N3	2.35	0.47
2:CA:2850:A:OP2	2:CA:2866:U:N3	2.48	0.47
2:CA:741:U:H2'	2:CA:742:A:C8	2.49	0.47
2:CA:813:U:O2'	2:CA:1225:G:O2'	2.27	0.47
2:CA:882:G:N1	2:CA:894:U:N3	2.63	0.47
2:DA:2032:G:N2	6:DD:151:THR:OG1	2.47	0.47
2:DA:2032:G:O2'	6:DD:150:GLN:NE2	2.48	0.47
2:DA:414:C:H2'	2:DA:415:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:481:G:O2'	2:DA:507:A:N1	2.39	0.47
1:AA:126:G:H1	1:AA:235:C:H42	1.62	0.47
1:AA:662:U:H2'	1:AA:663:A:C8	2.49	0.47
1:BA:1030:U:O2'	1:BA:1030:U:O2	2.30	0.47
1:BA:642:A:N3	43:BH:104:SER:OG	2.43	0.47
55:BT:34:VAL:HG11	55:BT:78:LEU:HD13	1.97	0.47
2:CA:1178:C:H2'	2:CA:1179:G:H8	1.79	0.47
2:CA:1779:U:H5''	2:CA:1780:A:H5''	1.96	0.47
2:CA:1936:A:OP2	2:CA:1962:C:N4	2.47	0.47
2:CA:2245:U:H5''	2:CA:2246:G:H5'	1.95	0.47
2:CA:2632:A:HO2'	2:CA:2811:G:HO2'	1.61	0.47
58:CA:3321:HOH:O	22:CS:95:ARG:NH1	2.47	0.47
30:D0:28:VAL:HG12	30:D0:30:HIS:HB3	1.97	0.47
2:DA:1704:C:H2'	2:DA:1705:A:C8	2.50	0.47
2:DA:582:A:H2'	2:DA:583:G:H8	1.79	0.47
2:DA:1248:G:OP1	7:DE:44:ARG:NH2	2.47	0.47
1:AA:1179:A:H4'	44:AI:104:THR:HA	1.97	0.47
1:AA:533:A:O2'	1:AA:535:A:OP1	2.32	0.47
47:AL:34:THR:N	47:AL:53:ARG:O	2.48	0.47
53:AR:22:TYR:HA	53:AR:57:ALA:HB1	1.97	0.47
1:BA:1513:A:H2'	1:BA:1514:G:C8	2.50	0.47
1:BA:161:A:H2'	1:BA:162:A:C8	2.50	0.47
1:BA:269:C:H2'	1:BA:270:A:C8	2.50	0.47
1:BA:56:U:H2'	1:BA:57:G:C8	2.49	0.47
1:BA:683:G:O6	1:BA:707:U:O4	2.33	0.47
38:BC:152:GLU:HG3	38:BC:167:TRP:HB3	1.97	0.47
42:BG:14:ASP:HB3	42:BG:19:SER:H	1.79	0.47
48:BM:89:ARG:HD3	48:BM:96:VAL:HG12	1.95	0.47
50:BO:86:LEU:HD12	50:BO:87:ARG:HB2	1.97	0.47
2:CA:2899:A:H2'	2:CA:2900:A:C8	2.49	0.47
2:CA:351:C:H2'	2:CA:352:A:H8	1.78	0.47
2:CA:582:A:H2'	2:CA:583:G:H8	1.79	0.47
2:CA:833:A:H2'	2:CA:834:G:H8	1.80	0.47
2:CA:882:G:O6	2:CA:894:U:O4	2.32	0.47
2:CA:927:A:O2'	29:CZ:38:GLU:OE2	2.31	0.47
33:D3:41:ARG:HG3	33:D3:44:VAL:HG22	1.97	0.47
2:DA:247:G:HO2'	2:DA:386:G:H1	1.61	0.47
2:DA:775:G:N2	2:DA:793:A:O3'	2.48	0.47
14:DK:78:ARG:NH1	19:DP:70:GLU:OE1	2.46	0.47
2:DA:309:A:H4'	24:DU:15:GLY:HA2	1.97	0.47
1:AA:789:U:N3	1:AA:792:A:OP2	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:AM:17:ALA:O	48:AM:20:SER:OG	2.29	0.47
50:AO:3:SER:O	50:AO:4:THR:C	2.52	0.47
1:BA:979:C:O2'	1:BA:1220:G:OP2	2.26	0.47
37:BB:91:VAL:HG11	37:BB:95:TRP:HD1	1.78	0.47
47:BL:67:GLY:O	47:BL:98:ARG:NH1	2.39	0.47
47:BL:21:PRO:HD2	47:BL:93:ARG:HH21	1.79	0.47
49:BN:64:CYS:SG	49:BN:65:ARG:N	2.88	0.47
4:BV:8:U:H3	4:BV:14:A:H62	1.61	0.47
2:CA:1011:G:OP2	20:CQ:69:ARG:NH1	2.48	0.47
2:CA:328:U:O2	24:CU:67:SER:OG	2.26	0.47
2:CA:4:U:H2'	2:CA:5:A:C8	2.50	0.47
10:CH:8:LYS:HD2	10:CH:8:LYS:H	1.79	0.47
15:CL:79:LEU:HB3	15:CL:116:VAL:HB	1.95	0.47
35:D6:25:VAL:HB	35:D6:35:GLN:HB2	1.97	0.47
2:DA:1295:C:H2'	2:DA:1296:G:H8	1.80	0.47
2:DA:1341:G:OP1	2:DA:1397:U:N3	2.42	0.47
2:DA:2070:A:H2'	2:DA:2071:A:H8	1.80	0.47
2:DA:2739:U:H2'	2:DA:2740:A:H8	1.79	0.47
2:DA:2525:G:HO2'	2:DA:2742:G:HO2'	1.63	0.47
14:DK:13:ASN:ND2	14:DK:97:THR:OG1	2.43	0.47
25:DV:9:ARG:HD3	25:DV:39:ALA:HB1	1.97	0.47
26:DW:49:ALA:HB3	26:DW:81:SER:HB2	1.96	0.47
1:AA:616:G:H2'	1:AA:617:G:C8	2.50	0.47
1:BA:1028:C:O2'	1:BA:1029:U:P	2.72	0.47
1:BA:62:U:H1'	1:BA:379:C:H1'	1.96	0.47
1:BA:77:A:H2'	1:BA:78:A:H8	1.79	0.47
15:CL:63:LYS:HD2	34:C4:11:LYS:HD3	1.97	0.47
11:C5:30:SER:HB3	11:C5:81:LEU:HD22	1.97	0.47
2:CA:1153:C:H5'	20:CQ:75:TYR:HE2	1.80	0.47
2:CA:1521:G:H1'	58:CA:3219:HOH:O	2.14	0.47
2:CA:718:A:N6	58:CA:3475:HOH:O	2.47	0.47
5:CC:257:ARG:NH2	5:CC:262:THR:OG1	2.42	0.47
3:CB:43:C:H4'	8:CF:94:ARG:HH21	1.80	0.47
2:DA:2241:A:H2'	2:DA:2242:G:C8	2.49	0.47
2:DA:383:C:N3	2:DA:392:U:O4	2.47	0.47
3:DB:14:U:OP2	3:DB:70:C:O2'	2.31	0.47
1:AA:1118:U:H5'	44:AI:105:ARG:HG2	1.97	0.47
1:BA:1030:U:C6	1:BA:1030:U:P	3.07	0.47
34:C4:24:LYS:HE3	34:C4:28:LEU:HD23	1.97	0.47
2:CA:385:C:O2'	2:CA:388:G:N2	2.45	0.47
2:CA:1798:U:OP2	5:CC:270:ARG:NH2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:CF:112:ASP:OD2	48:AM:69:ARG:NE	2.48	0.47
18:CO:39:VAL:HB	18:CO:49:VAL:HB	1.97	0.47
10:CH:27:ARG:NH1	27:CX:55:MET:SD	2.88	0.47
2:DA:1159:U:H2'	2:DA:1160:G:H8	1.78	0.47
2:DA:1668:A:N1	58:DA:3291:HOH:O	2.36	0.47
5:DC:144:GLU:HG2	5:DC:151:GLY:H	1.80	0.47
2:DA:1243:C:O2'	15:DL:6:LEU:O	2.32	0.47
1:AA:147:G:H2'	1:AA:148:G:C8	2.49	0.47
1:AA:473:U:H2'	1:AA:474:G:C8	2.50	0.47
1:AA:877:G:H2'	1:AA:878:A:C8	2.49	0.47
58:AA:1761:HOH:O	50:AO:57:ARG:NH1	2.43	0.47
52:AQ:19:SER:HB2	52:AQ:70:LYS:HZ1	1.80	0.47
1:AA:1221:G:OP1	54:AS:35:ARG:NH1	2.48	0.47
1:BA:553:A:H5''	47:BL:20:VAL:HG21	1.97	0.47
1:BA:981:U:O2'	49:BN:61:ARG:NH1	2.48	0.47
39:BD:7:LYS:HB3	39:BD:20:LEU:HD13	1.97	0.47
4:BV:49:G:H2'	4:BV:50:G:H8	1.79	0.47
2:DA:2506:U:O2'	4:BV:76:A:O2'	2.30	0.47
2:CA:2370:G:O2'	32:C2:43:ARG:NH1	2.48	0.47
5:CC:68:ARG:NH1	5:CC:128:THR:OG1	2.48	0.47
8:CF:56:LEU:HD23	8:CF:59:ILE:HD12	1.97	0.47
10:CH:1:MET:N	10:CH:21:VAL:O	2.48	0.47
2:DA:2055:C:N4	2:DA:2499:C:O2	2.48	0.47
2:DA:2233:U:H2'	2:DA:2234:G:H8	1.80	0.47
2:DA:480:A:H4'	24:DU:43:LYS:HB2	1.97	0.47
2:DA:543:G:N2	58:DA:3428:HOH:O	2.46	0.47
2:DA:748:G:OP2	22:DS:88:ARG:NE	2.43	0.47
3:DB:8:C:H42	3:DB:112:G:H1	1.63	0.47
10:DH:65:ALA:HB1	10:DH:134:VAL:HG12	1.97	0.47
2:DA:381:G:OP1	27:DX:17:ARG:NH1	2.48	0.47
1:AA:1492:A:N3	36:AX:22:U:O2'	2.42	0.47
1:AA:1513:A:H2'	1:AA:1514:G:H8	1.80	0.47
1:AA:34:C:H2'	1:AA:35:G:H8	1.80	0.47
38:AC:10:ILE:HG23	38:AC:11:ARG:HD2	1.97	0.47
41:AF:9:MET:HB2	41:AF:85:ILE:HG13	1.96	0.47
1:BA:41:G:H2'	1:BA:42:G:C8	2.50	0.47
1:BA:501:C:H2'	1:BA:502:A:H8	1.80	0.47
1:BA:675:A:H2'	1:BA:676:A:H8	1.80	0.47
1:BA:1367:C:OP1	45:BJ:62:ARG:NH1	2.48	0.47
1:BA:1115:U:H5'	45:BJ:68:ARG:HH22	1.79	0.47
2:CA:1214:A:H62	2:CA:1235:G:N2	2.11	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:1356:G:O6	2:CA:1375:U:O4	2.33	0.47
2:CA:177:G:H3'	2:CA:178:G:H8	1.80	0.47
2:CA:2648:G:O6	2:CA:2672:U:O4	2.33	0.47
2:CA:2646:C:OP2	2:CA:2732:G:O2'	2.33	0.47
3:CB:27:C:OP1	18:CO:34:HIS:NE2	2.43	0.47
3:CB:2:G:O6	3:CB:119:A:N6	2.48	0.47
2:DA:1640:A:H2'	2:DA:1641:A:H8	1.80	0.47
2:DA:1857:G:N2	2:DA:1884:G:N3	2.63	0.47
2:DA:2140:G:N2	2:DA:2151:U:O2	2.41	0.47
2:DA:581:C:H2'	2:DA:582:A:C8	2.50	0.47
1:AA:398:U:H2'	1:AA:399:G:H8	1.79	0.46
1:AA:677:U:O2	1:AA:777:A:O2'	2.32	0.46
42:AG:108:ARG:O	42:AG:118:ARG:NH2	2.47	0.46
45:AJ:12:ALA:HB2	45:AJ:96:VAL:HG22	1.97	0.46
45:AJ:40:ILE:HD12	45:AJ:73:LEU:HB3	1.96	0.46
4:AV:4:U:H2'	4:AV:5:G:H8	1.79	0.46
1:BA:1372:U:OP2	44:BI:12:LYS:NZ	2.40	0.46
38:BC:19:ASN:ND2	49:BN:90:ARG:O	2.49	0.46
47:BL:23:LEU:HG	47:BL:24:GLU:HG3	1.96	0.46
49:BN:69:ARG:HH11	49:BN:82:ILE:HD11	1.80	0.46
2:CA:1469:A:H2'	2:CA:1470:A:H8	1.79	0.46
2:CA:1571:A:H2'	2:CA:1572:A:C8	2.50	0.46
2:CA:1798:U:O2'	2:CA:1802:A:N3	2.48	0.46
2:CA:1853:A:N7	2:CA:1889:A:N6	2.63	0.46
2:CA:2334:U:O2'	18:CO:13:ARG:NH2	2.47	0.46
2:CA:607:U:O4	2:CA:621:A:N7	2.48	0.46
2:CA:763:G:O2'	58:CA:3203:HOH:O	2.21	0.46
5:CC:160:TYR:HB3	5:CC:193:GLU:HG2	1.97	0.46
2:DA:2329:U:H2'	2:DA:2330:G:C8	2.50	0.46
2:DA:65:U:O2'	2:DA:456:C:N3	2.43	0.46
2:DA:4:U:H2'	2:DA:5:A:C8	2.50	0.46
1:AA:324:G:N1	1:AA:327:A:OP2	2.43	0.46
38:AC:85:GLU:HA	38:AC:88:ARG:HG2	1.97	0.46
43:AH:4:ASP:OD2	43:AH:7:ALA:N	2.41	0.46
44:AI:112:ARG:NH1	49:AN:101:TRP:OXT	2.48	0.46
4:AV:54:U:O4	4:AV:58:A:N7	2.48	0.46
1:BA:1116:U:H3	1:BA:1184:G:H1	1.64	0.46
1:BA:709:U:H2'	1:BA:710:G:H8	1.80	0.46
44:BI:111:GLU:OE2	44:BI:114:LYS:NZ	2.43	0.46
47:BL:42:LYS:HG2	47:BL:43:LYS:H	1.80	0.46
2:DA:2602:A:N6	4:BW:76:A:O2'	2.42	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:1315:C:O2'	2:CA:1392:A:N3	2.48	0.46
2:CA:2087:G:H2'	2:CA:2088:A:C8	2.50	0.46
2:CA:406:G:H2'	2:CA:407:G:H8	1.80	0.46
2:CA:537:G:H21	2:CA:556:A:H62	1.62	0.46
6:CD:46:ARG:NH1	6:CD:86:GLU:N	2.63	0.46
2:DA:572:A:H61	2:DA:2029:G:N2	2.12	0.46
2:DA:694:U:O4	2:DA:768:G:O6	2.33	0.46
14:DK:24:VAL:HG13	14:DK:33:ALA:HB2	1.98	0.46
2:DA:1666:G:N3	14:DK:3:GLN:NE2	2.62	0.46
1:AA:1001:C:H42	1:AA:1039:G:H22	1.63	0.46
1:AA:1220:G:H2'	1:AA:1221:G:C8	2.50	0.46
1:AA:164:G:H2'	1:AA:165:G:C8	2.50	0.46
47:AL:113:ARG:HB2	47:AL:118:VAL:HB	1.97	0.46
1:BA:262:A:H2'	1:BA:263:A:C8	2.51	0.46
38:BC:7:PRO:HG3	38:BC:175:LEU:HD11	1.96	0.46
1:BA:950:U:H3'	48:BM:100:ARG:HH22	1.80	0.46
48:BM:89:ARG:NE	48:BM:95:PRO:O	2.47	0.46
2:CA:1072:C:O2'	2:CA:1094:U:O4	2.33	0.46
2:CA:495:G:N3	22:CS:61:ASN:ND2	2.60	0.46
2:CA:662:G:H1'	15:CL:14:LYS:HD3	1.97	0.46
2:CA:729:G:OP1	5:CC:9:SER:OG	2.32	0.46
9:CG:93:TYR:OH	9:CG:151:ARG:NH1	2.47	0.46
9:DG:163:TYR:HB2	9:DG:166:GLU:HG2	1.97	0.46
15:DL:60:ARG:HG3	15:DL:61:LEU:HD12	1.98	0.46
1:AA:1218:C:H2'	1:AA:1219:A:C8	2.46	0.46
1:AA:1228:C:H5"	48:AM:106:ARG:HH22	1.80	0.46
1:AA:1395:C:HO2'	1:AA:1401:G:HO2'	1.62	0.46
1:AA:25:C:H2'	1:AA:26:A:H8	1.80	0.46
1:AA:715:A:H2'	1:AA:716:A:C8	2.50	0.46
39:AD:150:LYS:NZ	39:AD:150:LYS:CB	2.78	0.46
40:AE:113:VAL:HG21	40:AE:140:ILE:HD11	1.98	0.46
1:AA:740:U:P	50:AO:1:SER:N	2.88	0.46
1:AA:230:G:OP1	51:AP:31:ARG:NH2	2.49	0.46
1:BA:1160:G:H1	1:BA:1176:A:N6	2.11	0.46
1:BA:980:C:H5"	1:BA:981:U:H5	1.80	0.46
37:BB:8:MET:HB3	37:BB:42:LEU:HD11	1.97	0.46
48:BM:63:VAL:HG11	48:BM:67:ASP:HB2	1.95	0.46
1:BA:1360:A:OP2	49:BN:75:ARG:NH2	2.47	0.46
31:C1:37:HIS:ND1	31:C1:38:LEU:O	2.48	0.46
2:CA:635:C:O2'	2:CA:639:U:OP1	2.34	0.46
2:DA:1056:G:N2	2:DA:1103:A:N6	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:1434:A:H2'	2:DA:1435:G:H8	1.80	0.46
2:DA:2070:A:H2'	2:DA:2071:A:C8	2.51	0.46
1:AA:406:G:O2'	39:AD:2:ARG:NH2	2.48	0.46
1:AA:927:G:H2'	1:AA:928:G:H8	1.78	0.46
38:AC:56:VAL:HB	38:AC:67:THR:HB	1.98	0.46
39:AD:150:LYS:HZ2	39:AD:150:LYS:HB3	1.81	0.46
50:AO:2:LEU:HD11	50:AO:34:GLN:HA	1.97	0.46
1:BA:1323:G:H2'	1:BA:1324:A:C8	2.51	0.46
1:BA:781:A:O2'	1:BA:1522:U:O2	2.33	0.46
1:BA:255:G:O6	1:BA:266:G:O6	2.33	0.46
1:BA:715:A:H2'	1:BA:716:A:C8	2.50	0.46
37:BB:27:LYS:HA	37:BB:30:ILE:HD12	1.98	0.46
37:BB:81:ASP:OD1	37:BB:82:ALA:N	2.48	0.46
1:BA:1231:G:O2'	44:BI:127:SER:OG	2.24	0.46
47:BL:31:GLY:O	47:BL:78:VAL:HA	2.15	0.46
2:CA:1482:G:H2'	2:CA:1483:G:H8	1.81	0.46
2:CA:748:G:OP2	22:CS:88:ARG:NE	2.45	0.46
26:CW:37:ILE:HD11	26:CW:61:ALA:HB2	1.97	0.46
2:DA:1422:G:H2'	2:DA:1423:G:H8	1.80	0.46
2:DA:1770:G:O2'	2:DA:1938:A:OP1	2.28	0.46
2:DA:2282:G:N2	2:DA:2425:A:N7	2.63	0.46
2:DA:807:U:H2'	2:DA:808:G:H8	1.80	0.46
1:AA:768:A:N3	1:AA:1512:U:O2'	2.48	0.46
1:AA:694:A:O2'	4:AY:37:A:N3	2.48	0.46
1:BA:551:U:O2'	47:BL:82:ARG:NH1	2.47	0.46
1:BA:600:A:H2'	1:BA:601:G:C8	2.51	0.46
37:BB:130:LYS:HA	37:BB:133:ALA:HB3	1.98	0.46
38:BC:157:LEU:HD22	38:BC:164:ARG:HE	1.81	0.46
1:BA:643:C:H5''	43:BH:31:LEU:HD11	1.96	0.46
43:BH:60:LEU:O	58:BH:201:HOH:O	2.21	0.46
45:BJ:12:ALA:HB2	45:BJ:96:VAL:HG13	1.96	0.46
4:BW:15:G:N1	4:BW:48:C:N3	2.56	0.46
2:CA:2340:A:H2'	2:CA:2341:G:C8	2.51	0.46
2:CA:2676:C:H2'	2:CA:2677:G:H8	1.81	0.46
3:CB:70:C:H2'	3:CB:71:C:H6	1.81	0.46
2:CA:2303:G:O2'	8:CF:120:SER:O	2.30	0.46
13:CJ:56:VAL:HB	13:CJ:124:VAL:HG12	1.97	0.46
15:CL:94:THR:HA	15:CL:97:ALA:HB3	1.97	0.46
17:CN:95:THR:N	17:CN:116:VAL:CG2	2.79	0.46
2:DA:1589:U:H2'	2:DA:1590:A:C8	2.51	0.46
2:DA:1799:G:OP2	5:DC:269:ARG:NH2	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:742:A:H2'	2:DA:743:A:C8	2.51	0.46
5:DC:106:PRO:HD2	5:DC:109:LEU:HD22	1.96	0.46
5:DC:5:CYS:SG	5:DC:12:ARG:NH2	2.89	0.46
2:DA:2748:A:H5'	9:DG:3:VAL:HG21	1.98	0.46
1:AA:510:A:HO2'	1:AA:542:G:HO2'	1.62	0.46
1:AA:625:U:H2'	1:AA:626:G:H8	1.80	0.46
46:AK:22:ILE:HD11	46:AK:85:VAL:HG22	1.97	0.46
1:BA:114:U:H2'	1:BA:115:G:C8	2.51	0.46
1:BA:203:G:N2	1:BA:204:G:O6	2.43	0.46
1:BA:714:G:H2'	1:BA:715:A:C8	2.51	0.46
2:CA:1143:A:OP1	13:CJ:27:ARG:NH2	2.40	0.46
2:CA:1173:U:O2'	2:CA:1176:U:O4	2.34	0.46
2:CA:2039:U:H2'	2:CA:2040:G:C8	2.50	0.46
10:CH:8:LYS:HB3	10:CH:15:LEU:HD12	1.97	0.46
2:DA:2692:G:N2	2:DA:2848:G:OP1	2.46	0.46
2:DA:328:U:O2	24:DU:67:SER:OG	2.32	0.46
2:DA:182:A:H2	2:DA:433:C:H1'	1.81	0.46
2:DA:5:A:H2'	2:DA:6:A:H8	1.81	0.46
1:AA:1175:G:H2'	1:AA:1176:A:H8	1.81	0.46
1:AA:164:G:H2'	1:AA:165:G:H8	1.81	0.46
38:AC:9:GLY:HA2	38:AC:12:LEU:HD21	1.98	0.46
1:AA:586:C:O2'	43:AH:3:GLN:OE1	2.31	0.46
1:BA:138:G:H2'	1:BA:139:A:C8	2.51	0.46
1:BA:73:C:O2	1:BA:73:C:H2'	2.16	0.46
36:BX:26:A:C2	38:BC:162:ILE:HD11	2.50	0.46
2:CA:1969:A:O2'	2:CA:1972:G:N3	2.37	0.46
13:CJ:34:ARG:HG3	13:CJ:39:LYS:HB2	1.98	0.46
2:DA:1036:G:N2	2:DA:1119:U:O2	2.34	0.46
2:DA:2804:U:H2'	2:DA:2805:C:H6	1.81	0.46
2:DA:463:G:O2'	2:DA:465:G:O6	2.30	0.46
5:DC:244:VAL:HG12	5:DC:250:GLN:HA	1.97	0.46
2:DA:1140:C:H5'	13:DJ:26:GLY:HA3	1.97	0.46
1:AA:160:A:N7	1:AA:343:U:O2'	2.49	0.46
1:AA:543:U:H2'	1:AA:544:G:H8	1.81	0.46
1:AA:684:U:O2'	46:AK:40:ALA:N	2.49	0.46
4:AY:15:G:H1	4:AY:21:A:H1'	1.80	0.46
1:BA:1221:G:OP1	54:BS:35:ARG:NH1	2.49	0.46
1:BA:21:G:H2'	1:BA:22:G:H8	1.81	0.46
1:BA:401:C:H2'	1:BA:402:G:H8	1.81	0.46
1:BA:973:G:O3'	49:BN:81:ARG:NH2	2.49	0.46
39:BD:104:MET:HG2	39:BD:170:LEU:HD13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:1440:U:H2'	2:CA:1441:G:C8	2.51	0.46
2:CA:358:U:H2'	2:CA:359:G:H8	1.80	0.46
24:CU:84:PHE:HE1	24:CU:93:ARG:HG2	1.81	0.46
2:DA:1059:G:N2	12:DI:127:SER:OG	2.49	0.46
2:DA:1069:A:H4'	2:DA:1070:A:C8	2.51	0.46
2:DA:1125:G:OP2	2:DA:1126:A:O2'	2.34	0.46
2:DA:1630:A:N1	2:DA:1637:A:N6	2.63	0.46
2:DA:1130:U:C2	2:DA:2025:C:H5''	2.51	0.46
2:DA:2131:U:H5'	2:DA:2132:U:H5''	1.98	0.46
2:DA:521:U:H2'	2:DA:522:A:H8	1.80	0.46
2:DA:851:C:O2'	29:DZ:42:ALA:O	2.31	0.46
1:AA:1002:G:H2'	1:AA:1003:G:C8	2.51	0.46
1:AA:1376:U:H2'	1:AA:1377:A:C8	2.52	0.46
1:AA:1458:G:H2'	1:AA:1459:G:H8	1.80	0.46
41:AF:3:HIS:ND1	41:AF:65:GLU:HB3	2.31	0.46
48:AM:91:ARG:HG3	48:AM:92:ARG:HG3	1.97	0.46
1:BA:1377:A:H5'	1:BA:1378:C:H5'	1.98	0.46
1:BA:947:G:O3'	48:BM:107:THR:OG1	2.32	0.46
39:BD:10:LEU:HD13	39:BD:62:ARG:HB3	1.98	0.46
44:BI:29:ILE:CG2	44:BI:32:ARG:O	2.60	0.46
45:BJ:12:ALA:HB3	45:BJ:18:ILE:HD12	1.98	0.46
51:BP:12:LYS:NZ	58:BP:102:HOH:O	2.49	0.46
55:BT:14:GLU:OE2	55:BT:17:ARG:NH2	2.45	0.46
2:CA:2285:C:OP2	32:C2:5:ARG:NH1	2.46	0.46
2:CA:571:U:O2'	2:CA:573:U:O5'	2.33	0.46
2:CA:665:U:H2'	2:CA:666:A:C8	2.51	0.46
25:CV:52:ALA:N	58:CV:102:HOH:O	2.32	0.46
2:DA:1161:C:H2'	2:DA:1162:G:H8	1.80	0.46
2:DA:1164:C:H2'	2:DA:1165:A:C8	2.49	0.46
2:DA:1306:C:H2'	2:DA:1307:A:H8	1.81	0.46
2:DA:414:C:H1'	2:DA:1864:U:H1'	1.97	0.46
2:DA:570:G:N2	2:DA:2030:A:O4'	2.48	0.46
2:DA:15:G:N2	2:DA:525:U:O2	2.38	0.46
2:DA:720:U:H2'	2:DA:721:A:C8	2.51	0.46
2:DA:1566:A:O5'	5:DC:213:ARG:NH2	2.48	0.46
14:DK:5:GLN:N	14:DK:21:CYS:O	2.49	0.46
1:AA:745:G:OP1	1:AA:851:G:O2'	2.31	0.45
1:AA:837:U:H2'	1:AA:838:G:C8	2.51	0.45
45:AJ:52:LEU:O	49:AN:81:ARG:NH1	2.49	0.45
46:AK:34:THR:OG1	46:AK:35:ASP:N	2.49	0.45
1:BA:1058:G:OP1	38:BC:199:LYS:NZ	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:600:A:H2'	1:BA:601:G:H8	1.81	0.45
48:BM:85:TYR:CZ	48:BM:89:ARG:HD2	2.51	0.45
1:BA:1013:G:OP1	54:BS:20:LYS:NZ	2.49	0.45
2:CA:1287:A:O4'	17:CN:103:ARG:NH1	2.49	0.45
2:CA:968:C:H2'	2:CA:969:G:H8	1.80	0.45
8:CF:62:GLN:HE21	8:CF:88:VAL:HG13	1.80	0.45
2:CA:494:G:N2	22:CS:57:ASN:OD1	2.49	0.45
2:DA:1531:C:H42	2:DA:1540:G:H1	1.65	0.45
2:DA:216:A:H62	2:DA:431:U:H3	1.64	0.45
1:AA:1327:C:H2'	1:AA:1328:C:C6	2.51	0.45
1:AA:25:C:H2'	1:AA:26:A:C8	2.51	0.45
1:AA:372:C:H42	1:AA:389:A:N6	2.12	0.45
1:AA:416:G:H2'	1:AA:417:G:H8	1.82	0.45
1:AA:434:U:H2'	1:AA:435:A:C8	2.51	0.45
36:AX:12:A:H2'	36:AX:13:A:H8	1.81	0.45
1:BA:427:U:H3'	1:BA:428:G:H2'	1.96	0.45
39:BD:14:GLU:OE2	39:BD:55:ARG:NH1	2.49	0.45
1:BA:429:U:H5'	39:BD:8:LEU:HD21	1.97	0.45
47:BL:86:VAL:HG12	47:BL:88:ASP:H	1.81	0.45
48:BM:56:ARG:HA	48:BM:59:VAL:HG12	1.99	0.45
2:CA:2070:A:H2'	2:CA:2071:A:H8	1.81	0.45
2:CA:2313:C:O4'	8:CF:36:ASN:ND2	2.49	0.45
10:CH:104:THR:HG22	10:CH:109:GLU:HA	1.97	0.45
15:CL:90:VAL:HG13	15:CL:95:LEU:HD11	1.98	0.45
18:CO:7:ARG:NH1	18:CO:95:SER:OG	2.45	0.45
23:CT:3:ARG:HB3	23:CT:6:ARG:HB3	1.97	0.45
2:DA:1258:U:H2'	2:DA:1259:G:C8	2.51	0.45
2:DA:1383:A:N3	2:DA:1405:U:O2'	2.43	0.45
2:DA:321:U:O2'	2:DA:340:A:N3	2.42	0.45
9:DG:67:ALA:HA	9:DG:70:LEU:HD12	1.97	0.45
9:DG:27:GLY:HA3	9:DG:78:VAL:HB	1.98	0.45
1:AA:360:G:H2'	1:AA:361:G:C8	2.52	0.45
1:AA:490:C:H2'	1:AA:491:G:C8	2.49	0.45
41:AF:3:HIS:HB2	41:AF:92:THR:HG23	1.98	0.45
47:AL:47:ALA:HB3	47:AL:49:ARG:HE	1.81	0.45
1:BA:410:G:H21	1:BA:432:A:H62	1.64	0.45
44:BI:30:ASN:OD1	44:BI:65:THR:HA	2.16	0.45
48:BM:15:VAL:HG23	48:BM:16:ILE:HD12	1.98	0.45
11:C5:44:ALA:HA	11:C5:47:GLU:HB3	1.99	0.45
2:CA:1469:A:H2'	2:CA:1470:A:C8	2.51	0.45
2:CA:1529:G:O6	2:CA:1542:U:O4	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:2591:C:H2'	2:CA:2592:G:C8	2.52	0.45
2:CA:601:C:O2'	2:CA:605:G:OP1	2.33	0.45
3:CB:78:A:H62	3:CB:98:G:N2	2.10	0.45
3:CB:95:U:H2'	3:CB:96:G:H8	1.81	0.45
2:DA:1112:G:O2'	9:DG:2:ARG:NH1	2.45	0.45
2:DA:1889:A:N3	2:DA:2086:U:O2'	2.33	0.45
2:DA:2680:U:OP2	6:DD:116:LYS:NZ	2.49	0.45
3:DB:49:C:OP2	18:DO:30:ARG:NH2	2.42	0.45
2:DA:659:G:H21	7:DE:30:GLN:HE22	1.64	0.45
1:AA:417:G:N2	1:AA:426:U:O2	2.47	0.45
37:AB:215:ALA:HA	37:AB:218:ALA:HB3	1.99	0.45
37:AB:71:THR:HG23	37:AB:94:ARG:HA	1.99	0.45
1:BA:1040:U:H2'	1:BA:1041:G:H8	1.80	0.45
1:BA:150:U:H2'	1:BA:151:A:H8	1.82	0.45
1:BA:34:C:H2'	1:BA:35:G:H8	1.81	0.45
1:BA:382:A:H2'	1:BA:383:A:C8	2.51	0.45
1:BA:599:C:H2'	1:BA:600:A:H8	1.82	0.45
1:BA:836:G:N1	1:BA:851:G:N7	2.64	0.45
44:BI:91:GLU:OE2	44:BI:94:ARG:NH1	2.49	0.45
1:BA:538:G:H5''	47:BL:110:LYS:HB2	1.99	0.45
51:BP:79:ASN:O	51:BP:82:ALA:N	2.49	0.45
53:BR:32:ILE:HG22	53:BR:38:ILE:HA	1.99	0.45
2:CA:1123:C:H2'	2:CA:1124:G:C8	2.52	0.45
2:CA:155:A:H2'	2:CA:156:A:C8	2.51	0.45
2:CA:2099:U:O4	2:CA:2190:G:O6	2.33	0.45
2:CA:2818:U:O2'	2:CA:2836:U:O2'	2.34	0.45
13:CJ:12:LYS:O	13:CJ:41:LYS:NZ	2.50	0.45
22:CS:28:LYS:HG2	22:CS:70:LYS:HG3	1.98	0.45
2:DA:1071:G:O6	2:DA:1072:C:N4	2.50	0.45
2:DA:222:A:H61	2:DA:232:G:H1'	1.80	0.45
2:DA:2314:A:H2'	2:DA:2315:G:H8	1.81	0.45
2:DA:375:G:H2'	2:DA:376:G:H8	1.81	0.45
2:DA:576:U:H2'	2:DA:577:G:C8	2.52	0.45
2:DA:598:U:H2'	2:DA:599:A:C8	2.52	0.45
2:DA:665:U:H2'	2:DA:666:A:H8	1.81	0.45
2:DA:696:G:O6	2:DA:766:U:O4	2.35	0.45
13:DJ:32:LEU:HD22	13:DJ:54:ILE:HG21	1.99	0.45
1:AA:182:A:N6	58:AA:1812:HOH:O	2.49	0.45
1:AA:475:C:H2'	1:AA:476:U:C6	2.52	0.45
38:AC:148:GLY:HA2	38:AC:171:GLY:HA3	1.97	0.45
44:AI:40:ARG:O	44:AI:44:ARG:NH2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AW:65:C:H2'	4:AW:66:A:H8	1.81	0.45
1:BA:437:U:H3	1:BA:495:A:H62	1.65	0.45
38:BC:85:GLU:OE1	38:BC:89:LYS:NZ	2.50	0.45
35:C6:2:LYS:HG3	35:C6:35:GLN:HG2	1.98	0.45
2:CA:1999:C:O2	2:CA:2687:U:O2'	2.31	0.45
2:CA:1638:C:O2	2:CA:2698:U:O2'	2.34	0.45
2:CA:2728:U:HO2'	2:CA:2729:G:H8	1.64	0.45
2:CA:2718:G:O2'	2:CA:2847:U:OP1	2.27	0.45
2:CA:568:U:N3	2:CA:571:U:OP2	2.46	0.45
2:CA:861:A:N3	3:CB:79:G:O2'	2.48	0.45
2:CA:72:U:OP2	28:CY:54:LYS:NZ	2.49	0.45
2:DA:2417:C:H4'	34:D4:44:ARG:HH21	1.81	0.45
2:DA:1769:U:O4	2:DA:1983:G:O6	2.34	0.45
2:DA:2074:U:O2'	2:DA:2597:G:O2'	2.33	0.45
2:DA:771:G:H1'	2:DA:1354:A:H2	1.80	0.45
8:DF:33:ILE:HA	8:DF:154:THR:O	2.16	0.45
16:DM:31:PHE:HD1	16:DM:130:PHE:HZ	1.64	0.45
23:DT:69:ARG:NH1	23:DT:71:GLY:O	2.50	0.45
1:AA:739:C:HO2'	50:AO:41:HIS:CE1	2.33	0.45
1:AA:859:G:H2'	1:AA:860:A:C8	2.52	0.45
1:AA:940:C:H2'	1:AA:941:G:C8	2.51	0.45
1:BA:1150:A:N3	45:BJ:41:PRO:HG3	2.31	0.45
1:BA:1289:A:H3'	1:BA:1290:G:H8	1.80	0.45
1:BA:322:C:N4	1:BA:329:A:H62	2.13	0.45
1:BA:585:G:C2	1:BA:757:U:O2	2.70	0.45
1:BA:701:U:O2	1:BA:703:G:N1	2.50	0.45
54:BS:43:MET:HA	54:BS:46:LEU:HD12	1.99	0.45
2:CA:143:C:H2'	2:CA:144:A:H8	1.82	0.45
2:CA:2526:G:O6	2:CA:2537:U:O4	2.34	0.45
6:CD:110:THR:HG21	6:CD:169:ARG:HE	1.82	0.45
2:CA:2730:C:O2'	6:CD:173:GLN:O	2.31	0.45
2:DA:1470:A:H62	2:DA:1521:G:N2	2.15	0.45
2:DA:1604:C:H2'	2:DA:1605:C:H6	1.82	0.45
2:DA:1848:A:H2'	2:DA:1849:G:H8	1.82	0.45
2:DA:1965:C:H5''	2:DA:1966:A:H2'	1.98	0.45
2:DA:216:A:H2'	2:DA:217:A:H8	1.81	0.45
21:DR:35:PHE:HB2	21:DR:59:ILE:HB	1.99	0.45
1:AA:312:C:H2'	1:AA:313:A:H8	1.81	0.45
40:AE:154:ALA:N	58:AE:205:HOH:O	2.49	0.45
45:AJ:7:ARG:O	45:AJ:100:ILE:HA	2.16	0.45
1:BA:164:G:H2'	1:BA:165:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:396:C:O2'	1:BA:398:U:OP1	2.32	0.45
44:BI:115:VAL:HG21	45:BJ:62:ARG:HB2	1.99	0.45
51:BP:72:ALA:HA	51:BP:75:ILE:HD12	1.98	0.45
2:CA:1089:A:H2	2:CA:1090:A:H62	1.64	0.45
2:CA:1326:U:H2'	2:CA:1327:A:C8	2.49	0.45
7:CE:77:ILE:HG23	7:CE:78:TRP:HE3	1.81	0.45
2:DA:1370:C:H2'	2:DA:1371:G:C8	2.52	0.45
2:DA:1501:G:H2'	2:DA:1502:A:H8	1.82	0.45
2:DA:1518:C:H2'	2:DA:1519:G:H8	1.81	0.45
2:DA:2217:G:H2'	2:DA:2218:G:H8	1.82	0.45
2:DA:2356:U:O4	2:DA:2361:G:O6	2.34	0.45
2:DA:282:A:H2'	2:DA:283:G:C8	2.52	0.45
2:DA:296:U:H2'	2:DA:297:G:H8	1.82	0.45
2:DA:5:A:H2'	2:DA:6:A:C8	2.52	0.45
1:AA:1220:G:OP1	54:AS:36:ARG:NH2	2.49	0.45
1:AA:836:G:O6	1:AA:850:U:O4	2.35	0.45
37:AB:14:HIS:HA	37:AB:40:ILE:HB	1.99	0.45
1:BA:1030:U:C6	1:BA:1030:U:OP1	2.70	0.45
1:BA:1030:U:H5''	1:BA:1031:C:H1'	1.97	0.45
1:BA:537:G:N2	58:BA:1752:HOH:O	2.42	0.45
1:BA:563:A:O2'	1:BA:566:G:O2'	2.34	0.45
1:BA:599:C:H2'	1:BA:600:A:C8	2.51	0.45
1:BA:881:G:OP1	47:BL:8:ARG:NH1	2.48	0.45
1:BA:950:U:O2	1:BA:1231:G:N2	2.35	0.45
48:BM:1:ALA:HB3	48:BM:8:ILE:HA	1.99	0.45
35:C6:25:VAL:O	35:C6:34:LYS:HA	2.16	0.45
2:CA:1341:G:P	2:CA:1397:U:H3	2.40	0.45
2:CA:1590:A:H2'	2:CA:1591:A:C8	2.50	0.45
2:CA:833:A:H2'	2:CA:834:G:C8	2.51	0.45
8:CF:104:THR:HB	8:CF:105:ILE:HG23	1.98	0.45
9:CG:63:GLN:O	9:CG:66:THR:OG1	2.33	0.45
18:CO:62:LEU:HD21	18:CO:70:ALA:HB2	1.99	0.45
2:DA:2399:G:H2'	2:DA:2400:G:H8	1.81	0.45
2:DA:2514:U:H2'	2:DA:2515:C:C6	2.51	0.45
1:AA:1095:U:OP1	1:AA:1108:G:N2	2.30	0.45
1:AA:1513:A:H2'	1:AA:1514:G:C8	2.51	0.45
1:AA:447:G:O2'	1:AA:487:A:N6	2.50	0.45
1:AA:600:A:H2'	1:AA:601:G:C8	2.52	0.45
1:AA:632:U:O2'	43:AH:87:ARG:NH2	2.45	0.45
1:AA:728:A:H2'	1:AA:729:A:H8	1.82	0.45
1:BA:1011:C:H2'	1:BA:1012:A:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1391:U:H2'	1:BA:1392:G:C8	2.52	0.45
1:BA:1513:A:H2'	1:BA:1514:G:H8	1.82	0.45
1:BA:235:C:H2'	1:BA:236:A:C8	2.51	0.45
1:BA:674:G:H21	46:BK:117:HIS:HD2	1.64	0.45
1:BA:927:G:H2'	1:BA:928:G:C8	2.52	0.45
1:BA:946:A:H2'	1:BA:947:G:H8	1.82	0.45
47:BL:103:CYS:SG	47:BL:104:SER:N	2.89	0.45
47:BL:13:ARG:NE	47:BL:14:LYS:O	2.43	0.45
47:BL:28:GLN:HB3	47:BL:80:LEU:HD11	1.97	0.45
48:BM:67:ASP:OD1	48:BM:70:ARG:NH1	2.49	0.45
50:BO:52:ARG:HG3	50:BO:55:LEU:HD23	1.98	0.45
2:CA:65:U:O2'	2:CA:456:C:N3	2.39	0.45
2:CA:612:G:H21	2:CA:616:A:H62	1.65	0.45
15:CL:40:SER:OG	15:CL:41:ARG:NH2	2.50	0.45
26:CW:40:GLN:NE2	26:CW:45:PHE:O	2.40	0.45
2:DA:1548:A:H2'	2:DA:1549:A:C8	2.51	0.45
2:DA:2315:G:H2'	2:DA:2316:G:H8	1.82	0.45
2:DA:305:C:H2'	2:DA:306:U:C6	2.52	0.45
7:DE:176:ASP:OD1	7:DE:176:ASP:N	2.49	0.45
1:AA:1157:A:C2	1:AA:1178:G:N2	2.75	0.45
1:AA:331:G:O2'	55:AT:2:ASN:ND2	2.49	0.45
1:AA:724:G:H2'	1:AA:725:G:H8	1.82	0.45
45:AJ:8:ILE:HB	45:AJ:74:VAL:HB	1.99	0.45
1:AA:363:A:N6	47:AL:26:CYS:SG	2.88	0.45
1:BA:1090:U:H3	1:BA:1096:C:N4	2.15	0.45
1:BA:1329:A:H5''	48:BM:25:GLY:N	2.32	0.45
1:BA:202:G:H22	1:BA:216:U:H3	1.64	0.45
1:BA:664:G:H22	1:BA:741:G:H1	1.64	0.45
30:C0:14:ALA:HA	30:C0:32:LEU:HB3	1.99	0.45
2:CA:1867:G:O6	2:CA:1875:G:N2	2.49	0.45
2:CA:1923:U:OP1	4:AW:24:G:O2'	2.35	0.45
2:CA:2345:G:O6	2:CA:2371:G:N2	2.42	0.45
2:DA:1073:A:H3'	2:DA:1074:G:C8	2.52	0.45
2:DA:1127:A:H61	2:DA:2488:G:H21	1.65	0.45
2:DA:1223:G:OP1	21:DR:68:ARG:NH2	2.49	0.45
2:DA:2087:G:H2'	2:DA:2088:A:H8	1.82	0.45
2:DA:2364:C:OP1	26:DW:55:ARG:NH2	2.39	0.45
2:DA:2564:A:OP1	2:DA:2648:G:O2'	2.26	0.45
2:DA:2813:A:H2'	2:DA:2814:A:C8	2.51	0.45
3:DB:63:C:H2'	3:DB:64:G:C8	2.52	0.45
7:DE:25:GLU:OE2	15:DL:7:SER:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:DF:113:PHE:HZ	8:DF:175:PRO:HG2	1.82	0.45
7:DE:117:ARG:HH12	15:DL:2:ARG:HB2	1.81	0.45
1:AA:137:U:C4	1:AA:226:G:O6	2.69	0.44
1:AA:131:A:HO2'	1:AA:262:A:HO2'	1.64	0.44
37:AB:195:VAL:HG12	37:AB:197:PHE:H	1.82	0.44
1:BA:1016:A:O2'	1:BA:1217:C:O2'	2.33	0.44
1:BA:148:G:O2'	1:BA:1446:A:N3	2.39	0.44
1:BA:1540:U:H2'	1:BA:1541:U:H5'	1.99	0.44
1:BA:111:G:HO2'	1:BA:389:A:HO2'	1.56	0.44
45:BJ:10:LEU:O	45:BJ:71:LEU:HA	2.17	0.44
52:BQ:58:VAL:HG23	52:BQ:77:VAL:HG22	2.00	0.44
11:C5:52:MET:HA	11:C5:83:ALA:HA	1.99	0.44
2:CA:2330:G:O3'	26:CW:44:LYS:NZ	2.44	0.44
17:CN:118:ARG:O	17:CN:118:ARG:HD3	2.18	0.44
30:D0:11:GLU:HB2	30:D0:25:ARG:HG2	1.98	0.44
30:D0:37:CYS:SG	30:D0:38:SER:N	2.89	0.44
2:DA:78:U:O4	2:DA:108:G:O6	2.35	0.44
2:DA:1600:C:H2'	2:DA:1601:G:H8	1.82	0.44
2:DA:1863:G:N1	2:DA:1880:U:N3	2.57	0.44
2:DA:2356:U:C4	2:DA:2361:G:O6	2.70	0.44
2:DA:571:U:O2'	2:DA:573:U:O5'	2.34	0.44
2:DA:658:U:H2'	2:DA:659:G:H8	1.82	0.44
10:DH:135:HIS:HB3	10:DH:138:VAL:HB	1.99	0.44
26:DW:37:ILE:HG22	26:DW:38:VAL:HG23	1.99	0.44
2:DA:857:G:H5'	26:DW:69:PHE:HD2	1.82	0.44
1:AA:521:G:HO2'	1:AA:536:C:HO2'	1.63	0.44
1:AA:757:U:OP1	1:AA:822:U:O2'	2.34	0.44
2:CA:1079:C:N4	2:CA:1088:A:O4'	2.49	0.44
2:CA:2658:C:OP1	9:CG:157:LYS:NZ	2.48	0.44
2:CA:2813:A:H2'	2:CA:2814:A:C8	2.51	0.44
2:CA:324:A:OP2	2:CA:1205:A:N6	2.50	0.44
9:CG:23:ILE:O	9:CG:33:THR:HA	2.17	0.44
15:CL:61:LEU:HB2	34:C4:12:ARG:HD3	1.99	0.44
18:CO:33:ARG:HG2	18:CO:34:HIS:CD2	2.51	0.44
2:DA:1184:U:OP2	29:DZ:30:ARG:NH2	2.49	0.44
2:DA:2081:U:H2'	2:DA:2082:A:C8	2.50	0.44
2:DA:2368:C:H2'	2:DA:2369:A:C8	2.50	0.44
2:DA:45:G:H5''	2:DA:46:G:H5'	1.98	0.44
2:DA:668:A:H2'	2:DA:670:A:H62	1.82	0.44
2:DA:968:C:H2'	2:DA:969:G:C8	2.52	0.44
7:DE:108:ILE:HD11	7:DE:181:ILE:HG13	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1238:A:N6	1:AA:1239:A:N7	2.65	0.44
1:AA:41:G:H2'	1:AA:42:G:H8	1.83	0.44
42:AG:107:ALA:O	42:AG:118:ARG:NE	2.48	0.44
1:AA:1458:G:H5'	55:AT:26:MET:HB3	1.99	0.44
4:AV:41:A:H2'	4:AV:42:G:H8	1.82	0.44
1:BA:203:G:N2	1:BA:215:C:N3	2.64	0.44
1:BA:424:G:H2'	1:BA:425:G:H8	1.82	0.44
36:BX:23:A:H4'	47:BL:44:PRO:HA	1.98	0.44
2:CA:2327:A:H2'	2:CA:2328:A:C8	2.52	0.44
2:CA:958:U:OP2	16:CM:14:LYS:NZ	2.40	0.44
5:CC:209:ALA:HA	5:CC:212:TRP:CE2	2.53	0.44
18:CO:71:ALA:HB1	18:CO:106:LEU:HD12	2.00	0.44
26:CW:37:ILE:HG22	26:CW:38:VAL:HG23	1.99	0.44
2:DA:2303:G:H4'	8:DF:120:SER:HA	1.99	0.44
1:AA:1407:C:H2'	1:AA:1408:A:H8	1.83	0.44
1:AA:587:G:N2	1:AA:754:C:OP2	2.37	0.44
48:AM:2:ARG:H	48:AM:2:ARG:HG2	1.32	0.44
36:AX:18:G:N1	4:AW:37:A:C2	2.86	0.44
1:BA:1060:U:H2'	1:BA:1061:G:C8	2.52	0.44
1:BA:1432:G:HO2'	1:BA:1433:A:H8	1.65	0.44
44:BI:40:ARG:O	44:BI:44:ARG:NH2	2.48	0.44
44:BI:18:VAL:HA	44:BI:64:ILE:HG22	1.99	0.44
2:CA:1289:C:H2'	2:CA:1290:C:H6	1.82	0.44
2:CA:2092:U:H4'	10:CH:24:GLY:HA3	2.00	0.44
2:CA:370:G:O2'	2:CA:424:G:OP1	2.31	0.44
2:CA:968:C:H2'	2:CA:969:G:C8	2.52	0.44
24:CU:93:ARG:HB2	24:CU:102:ILE:HD12	1.99	0.44
24:CU:44:HIS:HB3	24:CU:57:ILE:HG12	2.00	0.44
2:DA:2836:U:H2'	2:DA:2837:A:C8	2.52	0.44
2:DA:517:C:OP1	31:D1:12:ARG:NH2	2.46	0.44
2:DA:954:G:O6	2:DA:963:U:O4	2.35	0.44
1:AA:108:G:H5'	1:AA:109:A:H5''	1.98	0.44
1:AA:1377:A:H2'	42:AG:1:PRO:HG2	1.99	0.44
1:AA:744:C:H2'	1:AA:745:G:H8	1.82	0.44
1:BA:1464:U:H2'	1:BA:1465:A:C8	2.50	0.44
1:BA:816:A:OP1	1:BA:1526:G:O2'	2.29	0.44
1:BA:913:A:OP2	47:BL:87:LYS:NZ	2.37	0.44
37:BB:65:LYS:HE2	37:BB:156:LEU:O	2.18	0.44
1:BA:1189:U:O2'	38:BC:176:HIS:ND1	2.47	0.44
17:CN:99:LYS:HB3	31:C1:41:HIS:CD2	2.53	0.44
2:CA:2883:A:OP1	31:C1:48:TYR:OH	2.28	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:642:U:N3	2:CA:645:C:OP2	2.37	0.44
2:CA:777:G:O2'	5:CC:47:ARG:NH2	2.51	0.44
14:CK:88:ASN:ND2	14:CK:91:SER:OG	2.51	0.44
7:CE:181:ILE:HG12	15:CL:2:ARG:HH12	1.82	0.44
2:DA:2559:C:H2'	2:DA:2560:A:H8	1.82	0.44
2:DA:2855:C:H2'	2:DA:2856:A:H8	1.83	0.44
2:DA:291:G:O6	2:DA:349:U:O4	2.35	0.44
2:DA:808:G:OP2	15:DL:36:LYS:NZ	2.44	0.44
5:DC:161:VAL:HG11	5:DC:173:LEU:HD23	1.99	0.44
9:DG:53:PRO:HG3	9:DG:61:TRP:CE2	2.52	0.44
1:AA:1075:U:H2'	1:AA:1076:U:H6	1.83	0.44
1:AA:501:C:H2'	1:AA:502:A:C8	2.53	0.44
38:AC:113:ALA:HB1	38:AC:200:VAL:HG13	2.00	0.44
38:AC:63:SER:HA	38:AC:98:PRO:HG2	2.00	0.44
1:BA:1412:C:H2'	1:BA:1413:A:C8	2.53	0.44
1:BA:744:C:H2'	1:BA:745:G:H8	1.82	0.44
1:BA:78:A:H2'	1:BA:79:G:H8	1.83	0.44
38:BC:19:ASN:O	38:BC:56:VAL:HA	2.18	0.44
44:BI:48:ARG:NH1	44:BI:52:GLU:OE2	2.50	0.44
45:BJ:57:VAL:HG22	45:BJ:58:ASN:H	1.82	0.44
47:BL:33:CYS:H	47:BL:54:VAL:HG13	1.82	0.44
2:CA:1808:A:H3'	2:CA:1809:A:C8	2.52	0.44
2:CA:2313:C:H2'	2:CA:2314:A:H8	1.82	0.44
19:CP:47:ILE:HA	19:CP:96:LEU:HD12	1.99	0.44
2:DA:1219:U:H2'	2:DA:1220:G:H8	1.83	0.44
2:DA:1130:U:N3	2:DA:2025:C:OP1	2.41	0.44
2:DA:2316:G:H2'	2:DA:2317:A:C8	2.51	0.44
9:DG:87:GLN:HB3	9:DG:129:GLU:HG2	2.00	0.44
1:AA:1041:G:H2'	1:AA:1042:A:H8	1.83	0.44
1:AA:366:A:O2'	1:AA:394:G:N2	2.51	0.44
54:AS:45:GLY:N	58:AS:101:HOH:O	2.50	0.44
1:BA:1270:G:H2'	1:BA:1271:A:H8	1.82	0.44
1:BA:335:C:H2'	1:BA:336:A:H8	1.82	0.44
1:BA:606:G:N2	1:BA:632:U:OP1	2.43	0.44
2:CA:2246:G:H2'	2:CA:2247:A:H8	1.83	0.44
2:CA:807:U:H2'	2:CA:808:G:H8	1.83	0.44
5:CC:106:PRO:HG2	5:CC:109:LEU:HB2	1.99	0.44
17:CN:54:LEU:HD23	17:CN:66:ALA:HB2	2.00	0.44
2:DA:1622:G:H2'	2:DA:1623:G:H8	1.83	0.44
2:DA:1653:G:O6	17:DN:11:ASN:N	2.42	0.44
2:DA:1704:C:H2'	2:DA:1705:A:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:1796:U:H2'	2:DA:1797:G:C8	2.53	0.44
2:DA:2192:U:H2'	2:DA:2193:G:C8	2.53	0.44
2:DA:2290:G:H22	2:DA:2343:U:H1'	1.82	0.44
2:DA:503:A:H4'	2:DA:504:A:H3'	2.00	0.44
2:DA:882:G:O6	2:DA:894:U:O2	2.35	0.44
1:AA:1060:U:H2'	1:AA:1061:G:H8	1.83	0.44
1:AA:1354:U:H2'	1:AA:1355:G:H8	1.82	0.44
1:AA:142:G:N2	1:AA:222:C:N3	2.66	0.44
1:AA:782:A:OP1	1:AA:1514:G:N2	2.51	0.44
1:AA:113:G:H1'	1:AA:354:G:H5'	1.98	0.44
1:AA:789:U:O2'	1:AA:791:G:N7	2.35	0.44
39:AD:100:VAL:HG21	39:AD:136:VAL:HG21	2.00	0.44
45:AJ:29:ALA:HB1	45:AJ:36:VAL:HG21	2.00	0.44
1:BA:1069:C:O2'	1:BA:1192:C:O2	2.36	0.44
1:BA:1118:U:OP1	44:BI:105:ARG:NE	2.44	0.44
1:BA:1323:G:H2'	1:BA:1324:A:H8	1.83	0.44
1:BA:1355:G:H2'	1:BA:1356:G:H8	1.83	0.44
1:BA:189:A:H2'	1:BA:190:A:C8	2.53	0.44
1:BA:237:G:H2'	1:BA:238:A:C8	2.53	0.44
1:BA:254:G:O3'	52:BQ:70:LYS:NZ	2.45	0.44
1:BA:667:G:H2'	1:BA:668:G:H8	1.83	0.44
44:BI:31:GLN:HA	44:BI:31:GLN:OE1	2.18	0.44
47:BL:98:ARG:NH2	47:BL:105:GLY:O	2.51	0.44
2:CA:2158:A:H1'	2:CA:2159:G:C8	2.53	0.44
2:CA:2398:U:H2'	2:CA:2399:G:H8	1.83	0.44
2:CA:79:C:O2'	2:CA:346:A:N3	2.42	0.44
2:CA:674:G:H5''	7:CE:71:GLY:HA3	2.00	0.44
5:CC:132:ARG:NH2	5:CC:186:ASP:OD1	2.51	0.44
24:CU:27:VAL:HB	24:CU:33:VAL:HG12	1.99	0.44
2:DA:1068:G:H1	2:DA:1073:A:N6	2.15	0.44
2:DA:1353:A:H2'	2:DA:1354:A:H8	1.82	0.44
2:DA:1463:C:H2'	2:DA:1464:G:C8	2.53	0.44
2:DA:250:G:OP1	15:DL:59:ARG:NH1	2.51	0.44
2:DA:2548:U:O2'	14:DK:4:GLU:OE1	2.35	0.44
2:DA:2278:A:N6	26:DW:14:ARG:O	2.51	0.44
1:AA:1001:C:H42	1:AA:1039:G:H1	1.66	0.44
1:AA:1225:A:OP1	48:AM:101:THR:N	2.37	0.44
1:AA:938:A:O2'	42:AG:94:ARG:NH1	2.50	0.44
1:BA:1251:A:N3	1:BA:1369:C:O2'	2.46	0.44
1:BA:1484:C:HO2'	2:DA:1960:A:HO2'	1.62	0.44
1:BA:464:U:H2'	1:BA:465:A:H3'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BI:29:ILE:CG2	44:BI:32:ARG:C	2.86	0.44
46:BK:22:ILE:HG22	46:BK:31:VAL:HG22	2.00	0.44
48:BM:95:PRO:HD3	48:BM:108:ARG:HB3	1.99	0.44
48:BM:84:CYS:SG	48:BM:87:GLY:N	2.85	0.44
2:CA:1567:G:H3'	5:CC:84:PRO:HG3	2.00	0.44
2:CA:1709:U:H2'	2:CA:1710:G:C8	2.53	0.44
2:CA:18:U:H2'	2:CA:19:A:H8	1.83	0.44
2:CA:1987:A:H2'	2:CA:1988:G:C8	2.52	0.44
2:CA:2192:U:H2'	2:CA:2193:G:C8	2.53	0.44
2:CA:2771:C:O2'	6:CD:173:GLN:NE2	2.43	0.44
18:CO:27:VAL:HA	18:CO:93:ASP:HB3	2.00	0.44
2:DA:987:C:O2'	2:DA:1000:A:N3	2.39	0.44
2:DA:1166:G:N2	2:DA:1183:U:O2	2.42	0.44
2:DA:1218:G:O6	2:DA:1231:U:O4	2.35	0.44
2:DA:2735:G:O6	2:DA:2769:U:O4	2.36	0.44
7:DE:147:LEU:HB2	7:DE:183:PHE:HD2	1.83	0.44
19:DP:63:ILE:HA	19:DP:68:GLY:HA2	1.98	0.44
2:DA:2683:C:O2'	19:DP:74:GLN:NE2	2.51	0.44
25:DV:77:VAL:HG23	25:DV:89:ILE:HG12	2.00	0.44
1:AA:1245:C:H2'	1:AA:1246:A:C8	2.53	0.43
1:AA:619:U:H3	39:AD:130:ASN:HB3	1.81	0.43
47:AL:72:ASN:ND2	47:AL:104:SER:OG	2.47	0.43
1:BA:105:G:N2	1:BA:379:C:O3'	2.51	0.43
1:BA:14:U:N3	1:BA:17:U:OP2	2.51	0.43
1:BA:222:C:H2'	1:BA:223:A:C8	2.52	0.43
1:BA:25:C:H2'	1:BA:26:A:C8	2.53	0.43
1:BA:299:G:H2'	1:BA:300:A:C8	2.53	0.43
49:BN:69:ARG:HH22	49:BN:81:ARG:HH21	1.66	0.43
51:BP:51:ARG:NH1	51:BP:52:LEU:O	2.51	0.43
2:CA:155:A:H2'	2:CA:156:A:H8	1.82	0.43
2:CA:2002:G:OP1	17:CN:17:ARG:NH2	2.39	0.43
2:CA:2420:C:N4	58:CA:3250:HOH:O	2.51	0.43
2:CA:2074:U:O2'	2:CA:2597:G:O2'	2.29	0.43
2:CA:438:G:H2'	2:CA:439:A:C8	2.52	0.43
3:CB:66:A:H61	3:CB:107:G:H2'	1.83	0.43
5:CC:144:GLU:HB2	5:CC:187:CYS:HB3	1.99	0.43
8:DF:104:THR:HG21	30:D0:22:MET:SD	2.58	0.43
2:DA:1056:G:H21	2:DA:1103:A:N6	2.15	0.43
2:DA:1427:A:H5''	2:DA:1559:U:H3	1.82	0.43
2:DA:1930:G:H22	2:DA:1968:G:H2'	1.82	0.43
2:DA:31:C:H4'	2:DA:1238:G:H4'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:581:C:H2'	2:DA:582:A:H8	1.83	0.43
2:DA:589:U:H2'	2:DA:590:A:C8	2.53	0.43
2:DA:833:A:H2'	2:DA:834:G:H8	1.82	0.43
12:DI:78:LEU:HD22	12:DI:108:ILE:HD13	2.00	0.43
20:DQ:16:ILE:HG13	20:DQ:31:TYR:HE1	1.83	0.43
1:AA:194:C:OP1	55:AT:59:ARG:NH2	2.51	0.43
1:AA:773:G:O6	1:AA:807:A:N6	2.51	0.43
39:AD:117:VAL:HG11	39:AD:132:ALA:HA	1.99	0.43
1:BA:64:G:H4'	1:BA:65:A:H3'	2.00	0.43
1:BA:1112:C:O2	38:BC:179:ARG:N	2.51	0.43
39:BD:12:ARG:NE	39:BD:31:CYS:O	2.51	0.43
45:BJ:52:LEU:HA	45:BJ:62:ARG:HG2	2.00	0.43
32:C2:10:LEU:HD21	32:C2:33:LEU:HD23	1.98	0.43
11:C5:57:ASN:ND2	11:C5:80:THR:H	2.17	0.43
2:CA:1788:C:OP1	5:CC:220:ARG:NH2	2.37	0.43
6:CD:121:THR:HB	6:CD:127:PHE:CD2	2.53	0.43
14:CK:5:GLN:N	14:CK:21:CYS:O	2.51	0.43
17:CN:94:TYR:CA	17:CN:116:VAL:CG2	2.95	0.43
32:D2:10:LEU:O	32:D2:19:PHE:HA	2.18	0.43
2:DA:1274:A:OP1	2:DA:1646:C:N4	2.51	0.43
2:DA:1795:C:O2	5:DC:252:LYS:NZ	2.48	0.43
2:DA:395:U:O2'	2:DA:396:G:N7	2.44	0.43
2:DA:691:C:O2'	5:DC:42:ARG:NH1	2.51	0.43
2:DA:858:G:H3'	2:DA:859:G:C8	2.53	0.43
10:DH:94:ILE:HD13	10:DH:122:LEU:HD23	1.99	0.43
10:DH:7:ASP:HA	10:DH:15:LEU:HD23	2.00	0.43
18:DO:63:LYS:HD3	18:DO:64:TYR:HB2	2.01	0.43
1:AA:102:G:H2'	1:AA:103:U:H6	1.83	0.43
1:AA:153:C:H42	1:AA:169:C:H42	1.66	0.43
1:AA:49:U:H3	1:AA:362:G:H1'	1.83	0.43
1:AA:801:U:H2'	1:AA:802:A:H8	1.83	0.43
41:AF:77:THR:HA	41:AF:80:PHE:HB3	2.01	0.43
46:AK:12:ARG:HB3	46:AK:13:LYS:H	1.53	0.43
43:BH:51:GLU:HB3	43:BH:57:GLU:HB2	2.00	0.43
2:CA:2443:C:H2'	2:CA:2444:G:H8	1.83	0.43
13:CJ:32:LEU:HD22	13:CJ:54:ILE:HG21	2.00	0.43
20:CQ:44:TYR:HD1	20:CQ:47:ARG:HH11	1.65	0.43
2:DA:1258:U:H2'	2:DA:1259:G:H8	1.83	0.43
2:DA:1409:U:H2'	2:DA:1410:G:C8	2.53	0.43
2:DA:1432:G:H2'	2:DA:1433:A:C8	2.52	0.43
5:DC:68:ARG:NH1	5:DC:128:THR:OG1	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:DE:77:ILE:HG23	7:DE:78:TRP:HE3	1.84	0.43
19:DP:28:LYS:HB3	19:DP:39:LEU:HD21	2.00	0.43
27:DX:1:SER:N	58:DX:102:HOH:O	2.51	0.43
1:AA:1004:A:H5'	1:AA:1024:G:H22	1.83	0.43
1:AA:708:C:OP1	46:AK:21:HIS:NE2	2.51	0.43
47:AL:29:LYS:H	47:AL:81:ILE:HG22	1.84	0.43
4:AV:22:G:H2'	4:AV:23:A:H8	1.83	0.43
1:BA:1124:G:O2'	1:BA:1127:G:O6	2.37	0.43
1:BA:545:C:O2'	1:BA:549:C:OP1	2.36	0.43
1:BA:84:U:O2'	1:BA:86:G:OP1	2.32	0.43
39:BD:87:GLU:HG2	39:BD:187:ARG:HD3	2.01	0.43
2:CA:1001:A:H62	2:CA:1154:G:N2	2.14	0.43
2:CA:1364:G:OP2	27:CX:1:SER:N	2.35	0.43
2:CA:1409:U:H2'	2:CA:1410:G:H8	1.82	0.43
2:CA:151:C:H2'	2:CA:152:A:C8	2.53	0.43
2:CA:1527:G:N2	2:CA:1545:A:N6	2.48	0.43
2:CA:2695:U:O4	2:CA:2714:G:O6	2.36	0.43
2:CA:304:U:O2	2:CA:313:G:N2	2.43	0.43
2:CA:721:A:H2'	2:CA:722:A:H8	1.82	0.43
8:CF:134:GLN:NE2	8:CF:147:ARG:O	2.51	0.43
7:CE:29:HIS:HD2	15:CL:6:LEU:HB3	1.84	0.43
2:DA:1233:C:N4	58:DA:3520:HOH:O	2.51	0.43
2:DA:1385:A:O2'	2:DA:1396:U:O2	2.36	0.43
2:DA:1980:G:O2'	2:DA:1982:U:OP2	2.22	0.43
2:DA:2508:G:H2'	2:DA:2509:G:H8	1.83	0.43
2:DA:767:U:H2'	2:DA:768:G:C8	2.54	0.43
5:DC:209:ALA:HA	5:DC:212:TRP:CE2	2.52	0.43
6:DD:49:GLN:HE21	6:DD:79:LEU:HB3	1.83	0.43
15:DL:90:VAL:HG13	15:DL:95:LEU:HD21	1.99	0.43
1:AA:463:U:H3	1:AA:469:C:H42	1.66	0.43
1:AA:680:C:H2'	1:AA:681:A:H8	1.83	0.43
1:AA:736:C:H2'	1:AA:737:C:C6	2.53	0.43
1:AA:895:G:N2	1:AA:904:U:O2	2.40	0.43
39:AD:10:LEU:HD22	39:AD:62:ARG:HE	1.83	0.43
48:AM:7:ASN:HD22	48:AM:21:ILE:HG13	1.82	0.43
4:AV:41:A:H2'	4:AV:42:G:C8	2.54	0.43
37:BB:163:ILE:HD11	37:BB:209:VAL:HG11	2.00	0.43
1:BA:1368:A:H4'	49:BN:101:TRP:HZ2	1.84	0.43
2:CA:145:C:H2'	2:CA:146:A:H8	1.84	0.43
2:CA:1710:G:H2'	2:CA:1711:A:C8	2.53	0.43
2:CA:2540:C:O2'	2:CA:2740:A:N3	2.41	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:286:U:H2'	2:CA:287:G:C8	2.54	0.43
2:CA:355:U:H2'	2:CA:356:G:C8	2.52	0.43
7:CE:58:LYS:NZ	7:CE:70:SER:O	2.45	0.43
2:DA:1864:U:OP1	2:DA:2410:G:O2'	2.32	0.43
2:DA:1936:A:H2	2:DA:1943:U:H3	1.66	0.43
2:DA:2229:U:H2'	2:DA:2230:G:C8	2.52	0.43
2:DA:2824:C:H3'	2:DA:2825:G:H21	1.83	0.43
2:DA:2836:U:H2'	2:DA:2837:A:H8	1.82	0.43
1:AA:126:G:OP1	1:AA:605:U:O2'	2.32	0.43
1:AA:1493:A:H2	36:AX:22:U:H1'	1.81	0.43
1:AA:1530:G:H2'	1:AA:1531:A:H8	1.84	0.43
1:AA:193:C:H2'	1:AA:194:C:C6	2.53	0.43
1:AA:452:A:HO2'	1:AA:453:G:H8	1.66	0.43
1:AA:458:U:H2'	1:AA:459:A:H8	1.84	0.43
1:AA:736:C:H2'	1:AA:737:C:H6	1.84	0.43
39:AD:204:SER:HB3	40:AE:105:ILE:HG22	2.00	0.43
1:AA:552:U:O2'	47:AL:82:ARG:O	2.34	0.43
51:AP:72:ALA:HA	51:AP:75:ILE:HD12	1.99	0.43
1:BA:924:C:H2'	1:BA:925:G:C8	2.53	0.43
38:BC:28:GLU:O	38:BC:32:ASN:HB2	2.18	0.43
40:BE:131:ASN:HA	40:BE:132:PRO:HD3	1.80	0.43
41:BF:70:VAL:O	41:BF:74:LEU:HB2	2.19	0.43
4:BV:13:C:H2'	4:BV:14:A:C8	2.53	0.43
2:CA:2199:A:H62	2:CA:2224:G:H21	1.66	0.43
2:CA:2246:G:H2'	2:CA:2247:A:C8	2.53	0.43
2:CA:306:U:H3	2:CA:310:A:N6	1.98	0.43
5:CC:173:LEU:O	5:CC:180:MET:HA	2.18	0.43
2:CA:2683:C:H4'	6:CD:13:ARG:NH1	2.33	0.43
2:CA:662:G:H4'	15:CL:16:GLY:HA2	2.00	0.43
2:DA:335:C:O2	24:DU:67:SER:OG	2.25	0.43
2:DA:414:C:H2'	2:DA:415:A:H8	1.84	0.43
3:DB:33:G:H2'	3:DB:34:A:C8	2.52	0.43
8:DF:130:GLY:HA2	8:DF:152:ASP:HA	2.01	0.43
14:DK:9:ASN:OD1	14:DK:18:ARG:NH1	2.49	0.43
19:DP:24:THR:HB	19:DP:87:ARG:HB3	1.99	0.43
28:DY:17:GLU:HB2	28:DY:53:VAL:HG11	2.01	0.43
1:AA:398:U:H2'	1:AA:399:G:C8	2.54	0.43
1:AA:404:G:OP1	39:AD:2:ARG:NH1	2.51	0.43
1:AA:401:C:O2'	1:AA:621:A:N3	2.48	0.43
1:AA:680:C:H2'	1:AA:681:A:C8	2.54	0.43
44:AI:31:GLN:CA	44:AI:31:GLN:HE21	2.21	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1149:C:H2'	1:BA:1150:A:C8	2.51	0.43
1:BA:746:A:H2'	1:BA:747:A:H8	1.84	0.43
1:BA:957:U:HO2'	54:BS:78:THR:HG1	1.61	0.43
39:BD:25:ARG:NE	39:BD:28:ASP:OD2	2.42	0.43
48:BM:1:ALA:HB3	48:BM:9:PRO:HD2	2.00	0.43
1:BA:262:A:H4'	55:BT:69:ASN:HB2	2.01	0.43
2:CA:1499:C:H2'	2:CA:1500:G:H8	1.84	0.43
22:CS:52:GLU:HA	22:CS:55:ILE:HD12	1.99	0.43
29:CZ:8:GLN:O	29:CZ:32:GLY:N	2.47	0.43
2:DA:1059:G:N1	2:DA:1080:A:C6	2.87	0.43
2:DA:1422:G:H2'	2:DA:1423:G:C8	2.54	0.43
2:DA:1590:A:H2'	2:DA:1591:A:C8	2.53	0.43
2:DA:2304:G:H4'	8:DF:129:MET:HA	2.00	0.43
2:DA:372:G:O2'	2:DA:400:G:O6	2.27	0.43
2:DA:560:C:H1'	20:DQ:47:ARG:HH22	1.84	0.43
2:DA:741:U:H2'	2:DA:742:A:C8	2.54	0.43
3:DB:42:C:H5	8:DF:65:LEU:HD22	1.83	0.43
39:AD:77:GLU:OE2	39:AD:80:ARG:NH1	2.52	0.43
1:BA:1143:G:H2'	1:BA:1144:G:C4	2.54	0.43
1:BA:1538:C:N3	36:BX:5:G:C2	2.82	0.43
1:BA:461:A:H2'	1:BA:462:G:H8	1.84	0.43
43:BH:51:GLU:O	43:BH:57:GLU:HB2	2.19	0.43
2:CA:1701:A:OP1	2:CA:1763:G:N1	2.37	0.43
2:CA:2120:G:H2'	2:CA:2121:G:C8	2.54	0.43
2:CA:427:U:HO2'	2:CA:428:A:H8	1.66	0.43
2:CA:2060:A:H62	7:CE:69:ARG:HH22	1.67	0.43
10:CH:94:ILE:HD11	10:CH:122:LEU:HB2	2.00	0.43
14:CK:78:ARG:NH1	19:CP:70:GLU:OE1	2.51	0.43
2:DA:1013:C:H2'	2:DA:1014:A:H8	1.83	0.43
2:DA:1176:U:H2'	2:DA:1177:G:C8	2.53	0.43
2:DA:1687:G:H21	2:DA:1701:A:H62	1.67	0.43
2:DA:2008:C:H2'	2:DA:2009:A:H8	1.84	0.43
2:DA:2202:U:O2	2:DA:2221:G:N2	2.35	0.43
2:DA:2327:A:H2'	2:DA:2328:A:C8	2.54	0.43
2:DA:639:U:O4	2:DA:649:G:O6	2.37	0.43
3:DB:111:U:H2'	3:DB:112:G:C8	2.52	0.43
16:DM:63:ILE:HA	16:DM:104:GLU:O	2.19	0.43
29:DZ:8:GLN:NE2	29:DZ:10:ARG:O	2.44	0.43
1:AA:944:G:H21	1:AA:1339:A:H62	1.67	0.43
1:AA:538:G:H2'	1:AA:539:A:C8	2.54	0.43
38:AC:20:SER:HB3	38:AC:22:TRP:CZ3	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AR:36:GLY:O	53:AR:62:ARG:NH2	2.52	0.43
36:AX:22:U:H2'	36:AX:23:A:H8	1.83	0.43
2:CA:2432:A:N6	4:AY:76:A:OP2	2.51	0.43
1:BA:1507:A:H2'	1:BA:1508:A:C8	2.54	0.43
1:BA:843:U:H5'	1:BA:844:G:C2	2.54	0.43
38:BC:181:ASP:HB3	38:BC:205:GLY:H	1.84	0.43
4:BV:72:C:H2'	4:BV:73:A:H4'	2.01	0.43
2:CA:214:G:H2'	2:CA:215:G:C8	2.54	0.43
2:CA:2707:U:H2'	2:CA:2708:G:C8	2.54	0.43
2:CA:52:A:OP2	2:CA:117:G:N1	2.51	0.43
2:CA:2683:C:O2	14:CK:70:ARG:NH2	2.52	0.43
17:CN:13:ASN:N	17:CN:13:ASN:OD1	2.52	0.43
25:CV:30:ILE:HG12	25:CV:91:PHE:HB2	2.01	0.43
35:D6:30:GLU:HG3	35:D6:32:LYS:H	1.84	0.43
2:DA:1219:U:H2'	2:DA:1220:G:C8	2.53	0.43
2:DA:1803:A:H2	2:DA:1823:G:H1'	1.83	0.43
2:DA:239:C:H1'	2:DA:621:A:H2	1.83	0.43
2:DA:2847:U:O2	2:DA:2869:G:O6	2.37	0.43
7:DE:148:ILE:HB	7:DE:169:VAL:HG22	2.01	0.43
13:DJ:73:VAL:HG22	13:DJ:88:THR:HG22	2.00	0.43
15:DL:128:THR:HG23	15:DL:131:ALA:H	1.84	0.43
16:DM:35:ALA:HA	16:DM:128:THR:HG22	2.01	0.43
2:DA:2331:G:O2'	26:DW:43:THR:OG1	2.31	0.43
1:AA:1291:U:H2'	1:AA:1292:G:C8	2.54	0.43
1:AA:1409:C:H2'	1:AA:1410:A:C8	2.52	0.43
1:AA:1458:G:H2'	1:AA:1459:G:C8	2.54	0.43
1:AA:370:C:H2'	1:AA:371:A:C8	2.54	0.43
44:AI:11:ARG:HA	44:AI:105:ARG:HH12	1.83	0.43
45:AJ:12:ALA:HB3	45:AJ:18:ILE:HD12	2.00	0.43
47:AL:109:ARG:NE	47:AL:111:GLN:O	2.50	0.43
48:AM:84:CYS:SG	48:AM:87:GLY:N	2.83	0.43
1:BA:1038:C:H2'	1:BA:1039:G:H8	1.83	0.43
1:BA:634:C:H2'	1:BA:635:A:H8	1.84	0.43
38:BC:19:ASN:HB2	49:BN:92:GLU:H	1.84	0.43
38:BC:57:ILE:HG23	38:BC:64:ILE:HD11	2.00	0.43
40:BE:31:SER:OG	40:BE:52:ALA:O	2.32	0.43
44:BI:16:ALA:HA	44:BI:66:VAL:HA	2.01	0.43
1:BA:693:G:C6	36:BX:15:A:H1'	2.54	0.43
2:CA:2047:C:H2'	2:CA:2048:G:H8	1.84	0.43
2:CA:2339:C:H2'	2:CA:2340:A:C8	2.54	0.43
2:CA:2377:A:H2'	2:CA:2378:A:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:2898:U:H2'	2:CA:2899:A:H8	1.84	0.43
2:CA:414:C:H2'	2:CA:415:A:H8	1.84	0.43
2:CA:63:A:H2'	2:CA:64:A:C8	2.54	0.43
2:CA:910:A:H2'	2:CA:911:A:C8	2.54	0.43
2:CA:784:G:H5''	5:CC:225:ASN:ND2	2.34	0.43
8:CF:146:ASP:OD1	8:CF:149:ARG:NH2	2.50	0.43
10:CH:26:ALA:HA	10:CH:30:LEU:HB2	2.01	0.43
15:CL:76:GLU:HB2	15:CL:111:ILE:HD13	1.99	0.43
17:CN:120:GLU:OE1	17:CN:120:GLU:N	2.52	0.43
26:CW:18:ALA:O	26:CW:20:ARG:NH1	2.45	0.43
30:D0:46:GLY:CA	58:D0:201:HOH:O	2.15	0.43
34:D4:22:LYS:HE2	34:D4:46:LYS:HB2	1.99	0.43
2:DA:1316:U:H2'	2:DA:1317:G:C8	2.54	0.43
2:DA:2647:U:H2'	2:DA:2648:G:H8	1.83	0.43
2:DA:2734:A:N6	2:DA:2770:G:H21	2.02	0.43
5:DC:209:ALA:HB1	5:DC:213:ARG:HH12	1.84	0.43
5:DC:81:GLU:OE1	5:DC:102:TYR:OH	2.30	0.43
17:DN:79:LEU:HA	17:DN:83:LEU:HB2	2.01	0.43
19:DP:21:PRO:HD3	19:DP:49:ILE:HD12	2.01	0.43
14:DK:74:GLY:O	19:DP:74:GLN:NE2	2.52	0.43
21:DR:4:VAL:HA	21:DR:12:HIS:O	2.19	0.43
28:DY:2:LYS:O	28:DY:6:LEU:HB2	2.19	0.43
1:AA:1228:C:H2'	1:AA:1229:A:C8	2.54	0.42
1:AA:1347:G:N2	1:AA:1374:A:OP2	2.51	0.42
1:AA:369:G:OP2	1:AA:388:G:N1	2.37	0.42
1:AA:460:A:H2'	1:AA:461:A:H8	1.84	0.42
49:AN:30:ILE:HG22	49:AN:45:VAL:HG21	2.01	0.42
2:CA:1297:C:H2'	2:CA:1298:C:H6	1.84	0.42
2:CA:143:C:H2'	2:CA:144:A:C8	2.54	0.42
2:CA:1678:A:H1'	2:CA:1991:U:H1'	2.01	0.42
2:CA:1689:A:H2'	2:CA:1690:A:C8	2.54	0.42
2:CA:184:C:H2'	2:CA:185:G:C8	2.52	0.42
22:CS:62:ASP:N	22:CS:62:ASP:OD1	2.52	0.42
2:DA:1190:G:OP1	15:DL:30:THR:OG1	2.36	0.42
2:DA:1359:A:N6	2:DA:1360:G:N3	2.67	0.42
2:DA:18:U:H2'	2:DA:19:A:H8	1.84	0.42
2:DA:2215:C:H2'	2:DA:2216:G:H8	1.84	0.42
2:DA:2339:C:H2'	2:DA:2340:A:C8	2.54	0.42
2:DA:2688:G:N1	2:DA:2720:U:OP2	2.41	0.42
2:DA:922:C:H1'	26:DW:26:PHE:HD2	1.84	0.42
5:DC:92:LEU:HD11	5:DC:100:ARG:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:DD:33:ARG:HA	6:DD:94:GLN:O	2.18	0.42
8:DF:105:ILE:O	8:DF:109:ARG:NE	2.50	0.42
24:DU:80:ASP:OD2	24:DU:97:SER:OG	2.36	0.42
1:AA:599:C:H4'	43:AH:121:GLY:HA3	2.01	0.42
48:AM:56:ARG:HA	48:AM:59:VAL:HG12	2.00	0.42
52:AQ:11:VAL:HG22	52:AQ:22:VAL:HG22	2.02	0.42
1:BA:1080:A:H4'	40:BE:20:VAL:HG11	2.01	0.42
1:BA:1151:A:HO2'	1:BA:1152:A:H8	1.64	0.42
1:BA:1458:G:H2'	1:BA:1459:G:C8	2.54	0.42
1:BA:21:G:H2'	1:BA:22:G:C8	2.54	0.42
1:BA:358:U:H2'	1:BA:359:G:C8	2.51	0.42
1:BA:370:C:H2'	1:BA:371:A:H8	1.84	0.42
1:BA:634:C:H2'	1:BA:635:A:C8	2.54	0.42
38:BC:121:THR:HG23	38:BC:189:ALA:HA	2.01	0.42
39:BD:164:ARG:HG2	39:BD:165:GLU:H	1.84	0.42
44:BI:50:PRO:HG2	44:BI:51:LEU:HG	2.01	0.42
51:BP:34:GLU:OE2	51:BP:60:TRP:NE1	2.49	0.42
2:CA:1219:U:H2'	2:CA:1220:G:H8	1.83	0.42
2:CA:1383:A:H2'	2:CA:1384:A:C8	2.55	0.42
2:CA:1689:A:H2'	2:CA:1690:A:H8	1.83	0.42
1:AA:702:A:H2	2:CA:1846:G:H21	1.68	0.42
3:CB:5:U:H2'	3:CB:6:G:H8	1.84	0.42
8:CF:109:ARG:NH1	8:CF:136:ILE:O	2.52	0.42
2:CA:1666:G:H1'	14:CK:3:GLN:HE21	1.85	0.42
2:DA:1803:A:N6	2:DA:1814:G:H21	2.17	0.42
1:AA:1203:C:H2'	1:AA:1204:A:H8	1.84	0.42
1:AA:21:G:H21	1:AA:914:A:H62	1.66	0.42
1:AA:724:G:H2'	1:AA:725:G:C8	2.55	0.42
1:AA:736:C:OP1	53:AR:60:ARG:NH2	2.43	0.42
1:AA:924:C:H2'	1:AA:925:G:C8	2.54	0.42
1:AA:959:A:N6	1:AA:1221:G:O2'	2.52	0.42
1:BA:1243:C:H2'	1:BA:1244:G:C8	2.54	0.42
37:BB:116:LEU:HG	37:BB:140:LEU:HG	2.01	0.42
41:BF:30:THR:HA	41:BF:34:GLY:H	1.85	0.42
2:CA:1057:A:H1'	11:C5:35:VAL:HG11	2.01	0.42
2:CA:1927:A:H2'	2:CA:1928:A:C8	2.54	0.42
2:CA:1939:U:OP1	2:CA:2604:U:O2'	2.31	0.42
2:CA:475:C:N3	2:CA:479:A:N7	2.68	0.42
2:CA:948:C:O2	2:CA:984:A:O2'	2.26	0.42
2:CA:1654:A:O2'	6:CD:118:PHE:O	2.27	0.42
18:CO:31:THR:O	58:CO:201:HOH:O	2.21	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:2023:C:H2'	2:DA:2024:G:H8	1.84	0.42
2:DA:2333:A:OP1	26:DW:77:ARG:NH1	2.41	0.42
2:DA:23:G:H2'	2:DA:24:G:H8	1.84	0.42
2:DA:271:G:N1	2:DA:367:G:N7	2.67	0.42
3:DB:49:C:H2'	3:DB:50:A:H8	1.84	0.42
2:DA:1820:U:C4	5:DC:158:GLY:HA3	2.54	0.42
2:DA:1820:U:H3	5:DC:197:ALA:HA	1.84	0.42
1:AA:1111:A:H2'	1:AA:1112:C:C6	2.54	0.42
1:AA:358:U:H2'	1:AA:359:G:C8	2.47	0.42
1:AA:435:A:O2'	39:AD:153:ARG:NH2	2.52	0.42
37:AB:213:LEU:HA	37:AB:216:VAL:HB	2.00	0.42
55:AT:34:VAL:HG11	55:AT:78:LEU:HD13	2.01	0.42
1:BA:1112:C:H1'	38:BC:179:ARG:HG3	2.02	0.42
1:BA:237:G:H4'	52:BQ:26:ARG:NH2	2.33	0.42
43:BH:46:GLU:HB2	43:BH:61:THR:HB	2.01	0.42
1:BA:1302:C:H5'	48:BM:16:ILE:HG12	2.02	0.42
49:BN:74:LEU:HD23	49:BN:76:LYS:H	1.83	0.42
2:CA:2804:U:H2'	2:CA:2805:C:H6	1.83	0.42
2:CA:238:C:O2'	2:CA:608:A:N3	2.47	0.42
7:CE:149:ILE:HG22	7:CE:188:MET:HA	2.01	0.42
2:DA:1612:C:H4'	33:D3:5:PHE:HD2	1.84	0.42
2:DA:2433:A:N6	58:DA:3562:HOH:O	2.53	0.42
2:DA:2540:C:O2'	2:DA:2740:A:N3	2.43	0.42
2:DA:589:U:H2'	2:DA:590:A:H8	1.84	0.42
58:DA:3245:HOH:O	16:DM:16:ARG:NH1	2.52	0.42
1:AA:1245:C:H2'	1:AA:1246:A:H8	1.84	0.42
1:AA:424:G:H2'	1:AA:425:G:C8	2.55	0.42
1:AA:543:U:H2'	1:AA:544:G:C8	2.54	0.42
37:AB:139:GLU:HA	37:AB:142:LYS:HE3	2.02	0.42
38:AC:181:ASP:HB3	38:AC:205:GLY:H	1.84	0.42
44:AI:106:ASP:OD1	44:AI:107:ALA:N	2.52	0.42
1:AA:1250:A:H4'	44:AI:68:GLY:HA2	2.01	0.42
46:AK:95:THR:N	58:AK:204:HOH:O	2.52	0.42
4:AW:62:C:H2'	4:AW:63:G:C8	2.53	0.42
1:BA:823:C:H2'	1:BA:824:G:C8	2.55	0.42
37:BB:46:VAL:HG13	37:BB:50:ASN:HD22	1.84	0.42
1:BA:864:A:H4'	40:BE:89:THR:HG23	2.01	0.42
49:BN:25:GLU:HA	49:BN:28:ALA:HB3	2.00	0.42
52:BQ:23:ALA:HA	52:BQ:42:LYS:HA	2.00	0.42
2:CA:1386:C:H2'	2:CA:1387:A:C8	2.55	0.42
2:CA:18:U:H2'	2:CA:19:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:355:U:H2'	2:CA:356:G:H8	1.83	0.42
2:CA:373:U:OP2	27:CX:53:LYS:NZ	2.42	0.42
2:CA:704:G:O2'	2:CA:726:G:N2	2.41	0.42
2:CA:793:A:OP2	2:CA:2071:A:O2'	2.31	0.42
3:CB:80:U:H2'	3:CB:81:G:H8	1.84	0.42
5:CC:2:VAL:HG12	5:CC:18:VAL:HG22	2.01	0.42
5:CC:59:GLN:HG2	5:CC:84:PRO:HB2	2.01	0.42
6:CD:13:ARG:HD2	6:CD:15:PHE:CZ	2.55	0.42
8:CF:40:GLY:N	58:CF:203:HOH:O	2.51	0.42
15:CL:55:MET:HA	15:CL:56:PRO:HD3	1.87	0.42
4:AV:53:G:H5''	16:CM:55:ARG:HH12	1.84	0.42
2:CA:495:G:N2	22:CS:61:ASN:OD1	2.37	0.42
25:CV:31:TYR:HE1	25:CV:90:ASP:HB3	1.85	0.42
2:DA:1326:U:H2'	2:DA:1327:A:C8	2.51	0.42
2:DA:1964:G:O2'	2:DA:1967:C:OP1	2.37	0.42
2:DA:2200:C:H2'	2:DA:2201:G:H8	1.83	0.42
2:DA:414:C:O2	2:DA:1864:U:O2'	2.32	0.42
2:DA:558:U:H2'	2:DA:559:G:C8	2.53	0.42
2:DA:770:G:H2'	2:DA:771:G:C8	2.55	0.42
7:DE:62:GLN:HG3	7:DE:63:LYS:HG3	2.00	0.42
14:DK:63:VAL:HB	14:DK:103:VAL:HG12	2.00	0.42
20:DQ:89:ILE:HG12	21:DR:39:LEU:HD23	2.01	0.42
1:AA:1067:A:N6	1:AA:1109:C:H5'	2.35	0.42
1:AA:1162:C:N4	58:AA:1839:HOH:O	2.53	0.42
1:AA:1268:G:H2'	1:AA:1269:A:C8	2.54	0.42
1:AA:1300:G:H1'	1:AA:1303:C:H42	1.85	0.42
1:AA:1342:C:H2'	1:AA:1343:G:C8	2.54	0.42
1:AA:198:G:N7	1:AA:220:G:N1	2.68	0.42
47:AL:41:PRO:HG3	47:AL:46:SER:HA	2.01	0.42
4:AW:60:C:H5'	4:AW:61:C:H5	1.84	0.42
1:BA:999:C:H2'	1:BA:1000:A:H8	1.83	0.42
1:BA:693:G:N9	36:BX:15:A:O4'	2.52	0.42
51:BP:4:ILE:HG12	51:BP:21:VAL:HG22	2.01	0.42
2:CA:190:A:N7	2:CA:206:U:O4	2.52	0.42
2:CA:2267:A:H5''	2:CA:2268:A:H5'	2.01	0.42
2:CA:408:G:O6	2:CA:419:U:O4	2.37	0.42
2:CA:926:G:H2'	2:CA:927:A:H8	1.85	0.42
2:CA:1256:G:H1'	7:CE:77:ILE:HD11	2.02	0.42
20:CQ:27:ARG:HD3	20:CQ:33:VAL:HG12	2.01	0.42
35:D6:25:VAL:O	35:D6:34:LYS:HA	2.20	0.42
2:DA:1579:A:H2'	2:DA:1580:A:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:2443:C:H2'	2:DA:2444:G:C8	2.55	0.42
2:DA:2544:G:H2'	2:DA:2545:G:C8	2.55	0.42
2:DA:2737:G:H2'	2:DA:2738:A:C8	2.54	0.42
2:DA:939:G:H2'	2:DA:940:G:C8	2.54	0.42
3:DB:38:C:H2'	3:DB:39:A:C8	2.55	0.42
1:AA:1243:C:H2'	1:AA:1244:G:C8	2.54	0.42
1:AA:1308:U:OP1	48:AM:96:VAL:N	2.50	0.42
1:AA:1356:G:H2'	1:AA:1357:A:C8	2.55	0.42
1:AA:150:U:C2	1:AA:171:A:N6	2.87	0.42
1:AA:180:U:C2	1:AA:195:A:N6	2.85	0.42
1:AA:375:U:H4'	51:AP:6:LEU:HD22	2.01	0.42
1:AA:1113:C:H4'	38:AC:14:ILE:HD12	2.02	0.42
43:AH:102:VAL:HG12	43:AH:125:ILE:HD13	2.00	0.42
1:AA:195:A:OP1	55:AT:59:ARG:NH1	2.53	0.42
1:BA:34:C:H2'	1:BA:35:G:C8	2.54	0.42
1:BA:683:G:N3	46:BK:39:ASN:ND2	2.67	0.42
1:BA:720:C:N4	58:BA:1815:HOH:O	2.50	0.42
38:BC:10:ILE:HG23	38:BC:11:ARG:HD2	2.00	0.42
40:BE:156:ARG:HG2	40:BE:157:GLY:H	1.85	0.42
1:BA:1249:C:O2'	44:BI:74:GLN:NE2	2.53	0.42
45:BJ:6:ILE:HB	45:BJ:76:ILE:O	2.19	0.42
46:BK:23:HIS:HB3	46:BK:30:ILE:HG13	2.02	0.42
1:BA:1320:C:N3	54:BS:35:ARG:NH2	2.68	0.42
2:CA:1803:A:H2	2:CA:1823:G:H1'	1.84	0.42
2:CA:2220:U:H2'	2:CA:2221:G:H8	1.84	0.42
2:CA:2324:U:H3	2:CA:2331:G:H1	1.68	0.42
2:CA:720:U:H2'	2:CA:721:A:H8	1.85	0.42
8:CF:39:VAL:HG11	8:CF:49:LEU:HD13	2.02	0.42
13:CJ:35:ARG:HB2	13:CJ:54:ILE:HD11	2.02	0.42
3:CB:7:G:H1'	18:CO:38:GLN:HE22	1.84	0.42
21:CR:24:LYS:HA	21:CR:94:THR:HG23	2.00	0.42
31:D1:54:ILE:HD12	31:D1:54:ILE:H	1.84	0.42
15:DL:58:TYR:O	34:D4:12:ARG:NH2	2.52	0.42
35:D6:10:LEU:HD12	35:D6:33:HIS:HA	2.02	0.42
2:DA:2291:U:H2'	2:DA:2292:U:C6	2.55	0.42
2:DA:2698:U:H2'	2:DA:2699:C:C6	2.54	0.42
3:DB:116:G:H2'	3:DB:117:G:H8	1.84	0.42
3:DB:76:G:OP1	25:DV:9:ARG:NH2	2.51	0.42
10:DH:4:ILE:HD12	10:DH:18:GLN:HA	2.01	0.42
2:DA:1755:A:H5'	19:DP:102:ARG:HH22	1.84	0.42
19:DP:91:VAL:HG21	19:DP:96:LEU:HD21	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:AG:110:ARG:NE	42:AG:112:ASP:OD2	2.39	0.42
46:AK:61:ALA:HA	46:AK:64:VAL:HG12	2.02	0.42
48:AM:14:ALA:HA	48:AM:17:ALA:HB3	2.01	0.42
1:BA:10:A:H2'	1:BA:11:G:H8	1.85	0.42
1:BA:1130:A:H61	1:BA:1144:G:N2	2.18	0.42
1:BA:1392:G:N2	1:BA:1502:A:N3	2.67	0.42
38:BC:147:LYS:HD2	38:BC:147:LYS:H	1.85	0.42
42:BG:110:ARG:HD3	42:BG:118:ARG:HA	2.02	0.42
48:BM:66:GLY:O	48:BM:70:ARG:NH1	2.53	0.42
2:CA:48:G:N2	2:CA:177:G:OP2	2.51	0.42
2:CA:2194:U:H2'	2:CA:2195:U:C6	2.52	0.42
2:CA:2837:A:H2'	2:CA:2838:G:C8	2.54	0.42
2:CA:630:G:N2	2:CA:633:A:OP2	2.39	0.42
3:CB:9:G:H2'	3:CB:10:G:H8	1.85	0.42
2:CA:1820:U:C2	5:CC:200:MET:HG3	2.54	0.42
18:CO:8:ILE:O	18:CO:12:THR:OG1	2.32	0.42
14:CK:76:VAL:HG12	19:CP:72:VAL:HG22	2.02	0.42
21:CR:5:PHE:HE2	21:CR:7:SER:HB2	1.85	0.42
30:D0:27:THR:OG1	30:D0:27:THR:O	2.32	0.42
34:D4:24:LYS:HA	34:D4:46:LYS:HG3	2.00	0.42
2:DA:1438:U:H2'	2:DA:1439:A:C8	2.51	0.42
2:DA:665:U:H2'	2:DA:666:A:C8	2.55	0.42
2:DA:721:A:H2'	2:DA:722:A:H8	1.85	0.42
2:DA:1500:G:N2	5:DC:97:ASP:O	2.35	0.42
8:DF:28:PRO:HB2	8:DF:168:LEU:HD13	2.01	0.42
1:AA:1338:G:N2	4:AW:41:A:N3	2.68	0.42
1:AA:1394:A:N6	1:AA:1500:A:O2'	2.51	0.42
1:AA:984:C:H2'	1:AA:985:C:C6	2.54	0.42
39:AD:144:ILE:HD12	39:AD:177:MET:HB3	2.01	0.42
42:AG:14:ASP:HB3	42:AG:19:SER:H	1.85	0.42
36:AX:18:G:O2'	36:AX:19:U:O4'	2.38	0.42
1:BA:321:A:H2'	1:BA:322:C:H6	1.84	0.42
37:BB:112:ARG:HH22	37:BB:136:ARG:HH21	1.68	0.42
40:BE:96:GLN:HB3	40:BE:123:LEU:HD12	2.01	0.42
52:BQ:47:ASP:HB3	52:BQ:74:LEU:HD21	2.01	0.42
2:CA:1069:A:N6	2:CA:1074:G:N3	2.68	0.42
2:CA:1709:U:H2'	2:CA:1710:G:H8	1.85	0.42
2:CA:558:U:H2'	2:CA:559:G:C8	2.53	0.42
2:CA:887:U:O2'	2:CA:889:C:N4	2.35	0.42
5:CC:132:ARG:HB3	5:CC:185:ALA:HB1	2.02	0.42
2:CA:1693:U:O2'	5:CC:13:ARG:NH2	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CC:91:ALA:O	5:CC:102:TYR:HA	2.20	0.42
15:CL:58:TYR:O	34:C4:12:ARG:NH2	2.53	0.42
35:D6:27:CYS:SG	35:D6:28:SER:N	2.93	0.42
35:D6:1:MET:HB3	35:D6:34:LYS:HD2	2.00	0.42
2:DA:1102:C:H2'	2:DA:1103:A:C8	2.53	0.42
2:DA:1550:C:H2'	2:DA:1551:A:H8	1.85	0.42
2:DA:2087:G:H2'	2:DA:2088:A:C8	2.54	0.42
2:DA:2438:U:O2'	2:DA:2440:C:OP1	2.33	0.42
2:DA:2804:U:H2'	2:DA:2805:C:C6	2.55	0.42
2:DA:624:C:O2'	2:DA:657:U:OP1	2.38	0.42
2:DA:807:U:H2'	2:DA:808:G:C8	2.54	0.42
2:DA:924:G:H2'	2:DA:925:A:H8	1.85	0.42
7:DE:58:LYS:HA	7:DE:59:PRO:HD3	1.94	0.42
18:DO:39:VAL:HG21	18:DO:49:VAL:HB	2.01	0.42
24:DU:28:LEU:HB2	24:DU:32:LYS:HB2	2.01	0.42
28:DY:42:LEU:HD23	28:DY:45:GLN:HE21	1.85	0.42
1:AA:1152:A:H2'	1:AA:1153:G:C8	2.54	0.42
1:AA:1291:U:H2'	1:AA:1292:G:H8	1.85	0.42
1:AA:403:C:H2'	1:AA:404:G:H8	1.84	0.42
1:AA:618:C:N4	1:AA:621:A:OP2	2.52	0.42
1:AA:859:G:H2'	1:AA:860:A:H8	1.85	0.42
39:AD:59:LYS:NZ	58:AD:304:HOH:O	2.53	0.42
44:AI:10:ARG:C	44:AI:105:ARG:NH2	2.74	0.42
48:AM:78:ARG:NH2	54:AS:64:GLU:O	2.49	0.42
1:BA:1059:C:N4	58:BA:1756:HOH:O	2.53	0.42
1:BA:1405:G:O2'	1:BA:1518:A:O2'	2.36	0.42
1:BA:67:C:O2	1:BA:103:U:N3	2.49	0.42
1:BA:15:G:O6	1:BA:920:U:O4	2.38	0.42
37:BB:166:ASP:O	37:BB:169:HIS:ND1	2.45	0.42
32:C2:49:LYS:HG2	32:C2:50:GLU:H	1.85	0.42
2:CA:1778:U:H3	2:CA:1785:A:H62	1.66	0.42
2:CA:2291:U:H2'	2:CA:2292:U:C6	2.54	0.42
2:CA:364:C:H2'	2:CA:365:U:C6	2.55	0.42
2:CA:438:G:H2'	2:CA:439:A:H8	1.84	0.42
2:CA:640:C:H2'	2:CA:641:U:H6	1.85	0.42
58:CA:3296:HOH:O	5:CC:234:GLY:N	2.53	0.42
10:CH:2:GLN:NE2	10:CH:18:GLN:OE1	2.52	0.42
29:CZ:11:SER:OG	29:CZ:12:ALA:N	2.52	0.42
2:DA:1296:G:OP1	2:DA:2709:G:O2'	2.29	0.42
2:DA:2849:U:N3	2:DA:2867:G:N3	2.67	0.42
2:DA:351:C:H2'	2:DA:352:A:C8	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:403:U:H4'	2:DA:406:G:H1'	2.00	0.42
2:DA:632:A:H5''	15:DL:68:SER:HB2	2.01	0.42
2:DA:647:G:N2	2:DA:2350:C:O3'	2.53	0.42
9:DG:21:GLN:NE2	9:DG:37:ASN:O	2.52	0.42
10:DH:125:THR:HA	10:DH:146:VAL:HB	2.00	0.42
2:DA:2360:G:N3	15:DL:60:ARG:NH2	2.68	0.42
1:AA:1369:C:H2'	1:AA:1370:G:C8	2.55	0.41
1:AA:1415:G:H2'	1:AA:1416:G:H8	1.85	0.41
1:AA:413:G:H4'	1:AA:414:A:H5''	2.02	0.41
1:AA:31:G:H1	1:AA:48:C:H5''	1.86	0.41
1:AA:711:G:H2'	1:AA:712:A:H8	1.85	0.41
40:AE:113:VAL:HA	40:AE:116:VAL:HG22	2.02	0.41
46:AK:112:VAL:HG12	53:AR:72:ARG:HD3	2.01	0.41
52:AQ:47:ASP:HB3	52:AQ:74:LEU:HD21	2.01	0.41
1:BA:1356:G:H2'	1:BA:1357:A:H8	1.83	0.41
1:BA:363:A:H2'	1:BA:364:A:C8	2.54	0.41
1:BA:969:A:O2'	1:BA:970:C:O4'	2.30	0.41
38:BC:162:ILE:HG13	38:BC:162:ILE:H	1.74	0.41
11:C5:45:GLY:HA2	11:C5:50:VAL:HB	2.02	0.41
2:CA:1070:A:C5	2:CA:1097:U:H4'	2.55	0.41
2:CA:1183:U:H2'	2:CA:1184:U:C6	2.55	0.41
2:CA:1432:G:H2'	2:CA:1433:A:C8	2.54	0.41
2:CA:242:G:N2	58:CA:3483:HOH:O	2.47	0.41
2:CA:269:C:H2'	2:CA:270:A:H8	1.85	0.41
2:CA:2737:G:H2'	2:CA:2738:A:C8	2.55	0.41
2:CA:27:G:O2'	2:CA:512:G:N2	2.50	0.41
10:CH:41:LYS:HD3	10:CH:44:ILE:HD11	2.01	0.41
2:CA:2428:G:N2	15:CL:54:GLN:HE21	2.18	0.41
32:D2:5:ARG:NH2	32:D2:23:THR:O	2.53	0.41
2:DA:151:C:H2'	2:DA:152:A:C8	2.56	0.41
2:DA:1792:G:O6	2:DA:1827:U:O4	2.38	0.41
2:DA:2047:C:H2'	2:DA:2048:G:C8	2.49	0.41
2:DA:2313:C:H2'	2:DA:2314:A:C8	2.55	0.41
2:DA:2416:C:OP1	34:D4:24:LYS:NZ	2.44	0.41
2:DA:2861:U:H2'	2:DA:2862:G:C8	2.53	0.41
2:DA:228:C:N4	2:DA:417:C:O2'	2.53	0.41
6:DD:124:ARG:NH1	6:DD:161:MET:O	2.53	0.41
6:DD:33:ARG:HH22	6:DD:74:GLU:HB3	1.85	0.41
12:DI:99:LYS:HB3	12:DI:138:VAL:HB	2.02	0.41
29:DZ:23:LEU:HD23	29:DZ:26:LEU:HD12	2.01	0.41
1:AA:1322:C:H2'	1:AA:1322:C:H6	1.66	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1404:C:H2'	1:AA:1405:G:C8	2.54	0.41
1:AA:501:C:OP1	47:AL:113:ARG:NH2	2.53	0.41
37:AB:166:ASP:O	37:AB:169:HIS:ND1	2.46	0.41
38:AC:58:GLU:HG2	38:AC:65:ARG:HE	1.85	0.41
1:BA:1395:C:O2'	1:BA:1401:G:O2'	2.38	0.41
1:BA:1478:U:H2'	1:BA:1479:C:C6	2.56	0.41
1:BA:80:A:N1	1:BA:90:C:N4	2.67	0.41
1:BA:899:C:H2'	1:BA:900:A:C8	2.55	0.41
41:AF:56:LYS:NZ	39:BD:189:ASP:OD1	2.52	0.41
46:BK:96:ILE:H	46:BK:96:ILE:HG13	1.67	0.41
2:CA:145:C:H2'	2:CA:146:A:C8	2.55	0.41
2:CA:574:A:N6	2:CA:2034:U:OP1	2.53	0.41
2:CA:197:A:O2'	2:CA:2244:U:OP1	2.31	0.41
20:CQ:109:VAL:HG12	20:CQ:113:LYS:HE3	2.01	0.41
2:DA:2008:C:H2'	2:DA:2009:A:C8	2.55	0.41
2:DA:2685:G:H2'	2:DA:2686:G:C8	2.55	0.41
3:DB:73:A:N7	3:DB:103:U:O4	2.53	0.41
8:DF:43:ILE:HG13	8:DF:43:ILE:H	1.72	0.41
13:DJ:35:ARG:HB2	13:DJ:54:ILE:HD11	2.01	0.41
1:AA:1004:A:C8	1:AA:1025:U:H1'	2.55	0.41
1:AA:1369:C:H2'	1:AA:1370:G:H8	1.85	0.41
1:AA:335:C:H2'	1:AA:336:A:H8	1.86	0.41
40:AE:88:HIS:CG	40:AE:89:THR:H	2.38	0.41
1:BA:675:A:H2'	1:BA:676:A:C8	2.55	0.41
1:BA:853:C:H2'	1:BA:854:U:C6	2.55	0.41
1:BA:859:G:H2'	1:BA:860:A:C8	2.52	0.41
1:BA:619:U:H4'	39:BD:127:ARG:HH21	1.85	0.41
47:BL:34:THR:N	47:BL:53:ARG:O	2.52	0.41
1:BA:1222:G:OP1	54:BS:77:ARG:NH1	2.53	0.41
4:BV:8:U:N3	4:BV:15:G:O6	2.53	0.41
4:BW:22:G:H2'	4:BW:23:A:H8	1.84	0.41
2:CA:1019:U:H3	2:CA:1142:A:N6	2.18	0.41
2:CA:1666:G:OP1	14:CK:82:ASN:ND2	2.52	0.41
3:CB:114:C:H2'	3:CB:115:A:H8	1.84	0.41
2:DA:814:C:H1'	2:DA:1225:G:H21	1.85	0.41
2:DA:1278:C:H2'	2:DA:1279:G:C8	2.54	0.41
2:DA:1571:A:H2'	2:DA:1572:A:C8	2.55	0.41
2:DA:1799:G:O2'	5:DC:181:ARG:NH2	2.52	0.41
2:DA:639:U:H2'	2:DA:640:C:C6	2.55	0.41
2:DA:672:C:H2'	2:DA:673:C:C6	2.55	0.41
2:DA:821:A:H5'	2:DA:822:G:H8	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:DQ:14:LYS:HB3	20:DQ:14:LYS:HE3	1.92	0.41
21:DR:78:ARG:HD3	21:DR:78:ARG:HA	1.94	0.41
1:AA:1427:C:H2'	1:AA:1428:A:C8	2.54	0.41
1:AA:137:U:H3	1:AA:226:G:H1	1.67	0.41
1:AA:309:A:H2'	1:AA:310:G:C8	2.54	0.41
1:AA:451:A:N7	1:AA:481:G:N1	2.67	0.41
1:AA:644:U:H2'	1:AA:645:G:H8	1.84	0.41
1:AA:740:U:H2'	1:AA:741:G:H8	1.85	0.41
1:AA:834:U:O2	1:AA:852:G:N2	2.36	0.41
38:AC:24:ALA:HB3	38:AC:29:PHE:HD1	1.86	0.41
43:AH:105:THR:OG1	43:AH:108:GLY:O	2.29	0.41
1:AA:735:C:H5'	53:AR:59:LYS:HD3	2.02	0.41
4:AW:23:A:H2'	4:AW:24:G:H8	1.85	0.41
1:BA:952:U:H2'	1:BA:953:G:C8	2.53	0.41
1:BA:537:G:H5''	47:BL:109:ARG:CZ	2.49	0.41
2:CA:1131:G:O2'	2:CA:2025:C:O2'	2.28	0.41
2:CA:974:G:N2	58:CA:3608:HOH:O	2.53	0.41
2:CA:659:G:O2'	7:CE:95:LYS:O	2.35	0.41
35:D6:3:VAL:HB	35:D6:37:GLN:HE21	1.86	0.41
2:DA:1021:A:O2'	2:DA:1123:C:OP1	2.35	0.41
2:DA:1190:G:H5''	15:DL:32:GLY:HA2	2.02	0.41
2:DA:1222:U:O2	2:DA:1227:G:N2	2.42	0.41
2:DA:151:C:H2'	2:DA:152:A:H8	1.85	0.41
2:DA:1909:C:H2'	2:DA:1910:G:C8	2.55	0.41
1:BA:1418:A:H2	2:DA:1948:G:H21	1.68	0.41
2:DA:2010:G:H5''	22:DS:42:LYS:HB2	2.01	0.41
2:DA:2391:G:H22	2:DA:2424:C:H2'	1.85	0.41
2:DA:2699:C:H2'	2:DA:2700:A:C8	2.55	0.41
2:DA:285:G:H2'	2:DA:286:U:C6	2.55	0.41
2:DA:577:G:O2'	2:DA:1254:A:OP1	2.38	0.41
5:DC:107:LYS:N	5:DC:193:GLU:O	2.50	0.41
7:DE:105:LEU:HA	7:DE:108:ILE:HG22	2.01	0.41
9:DG:147:LEU:HA	9:DG:150:TYR:HD2	1.84	0.41
18:DO:72:ALA:HA	18:DO:109:ALA:HB2	2.03	0.41
26:DW:23:VAL:HG22	26:DW:38:VAL:HG22	2.02	0.41
2:DA:929:U:H4'	29:DZ:37:ARG:HH21	1.85	0.41
1:AA:1090:U:H2'	1:AA:1091:U:C6	2.56	0.41
1:AA:1095:U:H2'	1:AA:1096:C:C6	2.56	0.41
1:AA:1279:G:O2'	1:AA:1282:C:N4	2.54	0.41
1:AA:170:U:H2'	1:AA:171:A:C8	2.55	0.41
1:AA:966:G:H2'	1:AA:967:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:AG:72:VAL:HA	42:AG:90:VAL:HB	2.01	0.41
44:AI:11:ARG:HA	44:AI:105:ARG:NH1	2.35	0.41
47:AL:35:ARG:HD3	47:AL:37:TYR:CZ	2.56	0.41
53:AR:41:SER:O	53:AR:46:THR:OG1	2.27	0.41
4:AW:48:C:H2'	4:AW:59:U:H4'	2.03	0.41
1:BA:1040:U:H2'	1:BA:1041:G:C8	2.55	0.41
1:BA:1403:C:N4	36:BX:20:A:OP1	2.54	0.41
1:BA:397:A:N7	1:BA:547:A:O2'	2.54	0.41
1:BA:667:G:H2'	1:BA:668:G:C8	2.55	0.41
4:BV:68:C:H2'	4:BV:69:A:C8	2.55	0.41
2:CA:806:C:OP2	15:CL:41:ARG:NH1	2.54	0.41
15:CL:100:ILE:HG23	15:CL:101:ILE:HG23	2.02	0.41
17:CN:77:ALA:O	17:CN:81:ASN:ND2	2.52	0.41
19:CP:25:VAL:O	19:CP:43:GLU:HA	2.20	0.41
2:DA:1386:C:H2'	2:DA:1387:A:H8	1.86	0.41
2:DA:1550:C:H2'	2:DA:1551:A:C8	2.55	0.41
2:DA:1792:G:N2	2:DA:1827:U:O2	2.36	0.41
2:DA:1869:G:O2'	2:DA:1871:A:N6	2.53	0.41
2:DA:1990:C:N4	58:DA:3201:HOH:O	2.54	0.41
2:DA:2370:G:O2'	32:D2:43:ARG:NH2	2.54	0.41
2:DA:2538:C:H2'	2:DA:2539:C:H6	1.85	0.41
2:DA:2649:C:H2'	2:DA:2650:U:H6	1.86	0.41
2:DA:477:A:H2'	2:DA:478:A:C8	2.55	0.41
2:DA:959:A:H2'	2:DA:960:A:C8	2.55	0.41
19:DP:64:SER:OG	19:DP:67:GLU:O	2.28	0.41
1:AA:1075:U:H2'	1:AA:1076:U:C6	2.55	0.41
1:AA:1522:U:OP1	46:AK:127:ARG:NH1	2.53	0.41
1:AA:578:C:H2'	1:AA:579:A:H8	1.86	0.41
1:AA:635:A:H2'	1:AA:636:U:H6	1.86	0.41
1:AA:692:U:OP2	46:AK:27:ASN:ND2	2.53	0.41
1:AA:932:C:H2'	1:AA:933:G:C8	2.56	0.41
36:AX:12:A:H2'	36:AX:13:A:C8	2.55	0.41
1:BA:24:U:H2'	1:BA:25:C:H6	1.85	0.41
1:BA:769:G:H21	1:BA:900:A:H61	1.68	0.41
42:BG:148:LYS:HB2	42:BG:150:PHE:HE1	1.86	0.41
46:BK:61:ALA:HA	46:BK:64:VAL:HG12	2.03	0.41
48:BM:2:ARG:HH11	48:BM:2:ARG:HD3	1.56	0.41
1:BA:110:C:O2'	51:BP:25:ARG:O	2.32	0.41
8:CF:101:ARG:HH11	30:C0:26:SER:HA	1.85	0.41
2:CA:1958:C:H2'	2:CA:1959:G:H8	1.86	0.41
2:CA:607:U:H3	2:CA:621:A:N6	2.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CA:807:U:H2'	2:CA:808:G:C8	2.55	0.41
3:CB:49:C:H2'	3:CB:50:A:C8	2.56	0.41
3:CB:5:U:H2'	3:CB:6:G:C8	2.55	0.41
9:CG:88:LEU:HD23	9:CG:93:TYR:HB3	2.03	0.41
2:DA:1806:C:O2	5:DC:43:ASN:ND2	2.53	0.41
2:DA:2468:A:H2'	2:DA:2476:A:C6	2.56	0.41
2:DA:2756:U:H1'	2:DA:2757:A:H5''	2.02	0.41
2:DA:376:G:H2'	2:DA:377:G:H8	1.85	0.41
2:DA:821:A:H5'	2:DA:822:G:C8	2.56	0.41
20:DQ:43:GLN:HE21	21:DR:77:PHE:HB3	1.85	0.41
24:DU:77:GLY:N	58:DU:206:HOH:O	2.52	0.41
26:DW:43:THR:HG22	26:DW:57:HIS:CD2	2.56	0.41
1:AA:1250:A:H2'	1:AA:1251:A:C8	2.56	0.41
1:AA:613:C:OP1	39:AD:80:ARG:NE	2.40	0.41
1:AA:672:U:H5'	41:AF:79:ARG:HH22	1.85	0.41
42:AG:56:SER:OG	42:AG:57:GLU:N	2.53	0.41
1:BA:1030:U:O2	1:BA:1030:U:C2'	2.69	0.41
1:BA:1182:G:H5'	1:BA:1184:G:H5''	2.03	0.41
1:BA:181:A:N6	1:BA:195:A:OP2	2.53	0.41
1:BA:321:A:H2'	1:BA:322:C:C6	2.56	0.41
1:BA:5:U:H4'	1:BA:6:G:C4	2.55	0.41
1:BA:737:C:H2'	1:BA:738:C:C6	2.56	0.41
39:BD:100:VAL:HG21	39:BD:136:VAL:HG21	2.03	0.41
1:BA:795:C:O2'	46:BK:127:ARG:O	2.30	0.41
50:BO:9:LYS:NZ	50:BO:13:GLU:OE2	2.46	0.41
1:BA:1320:C:H42	54:BS:35:ARG:CZ	2.33	0.41
1:BA:1498:U:O2'	36:BX:19:U:OP1	2.36	0.41
2:CA:1086:A:H5''	2:CA:1087:G:H5'	2.02	0.41
2:CA:1357:C:H2'	2:CA:1358:G:O4'	2.21	0.41
2:CA:1683:U:H2'	2:CA:1684:G:H8	1.85	0.41
2:CA:2649:C:H2'	2:CA:2650:U:H6	1.85	0.41
2:CA:351:C:H2'	2:CA:352:A:C8	2.55	0.41
2:CA:720:U:H2'	2:CA:721:A:C8	2.56	0.41
2:CA:946:C:H2'	2:CA:947:A:C8	2.56	0.41
3:CB:91:C:H2'	3:CB:92:C:H6	1.86	0.41
5:CC:242:HIS:HA	5:CC:243:PRO:HD3	1.93	0.41
19:CP:24:THR:HB	19:CP:87:ARG:HB3	2.02	0.41
2:CA:24:G:O2'	22:CS:78:GLU:O	2.36	0.41
2:DA:1102:C:H1'	35:D6:12:ARG:HH12	1.86	0.41
2:DA:1028:A:N3	2:DA:2486:C:O2'	2.38	0.41
2:DA:1592:C:H2'	2:DA:1593:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:1780:A:H3'	2:DA:1781:U:H2'	2.02	0.41
2:DA:1794:A:O2'	2:DA:1900:A:O2'	2.36	0.41
2:DA:2245:U:H5''	2:DA:2246:G:H5'	2.01	0.41
2:DA:2315:G:H2'	2:DA:2316:G:C8	2.55	0.41
2:DA:2691:C:H2'	2:DA:2692:G:C8	2.55	0.41
12:DI:130:GLY:HA2	12:DI:133:ARG:HG2	2.02	0.41
21:DR:59:ILE:HA	21:DR:100:GLY:O	2.21	0.41
27:DX:32:LEU:HD23	27:DX:49:ARG:HG2	2.03	0.41
1:AA:1029:U:H1'	1:AA:1033:G:C2	2.56	0.41
1:AA:1268:G:H21	1:AA:1326:U:H1'	1.85	0.41
1:AA:1492:A:C2	36:AX:22:U:O2'	2.69	0.41
1:AA:718:A:C8	46:AK:117:HIS:HB3	2.56	0.41
1:AA:954:G:H2'	1:AA:955:U:C6	2.55	0.41
39:AD:27:ILE:HD12	39:AD:33:ILE:HG21	2.02	0.41
45:AJ:57:VAL:HG22	45:AJ:58:ASN:H	1.84	0.41
1:BA:1203:C:H2'	1:BA:1204:A:C8	2.56	0.41
1:BA:1409:C:H2'	1:BA:1410:A:C8	2.55	0.41
1:BA:373:A:H61	1:BA:391:G:H1'	1.85	0.41
1:BA:475:C:H2'	1:BA:476:U:C6	2.56	0.41
1:BA:674:G:H2'	1:BA:675:A:C8	2.56	0.41
1:BA:887:G:H21	1:BA:1489:G:H4'	1.86	0.41
41:BF:3:HIS:HB2	41:BF:92:THR:HG23	2.03	0.41
41:BF:41:ASP:OD1	41:BF:58:HIS:NE2	2.53	0.41
2:CA:1406:U:H2'	2:CA:1407:G:H8	1.86	0.41
2:CA:2068:U:O4	2:CA:2430:A:N7	2.53	0.41
2:CA:2487:G:H2'	2:CA:2488:G:H8	1.86	0.41
2:CA:2006:C:O2'	2:CA:2823:A:N3	2.53	0.41
2:CA:304:U:O4	2:CA:313:G:O6	2.39	0.41
2:CA:851:C:H2'	2:CA:852:U:C6	2.55	0.41
2:CA:2204:G:O2'	5:CC:147:PRO:O	2.33	0.41
6:CD:49:GLN:HE21	6:CD:79:LEU:HB3	1.85	0.41
2:CA:2060:A:H3'	7:CE:63:LYS:HZ1	1.86	0.41
25:CV:32:GLY:O	25:CV:93:ARG:NH1	2.44	0.41
25:CV:36:ALA:O	25:CV:93:ARG:NH2	2.54	0.41
31:D1:39:ARG:HG3	31:D1:40:HIS:ND1	2.36	0.41
2:DA:1547:C:H2'	2:DA:1548:A:C8	2.56	0.41
2:DA:1571:A:H2'	2:DA:1572:A:H8	1.84	0.41
2:DA:18:U:H2'	2:DA:19:A:C8	2.56	0.41
2:DA:2096:C:H2'	2:DA:2097:A:C8	2.56	0.41
2:DA:2807:U:N3	2:DA:2892:G:N1	2.69	0.41
2:DA:562:U:O2	2:DA:2035:G:O2'	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:629:G:O2'	2:DA:639:U:O2	2.39	0.41
2:DA:687:C:H5''	33:D3:2:LYS:HE2	2.02	0.41
5:DC:124:LYS:HG2	5:DC:127:ASN:ND2	2.35	0.41
25:DV:61:LEU:O	25:DV:71:LYS:HA	2.20	0.41
28:DY:4:LYS:NZ	28:DY:5:GLU:OE2	2.54	0.41
1:AA:599:C:H2'	1:AA:600:A:H8	1.86	0.41
1:AA:781:A:OP2	1:AA:800:G:N2	2.44	0.41
37:AB:207:ARG:O	37:AB:210:THR:OG1	2.34	0.41
1:BA:1041:G:N2	58:BA:1852:HOH:O	2.54	0.41
1:BA:1055:A:H62	1:BA:1200:C:N4	2.19	0.41
1:BA:1246:A:H2'	1:BA:1247:U:O4'	2.21	0.41
1:BA:389:A:C5	1:BA:390:U:H1'	2.55	0.41
1:BA:729:A:H2'	1:BA:730:G:H8	1.85	0.41
41:BF:51:ILE:HG13	41:BF:51:ILE:H	1.68	0.41
43:BH:22:ALA:O	43:BH:61:THR:HA	2.20	0.41
45:BJ:40:ILE:HB	45:BJ:73:LEU:HB3	2.03	0.41
47:BL:106:VAL:H	47:BL:118:VAL:HG22	1.85	0.41
48:BM:2:ARG:NH2	48:BM:56:ARG:HH12	2.19	0.41
52:BQ:30:HIS:HB2	52:BQ:37:ILE:HD11	2.01	0.41
4:BW:44:G:H21	4:BW:45:G:N2	2.18	0.41
32:C2:5:ARG:NH2	32:C2:23:THR:O	2.53	0.41
2:CA:1181:U:H2'	2:CA:1182:G:C8	2.48	0.41
2:CA:1264:A:OP1	31:C1:15:ARG:NH1	2.48	0.41
2:CA:1316:U:H2'	2:CA:1317:G:H8	1.85	0.41
2:CA:151:C:H2'	2:CA:152:A:H8	1.84	0.41
2:CA:1942:C:OP2	2:CA:1943:U:O2'	2.28	0.41
2:CA:2841:C:H2'	2:CA:2842:G:C8	2.55	0.41
2:CA:406:G:H2'	2:CA:407:G:C8	2.56	0.41
2:CA:813:U:H2'	2:CA:814:C:H6	1.86	0.41
8:CF:42:ALA:HB2	8:CF:48:LEU:HD23	2.03	0.41
14:CK:99:ILE:HG21	14:CK:119:ALA:HB2	2.03	0.41
2:CA:250:G:O5'	15:CL:59:ARG:NH1	2.54	0.41
17:CN:98:LEU:O	17:CN:111:ALA:HA	2.21	0.41
2:DA:1214:A:H62	2:DA:1235:G:H21	1.69	0.41
2:DA:1244:A:O2'	7:DE:29:HIS:NE2	2.47	0.41
2:DA:1470:A:N6	2:DA:1521:G:H21	2.17	0.41
2:DA:1701:A:OP1	2:DA:1763:G:N1	2.31	0.41
2:DA:2417:C:H2'	2:DA:2418:A:H8	1.86	0.41
2:DA:2602:A:H2'	4:BW:74:C:H5'	2.02	0.41
2:DA:296:U:H2'	2:DA:297:G:C8	2.54	0.41
2:DA:598:U:H2'	2:DA:599:A:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:839:U:H1'	2:DA:1191:G:H1'	2.03	0.41
2:DA:881:G:O6	2:DA:897:C:N4	2.54	0.41
5:DC:66:PHE:HB3	5:DC:151:GLY:HA3	2.01	0.41
10:DH:119:ASN:HA	10:DH:120:GLY:HA2	1.79	0.41
2:DA:1244:A:H4'	15:DL:8:PRO:HD3	2.03	0.41
26:DW:65:GLY:HA2	26:DW:85:GLU:HG3	2.03	0.41
1:AA:1354:U:H2'	1:AA:1355:G:C8	2.55	0.41
1:AA:1439:G:OP2	55:AT:32:LYS:NZ	2.44	0.41
51:AP:2:VAL:HG23	51:AP:65:ALA:HA	2.03	0.41
1:BA:501:C:H1'	1:BA:549:C:H1'	2.03	0.41
1:BA:591:U:H2'	1:BA:592:G:C8	2.56	0.41
1:BA:672:U:O2	1:BA:734:G:N2	2.41	0.41
1:BA:762:U:H2'	1:BA:763:G:C8	2.54	0.41
39:BD:62:ARG:NH2	58:BD:309:HOH:O	2.53	0.41
43:BH:113:ARG:NH2	58:BH:204:HOH:O	2.54	0.41
1:BA:35:G:N2	47:BL:114:SER:OG	2.51	0.41
2:CA:1364:G:P	27:CX:49:ARG:HH12	2.44	0.41
2:CA:2070:A:H2'	2:CA:2071:A:C8	2.56	0.41
2:CA:2841:C:H2'	2:CA:2842:G:H8	1.86	0.41
5:CC:130:PRO:HA	5:CC:188:ARG:HA	2.03	0.41
7:CE:125:SER:O	7:CE:137:LYS:NZ	2.54	0.41
10:CH:122:LEU:N	58:CH:201:HOH:O	2.53	0.41
18:CO:50:ALA:O	18:CO:81:ARG:NH2	2.54	0.41
25:CV:57:TYR:OH	25:CV:79:ARG:NH2	2.54	0.41
2:DA:1231:U:H2'	2:DA:1232:G:C8	2.52	0.41
2:DA:572:A:N6	2:DA:2029:G:H21	2.13	0.41
2:DA:2416:C:H2'	2:DA:2417:C:C6	2.56	0.41
2:DA:2591:C:H2'	2:DA:2592:G:H8	1.85	0.41
2:DA:582:A:H2'	2:DA:583:G:C8	2.55	0.41
6:DD:97:SER:OG	6:DD:98:VAL:N	2.54	0.41
1:AA:127:G:O2'	52:AQ:5:ARG:NH1	2.39	0.41
1:AA:335:C:H1'	1:AA:1433:A:H2	1.85	0.41
1:AA:200:G:N1	1:AA:218:U:O4	2.54	0.41
1:AA:318:G:HO2'	1:AA:1468:A:HO2'	1.68	0.41
1:AA:3:A:N3	1:AA:613:C:H1'	2.36	0.41
41:AF:46:GLN:HA	41:AF:56:LYS:HG2	2.02	0.41
44:AI:11:ARG:HH21	44:AI:108:ARG:NH2	2.19	0.41
49:AN:63:ARG:NH1	49:AN:70:PRO:HD3	2.35	0.41
50:AO:66:LEU:O	58:AO:101:HOH:O	2.22	0.41
54:AS:11:ASP:O	54:AS:15:LEU:HB2	2.20	0.41
4:AW:15:G:N2	4:AW:48:C:N4	2.41	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:123:U:OP1	1:BA:311:C:O2'	2.35	0.41
1:BA:1454:G:H2'	1:BA:1455:G:C8	2.56	0.41
1:BA:1512:U:H2'	1:BA:1513:A:C8	2.56	0.41
1:BA:249:U:O2	1:BA:252:U:O2'	2.36	0.41
1:BA:458:U:H2'	1:BA:459:A:C8	2.54	0.41
1:BA:712:A:H2'	1:BA:713:G:C8	2.56	0.41
36:BX:15:A:H2'	36:BX:16:U:C6	2.56	0.41
2:CA:1146:C:H2'	2:CA:1147:A:C8	2.56	0.41
2:CA:1437:C:O2'	2:CA:1516:G:O2'	2.25	0.41
2:CA:1463:C:H2'	2:CA:1464:G:H8	1.85	0.41
2:CA:1690:A:H62	2:CA:1697:G:H21	1.68	0.41
2:CA:1996:C:OP2	14:CK:31:ARG:NH2	2.47	0.41
2:CA:2815:C:H2'	2:CA:2816:G:H8	1.86	0.41
2:CA:2831:G:N2	2:CA:2884:U:OP2	2.53	0.41
5:CC:165:ALA:HB3	5:CC:172:THR:HB	2.02	0.41
2:CA:1142:A:H4'	13:CJ:27:ARG:HH21	1.86	0.41
17:CN:90:ARG:CZ	17:CN:116:VAL:HG11	2.51	0.41
19:CP:28:LYS:HB3	19:CP:39:LEU:HD21	2.02	0.41
2:DA:1254:A:H5''	2:DA:1255:U:H5'	2.02	0.41
2:DA:1627:G:H2'	2:DA:1628:G:H8	1.86	0.41
2:DA:160:A:N6	2:DA:166:U:N3	2.51	0.41
2:DA:1765:U:H2'	2:DA:1766:G:H8	1.85	0.41
2:DA:1810:A:N6	58:DA:3604:HOH:O	2.54	0.41
2:DA:1803:A:N6	2:DA:1814:G:N2	2.69	0.41
2:DA:2655:G:H4'	58:DA:3307:HOH:O	2.20	0.41
2:DA:300:A:O5'	24:DU:81:ARG:NH1	2.41	0.41
2:DA:371:A:N6	2:DA:402:A:OP2	2.44	0.41
2:DA:607:U:H2'	2:DA:608:A:H8	1.86	0.41
12:DI:109:ALA:HA	12:DI:112:LYS:HB2	2.03	0.41
2:DA:538:A:H5''	13:DJ:7:LYS:HE3	2.03	0.41
15:DL:75:ALA:HB2	15:DL:105:ILE:HG21	2.03	0.41
2:DA:2365:G:H4'	26:DW:60:PHE:CE1	2.56	0.41
1:AA:1177:G:OP2	44:AI:98:ARG:NE	2.53	0.40
1:AA:363:A:H2'	1:AA:364:A:C8	2.56	0.40
38:AC:156:ARG:HB3	38:AC:193:TYR:CE2	2.57	0.40
45:AJ:44:THR:HG22	45:AJ:46:LYS:HB3	2.02	0.40
46:AK:92:ARG:NH1	58:AK:205:HOH:O	2.54	0.40
38:AC:40:ARG:NH1	49:AN:92:GLU:OE2	2.54	0.40
52:AQ:67:SER:OG	52:AQ:69:THR:O	2.39	0.40
4:AV:22:G:H2'	4:AV:23:A:C8	2.56	0.40
1:BA:1311:A:N6	54:BS:2:ARG:HE	2.19	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:57:G:N2	58:BA:1849:HOH:O	2.54	0.40
1:BA:71:A:C4	1:BA:72:A:C8	3.09	0.40
37:BB:93:HIS:CE1	37:BB:145:ASN:HB2	2.56	0.40
46:BK:86:LYS:HA	46:BK:113:THR:HG22	2.03	0.40
48:BM:85:TYR:N	54:BS:72:GLU:O	2.54	0.40
53:BR:62:ARG:NE	53:BR:68:PRO:O	2.54	0.40
1:BA:1498:U:C2'	36:BX:19:U:OP1	2.68	0.40
2:CA:1857:G:O2'	2:CA:1884:G:N2	2.48	0.40
2:CA:2101:A:H61	2:CA:2189:U:H3	1.69	0.40
2:CA:2647:U:H2'	2:CA:2648:G:C8	2.51	0.40
2:CA:770:G:H2'	2:CA:771:G:H8	1.86	0.40
3:CB:18:G:N2	58:CB:314:HOH:O	2.53	0.40
3:CB:43:C:O2	8:CF:91:ARG:NH2	2.47	0.40
2:CA:1501:G:H4'	5:CC:94:LEU:HD21	2.03	0.40
18:CO:27:VAL:HG21	18:CO:40:ILE:HD12	2.03	0.40
21:CR:48:LYS:H	21:CR:48:LYS:HD2	1.85	0.40
2:DA:1428:C:C5	2:DA:1569:A:H5''	2.57	0.40
2:DA:1604:C:H2'	2:DA:1605:C:C6	2.56	0.40
2:DA:171:U:H2'	2:DA:172:A:C8	2.56	0.40
2:DA:205:G:HO2'	2:DA:206:U:P	2.44	0.40
2:DA:20:C:H2'	2:DA:21:A:H8	1.86	0.40
2:DA:2329:U:H2'	2:DA:2330:G:H8	1.86	0.40
2:DA:2820:A:C6	6:DD:197:THR:HB	2.55	0.40
2:DA:302:C:H2'	2:DA:303:G:H8	1.86	0.40
2:DA:958:U:OP2	16:DM:14:LYS:NZ	2.37	0.40
21:DR:48:LYS:NZ	21:DR:49:ILE:O	2.47	0.40
1:AA:1203:C:OP1	49:AN:1:ALA:N	2.44	0.40
1:AA:254:G:O3'	52:AQ:70:LYS:NZ	2.51	0.40
1:AA:947:G:O3'	48:AM:107:THR:OG1	2.34	0.40
1:AA:973:G:O6	1:AA:974:A:N6	2.54	0.40
40:AE:52:ALA:HB3	40:AE:58:ALA:HB2	2.04	0.40
41:AF:47:LEU:HD22	53:AR:65:SER:HB3	2.03	0.40
53:AR:56:ARG:HH21	53:AR:60:ARG:NH2	2.19	0.40
55:AT:12:GLN:HA	55:AT:15:LYS:HD3	2.02	0.40
4:AV:23:A:H2'	4:AV:24:G:C8	2.56	0.40
1:BA:919:A:HO2'	1:BA:1080:A:N6	2.19	0.40
1:BA:925:G:N2	1:BA:1391:U:O2	2.37	0.40
1:BA:196:A:N3	1:BA:222:C:H1'	2.36	0.40
1:BA:259:G:OP2	55:BT:77:ASN:ND2	2.54	0.40
1:BA:647:C:H2'	1:BA:648:A:H8	1.86	0.40
1:BA:821:G:H2'	1:BA:822:U:H6	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:922:G:H2'	1:BA:923:A:C8	2.55	0.40
1:BA:718:A:H2	53:BR:37:LYS:HE2	1.87	0.40
2:CA:120:U:H4'	2:CA:121:G:H5''	2.02	0.40
2:CA:1463:C:H2'	2:CA:1464:G:C8	2.56	0.40
2:CA:2594:C:H2'	2:CA:2595:G:C8	2.56	0.40
2:CA:2699:C:H2'	2:CA:2700:A:H8	1.86	0.40
2:CA:302:C:H2'	2:CA:303:G:H8	1.86	0.40
2:CA:401:A:H2'	2:CA:402:A:C8	2.56	0.40
2:CA:467:G:OP2	33:C3:34:ARG:NH1	2.49	0.40
2:CA:690:G:O2'	5:CC:216:ARG:NH1	2.54	0.40
2:CA:998:C:P	20:CQ:91:ARG:HH22	2.44	0.40
2:DA:2215:C:H2'	2:DA:2216:G:C8	2.57	0.40
2:DA:2563:U:O2'	2:DA:2565:A:N7	2.51	0.40
2:DA:2855:C:H2'	2:DA:2856:A:C8	2.56	0.40
2:DA:36:G:N2	2:DA:450:G:O2'	2.53	0.40
2:DA:652:U:OP1	2:DA:654:A:N6	2.51	0.40
2:DA:729:G:OP1	5:DC:9:SER:OG	2.37	0.40
15:DL:81:ASP:N	15:DL:81:ASP:OD1	2.54	0.40
20:DQ:93:ILE:HG21	21:DR:4:VAL:HG11	2.03	0.40
1:AA:1040:U:H2'	1:AA:1041:G:C8	2.55	0.40
1:AA:1485:U:H2'	1:AA:1486:G:H8	1.87	0.40
1:AA:709:U:H2'	1:AA:710:G:C8	2.57	0.40
1:BA:22:G:H2'	1:BA:23:C:C6	2.56	0.40
38:BC:40:ARG:NH1	58:BC:304:HOH:O	2.47	0.40
42:BG:24:LYS:HA	42:BG:27:ASN:HD22	1.86	0.40
48:BM:49:GLU:HA	48:BM:52:ILE:HD12	2.03	0.40
55:BT:4:LYS:HD3	55:BT:6:ALA:H	1.87	0.40
4:BW:55:U:N3	4:BW:58:A:OP2	2.49	0.40
8:CF:139:GLU:HG3	30:C0:28:VAL:HA	2.03	0.40
2:CA:1060:U:H3	2:CA:1088:A:H8	1.70	0.40
2:CA:1133:A:H4'	2:CA:1134:A:H5''	2.03	0.40
2:CA:1296:G:OP1	2:CA:2709:G:O2'	2.35	0.40
2:CA:2037:A:H2'	2:CA:2038:G:C8	2.56	0.40
2:CA:2698:U:H2'	2:CA:2699:C:C6	2.56	0.40
2:CA:577:G:H2'	2:CA:578:G:C8	2.56	0.40
2:CA:671:C:H2'	2:CA:672:C:C6	2.56	0.40
2:CA:692:C:P	5:CC:55:GLY:H	2.44	0.40
35:D6:15:LYS:O	35:D6:25:VAL:HA	2.21	0.40
2:DA:1281:G:H2'	2:DA:1282:U:C6	2.57	0.40
2:DA:1434:A:H2'	2:DA:1435:G:C8	2.57	0.40
2:DA:145:C:H2'	2:DA:146:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:1469:A:H2'	2:DA:1470:A:C8	2.57	0.40
2:DA:1576:U:H2'	2:DA:1577:C:C6	2.57	0.40
2:DA:2093:G:H2'	2:DA:2094:A:C8	2.57	0.40
2:DA:1983:G:H4'	2:DA:2606:C:H4'	2.03	0.40
2:DA:2646:C:OP2	2:DA:2732:G:O2'	2.40	0.40
2:DA:572:A:OP2	21:DR:80:ARG:NH2	2.52	0.40
2:DA:854:C:H2'	2:DA:855:G:C8	2.55	0.40
3:DB:115:A:H2'	3:DB:116:G:H8	1.87	0.40
5:DC:36:ASN:HB2	5:DC:61:TYR:HB2	2.03	0.40
8:DF:94:ARG:HA	8:DF:97:GLU:HB3	2.02	0.40
20:DQ:101:ASP:OD2	21:DR:2:TYR:OH	2.31	0.40
1:AA:1089:G:H1	1:AA:1096:C:H42	1.69	0.40
1:AA:126:G:H22	1:AA:235:C:H42	1.68	0.40
1:AA:302:G:H2'	1:AA:303:A:H8	1.86	0.40
1:AA:692:U:OP1	46:AK:126:ARG:NH2	2.37	0.40
1:AA:783:C:H2'	1:AA:784:A:H8	1.86	0.40
1:AA:1192:C:P	38:AC:4:LYS:HZ1	2.44	0.40
39:AD:150:LYS:NZ	39:AD:150:LYS:HB3	2.36	0.40
39:AD:55:ARG:HH22	39:AD:62:ARG:HH12	1.68	0.40
42:AG:34:LYS:HB3	42:AG:37:THR:HG22	2.03	0.40
1:AA:1220:G:H5''	54:AS:36:ARG:HH22	1.87	0.40
4:AY:72:C:H2'	4:AY:73:A:C8	2.57	0.40
37:BB:95:TRP:HZ3	37:BB:170:ILE:HB	1.86	0.40
38:BC:113:ALA:HB1	38:BC:200:VAL:HG13	2.02	0.40
42:BG:112:ASP:OD1	42:BG:112:ASP:N	2.55	0.40
1:BA:686:U:H1'	46:BK:43:TRP:HZ2	1.86	0.40
47:BL:49:ARG:HH12	47:BL:88:ASP:HB3	1.86	0.40
1:BA:1228:C:P	48:BM:106:ARG:HH12	2.44	0.40
36:BX:28:A:C6	40:BE:17:VAL:HG12	2.56	0.40
11:C5:4:ASN:HB3	11:C5:7:ASP:H	1.86	0.40
2:CA:138:U:O4	2:CA:142:A:N6	2.54	0.40
2:CA:1415:U:O4	2:CA:1587:G:O6	2.40	0.40
2:CA:160:A:H62	2:CA:166:U:H3	1.70	0.40
2:CA:2626:C:H2'	2:CA:2627:G:C8	2.56	0.40
2:CA:2836:U:H2'	2:CA:2837:A:C8	2.55	0.40
2:CA:414:C:H2'	2:CA:415:A:C8	2.55	0.40
6:CD:55:LYS:HE2	6:CD:77:ARG:HA	2.02	0.40
7:CE:147:LEU:HB2	7:CE:183:PHE:HD2	1.86	0.40
9:CG:10:VAL:HA	9:CG:11:PRO:HD3	1.90	0.40
30:D0:41:HIS:CD2	30:D0:42:PRO:HD2	2.56	0.40
2:DA:1146:C:H2'	2:DA:1147:A:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:DA:2204:G:O6	2:DA:2220:U:O4	2.39	0.40
2:DA:2359:C:H2'	2:DA:2360:G:C8	2.57	0.40
2:DA:2443:C:H2'	2:DA:2444:G:H8	1.86	0.40
2:DA:2621:G:P	6:DD:124:ARG:HH22	2.44	0.40
2:DA:2771:C:O2'	6:DD:173:GLN:NE2	2.30	0.40
5:DC:72:GLY:HA2	5:DC:116:GLN:HE21	1.85	0.40
19:DP:48:ALA:HB3	19:DP:59:THR:HB	2.03	0.40
23:DT:61:LEU:HG	23:DT:82:LYS:HB3	2.03	0.40
1:AA:1186:G:H2'	1:AA:1187:G:C8	2.54	0.40
1:AA:1479:C:H2'	1:AA:1480:A:C8	2.56	0.40
1:AA:459:A:H2'	1:AA:460:A:C8	2.57	0.40
1:AA:474:G:H2'	1:AA:475:C:C6	2.57	0.40
1:AA:770:C:H2'	1:AA:771:G:H8	1.87	0.40
1:AA:982:U:H4'	1:AA:983:A:H5'	2.04	0.40
38:AC:162:ILE:H	38:AC:162:ILE:HG13	1.67	0.40
44:AI:83:THR:HA	44:AI:86:LEU:HD12	2.03	0.40
45:AJ:19:ASP:HA	45:AJ:22:THR:HG22	2.02	0.40
47:AL:42:LYS:HG2	47:AL:43:LYS:HD3	2.03	0.40
53:AR:41:SER:HA	53:AR:46:THR:HG21	2.04	0.40
4:AW:23:A:H2'	4:AW:24:G:C8	2.57	0.40
1:BA:1298:U:H3	42:BG:113:LYS:HG3	1.87	0.40
1:BA:1355:G:H2'	1:BA:1356:G:C8	2.57	0.40
1:BA:1386:G:H2'	1:BA:1387:G:H8	1.86	0.40
1:BA:1445:U:O2	1:BA:1457:G:N2	2.32	0.40
1:BA:370:C:H2'	1:BA:371:A:C8	2.57	0.40
1:BA:891:U:H2'	1:BA:892:A:H8	1.87	0.40
52:BQ:11:VAL:HG22	52:BQ:22:VAL:HG22	2.03	0.40
11:C5:28:ALA:HA	11:C5:108:VAL:HG13	2.03	0.40
2:CA:1187:G:H5'	21:CR:83:TYR:CZ	2.56	0.40
2:CA:1258:U:H2'	2:CA:1259:G:C8	2.57	0.40
2:CA:1550:C:H2'	2:CA:1551:A:H8	1.86	0.40
2:CA:1825:U:H2'	2:CA:1826:G:C8	2.57	0.40
2:CA:2064:C:H2'	2:CA:2065:C:C6	2.57	0.40
2:CA:1759:A:HO2'	2:CA:2714:G:HO2'	1.69	0.40
2:CA:855:G:N2	26:CW:27:GLY:O	2.42	0.40
2:DA:1059:G:O6	2:DA:1080:A:N6	2.55	0.40
2:DA:1181:U:H2'	2:DA:1182:G:H8	1.84	0.40
2:DA:1270:C:O2'	2:DA:1648:U:OP2	2.38	0.40
2:DA:2118:U:H3	2:DA:2143:C:HO2'	1.69	0.40
2:DA:2594:C:H2'	2:DA:2595:G:C8	2.56	0.40
2:DA:980:A:N3	2:DA:2037:A:O2'	2.40	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:DB:7:G:OP1	18:DO:4:LYS:NZ	2.54	0.40
8:DF:34:THR:HG22	8:DF:89:THR:HA	2.03	0.40
22:DS:28:LYS:HG2	22:DS:70:LYS:HG3	2.02	0.40
25:DV:21:ARG:HH21	25:DV:87:GLN:HB3	1.86	0.40
27:DX:3:VAL:HG13	27:DX:8:GLY:HA2	2.04	0.40

All (12) 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)
18:CO:111:ARG:NH1	21:DR:31:GLU:OE1[3_445]	1.60	0.60
29:CZ:5:LYS:NZ	31:C1:34:GLY:O[4_445]	1.69	0.51
39:AD:164:ARG:CD	41:BF:14:GLN:OE1[4_455]	1.79	0.41
1:AA:368:U:N3	10:DH:97:ARG:NH1[4_455]	1.88	0.32
39:AD:25:ARG:O	41:BF:13:ASP:OD2[4_455]	1.93	0.27
1:AA:368:U:C4	10:DH:97:ARG:NH1[4_455]	1.94	0.26
6:CD:85:ALA:O	2:DA:2902:C:N4[2_454]	1.96	0.24
6:CD:87:GLY:N	2:DA:1:G:O6[2_454]	1.97	0.23
18:CO:111:ARG:CZ	21:DR:31:GLU:OE1[3_445]	1.98	0.22
15:CL:136:GLU:O	2:DA:1148:U:O2'[3_445]	2.12	0.08
1:AA:368:U:OP2	10:DH:112:LYS:NZ[4_455]	2.16	0.04
39:AD:191:SER:OG	41:BF:16:GLU:CG[4_455]	2.16	0.04

## 5.3 Torsion angles ⓘ

### 5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	CC	269/271 (99%)	240 (89%)	29 (11%)	0	100	100
5	DC	269/271 (99%)	249 (93%)	20 (7%)	0	100	100
6	CD	207/209 (99%)	192 (93%)	13 (6%)	2 (1%)	15	52
6	DD	207/209 (99%)	195 (94%)	11 (5%)	1 (0%)	29	66

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	CE	179/181 (99%)	172 (96%)	7 (4%)	0	100	100
7	DE	178/181 (98%)	169 (95%)	9 (5%)	0	100	100
8	CF	175/177 (99%)	150 (86%)	25 (14%)	0	100	100
8	DF	175/177 (99%)	152 (87%)	23 (13%)	0	100	100
9	CG	174/176 (99%)	163 (94%)	11 (6%)	0	100	100
9	DG	174/176 (99%)	162 (93%)	12 (7%)	0	100	100
10	CH	147/149 (99%)	120 (82%)	26 (18%)	1 (1%)	22	60
10	DH	147/149 (99%)	118 (80%)	29 (20%)	0	100	100
11	C5	107/109 (98%)	91 (85%)	16 (15%)	0	100	100
12	CI	69/72 (96%)	65 (94%)	4 (6%)	0	100	100
12	DI	70/72 (97%)	59 (84%)	11 (16%)	0	100	100
13	CJ	140/142 (99%)	130 (93%)	10 (7%)	0	100	100
13	DJ	140/142 (99%)	133 (95%)	7 (5%)	0	100	100
14	CK	120/122 (98%)	105 (88%)	15 (12%)	0	100	100
14	DK	120/122 (98%)	104 (87%)	16 (13%)	0	100	100
15	CL	141/143 (99%)	122 (86%)	19 (14%)	0	100	100
15	DL	141/143 (99%)	127 (90%)	14 (10%)	0	100	100
16	CM	133/136 (98%)	127 (96%)	4 (3%)	2 (2%)	10	45
16	DM	134/136 (98%)	125 (93%)	9 (7%)	0	100	100
17	CN	119/121 (98%)	108 (91%)	11 (9%)	0	100	100
17	DN	119/121 (98%)	107 (90%)	10 (8%)	2 (2%)	9	42
18	CO	114/116 (98%)	105 (92%)	9 (8%)	0	100	100
18	DO	114/116 (98%)	100 (88%)	13 (11%)	1 (1%)	17	54
19	CP	112/114 (98%)	105 (94%)	7 (6%)	0	100	100
19	DP	112/114 (98%)	104 (93%)	8 (7%)	0	100	100
20	CQ	115/117 (98%)	113 (98%)	2 (2%)	0	100	100
20	DQ	115/117 (98%)	113 (98%)	2 (2%)	0	100	100
21	CR	101/103 (98%)	91 (90%)	10 (10%)	0	100	100
21	DR	101/103 (98%)	90 (89%)	11 (11%)	0	100	100
22	CS	108/110 (98%)	101 (94%)	7 (6%)	0	100	100
22	DS	108/110 (98%)	101 (94%)	7 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
23	CT	91/93 (98%)	84 (92%)	6 (7%)	1 (1%)	14	50
23	DT	91/93 (98%)	82 (90%)	9 (10%)	0	100	100
24	CU	100/102 (98%)	86 (86%)	14 (14%)	0	100	100
24	DU	100/102 (98%)	85 (85%)	14 (14%)	1 (1%)	15	52
25	CV	92/94 (98%)	90 (98%)	2 (2%)	0	100	100
25	DV	92/94 (98%)	90 (98%)	2 (2%)	0	100	100
26	CW	73/75 (97%)	68 (93%)	5 (7%)	0	100	100
26	DW	73/75 (97%)	64 (88%)	9 (12%)	0	100	100
27	CX	75/77 (97%)	69 (92%)	6 (8%)	0	100	100
27	DX	75/77 (97%)	73 (97%)	2 (3%)	0	100	100
28	CY	59/63 (94%)	52 (88%)	7 (12%)	0	100	100
28	DY	61/63 (97%)	54 (88%)	6 (10%)	1 (2%)	9	44
29	CZ	56/58 (97%)	53 (95%)	2 (4%)	1 (2%)	8	41
29	DZ	56/58 (97%)	53 (95%)	3 (5%)	0	100	100
30	C0	37/39 (95%)	33 (89%)	4 (11%)	0	100	100
30	D0	37/39 (95%)	33 (89%)	4 (11%)	0	100	100
31	C1	54/56 (96%)	50 (93%)	4 (7%)	0	100	100
31	D1	54/56 (96%)	48 (89%)	6 (11%)	0	100	100
32	C2	48/50 (96%)	43 (90%)	5 (10%)	0	100	100
32	D2	48/50 (96%)	43 (90%)	5 (10%)	0	100	100
33	C3	44/46 (96%)	40 (91%)	4 (9%)	0	100	100
33	D3	44/46 (96%)	39 (89%)	5 (11%)	0	100	100
34	C4	59/62 (95%)	52 (88%)	6 (10%)	1 (2%)	9	42
34	D4	60/62 (97%)	51 (85%)	8 (13%)	1 (2%)	9	42
35	C6	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
35	D6	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
37	AB	223/225 (99%)	198 (89%)	25 (11%)	0	100	100
37	BB	223/225 (99%)	186 (83%)	37 (17%)	0	100	100
38	AC	204/206 (99%)	174 (85%)	30 (15%)	0	100	100
38	BC	204/206 (99%)	186 (91%)	18 (9%)	0	100	100
39	AD	203/205 (99%)	179 (88%)	24 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	BD	203/205 (99%)	174 (86%)	27 (13%)	2 (1%)	15	52
40	AE	148/150 (99%)	117 (79%)	31 (21%)	0	100	100
40	BE	148/150 (99%)	122 (82%)	26 (18%)	0	100	100
41	AF	98/100 (98%)	80 (82%)	17 (17%)	1 (1%)	15	52
41	BF	98/100 (98%)	79 (81%)	18 (18%)	1 (1%)	15	52
42	AG	131/179 (73%)	117 (89%)	14 (11%)	0	100	100
42	BG	128/179 (72%)	117 (91%)	11 (9%)	0	100	100
43	AH	126/129 (98%)	119 (94%)	7 (6%)	0	100	100
43	BH	127/129 (98%)	118 (93%)	9 (7%)	0	100	100
44	AI	122/130 (94%)	107 (88%)	15 (12%)	0	100	100
44	BI	125/130 (96%)	104 (83%)	21 (17%)	0	100	100
45	AJ	96/98 (98%)	85 (88%)	11 (12%)	0	100	100
45	BJ	96/98 (98%)	80 (83%)	15 (16%)	1 (1%)	15	52
46	AK	114/117 (97%)	101 (89%)	13 (11%)	0	100	100
46	BK	115/117 (98%)	99 (86%)	16 (14%)	0	100	100
47	AL	121/123 (98%)	104 (86%)	16 (13%)	1 (1%)	19	57
47	BL	121/123 (98%)	104 (86%)	17 (14%)	0	100	100
48	AM	112/114 (98%)	104 (93%)	8 (7%)	0	100	100
48	BM	112/114 (98%)	102 (91%)	10 (9%)	0	100	100
49	AN	92/101 (91%)	80 (87%)	12 (13%)	0	100	100
49	BN	92/101 (91%)	77 (84%)	15 (16%)	0	100	100
50	AO	86/89 (97%)	79 (92%)	6 (7%)	1 (1%)	13	49
50	BO	86/89 (97%)	78 (91%)	8 (9%)	0	100	100
51	AP	80/82 (98%)	71 (89%)	8 (10%)	1 (1%)	12	47
51	BP	80/82 (98%)	68 (85%)	11 (14%)	1 (1%)	12	47
52	AQ	78/80 (98%)	64 (82%)	12 (15%)	2 (3%)	5	34
52	BQ	78/80 (98%)	63 (81%)	15 (19%)	0	100	100
53	AR	53/55 (96%)	49 (92%)	4 (8%)	0	100	100
53	BR	53/55 (96%)	49 (92%)	4 (8%)	0	100	100
54	AS	77/79 (98%)	65 (84%)	12 (16%)	0	100	100
54	BS	77/79 (98%)	68 (88%)	9 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
55	AT	83/85 (98%)	78 (94%)	5 (6%)	0	100	100
55	BT	83/85 (98%)	75 (90%)	8 (10%)	0	100	100
All	All	11101/11427 (97%)	9933 (90%)	1142 (10%)	26 (0%)	47	79

All (26) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
23	CT	3	ARG
41	AF	55	HIS
52	AQ	70	LYS
17	DN	118	ARG
39	BD	28	ASP
17	DN	119	SER
28	DY	23	ARG
39	BD	27	ILE
41	BF	55	HIS
51	BP	79	ASN
6	CD	86	GLU
6	CD	152	PRO
29	CZ	2	LYS
50	AO	4	THR
51	AP	79	ASN
6	DD	152	PRO
34	D4	31	ILE
45	BJ	58	ASN
52	AQ	69	THR
16	CM	70	ASP
34	C4	31	ILE
24	DU	98	ASN
10	CH	118	PRO
18	DO	114	GLY
47	AL	106	VAL
16	CM	69	PRO

### 5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	CC	216/216 (100%)	214 (99%)	2 (1%)	78	87
5	DC	216/216 (100%)	213 (99%)	3 (1%)	67	80
6	CD	164/164 (100%)	163 (99%)	1 (1%)	86	91
6	DD	164/164 (100%)	163 (99%)	1 (1%)	86	91
7	CE	148/148 (100%)	147 (99%)	1 (1%)	84	90
7	DE	147/148 (99%)	145 (99%)	2 (1%)	67	80
8	CF	148/148 (100%)	148 (100%)	0	100	100
8	DF	148/148 (100%)	147 (99%)	1 (1%)	84	90
9	CG	137/137 (100%)	136 (99%)	1 (1%)	84	90
9	DG	137/137 (100%)	136 (99%)	1 (1%)	84	90
10	CH	114/114 (100%)	110 (96%)	4 (4%)	36	61
10	DH	114/114 (100%)	113 (99%)	1 (1%)	78	87
11	C5	83/83 (100%)	81 (98%)	2 (2%)	49	69
12	CI	53/54 (98%)	50 (94%)	3 (6%)	20	49
12	DI	54/54 (100%)	54 (100%)	0	100	100
13	CJ	116/116 (100%)	115 (99%)	1 (1%)	78	87
13	DJ	116/116 (100%)	114 (98%)	2 (2%)	60	78
14	CK	103/103 (100%)	103 (100%)	0	100	100
14	DK	103/103 (100%)	101 (98%)	2 (2%)	57	75
15	CL	102/102 (100%)	99 (97%)	3 (3%)	42	64
15	DL	102/102 (100%)	100 (98%)	2 (2%)	55	73
16	CM	108/109 (99%)	108 (100%)	0	100	100
16	DM	109/109 (100%)	108 (99%)	1 (1%)	78	87
17	CN	101/101 (100%)	100 (99%)	1 (1%)	76	85
17	DN	101/101 (100%)	101 (100%)	0	100	100
18	CO	86/86 (100%)	84 (98%)	2 (2%)	50	70
18	DO	86/86 (100%)	84 (98%)	2 (2%)	50	70
19	CP	99/99 (100%)	99 (100%)	0	100	100
19	DP	99/99 (100%)	98 (99%)	1 (1%)	76	85
20	CQ	89/89 (100%)	89 (100%)	0	100	100
20	DQ	89/89 (100%)	89 (100%)	0	100	100
21	CR	84/84 (100%)	83 (99%)	1 (1%)	71	83

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	DR	84/84 (100%)	84 (100%)	0	100	100
22	CS	93/93 (100%)	92 (99%)	1 (1%)	73	84
22	DS	93/93 (100%)	92 (99%)	1 (1%)	73	84
23	CT	80/80 (100%)	78 (98%)	2 (2%)	47	68
23	DT	80/80 (100%)	79 (99%)	1 (1%)	69	81
24	CU	83/83 (100%)	83 (100%)	0	100	100
24	DU	83/83 (100%)	83 (100%)	0	100	100
25	CV	78/78 (100%)	78 (100%)	0	100	100
25	DV	78/78 (100%)	77 (99%)	1 (1%)	69	81
26	CW	57/57 (100%)	56 (98%)	1 (2%)	59	77
26	DW	57/57 (100%)	57 (100%)	0	100	100
27	CX	67/67 (100%)	66 (98%)	1 (2%)	65	79
27	DX	67/67 (100%)	66 (98%)	1 (2%)	65	79
28	CY	55/55 (100%)	55 (100%)	0	100	100
28	DY	55/55 (100%)	55 (100%)	0	100	100
29	CZ	48/48 (100%)	47 (98%)	1 (2%)	53	72
29	DZ	48/48 (100%)	48 (100%)	0	100	100
30	C0	35/35 (100%)	35 (100%)	0	100	100
30	D0	35/35 (100%)	34 (97%)	1 (3%)	42	64
31	C1	47/47 (100%)	47 (100%)	0	100	100
31	D1	47/47 (100%)	47 (100%)	0	100	100
32	C2	45/45 (100%)	44 (98%)	1 (2%)	52	71
32	D2	45/45 (100%)	44 (98%)	1 (2%)	52	71
33	C3	38/38 (100%)	37 (97%)	1 (3%)	46	67
33	D3	38/38 (100%)	37 (97%)	1 (3%)	46	67
34	C4	49/50 (98%)	49 (100%)	0	100	100
34	D4	50/50 (100%)	49 (98%)	1 (2%)	55	73
35	C6	34/34 (100%)	34 (100%)	0	100	100
35	D6	34/34 (100%)	34 (100%)	0	100	100
37	AB	186/186 (100%)	185 (100%)	1 (0%)	88	93
37	BB	186/186 (100%)	182 (98%)	4 (2%)	52	71

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	AC	170/170 (100%)	169 (99%)	1 (1%)	86	91
38	BC	170/170 (100%)	165 (97%)	5 (3%)	42	64
39	AD	172/172 (100%)	168 (98%)	4 (2%)	50	70
39	BD	172/172 (100%)	167 (97%)	5 (3%)	42	64
40	AE	113/113 (100%)	111 (98%)	2 (2%)	59	77
40	BE	113/113 (100%)	109 (96%)	4 (4%)	36	61
41	AF	87/87 (100%)	86 (99%)	1 (1%)	73	84
41	BF	87/87 (100%)	86 (99%)	1 (1%)	73	84
42	AG	110/147 (75%)	110 (100%)	0	100	100
42	BG	107/147 (73%)	107 (100%)	0	100	100
43	AH	104/104 (100%)	103 (99%)	1 (1%)	76	85
43	BH	104/104 (100%)	104 (100%)	0	100	100
44	AI	102/107 (95%)	100 (98%)	2 (2%)	55	73
44	BI	105/107 (98%)	102 (97%)	3 (3%)	42	64
45	AJ	86/86 (100%)	85 (99%)	1 (1%)	71	83
45	BJ	86/86 (100%)	85 (99%)	1 (1%)	71	83
46	AK	89/90 (99%)	87 (98%)	2 (2%)	52	71
46	BK	90/90 (100%)	85 (94%)	5 (6%)	21	49
47	AL	103/103 (100%)	102 (99%)	1 (1%)	76	85
47	BL	103/103 (100%)	102 (99%)	1 (1%)	76	85
48	AM	92/92 (100%)	91 (99%)	1 (1%)	73	84
48	BM	92/92 (100%)	92 (100%)	0	100	100
49	AN	79/84 (94%)	79 (100%)	0	100	100
49	BN	79/84 (94%)	79 (100%)	0	100	100
50	AO	76/77 (99%)	74 (97%)	2 (3%)	46	67
50	BO	76/77 (99%)	73 (96%)	3 (4%)	32	58
51	AP	65/65 (100%)	64 (98%)	1 (2%)	65	79
51	BP	65/65 (100%)	65 (100%)	0	100	100
52	AQ	74/74 (100%)	73 (99%)	1 (1%)	67	80
52	BQ	74/74 (100%)	72 (97%)	2 (3%)	44	66
53	AR	48/48 (100%)	47 (98%)	1 (2%)	53	72

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
53	BR	48/48 (100%)	48 (100%)	0	100	100
54	AS	70/70 (100%)	70 (100%)	0	100	100
54	BS	70/70 (100%)	69 (99%)	1 (1%)	67	80
55	AT	65/65 (100%)	64 (98%)	1 (2%)	65	79
55	BT	65/65 (100%)	64 (98%)	1 (2%)	65	79
All	All	9222/9323 (99%)	9106 (99%)	116 (1%)	69	81

All (116) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	CC	79	ARG
5	CC	196	ASN
6	CD	33	ARG
7	CE	163	ASN
9	CG	68	ARG
10	CH	8	LYS
10	CH	50	ARG
10	CH	83	LYS
10	CH	123	ARG
11	C5	61	ARG
11	C5	105	LYS
12	CI	71	LYS
12	CI	124	MET
12	CI	126	ARG
13	CJ	123	LYS
15	CL	47	ARG
15	CL	48	ARG
15	CL	94	THR
17	CN	117	ASP
18	CO	88	LYS
18	CO	111	ARG
21	CR	48	LYS
22	CS	110	ARG
23	CT	1	MET
23	CT	69	ARG
26	CW	11	ARG
27	CX	26	ARG
29	CZ	30	ARG
32	C2	27	ARG
33	C3	41	ARG

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Mol	Chain	Res	Type
37	AB	224	ARG
38	AC	169	ARG
39	AD	25	ARG
39	AD	99	ASN
39	AD	150	LYS
39	AD	153	ARG
40	AE	19	ARG
40	AE	77	ASN
41	AF	93	LYS
43	AH	2	MET
44	AI	67	LYS
44	AI	112	ARG
45	AJ	46	LYS
46	AK	12	ARG
46	AK	36	ARG
47	AL	43	LYS
48	AM	78	ARG
50	AO	46	LYS
50	AO	57	ARG
51	AP	35	ARG
52	AQ	61	ARG
53	AR	56	ARG
55	AT	53	MET
5	DC	132	ARG
5	DC	196	ASN
5	DC	270	ARG
6	DD	33	ARG
7	DE	49	ARG
7	DE	163	ASN
8	DF	46	LYS
9	DG	68	ARG
10	DH	119	ASN
13	DJ	1	MET
13	DJ	111	LYS
14	DK	49	ARG
14	DK	53	LYS
15	DL	47	ARG
15	DL	94	THR
16	DM	136	MET
18	DO	30	ARG
18	DO	68	LYS
19	DP	95	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
22	DS	27	LYS
23	DT	69	ARG
25	DV	49	ASN
27	DX	26	ARG
30	D0	27	THR
32	D2	27	ARG
33	D3	41	ARG
34	D4	18	LYS
37	BB	5	MET
37	BB	65	LYS
37	BB	99	MET
37	BB	102	ASN
38	BC	8	ASN
38	BC	49	LYS
38	BC	107	ARG
38	BC	147	LYS
38	BC	172	ARG
39	BD	46	ARG
39	BD	99	ASN
39	BD	155	LYS
39	BD	176	LYS
39	BD	190	LEU
40	BE	10	LEU
40	BE	42	ASN
40	BE	77	ASN
40	BE	125	LYS
41	BF	51	ILE
44	BI	67	LYS
44	BI	87	MET
44	BI	112	ARG
45	BJ	59	LYS
46	BK	12	ARG
46	BK	74	LYS
46	BK	100	ASN
46	BK	121	ARG
46	BK	127	ARG
47	BL	11	ARG
50	BO	46	LYS
50	BO	53	ARG
50	BO	88	ARG
52	BQ	26	ARG
52	BQ	61	ARG

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Mol	Chain	Res	Type
54	BS	62	THR
55	BT	53	MET

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (92) such sidechains are listed below:

Mol	Chain	Res	Type
5	CC	196	ASN
5	CC	225	ASN
5	CC	259	ASN
6	CD	150	GLN
6	CD	173	GLN
7	CE	163	ASN
10	CH	2	GLN
10	CH	18	GLN
11	C5	57	ASN
12	CI	93	ASN
13	CJ	40	HIS
14	CK	3	GLN
15	CL	54	GLN
17	CN	62	ASN
18	CO	38	GLN
18	CO	98	GLN
20	CQ	36	GLN
21	CR	66	HIS
21	CR	82	HIS
21	CR	91	GLN
28	CY	27	ASN
30	C0	20	ASN
31	C1	41	HIS
32	C2	44	GLN
37	AB	88	GLN
38	AC	185	ASN
39	AD	70	GLN
39	AD	139	ASN
39	AD	151	GLN
40	AE	77	ASN
42	AG	27	ASN
44	AI	31	GLN
44	AI	109	GLN
45	AJ	58	ASN
49	AN	34	ASN
50	AO	61	GLN

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Mol	Chain	Res	Type
51	AP	79	ASN
55	AT	20	ASN
5	DC	89	ASN
5	DC	116	GLN
5	DC	152	GLN
5	DC	196	ASN
5	DC	225	ASN
5	DC	259	ASN
6	DD	150	GLN
7	DE	163	ASN
9	DG	19	ASN
10	DH	119	ASN
10	DH	133	GLN
10	DH	135	HIS
13	DJ	40	HIS
13	DJ	135	GLN
15	DL	104	GLN
17	DN	3	HIS
17	DN	62	ASN
19	DP	74	GLN
20	DQ	43	GLN
21	DR	66	HIS
21	DR	82	HIS
23	DT	59	ASN
23	DT	70	HIS
25	DV	75	GLN
25	DV	88	HIS
26	DW	57	HIS
28	DY	15	ASN
28	DY	25	GLN
28	DY	58	ASN
30	D0	20	ASN
30	D0	41	HIS
37	BB	23	ASN
37	BB	102	ASN
38	BC	6	HIS
38	BC	8	ASN
39	BD	99	ASN
39	BD	115	GLN
39	BD	130	ASN
40	BE	42	ASN
40	BE	76	ASN

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Mol	Chain	Res	Type
40	BE	77	ASN
41	BF	17	GLN
41	BF	37	HIS
41	BF	55	HIS
42	BG	147	ASN
43	BH	3	GLN
44	BI	74	GLN
45	BJ	56	HIS
45	BJ	58	ASN
46	BK	39	ASN
46	BK	100	ASN
47	BL	72	ASN
55	BT	20	ASN
55	BT	77	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1536/1541 (99%)	390 (25%)	7 (0%)
1	BA	1536/1541 (99%)	356 (23%)	11 (0%)
2	CA	2862/2904 (98%)	585 (20%)	18 (0%)
2	DA	2856/2904 (98%)	636 (22%)	16 (0%)
3	CB	117/118 (99%)	23 (19%)	0
3	DB	117/118 (99%)	18 (15%)	0
36	AX	29/46 (63%)	2 (6%)	2 (6%)
36	BX	29/46 (63%)	1 (3%)	0
4	AV	75/76 (98%)	21 (28%)	0
4	AW	76/76 (100%)	17 (22%)	2 (2%)
4	AY	75/76 (98%)	32 (42%)	0
4	BV	75/76 (98%)	17 (22%)	0
4	BW	75/76 (98%)	15 (20%)	0
All	All	9458/9598 (98%)	2113 (22%)	56 (0%)

All (2113) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	2	A
1	AA	3	A
1	AA	4	U
1	AA	5	U
1	AA	6	G

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Mol	Chain	Res	Type
1	AA	7	A
1	AA	9	G
1	AA	13	U
1	AA	22	G
1	AA	31	G
1	AA	32	A
1	AA	38	G
1	AA	39	G
1	AA	47	C
1	AA	48	C
1	AA	50	A
1	AA	51	A
1	AA	65	A
1	AA	66	A
1	AA	68	G
1	AA	69	G
1	AA	71	A
1	AA	72	A
1	AA	73	C
1	AA	74	A
1	AA	83	C
1	AA	84	U
1	AA	85	U
1	AA	86	G
1	AA	89	U
1	AA	91	U
1	AA	92	U
1	AA	94	G
1	AA	95	C
1	AA	96	U
1	AA	97	G
1	AA	108	G
1	AA	112	G
1	AA	116	A
1	AA	119	A
1	AA	120	A
1	AA	121	U
1	AA	122	G
1	AA	127	G
1	AA	130	A
1	AA	131	A
1	AA	134	G

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Mol	Chain	Res	Type
1	AA	136	C
1	AA	137	U
1	AA	144	G
1	AA	146	G
1	AA	151	A
1	AA	156	C
1	AA	157	U
1	AA	159	G
1	AA	160	A
1	AA	171	A
1	AA	173	U
1	AA	174	A
1	AA	177	G
1	AA	178	C
1	AA	182	A
1	AA	183	C
1	AA	192	A
1	AA	197	A
1	AA	198	G
1	AA	203	G
1	AA	204	G
1	AA	206	C
1	AA	211	G
1	AA	212	G
1	AA	214	C
1	AA	219	U
1	AA	226	G
1	AA	233	C
1	AA	240	G
1	AA	245	U
1	AA	247	G
1	AA	250	A
1	AA	251	G
1	AA	259	G
1	AA	262	A
1	AA	263	A
1	AA	266	G
1	AA	267	C
1	AA	279	A
1	AA	281	G
1	AA	289	G
1	AA	306	A

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Mol	Chain	Res	Type
1	AA	328	C
1	AA	329	A
1	AA	330	C
1	AA	332	G
1	AA	344	A
1	AA	345	C
1	AA	346	G
1	AA	347	G
1	AA	348	G
1	AA	350	G
1	AA	351	G
1	AA	352	C
1	AA	354	G
1	AA	363	A
1	AA	366	A
1	AA	367	U
1	AA	372	C
1	AA	377	G
1	AA	380	G
1	AA	385	C
1	AA	386	C
1	AA	388	G
1	AA	390	U
1	AA	398	U
1	AA	399	G
1	AA	403	C
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	423	G
1	AA	424	G
1	AA	425	G
1	AA	428	G
1	AA	429	U
1	AA	436	C
1	AA	439	U
1	AA	446	G
1	AA	447	G

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Mol	Chain	Res	Type
1	AA	448	A
1	AA	451	A
1	AA	452	A
1	AA	453	G
1	AA	457	G
1	AA	458	U
1	AA	462	G
1	AA	467	U
1	AA	468	A
1	AA	469	C
1	AA	474	G
1	AA	477	C
1	AA	478	A
1	AA	479	U
1	AA	480	U
1	AA	481	G
1	AA	482	A
1	AA	484	G
1	AA	486	U
1	AA	495	A
1	AA	496	A
1	AA	497	G
1	AA	499	A
1	AA	505	G
1	AA	509	A
1	AA	510	A
1	AA	511	C
1	AA	517	G
1	AA	518	C
1	AA	521	G
1	AA	524	G
1	AA	527	G
1	AA	531	U
1	AA	532	A
1	AA	533	A
1	AA	535	A
1	AA	547	A
1	AA	559	A
1	AA	564	C
1	AA	567	G
1	AA	572	A
1	AA	573	A

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Mol	Chain	Res	Type
1	AA	575	G
1	AA	576	C
1	AA	577	G
1	AA	596	A
1	AA	619	U
1	AA	633	G
1	AA	634	C
1	AA	639	G
1	AA	650	G
1	AA	655	A
1	AA	661	G
1	AA	665	A
1	AA	687	A
1	AA	688	G
1	AA	702	A
1	AA	703	G
1	AA	717	U
1	AA	718	A
1	AA	721	G
1	AA	722	G
1	AA	723	U
1	AA	724	G
1	AA	731	G
1	AA	733	G
1	AA	742	G
1	AA	747	A
1	AA	748	G
1	AA	755	G
1	AA	790	A
1	AA	793	U
1	AA	794	A
1	AA	812	G
1	AA	813	U
1	AA	814	A
1	AA	815	A
1	AA	817	C
1	AA	818	G
1	AA	821	G
1	AA	827	U
1	AA	828	U
1	AA	829	G
1	AA	841	C

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Mol	Chain	Res	Type
1	AA	842	U
1	AA	843	U
1	AA	844	G
1	AA	845	A
1	AA	846	G
1	AA	851	G
1	AA	864	A
1	AA	870	U
1	AA	874	G
1	AA	889	A
1	AA	891	U
1	AA	899	C
1	AA	914	A
1	AA	922	G
1	AA	927	G
1	AA	931	C
1	AA	934	C
1	AA	935	A
1	AA	942	G
1	AA	958	A
1	AA	960	U
1	AA	966	G
1	AA	968	A
1	AA	969	A
1	AA	971	G
1	AA	974	A
1	AA	975	A
1	AA	976	G
1	AA	977	A
1	AA	979	C
1	AA	981	U
1	AA	982	U
1	AA	983	A
1	AA	989	U
1	AA	993	G
1	AA	1004	A
1	AA	1005	A
1	AA	1009	U
1	AA	1014	A
1	AA	1018	G
1	AA	1020	G
1	AA	1025	U

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Mol	Chain	Res	Type
1	AA	1027	C
1	AA	1029	U
1	AA	1030	U
1	AA	1031	C
1	AA	1033	G
1	AA	1035	A
1	AA	1036	A
1	AA	1037	C
1	AA	1043	G
1	AA	1044	A
1	AA	1050	G
1	AA	1053	G
1	AA	1054	C
1	AA	1055	A
1	AA	1056	U
1	AA	1060	U
1	AA	1064	G
1	AA	1065	U
1	AA	1067	A
1	AA	1073	U
1	AA	1080	A
1	AA	1084	G
1	AA	1085	U
1	AA	1086	U
1	AA	1087	G
1	AA	1089	G
1	AA	1094	G
1	AA	1095	U
1	AA	1101	A
1	AA	1102	A
1	AA	1110	A
1	AA	1121	U
1	AA	1122	U
1	AA	1123	U
1	AA	1124	G
1	AA	1125	U
1	AA	1129	C
1	AA	1132	C
1	AA	1135	U
1	AA	1136	C
1	AA	1137	C
1	AA	1138	G

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Mol	Chain	Res	Type
1	AA	1139	G
1	AA	1140	C
1	AA	1141	C
1	AA	1142	G
1	AA	1144	G
1	AA	1145	A
1	AA	1152	A
1	AA	1157	A
1	AA	1159	U
1	AA	1160	G
1	AA	1167	A
1	AA	1168	U
1	AA	1169	A
1	AA	1182	G
1	AA	1183	U
1	AA	1187	G
1	AA	1196	A
1	AA	1197	A
1	AA	1198	G
1	AA	1202	U
1	AA	1212	U
1	AA	1213	A
1	AA	1224	U
1	AA	1226	C
1	AA	1227	A
1	AA	1233	G
1	AA	1238	A
1	AA	1239	A
1	AA	1240	U
1	AA	1241	G
1	AA	1248	A
1	AA	1253	G
1	AA	1254	A
1	AA	1257	A
1	AA	1258	G
1	AA	1260	G
1	AA	1262	C
1	AA	1280	A
1	AA	1285	A
1	AA	1286	U
1	AA	1287	A
1	AA	1293	C

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Mol	Chain	Res	Type
1	AA	1295	U
1	AA	1299	A
1	AA	1301	U
1	AA	1302	C
1	AA	1303	C
1	AA	1305	G
1	AA	1317	C
1	AA	1318	A
1	AA	1319	A
1	AA	1320	C
1	AA	1322	C
1	AA	1328	C
1	AA	1331	G
1	AA	1335	U
1	AA	1336	C
1	AA	1346	A
1	AA	1347	G
1	AA	1359	C
1	AA	1361	G
1	AA	1362	A
1	AA	1363	A
1	AA	1377	A
1	AA	1378	C
1	AA	1379	G
1	AA	1394	A
1	AA	1398	A
1	AA	1399	C
1	AA	1403	C
1	AA	1419	G
1	AA	1422	G
1	AA	1440	U
1	AA	1441	A
1	AA	1442	G
1	AA	1446	A
1	AA	1455	G
1	AA	1480	A
1	AA	1492	A
1	AA	1493	A
1	AA	1494	G
1	AA	1503	A
1	AA	1505	G
1	AA	1506	U

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Mol	Chain	Res	Type
1	AA	1507	A
1	AA	1517	G
1	AA	1520	C
1	AA	1529	G
1	AA	1530	G
1	AA	1535	C
1	AA	1540	U
2	CA	10	A
2	CA	14	A
2	CA	15	G
2	CA	23	G
2	CA	34	U
2	CA	39	G
2	CA	42	A
2	CA	46	G
2	CA	50	U
2	CA	51	G
2	CA	56	A
2	CA	58	G
2	CA	61	C
2	CA	63	A
2	CA	71	A
2	CA	74	A
2	CA	75	G
2	CA	84	A
2	CA	91	A
2	CA	101	A
2	CA	102	U
2	CA	110	G
2	CA	118	A
2	CA	119	A
2	CA	120	U
2	CA	138	U
2	CA	139	U
2	CA	140	C
2	CA	142	A
2	CA	149	A
2	CA	162	U
2	CA	181	A
2	CA	186	G
2	CA	196	A
2	CA	199	A

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Mol	Chain	Res	Type
2	CA	204	A
2	CA	205	G
2	CA	213	A
2	CA	215	G
2	CA	216	A
2	CA	221	A
2	CA	222	A
2	CA	223	A
2	CA	224	U
2	CA	225	C
2	CA	226	A
2	CA	227	A
2	CA	228	C
2	CA	241	A
2	CA	248	G
2	CA	250	G
2	CA	255	A
2	CA	264	C
2	CA	265	A
2	CA	266	G
2	CA	276	U
2	CA	277	G
2	CA	278	A
2	CA	281	C
2	CA	302	C
2	CA	311	A
2	CA	323	C
2	CA	329	G
2	CA	330	A
2	CA	331	C
2	CA	349	U
2	CA	361	G
2	CA	362	A
2	CA	367	G
2	CA	371	A
2	CA	372	G
2	CA	375	G
2	CA	386	G
2	CA	387	U
2	CA	389	G
2	CA	396	G
2	CA	399	U

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Mol	Chain	Res	Type
2	CA	405	U
2	CA	406	G
2	CA	411	G
2	CA	412	A
2	CA	422	A
2	CA	424	G
2	CA	435	C
2	CA	454	A
2	CA	455	C
2	CA	457	A
2	CA	458	G
2	CA	464	U
2	CA	467	G
2	CA	473	G
2	CA	480	A
2	CA	481	G
2	CA	489	G
2	CA	490	C
2	CA	491	G
2	CA	504	A
2	CA	505	A
2	CA	508	A
2	CA	509	C
2	CA	518	G
2	CA	527	C
2	CA	529	A
2	CA	530	G
2	CA	531	C
2	CA	532	A
2	CA	545	U
2	CA	546	U
2	CA	547	A
2	CA	548	G
2	CA	549	G
2	CA	550	C
2	CA	562	U
2	CA	563	A
2	CA	568	U
2	CA	572	A
2	CA	573	U
2	CA	575	A
2	CA	586	A

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Mol	Chain	Res	Type
2	CA	588	U
2	CA	603	A
2	CA	613	A
2	CA	614	A
2	CA	615	U
2	CA	616	A
2	CA	622	G
2	CA	627	A
2	CA	637	A
2	CA	645	C
2	CA	646	U
2	CA	647	G
2	CA	653	U
2	CA	654	A
2	CA	655	A
2	CA	677	A
2	CA	686	U
2	CA	695	G
2	CA	711	G
2	CA	717	C
2	CA	730	A
2	CA	747	U
2	CA	748	G
2	CA	764	A
2	CA	765	C
2	CA	775	G
2	CA	776	G
2	CA	782	A
2	CA	783	A
2	CA	784	G
2	CA	785	G
2	CA	792	A
2	CA	800	A
2	CA	805	G
2	CA	811	U
2	CA	812	C
2	CA	819	A
2	CA	827	U
2	CA	828	U
2	CA	830	G
2	CA	831	G
2	CA	845	A

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Mol	Chain	Res	Type
2	CA	858	G
2	CA	859	G
2	CA	869	G
2	CA	878	A
2	CA	883	G
2	CA	884	U
2	CA	885	C
2	CA	886	A
2	CA	887	U
2	CA	888	C
2	CA	889	C
2	CA	890	C
2	CA	891	G
2	CA	892	A
2	CA	893	C
2	CA	894	U
2	CA	895	U
2	CA	896	A
2	CA	899	A
2	CA	901	C
2	CA	907	G
2	CA	910	A
2	CA	911	A
2	CA	914	G
2	CA	915	C
2	CA	931	U
2	CA	932	U
2	CA	941	A
2	CA	945	A
2	CA	946	C
2	CA	961	C
2	CA	962	G
2	CA	973	A
2	CA	974	G
2	CA	983	A
2	CA	995	C
2	CA	996	A
2	CA	1012	U
2	CA	1013	C
2	CA	1017	G
2	CA	1022	G
2	CA	1023	U

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Mol	Chain	Res	Type
2	CA	1024	G
2	CA	1025	G
2	CA	1026	G
2	CA	1033	U
2	CA	1046	A
2	CA	1047	G
2	CA	1057	A
2	CA	1060	U
2	CA	1061	U
2	CA	1062	G
2	CA	1066	U
2	CA	1067	A
2	CA	1068	G
2	CA	1070	A
2	CA	1072	C
2	CA	1073	A
2	CA	1074	G
2	CA	1075	C
2	CA	1077	A
2	CA	1081	U
2	CA	1083	U
2	CA	1088	A
2	CA	1092	C
2	CA	1094	U
2	CA	1111	A
2	CA	1112	G
2	CA	1116	G
2	CA	1119	U
2	CA	1126	A
2	CA	1129	A
2	CA	1130	U
2	CA	1131	G
2	CA	1132	U
2	CA	1133	A
2	CA	1134	A
2	CA	1135	C
2	CA	1136	G
2	CA	1139	G
2	CA	1142	A
2	CA	1143	A
2	CA	1168	G
2	CA	1171	G

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Mol	Chain	Res	Type
2	CA	1172	C
2	CA	1174	U
2	CA	1175	A
2	CA	1176	U
2	CA	1177	G
2	CA	1180	U
2	CA	1186	G
2	CA	1204	A
2	CA	1205	A
2	CA	1212	G
2	CA	1227	G
2	CA	1238	G
2	CA	1240	U
2	CA	1253	A
2	CA	1256	G
2	CA	1262	A
2	CA	1265	A
2	CA	1266	G
2	CA	1272	A
2	CA	1273	U
2	CA	1275	A
2	CA	1289	C
2	CA	1294	U
2	CA	1300	G
2	CA	1301	A
2	CA	1302	A
2	CA	1306	C
2	CA	1312	U
2	CA	1321	A
2	CA	1325	U
2	CA	1329	U
2	CA	1332	G
2	CA	1341	G
2	CA	1344	U
2	CA	1345	C
2	CA	1352	U
2	CA	1365	A
2	CA	1368	G
2	CA	1378	A
2	CA	1379	U
2	CA	1383	A
2	CA	1386	C

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Mol	Chain	Res	Type
2	CA	1387	A
2	CA	1392	A
2	CA	1394	U
2	CA	1395	A
2	CA	1403	A
2	CA	1416	G
2	CA	1419	A
2	CA	1420	A
2	CA	1427	A
2	CA	1428	C
2	CA	1440	U
2	CA	1451	C
2	CA	1452	G
2	CA	1453	A
2	CA	1454	C
2	CA	1455	G
2	CA	1458	U
2	CA	1459	G
2	CA	1461	C
2	CA	1482	G
2	CA	1490	A
2	CA	1493	C
2	CA	1504	A
2	CA	1510	G
2	CA	1515	A
2	CA	1519	G
2	CA	1522	A
2	CA	1523	U
2	CA	1529	G
2	CA	1530	G
2	CA	1532	A
2	CA	1533	C
2	CA	1534	U
2	CA	1535	A
2	CA	1536	C
2	CA	1558	C
2	CA	1559	U
2	CA	1560	G
2	CA	1566	A
2	CA	1569	A
2	CA	1581	G
2	CA	1582	C

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Mol	Chain	Res	Type
2	CA	1583	A
2	CA	1584	U
2	CA	1585	C
2	CA	1611	C
2	CA	1613	G
2	CA	1616	A
2	CA	1627	G
2	CA	1646	C
2	CA	1647	U
2	CA	1648	U
2	CA	1649	G
2	CA	1651	G
2	CA	1660	G
2	CA	1672	A
2	CA	1674	G
2	CA	1676	A
2	CA	1677	A
2	CA	1697	G
2	CA	1698	A
2	CA	1699	G
2	CA	1714	U
2	CA	1715	G
2	CA	1721	G
2	CA	1730	C
2	CA	1732	C
2	CA	1738	G
2	CA	1744	A
2	CA	1764	C
2	CA	1773	A
2	CA	1776	G
2	CA	1780	A
2	CA	1781	U
2	CA	1791	A
2	CA	1799	G
2	CA	1800	C
2	CA	1801	A
2	CA	1802	A
2	CA	1808	A
2	CA	1815	A
2	CA	1816	C
2	CA	1819	A
2	CA	1826	G

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Mol	Chain	Res	Type
2	CA	1828	G
2	CA	1833	C
2	CA	1847	A
2	CA	1867	G
2	CA	1869	G
2	CA	1871	A
2	CA	1872	A
2	CA	1873	G
2	CA	1874	C
2	CA	1896	G
2	CA	1897	G
2	CA	1903	G
2	CA	1906	G
2	CA	1912	A
2	CA	1913	A
2	CA	1914	C
2	CA	1919	A
2	CA	1926	U
2	CA	1927	A
2	CA	1929	G
2	CA	1930	G
2	CA	1931	U
2	CA	1937	A
2	CA	1938	A
2	CA	1941	C
2	CA	1955	U
2	CA	1963	U
2	CA	1966	A
2	CA	1967	C
2	CA	1970	A
2	CA	1971	U
2	CA	1972	G
2	CA	1991	U
2	CA	1992	G
2	CA	1996	C
2	CA	1997	C
2	CA	2022	U
2	CA	2023	C
2	CA	2030	A
2	CA	2031	A
2	CA	2033	A
2	CA	2034	U

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Mol	Chain	Res	Type
2	CA	2043	C
2	CA	2049	G
2	CA	2052	A
2	CA	2055	C
2	CA	2056	G
2	CA	2060	A
2	CA	2061	G
2	CA	2062	A
2	CA	2068	U
2	CA	2069	G
2	CA	2072	C
2	CA	2092	U
2	CA	2093	G
2	CA	2095	A
2	CA	2104	C
2	CA	2107	G
2	CA	2110	G
2	CA	2125	G
2	CA	2126	A
2	CA	2127	G
2	CA	2128	G
2	CA	2137	U
2	CA	2156	G
2	CA	2157	G
2	CA	2158	A
2	CA	2161	C
2	CA	2162	G
2	CA	2182	U
2	CA	2189	U
2	CA	2190	G
2	CA	2194	U
2	CA	2198	A
2	CA	2204	G
2	CA	2210	U
2	CA	2211	A
2	CA	2225	A
2	CA	2226	C
2	CA	2238	G
2	CA	2239	G
2	CA	2250	G
2	CA	2266	A
2	CA	2278	A

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Mol	Chain	Res	Type
2	CA	2283	C
2	CA	2287	A
2	CA	2288	A
2	CA	2297	A
2	CA	2305	U
2	CA	2307	G
2	CA	2309	A
2	CA	2310	C
2	CA	2312	U
2	CA	2321	U
2	CA	2322	A
2	CA	2325	G
2	CA	2327	A
2	CA	2334	U
2	CA	2335	A
2	CA	2344	U
2	CA	2347	C
2	CA	2350	C
2	CA	2353	G
2	CA	2354	C
2	CA	2361	G
2	CA	2383	G
2	CA	2384	U
2	CA	2385	C
2	CA	2391	G
2	CA	2392	A
2	CA	2396	G
2	CA	2402	U
2	CA	2406	A
2	CA	2407	A
2	CA	2411	A
2	CA	2419	U
2	CA	2422	C
2	CA	2423	U
2	CA	2424	C
2	CA	2425	A
2	CA	2426	A
2	CA	2427	C
2	CA	2428	G
2	CA	2429	G
2	CA	2430	A
2	CA	2438	U

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Mol	Chain	Res	Type
2	CA	2439	A
2	CA	2441	U
2	CA	2445	G
2	CA	2448	A
2	CA	2465	C
2	CA	2469	A
2	CA	2476	A
2	CA	2480	C
2	CA	2481	G
2	CA	2491	U
2	CA	2492	U
2	CA	2494	G
2	CA	2502	G
2	CA	2503	A
2	CA	2504	U
2	CA	2505	G
2	CA	2518	A
2	CA	2520	C
2	CA	2529	G
2	CA	2535	G
2	CA	2547	A
2	CA	2553	G
2	CA	2554	U
2	CA	2555	U
2	CA	2562	U
2	CA	2566	A
2	CA	2567	G
2	CA	2572	A
2	CA	2582	G
2	CA	2585	U
2	CA	2586	U
2	CA	2602	A
2	CA	2603	G
2	CA	2605	U
2	CA	2609	U
2	CA	2611	C
2	CA	2613	U
2	CA	2615	U
2	CA	2629	U
2	CA	2636	C
2	CA	2639	A
2	CA	2646	C

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Mol	Chain	Res	Type
2	CA	2654	A
2	CA	2655	G
2	CA	2663	G
2	CA	2673	G
2	CA	2682	A
2	CA	2685	G
2	CA	2689	U
2	CA	2690	U
2	CA	2714	G
2	CA	2716	C
2	CA	2718	G
2	CA	2720	U
2	CA	2726	A
2	CA	2728	U
2	CA	2733	A
2	CA	2742	G
2	CA	2744	G
2	CA	2748	A
2	CA	2751	G
2	CA	2762	C
2	CA	2764	A
2	CA	2765	A
2	CA	2766	A
2	CA	2776	A
2	CA	2778	A
2	CA	2791	G
2	CA	2797	U
2	CA	2798	U
2	CA	2800	A
2	CA	2818	U
2	CA	2820	A
2	CA	2821	A
2	CA	2823	A
2	CA	2825	G
2	CA	2826	A
2	CA	2835	A
2	CA	2849	U
2	CA	2858	C
2	CA	2861	U
2	CA	2867	G
2	CA	2872	A
2	CA	2873	A

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Mol	Chain	Res	Type
2	CA	2879	A
2	CA	2880	C
2	CA	2886	A
2	CA	2887	A
3	CB	9	G
3	CB	13	G
3	CB	15	A
3	CB	16	G
3	CB	17	C
3	CB	24	G
3	CB	25	U
3	CB	31	C
3	CB	35	C
3	CB	41	G
3	CB	44	G
3	CB	51	G
3	CB	53	A
3	CB	56	G
3	CB	57	A
3	CB	59	A
3	CB	66	A
3	CB	88	C
3	CB	89	U
3	CB	90	C
3	CB	99	A
3	CB	105	G
3	CB	109	A
4	AV	8	U
4	AV	9	A
4	AV	14	A
4	AV	17	U
4	AV	18	G
4	AV	19	G
4	AV	20	G
4	AV	21	A
4	AV	22	G
4	AV	35	A
4	AV	44	G
4	AV	45	G
4	AV	46	G
4	AV	48	C
4	AV	59	U

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Mol	Chain	Res	Type
4	AV	60	C
4	AV	61	C
4	AV	72	C
4	AV	73	A
4	AV	74	C
4	AV	76	A
4	AY	3	G
4	AY	6	A
4	AY	8	U
4	AY	13	C
4	AY	17	U
4	AY	18	G
4	AY	19	G
4	AY	20	G
4	AY	21	A
4	AY	22	G
4	AY	28	C
4	AY	34	U
4	AY	35	A
4	AY	37	A
4	AY	43	G
4	AY	44	G
4	AY	45	G
4	AY	46	G
4	AY	47	U
4	AY	48	C
4	AY	52	G
4	AY	56	C
4	AY	57	G
4	AY	58	A
4	AY	59	U
4	AY	60	C
4	AY	61	C
4	AY	63	G
4	AY	70	C
4	AY	74	C
4	AY	75	C
4	AY	76	A
36	AX	26	A
36	AX	32	C
4	AW	3	G
4	AW	8	U

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Mol	Chain	Res	Type
4	AW	16	C
4	AW	17	U
4	AW	18	G
4	AW	19	G
4	AW	20	G
4	AW	21	A
4	AW	22	G
4	AW	26	A
4	AW	47	U
4	AW	52	G
4	AW	59	U
4	AW	60	C
4	AW	61	C
4	AW	74	C
4	AW	76	A
1	BA	4	U
1	BA	5	U
1	BA	7	A
1	BA	8	A
1	BA	9	G
1	BA	31	G
1	BA	32	A
1	BA	38	G
1	BA	39	G
1	BA	47	C
1	BA	48	C
1	BA	50	A
1	BA	51	A
1	BA	66	A
1	BA	68	G
1	BA	70	U
1	BA	71	A
1	BA	75	G
1	BA	81	A
1	BA	82	G
1	BA	83	C
1	BA	84	U
1	BA	85	U
1	BA	86	G
1	BA	89	U
1	BA	90	C
1	BA	92	U

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Mol	Chain	Res	Type
1	BA	93	U
1	BA	94	G
1	BA	95	C
1	BA	97	G
1	BA	108	G
1	BA	116	A
1	BA	118	U
1	BA	120	A
1	BA	121	U
1	BA	122	G
1	BA	127	G
1	BA	130	A
1	BA	131	A
1	BA	134	G
1	BA	137	U
1	BA	149	A
1	BA	152	A
1	BA	154	U
1	BA	155	A
1	BA	157	U
1	BA	159	G
1	BA	163	C
1	BA	170	U
1	BA	180	U
1	BA	182	A
1	BA	197	A
1	BA	209	U
1	BA	210	C
1	BA	211	G
1	BA	212	G
1	BA	226	G
1	BA	231	U
1	BA	243	A
1	BA	245	U
1	BA	247	G
1	BA	251	G
1	BA	262	A
1	BA	263	A
1	BA	265	G
1	BA	266	G
1	BA	267	C
1	BA	279	A

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Mol	Chain	Res	Type
1	BA	289	G
1	BA	306	A
1	BA	328	C
1	BA	329	A
1	BA	332	G
1	BA	344	A
1	BA	345	C
1	BA	346	G
1	BA	347	G
1	BA	348	G
1	BA	350	G
1	BA	352	C
1	BA	353	A
1	BA	356	A
1	BA	367	U
1	BA	372	C
1	BA	373	A
1	BA	378	G
1	BA	384	G
1	BA	388	G
1	BA	390	U
1	BA	397	A
1	BA	398	U
1	BA	403	C
1	BA	406	G
1	BA	411	A
1	BA	412	A
1	BA	413	G
1	BA	421	U
1	BA	423	G
1	BA	424	G
1	BA	428	G
1	BA	429	U
1	BA	436	C
1	BA	439	U
1	BA	451	A
1	BA	453	G
1	BA	463	U
1	BA	465	A
1	BA	467	U
1	BA	468	A
1	BA	469	C

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Mol	Chain	Res	Type
1	BA	478	A
1	BA	479	U
1	BA	480	U
1	BA	481	G
1	BA	482	A
1	BA	484	G
1	BA	486	U
1	BA	495	A
1	BA	496	A
1	BA	497	G
1	BA	499	A
1	BA	508	U
1	BA	509	A
1	BA	511	C
1	BA	517	G
1	BA	518	C
1	BA	524	G
1	BA	527	G
1	BA	531	U
1	BA	532	A
1	BA	533	A
1	BA	547	A
1	BA	550	G
1	BA	559	A
1	BA	560	A
1	BA	562	U
1	BA	565	U
1	BA	566	G
1	BA	567	G
1	BA	572	A
1	BA	573	A
1	BA	576	C
1	BA	577	G
1	BA	588	G
1	BA	596	A
1	BA	607	A
1	BA	633	G
1	BA	639	G
1	BA	652	U
1	BA	665	A
1	BA	673	A
1	BA	687	A

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Mol	Chain	Res	Type
1	BA	701	U
1	BA	702	A
1	BA	703	G
1	BA	717	U
1	BA	718	A
1	BA	721	G
1	BA	722	G
1	BA	723	U
1	BA	724	G
1	BA	731	G
1	BA	748	G
1	BA	755	G
1	BA	777	A
1	BA	793	U
1	BA	794	A
1	BA	796	C
1	BA	799	G
1	BA	809	G
1	BA	813	U
1	BA	814	A
1	BA	815	A
1	BA	817	C
1	BA	819	A
1	BA	821	G
1	BA	827	U
1	BA	828	U
1	BA	829	G
1	BA	836	G
1	BA	838	G
1	BA	841	C
1	BA	842	U
1	BA	843	U
1	BA	844	G
1	BA	846	G
1	BA	849	G
1	BA	851	G
1	BA	854	U
1	BA	870	U
1	BA	876	C
1	BA	889	A
1	BA	891	U
1	BA	900	A

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Mol	Chain	Res	Type
1	BA	913	A
1	BA	914	A
1	BA	926	G
1	BA	927	G
1	BA	931	C
1	BA	934	C
1	BA	939	G
1	BA	942	G
1	BA	959	A
1	BA	960	U
1	BA	965	U
1	BA	968	A
1	BA	969	A
1	BA	971	G
1	BA	974	A
1	BA	975	A
1	BA	976	G
1	BA	981	U
1	BA	982	U
1	BA	983	A
1	BA	989	U
1	BA	992	U
1	BA	993	G
1	BA	994	A
1	BA	996	A
1	BA	1004	A
1	BA	1008	U
1	BA	1009	U
1	BA	1020	G
1	BA	1022	A
1	BA	1025	U
1	BA	1026	G
1	BA	1028	C
1	BA	1029	U
1	BA	1030	U
1	BA	1031	C
1	BA	1032	G
1	BA	1033	G
1	BA	1034	G
1	BA	1036	A
1	BA	1043	G
1	BA	1044	A

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Mol	Chain	Res	Type
1	BA	1053	G
1	BA	1054	C
1	BA	1056	U
1	BA	1061	G
1	BA	1065	U
1	BA	1066	C
1	BA	1086	U
1	BA	1087	G
1	BA	1089	G
1	BA	1094	G
1	BA	1101	A
1	BA	1102	A
1	BA	1124	G
1	BA	1125	U
1	BA	1126	U
1	BA	1127	G
1	BA	1130	A
1	BA	1133	G
1	BA	1135	U
1	BA	1136	C
1	BA	1137	C
1	BA	1138	G
1	BA	1139	G
1	BA	1140	C
1	BA	1141	C
1	BA	1142	G
1	BA	1145	A
1	BA	1148	U
1	BA	1149	C
1	BA	1150	A
1	BA	1151	A
1	BA	1152	A
1	BA	1157	A
1	BA	1159	U
1	BA	1160	G
1	BA	1167	A
1	BA	1168	U
1	BA	1172	C
1	BA	1179	A
1	BA	1180	A
1	BA	1181	G
1	BA	1183	U

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Mol	Chain	Res	Type
1	BA	1184	G
1	BA	1193	G
1	BA	1196	A
1	BA	1197	A
1	BA	1202	U
1	BA	1211	U
1	BA	1213	A
1	BA	1226	C
1	BA	1228	C
1	BA	1229	A
1	BA	1237	C
1	BA	1240	U
1	BA	1241	G
1	BA	1253	G
1	BA	1256	A
1	BA	1258	G
1	BA	1260	G
1	BA	1270	G
1	BA	1280	A
1	BA	1282	C
1	BA	1286	U
1	BA	1287	A
1	BA	1289	A
1	BA	1291	U
1	BA	1293	C
1	BA	1299	A
1	BA	1300	G
1	BA	1302	C
1	BA	1305	G
1	BA	1312	G
1	BA	1317	C
1	BA	1318	A
1	BA	1319	A
1	BA	1322	C
1	BA	1323	G
1	BA	1336	C
1	BA	1338	G
1	BA	1345	U
1	BA	1346	A
1	BA	1347	G
1	BA	1353	G
1	BA	1359	C

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Mol	Chain	Res	Type
1	BA	1362	A
1	BA	1363	A
1	BA	1364	U
1	BA	1377	A
1	BA	1378	C
1	BA	1379	G
1	BA	1394	A
1	BA	1397	C
1	BA	1398	A
1	BA	1419	G
1	BA	1441	A
1	BA	1446	A
1	BA	1453	G
1	BA	1455	G
1	BA	1480	A
1	BA	1487	G
1	BA	1492	A
1	BA	1493	A
1	BA	1494	G
1	BA	1499	A
1	BA	1500	A
1	BA	1503	A
1	BA	1505	G
1	BA	1506	U
1	BA	1507	A
1	BA	1517	G
1	BA	1520	C
1	BA	1529	G
1	BA	1530	G
1	BA	1534	A
1	BA	1535	C
1	BA	1537	U
1	BA	1539	C
1	BA	1540	U
1	BA	1541	U
2	DA	10	A
2	DA	14	A
2	DA	23	G
2	DA	34	U
2	DA	39	G
2	DA	42	A
2	DA	46	G

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Mol	Chain	Res	Type
2	DA	49	A
2	DA	51	G
2	DA	61	C
2	DA	63	A
2	DA	71	A
2	DA	73	A
2	DA	74	A
2	DA	75	G
2	DA	84	A
2	DA	91	A
2	DA	93	G
2	DA	98	G
2	DA	101	A
2	DA	102	U
2	DA	103	A
2	DA	104	A
2	DA	111	A
2	DA	118	A
2	DA	119	A
2	DA	120	U
2	DA	122	G
2	DA	139	U
2	DA	140	C
2	DA	142	A
2	DA	149	A
2	DA	160	A
2	DA	162	U
2	DA	168	G
2	DA	181	A
2	DA	182	A
2	DA	188	G
2	DA	190	A
2	DA	196	A
2	DA	199	A
2	DA	204	A
2	DA	215	G
2	DA	216	A
2	DA	221	A
2	DA	222	A
2	DA	225	C
2	DA	228	C
2	DA	229	C

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Mol	Chain	Res	Type
2	DA	233	A
2	DA	239	C
2	DA	240	C
2	DA	241	A
2	DA	242	G
2	DA	248	G
2	DA	255	A
2	DA	261	G
2	DA	264	C
2	DA	265	A
2	DA	266	G
2	DA	272	A
2	DA	274	C
2	DA	275	C
2	DA	276	U
2	DA	278	A
2	DA	281	C
2	DA	282	A
2	DA	284	U
2	DA	302	C
2	DA	308	G
2	DA	311	A
2	DA	329	G
2	DA	330	A
2	DA	331	C
2	DA	349	U
2	DA	357	C
2	DA	362	A
2	DA	363	G
2	DA	368	A
2	DA	370	G
2	DA	371	A
2	DA	372	G
2	DA	374	A
2	DA	375	G
2	DA	381	G
2	DA	383	C
2	DA	386	G
2	DA	387	U
2	DA	391	A
2	DA	396	G
2	DA	401	A

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Mol	Chain	Res	Type
2	DA	402	A
2	DA	404	A
2	DA	405	U
2	DA	411	G
2	DA	412	A
2	DA	420	C
2	DA	422	A
2	DA	424	G
2	DA	449	A
2	DA	451	U
2	DA	454	A
2	DA	457	A
2	DA	473	G
2	DA	479	A
2	DA	480	A
2	DA	481	G
2	DA	489	G
2	DA	491	G
2	DA	504	A
2	DA	505	A
2	DA	506	G
2	DA	508	A
2	DA	509	C
2	DA	527	C
2	DA	528	A
2	DA	529	A
2	DA	530	G
2	DA	531	C
2	DA	532	A
2	DA	533	G
2	DA	543	G
2	DA	546	U
2	DA	547	A
2	DA	548	G
2	DA	549	G
2	DA	550	C
2	DA	563	A
2	DA	568	U
2	DA	570	G
2	DA	572	A
2	DA	573	U
2	DA	575	A

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Mol	Chain	Res	Type
2	DA	586	A
2	DA	603	A
2	DA	613	A
2	DA	614	A
2	DA	615	U
2	DA	616	A
2	DA	622	G
2	DA	627	A
2	DA	628	G
2	DA	637	A
2	DA	645	C
2	DA	646	U
2	DA	647	G
2	DA	654	A
2	DA	655	A
2	DA	668	A
2	DA	670	A
2	DA	671	C
2	DA	675	A
2	DA	677	A
2	DA	686	U
2	DA	695	G
2	DA	711	G
2	DA	715	A
2	DA	717	C
2	DA	721	A
2	DA	730	A
2	DA	738	G
2	DA	747	U
2	DA	748	G
2	DA	761	A
2	DA	764	A
2	DA	765	C
2	DA	775	G
2	DA	776	G
2	DA	782	A
2	DA	784	G
2	DA	785	G
2	DA	789	A
2	DA	792	A
2	DA	800	A
2	DA	801	G

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Mol	Chain	Res	Type
2	DA	805	G
2	DA	812	C
2	DA	819	A
2	DA	827	U
2	DA	828	U
2	DA	831	G
2	DA	845	A
2	DA	846	U
2	DA	847	U
2	DA	856	G
2	DA	858	G
2	DA	859	G
2	DA	866	A
2	DA	878	A
2	DA	881	G
2	DA	885	C
2	DA	886	A
2	DA	887	U
2	DA	888	C
2	DA	890	C
2	DA	891	G
2	DA	892	A
2	DA	893	C
2	DA	894	U
2	DA	895	U
2	DA	896	A
2	DA	900	A
2	DA	907	G
2	DA	910	A
2	DA	915	C
2	DA	931	U
2	DA	932	U
2	DA	933	A
2	DA	941	A
2	DA	945	A
2	DA	946	C
2	DA	959	A
2	DA	961	C
2	DA	974	G
2	DA	983	A
2	DA	995	C
2	DA	996	A

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Mol	Chain	Res	Type
2	DA	1005	C
2	DA	1008	A
2	DA	1009	A
2	DA	1012	U
2	DA	1013	C
2	DA	1017	G
2	DA	1020	A
2	DA	1022	G
2	DA	1023	U
2	DA	1024	G
2	DA	1025	G
2	DA	1026	G
2	DA	1033	U
2	DA	1034	G
2	DA	1045	C
2	DA	1046	A
2	DA	1047	G
2	DA	1051	G
2	DA	1054	A
2	DA	1057	A
2	DA	1059	G
2	DA	1060	U
2	DA	1061	U
2	DA	1062	G
2	DA	1066	U
2	DA	1067	A
2	DA	1068	G
2	DA	1070	A
2	DA	1071	G
2	DA	1072	C
2	DA	1073	A
2	DA	1074	G
2	DA	1075	C
2	DA	1081	U
2	DA	1083	U
2	DA	1084	A
2	DA	1085	A
2	DA	1088	A
2	DA	1092	C
2	DA	1094	U
2	DA	1104	C
2	DA	1111	A

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Mol	Chain	Res	Type
2	DA	1112	G
2	DA	1113	U
2	DA	1119	U
2	DA	1121	C
2	DA	1126	A
2	DA	1129	A
2	DA	1132	U
2	DA	1133	A
2	DA	1134	A
2	DA	1135	C
2	DA	1136	G
2	DA	1139	G
2	DA	1142	A
2	DA	1143	A
2	DA	1163	G
2	DA	1173	U
2	DA	1174	U
2	DA	1175	A
2	DA	1176	U
2	DA	1179	G
2	DA	1180	U
2	DA	1186	G
2	DA	1204	A
2	DA	1205	A
2	DA	1218	G
2	DA	1236	G
2	DA	1238	G
2	DA	1240	U
2	DA	1247	A
2	DA	1248	G
2	DA	1253	A
2	DA	1255	U
2	DA	1256	G
2	DA	1265	A
2	DA	1266	G
2	DA	1272	A
2	DA	1273	U
2	DA	1275	A
2	DA	1284	A
2	DA	1286	A
2	DA	1294	U
2	DA	1300	G

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Mol	Chain	Res	Type
2	DA	1302	A
2	DA	1306	C
2	DA	1310	G
2	DA	1312	U
2	DA	1313	U
2	DA	1321	A
2	DA	1341	G
2	DA	1342	A
2	DA	1344	U
2	DA	1345	C
2	DA	1352	U
2	DA	1359	A
2	DA	1365	A
2	DA	1368	G
2	DA	1374	G
2	DA	1378	A
2	DA	1379	U
2	DA	1383	A
2	DA	1386	C
2	DA	1387	A
2	DA	1403	A
2	DA	1416	G
2	DA	1417	C
2	DA	1419	A
2	DA	1420	A
2	DA	1428	C
2	DA	1437	C
2	DA	1452	G
2	DA	1460	U
2	DA	1468	U
2	DA	1482	G
2	DA	1490	A
2	DA	1491	G
2	DA	1493	C
2	DA	1497	U
2	DA	1504	A
2	DA	1505	A
2	DA	1509	A
2	DA	1510	G
2	DA	1515	A
2	DA	1522	A
2	DA	1524	G

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Mol	Chain	Res	Type
2	DA	1529	G
2	DA	1530	G
2	DA	1531	C
2	DA	1534	U
2	DA	1535	A
2	DA	1536	C
2	DA	1547	C
2	DA	1554	U
2	DA	1558	C
2	DA	1560	G
2	DA	1566	A
2	DA	1569	A
2	DA	1578	U
2	DA	1581	G
2	DA	1582	C
2	DA	1583	A
2	DA	1585	C
2	DA	1607	C
2	DA	1610	A
2	DA	1611	C
2	DA	1613	G
2	DA	1616	A
2	DA	1626	A
2	DA	1646	C
2	DA	1647	U
2	DA	1648	U
2	DA	1674	G
2	DA	1677	A
2	DA	1681	G
2	DA	1694	C
2	DA	1695	G
2	DA	1697	G
2	DA	1698	A
2	DA	1699	G
2	DA	1713	A
2	DA	1715	G
2	DA	1729	U
2	DA	1730	C
2	DA	1732	C
2	DA	1733	G
2	DA	1734	G
2	DA	1738	G

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Mol	Chain	Res	Type
2	DA	1754	A
2	DA	1757	A
2	DA	1764	C
2	DA	1773	A
2	DA	1776	G
2	DA	1779	U
2	DA	1781	U
2	DA	1782	U
2	DA	1784	A
2	DA	1800	C
2	DA	1802	A
2	DA	1808	A
2	DA	1809	A
2	DA	1815	A
2	DA	1816	C
2	DA	1819	A
2	DA	1825	U
2	DA	1828	G
2	DA	1829	A
2	DA	1833	C
2	DA	1835	G
2	DA	1847	A
2	DA	1854	A
2	DA	1866	A
2	DA	1869	G
2	DA	1870	C
2	DA	1871	A
2	DA	1873	G
2	DA	1874	C
2	DA	1876	A
2	DA	1885	A
2	DA	1889	A
2	DA	1906	G
2	DA	1913	A
2	DA	1914	C
2	DA	1926	U
2	DA	1929	G
2	DA	1930	G
2	DA	1931	U
2	DA	1937	A
2	DA	1938	A
2	DA	1943	U

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Mol	Chain	Res	Type
2	DA	1955	U
2	DA	1963	U
2	DA	1967	C
2	DA	1970	A
2	DA	1972	G
2	DA	1977	A
2	DA	1987	A
2	DA	1991	U
2	DA	1992	G
2	DA	1997	C
2	DA	2022	U
2	DA	2023	C
2	DA	2030	A
2	DA	2031	A
2	DA	2033	A
2	DA	2043	C
2	DA	2049	G
2	DA	2052	A
2	DA	2055	C
2	DA	2056	G
2	DA	2060	A
2	DA	2061	G
2	DA	2062	A
2	DA	2069	G
2	DA	2072	C
2	DA	2092	U
2	DA	2093	G
2	DA	2100	G
2	DA	2101	A
2	DA	2105	U
2	DA	2128	G
2	DA	2129	C
2	DA	2131	U
2	DA	2132	U
2	DA	2133	G
2	DA	2134	A
2	DA	2136	G
2	DA	2145	C
2	DA	2147	A
2	DA	2154	A
2	DA	2157	G
2	DA	2158	A

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Mol	Chain	Res	Type
2	DA	2160	C
2	DA	2162	G
2	DA	2170	A
2	DA	2171	A
2	DA	2172	U
2	DA	2174	C
2	DA	2188	U
2	DA	2189	U
2	DA	2190	G
2	DA	2191	A
2	DA	2198	A
2	DA	2203	U
2	DA	2204	G
2	DA	2209	G
2	DA	2210	U
2	DA	2211	A
2	DA	2212	A
2	DA	2223	G
2	DA	2225	A
2	DA	2226	C
2	DA	2238	G
2	DA	2239	G
2	DA	2243	U
2	DA	2250	G
2	DA	2266	A
2	DA	2267	A
2	DA	2268	A
2	DA	2278	A
2	DA	2279	G
2	DA	2283	C
2	DA	2287	A
2	DA	2288	A
2	DA	2297	A
2	DA	2305	U
2	DA	2307	G
2	DA	2308	G
2	DA	2309	A
2	DA	2310	C
2	DA	2311	A
2	DA	2312	U
2	DA	2317	A
2	DA	2318	G

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Mol	Chain	Res	Type
2	DA	2319	G
2	DA	2320	U
2	DA	2321	U
2	DA	2322	A
2	DA	2325	G
2	DA	2327	A
2	DA	2334	U
2	DA	2335	A
2	DA	2339	C
2	DA	2344	U
2	DA	2347	C
2	DA	2350	C
2	DA	2354	C
2	DA	2357	G
2	DA	2361	G
2	DA	2366	A
2	DA	2383	G
2	DA	2385	C
2	DA	2388	A
2	DA	2402	U
2	DA	2407	A
2	DA	2410	G
2	DA	2423	U
2	DA	2425	A
2	DA	2426	A
2	DA	2428	G
2	DA	2429	G
2	DA	2430	A
2	DA	2435	A
2	DA	2441	U
2	DA	2448	A
2	DA	2469	A
2	DA	2476	A
2	DA	2478	A
2	DA	2481	G
2	DA	2491	U
2	DA	2494	G
2	DA	2502	G
2	DA	2504	U
2	DA	2505	G
2	DA	2506	U
2	DA	2518	A

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Mol	Chain	Res	Type
2	DA	2520	C
2	DA	2525	G
2	DA	2529	G
2	DA	2535	G
2	DA	2547	A
2	DA	2553	G
2	DA	2554	U
2	DA	2555	U
2	DA	2564	A
2	DA	2566	A
2	DA	2567	G
2	DA	2572	A
2	DA	2573	C
2	DA	2574	G
2	DA	2581	G
2	DA	2582	G
2	DA	2583	G
2	DA	2585	U
2	DA	2586	U
2	DA	2596	U
2	DA	2602	A
2	DA	2603	G
2	DA	2605	U
2	DA	2609	U
2	DA	2611	C
2	DA	2613	U
2	DA	2629	U
2	DA	2630	G
2	DA	2636	C
2	DA	2639	A
2	DA	2646	C
2	DA	2654	A
2	DA	2656	U
2	DA	2659	G
2	DA	2660	A
2	DA	2671	G
2	DA	2673	G
2	DA	2689	U
2	DA	2690	U
2	DA	2714	G
2	DA	2716	C
2	DA	2718	G

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Mol	Chain	Res	Type
2	DA	2720	U
2	DA	2726	A
2	DA	2733	A
2	DA	2742	G
2	DA	2744	G
2	DA	2748	A
2	DA	2751	G
2	DA	2752	C
2	DA	2757	A
2	DA	2762	C
2	DA	2765	A
2	DA	2766	A
2	DA	2776	A
2	DA	2778	A
2	DA	2791	G
2	DA	2798	U
2	DA	2799	A
2	DA	2801	G
2	DA	2807	U
2	DA	2811	G
2	DA	2818	U
2	DA	2820	A
2	DA	2832	U
2	DA	2833	U
2	DA	2834	G
2	DA	2835	A
2	DA	2847	U
2	DA	2848	G
2	DA	2849	U
2	DA	2858	C
2	DA	2861	U
2	DA	2866	U
2	DA	2867	G
2	DA	2872	A
2	DA	2873	A
2	DA	2879	A
2	DA	2884	U
2	DA	2887	A
2	DA	2895	G
2	DA	2902	C
2	DA	2903	U
3	DB	6	G

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Mol	Chain	Res	Type
3	DB	13	G
3	DB	15	A
3	DB	16	G
3	DB	24	G
3	DB	27	C
3	DB	35	C
3	DB	37	C
3	DB	41	G
3	DB	42	C
3	DB	44	G
3	DB	54	G
3	DB	69	G
3	DB	88	C
3	DB	89	U
3	DB	90	C
3	DB	99	A
3	DB	109	A
4	BV	9	A
4	BV	10	G
4	BV	11	C
4	BV	17	U
4	BV	18	G
4	BV	19	G
4	BV	20	G
4	BV	21	A
4	BV	36	C
4	BV	46	G
4	BV	47	U
4	BV	48	C
4	BV	52	G
4	BV	61	C
4	BV	73	A
4	BV	74	C
4	BV	76	A
36	BX	32	C
4	BW	8	U
4	BW	17	U
4	BW	18	G
4	BW	19	G
4	BW	20	G
4	BW	21	A
4	BW	22	G

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Mol	Chain	Res	Type
4	BW	37	A
4	BW	45	G
4	BW	47	U
4	BW	48	C
4	BW	58	A
4	BW	61	C
4	BW	69	A
4	BW	75	C

All (56) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	5	U
1	AA	96	U
1	AA	115	G
1	AA	1101	A
1	AA	1139	G
1	AA	1201	A
1	AA	1534	A
2	CA	404	A
2	CA	549	G
2	CA	655	A
2	CA	886	A
2	CA	891	G
2	CA	893	C
2	CA	1173	U
2	CA	1328	A
2	CA	1344	U
2	CA	1378	A
2	CA	1846	G
2	CA	1870	C
2	CA	1913	A
2	CA	2225	A
2	CA	2308	G
2	CA	2326	C
2	CA	2401	U
2	CA	2425	A
36	AX	5	G
36	AX	26	A
4	AW	1	G
4	AW	17	U
1	BA	81	A

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Mol	Chain	Res	Type
1	BA	88	U
1	BA	96	U
1	BA	115	G
1	BA	329	A
1	BA	411	A
1	BA	848	C
1	BA	1028	C
1	BA	1101	A
1	BA	1201	A
1	BA	1534	A
2	DA	60	G
2	DA	138	U
2	DA	404	A
2	DA	549	G
2	DA	890	C
2	DA	892	A
2	DA	893	C
2	DA	1378	A
2	DA	1523	U
2	DA	1869	G
2	DA	1913	A
2	DA	2188	U
2	DA	2189	U
2	DA	2225	A
2	DA	2425	A
2	DA	2756	U

## 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 449 ligands modelled in this entry, 449 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	DA	9
1	BA	4
1	AA	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	DA	2105:U	O3'	2118:U	P	30.28
1	DA	2185:U	O3'	2186:G	P	7.24
1	DA	2103:C	O3'	2104:C	P	6.01
1	DA	1887:C	O3'	1888:G	P	5.11
1	DA	2140:G	O3'	2141:G	P	3.75
1	DA	2802:G	O3'	2803:G	P	3.74
1	BA	1187:G	O3'	1188:A	P	3.55
1	BA	231:U	O3'	232:G	P	3.53
1	BA	205:A	O3'	206:C	P	3.43
1	AA	1355:G	O3'	1356:G	P	3.30
1	DA	42:A	O3'	43:G	P	3.29
1	BA	996:A	O3'	997:U	P	3.22
1	DA	2378:A	O3'	2379:G	P	3.21
1	DA	1410:G	O3'	1411:U	P	3.14

## 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	1540/1541 (99%)	-0.27	15 (0%) 82 74	95, 154, 227, 359	2 (0%)
1	BA	1541/1541 (100%)	-0.25	24 (1%) 72 62	110, 157, 208, 259	3 (0%)
2	CA	2867/2904 (98%)	-0.48	28 (0%) 82 74	69, 94, 175, 298	33 (1%)
2	DA	2869/2904 (98%)	-0.33	45 (1%) 72 62	86, 126, 219, 320	26 (0%)
3	CB	118/118 (100%)	-0.68	0 100 100	81, 108, 131, 159	0
3	DB	118/118 (100%)	-0.52	0 100 100	133, 191, 210, 222	0
4	AV	76/76 (100%)	0.18	8 (10%) 6 6	125, 166, 186, 201	0
4	AW	76/76 (100%)	-0.11	2 (2%) 56 46	119, 157, 180, 196	0
4	AY	76/76 (100%)	3.17	47 (61%) 0 0	120, 227, 240, 243	76 (100%)
4	BV	76/76 (100%)	0.10	6 (7%) 12 11	138, 193, 215, 225	0
4	BW	76/76 (100%)	-0.06	3 (3%) 39 31	142, 195, 208, 221	0
5	CC	271/271 (100%)	0.09	9 (3%) 46 37	71, 99, 117, 127	0
5	DC	271/271 (100%)	0.18	14 (5%) 27 24	98, 122, 143, 158	0
6	CD	209/209 (100%)	0.31	12 (5%) 23 20	70, 90, 110, 165	0
6	DD	209/209 (100%)	0.15	4 (1%) 66 58	89, 113, 130, 143	0
7	CE	181/181 (100%)	-0.05	2 (1%) 80 72	68, 95, 111, 133	0
7	DE	180/181 (99%)	0.13	3 (1%) 70 60	92, 128, 142, 151	0
8	CF	177/177 (100%)	-0.01	2 (1%) 80 72	113, 134, 158, 170	0
8	DF	177/177 (100%)	0.90	38 (21%) 0 1	136, 191, 224, 239	0
9	CG	176/176 (100%)	-0.03	3 (1%) 70 60	88, 105, 120, 148	0
9	DG	176/176 (100%)	0.46	15 (8%) 10 9	132, 150, 165, 176	0
10	CH	149/149 (100%)	0.32	9 (6%) 21 17	101, 151, 164, 168	0
10	DH	149/149 (100%)	1.00	29 (19%) 1 1	139, 210, 238, 243	0
11	C5	109/109 (100%)	0.38	12 (11%) 5 5	131, 173, 190, 197	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
12	CI	71/72 (98%)	1.30	18 (25%) 0 0	191, 212, 223, 225	71 (100%)
12	DI	72/72 (100%)	1.62	25 (34%) 0 0	262, 278, 291, 295	0
13	CJ	142/142 (100%)	0.13	0 100 100	68, 86, 104, 121	0
13	DJ	142/142 (100%)	0.23	8 (5%) 24 21	97, 114, 129, 147	0
14	CK	122/122 (100%)	-0.14	1 (0%) 86 79	77, 92, 114, 125	0
14	DK	122/122 (100%)	0.33	7 (5%) 23 20	97, 114, 129, 139	0
15	CL	143/143 (100%)	0.26	8 (5%) 24 21	74, 99, 116, 130	0
15	DL	143/143 (100%)	0.33	7 (4%) 29 25	98, 150, 167, 182	0
16	CM	135/136 (99%)	0.07	0 100 100	78, 95, 113, 127	0
16	DM	136/136 (100%)	0.96	25 (18%) 1 1	117, 138, 151, 164	0
17	CN	121/121 (100%)	-0.07	0 100 100	72, 87, 99, 100	0
17	DN	121/121 (100%)	0.04	3 (2%) 57 47	89, 106, 122, 146	0
18	CO	116/116 (100%)	0.13	3 (2%) 56 46	93, 111, 126, 131	0
18	DO	116/116 (100%)	1.16	29 (25%) 0 0	169, 188, 201, 208	0
19	CP	114/114 (100%)	0.20	6 (5%) 26 23	76, 96, 125, 135	0
19	DP	114/114 (100%)	0.31	4 (3%) 44 35	108, 121, 142, 154	0
20	CQ	117/117 (100%)	-0.27	0 100 100	68, 80, 97, 112	0
20	DQ	117/117 (100%)	-0.38	0 100 100	84, 108, 120, 127	0
21	CR	103/103 (100%)	0.09	0 100 100	70, 94, 109, 119	0
21	DR	103/103 (100%)	-0.03	2 (1%) 66 58	99, 116, 130, 141	0
22	CS	110/110 (100%)	0.44	6 (5%) 25 22	69, 87, 102, 121	0
22	DS	110/110 (100%)	0.51	8 (7%) 15 12	84, 104, 119, 131	0
23	CT	93/93 (100%)	0.47	8 (8%) 10 9	78, 97, 123, 138	0
23	DT	93/93 (100%)	0.32	3 (3%) 47 37	107, 127, 150, 166	0
24	CU	102/102 (100%)	0.14	2 (1%) 65 56	77, 96, 119, 137	0
24	DU	102/102 (100%)	0.71	13 (12%) 3 4	97, 123, 149, 165	0
25	CV	94/94 (100%)	0.16	6 (6%) 19 15	78, 101, 116, 119	0
25	DV	94/94 (100%)	0.14	3 (3%) 47 37	132, 146, 157, 161	0
26	CW	75/75 (100%)	0.33	4 (5%) 26 23	82, 95, 110, 155	0
26	DW	75/75 (100%)	0.83	13 (17%) 1 2	129, 148, 161, 172	0
27	CX	77/77 (100%)	0.25	3 (3%) 39 31	83, 98, 117, 123	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
27	DX	77/77 (100%)	0.70	4 (5%) 27 24	118, 135, 151, 156	0
28	CY	61/63 (96%)	-0.36	0 100 100	94, 109, 122, 145	0
28	DY	63/63 (100%)	0.11	3 (4%) 30 26	118, 133, 150, 154	0
29	CZ	58/58 (100%)	0.53	2 (3%) 45 36	74, 88, 108, 128	0
29	DZ	58/58 (100%)	0.82	5 (8%) 10 9	121, 137, 146, 152	0
30	C0	39/39 (100%)	0.91	6 (15%) 2 2	150, 167, 178, 182	39 (100%)
30	D0	39/39 (100%)	1.43	10 (25%) 0 0	179, 195, 204, 205	39 (100%)
31	C1	56/56 (100%)	-0.23	0 100 100	67, 91, 115, 127	0
31	D1	56/56 (100%)	-0.19	0 100 100	89, 110, 123, 135	0
32	C2	50/50 (100%)	2.64	31 (62%) 0 0	128, 140, 154, 158	0
32	D2	50/50 (100%)	4.10	39 (78%) 0 0	158, 174, 180, 184	50 (100%)
33	C3	46/46 (100%)	0.04	0 100 100	68, 87, 102, 108	0
33	D3	46/46 (100%)	0.16	0 100 100	101, 110, 120, 140	0
34	C4	61/62 (98%)	1.26	12 (19%) 1 1	79, 108, 121, 123	0
34	D4	62/62 (100%)	1.91	24 (38%) 0 0	135, 160, 171, 175	0
35	C6	38/38 (100%)	0.06	0 100 100	88, 103, 122, 149	0
35	D6	38/38 (100%)	1.27	13 (34%) 0 0	126, 137, 150, 178	0
36	AX	30/46 (65%)	2.49	15 (50%) 0 0	123, 203, 227, 257	1 (3%)
36	BX	30/46 (65%)	2.59	17 (56%) 0 0	140, 188, 233, 239	2 (6%)
37	AB	225/225 (100%)	0.54	27 (12%) 4 5	161, 181, 193, 207	0
37	BB	225/225 (100%)	0.31	15 (6%) 17 14	168, 197, 211, 218	0
38	AC	206/206 (100%)	-0.12	3 (1%) 73 64	147, 163, 176, 198	0
38	BC	206/206 (100%)	0.32	20 (9%) 7 7	140, 159, 171, 180	0
39	AD	205/205 (100%)	0.62	25 (12%) 4 5	138, 166, 180, 185	0
39	BD	205/205 (100%)	0.04	4 (1%) 65 56	126, 144, 156, 172	0
40	AE	150/150 (100%)	0.55	17 (11%) 5 5	121, 145, 160, 165	0
40	BE	150/150 (100%)	0.38	10 (6%) 17 14	126, 149, 161, 171	0
41	AF	100/100 (100%)	-0.28	1 (1%) 82 74	113, 136, 153, 159	0
41	BF	100/100 (100%)	0.63	15 (15%) 2 2	145, 158, 171, 178	0
42	AG	135/179 (75%)	0.66	15 (11%) 5 5	149, 173, 188, 200	0
42	BG	132/179 (73%)	0.79	24 (18%) 1 2	169, 196, 215, 225	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
43	AH	128/129 (99%)	0.31	8 (6%) 20 16	135, 147, 164, 171	0
43	BH	129/129 (100%)	0.14	4 (3%) 49 38	141, 154, 164, 172	0
44	AI	124/130 (95%)	1.00	18 (14%) 2 3	146, 178, 189, 200	0
44	BI	127/130 (97%)	0.73	12 (9%) 8 8	161, 193, 206, 210	0
45	AJ	98/98 (100%)	0.85	16 (16%) 1 2	149, 182, 197, 200	0
45	BJ	98/98 (100%)	0.65	12 (12%) 4 5	151, 176, 189, 193	0
46	AK	116/117 (99%)	-0.27	0 100 100	96, 131, 147, 161	0
46	BK	117/117 (100%)	0.61	16 (13%) 3 3	142, 170, 187, 192	0
47	AL	123/123 (100%)	0.91	20 (16%) 1 2	116, 134, 148, 176	0
47	BL	123/123 (100%)	0.48	9 (7%) 15 12	111, 128, 142, 153	0
48	AM	114/114 (100%)	0.36	11 (9%) 8 7	135, 168, 206, 227	0
48	BM	114/114 (100%)	0.32	8 (7%) 16 13	164, 190, 212, 243	0
49	AN	96/101 (95%)	0.69	12 (12%) 3 5	147, 168, 180, 189	0
49	BN	96/101 (95%)	0.38	7 (7%) 15 12	153, 166, 177, 185	0
50	AO	88/89 (98%)	-0.03	0 100 100	112, 131, 150, 159	0
50	BO	88/89 (98%)	0.32	8 (9%) 9 8	135, 153, 167, 172	0
51	AP	82/82 (100%)	1.95	35 (42%) 0 0	147, 169, 179, 195	0
51	BP	82/82 (100%)	1.16	25 (30%) 0 0	122, 148, 174, 189	0
52	AQ	80/80 (100%)	0.61	8 (10%) 7 7	126, 151, 163, 170	0
52	BQ	80/80 (100%)	0.94	16 (20%) 1 1	131, 150, 161, 173	0
53	AR	55/55 (100%)	0.66	4 (7%) 15 12	126, 139, 157, 161	0
53	BR	55/55 (100%)	0.94	8 (14%) 2 3	152, 162, 183, 200	0
54	AS	79/79 (100%)	0.64	8 (10%) 7 7	156, 170, 179, 184	0
54	BS	79/79 (100%)	0.91	16 (20%) 1 1	165, 179, 188, 193	0
55	AT	85/85 (100%)	0.15	3 (3%) 44 35	134, 154, 166, 176	0
55	BT	85/85 (100%)	0.74	5 (5%) 22 18	131, 151, 163, 170	0
All	All	20800/21025 (98%)	0.09	1191 (5%) 23 20	67, 135, 203, 359	342 (1%)

All (1191) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	DA	2153	C	15.4
2	DA	2145	C	11.7

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Mol	Chain	Res	Type	RSRZ
4	AV	76	A	11.0
30	D0	22	MET	10.7
4	AY	17	U	10.7
2	DA	2152	G	10.6
4	AY	1	G	10.1
32	D2	3	GLY	9.9
4	AY	72	C	9.6
2	CA	2110	G	9.4
32	D2	6	GLU	9.4
2	DA	2154	A	9.3
32	D2	22	THR	9.0
32	D2	24	LYS	9.0
4	AV	75	C	9.0
32	D2	10	LEU	8.8
4	AY	37	A	8.6
51	AP	47	GLU	8.6
9	DG	176	LYS	8.5
4	BV	75	C	8.3
4	AY	45	G	8.1
2	DA	2146	C	8.0
44	AI	15	ALA	7.8
2	CA	2178	C	7.7
2	DA	2144	G	7.5
36	BX	11	A	7.5
32	D2	9	LYS	7.5
4	BV	74	C	7.5
2	CA	2120	G	7.4
32	D2	18	HIS	7.3
2	DA	2155	U	7.3
2	CA	2105	U	7.3
36	BX	12	A	7.2
2	DA	2137	U	7.1
36	BX	10	U	7.1
32	D2	4	ILE	7.1
2	DA	2118	U	7.1
4	AY	2	G	6.9
4	AY	73	A	6.8
4	AY	33	U	6.8
2	DA	2148	G	6.8
42	BG	132	THR	6.8
32	D2	21	THR	6.7
18	DO	23	ALA	6.7

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Mol	Chain	Res	Type	RSRZ
32	D2	52	LYS	6.7
51	AP	34	GLU	6.6
2	CA	2107	G	6.6
41	BF	87	SER	6.6
4	AY	36	C	6.6
32	D2	19	PHE	6.6
2	DA	2138	G	6.6
12	CI	114	ALA	6.5
36	AX	4	A	6.5
36	BX	13	A	6.4
43	BH	3	GLN	6.4
37	AB	68	PHE	6.4
37	AB	155	GLY	6.3
4	AY	34	U	6.3
2	DA	2140	G	6.3
36	AX	10	U	6.3
4	BV	76	A	6.2
2	DA	2141	G	6.2
30	C0	19	GLY	6.2
2	CA	2104	C	6.2
44	AI	16	ALA	6.2
34	D4	23	HIS	6.1
2	DA	2142	A	6.1
36	AX	7	A	6.1
19	CP	44	GLY	6.1
47	AL	122	LYS	6.1
51	AP	1	MET	6.1
4	AV	73	A	6.1
44	AI	9	GLY	6.0
12	DI	119	ALA	6.0
32	D2	25	ASN	6.0
42	BG	151	ALA	6.0
26	CW	85	GLU	6.0
4	BW	1	G	6.0
32	D2	8	ILE	6.0
32	D2	34	GLU	5.9
2	DA	1847	A	5.9
32	C2	8	ILE	5.9
18	DO	91	SER	5.9
2	CA	2103	C	5.8
51	AP	22	ALA	5.8
41	BF	9	MET	5.8

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Mol	Chain	Res	Type	RSRZ
41	BF	8	PHE	5.8
36	AX	6	G	5.7
4	AY	20	G	5.7
36	AX	3	A	5.7
39	AD	104	MET	5.6
2	CA	2181	U	5.6
37	BB	18	GLN	5.6
4	AY	32	C	5.6
35	D6	38	GLY	5.6
32	C2	48	TYR	5.6
1	BA	1540	U	5.6
4	AY	71	C	5.6
32	C2	10	LEU	5.6
34	D4	50	SER	5.6
12	DI	94	LYS	5.5
48	AM	95	PRO	5.5
37	AB	154	GLY	5.5
4	AW	1	G	5.5
4	AY	75	C	5.5
34	D4	60	CYS	5.5
32	C2	22	THR	5.4
51	AP	3	THR	5.4
2	CA	2179	C	5.4
1	BA	1541	U	5.4
44	BI	106	ASP	5.4
18	DO	24	THR	5.3
39	AD	94	GLU	5.3
35	D6	5	ALA	5.3
36	BX	9	A	5.3
2	DA	2139	U	5.3
38	BC	168	TYR	5.3
2	DA	2147	A	5.3
18	DO	37	ALA	5.2
4	AY	46	G	5.2
32	D2	50	GLU	5.2
4	AY	35	A	5.2
32	C2	50	GLU	5.2
47	AL	123	ALA	5.2
2	DA	2132	U	5.2
39	AD	99	ASN	5.1
36	AX	13	A	5.1
1	AA	1539	C	5.1

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Mol	Chain	Res	Type	RSRZ
2	CA	2108	A	5.1
51	AP	49	GLY	5.1
2	DA	890	C	5.0
4	AV	74	C	5.0
4	AY	16	C	5.0
10	DH	101	ASP	5.0
52	BQ	41	THR	5.0
8	DF	86	CYS	5.0
32	D2	51	ALA	5.0
43	AH	1	SER	5.0
32	D2	20	TYR	5.0
32	C2	46	VAL	4.9
2	DA	2151	U	4.9
35	D6	6	SER	4.9
1	BA	1538	C	4.9
4	AY	74	C	4.9
9	DG	175	LYS	4.8
36	AX	12	A	4.8
50	BO	1	SER	4.8
51	AP	24	SER	4.8
49	AN	72	GLY	4.8
16	DM	106	ASP	4.8
42	BG	111	GLY	4.8
32	D2	49	LYS	4.8
4	AY	38	A	4.8
18	DO	36	TYR	4.8
12	DI	88	GLY	4.8
10	DH	1	MET	4.8
48	AM	96	VAL	4.8
45	AJ	8	ILE	4.8
4	AY	19	G	4.8
51	AP	21	VAL	4.8
18	DO	96	GLY	4.7
32	D2	23	THR	4.7
4	BV	73	A	4.7
45	AJ	73	LEU	4.7
32	D2	17	GLY	4.7
34	D4	47	ALA	4.7
36	BX	14	A	4.7
52	BQ	59	GLU	4.7
2	CA	2183	A	4.7
16	DM	70	ASP	4.6

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Mol	Chain	Res	Type	RSRZ
1	BA	1539	C	4.6
1	AA	1537	U	4.6
39	AD	100	VAL	4.6
2	CA	2106	U	4.6
44	BI	107	ALA	4.6
51	AP	48	GLU	4.6
51	BP	22	ALA	4.6
47	AL	116	TYR	4.6
32	C2	49	LYS	4.6
42	BG	150	PHE	4.6
36	AX	9	A	4.6
2	CA	2121	G	4.6
9	DG	105	SER	4.6
30	C0	40	CYS	4.5
51	AP	23	ASP	4.5
41	BF	1	MET	4.5
10	DH	113	SER	4.5
46	BK	15	VAL	4.5
16	DM	68	PHE	4.5
46	BK	111	ASP	4.5
32	C2	9	LYS	4.5
36	BX	6	G	4.5
40	AE	124	ALA	4.5
37	BB	24	PRO	4.5
8	DF	67	THR	4.5
32	C2	16	THR	4.5
32	D2	27	ARG	4.5
14	DK	84	CYS	4.4
51	AP	2	VAL	4.4
36	BX	4	A	4.4
32	D2	12	SER	4.4
51	AP	66	THR	4.4
42	BG	149	ALA	4.4
12	DI	87	SER	4.4
32	C2	13	SER	4.4
18	DO	29	HIS	4.4
4	AY	39	G	4.4
12	CI	94	LYS	4.4
8	DF	85	GLY	4.4
12	CI	95	ASP	4.4
4	AY	40	G	4.4
10	DH	149	GLU	4.3

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Mol	Chain	Res	Type	RSRZ
49	BN	21	ALA	4.3
12	CI	77	VAL	4.3
2	DA	2149	U	4.3
47	AL	24	GLU	4.3
12	DI	120	ASP	4.3
2	DA	2143	C	4.3
32	C2	47	ILE	4.3
2	DA	889	C	4.3
44	AI	22	PRO	4.3
37	AB	156	LEU	4.3
26	DW	68	LYS	4.3
32	D2	48	TYR	4.3
48	AM	92	ARG	4.2
10	DH	112	LYS	4.2
36	AX	5	G	4.2
51	BP	34	GLU	4.2
12	DI	118	GLY	4.2
32	C2	21	THR	4.2
1	AA	412	A	4.1
46	BK	17	ASP	4.1
32	D2	35	LEU	4.1
46	BK	16	SER	4.1
2	DA	2156	G	4.1
4	BW	47	U	4.1
16	DM	105	MET	4.1
12	CI	91	LYS	4.1
37	AB	158	ASP	4.1
39	AD	107	GLY	4.1
46	BK	126	ARG	4.1
51	BP	38	PHE	4.1
45	AJ	63	ASP	4.1
2	CA	2180	U	4.1
10	CH	93	SER	4.1
34	C4	53	ASP	4.1
8	DF	84	ILE	4.1
39	AD	18	LEU	4.1
51	AP	46	LYS	4.1
2	CA	2182	U	4.0
52	AQ	8	GLN	4.0
1	BA	387	U	4.0
11	C5	91	ALA	4.0
2	DA	2136	G	4.0

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Mol	Chain	Res	Type	RSRZ
42	AG	73	GLU	4.0
44	BI	61	ASP	4.0
30	D0	48	GLN	4.0
40	AE	27	GLY	4.0
12	CI	115	ASP	4.0
2	CA	2102	G	4.0
43	AH	3	GLN	4.0
10	DH	105	ALA	4.0
8	DF	90	LEU	4.0
18	DO	22	GLY	4.0
39	AD	17	ASP	4.0
55	BT	74	HIS	3.9
50	BO	2	LEU	3.9
34	D4	8	GLY	3.9
35	D6	37	GLN	3.9
12	CI	76	ALA	3.9
1	AA	1538	C	3.9
34	D4	48	MET	3.9
10	DH	115	VAL	3.9
40	AE	46	GLY	3.9
37	AB	65	LYS	3.9
51	BP	3	THR	3.9
32	C2	39	ASP	3.9
12	CI	90	GLY	3.9
8	DF	35	LEU	3.8
12	DI	114	ALA	3.8
36	BX	7	A	3.8
45	BJ	63	ASP	3.8
2	CA	1175	A	3.8
54	BS	38	THR	3.8
39	AD	95	GLY	3.8
2	CA	888	C	3.8
22	DS	77	ASP	3.8
45	AJ	100	ILE	3.8
54	BS	70	LEU	3.8
8	DF	168	LEU	3.8
49	BN	22	LYS	3.8
44	BI	104	THR	3.8
10	DH	106	ALA	3.8
32	C2	51	ALA	3.8
36	AX	11	A	3.8
49	AN	92	GLU	3.8

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Mol	Chain	Res	Type	RSRZ
32	D2	15	GLY	3.7
51	BP	37	GLY	3.7
12	CI	141	ASP	3.7
4	AY	15	G	3.7
13	DJ	54	ILE	3.7
2	CA	2138	G	3.7
32	C2	20	TYR	3.7
26	DW	69	PHE	3.7
51	AP	33	ILE	3.7
47	BL	24	GLU	3.7
1	AA	1540	U	3.7
15	DL	49	GLY	3.7
30	D0	32	LEU	3.7
51	AP	38	PHE	3.7
11	C5	81	LEU	3.7
52	BQ	42	LYS	3.7
48	AM	82	LEU	3.7
1	BA	1534	A	3.7
51	AP	17	TYR	3.6
23	DT	32	LEU	3.6
38	BC	151	VAL	3.6
45	BJ	35	GLN	3.6
42	AG	139	ASP	3.6
42	BG	61	PHE	3.6
8	DF	66	ILE	3.6
8	DF	146	ASP	3.6
34	D4	1	PRO	3.6
34	D4	14	LYS	3.6
54	BS	73	PHE	3.6
41	BF	57	ALA	3.6
39	AD	103	ARG	3.6
40	BE	31	SER	3.6
44	AI	10	ARG	3.6
45	AJ	9	ARG	3.6
51	AP	50	THR	3.6
36	AX	14	A	3.6
24	DU	19	GLY	3.6
50	BO	49	HIS	3.6
53	BR	22	TYR	3.6
2	CA	2109	U	3.6
12	CI	139	VAL	3.6
22	CS	104	THR	3.6

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Mol	Chain	Res	Type	RSRZ
8	DF	33	ILE	3.6
32	D2	16	THR	3.6
29	DZ	28	LEU	3.6
12	CI	93	ASN	3.6
26	DW	25	ARG	3.5
2	CA	2184	A	3.5
39	AD	183	ARG	3.5
45	AJ	71	LEU	3.5
18	DO	52	SER	3.5
30	C0	48	GLN	3.5
2	CA	2154	A	3.5
52	BQ	52	CYS	3.5
34	D4	20	GLY	3.5
37	BB	25	LYS	3.5
47	AL	97	VAL	3.5
44	AI	55	ASP	3.5
4	AY	41	A	3.5
30	D0	24	ILE	3.5
39	AD	139	ASN	3.5
32	C2	19	PHE	3.5
34	D4	12	ARG	3.5
10	DH	102	ALA	3.5
26	DW	70	GLU	3.5
42	BG	91	ARG	3.5
44	BI	96	GLU	3.5
17	DN	112	TYR	3.5
34	D4	27	ASN	3.4
37	AB	81	ASP	3.4
32	C2	12	SER	3.4
37	AB	66	ILE	3.4
23	CT	92	ASN	3.4
7	DE	128	ALA	3.4
44	AI	3	ASN	3.4
4	AY	12	U	3.4
35	D6	7	VAL	3.4
28	DY	24	GLU	3.4
8	DF	156	THR	3.4
32	C2	34	GLU	3.4
37	BB	191	ASP	3.4
53	BR	64	LEU	3.4
26	CW	84	ALA	3.4
26	DW	46	HIS	3.4

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Mol	Chain	Res	Type	RSRZ
40	BE	52	ALA	3.4
40	BE	109	ALA	3.4
41	BF	56	LYS	3.4
12	DI	141	ASP	3.4
44	BI	22	PRO	3.4
12	DI	113	ALA	3.4
2	DA	2134	A	3.4
13	DJ	80	HIS	3.4
38	BC	24	ALA	3.4
42	AG	40	SER	3.4
55	BT	42	ASP	3.4
4	BV	17	U	3.3
4	AY	57	G	3.3
40	AE	38	VAL	3.3
51	AP	8	ARG	3.3
32	C2	35	LEU	3.3
44	AI	106	ASP	3.3
48	BM	90	HIS	3.3
8	DF	34	THR	3.3
29	DZ	8	GLN	3.3
4	AY	18	G	3.3
54	AS	31	ARG	3.3
49	BN	25	GLU	3.3
12	CI	113	ALA	3.3
49	AN	22	LYS	3.3
10	DH	109	GLU	3.3
12	CI	137	LEU	3.3
42	BG	145	GLU	3.3
34	C4	23	HIS	3.3
45	AJ	74	VAL	3.3
18	DO	15	ARG	3.3
14	DK	10	VAL	3.3
16	DM	103	TYR	3.3
4	AY	60	C	3.3
10	CH	94	ILE	3.3
8	DF	87	LYS	3.3
52	BQ	60	ILE	3.3
51	BP	27	ALA	3.3
37	AB	126	ASP	3.3
8	DF	83	PRO	3.3
51	BP	35	ARG	3.3
37	AB	157	PRO	3.2

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Mol	Chain	Res	Type	RSRZ
51	BP	36	VAL	3.2
19	DP	65	ASN	3.2
39	AD	138	PRO	3.2
32	D2	28	THR	3.2
44	AI	122	ARG	3.2
8	DF	31	GLU	3.2
15	DL	32	GLY	3.2
42	AG	17	PHE	3.2
40	AE	26	GLY	3.2
4	AY	31	C	3.2
9	DG	60	GLY	3.2
37	AB	90	PHE	3.2
51	BP	47	GLU	3.2
34	C4	19	GLY	3.2
34	D4	5	THR	3.2
35	D6	2	LYS	3.2
6	CD	147	GLY	3.2
16	DM	37	GLY	3.2
14	DK	102	PRO	3.2
39	AD	1	ALA	3.2
40	AE	109	ALA	3.2
41	BF	4	TYR	3.2
9	CG	176	LYS	3.2
34	D4	9	ALA	3.2
2	DA	2150	C	3.2
42	AG	140	VAL	3.2
22	DS	78	GLU	3.2
38	BC	167	TRP	3.2
4	AY	76	A	3.1
34	D4	53	ASP	3.1
38	BC	166	GLU	3.1
16	DM	117	PHE	3.1
19	DP	24	THR	3.1
29	DZ	29	ARG	3.1
37	BB	21	TYR	3.1
39	AD	105	GLY	3.1
32	D2	11	VAL	3.1
15	DL	31	GLY	3.1
48	BM	40	GLU	3.1
1	AA	211	G	3.1
52	BQ	8	GLN	3.1
11	C5	68	PRO	3.1

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Mol	Chain	Res	Type	RSRZ
9	DG	165	ASP	3.1
37	AB	115	ASP	3.1
55	BT	70	LYS	3.1
4	AV	2	G	3.1
32	C2	36	LYS	3.1
5	DC	102	TYR	3.1
41	BF	59	TYR	3.1
54	BS	37	SER	3.1
30	D0	23	LYS	3.1
47	AL	67	GLY	3.1
14	DK	59	LYS	3.1
44	AI	96	GLU	3.1
52	AQ	70	LYS	3.1
52	BQ	43	LEU	3.1
40	AE	45	VAL	3.1
32	D2	32	LYS	3.1
38	BC	199	LYS	3.1
12	DI	110	GLN	3.0
42	BG	139	ASP	3.0
4	AY	55	U	3.0
26	DW	45	PHE	3.0
42	BG	147	ASN	3.0
14	DK	83	ALA	3.0
34	C4	60	CYS	3.0
41	BF	88	MET	3.0
21	DR	5	PHE	3.0
10	CH	79	THR	3.0
51	BP	81	ALA	3.0
4	AV	1	G	3.0
45	BJ	71	LEU	3.0
27	DX	41	SER	3.0
38	BC	180	ALA	3.0
42	BG	71	THR	3.0
4	BW	76	A	3.0
34	C4	25	HIS	3.0
1	BA	1533	C	3.0
51	AP	39	PHE	3.0
7	DE	169	VAL	3.0
24	DU	59	GLU	3.0
52	BQ	26	ARG	3.0
4	AY	10	G	3.0
40	AE	36	THR	3.0

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Mol	Chain	Res	Type	RSRZ
40	BE	36	THR	3.0
51	AP	32	PHE	3.0
1	AA	101	A	3.0
22	DS	1	MET	3.0
38	BC	25	ASN	3.0
44	BI	63	TYR	3.0
44	AI	125	GLN	3.0
42	BG	131	GLY	3.0
1	BA	211	G	3.0
5	CC	182	LYS	3.0
34	D4	16	THR	3.0
12	DI	107	GLU	3.0
51	AP	67	ILE	3.0
51	AP	31	ARG	3.0
32	D2	26	LYS	3.0
32	C2	45	HIS	3.0
11	C5	80	THR	2.9
5	DC	92	LEU	2.9
52	BQ	27	PHE	2.9
47	BL	16	ALA	2.9
35	D6	4	ARG	2.9
49	AN	7	ALA	2.9
22	CS	75	PHE	2.9
30	D0	45	THR	2.9
32	C2	23	THR	2.9
35	D6	24	ARG	2.9
36	BX	5	G	2.9
45	AJ	65	TYR	2.9
10	CH	128	HIS	2.9
8	DF	108	PRO	2.9
18	DO	11	ALA	2.9
1	AA	902	G	2.9
37	BB	211	LEU	2.9
37	BB	210	THR	2.9
44	BI	66	VAL	2.9
6	CD	1	MET	2.9
37	AB	30	ILE	2.9
38	AC	200	VAL	2.9
24	DU	60	LYS	2.9
37	AB	152	ASP	2.9
15	CL	51	GLU	2.9
19	CP	24	THR	2.9

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Mol	Chain	Res	Type	RSRZ
18	DO	97	PHE	2.9
18	DO	38	GLN	2.9
39	AD	129	VAL	2.9
51	BP	18	GLN	2.9
1	BA	1226	C	2.9
10	DH	114	GLU	2.9
13	DJ	79	GLY	2.9
41	BF	47	LEU	2.9
4	AY	13	C	2.9
51	AP	71	VAL	2.9
6	DD	1	MET	2.9
1	BA	1537	U	2.9
9	DG	51	PHE	2.9
39	AD	184	LYS	2.8
52	AQ	44	HIS	2.8
6	CD	3	GLY	2.8
47	AL	98	ARG	2.8
5	CC	173	LEU	2.8
36	BX	15	A	2.8
32	D2	13	SER	2.8
41	BF	60	VAL	2.8
10	DH	128	HIS	2.8
4	AY	47	U	2.8
5	CC	238	ASN	2.8
2	DA	2129	C	2.8
16	DM	30	SER	2.8
44	AI	36	GLN	2.8
19	CP	43	GLU	2.8
40	AE	47	PHE	2.8
25	CV	41	GLU	2.8
18	DO	114	GLY	2.8
1	BA	377	G	2.8
23	DT	42	GLU	2.8
37	BB	193	ASP	2.8
4	AY	56	C	2.8
12	CI	99	LYS	2.8
34	D4	55	GLY	2.8
18	DO	98	GLN	2.8
50	BO	52	ARG	2.8
15	DL	71	ALA	2.8
34	D4	19	GLY	2.8
2	DA	1536	C	2.8

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Mol	Chain	Res	Type	RSRZ
51	AP	36	VAL	2.8
54	BS	48	ILE	2.8
1	BA	60	A	2.8
36	BX	26	A	2.8
44	BI	21	LYS	2.8
51	AP	37	GLY	2.8
12	DI	95	ASP	2.8
55	AT	66	ILE	2.8
4	AY	22	G	2.8
32	C2	15	GLY	2.8
45	AJ	101	SER	2.8
10	DH	103	VAL	2.8
35	D6	25	VAL	2.8
38	AC	151	VAL	2.8
2	DA	2135	A	2.8
4	AY	21	A	2.8
5	CC	29	PHE	2.8
12	DI	137	LEU	2.8
12	CI	138	VAL	2.7
44	BI	40	ARG	2.7
5	DC	209	ALA	2.7
53	BR	66	LEU	2.7
8	DF	100	GLU	2.7
36	BX	28	A	2.7
47	AL	84	GLY	2.7
29	CZ	11	SER	2.7
2	CA	2137	U	2.7
6	CD	101	PHE	2.7
34	D4	59	ALA	2.7
37	AB	151	LYS	2.7
51	BP	21	VAL	2.7
26	DW	67	VAL	2.7
24	DU	61	GLU	2.7
2	DA	2133	G	2.7
50	BO	3	SER	2.7
51	BP	5	ARG	2.7
54	AS	40	PHE	2.7
8	DF	79	ARG	2.7
12	DI	96	LYS	2.7
25	DV	36	ALA	2.7
39	AD	60	VAL	2.7
45	BJ	10	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
42	BG	135	LYS	2.7
49	BN	94	PRO	2.7
2	CA	2155	U	2.7
19	DP	43	GLU	2.7
32	C2	7	LYS	2.7
51	AP	51	ARG	2.7
36	AX	17	G	2.7
39	AD	135	GLN	2.7
42	AG	145	GLU	2.7
34	D4	35	LYS	2.7
32	C2	44	GLN	2.7
16	DM	36	VAL	2.7
18	DO	90	VAL	2.7
48	AM	93	GLY	2.7
49	AN	21	ALA	2.7
54	AS	39	ILE	2.7
36	BX	27	G	2.7
43	BH	2	MET	2.7
22	CS	103	ILE	2.7
52	BQ	7	LEU	2.7
2	DA	2128	G	2.7
39	AD	93	LEU	2.7
47	BL	49	ARG	2.7
45	AJ	99	GLN	2.7
52	BQ	24	ILE	2.7
51	BP	51	ARG	2.7
51	BP	52	LEU	2.7
49	AN	25	GLU	2.7
4	AY	66	A	2.7
42	AG	8	GLN	2.7
54	BS	68	HIS	2.6
4	AV	71	C	2.6
42	AG	147	ASN	2.6
42	BG	68	VAL	2.6
8	DF	152	ASP	2.6
10	CH	132	PHE	2.6
37	AB	69	VAL	2.6
16	DM	69	PRO	2.6
26	DW	80	ILE	2.6
37	AB	114	LYS	2.6
5	DC	79	ARG	2.6
22	CS	74	ILE	2.6

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Mol	Chain	Res	Type	RSRZ
51	BP	4	ILE	2.6
51	BP	32	PHE	2.6
54	BS	10	ILE	2.6
15	CL	54	GLN	2.6
4	AY	67	U	2.6
43	AH	53	ASP	2.6
2	DA	2319	G	2.6
13	DJ	55	ILE	2.6
5	DC	205	GLY	2.6
40	AE	39	GLY	2.6
2	CA	2177	C	2.6
39	BD	24	VAL	2.6
40	AE	31	SER	2.6
47	BL	17	LYS	2.6
8	DF	154	THR	2.6
18	CO	37	ALA	2.6
37	AB	160	LEU	2.6
51	AP	29	ASN	2.6
38	BC	181	ASP	2.6
42	AG	6	ILE	2.6
2	CA	889	C	2.6
6	CD	148	GLN	2.6
46	BK	14	GLN	2.6
23	CT	42	GLU	2.6
39	BD	183	ARG	2.6
42	AG	4	ARG	2.6
51	BP	7	ALA	2.6
53	BR	73	HIS	2.6
47	AL	92	VAL	2.6
34	D4	22	LYS	2.6
42	BG	138	GLU	2.6
34	C4	27	ASN	2.6
47	AL	46	SER	2.6
8	DF	64	PRO	2.6
38	BC	186	THR	2.6
8	DF	65	LEU	2.6
27	CX	76	LYS	2.6
36	BX	8	A	2.6
4	AY	9	A	2.6
39	BD	135	GLN	2.6
42	AG	149	ALA	2.6
42	BG	70	PRO	2.5

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Mol	Chain	Res	Type	RSRZ
45	BJ	40	ILE	2.5
28	DY	39	GLN	2.5
54	AS	32	THR	2.5
1	BA	1362	A	2.5
29	DZ	12	ALA	2.5
49	BN	20	PHE	2.5
22	DS	2	GLU	2.5
5	CC	181	ARG	2.5
12	DI	98	GLY	2.5
42	BG	133	ALA	2.5
42	BG	146	ALA	2.5
44	BI	108	ARG	2.5
8	DF	32	LYS	2.5
18	DO	39	VAL	2.5
10	DH	148	ALA	2.5
16	DM	64	TRP	2.5
24	CU	17	ASP	2.5
37	AB	148	GLY	2.5
10	DH	89	LYS	2.5
15	CL	58	TYR	2.5
26	DW	79	PHE	2.5
51	BP	29	ASN	2.5
1	BA	206	C	2.5
37	BB	212	TYR	2.5
48	AM	89	ARG	2.5
9	DG	61	TRP	2.5
18	DO	61	GLN	2.5
2	DA	2172	U	2.5
8	CF	77	LYS	2.5
25	CV	6	ALA	2.5
26	DW	72	LYS	2.5
44	AI	99	LYS	2.5
5	DC	152	GLN	2.5
35	D6	35	GLN	2.5
10	DH	19	VAL	2.5
52	BQ	33	TYR	2.5
34	D4	52	GLY	2.5
18	DO	26	LEU	2.5
32	C2	18	HIS	2.5
11	C5	84	TYR	2.5
45	BJ	34	ALA	2.5
48	AM	94	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
45	BJ	65	TYR	2.5
15	CL	49	GLY	2.5
47	AL	85	ARG	2.5
12	DI	122	GLU	2.5
25	CV	66	ASP	2.5
8	DF	153	ILE	2.5
32	D2	30	PRO	2.5
51	AP	35	ARG	2.5
53	BR	44	THR	2.5
6	CD	4	LEU	2.5
12	DI	136	GLY	2.5
39	AD	108	ALA	2.5
54	BS	57	VAL	2.5
8	DF	101	ARG	2.5
24	DU	93	ARG	2.5
46	BK	125	LYS	2.5
4	AY	8	U	2.5
24	CU	1	ALA	2.5
55	BT	41	GLY	2.5
51	BP	16	PHE	2.5
2	DA	2158	A	2.4
4	AV	72	C	2.4
51	AP	40	ASN	2.4
44	AI	65	THR	2.4
46	BK	68	ARG	2.4
42	BG	9	ARG	2.4
48	AM	112	ARG	2.4
54	AS	2	ARG	2.4
32	D2	45	HIS	2.4
40	BE	95	MET	2.4
18	DO	89	ASP	2.4
40	BE	124	ALA	2.4
48	AM	110	GLY	2.4
37	AB	153	MET	2.4
9	DG	135	ALA	2.4
29	CZ	8	GLN	2.4
34	D4	10	ALA	2.4
10	DH	75	LEU	2.4
51	BP	26	ASN	2.4
4	AY	11	C	2.4
26	DW	73	GLY	2.4
48	AM	90	HIS	2.4

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Mol	Chain	Res	Type	RSRZ
18	CO	60	GLU	2.4
49	AN	62	ASN	2.4
53	BR	19	GLU	2.4
10	CH	92	GLY	2.4
40	BE	94	PHE	2.4
55	AT	74	HIS	2.4
18	CO	38	GLN	2.4
40	AE	125	LYS	2.4
39	AD	64	TYR	2.4
41	BF	2	ARG	2.4
29	DZ	57	GLU	2.4
43	BH	73	SER	2.4
5	DC	145	MET	2.4
1	AA	64	G	2.4
16	DM	99	GLY	2.4
47	AL	26	CYS	2.4
52	BQ	3	LYS	2.4
12	DI	93	ASN	2.4
35	D6	1	MET	2.4
1	AA	1226	C	2.4
1	BA	1359	C	2.4
43	AH	24	VAL	2.4
43	AH	59	GLU	2.4
1	BA	108	G	2.4
2	DA	2157	G	2.4
48	BM	41	ASP	2.4
8	DF	36	ASN	2.4
10	DH	20	ASN	2.4
18	DO	28	VAL	2.4
51	AP	19	VAL	2.4
40	AE	94	PHE	2.4
19	CP	62	LYS	2.4
35	D6	8	LYS	2.4
39	AD	96	ARG	2.4
40	AE	16	ALA	2.4
5	DC	217	PRO	2.4
46	BK	76	TYR	2.4
45	BJ	58	ASN	2.4
5	DC	55	GLY	2.4
46	BK	18	GLY	2.4
34	C4	26	ALA	2.4
46	BK	41	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
8	DF	82	TYR	2.4
38	BC	170	GLU	2.4
46	BK	75	GLU	2.4
24	DU	21	ARG	2.4
43	AH	81	GLY	2.4
32	D2	46	VAL	2.4
45	BJ	73	LEU	2.4
38	BC	26	THR	2.4
40	AE	49	TYR	2.4
42	BG	4	ARG	2.3
8	DF	151	LEU	2.3
52	BQ	34	GLY	2.3
8	DF	167	ALA	2.3
1	BA	976	G	2.3
8	CF	78	ILE	2.3
41	BF	36	ILE	2.3
14	DK	17	ARG	2.3
18	DO	102	ARG	2.3
37	BB	20	ARG	2.3
47	BL	35	ARG	2.3
10	DH	88	GLY	2.3
11	C5	26	VAL	2.3
40	BE	125	LYS	2.3
6	CD	10	GLY	2.3
8	DF	96	TRP	2.3
23	CT	5	GLU	2.3
37	BB	204	ASP	2.3
45	BJ	72	ARG	2.3
37	AB	91	VAL	2.3
51	AP	15	PRO	2.3
32	D2	5	ARG	2.3
38	BC	42	TYR	2.3
10	DH	87	GLU	2.3
4	AY	70	C	2.3
5	CC	172	THR	2.3
16	DM	32	GLY	2.3
10	DH	23	ALA	2.3
25	CV	40	ILE	2.3
39	AD	137	SER	2.3
30	C0	47	LYS	2.3
48	BM	31	ALA	2.3
51	BP	1	MET	2.3

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Mol	Chain	Res	Type	RSRZ
5	CC	153	LEU	2.3
8	DF	102	LEU	2.3
34	C4	52	GLY	2.3
6	CD	36	GLN	2.3
9	DG	38	ASP	2.3
54	AS	72	GLU	2.3
2	DA	1130	U	2.3
11	C5	92	ALA	2.3
12	CI	119	ALA	2.3
12	DI	121	ILE	2.3
30	C0	45	THR	2.3
32	D2	39	ASP	2.3
5	DC	144	GLU	2.3
40	BE	48	GLY	2.3
49	AN	71	HIS	2.3
47	BL	81	ILE	2.3
19	CP	70	GLU	2.3
44	AI	83	THR	2.3
1	BA	372	C	2.3
53	AR	39	VAL	2.3
53	AR	67	LEU	2.3
12	DI	125	THR	2.3
15	CL	115	GLU	2.3
8	DF	99	PHE	2.3
2	DA	2131	U	2.3
16	DM	73	ILE	2.3
10	CH	142	VAL	2.3
30	D0	36	VAL	2.3
32	C2	42	VAL	2.3
32	D2	40	PRO	2.3
37	AB	67	LEU	2.3
48	BM	30	LYS	2.3
4	BV	72	C	2.3
8	DF	172	PHE	2.3
10	DH	69	ALA	2.3
22	CS	86	MET	2.3
7	DE	181	ILE	2.3
26	CW	46	HIS	2.3
9	DG	40	VAL	2.3
23	CT	49	LYS	2.3
43	AH	49	LYS	2.3
53	AR	38	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
12	DI	89	SER	2.3
8	DF	95	MET	2.3
39	AD	179	GLY	2.3
42	BG	69	ARG	2.3
42	BG	112	ASP	2.3
42	BG	142	ARG	2.3
14	DK	8	LEU	2.3
15	CL	50	PHE	2.3
47	AL	49	ARG	2.3
49	AN	81	ARG	2.3
22	DS	82	MET	2.3
16	DM	95	LEU	2.3
51	BP	33	ILE	2.3
53	BR	23	LYS	2.3
7	CE	72	SER	2.3
30	D0	25	ARG	2.3
42	AG	146	ALA	2.3
25	CV	91	PHE	2.3
47	AL	28	GLN	2.2
52	AQ	5	ARG	2.2
47	AL	91	GLY	2.2
10	DH	94	ILE	2.2
30	D0	14	ALA	2.2
24	DU	72	PHE	2.2
48	AM	101	THR	2.2
12	CI	87	SER	2.2
46	BK	103	GLY	2.2
45	BJ	74	VAL	2.2
36	BX	18	G	2.2
16	DM	35	ALA	2.2
4	AY	54	U	2.2
42	AG	141	HIS	2.2
54	AS	75	PRO	2.2
54	BS	41	PRO	2.2
45	AJ	66	GLU	2.2
18	DO	87	ILE	2.2
4	AY	59	U	2.2
6	DD	82	PHE	2.2
15	DL	48	ARG	2.2
48	BM	103	THR	2.2
51	AP	65	ALA	2.2
40	BE	47	PHE	2.2

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Mol	Chain	Res	Type	RSRZ
41	BF	37	HIS	2.2
15	CL	52	GLY	2.2
25	CV	42	LEU	2.2
24	DU	1	ALA	2.2
10	DH	96	THR	2.2
23	DT	37	ASP	2.2
27	DX	77	TYR	2.2
32	C2	41	VAL	2.2
10	DH	132	PHE	2.2
32	D2	7	LYS	2.2
47	BL	53	ARG	2.2
2	DA	2546	U	2.2
27	DX	59	ASP	2.2
36	AX	8	A	2.2
5	DC	78	GLU	2.2
2	DA	2174	C	2.2
12	DI	138	VAL	2.2
10	DH	35	LYS	2.2
11	C5	28	ALA	2.2
40	AE	13	LYS	2.2
55	AT	12	GLN	2.2
5	CC	102	TYR	2.2
25	DV	37	PRO	2.2
45	AJ	75	ASP	2.2
19	DP	71	ARG	2.2
24	DU	34	ILE	2.2
47	AL	81	ILE	2.2
26	DW	24	LYS	2.2
41	AF	90	MET	2.2
2	CA	2160	C	2.2
12	DI	97	VAL	2.2
12	DI	115	ASP	2.2
18	DO	103	VAL	2.2
22	DS	102	HIS	2.2
30	D0	31	ASP	2.2
34	C4	54	LEU	2.2
52	AQ	43	LEU	2.2
32	C2	37	LYS	2.2
50	BO	16	ARG	2.2
6	CD	187	LEU	2.2
9	DG	106	LEU	2.2
22	DS	97	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
42	AG	65	LEU	2.2
54	AS	41	PRO	2.2
7	CE	82	GLY	2.2
52	AQ	6	THR	2.2
54	BS	67	GLY	2.2
1	AA	94	G	2.2
1	BA	1361	G	2.2
6	CD	100	LEU	2.2
6	DD	48	ILE	2.2
9	CG	128	THR	2.2
47	AL	96	THR	2.2
1	AA	845	A	2.2
2	DA	1175	A	2.2
10	DH	108	VAL	2.2
13	DJ	57	LEU	2.2
46	BK	73	VAL	2.2
47	AL	93	ARG	2.2
51	AP	20	VAL	2.2
12	CI	129	GLU	2.2
16	DM	85	GLY	2.2
40	AE	15	ILE	2.2
1	BA	376	G	2.2
11	C5	36	ASP	2.2
53	AR	21	ASP	2.2
6	CD	180	VAL	2.2
8	DF	30	VAL	2.2
15	DL	92	LEU	2.2
16	DM	40	ARG	2.2
34	D4	7	ARG	2.2
6	CD	99	GLU	2.2
36	AX	29	U	2.2
34	C4	10	ALA	2.1
34	C4	22	LYS	2.1
36	AX	26	A	2.1
36	BX	3	A	2.1
49	AN	96	LEU	2.1
5	CC	250	GLN	2.1
26	CW	70	GLU	2.1
38	BC	81	GLY	2.1
38	BC	152	GLU	2.1
46	BK	102	ALA	2.1
2	DA	1083	U	2.1

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Mol	Chain	Res	Type	RSRZ
4	AY	7	U	2.1
13	DJ	123	LYS	2.1
44	AI	80	HIS	2.1
54	BS	80	ARG	2.1
5	DC	29	PHE	2.1
15	DL	77	ILE	2.1
50	BO	48	ASP	2.1
52	AQ	9	GLY	2.1
39	BD	184	LYS	2.1
47	AL	80	LEU	2.1
16	DM	17	ASN	2.1
21	DR	7	SER	2.1
49	AN	99	ALA	2.1
8	DF	107	VAL	2.1
43	BH	33	VAL	2.1
23	CT	2	ILE	2.1
2	CA	2158	A	2.1
4	AY	14	A	2.1
16	DM	75	GLU	2.1
37	AB	144	GLU	2.1
42	BG	54	GLY	2.1
18	DO	42	PRO	2.1
51	BP	6	LEU	2.1
42	AG	61	PHE	2.1
22	CS	102	HIS	2.1
16	DM	94	ALA	2.1
37	AB	100	LEU	2.1
52	BQ	23	ALA	2.1
54	BS	59	VAL	2.1
11	C5	82	ILE	2.1
38	BC	203	PHE	2.1
44	BI	27	ILE	2.1
10	DH	83	LYS	2.1
26	DW	48	GLY	2.1
11	C5	27	VAL	2.1
18	DO	51	ALA	2.1
19	CP	61	ARG	2.1
27	DX	55	MET	2.1
35	D6	3	VAL	2.1
37	BB	26	MET	2.1
44	AI	11	ARG	2.1
48	BM	18	LEU	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	BA	1355	G	2.1
27	CX	75	GLU	2.1
45	AJ	10	LEU	2.1
52	BQ	74	LEU	2.1
37	AB	137	THR	2.1
37	BB	192	PRO	2.1
37	BB	200	PRO	2.1
1	AA	1536	C	2.1
10	CH	109	GLU	2.1
16	DM	84	LYS	2.1
23	CT	75	GLY	2.1
6	DD	209	ALA	2.1
27	CX	6	VAL	2.1
17	DN	3	HIS	2.1
18	DO	92	PHE	2.1
2	DA	1792	G	2.1
34	C4	5	THR	2.1
38	BC	182	ILE	2.1
47	BL	52	CYS	2.1
54	BS	8	PRO	2.1
1	AA	98	A	2.1
1	BA	1531	A	2.1
8	DF	53	ALA	2.1
17	DN	98	LEU	2.1
38	BC	198	VAL	2.1
9	DG	93	TYR	2.1
10	CH	141	LYS	2.1
45	AJ	40	ILE	2.1
9	DG	53	PRO	2.1
16	DM	67	VAL	2.1
28	DY	22	LEU	2.1
49	BN	72	GLY	2.1
55	BT	78	LEU	2.1
1	BA	61	G	2.1
1	BA	1398	A	2.1
51	AP	18	GLN	2.1
5	DC	204	LEU	2.1
44	AI	8	THR	2.1
47	AL	121	PRO	2.1
37	AB	159	ALA	2.1
47	BL	123	ALA	2.1
45	AJ	11	LYS	2.1

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Mol	Chain	Res	Type	RSRZ
13	DJ	35	ARG	2.1
16	DM	74	THR	2.1
32	C2	40	PRO	2.1
49	BN	95	GLY	2.1
2	DA	1729	U	2.1
50	BO	17	ASP	2.1
4	AW	73	A	2.1
52	AQ	81	ALA	2.1
8	DF	155	ILE	2.1
38	AC	132	ARG	2.1
12	DI	139	VAL	2.1
39	AD	201	GLU	2.1
54	BS	74	ALA	2.1
11	C5	108	VAL	2.1
54	BS	30	LEU	2.1
1	AA	1534	A	2.0
2	DA	613	A	2.0
32	D2	37	LYS	2.0
49	AN	80	SER	2.0
38	BC	201	TRP	2.0
24	DU	8	ASP	2.0
51	AP	4	ILE	2.0
9	CG	88	LEU	2.0
18	DO	116	GLN	2.0
38	BC	179	ARG	2.0
22	DS	94	ASP	2.0
43	AH	89	ASP	2.0
16	DM	88	ASN	2.0
24	DU	78	LYS	2.0
46	BK	42	GLY	2.0
54	BS	39	ILE	2.0
32	C2	11	VAL	2.0
34	D4	6	VAL	2.0
45	AJ	36	VAL	2.0
53	BR	54	LEU	2.0
30	C0	10	GLU	2.0
41	BF	16	GLU	2.0
24	DU	25	LYS	2.0
5	DC	162	GLN	2.0
10	DH	70	GLU	2.0
37	AB	124	THR	2.0
23	CT	91	GLN	2.0

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Mol	Chain	Res	Type	RSRZ
9	DG	107	GLY	2.0
9	DG	94	ARG	2.0
15	CL	123	ARG	2.0
18	DO	53	THR	2.0
51	BP	55	ASP	2.0
13	DJ	74	TYR	2.0
14	CK	89	ASN	2.0
24	DU	35	VAL	2.0
25	DV	80	HIS	2.0
45	BJ	12	ALA	2.0
37	BB	68	PHE	2.0
48	BM	104	ASN	2.0
23	CT	4	GLU	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. 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	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	AA	1640	1/1	0.06	0.66	127,127,127,127	0
56	MG	AA	1642	1/1	0.44	0.34	122,122,122,122	0
56	MG	AA	1610	1/1	0.50	0.30	114,114,114,114	0
56	MG	AA	1644	1/1	0.56	0.57	164,164,164,164	0
56	MG	BA	1628	1/1	0.56	1.70	120,120,120,120	0
56	MG	BA	1618	1/1	0.57	0.19	144,144,144,144	0
56	MG	DA	3097	1/1	0.64	0.33	78,78,78,78	0
57	ZN	D0	101	1/1	0.66	0.10	210,210,210,210	1
57	ZN	C0	101	1/1	0.67	0.10	177,177,177,177	1
56	MG	DA	3090	1/1	0.70	0.26	60,60,60,60	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	BA	1641	1/1	0.70	0.29	134,134,134,134	0
56	MG	DA	3160	1/1	0.71	0.37	78,78,78,78	0
56	MG	DA	3094	1/1	0.72	0.48	77,77,77,77	0
56	MG	AA	1605	1/1	0.72	0.21	155,155,155,155	1
56	MG	CA	3090	1/1	0.72	0.39	83,83,83,83	0
56	MG	CA	3070	1/1	0.72	0.29	76,76,76,76	0
56	MG	CA	3068	1/1	0.73	0.45	101,101,101,101	0
56	MG	BA	1620	1/1	0.73	1.03	104,104,104,104	0
56	MG	BA	1632	1/1	0.74	0.06	191,191,191,191	0
56	MG	BA	1645	1/1	0.76	0.32	144,144,144,144	0
56	MG	BA	1636	1/1	0.77	0.35	99,99,99,99	0
56	MG	BA	1608	1/1	0.78	0.46	127,127,127,127	0
56	MG	BA	1639	1/1	0.80	0.18	155,155,155,155	1
56	MG	AA	1606	1/1	0.81	0.12	110,110,110,110	0
56	MG	BA	1649	1/1	0.81	0.15	72,72,72,72	0
56	MG	BA	1604	1/1	0.82	0.10	147,147,147,147	0
56	MG	C4	101	1/1	0.82	0.75	73,73,73,73	0
56	MG	DA	3087	1/1	0.83	0.41	104,104,104,104	0
56	MG	CA	3091	1/1	0.83	0.34	98,98,98,98	0
56	MG	AA	1638	1/1	0.84	0.34	55,55,55,55	0
56	MG	AA	1641	1/1	0.85	0.27	171,171,171,171	0
56	MG	BA	1626	1/1	0.85	0.54	114,114,114,114	0
56	MG	BA	1607	1/1	0.85	1.12	87,87,87,87	0
56	MG	AA	1604	1/1	0.85	0.10	182,182,182,182	1
56	MG	AA	1647	1/1	0.85	0.28	105,105,105,105	0
56	MG	BA	1648	1/1	0.86	0.45	109,109,109,109	0
56	MG	CA	3019	1/1	0.86	0.19	78,78,78,78	1
56	MG	AA	1632	1/1	0.86	0.36	151,151,151,151	0
56	MG	AA	1648	1/1	0.86	0.13	149,149,149,149	0
56	MG	DA	3076	1/1	0.87	0.17	76,76,76,76	1
56	MG	BA	1646	1/1	0.87	0.32	81,81,81,81	0
56	MG	DA	3141	1/1	0.87	0.20	151,151,151,151	1
56	MG	DA	3164	1/1	0.87	0.27	60,60,60,60	0
56	MG	DA	3154	1/1	0.87	0.94	68,68,68,68	0
56	MG	DA	3149	1/1	0.88	0.25	68,68,68,68	0
56	MG	DA	3112	1/1	0.88	0.19	101,101,101,101	0
56	MG	DA	3162	1/1	0.88	0.53	77,77,77,77	0
56	MG	DA	3110	1/1	0.88	0.18	108,108,108,108	0
56	MG	CA	3155	1/1	0.88	0.30	81,81,81,81	1
56	MG	DA	3029	1/1	0.88	0.14	72,72,72,72	1
56	MG	BA	1638	1/1	0.88	0.16	154,154,154,154	0
56	MG	DA	3101	1/1	0.89	0.15	125,125,125,125	1

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	CA	3150	1/1	0.89	0.39	91,91,91,91	0
56	MG	CQ	801	1/1	0.89	0.36	56,56,56,56	0
56	MG	BA	1642	1/1	0.89	0.55	107,107,107,107	0
56	MG	DA	3165	1/1	0.89	1.17	60,60,60,60	0
56	MG	CA	3157	1/1	0.89	0.25	52,52,52,52	0
56	MG	BA	1610	1/1	0.89	0.10	147,147,147,147	0
56	MG	AA	1619	1/1	0.89	0.42	124,124,124,124	0
56	MG	DA	3060	1/1	0.89	0.66	73,73,73,73	1
56	MG	AA	1603	1/1	0.89	0.05	148,148,148,148	1
56	MG	CA	3112	1/1	0.89	0.11	73,73,73,73	1
56	MG	DA	3100	1/1	0.89	0.74	76,76,76,76	0
56	MG	BA	1631	1/1	0.89	0.42	155,155,155,155	0
56	MG	AA	1630	1/1	0.89	0.27	158,158,158,158	0
56	MG	DA	3061	1/1	0.89	0.39	73,73,73,73	0
56	MG	DN	201	1/1	0.90	0.43	84,84,84,84	1
56	MG	BA	1615	1/1	0.90	0.14	115,115,115,115	0
56	MG	DA	3081	1/1	0.90	0.43	55,55,55,55	0
56	MG	BA	1605	1/1	0.90	0.31	104,104,104,104	0
56	MG	DQ	801	1/1	0.90	0.59	60,60,60,60	0
56	MG	DA	3158	1/1	0.90	0.62	64,64,64,64	0
56	MG	BA	1617	1/1	0.90	0.18	124,124,124,124	0
56	MG	CA	3164	1/1	0.90	0.28	60,60,60,60	0
56	MG	CA	3007	1/1	0.90	0.25	88,88,88,88	0
56	MG	DA	3135	1/1	0.91	0.61	92,92,92,92	0
56	MG	CA	3149	1/1	0.91	0.30	95,95,95,95	1
56	MG	AA	1602	1/1	0.91	0.25	177,177,177,177	0
56	MG	CA	3098	1/1	0.91	0.13	98,98,98,98	0
56	MG	CA	3127	1/1	0.91	0.25	42,42,42,42	0
56	MG	CA	3079	1/1	0.91	0.40	64,64,64,64	0
56	MG	BA	1635	1/1	0.91	0.12	141,141,141,141	0
56	MG	CA	3005	1/1	0.91	0.30	90,90,90,90	1
56	MG	CA	3166	1/1	0.91	0.69	60,60,60,60	0
56	MG	AA	1650	1/1	0.91	0.28	86,86,86,86	0
56	MG	BA	1637	1/1	0.91	0.08	150,150,150,150	0
56	MG	CA	3026	1/1	0.91	0.28	70,70,70,70	1
56	MG	DA	3083	1/1	0.91	1.01	73,73,73,73	0
56	MG	DA	3044	1/1	0.91	0.06	125,125,125,125	0
56	MG	DA	3106	1/1	0.91	0.10	90,90,90,90	1
56	MG	DA	3093	1/1	0.92	0.21	76,76,76,76	0
56	MG	DA	3163	1/1	0.92	0.38	60,60,60,60	0
56	MG	CA	3084	1/1	0.92	0.39	85,85,85,85	0
56	MG	DA	3159	1/1	0.92	0.21	95,95,95,95	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	DA	3056	1/1	0.92	0.28	84,84,84,84	0
56	MG	DA	3103	1/1	0.92	0.09	95,95,95,95	1
56	MG	BA	1613	1/1	0.92	0.16	88,88,88,88	0
56	MG	CB	202	1/1	0.92	0.19	80,80,80,80	0
56	MG	CA	3087	1/1	0.92	0.27	74,74,74,74	0
56	MG	DA	3161	1/1	0.92	0.27	92,92,92,92	0
56	MG	DA	3128	1/1	0.92	0.14	121,121,121,121	1
56	MG	DA	3091	1/1	0.92	0.47	132,132,132,132	1
56	MG	DA	3026	1/1	0.92	0.17	102,102,102,102	0
56	MG	BA	1644	1/1	0.92	0.58	78,78,78,78	0
56	MG	DB	203	1/1	0.92	0.23	131,131,131,131	0
56	MG	BA	1647	1/1	0.92	0.36	104,104,104,104	0
56	MG	DA	3132	1/1	0.92	0.22	105,105,105,105	0
56	MG	DA	3152	1/1	0.92	0.38	103,103,103,103	0
56	MG	BA	1625	1/1	0.92	0.18	171,171,171,171	0
56	MG	CA	3165	1/1	0.93	0.78	60,60,60,60	0
56	MG	DA	3139	1/1	0.93	0.09	99,99,99,99	0
56	MG	CA	3001	1/1	0.93	0.26	62,62,62,62	1
56	MG	DA	3072	1/1	0.93	0.26	79,79,79,79	0
57	ZN	C6	101	1/1	0.93	0.09	98,98,98,98	0
56	MG	AA	1627	1/1	0.93	0.25	128,128,128,128	0
56	MG	CA	3160	1/1	0.93	0.15	68,68,68,68	0
56	MG	DA	3030	1/1	0.93	0.14	132,132,132,132	1
56	MG	DA	3043	1/1	0.93	0.17	104,104,104,104	0
56	MG	CA	3042	1/1	0.93	0.12	77,77,77,77	1
56	MG	BA	1621	1/1	0.94	0.24	91,91,91,91	0
56	MG	CA	3011	1/1	0.94	0.18	52,52,52,52	0
56	MG	CA	3151	1/1	0.94	0.51	75,75,75,75	0
56	MG	DA	3155	1/1	0.94	0.23	79,79,79,79	0
56	MG	DA	3002	1/1	0.94	0.15	89,89,89,89	0
56	MG	CA	3113	1/1	0.94	0.32	81,81,81,81	0
56	MG	BA	1606	1/1	0.94	0.34	100,100,100,100	0
56	MG	DA	3049	1/1	0.94	0.27	96,96,96,96	0
56	MG	DA	3150	1/1	0.94	0.18	28,28,28,28	1
56	MG	AA	1634	1/1	0.94	0.13	122,122,122,122	1
56	MG	DA	3013	1/1	0.94	0.42	51,51,51,51	0
56	MG	CA	3008	1/1	0.94	0.24	69,69,69,69	0
56	MG	DA	3037	1/1	0.94	0.73	83,83,83,83	0
56	MG	DA	3017	1/1	0.94	0.34	73,73,73,73	0
56	MG	DA	3140	1/1	0.94	0.21	98,98,98,98	1
56	MG	DA	3007	1/1	0.94	0.10	72,72,72,72	0
56	MG	CA	3142	1/1	0.94	0.26	57,57,57,57	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	DA	3020	1/1	0.94	0.14	77,77,77,77	0
56	MG	BA	1629	1/1	0.94	0.17	161,161,161,161	0
56	MG	CA	3030	1/1	0.94	0.09	84,84,84,84	1
56	MG	AA	1613	1/1	0.94	0.42	104,104,104,104	0
56	MG	AA	1629	1/1	0.94	0.98	127,127,127,127	0
56	MG	CA	3040	1/1	0.94	0.25	88,88,88,88	1
56	MG	BA	1643	1/1	0.94	0.15	114,114,114,114	1
56	MG	DA	3092	1/1	0.94	0.24	102,102,102,102	0
56	MG	BA	1623	1/1	0.94	0.15	139,139,139,139	0
56	MG	DA	3005	1/1	0.94	0.07	120,120,120,120	0
56	MG	DA	3069	1/1	0.94	0.16	166,166,166,166	0
56	MG	DA	3134	1/1	0.94	0.54	67,67,67,67	0
56	MG	DA	3023	1/1	0.94	0.17	100,100,100,100	1
56	MG	DA	3098	1/1	0.94	0.23	84,84,84,84	0
56	MG	CA	3138	1/1	0.94	0.07	102,102,102,102	0
56	MG	DA	3117	1/1	0.94	0.29	95,95,95,95	0
56	MG	DA	3166	1/1	0.94	0.12	137,137,137,137	0
56	MG	CA	3060	1/1	0.94	0.39	48,48,48,48	0
56	MG	CA	3046	1/1	0.94	0.13	77,77,77,77	1
56	MG	DA	3018	1/1	0.94	0.50	95,95,95,95	0
56	MG	CA	3082	1/1	0.94	0.37	84,84,84,84	0
56	MG	AA	1609	1/1	0.94	0.52	127,127,127,127	1
56	MG	CA	3162	1/1	0.94	0.60	56,56,56,56	1
56	MG	CA	3015	1/1	0.94	0.34	87,87,87,87	0
56	MG	CA	3159	1/1	0.95	0.15	93,93,93,93	0
56	MG	DA	3078	1/1	0.95	0.10	151,151,151,151	0
56	MG	AA	1611	1/1	0.95	0.25	165,165,165,165	1
56	MG	DA	3046	1/1	0.95	0.14	111,111,111,111	1
56	MG	DA	3107	1/1	0.95	0.28	112,112,112,112	0
56	MG	CA	3031	1/1	0.95	0.16	66,66,66,66	1
56	MG	AA	1643	1/1	0.95	0.19	85,85,85,85	0
56	MG	CA	3093	1/1	0.95	0.08	100,100,100,100	0
56	MG	CA	3039	1/1	0.95	0.15	62,62,62,62	0
56	MG	DA	3151	1/1	0.95	0.50	88,88,88,88	0
56	MG	AA	1631	1/1	0.95	0.20	148,148,148,148	1
56	MG	DA	3145	1/1	0.95	0.18	30,30,30,30	1
56	MG	CA	3044	1/1	0.95	0.21	86,86,86,86	1
56	MG	AA	1614	1/1	0.95	0.25	103,103,103,103	0
56	MG	CA	3021	1/1	0.95	0.17	78,78,78,78	0
56	MG	CA	3153	1/1	0.95	0.66	73,73,73,73	1
56	MG	BA	1640	1/1	0.95	0.12	145,145,145,145	0
56	MG	DA	3047	1/1	0.95	0.11	122,122,122,122	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	BA	1612	1/1	0.95	0.47	116,116,116,116	0
56	MG	DA	3133	1/1	0.95	0.34	77,77,77,77	0
56	MG	DA	3071	1/1	0.95	0.17	101,101,101,101	1
56	MG	AA	1620	1/1	0.95	0.11	160,160,160,160	1
56	MG	DA	3131	1/1	0.95	0.45	78,78,78,78	0
56	MG	DA	3052	1/1	0.95	0.40	54,54,54,54	0
56	MG	AA	1635	1/1	0.95	0.09	133,133,133,133	1
56	MG	CA	3062	1/1	0.95	0.17	90,90,90,90	1
56	MG	CA	3023	1/1	0.95	0.10	80,80,80,80	1
56	MG	AA	1639	1/1	0.95	0.15	137,137,137,137	1
56	MG	DA	3025	1/1	0.95	0.51	88,88,88,88	0
56	MG	DA	3127	1/1	0.95	0.37	43,43,43,43	0
56	MG	CA	3119	1/1	0.96	0.15	81,81,81,81	1
56	MG	CN	201	1/1	0.96	0.12	86,86,86,86	1
56	MG	CA	3156	1/1	0.96	0.26	84,84,84,84	0
56	MG	CA	3017	1/1	0.96	0.21	64,64,64,64	0
56	MG	AA	1622	1/1	0.96	0.20	92,92,92,92	0
56	MG	DA	3136	1/1	0.96	0.46	78,78,78,78	0
56	MG	BA	1601	1/1	0.96	0.21	115,115,115,115	0
56	MG	DA	3051	1/1	0.96	0.33	99,99,99,99	1
56	MG	CA	3148	1/1	0.96	0.18	98,98,98,98	0
56	MG	DA	3075	1/1	0.96	0.19	90,90,90,90	0
56	MG	DA	3119	1/1	0.96	0.11	92,92,92,92	0
56	MG	DA	3137	1/1	0.96	0.44	68,68,68,68	0
56	MG	CA	3051	1/1	0.96	0.11	82,82,82,82	1
56	MG	CA	3104	1/1	0.96	0.18	85,85,85,85	1
56	MG	BA	1624	1/1	0.96	0.08	119,119,119,119	0
56	MG	DA	3108	1/1	0.96	0.16	97,97,97,97	0
56	MG	DA	3004	1/1	0.96	0.09	122,122,122,122	0
56	MG	DA	3105	1/1	0.96	0.10	92,92,92,92	0
56	MG	AA	1633	1/1	0.96	0.07	108,108,108,108	1
56	MG	DA	3070	1/1	0.96	0.14	69,69,69,69	0
56	MG	DA	3016	1/1	0.96	0.17	90,90,90,90	0
56	MG	DA	3122	1/1	0.96	0.17	103,103,103,103	0
56	MG	CA	3088	1/1	0.96	0.39	83,83,83,83	1
56	MG	DA	3063	1/1	0.96	0.16	105,105,105,105	0
56	MG	CA	3013	1/1	0.96	0.57	55,55,55,55	0
56	MG	CA	3120	1/1	0.96	0.09	71,71,71,71	1
56	MG	CA	3134	1/1	0.96	0.27	75,75,75,75	0
56	MG	DA	3123	1/1	0.96	0.11	120,120,120,120	1
56	MG	AA	1616	1/1	0.96	0.34	92,92,92,92	0
56	MG	CA	3037	1/1	0.96	0.31	40,40,40,40	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	CA	3129	1/1	0.96	0.18	80,80,80,80	0
56	MG	CA	3154	1/1	0.96	0.28	78,78,78,78	1
56	MG	AA	1636	1/1	0.96	0.10	104,104,104,104	1
56	MG	AA	1607	1/1	0.96	0.35	98,98,98,98	0
56	MG	BA	1627	1/1	0.96	0.45	132,132,132,132	0
56	MG	CA	3128	1/1	0.96	0.16	56,56,56,56	0
56	MG	DA	3019	1/1	0.96	0.11	102,102,102,102	1
56	MG	CA	3100	1/1	0.96	0.36	66,66,66,66	0
56	MG	CN	202	1/1	0.96	0.28	64,64,64,64	0
56	MG	DB	201	1/1	0.96	0.04	204,204,204,204	1
56	MG	CA	3072	1/1	0.96	0.14	73,73,73,73	1
56	MG	CA	3094	1/1	0.96	0.26	74,74,74,74	0
56	MG	CA	3167	1/1	0.96	0.08	102,102,102,102	0
56	MG	CA	3140	1/1	0.96	0.14	61,61,61,61	0
56	MG	AA	1608	1/1	0.96	0.52	106,106,106,106	0
56	MG	AA	1646	1/1	0.96	0.29	132,132,132,132	0
57	ZN	D6	101	1/1	0.96	0.07	128,128,128,128	0
56	MG	CA	3055	1/1	0.97	0.12	71,71,71,71	0
56	MG	CA	3106	1/1	0.97	0.14	82,82,82,82	0
56	MG	AA	1615	1/1	0.97	0.32	103,103,103,103	0
56	MG	CA	3074	1/1	0.97	0.06	70,70,70,70	0
56	MG	DA	3109	1/1	0.97	0.09	123,123,123,123	0
56	MG	DA	3089	1/1	0.97	0.12	115,115,115,115	0
56	MG	CA	3107	1/1	0.97	0.16	83,83,83,83	1
56	MG	CA	3145	1/1	0.97	0.21	69,69,69,69	0
56	MG	CA	3036	1/1	0.97	0.10	80,80,80,80	1
56	MG	BA	1630	1/1	0.97	0.13	160,160,160,160	0
56	MG	CA	3136	1/1	0.97	0.17	66,66,66,66	0
56	MG	BA	1614	1/1	0.97	0.10	128,128,128,128	1
56	MG	CA	3147	1/1	0.97	0.18	93,93,93,93	0
56	MG	DA	3036	1/1	0.97	0.31	102,102,102,102	0
56	MG	DA	3146	1/1	0.97	0.16	96,96,96,96	0
56	MG	DA	3077	1/1	0.97	0.12	90,90,90,90	0
56	MG	AA	1612	1/1	0.97	0.12	128,128,128,128	0
56	MG	CA	3064	1/1	0.97	0.11	70,70,70,70	0
56	MG	DA	3009	1/1	0.97	0.13	106,106,106,106	0
56	MG	DA	3021	1/1	0.97	0.12	92,92,92,92	1
56	MG	CA	3132	1/1	0.97	0.13	67,67,67,67	0
56	MG	CA	3137	1/1	0.97	0.27	67,67,67,67	1
56	MG	CA	3006	1/1	0.97	0.09	90,90,90,90	1
56	MG	BA	1619	1/1	0.97	0.04	133,133,133,133	0
56	MG	DA	3079	1/1	0.97	0.17	144,144,144,144	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	DA	3147	1/1	0.97	0.14	100,100,100,100	1
56	MG	CA	3058	1/1	0.97	0.15	74,74,74,74	1
56	MG	DB	202	1/1	0.97	0.27	95,95,95,95	0
56	MG	CC	301	1/1	0.97	0.11	74,74,74,74	0
56	MG	DA	3068	1/1	0.97	0.46	84,84,84,84	0
56	MG	BA	1609	1/1	0.97	0.18	110,110,110,110	0
56	MG	AA	1645	1/1	0.97	0.15	148,148,148,148	0
56	MG	CA	3075	1/1	0.97	0.26	78,78,78,78	1
56	MG	DA	3039	1/1	0.97	0.11	74,74,74,74	0
56	MG	CA	3130	1/1	0.97	0.13	62,62,62,62	1
56	MG	CA	3144	1/1	0.97	0.25	57,57,57,57	0
56	MG	CA	3110	1/1	0.97	0.14	86,86,86,86	1
56	MG	CA	3025	1/1	0.97	0.11	66,66,66,66	1
56	MG	BA	1602	1/1	0.97	0.10	132,132,132,132	0
56	MG	BA	1622	1/1	0.97	0.30	105,105,105,105	0
56	MG	CA	3105	1/1	0.97	0.18	85,85,85,85	1
56	MG	AA	1621	1/1	0.97	0.14	90,90,90,90	0
56	MG	CA	3141	1/1	0.97	0.24	67,67,67,67	1
56	MG	DA	3050	1/1	0.97	0.24	79,79,79,79	0
56	MG	CA	3069	1/1	0.97	0.13	69,69,69,69	0
56	MG	CA	3045	1/1	0.97	0.06	83,83,83,83	1
56	MG	DA	3116	1/1	0.97	0.17	93,93,93,93	1
56	MG	DA	3156	1/1	0.97	0.12	109,109,109,109	0
56	MG	AA	1601	1/1	0.97	0.18	102,102,102,102	0
56	MG	DA	3096	1/1	0.97	0.09	78,78,78,78	1
56	MG	CA	3047	1/1	0.97	0.12	94,94,94,94	0
56	MG	CA	3111	1/1	0.97	0.11	74,74,74,74	0
56	MG	AA	1628	1/1	0.97	0.26	143,143,143,143	0
56	MG	DA	3022	1/1	0.97	0.14	86,86,86,86	0
56	MG	AA	1625	1/1	0.97	0.11	100,100,100,100	1
56	MG	DA	3042	1/1	0.97	0.14	97,97,97,97	0
56	MG	CB	203	1/1	0.97	0.17	77,77,77,77	0
56	MG	CA	3050	1/1	0.97	0.27	56,56,56,56	0
56	MG	CA	3018	1/1	0.97	0.08	90,90,90,90	1
56	MG	CA	3143	1/1	0.97	0.29	63,63,63,63	0
56	MG	DA	3065	1/1	0.97	0.12	85,85,85,85	0
56	MG	DA	3067	1/1	0.97	0.33	129,129,129,129	0
56	MG	DA	3125	1/1	0.97	0.11	92,92,92,92	1
56	MG	DA	3066	1/1	0.97	0.37	81,81,81,81	0
56	MG	DA	3035	1/1	0.97	0.18	96,96,96,96	0
56	MG	CA	3135	1/1	0.97	0.41	55,55,55,55	0
56	MG	BA	1603	1/1	0.97	0.14	121,121,121,121	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	BA	1634	1/1	0.97	0.14	129,129,129,129	0
56	MG	DA	3011	1/1	0.97	0.12	80,80,80,80	0
56	MG	DA	3038	1/1	0.98	0.17	75,75,75,75	1
56	MG	CA	3152	1/1	0.98	0.28	57,57,57,57	0
56	MG	DA	3115	1/1	0.98	0.11	139,139,139,139	0
56	MG	CA	3024	1/1	0.98	0.33	59,59,59,59	0
56	MG	DA	3001	1/1	0.98	0.15	71,71,71,71	1
56	MG	DA	3111	1/1	0.98	0.05	108,108,108,108	1
56	MG	DA	3143	1/1	0.98	0.09	53,53,53,53	0
56	MG	DA	3085	1/1	0.98	0.14	112,112,112,112	0
56	MG	CA	3053	1/1	0.98	0.16	72,72,72,72	1
56	MG	DA	3084	1/1	0.98	0.37	85,85,85,85	0
56	MG	DA	3113	1/1	0.98	0.28	85,85,85,85	0
56	MG	AA	1624	1/1	0.98	0.20	130,130,130,130	0
56	MG	CA	3061	1/1	0.98	0.17	95,95,95,95	1
56	MG	CA	3077	1/1	0.98	0.13	101,101,101,101	0
56	MG	BA	1633	1/1	0.98	0.23	102,102,102,102	0
56	MG	AA	1637	1/1	0.98	0.09	186,186,186,186	0
56	MG	DA	3034	1/1	0.98	0.11	99,99,99,99	0
56	MG	DA	3014	1/1	0.98	0.08	95,95,95,95	1
56	MG	CA	3133	1/1	0.98	0.48	47,47,47,47	0
56	MG	CA	3059	1/1	0.98	0.10	60,60,60,60	0
56	MG	CA	3096	1/1	0.98	0.19	68,68,68,68	1
56	MG	CA	3004	1/1	0.98	0.18	78,78,78,78	0
56	MG	CA	3121	1/1	0.98	0.18	86,86,86,86	1
56	MG	DA	3073	1/1	0.98	0.22	93,93,93,93	1
56	MG	CA	3163	1/1	0.98	0.18	81,81,81,81	1
56	MG	CA	3123	1/1	0.98	0.24	83,83,83,83	1
56	MG	DA	3028	1/1	0.98	0.25	76,76,76,76	0
56	MG	DA	3054	1/1	0.98	0.12	70,70,70,70	0
56	MG	CA	3035	1/1	0.98	0.36	37,37,37,37	0
56	MG	DA	3118	1/1	0.98	0.30	103,103,103,103	0
56	MG	CA	3020	1/1	0.98	0.16	45,45,45,45	1
56	MG	CA	3083	1/1	0.98	0.29	81,81,81,81	1
56	MG	DA	3057	1/1	0.98	0.21	101,101,101,101	0
56	MG	DA	3012	1/1	0.98	0.07	81,81,81,81	0
56	MG	CA	3049	1/1	0.98	0.25	73,73,73,73	0
56	MG	DA	3024	1/1	0.98	0.27	98,98,98,98	0
56	MG	BA	1611	1/1	0.98	0.49	130,130,130,130	0
56	MG	DA	3080	1/1	0.98	0.18	98,98,98,98	1
56	MG	CA	3022	1/1	0.98	0.09	75,75,75,75	1
56	MG	DA	3082	1/1	0.98	0.34	106,106,106,106	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	CA	3043	1/1	0.98	0.30	59,59,59,59	0
56	MG	DA	3144	1/1	0.98	0.23	112,112,112,112	0
56	MG	CA	3041	1/1	0.98	0.08	67,67,67,67	1
56	MG	DA	3130	1/1	0.98	0.55	100,100,100,100	0
56	MG	DA	3031	1/1	0.98	0.15	116,116,116,116	0
56	MG	CA	3124	1/1	0.98	0.18	75,75,75,75	1
56	MG	CA	3085	1/1	0.98	0.18	71,71,71,71	0
56	MG	CA	3065	1/1	0.98	0.10	76,76,76,76	1
56	MG	DA	3129	1/1	0.98	0.11	92,92,92,92	1
56	MG	CA	3028	1/1	0.98	0.20	58,58,58,58	0
56	MG	DA	3153	1/1	0.98	0.12	93,93,93,93	0
56	MG	CA	3076	1/1	0.98	0.06	68,68,68,68	0
56	MG	CA	3114	1/1	0.98	0.15	73,73,73,73	1
56	MG	CA	3158	1/1	0.98	0.11	73,73,73,73	0
56	MG	DA	3102	1/1	0.98	0.07	98,98,98,98	1
56	MG	CA	3056	1/1	0.98	0.11	73,73,73,73	0
56	MG	DA	3086	1/1	0.98	0.11	125,125,125,125	1
56	MG	DA	3040	1/1	0.98	0.26	90,90,90,90	1
56	MG	CA	3101	1/1	0.98	0.09	84,84,84,84	0
56	MG	DA	3015	1/1	0.98	0.46	73,73,73,73	0
56	MG	DA	3114	1/1	0.98	0.21	98,98,98,98	1
56	MG	DA	3032	1/1	0.98	0.25	93,93,93,93	0
56	MG	CA	3014	1/1	0.98	0.24	72,72,72,72	1
56	MG	CA	3131	1/1	0.98	0.32	53,53,53,53	0
56	MG	CA	3146	1/1	0.98	0.34	78,78,78,78	0
56	MG	CA	3010	1/1	0.98	0.21	89,89,89,89	1
56	MG	AA	1649	1/1	0.98	0.21	140,140,140,140	0
56	MG	CA	3002	1/1	0.98	0.17	67,67,67,67	1
56	MG	DA	3126	1/1	0.98	0.08	93,93,93,93	0
56	MG	CA	3054	1/1	0.98	0.38	65,65,65,65	0
56	MG	CA	3016	1/1	0.98	0.80	20,20,20,20	0
56	MG	DA	3003	1/1	0.98	0.04	121,121,121,121	0
56	MG	DA	3157	1/1	0.99	0.48	83,83,83,83	0
56	MG	DA	3059	1/1	0.99	0.18	94,94,94,94	1
56	MG	CA	3095	1/1	0.99	0.08	86,86,86,86	1
56	MG	CA	3125	1/1	0.99	0.05	82,82,82,82	1
56	MG	CA	3003	1/1	0.99	0.19	82,82,82,82	0
56	MG	CA	3071	1/1	0.99	0.10	77,77,77,77	0
56	MG	CA	3126	1/1	0.99	0.26	67,67,67,67	0
56	MG	CA	3116	1/1	0.99	0.06	83,83,83,83	1
56	MG	DA	3148	1/1	0.99	0.12	88,88,88,88	0
56	MG	DA	3062	1/1	0.99	0.19	95,95,95,95	1

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	DA	3006	1/1	0.99	0.09	114,114,114,114	1
56	MG	CB	201	1/1	0.99	0.16	113,113,113,113	1
56	MG	CA	3122	1/1	0.99	0.18	77,77,77,77	1
56	MG	CA	3097	1/1	0.99	0.21	67,67,67,67	1
56	MG	DA	3041	1/1	0.99	0.14	100,100,100,100	0
56	MG	BA	1616	1/1	0.99	0.16	136,136,136,136	0
56	MG	DA	3058	1/1	0.99	0.23	83,83,83,83	0
56	MG	CA	3080	1/1	0.99	0.10	62,62,62,62	1
56	MG	CA	3029	1/1	0.99	0.23	57,57,57,57	1
56	MG	CA	3027	1/1	0.99	0.07	74,74,74,74	1
56	MG	DA	3055	1/1	0.99	0.15	85,85,85,85	0
56	MG	DA	3095	1/1	0.99	0.08	76,76,76,76	0
56	MG	CA	3057	1/1	0.99	0.05	78,78,78,78	1
56	MG	CA	3048	1/1	0.99	0.14	80,80,80,80	1
56	MG	CA	3118	1/1	0.99	0.23	82,82,82,82	1
56	MG	DA	3053	1/1	0.99	0.06	98,98,98,98	1
56	MG	DA	3138	1/1	0.99	0.59	58,58,58,58	0
56	MG	AA	1626	1/1	0.99	0.25	107,107,107,107	0
56	MG	DA	3074	1/1	0.99	0.22	92,92,92,92	0
56	MG	CA	3109	1/1	0.99	0.09	90,90,90,90	1
56	MG	CA	3052	1/1	0.99	0.17	76,76,76,76	1
56	MG	CA	3099	1/1	0.99	0.09	84,84,84,84	1
56	MG	CA	3092	1/1	0.99	0.10	85,85,85,85	0
56	MG	AA	1617	1/1	0.99	0.21	107,107,107,107	0
56	MG	CA	3012	1/1	0.99	0.16	67,67,67,67	1
56	MG	AA	1623	1/1	0.99	0.06	104,104,104,104	1
56	MG	DA	3142	1/1	0.99	0.14	100,100,100,100	0
56	MG	CA	3073	1/1	0.99	0.22	73,73,73,73	1
56	MG	CA	3034	1/1	0.99	0.13	68,68,68,68	0
56	MG	CA	3086	1/1	0.99	0.14	93,93,93,93	1
56	MG	DA	3099	1/1	0.99	0.19	114,114,114,114	1
56	MG	CA	3033	1/1	0.99	0.18	65,65,65,65	0
56	MG	CA	3089	1/1	0.99	0.14	92,92,92,92	1
56	MG	CA	3009	1/1	0.99	0.12	69,69,69,69	0
56	MG	CA	3161	1/1	0.99	0.07	97,97,97,97	0
56	MG	CA	3102	1/1	0.99	0.23	55,55,55,55	0
56	MG	CA	3081	1/1	0.99	0.12	73,73,73,73	1
56	MG	DA	3064	1/1	0.99	0.10	95,95,95,95	0
56	MG	CA	3066	1/1	0.99	0.15	80,80,80,80	1
56	MG	CA	3117	1/1	0.99	0.33	49,49,49,49	0
56	MG	DA	3124	1/1	0.99	0.13	104,104,104,104	0
56	MG	DA	3008	1/1	0.99	0.08	103,103,103,103	1

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	DA	3048	1/1	0.99	0.12	93,93,93,93	1
56	MG	DA	3010	1/1	0.99	0.12	97,97,97,97	0
56	MG	CA	3139	1/1	0.99	0.14	88,88,88,88	0
56	MG	DA	3033	1/1	0.99	0.12	104,104,104,104	0
56	MG	DA	3121	1/1	0.99	0.11	100,100,100,100	1
56	MG	DA	3088	1/1	0.99	0.38	88,88,88,88	1
56	MG	CA	3078	1/1	0.99	0.11	102,102,102,102	1
56	MG	DA	3045	1/1	0.99	0.18	102,102,102,102	0
56	MG	DA	3104	1/1	0.99	0.21	101,101,101,101	0
56	MG	DA	3027	1/1	0.99	0.19	92,92,92,92	0
56	MG	AA	1618	1/1	0.99	0.11	106,106,106,106	1
56	MG	CA	3067	1/1	0.99	0.12	68,68,68,68	1
56	MG	CA	3108	1/1	0.99	0.15	71,71,71,71	0
56	MG	CA	3038	1/1	0.99	0.18	67,67,67,67	0
56	MG	CA	3032	1/1	0.99	0.17	79,79,79,79	0
56	MG	DA	3120	1/1	1.00	0.12	98,98,98,98	0
56	MG	CA	3103	1/1	1.00	0.20	80,80,80,80	1
56	MG	CA	3115	1/1	1.00	0.13	70,70,70,70	1
56	MG	CA	3063	1/1	1.00	0.09	94,94,94,94	1

## 6.5 Other polymers [i](#)

There are no such residues in this entry.