



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 05:17 PM UTC

PDB ID : 4V7I / pdb_00004v7i
EMDB ID : EMD-1484
Title : Ribosome-SecY complex.
Authors : Gumbart, J.C.; Trabuco, L.G.; Schreiner, E.; Villa, E.; Schulten, K.
Deposited on : 2009-10-21
Resolution : 9.60 Å (reported)
Based on initial models : 3BO0, 2I2V

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

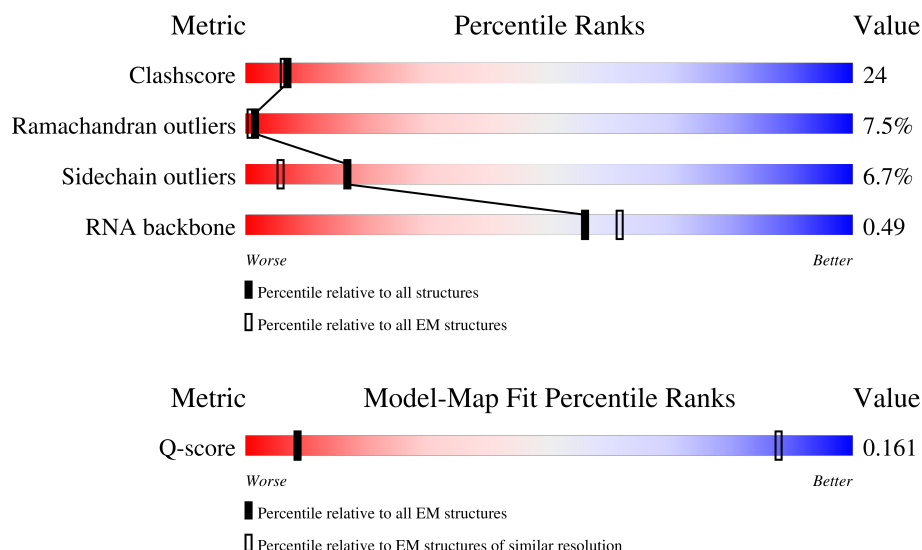
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 9.60 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.



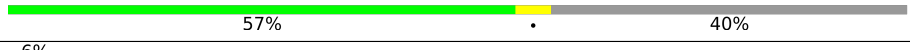
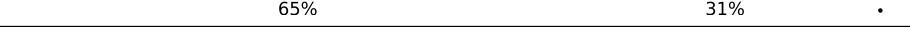
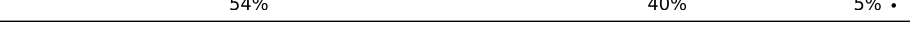
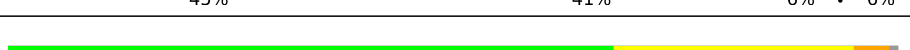
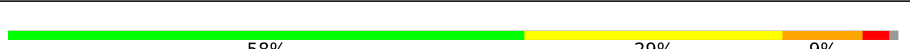
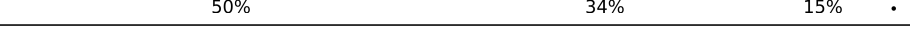
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	185 (9.10 - 10.10)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A7	120	
2	A8	2904	
3	AA	442	

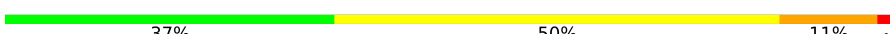
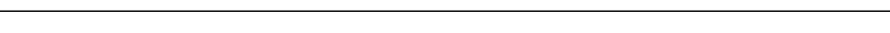
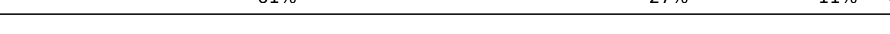
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Mol	Chain	Length	Quality of chain
4	AB	65	
5	AC	53	
6	A5	234	
7	A6	273	
8	AD	209	
9	AE	201	
10	AF	179	
11	AG	177	
12	AH	149	
13	AI	142	
14	AJ	142	
15	AK	123	
16	AL	144	
17	AM	136	
18	AN	127	
19	AO	117	
20	AP	115	
21	AQ	118	
22	AR	103	
23	AS	110	
24	AT	100	
25	AU	104	
26	AV	94	
27	AW	85	
28	AX	78	

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Mol	Chain	Length	Quality of chain
29	AY	63	
30	AZ	59	
31	A0	57	
32	A1	55	
33	A2	46	
34	A3	65	
35	A4	38	
36	BA	1542	
37	BB	241	
38	BC	233	
39	BD	206	
40	BE	167	
41	BF	135	
42	BG	179	
43	BH	130	
44	BI	130	
45	BJ	103	
46	BK	129	
47	BL	124	
48	BM	118	
49	BN	101	
50	BO	89	
51	BP	82	
52	BQ	84	
53	BR	75	

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Mol	Chain	Length	Quality of chain
54	BS	92	
55	BT	87	
56	BU	71	

2 Entry composition

There are 56 unique types of molecules in this entry. The entry contains 148250 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A7	117	Total	C	N	O	P	0	0
			2507	1116	459	815	117		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A8	2903	Total	C	N	O	P	0	0
			62321	27801	11467	20150	2903		

- Molecule 3 is a protein called PREPROTEIN TRANSLOCASE SECY SUBUNIT.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	AA	442	Total	C	N	O	S	0	0
			3408	2266	547	577	18		

- Molecule 4 is a protein called PREPROTEIN TRANSLOCASE SECE SUBUNIT.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	AB	65	Total	C	N	O	0	0
			505	332	88	85		

- Molecule 5 is a protein called Preprotein translocase subunit secG.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	AC	32	Total	C	N	O	0	0
			257	172	42	43		

- Molecule 6 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	A5	234	Total	C	N	O	S	0	0
			1733	1081	315	330	7		

- Molecule 7 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A6	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 8 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AD	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 9 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AE	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 10 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AF	178	Total	C	N	O	S	0	0
			1420	905	251	258	6		

- Molecule 11 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AG	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 12 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AH	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 13 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AI	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		

- Molecule 14 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AJ	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 15 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AK	121	Total	C	N	O	S	0	0
			930	582	179	164	5		

- Molecule 16 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AL	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

- Molecule 17 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AM	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 18 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AN	120	Total	C	N	O	S	0	0
			960	593	196	166	5		

- Molecule 19 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
19	AO	116	Total	C	N	O	0	0
			892	552	178	162		

- Molecule 20 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AP	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 21 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	AQ	117	Total	C	N	O	0	0
			947	604	192	151		

- Molecule 22 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AR	103	Total	C	N	O	S	0	0
			816	516	153	145	2		

- Molecule 23 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AS	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

- Molecule 24 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AT	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

- Molecule 25 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	AU	102	Total	C	N	O	0	0
			779	492	146	141		

- Molecule 26 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	AV	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

- Molecule 27 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	AW	79	Total	C	N	O	S	0	0
			596	367	120	108	1		

- Molecule 28 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AX	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 29 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	AY	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

- Molecule 30 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AZ	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
31	A0	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
32	A1	50	Total	C	N	O	0	0
			409	263	75	71		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
33	A2	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
34	A3	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
35	A4	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 36 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	BA	1530	Total	C	N	O	P	0	0
			32831	14642	6024	10635	1530		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
37	BB	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
40	BE	150	Total	C	N	O	S	0	0
			1105	687	211	201	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
41	BF	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
42	BG	150	Total	C	N	O	S	0	0
			1174	730	226	214	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
43	BH	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
44	BI	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
45	BJ	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
46	BK	117	Total	C	N	O	S	0	0
			877	540	174	160	3		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
48	BM	113	Total	C	N	O	S	0	0
			876	541	177	155	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BN	100	Total	C	N	O	S	0	0
			805	499	164	139	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
50	BO	88	Total	C	N	O	S	0	0
			716	440	146	129	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
51	BP	80	Total	C	N	O	S	0	0
			638	400	126	111	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
52	BQ	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
53	BR	55	Total	C	N	O	0	0
			455	288	86	81		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
54	BS	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

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

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

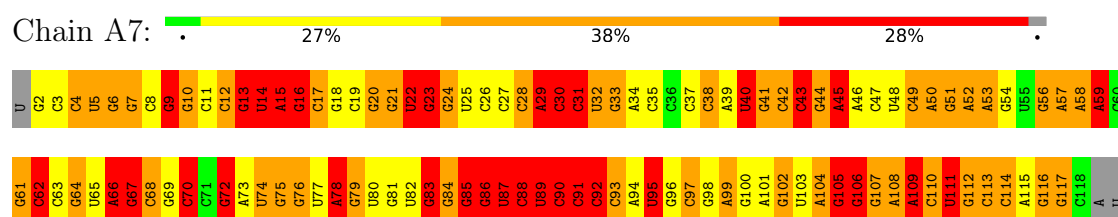
- Molecule 56 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BU	51	Total	C	N	O	S	0	0
			425	265	86	73	1		

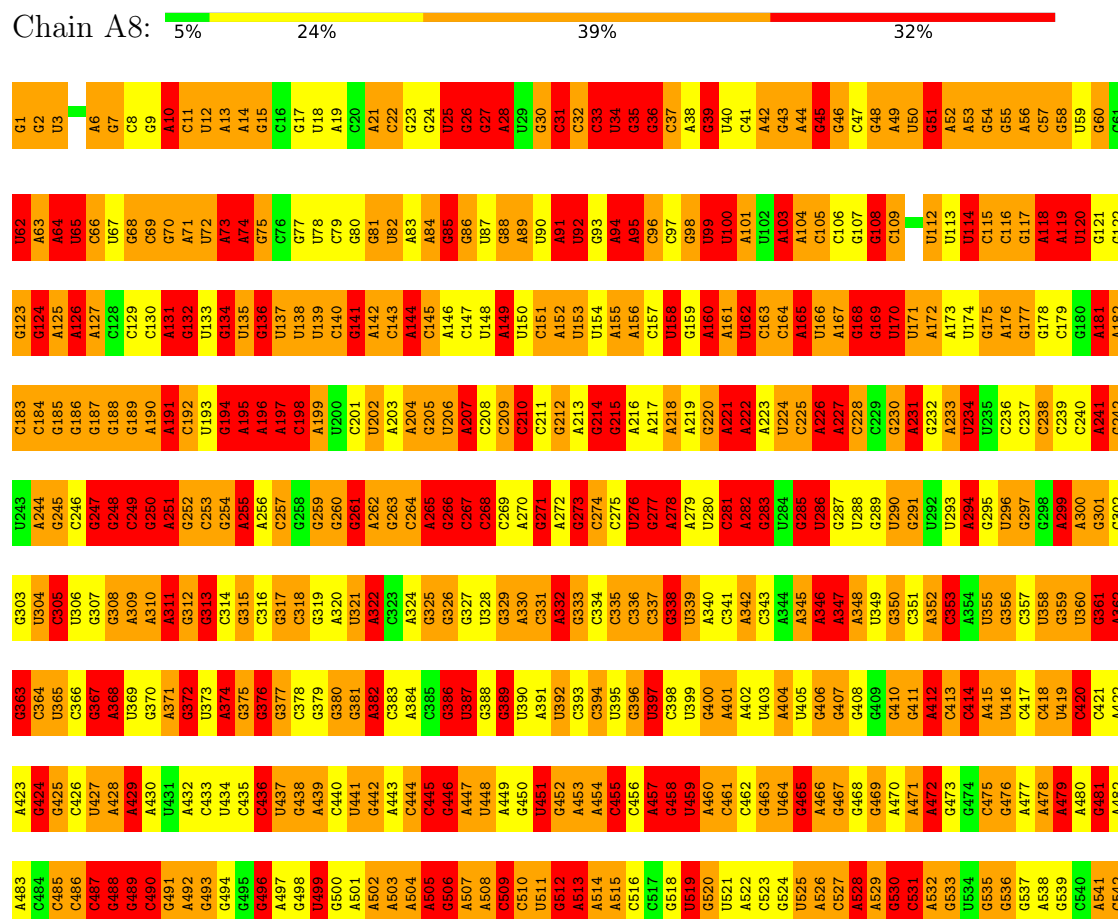
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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: 5S ribosomal RNA

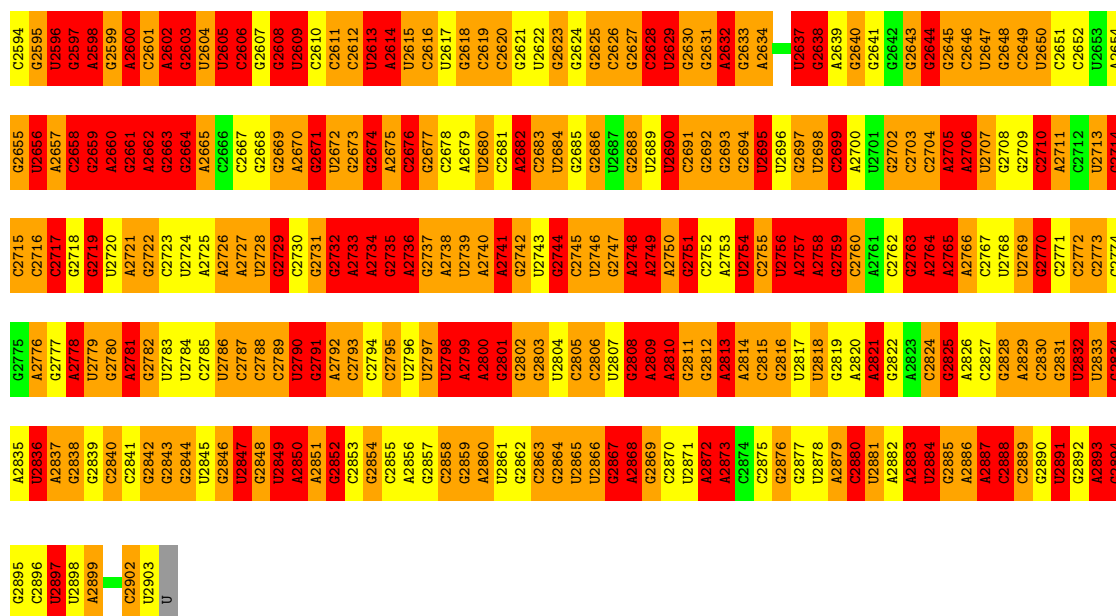


• Molecule 2: 23S ribosomal RNA

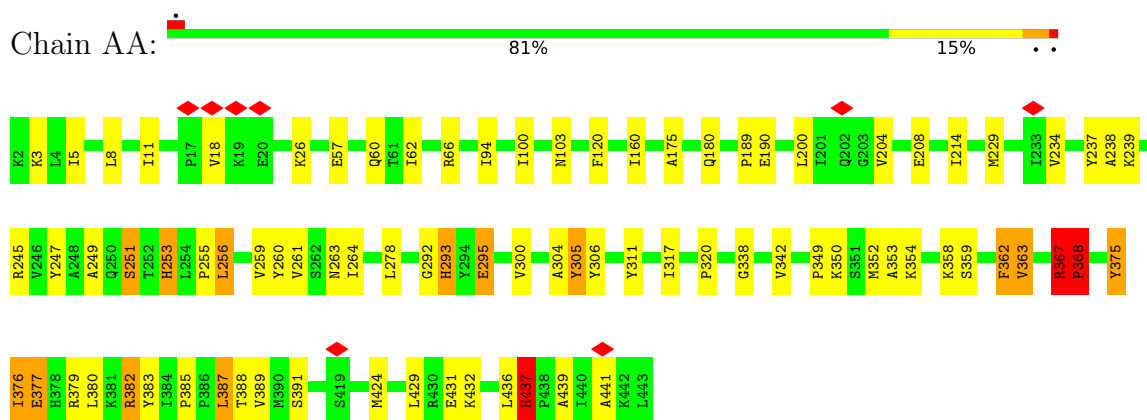


U1513	C1451	U1391	G1331	G1271	G1211	G1149	A1089	A1028	U967	U896	U846	G784	U724	G663	A603	G543
G1514	G1452	A1392	G1332	A1272	G1212	C1150	A1090	A1028	C968	G907	U847	G785	G725	G664	G604	C544
A1515	A1453	A1393	G1333	A1273	A1213	C1151	G1091	C1030	G969	C908	C848	G786	G726	U685	G605	U545
C1516	C1454	U1394	G1334	A1274	A1214	C1152	G1092	G1031	U970	A909	C849	C787	A727	U686	U606	U546
G1517	G1455	A1395	G1335	A1275	G1215	C1153	G1093	A1032	G971	G910	U850	A788	G728	U687	U607	A547
C1518	C1456	U1396	A1336	A1276	G1216	C1154	U1094	U1033	A972	A911	C851	A789	G729	A688	A608	G548
U1519	U1457	U1397	G1337	G1277	U1217	A1155	A1095	G1034	A973	C912	U852	U790	A730	G689	A609	G549
U1520	U1458	C1398	G1338	G1278	G1218	A1156	A1096	U1035	A974	U913	C853	C791	C731	C671	C610	C550
G1521	G1459	C1399	U1219	G1279	U1219	G1157	A1097	U1036	A975	U914	C854	A792	G732	C672	C611	G551
A1522	A1460	U1400	U1340	G1280	G1220	C1158	A1098	G1037	G976	C915	C855	A793	G733	G612	G612	U552
U1523	G1461	G1401	G1341	G1281	C1221	U1159	G1099	G1038	G977	G916	C856	A794	A734	A613	A613	G553
G1524	U1462	U1402	A1342	U1282	U1222	G1160	C1100	A1039	A978	A917	G857	C795	A735	U614	U614	U554
A1525	A1463	A1403	G1343	U1283	G1223	C1161	U1101	A1040	A979	A918	G858	G796	G736	U615	U615	G555
C1526	U1466	C1404	U1344	A1284	U1224	G1162	C1102	G1041	A980	U919	C859	G797	C737	A616	A616	A556
G1527	U1467	U1405	G1345	A1285	G1225	C1163	A1103	G1042	A981	A920	U860	G798	G738	G617	G617	C557
A1528	U1468	A1406	G1346	A1286	A1226	G1164	C1104	C1043	C982	C921	A861	G799	A739	C678	C678	U558
G1529	A1469	G1407	A1347	A1287	G1227	A1165	U105	A893	C983	C922	G862	A800	C740	C680	G619	G559
U1530	A1470	G1408	G1348	G1288	G1228	G1166	G1106	C1045	A984	G923	A863	G801	U741	G681	G620	C560
C1531	G1471	U1409	C1349	C1289	C1229	C1167	G1107	A1046	C985	G924	G864	A802	A742	G682	A621	G561
A1532	C1472	G1410	C1350	C1290	A1230	G1168	U1108	G1047	C986	A925	C865	U803	A743	U683	G622	U562
G1533	G1473	U1411	C1351	C1291	U1231	A1169	C1109	A1048	C987	G926	A866	U804	U744	U684	G623	A563
U1534	U1474	A1412	U1352	G1292	G1232	C1170	C1049	A988	A928	A927	U868	G805	U746	A685	G624	C564
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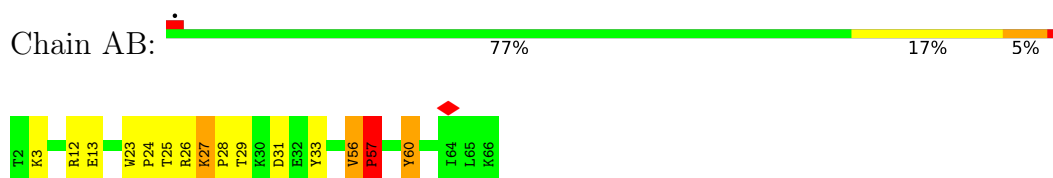
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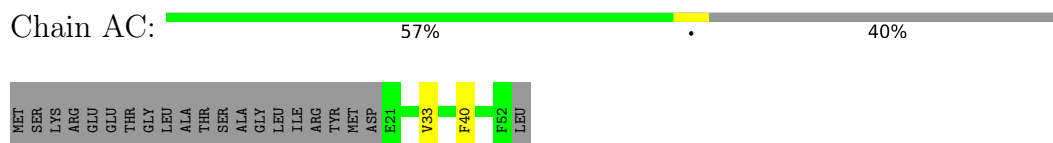
• Molecule 3: PREPROTEIN TRANSLOCASE SECY SUBUNIT



• Molecule 4: PREPROTEIN TRANSLOCASE SECE SUBUNIT

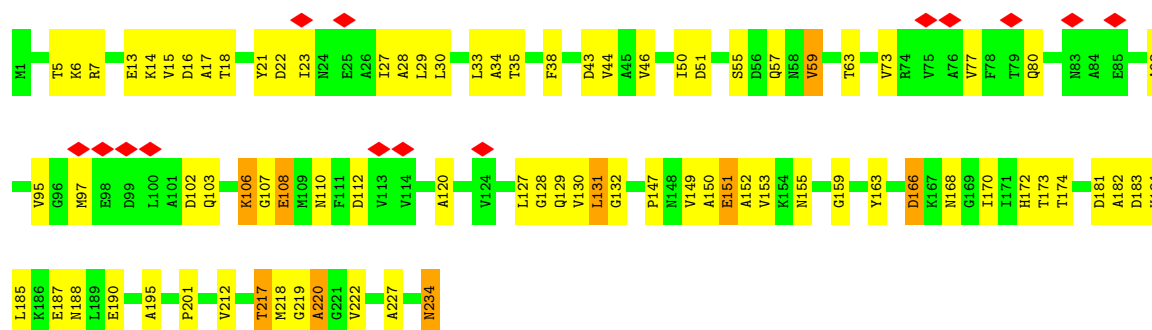


• Molecule 5: Preprotein translocase subunit secG



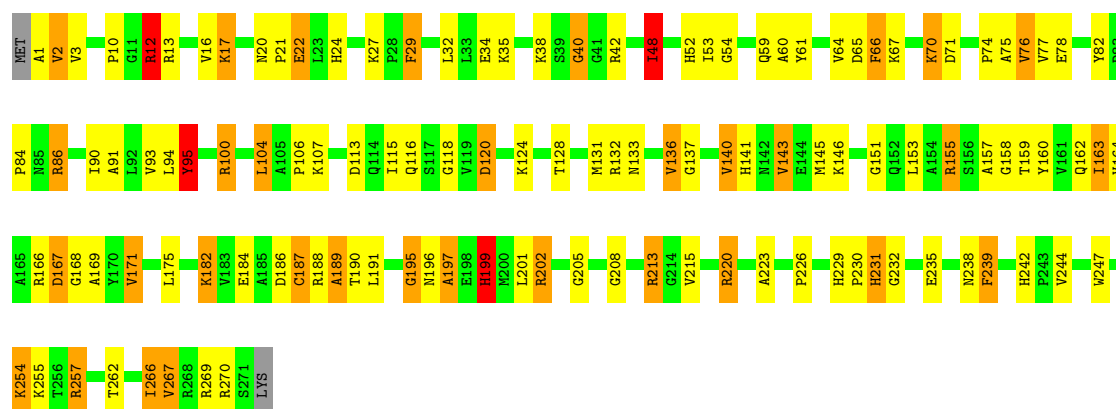
• Molecule 6: 50S ribosomal protein L1





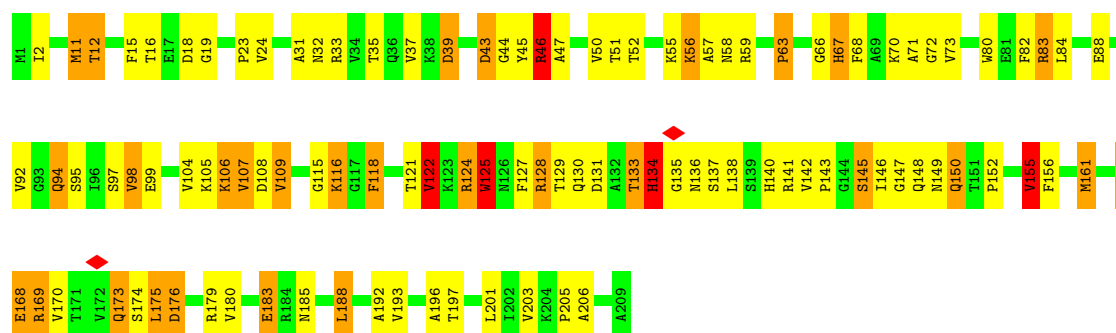
• Molecule 7: 50S ribosomal protein L2

Chain A6: 55% 31% 12% ..



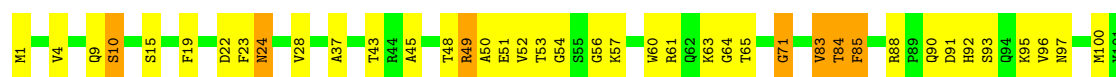
• Molecule 8: 50S ribosomal protein L3

Chain AD: 49% 34% 14% .



• Molecule 9: 50S ribosomal protein L4

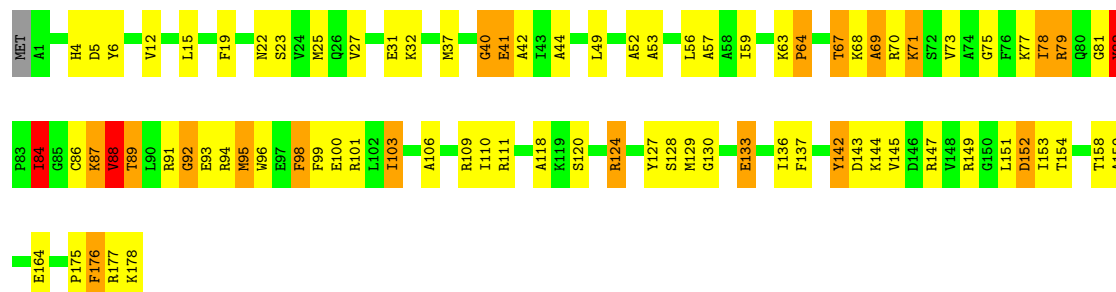
Chain AE: 63% 31% 6%





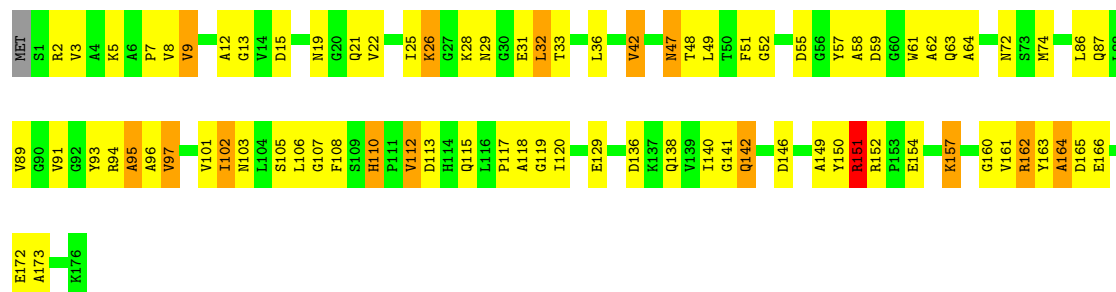
• Molecule 10: 50S ribosomal protein L5

Chain AF: 53% 35% 11% ..



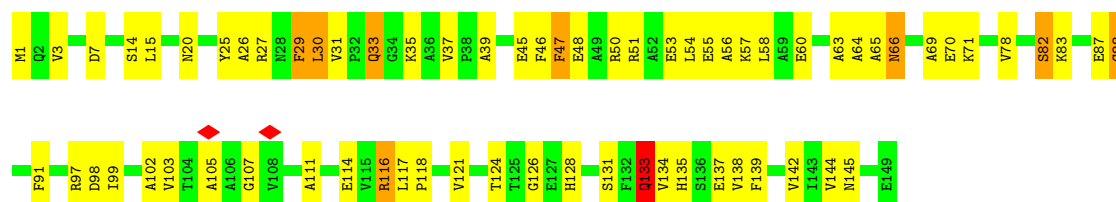
• Molecule 11: 50S ribosomal protein L6

Chain AG: 53% 38% 8% ..



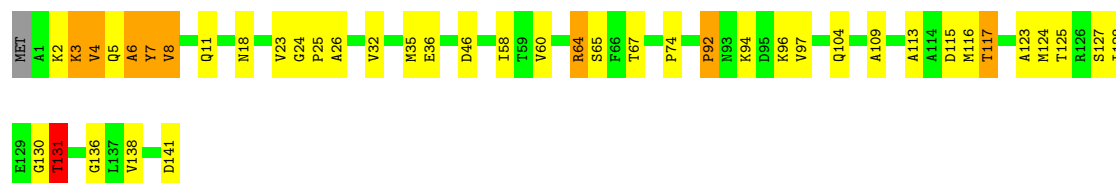
• Molecule 12: 50S ribosomal protein L9

Chain AH: 54% 40% 5% ..

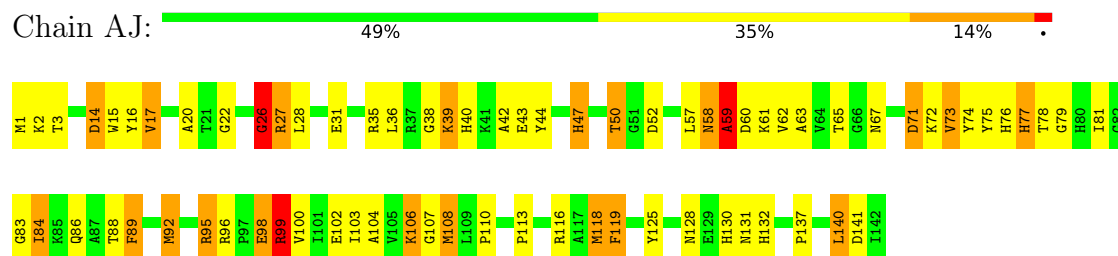


• Molecule 13: 50S ribosomal protein L11

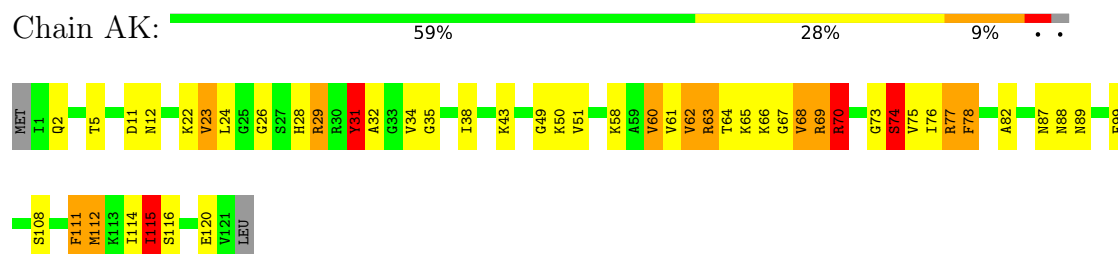
Chain AI: 69% 24% 6% ..



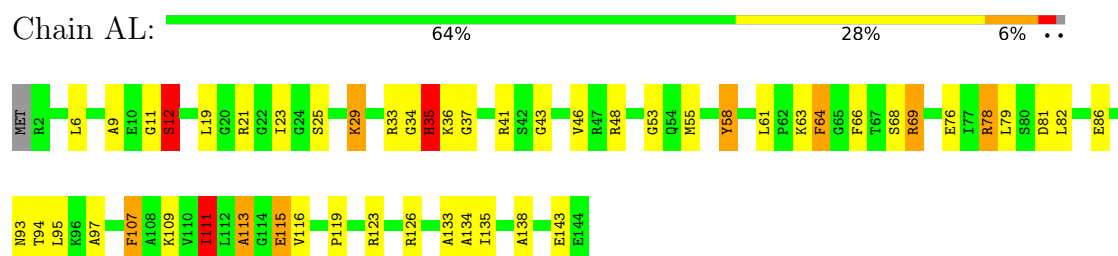
- Molecule 14: 50S ribosomal protein L13



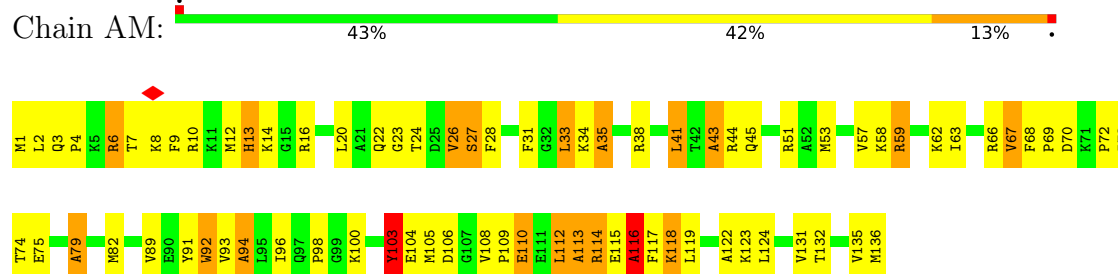
- Molecule 15: 50S ribosomal protein L14



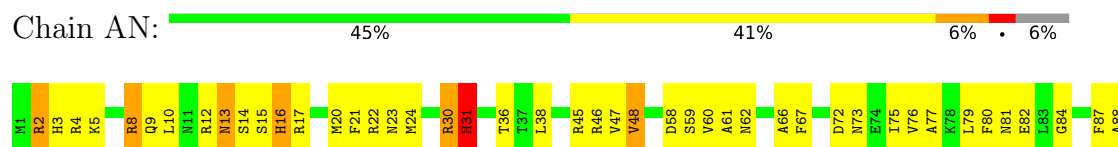
- Molecule 16: 50S ribosomal protein L15

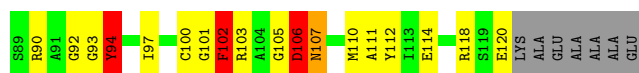


- Molecule 17: 50S ribosomal protein L16



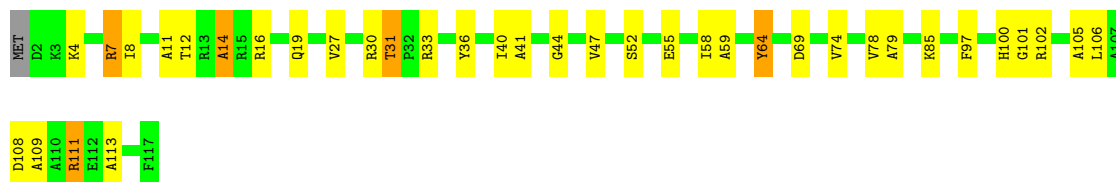
- Molecule 18: 50S ribosomal protein L17





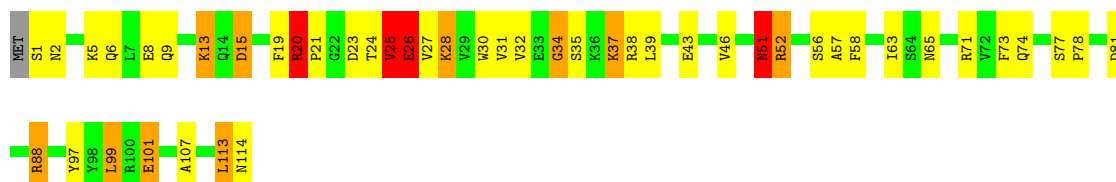
- Molecule 19: 50S ribosomal protein L18

Chain AO: 68% 27% ..



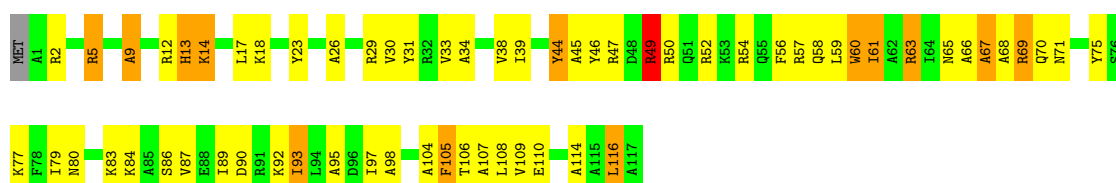
- Molecule 20: 50S ribosomal protein L19

Chain AP: 58% 29% 9% ..



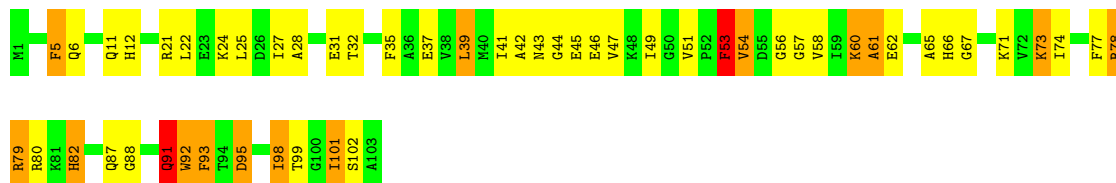
- Molecule 21: 50S ribosomal protein L20

Chain AQ: 46% 42% 11% ..



- Molecule 22: 50S ribosomal protein L21

Chain AR: 49% 36% 14% .



- Molecule 23: 50S ribosomal protein L22

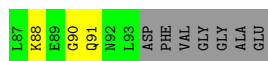
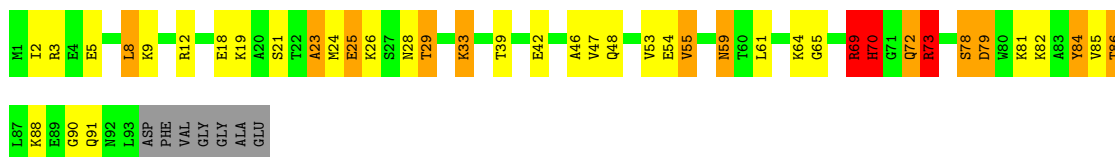
Chain AS: 50% 34% 15% .





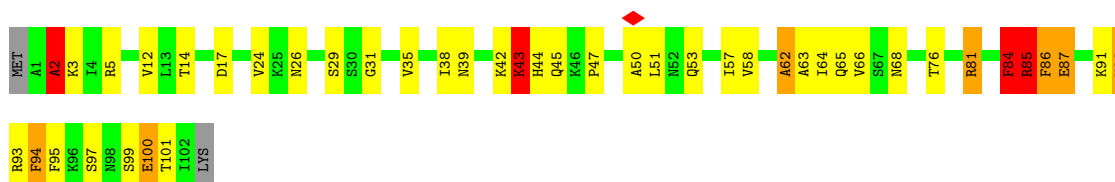
- Molecule 24: 50S ribosomal protein L23

Chain AT: 51% 27% 12% 7%



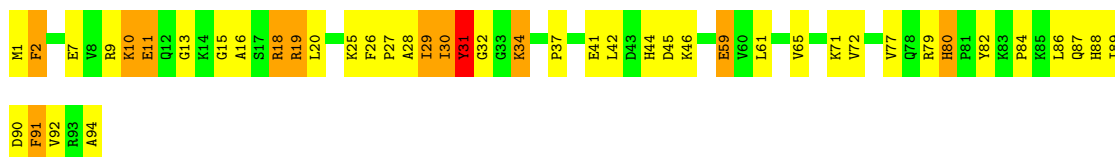
- Molecule 25: 50S ribosomal protein L24

Chain AU: 56% 32% 7% 7%



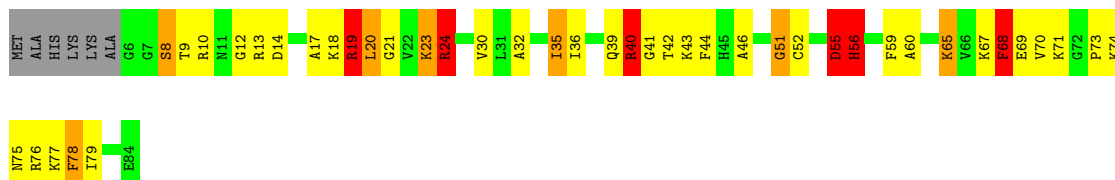
- Molecule 26: 50S ribosomal protein L25

Chain AV: 52% 35% 12% 7%



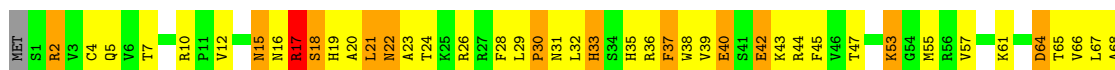
- Molecule 27: 50S ribosomal protein L27

Chain AW: 42% 35% 8% 7% 7%



- Molecule 28: 50S ribosomal protein L28

Chain AX: 37% 42% 18% 7%





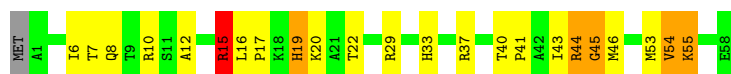
- Molecule 29: 50S ribosomal protein L29

Chain AY: 68% 25% 6%



- Molecule 30: 50S ribosomal protein L30

Chain AZ: 59% 29% 8% ..



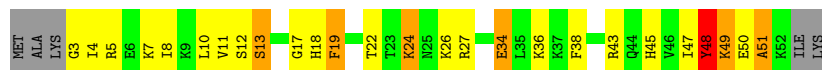
- Molecule 31: 50S ribosomal protein L32

Chain A0: 53% 33% 12% .



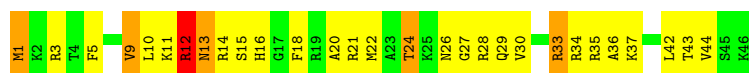
- Molecule 32: 50S ribosomal protein L33

Chain A1: 44% 35% 11% . 9%



- Molecule 33: 50S ribosomal protein L34

Chain A2: 37% 50% 11% .



- Molecule 34: 50S ribosomal protein L35

Chain A3: 54% 31% 12% ..



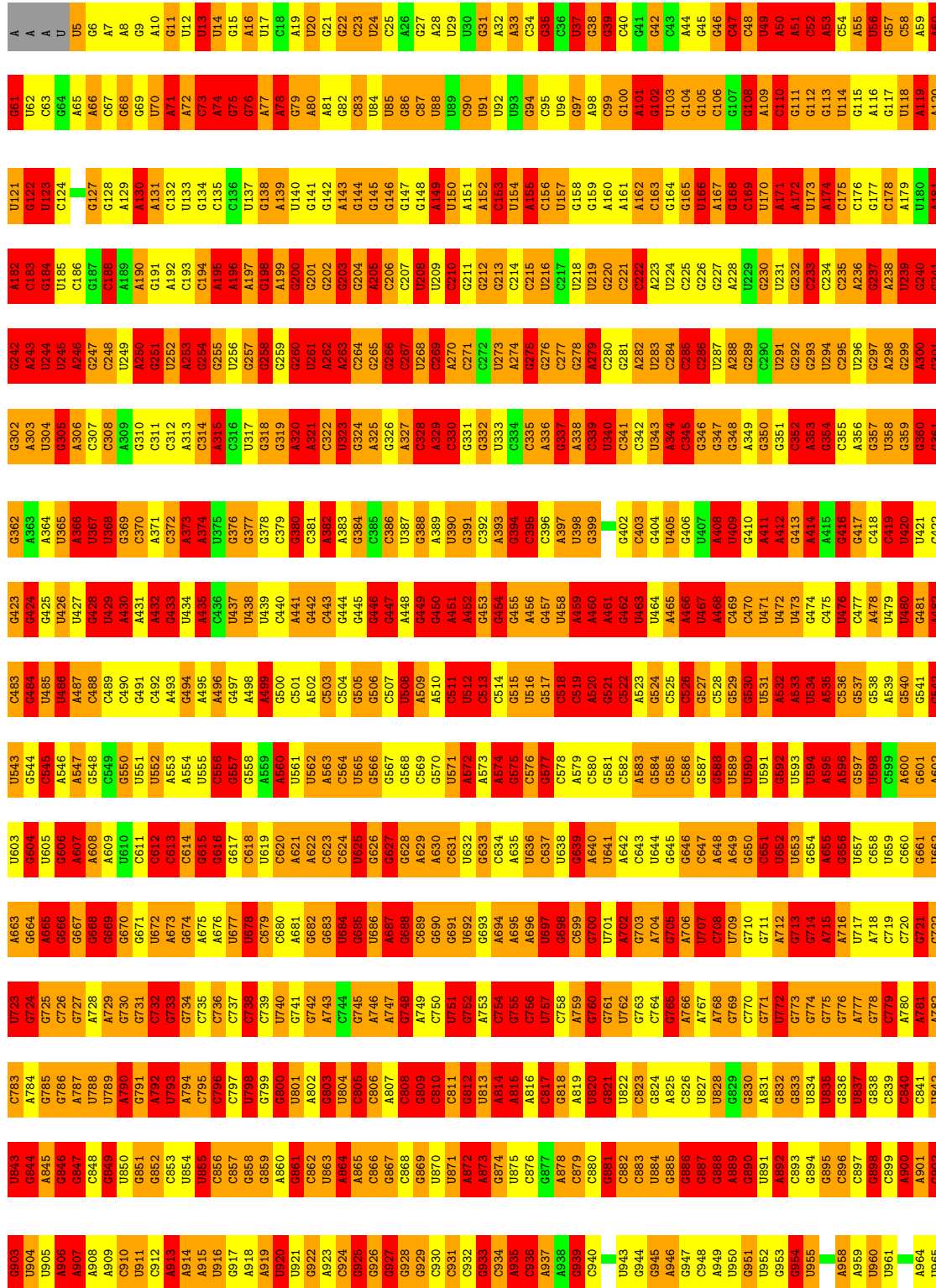
- Molecule 35: 50S ribosomal protein L36

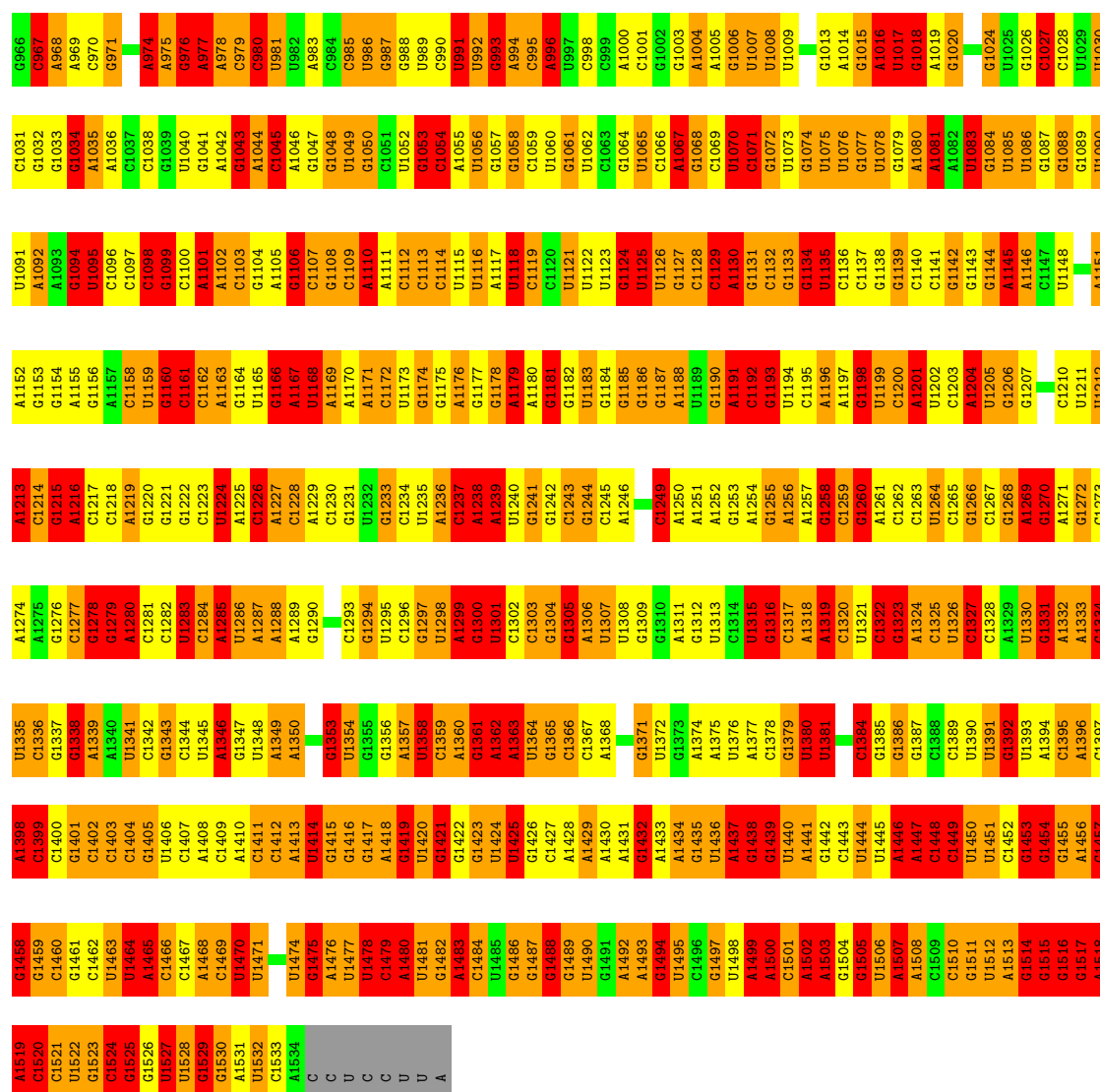
Chain A4: 63% 26% 8% .



● Molecule 36: 16S ribosomal RNA

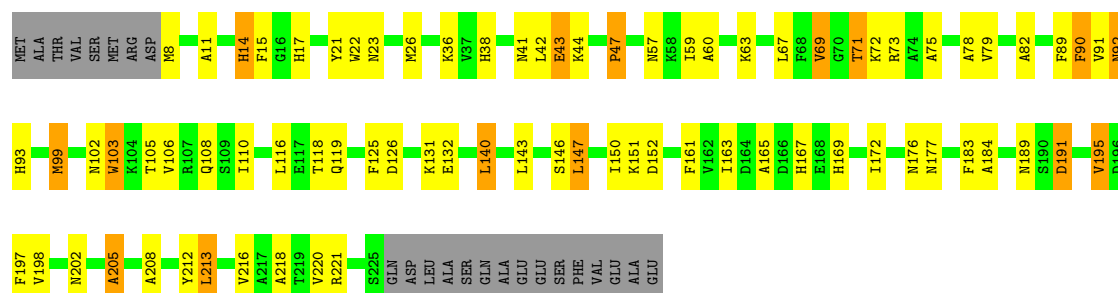
Chain BA: 7% 29% 37% 27%





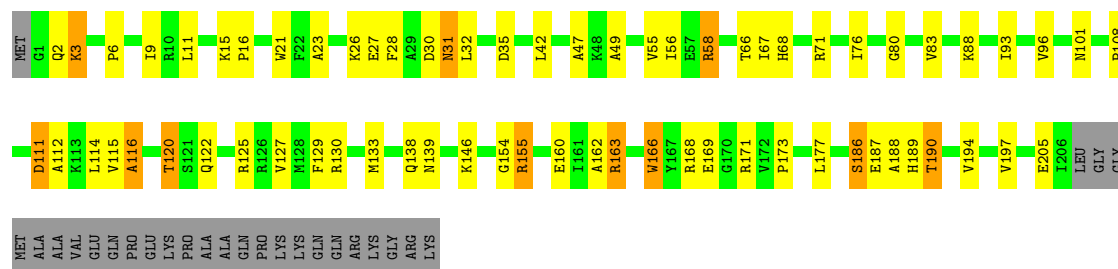
• Molecule 37: 30S ribosomal protein S2

Chain BB: 58% 27% 6% 10%



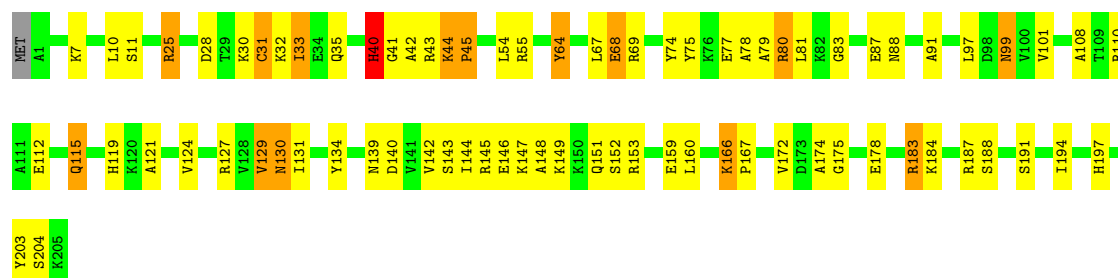
• Molecule 38: 30S ribosomal protein S3

Chain BC: 59% 24% 5% 12%



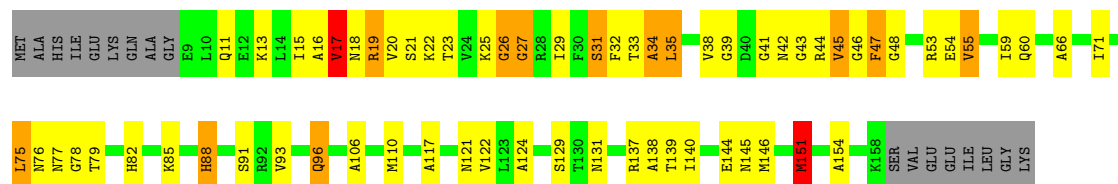
- Molecule 39: 30S ribosomal protein S4

Chain BD: 62% 31% 7%



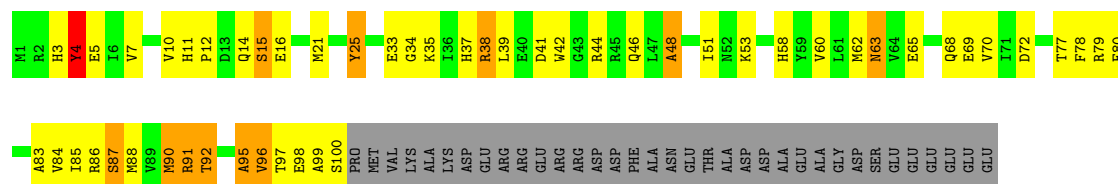
- Molecule 40: 30S ribosomal protein S5

Chain BE: 51% 31% 7% 10%



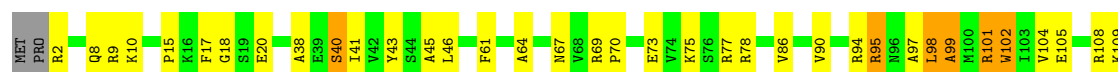
- Molecule 41: 30S ribosomal protein S6

Chain BF: 35% 30% 8% 26%



- Molecule 42: 30S ribosomal protein S7

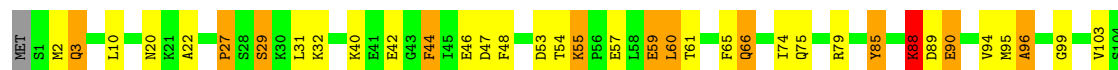
Chain BG: 54% 23% 6% 16%





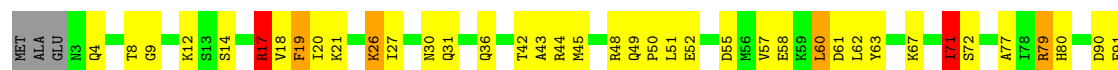
- Molecule 43: 30S ribosomal protein S8

Chain BH: 61% 27% 11% ..



- Molecule 44: 30S ribosomal protein S9

Chain BI: 58% 34% 5% ..



- Molecule 45: 30S ribosomal protein S10

Chain BJ: 64% 24% 6% • 5%



- Molecule 46: 30S ribosomal protein S11

Chain BK: 48% 24% 17% • 9%



- Molecule 47: 30S ribosomal protein S12

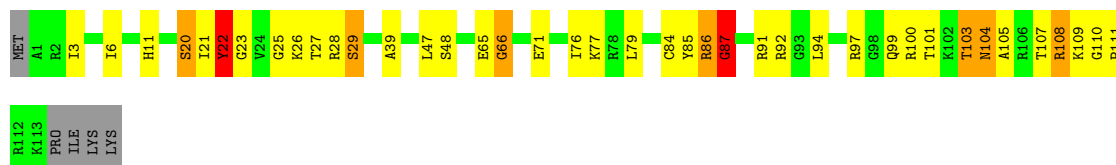
Chain BL: 49% 40% 10% ..





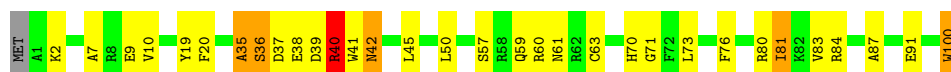
- Molecule 48: 30S ribosomal protein S13

Chain BM: 62% 26% 6% . .



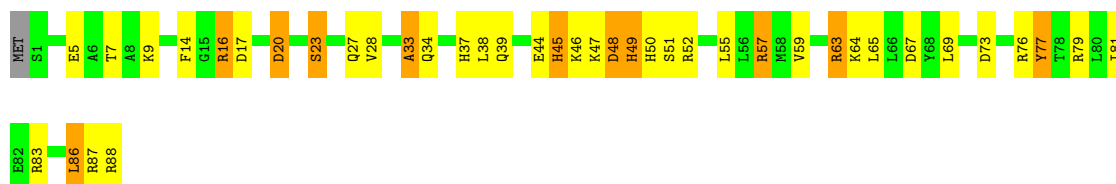
- Molecule 49: 30S ribosomal protein S14

Chain BN: 67% 26% 5% . .



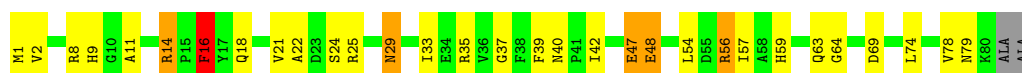
- Molecule 50: 30S ribosomal protein S15

Chain BO: 53% 34% 12% .



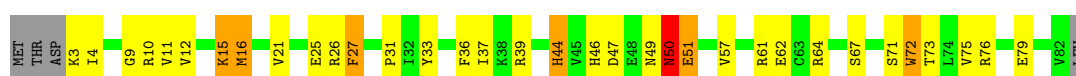
- Molecule 51: 30S ribosomal protein S16

Chain BP: 60% 30% 6% . .



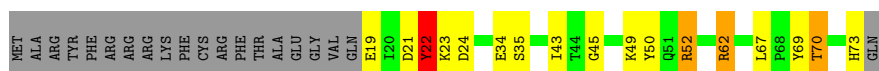
- Molecule 52: 30S ribosomal protein S17

Chain BQ: 55% 32% 7% . 5%

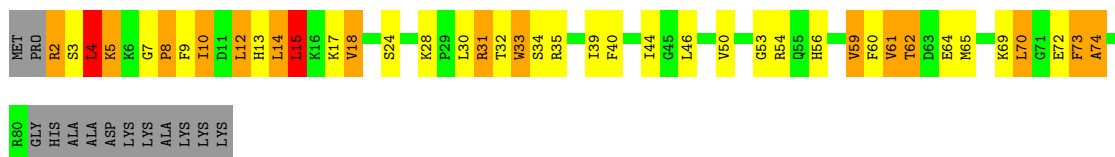


- Molecule 53: 30S ribosomal protein S18

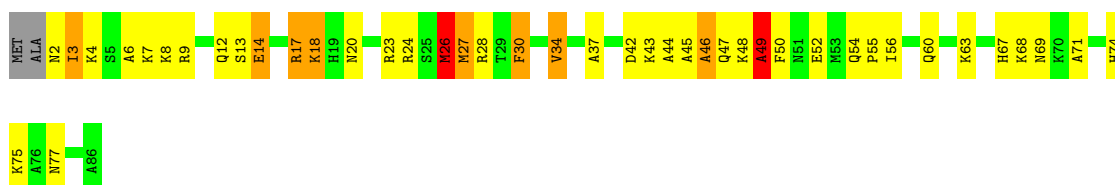
Chain BR: 51% 17% . . 27%



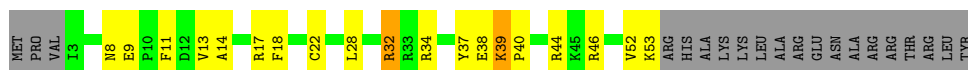
- Molecule 54: 30S ribosomal protein S19



- Molecule 55: 30S ribosomal protein S20



- Molecule 56: 30S ribosomal protein S21



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	39000	Depositor
Resolution determination method	Not provided	
CTF correction method	EMAN- PHASE FLIPPING OF PARTICLES FORM THE SAME MICROGRAPH	Depositor
Microscope	FEI TECNAI F20	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	15	Depositor
Minimum defocus (nm)	-700.00	Depositor
Maximum defocus (nm)	-3000.00	Depositor
Magnification	51000	Depositor
Image detector	KODAK SO-163 FILM	Depositor
Maximum map value	10.649	Depositor
Minimum map value	-4.997	Depositor
Average map value	0.150	Depositor
Map value standard deviation	0.868	Depositor
Recommended contour level	0.95	Depositor
Map size (Å)	393.12, 393.12, 393.12	wwPDB
Map dimensions	144, 144, 144	wwPDB
Map angles (°)	90, 90, 90	wwPDB
Pixel spacing (Å)	2.73, 2.73, 2.73	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	A7	1.41	13/2803 (0.5%)	1.80	88/4371 (2.0%)
2	A8	1.47	412/69800 (0.6%)	1.82	2289/108892 (2.1%)
3	AA	1.28	1/3484 (0.0%)	1.76	62/4732 (1.3%)
4	AB	1.35	0/514	1.78	11/694 (1.6%)
5	AC	1.28	0/262	1.61	1/354 (0.3%)
6	A5	1.35	2/1748 (0.1%)	1.81	52/2355 (2.2%)
7	A6	1.60	8/2121 (0.4%)	1.82	42/2852 (1.5%)
8	AD	1.59	8/1586 (0.5%)	1.86	50/2134 (2.3%)
9	AE	1.49	3/1571 (0.2%)	1.77	30/2113 (1.4%)
10	AF	1.56	6/1444 (0.4%)	1.89	56/1937 (2.9%)
11	AG	1.57	2/1343 (0.1%)	1.84	36/1816 (2.0%)
12	AH	1.54	3/1122 (0.3%)	1.93	47/1515 (3.1%)
13	AI	1.37	1/1046 (0.1%)	1.80	17/1410 (1.2%)
14	AJ	1.69	14/1152 (1.2%)	1.93	38/1551 (2.5%)
15	AK	1.73	4/939 (0.4%)	1.79	23/1258 (1.8%)
16	AL	1.49	0/1054	1.74	26/1403 (1.9%)
17	AM	1.61	9/1093 (0.8%)	1.90	33/1460 (2.3%)
18	AN	1.65	2/973 (0.2%)	1.99	41/1301 (3.2%)
19	AO	1.60	0/902	1.88	24/1209 (2.0%)
20	AP	1.64	3/929 (0.3%)	1.85	27/1242 (2.2%)
21	AQ	1.73	6/960 (0.6%)	2.07	46/1278 (3.6%)
22	AR	1.74	5/829 (0.6%)	1.87	29/1107 (2.6%)
23	AS	1.64	4/864 (0.5%)	1.98	42/1156 (3.6%)
24	AT	1.49	1/744 (0.1%)	1.89	23/994 (2.3%)
25	AU	1.52	3/787 (0.4%)	1.77	26/1051 (2.5%)
26	AV	1.65	5/766 (0.7%)	1.93	23/1025 (2.2%)
27	AW	1.53	1/603 (0.2%)	1.82	20/797 (2.5%)
28	AX	1.77	6/635 (0.9%)	2.15	40/848 (4.7%)
29	AY	1.51	1/510 (0.2%)	1.81	16/677 (2.4%)
30	AZ	1.63	3/453 (0.7%)	1.95	13/605 (2.1%)
31	A0	1.60	1/450 (0.2%)	1.89	12/599 (2.0%)
32	A1	1.51	1/416 (0.2%)	1.93	13/554 (2.3%)
33	A2	1.77	0/380	2.19	22/498 (4.4%)
34	A3	1.48	0/513	1.88	13/676 (1.9%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	A4	1.69	2/303 (0.7%)	1.78	4/397 (1.0%)
36	BA	1.36	151/36762 (0.4%)	1.74	1041/57350 (1.8%)
37	BB	1.45	4/1735 (0.2%)	1.78	44/2338 (1.9%)
38	BC	1.43	0/1651	1.74	35/2225 (1.6%)
39	BD	1.47	2/1665 (0.1%)	1.81	41/2227 (1.8%)
40	BE	1.53	3/1118 (0.3%)	1.79	22/1504 (1.5%)
41	BF	1.61	5/835 (0.6%)	1.88	24/1128 (2.1%)
42	BG	1.43	2/1187 (0.2%)	1.86	47/1591 (3.0%)
43	BH	1.56	3/989 (0.3%)	1.88	24/1326 (1.8%)
44	BI	1.56	2/1034 (0.2%)	1.79	32/1375 (2.3%)
45	BJ	1.49	1/796 (0.1%)	1.71	12/1077 (1.1%)
46	BK	1.59	3/893 (0.3%)	2.02	36/1205 (3.0%)
47	BL	1.72	10/969 (1.0%)	1.95	32/1300 (2.5%)
48	BM	1.49	2/884 (0.2%)	1.92	29/1181 (2.5%)
49	BN	1.38	1/817 (0.1%)	1.92	28/1088 (2.6%)
50	BO	1.70	1/724 (0.1%)	2.12	38/966 (3.9%)
51	BP	1.51	1/648 (0.2%)	1.76	16/870 (1.8%)
52	BQ	1.60	3/657 (0.5%)	1.74	11/881 (1.2%)
53	BR	1.56	0/462	1.97	10/621 (1.6%)
54	BS	1.49	3/652 (0.5%)	1.91	23/877 (2.6%)
55	BT	1.63	2/671 (0.3%)	2.00	34/888 (3.8%)
56	BU	1.57	0/430	1.80	10/570 (1.8%)
All	All	1.47	729/160678 (0.5%)	1.81	4924/239449 (2.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A7	0	56
2	A8	0	1380
3	AA	0	12
4	AB	0	2
6	A5	0	3
7	A6	0	18
8	AD	0	9
9	AE	0	6
10	AF	0	5
11	AG	0	6
12	AH	0	2
13	AI	0	3

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Mol	Chain	#Chirality outliers	#Planarity outliers
14	AJ	0	6
15	AK	0	4
16	AL	0	4
17	AM	0	13
18	AN	0	4
19	AO	0	3
20	AP	0	5
21	AQ	0	7
22	AR	0	4
23	AS	0	2
24	AT	0	3
25	AU	0	4
26	AV	0	1
27	AW	0	1
28	AX	0	2
29	AY	0	2
30	AZ	0	2
31	A0	0	3
32	A1	0	3
33	A2	0	1
34	A3	0	4
35	A4	0	1
36	BA	0	678
37	BB	0	5
38	BC	0	2
39	BD	0	12
40	BE	0	1
41	BF	0	3
42	BG	0	3
43	BH	0	4
44	BI	0	1
45	BJ	0	1
46	BK	0	5
47	BL	0	9
48	BM	0	7
49	BN	0	4
50	BO	0	5
51	BP	0	3
52	BQ	0	1
53	BR	0	4
54	BS	0	2
55	BT	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
56	BU	0	3
All	All	0	2335

All (729) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A8	204	A	O3'-P	-8.25	1.48	1.61
20	AP	51	ASN	CA-C	-8.13	1.41	1.52
36	BA	577	G	P-O5'	-8.04	1.47	1.59
10	AF	77	LYS	CA-C	-7.80	1.49	1.53
2	A8	479	A	C1'-N9	-7.77	1.35	1.47
1	A7	70	C	C4'-O4'	-7.71	1.33	1.45
2	A8	301	G	C2'-C1'	-7.63	1.41	1.53
2	A8	2190	G	C2'-C1'	-7.53	1.42	1.53
2	A8	2466	C	C2'-C1'	-7.49	1.42	1.53
6	A5	173	THR	CA-C	-7.40	1.44	1.52
46	BK	22	ILE	CA-C	-7.40	1.43	1.52
14	AJ	16	TYR	CA-C	-7.32	1.43	1.52
2	A8	2600	A	P-O5'	-7.30	1.48	1.59
2	A8	503	A	C1'-N9	-7.28	1.36	1.47
2	A8	2416	C	P-O5'	-7.17	1.49	1.59
2	A8	1165	A	C2'-C1'	-7.17	1.42	1.53
2	A8	1652	A	P-O5'	-7.17	1.49	1.59
36	BA	762	U	P-O5'	-7.16	1.49	1.59
2	A8	2619	C	O3'-P	-7.11	1.50	1.61
2	A8	949	G	C2'-C1'	-7.09	1.42	1.53
2	A8	2728	U	P-O5'	-7.07	1.49	1.59
35	A4	27	CYS	CA-C	-7.06	1.44	1.52
20	AP	56	SER	CA-C	-7.04	1.44	1.52
2	A8	1596	A	C2'-C1'	-7.03	1.42	1.53
54	BS	10	ILE	C-N	7.02	1.41	1.33
2	A8	503	A	O3'-P	-7.01	1.50	1.61
2	A8	858	G	C1'-N9	-7.01	1.36	1.47
8	AD	80	TRP	CA-C	-7.00	1.44	1.52
36	BA	1479	C	C2'-C1'	-6.97	1.42	1.53
27	AW	39	GLN	CA-C	-6.95	1.44	1.52
2	A8	854	C	C2'-C1'	-6.88	1.43	1.53
10	AF	69	ALA	CA-C	-6.79	1.44	1.52
36	BA	1102	A	C1'-N9	-6.78	1.37	1.48
2	A8	562	U	C2'-C1'	-6.76	1.43	1.53
36	BA	1269	A	C1'-N9	-6.76	1.37	1.48
21	AQ	50	ARG	CA-C	-6.75	1.46	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A8	1795	C	P-O5'	-6.73	1.49	1.59
2	A8	1522	A	C2'-C1'	-6.72	1.43	1.53
2	A8	1577	C	C2'-C1'	-6.72	1.43	1.53
2	A8	142	A	C2'-C1'	-6.70	1.43	1.53
2	A8	1372	U	C2'-C1'	-6.68	1.43	1.53
17	AM	92	TRP	CA-C	-6.66	1.46	1.53
2	A8	968	C	C2'-C1'	-6.66	1.43	1.53
2	A8	2281	A	C2'-C1'	-6.65	1.43	1.53
2	A8	2443	C	C2'-C1'	-6.64	1.43	1.53
8	AD	131	ASP	CA-C	-6.62	1.50	1.53
48	BM	25	GLY	N-CA	-6.62	1.40	1.46
2	A8	1014	A	P-O5'	-6.60	1.49	1.59
2	A8	1771	C	C2'-C1'	-6.60	1.43	1.53
2	A8	2507	C	C2'-C1'	-6.59	1.43	1.53
14	AJ	26	GLY	CA-C	-6.59	1.42	1.51
22	AR	62	GLU	CA-C	-6.58	1.44	1.52
36	BA	1434	A	C2'-C1'	-6.58	1.43	1.53
2	A8	73	A	C2'-C1'	-6.58	1.43	1.53
2	A8	1261	C	C2'-C1'	-6.55	1.43	1.53
2	A8	2492	U	C2'-C1'	-6.55	1.43	1.53
2	A8	1334	G	P-O5'	-6.55	1.50	1.59
2	A8	2003	A	C2'-C1'	-6.54	1.43	1.53
2	A8	1625	C	P-O5'	-6.54	1.50	1.59
2	A8	775	G	C1'-N9	-6.53	1.37	1.47
2	A8	1792	G	P-O5'	-6.52	1.50	1.59
2	A8	732	C	P-O5'	-6.51	1.50	1.59
14	AJ	71	ASP	CA-C	-6.49	1.44	1.52
47	BL	15	VAL	C-N	6.49	1.39	1.33
6	A5	108	GLU	CA-C	-6.47	1.45	1.52
36	BA	347	G	C2'-C1'	-6.47	1.43	1.53
2	A8	274	C	C2'-C1'	-6.47	1.43	1.53
2	A8	2820	A	O3'-P	-6.44	1.51	1.61
2	A8	1777	U	C2'-C1'	-6.44	1.43	1.53
2	A8	206	U	P-O5'	-6.43	1.50	1.59
2	A8	775	G	C4'-O4'	-6.43	1.36	1.45
47	BL	36	VAL	CA-C	-6.43	1.46	1.53
2	A8	2468	A	C2'-C1'	-6.41	1.43	1.53
2	A8	2682	A	C2'-C1'	-6.40	1.43	1.53
2	A8	814	C	C2'-C1'	-6.40	1.43	1.53
2	A8	1793	C	C2'-C1'	-6.39	1.43	1.53
21	AQ	107	ALA	N-CA	-6.38	1.41	1.47
36	BA	246	A	C1'-N9	-6.38	1.37	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A8	1819	A	C2'-C1'	-6.37	1.43	1.53
40	BE	21	SER	CA-C	-6.36	1.44	1.52
2	A8	2566	A	C1'-N9	-6.35	1.37	1.47
28	AX	45	PHE	CA-C	-6.35	1.45	1.52
2	A8	1111	A	P-O5'	-6.35	1.50	1.59
17	AM	105	MET	CA-C	-6.35	1.44	1.52
2	A8	1595	C	C2'-C1'	-6.34	1.43	1.53
32	A1	48	TYR	CA-C	-6.33	1.45	1.52
36	BA	501	C	P-O5'	-6.32	1.50	1.59
2	A8	1274	A	C2'-C1'	-6.29	1.44	1.53
2	A8	1498	C	P-O5'	-6.29	1.50	1.59
2	A8	1531	C	O3'-P	-6.29	1.51	1.61
36	BA	299	G	C2'-C1'	-6.28	1.44	1.53
36	BA	904	U	P-O5'	-6.28	1.50	1.59
47	BL	38	THR	CA-C	-6.25	1.46	1.53
2	A8	118	A	C1'-N9	-6.25	1.38	1.48
36	BA	371	A	C2'-C1'	-6.25	1.44	1.53
21	AQ	107	ALA	CA-C	-6.24	1.47	1.52
2	A8	2606	C	C2'-C1'	-6.23	1.44	1.53
12	AH	31	VAL	N-CA	-6.23	1.41	1.46
12	AH	64	ALA	CA-C	-6.22	1.44	1.52
23	AS	70	LYS	CA-C	-6.22	1.45	1.52
2	A8	2637	U	P-O5'	-6.20	1.50	1.59
2	A8	2716	C	C2'-C1'	-6.19	1.44	1.53
8	AD	24	VAL	CA-C	-6.18	1.46	1.52
2	A8	813	U	C2'-C1'	-6.18	1.44	1.53
45	BJ	99	GLN	CA-C	-6.17	1.45	1.52
2	A8	758	C	C2'-C1'	-6.15	1.44	1.53
36	BA	276	G	P-O5'	-6.15	1.50	1.59
2	A8	747	U	C1'-N1	6.14	1.57	1.48
2	A8	2674	G	P-O5'	-6.14	1.50	1.59
14	AJ	15	TRP	CA-C	-6.14	1.45	1.52
2	A8	2007	U	C2'-C1'	-6.13	1.44	1.53
2	A8	1782	U	C2'-C1'	-6.12	1.44	1.53
2	A8	2750	A	C2'-C1'	-6.12	1.43	1.53
2	A8	506	G	O3'-P	-6.10	1.51	1.61
2	A8	195	A	P-O5'	-6.10	1.50	1.59
36	BA	865	A	C2'-C1'	-6.09	1.44	1.53
2	A8	1012	U	O3'-P	-6.09	1.52	1.61
2	A8	2715	C	P-O5'	-6.09	1.50	1.59
36	BA	337	G	C2'-C1'	-6.08	1.44	1.53
2	A8	869	G	P-O5'	-6.08	1.50	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A8	2411	A	C2'-C1'	-6.08	1.44	1.53
2	A8	1526	C	P-O5'	-6.08	1.50	1.59
26	AV	41	GLU	CA-C	-6.07	1.46	1.53
2	A8	709	U	P-O5'	-6.07	1.50	1.59
22	AR	61	ALA	CA-C	-6.07	1.44	1.52
2	A8	2426	A	O3'-P	-6.07	1.52	1.61
2	A8	2271	G	C2'-C1'	-6.06	1.44	1.53
2	A8	676	A	C1'-N9	-6.06	1.38	1.48
2	A8	725	G	O3'-P	-6.06	1.52	1.61
2	A8	857	G	C2'-C1'	-6.06	1.44	1.53
2	A8	1114	C	C2'-C1'	-6.06	1.44	1.53
2	A8	2592	G	C2'-C1'	-6.05	1.44	1.53
14	AJ	76	HIS	CA-C	-6.05	1.47	1.53
54	BS	3	SER	CA-C	-6.05	1.48	1.53
2	A8	1771	C	C1'-N1	-6.04	1.39	1.48
36	BA	450	G	P-O5'	-6.04	1.50	1.59
36	BA	267	C	P-O5'	-6.04	1.50	1.59
2	A8	2505	G	C5'-C4'	6.03	1.60	1.51
2	A8	704	G	O4'-C1'	-6.03	1.32	1.41
7	A6	197	ALA	N-CA	-6.02	1.41	1.47
36	BA	614	C	C2'-C1'	-6.02	1.44	1.53
2	A8	1982	U	P-O5'	-6.02	1.50	1.59
22	AR	31	GLU	CA-C	-6.01	1.45	1.52
36	BA	37	U	C2'-C1'	-6.01	1.44	1.53
2	A8	1966	A	C2'-C1'	-6.01	1.44	1.53
36	BA	885	G	C2'-C1'	-6.01	1.44	1.53
2	A8	1821	A	C2'-C1'	-6.00	1.44	1.53
1	A7	83	G	P-O5'	-6.00	1.50	1.59
28	AX	64	ASP	CA-C	-6.00	1.46	1.53
2	A8	424	G	C2'-C1'	-5.99	1.44	1.53
2	A8	1508	A	C2'-C1'	-5.99	1.44	1.53
2	A8	1385	A	C1'-N9	-5.99	1.38	1.47
36	BA	1518	A	C2'-C1'	-5.99	1.44	1.53
36	BA	394	G	C2'-C1'	-5.97	1.44	1.53
2	A8	1737	G	O3'-P	-5.96	1.52	1.61
2	A8	1226	A	C1'-N9	-5.96	1.39	1.48
25	AU	94	PHE	CA-C	-5.96	1.45	1.52
2	A8	2425	A	C2'-C1'	-5.95	1.44	1.53
2	A8	2537	U	P-O5'	-5.94	1.50	1.59
2	A8	191	A	C2'-C1'	-5.93	1.44	1.53
2	A8	2383	G	C2'-C1'	-5.93	1.44	1.53
36	BA	872	A	C2'-C1'	-5.93	1.44	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	AN	79	LEU	CA-C	-5.93	1.45	1.52
2	A8	1522	A	C1'-N9	-5.92	1.38	1.47
36	BA	1179	A	C2'-C1'	-5.92	1.44	1.53
1	A7	16	G	C2'-C1'	-5.92	1.44	1.53
17	AM	104	GLU	CA-C	-5.92	1.46	1.52
2	A8	2727	A	P-O5'	-5.92	1.50	1.59
36	BA	1463	U	C3'-C2'	-5.92	1.43	1.52
2	A8	1514	G	C3'-C2'	-5.91	1.43	1.52
25	AU	84	PHE	CA-C	-5.91	1.45	1.52
36	BA	778	G	C2'-C1'	-5.91	1.44	1.53
36	BA	928	G	C1'-N9	-5.91	1.39	1.48
2	A8	1349	C	P-O5'	-5.90	1.50	1.59
2	A8	973	A	C4'-O4'	-5.89	1.37	1.45
36	BA	321	A	C2'-C1'	-5.89	1.44	1.53
2	A8	1721	G	P-O5'	-5.88	1.50	1.59
8	AD	105	LYS	CA-C	-5.88	1.47	1.53
2	A8	1973	G	C2'-C1'	-5.87	1.44	1.53
36	BA	647	C	P-O5'	-5.87	1.50	1.59
2	A8	2637	U	C2'-C1'	-5.87	1.44	1.53
1	A7	70	C	P-O5'	-5.86	1.50	1.59
2	A8	871	U	C2'-C1'	-5.86	1.44	1.53
36	BA	255	G	P-O5'	-5.85	1.50	1.59
2	A8	2289	G	C2'-C1'	-5.85	1.44	1.53
36	BA	798	U	C2'-C1'	-5.84	1.44	1.53
36	BA	889	A	O3'-P	-5.83	1.52	1.61
2	A8	2089	C	P-O5'	-5.83	1.50	1.59
2	A8	203	A	O3'-P	-5.81	1.52	1.61
2	A8	1745	A	C2'-C1'	-5.81	1.44	1.53
2	A8	2219	U	P-O5'	-5.81	1.51	1.59
2	A8	2264	C	C2'-C1'	-5.81	1.44	1.53
2	A8	2673	G	C2'-C1'	-5.81	1.44	1.53
36	BA	246	A	O3'-P	-5.81	1.52	1.61
2	A8	2033	A	C1'-N9	-5.80	1.38	1.47
36	BA	800	G	C2'-C1'	-5.80	1.44	1.53
2	A8	2811	G	C2'-C1'	-5.80	1.44	1.53
2	A8	2042	A	C1'-N9	-5.79	1.39	1.48
3	AA	292	GLY	CA-C	-5.79	1.46	1.51
2	A8	2547	A	C2'-C1'	-5.79	1.44	1.53
2	A8	2418	A	C1'-N9	-5.79	1.39	1.48
36	BA	1392	G	C2'-C1'	-5.79	1.44	1.53
2	A8	1623	G	C2'-C1'	-5.78	1.44	1.53
2	A8	1948	G	C2'-C1'	-5.78	1.44	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	BA	370	C	C2'-C1'	-5.78	1.44	1.53
2	A8	658	U	C2'-C1'	-5.78	1.44	1.53
14	AJ	60	ASP	N-CA	-5.77	1.42	1.47
43	BH	59	GLU	CA-C	-5.77	1.46	1.53
36	BA	1313	U	C2'-C1'	-5.77	1.44	1.53
2	A8	2443	C	P-O5'	-5.76	1.51	1.59
2	A8	622	G	C2'-C1'	-5.76	1.44	1.53
2	A8	210	C	C2'-C1'	-5.76	1.44	1.53
2	A8	2617	U	P-O5'	-5.76	1.51	1.59
36	BA	269	C	C2'-C1'	-5.76	1.44	1.53
30	AZ	54	VAL	CA-C	-5.75	1.46	1.52
14	AJ	58	ASN	CA-C	-5.75	1.45	1.52
36	BA	222	C	C3'-C2'	-5.75	1.44	1.52
36	BA	242	G	C2'-C1'	-5.75	1.44	1.53
2	A8	1310	G	C1'-N9	-5.75	1.39	1.48
2	A8	2171	A	O3'-P	-5.75	1.52	1.61
36	BA	536	C	C4'-O4'	-5.75	1.36	1.45
2	A8	131	A	C2'-C1'	-5.74	1.44	1.53
51	BP	56	ARG	CA-C	-5.74	1.45	1.52
2	A8	1713	A	C2'-C1'	-5.74	1.44	1.53
36	BA	786	G	C2'-C1'	-5.74	1.44	1.53
36	BA	150	U	C2'-C1'	-5.74	1.44	1.53
36	BA	637	C	C2'-C1'	-5.74	1.44	1.53
37	BB	22	TRP	CA-C	-5.73	1.45	1.52
2	A8	2327	A	C2'-C1'	-5.73	1.44	1.53
2	A8	1806	C	P-O5'	-5.73	1.51	1.59
2	A8	1800	C	O4'-C1'	-5.72	1.33	1.42
2	A8	2773	C	P-O5'	-5.72	1.51	1.59
36	BA	740	U	C2'-C1'	-5.72	1.44	1.53
2	A8	2795	C	C2'-C1'	-5.71	1.44	1.53
36	BA	1102	A	C2'-C1'	-5.71	1.44	1.53
36	BA	1519	A	C4'-C3'	-5.71	1.44	1.52
2	A8	1186	G	C2'-C1'	-5.71	1.44	1.53
2	A8	1745	A	P-O5'	-5.71	1.51	1.59
36	BA	1161	C	P-O5'	-5.71	1.51	1.59
36	BA	323	U	P-O5'	-5.71	1.51	1.59
2	A8	2425	A	C4'-O4'	-5.71	1.37	1.45
2	A8	1818	U	O3'-P	-5.70	1.52	1.61
2	A8	1896	G	C2'-C1'	-5.70	1.44	1.53
2	A8	2615	U	P-O5'	-5.70	1.51	1.59
2	A8	2488	G	C2'-C1'	-5.69	1.44	1.53
2	A8	459	U	P-O5'	-5.69	1.51	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	BA	706	A	C2'-C1'	-5.69	1.44	1.53
2	A8	775	G	O4'-C1'	-5.68	1.33	1.42
2	A8	1659	G	C2'-C1'	-5.68	1.44	1.53
2	A8	2604	U	P-O5'	-5.68	1.51	1.59
36	BA	1415	G	C2'-C1'	-5.68	1.44	1.53
2	A8	64	A	C2'-C1'	-5.68	1.44	1.53
2	A8	1541	C	C2'-C1'	-5.68	1.44	1.53
2	A8	1709	U	C2'-C1'	-5.68	1.44	1.53
2	A8	645	C	P-O5'	-5.68	1.51	1.59
2	A8	1558	C	C2'-C1'	-5.68	1.44	1.53
36	BA	278	G	C3'-C2'	-5.67	1.44	1.52
36	BA	669	G	P-O5'	-5.67	1.51	1.59
2	A8	1196	C	C2'-C1'	-5.67	1.44	1.53
2	A8	2273	A	C2'-C1'	-5.67	1.44	1.53
23	AS	108	SER	CA-C	-5.66	1.46	1.53
2	A8	2478	A	O3'-P	-5.66	1.52	1.61
36	BA	1482	G	C2'-C1'	-5.66	1.44	1.53
2	A8	35	G	P-O5'	-5.65	1.51	1.59
2	A8	509	C	C2'-C1'	-5.65	1.44	1.53
36	BA	779	C	C3'-C2'	-5.65	1.44	1.52
36	BA	771	G	C2'-C1'	-5.65	1.44	1.53
39	BD	183	ARG	CA-C	-5.64	1.45	1.52
2	A8	1180	U	C2'-C1'	-5.64	1.44	1.53
2	A8	1986	C	C2'-C1'	-5.64	1.44	1.53
2	A8	2430	A	C2'-C1'	-5.64	1.44	1.53
47	BL	64	SER	N-CA	-5.64	1.39	1.46
36	BA	1464	U	C2'-C1'	-5.64	1.44	1.53
36	BA	1522	U	C2'-C1'	-5.64	1.44	1.53
2	A8	2471	A	P-O5'	-5.63	1.51	1.59
2	A8	37	C	C2'-C1'	-5.63	1.45	1.53
7	A6	74	PRO	CA-C	-5.63	1.47	1.53
28	AX	24	THR	CA-C	-5.63	1.46	1.52
36	BA	512	U	C2'-C1'	-5.63	1.45	1.53
36	BA	757	U	C3'-C2'	-5.63	1.44	1.52
36	BA	928	G	C2'-C1'	-5.63	1.45	1.53
23	AS	73	LYS	CA-C	-5.63	1.46	1.52
2	A8	942	G	C2'-C1'	-5.63	1.45	1.53
2	A8	1143	A	O3'-P	-5.63	1.52	1.61
36	BA	320	A	C2'-C1'	-5.63	1.45	1.53
22	AR	78	ARG	CD-NE	5.62	1.54	1.46
2	A8	1561	C	P-O5'	-5.62	1.51	1.59
2	A8	1061	U	O3'-P	-5.62	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A8	1698	A	C2'-C1'	-5.62	1.44	1.53
2	A8	1	G	OP3-P	5.61	1.59	1.48
2	A8	1090	A	P-O5'	-5.61	1.51	1.59
2	A8	65	U	C2'-C1'	-5.61	1.45	1.53
2	A8	1837	C	C2'-C1'	-5.61	1.45	1.53
2	A8	1658	C	C2'-C1'	-5.60	1.45	1.53
1	A7	91	C	C2'-C1'	-5.60	1.45	1.53
2	A8	1528	A	C2'-C1'	-5.60	1.45	1.53
2	A8	1482	G	C2'-C1'	-5.60	1.45	1.53
2	A8	2416	C	C2'-C1'	-5.60	1.45	1.53
2	A8	457	A	O3'-P	-5.59	1.52	1.61
2	A8	1031	G	P-O5'	-5.59	1.51	1.59
17	AM	35	ALA	CA-C	-5.59	1.46	1.52
2	A8	1301	A	O3'-P	-5.59	1.52	1.61
15	AK	77	ARG	CA-C	-5.59	1.45	1.52
36	BA	1516	G	P-O5'	-5.59	1.51	1.59
1	A7	43	C	C2'-C1'	-5.58	1.45	1.53
52	BQ	72	TRP	CA-C	-5.58	1.45	1.52
2	A8	2057	G	P-O5'	-5.57	1.51	1.59
2	A8	1953	A	C1'-N9	-5.57	1.39	1.48
47	BL	118	VAL	CA-C	-5.57	1.46	1.52
2	A8	1877	A	C2'-C1'	-5.57	1.45	1.53
2	A8	772	C	P-O5'	-5.56	1.51	1.59
2	A8	1838	C	O3'-P	-5.56	1.52	1.61
36	BA	882	C	C2'-C1'	-5.56	1.45	1.53
36	BA	684	U	C3'-C2'	-5.56	1.44	1.52
2	A8	692	C	C2'-C1'	-5.56	1.45	1.53
2	A8	2008	C	C2'-C1'	-5.56	1.45	1.53
7	A6	153	LEU	CA-C	-5.56	1.46	1.52
2	A8	1794	A	C2'-C1'	-5.56	1.45	1.53
15	AK	23	VAL	CA-C	-5.55	1.46	1.52
36	BA	806	C	P-O5'	-5.55	1.51	1.59
36	BA	262	A	C2'-C1'	-5.55	1.45	1.53
36	BA	788	U	P-O5'	-5.54	1.51	1.59
36	BA	173	U	P-O5'	-5.54	1.51	1.59
36	BA	199	A	C2'-C1'	-5.54	1.45	1.53
2	A8	1229	C	C2'-C1'	-5.54	1.45	1.53
2	A8	1140	C	P-O5'	-5.54	1.51	1.59
2	A8	1780	A	C1'-N9	5.53	1.55	1.47
2	A8	2083	G	P-O5'	-5.53	1.51	1.59
2	A8	2280	G	C1'-N9	-5.53	1.39	1.48
2	A8	2714	G	C2'-C1'	-5.53	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A8	1987	A	C2'-C1'	-5.53	1.45	1.53
2	A8	2699	C	C2'-C1'	-5.53	1.45	1.53
2	A8	2208	C	C2'-C1'	-5.52	1.45	1.53
2	A8	676	A	O3'-P	-5.51	1.52	1.61
2	A8	634	C	C2'-C1'	-5.51	1.45	1.53
2	A8	570	G	C2'-C1'	-5.50	1.45	1.53
7	A6	140	VAL	CA-C	-5.50	1.45	1.52
2	A8	2467	C	C2'-C1'	-5.50	1.45	1.53
26	AV	32	GLY	CA-C	-5.49	1.46	1.52
36	BA	1468	A	C2'-C1'	-5.49	1.45	1.53
2	A8	130	C	C2'-C1'	-5.49	1.45	1.53
2	A8	862	G	C2'-C1'	-5.49	1.45	1.53
47	BL	112	ALA	CA-C	-5.48	1.45	1.52
36	BA	460	A	O3'-P	-5.48	1.52	1.61
36	BA	751	U	C2'-C1'	-5.48	1.45	1.53
15	AK	74	SER	CA-C	-5.47	1.46	1.52
36	BA	775	G	C2'-C1'	-5.47	1.45	1.53
36	BA	1518	A	O3'-P	-5.47	1.52	1.61
2	A8	1518	C	P-O5'	-5.47	1.51	1.59
21	AQ	104	ALA	CA-C	-5.47	1.47	1.53
2	A8	2717	C	C2'-C1'	-5.47	1.45	1.53
52	BQ	47	ASP	CA-C	-5.47	1.45	1.52
2	A8	2499	C	P-O5'	-5.47	1.51	1.59
25	AU	85	ARG	CA-C	-5.47	1.45	1.52
54	BS	2	ARG	CZ-NH1	5.47	1.40	1.32
2	A8	2664	G	C2'-C1'	-5.45	1.45	1.53
14	AJ	92	MET	CA-C	-5.45	1.45	1.52
41	BF	39	LEU	N-CA	-5.45	1.41	1.46
2	A8	2556	C	C2'-C1'	-5.45	1.45	1.53
10	AF	151	LEU	CA-C	-5.45	1.45	1.52
10	AF	153	ILE	CA-C	-5.44	1.45	1.52
2	A8	2042	A	O3'-P	-5.44	1.52	1.61
41	BF	34	GLY	CA-C	-5.44	1.44	1.51
2	A8	2516	A	C2'-C1'	-5.44	1.45	1.53
2	A8	291	G	C2'-C1'	-5.43	1.45	1.53
40	BE	34	ALA	CA-C	-5.43	1.46	1.52
8	AD	169	ARG	CA-C	-5.43	1.45	1.52
10	AF	89	THR	CA-C	-5.43	1.46	1.52
2	A8	64	A	P-O5'	-5.43	1.51	1.59
36	BA	1414	U	C2'-C1'	-5.43	1.45	1.53
2	A8	2770	G	C3'-C2'	-5.43	1.44	1.52
36	BA	613	C	C2'-C1'	-5.43	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	BL	95	HIS	CA-C	-5.43	1.46	1.52
36	BA	49	U	O3'-P	-5.42	1.53	1.61
2	A8	204	A	C1'-N9	-5.42	1.38	1.47
2	A8	1668	A	O3'-P	-5.42	1.53	1.61
2	A8	2483	C	P-O5'	-5.42	1.51	1.59
36	BA	779	C	C2'-C1'	-5.42	1.45	1.53
36	BA	1327	C	P-O5'	-5.42	1.51	1.59
2	A8	2177	C	C2'-C1'	-5.42	1.45	1.53
2	A8	2683	C	C2'-C1'	-5.42	1.45	1.53
2	A8	1567	G	C2'-C1'	-5.41	1.45	1.53
2	A8	2649	C	C2'-C1'	-5.41	1.45	1.53
2	A8	607	U	C2'-C1'	-5.41	1.45	1.53
2	A8	2462	C	P-O5'	-5.41	1.51	1.59
11	AG	86	LEU	CA-C	-5.41	1.48	1.53
28	AX	15	ASN	CA-C	-5.41	1.46	1.52
2	A8	2222	C	P-O5'	-5.40	1.51	1.59
2	A8	2596	U	C2'-C1'	-5.40	1.45	1.53
2	A8	812	C	C2'-C1'	-5.39	1.45	1.53
2	A8	1447	C	P-O5'	-5.39	1.51	1.59
36	BA	237	G	C2'-C1'	-5.38	1.45	1.53
2	A8	1846	G	C2'-C1'	-5.38	1.45	1.53
55	BT	26	MET	CA-C	-5.38	1.45	1.52
2	A8	1567	G	C1'-N9	-5.38	1.38	1.47
2	A8	56	A	P-O5'	-5.38	1.51	1.59
2	A8	2471	A	C2'-C1'	-5.38	1.45	1.53
36	BA	1513	A	C2'-C1'	-5.38	1.45	1.53
2	A8	1551	A	C2'-C1'	-5.38	1.45	1.53
36	BA	920	U	C2'-C1'	-5.37	1.45	1.53
2	A8	305	C	C2'-C1'	-5.37	1.45	1.53
11	AG	49	LEU	CA-C	-5.37	1.46	1.52
2	A8	725	G	C2'-C1'	-5.37	1.45	1.53
2	A8	903	C	C2'-C1'	-5.37	1.45	1.53
36	BA	651	C	C2'-C1'	-5.37	1.45	1.53
2	A8	2424	C	O3'-P	-5.37	1.53	1.61
7	A6	66	PHE	CA-C	-5.37	1.46	1.53
31	A0	42	ILE	CA-C	-5.37	1.46	1.52
2	A8	1522	A	O3'-P	-5.37	1.53	1.61
2	A8	2559	C	C2'-C1'	-5.36	1.45	1.53
2	A8	2026	U	C2'-C1'	-5.36	1.45	1.53
2	A8	33	C	C1'-N1	-5.36	1.39	1.47
1	A7	13	G	C2'-C1'	-5.36	1.45	1.53
2	A8	415	A	C2'-C1'	-5.36	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	AM	41	LEU	CA-C	-5.36	1.46	1.52
36	BA	714	G	C2'-C1'	-5.36	1.45	1.53
2	A8	2382	G	P-O5'	-5.36	1.51	1.59
2	A8	985	C	C5'-C4'	5.35	1.59	1.51
2	A8	1445	G	P-O5'	-5.35	1.51	1.59
2	A8	2425	A	C1'-N9	-5.35	1.39	1.47
37	BB	71	THR	CA-C	-5.35	1.45	1.52
47	BL	94	TYR	CA-C	-5.35	1.46	1.52
14	AJ	59	ALA	CA-C	-5.35	1.45	1.52
2	A8	1853	A	C2'-C1'	-5.35	1.45	1.53
36	BA	902	G	C1'-N9	-5.35	1.40	1.48
2	A8	1957	C	P-O5'	-5.34	1.51	1.59
36	BA	252	U	C2'-C1'	-5.34	1.45	1.53
36	BA	1408	A	P-O5'	-5.34	1.51	1.59
36	BA	1500	A	P-O5'	-5.33	1.51	1.59
2	A8	954	G	C2'-C1'	-5.33	1.45	1.53
2	A8	974	G	O3'-P	-5.33	1.53	1.61
36	BA	1306	A	C2'-C1'	-5.33	1.45	1.53
2	A8	520	G	C2'-C1'	-5.33	1.45	1.53
26	AV	65	VAL	CA-C	-5.33	1.46	1.52
2	A8	1351	C	C2'-C1'	-5.33	1.45	1.53
36	BA	39	G	C2'-C1'	-5.32	1.45	1.53
36	BA	686	U	C2'-C1'	-5.32	1.45	1.53
2	A8	794	A	P-O5'	-5.32	1.51	1.59
36	BA	1494	G	C2'-C1'	-5.32	1.45	1.53
14	AJ	104	ALA	CA-C	-5.32	1.45	1.52
2	A8	104	A	C2'-C1'	-5.32	1.45	1.53
2	A8	950	G	C2'-C1'	-5.32	1.45	1.53
36	BA	22	G	C2'-C1'	-5.32	1.45	1.53
2	A8	2197	U	O3'-P	-5.31	1.53	1.61
1	A7	20	G	C2'-C1'	-5.31	1.45	1.53
2	A8	2064	C	C3'-C2'	-5.31	1.44	1.52
2	A8	2420	C	P-O5'	-5.31	1.51	1.59
36	BA	862	C	P-O5'	-5.31	1.51	1.59
2	A8	263	G	C2'-C1'	-5.31	1.45	1.53
9	AE	50	ALA	CA-C	-5.31	1.46	1.53
2	A8	528	A	C2'-C1'	-5.31	1.45	1.53
2	A8	2225	A	O3'-P	-5.31	1.53	1.61
2	A8	466	A	C1'-N9	-5.31	1.40	1.48
2	A8	479	A	O3'-P	-5.31	1.53	1.61
2	A8	608	A	C2'-C1'	-5.30	1.45	1.53
36	BA	713	G	C2'-C1'	-5.30	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A8	204	A	C3'-O3'	-5.30	1.35	1.43
2	A8	2878	U	P-O5'	-5.30	1.51	1.59
14	AJ	98	GLU	CA-C	-5.30	1.45	1.52
7	A6	266	ILE	CA-C	-5.30	1.46	1.52
14	AJ	17	VAL	N-CA	-5.30	1.40	1.46
36	BA	684	U	C2'-C1'	-5.30	1.45	1.53
2	A8	1405	U	O3'-P	-5.29	1.53	1.61
2	A8	1426	G	O3'-P	-5.29	1.53	1.61
2	A8	2660	A	P-O5'	-5.29	1.51	1.59
36	BA	152	A	C2'-C1'	-5.29	1.45	1.53
22	AR	92	TRP	CA-C	-5.29	1.46	1.52
2	A8	215	G	O3'-P	-5.29	1.53	1.61
2	A8	683	U	C2'-C1'	-5.28	1.45	1.53
2	A8	963	U	P-O5'	-5.28	1.51	1.59
2	A8	1923	U	C2'-C1'	-5.28	1.45	1.53
2	A8	1960	A	C2'-C1'	-5.28	1.45	1.53
36	BA	271	C	P-O5'	-5.28	1.51	1.59
36	BA	1399	C	P-O5'	-5.28	1.51	1.59
2	A8	2453	A	C2'-C1'	-5.28	1.45	1.53
2	A8	1697	G	C2'-C1'	-5.28	1.45	1.53
2	A8	2779	U	C2'-C1'	-5.28	1.45	1.53
2	A8	926	G	C2'-C1'	-5.27	1.45	1.53
43	BH	107	LYS	CA-C	-5.27	1.45	1.52
2	A8	505	A	C2'-C1'	-5.26	1.45	1.53
2	A8	2463	C	C2'-C1'	-5.26	1.45	1.53
2	A8	2233	U	C2'-C1'	-5.26	1.45	1.53
2	A8	1492	G	P-O5'	-5.26	1.51	1.59
2	A8	2255	G	P-O5'	-5.26	1.51	1.59
2	A8	1733	G	C2'-C1'	-5.26	1.45	1.53
36	BA	677	U	C2'-C1'	-5.26	1.45	1.53
2	A8	2684	U	C2'-C1'	-5.25	1.45	1.53
36	BA	1425	U	C2'-C1'	-5.25	1.45	1.53
2	A8	1139	G	C2'-C1'	-5.25	1.45	1.53
2	A8	294	A	O3'-P	-5.25	1.53	1.61
2	A8	987	C	C2'-C1'	-5.25	1.45	1.53
2	A8	1409	U	C2'-C1'	-5.25	1.45	1.53
36	BA	284	C	C3'-C2'	-5.25	1.44	1.52
2	A8	765	C	C2'-C1'	-5.24	1.45	1.53
15	AK	63	ARG	CA-C	-5.24	1.45	1.53
2	A8	2714	G	O3'-P	-5.24	1.53	1.61
2	A8	2479	U	P-O5'	-5.23	1.51	1.59
2	A8	2558	C	P-O5'	-5.23	1.51	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	AM	62	LYS	CA-C	-5.23	1.46	1.52
36	BA	1439	G	P-O5'	-5.23	1.51	1.59
36	BA	1463	U	C2'-C1'	-5.23	1.45	1.53
2	A8	475	C	C2'-C1'	-5.23	1.45	1.53
2	A8	2457	U	O3'-P	-5.23	1.53	1.61
50	BO	81	ILE	CA-C	-5.23	1.46	1.52
2	A8	2389	G	C2'-C1'	-5.23	1.45	1.53
36	BA	361	G	C2'-C1'	-5.23	1.45	1.53
2	A8	56	A	C3'-C2'	-5.23	1.45	1.52
2	A8	1226	A	C2'-C1'	-5.23	1.45	1.53
46	BK	21	HIS	CA-C	-5.23	1.46	1.52
36	BA	1527	U	P-O5'	-5.22	1.51	1.59
2	A8	2371	G	C1'-N9	-5.22	1.40	1.48
36	BA	925	G	C2'-C1'	-5.22	1.45	1.53
2	A8	797	G	C2'-C1'	-5.21	1.45	1.53
2	A8	1124	G	C2'-C1'	-5.21	1.45	1.53
2	A8	2237	G	C3'-C2'	-5.21	1.45	1.52
2	A8	70	G	C2'-C1'	-5.21	1.45	1.53
2	A8	2443	C	C1'-N1	-5.21	1.40	1.48
2	A8	1418	G	C3'-C2'	-5.21	1.45	1.52
17	AM	123	LYS	N-CA	-5.21	1.42	1.47
2	A8	1228	G	C2'-C1'	-5.21	1.45	1.53
2	A8	617	G	C2'-C1'	-5.20	1.45	1.53
36	BA	712	A	C2'-C1'	-5.20	1.45	1.53
36	BA	338	A	C2'-C1'	-5.20	1.45	1.53
41	BF	38	ARG	CA-C	-5.20	1.46	1.52
2	A8	2234	G	C2'-C1'	-5.20	1.45	1.53
24	AT	53	VAL	CA-C	-5.20	1.46	1.52
2	A8	2520	C	C2'-C1'	-5.20	1.45	1.53
36	BA	202	G	C2'-C1'	-5.20	1.45	1.53
47	BL	64	SER	CA-C	-5.20	1.46	1.52
2	A8	1670	C	P-O5'	-5.19	1.51	1.59
2	A8	2077	A	C2'-C1'	-5.19	1.45	1.53
2	A8	382	A	C2'-C1'	-5.19	1.45	1.53
1	A7	40	U	C4'-O4'	-5.19	1.38	1.45
2	A8	1440	U	C2'-C1'	-5.19	1.45	1.53
2	A8	1895	C	C2'-C1'	-5.19	1.45	1.53
36	BA	1339	A	P-O5'	-5.18	1.51	1.59
36	BA	260	G	C2'-C1'	-5.18	1.45	1.53
36	BA	754	C	O3'-P	-5.18	1.53	1.61
2	A8	1606	C	C2'-C1'	-5.18	1.45	1.53
2	A8	1945	G	P-O5'	-5.18	1.51	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A8	679	C	C2'-C1'	-5.18	1.45	1.53
10	AF	128	SER	CA-C	-5.18	1.46	1.52
2	A8	638	G	C2'-C1'	-5.17	1.45	1.53
2	A8	2248	C	P-O5'	-5.17	1.51	1.59
36	BA	878	A	C1'-N9	-5.17	1.40	1.48
2	A8	170	U	P-O5'	-5.17	1.51	1.59
1	A7	113	C	C2'-C1'	-5.17	1.45	1.53
2	A8	1645	G	C2'-C1'	-5.17	1.45	1.53
2	A8	688	U	P-O5'	-5.16	1.52	1.59
2	A8	1332	G	C2'-C1'	-5.16	1.45	1.53
2	A8	2618	G	O3'-P	-5.16	1.53	1.61
26	AV	11	GLU	CA-C	-5.16	1.48	1.53
36	BA	104	G	C2'-C1'	-5.16	1.45	1.53
2	A8	1177	G	C2'-C1'	-5.16	1.45	1.53
14	AJ	17	VAL	CA-C	-5.16	1.46	1.52
2	A8	238	C	C2'-C1'	-5.16	1.45	1.53
2	A8	2541	A	O3'-P	-5.16	1.53	1.61
36	BA	772	U	C2'-C1'	-5.16	1.45	1.53
2	A8	1139	G	P-O5'	-5.16	1.52	1.59
36	BA	872	A	O3'-P	-5.16	1.53	1.61
2	A8	1772	A	C1'-N9	-5.15	1.40	1.48
2	A8	2868	A	C2'-C1'	-5.15	1.45	1.53
36	BA	303	A	P-O5'	-5.15	1.52	1.59
2	A8	2468	A	P-O5'	-5.15	1.52	1.59
9	AE	146	VAL	N-CA	-5.15	1.40	1.46
2	A8	315	G	C2'-C1'	-5.15	1.45	1.53
9	AE	50	ALA	N-CA	-5.15	1.41	1.46
36	BA	320	A	C3'-C2'	-5.15	1.45	1.52
2	A8	632	A	C2'-C1'	-5.15	1.45	1.53
2	A8	1927	A	C2'-C1'	-5.14	1.45	1.53
2	A8	2236	U	P-O5'	-5.14	1.52	1.59
2	A8	1381	G	C3'-C2'	-5.14	1.45	1.52
2	A8	1500	G	P-O5'	-5.14	1.52	1.59
30	AZ	44	ARG	CA-C	-5.14	1.45	1.52
41	BF	35	LYS	CA-C	-5.14	1.46	1.52
36	BA	689	C	P-O5'	-5.14	1.52	1.59
36	BA	274	A	O3'-P	-5.14	1.53	1.61
2	A8	1930	G	O4'-C1'	-5.14	1.34	1.42
17	AM	112	LEU	N-CA	-5.14	1.39	1.46
2	A8	1068	G	O3'-P	-5.13	1.53	1.61
2	A8	2389	G	C1'-N9	-5.13	1.40	1.48
2	A8	2570	G	P-O5'	-5.13	1.52	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	BA	71	A	C2'-C1'	-5.13	1.45	1.53
2	A8	1701	A	C2'-C1'	-5.13	1.45	1.53
28	AX	22	ASN	CA-C	-5.13	1.45	1.53
2	A8	686	U	P-O5'	-5.13	1.52	1.59
36	BA	1512	U	C2'-C1'	-5.13	1.45	1.53
29	AY	25	GLN	CA-C	-5.13	1.46	1.52
2	A8	1225	G	C2'-C1'	-5.13	1.45	1.53
2	A8	2889	C	P-O5'	-5.13	1.52	1.59
37	BB	140	LEU	CA-C	-5.13	1.47	1.53
2	A8	28	A	C2'-C1'	-5.12	1.45	1.53
2	A8	1532	A	P-O5'	-5.12	1.52	1.59
2	A8	1802	A	C2'-C1'	-5.12	1.45	1.53
23	AS	8	ARG	CA-C	-5.12	1.46	1.52
2	A8	2672	U	P-O5'	-5.12	1.52	1.59
36	BA	1416	G	P-O5'	-5.12	1.52	1.59
2	A8	1141	U	O3'-P	-5.12	1.53	1.61
12	AH	87	GLU	CA-C	-5.12	1.46	1.52
2	A8	842	U	P-O5'	-5.11	1.52	1.59
36	BA	697	U	P-O5'	-5.11	1.52	1.59
2	A8	1301	A	C1'-N9	-5.11	1.39	1.47
2	A8	2593	U	C2'-C1'	-5.11	1.45	1.53
1	A7	15	A	C2'-C1'	-5.11	1.45	1.53
36	BA	522	C	P-O5'	-5.11	1.52	1.59
42	BG	61	PHE	CA-C	-5.11	1.49	1.52
2	A8	479	A	C2'-C1'	-5.11	1.45	1.53
2	A8	1411	U	C2'-C1'	-5.11	1.45	1.53
36	BA	327	A	C1'-N9	-5.11	1.39	1.47
1	A7	79	G	P-O5'	-5.10	1.52	1.59
36	BA	761	G	C2'-C1'	-5.10	1.45	1.53
2	A8	2759	G	O3'-P	-5.10	1.53	1.61
2	A8	499	U	C2'-C1'	-5.10	1.45	1.53
2	A8	2713	U	O3'-P	-5.10	1.53	1.61
8	AD	39	ASP	CA-C	-5.10	1.46	1.52
28	AX	21	LEU	CA-C	-5.10	1.46	1.52
2	A8	666	A	C1'-N9	-5.10	1.40	1.48
2	A8	1258	U	P-O5'	-5.10	1.52	1.59
2	A8	1310	G	C2'-C1'	-5.10	1.45	1.53
2	A8	2335	A	C2'-C1'	-5.10	1.45	1.53
2	A8	2588	G	C2'-C1'	-5.10	1.45	1.53
2	A8	257	C	P-O5'	-5.09	1.52	1.59
2	A8	1979	U	C2'-C1'	-5.09	1.45	1.53
35	A4	26	ILE	CA-C	-5.09	1.46	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	BA	281	G	O3'-P	-5.09	1.53	1.61
2	A8	1267	U	P-O5'	-5.09	1.52	1.59
2	A8	2270	A	O3'-P	-5.09	1.53	1.61
2	A8	2902	C	C2'-C1'	-5.09	1.45	1.53
13	AI	4	VAL	CA-C	-5.09	1.47	1.52
18	AN	82	GLU	CA-C	-5.09	1.46	1.52
2	A8	752	A	C2'-C1'	-5.08	1.45	1.53
39	BD	144	ILE	CA-C	-5.08	1.47	1.53
2	A8	2889	C	C2'-C1'	-5.08	1.45	1.53
17	AM	58	LYS	CA-C	-5.08	1.46	1.52
2	A8	2075	U	C2'-C1'	-5.08	1.45	1.53
2	A8	2626	C	C2'-C1'	-5.08	1.45	1.53
7	A6	189	ALA	CA-C	-5.08	1.46	1.52
8	AD	188	LEU	CA-C	-5.08	1.46	1.52
42	BG	118	ARG	CA-C	-5.08	1.46	1.52
44	BI	61	ASP	CA-C	-5.08	1.46	1.52
2	A8	489	G	O3'-P	-5.08	1.53	1.61
2	A8	1689	A	C2'-C1'	-5.08	1.45	1.53
2	A8	2523	G	C2'-C1'	-5.08	1.45	1.53
30	AZ	8	GLN	CA-C	-5.08	1.46	1.52
36	BA	1083	U	O3'-P	-5.08	1.53	1.61
43	BH	60	LEU	CA-C	-5.08	1.46	1.52
2	A8	1905	C	C2'-C1'	-5.08	1.45	1.53
20	AP	101	GLU	CA-C	-5.08	1.46	1.52
2	A8	1904	G	P-O5'	-5.07	1.52	1.59
36	BA	270	A	C2'-C1'	-5.07	1.45	1.53
2	A8	314	C	P-O5'	-5.07	1.52	1.59
52	BQ	76	ARG	CA-C	-5.07	1.46	1.52
2	A8	2840	C	P-O5'	-5.07	1.52	1.59
2	A8	1558	C	C4'-O4'	-5.07	1.38	1.45
2	A8	2218	G	P-O5'	-5.07	1.52	1.59
36	BA	678	U	P-O5'	-5.07	1.52	1.59
1	A7	62	C	P-O5'	-5.06	1.52	1.59
2	A8	1857	G	O3'-P	-5.06	1.53	1.61
2	A8	1742	U	C2'-C1'	-5.06	1.45	1.53
2	A8	799	G	O3'-P	-5.06	1.53	1.61
2	A8	820	A	C2'-C1'	-5.06	1.45	1.53
2	A8	1316	U	P-O5'	-5.06	1.52	1.59
41	BF	92	THR	CA-C	-5.06	1.46	1.52
36	BA	1527	U	C2'-C1'	-5.06	1.45	1.53
2	A8	828	U	C4'-O4'	-5.06	1.38	1.45
2	A8	2457	U	P-O5'	-5.05	1.52	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
21	AQ	59	LEU	CA-C	-5.05	1.45	1.52
2	A8	1433	A	C2'-C1'	-5.05	1.45	1.53
36	BA	1198	G	P-O5'	-5.05	1.52	1.59
47	BL	38	THR	N-CA	-5.05	1.40	1.46
2	A8	743	A	P-O5'	-5.05	1.52	1.59
14	AJ	14	ASP	CA-C	-5.05	1.46	1.52
36	BA	542	G	C2'-C1'	-5.05	1.45	1.53
2	A8	862	G	P-O5'	-5.04	1.52	1.59
36	BA	850	U	C2'-C1'	-5.04	1.45	1.53
2	A8	445	C	C1'-N1	-5.04	1.40	1.48
2	A8	293	U	P-O5'	-5.04	1.52	1.59
36	BA	530	G	C4'-O4'	-5.04	1.38	1.45
2	A8	285	G	O3'-P	-5.04	1.53	1.61
2	A8	1700	A	C1'-N9	-5.04	1.40	1.48
2	A8	2284	A	C2'-C1'	-5.04	1.45	1.53
26	AV	7	GLU	CA-C	-5.04	1.46	1.52
36	BA	715	A	C2'-C1'	-5.04	1.45	1.53
2	A8	1149	G	P-O5'	-5.04	1.52	1.59
36	BA	283	U	C2'-C1'	-5.04	1.45	1.53
2	A8	247	G	O3'-P	-5.03	1.53	1.61
55	BT	48	LYS	CA-C	-5.03	1.46	1.52
36	BA	817	C	O3'-P	-5.03	1.53	1.61
2	A8	1230	A	P-O5'	-5.03	1.52	1.59
2	A8	2749	A	C1'-N9	-5.03	1.40	1.48
36	BA	1102	A	O4'-C1'	-5.03	1.34	1.41
2	A8	2369	A	C2'-C1'	-5.03	1.45	1.53
36	BA	393	A	C2'-C1'	-5.03	1.45	1.53
37	BB	91	VAL	CA-C	-5.03	1.46	1.52
48	BM	87	GLY	CA-C	-5.03	1.44	1.51
49	BN	40	ARG	CD-NE	5.03	1.53	1.46
2	A8	640	C	C2'-C1'	-5.02	1.45	1.53
2	A8	742	A	C2'-C1'	-5.02	1.45	1.53
2	A8	1430	G	P-O5'	-5.02	1.52	1.59
2	A8	2014	A	C2'-C1'	-5.02	1.45	1.53
36	BA	1306	A	C1'-N9	-5.02	1.40	1.48
7	A6	2	VAL	CA-C	-5.02	1.46	1.52
36	BA	856	C	P-O5'	-5.02	1.52	1.59
36	BA	1283	U	C2'-C1'	-5.02	1.45	1.53
2	A8	650	C	C2'-C1'	-5.02	1.45	1.53
2	A8	851	C	C2'-C1'	-5.02	1.45	1.53
2	A8	2362	C	P-O5'	-5.02	1.52	1.59
2	A8	57	C	P-O5'	-5.02	1.52	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	BA	927	G	C2'-C1'	-5.02	1.45	1.53
8	AD	115	GLY	CA-C	-5.02	1.47	1.52
21	AQ	98	ALA	N-CA	-5.02	1.41	1.46
40	BE	75	LEU	CA-C	-5.02	1.46	1.52
2	A8	2583	G	C2'-C1'	-5.01	1.45	1.53
2	A8	2567	G	C2'-C1'	-5.01	1.45	1.53
2	A8	798	G	C2'-C1'	-5.01	1.45	1.53
36	BA	284	C	C2'-C1'	-5.01	1.45	1.53
36	BA	530	G	O3'-P	-5.01	1.53	1.61
2	A8	374	A	P-O5'	-5.01	1.52	1.59
2	A8	1268	A	P-O5'	-5.01	1.52	1.59
2	A8	1916	A	C2'-C1'	-5.01	1.45	1.53
2	A8	2815	C	C2'-C1'	-5.01	1.45	1.53
36	BA	786	G	C3'-C2'	-5.01	1.45	1.52
44	BI	19	PHE	CA-C	-5.01	1.46	1.52
2	A8	858	G	O4'-C1'	-5.00	1.34	1.42
2	A8	2097	A	P-O5'	-5.00	1.52	1.59
46	BK	86	LYS	CA-C	-5.00	1.47	1.52
2	A8	984	A	P-O5'	-5.00	1.52	1.59
2	A8	1969	A	C1'-N9	-5.00	1.40	1.48
36	BA	1436	U	P-O5'	-5.00	1.52	1.59

All (4924) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2283	C	P-O5'-C5'	17.12	146.58	120.90
2	A8	984	A	P-O5'-C5'	16.80	146.10	120.90
36	BA	49	U	P-O3'-C3'	16.57	145.05	120.20
2	A8	1275	A	P-O3'-C3'	15.66	143.68	120.20
12	AH	134	VAL	N-CA-C	-15.58	96.83	111.48
2	A8	2042	A	P-O3'-C3'	15.29	143.13	120.20
36	BA	1448	C	P-O5'-C5'	14.78	143.07	120.90
2	A8	670	A	P-O3'-C3'	14.62	142.14	120.20
36	BA	1169	A	P-O5'-C5'	14.07	142.01	120.90
2	A8	1529	G	P-O5'-C5'	13.85	141.68	120.90
36	BA	460	A	P-O5'-C5'	13.59	141.29	120.90
36	BA	60	A	P-O3'-C3'	13.49	140.44	120.20
2	A8	959	A	P-O5'-C5'	13.41	141.02	120.90
2	A8	2609	U	P-O3'-C3'	13.22	140.04	120.20
2	A8	728	G	P-O3'-C3'	13.17	139.95	120.20
2	A8	2405	G	P-O3'-C3'	13.12	139.88	120.20
2	A8	876	C	C5'-C4'-C3'	-12.92	96.62	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2760	C	C5'-C4'-C3'	-12.89	96.67	116.00
36	BA	1201	A	P-O3'-C3'	12.73	139.29	120.20
2	A8	488	G	P-O3'-C3'	12.62	139.12	120.20
2	A8	2471	A	O4'-C1'-N9	12.61	127.42	108.50
39	BD	79	ALA	N-CA-C	12.52	127.61	113.21
36	BA	244	U	C5'-C4'-C3'	-12.46	96.50	115.20
2	A8	2603	G	C5'-C4'-C3'	-12.44	97.33	116.00
2	A8	2407	A	C5'-C4'-C3'	-12.41	97.39	116.00
36	BA	1065	U	P-O3'-C3'	12.25	138.57	120.20
2	A8	286	U	C5'-C4'-C3'	-12.21	97.68	116.00
36	BA	1228	C	C5'-C4'-C3'	-12.20	97.70	116.00
2	A8	2599	G	C5'-C4'-C3'	-12.20	97.70	116.00
2	A8	2412	A	C5'-C4'-C3'	-12.14	97.80	116.00
2	A8	1498	C	P-O5'-C5'	11.98	138.87	120.90
2	A8	1432	G	C5'-C4'-C3'	-11.88	98.18	116.00
2	A8	2470	G	C5'-C4'-C3'	-11.82	98.27	116.00
2	A8	2448	A	P-O3'-C3'	11.78	137.87	120.20
2	A8	1624	U	C5'-C4'-C3'	-11.73	98.40	116.00
11	AG	120	ILE	N-CA-C	-11.65	92.98	108.35
2	A8	2416	C	P-O5'-C5'	11.59	138.29	120.90
2	A8	2468	A	O4'-C1'-C2'	11.58	117.38	105.80
2	A8	2468	A	O4'-C1'-N9	11.52	125.48	108.20
2	A8	2609	U	O3'-P-O5'	11.45	121.17	104.00
2	A8	2430	A	C5'-C4'-C3'	11.45	133.17	116.00
36	BA	267	C	P-O5'-C5'	11.45	138.07	120.90
2	A8	2076	U	P-O3'-C3'	11.44	137.35	120.20
2	A8	890	C	P-O3'-C3'	11.42	137.33	120.20
2	A8	1530	G	O3'-P-O5'	-11.41	86.89	104.00
36	BA	1457	G	C5'-C4'-C3'	11.31	132.97	116.00
2	A8	2267	A	C5'-C4'-C3'	11.27	132.91	116.00
2	A8	134	G	C5'-C4'-C3'	-11.21	99.18	116.00
3	AA	300	VAL	N-CA-C	-11.19	103.08	113.71
2	A8	2320	U	P-O5'-C5'	11.18	137.67	120.90
2	A8	1848	A	P-O5'-C5'	11.12	137.59	120.90
2	A8	2750	A	O3'-P-O5'	-11.09	87.37	104.00
2	A8	2604	U	C5'-C4'-C3'	-11.07	99.39	116.00
2	A8	2763	G	P-O3'-C3'	11.06	136.80	120.20
2	A8	1230	A	C5'-C4'-C3'	-11.06	99.41	116.00
2	A8	2727	A	C5'-C4'-C3'	-11.06	99.42	116.00
30	AZ	22	THR	CA-C-N	11.05	135.09	120.28
30	AZ	22	THR	C-N-CA	11.05	135.09	120.28
2	A8	1263	U	P-O3'-C3'	11.04	136.76	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	868	U	C5'-C4'-C3'	-11.04	99.45	116.00
2	A8	1089	A	P-O3'-C3'	-11.01	103.69	120.20
2	A8	1955	U	O5'-C5'-C4'	-10.99	95.21	111.70
2	A8	2600	A	P-O5'-C5'	10.98	137.37	120.90
2	A8	2430	A	P-O5'-C5'	10.93	137.30	120.90
36	BA	935	A	P-O5'-C5'	10.93	137.30	120.90
2	A8	742	A	C5'-C4'-C3'	-10.92	99.63	116.00
36	BA	246	A	P-O3'-C3'	10.91	136.57	120.20
36	BA	1362	A	C5'-C4'-C3'	10.87	131.51	115.20
52	BQ	47	ASP	CA-CB-CG	-10.79	101.81	112.60
2	A8	2504	U	P-O3'-C3'	10.79	136.38	120.20
3	AA	358	LYS	N-CA-C	-10.78	102.33	114.62
40	BE	139	THR	N-CA-C	-10.73	102.39	114.62
2	A8	1531	C	P-O5'-C5'	-10.68	104.88	120.90
2	A8	2244	U	P-O5'-C5'	10.67	136.91	120.90
2	A8	968	C	C5'-C4'-C3'	-10.64	100.04	116.00
36	BA	900	A	C5'-C4'-C3'	-10.63	100.05	116.00
2	A8	1956	U	C5'-C4'-C3'	-10.62	100.07	116.00
36	BA	238	A	P-O3'-C3'	10.55	136.03	120.20
2	A8	12	U	C5'-C4'-C3'	10.52	131.78	116.00
9	AE	108	ILE	N-CA-C	-10.49	103.25	113.53
2	A8	1198	U	O3'-P-O5'	-10.46	88.31	104.00
36	BA	300	A	C5'-C4'-C3'	-10.45	100.33	116.00
2	A8	2813	A	C5'-C4'-C3'	-10.41	100.39	116.00
2	A8	2479	U	P-O5'-C5'	10.40	136.50	120.90
19	AO	111	ARG	N-CA-C	-10.37	100.74	113.50
46	BK	83	VAL	N-CA-C	10.32	123.30	109.37
2	A8	739	A	P-O5'-C5'	10.27	136.31	120.90
40	BE	42	ASN	N-CA-C	-10.17	103.03	114.62
36	BA	840	C	P-O5'-C5'	10.15	136.13	120.90
2	A8	2698	U	P-O5'-C5'	10.15	136.12	120.90
2	A8	2134	A	P-O3'-C3'	10.14	135.41	120.20
46	BK	82	GLU	CA-C-N	10.14	134.12	120.63
46	BK	82	GLU	C-N-CA	10.14	134.12	120.63
2	A8	503	A	P-O3'-C3'	10.13	135.40	120.20
47	BL	25	ALA	N-CA-C	-10.12	103.09	114.62
36	BA	652	U	P-O3'-C3'	10.07	135.31	120.20
2	A8	2769	U	C5'-C4'-C3'	-10.04	100.94	116.00
36	BA	724	G	P-O5'-C5'	10.03	135.95	120.90
53	BR	24	ASP	CA-C-N	10.01	133.51	120.60
53	BR	24	ASP	C-N-CA	10.01	133.51	120.60
1	A7	15	A	C1'-O4'-C4'	-10.00	99.70	109.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	433	G	C5'-C4'-C3'	-9.93	101.11	116.00
2	A8	1115	G	C5'-C4'-C3'	-9.92	101.11	116.00
2	A8	1634	A	C5'-C4'-C3'	-9.92	100.32	115.20
2	A8	2420	C	P-O5'-C5'	9.92	135.77	120.90
2	A8	960	A	P-O5'-C5'	9.91	135.77	120.90
2	A8	2810	A	P-O5'-C5'	9.90	135.75	120.90
36	BA	820	U	P-O3'-C3'	9.90	135.06	120.20
1	A7	21	G	C5'-C4'-C3'	-9.85	101.23	116.00
27	AW	44	PHE	CA-CB-CG	-9.84	103.96	113.80
2	A8	2021	C	P-O3'-C3'	9.83	134.95	120.20
2	A8	188	G	C5'-C4'-C3'	-9.81	101.28	116.00
43	BH	125	ILE	N-CA-C	-9.80	104.40	113.71
36	BA	450	G	P-O5'-C5'	9.77	135.56	120.90
2	A8	2064	C	C5'-C4'-C3'	-9.76	101.37	116.00
36	BA	590	U	C5'-C4'-C3'	-9.75	101.38	116.00
2	A8	124	G	P-O5'-C5'	9.74	135.52	120.90
2	A8	2036	C	C5'-C4'-C3'	-9.74	101.39	116.00
44	BI	18	VAL	N-CA-C	-9.74	93.27	107.78
2	A8	1268	A	C5'-C4'-C3'	-9.73	101.41	116.00
3	AA	382	ARG	N-CA-C	-9.72	101.98	114.04
2	A8	2811	G	C5'-C4'-C3'	-9.72	101.42	116.00
2	A8	2413	G	C5'-C4'-C3'	-9.72	101.43	116.00
2	A8	461	C	C5'-C4'-C3'	-9.71	101.43	116.00
2	A8	2512	C	C5'-C4'-C3'	-9.71	101.43	116.00
18	AN	67	PHE	N-CA-C	-9.68	103.58	114.62
2	A8	2705	A	P-O5'-C5'	-9.66	106.41	120.90
36	BA	254	G	C5'-C4'-C3'	-9.65	101.52	116.00
2	A8	2852	G	P-O5'-C5'	9.64	135.36	120.90
2	A8	27	G	C5'-C4'-C3'	9.63	130.45	116.00
36	BA	156	C	C5'-C4'-C3'	-9.63	101.55	116.00
36	BA	322	C	C5'-C4'-C3'	-9.62	101.56	116.00
36	BA	494	G	P-O5'-C5'	9.62	135.34	120.90
2	A8	1097	U	C5'-C4'-C3'	-9.62	101.56	116.00
36	BA	268	U	C5'-C4'-C3'	-9.62	101.57	116.00
36	BA	306	A	P-O5'-C5'	9.62	135.32	120.90
2	A8	1195	G	C5'-C4'-C3'	-9.61	101.59	116.00
39	BD	204	SER	N-CA-C	9.61	124.80	112.89
2	A8	123	G	C5'-C4'-C3'	-9.58	101.64	116.00
2	A8	2282	G	C2'-C3'-O3'	9.57	123.86	109.50
2	A8	2525	G	C5'-C4'-C3'	-9.56	101.66	116.00
2	A8	1181	U	C5'-C4'-C3'	-9.55	101.68	116.00
36	BA	778	G	P-O5'-C5'	9.55	135.22	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A6	29	PHE	CA-CB-CG	-9.54	104.26	113.80
6	A5	130	VAL	N-CA-C	-9.54	103.11	112.17
2	A8	202	U	C5'-C4'-C3'	-9.53	101.70	116.00
2	A8	1194	A	C5'-C4'-C3'	-9.52	101.71	116.00
2	A8	1167	C	O3'-P-O5'	-9.51	89.73	104.00
2	A8	1947	C	C5'-C4'-C3'	-9.48	101.78	116.00
36	BA	613	C	P-O5'-C5'	9.47	135.10	120.90
2	A8	1873	G	C5'-C4'-C3'	-9.47	101.80	116.00
2	A8	1846	G	C5'-C4'-C3'	-9.45	101.82	116.00
36	BA	449	G	P-O5'-C5'	9.45	135.08	120.90
2	A8	1931	U	P-O5'-C5'	-9.45	106.73	120.90
17	AM	57	VAL	N-CA-C	-9.44	103.14	113.43
2	A8	1540	G	C5'-C4'-C3'	-9.44	101.83	116.00
36	BA	472	U	C5'-C4'-C3'	-9.44	101.84	116.00
2	A8	225	C	C5'-C4'-C3'	-9.40	101.91	116.00
36	BA	169	C	P-O5'-C5'	-9.39	106.82	120.90
2	A8	562	U	C5'-C4'-C3'	9.36	130.04	116.00
2	A8	2431	U	P-O5'-C5'	9.36	134.94	120.90
2	A8	497	A	C5'-C4'-C3'	-9.36	101.97	116.00
36	BA	258	G	C5'-C4'-C3'	-9.36	101.97	116.00
2	A8	1149	G	C5'-C4'-C3'	-9.34	101.98	116.00
36	BA	1424	U	C5'-C4'-C3'	-9.32	102.01	116.00
46	BK	93	GLU	CA-C-N	9.32	133.99	120.38
46	BK	93	GLU	C-N-CA	9.32	133.99	120.38
2	A8	1467	U	C5'-C4'-C3'	9.30	129.95	116.00
2	A8	2499	C	P-O5'-C5'	9.30	134.85	120.90
36	BA	1163	A	C5'-C4'-C3'	-9.29	102.06	116.00
36	BA	173	U	O5'-C5'-C4'	-9.29	97.77	111.70
2	A8	758	C	O3'-P-O5'	-9.29	90.07	104.00
36	BA	960	U	P-O3'-C3'	9.28	134.12	120.20
2	A8	1316	U	P-O5'-C5'	9.28	134.82	120.90
2	A8	1757	A	P-O3'-C3'	9.25	134.08	120.20
36	BA	621	A	C5'-C4'-C3'	-9.25	102.13	116.00
2	A8	1699	G	O4'-C1'-N9	9.23	122.05	108.20
19	AO	106	LEU	N-CA-C	-9.23	102.84	114.56
2	A8	985	C	C5'-C4'-C3'	9.21	129.82	116.00
2	A8	1636	U	C5'-C4'-C3'	-9.21	102.19	116.00
2	A8	2587	A	C5'-C4'-C3'	9.18	129.78	116.00
28	AX	15	ASN	CA-CB-CG	-9.16	103.44	112.60
2	A8	1560	G	C5'-C4'-C3'	-9.14	102.28	116.00
2	A8	1170	C	C5'-C4'-C3'	-9.13	102.30	116.00
2	A8	2733	A	O4'-C4'-C3'	-9.13	94.87	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2583	G	C5'-C4'-C3'	-9.11	102.34	116.00
36	BA	200	G	C5'-C4'-C3'	-9.11	102.34	116.00
2	A8	1504	A	C5'-C4'-C3'	-9.10	102.35	116.00
36	BA	1108	G	P-O5'-C5'	-9.10	107.26	120.90
36	BA	513	C	P-O5'-C5'	9.09	134.53	120.90
2	A8	1061	U	O4'-C1'-C2'	-9.09	96.71	105.80
39	BD	64	TYR	N-CA-C	-9.08	103.02	114.56
2	A8	185	G	C5'-C4'-C3'	-9.08	102.38	116.00
2	A8	2557	G	C5'-C4'-C3'	-9.08	102.38	116.00
2	A8	1714	U	P-O3'-C3'	-9.08	106.59	120.20
2	A8	901	C	P-O5'-C5'	9.07	134.51	120.90
2	A8	2843	G	C5'-C4'-C3'	-9.06	102.41	116.00
2	A8	671	C	C5'-C4'-C3'	-9.04	102.43	116.00
2	A8	1177	G	P-O5'-C5'	9.04	134.46	120.90
2	A8	730	A	P-O5'-C5'	9.03	134.44	120.90
2	A8	1324	G	C5'-C4'-C3'	-9.01	101.69	115.20
36	BA	275	G	C5'-C4'-C3'	-9.01	102.49	116.00
2	A8	2061	G	O4'-C1'-C2'	-9.00	96.80	105.80
36	BA	1506	U	O3'-P-O5'	9.00	117.50	104.00
2	A8	1648	U	C5'-C4'-C3'	-9.00	102.51	116.00
2	A8	2672	U	C5'-C4'-C3'	-8.99	102.51	116.00
2	A8	2489	U	C5'-C4'-C3'	-8.99	102.51	116.00
2	A8	1057	A	C5'-C4'-C3'	8.98	129.47	116.00
36	BA	803	G	C5'-C4'-C3'	-8.97	102.55	116.00
2	A8	1344	U	P-O3'-C3'	-8.96	106.76	120.20
2	A8	1965	C	P-O5'-C5'	8.96	134.33	120.90
40	BE	140	ILE	N-CA-C	-8.95	103.97	112.83
2	A8	1488	C	C5'-C4'-C3'	-8.93	102.60	116.00
2	A8	267	C	C5'-C4'-C3'	-8.91	102.64	116.00
36	BA	468	A	C5'-C4'-C3'	-8.91	102.64	116.00
9	AE	52	VAL	N-CA-CB	8.89	121.61	111.21
1	A7	15	A	O4'-C1'-N9	8.89	121.53	108.20
2	A8	271	G	C5'-C4'-C3'	-8.88	101.88	115.20
19	AO	74	VAL	N-CA-C	-8.87	103.04	113.42
36	BA	1468	A	C5'-C4'-C3'	-8.85	102.72	116.00
2	A8	1750	G	C5'-C4'-C3'	-8.85	102.73	116.00
2	A8	2421	G	C5'-C4'-C3'	8.85	129.27	116.00
2	A8	259	G	C5'-C4'-C3'	-8.83	102.75	116.00
36	BA	372	C	P-O3'-C3'	8.83	133.45	120.20
36	BA	859	G	P-O5'-C5'	-8.83	107.65	120.90
10	AF	96	TRP	N-CA-C	-8.82	102.65	113.41
2	A8	251	A	C5'-C4'-C3'	-8.81	102.79	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2741	A	C5'-C4'-C3'	-8.81	102.79	116.00
2	A8	2561	U	C5'-C4'-C3'	-8.80	102.79	116.00
36	BA	742	G	C5'-C4'-C3'	-8.79	102.81	116.00
36	BA	76	G	P-O5'-C5'	8.79	134.09	120.90
2	A8	1503	A	C5'-C4'-C3'	-8.77	102.84	116.00
37	BB	183	PHE	CA-CB-CG	-8.77	105.03	113.80
36	BA	441	A	C5'-C4'-C3'	-8.76	102.87	116.00
2	A8	472	A	P-O3'-C3'	8.74	133.31	120.20
36	BA	928	G	C5'-C4'-C3'	8.74	129.11	116.00
33	A2	9	VAL	N-CA-C	-8.73	104.63	113.10
2	A8	2697	G	C5'-C4'-C3'	8.73	129.09	116.00
2	A8	36	G	C5'-C4'-C3'	-8.72	102.91	116.00
2	A8	1763	G	P-O5'-C5'	-8.72	107.82	120.90
2	A8	2765	A	C5'-C4'-C3'	-8.72	102.92	116.00
2	A8	1300	G	P-O3'-C3'	8.72	133.28	120.20
2	A8	1111	A	P-O5'-C5'	8.71	133.97	120.90
17	AM	53	MET	N-CA-C	-8.70	102.80	113.50
47	BL	8	ARG	N-CA-C	-8.70	102.24	113.12
2	A8	39	G	C5'-C4'-C3'	-8.70	102.95	116.00
2	A8	1093	G	C2'-C3'-O3'	8.70	126.74	113.70
2	A8	1530	G	O4'-C4'-C3'	-8.69	95.31	104.00
36	BA	429	U	P-O3'-C3'	8.69	133.23	120.20
2	A8	2254	C	C5'-C4'-C3'	-8.68	102.97	116.00
2	A8	45	G	P-O3'-C3'	8.68	133.22	120.20
2	A8	2171	A	P-O3'-C3'	8.67	133.21	120.20
2	A8	2707	U	C5'-C4'-C3'	-8.67	103.00	116.00
2	A8	625	G	P-O5'-C5'	-8.67	107.90	120.90
2	A8	2282	G	P-O3'-C3'	8.67	133.20	120.20
2	A8	2405	G	C2'-C3'-O3'	8.66	122.50	109.50
36	BA	907	A	O5'-C5'-C4'	8.66	124.50	111.50
36	BA	888	G	C5'-C4'-C3'	-8.66	103.01	116.00
2	A8	1731	G	C5'-C4'-C3'	-8.66	102.22	115.20
2	A8	1320	C	P-O3'-C3'	8.65	133.18	120.20
2	A8	1532	A	C5'-C4'-C3'	-8.64	103.04	116.00
36	BA	304	U	C5'-C4'-C3'	-8.64	103.04	116.00
2	A8	1869	G	C5'-C4'-C3'	-8.64	103.04	116.00
35	A4	27	CYS	N-CA-C	-8.64	94.82	108.90
54	BS	5	LYS	N-CA-CB	8.64	125.09	110.49
36	BA	761	G	C5'-C4'-C3'	-8.63	103.05	116.00
45	BJ	83	THR	CA-C-N	8.63	132.29	120.46
45	BJ	83	THR	C-N-CA	8.63	132.29	120.46
2	A8	1241	A	C5'-C4'-C3'	8.63	128.94	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1173	U	C5'-C4'-C3'	-8.62	103.07	116.00
36	BA	1237	C	P-O3'-C3'	8.61	133.12	120.20
28	AX	28	PHE	CA-CB-CG	8.61	122.41	113.80
2	A8	2614	A	C5'-C4'-C3'	-8.61	102.29	115.20
21	AQ	92	LYS	N-CA-C	-8.61	104.81	114.62
2	A8	313	G	C5'-C4'-C3'	-8.60	103.10	116.00
2	A8	2082	A	C5'-C4'-C3'	-8.60	103.10	116.00
33	A2	15	SER	N-CA-C	-8.60	103.64	114.56
2	A8	2021	C	P-O5'-C5'	-8.58	108.03	120.90
1	A7	27	C	P-O5'-C5'	8.57	133.76	120.90
2	A8	762	U	P-O3'-C3'	8.57	133.06	120.20
2	A8	1945	G	P-O5'-C5'	8.57	133.75	120.90
36	BA	805	C	C5'-C4'-C3'	-8.57	103.15	116.00
21	AQ	9	ALA	N-CA-C	-8.56	102.85	113.38
1	A7	29	A	P-O3'-C3'	8.56	133.04	120.20
36	BA	203	G	P-O3'-C3'	-8.55	107.37	120.20
2	A8	2384	U	C5'-C4'-C3'	-8.54	102.39	115.20
10	AF	100	GLU	N-CA-C	-8.54	104.89	114.62
2	A8	1640	A	O5'-C5'-C4'	-8.53	98.70	111.50
2	A8	64	A	P-O5'-C5'	8.53	133.69	120.90
2	A8	1648	U	C4'-C3'-C2'	8.53	111.12	102.60
36	BA	162	A	C5'-C4'-C3'	-8.53	103.21	116.00
36	BA	916	U	C5'-C4'-C3'	-8.50	103.25	116.00
21	AQ	50	ARG	N-CA-C	-8.50	99.98	111.96
2	A8	1171	G	C5'-C4'-C3'	-8.49	103.26	116.00
2	A8	1939	U	C4'-C3'-C2'	-8.49	94.11	102.60
36	BA	1233	G	C5'-C4'-C3'	-8.48	103.28	116.00
2	A8	1349	C	P-O5'-C5'	8.47	133.61	120.90
2	A8	1529	G	P-O3'-C3'	-8.47	107.50	120.20
36	BA	886	G	C5'-C4'-C3'	-8.47	103.30	116.00
51	BP	16	PHE	N-CA-C	-8.47	97.01	110.14
36	BA	1171	A	C5'-C4'-C3'	-8.47	103.30	116.00
36	BA	1419	G	C5'-C4'-C3'	-8.46	103.31	116.00
18	AN	31	HIS	CA-CB-CG	-8.45	105.35	113.80
36	BA	992	U	C4'-C3'-O3'	-8.45	96.73	109.40
15	AK	108	SER	N-CA-C	-8.45	102.79	113.43
2	A8	623	C	C5'-C4'-C3'	-8.44	103.34	116.00
36	BA	904	U	C5'-C4'-C3'	-8.44	103.34	116.00
2	A8	880	G	P-O3'-C3'	8.44	132.86	120.20
31	A0	50	GLY	N-CA-C	-8.42	101.10	111.45
2	A8	1170	C	O3'-P-O5'	-8.41	91.38	104.00
36	BA	992	U	O5'-C5'-C4'	-8.41	99.09	111.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1093	G	P-O3'-C3'	8.40	132.80	120.20
2	A8	1932	A	C5'-C4'-C3'	-8.40	103.39	116.00
36	BA	768	A	C5'-C4'-C3'	-8.40	103.40	116.00
2	A8	35	G	O5'-C5'-C4'	-8.40	98.90	111.50
2	A8	1148	U	C5'-C4'-C3'	-8.39	103.41	116.00
2	A8	1133	A	P-O3'-C3'	8.39	132.78	120.20
2	A8	1646	C	P-O5'-C5'	8.39	133.48	120.90
36	BA	1500	A	P-O5'-C5'	8.39	133.48	120.90
2	A8	2430	A	O4'-C4'-C3'	-8.38	95.61	104.00
1	A7	79	G	C5'-C4'-C3'	-8.38	103.42	116.00
2	A8	752	A	O4'-C1'-N9	8.38	121.07	108.50
36	BA	74	A	P-O5'-C5'	8.38	133.47	120.90
2	A8	1301	A	C5'-C4'-C3'	8.38	127.77	115.20
36	BA	471	U	P-O5'-C5'	8.37	133.46	120.90
2	A8	1957	C	C4'-C3'-O3'	-8.37	100.44	113.00
2	A8	2148	G	P-O5'-C5'	8.37	133.45	120.90
2	A8	2736	A	C5'-C4'-C3'	-8.37	103.45	116.00
36	BA	270	A	C5'-C4'-C3'	-8.36	103.46	116.00
2	A8	1929	G	C5'-C4'-C3'	-8.35	102.67	115.20
2	A8	2158	A	P-O3'-C3'	8.35	132.73	120.20
2	A8	1216	G	C5'-C4'-C3'	-8.35	103.48	116.00
8	AD	58	ASN	N-CA-C	-8.35	102.66	112.92
36	BA	872	A	O4'-C4'-C3'	-8.34	97.76	106.10
2	A8	908	C	C4'-C3'-O3'	-8.34	100.49	113.00
16	AL	107	PHE	CA-CB-CG	-8.34	105.46	113.80
36	BA	243	A	C2'-C3'-O3'	8.33	122.00	109.50
2	A8	361	G	P-O5'-C5'	8.33	133.39	120.90
2	A8	2691	C	C5'-C4'-C3'	-8.33	103.51	116.00
2	A8	2389	G	C4'-C3'-C2'	8.32	110.92	102.60
11	AG	151	ARG	N-CA-C	-8.31	93.10	110.80
2	A8	214	G	P-O5'-C5'	8.31	133.36	120.90
2	A8	1377	G	P-O3'-C3'	8.30	132.66	120.20
14	AJ	106	LYS	N-CA-C	8.30	120.02	110.97
2	A8	745	G	C5'-C4'-C3'	-8.29	103.57	116.00
2	A8	762	U	C5'-C4'-C3'	8.28	127.62	115.20
2	A8	1737	G	C4'-C3'-C2'	8.28	110.88	102.60
2	A8	2152	G	P-O3'-C3'	8.28	132.61	120.20
2	A8	2237	G	P-O5'-C5'	-8.27	108.50	120.90
36	BA	60	A	C5'-C4'-C3'	-8.26	102.81	115.20
28	AX	7	THR	N-CA-C	-8.26	104.34	114.75
2	A8	2469	A	C5'-C4'-C3'	-8.25	103.62	116.00
37	BB	105	THR	N-CA-C	-8.24	102.17	112.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1361	G	C5'-C4'-C3'	-8.24	103.64	116.00
36	BA	255	G	C5'-C4'-C3'	-8.24	103.64	116.00
1	A7	93	C	O3'-P-O5'	-8.23	91.65	104.00
36	BA	348	G	C5'-C4'-C3'	-8.23	103.66	116.00
2	A8	406	G	C5'-C4'-C3'	-8.22	103.66	116.00
26	AV	31	TYR	N-CA-C	-8.22	96.58	109.07
26	AV	65	VAL	N-CA-C	-8.22	96.60	108.11
2	A8	138	U	C5'-C4'-C3'	-8.21	103.68	116.00
2	A8	1573	G	C5'-C4'-C3'	-8.20	103.69	116.00
2	A8	2415	G	C5'-C4'-O4'	8.20	122.11	109.80
36	BA	460	A	P-O3'-C3'	8.20	132.50	120.20
36	BA	861	G	C5'-C4'-C3'	-8.20	103.70	116.00
2	A8	33	C	O4'-C1'-C2'	8.19	113.99	105.80
2	A8	2489	U	C4'-C3'-O3'	-8.19	100.71	113.00
2	A8	1551	A	P-O5'-C5'	8.19	133.19	120.90
2	A8	166	U	C5'-C4'-C3'	-8.19	103.72	116.00
2	A8	1074	G	C5'-C4'-C3'	-8.19	103.72	116.00
2	A8	2178	C	O4'-C1'-N1	8.18	120.78	108.50
36	BA	583	A	C5'-C4'-C3'	-8.18	103.72	116.00
2	A8	1531	C	C4'-C3'-O3'	-8.18	100.73	113.00
8	AD	46	ARG	N-CA-C	-8.18	93.38	110.80
2	A8	22	C	C5'-C4'-C3'	-8.17	103.75	116.00
2	A8	1553	A	P-O5'-C5'	-8.17	108.65	120.90
36	BA	536	C	C5'-C4'-C3'	-8.17	103.75	116.00
2	A8	226	A	C5'-C4'-C3'	-8.16	103.75	116.00
2	A8	1533	C	P-O5'-C5'	8.16	133.15	120.90
2	A8	2471	A	P-O5'-C5'	8.16	133.15	120.90
2	A8	2706	A	C5'-C4'-C3'	-8.16	103.75	116.00
3	AA	263	ASN	CA-C-N	8.16	125.38	120.24
3	AA	263	ASN	C-N-CA	8.16	125.38	120.24
41	BF	15	SER	N-CA-C	-8.16	103.45	113.41
36	BA	898	G	C5'-C4'-C3'	-8.15	103.77	116.00
24	AT	82	LYS	N-CA-C	-8.15	96.47	109.59
2	A8	883	G	C5'-C4'-C3'	-8.14	103.79	116.00
2	A8	2597	G	O3'-P-O5'	-8.14	91.79	104.00
15	AK	43	LYS	N-CA-C	-8.14	102.36	113.18
2	A8	1098	A	P-O3'-C3'	8.13	132.40	120.20
2	A8	2659	G	C4'-C3'-O3'	-8.13	100.81	113.00
8	AD	43	ASP	CA-CB-CG	8.13	120.73	112.60
2	A8	33	C	P-O3'-C3'	-8.13	108.01	120.20
14	AJ	99	ARG	CA-C-N	8.13	131.96	120.42
14	AJ	99	ARG	C-N-CA	8.13	131.96	120.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1198	G	P-O5'-C5'	8.12	133.09	120.90
2	A8	1376	C	C5'-C4'-C3'	-8.12	103.81	116.00
2	A8	868	U	P-O5'-C5'	8.12	133.08	120.90
36	BA	800	G	C5'-C4'-C3'	-8.12	103.83	116.00
36	BA	1214	C	P-O3'-C3'	8.12	132.38	120.20
2	A8	875	G	C5'-C4'-C3'	-8.11	103.83	116.00
2	A8	2421	G	P-O3'-C3'	8.11	132.37	120.20
24	AT	69	ARG	CA-C-N	8.11	137.03	121.54
24	AT	69	ARG	C-N-CA	8.11	137.03	121.54
36	BA	835	U	P-O3'-C3'	-8.10	108.05	120.20
2	A8	2089	C	P-O5'-C5'	8.09	133.03	120.90
36	BA	787	A	C5'-C4'-C3'	-8.08	103.88	116.00
2	A8	687	C	C5'-C4'-C3'	-8.08	103.88	116.00
7	A6	17	LYS	N-CA-C	8.07	119.88	108.74
36	BA	494	G	C5'-C4'-C3'	8.07	128.11	116.00
36	BA	380	G	P-O3'-C3'	8.07	132.30	120.20
1	A7	90	C	P-O3'-C3'	-8.07	108.10	120.20
2	A8	1122	G	C5'-C4'-C3'	-8.06	103.91	116.00
2	A8	207	A	C5'-C4'-C3'	-8.06	103.91	116.00
9	AE	52	VAL	N-CA-C	-8.06	96.23	107.99
36	BA	166	U	C5'-C4'-C3'	-8.05	103.92	116.00
2	A8	170	U	C5'-C4'-C3'	-8.04	103.95	116.00
36	BA	453	G	P-O5'-C5'	8.04	132.95	120.90
33	A2	10	LEU	N-CA-C	-8.03	103.04	112.92
36	BA	167	A	C5'-C4'-C3'	-8.03	103.96	116.00
2	A8	2414	G	P-O3'-C3'	8.02	132.24	120.20
23	AS	46	LEU	N-CA-C	-8.02	103.44	113.55
36	BA	1510	C	P-O5'-C5'	8.02	132.93	120.90
2	A8	257	C	P-O5'-C5'	8.02	132.93	120.90
12	AH	30	LEU	N-CA-C	-8.02	93.72	110.80
2	A8	1026	G	C5'-C4'-C3'	8.02	128.02	116.00
36	BA	428	G	C5'-C4'-C3'	8.01	127.22	115.20
2	A8	1930	G	P-O3'-C3'	8.01	132.22	120.20
23	AS	57	ASN	N-CA-C	-8.01	104.03	113.88
2	A8	1555	G	C5'-C4'-C3'	-8.00	104.00	116.00
2	A8	803	U	P-O5'-C5'	-8.00	108.90	120.90
36	BA	339	C	C5'-C4'-C3'	-8.00	104.00	116.00
36	BA	889	A	P-O5'-C5'	-8.00	108.90	120.90
37	BB	110	ILE	N-CA-C	-8.00	104.96	112.96
2	A8	115	C	C5'-C4'-C3'	-8.00	104.00	116.00
2	A8	2778	A	P-O5'-C5'	-8.00	108.91	120.90
6	A5	149	VAL	N-CA-C	-7.99	105.41	112.12

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	698	G	C5'-C4'-C3'	-7.99	104.02	116.00
2	A8	2075	U	P-O3'-C3'	-7.99	108.22	120.20
28	AX	16	ASN	CA-CB-CG	7.98	120.58	112.60
36	BA	516	U	C5'-C4'-C3'	-7.98	104.03	116.00
36	BA	1009	U	C5'-C4'-C3'	-7.97	104.04	116.00
45	BJ	56	HIS	CA-CB-CG	7.97	121.77	113.80
1	A7	92	C	C5'-C4'-C3'	-7.97	104.05	116.00
2	A8	2430	A	C4'-C3'-C2'	7.97	110.57	102.60
36	BA	668	G	C5'-C4'-C3'	-7.97	104.05	116.00
2	A8	1394	U	P-O3'-C3'	-7.97	108.25	120.20
2	A8	2421	G	O3'-P-O5'	7.96	115.94	104.00
34	A3	6	VAL	CA-C-N	7.96	136.75	121.54
34	A3	6	VAL	C-N-CA	7.96	136.75	121.54
48	BM	77	LYS	N-CA-C	-7.96	103.70	113.41
2	A8	2418	A	P-O5'-C5'	-7.96	108.96	120.90
2	A8	2671	G	C5'-C4'-C3'	-7.96	104.06	116.00
36	BA	690	G	C5'-C4'-C3'	-7.96	104.06	116.00
3	AA	377	GLU	CA-C-N	7.96	131.28	120.38
3	AA	377	GLU	C-N-CA	7.96	131.28	120.38
36	BA	432	A	C5'-C4'-C3'	-7.95	104.08	116.00
18	AN	76	VAL	N-CA-C	-7.94	104.97	112.83
36	BA	592	G	C5'-C4'-C3'	-7.94	104.09	116.00
56	BU	13	VAL	N-CA-C	-7.94	105.28	112.90
2	A8	809	G	P-O5'-C5'	-7.93	109.00	120.90
2	A8	1575	C	P-O5'-C5'	-7.93	109.00	120.90
2	A8	2737	G	C5'-C4'-C3'	-7.92	104.11	116.00
48	BM	105	ALA	N-CA-C	-7.92	100.71	110.61
2	A8	950	G	C5'-C4'-C3'	-7.92	104.12	116.00
2	A8	2766	A	O3'-P-O5'	-7.92	92.12	104.00
36	BA	1507	A	P-O5'-C5'	-7.92	109.03	120.90
55	BT	77	ASN	CB-CA-C	-7.90	97.42	110.85
36	BA	232	G	C5'-C4'-C3'	-7.90	104.15	116.00
2	A8	734	A	C5'-C4'-C3'	-7.89	104.17	116.00
9	AE	199	MET	CB-CA-C	-7.89	98.99	109.16
2	A8	2764	A	C4'-C3'-O3'	-7.88	101.17	113.00
2	A8	882	G	C5'-C4'-C3'	-7.88	104.18	116.00
29	AY	26	PHE	CA-CB-CG	-7.88	105.92	113.80
36	BA	56	U	C5'-C4'-C3'	-7.88	104.18	116.00
26	AV	30	ILE	N-CA-C	-7.88	97.10	108.53
2	A8	169	G	C5'-C4'-C3'	-7.87	104.19	116.00
2	A8	2425	A	C1'-O4'-C4'	-7.87	101.83	109.70
2	A8	2063	C	O3'-P-O5'	-7.87	92.20	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2759	G	C5'-C4'-C3'	-7.87	104.20	116.00
2	A8	864	G	C5'-C4'-C3'	-7.86	104.21	116.00
36	BA	459	A	C5'-C4'-C3'	-7.86	104.21	116.00
36	BA	1423	G	C5'-C4'-C3'	7.86	127.79	116.00
33	A2	12	ARG	N-CA-C	7.85	120.60	111.02
36	BA	1398	A	P-O5'-C5'	7.85	132.68	120.90
2	A8	919	U	C5'-C4'-C3'	-7.85	104.23	116.00
38	BC	168	ARG	N-CA-C	-7.85	97.80	109.81
1	A7	86	G	O3'-P-O5'	-7.85	92.23	104.00
17	AM	45	GLN	N-CA-C	-7.85	103.73	113.38
2	A8	70	G	P-O3'-C3'	-7.85	108.43	120.20
2	A8	1611	C	C5'-C4'-C3'	-7.84	104.24	116.00
36	BA	932	C	C5'-C4'-C3'	-7.84	104.24	116.00
2	A8	1093	G	C5'-C4'-C3'	-7.84	104.24	116.00
3	AA	305	TYR	N-CA-CB	7.84	121.44	110.07
50	BO	23	SER	CA-C-N	7.84	132.57	120.82
50	BO	23	SER	C-N-CA	7.84	132.57	120.82
50	BO	39	GLN	N-CA-C	-7.84	103.51	113.23
2	A8	1139	G	P-O5'-C5'	7.83	132.65	120.90
2	A8	2213	U	P-O3'-C3'	7.83	131.94	120.20
46	BK	84	MET	CA-C-N	7.83	131.04	120.63
46	BK	84	MET	C-N-CA	7.83	131.04	120.63
36	BA	1501	C	P-O5'-C5'	-7.82	109.17	120.90
11	AG	142	GLN	N-CA-C	-7.82	102.82	113.30
21	AQ	84	LYS	N-CA-C	-7.82	103.70	113.55
30	AZ	44	ARG	N-CA-CB	7.82	122.02	110.53
2	A8	2735	G	C5'-C4'-C3'	-7.81	104.28	116.00
7	A6	146	LYS	N-CA-C	-7.81	98.63	110.50
2	A8	2482	A	C5'-C4'-C3'	-7.81	104.29	116.00
36	BA	435	A	C5'-C4'-C3'	-7.81	104.29	116.00
36	BA	508	U	P-O3'-C3'	7.80	131.91	120.20
2	A8	1446	C	C5'-C4'-C3'	-7.80	104.30	116.00
2	A8	1461	C	C5'-C4'-C3'	7.80	127.70	116.00
2	A8	1794	A	C5'-C4'-C3'	-7.79	104.31	116.00
2	A8	1129	A	C1'-O4'-C4'	-7.79	101.91	109.70
2	A8	1744	A	P-O5'-C5'	-7.79	109.21	120.90
6	A5	152	ALA	CA-C-N	7.79	130.38	120.56
6	A5	152	ALA	C-N-CA	7.79	130.38	120.56
38	BC	27	GLU	N-CA-C	-7.79	104.00	113.97
2	A8	2095	A	C5'-C4'-C3'	-7.79	104.32	116.00
2	A8	1373	A	P-O5'-C5'	7.78	132.57	120.90
2	A8	89	A	P-O5'-C5'	-7.78	109.23	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2436	G	C5'-C4'-C3'	-7.78	104.34	116.00
36	BA	452	A	C5'-C4'-C3'	-7.78	104.34	116.00
4	AB	27	LYS	CA-C-N	7.77	129.56	119.84
4	AB	27	LYS	C-N-CA	7.77	129.56	119.84
2	A8	133	U	C5'-C4'-C3'	-7.77	104.35	116.00
36	BA	75	G	O3'-P-O5'	-7.76	92.36	104.00
36	BA	463	U	C5'-C4'-C3'	-7.76	104.36	116.00
2	A8	2296	U	P-O3'-C3'	7.76	131.84	120.20
11	AG	55	ASP	CA-CB-CG	-7.76	104.84	112.60
2	A8	142	A	O4'-C4'-C3'	-7.76	96.24	104.00
2	A8	1642	G	P-O5'-C5'	7.75	132.53	120.90
2	A8	353	C	C5'-C4'-C3'	-7.75	104.38	116.00
2	A8	1579	A	O3'-P-O5'	-7.75	92.38	104.00
2	A8	2428	G	P-O3'-C3'	7.75	131.82	120.20
12	AH	98	ASP	CA-CB-CG	-7.75	104.85	112.60
11	AG	91	VAL	N-CA-C	-7.74	105.47	112.90
2	A8	14	A	C5'-C4'-C3'	-7.74	104.39	116.00
36	BA	248	C	C4'-C3'-O3'	-7.74	101.39	113.00
2	A8	671	C	C4'-C3'-O3'	-7.74	101.39	113.00
2	A8	1328	A	C5'-C4'-C3'	-7.74	104.40	116.00
24	AT	70	HIS	N-CA-CB	7.74	123.56	110.49
36	BA	696	A	C5'-C4'-C3'	-7.74	104.40	116.00
45	BJ	79	PRO	N-CA-C	-7.74	105.72	114.92
2	A8	374	A	C5'-C4'-C3'	-7.73	104.40	116.00
2	A8	2081	U	O3'-P-O5'	-7.73	92.40	104.00
2	A8	315	G	P-O5'-C5'	-7.73	109.30	120.90
2	A8	1530	G	C4'-C3'-O3'	-7.73	101.40	113.00
36	BA	594	U	C5'-C4'-C3'	-7.73	104.41	116.00
2	A8	1368	G	C5'-C4'-C3'	-7.73	104.41	116.00
36	BA	485	U	P-O3'-C3'	-7.72	108.62	120.20
2	A8	704	G	O4'-C1'-N9	7.72	120.08	108.50
2	A8	791	C	P-O3'-C3'	7.72	131.77	120.20
2	A8	2043	C	O3'-P-O5'	-7.71	92.43	104.00
39	BD	99	ASN	N-CA-C	-7.71	102.43	112.68
2	A8	1935	G	C5'-C4'-C3'	-7.71	104.44	116.00
2	A8	1469	A	P-O5'-C5'	7.71	132.46	120.90
2	A8	2899	A	C5'-C4'-C3'	-7.71	104.44	116.00
2	A8	2752	C	C5'-C4'-C3'	-7.70	104.45	116.00
36	BA	652	U	C2'-C3'-O3'	7.70	121.05	109.50
2	A8	2889	C	C5'-C4'-C3'	-7.70	104.45	116.00
18	AN	102	PHE	CA-CB-CG	-7.70	106.10	113.80
19	AO	4	LYS	N-CA-C	-7.70	102.77	114.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	AE	145	ASP	CA-CB-CG	-7.70	104.90	112.60
9	AE	146	VAL	N-CA-C	-7.70	97.37	108.53
36	BA	95	C	C5'-C4'-C3'	-7.70	104.45	116.00
14	AJ	108	MET	N-CA-C	-7.70	104.38	114.31
2	A8	1175	A	C5'-C4'-C3'	7.69	127.53	116.00
52	BQ	27	PHE	CA-CB-CG	-7.69	106.11	113.80
20	AP	52	ARG	N-CA-C	-7.68	102.24	111.69
37	BB	91	VAL	N-CA-C	-7.68	96.41	107.77
36	BA	322	C	C4'-C3'-O3'	-7.68	101.48	113.00
1	A7	109	A	C5'-C4'-C3'	-7.67	104.49	116.00
2	A8	1874	C	P-O5'-C5'	7.67	132.40	120.90
26	AV	80	HIS	N-CA-C	-7.67	100.41	110.07
39	BD	77	GLU	N-CA-C	-7.67	104.45	113.88
2	A8	42	A	C5'-C4'-C3'	-7.66	104.51	116.00
24	AT	47	VAL	N-CA-C	-7.66	105.67	113.10
2	A8	1274	A	P-O3'-C3'	-7.66	108.71	120.20
1	A7	16	G	P-O5'-C5'	7.66	132.39	120.90
2	A8	1140	C	C4'-C3'-O3'	-7.66	101.51	113.00
2	A8	2432	A	P-O5'-C5'	-7.66	109.41	120.90
2	A8	1135	C	P-O3'-C3'	7.66	131.69	120.20
24	AT	70	HIS	CA-CB-CG	7.66	121.46	113.80
36	BA	1394	A	P-O3'-C3'	-7.66	108.71	120.20
2	A8	1193	G	P-O5'-C5'	-7.66	109.42	120.90
36	BA	50	A	P-O5'-C5'	-7.65	109.42	120.90
2	A8	2598	A	C5'-C4'-C3'	-7.65	104.52	116.00
2	A8	1144	A	C5'-C4'-C3'	-7.65	104.53	116.00
2	A8	1732	C	O4'-C1'-C2'	7.65	113.45	105.80
36	BA	974	A	P-O5'-C5'	7.64	132.37	120.90
38	BC	31	ASN	CA-CB-CG	-7.64	104.95	112.60
2	A8	1072	C	P-O3'-C3'	-7.64	108.74	120.20
2	A8	1416	G	O3'-P-O5'	-7.64	92.54	104.00
48	BM	25	GLY	N-CA-C	-7.64	97.71	111.16
2	A8	932	U	C5'-C4'-O4'	7.64	121.26	109.80
2	A8	1902	C	C5'-C4'-C3'	-7.64	104.54	116.00
21	AQ	108	LEU	N-CA-C	-7.64	103.79	113.72
2	A8	2415	G	C5'-C4'-C3'	-7.63	104.55	116.00
2	A8	2109	U	C5'-C4'-C3'	-7.63	104.56	116.00
2	A8	1147	A	C5'-C4'-C3'	-7.62	104.57	116.00
2	A8	2744	G	O5'-C5'-C4'	-7.62	100.07	111.50
2	A8	194	G	C5'-C4'-C3'	-7.62	104.57	116.00
26	AV	59	GLU	CA-C-N	7.62	130.71	120.50
26	AV	59	GLU	C-N-CA	7.62	130.71	120.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	243	A	O3'-P-O5'	7.62	115.43	104.00
2	A8	1936	A	C4'-C3'-C2'	7.61	110.21	102.60
21	AQ	71	ASN	N-CA-C	-7.61	102.55	113.21
36	BA	505	G	P-O5'-C5'	-7.61	109.48	120.90
2	A8	1660	G	P-O5'-C5'	-7.61	109.49	120.90
6	A5	153	VAL	CA-C-N	7.61	130.81	120.54
6	A5	153	VAL	C-N-CA	7.61	130.81	120.54
55	BT	74	HIS	CA-CB-CG	-7.60	106.20	113.80
2	A8	1124	G	C5'-C4'-C3'	7.60	127.39	116.00
2	A8	1522	A	P-O5'-C5'	-7.59	109.51	120.90
2	A8	1853	A	P-O5'-C5'	-7.59	109.51	120.90
2	A8	507	A	C5'-C4'-C3'	-7.59	104.61	116.00
2	A8	2440	C	C5'-C4'-C3'	-7.59	104.62	116.00
2	A8	2564	A	C5'-C4'-C3'	-7.59	104.62	116.00
36	BA	371	A	O4'-C4'-C3'	-7.59	96.41	104.00
2	A8	96	C	O5'-C5'-C4'	-7.58	100.13	111.50
2	A8	276	U	C5'-C4'-C3'	-7.58	104.63	116.00
2	A8	2476	A	C4'-C3'-O3'	-7.58	101.64	113.00
2	A8	2779	U	P-O3'-C3'	-7.58	108.84	120.20
2	A8	1444	G	C5'-C4'-C3'	-7.57	104.64	116.00
2	A8	2496	C	C5'-C4'-C3'	-7.57	104.64	116.00
36	BA	688	G	O5'-C5'-C4'	-7.57	100.14	111.50
2	A8	1155	A	P-O5'-C5'	-7.57	109.54	120.90
36	BA	1020	G	C5'-C4'-C3'	-7.57	104.65	116.00
2	A8	2883	A	O3'-P-O5'	-7.57	92.65	104.00
2	A8	652	U	P-O5'-C5'	-7.56	109.56	120.90
36	BA	1020	G	P-O5'-C5'	-7.56	109.56	120.90
36	BA	1416	G	C5'-C4'-C3'	-7.56	104.66	116.00
36	BA	1449	C	P-O5'-C5'	-7.56	109.56	120.90
2	A8	894	U	C5'-C4'-C3'	-7.56	104.67	116.00
36	BA	895	G	C5'-C4'-C3'	-7.56	104.67	116.00
2	A8	2309	A	P-O3'-C3'	7.55	131.53	120.20
2	A8	1153	C	C5'-C4'-C3'	-7.55	104.67	116.00
21	AQ	79	ILE	N-CA-C	-7.55	102.73	113.07
36	BA	1447	A	C5'-C4'-C3'	-7.55	103.88	115.20
56	BU	40	PRO	CA-C-N	7.54	130.39	120.28
56	BU	40	PRO	C-N-CA	7.54	130.39	120.28
2	A8	1810	A	C5'-C4'-C3'	-7.54	104.69	116.00
2	A8	2471	A	C5'-C4'-C3'	-7.54	104.69	116.00
2	A8	2676	C	P-O5'-C5'	7.54	132.21	120.90
8	AD	122	VAL	N-CA-C	-7.54	104.60	113.42
36	BA	1192	C	P-O5'-C5'	7.54	132.21	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2434	A	P-O3'-C3'	-7.54	108.90	120.20
13	AI	4	VAL	N-CA-CB	7.54	124.12	112.06
2	A8	1531	C	P-O3'-C3'	7.53	131.50	120.20
36	BA	215	C	C5'-C4'-C3'	-7.53	104.70	116.00
2	A8	362	A	C5'-C4'-C3'	-7.52	104.72	116.00
2	A8	984	A	C4'-C3'-C2'	-7.52	95.08	102.60
20	AP	9	GLN	CA-C-N	7.52	133.28	120.72
20	AP	9	GLN	C-N-CA	7.52	133.28	120.72
1	A7	29	A	C5'-C4'-C3'	-7.51	104.73	116.00
2	A8	194	G	C4'-C3'-O3'	-7.51	101.74	113.00
3	AA	424	MET	N-CA-C	7.50	119.25	111.14
2	A8	176	A	C5'-C4'-C3'	-7.50	104.75	116.00
2	A8	1715	G	O4'-C1'-N9	7.50	119.45	108.20
2	A8	2611	C	P-O5'-C5'	7.50	132.15	120.90
36	BA	903	G	O3'-P-O5'	-7.50	92.75	104.00
39	BD	83	GLY	N-CA-C	-7.50	104.83	111.95
2	A8	89	A	C5'-C4'-C3'	-7.49	104.76	116.00
2	A8	144	A	C5'-C4'-C3'	-7.49	104.76	116.00
2	A8	1681	G	P-O5'-C5'	7.49	132.14	120.90
36	BA	1513	A	C3'-C2'-C1'	-7.49	93.81	101.30
2	A8	244	A	C5'-C4'-C3'	-7.49	104.77	116.00
2	A8	1890	A	P-O5'-C5'	7.49	132.13	120.90
2	A8	1310	G	C5'-C4'-C3'	-7.49	104.77	116.00
2	A8	2101	A	O3'-P-O5'	-7.49	92.77	104.00
36	BA	506	G	C5'-C4'-C3'	-7.48	104.77	116.00
2	A8	1180	U	C5'-C4'-C3'	-7.48	104.78	116.00
2	A8	151	C	P-O5'-C5'	7.48	132.12	120.90
2	A8	808	G	C4'-C3'-O3'	-7.48	101.78	113.00
40	BE	54	GLU	CA-C-N	7.48	124.95	120.24
40	BE	54	GLU	C-N-CA	7.48	124.95	120.24
2	A8	972	A	C5'-C4'-C3'	-7.48	104.78	116.00
2	A8	2826	A	C5'-C4'-C3'	-7.47	104.79	116.00
39	BD	35	GLN	N-CA-C	-7.47	106.10	114.62
2	A8	2282	G	O3'-P-O5'	7.46	115.19	104.00
2	A8	2398	U	C5'-C4'-C3'	-7.46	104.81	116.00
2	A8	131	A	P-O5'-C5'	-7.46	109.71	120.90
2	A8	2425	A	C2'-C3'-O3'	7.46	120.69	109.50
2	A8	195	A	P-O5'-C5'	7.46	132.08	120.90
2	A8	1512	C	C5'-C4'-C3'	-7.46	104.81	116.00
2	A8	1737	G	P-O3'-C3'	7.46	131.38	120.20
2	A8	2872	A	C5'-C4'-C3'	7.46	126.38	115.20
7	A6	231	HIS	N-CA-C	-7.46	105.36	114.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1168	G	C5'-C4'-C3'	-7.45	104.82	116.00
2	A8	2655	G	O4'-C1'-C2'	-7.45	98.35	105.80
2	A8	2109	U	P-O5'-C5'	-7.45	109.72	120.90
54	BS	7	GLY	CA-C-N	7.45	127.40	120.03
54	BS	7	GLY	C-N-CA	7.45	127.40	120.03
2	A8	2854	G	C5'-C4'-C3'	-7.45	104.83	116.00
36	BA	774	G	C5'-C4'-C3'	-7.45	104.83	116.00
36	BA	952	U	C5'-C4'-C3'	-7.45	104.83	116.00
7	A6	67	LYS	N-CA-C	-7.44	104.44	113.97
8	AD	35	THR	N-CA-C	-7.44	105.11	114.56
36	BA	933	G	P-O3'-C3'	7.44	131.36	120.20
36	BA	511	C	O3'-P-O5'	-7.44	92.84	104.00
2	A8	2450	A	P-O5'-C5'	7.44	132.06	120.90
8	AD	116	LYS	N-CA-C	-7.43	106.15	114.62
2	A8	1726	C	C5'-C4'-C3'	-7.43	104.86	116.00
2	A8	2552	U	P-O5'-C5'	7.43	132.04	120.90
2	A8	2612	C	C5'-C4'-C3'	7.43	127.14	116.00
18	AN	107	ASN	CA-CB-CG	7.42	120.02	112.60
9	AE	181	ILE	N-CA-C	-7.42	105.78	112.90
36	BA	577	G	O5'-C5'-C4'	-7.42	100.37	111.50
56	BU	9	GLU	N-CA-C	-7.41	99.80	110.40
2	A8	1193	G	C5'-C4'-C3'	-7.41	104.89	116.00
54	BS	54	ARG	N-CA-CB	-7.41	101.15	111.00
2	A8	1183	U	C5'-C4'-C3'	-7.41	104.89	116.00
2	A8	282	A	C5'-C4'-C3'	-7.41	104.89	116.00
2	A8	332	A	P-O3'-C3'	7.41	131.31	120.20
2	A8	1109	C	C4'-C3'-O3'	-7.41	101.89	113.00
2	A8	1609	A	C2'-C3'-O3'	7.41	120.61	109.50
22	AR	53	PHE	CA-CB-CG	-7.41	106.39	113.80
46	BK	60	PHE	CA-CB-CG	-7.40	106.40	113.80
55	BT	63	LYS	N-CA-C	-7.40	104.50	113.97
2	A8	2353	G	C5'-C4'-C3'	-7.40	104.90	116.00
36	BA	872	A	C5'-C4'-C3'	7.40	126.29	115.20
2	A8	2201	G	P-O5'-C5'	-7.39	109.81	120.90
2	A8	1844	C	P-O3'-C3'	-7.39	109.11	120.20
2	A8	1955	U	P-O5'-C5'	7.39	131.99	120.90
36	BA	630	A	C5'-C4'-C3'	-7.39	104.92	116.00
14	AJ	39	LYS	N-CA-C	-7.39	104.30	112.72
22	AR	22	LEU	CA-C-N	7.39	131.61	121.05
22	AR	22	LEU	C-N-CA	7.39	131.61	121.05
2	A8	1751	U	C5'-C4'-C3'	-7.38	104.93	116.00
2	A8	2637	U	C5'-C4'-C3'	-7.38	104.94	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1448	C	O4'-C1'-N1	7.38	119.56	108.50
2	A8	287	G	C5'-C4'-C3'	-7.37	104.94	116.00
2	A8	1623	G	P-O5'-C5'	-7.37	109.84	120.90
2	A8	2537	U	C5'-C4'-C3'	-7.37	104.94	116.00
3	AA	362	PHE	CA-CB-CG	7.37	121.17	113.80
35	A4	19	ARG	N-CA-C	-7.37	97.80	109.23
37	BB	23	ASN	N-CA-C	-7.37	96.29	108.23
2	A8	130	C	P-O3'-C3'	-7.37	109.14	120.20
2	A8	842	U	P-O5'-C5'	7.37	131.95	120.90
2	A8	1680	U	C5'-C4'-C3'	-7.37	104.95	116.00
2	A8	2192	U	C5'-C4'-C3'	-7.37	104.95	116.00
36	BA	51	A	C2'-C3'-O3'	7.36	120.55	109.50
36	BA	1050	G	C5'-C4'-C3'	-7.36	104.96	116.00
2	A8	641	U	C4'-C3'-O3'	-7.36	101.97	113.00
2	A8	2756	U	P-O3'-C3'	7.36	131.24	120.20
36	BA	795	C	C5'-C4'-C3'	-7.36	104.97	116.00
2	A8	2093	G	C5'-C4'-C3'	-7.35	104.97	116.00
21	AQ	104	ALA	N-CA-C	-7.35	99.34	109.71
49	BN	73	LEU	CA-C-N	7.35	130.45	120.38
49	BN	73	LEU	C-N-CA	7.35	130.45	120.38
2	A8	912	C	C4'-C3'-O3'	-7.35	101.97	113.00
3	AA	352	MET	CA-C-N	7.35	130.00	120.44
3	AA	352	MET	C-N-CA	7.35	130.00	120.44
10	AF	77	LYS	CB-CA-C	-7.35	106.49	117.07
19	AO	85	LYS	N-CA-C	-7.34	104.35	113.38
36	BA	754	C	C4'-C3'-O3'	-7.34	101.98	113.00
44	BI	71	ILE	N-CA-C	-7.34	104.69	111.67
2	A8	2181	U	P-O5'-C5'	7.34	131.91	120.90
12	AH	7	ASP	CA-C-N	7.34	131.14	120.71
12	AH	7	ASP	C-N-CA	7.34	131.14	120.71
21	AQ	56	PHE	CA-CB-CG	-7.34	106.46	113.80
2	A8	1473	G	P-O5'-C5'	-7.34	109.89	120.90
3	AA	18	VAL	N-CA-C	-7.34	104.83	113.42
1	A7	113	C	C5'-C4'-C3'	7.33	127.00	116.00
2	A8	45	G	C5'-C4'-C3'	-7.33	105.00	116.00
2	A8	2235	G	C5'-C4'-C3'	-7.33	105.00	116.00
36	BA	518	C	C1'-O4'-C4'	-7.33	102.37	109.70
2	A8	2020	A	C5'-C4'-C3'	-7.33	105.00	116.00
36	BA	202	G	C5'-C4'-C3'	7.33	127.00	116.00
2	A8	1834	U	C4'-C3'-C2'	7.33	109.93	102.60
15	AK	111	PHE	N-CA-C	-7.32	103.66	112.59
36	BA	1499	A	P-O5'-C5'	7.32	131.89	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	493	G	P-O3'-C3'	-7.32	109.22	120.20
2	A8	2219	U	P-O5'-C5'	7.32	131.88	120.90
36	BA	152	A	O5'-C5'-C4'	-7.32	100.53	111.50
2	A8	1095	A	P-O5'-C5'	-7.31	109.93	120.90
2	A8	1455	G	C5'-C4'-C3'	-7.31	105.03	116.00
2	A8	1369	G	C5'-C4'-C3'	7.31	126.96	116.00
2	A8	1640	A	O3'-P-O5'	-7.31	93.04	104.00
2	A8	1668	A	P-O3'-C3'	7.31	131.16	120.20
2	A8	2610	C	P-O3'-C3'	7.31	131.16	120.20
36	BA	1240	U	P-O5'-C5'	-7.30	109.94	120.90
2	A8	701	G	C5'-C4'-C3'	-7.30	105.05	116.00
2	A8	2326	C	O3'-P-O5'	7.30	114.95	104.00
2	A8	1102	C	C4'-C3'-C2'	-7.30	95.30	102.60
2	A8	2562	U	O5'-C5'-C4'	-7.30	100.55	111.50
9	AE	111	GLU	N-CA-C	-7.30	103.47	113.18
37	BB	197	PHE	N-CA-C	-7.30	104.62	113.97
2	A8	999	U	P-O3'-C3'	7.30	131.15	120.20
2	A8	2092	U	C5'-C4'-C3'	-7.30	104.25	115.20
2	A8	21	A	C5'-C4'-C3'	-7.30	105.06	116.00
2	A8	1748	C	C5'-C4'-C3'	-7.29	105.06	116.00
2	A8	1982	U	O3'-P-O5'	-7.29	93.06	104.00
2	A8	1774	C	P-O3'-C3'	-7.29	109.26	120.20
11	AG	51	PHE	CA-CB-CG	-7.29	106.51	113.80
46	BK	125	LYS	CA-C-N	7.29	135.47	121.54
46	BK	125	LYS	C-N-CA	7.29	135.47	121.54
2	A8	1861	G	C5'-C4'-C3'	-7.29	105.06	116.00
17	AM	135	VAL	N-CA-C	-7.29	106.78	113.71
56	BU	38	GLU	N-CA-C	-7.29	103.98	114.12
49	BN	36	SER	N-CA-C	7.29	126.33	110.80
2	A8	1069	A	C5'-C4'-C3'	-7.29	104.27	115.20
2	A8	1522	A	O4'-C4'-C3'	-7.29	98.81	106.10
39	BD	10	LEU	CA-C-N	7.29	130.38	120.54
39	BD	10	LEU	C-N-CA	7.29	130.38	120.54
46	BK	31	VAL	N-CA-C	-7.29	97.63	108.12
2	A8	973	A	O4'-C1'-C2'	-7.29	98.52	105.80
4	AB	25	THR	N-CA-C	-7.29	103.96	112.92
31	A0	29	VAL	N-CA-C	-7.29	96.93	108.95
36	BA	1015	G	C5'-C4'-C3'	7.28	126.92	116.00
44	BI	119	LYS	CA-C-N	7.28	130.04	120.28
44	BI	119	LYS	C-N-CA	7.28	130.04	120.28
18	AN	21	PHE	N-CA-C	-7.28	103.49	112.88
36	BA	1072	G	C5'-C4'-C3'	-7.28	105.08	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1807	G	P-O5'-C5'	-7.27	109.99	120.90
36	BA	903	G	C5'-C4'-C3'	-7.27	105.09	116.00
43	BH	54	THR	N-CA-C	-7.27	103.03	113.21
2	A8	196	A	C5'-C4'-C3'	-7.27	104.29	115.20
2	A8	1720	U	C5'-C4'-C3'	-7.27	105.10	116.00
2	A8	1051	G	C5'-C4'-C3'	-7.27	105.10	116.00
36	BA	650	G	O3'-P-O5'	-7.27	93.10	104.00
2	A8	31	C	P-O3'-C3'	-7.27	109.30	120.20
36	BA	1482	G	C5'-C4'-C3'	7.27	126.90	116.00
36	BA	669	G	C5'-C4'-C3'	-7.26	105.10	116.00
36	BA	1068	G	C5'-C4'-C3'	-7.26	105.10	116.00
2	A8	2643	G	C5'-C4'-C3'	-7.26	105.11	116.00
2	A8	1385	A	O5'-C5'-C4'	-7.26	100.81	111.70
2	A8	196	A	O3'-P-O5'	-7.25	93.12	104.00
2	A8	1280	G	C5'-C4'-C3'	-7.25	105.12	116.00
2	A8	2041	U	C5'-C4'-C3'	-7.25	105.12	116.00
2	A8	859	G	C5'-C4'-C3'	-7.25	104.32	115.20
2	A8	2104	C	P-O3'-C3'	7.25	131.08	120.20
2	A8	893	C	C5'-C4'-C3'	-7.25	105.12	116.00
2	A8	2612	C	C4'-C3'-C2'	7.25	109.85	102.60
36	BA	765	G	P-O3'-C3'	-7.25	109.33	120.20
1	A7	67	G	P-O3'-C3'	-7.25	109.33	120.20
50	BO	51	SER	CA-C-N	7.25	129.99	120.28
50	BO	51	SER	C-N-CA	7.25	129.99	120.28
54	BS	4	LEU	N-CA-C	-7.25	103.88	114.39
1	A7	83	G	P-O3'-C3'	-7.24	109.34	120.20
2	A8	2067	G	O3'-P-O5'	7.24	114.86	104.00
36	BA	647	C	C5'-C4'-C3'	-7.24	105.14	116.00
36	BA	1502	A	C5'-C4'-C3'	-7.24	104.33	115.20
24	AT	25	GLU	N-CA-C	-7.24	103.63	114.64
49	BN	20	PHE	N-CA-C	-7.24	104.82	112.93
2	A8	974	G	C5'-C4'-C3'	-7.24	104.34	115.20
2	A8	1361	G	C5'-C4'-C3'	-7.24	105.14	116.00
36	BA	1364	U	C5'-C4'-C3'	-7.24	104.34	115.20
2	A8	879	G	C5'-C4'-C3'	-7.24	105.14	116.00
2	A8	1706	C	O3'-P-O5'	7.23	114.85	104.00
40	BE	88	HIS	CA-CB-CG	7.23	121.03	113.80
1	A7	78	A	C5'-C4'-C3'	-7.23	105.16	116.00
2	A8	737	C	P-O3'-C3'	-7.22	109.36	120.20
2	A8	1426	G	P-O3'-C3'	7.22	131.03	120.20
36	BA	1465	A	C5'-C4'-C3'	-7.22	105.17	116.00
2	A8	2716	C	P-O5'-C5'	-7.22	110.07	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1574	C	C4'-C3'-O3'	-7.22	102.17	113.00
2	A8	836	G	P-O5'-C5'	-7.21	110.08	120.90
2	A8	1671	U	C5'-C4'-C3'	-7.21	105.18	116.00
2	A8	738	G	O3'-P-O5'	-7.21	93.19	104.00
21	AQ	38	VAL	N-CA-C	-7.21	105.57	113.43
37	BB	161	PHE	CA-CB-CG	-7.21	106.59	113.80
2	A8	2827	C	C5'-C4'-C3'	-7.21	105.19	116.00
36	BA	832	G	C5'-C4'-C3'	-7.21	105.19	116.00
2	A8	479	A	O5'-C5'-C4'	-7.20	100.90	111.70
2	A8	1091	G	O3'-P-O5'	-7.20	93.20	104.00
2	A8	2657	A	C5'-C4'-C3'	-7.20	105.20	116.00
36	BA	1191	A	O3'-P-O5'	-7.20	93.20	104.00
2	A8	1410	G	C5'-C4'-C3'	-7.20	105.20	116.00
20	AP	51	ASN	CA-CB-CG	-7.20	105.40	112.60
24	AT	8	LEU	N-CA-C	-7.20	102.52	112.30
2	A8	485	C	C5'-C4'-C3'	-7.19	105.21	116.00
28	AX	53	LYS	CA-C-N	7.19	129.13	120.14
28	AX	53	LYS	C-N-CA	7.19	129.13	120.14
36	BA	1453	G	C5'-C4'-C3'	-7.19	105.22	116.00
2	A8	751	A	P-O5'-C5'	7.18	131.68	120.90
2	A8	1727	C	O3'-P-O5'	-7.18	93.22	104.00
10	AF	137	PHE	CA-CB-CG	-7.18	106.62	113.80
36	BA	856	C	C5'-C4'-C3'	-7.18	105.23	116.00
2	A8	985	C	O3'-P-O5'	7.18	114.77	104.00
2	A8	2703	C	C5'-C4'-C3'	-7.18	105.23	116.00
37	BB	143	LEU	CA-C-N	7.18	132.09	120.60
37	BB	143	LEU	C-N-CA	7.18	132.09	120.60
54	BS	10	ILE	N-CA-C	-7.18	104.54	112.80
23	AS	102	HIS	CA-C-N	7.18	130.74	120.98
23	AS	102	HIS	C-N-CA	7.18	130.74	120.98
36	BA	208	U	P-O5'-C5'	7.18	131.67	120.90
36	BA	1007	U	P-O5'-C5'	7.18	131.67	120.90
1	A7	87	U	P-O3'-C3'	-7.17	109.44	120.20
11	AG	113	ASP	CA-CB-CG	-7.17	105.43	112.60
2	A8	1660	G	C5'-C4'-C3'	-7.17	105.24	116.00
18	AN	66	ALA	N-CA-C	-7.17	102.79	112.26
2	A8	1061	U	C4'-C3'-C2'	-7.17	95.43	102.60
36	BA	1244	G	C5'-C4'-C3'	-7.17	105.25	116.00
36	BA	892	A	C5'-C4'-C3'	-7.16	105.25	116.00
43	BH	20	ASN	CA-CB-CG	-7.16	105.44	112.60
33	A2	9	VAL	CA-C-N	7.16	134.11	122.65
33	A2	9	VAL	C-N-CA	7.16	134.11	122.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	980	C	P-O5'-C5'	-7.16	110.16	120.90
3	AA	432	LYS	N-CA-C	7.16	120.91	111.75
36	BA	698	G	C4'-C3'-O3'	-7.16	102.26	113.00
2	A8	643	A	O3'-P-O5'	-7.16	93.27	104.00
36	BA	757	U	C5'-C4'-C3'	-7.15	105.27	116.00
36	BA	694	A	C5'-C4'-C3'	-7.15	105.27	116.00
34	A3	33	THR	N-CA-C	-7.15	104.71	113.50
36	BA	251	G	O5'-C5'-C4'	-7.15	100.98	111.70
36	BA	1204	A	P-O5'-C5'	-7.15	110.18	120.90
44	BI	105	ARG	CA-C-N	7.15	135.19	121.54
44	BI	105	ARG	C-N-CA	7.15	135.19	121.54
21	AQ	26	ALA	CA-C-N	7.15	132.13	120.63
21	AQ	26	ALA	C-N-CA	7.15	132.13	120.63
8	AD	124	ARG	N-CA-C	-7.14	104.93	112.93
36	BA	40	C	C5'-C4'-C3'	-7.14	105.29	116.00
2	A8	847	U	O5'-C5'-C4'	-7.13	100.80	111.50
2	A8	1295	C	C5'-C4'-C3'	7.13	126.70	116.00
2	A8	1354	A	C4'-C3'-O3'	-7.13	102.30	113.00
45	BJ	25	ILE	N-CA-C	-7.13	106.54	113.53
46	BK	23	HIS	CA-CB-CG	-7.13	106.67	113.80
36	BA	734	G	C4'-C3'-O3'	-7.13	102.30	113.00
55	BT	23	ARG	CB-CA-C	-7.13	98.95	110.79
17	AM	26	VAL	N-CA-C	-7.13	98.04	107.88
2	A8	1022	G	P-O5'-C5'	-7.12	110.22	120.90
2	A8	1491	G	P-O5'-C5'	7.12	131.59	120.90
29	AY	30	MET	N-CA-C	-7.12	104.72	113.41
36	BA	872	A	O4'-C1'-C2'	-7.12	98.68	105.80
30	AZ	19	HIS	N-CA-C	-7.12	104.62	113.38
2	A8	126	A	P-O3'-C3'	-7.12	109.52	120.20
18	AN	16	HIS	N-CA-C	-7.12	104.59	113.28
36	BA	613	C	C5'-C4'-C3'	-7.12	105.32	116.00
2	A8	775	G	C5'-C4'-C3'	7.12	125.88	115.20
2	A8	1372	U	P-O5'-C5'	-7.12	110.22	120.90
2	A8	1643	G	C5'-C4'-C3'	-7.12	105.33	116.00
7	A6	13	ARG	N-CA-C	-7.12	104.73	113.41
11	AG	120	ILE	N-CA-CB	7.11	123.03	111.36
2	A8	1936	A	C5'-C4'-C3'	7.11	126.67	116.00
5	AC	40	PHE	CA-CB-CG	-7.11	106.69	113.80
36	BA	700	G	C5'-C4'-C3'	-7.11	105.34	116.00
34	A3	13	PHE	CA-CB-CG	-7.10	106.70	113.80
2	A8	772	C	P-O5'-C5'	7.10	131.55	120.90
44	BI	42	THR	N-CA-C	-7.10	102.58	112.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	AS	109	ASP	CA-CB-CG	-7.10	105.50	112.60
36	BA	1299	A	P-O3'-C3'	7.10	130.85	120.20
17	AM	123	LYS	N-CA-C	-7.10	103.28	113.21
2	A8	616	A	C5'-C4'-C3'	-7.09	105.36	116.00
2	A8	2347	C	C4'-C3'-O3'	-7.09	102.36	113.00
2	A8	2348	U	P-O5'-C5'	-7.09	110.26	120.90
36	BA	426	U	P-O5'-C5'	7.09	131.53	120.90
2	A8	93	G	C5'-C4'-C3'	-7.09	105.37	116.00
36	BA	1013	G	P-O5'-C5'	7.09	131.53	120.90
2	A8	923	G	C5'-C4'-C3'	-7.08	105.38	116.00
36	BA	430	A	C5'-C4'-C3'	-7.08	105.38	116.00
1	A7	68	C	C5'-C4'-C3'	-7.08	105.38	116.00
2	A8	644	A	C4'-C3'-C2'	-7.08	95.52	102.60
2	A8	946	C	C5'-C4'-C3'	-7.08	105.38	116.00
2	A8	2178	C	O4'-C4'-C3'	-7.08	96.92	104.00
7	A6	118	GLY	N-CA-C	-7.08	104.29	112.79
2	A8	447	A	P-O3'-C3'	7.08	130.82	120.20
2	A8	1930	G	O4'-C1'-C2'	7.08	112.88	105.80
36	BA	170	U	C5'-C4'-C3'	-7.08	105.38	116.00
2	A8	1840	G	C4'-C3'-O3'	-7.07	102.39	113.00
2	A8	1939	U	O4'-C1'-C2'	-7.07	98.73	105.80
2	A8	2529	G	C5'-C4'-C3'	-7.07	105.39	116.00
27	AW	9	THR	N-CA-C	-7.07	101.83	113.50
36	BA	243	A	C4'-C3'-O3'	7.07	120.01	109.40
36	BA	649	A	C5'-C4'-C3'	-7.07	105.39	116.00
13	AI	24	GLY	CA-C-N	7.07	127.67	119.47
13	AI	24	GLY	C-N-CA	7.07	127.67	119.47
33	A2	22	MET	CB-CA-C	-7.07	99.06	110.79
42	BG	45	ALA	N-CA-C	-7.07	104.79	113.41
2	A8	2427	C	P-O5'-C5'	7.07	131.50	120.90
12	AH	69	ALA	CA-C-N	7.07	130.45	120.28
12	AH	69	ALA	C-N-CA	7.07	130.45	120.28
2	A8	1446	C	C4'-C3'-O3'	-7.06	102.41	113.00
2	A8	1639	C	P-O5'-C5'	-7.06	110.31	120.90
17	AM	100	LYS	N-CA-C	-7.06	98.69	109.85
2	A8	2185	U	O3'-P-O5'	7.06	114.59	104.00
2	A8	523	C	O3'-P-O5'	7.05	114.58	104.00
55	BT	4	LYS	CA-C-N	7.05	129.61	120.44
55	BT	4	LYS	C-N-CA	7.05	129.61	120.44
36	BA	1193	G	O5'-C5'-C4'	-7.05	100.92	111.50
46	BK	26	PHE	CA-CB-CG	-7.05	106.75	113.80
36	BA	690	G	C4'-C3'-O3'	-7.05	102.43	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2664	G	P-O5'-C5'	7.04	131.47	120.90
1	A7	76	G	C5'-C4'-C3'	-7.04	105.43	116.00
2	A8	2425	A	O4'-C4'-C3'	-7.04	99.06	106.10
7	A6	167	ASP	N-CA-C	-7.04	103.94	114.64
36	BA	282	A	C5'-C4'-C3'	-7.04	105.44	116.00
17	AM	51	ARG	N-CA-C	-7.04	104.00	112.59
2	A8	261	G	C5'-C4'-C3'	-7.04	105.44	116.00
2	A8	489	G	O3'-P-O5'	-7.04	93.44	104.00
2	A8	1030	C	C5'-C4'-C3'	-7.04	105.44	116.00
36	BA	328	C	C2'-C3'-O3'	7.04	120.06	109.50
2	A8	2704	C	O3'-P-O5'	-7.04	93.45	104.00
36	BA	411	A	O4'-C1'-N9	7.04	118.75	108.20
2	A8	1742	U	C5'-C4'-C3'	-7.03	105.45	116.00
21	AQ	107	ALA	N-CA-C	-7.03	103.37	113.21
2	A8	1532	A	O5'-C5'-C4'	-7.03	100.96	111.50
2	A8	2676	C	C5'-C4'-C3'	-7.03	105.46	116.00
18	AN	106	ASP	N-CA-C	-7.02	95.84	110.80
36	BA	1081	A	C5'-C4'-C3'	-7.02	105.47	116.00
36	BA	1226	C	P-O3'-C3'	7.02	130.73	120.20
36	BA	1490	U	C5'-C4'-C3'	-7.02	105.47	116.00
49	BN	2	LYS	CA-C-N	7.02	130.02	120.54
49	BN	2	LYS	C-N-CA	7.02	130.02	120.54
2	A8	1851	U	C5'-C4'-C3'	-7.02	105.47	116.00
2	A8	1478	G	C4'-C3'-O3'	-7.02	102.48	113.00
36	BA	443	C	C5'-C4'-C3'	-7.01	105.48	116.00
2	A8	1987	A	C5'-C4'-C3'	-7.01	105.48	116.00
36	BA	1407	C	O3'-P-O5'	-7.01	93.49	104.00
56	BU	17	ARG	CA-C-N	7.01	129.90	120.65
56	BU	17	ARG	C-N-CA	7.01	129.90	120.65
7	A6	20	ASN	CA-CB-CG	-7.00	105.59	112.60
23	AS	54	ALA	CA-C-N	7.00	129.45	120.70
23	AS	54	ALA	C-N-CA	7.00	129.45	120.70
36	BA	245	U	P-O5'-C5'	7.00	131.40	120.90
2	A8	801	G	P-O3'-C3'	7.00	130.70	120.20
2	A8	1699	G	C1'-O4'-C4'	-7.00	102.70	109.70
2	A8	2172	U	P-O3'-C3'	-7.00	109.70	120.20
23	AS	89	ALA	CA-C-N	7.00	132.08	122.07
23	AS	89	ALA	C-N-CA	7.00	132.08	122.07
1	A7	64	G	P-O5'-C5'	-7.00	110.41	120.90
2	A8	2426	A	P-O3'-C3'	6.99	130.69	120.20
2	A8	2148	G	P-O3'-C3'	6.99	130.69	120.20
2	A8	2042	A	C4'-C3'-O3'	-6.99	102.51	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	165	A	C5'-C4'-C3'	-6.99	105.52	116.00
3	AA	317	ILE	N-CA-C	-6.99	106.41	113.47
3	AA	363	VAL	N-CA-CB	6.99	114.90	110.50
14	AJ	89	PHE	CA-CB-CG	6.99	120.79	113.80
54	BS	18	VAL	N-CA-CB	6.99	120.04	110.54
40	BE	17	VAL	N-CA-CB	6.98	122.75	111.23
25	AU	17	ASP	N-CA-C	-6.98	105.96	114.75
48	BM	26	LYS	N-CA-C	6.97	118.57	110.97
2	A8	64	A	P-O3'-C3'	-6.97	109.74	120.20
38	BC	28	PHE	CA-C-N	6.97	129.95	120.54
38	BC	28	PHE	C-N-CA	6.97	129.95	120.54
36	BA	315	A	O4'-C1'-N9	6.97	118.66	108.20
36	BA	1280	A	P-O5'-C5'	-6.97	110.45	120.90
2	A8	281	C	O3'-P-O5'	-6.96	93.55	104.00
2	A8	2504	U	O3'-P-O5'	6.96	114.45	104.00
2	A8	2504	U	C5'-C4'-C3'	6.96	126.44	116.00
42	BG	132	THR	CA-C-N	6.96	130.55	120.38
42	BG	132	THR	C-N-CA	6.96	130.55	120.38
2	A8	1348	C	C5'-C4'-C3'	-6.96	105.56	116.00
2	A8	1857	G	O4'-C4'-C3'	-6.96	99.14	106.10
2	A8	2759	G	C4'-C3'-O3'	-6.96	102.56	113.00
2	A8	1243	C	P-O5'-C5'	6.95	131.33	120.90
2	A8	1898	U	C4'-C3'-O3'	-6.95	102.57	113.00
36	BA	285	C	C5'-C4'-C3'	-6.95	105.57	116.00
2	A8	2361	G	C5'-C4'-C3'	-6.95	105.57	116.00
36	BA	889	A	C5'-C4'-C3'	6.95	125.62	115.20
36	BA	977	A	C5'-C4'-C3'	-6.95	105.58	116.00
36	BA	1515	G	P-O3'-C3'	-6.95	109.78	120.20
2	A8	951	C	C5'-C4'-C3'	-6.94	105.58	116.00
1	A7	72	G	P-O5'-C5'	-6.94	110.49	120.90
2	A8	1021	A	P-O3'-C3'	-6.94	109.79	120.20
2	A8	1805	A	C5'-C4'-C3'	-6.94	105.59	116.00
2	A8	2115	G	P-O5'-C5'	-6.94	110.50	120.90
36	BA	58	C	C5'-C4'-C3'	-6.94	105.59	116.00
36	BA	809	G	P-O5'-C5'	-6.94	110.50	120.90
7	A6	66	PHE	CA-CB-CG	-6.93	106.86	113.80
22	AR	62	GLU	N-CA-CB	6.93	121.93	110.63
33	A2	21	ARG	N-CA-C	-6.93	106.01	114.75
2	A8	957	C	P-O3'-C3'	-6.93	109.80	120.20
2	A8	1880	U	C4'-C3'-O3'	-6.93	102.60	113.00
2	A8	1892	C	C4'-C3'-O3'	-6.93	102.61	113.00
2	A8	2471	A	C1'-C2'-O2'	-6.93	98.01	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	BL	113	ARG	N-CA-C	-6.93	104.86	113.38
2	A8	1065	U	P-O5'-C5'	6.93	131.29	120.90
2	A8	1500	G	C5'-C4'-C3'	-6.93	105.61	116.00
36	BA	976	G	C1'-O4'-C4'	-6.93	102.97	109.90
50	BO	44	GLU	N-CA-CB	6.93	120.69	109.95
3	AA	295	GLU	N-CA-CB	6.92	122.19	110.49
10	AF	96	TRP	CA-C-N	6.92	130.25	120.28
10	AF	96	TRP	C-N-CA	6.92	130.25	120.28
48	BM	23	GLY	N-CA-C	-6.92	106.45	114.69
10	AF	15	LEU	N-CA-C	-6.92	106.73	114.62
2	A8	274	C	C3'-C2'-C1'	-6.92	94.38	101.30
2	A8	1897	G	C5'-C4'-C3'	-6.92	105.62	116.00
2	A8	2570	G	C5'-C4'-C3'	-6.92	105.62	116.00
20	AP	20	ARG	N-CA-C	-6.92	94.53	109.81
36	BA	462	G	C5'-C4'-O4'	6.92	119.48	109.10
36	BA	1425	U	C5'-C4'-C3'	-6.92	105.62	116.00
2	A8	12	U	C4'-C3'-C2'	-6.91	95.69	102.60
2	A8	249	C	P-O5'-C5'	-6.91	110.53	120.90
36	BA	269	C	C3'-C2'-C1'	-6.91	94.39	101.30
36	BA	266	G	P-O3'-C3'	-6.91	109.84	120.20
36	BA	446	G	C5'-C4'-C3'	-6.91	105.63	116.00
1	A7	70	C	C4'-C3'-O3'	-6.91	102.64	113.00
2	A8	2543	G	C5'-C4'-C3'	-6.91	105.64	116.00
36	BA	60	A	O4'-C1'-N9	6.91	118.56	108.20
36	BA	577	G	P-O5'-C5'	6.91	131.26	120.90
36	BA	625	U	O3'-P-O5'	-6.90	93.65	104.00
2	A8	1199	U	C4'-C3'-O3'	-6.90	102.65	113.00
36	BA	614	C	O4'-C4'-C3'	-6.90	97.10	104.00
2	A8	424	G	O5'-C5'-C4'	-6.90	101.15	111.50
18	AN	87	PHE	CA-CB-CG	-6.90	106.90	113.80
49	BN	83	VAL	CA-C-N	6.90	130.38	120.79
49	BN	83	VAL	C-N-CA	6.90	130.38	120.79
2	A8	2016	U	P-O5'-C5'	6.89	131.24	120.90
36	BA	615	G	O4'-C4'-C3'	-6.89	97.11	104.00
50	BO	73	ASP	CA-C-N	6.89	129.49	120.60
50	BO	73	ASP	C-N-CA	6.89	129.49	120.60
2	A8	1188	U	P-O5'-C5'	-6.89	110.56	120.90
8	AD	51	THR	N-CA-C	-6.89	97.34	109.06
38	BC	146	LYS	N-CA-C	-6.89	102.17	110.44
2	A8	130	C	C5'-C4'-C3'	-6.89	105.67	116.00
21	AQ	13	HIS	N-CA-C	-6.89	105.81	114.56
36	BA	195	A	C4'-C3'-O3'	-6.89	102.67	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1419	G	C4'-C3'-O3'	-6.89	102.67	113.00
26	AV	18	ARG	CA-C-N	6.88	129.50	120.28
26	AV	18	ARG	C-N-CA	6.88	129.50	120.28
2	A8	242	G	C2'-C3'-O3'	6.88	119.82	109.50
2	A8	2733	A	C5'-C4'-O4'	6.88	120.12	109.80
3	AA	391	SER	N-CA-C	-6.88	102.14	113.50
18	AN	73	ASN	CB-CA-C	-6.88	98.98	110.68
36	BA	1300	G	P-O3'-C3'	6.88	130.52	120.20
55	BT	69	ASN	CA-C-N	6.88	129.39	120.44
55	BT	69	ASN	C-N-CA	6.88	129.39	120.44
2	A8	2030	A	O4'-C1'-C2'	-6.88	98.92	105.80
30	AZ	45	GLY	N-CA-C	-6.88	103.54	113.86
2	A8	1518	C	C5'-C4'-C3'	-6.88	105.68	116.00
2	A8	2145	C	C5'-C4'-C3'	-6.88	105.68	116.00
14	AJ	104	ALA	N-CA-C	-6.88	103.23	111.69
2	A8	927	A	O3'-P-O5'	-6.88	93.69	104.00
36	BA	181	A	P-O5'-C5'	6.88	131.21	120.90
9	AE	164	LEU	CA-C-N	6.87	129.49	120.28
9	AE	164	LEU	C-N-CA	6.87	129.49	120.28
2	A8	368	A	P-O5'-C5'	-6.87	110.59	120.90
2	A8	1167	C	C5'-C4'-C3'	-6.87	105.69	116.00
2	A8	1858	A	C5'-C4'-C3'	-6.87	105.69	116.00
33	A2	28	ARG	N-CA-C	-6.87	104.51	113.17
2	A8	1658	C	C5'-C4'-C3'	-6.87	105.69	116.00
2	A8	2500	U	C4'-C3'-O3'	-6.87	102.69	113.00
2	A8	119	A	C5'-C4'-C3'	-6.87	104.90	115.20
2	A8	1191	G	P-O3'-C3'	-6.87	109.90	120.20
2	A8	1700	A	C5'-C4'-C3'	-6.87	105.70	116.00
12	AH	31	VAL	N-CA-C	-6.87	100.21	108.45
2	A8	174	U	C5'-C4'-C3'	-6.87	105.70	116.00
2	A8	1033	U	P-O5'-C5'	6.87	131.20	120.90
2	A8	1659	G	C3'-C2'-C1'	-6.86	94.44	101.30
36	BA	667	G	P-O5'-C5'	-6.86	110.61	120.90
3	AA	278	LEU	CA-C-N	6.86	129.47	120.28
3	AA	278	LEU	C-N-CA	6.86	129.47	120.28
36	BA	499	A	P-O3'-C3'	6.86	130.49	120.20
3	AA	367	ARG	CA-C-N	6.86	128.41	119.84
3	AA	367	ARG	C-N-CA	6.86	128.41	119.84
50	BO	20	ASP	CA-C-N	6.86	130.03	120.29
50	BO	20	ASP	C-N-CA	6.86	130.03	120.29
14	AJ	17	VAL	N-CA-C	-6.86	98.16	108.17
36	BA	808	C	C5'-C4'-C3'	-6.86	105.72	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1489	G	C5'-C4'-C3'	-6.86	105.72	116.00
44	BI	55	ASP	N-CA-C	6.85	120.70	111.24
36	BA	1080	A	C4'-C3'-O3'	-6.85	102.72	113.00
2	A8	1436	G	C5'-C4'-C3'	-6.85	105.73	116.00
24	AT	61	LEU	N-CA-CB	6.85	122.07	110.49
41	BF	39	LEU	N-CA-C	-6.85	101.96	112.99
49	BN	76	PHE	CA-CB-CG	-6.85	106.95	113.80
2	A8	234	U	C5'-C4'-C3'	6.84	126.27	116.00
2	A8	2876	G	C5'-C4'-C3'	-6.84	105.73	116.00
36	BA	486	U	C5'-C4'-C3'	-6.84	105.73	116.00
36	BA	1053	G	O5'-C5'-C4'	-6.84	101.43	111.70
2	A8	1480	C	C5'-C4'-C3'	-6.84	105.73	116.00
2	A8	1334	G	O5'-C5'-C4'	-6.84	101.24	111.50
2	A8	2414	G	C5'-C4'-C3'	6.84	126.26	116.00
36	BA	900	A	C4'-C3'-O3'	-6.84	102.74	113.00
2	A8	644	A	O4'-C1'-C2'	-6.84	100.76	107.60
2	A8	751	A	C5'-C4'-C3'	-6.84	105.74	116.00
2	A8	1451	C	O4'-C1'-C2'	6.84	112.64	105.80
36	BA	46	G	P-O3'-C3'	-6.84	109.94	120.20
2	A8	73	A	P-O5'-C5'	6.83	131.15	120.90
10	AF	128	SER	N-CA-C	-6.83	98.79	109.72
2	A8	1151	A	C5'-C4'-C3'	-6.83	105.76	116.00
42	BG	97	ALA	CA-C-N	6.83	129.32	120.44
42	BG	97	ALA	C-N-CA	6.83	129.32	120.44
36	BA	1158	C	P-O3'-C3'	-6.83	109.96	120.20
36	BA	1458	G	C5'-C4'-C3'	-6.83	105.76	116.00
2	A8	1554	U	O4'-C1'-C2'	-6.82	98.98	105.80
2	A8	2606	C	P-O3'-C3'	-6.82	109.97	120.20
2	A8	858	G	C5'-C4'-C3'	-6.82	104.97	115.20
36	BA	281	G	O3'-P-O5'	-6.82	93.77	104.00
2	A8	1534	U	P-O5'-C5'	6.82	131.13	120.90
2	A8	1652	A	C5'-C4'-C3'	-6.82	105.77	116.00
2	A8	2285	C	P-O3'-C3'	-6.82	109.97	120.20
29	AY	38	GLN	N-CA-C	-6.82	103.26	112.26
21	AQ	47	ARG	N-CA-C	-6.81	103.31	111.69
36	BA	368	U	C4'-C3'-O3'	-6.81	102.78	113.00
1	A7	15	A	C5'-C4'-O4'	6.81	119.32	109.10
2	A8	976	G	C4'-C3'-O3'	-6.81	102.79	113.00
36	BA	627	G	P-O5'-C5'	-6.81	110.69	120.90
30	AZ	55	LYS	N-CA-C	-6.81	96.02	107.80
36	BA	1162	C	C5'-C4'-C3'	-6.81	105.79	116.00
2	A8	513	A	O3'-P-O5'	6.80	114.21	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	BL	94	TYR	N-CA-C	-6.80	98.97	109.52
2	A8	1721	G	C2'-C3'-O3'	6.80	119.70	109.50
2	A8	2727	A	C4'-C3'-O3'	-6.80	102.80	113.00
8	AD	11	MET	N-CA-C	-6.80	97.12	108.75
36	BA	655	A	C5'-C4'-C3'	-6.80	105.80	116.00
2	A8	197	A	C2'-C3'-O3'	6.80	123.90	113.70
36	BA	454	G	P-O5'-C5'	6.80	131.10	120.90
2	A8	2471	A	O4'-C1'-C2'	6.80	114.40	107.60
42	BG	8	GLN	CB-CA-C	-6.80	107.70	115.79
36	BA	615	G	P-O5'-C5'	-6.79	110.71	120.90
2	A8	634	C	C5'-C4'-C3'	-6.79	105.81	116.00
37	BB	59	ILE	N-CA-C	-6.79	106.11	112.83
36	BA	5	U	O4'-C1'-N1	6.79	118.38	108.20
2	A8	460	A	C5'-C4'-C3'	-6.79	105.82	116.00
2	A8	1061	U	P-O3'-C3'	6.79	130.38	120.20
23	AS	5	ALA	N-CA-C	-6.79	96.34	110.80
36	BA	1122	U	C5'-C4'-C3'	-6.79	105.82	116.00
2	A8	1943	U	P-O5'-C5'	-6.79	110.72	120.90
2	A8	1578	U	C5'-C4'-C3'	-6.79	105.82	116.00
2	A8	1793	C	P-O5'-C5'	-6.79	110.72	120.90
1	A7	87	U	P-O5'-C5'	6.78	131.08	120.90
2	A8	293	U	P-O5'-C5'	6.78	131.07	120.90
2	A8	1689	A	P-O3'-C3'	-6.78	110.03	120.20
2	A8	641	U	P-O3'-C3'	6.78	130.37	120.20
36	BA	1030	U	P-O3'-C3'	6.78	130.37	120.20
2	A8	2600	A	C5'-C4'-C3'	-6.78	105.84	116.00
2	A8	756	A	C5'-C4'-C3'	-6.77	105.84	116.00
2	A8	1595	C	O4'-C1'-N1	6.77	118.66	108.50
7	A6	60	ALA	N-CA-C	-6.77	98.43	108.79
15	AK	78	PHE	CA-CB-CG	-6.77	107.03	113.80
36	BA	269	C	C1'-O4'-C4'	-6.77	103.13	109.90
36	BA	344	A	P-O3'-C3'	6.77	130.36	120.20
36	BA	372	C	C2'-C3'-O3'	6.77	119.66	109.50
37	BB	44	LYS	N-CA-C	-6.77	105.96	114.56
36	BA	993	G	C5'-C4'-C3'	-6.77	105.05	115.20
2	A8	2575	C	P-O3'-C3'	6.77	130.35	120.20
36	BA	122	G	C5'-C4'-C3'	-6.76	105.85	116.00
12	AH	29	PHE	CA-CB-CG	-6.76	107.04	113.80
36	BA	512	U	O5'-C5'-C4'	-6.76	101.36	111.50
2	A8	168	G	O3'-P-O5'	-6.76	93.86	104.00
2	A8	1036	G	C5'-C4'-C3'	-6.76	105.86	116.00
2	A8	1377	G	C4'-C3'-C2'	6.75	109.36	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A7	74	U	C4'-C3'-O3'	-6.75	102.87	113.00
2	A8	2526	G	C5'-C4'-C3'	6.75	126.13	116.00
36	BA	1194	U	C4'-C3'-O3'	-6.75	102.88	113.00
2	A8	984	A	C1'-O4'-C4'	-6.75	103.15	109.90
2	A8	1587	G	C5'-C4'-C3'	-6.75	105.88	116.00
36	BA	302	G	C5'-C4'-C3'	-6.75	105.88	116.00
36	BA	1107	C	P-O5'-C5'	-6.74	110.78	120.90
2	A8	228	C	O5'-C5'-C4'	-6.74	101.59	111.70
2	A8	2446	G	O3'-P-O5'	6.74	114.11	104.00
42	BG	67	ASN	N-CA-C	-6.74	104.76	114.12
2	A8	1857	G	C4'-C3'-C2'	6.74	109.33	102.60
2	A8	2673	G	O3'-P-O5'	-6.74	93.90	104.00
1	A7	39	A	C4'-C3'-O3'	-6.73	102.90	113.00
36	BA	77	A	C5'-C4'-C3'	-6.73	105.91	116.00
36	BA	411	A	P-O5'-C5'	6.73	130.99	120.90
2	A8	35	G	P-O5'-C5'	6.73	130.99	120.90
2	A8	1715	G	O5'-C5'-C4'	6.72	121.79	111.70
2	A8	659	G	C5'-C4'-C3'	-6.72	105.92	116.00
2	A8	912	C	O5'-C5'-C4'	-6.72	101.42	111.50
2	A8	1516	G	P-O5'-C5'	6.72	130.98	120.90
36	BA	244	U	P-O3'-C3'	-6.72	110.12	120.20
36	BA	1166	G	O3'-P-O5'	-6.72	93.92	104.00
2	A8	2605	U	C5'-C4'-C3'	-6.72	105.92	116.00
39	BD	197	HIS	N-CA-C	6.71	119.61	111.82
36	BA	434	U	O3'-P-O5'	-6.71	93.93	104.00
36	BA	1038	C	P-O5'-C5'	6.71	130.97	120.90
3	AA	362	PHE	CA-C-N	6.71	124.47	120.24
3	AA	362	PHE	C-N-CA	6.71	124.47	120.24
33	A2	12	ARG	CA-C-N	6.71	129.94	120.28
33	A2	12	ARG	C-N-CA	6.71	129.94	120.28
2	A8	761	A	C5'-C4'-C3'	-6.71	105.94	116.00
2	A8	198	C	C4'-C3'-O3'	-6.70	102.95	113.00
2	A8	1854	A	C4'-C3'-C2'	6.70	109.30	102.60
2	A8	58	G	C5'-C4'-C3'	-6.70	105.95	116.00
2	A8	1192	G	C5'-C4'-C3'	-6.70	105.95	116.00
2	A8	2891	U	C1'-O4'-C4'	-6.70	103.20	109.90
38	BC	93	ILE	N-CA-CB	6.70	118.22	110.65
36	BA	711	G	C5'-C4'-C3'	-6.70	105.95	116.00
2	A8	1644	C	O5'-C5'-C4'	-6.70	101.46	111.50
11	AG	146	ASP	N-CA-C	-6.70	103.04	113.02
36	BA	1479	C	C1'-O4'-C4'	-6.70	103.20	109.90
2	A8	1048	A	P-O5'-C5'	6.69	130.94	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1170	C	C4'-C3'-O3'	-6.69	102.96	113.00
2	A8	1532	A	C1'-O4'-C4'	-6.69	103.21	109.90
18	AN	77	ALA	N-CA-C	-6.69	104.74	113.17
2	A8	503	A	C5'-C4'-C3'	6.69	125.23	115.20
2	A8	429	A	P-O5'-C5'	6.69	130.93	120.90
36	BA	146	G	C5'-C4'-C3'	-6.69	105.97	116.00
36	BA	172	A	C4'-C3'-O3'	-6.69	102.97	113.00
2	A8	473	G	P-O5'-C5'	6.68	130.93	120.90
2	A8	766	U	C5'-C4'-C3'	-6.68	105.97	116.00
2	A8	1830	C	C5'-C4'-C3'	-6.68	105.97	116.00
2	A8	1922	G	C5'-C4'-C3'	-6.68	105.97	116.00
42	BG	99	ALA	CA-C-N	6.68	129.54	120.38
42	BG	99	ALA	C-N-CA	6.68	129.54	120.38
2	A8	1634	A	P-O5'-C5'	-6.68	110.88	120.90
2	A8	1902	C	P-O3'-C3'	-6.68	110.18	120.20
2	A8	2674	G	C4'-C3'-O3'	-6.68	102.97	113.00
36	BA	575	G	C4'-C3'-O3'	6.68	119.42	109.40
28	AX	28	PHE	N-CA-CB	6.68	121.92	111.56
27	AW	55	ASP	N-CA-C	-6.68	104.95	113.23
6	A5	29	LEU	CA-C-N	6.68	129.23	120.28
6	A5	29	LEU	C-N-CA	6.68	129.23	120.28
1	A7	88	C	O4'-C1'-N1	6.67	118.51	108.50
2	A8	158	U	C5'-C4'-C3'	-6.67	105.99	116.00
2	A8	226	A	C4'-C3'-O3'	-6.67	102.99	113.00
2	A8	1500	G	C4'-C3'-O3'	-6.67	102.99	113.00
6	A5	217	THR	N-CA-C	6.67	118.55	111.28
36	BA	283	U	P-O3'-C3'	-6.67	110.19	120.20
17	AM	115	GLU	N-CA-C	-6.67	104.45	112.59
36	BA	1411	C	C5'-C4'-C3'	-6.67	105.99	116.00
42	BG	104	VAL	N-CA-C	-6.67	104.51	111.58
2	A8	2530	A	P-O3'-C3'	-6.67	110.20	120.20
2	A8	1294	U	C5'-C4'-C3'	-6.66	106.01	116.00
2	A8	1498	C	O3'-P-O5'	-6.66	94.00	104.00
7	A6	220	ARG	CA-C-N	6.66	127.34	119.94
7	A6	220	ARG	C-N-CA	6.66	127.34	119.94
21	AQ	109	VAL	N-CA-C	-6.66	104.01	113.07
36	BA	51	A	C4'-C3'-C2'	6.66	109.26	102.60
2	A8	130	C	C4'-C3'-C2'	-6.66	95.94	102.60
13	AI	131	THR	CA-C-N	6.66	129.50	120.44
13	AI	131	THR	C-N-CA	6.66	129.50	120.44
44	BI	17	ARG	N-CA-CB	6.66	119.83	110.04
1	A7	83	G	C5'-C4'-C3'	-6.66	106.01	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1356	G	P-O5'-C5'	-6.66	110.91	120.90
36	BA	689	C	C5'-C4'-C3'	-6.66	106.01	116.00
2	A8	1331	G	C5'-C4'-C3'	-6.66	106.02	116.00
2	A8	1855	U	C5'-C4'-C3'	-6.65	106.02	116.00
36	BA	898	G	C4'-C3'-O3'	-6.65	103.03	113.00
2	A8	2703	C	P-O3'-C3'	-6.65	110.23	120.20
2	A8	2029	G	P-O3'-C3'	6.65	130.17	120.20
2	A8	455	C	P-O3'-C3'	6.65	130.17	120.20
2	A8	2406	A	O3'-P-O5'	-6.65	94.03	104.00
27	AW	42	THR	N-CA-C	-6.65	104.43	112.54
2	A8	33	C	O4'-C1'-N1	6.64	118.16	108.20
2	A8	1148	U	O3'-P-O5'	-6.64	94.04	104.00
2	A8	1447	C	C5'-C4'-C3'	-6.64	106.04	116.00
2	A8	1738	G	P-O3'-C3'	-6.64	110.24	120.20
36	BA	328	C	P-O3'-C3'	6.64	130.16	120.20
47	BL	18	SER	CA-C-N	6.63	129.17	120.28
47	BL	18	SER	C-N-CA	6.63	129.17	120.28
28	AX	37	PHE	CA-CB-CG	-6.63	107.17	113.80
2	A8	618	G	C5'-C4'-C3'	-6.63	106.06	116.00
2	A8	2765	A	P-O5'-C5'	-6.63	110.95	120.90
2	A8	1732	C	C5'-C4'-C3'	-6.63	105.26	115.20
2	A8	2443	C	O5'-C5'-C4'	-6.63	101.56	111.50
36	BA	420	U	C4'-C3'-O3'	-6.63	103.06	113.00
36	BA	1052	U	O3'-P-O5'	-6.63	94.06	104.00
2	A8	766	U	C4'-C3'-O3'	-6.62	103.07	113.00
2	A8	1678	A	P-O5'-C5'	6.62	130.84	120.90
17	AM	106	ASP	N-CA-C	-6.62	97.42	108.75
2	A8	757	G	C5'-C4'-C3'	-6.62	106.07	116.00
2	A8	2187	U	O3'-P-O5'	-6.62	94.07	104.00
2	A8	2286	G	P-O5'-C5'	-6.62	110.97	120.90
2	A8	1622	G	P-O3'-C3'	-6.62	110.27	120.20
2	A8	2620	C	C4'-C3'-C2'	6.62	109.22	102.60
22	AR	54	VAL	N-CA-C	-6.62	98.11	108.23
39	BD	91	ALA	CA-C-N	6.62	129.81	120.28
39	BD	91	ALA	C-N-CA	6.62	129.81	120.28
51	BP	79	ASN	CA-CB-CG	-6.62	105.98	112.60
2	A8	1511	G	C5'-C4'-C3'	-6.62	106.08	116.00
14	AJ	71	ASP	CA-CB-CG	6.62	119.22	112.60
36	BA	1041	G	C5'-C4'-C3'	-6.61	106.08	116.00
2	A8	1275	A	C4'-C3'-C2'	-6.61	95.99	102.60
22	AR	35	PHE	CA-CB-CG	-6.61	107.19	113.80
2	A8	1217	U	P-O3'-C3'	6.61	130.11	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	AO	59	ALA	CA-C-N	6.61	129.46	120.54
19	AO	59	ALA	C-N-CA	6.61	129.46	120.54
2	A8	575	A	C5'-C4'-C3'	-6.60	106.09	116.00
3	AA	388	THR	N-CA-C	-6.60	106.43	114.75
36	BA	757	U	P-O5'-C5'	6.60	130.80	120.90
2	A8	1875	G	C4'-C3'-O3'	-6.60	103.10	113.00
17	AM	114	ARG	N-CA-C	-6.60	106.43	114.75
36	BA	580	C	C5'-C4'-C3'	6.60	125.90	116.00
3	AA	120	PHE	CA-CB-CG	-6.60	107.20	113.80
1	A7	93	C	P-O5'-C5'	-6.59	111.01	120.90
2	A8	1031	G	C4'-C3'-O3'	-6.59	103.11	113.00
36	BA	781	A	C5'-C4'-C3'	6.59	125.89	116.00
2	A8	56	A	C4'-C3'-O3'	-6.59	103.12	113.00
2	A8	2075	U	C5'-C4'-C3'	-6.59	106.12	116.00
2	A8	2811	G	P-O3'-C3'	-6.59	110.31	120.20
2	A8	1489	C	O4'-C1'-C2'	6.59	112.39	105.80
2	A8	34	U	C2'-C3'-O3'	6.58	123.57	113.70
2	A8	846	U	P-O3'-C3'	-6.58	110.33	120.20
9	AE	22	ASP	CA-CB-CG	-6.58	106.02	112.60
36	BA	952	U	P-O3'-C3'	-6.58	110.32	120.20
2	A8	1328	A	P-O5'-C5'	6.58	130.77	120.90
2	A8	436	C	C4'-C3'-O3'	-6.58	103.13	113.00
2	A8	1449	G	C5'-C4'-C3'	-6.58	106.13	116.00
36	BA	670	G	C5'-C4'-C3'	-6.58	106.13	116.00
2	A8	197	A	O5'-C5'-C4'	-6.58	101.63	111.50
2	A8	1282	U	C4'-C3'-O3'	-6.58	103.14	113.00
36	BA	1017	U	O5'-C5'-C4'	-6.58	101.64	111.50
36	BA	1501	C	C4'-C3'-O3'	-6.58	103.14	113.00
2	A8	1909	C	C3'-C2'-C1'	-6.57	94.73	101.30
36	BA	469	C	O4'-C1'-N1	6.57	118.36	108.50
36	BA	927	G	P-O5'-C5'	6.57	130.76	120.90
2	A8	82	U	C5'-C4'-C3'	-6.57	106.15	116.00
2	A8	2719	G	C5'-C4'-C3'	-6.57	106.15	116.00
2	A8	1346	G	P-O5'-C5'	-6.57	111.05	120.90
21	AQ	105	PHE	CA-CB-CG	-6.56	107.24	113.80
2	A8	1792	G	C5'-C4'-C3'	-6.56	106.16	116.00
52	BQ	76	ARG	N-CA-CB	6.56	121.58	110.49
2	A8	249	C	O3'-P-O5'	-6.56	94.16	104.00
2	A8	896	A	P-O3'-C3'	-6.56	110.36	120.20
2	A8	1269	A	C4'-C3'-O3'	-6.56	103.16	113.00
36	BA	501	C	C5'-C4'-C3'	-6.56	106.16	116.00
36	BA	1517	G	C4'-C3'-O3'	-6.56	103.16	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2292	U	P-O3'-C3'	-6.56	110.36	120.20
7	A6	86	ARG	CA-C-N	6.56	130.66	120.82
7	A6	86	ARG	C-N-CA	6.56	130.66	120.82
36	BA	862	C	P-O5'-C5'	6.56	130.74	120.90
45	BJ	99	GLN	N-CA-C	-6.56	97.59	108.34
51	BP	78	VAL	N-CA-C	-6.56	106.74	113.10
2	A8	1434	A	C4'-C3'-O3'	-6.55	103.17	113.00
2	A8	1736	U	C5'-C4'-C3'	-6.55	106.17	116.00
2	A8	2363	G	P-O5'-C5'	-6.55	111.07	120.90
36	BA	1475	G	C5'-C4'-C3'	-6.55	106.17	116.00
16	AL	95	LEU	N-CA-C	-6.55	96.84	110.80
1	A7	85	G	C4'-C3'-C2'	-6.55	96.05	102.60
7	A6	213	ARG	N-CA-C	-6.55	104.60	112.59
36	BA	90	C	O3'-P-O5'	-6.55	94.17	104.00
36	BA	855	U	C5'-C4'-C3'	-6.55	106.18	116.00
2	A8	973	A	C5'-C4'-C3'	6.55	125.02	115.20
2	A8	1118	C	C5'-C4'-C3'	-6.55	106.18	116.00
12	AH	82	SER	N-CA-C	-6.54	96.86	110.80
2	A8	2351	G	O3'-P-O5'	-6.54	94.18	104.00
31	A0	4	GLN	N-CA-C	-6.54	104.61	112.59
36	BA	412	A	P-O3'-C3'	6.54	130.01	120.20
36	BA	936	C	C4'-C3'-C2'	-6.54	96.06	102.60
2	A8	268	C	C5'-C4'-C3'	-6.54	106.19	116.00
36	BA	600	A	P-O5'-C5'	-6.54	111.09	120.90
2	A8	1271	G	O4'-C4'-C3'	-6.54	97.46	104.00
54	BS	9	PHE	N-CA-C	-6.54	95.00	108.53
20	AP	65	ASN	CA-CB-CG	-6.54	106.06	112.60
39	BD	143	SER	N-CA-C	-6.54	99.26	109.72
2	A8	2650	U	C5'-C4'-C3'	-6.53	106.20	116.00
2	A8	109	C	C5'-C4'-C3'	-6.53	106.20	116.00
36	BA	814	A	C4'-C3'-C2'	-6.53	96.07	102.60
2	A8	1235	G	C4'-C3'-O3'	-6.53	103.21	113.00
2	A8	1526	C	P-O5'-C5'	6.53	130.69	120.90
36	BA	1243	C	C5'-C4'-C3'	-6.53	106.21	116.00
2	A8	736	C	C5'-C4'-C3'	-6.53	106.21	116.00
2	A8	1774	C	C5'-C4'-C3'	-6.53	106.21	116.00
36	BA	1161	C	P-O5'-C5'	6.52	130.69	120.90
2	A8	648	G	O3'-P-O5'	-6.52	94.22	104.00
2	A8	1388	G	C5'-C4'-C3'	-6.52	106.22	116.00
13	AI	128	ILE	CB-CA-C	-6.52	103.50	112.24
43	BH	89	ASP	CA-CB-CG	-6.52	106.08	112.60
44	BI	61	ASP	N-CA-C	-6.52	98.57	109.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	386	G	P-O3'-C3'	6.52	129.98	120.20
10	AF	89	THR	N-CA-C	-6.52	96.61	108.02
36	BA	606	G	P-O5'-C5'	6.52	130.68	120.90
2	A8	374	A	C4'-C3'-C2'	-6.52	96.08	102.60
2	A8	1441	G	C5'-C4'-C3'	-6.52	106.22	116.00
36	BA	1420	U	C5'-C4'-C3'	-6.52	106.22	116.00
54	BS	15	LEU	N-CA-C	-6.52	103.49	112.03
2	A8	2690	U	O3'-P-O5'	-6.51	94.23	104.00
52	BQ	36	PHE	CA-CB-CG	-6.51	107.28	113.80
56	BU	18	PHE	N-CA-CB	-6.51	100.40	109.91
42	BG	109	LYS	N-CA-C	-6.51	107.19	114.62
2	A8	1242	U	C5'-C4'-C3'	-6.51	106.23	116.00
29	AY	26	PHE	N-CA-C	-6.51	103.84	113.61
1	A7	111	U	C5'-C4'-C3'	-6.51	106.24	116.00
16	AL	9	ALA	CA-C-N	6.51	129.00	120.28
16	AL	9	ALA	C-N-CA	6.51	129.00	120.28
36	BA	754	C	C5'-C4'-C3'	-6.51	106.24	116.00
2	A8	1034	G	P-O5'-C5'	6.51	130.66	120.90
3	AA	190	GLU	N-CA-C	-6.51	102.51	112.99
2	A8	2200	C	O4'-C1'-N1	6.50	118.26	108.50
36	BA	1507	A	C5'-C4'-C3'	-6.50	106.24	116.00
2	A8	153	U	C5'-C4'-C3'	-6.50	106.25	116.00
2	A8	2476	A	C2'-C3'-O3'	6.50	123.45	113.70
14	AJ	73	VAL	N-CA-CB	6.50	117.81	110.72
36	BA	1362	A	P-O5'-C5'	-6.50	111.15	120.90
36	BA	461	A	P-O3'-C3'	-6.50	110.45	120.20
2	A8	2744	G	P-O5'-C5'	6.50	130.65	120.90
27	AW	68	PHE	CA-CB-CG	-6.50	107.30	113.80
1	A7	33	G	P-O5'-C5'	-6.50	111.16	120.90
36	BA	447	G	C1'-O4'-C4'	-6.50	103.40	109.90
36	BA	1173	U	C4'-C3'-O3'	-6.50	103.25	113.00
47	BL	3	VAL	N-CA-CB	6.50	118.15	110.55
36	BA	203	G	O4'-C1'-C2'	-6.50	101.11	107.60
2	A8	389	G	C4'-C3'-C2'	-6.49	96.11	102.60
2	A8	2716	C	C1'-O4'-C4'	-6.49	103.41	109.90
17	AM	117	PHE	N-CA-CB	6.49	121.78	111.66
36	BA	545	C	C5'-C4'-C3'	-6.49	106.26	116.00
18	AN	20	MET	N-CA-C	-6.49	104.61	113.30
36	BA	932	C	P-O5'-C5'	-6.49	111.17	120.90
2	A8	1530	G	P-O5'-C5'	-6.49	111.17	120.90
2	A8	130	C	O4'-C1'-N1	6.48	118.23	108.50
11	AG	107	GLY	N-CA-C	-6.48	106.17	115.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	283	U	C4'-C3'-C2'	-6.48	96.12	102.60
36	BA	550	G	C5'-C4'-C3'	6.48	125.72	116.00
2	A8	1547	C	P-O5'-C5'	6.48	130.62	120.90
2	A8	2324	U	P-O3'-C3'	6.48	129.92	120.20
24	AT	70	HIS	N-CA-C	-6.48	97.00	110.80
2	A8	221	A	P-O3'-C3'	6.48	129.92	120.20
2	A8	2611	C	O4'-C1'-N1	6.48	118.22	108.50
2	A8	2763	G	C1'-O4'-C4'	-6.48	103.42	109.90
10	AF	86	CYS	CA-C-N	6.48	133.91	121.54
10	AF	86	CYS	C-N-CA	6.48	133.91	121.54
21	AQ	49	ARG	N-CA-C	-6.48	105.41	113.38
29	AY	13	GLU	CA-C-N	6.48	129.28	120.54
29	AY	13	GLU	C-N-CA	6.48	129.28	120.54
2	A8	572	A	C5'-C4'-C3'	-6.48	106.29	116.00
2	A8	186	G	P-O5'-C5'	-6.47	111.19	120.90
2	A8	788	A	P-O5'-C5'	6.47	130.61	120.90
2	A8	1949	G	C5'-C4'-C3'	-6.47	106.29	116.00
2	A8	2454	G	P-O3'-C3'	-6.47	110.49	120.20
36	BA	452	A	C4'-C3'-C2'	-6.47	96.13	102.60
36	BA	1226	C	O4'-C1'-C2'	6.47	112.27	105.80
37	BB	93	HIS	N-CA-C	-6.47	105.34	112.72
2	A8	1970	A	P-O5'-C5'	-6.47	111.20	120.90
33	A2	14	ARG	N-CA-C	-6.47	101.85	111.81
36	BA	1132	C	C5'-C4'-C3'	-6.47	106.30	116.00
27	AW	40	ARG	N-CA-C	-6.47	102.77	112.54
36	BA	683	G	C5'-C4'-C3'	-6.47	106.30	116.00
2	A8	1088	A	O3'-P-O5'	-6.47	94.30	104.00
2	A8	1552	A	P-O5'-C5'	6.47	130.60	120.90
36	BA	536	C	C4'-C3'-O3'	-6.47	103.30	113.00
2	A8	165	A	P-O5'-C5'	6.46	130.60	120.90
2	A8	1091	G	P-O5'-C5'	-6.46	111.20	120.90
2	A8	1967	C	C5'-C4'-C3'	6.46	125.70	116.00
36	BA	866	C	C4'-C3'-O3'	-6.46	103.30	113.00
2	A8	1433	A	P-O3'-C3'	-6.46	110.51	120.20
2	A8	2484	G	O5'-C5'-C4'	-6.46	101.81	111.50
14	AJ	86	GLN	CB-CG-CD	-6.46	101.61	112.60
36	BA	302	G	O3'-P-O5'	-6.46	94.31	104.00
36	BA	556	C	P-O3'-C3'	-6.46	110.51	120.20
28	AX	22	ASN	CA-CB-CG	-6.46	106.14	112.60
2	A8	2733	A	O4'-C1'-N9	6.46	118.19	108.50
18	AN	103	ARG	N-CA-C	-6.46	98.87	109.40
36	BA	348	G	P-O5'-C5'	-6.46	111.21	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	993	G	P-O3'-C3'	-6.46	110.51	120.20
2	A8	2258	C	O3'-P-O5'	6.46	113.69	104.00
48	BM	66	GLY	CA-C-N	6.46	128.83	120.44
48	BM	66	GLY	C-N-CA	6.46	128.83	120.44
8	AD	131	ASP	N-CA-C	-6.46	102.55	108.75
2	A8	1811	G	C5'-C4'-C3'	-6.45	106.32	116.00
1	A7	107	G	C4'-C3'-O3'	-6.45	103.33	113.00
2	A8	1558	C	P-O3'-C3'	-6.45	110.53	120.20
24	AT	59	ASN	CA-CB-CG	-6.45	106.15	112.60
36	BA	271	C	P-O5'-C5'	6.45	130.57	120.90
2	A8	2513	A	C4'-C3'-O3'	-6.45	103.33	113.00
28	AX	61	LYS	N-CA-C	-6.45	105.95	113.88
36	BA	748	G	C5'-C4'-C3'	-6.44	106.33	116.00
2	A8	2276	G	P-O5'-C5'	6.44	130.56	120.90
23	AS	57	ASN	CA-CB-CG	-6.44	106.16	112.60
36	BA	906	A	O3'-P-O5'	6.44	113.66	104.00
36	BA	1494	G	O3'-P-O5'	-6.44	94.34	104.00
47	BL	61	GLU	CA-C-N	6.44	129.31	120.35
47	BL	61	GLU	C-N-CA	6.44	129.31	120.35
2	A8	493	G	C5'-C4'-C3'	-6.44	106.34	116.00
2	A8	1698	A	C5'-C4'-C3'	6.44	124.86	115.20
2	A8	2598	A	P-O5'-C5'	-6.44	111.24	120.90
50	BO	34	GLN	CA-C-N	6.44	128.68	120.56
50	BO	34	GLN	C-N-CA	6.44	128.68	120.56
36	BA	190	A	C4'-C3'-O3'	-6.44	103.34	113.00
36	BA	384	G	C5'-C4'-C3'	-6.44	106.35	116.00
36	BA	368	U	C5'-C4'-C3'	-6.43	106.35	116.00
36	BA	1510	C	C3'-C2'-C1'	-6.43	94.86	101.30
2	A8	976	G	C5'-C4'-C3'	-6.43	106.35	116.00
27	AW	18	LYS	CA-C-N	6.43	133.83	121.54
27	AW	18	LYS	C-N-CA	6.43	133.83	121.54
2	A8	2750	A	O4'-C1'-C2'	6.43	112.23	105.80
36	BA	1121	U	C4'-C3'-O3'	-6.43	103.35	113.00
2	A8	2413	G	C4'-C3'-C2'	-6.43	96.17	102.60
23	AS	8	ARG	CB-CA-C	-6.43	98.52	109.51
36	BA	1470	U	C4'-C3'-O3'	-6.43	103.36	113.00
2	A8	70	G	C4'-C3'-C2'	6.43	109.03	102.60
2	A8	195	A	C4'-C3'-C2'	-6.43	96.17	102.60
2	A8	693	A	C4'-C3'-O3'	-6.43	103.36	113.00
2	A8	1533	C	C5'-C4'-C3'	-6.43	106.36	116.00
36	BA	429	U	O5'-C5'-C4'	-6.43	102.06	111.70
46	BK	67	GLU	N-CA-C	-6.43	105.57	113.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	AQ	98	ALA	N-CA-C	-6.42	102.90	113.50
36	BA	1160	G	C5'-C4'-C3'	-6.42	106.36	116.00
2	A8	1176	U	C5'-C4'-C3'	-6.42	106.37	116.00
51	BP	69	ASP	N-CA-C	6.42	118.36	111.36
2	A8	2317	A	C5'-C4'-C3'	-6.42	106.38	116.00
2	A8	1529	G	C5'-C4'-C3'	-6.41	106.38	116.00
2	A8	1766	G	C5'-C4'-C3'	6.41	125.62	116.00
36	BA	1234	C	C5'-C4'-C3'	-6.41	106.38	116.00
36	BA	1301	U	O4'-C1'-C2'	-6.41	99.39	105.80
36	BA	1403	C	O3'-P-O5'	-6.41	94.38	104.00
2	A8	737	C	C5'-C4'-C3'	-6.41	106.38	116.00
2	A8	2644	G	P-O5'-C5'	-6.41	111.28	120.90
21	AQ	69	ARG	N-CA-C	-6.41	105.62	113.50
22	AR	47	VAL	CA-C-N	6.41	130.43	120.75
22	AR	47	VAL	C-N-CA	6.41	130.43	120.75
30	AZ	12	ALA	N-CA-C	-6.41	102.85	110.41
36	BA	1435	G	C4'-C3'-C2'	6.41	109.01	102.60
2	A8	1175	A	P-O5'-C5'	6.41	130.51	120.90
36	BA	5	U	O4'-C1'-C2'	-6.41	99.39	105.80
36	BA	1331	G	C4'-C3'-C2'	-6.41	96.19	102.60
36	BA	16	A	P-O5'-C5'	-6.41	111.29	120.90
2	A8	2303	G	C5'-C4'-C3'	-6.40	106.39	116.00
13	AI	128	ILE	CA-C-N	6.40	128.86	120.28
13	AI	128	ILE	C-N-CA	6.40	128.86	120.28
21	AQ	12	ARG	N-CA-C	-6.40	102.87	112.54
36	BA	283	U	C5'-C4'-C3'	-6.40	106.40	116.00
36	BA	359	G	C4'-C3'-C2'	-6.40	96.20	102.60
36	BA	414	A	C5'-C4'-C3'	-6.40	106.40	116.00
47	BL	56	LEU	CA-C-N	6.40	128.86	120.28
47	BL	56	LEU	C-N-CA	6.40	128.86	120.28
2	A8	1398	C	O3'-P-O5'	-6.40	94.40	104.00
22	AR	78	ARG	N-CA-C	-6.40	98.47	108.90
36	BA	542	G	C5'-C4'-C3'	-6.40	106.40	116.00
2	A8	1349	C	O5'-C5'-C4'	-6.40	101.90	111.50
36	BA	61	G	C4'-C3'-O3'	-6.40	103.40	113.00
10	AF	143	ASP	N-CA-C	-6.40	104.09	112.41
36	BA	1155	A	C4'-C3'-O3'	-6.40	103.40	113.00
50	BO	38	LEU	N-CA-C	-6.40	105.23	114.12
2	A8	843	G	C5'-C4'-C3'	-6.40	106.41	116.00
2	A8	161	A	C5'-C4'-C3'	6.39	125.59	116.00
2	A8	772	C	O5'-C5'-C4'	-6.39	101.91	111.50
2	A8	2619	C	C5'-C4'-C3'	-6.39	106.41	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1098	A	P-O5'-C5'	6.39	130.49	120.90
14	AJ	67	ASN	N-CA-C	-6.39	105.23	113.16
25	AU	100	GLU	N-CA-C	-6.39	97.18	110.80
36	BA	395	C	C5'-C4'-C3'	-6.39	106.41	116.00
36	BA	773	G	C5'-C4'-C3'	-6.39	106.41	116.00
36	BA	1236	A	C5'-C4'-C3'	-6.39	106.41	116.00
42	BG	139	ASP	N-CA-C	-6.39	107.33	114.62
2	A8	1623	G	O5'-C5'-C4'	6.39	121.08	111.50
40	BE	144	GLU	N-CA-C	-6.39	104.64	112.88
45	BJ	8	ILE	N-CA-C	-6.39	98.32	107.77
2	A8	946	C	P-O5'-C5'	-6.39	111.32	120.90
7	A6	34	GLU	N-CA-C	-6.39	106.70	114.75
36	BA	1206	G	P-O5'-C5'	6.38	130.48	120.90
2	A8	1419	A	O3'-P-O5'	-6.38	94.43	104.00
2	A8	2523	G	C5'-C4'-C3'	-6.38	106.43	116.00
12	AH	102	ALA	N-CA-C	-6.38	105.42	113.72
36	BA	352	C	P-O3'-C3'	-6.38	110.63	120.20
2	A8	2100	G	C5'-C4'-C3'	-6.38	106.43	116.00
2	A8	1503	A	O3'-P-O5'	-6.38	94.44	104.00
2	A8	1519	G	C4'-C3'-O3'	-6.38	103.44	113.00
2	A8	713	G	O3'-P-O5'	-6.37	94.44	104.00
2	A8	2254	C	C5'-C4'-O4'	6.37	119.36	109.80
2	A8	2740	A	O3'-P-O5'	-6.37	94.44	104.00
43	BH	47	ASP	CA-CB-CG	6.37	118.97	112.60
36	BA	244	U	P-O5'-C5'	-6.37	111.34	120.90
36	BA	902	G	O5'-C5'-C4'	-6.37	101.94	111.50
36	BA	1077	G	C5'-C4'-C3'	-6.37	106.45	116.00
36	BA	1368	A	P-O5'-C5'	-6.37	111.34	120.90
2	A8	1090	A	P-O3'-C3'	-6.37	110.65	120.20
2	A8	2349	G	P-O5'-C5'	6.37	130.45	120.90
2	A8	2877	G	P-O5'-C5'	-6.37	111.35	120.90
26	AV	10	LYS	N-CA-C	-6.37	102.99	113.50
36	BA	434	U	C5'-C4'-C3'	-6.37	106.45	116.00
36	BA	508	U	P-O5'-C5'	6.37	130.45	120.90
36	BA	1333	A	C5'-C4'-C3'	-6.37	106.45	116.00
40	BE	39	GLY	N-CA-C	-6.37	100.64	111.27
2	A8	2873	A	C5'-C4'-C3'	-6.37	105.65	115.20
36	BA	1016	A	P-O5'-C5'	6.37	130.45	120.90
2	A8	479	A	C4'-C3'-C2'	-6.36	96.24	102.60
2	A8	493	G	P-O5'-C5'	6.36	130.44	120.90
17	AM	132	THR	N-CA-C	-6.36	100.43	108.45
36	BA	1484	C	O5'-C5'-C4'	-6.36	101.96	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	574	A	C4'-C3'-C2'	6.36	108.96	102.60
2	A8	266	G	C5'-C4'-C3'	6.36	125.54	116.00
2	A8	1564	C	P-O5'-C5'	6.36	130.44	120.90
36	BA	801	U	P-O5'-C5'	-6.36	111.36	120.90
19	AO	47	VAL	O-C-N	-6.36	116.50	123.18
36	BA	1470	U	C5'-C4'-C3'	-6.36	106.46	116.00
2	A8	1536	C	O4'-C1'-N1	6.36	117.73	108.20
6	A5	188	ASN	CA-C-N	6.36	129.09	120.38
6	A5	188	ASN	C-N-CA	6.36	129.09	120.38
41	BF	42	TRP	N-CA-C	-6.35	103.20	111.71
21	AQ	83	LYS	N-CA-C	-6.35	105.17	113.17
40	BE	31	SER	N-CA-C	-6.35	98.06	108.41
47	BL	40	THR	N-CA-C	-6.35	94.89	107.91
28	AX	71	ARG	N-CA-C	-6.35	104.28	111.14
2	A8	1269	A	C5'-C4'-C3'	-6.35	106.47	116.00
18	AN	102	PHE	N-CA-C	6.35	124.33	110.80
24	AT	78	SER	N-CA-C	-6.35	101.98	110.55
2	A8	1473	G	C5'-C4'-C3'	-6.35	106.48	116.00
11	AG	3	VAL	CB-CA-C	-6.35	103.57	112.14
36	BA	652	U	O4'-C4'-C3'	-6.35	99.75	106.10
2	A8	1854	A	P-O3'-C3'	-6.34	110.68	120.20
44	BI	49	GLN	N-CA-C	6.34	121.50	113.25
47	BL	4	ASN	CA-CB-CG	6.34	118.94	112.60
2	A8	913	U	P-O3'-C3'	-6.34	110.69	120.20
2	A8	1165	A	O3'-P-O5'	-6.34	94.49	104.00
37	BB	103	TRP	CA-C-N	6.34	129.07	120.38
37	BB	103	TRP	C-N-CA	6.34	129.07	120.38
44	BI	21	LYS	N-CA-C	-6.34	102.15	110.39
2	A8	2350	C	P-O5'-C5'	-6.34	111.39	120.90
2	A8	2401	U	O4'-C1'-C2'	6.34	112.14	105.80
37	BB	189	ASN	N-CA-C	-6.34	104.26	114.09
2	A8	2389	G	O4'-C1'-N9	6.34	118.01	108.50
2	A8	856	G	C5'-C4'-C3'	-6.34	106.50	116.00
2	A8	1111	A	O5'-C5'-C4'	-6.34	102.20	111.70
2	A8	2177	C	O4'-C1'-N1	6.34	118.00	108.50
2	A8	2434	A	O4'-C1'-C2'	6.34	112.14	105.80
46	BK	111	ASP	N-CA-CB	6.33	119.52	109.51
2	A8	247	G	P-O5'-C5'	-6.33	111.40	120.90
36	BA	1334	G	C5'-C4'-C3'	-6.33	106.50	116.00
1	A7	27	C	O4'-C1'-N1	6.33	118.00	108.50
36	BA	670	G	C4'-C3'-O3'	-6.33	103.50	113.00
2	A8	2596	U	O4'-C1'-N1	6.33	118.00	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	314	C	C5'-C4'-C3'	-6.33	106.50	116.00
2	A8	624	C	P-O5'-C5'	-6.33	111.41	120.90
2	A8	776	G	C1'-O4'-C4'	-6.33	103.37	109.70
2	A8	2566	A	C2'-C3'-O3'	6.33	118.99	109.50
4	AB	3	LYS	N-CA-CB	6.33	119.96	110.22
36	BA	810	C	P-O3'-C3'	6.33	129.69	120.20
2	A8	594	U	C5'-C4'-C3'	6.32	125.48	116.00
2	A8	714	U	C5'-C4'-C3'	-6.32	106.51	116.00
2	A8	1814	G	O3'-P-O5'	-6.32	94.51	104.00
8	AD	169	ARG	N-CA-CB	6.32	119.28	110.17
2	A8	2409	G	P-O5'-C5'	-6.32	111.42	120.90
2	A8	1823	G	C5'-C4'-C3'	-6.32	106.52	116.00
17	AM	119	LEU	N-CA-C	6.32	118.25	111.36
23	AS	65	ASP	N-CA-CB	6.32	121.17	110.49
2	A8	742	A	C4'-C3'-C2'	-6.32	96.28	102.60
2	A8	34	U	O5'-C5'-C4'	-6.32	102.03	111.50
2	A8	898	C	P-O3'-C3'	-6.32	110.72	120.20
2	A8	1321	A	O4'-C1'-N9	6.32	117.97	108.50
37	BB	143	LEU	N-CA-C	-6.31	97.35	110.80
2	A8	2258	C	C5'-C4'-C3'	6.31	124.67	115.20
8	AD	84	LEU	N-CA-C	-6.31	100.03	108.74
17	AM	31	PHE	N-CA-C	-6.31	102.83	112.99
2	A8	810	U	P-O5'-C5'	6.31	130.37	120.90
36	BA	596	A	C5'-C4'-C3'	-6.31	106.53	116.00
43	BH	29	SER	CA-C-N	6.31	130.28	120.82
43	BH	29	SER	C-N-CA	6.31	130.28	120.82
2	A8	1039	A	C5'-C4'-C3'	-6.31	106.54	116.00
2	A8	2744	G	C5'-C4'-C3'	-6.31	106.54	116.00
2	A8	2806	C	P-O5'-C5'	-6.31	111.44	120.90
2	A8	2170	A	O3'-P-O5'	-6.31	94.54	104.00
2	A8	690	G	C5'-C4'-C3'	-6.30	106.54	116.00
36	BA	976	G	O4'-C1'-N9	6.30	117.96	108.50
37	BB	146	SER	N-CA-C	-6.30	106.55	114.56
55	BT	49	ALA	N-CA-C	-6.30	105.36	114.12
2	A8	167	A	C5'-C4'-C3'	-6.30	106.55	116.00
36	BA	1181	G	O4'-C1'-C2'	6.30	112.10	105.80
2	A8	984	A	C5'-C4'-C3'	-6.30	106.55	116.00
2	A8	1601	G	C4'-C3'-O3'	-6.30	103.55	113.00
36	BA	901	A	C5'-C4'-C3'	-6.30	106.55	116.00
2	A8	1992	G	C5'-C4'-C3'	-6.30	105.75	115.20
12	AH	116	ARG	N-CA-C	-6.30	105.72	113.41
23	AS	80	PRO	CA-C-N	6.30	132.03	122.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	AS	80	PRO	C-N-CA	6.30	132.03	122.65
2	A8	978	G	C5'-C4'-C3'	-6.30	106.55	116.00
25	AU	86	PHE	N-CA-C	-6.30	99.73	109.24
8	AD	16	THR	CA-C-N	6.30	129.35	120.28
8	AD	16	THR	C-N-CA	6.30	129.35	120.28
3	AA	94	ILE	N-CA-C	-6.29	99.36	108.36
36	BA	1239	A	C5'-C4'-C3'	-6.29	105.76	115.20
44	BI	104	THR	N-CA-CB	6.29	119.45	109.51
2	A8	1467	U	P-O3'-C3'	6.29	129.64	120.20
2	A8	2141	G	O3'-P-O5'	-6.29	94.56	104.00
37	BB	177	ASN	N-CA-C	-6.29	104.50	111.36
4	AB	31	ASP	CA-CB-CG	-6.29	106.31	112.60
25	AU	91	LYS	CA-C-N	6.29	133.29	121.97
25	AU	91	LYS	C-N-CA	6.29	133.29	121.97
36	BA	374	A	P-O5'-C5'	6.29	130.34	120.90
36	BA	1099	G	C5'-C4'-C3'	-6.29	106.56	116.00
2	A8	198	C	C5'-C4'-C3'	-6.29	106.57	116.00
2	A8	1828	G	O4'-C1'-C2'	6.29	112.09	105.80
36	BA	1173	U	C5'-C4'-C3'	-6.29	106.57	116.00
7	A6	95	TYR	CA-CB-CG	-6.29	102.58	113.90
36	BA	279	A	P-O3'-C3'	6.29	129.63	120.20
36	BA	572	A	O3'-P-O5'	-6.29	94.57	104.00
36	BA	614	C	O4'-C1'-N1	6.29	117.93	108.50
36	BA	1454	G	P-O5'-C5'	6.29	130.33	120.90
47	BL	120	ARG	N-CA-C	-6.29	101.73	109.65
2	A8	2880	C	P-O5'-C5'	6.28	130.33	120.90
2	A8	2401	U	O4'-C1'-N1	6.28	117.62	108.20
19	AO	8	ILE	CA-C-O	-6.28	114.88	121.41
36	BA	335	C	P-O3'-C3'	-6.28	110.78	120.20
2	A8	855	G	C5'-C4'-C3'	-6.28	106.58	116.00
2	A8	2469	A	P-O5'-C5'	-6.28	111.48	120.90
23	AS	7	HIS	CA-CB-CG	-6.28	107.52	113.80
36	BA	1499	A	C5'-C4'-C3'	6.28	125.42	116.00
6	A5	181	ASP	CA-CB-CG	-6.28	106.32	112.60
2	A8	609	A	C4'-C3'-O3'	-6.28	103.58	113.00
2	A8	676	A	C4'-C3'-O3'	-6.28	103.58	113.00
2	A8	1312	U	P-O5'-C5'	6.28	130.31	120.90
2	A8	1465	G	C5'-C4'-C3'	6.28	125.42	116.00
2	A8	2196	C	C5'-C4'-C3'	-6.28	106.58	116.00
2	A8	2517	C	C5'-C4'-C3'	-6.28	105.78	115.20
2	A8	2764	A	C5'-C4'-C3'	-6.28	106.58	116.00
2	A8	1098	A	C5'-C4'-C3'	6.28	125.41	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	649	A	C4'-C3'-C2'	-6.28	96.32	102.60
36	BA	1404	C	C5'-C4'-C3'	-6.28	106.58	116.00
2	A8	1961	C	C5'-C4'-C3'	-6.27	106.59	116.00
2	A8	172	A	C5'-C4'-C3'	-6.27	106.59	116.00
2	A8	1850	G	C5'-C4'-C3'	-6.27	106.60	116.00
2	A8	1864	U	O4'-C1'-N1	6.27	117.90	108.50
13	AI	67	THR	N-CA-C	-6.26	99.78	109.24
20	AP	1	SER	CA-C-N	6.26	128.58	120.44
20	AP	1	SER	C-N-CA	6.26	128.58	120.44
18	AN	88	ALA	CA-C-N	6.26	129.30	120.28
18	AN	88	ALA	C-N-CA	6.26	129.30	120.28
2	A8	2423	U	P-O5'-C5'	-6.26	111.51	120.90
2	A8	2597	G	C4'-C3'-O3'	-6.26	103.61	113.00
2	A8	2663	G	C5'-C4'-C3'	-6.26	106.61	116.00
2	A8	2873	A	O4'-C4'-C3'	-6.26	99.84	106.10
2	A8	520	G	C5'-C4'-C3'	-6.26	106.61	116.00
32	A1	11	VAL	CA-C-N	6.26	129.76	120.87
32	A1	11	VAL	C-N-CA	6.26	129.76	120.87
51	BP	39	PHE	CA-CB-CG	-6.26	107.54	113.80
2	A8	1541	C	O4'-C1'-N1	6.26	117.88	108.50
18	AN	80	PHE	CA-CB-CG	-6.26	107.54	113.80
2	A8	2483	C	C5'-C4'-C3'	-6.25	106.62	116.00
2	A8	2711	A	C4'-C3'-O3'	-6.25	103.62	113.00
2	A8	2791	G	P-O5'-C5'	-6.25	111.52	120.90
2	A8	2828	G	P-O5'-C5'	-6.25	111.52	120.90
10	AF	164	GLU	N-CA-C	-6.25	105.69	113.38
22	AR	42	ALA	N-CA-C	-6.25	99.72	109.72
8	AD	134	HIS	N-CA-CB	6.25	121.06	110.49
36	BA	1469	C	C5'-C4'-C3'	-6.25	106.62	116.00
2	A8	196	A	P-O3'-C3'	-6.25	110.83	120.20
2	A8	1093	G	C4'-C3'-O3'	-6.25	103.62	113.00
2	A8	1934	C	C5'-C4'-C3'	-6.25	106.63	116.00
2	A8	2798	U	O4'-C4'-C3'	-6.25	99.85	106.10
17	AM	75	GLU	N-CA-CB	6.25	121.31	110.81
36	BA	872	A	C3'-C2'-C1'	-6.25	95.25	101.50
2	A8	479	A	C2'-C3'-O3'	6.24	118.87	109.50
14	AJ	38	GLY	N-CA-C	-6.24	105.77	116.01
28	AX	28	PHE	N-CA-C	-6.24	99.24	108.79
2	A8	1135	C	O4'-C1'-N1	6.24	117.86	108.50
14	AJ	31	GLU	N-CA-C	-6.24	106.21	113.88
2	A8	713	G	C4'-C3'-O3'	-6.24	103.64	113.00
2	A8	1261	C	C4'-C3'-C2'	-6.24	96.36	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	671	C	O3'-P-O5'	-6.24	94.65	104.00
2	A8	1583	A	O4'-C1'-N9	6.24	117.85	108.50
2	A8	1866	A	C5'-C4'-C3'	-6.24	106.65	116.00
7	A6	231	HIS	CA-CB-CG	-6.24	107.56	113.80
10	AF	41	GLU	N-CA-CB	6.24	121.03	110.49
36	BA	847	G	P-O3'-C3'	-6.24	110.85	120.20
50	BO	63	ARG	CA-C-N	6.24	128.96	120.54
50	BO	63	ARG	C-N-CA	6.24	128.96	120.54
2	A8	2479	U	P-O3'-C3'	-6.23	110.85	120.20
42	BG	121	ASN	CA-CB-CG	-6.23	106.37	112.60
2	A8	2246	G	P-O5'-C5'	6.23	130.25	120.90
12	AH	54	LEU	N-CA-C	6.23	118.62	111.02
26	AV	91	PHE	CA-CB-CG	-6.23	107.57	113.80
2	A8	520	G	C1'-O4'-C4'	-6.23	103.67	109.90
2	A8	1229	C	C5'-C4'-C3'	-6.23	106.66	116.00
8	AD	71	ALA	CA-C-N	6.23	126.02	120.10
8	AD	71	ALA	C-N-CA	6.23	126.02	120.10
17	AM	6	ARG	N-CA-C	-6.23	98.75	108.90
36	BA	516	U	C4'-C3'-O3'	-6.23	103.66	113.00
36	BA	78	A	C5'-C4'-C3'	-6.23	106.66	116.00
36	BA	286	C	C5'-C4'-C3'	-6.23	106.66	116.00
36	BA	318	G	P-O3'-C3'	-6.23	110.86	120.20
2	A8	505	A	P-O3'-C3'	-6.22	110.87	120.20
2	A8	2878	U	O3'-P-O5'	-6.22	94.67	104.00
36	BA	954	G	P-O5'-C5'	-6.22	111.57	120.90
2	A8	846	U	O4'-C1'-C2'	-6.22	101.38	107.60
2	A8	2272	U	P-O5'-C5'	6.22	130.23	120.90
2	A8	437	U	C5'-C4'-C3'	-6.22	106.67	116.00
55	BT	43	LYS	N-CA-C	-6.22	104.32	112.41
2	A8	317	G	C1'-O4'-C4'	-6.22	103.68	109.90
2	A8	861	A	C5'-C4'-C3'	-6.22	106.67	116.00
18	AN	73	ASN	CA-C-N	6.22	129.46	120.38
18	AN	73	ASN	C-N-CA	6.22	129.46	120.38
25	AU	31	GLY	N-CA-C	-6.22	107.09	115.36
39	BD	40	HIS	N-CA-C	-6.22	104.33	112.41
42	BG	117	LEU	CB-CA-C	-6.21	100.12	110.68
25	AU	64	ILE	CA-C-N	6.21	133.41	121.54
25	AU	64	ILE	C-N-CA	6.21	133.41	121.54
2	A8	290	U	P-O5'-C5'	6.21	130.22	120.90
2	A8	2453	A	P-O3'-C3'	-6.21	110.88	120.20
2	A8	1613	G	C5'-C4'-C3'	-6.21	106.69	116.00
41	BF	34	GLY	N-CA-C	-6.21	98.46	113.18

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1870	C	C5'-C4'-C3'	-6.21	106.69	116.00
2	A8	2416	C	O5'-C5'-C4'	-6.21	102.19	111.50
36	BA	353	A	P-O3'-C3'	6.21	129.51	120.20
2	A8	2488	G	C5'-C4'-C3'	6.21	125.31	116.00
2	A8	1624	U	C4'-C3'-O3'	-6.20	103.69	113.00
20	AP	113	LEU	N-CA-C	6.20	124.01	110.80
32	A1	19	PHE	CB-CA-C	-6.20	97.07	109.35
2	A8	708	G	C5'-C4'-C3'	-6.20	106.70	116.00
2	A8	2063	C	C5'-C4'-C3'	6.20	125.30	116.00
2	A8	2068	U	C4'-C3'-O3'	-6.20	103.70	113.00
2	A8	2560	A	C4'-C3'-O3'	-6.20	103.70	113.00
22	AR	25	LEU	N-CA-C	-6.20	97.59	110.80
2	A8	365	U	C5'-C4'-C3'	-6.20	106.70	116.00
11	AG	74	MET	N-CA-C	-6.20	105.88	113.50
36	BA	1500	A	O5'-C5'-C4'	-6.20	102.20	111.50
36	BA	1009	U	P-O5'-C5'	-6.20	111.60	120.90
2	A8	1326	U	P-O3'-C3'	-6.19	110.91	120.20
36	BA	513	C	C5'-C4'-C3'	-6.19	106.71	116.00
2	A8	496	G	C5'-C4'-C3'	-6.19	106.71	116.00
2	A8	2344	U	P-O3'-C3'	6.19	129.49	120.20
36	BA	872	A	P-O5'-C5'	6.19	130.19	120.90
36	BA	960	U	C2'-C3'-O3'	6.19	118.79	109.50
13	AI	141	ASP	CA-CB-CG	-6.19	106.41	112.60
36	BA	665	A	P-O5'-C5'	-6.19	111.61	120.90
2	A8	1178	C	O3'-P-O5'	-6.19	94.72	104.00
8	AD	121	THR	N-CA-C	-6.19	107.56	114.62
2	A8	2089	C	C5'-C4'-C3'	-6.19	106.72	116.00
2	A8	2264	C	P-O5'-C5'	-6.19	111.62	120.90
42	BG	86	VAL	N-CA-C	-6.19	100.75	108.05
2	A8	1485	U	C5'-C4'-C3'	-6.18	106.72	116.00
2	A8	1554	U	P-O3'-C3'	-6.18	110.92	120.20
2	A8	1674	G	C5'-C4'-C3'	-6.18	105.92	115.20
36	BA	897	C	O3'-P-O5'	-6.18	94.72	104.00
36	BA	1305	G	P-O3'-C3'	6.18	129.48	120.20
36	BA	353	A	O4'-C1'-N9	6.18	117.77	108.50
36	BA	1263	C	C5'-C4'-C3'	-6.18	106.73	116.00
2	A8	630	G	C5'-C4'-C3'	6.18	125.27	116.00
2	A8	2510	C	P-O5'-C5'	-6.18	111.63	120.90
21	AQ	89	ILE	N-CA-C	-6.18	107.23	113.47
31	A0	15	ARG	N-CA-C	-6.18	105.23	112.89
2	A8	872	U	C4'-C3'-C2'	6.18	108.78	102.60
2	A8	1911	U	P-O3'-C3'	6.18	129.47	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	AJ	141	ASP	CA-CB-CG	-6.18	106.42	112.60
24	AT	86	THR	N-CA-C	-6.18	99.12	109.07
2	A8	612	G	P-O5'-C5'	-6.18	111.63	120.90
2	A8	1834	U	C5'-C4'-C3'	6.18	125.27	116.00
36	BA	762	U	O5'-C5'-C4'	-6.18	102.23	111.50
2	A8	868	U	C1'-O4'-C4'	-6.17	103.72	109.90
22	AR	66	HIS	CA-CB-CG	-6.17	107.63	113.80
36	BA	667	G	O3'-P-O5'	-6.17	94.74	104.00
40	BE	35	LEU	N-CA-C	-6.17	99.85	109.72
12	AH	70	GLU	CA-C-N	6.17	129.38	120.38
12	AH	70	GLU	C-N-CA	6.17	129.38	120.38
22	AR	99	THR	N-CA-C	-6.17	103.06	112.99
36	BA	1492	A	P-O5'-C5'	6.17	130.15	120.90
16	AL	63	LYS	N-CA-C	-6.17	99.97	109.52
36	BA	203	G	O4'-C4'-C3'	-6.17	97.83	104.00
36	BA	738	C	C5'-C4'-C3'	-6.17	106.75	116.00
36	BA	762	U	C5'-C4'-C3'	-6.17	106.75	116.00
2	A8	752	A	C3'-C2'-C1'	-6.16	95.14	101.30
36	BA	577	G	O4'-C1'-N9	6.16	117.74	108.50
36	BA	934	C	O3'-P-O5'	-6.16	94.76	104.00
1	A7	6	G	C5'-C4'-C3'	6.16	125.24	116.00
2	A8	1609	A	C5'-C4'-C3'	-6.16	105.96	115.20
36	BA	859	G	O3'-P-O5'	-6.16	94.76	104.00
2	A8	1294	U	O3'-P-O5'	6.16	113.24	104.00
36	BA	789	U	O4'-C1'-N1	6.16	117.74	108.50
8	AD	130	GLN	N-CA-C	-6.16	99.68	109.59
2	A8	1185	G	C5'-C4'-C3'	-6.16	106.77	116.00
46	BK	98	ALA	CA-C-N	6.16	128.77	120.65
46	BK	98	ALA	C-N-CA	6.16	128.77	120.65
2	A8	1638	C	C5'-C4'-C3'	-6.15	106.77	116.00
6	A5	28	ALA	CA-C-N	6.15	128.53	120.28
6	A5	28	ALA	C-N-CA	6.15	128.53	120.28
6	A5	120	ALA	N-CA-C	6.15	117.68	110.97
7	A6	267	VAL	CB-CA-C	-6.15	104.54	111.80
11	AG	72	ASN	N-CA-C	-6.15	105.68	113.43
36	BA	992	U	O3'-P-O5'	-6.15	94.78	104.00
1	A7	39	A	C5'-C4'-C3'	-6.15	106.78	116.00
2	A8	1123	C	P-O5'-C5'	6.15	130.12	120.90
2	A8	1923	U	C5'-C4'-C3'	-6.15	106.78	116.00
15	AK	69	ARG	N-CA-CB	6.15	120.88	110.49
2	A8	696	G	C5'-C4'-C3'	-6.15	106.78	116.00
36	BA	1480	A	P-O5'-C5'	6.15	130.12	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1939	U	P-O3'-C3'	6.14	129.42	120.20
2	A8	2083	G	P-O5'-C5'	6.14	130.12	120.90
2	A8	2715	C	P-O5'-C5'	6.14	130.12	120.90
36	BA	241	G	O3'-P-O5'	6.14	113.21	104.00
36	BA	913	A	P-O3'-C3'	6.14	129.41	120.20
38	BC	188	ALA	N-CA-C	-6.14	99.99	109.14
2	A8	357	C	P-O5'-C5'	6.14	130.11	120.90
42	BG	147	ASN	N-CA-C	-6.14	104.96	112.88
2	A8	295	G	C5'-C4'-C3'	-6.14	106.79	116.00
2	A8	1467	U	O4'-C4'-C3'	-6.14	97.86	104.00
2	A8	2093	G	P-O5'-C5'	-6.14	111.69	120.90
17	AM	22	GLN	N-CA-C	-6.14	105.08	114.16
2	A8	2043	C	C4'-C3'-O3'	-6.14	103.80	113.00
4	AB	31	ASP	CA-C-N	6.14	129.32	120.79
4	AB	31	ASP	C-N-CA	6.14	129.32	120.79
36	BA	1404	C	C4'-C3'-O3'	-6.14	103.79	113.00
2	A8	1501	G	C5'-C4'-C3'	-6.13	106.80	116.00
2	A8	1506	U	C5'-C4'-C3'	-6.13	106.80	116.00
2	A8	2039	U	P-O3'-C3'	-6.13	111.00	120.20
21	AQ	116	LEU	N-CA-CB	6.13	120.86	110.49
36	BA	1334	G	P-O3'-C3'	-6.13	111.00	120.20
2	A8	573	U	C5'-C4'-C3'	-6.13	106.00	115.20
2	A8	899	A	P-O3'-C3'	-6.13	111.00	120.20
2	A8	2501	C	P-O5'-C5'	-6.13	111.70	120.90
2	A8	2847	U	P-O5'-C5'	-6.13	111.70	120.90
36	BA	1399	C	P-O5'-C5'	6.13	130.10	120.90
2	A8	363	G	C5'-C4'-C3'	-6.13	106.80	116.00
2	A8	1069	A	C5'-C4'-O4'	6.13	118.30	109.10
1	A7	106	G	P-O3'-C3'	6.13	129.39	120.20
2	A8	569	U	P-O3'-C3'	-6.13	111.01	120.20
2	A8	1014	A	C5'-C4'-C3'	-6.13	106.81	116.00
14	AJ	102	GLU	N-CA-C	-6.13	105.80	113.28
36	BA	1395	C	C5'-C4'-C3'	-6.13	106.81	116.00
54	BS	24	SER	CA-C-N	6.13	127.12	120.44
54	BS	24	SER	C-N-CA	6.13	127.12	120.44
1	A7	32	U	P-O5'-C5'	-6.13	111.71	120.90
2	A8	1339	G	C5'-C4'-C3'	6.13	125.19	116.00
2	A8	1680	U	C1'-O4'-C4'	-6.13	103.77	109.90
2	A8	2095	A	C4'-C3'-O3'	-6.13	103.81	113.00
2	A8	2632	A	P-O3'-C3'	-6.12	111.01	120.20
16	AL	115	GLU	N-CA-CB	6.12	120.84	110.49
46	BK	19	VAL	N-CA-CB	6.12	117.84	110.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	AY	29	ARG	N-CA-C	-6.12	104.31	112.94
36	BA	1277	C	C4'-C3'-O3'	-6.12	103.82	113.00
2	A8	322	A	O5'-C5'-C4'	6.12	120.87	111.70
2	A8	1755	A	P-O3'-C3'	6.12	129.37	120.20
36	BA	431	A	P-O5'-C5'	-6.12	111.73	120.90
36	BA	1071	C	C5'-C4'-C3'	-6.12	106.83	116.00
38	BC	80	GLY	CA-C-N	6.11	128.79	120.54
38	BC	80	GLY	C-N-CA	6.11	128.79	120.54
47	BL	42	LYS	CA-C-N	6.11	129.96	120.60
47	BL	42	LYS	C-N-CA	6.11	129.96	120.60
2	A8	404	A	P-O3'-C3'	-6.11	111.03	120.20
2	A8	748	G	P-O5'-C5'	-6.11	111.73	120.90
2	A8	2865	U	C5'-C4'-C3'	-6.11	106.84	116.00
6	A5	187	GLU	CA-C-N	6.11	128.79	120.54
6	A5	187	GLU	C-N-CA	6.11	128.79	120.54
2	A8	1693	U	P-O5'-C5'	-6.11	111.74	120.90
31	A0	45	ASP	N-CA-C	-6.11	105.69	113.02
2	A8	100	U	O4'-C4'-C3'	-6.11	100.00	106.10
2	A8	686	U	O5'-C5'-C4'	-6.11	102.34	111.50
2	A8	1323	C	P-O3'-C3'	6.11	129.36	120.20
2	A8	1729	U	O4'-C4'-C3'	-6.11	97.89	104.00
2	A8	1368	G	P-O5'-C5'	-6.10	111.75	120.90
2	A8	2215	C	P-O5'-C5'	6.10	130.05	120.90
47	BL	106	VAL	N-CA-C	6.10	118.23	109.51
2	A8	2211	A	C4'-C3'-O3'	-6.10	103.85	113.00
2	A8	2744	G	O3'-P-O5'	-6.10	94.85	104.00
17	AM	122	ALA	N-CA-C	-6.10	103.27	111.87
29	AY	46	VAL	N-CA-C	-6.10	105.11	111.58
2	A8	847	U	P-O5'-C5'	-6.10	111.75	120.90
2	A8	1921	G	C5'-C4'-C3'	-6.10	106.85	116.00
2	A8	2167	U	P-O5'-C5'	6.10	130.05	120.90
2	A8	2734	A	C5'-C4'-C3'	-6.10	106.85	116.00
20	AP	63	ILE	N-CA-CB	6.10	118.61	111.66
1	A7	41	G	O4'-C1'-N9	6.10	117.34	108.20
2	A8	1164	C	O4'-C1'-N1	6.10	117.64	108.50
3	AA	429	LEU	CA-C-N	6.10	128.95	120.29
3	AA	429	LEU	C-N-CA	6.10	128.95	120.29
18	AN	114	GLU	CA-C-N	6.10	129.53	120.87
18	AN	114	GLU	C-N-CA	6.10	129.53	120.87
2	A8	1990	C	P-O5'-C5'	-6.09	111.76	120.90
2	A8	2486	C	P-O3'-C3'	-6.09	111.06	120.20
43	BH	44	PHE	N-CA-C	-6.09	106.38	113.88

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A7	23	G	O3'-P-O5'	-6.09	94.86	104.00
1	A7	20	G	C5'-C4'-C3'	-6.09	106.86	116.00
2	A8	769	U	C5'-C4'-C3'	-6.09	106.86	116.00
2	A8	834	G	C5'-C4'-C3'	-6.09	106.86	116.00
36	BA	305	G	C2'-C3'-O3'	6.09	118.64	109.50
2	A8	651	G	C5'-C4'-C3'	-6.09	106.87	116.00
8	AD	97	SER	CA-C-N	6.09	132.93	121.97
8	AD	97	SER	C-N-CA	6.09	132.93	121.97
42	BG	98	LEU	CB-CA-C	6.09	120.44	110.88
2	A8	733	G	C5'-C4'-C3'	-6.09	106.87	116.00
7	A6	232	GLY	N-CA-C	-6.09	103.65	112.17
36	BA	1494	G	O4'-C4'-C3'	-6.09	97.91	104.00
2	A8	2319	G	O3'-P-O5'	6.09	113.13	104.00
1	A7	21	G	P-O5'-C5'	-6.08	111.77	120.90
1	A7	88	C	P-O3'-C3'	-6.08	111.08	120.20
2	A8	1135	C	C4'-C3'-C2'	-6.08	96.52	102.60
34	A3	12	ARG	N-CA-C	-6.08	105.03	112.88
2	A8	2221	G	P-O5'-C5'	-6.08	111.78	120.90
48	BM	107	THR	N-CA-C	-6.08	103.17	111.56
2	A8	1937	A	C2'-C3'-O3'	6.08	118.62	109.50
36	BA	708	C	P-O5'-C5'	-6.08	111.78	120.90
2	A8	260	G	C4'-C3'-O3'	-6.08	103.88	113.00
2	A8	2197	U	P-O3'-C3'	6.08	129.32	120.20
2	A8	2469	A	C4'-C3'-O3'	-6.08	103.88	113.00
36	BA	33	A	P-O3'-C3'	-6.08	111.08	120.20
36	BA	607	A	C5'-C4'-C3'	-6.08	106.88	116.00
43	BH	40	LYS	CA-C-N	6.08	129.24	120.79
43	BH	40	LYS	C-N-CA	6.08	129.24	120.79
53	BR	70	THR	N-CA-C	-6.08	100.55	109.18
36	BA	1226	C	C2'-C3'-O3'	6.08	118.61	109.50
2	A8	244	A	P-O5'-C5'	-6.08	111.79	120.90
2	A8	858	G	C5'-C4'-O4'	6.08	118.22	109.10
2	A8	2614	A	O3'-P-O5'	-6.08	94.89	104.00
15	AK	11	ASP	N-CA-C	-6.08	100.29	108.86
36	BA	771	G	C1'-O4'-C4'	-6.08	103.83	109.90
2	A8	1973	G	O4'-C4'-C3'	-6.07	97.93	104.00
36	BA	1457	G	O5'-C5'-C4'	-6.07	102.39	111.50
2	A8	752	A	O4'-C1'-C2'	-6.07	101.53	107.60
2	A8	1104	C	C5'-C4'-C3'	-6.07	106.89	116.00
2	A8	2537	U	P-O5'-C5'	6.07	130.00	120.90
36	BA	1044	A	C5'-C4'-C3'	-6.07	106.90	116.00
49	BN	36	SER	CA-C-N	6.07	132.06	122.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	BN	36	SER	C-N-CA	6.07	132.06	122.11
2	A8	1308	A	C5'-C4'-C3'	-6.07	106.90	116.00
31	A0	30	ASP	N-CA-C	-6.07	99.91	109.50
2	A8	94	A	C5'-C4'-C3'	-6.07	106.90	116.00
2	A8	2878	U	C5'-C4'-C3'	-6.07	106.90	116.00
19	AO	8	ILE	N-CA-CB	6.07	116.99	110.62
36	BA	880	C	O4'-C1'-N1	6.07	117.60	108.50
36	BA	1413	A	C5'-C4'-C3'	-6.07	106.90	116.00
2	A8	444	C	P-O3'-C3'	-6.06	111.10	120.20
2	A8	733	G	P-O5'-C5'	6.06	130.00	120.90
2	A8	863	A	C5'-C4'-C3'	-6.06	106.91	116.00
2	A8	1367	A	C5'-C4'-C3'	-6.06	106.91	116.00
36	BA	430	A	C4'-C3'-C2'	-6.06	96.54	102.60
36	BA	450	G	O5'-C5'-C4'	-6.06	102.41	111.50
36	BA	1176	A	C4'-C3'-O3'	-6.06	103.91	113.00
22	AR	101	ILE	N-CA-CB	6.06	121.23	111.23
2	A8	92	U	P-O3'-C3'	6.06	129.28	120.20
2	A8	2781	A	C5'-C4'-C3'	-6.06	106.92	116.00
2	A8	1266	G	O4'-C1'-N9	6.05	117.28	108.20
2	A8	2389	G	O4'-C1'-C2'	6.05	113.66	107.60
7	A6	116	GLN	N-CA-C	-6.05	98.77	109.06
11	AG	58	ALA	CA-C-N	6.05	128.39	120.28
11	AG	58	ALA	C-N-CA	6.05	128.39	120.28
36	BA	1072	G	P-O5'-C5'	6.05	129.98	120.90
26	AV	29	ILE	CA-C-N	6.05	130.91	123.10
26	AV	29	ILE	C-N-CA	6.05	130.91	123.10
39	BD	42	ALA	CA-C-N	6.05	133.10	121.54
39	BD	42	ALA	C-N-CA	6.05	133.10	121.54
55	BT	27	MET	N-CA-C	-6.05	105.73	113.23
2	A8	353	C	C4'-C3'-O3'	-6.05	103.92	113.00
2	A8	1807	G	P-O3'-C3'	-6.05	111.13	120.20
35	A4	16	ILE	N-CA-CB	6.05	121.21	111.23
36	BA	492	C	O3'-P-O5'	-6.05	94.93	104.00
20	AP	58	PHE	CA-CB-CG	-6.05	107.75	113.80
10	AF	63	LYS	CA-C-N	6.05	127.40	119.84
10	AF	63	LYS	C-N-CA	6.05	127.40	119.84
36	BA	814	A	P-O5'-C5'	-6.05	111.83	120.90
52	BQ	27	PHE	N-CA-C	6.05	118.63	108.23
2	A8	612	G	C4'-C3'-C2'	6.04	108.64	102.60
36	BA	901	A	C4'-C3'-O3'	-6.04	103.94	113.00
36	BA	449	G	C5'-C4'-C3'	-6.04	106.94	116.00
48	BM	104	ASN	N-CA-CB	6.04	120.70	110.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	861	G	C4'-C3'-O3'	-6.04	103.94	113.00
43	BH	65	PHE	CA-CB-CG	-6.04	107.76	113.80
2	A8	670	A	C2'-C3'-O3'	6.04	118.56	109.50
2	A8	2283	C	O4'-C1'-N1	6.04	117.56	108.50
36	BA	974	A	C2'-C3'-O3'	6.04	118.56	109.50
36	BA	1332	A	C5'-C4'-C3'	6.04	125.06	116.00
2	A8	2208	C	O4'-C1'-N1	6.04	117.56	108.50
36	BA	595	A	O4'-C1'-C2'	6.04	111.84	105.80
44	BI	63	TYR	N-CA-C	-6.04	100.72	110.32
44	BI	90	ASP	CA-CB-CG	-6.04	106.56	112.60
2	A8	1714	U	O4'-C1'-C2'	-6.04	101.56	107.60
36	BA	254	G	C4'-C3'-C2'	-6.04	96.56	102.60
36	BA	1284	C	C4'-C3'-O3'	-6.04	103.95	113.00
36	BA	1520	C	C5'-C4'-C3'	-6.04	106.95	116.00
2	A8	1067	A	P-O5'-C5'	-6.03	111.85	120.90
33	A2	43	THR	N-CA-C	-6.03	105.10	112.88
2	A8	1091	G	C4'-C3'-C2'	-6.03	96.57	102.60
12	AH	57	LYS	CA-C-N	6.03	128.36	120.28
12	AH	57	LYS	C-N-CA	6.03	128.36	120.28
36	BA	873	A	O3'-P-O5'	6.03	113.04	104.00
2	A8	1183	U	C4'-C3'-C2'	-6.03	96.57	102.60
2	A8	2000	C	C3'-C2'-C1'	-6.03	95.27	101.30
36	BA	607	A	P-O3'-C3'	-6.03	111.16	120.20
2	A8	646	U	C5'-C4'-C3'	-6.03	106.96	116.00
2	A8	2093	G	P-O3'-C3'	-6.02	111.16	120.20
33	A2	33	ARG	N-CA-C	-6.02	105.93	113.28
2	A8	2132	U	P-O3'-C3'	6.02	129.24	120.20
36	BA	850	U	C5'-C4'-C3'	-6.02	106.97	116.00
36	BA	888	G	P-O5'-C5'	-6.02	111.87	120.90
36	BA	336	A	C4'-C3'-C2'	-6.02	96.58	102.60
36	BA	857	C	P-O5'-C5'	-6.02	111.87	120.90
36	BA	1034	G	O3'-P-O5'	-6.02	94.97	104.00
2	A8	1542	U	O4'-C1'-N1	6.02	117.53	108.50
2	A8	1715	G	O4'-C4'-C3'	-6.02	100.08	106.10
2	A8	2613	U	P-O5'-C5'	-6.02	111.87	120.90
54	BS	74	ALA	N-CA-C	-6.02	100.89	110.10
2	A8	446	G	O4'-C1'-C2'	6.01	111.81	105.80
2	A8	704	G	C4-N9-C1'	-6.01	108.46	126.50
2	A8	739	A	C5'-C4'-C3'	-6.01	106.18	115.20
2	A8	1647	U	P-O3'-C3'	-6.01	111.18	120.20
19	AO	55	GLU	N-CA-CB	6.01	118.81	109.97
36	BA	240	G	C5'-C4'-C3'	6.01	125.02	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	484	G	P-O3'-C3'	6.01	129.22	120.20
47	BL	102	ASP	N-CA-C	-6.01	98.84	109.06
2	A8	835	C	C3'-C2'-C1'	-6.01	95.29	101.30
2	A8	2493	U	C4'-C3'-O3'	-6.01	103.98	113.00
37	BB	102	ASN	CA-C-N	6.01	133.02	121.54
37	BB	102	ASN	C-N-CA	6.01	133.02	121.54
38	BC	35	ASP	CA-C-N	6.01	129.16	120.38
38	BC	35	ASP	C-N-CA	6.01	129.16	120.38
2	A8	506	G	P-O3'-C3'	6.01	129.21	120.20
23	AS	3	THR	N-CA-C	-6.01	99.56	108.99
26	AV	44	HIS	CA-CB-CG	-6.01	107.79	113.80
2	A8	1520	U	C5'-C4'-C3'	-6.01	106.99	116.00
2	A8	2525	G	P-O5'-C5'	-6.01	111.89	120.90
38	BC	138	GLN	CB-CA-C	-6.01	100.64	110.85
42	BG	61	PHE	N-CA-C	-6.01	101.89	111.02
2	A8	1776	G	C5'-C4'-C3'	-6.01	106.99	116.00
37	BB	126	ASP	CA-CB-CG	-6.01	106.59	112.60
2	A8	49	A	P-O5'-C5'	-6.00	111.89	120.90
2	A8	2128	G	C5'-C4'-C3'	6.00	125.00	116.00
2	A8	2131	U	P-O3'-C3'	6.00	129.21	120.20
2	A8	2655	G	O4'-C1'-N9	6.00	117.20	108.20
2	A8	727	A	C4'-C3'-O3'	-6.00	104.00	113.00
12	AH	51	ARG	N-CA-C	-6.00	105.79	113.23
36	BA	253	A	C5'-C4'-C3'	-6.00	107.00	116.00
36	BA	521	G	C4'-C3'-O3'	-6.00	104.00	113.00
36	BA	532	A	C5'-C4'-C3'	-6.00	107.00	116.00
2	A8	1329	U	C5'-C4'-C3'	-6.00	106.20	115.20
36	BA	238	A	C4'-C3'-O3'	-6.00	104.00	113.00
36	BA	872	A	O3'-P-O5'	-6.00	95.00	104.00
2	A8	731	C	P-O5'-C5'	-6.00	111.91	120.90
2	A8	989	G	P-O3'-C3'	-6.00	111.20	120.20
2	A8	2674	G	C5'-C4'-C3'	-6.00	107.00	116.00
2	A8	1235	G	C5'-C4'-C3'	-5.99	107.01	116.00
2	A8	1418	G	P-O3'-C3'	-5.99	111.21	120.20
2	A8	2565	A	P-O5'-C5'	-5.99	111.91	120.90
25	AU	2	ALA	N-CA-CB	5.99	120.62	110.49
36	BA	1113	C	P-O5'-C5'	5.99	129.89	120.90
48	BM	39	ALA	CA-C-N	5.99	128.91	120.28
48	BM	39	ALA	C-N-CA	5.99	128.91	120.28
2	A8	1724	G	O3'-P-O5'	-5.99	95.01	104.00
2	A8	397	U	P-O5'-C5'	5.99	129.88	120.90
14	AJ	58	ASN	N-CA-C	-5.99	99.63	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	BL	93	ARG	N-CA-C	-5.99	103.62	113.50
2	A8	1261	C	O4'-C1'-N1	5.99	117.48	108.50
2	A8	1444	G	C4'-C3'-C2'	-5.99	96.61	102.60
2	A8	1744	A	C5'-C4'-C3'	-5.99	107.02	116.00
2	A8	1791	A	C5'-C4'-C3'	-5.99	107.02	116.00
48	BM	71	GLU	CA-C-N	5.99	128.32	120.60
48	BM	71	GLU	C-N-CA	5.99	128.32	120.60
2	A8	1874	C	C5'-C4'-C3'	-5.99	107.02	116.00
14	AJ	96	ARG	N-CA-C	-5.98	98.68	109.09
36	BA	760	G	C5'-C4'-C3'	-5.98	107.02	116.00
2	A8	1870	C	O4'-C1'-C2'	-5.98	101.62	107.60
29	AY	51	ALA	N-CA-C	-5.98	105.47	112.89
36	BA	153	C	O4'-C1'-N1	5.98	117.47	108.50
1	A7	2	G	C5'-C4'-C3'	-5.98	107.03	116.00
2	A8	1811	G	P-O3'-C3'	-5.98	111.23	120.20
2	A8	2799	A	P-O3'-C3'	5.98	129.17	120.20
51	BP	21	VAL	N-CA-C	-5.98	99.26	107.99
38	BC	139	ASN	CA-CB-CG	-5.98	106.62	112.60
48	BM	86	ARG	CA-C-N	5.98	133.13	121.41
48	BM	86	ARG	C-N-CA	5.98	133.13	121.41
36	BA	61	G	C5'-C4'-C3'	-5.98	107.03	116.00
38	BC	30	ASP	CA-C-N	5.98	129.11	120.38
38	BC	30	ASP	C-N-CA	5.98	129.11	120.38
2	A8	2330	G	P-O3'-C3'	-5.98	111.24	120.20
36	BA	181	A	C1'-C2'-O2'	5.98	120.76	111.80
2	A8	852	U	P-O3'-C3'	-5.97	111.24	120.20
2	A8	912	C	P-O5'-C5'	5.97	129.86	120.90
2	A8	1502	A	P-O5'-C5'	-5.97	111.94	120.90
2	A8	2250	G	P-O3'-C3'	5.97	129.16	120.20
36	BA	11	G	P-O5'-C5'	5.97	129.86	120.90
36	BA	22	G	C5'-C4'-C3'	5.97	124.96	116.00
36	BA	263	A	P-O3'-C3'	-5.97	111.24	120.20
41	BF	97	THR	N-CA-C	-5.97	107.81	114.62
2	A8	769	U	P-O3'-C3'	-5.97	111.24	120.20
2	A8	1265	A	O3'-P-O5'	-5.97	95.04	104.00
2	A8	2057	G	P-O3'-C3'	-5.97	111.24	120.20
10	AF	92	GLY	CA-C-N	5.97	129.09	120.79
10	AF	92	GLY	C-N-CA	5.97	129.09	120.79
36	BA	678	U	C4'-C3'-O3'	-5.97	104.04	113.00
36	BA	899	C	C5'-C4'-C3'	-5.97	107.04	116.00
26	AV	32	GLY	N-CA-C	-5.97	105.52	111.85
2	A8	1525	A	C4'-C3'-O3'	-5.97	104.05	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1175	A	C4'-C3'-C2'	-5.97	96.63	102.60
2	A8	1795	C	C5'-C4'-C3'	-5.97	107.05	116.00
3	AA	436	LEU	N-CA-C	-5.97	105.86	113.02
36	BA	23	C	P-O5'-C5'	5.97	129.85	120.90
2	A8	650	C	C4'-C3'-C2'	-5.96	96.64	102.60
2	A8	2691	C	P-O3'-C3'	-5.96	111.25	120.20
36	BA	81	A	C5'-C4'-C3'	-5.96	107.06	116.00
2	A8	1048	A	O3'-P-O5'	-5.96	95.06	104.00
2	A8	1957	C	C5'-C4'-C3'	-5.96	107.06	116.00
2	A8	2394	C	O4'-C1'-N1	5.96	117.44	108.50
36	BA	798	U	C4'-C3'-C2'	5.96	108.56	102.60
2	A8	2546	U	C5'-C4'-C3'	-5.96	107.06	116.00
2	A8	2560	A	C5'-C4'-C3'	-5.96	107.06	116.00
33	A2	37	LYS	N-CA-C	-5.96	107.82	114.62
36	BA	1142	G	C5'-C4'-C3'	-5.96	107.06	116.00
2	A8	277	G	O5'-C5'-C4'	-5.96	102.76	111.70
2	A8	811	U	C5'-C4'-C3'	5.96	124.14	115.20
2	A8	1572	A	P-O3'-C3'	-5.96	111.26	120.20
2	A8	1984	G	P-O5'-C5'	-5.96	111.97	120.90
10	AF	177	ARG	N-CA-C	-5.96	100.85	110.32
36	BA	1371	G	C3'-C2'-C1'	-5.96	95.34	101.30
2	A8	1282	U	C5'-C4'-C3'	-5.96	107.07	116.00
13	AI	35	MET	N-CA-C	-5.96	104.48	113.89
36	BA	882	C	P-O3'-C3'	-5.96	111.27	120.20
42	BG	98	LEU	CA-C-N	5.96	128.18	120.44
42	BG	98	LEU	C-N-CA	5.96	128.18	120.44
2	A8	1045	C	P-O5'-C5'	-5.95	111.97	120.90
2	A8	1634	A	C2'-C3'-O3'	5.95	118.43	109.50
21	AQ	106	THR	N-CA-C	-5.95	105.76	114.39
36	BA	367	U	C5'-C4'-C3'	-5.95	106.27	115.20
2	A8	2255	G	C5'-C4'-C3'	-5.95	107.07	116.00
2	A8	2324	U	C2'-C3'-O3'	5.95	118.42	109.50
36	BA	602	A	C5'-C4'-C3'	-5.95	107.07	116.00
36	BA	845	A	O3'-P-O5'	5.95	112.93	104.00
2	A8	185	G	P-O3'-C3'	-5.95	111.28	120.20
2	A8	357	C	C5'-C4'-C3'	-5.95	107.08	116.00
2	A8	446	G	P-O3'-C3'	-5.95	111.28	120.20
2	A8	847	U	C4'-C3'-O3'	-5.95	104.08	113.00
2	A8	1212	G	C5'-C4'-C3'	5.95	124.12	115.20
21	AQ	60	TRP	N-CA-C	-5.95	104.72	111.14
36	BA	879	C	O3'-P-O5'	5.95	112.92	104.00
36	BA	1130	A	O3'-P-O5'	-5.95	95.08	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2249	U	O3'-P-O5'	5.95	112.92	104.00
27	AW	78	PHE	CA-CB-CG	-5.95	107.85	113.80
2	A8	331	C	P-O3'-C3'	5.95	129.12	120.20
36	BA	361	G	C4'-C3'-O3'	-5.95	104.08	113.00
36	BA	1214	C	C2'-C3'-O3'	5.94	118.42	109.50
36	BA	1466	C	P-O3'-C3'	-5.94	111.28	120.20
1	A7	62	C	O4'-C1'-N1	5.94	117.41	108.50
2	A8	2427	C	O3'-P-O5'	-5.94	95.09	104.00
2	A8	1610	A	O5'-C5'-C4'	-5.94	102.79	111.70
2	A8	1694	C	P-O5'-C5'	-5.94	111.99	120.90
2	A8	1729	U	O4'-C1'-N1	5.94	117.41	108.50
2	A8	2278	A	C5'-C4'-C3'	-5.94	107.09	116.00
53	BR	45	GLY	N-CA-C	-5.94	106.53	115.32
2	A8	724	U	O4'-C1'-N1	5.94	117.41	108.50
2	A8	1577	C	P-O5'-C5'	-5.94	111.99	120.90
23	AS	76	VAL	N-CA-C	-5.94	96.99	109.34
2	A8	1171	G	O3'-P-O5'	-5.94	95.10	104.00
47	BL	57	THR	CA-C-N	5.94	128.24	120.28
47	BL	57	THR	C-N-CA	5.94	128.24	120.28
52	BQ	50	ASN	N-CA-CB	5.94	120.52	110.49
2	A8	1925	C	O4'-C1'-N1	5.93	117.40	108.50
14	AJ	77	HIS	CA-CB-CG	-5.93	107.86	113.80
33	A2	35	ARG	N-CA-C	-5.93	98.16	110.80
36	BA	5	U	C5'-C4'-O4'	5.93	118.00	109.10
2	A8	643	A	P-O3'-C3'	-5.93	111.30	120.20
2	A8	1455	G	P-O5'-C5'	5.93	129.80	120.90
2	A8	1508	A	O3'-P-O5'	-5.93	95.10	104.00
9	AE	84	THR	CA-C-N	5.93	129.71	120.75
9	AE	84	THR	C-N-CA	5.93	129.71	120.75
2	A8	1822	C	O4'-C1'-N1	5.93	117.40	108.50
2	A8	2717	C	C3'-C2'-C1'	-5.93	95.37	101.30
36	BA	614	C	P-O3'-C3'	-5.93	111.30	120.20
2	A8	2142	A	C5'-C4'-C3'	-5.93	107.10	116.00
6	A5	218	MET	N-CA-C	-5.93	107.28	114.75
32	A1	48	TYR	CA-CB-CG	-5.93	103.23	113.90
36	BA	732	C	C4'-C3'-C2'	5.93	108.53	102.60
44	BI	19	PHE	N-CA-C	-5.93	98.75	108.41
2	A8	874	G	C5'-C4'-C3'	-5.93	107.11	116.00
2	A8	1103	A	C5'-C4'-C3'	-5.93	107.11	116.00
11	AG	64	ALA	N-CA-C	-5.93	105.88	113.23
42	BG	38	ALA	CA-C-N	5.93	128.81	120.28
42	BG	38	ALA	C-N-CA	5.93	128.81	120.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	BT	48	LYS	N-CA-C	-5.93	104.72	113.61
2	A8	601	C	P-O3'-C3'	-5.92	111.31	120.20
2	A8	676	A	O5'-C5'-C4'	-5.92	102.61	111.50
15	AK	70	ARG	CB-CA-C	5.92	121.84	110.17
36	BA	531	U	P-O3'-C3'	-5.92	111.31	120.20
54	BS	15	LEU	CA-C-N	5.92	128.14	120.44
54	BS	15	LEU	C-N-CA	5.92	128.14	120.44
2	A8	1034	G	C5'-C4'-C3'	-5.92	107.12	116.00
22	AR	57	GLY	N-CA-C	-5.92	102.74	111.03
2	A8	974	G	C3'-C2'-C1'	-5.92	95.58	101.50
43	BH	120	LEU	N-CA-C	-5.92	99.69	108.99
2	A8	1806	C	O4'-C1'-N1	5.92	117.38	108.50
36	BA	476	U	C1'-O4'-C4'	-5.92	103.98	109.90
36	BA	1253	G	C5'-C4'-C3'	-5.92	107.12	116.00
2	A8	623	C	P-O3'-C3'	-5.92	111.33	120.20
2	A8	1014	A	C4'-C3'-C2'	-5.92	96.68	102.60
2	A8	2477	U	C5'-C4'-O4'	-5.92	100.92	109.80
14	AJ	95	ARG	N-CA-CB	5.92	119.02	110.20
36	BA	931	C	C5'-C4'-C3'	-5.92	107.12	116.00
40	BE	78	GLY	N-CA-C	-5.92	107.57	115.32
20	AP	31	VAL	N-CA-C	-5.92	99.78	108.54
24	AT	73	ARG	N-CA-C	-5.92	101.19	110.36
36	BA	1172	C	C5'-C4'-C3'	-5.92	107.13	116.00
2	A8	74	A	C5'-C4'-C3'	-5.91	106.33	115.20
2	A8	2295	C	C4'-C3'-O3'	-5.91	104.13	113.00
20	AP	78	PRO	CA-C-N	5.91	129.81	120.47
20	AP	78	PRO	C-N-CA	5.91	129.81	120.47
28	AX	65	THR	N-CA-C	-5.91	98.20	110.80
36	BA	102	G	O5'-C5'-C4'	-5.91	102.63	111.50
36	BA	354	G	P-O5'-C5'	-5.91	112.03	120.90
40	BE	26	GLY	N-CA-C	-5.91	106.57	115.32
2	A8	234	U	O3'-P-O5'	5.91	112.87	104.00
15	AK	66	LYS	N-CA-C	-5.91	105.92	113.02
44	BI	36	GLN	N-CA-C	-5.91	107.05	114.56
8	AD	205	PRO	CA-C-N	5.91	129.68	120.75
8	AD	205	PRO	C-N-CA	5.91	129.68	120.75
23	AS	50	VAL	N-CA-C	-5.91	105.95	113.22
31	A0	31	LYS	N-CA-C	-5.91	106.11	113.38
36	BA	1437	A	P-O5'-C5'	-5.91	112.03	120.90
2	A8	1149	G	C4'-C3'-C2'	-5.91	96.69	102.60
2	A8	2807	U	C5'-C4'-C3'	-5.91	107.14	116.00
7	A6	262	THR	CA-C-N	5.91	130.05	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A6	262	THR	C-N-CA	5.91	130.05	120.60
44	BI	42	THR	CA-C-N	5.91	128.52	120.54
44	BI	42	THR	C-N-CA	5.91	128.52	120.54
50	BO	33	ALA	CA-C-N	5.91	128.12	120.44
50	BO	33	ALA	C-N-CA	5.91	128.12	120.44
2	A8	338	G	C5'-C4'-C3'	-5.91	107.14	116.00
2	A8	1425	G	O3'-P-O5'	-5.91	95.14	104.00
2	A8	820	A	C3'-C2'-C1'	-5.91	95.39	101.30
2	A8	2346	A	P-O5'-C5'	-5.91	112.04	120.90
36	BA	1366	C	C5'-C4'-C3'	-5.91	107.14	116.00
2	A8	576	U	C4'-C3'-O3'	-5.90	104.14	113.00
36	BA	1418	A	C5'-C4'-C3'	-5.90	107.14	116.00
2	A8	1355	G	P-O3'-C3'	-5.90	111.35	120.20
9	AE	100	MET	N-CA-C	-5.90	105.39	112.59
10	AF	87	LYS	CA-C-N	5.90	132.59	121.97
10	AF	87	LYS	C-N-CA	5.90	132.59	121.97
36	BA	577	G	C4'-C3'-O3'	-5.90	104.15	113.00
55	BT	71	ALA	N-CA-C	-5.90	106.72	112.97
2	A8	265	A	O4'-C1'-N9	5.90	117.34	108.50
2	A8	336	C	C5'-C4'-C3'	-5.90	107.15	116.00
2	A8	1068	G	O3'-P-O5'	-5.90	95.15	104.00
16	AL	93	ASN	N-CA-C	-5.90	99.77	108.79
2	A8	1266	G	C2'-C3'-O3'	5.90	118.34	109.50
36	BA	340	U	P-O3'-C3'	-5.90	111.36	120.20
2	A8	264	C	C5'-C4'-O4'	5.89	118.64	109.80
2	A8	2296	U	C4'-C3'-O3'	5.89	118.24	109.40
2	A8	2274	A	C4'-C3'-O3'	-5.89	104.16	113.00
2	A8	2591	C	C3'-C2'-C1'	-5.89	95.41	101.30
36	BA	1106	G	C5'-C4'-C3'	-5.89	107.16	116.00
55	BT	34	VAL	N-CA-C	-5.89	105.11	110.82
2	A8	664	G	C5'-C4'-C3'	-5.89	107.16	116.00
12	AH	83	LYS	N-CA-C	-5.89	98.48	108.26
36	BA	179	A	C4'-C3'-O3'	-5.89	104.17	113.00
2	A8	1311	G	O5'-C5'-C4'	-5.89	102.67	111.50
2	A8	2550	G	C4'-C3'-O3'	-5.89	104.17	113.00
2	A8	677	A	P-O5'-C5'	-5.89	112.07	120.90
2	A8	720	U	C5'-C4'-C3'	-5.89	107.17	116.00
2	A8	1046	A	C5'-C4'-C3'	5.89	124.83	116.00
6	A5	190	GLU	CB-CA-C	-5.89	101.02	110.79
21	AQ	39	ILE	CA-C-N	5.89	132.78	121.54
21	AQ	39	ILE	C-N-CA	5.89	132.78	121.54
29	AY	11	VAL	N-CA-C	-5.89	107.02	112.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1432	G	C2'-C3'-O3'	5.89	122.53	113.70
2	A8	313	G	C4'-C3'-O3'	-5.88	104.17	113.00
36	BA	221	C	C4'-C3'-O3'	-5.88	104.17	113.00
36	BA	678	U	C5'-C4'-C3'	-5.88	107.17	116.00
2	A8	2466	C	O4'-C1'-N1	5.88	117.33	108.50
2	A8	2527	C	P-O3'-C3'	-5.88	111.38	120.20
22	AR	37	GLU	N-CA-C	-5.88	105.96	113.02
36	BA	970	C	O4'-C1'-N1	5.88	117.33	108.50
36	BA	1128	C	C4'-C3'-O3'	-5.88	104.18	113.00
2	A8	741	U	C3'-C2'-C1'	-5.88	95.42	101.30
36	BA	650	G	C4'-C3'-O3'	-5.88	104.18	113.00
2	A8	858	G	N9-C1'-C2'	-5.88	105.18	114.00
2	A8	1541	C	O4'-C4'-C3'	-5.88	98.12	104.00
2	A8	1745	A	O5'-C5'-C4'	-5.88	102.68	111.50
2	A8	2335	A	C5'-C4'-C3'	-5.88	107.18	116.00
2	A8	2751	G	C5'-C4'-O4'	5.88	117.91	109.10
20	AP	51	ASN	N-CA-CB	5.88	120.42	110.49
2	A8	132	G	C4'-C3'-O3'	-5.88	104.19	113.00
2	A8	1129	A	C2'-C3'-O3'	5.87	118.31	109.50
2	A8	1960	A	C1'-O4'-C4'	-5.87	104.03	109.90
2	A8	2673	G	C5'-C4'-C3'	-5.87	107.19	116.00
36	BA	651	C	O4'-C1'-N1	5.87	117.31	108.50
2	A8	683	U	P-O5'-C5'	5.87	129.71	120.90
2	A8	1551	A	O4'-C1'-N9	5.87	117.31	108.50
19	AO	58	ILE	CA-C-N	5.87	128.95	120.38
19	AO	58	ILE	C-N-CA	5.87	128.95	120.38
36	BA	652	U	O4'-C1'-N1	5.87	117.01	108.20
40	BE	48	GLY	N-CA-C	-5.87	101.83	110.87
2	A8	151	C	C5'-C4'-C3'	-5.87	107.20	116.00
2	A8	700	G	C5'-C4'-C3'	-5.87	107.20	116.00
2	A8	2801	G	P-O5'-C5'	5.87	129.70	120.90
2	A8	2873	A	C2'-C3'-O3'	5.87	118.30	109.50
41	BF	25	TYR	CA-C-N	5.87	128.46	120.54
41	BF	25	TYR	C-N-CA	5.87	128.46	120.54
2	A8	1062	G	O3'-P-O5'	-5.87	95.20	104.00
11	AG	154	GLU	N-CA-C	-5.87	102.85	108.07
36	BA	149	A	O5'-C5'-C4'	-5.87	102.70	111.50
36	BA	1206	G	C5'-C4'-C3'	-5.87	107.20	116.00
48	BM	91	ARG	N-CA-C	-5.87	106.29	113.50
2	A8	212	G	P-O3'-C3'	-5.86	111.41	120.20
2	A8	612	G	C2'-C3'-O3'	5.86	122.49	113.70
2	A8	1303	G	C4'-C3'-O3'	-5.86	104.21	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1665	A	C4'-C3'-O3'	-5.86	104.20	113.00
2	A8	1854	A	P-O5'-C5'	5.86	129.69	120.90
2	A8	1965	C	O4'-C1'-N1	5.86	117.30	108.50
6	A5	57	GLN	N-CA-C	-5.86	104.52	112.26
8	AD	170	VAL	N-CA-C	-5.86	99.17	108.90
27	AW	51	GLY	CA-C-N	5.86	132.74	121.54
27	AW	51	GLY	C-N-CA	5.86	132.74	121.54
36	BA	260	G	P-O5'-C5'	-5.86	112.11	120.90
2	A8	2088	A	C5'-C4'-C3'	-5.86	107.21	116.00
2	A8	2503	A	C2'-C3'-O3'	5.86	118.29	109.50
6	A5	5	THR	CA-C-N	5.86	128.06	120.44
6	A5	5	THR	C-N-CA	5.86	128.06	120.44
15	AK	111	PHE	CA-C-N	5.86	132.74	121.54
15	AK	111	PHE	C-N-CA	5.86	132.74	121.54
36	BA	74	A	C5'-C4'-C3'	-5.86	107.21	116.00
13	AI	36	GLU	N-CA-C	-5.86	106.13	113.28
36	BA	524	G	C5'-C4'-C3'	-5.86	107.21	116.00
46	BK	63	GLN	CA-C-N	5.86	130.23	120.62
46	BK	63	GLN	C-N-CA	5.86	130.23	120.62
2	A8	2031	A	C5'-C4'-C3'	5.86	124.79	116.00
2	A8	2760	C	P-O5'-C5'	-5.86	112.11	120.90
18	AN	101	GLY	CA-C-N	5.86	132.73	121.54
18	AN	101	GLY	C-N-CA	5.86	132.73	121.54
2	A8	2583	G	P-O3'-C3'	-5.86	111.41	120.20
18	AN	79	LEU	N-CA-C	-5.86	100.17	109.07
53	BR	23	LYS	N-CA-C	-5.86	104.80	112.41
36	BA	1078	U	P-O5'-C5'	-5.86	112.12	120.90
46	BK	96	ILE	CA-C-N	5.86	128.40	120.38
46	BK	96	ILE	C-N-CA	5.86	128.40	120.38
2	A8	1437	C	C5'-C4'-C3'	-5.85	107.22	116.00
2	A8	2275	C	P-O3'-C3'	-5.85	111.42	120.20
36	BA	768	A	P-O3'-C3'	-5.85	111.42	120.20
2	A8	1051	G	P-O5'-C5'	5.85	129.68	120.90
2	A8	1552	A	O4'-C4'-C3'	-5.85	98.15	104.00
2	A8	1626	A	O3'-P-O5'	5.85	112.78	104.00
2	A8	2668	G	C5'-C4'-C3'	-5.85	107.22	116.00
36	BA	706	A	O3'-P-O5'	-5.85	95.22	104.00
2	A8	115	C	C1'-O4'-C4'	-5.85	104.05	109.90
2	A8	555	G	C5'-C4'-C3'	5.85	124.78	116.00
2	A8	865	C	O4'-C1'-C2'	5.85	111.65	105.80
2	A8	2467	C	C3'-C2'-C1'	-5.85	95.45	101.30
11	AG	15	ASP	CA-CB-CG	-5.85	106.75	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	AV	19	ARG	N-CA-CB	-5.85	101.52	110.12
48	BM	27	THR	CA-C-N	5.85	128.92	120.38
48	BM	27	THR	C-N-CA	5.85	128.92	120.38
2	A8	1263	U	P-O5'-C5'	-5.85	112.13	120.90
2	A8	1966	A	O3'-P-O5'	-5.85	95.23	104.00
2	A8	2440	C	C4'-C3'-C2'	-5.85	96.75	102.60
2	A8	34	U	O3'-P-O5'	-5.85	95.23	104.00
2	A8	535	G	O4'-C4'-C3'	-5.85	98.15	104.00
2	A8	746	U	P-O3'-C3'	-5.85	111.43	120.20
28	AX	42	GLU	N-CA-C	-5.85	106.48	113.97
36	BA	199	A	O4'-C1'-N9	5.85	117.27	108.50
2	A8	510	C	C4'-C3'-O3'	-5.85	104.23	113.00
56	BU	22	CYS	N-CA-C	-5.85	107.96	114.62
1	A7	31	C	P-O3'-C3'	-5.84	111.43	120.20
2	A8	2553	G	P-O5'-C5'	-5.84	112.13	120.90
3	AA	208	GLU	N-CA-C	5.84	117.65	111.28
36	BA	1435	G	P-O5'-C5'	5.84	129.67	120.90
38	BC	155	ARG	CA-C-N	5.84	129.01	120.71
38	BC	155	ARG	C-N-CA	5.84	129.01	120.71
39	BD	149	LYS	N-CA-C	-5.84	106.11	113.18
2	A8	2637	U	O4'-C1'-N1	5.84	117.27	108.50
8	AD	145	SER	N-CA-CB	5.84	120.36	110.49
7	A6	254	LYS	N-CA-C	-5.84	98.36	110.80
36	BA	408	A	C5'-C4'-C3'	-5.84	107.24	116.00
2	A8	290	U	C5'-C4'-C3'	-5.84	107.24	116.00
2	A8	954	G	O4'-C4'-C3'	-5.84	98.16	104.00
2	A8	2042	A	P-O5'-C5'	-5.84	112.14	120.90
16	AL	12	SER	N-CA-CB	5.84	118.94	110.47
36	BA	1065	U	C4'-C3'-O3'	5.84	118.16	109.40
33	A2	29	GLN	N-CA-C	-5.84	105.00	111.36
36	BA	277	C	P-O5'-C5'	-5.84	112.14	120.90
36	BA	575	G	O5'-C5'-C4'	-5.84	102.94	111.70
2	A8	1479	G	P-O5'-C5'	-5.84	112.14	120.90
36	BA	1167	A	C5'-C4'-C3'	-5.84	107.25	116.00
2	A8	1357	C	C5'-C4'-C3'	-5.83	107.25	116.00
2	A8	360	U	P-O5'-C5'	5.83	129.65	120.90
2	A8	1651	G	C4'-C3'-C2'	5.83	108.43	102.60
28	AX	33	HIS	CA-C-N	5.83	129.64	121.24
28	AX	33	HIS	C-N-CA	5.83	129.64	121.24
36	BA	856	C	P-O3'-C3'	-5.83	111.45	120.20
41	BF	63	ASN	CA-CB-CG	-5.83	106.77	112.60
2	A8	1144	A	P-O5'-C5'	-5.83	112.15	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2483	C	C4'-C3'-O3'	-5.83	104.25	113.00
17	AM	59	ARG	N-CA-C	-5.83	101.72	110.06
36	BA	808	C	P-O3'-C3'	-5.83	111.45	120.20
36	BA	1222	G	C5'-C4'-C3'	-5.83	107.25	116.00
36	BA	1326	U	C4'-C3'-O3'	-5.83	104.25	113.00
2	A8	924	G	P-O5'-C5'	-5.83	112.16	120.90
2	A8	2102	G	P-O5'-C5'	5.83	129.65	120.90
23	AS	107	VAL	N-CA-C	-5.83	100.01	108.87
1	A7	91	C	O5'-C5'-C4'	5.83	120.24	111.50
2	A8	2530	A	C5'-C4'-C3'	-5.83	107.26	116.00
10	AF	99	PHE	CB-CA-C	-5.83	100.41	110.72
2	A8	1419	A	P-O5'-C5'	5.83	129.64	120.90
2	A8	2531	A	P-O3'-C3'	-5.83	111.46	120.20
36	BA	508	U	O3'-P-O5'	-5.83	95.26	104.00
23	AS	6	LYS	N-CA-C	-5.83	100.44	109.24
37	BB	220	VAL	N-CA-C	-5.83	107.13	112.96
42	BG	129	ASN	CA-CB-CG	-5.83	106.78	112.60
2	A8	253	C	P-O5'-C5'	-5.82	112.17	120.90
36	BA	706	A	C4'-C3'-O3'	-5.82	104.26	113.00
2	A8	347	A	C5'-C4'-O4'	5.82	118.53	109.80
2	A8	1651	G	C3'-C2'-C1'	-5.82	95.48	101.30
2	A8	2836	U	O4'-C1'-N1	5.82	117.23	108.50
36	BA	534	U	O4'-C4'-C3'	-5.82	98.18	104.00
2	A8	253	C	O4'-C1'-N1	5.82	117.23	108.50
2	A8	1525	A	C2'-C3'-O3'	5.82	122.43	113.70
2	A8	1927	A	O3'-P-O5'	-5.82	95.28	104.00
37	BB	73	ARG	N-CA-C	-5.82	105.68	112.89
41	BF	34	GLY	CA-C-N	-5.82	114.80	123.00
41	BF	34	GLY	C-N-CA	-5.82	114.80	123.00
42	BG	116	ALA	CA-C-N	5.82	128.35	120.38
42	BG	116	ALA	C-N-CA	5.82	128.35	120.38
1	A7	70	C	C5'-C4'-C3'	-5.82	107.28	116.00
2	A8	981	A	P-O5'-C5'	-5.82	112.18	120.90
2	A8	1275	A	P-O5'-C5'	-5.82	112.17	120.90
2	A8	1311	G	P-O5'-C5'	5.82	129.62	120.90
2	A8	1792	G	C4'-C3'-O3'	-5.82	104.28	113.00
2	A8	2892	G	P-O3'-C3'	-5.81	111.48	120.20
2	A8	1784	A	C5'-C4'-C3'	-5.81	106.48	115.20
2	A8	2813	A	P-O5'-C5'	-5.81	112.18	120.90
16	AL	33	ARG	N-CA-C	-5.81	106.19	113.28
32	A1	5	ARG	N-CA-C	-5.81	100.11	108.60
45	BJ	72	ARG	CA-C-N	5.81	128.39	120.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BJ	72	ARG	C-N-CA	5.81	128.39	120.54
55	BT	13	SER	N-CA-C	-5.81	106.19	113.28
36	BA	613	C	P-O3'-C3'	-5.81	111.48	120.20
1	A7	15	A	P-O5'-C5'	5.81	129.61	120.90
2	A8	488	G	C4'-C3'-O3'	-5.80	104.29	113.00
9	AE	186	VAL	N-CA-C	-5.80	100.69	108.35
36	BA	341	C	P-O5'-C5'	-5.80	112.19	120.90
36	BA	967	C	O4'-C1'-N1	5.80	117.21	108.50
25	AU	86	PHE	CA-C-N	5.80	132.62	121.54
25	AU	86	PHE	C-N-CA	5.80	132.62	121.54
36	BA	1437	A	O3'-P-O5'	-5.80	95.30	104.00
2	A8	1366	A	P-O5'-C5'	-5.80	112.20	120.90
2	A8	1367	A	P-O5'-C5'	5.80	129.60	120.90
2	A8	2131	U	O4'-C4'-C3'	-5.80	98.20	104.00
2	A8	2391	G	C2'-C3'-O3'	5.80	118.20	109.50
2	A8	2531	A	C5'-C4'-C3'	-5.80	107.30	116.00
36	BA	461	A	C5'-C4'-C3'	5.80	124.70	116.00
36	BA	662	U	P-O3'-C3'	5.80	128.90	120.20
55	BT	60	GLN	N-CA-C	-5.80	106.04	113.23
2	A8	1947	C	C1'-O4'-C4'	-5.80	104.10	109.90
2	A8	2355	G	C5'-C4'-C3'	-5.80	107.30	116.00
36	BA	1315	U	C5'-C4'-C3'	-5.80	107.30	116.00
55	BT	46	ALA	N-CA-C	-5.80	107.44	114.75
2	A8	1295	C	O3'-P-O5'	5.80	112.70	104.00
16	AL	55	MET	CA-C-N	5.80	125.81	119.90
16	AL	55	MET	C-N-CA	5.80	125.81	119.90
2	A8	1748	C	P-O3'-C3'	-5.80	111.51	120.20
22	AR	5	PHE	CA-C-N	5.80	132.61	121.54
22	AR	5	PHE	C-N-CA	5.80	132.61	121.54
2	A8	624	C	P-O3'-C3'	-5.79	111.51	120.20
2	A8	1228	G	P-O5'-C5'	-5.79	112.21	120.90
2	A8	1241	A	O4'-C4'-C3'	-5.79	98.21	104.00
36	BA	454	G	P-O3'-C3'	-5.79	111.51	120.20
2	A8	2094	A	O3'-P-O5'	-5.79	95.31	104.00
2	A8	1708	C	C5'-C4'-C3'	-5.79	107.32	116.00
2	A8	1909	C	C1'-O4'-C4'	-5.79	104.11	109.90
2	A8	163	C	O4'-C1'-N1	5.79	117.18	108.50
2	A8	1138	G	C5'-C4'-C3'	-5.79	107.32	116.00
2	A8	2318	G	C4'-C3'-O3'	-5.79	104.32	113.00
17	AM	113	ALA	N-CA-C	-5.79	106.19	113.72
36	BA	811	C	O5'-C5'-C4'	-5.79	102.82	111.50
36	BA	1347	G	C4'-C3'-C2'	-5.79	96.81	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1510	C	C5'-C4'-C3'	-5.79	107.32	116.00
2	A8	562	U	O4'-C4'-C3'	-5.79	98.21	104.00
2	A8	1783	A	P-O5'-C5'	-5.79	112.22	120.90
2	A8	166	U	C4'-C3'-O3'	-5.79	104.32	113.00
2	A8	1243	C	O4'-C1'-N1	5.79	117.18	108.50
2	A8	1510	G	C5'-C4'-C3'	-5.79	107.32	116.00
2	A8	2036	C	C4'-C3'-O3'	-5.79	104.32	113.00
26	AV	87	GLN	N-CA-C	-5.79	105.84	114.64
36	BA	615	G	N9-C1'-C2'	-5.79	103.32	112.00
36	BA	1495	U	C4'-C3'-O3'	-5.79	104.32	113.00
55	BT	30	PHE	CA-CB-CG	-5.79	108.01	113.80
1	A7	105	G	C5'-C4'-C3'	-5.78	107.33	116.00
14	AJ	102	GLU	CA-C-N	5.78	129.63	121.53
14	AJ	102	GLU	C-N-CA	5.78	129.63	121.53
2	A8	192	C	P-O3'-C3'	-5.78	111.53	120.20
2	A8	1141	U	P-O5'-C5'	-5.78	112.23	120.90
2	A8	1192	G	P-O3'-C3'	-5.78	111.53	120.20
2	A8	274	C	O4'-C4'-C3'	-5.78	98.22	104.00
2	A8	1261	C	O4'-C4'-C3'	-5.78	98.22	104.00
36	BA	354	G	C4'-C3'-O3'	-5.78	104.33	113.00
2	A8	1782	U	O4'-C1'-N1	5.78	117.17	108.50
1	A7	41	G	P-O5'-C5'	5.78	129.56	120.90
2	A8	2735	G	C4'-C3'-O3'	-5.78	104.33	113.00
36	BA	700	G	O5'-C5'-C4'	-5.78	102.83	111.50
36	BA	823	C	P-O3'-C3'	-5.78	111.53	120.20
36	BA	1058	G	P-O5'-C5'	5.78	129.57	120.90
46	BK	89	GLY	CA-C-N	5.78	127.06	119.84
46	BK	89	GLY	C-N-CA	5.78	127.06	119.84
2	A8	1345	C	P-O3'-C3'	-5.78	111.54	120.20
2	A8	1982	U	P-O3'-C3'	-5.78	111.54	120.20
2	A8	2092	U	O3'-P-O5'	-5.78	95.34	104.00
21	AQ	34	ALA	N-CA-C	-5.78	103.97	113.50
36	BA	779	C	O4'-C1'-N1	5.78	117.17	108.50
2	A8	2829	A	C4'-C3'-O3'	-5.77	104.34	113.00
2	A8	1439	A	P-O5'-C5'	-5.77	112.24	120.90
9	AE	191	ASP	CB-CA-C	-5.77	101.21	110.79
14	AJ	59	ALA	N-CA-C	-5.77	98.50	110.80
30	AZ	8	GLN	N-CA-C	-5.77	104.91	111.14
36	BA	275	G	O5'-C5'-C4'	-5.77	102.84	111.50
2	A8	1876	A	P-O5'-C5'	-5.77	112.25	120.90
2	A8	2440	C	P-O5'-C5'	-5.77	112.25	120.90
25	AU	92	VAL	N-CA-C	5.77	121.34	109.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	489	G	P-O3'-C3'	5.77	128.85	120.20
2	A8	1642	G	C5'-C4'-C3'	-5.77	107.35	116.00
2	A8	2375	G	P-O3'-C3'	-5.77	111.55	120.20
2	A8	2551	C	P-O5'-C5'	-5.77	112.25	120.90
2	A8	2457	U	C4'-C3'-O3'	-5.76	104.35	113.00
2	A8	2872	A	P-O5'-C5'	5.76	129.55	120.90
11	AG	42	VAL	N-CA-C	-5.76	100.74	108.35
36	BA	699	C	P-O5'-C5'	-5.76	112.25	120.90
2	A8	1990	C	C4'-C3'-C2'	-5.76	96.84	102.60
9	AE	10	SER	N-CA-C	-5.76	98.52	110.80
2	A8	2600	A	P-O3'-C3'	-5.76	111.56	120.20
2	A8	424	G	P-O3'-C3'	-5.76	111.56	120.20
2	A8	872	U	O3'-P-O5'	-5.76	95.36	104.00
2	A8	1142	A	O3'-P-O5'	-5.76	95.36	104.00
2	A8	1983	G	C3'-C2'-C1'	-5.76	95.54	101.30
2	A8	2834	G	O5'-C5'-C4'	-5.76	102.86	111.50
36	BA	1165	U	P-O5'-C5'	-5.76	112.26	120.90
36	BA	1234	C	P-O3'-C3'	-5.76	111.56	120.20
2	A8	49	A	O5'-C5'-C4'	-5.76	103.06	111.70
2	A8	310	A	C5'-C4'-C3'	-5.76	106.57	115.20
2	A8	2480	C	O4'-C1'-N1	5.76	117.13	108.50
36	BA	172	A	P-O3'-C3'	5.76	128.84	120.20
2	A8	873	C	P-O3'-C3'	-5.75	111.57	120.20
2	A8	2740	A	P-O5'-C5'	-5.75	112.27	120.90
25	AU	95	PHE	CA-CB-CG	-5.75	108.05	113.80
49	BN	84	ARG	CA-C-N	5.75	130.34	121.19
49	BN	84	ARG	C-N-CA	5.75	130.34	121.19
2	A8	218	A	P-O5'-C5'	-5.75	112.27	120.90
2	A8	1526	C	C5'-C4'-C3'	-5.75	107.37	116.00
2	A8	2505	G	O4'-C1'-N9	5.75	117.13	108.50
36	BA	340	U	P-O5'-C5'	5.75	129.53	120.90
36	BA	1307	U	C5'-C4'-C3'	-5.75	107.37	116.00
47	BL	97	VAL	N-CA-CB	5.75	116.99	110.72
14	AJ	36	LEU	N-CA-C	-5.75	105.59	113.30
2	A8	2648	G	P-O3'-C3'	-5.75	111.58	120.20
36	BA	1399	C	O4'-C4'-C3'	-5.75	100.35	106.10
39	BD	188	SER	N-CA-C	-5.75	105.93	113.17
2	A8	239	C	C5'-C4'-C3'	-5.75	107.38	116.00
2	A8	859	G	C4'-C3'-C2'	-5.75	96.85	102.60
2	A8	2312	U	C5'-C4'-C3'	5.75	124.62	116.00
2	A8	257	C	O5'-C5'-C4'	-5.75	102.88	111.50
2	A8	2394	C	P-O3'-C3'	-5.74	111.59	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2748	A	C5'-C4'-C3'	-5.74	107.38	116.00
28	AX	20	ALA	N-CA-C	-5.74	105.86	112.92
39	BD	99	ASN	CA-C-N	5.74	128.01	120.60
39	BD	99	ASN	C-N-CA	5.74	128.01	120.60
41	BF	90	MET	CG-SD-CE	-5.74	88.27	100.90
2	A8	2470	G	O3'-P-O5'	-5.74	95.39	104.00
51	BP	48	GLU	N-CA-CB	5.74	120.19	110.49
2	A8	1827	U	P-O5'-C5'	5.74	129.51	120.90
20	AP	77	SER	CA-C-N	5.74	125.86	119.32
20	AP	77	SER	C-N-CA	5.74	125.86	119.32
34	A3	52	GLY	N-CA-C	-5.74	107.73	115.36
36	BA	260	G	P-O3'-C3'	-5.74	111.59	120.20
2	A8	750	A	C5'-C4'-C3'	-5.74	107.39	116.00
2	A8	1642	G	P-O3'-C3'	-5.74	111.59	120.20
2	A8	1899	A	O3'-P-O5'	5.74	112.61	104.00
36	BA	359	G	P-O3'-C3'	-5.74	111.59	120.20
38	BC	83	VAL	CA-C-N	5.74	128.76	120.79
38	BC	83	VAL	C-N-CA	5.74	128.76	120.79
2	A8	261	G	C2'-C3'-O3'	5.73	122.30	113.70
2	A8	350	G	C5'-C4'-C3'	-5.73	107.40	116.00
2	A8	353	C	O3'-P-O5'	-5.73	95.40	104.00
2	A8	1738	G	C2'-C3'-O3'	5.73	118.10	109.50
40	BE	25	LYS	N-CA-C	-5.73	103.76	112.99
2	A8	248	G	O4'-C4'-C3'	-5.73	98.27	104.00
2	A8	334	C	P-O3'-C3'	-5.73	111.61	120.20
2	A8	1365	A	O4'-C1'-N9	5.73	117.10	108.50
2	A8	1653	G	C5'-C4'-C3'	-5.73	106.60	115.20
2	A8	2003	A	C3'-C2'-C1'	-5.73	95.57	101.30
2	A8	2729	G	P-O5'-C5'	-5.73	112.31	120.90
2	A8	1996	C	O3'-P-O5'	-5.73	95.41	104.00
19	AO	27	VAL	N-CA-CB	5.73	116.77	110.53
36	BA	528	C	P-O5'-C5'	-5.73	112.31	120.90
36	BA	929	G	P-O3'-C3'	-5.73	111.61	120.20
2	A8	917	A	C5'-C4'-C3'	-5.73	107.41	116.00
2	A8	1183	U	C4'-C3'-O3'	-5.72	104.41	113.00
2	A8	2801	G	O4'-C4'-C3'	-5.72	98.28	104.00
9	AE	53	THR	N-CA-C	-5.72	99.09	108.76
23	AS	108	SER	N-CA-CB	5.72	119.82	110.55
39	BD	124	VAL	N-CA-C	-5.72	99.88	108.12
2	A8	89	A	C4'-C3'-C2'	-5.72	96.88	102.60
36	BA	537	G	C4'-C3'-C2'	-5.72	96.88	102.60
36	BA	976	G	C5'-C4'-O4'	5.72	118.38	109.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	BP	22	ALA	N-CA-C	-5.72	100.25	108.60
2	A8	33	C	P-O5'-C5'	-5.72	112.32	120.90
2	A8	2517	C	O4'-C1'-C2'	5.72	111.52	105.80
28	AX	45	PHE	CA-CB-CG	-5.72	108.08	113.80
2	A8	1847	A	C5'-C4'-C3'	-5.72	107.42	116.00
2	A8	2020	A	C1'-O4'-C4'	-5.72	104.18	109.90
2	A8	2779	U	P-O5'-C5'	-5.72	112.33	120.90
8	AD	52	THR	N-CA-C	-5.72	98.95	108.32
18	AN	118	ARG	N-CA-C	-5.72	105.64	113.30
32	A1	48	TYR	N-CA-C	-5.72	98.96	108.34
36	BA	412	A	C2'-C3'-O3'	5.72	118.08	109.50
36	BA	800	G	O3'-P-O5'	-5.72	95.43	104.00
36	BA	1161	C	C5'-C4'-C3'	-5.72	107.42	116.00
36	BA	1211	U	C5'-C4'-C3'	5.72	123.78	115.20
2	A8	72	U	O4'-C1'-C2'	-5.71	100.09	105.80
2	A8	205	G	C2'-C3'-O3'	5.71	118.07	109.50
2	A8	414	C	P-O3'-C3'	-5.71	111.63	120.20
2	A8	1290	C	C5'-C4'-C3'	-5.71	107.43	116.00
2	A8	2339	C	P-O3'-C3'	-5.71	111.63	120.20
2	A8	2452	C	O5'-C5'-C4'	-5.71	102.93	111.50
36	BA	484	G	C2'-C3'-O3'	5.71	118.07	109.50
2	A8	240	C	O4'-C1'-N1	5.71	117.07	108.50
21	AQ	80	ASN	CA-CB-CG	-5.71	106.89	112.60
2	A8	595	C	C5'-C4'-C3'	-5.71	107.43	116.00
36	BA	182	A	C5'-C4'-C3'	-5.71	106.63	115.20
36	BA	358	U	O4'-C4'-C3'	-5.71	98.29	104.00
42	BG	109	LYS	CA-C-N	5.71	132.45	121.54
42	BG	109	LYS	C-N-CA	5.71	132.45	121.54
2	A8	2743	U	P-O3'-C3'	-5.71	111.64	120.20
28	AX	28	PHE	CB-CA-C	-5.71	100.00	110.62
36	BA	476	U	C3'-C2'-C1'	-5.71	95.59	101.30
36	BA	604	G	C5'-C4'-C3'	-5.71	107.44	116.00
1	A7	70	C	P-O3'-C3'	-5.71	111.64	120.20
2	A8	701	G	P-O3'-C3'	-5.71	111.64	120.20
2	A8	1721	G	P-O5'-C5'	5.71	129.46	120.90
2	A8	2617	U	O5'-C5'-C4'	-5.71	102.94	111.50
8	AD	99	GLU	CA-C-N	5.71	129.38	120.82
8	AD	99	GLU	C-N-CA	5.71	129.38	120.82
2	A8	1525	A	C5'-C4'-C3'	-5.71	107.44	116.00
11	AG	162	ARG	CA-C-N	5.71	127.86	120.44
11	AG	162	ARG	C-N-CA	5.71	127.86	120.44
36	BA	1054	C	C5'-C4'-C3'	-5.71	106.64	115.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2467	C	P-O3'-C3'	-5.70	111.64	120.20
8	AD	37	VAL	N-CA-C	-5.70	100.01	108.45
43	BH	2	MET	N-CA-C	-5.70	106.09	113.16
50	BO	64	LYS	CA-C-N	5.70	127.85	120.44
50	BO	64	LYS	C-N-CA	5.70	127.85	120.44
2	A8	1351	C	O4'-C1'-C2'	5.70	113.30	107.60
36	BA	1447	A	C3'-C2'-C1'	-5.70	95.80	101.50
47	BL	95	HIS	N-CA-C	-5.70	100.69	109.52
2	A8	704	G	C4'-C3'-O3'	-5.70	104.45	113.00
2	A8	1164	C	O4'-C4'-C3'	-5.70	98.30	104.00
2	A8	2616	C	C4'-C3'-O3'	-5.70	104.45	113.00
2	A8	2889	C	O4'-C1'-N1	5.70	117.05	108.50
2	A8	2892	G	C5'-C4'-C3'	5.70	124.55	116.00
3	AA	375	TYR	N-CA-CB	5.70	120.12	110.49
36	BA	679	C	C4'-C3'-O3'	-5.70	104.45	113.00
36	BA	1129	C	O3'-P-O5'	-5.70	95.45	104.00
7	A6	54	GLY	N-CA-C	-5.70	107.60	114.66
38	BC	169	GLU	N-CA-C	-5.70	98.67	110.80
2	A8	3	U	C4'-C3'-O3'	-5.70	104.46	113.00
2	A8	727	A	P-O5'-C5'	-5.70	112.36	120.90
2	A8	983	A	C2'-C3'-O3'	-5.70	105.16	113.70
2	A8	2128	G	C4'-C3'-C2'	-5.70	96.91	102.60
2	A8	2597	G	C5'-C4'-O4'	5.70	118.34	109.80
21	AQ	65	ASN	N-CA-C	-5.70	98.67	110.80
2	A8	2285	C	O4'-C4'-C3'	-5.69	98.31	104.00
36	BA	881	G	P-O3'-C3'	-5.69	111.66	120.20
2	A8	1638	C	C4'-C3'-O3'	-5.69	104.46	113.00
15	AK	22	LYS	N-CA-C	-5.69	98.68	110.80
22	AR	45	GLU	N-CA-C	-5.69	99.62	108.90
36	BA	1346	A	P-O3'-C3'	5.69	128.74	120.20
1	A7	24	G	C5'-C4'-O4'	5.69	117.64	109.10
1	A7	107	G	P-O3'-C3'	5.69	128.74	120.20
2	A8	1001	A	C4'-C3'-O3'	-5.69	104.46	113.00
2	A8	1262	A	P-O5'-C5'	-5.69	112.36	120.90
2	A8	2732	G	O5'-C5'-C4'	5.69	120.03	111.50
36	BA	1110	A	C4'-C3'-O3'	-5.69	104.46	113.00
50	BO	57	ARG	CA-C-N	5.69	127.91	120.28
50	BO	57	ARG	C-N-CA	5.69	127.91	120.28
47	BL	63	THR	N-CA-CB	5.69	118.94	110.29
2	A8	2107	G	O5'-C5'-C4'	-5.69	102.97	111.50
12	AH	58	LEU	CA-C-N	5.69	128.17	120.38
12	AH	58	LEU	C-N-CA	5.69	128.17	120.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	983	A	C5'-C4'-C3'	-5.69	107.47	116.00
36	BA	1130	A	C5'-C4'-O4'	5.69	118.33	109.80
45	BJ	57	VAL	CB-CA-C	5.69	120.62	111.29
2	A8	43	G	C4'-C3'-O3'	-5.69	104.47	113.00
36	BA	789	U	P-O5'-C5'	-5.69	112.37	120.90
36	BA	1199	U	C4'-C3'-O3'	-5.69	104.47	113.00
2	A8	2310	C	P-O3'-C3'	5.68	128.73	120.20
36	BA	1043	G	O3'-P-O5'	-5.68	95.47	104.00
39	BD	45	PRO	N-CA-C	5.68	124.18	112.47
2	A8	666	A	C1'-O4'-C4'	-5.68	104.22	109.90
9	AE	97	ASN	CA-CB-CG	-5.68	106.92	112.60
18	AN	62	ASN	N-CA-C	-5.68	106.15	114.39
50	BO	49	HIS	CA-CB-CG	-5.68	108.12	113.80
2	A8	974	G	O5'-C5'-C4'	-5.68	103.18	111.70
10	AF	75	GLY	N-CA-C	-5.68	108.42	114.67
12	AH	138	VAL	N-CA-C	-5.68	100.00	108.46
12	AH	139	PHE	N-CA-C	-5.68	100.90	108.74
2	A8	633	A	C5'-C4'-C3'	-5.68	107.48	116.00
2	A8	1174	U	C4'-C3'-O3'	-5.68	104.48	113.00
36	BA	1402	C	C5'-C4'-C3'	-5.68	107.48	116.00
2	A8	1424	G	C5'-C4'-C3'	-5.68	107.48	116.00
2	A8	1939	U	C2'-C3'-O3'	5.68	118.01	109.50
2	A8	1071	G	C2'-C3'-O3'	5.67	122.21	113.70
2	A8	1310	G	P-O3'-C3'	-5.67	111.69	120.20
2	A8	1898	U	P-O3'-C3'	5.67	128.71	120.20
2	A8	2757	A	O3'-P-O5'	-5.67	95.49	104.00
2	A8	671	C	O5'-C5'-C4'	-5.67	102.99	111.50
50	BO	14	PHE	N-CA-C	-5.67	101.35	110.14
2	A8	286	U	P-O3'-C3'	-5.67	111.69	120.20
2	A8	747	U	C4'-C3'-O3'	-5.67	104.49	113.00
2	A8	2320	U	O4'-C1'-N1	5.67	116.71	108.20
6	A5	14	LYS	CB-CA-C	-5.67	101.94	110.90
23	AS	33	LEU	CA-C-N	5.67	127.88	120.28
23	AS	33	LEU	C-N-CA	5.67	127.88	120.28
36	BA	285	C	P-O5'-C5'	-5.67	112.39	120.90
39	BD	54	LEU	N-CA-C	-5.67	103.87	112.04
2	A8	578	G	C4'-C3'-O3'	-5.67	104.50	113.00
2	A8	1165	A	O4'-C1'-N9	5.67	117.01	108.50
36	BA	351	G	O3'-P-O5'	-5.67	95.50	104.00
2	A8	161	A	P-O5'-C5'	5.67	129.40	120.90
2	A8	700	G	O3'-P-O5'	-5.67	95.50	104.00
2	A8	1518	C	P-O3'-C3'	-5.67	111.70	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1907	G	O5'-C5'-C4'	-5.67	103.00	111.50
2	A8	2236	U	C4'-C3'-O3'	-5.67	104.50	113.00
36	BA	451	A	O4'-C4'-C3'	-5.67	100.43	106.10
44	BI	43	ALA	N-CA-C	5.67	117.91	111.11
2	A8	329	G	P-O3'-C3'	5.67	128.70	120.20
2	A8	1530	G	O4'-C1'-N9	5.67	117.00	108.50
2	A8	1551	A	C3'-C2'-C1'	-5.67	95.63	101.30
36	BA	1457	G	O4'-C1'-C2'	-5.67	101.93	107.60
55	BT	67	HIS	CA-C-N	5.67	132.36	121.54
55	BT	67	HIS	C-N-CA	5.67	132.36	121.54
2	A8	2342	C	C5'-C4'-C3'	-5.67	107.50	116.00
2	A8	542	C	O5'-C5'-C4'	-5.66	103.00	111.50
2	A8	1552	A	C4'-C3'-C2'	-5.66	96.94	102.60
2	A8	2457	U	O5'-C5'-C4'	-5.66	103.00	111.50
12	AH	107	GLY	N-CA-C	-5.66	99.76	113.18
36	BA	1016	A	C4'-C3'-O3'	-5.66	104.51	113.00
2	A8	639	U	P-O5'-C5'	5.66	129.39	120.90
2	A8	2559	C	O3'-P-O5'	-5.66	95.51	104.00
2	A8	2728	U	O5'-C5'-C4'	-5.66	103.01	111.50
11	AG	105	SER	N-CA-C	-5.66	100.10	108.99
36	BA	220	G	P-O5'-C5'	-5.66	112.41	120.90
2	A8	1429	G	P-O5'-C5'	-5.66	112.41	120.90
2	A8	2467	C	O3'-P-O5'	-5.66	95.51	104.00
36	BA	671	G	C5'-C4'-C3'	-5.66	107.51	116.00
2	A8	759	G	O3'-P-O5'	-5.66	95.52	104.00
17	AM	3	GLN	CB-CA-C	-5.66	103.86	110.76
2	A8	582	A	C5'-C4'-C3'	-5.66	107.52	116.00
2	A8	1287	A	C4'-C3'-O3'	-5.66	104.52	113.00
2	A8	1405	U	C4'-C3'-O3'	-5.66	104.52	113.00
2	A8	1990	C	O4'-C1'-N1	5.66	116.98	108.50
19	AO	47	VAL	N-CA-C	-5.66	100.25	108.17
36	BA	91	U	C5'-C4'-C3'	-5.66	107.52	116.00
36	BA	174	A	P-O3'-C3'	-5.66	111.72	120.20
36	BA	897	C	P-O5'-C5'	-5.66	112.42	120.90
36	BA	900	A	C5'-C4'-O4'	5.66	118.28	109.80
2	A8	1244	A	P-O5'-C5'	-5.65	112.42	120.90
3	AA	363	VAL	CB-CA-C	-5.65	108.36	114.35
8	AD	18	ASP	N-CA-C	-5.65	106.15	113.16
31	A0	5	ASN	N-CA-C	-5.65	100.89	108.86
36	BA	615	G	O4'-C1'-N9	5.65	116.97	108.50
47	BL	36	VAL	N-CA-CB	5.65	118.10	111.66
2	A8	2160	C	P-O3'-C3'	5.65	128.67	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	AF	19	PHE	CA-CB-CG	-5.65	108.15	113.80
18	AN	94	TYR	N-CA-C	-5.65	106.16	113.16
36	BA	282	A	P-O3'-C3'	-5.65	111.73	120.20
2	A8	1099	G	P-O5'-C5'	-5.65	112.43	120.90
2	A8	1749	A	P-O5'-C5'	-5.65	112.43	120.90
24	AT	24	MET	N-CA-C	-5.65	106.27	114.12
36	BA	329	A	P-O5'-C5'	-5.65	112.43	120.90
36	BA	1272	G	P-O5'-C5'	-5.65	112.43	120.90
36	BA	1384	C	C3'-C2'-C1'	-5.65	95.65	101.30
2	A8	1760	C	O4'-C1'-C2'	-5.64	101.96	107.60
2	A8	2428	G	P-O5'-C5'	-5.64	112.43	120.90
14	AJ	103	ILE	N-CA-C	-5.64	108.35	113.71
23	AS	2	GLU	N-CA-CB	5.64	118.35	109.83
36	BA	1513	A	C1'-O4'-C4'	-5.64	104.25	109.90
40	BE	76	ASN	N-CA-C	-5.64	100.77	109.52
46	BK	117	HIS	N-CA-C	-5.64	105.98	112.92
6	A5	183	ASP	N-CA-C	5.64	117.51	111.36
36	BA	512	U	P-O5'-C5'	5.64	129.36	120.90
47	BL	68	GLY	N-CA-C	-5.64	106.38	112.08
2	A8	785	G	P-O3'-C3'	-5.64	111.74	120.20
2	A8	2476	A	C5'-C4'-C3'	-5.64	107.54	116.00
20	AP	26	GLU	N-CA-CB	5.64	120.02	110.49
36	BA	285	C	C1'-O4'-C4'	-5.64	104.26	109.90
42	BG	17	PHE	CA-CB-CG	-5.64	108.16	113.80
2	A8	44	A	O3'-P-O5'	-5.64	95.54	104.00
18	AN	23	ASN	CB-CA-C	-5.64	99.84	109.65
51	BP	21	VAL	N-CA-CB	5.64	117.81	111.21
21	AQ	67	ALA	N-CA-C	-5.64	105.99	112.92
46	BK	39	ASN	CA-C-N	5.64	129.11	120.82
46	BK	39	ASN	C-N-CA	5.64	129.11	120.82
2	A8	578	G	P-O5'-C5'	5.63	129.35	120.90
2	A8	1125	G	C4'-C3'-O3'	-5.63	104.55	113.00
2	A8	1196	C	C4'-C3'-O3'	-5.63	104.55	113.00
2	A8	1385	A	C5'-C4'-C3'	-5.63	106.75	115.20
2	A8	2867	G	P-O3'-C3'	-5.63	111.75	120.20
19	AO	4	LYS	CB-CA-C	-5.63	101.69	110.37
36	BA	774	G	P-O5'-C5'	-5.63	112.45	120.90
12	AH	145	ASN	CA-C-N	5.63	131.65	122.69
12	AH	145	ASN	C-N-CA	5.63	131.65	122.69
2	A8	15	G	O5'-C5'-C4'	-5.63	103.05	111.50
39	BD	203	TYR	N-CA-C	5.63	118.96	111.75
2	A8	995	C	O4'-C4'-C3'	-5.63	100.47	106.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2322	A	P-O5'-C5'	5.63	129.34	120.90
40	BE	145	ASN	CA-CB-CG	-5.63	106.97	112.60
46	BK	102	ALA	N-CA-C	-5.63	104.64	112.30
47	BL	95	HIS	CA-CB-CG	-5.63	108.17	113.80
2	A8	731	C	O3'-P-O5'	-5.63	95.56	104.00
2	A8	1133	A	C2'-C3'-O3'	5.63	117.94	109.50
2	A8	1565	C	P-O3'-C3'	5.63	128.64	120.20
2	A8	2306	C	P-O3'-C3'	5.63	128.64	120.20
2	A8	2336	A	O3'-P-O5'	-5.63	95.56	104.00
2	A8	2514	U	O5'-C5'-C4'	-5.63	103.06	111.50
2	A8	1712	U	C4'-C3'-O3'	-5.62	104.56	113.00
12	AH	133	GLN	CB-CG-CD	-5.62	103.04	112.60
37	BB	47	PRO	CA-C-N	5.62	128.59	120.38
37	BB	47	PRO	C-N-CA	5.62	128.59	120.38
2	A8	1326	U	O5'-C5'-C4'	5.62	119.93	111.50
2	A8	1534	U	C2'-C3'-O3'	5.62	122.13	113.70
49	BN	59	GLN	N-CA-C	-5.62	96.39	107.69
22	AR	102	SER	N-CA-C	-5.62	100.81	109.52
24	AT	28	ASN	CA-CB-CG	-5.62	106.98	112.60
36	BA	276	G	C4'-C3'-O3'	-5.62	104.57	113.00
2	A8	702	U	P-O5'-C5'	-5.62	112.47	120.90
2	A8	2182	U	C5'-C4'-C3'	-5.62	107.57	116.00
22	AR	61	ALA	CB-CA-C	-5.62	100.94	109.99
36	BA	590	U	C4'-C3'-C2'	-5.62	96.98	102.60
6	A5	173	THR	CB-CA-C	-5.62	102.04	110.24
2	A8	1579	A	C5'-C4'-C3'	-5.62	107.58	116.00
2	A8	2566	A	P-O3'-C3'	5.62	128.62	120.20
6	A5	182	ALA	CA-C-N	5.62	128.26	120.29
6	A5	182	ALA	C-N-CA	5.62	128.26	120.29
36	BA	39	G	O5'-C5'-C4'	-5.62	103.08	111.50
41	BF	35	LYS	N-CA-C	-5.62	99.26	108.41
50	BO	77	TYR	N-CA-C	-5.62	105.08	111.14
2	A8	131	A	O4'-C1'-N9	5.61	116.92	108.50
2	A8	1009	A	C4'-C3'-O3'	-5.61	104.58	113.00
2	A8	2788	C	O4'-C1'-N1	5.61	116.92	108.50
36	BA	336	A	C5'-C4'-C3'	-5.61	107.58	116.00
36	BA	620	C	P-O5'-C5'	-5.61	112.48	120.90
36	BA	1168	U	P-O3'-C3'	-5.61	111.78	120.20
2	A8	948	C	C4'-C3'-O3'	-5.61	104.58	113.00
2	A8	1699	G	O4'-C1'-C2'	-5.61	100.19	105.80
2	A8	2338	C	O4'-C1'-N1	5.61	116.92	108.50
8	AD	176	ASP	CA-CB-CG	-5.61	106.99	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	AR	82	HIS	N-CA-C	-5.61	103.17	111.81
36	BA	327	A	O4'-C1'-C2'	5.61	111.41	105.80
36	BA	1049	U	P-O3'-C3'	5.61	128.62	120.20
42	BG	61	PHE	CA-C-N	5.61	130.11	121.19
42	BG	61	PHE	C-N-CA	5.61	130.11	121.19
11	AG	93	TYR	N-CA-C	-5.61	105.78	113.30
2	A8	1880	U	C5'-C4'-C3'	-5.61	107.59	116.00
2	A8	2359	C	P-O5'-C5'	-5.61	112.49	120.90
2	A8	2597	G	C5'-C4'-C3'	-5.61	107.59	116.00
9	AE	200	LEU	N-CA-C	-5.61	104.33	113.19
36	BA	733	G	O4'-C1'-C2'	5.61	111.41	105.80
2	A8	56	A	C5'-C4'-C3'	-5.61	107.59	116.00
2	A8	506	G	O4'-C1'-N9	5.61	116.61	108.20
2	A8	2097	A	C4'-C3'-C2'	-5.61	96.99	102.60
25	AU	14	THR	CA-C-N	5.61	125.30	119.92
25	AU	14	THR	C-N-CA	5.61	125.30	119.92
36	BA	906	A	O4'-C1'-N9	5.61	116.91	108.50
36	BA	1146	A	O5'-C5'-C4'	-5.61	103.09	111.50
19	AO	31	THR	O-C-N	-5.60	117.46	121.83
2	A8	119	A	P-O5'-C5'	-5.60	112.50	120.90
2	A8	465	G	C4'-C3'-O3'	-5.60	104.60	113.00
2	A8	2069	G	O5'-C5'-C4'	-5.60	103.10	111.50
2	A8	2327	A	C4'-C3'-C2'	5.60	108.20	102.60
2	A8	2499	C	O5'-C5'-C4'	-5.60	103.09	111.50
2	A8	1123	C	O4'-C1'-N1	5.60	116.90	108.50
2	A8	1276	A	O3'-P-O5'	-5.60	95.60	104.00
36	BA	1244	G	C4'-C3'-C2'	-5.60	97.00	102.60
1	A7	88	C	O4'-C4'-C3'	-5.60	98.40	104.00
2	A8	416	U	C5'-C4'-C3'	-5.60	107.60	116.00
2	A8	1151	A	C4'-C3'-C2'	-5.60	97.00	102.60
2	A8	1354	A	P-O5'-C5'	5.60	129.30	120.90
2	A8	1837	C	O5'-C5'-C4'	-5.60	103.10	111.50
39	BD	44	LYS	CA-C-N	5.60	126.84	119.84
39	BD	44	LYS	C-N-CA	5.60	126.84	119.84
3	AA	354	LYS	CA-C-N	5.60	128.24	120.29
3	AA	354	LYS	C-N-CA	5.60	128.24	120.29
24	AT	48	GLN	N-CA-C	-5.60	106.50	113.38
36	BA	430	A	P-O5'-C5'	-5.60	112.50	120.90
36	BA	470	C	O4'-C1'-N1	5.60	116.90	108.50
2	A8	347	A	C5'-C4'-C3'	-5.60	107.61	116.00
2	A8	854	C	O4'-C1'-N1	5.60	116.89	108.50
2	A8	1499	C	C4'-C3'-O3'	-5.60	104.61	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	903	G	C4'-C3'-O3'	-5.60	104.61	113.00
51	BP	74	LEU	N-CA-C	-5.60	106.58	113.41
6	A5	173	THR	N-CA-C	-5.59	98.51	108.13
37	BB	152	ASP	N-CA-C	-5.59	103.98	111.87
6	A5	30	LEU	CA-C-N	5.59	128.04	120.38
6	A5	30	LEU	C-N-CA	5.59	128.04	120.38
2	A8	1909	C	C5'-C4'-C3'	-5.59	107.61	116.00
2	A8	2242	G	C5'-C4'-C3'	5.59	124.39	116.00
2	A8	2461	A	C4'-C3'-O3'	-5.59	104.61	113.00
9	AE	105	LEU	N-CA-C	-5.59	106.45	113.72
15	AK	120	GLU	N-CA-C	-5.59	99.92	108.76
16	AL	134	ALA	N-CA-C	-5.59	106.35	114.12
23	AS	106	VAL	N-CA-CB	5.59	119.00	112.35
36	BA	518	C	O4'-C1'-N1	5.59	116.59	108.20
50	BO	23	SER	N-CA-CB	5.59	118.18	109.85
2	A8	1936	A	C4'-C3'-O3'	-5.59	104.61	113.00
26	AV	20	LEU	CB-CA-C	-5.59	102.11	110.88
36	BA	1148	U	C4'-C3'-C2'	-5.59	97.01	102.60
52	BQ	3	LYS	CA-C-N	5.59	128.12	120.35
52	BQ	3	LYS	C-N-CA	5.59	128.12	120.35
1	A7	66	A	C2'-C3'-O3'	5.59	122.08	113.70
2	A8	983	A	O4'-C4'-C3'	-5.59	98.41	104.00
2	A8	1754	A	C5'-C4'-C3'	-5.59	107.62	116.00
13	AI	65	SER	N-CA-C	-5.59	101.24	109.18
36	BA	1515	G	C5'-C4'-C3'	-5.59	107.62	116.00
2	A8	487	C	O5'-C5'-C4'	-5.59	103.12	111.50
2	A8	974	G	O4'-C1'-C2'	-5.59	100.21	105.80
15	AK	49	GLY	N-CA-C	-5.59	102.54	112.54
36	BA	626	G	C4'-C3'-O3'	-5.59	104.62	113.00
2	A8	1491	G	O5'-C5'-C4'	-5.58	103.12	111.50
2	A8	295	G	O5'-C5'-C4'	-5.58	103.12	111.50
2	A8	1310	G	P-O5'-C5'	-5.58	112.53	120.90
36	BA	526	C	C4'-C3'-O3'	-5.58	104.62	113.00
36	BA	666	G	P-O3'-C3'	-5.58	111.82	120.20
2	A8	1935	G	C4'-C3'-O3'	-5.58	104.63	113.00
2	A8	2603	G	C4'-C3'-O3'	-5.58	104.63	113.00
2	A8	2893	A	C1'-O4'-C4'	-5.58	104.12	109.70
20	AP	8	GLU	CA-C-N	5.58	132.20	121.54
20	AP	8	GLU	C-N-CA	5.58	132.20	121.54
28	AX	55	MET	N-CA-CB	-5.58	101.90	110.16
36	BA	1322	C	O4'-C1'-N1	5.58	116.57	108.20
44	BI	123	ARG	CA-C-N	5.58	126.82	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	BI	123	ARG	C-N-CA	5.58	126.82	119.84
2	A8	1884	G	O3'-P-O5'	5.58	112.37	104.00
38	BC	96	VAL	N-CA-C	-5.58	102.70	109.01
2	A8	72	U	O4'-C1'-N1	5.58	116.57	108.20
2	A8	1459	G	C5'-C4'-C3'	-5.58	107.63	116.00
2	A8	1489	C	O4'-C1'-N1	5.58	116.57	108.20
2	A8	1651	G	C5'-C4'-C3'	-5.58	107.63	116.00
10	AF	71	LYS	N-CA-C	-5.58	100.82	109.24
36	BA	456	A	O5'-C5'-C4'	5.58	119.87	111.50
2	A8	1345	C	O4'-C1'-N1	5.58	116.87	108.50
2	A8	2061	G	C4'-C3'-C2'	-5.58	97.02	102.60
37	BB	213	LEU	CA-C-N	5.58	126.29	119.99
37	BB	213	LEU	C-N-CA	5.58	126.29	119.99
55	BT	55	PRO	N-CA-C	-5.58	105.93	113.40
2	A8	623	C	O4'-C1'-N1	5.58	116.86	108.50
36	BA	1153	G	C5'-C4'-C3'	-5.58	107.64	116.00
36	BA	1483	A	C1'-C2'-O2'	5.58	116.76	108.40
2	A8	374	A	P-O3'-C3'	-5.57	111.84	120.20
2	A8	1515	A	C4'-C3'-C2'	-5.57	97.03	102.60
2	A8	2728	U	C4'-C3'-O3'	-5.57	104.64	113.00
2	A8	2732	G	C4'-C3'-C2'	5.57	108.17	102.60
2	A8	2848	G	O4'-C1'-N9	5.57	116.56	108.20
8	AD	68	PHE	N-CA-C	-5.57	106.37	112.72
23	AS	79	GLY	CA-C-N	5.57	125.89	119.93
23	AS	79	GLY	C-N-CA	5.57	125.89	119.93
36	BA	450	G	O3'-P-O5'	-5.57	95.64	104.00
36	BA	988	G	P-O5'-C5'	5.57	129.26	120.90
50	BO	27	GLN	N-CA-C	5.57	117.03	111.07
2	A8	30	G	C4'-C3'-O3'	-5.57	104.64	113.00
2	A8	360	U	C4'-C3'-O3'	-5.57	104.64	113.00
17	AM	116	ALA	N-CA-CB	5.57	119.91	110.49
33	A2	26	ASN	CA-CB-CG	-5.57	107.03	112.60
2	A8	418	C	C4'-C3'-O3'	-5.57	104.65	113.00
2	A8	758	C	O4'-C4'-C3'	-5.57	98.43	104.00
2	A8	1320	C	C5'-C4'-C3'	-5.57	106.84	115.20
2	A8	1588	G	O3'-P-O5'	-5.57	95.64	104.00
2	A8	1638	C	C4'-C3'-C2'	-5.57	97.03	102.60
25	AU	26	ASN	N-CA-C	-5.57	99.96	108.76
36	BA	1094	G	P-O5'-C5'	5.57	129.25	120.90
36	BA	1361	G	P-O5'-C5'	5.57	129.26	120.90
41	BF	21	MET	CA-C-N	5.57	127.78	120.60
41	BF	21	MET	C-N-CA	5.57	127.78	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	542	C	O3'-P-O5'	-5.57	95.65	104.00
2	A8	1089	A	C5'-C4'-C3'	-5.57	106.85	115.20
36	BA	5	U	C1'-O4'-C4'	-5.57	104.13	109.70
36	BA	454	G	C5'-C4'-C3'	-5.57	107.65	116.00
36	BA	830	G	P-O3'-C3'	-5.57	111.85	120.20
11	AG	95	ALA	N-CA-CB	5.57	119.90	110.49
36	BA	192	A	C4'-C3'-O3'	-5.57	104.65	113.00
55	BT	44	ALA	N-CA-C	-5.57	105.84	113.30
2	A8	250	G	C5'-C4'-C3'	-5.56	107.65	116.00
28	AX	70	LEU	CA-C-N	5.56	128.01	120.44
28	AX	70	LEU	C-N-CA	5.56	128.01	120.44
2	A8	1082	U	C4'-C3'-O3'	-5.56	104.66	113.00
2	A8	1682	G	P-O3'-C3'	-5.56	111.86	120.20
2	A8	2086	U	O5'-C5'-C4'	-5.56	103.16	111.50
21	AQ	44	TYR	CB-CA-C	-5.56	98.36	109.99
36	BA	1396	A	P-O5'-C5'	-5.56	112.56	120.90
36	BA	1154	G	O3'-P-O5'	-5.56	95.66	104.00
36	BA	1306	A	C5'-C4'-C3'	-5.56	107.66	116.00
2	A8	1794	A	C3'-C2'-C1'	-5.56	95.74	101.30
2	A8	2697	G	P-O5'-C5'	-5.56	112.56	120.90
36	BA	488	C	P-O5'-C5'	5.56	129.24	120.90
50	BO	67	ASP	CB-CA-C	-5.56	101.56	110.79
2	A8	300	A	P-O5'-C5'	-5.56	112.56	120.90
2	A8	486	C	C4'-C3'-O3'	-5.56	104.67	113.00
2	A8	696	G	P-O5'-C5'	-5.56	112.56	120.90
2	A8	894	U	O4'-C1'-N1	5.56	116.84	108.50
2	A8	1985	C	P-O3'-C3'	-5.56	111.87	120.20
23	AS	86	MET	O-C-N	-5.56	114.40	121.29
2	A8	1320	C	O3'-P-O5'	-5.55	95.67	104.00
2	A8	1790	C	O3'-P-O5'	-5.55	95.67	104.00
2	A8	1929	G	C3'-C2'-O2'	-5.55	106.27	114.60
2	A8	531	C	C5'-C4'-C3'	-5.55	106.87	115.20
2	A8	1281	G	C4'-C3'-O3'	-5.55	104.67	113.00
2	A8	687	C	O4'-C1'-C2'	-5.55	102.05	107.60
2	A8	2549	G	C5'-C4'-C3'	-5.55	107.67	116.00
36	BA	1458	G	C4'-C3'-O3'	-5.55	104.67	113.00
13	AI	6	ALA	N-CA-CB	5.55	119.87	110.49
36	BA	157	U	O4'-C1'-N1	5.55	116.82	108.50
2	A8	847	U	C4'-C3'-C2'	-5.55	97.05	102.60
2	A8	1599	U	C5'-C4'-C3'	-5.55	107.68	116.00
36	BA	1341	U	O3'-P-O5'	-5.55	95.68	104.00
2	A8	2482	A	C5'-C4'-O4'	5.55	118.12	109.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	AP	34	GLY	N-CA-C	-5.55	107.59	115.30
2	A8	471	A	C4'-C3'-O3'	-5.54	104.68	113.00
36	BA	477	C	C5'-C4'-C3'	-5.54	107.68	116.00
2	A8	968	C	C1'-O4'-C4'	-5.54	104.36	109.90
2	A8	1901	A	O3'-P-O5'	-5.54	95.69	104.00
2	A8	2003	A	O4'-C4'-C3'	-5.54	98.46	104.00
36	BA	1256	A	P-O3'-C3'	-5.54	111.89	120.20
2	A8	85	G	O4'-C4'-C3'	-5.54	98.46	104.00
2	A8	1079	C	P-O5'-C5'	-5.54	112.59	120.90
12	AH	26	ALA	N-CA-C	-5.54	106.72	112.93
47	BL	65	TYR	N-CA-C	-5.54	102.28	110.48
10	AF	52	ALA	CA-C-N	5.54	127.64	120.44
10	AF	52	ALA	C-N-CA	5.54	127.64	120.44
2	A8	830	G	P-O3'-C3'	-5.54	111.89	120.20
2	A8	1006	C	P-O3'-C3'	-5.54	111.89	120.20
2	A8	1196	C	O4'-C1'-N1	5.54	116.81	108.50
17	AM	26	VAL	N-CA-CB	5.54	119.19	111.05
26	AV	82	TYR	N-CA-C	-5.54	105.81	113.18
36	BA	934	C	P-O5'-C5'	-5.54	112.59	120.90
2	A8	462	C	O4'-C1'-N1	5.54	116.81	108.50
2	A8	1975	G	P-O5'-C5'	-5.54	112.59	120.90
51	BP	37	GLY	N-CA-C	-5.54	105.98	111.85
2	A8	131	A	C4'-C3'-C2'	-5.54	97.06	102.60
6	A5	155	ASN	CB-CA-C	-5.54	101.60	110.79
33	A2	34	ARG	CB-CA-C	5.54	120.07	110.72
2	A8	862	G	C5'-C4'-C3'	-5.53	107.70	116.00
2	A8	2078	C	C5'-C4'-C3'	-5.53	107.70	116.00
2	A8	149	A	O4'-C4'-C3'	-5.53	98.47	104.00
36	BA	453	G	C5'-C4'-C3'	-5.53	107.70	116.00
2	A8	1092	C	C5'-C4'-C3'	-5.53	107.70	116.00
2	A8	1551	A	O4'-C4'-C3'	-5.53	98.47	104.00
2	A8	1930	G	C2'-C3'-O3'	5.53	117.80	109.50
2	A8	2381	A	O3'-P-O5'	-5.53	95.70	104.00
32	A1	3	GLY	CA-C-N	5.53	131.93	121.97
32	A1	3	GLY	C-N-CA	5.53	131.93	121.97
55	BT	13	SER	CA-C-N	5.53	127.69	120.28
55	BT	13	SER	C-N-CA	5.53	127.69	120.28
2	A8	66	C	C4'-C3'-O3'	-5.53	104.71	113.00
2	A8	461	C	P-O5'-C5'	-5.53	112.61	120.90
2	A8	922	C	C4'-C3'-O3'	-5.53	104.71	113.00
2	A8	1197	G	C4'-C3'-C2'	-5.53	97.07	102.60
36	BA	395	C	O4'-C1'-N1	5.53	116.79	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1347	A	C5'-C4'-C3'	-5.53	107.71	116.00
3	AA	293	HIS	CA-CB-CG	-5.53	108.28	113.80
41	BF	62	MET	N-CA-C	-5.53	108.32	114.62
41	BF	72	ASP	CA-C-N	5.53	128.45	120.38
41	BF	72	ASP	C-N-CA	5.53	128.45	120.38
2	A8	1164	C	O3'-P-O5'	-5.52	95.71	104.00
2	A8	1186	G	C5'-C4'-C3'	-5.52	107.71	116.00
2	A8	1980	G	O4'-C1'-N9	5.52	116.48	108.20
20	AP	73	PHE	CA-CB-CG	-5.52	108.28	113.80
36	BA	552	U	P-O5'-C5'	5.52	129.19	120.90
2	A8	525	U	C5'-C4'-C3'	5.52	124.28	116.00
2	A8	1229	C	P-O5'-C5'	-5.52	112.62	120.90
2	A8	2178	C	C5'-C4'-O4'	5.52	118.08	109.80
2	A8	2269	G	N9-C1'-C2'	-5.52	103.72	112.00
36	BA	936	C	C4'-C3'-O3'	-5.52	104.72	113.00
36	BA	1126	U	O3'-P-O5'	-5.52	95.72	104.00
2	A8	376	G	C5'-C4'-C3'	-5.52	107.72	116.00
2	A8	1309	G	P-O5'-C5'	5.52	129.18	120.90
2	A8	2178	C	P-O5'-C5'	5.52	129.18	120.90
36	BA	887	G	C5'-C4'-C3'	-5.52	107.72	116.00
36	BA	1198	G	O5'-C5'-C4'	-5.52	103.22	111.50
42	BG	40	SER	CA-C-N	5.52	128.31	120.53
42	BG	40	SER	C-N-CA	5.52	128.31	120.53
2	A8	53	A	C5'-C4'-C3'	-5.52	107.72	116.00
2	A8	98	G	P-O5'-C5'	-5.52	112.62	120.90
2	A8	509	C	O4'-C1'-N1	5.52	116.78	108.50
2	A8	519	U	C5'-C4'-C3'	-5.52	107.72	116.00
12	AH	63	ALA	CA-C-N	5.52	127.99	120.54
12	AH	63	ALA	C-N-CA	5.52	127.99	120.54
36	BA	106	C	C5'-C4'-C3'	-5.52	107.72	116.00
36	BA	668	G	C4'-C3'-C2'	-5.52	97.08	102.60
36	BA	1403	C	C5'-C4'-C3'	-5.52	107.72	116.00
42	BG	117	LEU	N-CA-C	5.52	118.01	111.33
2	A8	2180	U	C4'-C3'-O3'	-5.52	104.72	113.00
2	A8	2234	G	C5'-C4'-C3'	5.52	124.28	116.00
2	A8	2277	G	C5'-C4'-C3'	-5.52	107.72	116.00
27	AW	14	ASP	N-CA-C	-5.52	107.80	114.75
2	A8	197	A	C4'-C3'-C2'	-5.52	97.08	102.60
2	A8	580	U	C5'-C4'-C3'	5.52	124.27	116.00
2	A8	1160	G	C5'-C4'-C3'	-5.51	107.73	116.00
2	A8	1865	U	O4'-C1'-N1	5.51	116.47	108.20
39	BD	139	ASN	CA-CB-CG	-5.51	107.08	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2067	G	P-O3'-C3'	5.51	128.47	120.20
2	A8	62	U	O4'-C1'-N1	5.51	116.77	108.50
2	A8	141	G	O4'-C1'-N9	5.51	116.77	108.50
2	A8	203	A	C4'-C3'-O3'	-5.51	104.73	113.00
2	A8	1351	C	P-O3'-C3'	-5.51	111.93	120.20
23	AS	21	ALA	CA-C-N	5.51	128.22	120.28
23	AS	21	ALA	C-N-CA	5.51	128.22	120.28
36	BA	267	C	O3'-P-O5'	-5.51	95.73	104.00
36	BA	783	C	C5'-C4'-C3'	-5.51	107.73	116.00
36	BA	805	C	C4'-C3'-O3'	-5.51	104.73	113.00
36	BA	1438	G	C4'-C3'-O3'	-5.51	104.73	113.00
36	BA	1468	A	P-O5'-C5'	5.51	129.17	120.90
42	BG	20	GLU	N-CA-C	5.51	117.29	111.28
49	BN	7	ALA	CA-C-N	5.51	129.09	120.82
49	BN	7	ALA	C-N-CA	5.51	129.09	120.82
55	BT	50	PHE	CA-CB-CG	-5.51	108.29	113.80
56	BU	28	LEU	N-CA-C	-5.51	106.06	112.89
1	A7	22	U	O3'-P-O5'	-5.51	95.74	104.00
2	A8	530	G	P-O3'-C3'	-5.51	111.94	120.20
2	A8	714	U	C4'-C3'-O3'	-5.51	104.73	113.00
2	A8	2644	G	O3'-P-O5'	-5.51	95.74	104.00
2	A8	195	A	O5'-C5'-C4'	-5.51	103.24	111.50
36	BA	589	U	P-O3'-C3'	-5.51	111.94	120.20
2	A8	425	G	C5'-C4'-C3'	5.51	124.26	116.00
2	A8	973	A	O5'-C5'-C4'	5.51	119.96	111.70
2	A8	1404	C	C5'-C4'-C3'	-5.51	107.74	116.00
2	A8	2558	C	C4'-C3'-O3'	-5.51	104.74	113.00
38	BC	56	ILE	N-CA-C	-5.51	100.55	108.42
2	A8	2190	G	C3'-C2'-C1'	-5.50	95.80	101.30
2	A8	2795	C	O4'-C1'-N1	5.50	116.76	108.50
2	A8	695	G	C5'-C4'-C3'	-5.50	107.75	116.00
2	A8	2033	A	C3'-C2'-C1'	-5.50	96.00	101.50
36	BA	324	G	O4'-C1'-C2'	-5.50	102.10	107.60
36	BA	1168	U	O4'-C1'-N1	5.50	116.75	108.50
36	BA	1516	G	O5'-C5'-C4'	-5.50	103.25	111.50
37	BB	218	ALA	N-CA-C	-5.50	107.57	114.56
2	A8	73	A	O3'-P-O5'	-5.50	95.75	104.00
36	BA	414	A	P-O3'-C3'	5.50	128.45	120.20
36	BA	1506	U	C4'-C3'-O3'	-5.50	101.15	109.40
39	BD	69	ARG	CA-C-N	5.50	127.92	120.38
39	BD	69	ARG	C-N-CA	5.50	127.92	120.38
2	A8	1382	G	C5'-C4'-C3'	5.50	124.25	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1217	C	P-O5'-C5'	-5.50	112.65	120.90
2	A8	1001	A	P-O3'-C3'	-5.50	111.95	120.20
36	BA	849	G	P-O5'-C5'	-5.50	112.65	120.90
36	BA	890	G	O4'-C1'-N9	5.50	116.44	108.20
37	BB	60	ALA	N-CA-C	-5.50	106.62	113.38
2	A8	930	G	P-O5'-C5'	-5.50	112.66	120.90
2	A8	1148	U	C4'-C3'-O3'	-5.50	104.76	113.00
2	A8	2680	U	C4'-C3'-O3'	-5.50	104.76	113.00
36	BA	661	G	C5'-C4'-C3'	-5.50	107.76	116.00
2	A8	783	A	C4'-C3'-C2'	-5.49	97.11	102.60
2	A8	1105	U	C5'-C4'-C3'	-5.49	107.76	116.00
2	A8	1388	G	P-O5'-C5'	-5.49	112.66	120.90
16	AL	35	HIS	CA-C-N	5.49	132.03	121.54
16	AL	35	HIS	C-N-CA	5.49	132.03	121.54
36	BA	1190	G	O4'-C4'-C3'	-5.49	100.61	106.10
37	BB	191	ASP	CA-C-O	-5.49	114.87	119.76
10	AF	4	HIS	CA-CB-CG	5.49	119.29	113.80
44	BI	118	ARG	N-CA-C	-5.49	105.80	112.88
55	BT	28	ARG	N-CA-C	-5.49	105.71	112.90
2	A8	254	G	C5'-C4'-C3'	-5.49	107.77	116.00
2	A8	1048	A	C5'-C4'-C3'	-5.49	107.77	116.00
2	A8	2139	U	O3'-P-O5'	-5.49	95.77	104.00
2	A8	2540	C	P-O5'-C5'	-5.49	112.67	120.90
21	AQ	70	GLN	N-CA-C	-5.49	105.28	112.41
23	AS	75	PHE	N-CA-C	-5.49	99.11	110.80
36	BA	171	A	O3'-P-O5'	-5.49	95.77	104.00
44	BI	30	ASN	CA-CB-CG	-5.49	107.11	112.60
46	BK	125	LYS	N-CA-CB	5.49	119.77	110.49
14	AJ	119	PHE	CA-CB-CG	-5.49	108.31	113.80
2	A8	649	G	C4'-C3'-C2'	-5.49	97.11	102.60
2	A8	1573	G	P-O5'-C5'	5.49	129.13	120.90
15	AK	70	ARG	CA-C-O	-5.49	112.64	120.16
35	A4	26	ILE	N-CA-C	-5.49	100.40	108.85
46	BK	91	GLY	N-CA-C	-5.49	107.01	116.01
2	A8	1316	U	C5'-C4'-C3'	-5.48	107.77	116.00
2	A8	2644	G	C4'-C3'-O3'	-5.48	104.77	113.00
46	BK	17	ASP	CA-CB-CG	-5.48	107.12	112.60
2	A8	372	G	C2'-C3'-O3'	5.48	117.72	109.50
2	A8	760	G	C5'-C4'-C3'	-5.48	107.78	116.00
2	A8	1246	A	C5'-C4'-C3'	-5.48	107.78	116.00
3	AA	189	PRO	N-CA-C	-5.48	107.66	114.68
2	A8	2393	U	C5'-C4'-C3'	5.48	124.22	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2481	G	P-O3'-C3'	5.48	128.42	120.20
8	AD	125	TRP	CB-CG-CD2	-5.48	119.13	126.80
36	BA	498	A	O3'-P-O5'	-5.48	95.78	104.00
2	A8	1939	U	C3'-C2'-C1'	-5.48	96.02	101.50
12	AH	45	GLU	CA-C-N	5.48	128.41	120.79
12	AH	45	GLU	C-N-CA	5.48	128.41	120.79
36	BA	35	G	P-O5'-C5'	-5.48	112.68	120.90
49	BN	9	GLU	CA-C-N	5.48	127.46	120.56
49	BN	9	GLU	C-N-CA	5.48	127.46	120.56
2	A8	129	C	P-O5'-C5'	-5.48	112.68	120.90
2	A8	464	U	C4'-C3'-O3'	-5.48	104.78	113.00
2	A8	1167	C	C4'-C3'-O3'	-5.48	104.78	113.00
2	A8	2118	U	O4'-C4'-C3'	-5.48	98.52	104.00
2	A8	2742	G	P-O3'-C3'	-5.48	111.98	120.20
36	BA	597	G	C4'-C3'-O3'	-5.48	104.78	113.00
36	BA	795	C	P-O5'-C5'	-5.48	112.68	120.90
36	BA	1260	G	O5'-C5'-C4'	-5.48	103.28	111.50
36	BA	1364	U	O4'-C1'-N1	5.48	116.42	108.20
40	BE	42	ASN	CA-CB-CG	-5.48	107.12	112.60
36	BA	1520	C	O4'-C4'-C3'	5.48	109.48	104.00
2	A8	1172	C	C5'-C4'-C3'	-5.47	107.79	116.00
2	A8	2227	A	C5'-C4'-C3'	-5.47	107.79	116.00
2	A8	2692	G	P-O5'-C5'	-5.47	112.69	120.90
3	AA	437	HIS	CA-CB-CG	5.47	119.28	113.80
36	BA	203	G	O4'-C1'-N9	5.47	116.71	108.50
36	BA	598	U	C5'-C4'-C3'	-5.47	107.79	116.00
36	BA	1018	G	P-O5'-C5'	5.47	129.11	120.90
54	BS	3	SER	O-C-N	5.47	127.22	123.11
2	A8	1376	C	P-O5'-C5'	-5.47	112.69	120.90
2	A8	2516	A	C4'-C3'-O3'	-5.47	104.79	113.00
11	AG	165	ASP	N-CA-CB	5.47	120.04	111.56
36	BA	29	U	C4'-C3'-O3'	-5.47	104.79	113.00
36	BA	119	A	P-O5'-C5'	5.47	129.11	120.90
37	BB	125	PHE	N-CA-C	-5.47	106.19	112.92
2	A8	249	C	O4'-C1'-N1	5.47	116.41	108.20
2	A8	775	G	C4'-C3'-C2'	-5.47	97.13	102.60
17	AM	44	ARG	CB-CA-C	-5.47	98.56	109.99
36	BA	300	A	C4'-C3'-C2'	-5.47	97.13	102.60
49	BN	38	GLU	CA-C-N	5.47	130.33	122.40
49	BN	38	GLU	C-N-CA	5.47	130.33	122.40
2	A8	53	A	P-O3'-C3'	-5.47	112.00	120.20
2	A8	1241	A	P-O3'-C3'	5.47	128.40	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2743	U	C5'-C4'-C3'	-5.47	107.80	116.00
7	A6	186	ASP	N-CA-C	-5.47	103.78	110.61
36	BA	222	C	O3'-P-O5'	5.47	112.20	104.00
2	A8	668	A	P-O5'-C5'	5.47	129.10	120.90
2	A8	745	G	P-O3'-C3'	5.47	128.40	120.20
2	A8	932	U	O3'-P-O5'	-5.47	95.80	104.00
36	BA	261	U	O3'-P-O5'	-5.47	95.80	104.00
36	BA	811	C	P-O3'-C3'	5.47	128.40	120.20
2	A8	1554	U	C5'-C4'-C3'	-5.46	107.00	115.20
2	A8	2350	C	P-O3'-C3'	-5.46	112.00	120.20
3	AA	431	GLU	CB-CA-C	5.46	120.14	110.85
37	BB	69	VAL	N-CA-C	-5.46	99.99	107.75
36	BA	52	C	P-O5'-C5'	5.46	129.09	120.90
36	BA	269	C	P-O5'-C5'	-5.46	112.71	120.90
2	A8	466	A	C5'-C4'-C3'	-5.46	107.81	116.00
2	A8	1522	A	C2'-C3'-O3'	5.46	117.69	109.50
12	AH	60	GLU	N-CA-C	-5.46	106.78	113.50
36	BA	1260	G	O4'-C4'-C3'	5.46	109.46	104.00
37	BB	92	ASN	N-CA-C	-5.46	105.24	112.94
38	BC	120	THR	CA-C-N	5.46	128.35	120.38
38	BC	120	THR	C-N-CA	5.46	128.35	120.38
46	BK	45	THR	CA-C-N	5.46	127.60	120.28
46	BK	45	THR	C-N-CA	5.46	127.60	120.28
36	BA	450	G	C4'-C3'-O3'	-5.46	104.81	113.00
2	A8	1093	G	P-O5'-C5'	5.46	129.09	120.90
2	A8	1561	C	C5'-C4'-C3'	-5.46	107.81	116.00
2	A8	1862	G	P-O5'-C5'	-5.46	112.71	120.90
2	A8	2258	C	P-O5'-C5'	-5.46	112.71	120.90
36	BA	993	G	O4'-C1'-N9	5.46	116.39	108.20
2	A8	1554	U	P-O5'-C5'	-5.46	112.72	120.90
2	A8	2355	G	C4'-C3'-O3'	-5.46	104.81	113.00
2	A8	2468	A	C1'-O4'-C4'	-5.46	104.24	109.70
8	AD	118	PHE	N-CA-C	5.46	117.23	111.28
36	BA	1234	C	C4'-C3'-C2'	-5.46	97.14	102.60
36	BA	1244	G	P-O3'-C3'	-5.46	112.02	120.20
2	A8	387	U	O4'-C4'-C3'	-5.46	100.64	106.10
2	A8	2683	C	O4'-C1'-N1	5.46	116.68	108.50
42	BG	141	HIS	N-CA-C	-5.46	106.47	113.23
2	A8	12	U	O4'-C4'-C3'	-5.45	98.55	104.00
2	A8	746	U	C4'-C3'-C2'	5.45	108.05	102.60
2	A8	868	U	C3'-C2'-C1'	-5.45	95.85	101.30
2	A8	1261	C	O3'-P-O5'	5.45	112.18	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1539	U	O3'-P-O5'	-5.45	95.82	104.00
2	A8	2314	A	C5'-C4'-C3'	-5.45	107.82	116.00
2	A8	2378	A	C5'-C4'-C3'	-5.45	107.82	116.00
38	BC	166	TRP	CA-CB-CG	5.45	123.96	113.60
1	A7	66	A	P-O5'-C5'	5.45	129.08	120.90
2	A8	259	G	C4'-C3'-C2'	-5.45	97.15	102.60
2	A8	2609	U	C2'-C3'-O3'	5.45	117.68	109.50
24	AT	29	THR	N-CA-CB	5.45	119.70	110.49
2	A8	799	G	C4'-C3'-O3'	-5.45	104.83	113.00
2	A8	1592	C	O4'-C1'-N1	5.45	116.67	108.50
20	AP	13	LYS	N-CA-C	-5.45	99.19	110.80
36	BA	612	C	C1'-O4'-C4'	-5.45	104.45	109.90
2	A8	427	U	P-O5'-C5'	5.45	129.07	120.90
2	A8	878	A	C2'-C3'-O3'	5.45	121.87	113.70
2	A8	2417	C	C3'-C2'-C1'	-5.45	95.85	101.30
28	AX	4	CYS	N-CA-C	-5.45	106.30	113.17
2	A8	457	A	C5'-C4'-O4'	5.45	117.27	109.10
7	A6	197	ALA	N-CA-C	-5.45	105.58	113.21
47	BL	64	SER	N-CA-C	-5.45	100.14	109.24
2	A8	1837	C	O4'-C1'-N1	5.44	116.67	108.50
33	A2	18	PHE	CA-CB-CG	5.44	119.24	113.80
36	BA	340	U	C5'-C4'-C3'	-5.44	107.83	116.00
55	BT	18	LYS	N-CA-C	-5.44	106.50	114.39
2	A8	10	A	P-O3'-C3'	-5.44	112.04	120.20
2	A8	161	A	C4'-C3'-C2'	5.44	108.04	102.60
2	A8	464	U	O3'-P-O5'	-5.44	95.84	104.00
2	A8	1271	G	O4'-C1'-N9	5.44	116.66	108.50
36	BA	1095	U	C4'-C3'-O3'	-5.44	104.84	113.00
2	A8	37	C	O4'-C1'-N1	5.44	116.66	108.50
2	A8	2468	A	C2'-C3'-O3'	5.44	117.66	109.50
36	BA	995	C	O4'-C1'-N1	5.44	116.66	108.50
36	BA	1330	U	P-O3'-C3'	5.44	128.36	120.20
2	A8	2539	C	P-O5'-C5'	-5.44	112.74	120.90
12	AH	46	PHE	CA-C-N	5.44	128.35	120.79
12	AH	46	PHE	C-N-CA	5.44	128.35	120.79
16	AL	82	LEU	CA-C-N	5.44	129.30	120.60
16	AL	82	LEU	C-N-CA	5.44	129.30	120.60
36	BA	629	A	C3'-C2'-C1'	-5.44	95.86	101.30
36	BA	935	A	O5'-C5'-C4'	-5.44	103.34	111.50
36	BA	1200	C	O4'-C1'-N1	5.44	116.66	108.50
2	A8	2852	G	P-O3'-C3'	-5.44	112.05	120.20
36	BA	101	A	C5'-C4'-C3'	-5.44	107.85	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	BO	48	ASP	CA-CB-CG	-5.44	107.16	112.60
2	A8	629	G	P-O5'-C5'	-5.43	112.75	120.90
2	A8	697	G	P-O3'-C3'	5.43	128.35	120.20
2	A8	856	G	P-O5'-C5'	-5.43	112.75	120.90
2	A8	966	G	C5'-C4'-C3'	-5.43	107.85	116.00
6	A5	131	LEU	N-CA-C	-5.43	101.26	109.85
37	BB	57	ASN	N-CA-C	-5.43	106.32	113.17
43	BH	22	ALA	N-CA-C	-5.43	105.96	112.59
2	A8	294	A	C4'-C3'-O3'	-5.43	104.85	113.00
2	A8	1257	C	C5'-C4'-C3'	-5.43	107.85	116.00
40	BE	131	ASN	N-CA-C	-5.43	97.80	109.81
52	BQ	33	TYR	N-CA-C	-5.43	105.87	112.88
2	A8	584	C	C1'-O4'-C4'	-5.43	104.47	109.90
2	A8	1908	C	C5'-C4'-C3'	-5.43	107.85	116.00
2	A8	131	A	O4'-C4'-C3'	-5.43	98.57	104.00
2	A8	944	C	P-O5'-C5'	-5.43	112.76	120.90
2	A8	1935	G	C2'-C3'-O3'	5.43	121.84	113.70
2	A8	2393	U	P-O3'-C3'	5.43	128.34	120.20
2	A8	2492	U	O4'-C1'-N1	5.43	116.64	108.50
34	A3	40	LYS	CA-C-N	5.43	127.56	120.28
34	A3	40	LYS	C-N-CA	5.43	127.56	120.28
36	BA	1053	G	O3'-P-O5'	5.43	112.14	104.00
36	BA	1131	G	P-O3'-C3'	-5.43	112.06	120.20
2	A8	1178	C	C5'-C4'-C3'	-5.43	107.86	116.00
42	BG	150	PHE	N-CA-C	-5.43	100.47	108.99
2	A8	872	U	C2'-C3'-O3'	5.43	121.84	113.70
2	A8	1709	U	C4'-C3'-O3'	-5.43	104.86	113.00
2	A8	2248	C	O5'-C5'-C4'	-5.43	103.36	111.50
2	A8	2537	U	C4'-C3'-O3'	-5.43	104.86	113.00
2	A8	2606	C	O4'-C1'-N1	5.43	116.64	108.50
6	A5	22	ASP	CA-C-N	5.43	127.89	120.46
6	A5	22	ASP	C-N-CA	5.43	127.89	120.46
41	BF	7	VAL	N-CA-C	-5.43	100.64	108.89
42	BG	95	ARG	N-CA-CB	5.43	118.07	109.82
2	A8	1954	G	O4'-C1'-N9	5.42	116.34	108.20
2	A8	2869	G	O4'-C1'-N9	5.42	116.64	108.50
39	BD	11	SER	CA-C-N	5.42	128.96	120.82
39	BD	11	SER	C-N-CA	5.42	128.96	120.82
1	A7	20	G	P-O3'-C3'	-5.42	112.07	120.20
2	A8	740	C	C5'-C4'-C3'	-5.42	107.87	116.00
2	A8	2186	G	C5'-C4'-C3'	-5.42	107.87	116.00
10	AF	82	TYR	CA-C-N	5.42	126.62	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	AF	82	TYR	C-N-CA	5.42	126.62	119.84
36	BA	765	G	O4'-C1'-C2'	-5.42	102.18	107.60
36	BA	766	A	O4'-C4'-C3'	-5.42	98.58	104.00
36	BA	901	A	C4'-C3'-C2'	-5.42	97.18	102.60
36	BA	1041	G	C4'-C3'-O3'	-5.42	104.87	113.00
2	A8	1719	G	P-O5'-C5'	-5.42	112.77	120.90
36	BA	1327	C	O5'-C5'-C4'	-5.42	103.37	111.50
2	A8	1789	A	C5'-C4'-C3'	-5.42	107.87	116.00
36	BA	1350	A	P-O5'-C5'	5.42	129.03	120.90
39	BD	108	ALA	N-CA-C	-5.42	106.17	112.89
2	A8	401	A	C4'-C3'-C2'	-5.42	97.18	102.60
2	A8	403	U	P-O5'-C5'	5.42	129.03	120.90
2	A8	954	G	P-O3'-C3'	-5.42	112.08	120.20
2	A8	1152	C	C5'-C4'-C3'	-5.42	107.87	116.00
2	A8	1797	G	C5'-C4'-C3'	-5.42	107.87	116.00
2	A8	1949	G	C4'-C3'-O3'	-5.42	104.88	113.00
2	A8	2879	A	N9-C1'-C2'	-5.42	105.88	114.00
21	AQ	61	ILE	N-CA-C	5.42	116.05	110.36
36	BA	268	U	C4'-C3'-C2'	-5.42	97.18	102.60
36	BA	486	U	O4'-C1'-N1	5.42	116.63	108.50
36	BA	1358	U	P-O5'-C5'	-5.42	112.78	120.90
2	A8	420	C	C4'-C3'-O3'	-5.42	104.88	113.00
2	A8	2799	A	O4'-C4'-C3'	-5.42	100.69	106.10
2	A8	2864	G	P-O5'-C5'	-5.42	112.78	120.90
13	AI	117	THR	N-CA-C	-5.42	106.52	113.02
27	AW	78	PHE	CB-CA-C	-5.42	110.31	116.54
36	BA	691	G	P-O5'-C5'	-5.42	112.78	120.90
36	BA	698	G	P-O5'-C5'	-5.42	112.78	120.90
36	BA	847	G	O4'-C4'-C3'	-5.42	98.58	104.00
1	A7	24	G	C5'-C4'-C3'	-5.41	107.08	115.20
2	A8	1542	U	P-O5'-C5'	-5.41	112.78	120.90
21	AQ	68	ALA	N-CA-C	-5.41	104.64	113.19
25	AU	84	PHE	N-CA-C	-5.41	101.08	109.14
36	BA	563	A	O3'-P-O5'	-5.41	95.88	104.00
2	A8	2535	G	O5'-C5'-C4'	-5.41	103.38	111.50
2	A8	910	A	P-O3'-C3'	5.41	128.32	120.20
2	A8	1722	A	C5'-C4'-C3'	-5.41	107.89	116.00
7	A6	226	PRO	N-CA-CB	5.41	108.93	103.25
22	AR	56	GLY	N-CA-C	-5.41	108.25	114.69
25	AU	29	SER	N-CA-C	-5.41	105.38	112.41
2	A8	155	A	C5'-C4'-C3'	-5.41	107.89	116.00
2	A8	348	A	P-O5'-C5'	5.41	129.01	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1271	G	C2'-C3'-O3'	-5.41	105.59	113.70
2	A8	1418	G	O4'-C4'-C3'	-5.41	98.59	104.00
8	AD	98	VAL	N-CA-C	5.41	120.59	109.34
12	AH	7	ASP	CA-CB-CG	-5.41	107.19	112.60
36	BA	1290	G	C5'-C4'-C3'	-5.41	107.89	116.00
2	A8	927	A	C5'-C4'-C3'	-5.41	107.89	116.00
2	A8	954	G	C4'-C3'-C2'	-5.41	97.19	102.60
17	AM	104	GLU	N-CA-C	-5.41	98.08	107.49
36	BA	1130	A	C4'-C3'-O3'	-5.41	104.89	113.00
36	BA	1488	G	C3'-C2'-C1'	-5.41	95.89	101.30
2	A8	2541	A	C5'-C4'-C3'	-5.40	107.89	116.00
50	BO	9	LYS	CA-C-N	5.40	127.86	120.46
50	BO	9	LYS	C-N-CA	5.40	127.86	120.46
7	A6	267	VAL	N-CA-C	-5.40	106.54	111.67
10	AF	77	LYS	O-C-N	5.40	125.52	121.47
22	AR	44	GLY	N-CA-C	-5.40	107.90	114.92
36	BA	1450	U	C4'-C3'-O3'	-5.40	104.90	113.00
2	A8	318	C	C5'-C4'-C3'	-5.40	107.90	116.00
2	A8	644	A	P-O5'-C5'	-5.40	112.80	120.90
36	BA	191	G	C5'-C4'-C3'	-5.40	107.90	116.00
2	A8	1130	U	O4'-C1'-N1	5.40	116.30	108.20
2	A8	2754	U	C5'-C4'-C3'	-5.40	107.90	116.00
2	A8	325	G	C5'-C4'-C3'	-5.40	107.90	116.00
2	A8	563	A	C4'-C3'-O3'	-5.40	104.90	113.00
2	A8	1999	C	P-O3'-C3'	-5.40	112.10	120.20
2	A8	2456	C	C5'-C4'-C3'	-5.40	107.91	116.00
2	A8	2825	G	P-O3'-C3'	-5.40	112.11	120.20
2	A8	2230	G	O5'-C5'-C4'	-5.40	103.41	111.50
2	A8	2291	U	P-O5'-C5'	5.40	129.00	120.90
2	A8	959	A	C4'-C3'-O3'	5.39	121.09	113.00
2	A8	1163	G	C5'-C4'-C3'	-5.39	107.91	116.00
2	A8	2020	A	P-O3'-C3'	-5.39	112.11	120.20
2	A8	2191	A	C5'-C4'-C3'	-5.39	107.91	116.00
29	AY	50	VAL	N-CA-C	-5.39	107.49	112.83
36	BA	109	A	C5'-C4'-C3'	-5.39	107.11	115.20
36	BA	198	G	C5'-C4'-C3'	5.39	124.09	116.00
2	A8	197	A	O3'-P-O5'	-5.39	95.91	104.00
2	A8	1667	G	C2'-C3'-O3'	5.39	117.59	109.50
2	A8	2333	A	P-O5'-C5'	-5.39	112.81	120.90
2	A8	2547	A	P-O3'-C3'	-5.39	112.11	120.20
2	A8	2603	G	P-O5'-C5'	-5.39	112.81	120.90
36	BA	472	U	P-O3'-C3'	-5.39	112.11	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	791	G	P-O5'-C5'	-5.39	112.81	120.90
34	A3	11	LYS	N-CA-C	-5.39	105.92	112.88
36	BA	515	G	P-O5'-C5'	-5.39	112.81	120.90
2	A8	1488	C	P-O3'-C3'	-5.39	112.11	120.20
2	A8	2269	G	C4'-C3'-C2'	-5.39	97.21	102.60
36	BA	699	C	C5'-C4'-C3'	-5.39	107.92	116.00
2	A8	1071	G	C4'-C3'-C2'	5.39	107.99	102.60
2	A8	1119	U	O4'-C1'-N1	5.39	116.58	108.50
2	A8	1373	A	C5'-C4'-C3'	-5.39	107.92	116.00
36	BA	733	G	P-O5'-C5'	-5.39	112.82	120.90
2	A8	725	G	P-O3'-C3'	5.39	128.28	120.20
2	A8	1330	C	C4'-C3'-O3'	-5.39	104.92	113.00
36	BA	285	C	C3'-C2'-C1'	-5.39	95.91	101.30
36	BA	1172	C	C4'-C3'-O3'	-5.39	104.92	113.00
2	A8	461	C	O3'-P-O5'	-5.38	95.92	104.00
2	A8	858	G	C2'-C3'-O3'	5.38	117.58	109.50
2	A8	864	G	C4'-C3'-O3'	-5.38	104.92	113.00
2	A8	956	G	C4'-C3'-O3'	-5.38	104.92	113.00
2	A8	1621	U	O3'-P-O5'	-5.38	95.92	104.00
2	A8	1684	G	P-O5'-C5'	-5.38	112.82	120.90
19	AO	12	THR	N-CA-C	-5.38	106.21	112.89
2	A8	1323	C	C4'-C3'-O3'	-5.38	104.93	113.00
11	AG	29	ASN	N-CA-C	-5.38	102.17	109.54
26	AV	71	LYS	N-CA-CB	5.38	119.21	110.17
2	A8	1031	G	C5'-C4'-C3'	-5.38	107.93	116.00
6	A5	97	MET	N-CA-C	-5.38	106.72	113.72
28	AX	40	GLU	CA-C-N	5.38	127.49	120.28
28	AX	40	GLU	C-N-CA	5.38	127.49	120.28
36	BA	1172	C	O4'-C1'-N1	5.38	116.57	108.50
46	BK	127	ARG	N-CA-C	-5.38	107.72	114.56
2	A8	1940	U	C3'-C2'-C1'	-5.38	96.12	101.50
6	A5	23	ILE	N-CA-C	5.38	116.11	110.62
1	A7	21	G	C4'-C3'-C2'	-5.38	97.22	102.60
2	A8	204	A	P-O3'-C3'	5.38	128.27	120.20
2	A8	1693	U	C5'-C4'-C3'	5.38	123.27	115.20
14	AJ	107	GLY	CA-C-N	5.38	130.68	122.24
14	AJ	107	GLY	C-N-CA	5.38	130.68	122.24
36	BA	1325	C	C5'-C4'-C3'	-5.38	107.93	116.00
32	A1	26	LYS	N-CA-C	-5.38	105.01	113.02
8	AD	149	ASN	CA-C-N	5.38	128.48	120.31
8	AD	149	ASN	C-N-CA	5.38	128.48	120.31
2	A8	1381	G	C3'-C2'-C1'	-5.37	95.93	101.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2372	U	O5'-C5'-C4'	-5.37	103.44	111.50
2	A8	2389	G	O5'-C5'-C4'	-5.37	103.44	111.50
2	A8	2522	U	P-O3'-C3'	-5.37	112.14	120.20
14	AJ	118	MET	CG-SD-CE	-5.37	89.08	100.90
24	AT	79	ASP	CA-CB-CG	-5.37	107.23	112.60
36	BA	199	A	P-O5'-C5'	5.37	128.96	120.90
36	BA	796	C	C4'-C3'-C2'	-5.37	97.23	102.60
2	A8	2416	C	P-O3'-C3'	-5.37	112.14	120.20
36	BA	139	A	P-O3'-C3'	-5.37	112.14	120.20
2	A8	1565	C	C2'-C3'-O3'	5.37	117.56	109.50
1	A7	84	G	P-O3'-C3'	-5.37	112.15	120.20
2	A8	649	G	C5'-C4'-C3'	-5.37	107.95	116.00
2	A8	2094	A	C5'-C4'-C3'	-5.37	107.95	116.00
36	BA	255	G	C4'-C3'-C2'	-5.37	97.23	102.60
36	BA	1174	G	C5'-C4'-C3'	-5.37	107.95	116.00
39	BD	145	ARG	CA-C-N	5.37	131.79	121.54
39	BD	145	ARG	C-N-CA	5.37	131.79	121.54
1	A7	74	U	C5'-C4'-C3'	-5.37	107.95	116.00
2	A8	2547	A	O4'-C4'-C3'	-5.37	98.63	104.00
2	A8	261	G	C1'-O4'-C4'	-5.37	104.53	109.90
2	A8	1332	G	P-O5'-C5'	-5.37	112.85	120.90
2	A8	2013	A	P-O3'-C3'	-5.37	112.15	120.20
2	A8	2143	C	C4'-C3'-O3'	-5.37	104.95	113.00
7	A6	17	LYS	CA-C-N	5.37	130.45	122.99
7	A6	17	LYS	C-N-CA	5.37	130.45	122.99
39	BD	115	GLN	N-CA-C	-5.37	106.24	112.89
55	BT	17	ARG	N-CA-C	-5.37	106.32	112.92
2	A8	669	G	P-O5'-C5'	-5.36	112.86	120.90
2	A8	2316	G	C5'-C4'-C3'	-5.36	107.95	116.00
2	A8	2717	C	C5'-C4'-C3'	-5.36	107.95	116.00
2	A8	2894	G	C4'-C3'-C2'	5.36	107.96	102.60
9	AE	91	ASP	N-CA-C	-5.36	98.47	108.02
21	AQ	45	ALA	CA-C-N	5.36	128.46	120.31
21	AQ	45	ALA	C-N-CA	5.36	128.46	120.31
36	BA	243	A	C4'-C3'-C2'	5.36	107.96	102.60
8	AD	193	VAL	CA-C-N	5.36	125.36	119.89
8	AD	193	VAL	C-N-CA	5.36	125.36	119.89
36	BA	1524	C	C5'-C4'-C3'	-5.36	107.96	116.00
2	A8	241	A	C5'-C4'-O4'	5.36	117.14	109.10
2	A8	855	G	C3'-C2'-C1'	-5.36	95.94	101.30
2	A8	983	A	O4'-C1'-N9	5.36	116.54	108.50
2	A8	2018	G	O4'-C4'-C3'	-5.36	98.64	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2790	U	C5'-C4'-C3'	-5.36	107.96	116.00
23	AS	84	ARG	N-CA-C	-5.36	100.59	108.79
36	BA	206	C	C4'-C3'-O3'	-5.36	104.96	113.00
36	BA	279	A	C2'-C3'-O3'	5.36	117.54	109.50
36	BA	1334	G	P-O5'-C5'	5.36	128.94	120.90
2	A8	1799	G	O3'-P-O5'	-5.36	95.96	104.00
36	BA	188	C	O4'-C4'-C3'	-5.36	98.64	104.00
2	A8	754	U	C5'-C4'-C3'	-5.36	107.96	116.00
2	A8	1607	C	C5'-C4'-C3'	-5.36	107.16	115.20
2	A8	1668	A	O4'-C4'-C3'	-5.36	100.74	106.10
2	A8	2673	G	C4'-C3'-O3'	-5.36	104.96	113.00
2	A8	2750	A	P-O5'-C5'	-5.36	112.86	120.90
36	BA	1400	C	O3'-P-O5'	-5.36	95.96	104.00
54	BS	73	PHE	CA-CB-CG	-5.36	108.44	113.80
2	A8	634	C	O4'-C1'-N1	5.36	116.53	108.50
2	A8	1018	U	P-O5'-C5'	5.36	128.93	120.90
2	A8	1303	G	O3'-P-O5'	-5.36	95.97	104.00
2	A8	1755	A	P-O5'-C5'	-5.36	112.87	120.90
3	AA	368	PRO	N-CA-C	5.36	123.50	112.47
36	BA	274	A	O3'-P-O5'	-5.36	95.97	104.00
36	BA	302	G	C4'-C3'-O3'	-5.36	104.97	113.00
12	AH	25	TYR	CB-CA-C	-5.35	101.80	110.79
36	BA	639	G	C5'-C4'-C3'	-5.35	107.97	116.00
2	A8	1582	C	C4'-C3'-C2'	-5.35	97.25	102.60
2	A8	2085	U	C5'-C4'-C3'	-5.35	107.97	116.00
2	A8	2658	C	C5'-C4'-C3'	-5.35	107.97	116.00
10	AF	152	ASP	CA-CB-CG	5.35	117.95	112.60
36	BA	110	C	O5'-C5'-C4'	-5.35	103.47	111.50
36	BA	330	C	O5'-C5'-C4'	-5.35	103.47	111.50
54	BS	69	LYS	CA-C-N	5.35	127.45	120.28
54	BS	69	LYS	C-N-CA	5.35	127.45	120.28
2	A8	1646	C	O3'-P-O5'	-5.35	95.97	104.00
2	A8	1728	C	O4'-C1'-N1	5.35	116.53	108.50
13	AI	46	ASP	N-CA-C	-5.35	106.75	113.28
15	AK	77	ARG	N-CA-CB	5.35	118.59	109.87
38	BC	112	ALA	N-CA-CB	5.35	119.53	110.49
2	A8	2268	A	O3'-P-O5'	-5.35	95.98	104.00
8	AD	56	LYS	CA-C-N	5.35	129.73	122.19
8	AD	56	LYS	C-N-CA	5.35	129.73	122.19
12	AH	66	ASN	CA-CB-CG	5.35	117.95	112.60
18	AN	84	GLY	N-CA-C	-5.35	101.43	112.34
28	AX	19	HIS	N-CA-C	-5.35	106.77	113.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	686	U	O4'-C4'-C3'	-5.35	100.75	106.10
47	BL	16	ALA	N-CA-C	5.35	114.64	108.49
2	A8	2194	U	C5'-C4'-C3'	-5.35	107.98	116.00
30	AZ	40	THR	CA-C-O	-5.35	114.77	120.28
36	BA	557	G	P-O5'-C5'	5.35	128.92	120.90
36	BA	787	A	C4'-C3'-C2'	-5.35	97.25	102.60
2	A8	308	G	P-O5'-C5'	-5.35	112.88	120.90
36	BA	607	A	C4'-C3'-C2'	-5.35	97.25	102.60
2	A8	1017	G	C5'-C4'-C3'	-5.34	107.98	116.00
2	A8	2673	G	O5'-C5'-C4'	-5.34	103.48	111.50
36	BA	1273	C	C5'-C4'-C3'	-5.34	107.98	116.00
2	A8	2087	G	C5'-C4'-C3'	5.34	124.01	116.00
2	A8	2223	G	P-O5'-C5'	-5.34	112.89	120.90
2	A8	2370	G	C4'-C3'-O3'	-5.34	104.99	113.00
36	BA	245	U	O5'-C5'-C4'	-5.34	103.49	111.50
36	BA	304	U	C4'-C3'-O3'	-5.34	104.99	113.00
36	BA	1450	U	C5'-C4'-C3'	-5.34	107.99	116.00
49	BN	37	ASP	CA-CB-CG	5.34	117.94	112.60
2	A8	995	C	C1'-O4'-C4'	-5.34	104.36	109.70
2	A8	1090	A	O3'-P-O5'	-5.34	95.99	104.00
2	A8	2171	A	O3'-P-O5'	-5.34	95.99	104.00
13	AI	97	VAL	N-CA-C	-5.34	108.30	113.53
36	BA	1201	A	C2'-C3'-O3'	5.34	117.51	109.50
36	BA	1264	U	C5'-C4'-C3'	-5.34	107.99	116.00
2	A8	337	C	O4'-C1'-N1	5.34	116.51	108.50
2	A8	1403	A	C5'-C4'-C3'	-5.34	107.99	116.00
36	BA	1020	G	O3'-P-O5'	-5.34	95.99	104.00
2	A8	746	U	C5'-C4'-C3'	-5.34	108.00	116.00
2	A8	1334	G	C5'-C4'-C3'	-5.34	107.99	116.00
36	BA	284	C	O4'-C1'-N1	5.34	116.50	108.50
36	BA	707	U	P-O5'-C5'	-5.34	112.89	120.90
2	A8	1175	A	O5'-C5'-C4'	5.33	119.50	111.50
2	A8	1251	C	C5'-C4'-C3'	5.33	123.20	115.20
2	A8	1418	G	C5'-C4'-C3'	5.33	124.00	116.00
15	AK	115	ILE	CA-CB-CG2	-5.33	101.43	110.50
30	AZ	44	ARG	N-CA-C	-5.33	106.94	113.50
32	A1	7	LYS	N-CA-CB	5.33	118.56	110.45
36	BA	660	C	C5'-C4'-C3'	-5.33	108.00	116.00
44	BI	67	LYS	N-CA-C	-5.33	101.61	109.18
1	A7	59	A	O3'-P-O5'	-5.33	96.00	104.00
2	A8	1065	U	O4'-C1'-N1	5.33	116.50	108.50
2	A8	2291	U	C5'-C4'-C3'	-5.33	108.00	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2766	A	C5'-C4'-C3'	-5.33	108.00	116.00
2	A8	2805	C	O4'-C1'-N1	5.33	116.50	108.50
2	A8	2849	U	P-O5'-C5'	-5.33	112.90	120.90
36	BA	884	U	O4'-C1'-C2'	5.33	111.13	105.80
41	BF	69	GLU	CB-CA-C	-5.33	99.81	110.42
2	A8	436	C	O4'-C1'-N1	5.33	116.50	108.50
22	AR	91	GLN	N-CA-CB	5.33	117.88	110.04
36	BA	651	C	O3'-P-O5'	-5.33	96.00	104.00
50	BO	46	LYS	N-CA-C	-5.33	99.45	110.80
36	BA	419	C	O4'-C1'-N1	5.33	116.50	108.50
36	BA	477	C	O4'-C1'-N1	5.33	116.50	108.50
2	A8	1105	U	O4'-C1'-N1	5.33	116.49	108.50
36	BA	1495	U	O4'-C1'-N1	5.33	116.49	108.50
52	BQ	67	SER	N-CA-C	-5.33	101.39	108.74
2	A8	424	G	C3'-C2'-C1'	-5.33	95.97	101.30
2	A8	2360	G	C5'-C4'-C3'	-5.33	108.01	116.00
36	BA	263	A	O5'-C5'-C4'	-5.33	103.51	111.50
3	AA	60	GLN	N-CA-C	5.33	117.83	111.71
14	AJ	119	PHE	N-CA-C	-5.33	106.63	113.23
2	A8	274	C	O4'-C1'-N1	5.32	116.48	108.50
2	A8	2479	U	O4'-C1'-N1	5.32	116.48	108.50
30	AZ	40	THR	CA-C-N	5.32	126.50	119.84
30	AZ	40	THR	C-N-CA	5.32	126.50	119.84
32	A1	24	LYS	N-CA-C	-5.32	99.46	110.80
36	BA	1338	G	P-O5'-C5'	-5.32	112.92	120.90
36	BA	1398	A	P-O3'-C3'	-5.32	112.22	120.20
46	BK	121	ARG	CA-C-O	-5.32	115.83	119.29
7	A6	40	GLY	N-CA-C	-5.32	108.00	114.92
2	A8	1961	C	O4'-C1'-N1	5.32	116.48	108.50
25	AU	24	VAL	CA-C-N	5.32	127.72	120.54
25	AU	24	VAL	C-N-CA	5.32	127.72	120.54
2	A8	48	G	P-O3'-C3'	-5.32	112.22	120.20
2	A8	317	G	C5'-C4'-C3'	-5.32	108.02	116.00
2	A8	906	U	O5'-C5'-C4'	-5.32	103.52	111.50
36	BA	1296	C	O4'-C1'-N1	5.32	116.48	108.50
2	A8	1816	C	O4'-C1'-C2'	-5.32	102.28	107.60
21	AQ	14	LYS	N-CA-C	-5.32	105.63	113.61
53	BR	43	ILE	CA-C-N	5.32	127.41	120.28
53	BR	43	ILE	C-N-CA	5.32	127.41	120.28
1	A7	66	A	C4'-C3'-O3'	-5.32	105.03	113.00
2	A8	477	A	P-O5'-C5'	-5.32	112.93	120.90
2	A8	625	G	C4'-C3'-C2'	-5.32	97.28	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1640	A	P-O5'-C5'	5.32	128.87	120.90
2	A8	1673	G	N9-C1'-C2'	-5.32	104.03	112.00
36	BA	251	G	C3'-C2'-C1'	-5.32	96.18	101.50
36	BA	616	G	C4'-C3'-O3'	-5.32	105.03	113.00
2	A8	2075	U	C4'-C3'-C2'	-5.31	97.29	102.60
4	AB	13	GLU	CB-CA-C	-5.31	102.50	110.90
26	AV	80	HIS	N-CA-CB	5.31	117.46	110.29
2	A8	566	U	C4'-C3'-O3'	-5.31	105.03	113.00
2	A8	1133	A	P-O5'-C5'	5.31	128.87	120.90
17	AM	23	GLY	N-CA-C	-5.31	100.59	113.18
36	BA	1307	U	O4'-C1'-N1	5.31	116.47	108.50
2	A8	876	C	O4'-C1'-N1	5.31	116.46	108.50
2	A8	1186	G	C4'-C3'-C2'	5.31	107.91	102.60
2	A8	1425	G	C4'-C3'-O3'	-5.31	105.04	113.00
2	A8	1534	U	O5'-C5'-C4'	-5.31	103.54	111.50
16	AL	19	LEU	N-CA-C	-5.31	101.69	109.81
28	AX	15	ASN	CA-C-N	5.31	129.63	121.19
28	AX	15	ASN	C-N-CA	5.31	129.63	121.19
36	BA	461	A	C4'-C3'-C2'	-5.31	97.29	102.60
2	A8	899	A	C4'-C3'-C2'	-5.31	97.29	102.60
2	A8	1721	G	O5'-C5'-C4'	-5.31	103.74	111.70
2	A8	2338	C	C5'-C4'-C3'	5.31	123.96	116.00
2	A8	2431	U	O5'-C5'-C4'	-5.31	103.54	111.50
2	A8	2508	G	C3'-C2'-C1'	-5.31	95.99	101.30
3	AA	338	GLY	CA-C-N	5.31	127.96	120.42
3	AA	338	GLY	C-N-CA	5.31	127.96	120.42
8	AD	133	THR	CA-C-N	5.31	131.68	121.54
8	AD	133	THR	C-N-CA	5.31	131.68	121.54
17	AM	13	HIS	CA-CB-CG	-5.31	108.49	113.80
23	AS	58	ALA	CB-CA-C	-5.31	104.39	111.88
36	BA	337	G	P-O5'-C5'	-5.31	112.94	120.90
36	BA	1357	A	C4'-C3'-O3'	-5.31	105.04	113.00
36	BA	1511	G	C4'-C3'-O3'	-5.31	105.04	113.00
25	AU	35	VAL	N-CA-C	-5.31	100.84	108.53
36	BA	1522	U	C1'-O4'-C4'	-5.31	104.59	109.90
2	A8	117	G	C4'-C3'-O3'	-5.30	105.04	113.00
36	BA	446	G	C4'-C3'-O3'	-5.30	105.04	113.00
36	BA	640	A	P-O5'-C5'	5.30	128.86	120.90
2	A8	1648	U	O4'-C1'-N1	5.30	116.45	108.50
2	A8	2456	C	C4'-C3'-O3'	-5.30	105.05	113.00
36	BA	357	G	O3'-P-O5'	5.30	111.95	104.00
2	A8	1122	G	C2'-C3'-O3'	5.30	121.65	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1773	A	C4'-C3'-C2'	-5.30	97.30	102.60
2	A8	2503	A	O3'-P-O5'	-5.30	96.05	104.00
36	BA	733	G	P-O3'-C3'	5.30	128.15	120.20
39	BD	166	LYS	CA-C-N	5.30	125.30	119.89
39	BD	166	LYS	C-N-CA	5.30	125.30	119.89
2	A8	105	C	C4'-C3'-O3'	-5.30	105.05	113.00
2	A8	845	A	P-O3'-C3'	-5.30	112.25	120.20
11	AG	5	LYS	CB-CA-C	-5.30	100.65	109.55
34	A3	50	SER	CA-C-N	5.30	131.66	121.54
34	A3	50	SER	C-N-CA	5.30	131.66	121.54
2	A8	1258	U	C5'-C4'-C3'	-5.30	108.05	116.00
2	A8	2620	C	O4'-C1'-C2'	5.30	112.90	107.60
3	AA	278	LEU	N-CA-C	5.30	116.75	110.97
17	AM	94	ALA	CA-C-N	5.30	128.87	121.24
17	AM	94	ALA	C-N-CA	5.30	128.87	121.24
2	A8	99	U	P-O5'-C5'	-5.30	112.96	120.90
2	A8	287	G	C4'-C3'-C2'	-5.30	97.30	102.60
2	A8	1315	C	P-O5'-C5'	-5.30	112.95	120.90
2	A8	1945	G	C4'-C3'-O3'	-5.30	105.06	113.00
2	A8	2331	G	C5'-C4'-C3'	-5.30	108.06	116.00
19	AO	19	GLN	CA-C-N	5.30	127.69	120.54
19	AO	19	GLN	C-N-CA	5.30	127.69	120.54
36	BA	520	A	C5'-C4'-C3'	-5.30	108.06	116.00
39	BD	80	ARG	N-CA-CB	5.30	118.44	110.65
2	A8	1435	G	C4'-C3'-O3'	-5.29	105.06	113.00
1	A7	61	G	C5'-C4'-C3'	-5.29	108.06	116.00
1	A7	79	G	C4'-C3'-O3'	-5.29	105.06	113.00
2	A8	3	U	C5'-C4'-C3'	-5.29	108.06	116.00
2	A8	2363	G	C5'-C4'-C3'	-5.29	108.06	116.00
2	A8	2458	G	C5'-C4'-C3'	-5.29	107.26	115.20
36	BA	360	G	C4'-C3'-C2'	-5.29	97.31	102.60
36	BA	1344	C	C5'-C4'-C3'	-5.29	108.06	116.00
2	A8	660	C	P-O5'-C5'	-5.29	112.96	120.90
2	A8	1893	C	P-O5'-C5'	-5.29	112.96	120.90
15	AK	68	VAL	N-CA-C	-5.29	100.98	108.65
36	BA	269	C	O4'-C1'-N1	5.29	116.44	108.50
36	BA	370	C	O4'-C1'-N1	5.29	116.44	108.50
36	BA	1300	G	P-O5'-C5'	5.29	128.84	120.90
2	A8	114	U	P-O5'-C5'	5.29	128.83	120.90
2	A8	196	A	O4'-C1'-N9	5.29	116.13	108.20
2	A8	412	A	C5'-C4'-C3'	-5.29	108.07	116.00
2	A8	1144	A	C4'-C3'-O3'	-5.29	105.07	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1659	G	C1'-O4'-C4'	-5.29	104.61	109.90
2	A8	2458	G	P-O5'-C5'	-5.29	112.97	120.90
9	AE	116	ASP	CA-CB-CG	-5.29	107.31	112.60
36	BA	521	G	C5'-C4'-C3'	-5.29	108.07	116.00
36	BA	684	U	O5'-C5'-C4'	-5.29	103.57	111.50
36	BA	896	C	C5'-C4'-C3'	-5.29	108.07	116.00
36	BA	1237	C	C4'-C3'-O3'	-5.29	105.07	113.00
36	BA	1237	C	O5'-C5'-C4'	-5.29	103.57	111.50
2	A8	1982	U	P-O5'-C5'	5.29	128.83	120.90
36	BA	73	C	C4'-C3'-O3'	-5.29	105.07	113.00
36	BA	685	G	C4'-C3'-O3'	-5.29	105.07	113.00
36	BA	1498	U	C4'-C3'-O3'	5.29	117.33	109.40
2	A8	2703	C	C4'-C3'-C2'	-5.29	97.31	102.60
36	BA	103	U	P-O5'-C5'	-5.29	112.97	120.90
36	BA	369	G	O3'-P-O5'	5.29	111.93	104.00
41	BF	41	ASP	CA-CB-CG	-5.29	107.31	112.60
2	A8	36	G	C4'-C3'-O3'	-5.28	105.08	113.00
2	A8	1181	U	P-O5'-C5'	-5.28	112.97	120.90
6	A5	6	LYS	N-CA-C	5.28	116.72	111.07
36	BA	49	U	O4'-C1'-C2'	5.28	111.08	105.80
36	BA	318	G	C3'-C2'-C1'	-5.28	96.02	101.30
36	BA	443	C	P-O5'-C5'	-5.28	112.98	120.90
36	BA	576	C	P-O3'-C3'	5.28	128.13	120.20
36	BA	576	C	C2'-C3'-O3'	5.28	117.42	109.50
43	BH	10	LEU	CA-C-N	5.28	127.31	120.44
43	BH	10	LEU	C-N-CA	5.28	127.31	120.44
2	A8	1526	C	O5'-C5'-C4'	-5.28	103.58	111.50
2	A8	968	C	C5'-C4'-O4'	5.28	117.72	109.80
2	A8	1055	G	O4'-C1'-N9	5.28	116.42	108.50
8	AD	88	GLU	N-CA-C	-5.28	101.38	108.19
37	BB	63	LYS	N-CA-CB	5.28	119.41	110.49
2	A8	21	A	C1'-O4'-C4'	-5.28	104.62	109.90
2	A8	2606	C	O4'-C4'-C3'	-5.28	98.72	104.00
2	A8	2888	C	O3'-P-O5'	-5.28	96.08	104.00
36	BA	890	G	C3'-C2'-C1'	-5.28	96.22	101.50
1	A7	93	C	O4'-C1'-N1	5.28	116.42	108.50
2	A8	367	G	P-O5'-C5'	5.28	128.82	120.90
2	A8	640	C	O4'-C4'-C3'	-5.28	98.72	104.00
2	A8	770	G	O4'-C1'-N9	5.28	116.42	108.50
36	BA	104	G	P-O3'-C3'	-5.28	112.28	120.20
36	BA	533	A	P-O5'-C5'	5.28	128.82	120.90
2	A8	1895	C	P-O3'-C3'	-5.28	112.29	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	AT	42	GLU	N-CA-C	-5.28	107.02	112.93
16	AL	109	LYS	N-CA-C	-5.27	101.56	109.95
1	A7	95	U	C5'-C4'-C3'	-5.27	108.09	116.00
2	A8	640	C	C5'-C4'-C3'	5.27	123.91	116.00
2	A8	1588	G	C4'-C3'-O3'	-5.27	105.09	113.00
2	A8	2695	U	P-O5'-C5'	5.27	128.81	120.90
27	AW	55	ASP	CA-C-N	5.27	131.61	121.54
27	AW	55	ASP	C-N-CA	5.27	131.61	121.54
29	AY	6	LEU	N-CA-C	-5.27	106.36	114.16
36	BA	424	G	O3'-P-O5'	-5.27	96.09	104.00
2	A8	833	A	C5'-C4'-C3'	5.27	123.91	116.00
9	AE	49	ARG	N-CA-C	-5.27	106.08	112.88
36	BA	233	C	C4'-C3'-C2'	-5.27	97.33	102.60
55	BT	47	GLN	N-CA-C	-5.27	106.08	112.88
1	A7	41	G	C2'-C3'-O3'	5.27	117.40	109.50
2	A8	2222	C	O5'-C5'-C4'	-5.27	103.59	111.50
2	A8	2269	G	P-O5'-C5'	-5.27	113.00	120.90
36	BA	1042	A	C5'-C4'-C3'	-5.27	108.09	116.00
36	BA	1346	A	O3'-P-O5'	-5.27	96.10	104.00
53	BR	24	ASP	N-CA-C	-5.27	99.80	108.49
2	A8	505	A	C4'-C3'-C2'	-5.27	97.33	102.60
2	A8	688	U	C5'-C4'-C3'	-5.27	108.10	116.00
2	A8	1130	U	C1'-O4'-C4'	-5.27	104.43	109.70
2	A8	1206	G	O4'-C4'-C3'	-5.27	98.73	104.00
2	A8	1606	C	O4'-C1'-N1	5.27	116.40	108.50
2	A8	1845	G	P-O5'-C5'	-5.27	113.00	120.90
2	A8	2434	A	O4'-C1'-N9	5.27	116.10	108.20
2	A8	780	G	C4'-C3'-O3'	-5.27	105.10	113.00
2	A8	879	G	P-O3'-C3'	-5.26	112.30	120.20
2	A8	926	G	P-O3'-C3'	-5.26	112.30	120.20
2	A8	929	U	C4'-C3'-O3'	-5.26	105.10	113.00
2	A8	932	U	O4'-C1'-N1	5.26	116.40	108.50
2	A8	2041	U	C4'-C3'-O3'	-5.26	105.10	113.00
2	A8	2140	G	P-O5'-C5'	-5.26	113.00	120.90
7	A6	163	ILE	N-CA-CB	5.26	117.00	111.00
26	AV	15	GLY	CA-C-N	5.26	127.28	120.44
26	AV	15	GLY	C-N-CA	5.26	127.28	120.44
2	A8	1303	G	C5'-C4'-C3'	-5.26	108.11	116.00
2	A8	2403	C	C5'-C4'-C3'	-5.26	108.11	116.00
2	A8	2596	U	P-O5'-C5'	-5.26	113.01	120.90
2	A8	2707	U	C4'-C3'-O3'	-5.26	105.11	113.00
12	AH	56	ALA	CA-C-N	5.26	127.59	120.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AH	56	ALA	C-N-CA	5.26	127.59	120.38
27	AW	67	LYS	N-CA-C	-5.26	106.64	114.64
1	A7	33	G	C5'-C4'-C3'	-5.26	108.11	116.00
2	A8	95	A	C4'-C3'-O3'	-5.26	105.11	113.00
2	A8	529	A	O5'-C5'-C4'	5.26	119.59	111.70
2	A8	2197	U	O4'-C1'-C2'	5.26	111.06	105.80
2	A8	2197	U	O4'-C1'-N1	5.26	116.09	108.20
36	BA	702	A	C5'-C4'-O4'	5.26	116.99	109.10
39	BD	152	SER	N-CA-C	-5.26	106.86	113.28
2	A8	120	U	C5'-C4'-C3'	5.26	123.09	115.20
2	A8	342	A	C5'-C4'-C3'	-5.26	108.11	116.00
2	A8	836	G	C5'-C4'-C3'	-5.26	108.11	116.00
2	A8	1579	A	C5'-C4'-O4'	5.26	117.69	109.80
36	BA	965	U	C4'-C3'-C2'	5.26	107.86	102.60
2	A8	6	A	C4'-C3'-O3'	-5.26	105.11	113.00
2	A8	946	C	O3'-P-O5'	-5.26	96.12	104.00
2	A8	2471	A	C5'-C4'-O4'	-5.26	101.92	109.80
36	BA	1045	C	C5'-C4'-C3'	-5.26	108.11	116.00
29	AY	55	THR	N-CA-CB	5.25	117.94	110.16
1	A7	109	A	O5'-C5'-C4'	-5.25	103.62	111.50
2	A8	173	A	C5'-C4'-C3'	-5.25	108.12	116.00
2	A8	473	G	O4'-C4'-C3'	-5.25	98.75	104.00
2	A8	496	G	O5'-C5'-C4'	-5.25	103.62	111.50
6	A5	17	ALA	CA-C-N	5.25	131.57	121.54
6	A5	17	ALA	C-N-CA	5.25	131.57	121.54
31	A0	49	ARG	N-CA-C	-5.25	107.05	112.93
2	A8	606	U	P-O5'-C5'	-5.25	113.02	120.90
2	A8	821	A	P-O5'-C5'	-5.25	113.02	120.90
2	A8	2029	G	P-O5'-C5'	-5.25	113.02	120.90
12	AH	88	GLY	N-CA-C	-5.25	108.47	115.40
34	A3	16	THR	N-CA-CB	5.25	117.99	110.06
36	BA	130	A	O4'-C4'-C3'	-5.25	100.85	106.10
36	BA	629	A	C5'-C4'-C3'	-5.25	108.12	116.00
36	BA	798	U	O5'-C5'-C4'	-5.25	103.62	111.50
36	BA	1027	C	P-O5'-C5'	5.25	128.78	120.90
2	A8	715	A	P-O5'-C5'	-5.25	113.02	120.90
2	A8	1994	C	O3'-P-O5'	-5.25	96.12	104.00
2	A8	2600	A	O5'-C5'-C4'	-5.25	103.62	111.50
10	AF	5	ASP	CA-CB-CG	-5.25	107.35	112.60
20	AP	74	GLN	N-CA-C	-5.25	106.26	113.30
36	BA	562	U	O3'-P-O5'	-5.25	96.12	104.00
2	A8	1728	C	O3'-P-O5'	-5.25	96.13	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2414	G	C2'-C3'-O3'	5.25	121.57	113.70
23	AS	67	ASP	CA-CB-CG	-5.25	107.35	112.60
36	BA	480	U	P-O5'-C5'	-5.25	113.03	120.90
2	A8	1086	A	P-O5'-C5'	-5.25	113.03	120.90
2	A8	1144	A	C4'-C3'-C2'	-5.25	97.35	102.60
2	A8	1466	U	O5'-C5'-C4'	-5.25	103.63	111.50
2	A8	1967	C	O5'-C5'-C4'	-5.25	103.63	111.50
18	AN	13	ASN	CA-CB-CG	-5.25	107.35	112.60
19	AO	97	PHE	CA-CB-CG	-5.25	108.55	113.80
36	BA	788	U	C4'-C3'-O3'	-5.25	105.13	113.00
36	BA	792	A	O4'-C1'-C2'	-5.25	100.55	105.80
48	BM	108	ARG	CB-CA-C	-5.25	99.98	110.42
2	A8	615	U	C2'-C3'-O3'	5.25	117.37	109.50
2	A8	1863	G	C5'-C4'-C3'	-5.25	108.13	116.00
2	A8	2070	A	C1'-O4'-C4'	-5.25	104.66	109.90
10	AF	98	PHE	CA-CB-CG	-5.25	108.56	113.80
18	AN	36	THR	N-CA-C	-5.25	100.94	108.60
38	BC	127	VAL	CA-C-N	5.25	127.31	120.28
38	BC	127	VAL	C-N-CA	5.25	127.31	120.28
2	A8	65	U	O4'-C1'-N1	5.24	116.37	108.50
2	A8	1924	C	O4'-C1'-N1	5.24	116.36	108.50
2	A8	2715	C	P-O3'-C3'	-5.24	112.33	120.20
2	A8	2766	A	C4'-C3'-O3'	-5.24	105.13	113.00
42	BG	41	ILE	CA-C-N	5.24	127.36	120.60
42	BG	41	ILE	C-N-CA	5.24	127.36	120.60
2	A8	89	A	P-O3'-C3'	-5.24	112.34	120.20
2	A8	1016	G	P-O5'-C5'	-5.24	113.04	120.90
2	A8	1132	U	O5'-C5'-C4'	-5.24	103.84	111.70
2	A8	1910	G	P-O5'-C5'	-5.24	113.04	120.90
3	AA	214	ILE	CA-C-N	5.24	125.91	119.99
3	AA	214	ILE	C-N-CA	5.24	125.91	119.99
36	BA	123	U	C5'-C4'-C3'	-5.24	108.14	116.00
36	BA	1326	U	P-O5'-C5'	-5.24	113.04	120.90
1	A7	89	U	O4'-C1'-N1	5.24	116.36	108.50
2	A8	694	U	P-O3'-C3'	-5.24	112.34	120.20
2	A8	697	G	O3'-P-O5'	-5.24	96.14	104.00
12	AH	133	GLN	CB-CA-C	-5.24	100.66	109.83
36	BA	575	G	O3'-P-O5'	5.24	111.86	104.00
2	A8	1492	G	O4'-C1'-N9	5.24	116.36	108.50
2	A8	1546	G	O4'-C1'-N9	5.24	116.36	108.50
2	A8	2072	C	C5'-C4'-C3'	-5.24	108.14	116.00
10	AF	49	LEU	CA-C-N	5.24	127.82	120.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	AF	49	LEU	C-N-CA	5.24	127.82	120.28
36	BA	641	U	O4'-C1'-C2'	5.24	111.04	105.80
2	A8	227	A	O3'-P-O5'	-5.24	96.14	104.00
2	A8	885	C	C1'-O4'-C4'	-5.24	104.67	109.90
2	A8	1411	U	O4'-C1'-N1	5.24	116.35	108.50
2	A8	1791	A	O3'-P-O5'	-5.24	96.15	104.00
10	AF	57	ALA	CA-C-N	5.24	127.61	120.54
10	AF	57	ALA	C-N-CA	5.24	127.61	120.54
36	BA	168	G	C5'-C4'-C3'	-5.24	108.14	116.00
36	BA	203	G	C3'-C2'-C1'	-5.24	96.06	101.30
50	BO	28	VAL	CA-C-N	5.24	127.61	120.54
50	BO	28	VAL	C-N-CA	5.24	127.61	120.54
1	A7	62	C	C5'-C4'-C3'	-5.23	108.15	116.00
40	BE	27	GLY	N-CA-C	5.23	122.18	115.32
2	A8	1674	G	C2'-C3'-O3'	5.23	117.35	109.50
2	A8	1777	U	O3'-P-O5'	5.23	111.85	104.00
8	AD	19	GLY	N-CA-C	-5.23	108.40	115.36
12	AH	99	ILE	CA-C-N	5.23	127.29	120.28
12	AH	99	ILE	C-N-CA	5.23	127.29	120.28
15	AK	31	TYR	CA-CB-CG	-5.23	104.48	113.90
16	AL	53	GLY	CA-C-N	5.23	128.65	120.75
16	AL	53	GLY	C-N-CA	5.23	128.65	120.75
18	AN	5	LYS	N-CA-C	-5.23	100.78	108.79
36	BA	438	U	N1-C1'-C2'	-5.23	106.15	114.00
36	BA	1317	C	P-O5'-C5'	-5.23	113.05	120.90
2	A8	550	C	O4'-C1'-N1	5.23	116.34	108.50
4	AB	57	PRO	N-CA-C	5.23	123.25	112.47
14	AJ	79	GLY	CA-C-N	5.23	131.53	121.54
14	AJ	79	GLY	C-N-CA	5.23	131.53	121.54
33	A2	5	PHE	N-CA-C	-5.23	100.88	109.40
2	A8	776	G	O4'-C1'-N9	5.23	116.04	108.20
2	A8	2779	U	C5'-C4'-C3'	-5.23	107.36	115.20
36	BA	1498	U	O4'-C1'-N1	5.23	116.04	108.20
2	A8	930	G	C5'-C4'-C3'	-5.23	108.16	116.00
2	A8	2511	U	P-O3'-C3'	-5.23	112.36	120.20
22	AR	95	ASP	N-CA-C	-5.23	101.36	109.72
29	AY	22	LEU	N-CA-C	-5.23	99.81	108.75
36	BA	386	C	P-O5'-C5'	-5.23	113.06	120.90
39	BD	81	LEU	N-CA-C	-5.23	101.36	109.72
42	BG	121	ASN	CA-C-N	5.23	127.24	120.44
42	BG	121	ASN	C-N-CA	5.23	127.24	120.44
1	A7	64	G	C4'-C3'-C2'	-5.23	97.37	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	563	A	P-O5'-C5'	5.23	128.74	120.90
54	BS	14	LEU	N-CA-C	-5.23	105.62	112.41
2	A8	731	C	C4'-C3'-O3'	-5.22	105.16	113.00
2	A8	985	C	O4'-C1'-N1	5.22	116.34	108.50
2	A8	1515	A	O4'-C4'-C3'	-5.22	98.78	104.00
2	A8	1536	C	C5'-C4'-O4'	5.22	116.94	109.10
2	A8	1905	C	O4'-C1'-N1	5.22	116.34	108.50
2	A8	1929	G	C1'-C2'-O2'	5.22	119.64	111.80
27	AW	56	HIS	N-CA-CB	5.22	119.32	110.49
36	BA	325	A	O5'-C5'-C4'	-5.22	103.66	111.50
36	BA	1514	G	C5'-C4'-C3'	-5.22	108.16	116.00
2	A8	170	U	C4'-C3'-O3'	-5.22	105.17	113.00
2	A8	455	C	O4'-C1'-N1	5.22	116.33	108.50
2	A8	968	C	P-O3'-C3'	-5.22	112.36	120.20
10	AF	23	SER	CA-C-N	5.22	129.49	121.19
10	AF	23	SER	C-N-CA	5.22	129.49	121.19
11	AG	149	ALA	N-CA-C	5.22	119.40	113.19
14	AJ	40	HIS	N-CA-C	-5.22	105.62	112.41
2	A8	43	G	C5'-C4'-C3'	-5.22	108.17	116.00
15	AK	28	HIS	N-CA-C	-5.22	104.58	112.99
28	AX	43	LYS	CA-C-N	5.22	131.51	121.54
28	AX	43	LYS	C-N-CA	5.22	131.51	121.54
2	A8	261	G	O5'-C5'-C4'	-5.22	103.67	111.50
2	A8	512	G	O3'-P-O5'	-5.22	96.17	104.00
4	AB	56	VAL	N-CA-CB	5.22	118.52	111.21
25	AU	53	GLN	N-CA-CB	5.22	119.66	110.37
54	BS	72	GLU	CB-CA-C	-5.22	99.31	110.32
2	A8	301	G	C2'-C3'-O3'	5.22	117.33	109.50
2	A8	1699	G	O3'-P-O5'	-5.22	96.17	104.00
2	A8	2187	U	C5'-C4'-C3'	-5.22	108.18	116.00
2	A8	2255	G	C4'-C3'-O3'	-5.22	105.18	113.00
31	A0	40	HIS	N-CA-CB	5.22	119.64	111.71
2	A8	472	A	C2'-C3'-O3'	5.21	121.52	113.70
2	A8	921	C	C5'-C4'-C3'	-5.21	108.18	116.00
23	AS	5	ALA	N-CA-CB	5.21	119.30	110.49
31	A0	14	MET	N-CA-CB	5.21	118.25	110.22
36	BA	123	U	P-O5'-C5'	5.21	128.72	120.90
36	BA	1525	G	C3'-C2'-C1'	-5.21	96.09	101.30
54	BS	9	PHE	CA-CB-CG	-5.21	108.59	113.80
2	A8	2257	U	C5'-C4'-C3'	-5.21	108.18	116.00
36	BA	366	A	P-O5'-C5'	-5.21	113.08	120.90
36	BA	393	A	C3'-C2'-C1'	-5.21	96.09	101.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	543	U	C4'-C3'-O3'	-5.21	105.18	113.00
36	BA	1403	C	O4'-C1'-N1	5.21	116.32	108.50
2	A8	1294	U	C1'-O4'-C4'	-5.21	104.69	109.90
2	A8	1649	G	O3'-P-O5'	5.21	111.82	104.00
2	A8	2402	U	O4'-C1'-N1	5.21	116.32	108.50
2	A8	2861	U	C5'-C4'-C3'	-5.21	108.18	116.00
6	A5	184	LYS	CA-C-N	5.21	127.53	120.65
6	A5	184	LYS	C-N-CA	5.21	127.53	120.65
23	AS	5	ALA	CA-C-N	5.21	130.65	122.21
23	AS	5	ALA	C-N-CA	5.21	130.65	122.21
36	BA	1098	C	P-O3'-C3'	-5.21	112.39	120.20
48	BM	104	ASN	N-CA-C	-5.21	99.70	110.80
2	A8	1876	A	C4'-C3'-O3'	-5.21	105.19	113.00
2	A8	2897	U	C5'-C4'-C3'	-5.21	108.19	116.00
36	BA	1094	G	O5'-C5'-C4'	-5.21	103.89	111.70
44	BI	52	GLU	N-CA-C	-5.21	106.93	113.28
2	A8	26	G	O5'-C5'-C4'	-5.21	103.69	111.50
2	A8	1126	A	P-O5'-C5'	-5.21	113.09	120.90
28	AX	2	ARG	N-CA-CB	5.21	119.29	110.49
32	A1	19	PHE	CA-CB-CG	5.21	119.01	113.80
36	BA	655	A	C4'-C3'-O3'	-5.21	105.19	113.00
36	BA	696	A	P-O3'-C3'	-5.21	112.39	120.20
43	BH	75	GLN	N-CA-CB	5.21	119.47	111.56
2	A8	249	C	O4'-C1'-C2'	5.21	111.00	105.80
2	A8	758	C	C3'-C2'-C1'	-5.21	96.09	101.30
6	A5	59	VAL	N-CA-C	5.21	120.17	109.34
36	BA	163	C	O4'-C1'-N1	5.21	116.31	108.50
36	BA	736	C	O5'-C5'-C4'	-5.21	103.69	111.50
2	A8	108	G	O5'-C5'-C4'	-5.20	103.70	111.50
2	A8	1458	U	O4'-C1'-C2'	-5.20	100.60	105.80
36	BA	756	C	C5'-C4'-C3'	-5.20	108.19	116.00
2	A8	766	U	O3'-P-O5'	-5.20	96.20	104.00
2	A8	1350	C	C3'-C2'-C1'	-5.20	96.10	101.30
2	A8	1435	G	O5'-C5'-C4'	-5.20	103.70	111.50
3	AA	359	SER	N-CA-C	-5.20	100.83	108.79
14	AJ	72	LYS	N-CA-C	-5.20	99.93	108.41
2	A8	283	G	P-O5'-C5'	5.20	128.70	120.90
2	A8	1237	A	C4'-C3'-C2'	-5.20	97.40	102.60
2	A8	1612	C	O4'-C1'-N1	5.20	116.30	108.50
2	A8	1687	G	O3'-P-O5'	5.20	111.80	104.00
24	AT	46	ALA	N-CA-C	-5.20	106.33	113.30
36	BA	667	G	C3'-C2'-C1'	-5.20	96.10	101.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1249	C	C5'-C4'-C3'	-5.20	108.20	116.00
36	BA	1465	A	C4'-C3'-O3'	-5.20	105.20	113.00
2	A8	511	U	O3'-P-O5'	-5.20	96.20	104.00
2	A8	887	U	O4'-C1'-N1	5.20	116.30	108.50
2	A8	2133	G	P-O3'-C3'	5.20	128.00	120.20
2	A8	2362	C	O5'-C5'-C4'	-5.20	103.70	111.50
21	AQ	14	LYS	N-CA-CB	5.20	118.55	110.80
27	AW	56	HIS	CA-C-N	5.20	128.09	120.71
27	AW	56	HIS	C-N-CA	5.20	128.09	120.71
36	BA	460	A	C3'-C2'-C1'	-5.20	96.10	101.30
36	BA	992	U	C4'-C3'-C2'	5.20	107.80	102.60
36	BA	1114	C	C5'-C4'-C3'	-5.20	108.20	116.00
2	A8	1114	C	P-O3'-C3'	-5.20	112.40	120.20
2	A8	2031	A	P-O3'-C3'	5.20	128.00	120.20
2	A8	2402	U	P-O5'-C5'	5.20	128.69	120.90
2	A8	2620	C	C4'-C3'-O3'	-5.20	105.20	113.00
2	A8	1212	G	C2'-C3'-O3'	5.20	117.29	109.50
2	A8	1666	G	O5'-C5'-C4'	-5.20	103.71	111.50
2	A8	1773	A	P-O5'-C5'	-5.20	113.11	120.90
2	A8	1782	U	P-O3'-C3'	-5.20	112.41	120.20
2	A8	2447	G	P-O5'-C5'	5.20	128.69	120.90
36	BA	265	G	O5'-C5'-C4'	-5.20	103.71	111.50
2	A8	1102	C	O4'-C1'-N1	5.19	116.29	108.50
7	A6	27	LYS	CA-C-N	5.19	126.33	119.84
7	A6	27	LYS	C-N-CA	5.19	126.33	119.84
36	BA	201	G	C4'-C3'-C2'	-5.19	97.41	102.60
2	A8	762	U	O4'-C1'-N1	5.19	115.99	108.20
2	A8	1864	U	O5'-C5'-C4'	-5.19	103.71	111.50
36	BA	801	U	O3'-P-O5'	-5.19	96.21	104.00
36	BA	1463	U	O4'-C1'-N1	5.19	116.29	108.50
43	BH	65	PHE	N-CA-C	-5.19	106.48	114.16
51	BP	40	ASN	N-CA-C	-5.19	101.15	109.04
2	A8	967	U	O4'-C1'-C2'	5.19	112.79	107.60
2	A8	2473	U	C5'-C4'-C3'	-5.19	108.21	116.00
2	A8	2780	G	C4'-C3'-C2'	5.19	107.79	102.60
36	BA	194	C	C4'-C3'-O3'	-5.19	105.21	113.00
2	A8	2412	A	C4'-C3'-O3'	-5.19	105.22	113.00
36	BA	320	A	C5'-C4'-C3'	-5.19	108.22	116.00
36	BA	1395	C	C4'-C3'-C2'	-5.19	97.41	102.60
3	AA	342	VAL	N-CA-C	-5.19	106.74	111.67
6	A5	151	GLU	CA-C-N	5.19	127.18	120.44
6	A5	151	GLU	C-N-CA	5.19	127.18	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	35	G	C5'-C4'-C3'	-5.19	108.22	116.00
36	BA	939	G	P-O5'-C5'	-5.19	113.12	120.90
2	A8	114	U	P-O3'-C3'	-5.19	112.42	120.20
2	A8	449	A	C5'-C4'-C3'	-5.19	108.22	116.00
20	AP	2	ASN	CA-C-N	5.19	127.78	120.42
20	AP	2	ASN	C-N-CA	5.19	127.78	120.42
36	BA	867	G	C4'-C3'-C2'	-5.19	97.41	102.60
2	A8	891	G	C1'-O4'-C4'	-5.18	104.72	109.90
2	A8	1184	U	O4'-C1'-N1	5.18	116.28	108.50
38	BC	9	ILE	N-CA-C	-5.18	106.84	113.22
48	BM	86	ARG	CB-CA-C	-5.18	102.18	110.79
2	A8	322	A	O4'-C1'-C2'	-5.18	100.62	105.80
2	A8	1560	G	C4'-C3'-O3'	-5.18	105.23	113.00
2	A8	1725	U	C5'-C4'-C3'	-5.18	108.22	116.00
2	A8	2232	C	O4'-C1'-N1	5.18	116.27	108.50
9	AE	193	VAL	CB-CA-C	-5.18	105.25	111.88
36	BA	366	A	C2'-C3'-O3'	5.18	121.47	113.70
36	BA	757	U	O4'-C1'-N1	5.18	116.27	108.50
36	BA	1075	U	O3'-P-O5'	-5.18	96.23	104.00
43	BH	88	LYS	N-CA-CB	-5.18	101.32	110.39
48	BM	20	SER	N-CA-C	-5.18	105.84	113.61
2	A8	255	A	C5'-C4'-C3'	-5.18	108.23	116.00
8	AD	136	ASN	CA-CB-CG	5.18	117.78	112.60
12	AH	53	GLU	CA-C-N	5.18	127.99	120.79
12	AH	53	GLU	C-N-CA	5.18	127.99	120.79
36	BA	47	C	P-O3'-C3'	5.18	127.97	120.20
36	BA	1067	A	C5'-C4'-O4'	5.18	116.87	109.10
36	BA	1238	A	P-O3'-C3'	5.18	127.97	120.20
36	BA	1528	U	C5'-C4'-C3'	-5.18	107.43	115.20
44	BI	51	LEU	N-CA-C	-5.18	106.81	113.23
2	A8	2512	C	O4'-C1'-N1	5.18	116.27	108.50
2	A8	1800	C	O5'-C5'-C4'	-5.18	103.93	111.70
36	BA	301	G	O3'-P-O5'	-5.18	96.23	104.00
36	BA	873	A	C4'-C3'-C2'	-5.18	97.42	102.60
1	A7	51	G	O4'-C1'-N9	5.18	116.26	108.50
2	A8	1117	C	C3'-C2'-C1'	-5.18	96.12	101.30
2	A8	1207	C	O3'-P-O5'	-5.18	96.23	104.00
2	A8	1373	A	C4'-C3'-O3'	-5.18	105.23	113.00
2	A8	2285	C	O4'-C1'-N1	5.18	116.27	108.50
10	AF	124	ARG	N-CA-C	-5.18	106.65	113.17
11	AG	142	GLN	CB-CA-C	-5.18	101.42	110.17
18	AN	112	TYR	N-CA-C	-5.18	99.77	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	798	U	O4'-C1'-N1	5.18	116.27	108.50
36	BA	898	G	C1'-O4'-C4'	-5.18	104.72	109.90
2	A8	931	U	C5'-C4'-C3'	-5.17	107.44	115.20
2	A8	1171	G	O5'-C5'-C4'	-5.17	103.74	111.50
2	A8	2694	G	C3'-C2'-C1'	-5.17	96.13	101.30
32	A1	10	LEU	N-CA-CB	5.17	118.85	110.42
36	BA	955	U	C5'-C4'-C3'	-5.17	108.24	116.00
51	BP	42	ILE	N-CA-C	-5.17	107.36	113.42
36	BA	222	C	C1'-O4'-C4'	-5.17	104.73	109.90
36	BA	906	A	C5'-C4'-O4'	-5.17	102.04	109.80
36	BA	1013	G	O5'-C5'-C4'	-5.17	103.74	111.50
45	BJ	60	ASP	N-CA-C	-5.17	107.14	112.93
2	A8	683	U	C5'-C4'-C3'	5.17	123.76	116.00
2	A8	869	G	C5'-C4'-C3'	-5.17	108.24	116.00
2	A8	2750	A	C4'-C3'-C2'	5.17	107.77	102.60
36	BA	153	C	P-O3'-C3'	-5.17	112.44	120.20
2	A8	1190	G	O5'-C5'-C4'	-5.17	103.75	111.50
2	A8	2513	A	O3'-P-O5'	-5.17	96.25	104.00
21	AQ	89	ILE	CA-C-N	5.17	131.41	121.54
21	AQ	89	ILE	C-N-CA	5.17	131.41	121.54
40	BE	41	GLY	N-CA-C	-5.17	108.11	115.30
2	A8	530	G	O4'-C4'-C3'	-5.17	98.83	104.00
2	A8	950	G	C1'-O4'-C4'	-5.17	104.73	109.90
2	A8	1145	C	O4'-C1'-N1	5.17	116.25	108.50
2	A8	1662	U	C3'-C2'-C1'	-5.17	96.13	101.30
2	A8	2100	G	P-O5'-C5'	-5.17	113.15	120.90
2	A8	2280	G	C4'-C3'-C2'	5.17	107.77	102.60
2	A8	2665	A	C4'-C3'-O3'	-5.17	105.25	113.00
2	A8	2760	C	P-O3'-C3'	-5.17	112.45	120.20
6	A5	150	ALA	CA-C-N	5.17	128.17	120.31
6	A5	150	ALA	C-N-CA	5.17	128.17	120.31
8	AD	125	TRP	N-CA-C	-5.17	106.78	114.64
21	AQ	114	ALA	N-CA-C	-5.17	105.72	112.23
34	A3	58	ILE	N-CA-C	-5.17	107.94	112.90
36	BA	1151	A	O3'-P-O5'	-5.17	96.25	104.00
2	A8	143	C	P-O5'-C5'	5.17	128.65	120.90
2	A8	690	G	C4'-C3'-O3'	-5.17	105.25	113.00
2	A8	1101	U	P-O5'-C5'	-5.17	113.15	120.90
2	A8	1706	C	C5'-C4'-C3'	-5.17	107.45	115.20
2	A8	2350	C	C5'-C4'-C3'	-5.17	108.25	116.00
6	A5	44	VAL	N-CA-C	-5.17	100.94	108.17
10	AF	53	ALA	CA-C-N	5.17	127.72	120.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	AF	53	ALA	C-N-CA	5.17	127.72	120.28
10	AF	93	GLU	N-CA-C	5.17	117.32	111.02
27	AW	24	ARG	N-CA-CB	5.17	119.22	110.49
1	A7	87	U	O4'-C4'-C3'	-5.17	98.83	104.00
2	A8	699	A	C4'-C3'-O3'	-5.17	105.25	113.00
2	A8	1210	G	C2'-C3'-O3'	5.17	117.25	109.50
2	A8	2065	C	O4'-C1'-N1	5.17	116.25	108.50
2	A8	2575	C	P-O5'-C5'	-5.17	113.15	120.90
36	BA	576	C	P-O5'-C5'	-5.17	113.15	120.90
1	A7	79	G	C5'-C4'-O4'	5.16	117.54	109.80
2	A8	764	A	P-O5'-C5'	-5.16	113.15	120.90
2	A8	872	U	C5'-C4'-C3'	-5.16	108.25	116.00
2	A8	1195	G	C1'-O4'-C4'	-5.16	104.74	109.90
2	A8	2401	U	C2'-C3'-O3'	5.16	117.25	109.50
2	A8	2608	G	P-O3'-C3'	-5.16	112.46	120.20
2	A8	2647	U	C5'-C4'-C3'	5.16	123.75	116.00
2	A8	2663	G	P-O3'-C3'	-5.16	112.45	120.20
2	A8	2887	A	C4'-C3'-O3'	-5.16	105.26	113.00
36	BA	806	C	O4'-C1'-N1	5.16	116.25	108.50
54	BS	33	TRP	N-CA-C	-5.16	106.49	112.89
2	A8	1775	U	C4'-C3'-C2'	-5.16	97.44	102.60
9	AE	164	LEU	N-CA-C	-5.16	100.75	108.96
36	BA	431	A	C4'-C3'-O3'	-5.16	105.26	113.00
54	BS	8	PRO	CB-CA-C	-5.16	104.19	110.95
1	A7	40	U	C1'-O4'-C4'	5.16	114.86	109.70
2	A8	2702	G	P-O3'-C3'	-5.16	112.46	120.20
2	A8	2702	G	C4'-C3'-O3'	-5.16	105.26	113.00
2	A8	2801	G	O3'-P-O5'	-5.16	96.26	104.00
10	AF	89	THR	N-CA-CB	5.16	118.80	110.65
36	BA	588	G	C2'-C3'-O3'	5.16	121.44	113.70
36	BA	687	A	O4'-C1'-C2'	5.16	110.96	105.80
36	BA	1125	U	C2'-C3'-O3'	5.16	117.24	109.50
36	BA	1135	U	P-O5'-C5'	-5.16	113.16	120.90
50	BO	65	LEU	CA-C-N	5.16	127.19	120.28
50	BO	65	LEU	C-N-CA	5.16	127.19	120.28
2	A8	1101	U	C5'-C4'-C3'	-5.16	108.26	116.00
2	A8	677	A	O5'-C5'-C4'	-5.16	103.77	111.50
2	A8	2246	G	O4'-C4'-C3'	-5.16	98.84	104.00
11	AG	74	MET	CA-C-N	5.16	127.06	120.56
11	AG	74	MET	C-N-CA	5.16	127.06	120.56
25	AU	85	ARG	N-CA-CB	5.16	119.20	110.49
36	BA	730	G	C5'-C4'-C3'	-5.16	108.27	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	424	G	C5'-C4'-C3'	-5.15	108.27	116.00
2	A8	1701	A	O4'-C1'-N9	5.15	116.23	108.50
2	A8	2165	C	O4'-C1'-N1	5.15	116.23	108.50
3	AA	175	ALA	CA-C-N	5.15	127.50	120.54
3	AA	175	ALA	C-N-CA	5.15	127.50	120.54
22	AR	21	ARG	N-CA-C	-5.15	100.50	108.90
2	A8	1097	U	C4'-C3'-C2'	-5.15	97.45	102.60
2	A8	2215	C	O4'-C1'-N1	5.15	116.23	108.50
2	A8	2560	A	C3'-C2'-C1'	-5.15	96.15	101.30
2	A8	2887	A	P-O3'-C3'	5.15	127.93	120.20
14	AJ	74	TYR	N-CA-C	-5.15	101.71	109.85
2	A8	231	A	C5'-C4'-C3'	-5.15	108.28	116.00
2	A8	335	C	C5'-C4'-C3'	-5.15	108.27	116.00
2	A8	919	U	P-O3'-C3'	-5.15	112.48	120.20
2	A8	1226	A	P-O3'-C3'	-5.15	112.47	120.20
2	A8	1293	C	C4'-C3'-O3'	-5.15	105.28	113.00
2	A8	1870	C	P-O5'-C5'	-5.15	113.17	120.90
2	A8	2245	U	P-O3'-C3'	5.15	127.93	120.20
41	BF	70	VAL	N-CA-C	-5.15	105.09	112.35
24	AT	53	VAL	N-CA-CB	5.15	116.14	110.53
36	BA	494	G	O3'-P-O5'	-5.15	96.28	104.00
2	A8	1251	C	O4'-C4'-C3'	-5.15	100.95	106.10
2	A8	2902	C	O4'-C1'-N1	5.15	116.22	108.50
36	BA	1224	U	O3'-P-O5'	-5.15	96.28	104.00
36	BA	1421	G	O3'-P-O5'	-5.15	96.28	104.00
42	BG	102	TRP	N-CA-C	5.15	117.56	111.33
49	BN	81	ILE	N-CA-C	5.15	120.04	109.34
2	A8	1125	G	C5'-C4'-C3'	-5.14	108.28	116.00
2	A8	1426	G	C5'-C4'-C3'	-5.14	108.28	116.00
2	A8	1941	C	C5'-C4'-C3'	-5.14	108.28	116.00
2	A8	1965	C	C5'-C4'-O4'	5.14	117.52	109.80
2	A8	2662	A	C5'-C4'-C3'	-5.14	108.28	116.00
36	BA	588	G	C4'-C3'-O3'	-5.14	105.28	113.00
36	BA	608	A	P-O3'-C3'	-5.14	112.48	120.20
36	BA	1083	U	P-O3'-C3'	5.14	127.92	120.20
2	A8	1157	G	O3'-P-O5'	-5.14	96.28	104.00
2	A8	1230	A	C1'-O4'-C4'	-5.14	104.76	109.90
2	A8	1621	U	O4'-C1'-N1	5.14	116.21	108.50
2	A8	1879	C	O4'-C1'-N1	5.14	116.21	108.50
2	A8	2084	C	C4'-C3'-O3'	-5.14	105.29	113.00
2	A8	2305	U	O3'-P-O5'	-5.14	96.29	104.00
15	AK	26	GLY	CA-C-N	5.14	127.17	120.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	AK	26	GLY	C-N-CA	5.14	127.17	120.28
18	AN	72	ASP	CA-C-N	5.14	127.43	120.38
18	AN	72	ASP	C-N-CA	5.14	127.43	120.38
36	BA	437	U	P-O5'-C5'	-5.14	113.19	120.90
36	BA	637	C	O4'-C1'-N1	5.14	116.22	108.50
36	BA	1159	U	C2'-C3'-O3'	5.14	117.21	109.50
36	BA	1408	A	O5'-C5'-C4'	-5.14	103.78	111.50
37	BB	167	HIS	CA-CB-CG	5.14	118.94	113.80
38	BC	27	GLU	CA-C-N	5.14	131.36	121.54
38	BC	27	GLU	C-N-CA	5.14	131.36	121.54
41	BF	96	VAL	CB-CA-C	-5.14	104.61	110.73
43	BH	55	LYS	CA-C-N	5.14	124.90	119.76
43	BH	55	LYS	C-N-CA	5.14	124.90	119.76
2	A8	1838	C	P-O3'-C3'	5.14	127.91	120.20
11	AG	102	ILE	N-CA-C	-5.14	100.88	108.23
36	BA	992	U	P-O5'-C5'	-5.14	113.19	120.90
37	BB	151	LYS	N-CA-C	-5.14	106.78	113.16
50	BO	20	ASP	N-CA-CB	5.14	117.51	110.57
2	A8	138	U	C5'-C4'-O4'	5.14	117.51	109.80
2	A8	1027	A	C4'-C3'-C2'	5.14	107.74	102.60
2	A8	1391	U	P-O5'-C5'	-5.14	113.19	120.90
36	BA	379	C	O5'-C5'-C4'	-5.14	103.79	111.50
36	BA	668	G	C4'-C3'-O3'	-5.14	105.29	113.00
36	BA	904	U	C4'-C3'-C2'	-5.14	97.46	102.60
42	BG	69	ARG	CA-C-N	5.14	126.27	119.84
42	BG	69	ARG	C-N-CA	5.14	126.27	119.84
45	BJ	68	ARG	N-CA-CB	5.14	119.77	110.83
2	A8	57	C	P-O3'-C3'	-5.14	112.49	120.20
2	A8	1989	G	C4'-C3'-O3'	-5.14	105.29	113.00
36	BA	1179	A	P-O3'-C3'	-5.14	112.49	120.20
36	BA	1453	G	P-O5'-C5'	-5.14	113.19	120.90
2	A8	558	U	C5'-C4'-C3'	-5.14	108.30	116.00
2	A8	2217	G	O3'-P-O5'	-5.14	96.29	104.00
36	BA	347	G	O4'-C1'-N9	5.14	116.21	108.50
36	BA	723	U	P-O5'-C5'	-5.14	113.19	120.90
47	BL	79	ILE	N-CA-CB	5.14	119.71	112.52
2	A8	1352	U	O5'-C5'-C4'	5.13	119.20	111.50
2	A8	1965	C	P-O3'-C3'	-5.13	112.50	120.20
2	A8	2705	A	C4'-C3'-O3'	-5.13	105.30	113.00
36	BA	433	G	C4'-C3'-O3'	-5.13	105.30	113.00
36	BA	1503	A	P-O5'-C5'	-5.13	113.20	120.90
53	BR	49	LYS	N-CA-CB	5.13	117.59	109.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	69	C	C5'-C4'-C3'	-5.13	108.30	116.00
2	A8	215	G	P-O5'-C5'	5.13	128.60	120.90
2	A8	2415	G	C1'-O4'-C4'	-5.13	104.77	109.90
2	A8	2580	U	C4'-C3'-O3'	-5.13	105.30	113.00
2	A8	2717	C	O4'-C4'-C3'	-5.13	98.87	104.00
10	AF	40	GLY	CA-C-N	5.13	131.34	121.54
10	AF	40	GLY	C-N-CA	5.13	131.34	121.54
1	A7	104	A	C5'-C4'-C3'	-5.13	108.30	116.00
2	A8	2489	U	O4'-C1'-N1	5.13	116.20	108.50
2	A8	2743	U	C4'-C3'-C2'	-5.13	97.47	102.60
21	AQ	110	GLU	N-CA-C	-5.13	106.99	114.12
28	AX	10	ARG	CA-C-N	5.13	125.13	119.90
28	AX	10	ARG	C-N-CA	5.13	125.13	119.90
36	BA	100	G	N9-C1'-C2'	5.13	119.70	112.00
38	BC	42	LEU	CA-C-N	5.13	127.87	120.38
38	BC	42	LEU	C-N-CA	5.13	127.87	120.38
2	A8	709	U	P-O5'-C5'	5.13	128.59	120.90
2	A8	2025	C	O5'-C5'-C4'	-5.13	103.81	111.50
36	BA	1168	U	P-O5'-C5'	-5.13	113.20	120.90
1	A7	84	G	P-O5'-C5'	-5.13	113.21	120.90
2	A8	1043	C	C4'-C3'-O3'	-5.13	105.31	113.00
2	A8	1054	A	C5'-C4'-C3'	-5.13	108.31	116.00
2	A8	1437	C	C4'-C3'-C2'	-5.13	97.47	102.60
2	A8	1833	C	O5'-C5'-C4'	-5.13	103.81	111.50
2	A8	2190	G	O4'-C1'-N9	5.13	116.19	108.50
2	A8	2194	U	P-O5'-C5'	5.13	128.59	120.90
2	A8	2542	A	O4'-C4'-C3'	-5.13	100.97	106.10
6	A5	168	ASN	CA-CB-CG	-5.13	107.47	112.60
36	BA	188	C	C3'-C2'-C1'	-5.13	96.17	101.30
36	BA	1171	A	C4'-C3'-C2'	-5.13	97.47	102.60
36	BA	1424	U	P-O3'-C3'	-5.13	112.51	120.20
40	BE	34	ALA	CB-CA-C	-5.13	101.21	110.03
41	BF	4	TYR	N-CA-C	-5.13	99.88	110.80
2	A8	1036	G	P-O3'-C3'	-5.13	112.51	120.20
36	BA	862	C	O5'-C5'-C4'	-5.13	103.81	111.50
16	AL	37	GLY	CA-C-N	5.12	127.66	120.28
16	AL	37	GLY	C-N-CA	5.12	127.66	120.28
36	BA	811	C	C4'-C3'-C2'	5.12	107.72	102.60
36	BA	845	A	C3'-C2'-C1'	-5.12	96.17	101.30
2	A8	704	G	C8-N9-C1'	5.12	142.37	127.00
2	A8	909	A	O5'-C5'-C4'	-5.12	103.81	111.50
2	A8	1174	U	C5'-C4'-C3'	-5.12	108.32	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2638	G	O3'-P-O5'	-5.12	96.31	104.00
2	A8	2694	G	O3'-P-O5'	5.12	111.69	104.00
7	A6	199	HIS	CA-CB-CG	5.12	118.92	113.80
36	BA	253	A	O3'-P-O5'	-5.12	96.31	104.00
36	BA	1460	C	O4'-C1'-N1	5.12	116.18	108.50
37	BB	165	ALA	N-CA-C	-5.12	106.44	113.30
2	A8	136	G	C5'-C4'-O4'	5.12	117.48	109.80
10	AF	22	ASN	N-CA-CB	5.12	117.74	110.16
36	BA	372	C	O4'-C1'-N1	5.12	115.88	108.20
36	BA	726	C	P-O5'-C5'	5.12	128.58	120.90
2	A8	1230	A	C4'-C3'-C2'	-5.12	97.48	102.60
2	A8	1750	G	C4'-C3'-C2'	-5.12	97.48	102.60
12	AH	29	PHE	N-CA-C	-5.12	104.75	112.99
1	A7	92	C	O3'-P-O5'	-5.12	96.32	104.00
2	A8	1569	A	O3'-P-O5'	-5.12	96.32	104.00
2	A8	2480	C	C5'-C4'-C3'	5.12	123.68	116.00
11	AG	157	LYS	N-CA-C	-5.12	107.42	113.97
23	AS	73	LYS	N-CA-CB	5.12	118.61	110.57
36	BA	47	C	C4'-C3'-O3'	5.12	117.08	109.40
36	BA	851	G	C5'-C4'-C3'	-5.12	108.32	116.00
36	BA	1227	A	C4'-C3'-O3'	-5.12	105.32	113.00
2	A8	2063	C	P-O5'-C5'	-5.12	113.22	120.90
36	BA	172	A	C5'-C4'-C3'	-5.12	108.33	116.00
36	BA	706	A	O4'-C1'-N9	5.12	116.18	108.50
2	A8	565	C	C4'-C3'-O3'	-5.12	105.33	113.00
2	A8	644	A	P-O3'-C3'	-5.12	112.53	120.20
2	A8	2005	A	O5'-C5'-C4'	-5.12	103.83	111.50
8	AD	56	LYS	N-CA-C	-5.12	106.82	113.16
31	A0	32	THR	N-CA-C	-5.12	106.45	113.30
36	BA	1168	U	O3'-P-O5'	-5.12	96.33	104.00
36	BA	1217	C	C4'-C3'-C2'	-5.12	97.48	102.60
36	BA	1230	C	C5'-C4'-C3'	5.12	123.67	116.00
1	A7	97	C	C5'-C4'-C3'	-5.11	108.33	116.00
2	A8	974	G	C1'-O4'-C4'	-5.11	104.59	109.70
2	A8	2664	G	C5'-C4'-C3'	-5.11	108.33	116.00
2	A8	2902	C	C3'-C2'-C1'	-5.11	96.19	101.30
21	AQ	29	ARG	N-CA-CB	5.11	117.82	110.20
28	AX	57	VAL	CA-C-N	5.11	127.47	120.46
28	AX	57	VAL	C-N-CA	5.11	127.47	120.46
36	BA	294	U	C4'-C3'-O3'	-5.11	105.33	113.00
36	BA	783	C	C4'-C3'-O3'	-5.11	105.33	113.00
36	BA	1061	G	O5'-C5'-C4'	-5.11	103.83	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	1198	G	O3'-P-O5'	-5.11	96.33	104.00
44	BI	79	ARG	N-CA-C	5.11	117.59	111.71
49	BN	10	VAL	CA-C-N	5.11	127.64	120.28
49	BN	10	VAL	C-N-CA	5.11	127.64	120.28
2	A8	1902	C	P-O5'-C5'	-5.11	113.23	120.90
2	A8	117	G	O3'-P-O5'	-5.11	96.33	104.00
2	A8	1158	C	P-O3'-C3'	-5.11	112.53	120.20
2	A8	1482	G	O4'-C1'-N9	5.11	116.17	108.50
2	A8	2654	A	P-O5'-C5'	-5.11	113.23	120.90
11	AG	31	GLU	N-CA-C	-5.11	101.07	109.40
36	BA	181	A	C3'-C2'-C1'	-5.11	96.39	101.50
36	BA	196	A	O3'-P-O5'	-5.11	96.33	104.00
36	BA	359	G	N9-C1'-C2'	-5.11	104.33	112.00
36	BA	1367	C	O4'-C1'-N1	5.11	116.16	108.50
47	BL	55	ARG	N-CA-C	-5.11	100.01	108.75
2	A8	900	A	O4'-C4'-C3'	5.11	109.11	104.00
2	A8	2156	G	O4'-C1'-N9	5.11	116.16	108.50
2	A8	2574	G	C4'-C3'-O3'	-5.11	105.34	113.00
2	A8	2703	C	O4'-C1'-N1	5.11	116.16	108.50
11	AG	19	ASN	CA-CB-CG	-5.11	107.49	112.60
21	AQ	5	ARG	N-CA-CB	5.11	119.12	110.49
24	AT	9	LYS	N-CA-C	-5.11	104.34	110.88
36	BA	689	C	C4'-C3'-O3'	-5.11	105.34	113.00
36	BA	1469	C	P-O5'-C5'	5.11	128.56	120.90
2	A8	1197	G	O3'-P-O5'	-5.11	96.34	104.00
2	A8	2677	G	C5'-C4'-C3'	-5.11	108.34	116.00
36	BA	242	G	O3'-P-O5'	5.11	111.66	104.00
1	A7	85	G	P-O5'-C5'	-5.11	113.24	120.90
2	A8	1816	C	P-O5'-C5'	-5.11	113.24	120.90
14	AJ	81	ILE	N-CA-C	-5.11	107.73	112.43
36	BA	172	A	P-O5'-C5'	5.11	128.56	120.90
36	BA	1301	U	P-O3'-C3'	-5.11	112.54	120.20
36	BA	1408	A	C5'-C4'-C3'	-5.11	108.34	116.00
2	A8	57	C	O4'-C1'-N1	5.10	116.16	108.50
28	AX	57	VAL	CB-CA-C	-5.10	105.35	112.04
2	A8	489	G	O5'-C5'-C4'	-5.10	103.85	111.50
2	A8	1268	A	P-O5'-C5'	-5.10	113.25	120.90
2	A8	1455	G	P-O3'-C3'	-5.10	112.55	120.20
2	A8	2394	C	C4'-C3'-C2'	5.10	107.70	102.60
2	A8	2403	C	O5'-C5'-C4'	-5.10	103.85	111.50
3	AA	200	LEU	CA-C-N	5.10	127.67	120.42
3	AA	200	LEU	C-N-CA	5.10	127.67	120.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	A2	28	ARG	CB-CA-C	-5.10	101.57	110.09
2	A8	987	C	O5'-C5'-C4'	-5.10	103.85	111.50
2	A8	1611	C	P-O5'-C5'	-5.10	113.25	120.90
2	A8	2656	U	C4'-C3'-C2'	-5.10	97.50	102.60
42	BG	136	LYS	CA-C-N	5.10	127.42	120.54
42	BG	136	LYS	C-N-CA	5.10	127.42	120.54
44	BI	93	LEU	CA-C-N	5.10	127.88	120.79
44	BI	93	LEU	C-N-CA	5.10	127.88	120.79
52	BQ	27	PHE	CB-CA-C	5.10	119.67	111.05
2	A8	1960	A	C5'-C4'-C3'	-5.10	108.35	116.00
2	A8	2104	C	O3'-P-O5'	-5.10	96.35	104.00
2	A8	2695	U	O5'-C5'-C4'	-5.10	103.86	111.50
28	AX	24	THR	N-CA-C	-5.10	99.98	108.34
36	BA	1444	U	C5'-C4'-C3'	-5.10	108.36	116.00
50	BO	86	LEU	CA-C-N	5.10	131.27	121.54
50	BO	86	LEU	C-N-CA	5.10	131.27	121.54
9	AE	64	GLY	CA-C-N	5.10	128.58	121.24
9	AE	64	GLY	C-N-CA	5.10	128.58	121.24
36	BA	586	C	C5'-C4'-C3'	-5.10	108.36	116.00
36	BA	615	G	O5'-C5'-C4'	5.10	119.14	111.50
36	BA	1401	G	O5'-C5'-C4'	-5.10	103.86	111.50
2	A8	900	A	C4'-C3'-C2'	-5.09	97.51	102.60
2	A8	2531	A	P-O5'-C5'	-5.09	113.26	120.90
22	AR	95	ASP	CA-CB-CG	-5.09	107.51	112.60
25	AU	38	ILE	N-CA-C	-5.09	106.14	113.07
36	BA	371	A	P-O3'-C3'	-5.09	112.56	120.20
36	BA	991	U	C3'-C2'-C1'	5.09	106.39	101.30
55	BT	26	MET	N-CA-C	5.09	116.83	111.28
2	A8	2640	G	C5'-C4'-C3'	-5.09	108.36	116.00
2	A8	554	U	O4'-C1'-N1	5.09	116.14	108.50
2	A8	726	G	O4'-C1'-N9	5.09	116.14	108.50
2	A8	1492	G	O5'-C5'-C4'	-5.09	103.86	111.50
36	BA	1214	C	O5'-C5'-C4'	-5.09	104.06	111.70
2	A8	2218	G	O5'-C5'-C4'	-5.09	103.86	111.50
2	A8	2336	A	P-O3'-C3'	5.09	127.83	120.20
2	A8	2467	C	O4'-C1'-N1	5.09	116.13	108.50
6	A5	103	GLN	N-CA-C	5.09	117.49	111.33
19	AO	105	ALA	N-CA-C	-5.09	105.54	112.26
36	BA	1076	U	C4'-C3'-O3'	-5.09	105.37	113.00
37	BB	118	THR	N-CA-C	-5.09	107.45	113.97
2	A8	355	U	O4'-C1'-N1	5.09	116.13	108.50
48	BM	21	ILE	CA-C-N	5.09	131.26	121.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	BM	21	ILE	C-N-CA	5.09	131.26	121.54
51	BP	1	MET	CG-SD-CE	-5.09	89.71	100.90
2	A8	844	A	C3'-C2'-C1'	-5.09	96.21	101.30
2	A8	1048	A	C4'-C3'-O3'	-5.09	105.37	113.00
2	A8	1699	G	C3'-C2'-C1'	-5.09	96.41	101.50
2	A8	2342	C	C4'-C3'-O3'	-5.09	105.37	113.00
2	A8	2343	U	P-O5'-C5'	-5.09	113.27	120.90
2	A8	2686	G	O5'-C5'-C4'	-5.09	103.87	111.50
2	A8	2744	G	C4'-C3'-O3'	-5.09	105.37	113.00
6	A5	102	ASP	CA-C-N	5.09	127.35	120.38
6	A5	102	ASP	C-N-CA	5.09	127.35	120.38
8	AD	50	VAL	N-CA-CB	5.09	118.17	112.32
10	AF	37	MET	CA-C-N	5.09	127.67	121.06
10	AF	37	MET	C-N-CA	5.09	127.67	121.06
16	AL	29	LYS	N-CA-C	-5.09	103.68	110.55
19	AO	14	ALA	N-CA-CB	5.09	117.69	110.16
36	BA	1224	U	C2'-C3'-O3'	5.09	117.13	109.50
37	BB	202	ASN	N-CA-C	-5.09	98.64	107.49
49	BN	87	ALA	N-CA-C	5.09	117.48	111.33
2	A8	2343	U	P-O3'-C3'	5.08	127.83	120.20
2	A8	2893	A	C3'-C2'-C1'	-5.08	96.42	101.50
36	BA	318	G	P-O5'-C5'	-5.08	113.27	120.90
2	A8	897	C	C5'-C4'-C3'	-5.08	108.38	116.00
2	A8	943	A	C5'-C4'-C3'	-5.08	108.37	116.00
2	A8	1903	G	C5'-C4'-C3'	-5.08	108.37	116.00
36	BA	530	G	C4'-C3'-O3'	-5.08	105.37	113.00
36	BA	1070	U	C5'-C4'-C3'	-5.08	108.38	116.00
36	BA	1090	U	O4'-C1'-C2'	5.08	112.68	107.60
2	A8	1667	G	O4'-C1'-C2'	5.08	110.88	105.80
2	A8	2360	G	P-O3'-C3'	-5.08	112.58	120.20
7	A6	143	VAL	N-CA-C	-5.08	101.15	108.42
16	AL	79	LEU	CA-C-N	5.08	127.09	120.28
16	AL	79	LEU	C-N-CA	5.08	127.09	120.28
55	BT	75	LYS	N-CA-C	-5.08	105.82	111.36
36	BA	1488	G	C1'-O4'-C4'	-5.08	104.82	109.90
49	BN	100	TRP	CA-CB-CG	5.08	123.25	113.60
55	BT	54	GLN	N-CA-CB	5.08	117.87	110.30
2	A8	70	G	O5'-C5'-C4'	-5.08	104.08	111.70
2	A8	932	U	O5'-C5'-C4'	5.08	119.12	111.50
2	A8	2057	G	O5'-C5'-C4'	-5.08	103.88	111.50
7	A6	189	ALA	N-CA-CB	5.08	117.42	109.85
36	BA	13	U	O4'-C1'-N1	5.08	115.82	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	705	G	O5'-C5'-C4'	-5.08	103.88	111.50
36	BA	1241	G	C4'-C3'-C2'	-5.08	97.52	102.60
1	A7	24	G	P-O5'-C5'	5.08	128.52	120.90
2	A8	985	C	O5'-C5'-C4'	5.08	119.12	111.50
36	BA	1188	A	P-O5'-C5'	-5.08	113.28	120.90
2	A8	72	U	C4'-C3'-C2'	-5.08	97.52	102.60
2	A8	742	A	C1'-O4'-C4'	-5.08	104.83	109.90
2	A8	1203	U	C4'-C3'-O3'	-5.08	105.39	113.00
2	A8	2167	U	C2'-C3'-O3'	5.08	121.31	113.70
36	BA	250	A	O4'-C1'-C2'	5.08	110.88	105.80
37	BB	116	LEU	CA-C-N	5.08	127.59	120.28
37	BB	116	LEU	C-N-CA	5.08	127.59	120.28
2	A8	1306	C	O4'-C1'-N1	5.07	116.11	108.50
3	AA	11	ILE	N-CA-C	-5.07	104.27	108.63
36	BA	53	A	C4'-C3'-C2'	-5.07	97.53	102.60
36	BA	837	U	C3'-C2'-C1'	-5.07	96.23	101.30
2	A8	713	G	P-O5'-C5'	-5.07	113.29	120.90
2	A8	2704	C	O4'-C1'-N1	5.07	116.11	108.50
14	AJ	95	ARG	N-CA-C	-5.07	105.45	111.69
36	BA	255	G	C4'-C3'-O3'	-5.07	105.39	113.00
36	BA	561	U	O3'-P-O5'	-5.07	96.39	104.00
2	A8	109	C	P-O5'-C5'	-5.07	113.29	120.90
2	A8	972	A	C4'-C3'-O3'	-5.07	105.40	113.00
2	A8	1451	C	C5'-C4'-C3'	-5.07	107.59	115.20
2	A8	2029	G	C5'-C4'-C3'	5.07	123.61	116.00
2	A8	2233	U	O3'-P-O5'	-5.07	96.40	104.00
2	A8	2429	G	P-O5'-C5'	-5.07	113.29	120.90
18	AN	102	PHE	CA-C-N	5.07	130.55	122.94
18	AN	102	PHE	C-N-CA	5.07	130.55	122.94
23	AS	89	ALA	N-CA-CB	5.07	118.13	110.42
29	AY	25	GLN	N-CA-C	-5.07	106.40	112.59
36	BA	1521	C	O4'-C1'-N1	5.07	116.11	108.50
6	A5	51	ASP	CA-CB-CG	-5.07	107.53	112.60
36	BA	785	G	C4'-C3'-O3'	-5.07	105.40	113.00
1	A7	104	A	C4'-C3'-C2'	-5.07	97.53	102.60
14	AJ	108	MET	N-CA-CB	5.07	117.64	110.90
36	BA	167	A	P-O3'-C3'	-5.07	112.60	120.20
36	BA	798	U	P-O3'-C3'	-5.07	112.60	120.20
38	BC	186	SER	N-CA-CB	5.07	119.67	111.21
41	BF	87	SER	N-CA-C	-5.07	100.01	110.80
2	A8	260	G	C3'-C2'-C1'	-5.07	96.23	101.30
2	A8	1856	U	C4'-C3'-O3'	-5.07	105.40	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	2007	U	C2'-C3'-O3'	-5.07	106.10	113.70
2	A8	2080	A	C5'-C4'-C3'	-5.07	108.40	116.00
2	A8	2322	A	O5'-C5'-C4'	-5.07	103.90	111.50
3	AA	304	ALA	N-CA-C	5.07	116.80	111.28
18	AN	75	ILE	N-CA-C	-5.07	105.94	113.39
36	BA	1234	C	O4'-C1'-N1	5.07	116.10	108.50
2	A8	899	A	O4'-C1'-C2'	-5.06	102.54	107.60
2	A8	1377	G	C2'-C3'-O3'	5.06	121.30	113.70
36	BA	840	C	O4'-C1'-N1	5.06	116.10	108.50
48	BM	111	PRO	CA-C-N	5.06	129.46	121.56
48	BM	111	PRO	C-N-CA	5.06	129.46	121.56
28	AX	68	ALA	N-CA-C	-5.06	105.65	111.07
2	A8	1468	U	P-O5'-C5'	-5.06	113.31	120.90
2	A8	1513	U	C3'-C2'-C1'	-5.06	96.24	101.30
2	A8	2523	G	P-O5'-C5'	-5.06	113.31	120.90
2	A8	541	A	C4'-C3'-O3'	-5.06	105.41	113.00
2	A8	1365	A	O4'-C4'-C3'	-5.06	98.94	104.00
2	A8	1557	C	C4'-C3'-O3'	-5.06	105.41	113.00
2	A8	2564	A	O3'-P-O5'	-5.06	96.41	104.00
3	AA	293	HIS	N-CA-C	-5.06	101.51	109.50
36	BA	910	C	P-O5'-C5'	5.06	128.49	120.90
46	BK	66	ALA	CB-CA-C	-5.06	100.64	110.46
2	A8	1022	G	O4'-C1'-N9	5.06	115.79	108.20
4	AB	13	GLU	N-CA-CB	5.06	117.40	110.07
36	BA	724	G	C4'-C3'-C2'	-5.06	97.54	102.60
2	A8	658	U	C4'-C3'-O3'	-5.05	105.42	113.00
10	AF	77	LYS	CA-C-N	5.05	131.07	121.97
10	AF	77	LYS	C-N-CA	5.05	131.07	121.97
26	AV	91	PHE	N-CA-CB	5.05	119.55	110.80
3	AA	26	LYS	CB-CA-C	-5.05	102.40	110.79
10	AF	5	ASP	CA-C-N	5.05	127.30	120.38
10	AF	5	ASP	C-N-CA	5.05	127.30	120.38
16	AL	43	GLY	N-CA-C	-5.05	108.64	115.36
2	A8	138	U	C4'-C3'-O3'	-5.05	105.42	113.00
2	A8	336	C	P-O3'-C3'	-5.05	112.62	120.20
2	A8	943	A	P-O3'-C3'	-5.05	112.62	120.20
2	A8	1552	A	O4'-C1'-C2'	-5.05	102.55	107.60
3	AA	431	GLU	CA-C-N	5.05	127.76	120.38
3	AA	431	GLU	C-N-CA	5.05	127.76	120.38
7	A6	223	ALA	N-CA-C	5.05	118.93	112.26
18	AN	58	ASP	CA-CB-CG	-5.05	107.55	112.60
36	BA	1508	A	O4'-C1'-N9	5.05	116.08	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	563	A	O5'-C5'-C4'	-5.05	103.92	111.50
2	A8	666	A	C5'-C4'-C3'	-5.05	108.43	116.00
2	A8	2237	G	C1'-O4'-C4'	-5.05	104.85	109.90
36	BA	865	A	O3'-P-O5'	-5.05	96.43	104.00
36	BA	648	A	P-O5'-C5'	-5.05	113.33	120.90
39	BD	140	ASP	CA-CB-CG	-5.05	107.55	112.60
2	A8	1212	G	O4'-C4'-C3'	-5.05	101.05	106.10
2	A8	1301	A	P-O5'-C5'	-5.05	113.33	120.90
2	A8	1724	G	C5'-C4'-C3'	-5.05	108.43	116.00
2	A8	1797	G	P-O3'-C3'	-5.05	112.63	120.20
10	AF	67	THR	N-CA-C	-5.05	102.32	110.14
25	AU	91	LYS	N-CA-C	-5.05	106.26	112.72
36	BA	1486	G	C5'-C4'-C3'	-5.05	108.43	116.00
51	BP	24	SER	CA-C-N	5.04	127.04	120.28
51	BP	24	SER	C-N-CA	5.04	127.04	120.28
2	A8	54	G	C5'-C4'-C3'	-5.04	108.43	116.00
2	A8	698	C	O5'-C5'-C4'	-5.04	103.94	111.50
2	A8	1090	A	C5'-C4'-C3'	-5.04	108.44	116.00
2	A8	1707	G	C5'-C4'-C3'	-5.04	108.44	116.00
2	A8	2478	A	P-O5'-C5'	-5.04	113.34	120.90
36	BA	1119	C	O4'-C1'-N1	5.04	116.07	108.50
49	BN	40	ARG	CB-CA-C	5.04	120.46	110.42
2	A8	1990	C	C5'-C4'-C3'	-5.04	108.44	116.00
2	A8	2638	G	C5'-C4'-C3'	-5.04	107.64	115.20
2	A8	2692	G	C4'-C3'-C2'	-5.04	97.56	102.60
15	AK	89	ASN	N-CA-C	-5.04	107.08	114.39
23	AS	100	THR	N-CA-CB	5.04	119.53	111.56
36	BA	429	U	C2'-C3'-O3'	5.04	117.06	109.50
36	BA	575	G	P-O5'-C5'	-5.04	113.34	120.90
36	BA	607	A	P-O5'-C5'	-5.04	113.34	120.90
2	A8	832	U	O4'-C1'-N1	5.04	116.06	108.50
2	A8	1720	U	C4'-C3'-O3'	-5.04	105.44	113.00
28	AX	71	ARG	CB-CA-C	-5.04	102.94	110.90
44	BI	45	MET	CA-C-N	5.04	127.36	120.46
44	BI	45	MET	C-N-CA	5.04	127.36	120.46
2	A8	196	A	C5'-C4'-O4'	5.04	116.66	109.10
2	A8	922	C	C3'-C2'-C1'	-5.04	96.26	101.30
2	A8	1020	A	P-O5'-C5'	-5.04	113.34	120.90
2	A8	1029	A	C5'-C4'-C3'	-5.04	108.44	116.00
36	BA	1315	U	C4'-C3'-O3'	-5.04	105.44	113.00
2	A8	2354	C	O5'-C5'-C4'	-5.04	103.94	111.50
2	A8	1726	C	C3'-C2'-C1'	-5.04	96.26	101.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1906	G	C5'-C4'-C3'	-5.04	108.45	116.00
2	A8	2043	C	C5'-C4'-C3'	-5.04	108.45	116.00
2	A8	2691	C	C4'-C3'-O3'	-5.04	105.45	113.00
43	BH	124	ILE	N-CA-CB	5.04	118.08	112.34
2	A8	885	C	C5'-C4'-C3'	-5.03	108.45	116.00
36	BA	781	A	O5'-C5'-C4'	-5.03	103.95	111.50
36	BA	1203	C	O4'-C1'-N1	5.03	116.05	108.50
1	A7	13	G	P-O3'-C3'	-5.03	112.65	120.20
2	A8	569	U	C5'-C4'-C3'	-5.03	108.45	116.00
2	A8	2280	G	N9-C1'-C2'	-5.03	104.45	112.00
2	A8	2498	C	P-O3'-C3'	-5.03	112.65	120.20
2	A8	2628	C	C4'-C3'-C2'	5.03	107.63	102.60
36	BA	460	A	O4'-C1'-N9	5.03	116.05	108.50
2	A8	372	G	O4'-C1'-N9	5.03	115.75	108.20
2	A8	375	G	O5'-C5'-C4'	-5.03	103.95	111.50
2	A8	458	G	C2'-C3'-O3'	5.03	117.05	109.50
2	A8	592	A	O5'-C5'-C4'	-5.03	103.95	111.50
2	A8	954	G	O3'-P-O5'	5.03	111.55	104.00
2	A8	2188	U	C5'-C4'-C3'	-5.03	108.45	116.00
17	AM	105	MET	CG-SD-CE	-5.03	89.83	100.90
2	A8	479	A	C5'-C4'-O4'	5.03	116.64	109.10
29	AY	49	ASP	N-CA-CB	-5.03	101.99	110.49
36	BA	873	A	C3'-C2'-C1'	5.03	106.53	101.50
2	A8	34	U	P-O5'-C5'	5.03	128.44	120.90
2	A8	116	C	O5'-C5'-C4'	-5.03	103.96	111.50
2	A8	739	A	C5'-C4'-O4'	5.03	116.64	109.10
2	A8	808	G	C5'-C4'-C3'	-5.03	108.46	116.00
2	A8	1050	A	C5'-C4'-C3'	-5.03	108.46	116.00
2	A8	1927	A	C4'-C3'-O3'	-5.03	105.46	113.00
2	A8	2632	A	O4'-C4'-C3'	-5.03	98.97	104.00
22	AR	58	VAL	N-CA-C	-5.03	101.71	108.35
36	BA	17	U	O4'-C1'-N1	5.03	116.04	108.50
36	BA	267	C	C5'-C4'-C3'	-5.03	108.46	116.00
36	BA	320	A	O4'-C1'-N9	5.03	116.04	108.50
36	BA	738	C	C4'-C3'-O3'	-5.03	105.46	113.00
36	BA	1151	A	O5'-C5'-C4'	-5.03	104.16	111.70
43	BH	3	GLN	N-CA-CB	5.03	118.98	110.49
55	BT	42	ASP	N-CA-CB	5.03	117.41	110.17
2	A8	1541	C	C5'-C4'-C3'	-5.03	108.46	116.00
2	A8	1552	A	N9-C1'-C2'	-5.03	104.46	112.00
2	A8	1693	U	C4'-C3'-O3'	-5.03	101.86	109.40
2	A8	1835	G	C3'-C2'-C1'	-5.03	96.27	101.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A6	32	LEU	N-CA-C	-5.03	105.47	112.30
36	BA	1065	U	O4'-C4'-C3'	-5.03	101.07	106.10
36	BA	1139	G	O3'-P-O5'	-5.03	96.46	104.00
2	A8	930	G	C4'-C3'-O3'	-5.02	105.46	113.00
36	BA	560	A	C5'-C4'-C3'	-5.02	107.66	115.20
36	BA	902	G	O3'-P-O5'	-5.02	96.46	104.00
2	A8	445	C	O4'-C1'-N1	5.02	116.03	108.50
2	A8	1535	A	C3'-C2'-O2'	-5.02	107.07	114.60
2	A8	1625	C	C4'-C3'-C2'	-5.02	97.58	102.60
2	A8	2190	G	O3'-P-O5'	-5.02	96.47	104.00
2	A8	2826	A	P-O3'-C3'	-5.02	112.67	120.20
11	AG	13	GLY	N-CA-C	-5.02	108.39	114.92
28	AX	31	ASN	N-CA-CB	5.02	117.29	110.01
36	BA	5	U	P-O5'-C5'	-5.02	113.37	120.90
36	BA	1478	U	O4'-C1'-N1	5.02	116.03	108.50
2	A8	1052	C	O4'-C1'-N1	5.02	116.03	108.50
2	A8	1857	G	C2'-C3'-O3'	5.02	117.03	109.50
2	A8	2321	U	O4'-C1'-N1	5.02	116.03	108.50
36	BA	513	C	C3'-C2'-C1'	-5.02	96.28	101.30
55	BT	45	ALA	N-CA-C	-5.02	105.45	112.03
2	A8	513	A	P-O5'-C5'	-5.02	113.37	120.90
2	A8	1847	A	C2'-C3'-O3'	5.02	121.23	113.70
2	A8	2158	A	C4'-C3'-O3'	5.02	116.93	109.40
30	AZ	37	ARG	N-CA-CB	5.02	119.19	111.56
36	BA	171	A	C4'-C3'-O3'	-5.02	105.47	113.00
43	BH	109	VAL	N-CA-C	-5.02	101.35	108.58
2	A8	215	G	O5'-C5'-C4'	-5.02	104.17	111.70
2	A8	914	G	P-O5'-C5'	-5.02	113.37	120.90
2	A8	1115	G	C4'-C3'-O3'	-5.02	105.47	113.00
2	A8	1321	A	C4'-C3'-C2'	-5.02	97.58	102.60
2	A8	1345	C	O4'-C4'-C3'	-5.02	98.98	104.00
2	A8	2758	A	P-O5'-C5'	-5.02	113.38	120.90
2	A8	2800	A	P-O3'-C3'	-5.02	112.67	120.20
8	AD	109	VAL	N-CA-CB	5.02	119.51	111.23
19	AO	36	TYR	N-CA-CB	5.02	119.66	111.08
20	AP	37	LYS	N-CA-C	-5.02	104.91	112.99
36	BA	378	G	C4'-C3'-O3'	-5.02	105.47	113.00
36	BA	1448	C	P-O3'-C3'	-5.02	112.67	120.20
42	BG	64	ALA	N-CA-C	5.02	118.17	111.75
2	A8	66	C	O4'-C1'-N1	5.02	116.03	108.50
2	A8	2745	C	C4'-C3'-O3'	-5.02	105.48	113.00
36	BA	575	G	C2'-C3'-O3'	5.02	117.02	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	BA	895	G	C4'-C3'-O3'	-5.02	105.48	113.00
2	A8	247	G	O4'-C4'-C3'	5.01	109.01	104.00
2	A8	631	A	P-O5'-C5'	-5.01	113.38	120.90
2	A8	726	G	O3'-P-O5'	-5.01	96.48	104.00
2	A8	750	A	C4'-C3'-O3'	-5.01	105.48	113.00
2	A8	1147	A	C1'-O4'-C4'	-5.01	104.89	109.90
2	A8	1356	G	C4'-C3'-C2'	-5.01	97.58	102.60
2	A8	1946	U	C4'-C3'-O3'	-5.01	105.48	113.00
2	A8	2125	G	C2'-C3'-O3'	5.01	121.22	113.70
15	AK	88	ASN	N-CA-C	-5.01	105.87	112.94
17	AM	108	VAL	CA-C-N	5.01	126.11	119.84
17	AM	108	VAL	C-N-CA	5.01	126.11	119.84
36	BA	613	C	O4'-C1'-N1	5.01	116.02	108.50
36	BA	936	C	O4'-C1'-C2'	-5.01	102.59	107.60
2	A8	460	A	C4'-C3'-O3'	-5.01	105.48	113.00
2	A8	1747	U	C5'-C4'-C3'	-5.01	108.48	116.00
36	BA	1327	C	C4'-C3'-O3'	-5.01	105.48	113.00
37	BB	90	PHE	CA-CB-CG	-5.01	108.79	113.80
2	A8	463	G	P-O3'-C3'	-5.01	112.68	120.20
2	A8	783	A	O4'-C4'-C3'	-5.01	98.99	104.00
2	A8	1055	G	C8-N9-C1'	5.01	142.04	127.00
2	A8	1406	U	P-O3'-C3'	-5.01	112.68	120.20
2	A8	2557	G	O3'-P-O5'	-5.01	96.48	104.00
9	AE	50	ALA	N-CA-C	-5.01	104.92	112.99
36	BA	656	G	C4'-C3'-O3'	-5.01	105.48	113.00
49	BN	91	GLU	N-CA-C	-5.01	106.76	112.92
2	A8	622	G	O4'-C4'-C3'	-5.01	98.99	104.00
2	A8	1422	G	O5'-C5'-C4'	-5.01	103.98	111.50
2	A8	1597	A	C5'-C4'-C3'	-5.01	108.48	116.00
2	A8	1723	G	C5-C6-O6	-5.01	113.57	128.60
2	A8	2007	U	O3'-P-O5'	5.01	111.51	104.00
2	A8	2266	A	P-O5'-C5'	5.01	128.41	120.90
3	AA	60	GLN	CB-CA-C	-5.01	101.36	110.63
36	BA	353	A	C4'-C3'-C2'	-5.01	97.59	102.60
36	BA	1331	G	P-O3'-C3'	-5.01	112.69	120.20
36	BA	1514	G	C3'-C2'-C1'	-5.01	96.29	101.30
2	A8	512	G	C4'-C3'-C2'	-5.01	97.59	102.60
2	A8	2048	G	P-O5'-C5'	5.01	128.41	120.90
2	A8	2475	C	P-O5'-C5'	5.01	128.41	120.90
25	AU	17	ASP	CA-CB-CG	-5.01	107.59	112.60
36	BA	139	A	C5'-C4'-C3'	-5.01	108.49	116.00
2	A8	1101	U	O3'-P-O5'	-5.01	96.49	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A8	1174	U	P-O5'-C5'	-5.01	113.39	120.90
36	BA	1080	A	C5'-C4'-C3'	-5.01	108.49	116.00
36	BA	1237	C	C2'-C3'-O3'	5.01	121.21	113.70
36	BA	1313	U	C4'-C3'-C2'	-5.01	97.59	102.60
2	A8	296	U	O4'-C4'-C3'	-5.00	99.00	104.00
2	A8	1843	C	O4'-C1'-N1	5.00	116.01	108.50
2	A8	2736	A	C1'-O4'-C4'	-5.00	104.89	109.90
36	BA	1129	C	C2'-C3'-O3'	5.00	117.01	109.50
48	BM	85	TYR	CA-C-N	5.00	126.99	120.28
48	BM	85	TYR	C-N-CA	5.00	126.99	120.28
2	A8	1331	G	C4'-C3'-O3'	-5.00	105.49	113.00
2	A8	1350	C	P-O3'-C3'	-5.00	112.69	120.20
2	A8	1378	A	C4'-C3'-C2'	-5.00	97.60	102.60
2	A8	2837	A	C5'-C4'-C3'	-5.00	108.50	116.00
18	AN	48	VAL	N-CA-C	-5.00	107.56	113.42
23	AS	18	ARG	N-CA-C	-5.00	107.22	113.72
36	BA	501	C	O4'-C1'-N1	5.00	116.00	108.50
36	BA	788	U	C5'-C4'-C3'	-5.00	108.49	116.00
36	BA	1216	A	O4'-C1'-N9	5.00	116.00	108.50
2	A8	297	G	C5'-C4'-C3'	-5.00	108.50	116.00
2	A8	604	G	P-O3'-C3'	-5.00	112.70	120.20
2	A8	2128	G	O5'-C5'-C4'	5.00	119.00	111.50
2	A8	2615	U	C4'-C3'-C2'	-5.00	97.60	102.60
2	A8	2710	C	O4'-C1'-N1	5.00	116.00	108.50
2	A8	2726	A	O3'-P-O5'	-5.00	96.50	104.00
3	AA	11	ILE	N-CA-CB	5.00	115.58	110.23
3	AA	354	LYS	N-CA-C	-5.00	106.87	113.17
7	A6	24	HIS	N-CA-C	-5.00	101.77	109.52
9	AE	156	ASN	N-CA-C	-5.00	107.23	113.38
10	AF	109	ARG	N-CA-C	-5.00	104.82	111.87
36	BA	109	A	C2'-C3'-O3'	5.00	117.00	109.50
36	BA	242	G	O4'-C1'-C2'	5.00	112.60	107.60
36	BA	621	A	C5'-C4'-O4'	5.00	117.30	109.80
48	BM	29	SER	N-CA-CB	5.00	118.94	110.49
53	BR	50	TYR	N-CA-CB	5.00	117.39	109.94

There are no chirality outliers.

All (2335) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
31	A0	47	TYR	Sidechain
31	A0	48	TYR	Sidechain

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Mol	Chain	Res	Type	Group
31	A0	6	LYS	Peptide
32	A1	17	GLY	Peptide
32	A1	27	ARG	Sidechain
32	A1	48	TYR	Sidechain
33	A2	3	ARG	Peptide
34	A3	29	ARG	Sidechain
34	A3	44	ARG	Sidechain
34	A3	63	TYR	Sidechain
34	A3	7	ARG	Sidechain
35	A4	4	ARG	Sidechain
6	A5	163	TYR	Sidechain
6	A5	21	TYR	Sidechain
6	A5	7	ARG	Sidechain
7	A6	113	ASP	Peptide
7	A6	12	ARG	Peptide
7	A6	145	MET	Peptide
7	A6	160	TYR	Sidechain
7	A6	184	GLU	Peptide
7	A6	187	CYS	Peptide
7	A6	188	ARG	Sidechain
7	A6	202	ARG	Sidechain
7	A6	213	ARG	Sidechain
7	A6	215	VAL	Peptide
7	A6	22	GLU	Peptide
7	A6	229	HIS	Peptide
7	A6	257	ARG	Sidechain
7	A6	29	PHE	Sidechain
7	A6	61	TYR	Sidechain
7	A6	66	PHE	Peptide
7	A6	86	ARG	Sidechain
7	A6	95	TYR	Sidechain
1	A7	10	G	Sidechain
1	A7	102	G	Sidechain
1	A7	103	U	Sidechain
1	A7	105	G	Sidechain
1	A7	106	G	Sidechain
1	A7	108	A	Sidechain
1	A7	110	C	Sidechain
1	A7	111	U	Sidechain
1	A7	112	G	Sidechain
1	A7	114	C	Sidechain
1	A7	116	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A7	117	G	Sidechain
1	A7	13	G	Sidechain
1	A7	14	U	Sidechain
1	A7	15	A	Sidechain
1	A7	16	G	Sidechain
1	A7	17	C	Sidechain
1	A7	19	C	Sidechain
1	A7	22	U	Sidechain
1	A7	23	G	Sidechain
1	A7	28	C	Sidechain
1	A7	30	C	Sidechain
1	A7	31	C	Sidechain
1	A7	38	C	Sidechain
1	A7	4	C	Sidechain
1	A7	40	U	Sidechain
1	A7	43	C	Sidechain
1	A7	44	G	Sidechain
1	A7	45	A	Sidechain
1	A7	49	C	Sidechain
1	A7	5	U	Sidechain
1	A7	50	A	Sidechain
1	A7	56	G	Sidechain
1	A7	57	A	Sidechain
1	A7	58	A	Sidechain
1	A7	59	A	Sidechain
1	A7	62	C	Sidechain
1	A7	66	A	Sidechain
1	A7	7	G	Sidechain
1	A7	70	C	Sidechain
1	A7	72	G	Sidechain
1	A7	74	U	Sidechain
1	A7	75	G	Sidechain
1	A7	77	U	Sidechain
1	A7	78	A	Sidechain
1	A7	83	G	Sidechain
1	A7	85	G	Sidechain
1	A7	86	G	Sidechain
1	A7	88	C	Sidechain
1	A7	89	U	Sidechain
1	A7	9	G	Sidechain
1	A7	90	C	Sidechain
1	A7	92	C	Sidechain

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Mol	Chain	Res	Type	Group
1	A7	95	U	Sidechain
1	A7	97	C	Sidechain
1	A7	98	G	Sidechain
2	A8	1	G	Sidechain
2	A8	10	A	Sidechain
2	A8	100	U	Sidechain
2	A8	1000	A	Sidechain
2	A8	1002	G	Sidechain
2	A8	1003	G	Sidechain
2	A8	1004	U	Sidechain
2	A8	1005	C	Sidechain
2	A8	1006	C	Sidechain
2	A8	1008	A	Sidechain
2	A8	1010	A	Sidechain
2	A8	1014	A	Sidechain
2	A8	1015	U	Sidechain
2	A8	1016	G	Sidechain
2	A8	1021	A	Sidechain
2	A8	1023	U	Sidechain
2	A8	1025	G	Sidechain
2	A8	1026	G	Sidechain
2	A8	1027	A	Sidechain
2	A8	1028	A	Sidechain
2	A8	1029	A	Sidechain
2	A8	103	A	Sidechain
2	A8	1032	A	Sidechain
2	A8	1033	U	Sidechain
2	A8	1035	U	Sidechain
2	A8	1037	G	Sidechain
2	A8	1042	G	Sidechain
2	A8	1044	C	Sidechain
2	A8	1055	G	Sidechain
2	A8	1056	G	Sidechain
2	A8	1057	A	Sidechain
2	A8	1059	G	Sidechain
2	A8	1060	U	Sidechain
2	A8	1061	U	Sidechain
2	A8	1068	G	Sidechain
2	A8	1069	A	Sidechain
2	A8	1070	A	Sidechain
2	A8	1072	C	Sidechain
2	A8	1074	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1078	U	Sidechain
2	A8	108	G	Sidechain
2	A8	1083	U	Sidechain
2	A8	1087	G	Sidechain
2	A8	1090	A	Sidechain
2	A8	1091	G	Sidechain
2	A8	1092	C	Sidechain
2	A8	1093	G	Sidechain
2	A8	1094	U	Sidechain
2	A8	1098	A	Sidechain
2	A8	1099	G	Sidechain
2	A8	11	C	Sidechain
2	A8	1102	C	Sidechain
2	A8	1103	A	Sidechain
2	A8	1104	C	Sidechain
2	A8	1105	U	Sidechain
2	A8	1107	G	Sidechain
2	A8	1109	C	Sidechain
2	A8	1110	G	Sidechain
2	A8	1112	G	Sidechain
2	A8	112	U	Sidechain
2	A8	1125	G	Sidechain
2	A8	1126	A	Sidechain
2	A8	1128	G	Sidechain
2	A8	1129	A	Sidechain
2	A8	1133	A	Sidechain
2	A8	1135	C	Sidechain
2	A8	1137	G	Sidechain
2	A8	114	U	Sidechain
2	A8	1142	A	Sidechain
2	A8	1144	A	Sidechain
2	A8	1146	C	Sidechain
2	A8	1148	U	Sidechain
2	A8	1151	A	Sidechain
2	A8	1152	C	Sidechain
2	A8	1153	C	Sidechain
2	A8	1154	G	Sidechain
2	A8	1155	A	Sidechain
2	A8	1157	G	Sidechain
2	A8	1159	U	Sidechain
2	A8	1160	G	Sidechain
2	A8	1161	C	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1162	G	Sidechain
2	A8	1163	G	Sidechain
2	A8	1165	A	Sidechain
2	A8	1166	G	Sidechain
2	A8	1167	C	Sidechain
2	A8	1173	U	Sidechain
2	A8	1174	U	Sidechain
2	A8	1176	U	Sidechain
2	A8	1177	G	Sidechain
2	A8	1179	G	Sidechain
2	A8	118	A	Sidechain
2	A8	1181	U	Sidechain
2	A8	1182	G	Sidechain
2	A8	1183	U	Sidechain
2	A8	1184	U	Sidechain
2	A8	1187	G	Sidechain
2	A8	1188	U	Sidechain
2	A8	119	A	Sidechain
2	A8	1191	G	Sidechain
2	A8	1192	G	Sidechain
2	A8	1193	G	Sidechain
2	A8	1195	G	Sidechain
2	A8	12	U	Sidechain
2	A8	120	U	Sidechain
2	A8	1203	U	Sidechain
2	A8	1204	A	Sidechain
2	A8	1210	G	Sidechain
2	A8	1211	C	Sidechain
2	A8	1212	G	Sidechain
2	A8	1213	A	Sidechain
2	A8	1216	G	Sidechain
2	A8	1217	U	Sidechain
2	A8	1220	G	Sidechain
2	A8	1222	U	Sidechain
2	A8	1224	U	Sidechain
2	A8	1225	G	Sidechain
2	A8	1226	A	Sidechain
2	A8	1228	G	Sidechain
2	A8	1231	U	Sidechain
2	A8	1232	G	Sidechain
2	A8	1235	G	Sidechain
2	A8	1236	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1237	A	Sidechain
2	A8	1238	G	Sidechain
2	A8	124	G	Sidechain
2	A8	1242	U	Sidechain
2	A8	1248	G	Sidechain
2	A8	1249	U	Sidechain
2	A8	1250	G	Sidechain
2	A8	1251	C	Sidechain
2	A8	1252	G	Sidechain
2	A8	1253	A	Sidechain
2	A8	1256	G	Sidechain
2	A8	126	A	Sidechain
2	A8	1262	A	Sidechain
2	A8	1266	G	Sidechain
2	A8	1267	U	Sidechain
2	A8	127	A	Sidechain
2	A8	1274	A	Sidechain
2	A8	1275	A	Sidechain
2	A8	1277	G	Sidechain
2	A8	1278	C	Sidechain
2	A8	1281	G	Sidechain
2	A8	1283	G	Sidechain
2	A8	1284	A	Sidechain
2	A8	1287	A	Sidechain
2	A8	1288	G	Sidechain
2	A8	1296	G	Sidechain
2	A8	1297	C	Sidechain
2	A8	13	A	Sidechain
2	A8	1300	G	Sidechain
2	A8	1302	A	Sidechain
2	A8	1303	G	Sidechain
2	A8	1305	C	Sidechain
2	A8	1308	A	Sidechain
2	A8	131	A	Sidechain
2	A8	1310	G	Sidechain
2	A8	1311	G	Sidechain
2	A8	1312	U	Sidechain
2	A8	1313	U	Sidechain
2	A8	1315	C	Sidechain
2	A8	1318	U	Sidechain
2	A8	132	G	Sidechain
2	A8	1320	C	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1325	U	Sidechain
2	A8	1326	U	Sidechain
2	A8	1327	A	Sidechain
2	A8	1333	G	Sidechain
2	A8	1334	G	Sidechain
2	A8	1336	A	Sidechain
2	A8	1337	G	Sidechain
2	A8	134	G	Sidechain
2	A8	1340	U	Sidechain
2	A8	1341	G	Sidechain
2	A8	1342	A	Sidechain
2	A8	1343	G	Sidechain
2	A8	1346	G	Sidechain
2	A8	1348	C	Sidechain
2	A8	1349	C	Sidechain
2	A8	135	U	Sidechain
2	A8	1355	G	Sidechain
2	A8	1356	G	Sidechain
2	A8	1357	C	Sidechain
2	A8	1358	G	Sidechain
2	A8	136	G	Sidechain
2	A8	1360	G	Sidechain
2	A8	1361	G	Sidechain
2	A8	1363	C	Sidechain
2	A8	1365	A	Sidechain
2	A8	1366	A	Sidechain
2	A8	1367	A	Sidechain
2	A8	1368	G	Sidechain
2	A8	1371	G	Sidechain
2	A8	1372	U	Sidechain
2	A8	1373	A	Sidechain
2	A8	1376	C	Sidechain
2	A8	1377	G	Sidechain
2	A8	1378	A	Sidechain
2	A8	1379	U	Sidechain
2	A8	1380	G	Sidechain
2	A8	1382	G	Sidechain
2	A8	1383	A	Sidechain
2	A8	1384	A	Sidechain
2	A8	139	U	Sidechain
2	A8	1391	U	Sidechain
2	A8	1392	A	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1393	A	Sidechain
2	A8	1397	U	Sidechain
2	A8	1398	C	Sidechain
2	A8	14	A	Sidechain
2	A8	1405	U	Sidechain
2	A8	1406	U	Sidechain
2	A8	1407	G	Sidechain
2	A8	1408	G	Sidechain
2	A8	1414	C	Sidechain
2	A8	1416	G	Sidechain
2	A8	1418	G	Sidechain
2	A8	1419	A	Sidechain
2	A8	1420	A	Sidechain
2	A8	1421	G	Sidechain
2	A8	1422	G	Sidechain
2	A8	1425	G	Sidechain
2	A8	1426	G	Sidechain
2	A8	1427	A	Sidechain
2	A8	1429	G	Sidechain
2	A8	1432	G	Sidechain
2	A8	1433	A	Sidechain
2	A8	1434	A	Sidechain
2	A8	1435	G	Sidechain
2	A8	1437	C	Sidechain
2	A8	1438	U	Sidechain
2	A8	1440	U	Sidechain
2	A8	1441	G	Sidechain
2	A8	1442	U	Sidechain
2	A8	1443	U	Sidechain
2	A8	1444	G	Sidechain
2	A8	145	C	Sidechain
2	A8	1450	G	Sidechain
2	A8	1453	A	Sidechain
2	A8	1454	C	Sidechain
2	A8	1457	U	Sidechain
2	A8	1458	U	Sidechain
2	A8	1459	G	Sidechain
2	A8	1460	U	Sidechain
2	A8	1461	C	Sidechain
2	A8	1465	G	Sidechain
2	A8	1467	U	Sidechain
2	A8	1468	U	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	147	C	Sidechain
2	A8	1472	C	Sidechain
2	A8	1474	U	Sidechain
2	A8	1475	G	Sidechain
2	A8	1476	U	Sidechain
2	A8	1477	A	Sidechain
2	A8	1478	G	Sidechain
2	A8	1479	G	Sidechain
2	A8	1483	G	Sidechain
2	A8	1485	U	Sidechain
2	A8	1487	U	Sidechain
2	A8	1488	C	Sidechain
2	A8	1489	C	Sidechain
2	A8	149	A	Sidechain
2	A8	1490	A	Sidechain
2	A8	1491	G	Sidechain
2	A8	1492	G	Sidechain
2	A8	1494	A	Sidechain
2	A8	1496	A	Sidechain
2	A8	1498	C	Sidechain
2	A8	1499	C	Sidechain
2	A8	15	G	Sidechain
2	A8	1502	A	Sidechain
2	A8	1507	C	Sidechain
2	A8	1508	A	Sidechain
2	A8	1509	A	Sidechain
2	A8	1511	G	Sidechain
2	A8	1512	C	Sidechain
2	A8	1513	U	Sidechain
2	A8	1514	G	Sidechain
2	A8	1515	A	Sidechain
2	A8	1516	G	Sidechain
2	A8	152	A	Sidechain
2	A8	1520	U	Sidechain
2	A8	1522	A	Sidechain
2	A8	1523	U	Sidechain
2	A8	1528	A	Sidechain
2	A8	1529	G	Sidechain
2	A8	153	U	Sidechain
2	A8	1530	G	Sidechain
2	A8	1535	A	Sidechain
2	A8	1539	U	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	154	U	Sidechain
2	A8	1540	G	Sidechain
2	A8	1543	G	Sidechain
2	A8	1544	A	Sidechain
2	A8	1545	A	Sidechain
2	A8	1546	G	Sidechain
2	A8	1547	C	Sidechain
2	A8	1552	A	Sidechain
2	A8	1555	G	Sidechain
2	A8	1558	C	Sidechain
2	A8	1559	U	Sidechain
2	A8	156	A	Sidechain
2	A8	1563	U	Sidechain
2	A8	1564	C	Sidechain
2	A8	1566	A	Sidechain
2	A8	1568	G	Sidechain
2	A8	1569	A	Sidechain
2	A8	1570	A	Sidechain
2	A8	1573	G	Sidechain
2	A8	1574	C	Sidechain
2	A8	1576	U	Sidechain
2	A8	1577	C	Sidechain
2	A8	1578	U	Sidechain
2	A8	158	U	Sidechain
2	A8	1580	A	Sidechain
2	A8	1583	A	Sidechain
2	A8	1584	U	Sidechain
2	A8	1586	A	Sidechain
2	A8	1587	G	Sidechain
2	A8	159	G	Sidechain
2	A8	1596	A	Sidechain
2	A8	160	A	Sidechain
2	A8	1600	C	Sidechain
2	A8	1603	A	Sidechain
2	A8	1605	C	Sidechain
2	A8	1606	C	Sidechain
2	A8	1607	C	Sidechain
2	A8	1608	A	Sidechain
2	A8	1611	C	Sidechain
2	A8	1613	G	Sidechain
2	A8	1615	C	Sidechain
2	A8	162	U	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1620	G	Sidechain
2	A8	1622	G	Sidechain
2	A8	1623	G	Sidechain
2	A8	1625	C	Sidechain
2	A8	1626	A	Sidechain
2	A8	1628	G	Sidechain
2	A8	1631	G	Sidechain
2	A8	1634	A	Sidechain
2	A8	1639	C	Sidechain
2	A8	1643	G	Sidechain
2	A8	1644	C	Sidechain
2	A8	1645	G	Sidechain
2	A8	1647	U	Sidechain
2	A8	1649	G	Sidechain
2	A8	165	A	Sidechain
2	A8	1653	G	Sidechain
2	A8	1654	A	Sidechain
2	A8	1656	C	Sidechain
2	A8	1657	U	Sidechain
2	A8	1659	G	Sidechain
2	A8	1662	U	Sidechain
2	A8	1666	G	Sidechain
2	A8	1667	G	Sidechain
2	A8	1668	A	Sidechain
2	A8	1669	A	Sidechain
2	A8	1671	U	Sidechain
2	A8	1672	A	Sidechain
2	A8	1673	G	Sidechain
2	A8	1674	G	Sidechain
2	A8	1676	A	Sidechain
2	A8	1678	A	Sidechain
2	A8	1679	A	Sidechain
2	A8	168	G	Sidechain
2	A8	1680	U	Sidechain
2	A8	1681	G	Sidechain
2	A8	1682	G	Sidechain
2	A8	1688	U	Sidechain
2	A8	169	G	Sidechain
2	A8	1693	U	Sidechain
2	A8	1695	G	Sidechain
2	A8	1696	G	Sidechain
2	A8	1698	A	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1699	G	Sidechain
2	A8	170	U	Sidechain
2	A8	1700	A	Sidechain
2	A8	1706	C	Sidechain
2	A8	1709	U	Sidechain
2	A8	171	U	Sidechain
2	A8	1712	U	Sidechain
2	A8	1713	A	Sidechain
2	A8	1714	U	Sidechain
2	A8	1715	G	Sidechain
2	A8	1719	G	Sidechain
2	A8	1720	U	Sidechain
2	A8	1721	G	Sidechain
2	A8	1722	A	Sidechain
2	A8	1723	G	Sidechain
2	A8	1727	C	Sidechain
2	A8	1729	U	Sidechain
2	A8	1731	G	Sidechain
2	A8	1732	C	Sidechain
2	A8	1734	G	Sidechain
2	A8	1736	U	Sidechain
2	A8	1737	G	Sidechain
2	A8	1738	G	Sidechain
2	A8	1739	A	Sidechain
2	A8	1743	G	Sidechain
2	A8	1744	A	Sidechain
2	A8	1749	A	Sidechain
2	A8	175	G	Sidechain
2	A8	1750	G	Sidechain
2	A8	1752	C	Sidechain
2	A8	1754	A	Sidechain
2	A8	1755	A	Sidechain
2	A8	1756	G	Sidechain
2	A8	1757	A	Sidechain
2	A8	1758	U	Sidechain
2	A8	1759	A	Sidechain
2	A8	1760	C	Sidechain
2	A8	1764	C	Sidechain
2	A8	1767	G	Sidechain
2	A8	177	G	Sidechain
2	A8	1770	G	Sidechain
2	A8	1772	A	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1774	C	Sidechain
2	A8	1775	U	Sidechain
2	A8	1777	U	Sidechain
2	A8	1778	U	Sidechain
2	A8	1782	U	Sidechain
2	A8	1783	A	Sidechain
2	A8	1784	A	Sidechain
2	A8	1785	A	Sidechain
2	A8	1789	A	Sidechain
2	A8	1790	C	Sidechain
2	A8	1791	A	Sidechain
2	A8	1792	G	Sidechain
2	A8	1793	C	Sidechain
2	A8	1795	C	Sidechain
2	A8	1796	U	Sidechain
2	A8	1797	G	Sidechain
2	A8	1799	G	Sidechain
2	A8	1802	A	Sidechain
2	A8	1808	A	Sidechain
2	A8	1809	A	Sidechain
2	A8	181	A	Sidechain
2	A8	1810	A	Sidechain
2	A8	1813	G	Sidechain
2	A8	1815	A	Sidechain
2	A8	1817	G	Sidechain
2	A8	1819	A	Sidechain
2	A8	182	A	Sidechain
2	A8	1822	C	Sidechain
2	A8	1828	G	Sidechain
2	A8	183	C	Sidechain
2	A8	1830	C	Sidechain
2	A8	1831	G	Sidechain
2	A8	1837	C	Sidechain
2	A8	1838	C	Sidechain
2	A8	184	C	Sidechain
2	A8	1840	G	Sidechain
2	A8	1841	U	Sidechain
2	A8	1842	G	Sidechain
2	A8	1844	C	Sidechain
2	A8	1845	G	Sidechain
2	A8	1850	G	Sidechain
2	A8	1852	U	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1853	A	Sidechain
2	A8	1854	A	Sidechain
2	A8	1855	U	Sidechain
2	A8	1856	U	Sidechain
2	A8	1857	G	Sidechain
2	A8	1858	A	Sidechain
2	A8	1859	U	Sidechain
2	A8	1860	G	Sidechain
2	A8	1863	G	Sidechain
2	A8	1866	A	Sidechain
2	A8	1869	G	Sidechain
2	A8	187	G	Sidechain
2	A8	1871	A	Sidechain
2	A8	1872	A	Sidechain
2	A8	1873	G	Sidechain
2	A8	1876	A	Sidechain
2	A8	1877	A	Sidechain
2	A8	1880	U	Sidechain
2	A8	1881	C	Sidechain
2	A8	1883	U	Sidechain
2	A8	1884	G	Sidechain
2	A8	1885	A	Sidechain
2	A8	1888	G	Sidechain
2	A8	189	G	Sidechain
2	A8	1894	C	Sidechain
2	A8	1895	C	Sidechain
2	A8	190	A	Sidechain
2	A8	1900	A	Sidechain
2	A8	1902	C	Sidechain
2	A8	1903	G	Sidechain
2	A8	1904	G	Sidechain
2	A8	1905	C	Sidechain
2	A8	1906	G	Sidechain
2	A8	191	A	Sidechain
2	A8	1910	G	Sidechain
2	A8	1911	U	Sidechain
2	A8	1914	C	Sidechain
2	A8	1918	A	Sidechain
2	A8	1919	A	Sidechain
2	A8	1920	C	Sidechain
2	A8	1921	G	Sidechain
2	A8	1924	C	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	1926	U	Sidechain
2	A8	1927	A	Sidechain
2	A8	1928	A	Sidechain
2	A8	1929	G	Sidechain
2	A8	1930	G	Sidechain
2	A8	1931	U	Sidechain
2	A8	1932	A	Sidechain
2	A8	1936	A	Sidechain
2	A8	1939	U	Sidechain
2	A8	194	G	Sidechain
2	A8	1940	U	Sidechain
2	A8	1941	C	Sidechain
2	A8	1943	U	Sidechain
2	A8	1945	G	Sidechain
2	A8	1946	U	Sidechain
2	A8	1949	G	Sidechain
2	A8	195	A	Sidechain
2	A8	1952	A	Sidechain
2	A8	1953	A	Sidechain
2	A8	1954	G	Sidechain
2	A8	1956	U	Sidechain
2	A8	1957	C	Sidechain
2	A8	1959	G	Sidechain
2	A8	1966	A	Sidechain
2	A8	1967	C	Sidechain
2	A8	1968	G	Sidechain
2	A8	197	A	Sidechain
2	A8	1970	A	Sidechain
2	A8	1972	G	Sidechain
2	A8	1975	G	Sidechain
2	A8	1976	U	Sidechain
2	A8	1979	U	Sidechain
2	A8	198	C	Sidechain
2	A8	1980	G	Sidechain
2	A8	1982	U	Sidechain
2	A8	1983	G	Sidechain
2	A8	1984	G	Sidechain
2	A8	1989	G	Sidechain
2	A8	1990	C	Sidechain
2	A8	1991	U	Sidechain
2	A8	2	G	Sidechain
2	A8	2002	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2003	A	Sidechain
2	A8	2010	G	Sidechain
2	A8	2015	A	Sidechain
2	A8	2016	U	Sidechain
2	A8	2017	U	Sidechain
2	A8	202	U	Sidechain
2	A8	2020	A	Sidechain
2	A8	2021	C	Sidechain
2	A8	2022	U	Sidechain
2	A8	2024	G	Sidechain
2	A8	2026	U	Sidechain
2	A8	2027	G	Sidechain
2	A8	2029	G	Sidechain
2	A8	2031	A	Sidechain
2	A8	2032	G	Sidechain
2	A8	2033	A	Sidechain
2	A8	2034	U	Sidechain
2	A8	2035	G	Sidechain
2	A8	2037	A	Sidechain
2	A8	2038	G	Sidechain
2	A8	2041	U	Sidechain
2	A8	2042	A	Sidechain
2	A8	2045	C	Sidechain
2	A8	2049	G	Sidechain
2	A8	2050	C	Sidechain
2	A8	2051	A	Sidechain
2	A8	2052	A	Sidechain
2	A8	2053	G	Sidechain
2	A8	2054	A	Sidechain
2	A8	2056	G	Sidechain
2	A8	2057	G	Sidechain
2	A8	2058	A	Sidechain
2	A8	2059	A	Sidechain
2	A8	2067	G	Sidechain
2	A8	2069	G	Sidechain
2	A8	207	A	Sidechain
2	A8	2070	A	Sidechain
2	A8	2073	C	Sidechain
2	A8	2074	U	Sidechain
2	A8	2075	U	Sidechain
2	A8	2081	U	Sidechain
2	A8	2085	U	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2087	G	Sidechain
2	A8	209	C	Sidechain
2	A8	2090	A	Sidechain
2	A8	2093	G	Sidechain
2	A8	2095	A	Sidechain
2	A8	2098	U	Sidechain
2	A8	2099	U	Sidechain
2	A8	210	C	Sidechain
2	A8	2100	G	Sidechain
2	A8	2102	G	Sidechain
2	A8	2103	C	Sidechain
2	A8	2105	U	Sidechain
2	A8	2106	U	Sidechain
2	A8	2107	G	Sidechain
2	A8	2110	G	Sidechain
2	A8	2111	U	Sidechain
2	A8	2114	A	Sidechain
2	A8	2115	G	Sidechain
2	A8	2116	G	Sidechain
2	A8	2117	A	Sidechain
2	A8	2118	U	Sidechain
2	A8	2123	G	Sidechain
2	A8	2124	G	Sidechain
2	A8	2125	G	Sidechain
2	A8	2127	G	Sidechain
2	A8	2129	C	Sidechain
2	A8	2132	U	Sidechain
2	A8	2133	G	Sidechain
2	A8	2135	A	Sidechain
2	A8	2137	U	Sidechain
2	A8	2139	U	Sidechain
2	A8	214	G	Sidechain
2	A8	2141	G	Sidechain
2	A8	2143	C	Sidechain
2	A8	2144	G	Sidechain
2	A8	2147	A	Sidechain
2	A8	215	G	Sidechain
2	A8	2151	U	Sidechain
2	A8	2152	G	Sidechain
2	A8	2153	C	Sidechain
2	A8	2156	G	Sidechain
2	A8	2161	C	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2165	C	Sidechain
2	A8	2166	U	Sidechain
2	A8	2168	G	Sidechain
2	A8	217	A	Sidechain
2	A8	2174	C	Sidechain
2	A8	2175	C	Sidechain
2	A8	2176	A	Sidechain
2	A8	2178	C	Sidechain
2	A8	2180	U	Sidechain
2	A8	2181	U	Sidechain
2	A8	2183	A	Sidechain
2	A8	2184	A	Sidechain
2	A8	2186	G	Sidechain
2	A8	2187	U	Sidechain
2	A8	2188	U	Sidechain
2	A8	2189	U	Sidechain
2	A8	2190	G	Sidechain
2	A8	2191	A	Sidechain
2	A8	2192	U	Sidechain
2	A8	2194	U	Sidechain
2	A8	2197	U	Sidechain
2	A8	220	G	Sidechain
2	A8	2205	A	Sidechain
2	A8	2209	G	Sidechain
2	A8	2210	U	Sidechain
2	A8	2211	A	Sidechain
2	A8	2212	A	Sidechain
2	A8	2214	C	Sidechain
2	A8	2215	C	Sidechain
2	A8	2218	G	Sidechain
2	A8	2219	U	Sidechain
2	A8	222	A	Sidechain
2	A8	2223	G	Sidechain
2	A8	2232	C	Sidechain
2	A8	2234	G	Sidechain
2	A8	2237	G	Sidechain
2	A8	2239	G	Sidechain
2	A8	224	U	Sidechain
2	A8	2242	G	Sidechain
2	A8	2253	G	Sidechain
2	A8	2255	G	Sidechain
2	A8	226	A	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2261	C	Sidechain
2	A8	2265	U	Sidechain
2	A8	2267	A	Sidechain
2	A8	2268	A	Sidechain
2	A8	2269	G	Sidechain
2	A8	227	A	Sidechain
2	A8	2271	G	Sidechain
2	A8	2272	U	Sidechain
2	A8	2273	A	Sidechain
2	A8	2276	G	Sidechain
2	A8	2279	G	Sidechain
2	A8	2280	G	Sidechain
2	A8	2281	A	Sidechain
2	A8	2282	G	Sidechain
2	A8	2286	G	Sidechain
2	A8	2289	G	Sidechain
2	A8	2290	G	Sidechain
2	A8	2292	U	Sidechain
2	A8	2293	G	Sidechain
2	A8	2296	U	Sidechain
2	A8	2297	A	Sidechain
2	A8	230	G	Sidechain
2	A8	2304	G	Sidechain
2	A8	2305	U	Sidechain
2	A8	2307	G	Sidechain
2	A8	2308	G	Sidechain
2	A8	231	A	Sidechain
2	A8	2311	A	Sidechain
2	A8	2312	U	Sidechain
2	A8	2313	C	Sidechain
2	A8	2315	G	Sidechain
2	A8	2316	G	Sidechain
2	A8	2318	G	Sidechain
2	A8	2319	G	Sidechain
2	A8	2320	U	Sidechain
2	A8	2321	U	Sidechain
2	A8	2323	G	Sidechain
2	A8	2326	C	Sidechain
2	A8	2327	A	Sidechain
2	A8	2329	U	Sidechain
2	A8	2333	A	Sidechain
2	A8	2335	A	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2336	A	Sidechain
2	A8	2337	G	Sidechain
2	A8	234	U	Sidechain
2	A8	2341	G	Sidechain
2	A8	2344	U	Sidechain
2	A8	2345	G	Sidechain
2	A8	2346	A	Sidechain
2	A8	2349	G	Sidechain
2	A8	2350	C	Sidechain
2	A8	2352	A	Sidechain
2	A8	2354	C	Sidechain
2	A8	2357	G	Sidechain
2	A8	2359	C	Sidechain
2	A8	236	C	Sidechain
2	A8	2361	G	Sidechain
2	A8	2362	C	Sidechain
2	A8	2365	G	Sidechain
2	A8	2367	G	Sidechain
2	A8	2369	A	Sidechain
2	A8	2370	G	Sidechain
2	A8	2373	G	Sidechain
2	A8	2375	G	Sidechain
2	A8	2376	A	Sidechain
2	A8	2377	A	Sidechain
2	A8	2382	G	Sidechain
2	A8	2385	C	Sidechain
2	A8	2386	A	Sidechain
2	A8	2389	G	Sidechain
2	A8	2391	G	Sidechain
2	A8	2392	A	Sidechain
2	A8	2393	U	Sidechain
2	A8	2397	G	Sidechain
2	A8	2398	U	Sidechain
2	A8	2400	G	Sidechain
2	A8	2401	U	Sidechain
2	A8	2402	U	Sidechain
2	A8	2403	C	Sidechain
2	A8	2405	G	Sidechain
2	A8	2406	A	Sidechain
2	A8	2407	A	Sidechain
2	A8	2408	U	Sidechain
2	A8	2409	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	241	A	Sidechain
2	A8	2411	A	Sidechain
2	A8	2412	A	Sidechain
2	A8	2414	G	Sidechain
2	A8	2415	G	Sidechain
2	A8	2419	U	Sidechain
2	A8	2420	C	Sidechain
2	A8	2422	C	Sidechain
2	A8	2423	U	Sidechain
2	A8	2426	A	Sidechain
2	A8	2427	C	Sidechain
2	A8	2428	G	Sidechain
2	A8	2429	G	Sidechain
2	A8	2432	A	Sidechain
2	A8	2433	A	Sidechain
2	A8	2434	A	Sidechain
2	A8	2435	A	Sidechain
2	A8	2436	G	Sidechain
2	A8	2437	G	Sidechain
2	A8	2440	C	Sidechain
2	A8	2441	U	Sidechain
2	A8	2442	C	Sidechain
2	A8	2445	G	Sidechain
2	A8	2446	G	Sidechain
2	A8	2447	G	Sidechain
2	A8	2449	U	Sidechain
2	A8	245	G	Sidechain
2	A8	2452	C	Sidechain
2	A8	2454	G	Sidechain
2	A8	2455	G	Sidechain
2	A8	2457	U	Sidechain
2	A8	2458	G	Sidechain
2	A8	2460	U	Sidechain
2	A8	2461	A	Sidechain
2	A8	2463	C	Sidechain
2	A8	2468	A	Sidechain
2	A8	247	G	Sidechain
2	A8	2470	G	Sidechain
2	A8	2471	A	Sidechain
2	A8	2472	G	Sidechain
2	A8	2474	U	Sidechain
2	A8	2475	C	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2476	A	Sidechain
2	A8	2477	U	Sidechain
2	A8	2479	U	Sidechain
2	A8	2481	G	Sidechain
2	A8	2484	G	Sidechain
2	A8	2489	U	Sidechain
2	A8	249	C	Sidechain
2	A8	2490	G	Sidechain
2	A8	2491	U	Sidechain
2	A8	2492	U	Sidechain
2	A8	2493	U	Sidechain
2	A8	2495	G	Sidechain
2	A8	2496	C	Sidechain
2	A8	2497	A	Sidechain
2	A8	25	U	Sidechain
2	A8	250	G	Sidechain
2	A8	2500	U	Sidechain
2	A8	2502	G	Sidechain
2	A8	2503	A	Sidechain
2	A8	2504	U	Sidechain
2	A8	2505	G	Sidechain
2	A8	2506	U	Sidechain
2	A8	2507	C	Sidechain
2	A8	2509	G	Sidechain
2	A8	251	A	Sidechain
2	A8	2511	U	Sidechain
2	A8	2512	C	Sidechain
2	A8	2513	A	Sidechain
2	A8	2515	C	Sidechain
2	A8	2516	A	Sidechain
2	A8	2517	C	Sidechain
2	A8	2519	U	Sidechain
2	A8	252	G	Sidechain
2	A8	2524	G	Sidechain
2	A8	2525	G	Sidechain
2	A8	2533	U	Sidechain
2	A8	2534	A	Sidechain
2	A8	2535	G	Sidechain
2	A8	2536	G	Sidechain
2	A8	2537	U	Sidechain
2	A8	2541	A	Sidechain
2	A8	2542	A	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2545	G	Sidechain
2	A8	2547	A	Sidechain
2	A8	255	A	Sidechain
2	A8	2550	G	Sidechain
2	A8	2551	C	Sidechain
2	A8	2552	U	Sidechain
2	A8	2553	G	Sidechain
2	A8	2556	C	Sidechain
2	A8	2557	G	Sidechain
2	A8	2562	U	Sidechain
2	A8	2563	U	Sidechain
2	A8	2566	A	Sidechain
2	A8	2569	G	Sidechain
2	A8	2574	G	Sidechain
2	A8	2581	G	Sidechain
2	A8	2582	G	Sidechain
2	A8	2583	G	Sidechain
2	A8	2584	U	Sidechain
2	A8	2586	U	Sidechain
2	A8	2587	A	Sidechain
2	A8	2588	G	Sidechain
2	A8	259	G	Sidechain
2	A8	2590	A	Sidechain
2	A8	2591	C	Sidechain
2	A8	2593	U	Sidechain
2	A8	2595	G	Sidechain
2	A8	2596	U	Sidechain
2	A8	2597	G	Sidechain
2	A8	2598	A	Sidechain
2	A8	26	G	Sidechain
2	A8	2600	A	Sidechain
2	A8	2601	C	Sidechain
2	A8	2602	A	Sidechain
2	A8	2603	G	Sidechain
2	A8	2605	U	Sidechain
2	A8	2606	C	Sidechain
2	A8	2608	G	Sidechain
2	A8	261	G	Sidechain
2	A8	2613	U	Sidechain
2	A8	2614	A	Sidechain
2	A8	262	A	Sidechain
2	A8	2621	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2622	U	Sidechain
2	A8	2623	G	Sidechain
2	A8	2625	G	Sidechain
2	A8	2627	G	Sidechain
2	A8	2628	C	Sidechain
2	A8	2629	U	Sidechain
2	A8	2630	G	Sidechain
2	A8	2631	G	Sidechain
2	A8	2632	A	Sidechain
2	A8	2633	G	Sidechain
2	A8	2634	A	Sidechain
2	A8	2637	U	Sidechain
2	A8	2638	G	Sidechain
2	A8	2640	G	Sidechain
2	A8	2641	G	Sidechain
2	A8	2644	G	Sidechain
2	A8	2645	G	Sidechain
2	A8	2646	C	Sidechain
2	A8	265	A	Sidechain
2	A8	2656	U	Sidechain
2	A8	2658	C	Sidechain
2	A8	2659	G	Sidechain
2	A8	266	G	Sidechain
2	A8	2660	A	Sidechain
2	A8	2661	G	Sidechain
2	A8	2662	A	Sidechain
2	A8	2663	G	Sidechain
2	A8	2664	G	Sidechain
2	A8	2669	G	Sidechain
2	A8	267	C	Sidechain
2	A8	2670	A	Sidechain
2	A8	2671	G	Sidechain
2	A8	2674	G	Sidechain
2	A8	2675	A	Sidechain
2	A8	2676	C	Sidechain
2	A8	268	C	Sidechain
2	A8	2680	U	Sidechain
2	A8	2681	C	Sidechain
2	A8	2688	G	Sidechain
2	A8	2690	U	Sidechain
2	A8	2693	G	Sidechain
2	A8	2695	U	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2699	C	Sidechain
2	A8	27	G	Sidechain
2	A8	2704	C	Sidechain
2	A8	2705	A	Sidechain
2	A8	2706	A	Sidechain
2	A8	2707	U	Sidechain
2	A8	271	G	Sidechain
2	A8	2710	C	Sidechain
2	A8	2717	C	Sidechain
2	A8	2719	G	Sidechain
2	A8	2721	A	Sidechain
2	A8	2722	G	Sidechain
2	A8	2726	A	Sidechain
2	A8	2727	A	Sidechain
2	A8	2728	U	Sidechain
2	A8	2729	G	Sidechain
2	A8	273	G	Sidechain
2	A8	2731	G	Sidechain
2	A8	2732	G	Sidechain
2	A8	2733	A	Sidechain
2	A8	2734	A	Sidechain
2	A8	2735	G	Sidechain
2	A8	2736	A	Sidechain
2	A8	2738	A	Sidechain
2	A8	2739	U	Sidechain
2	A8	2741	A	Sidechain
2	A8	2744	G	Sidechain
2	A8	2746	U	Sidechain
2	A8	2747	G	Sidechain
2	A8	2749	A	Sidechain
2	A8	2750	A	Sidechain
2	A8	2751	G	Sidechain
2	A8	2754	U	Sidechain
2	A8	2756	U	Sidechain
2	A8	2757	A	Sidechain
2	A8	2758	A	Sidechain
2	A8	2759	G	Sidechain
2	A8	276	U	Sidechain
2	A8	2763	G	Sidechain
2	A8	2764	A	Sidechain
2	A8	2765	A	Sidechain
2	A8	277	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2770	G	Sidechain
2	A8	2771	C	Sidechain
2	A8	2772	C	Sidechain
2	A8	2776	A	Sidechain
2	A8	278	A	Sidechain
2	A8	2780	G	Sidechain
2	A8	2781	A	Sidechain
2	A8	2782	G	Sidechain
2	A8	2783	U	Sidechain
2	A8	2784	U	Sidechain
2	A8	2786	U	Sidechain
2	A8	2787	C	Sidechain
2	A8	2789	C	Sidechain
2	A8	2790	U	Sidechain
2	A8	2792	A	Sidechain
2	A8	2797	U	Sidechain
2	A8	2798	U	Sidechain
2	A8	28	A	Sidechain
2	A8	2801	G	Sidechain
2	A8	2802	G	Sidechain
2	A8	2803	G	Sidechain
2	A8	2804	U	Sidechain
2	A8	2808	G	Sidechain
2	A8	2809	A	Sidechain
2	A8	2810	A	Sidechain
2	A8	2812	G	Sidechain
2	A8	2813	A	Sidechain
2	A8	2814	A	Sidechain
2	A8	2816	G	Sidechain
2	A8	2818	U	Sidechain
2	A8	282	A	Sidechain
2	A8	2821	A	Sidechain
2	A8	2824	C	Sidechain
2	A8	2825	G	Sidechain
2	A8	283	G	Sidechain
2	A8	2830	C	Sidechain
2	A8	2831	G	Sidechain
2	A8	2832	U	Sidechain
2	A8	2833	U	Sidechain
2	A8	2834	G	Sidechain
2	A8	2836	U	Sidechain
2	A8	2838	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	2842	G	Sidechain
2	A8	2844	G	Sidechain
2	A8	2846	G	Sidechain
2	A8	2847	U	Sidechain
2	A8	2849	U	Sidechain
2	A8	285	G	Sidechain
2	A8	2850	A	Sidechain
2	A8	2851	A	Sidechain
2	A8	2852	G	Sidechain
2	A8	2858	C	Sidechain
2	A8	2859	G	Sidechain
2	A8	2860	A	Sidechain
2	A8	2863	C	Sidechain
2	A8	2865	U	Sidechain
2	A8	2866	U	Sidechain
2	A8	2867	G	Sidechain
2	A8	2868	A	Sidechain
2	A8	2872	A	Sidechain
2	A8	2875	C	Sidechain
2	A8	288	U	Sidechain
2	A8	2880	C	Sidechain
2	A8	2881	U	Sidechain
2	A8	2883	A	Sidechain
2	A8	2884	U	Sidechain
2	A8	2885	G	Sidechain
2	A8	2886	A	Sidechain
2	A8	2887	A	Sidechain
2	A8	2888	C	Sidechain
2	A8	2891	U	Sidechain
2	A8	2893	A	Sidechain
2	A8	2894	G	Sidechain
2	A8	2897	U	Sidechain
2	A8	294	A	Sidechain
2	A8	296	U	Sidechain
2	A8	299	A	Sidechain
2	A8	304	U	Sidechain
2	A8	305	C	Sidechain
2	A8	309	A	Sidechain
2	A8	31	C	Sidechain
2	A8	311	A	Sidechain
2	A8	312	G	Sidechain
2	A8	313	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	32	C	Sidechain
2	A8	321	U	Sidechain
2	A8	322	A	Sidechain
2	A8	326	G	Sidechain
2	A8	33	C	Sidechain
2	A8	332	A	Sidechain
2	A8	338	G	Sidechain
2	A8	339	U	Sidechain
2	A8	34	U	Sidechain
2	A8	343	C	Sidechain
2	A8	345	A	Sidechain
2	A8	346	A	Sidechain
2	A8	347	A	Sidechain
2	A8	349	U	Sidechain
2	A8	35	G	Sidechain
2	A8	353	C	Sidechain
2	A8	356	G	Sidechain
2	A8	358	U	Sidechain
2	A8	359	G	Sidechain
2	A8	36	G	Sidechain
2	A8	361	G	Sidechain
2	A8	363	G	Sidechain
2	A8	364	C	Sidechain
2	A8	367	G	Sidechain
2	A8	368	A	Sidechain
2	A8	374	A	Sidechain
2	A8	376	G	Sidechain
2	A8	377	G	Sidechain
2	A8	380	G	Sidechain
2	A8	381	G	Sidechain
2	A8	382	A	Sidechain
2	A8	384	A	Sidechain
2	A8	387	U	Sidechain
2	A8	389	G	Sidechain
2	A8	39	G	Sidechain
2	A8	392	U	Sidechain
2	A8	394	C	Sidechain
2	A8	395	U	Sidechain
2	A8	396	G	Sidechain
2	A8	397	U	Sidechain
2	A8	40	U	Sidechain
2	A8	400	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	407	G	Sidechain
2	A8	410	G	Sidechain
2	A8	411	G	Sidechain
2	A8	413	C	Sidechain
2	A8	414	C	Sidechain
2	A8	419	U	Sidechain
2	A8	420	C	Sidechain
2	A8	424	G	Sidechain
2	A8	427	U	Sidechain
2	A8	428	A	Sidechain
2	A8	429	A	Sidechain
2	A8	436	C	Sidechain
2	A8	438	G	Sidechain
2	A8	439	A	Sidechain
2	A8	441	U	Sidechain
2	A8	442	G	Sidechain
2	A8	443	A	Sidechain
2	A8	444	C	Sidechain
2	A8	445	C	Sidechain
2	A8	446	G	Sidechain
2	A8	447	A	Sidechain
2	A8	448	U	Sidechain
2	A8	45	G	Sidechain
2	A8	450	G	Sidechain
2	A8	451	U	Sidechain
2	A8	453	A	Sidechain
2	A8	454	A	Sidechain
2	A8	455	C	Sidechain
2	A8	457	A	Sidechain
2	A8	458	G	Sidechain
2	A8	459	U	Sidechain
2	A8	464	U	Sidechain
2	A8	465	G	Sidechain
2	A8	467	G	Sidechain
2	A8	469	G	Sidechain
2	A8	472	A	Sidechain
2	A8	476	G	Sidechain
2	A8	478	A	Sidechain
2	A8	479	A	Sidechain
2	A8	481	G	Sidechain
2	A8	487	C	Sidechain
2	A8	488	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	489	G	Sidechain
2	A8	490	C	Sidechain
2	A8	491	G	Sidechain
2	A8	492	A	Sidechain
2	A8	496	G	Sidechain
2	A8	499	U	Sidechain
2	A8	501	A	Sidechain
2	A8	502	A	Sidechain
2	A8	505	A	Sidechain
2	A8	506	G	Sidechain
2	A8	509	C	Sidechain
2	A8	51	G	Sidechain
2	A8	513	A	Sidechain
2	A8	514	A	Sidechain
2	A8	515	A	Sidechain
2	A8	519	U	Sidechain
2	A8	52	A	Sidechain
2	A8	521	U	Sidechain
2	A8	526	A	Sidechain
2	A8	527	C	Sidechain
2	A8	528	A	Sidechain
2	A8	530	G	Sidechain
2	A8	536	G	Sidechain
2	A8	543	G	Sidechain
2	A8	548	G	Sidechain
2	A8	55	G	Sidechain
2	A8	551	G	Sidechain
2	A8	555	G	Sidechain
2	A8	557	C	Sidechain
2	A8	558	U	Sidechain
2	A8	566	U	Sidechain
2	A8	569	U	Sidechain
2	A8	573	U	Sidechain
2	A8	574	A	Sidechain
2	A8	577	G	Sidechain
2	A8	582	A	Sidechain
2	A8	584	C	Sidechain
2	A8	585	G	Sidechain
2	A8	588	U	Sidechain
2	A8	59	U	Sidechain
2	A8	590	A	Sidechain
2	A8	60	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	602	A	Sidechain
2	A8	604	G	Sidechain
2	A8	605	G	Sidechain
2	A8	606	U	Sidechain
2	A8	607	U	Sidechain
2	A8	614	A	Sidechain
2	A8	619	G	Sidechain
2	A8	620	G	Sidechain
2	A8	621	A	Sidechain
2	A8	624	C	Sidechain
2	A8	626	A	Sidechain
2	A8	628	G	Sidechain
2	A8	629	G	Sidechain
2	A8	63	A	Sidechain
2	A8	630	G	Sidechain
2	A8	631	A	Sidechain
2	A8	632	A	Sidechain
2	A8	633	A	Sidechain
2	A8	64	A	Sidechain
2	A8	642	U	Sidechain
2	A8	643	A	Sidechain
2	A8	644	A	Sidechain
2	A8	646	U	Sidechain
2	A8	647	G	Sidechain
2	A8	648	G	Sidechain
2	A8	649	G	Sidechain
2	A8	65	U	Sidechain
2	A8	650	C	Sidechain
2	A8	651	G	Sidechain
2	A8	655	A	Sidechain
2	A8	656	G	Sidechain
2	A8	663	G	Sidechain
2	A8	664	G	Sidechain
2	A8	667	U	Sidechain
2	A8	669	G	Sidechain
2	A8	671	C	Sidechain
2	A8	674	G	Sidechain
2	A8	675	A	Sidechain
2	A8	676	A	Sidechain
2	A8	677	A	Sidechain
2	A8	678	C	Sidechain
2	A8	68	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	682	G	Sidechain
2	A8	684	G	Sidechain
2	A8	685	A	Sidechain
2	A8	687	C	Sidechain
2	A8	690	G	Sidechain
2	A8	692	C	Sidechain
2	A8	699	A	Sidechain
2	A8	7	G	Sidechain
2	A8	70	G	Sidechain
2	A8	703	U	Sidechain
2	A8	704	G	Sidechain
2	A8	705	A	Sidechain
2	A8	708	G	Sidechain
2	A8	709	U	Sidechain
2	A8	711	G	Sidechain
2	A8	712	G	Sidechain
2	A8	713	G	Sidechain
2	A8	715	A	Sidechain
2	A8	718	A	Sidechain
2	A8	72	U	Sidechain
2	A8	725	G	Sidechain
2	A8	726	G	Sidechain
2	A8	727	A	Sidechain
2	A8	728	G	Sidechain
2	A8	73	A	Sidechain
2	A8	733	G	Sidechain
2	A8	736	C	Sidechain
2	A8	737	C	Sidechain
2	A8	74	A	Sidechain
2	A8	741	U	Sidechain
2	A8	744	U	Sidechain
2	A8	749	A	Sidechain
2	A8	754	U	Sidechain
2	A8	755	U	Sidechain
2	A8	757	G	Sidechain
2	A8	758	C	Sidechain
2	A8	759	G	Sidechain
2	A8	760	G	Sidechain
2	A8	761	A	Sidechain
2	A8	770	G	Sidechain
2	A8	773	U	Sidechain
2	A8	776	G	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	777	G	Sidechain
2	A8	780	G	Sidechain
2	A8	782	A	Sidechain
2	A8	783	A	Sidechain
2	A8	784	G	Sidechain
2	A8	785	G	Sidechain
2	A8	788	A	Sidechain
2	A8	789	A	Sidechain
2	A8	792	A	Sidechain
2	A8	793	A	Sidechain
2	A8	794	A	Sidechain
2	A8	799	G	Sidechain
2	A8	800	A	Sidechain
2	A8	801	G	Sidechain
2	A8	81	G	Sidechain
2	A8	811	U	Sidechain
2	A8	818	G	Sidechain
2	A8	822	G	Sidechain
2	A8	826	U	Sidechain
2	A8	827	U	Sidechain
2	A8	829	A	Sidechain
2	A8	831	G	Sidechain
2	A8	834	G	Sidechain
2	A8	836	G	Sidechain
2	A8	837	C	Sidechain
2	A8	839	U	Sidechain
2	A8	84	A	Sidechain
2	A8	840	C	Sidechain
2	A8	843	G	Sidechain
2	A8	844	A	Sidechain
2	A8	846	U	Sidechain
2	A8	847	U	Sidechain
2	A8	85	G	Sidechain
2	A8	852	U	Sidechain
2	A8	854	C	Sidechain
2	A8	857	G	Sidechain
2	A8	858	G	Sidechain
2	A8	859	G	Sidechain
2	A8	86	G	Sidechain
2	A8	860	U	Sidechain
2	A8	862	G	Sidechain
2	A8	863	A	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	865	C	Sidechain
2	A8	866	A	Sidechain
2	A8	868	U	Sidechain
2	A8	870	U	Sidechain
2	A8	871	U	Sidechain
2	A8	872	U	Sidechain
2	A8	873	C	Sidechain
2	A8	877	A	Sidechain
2	A8	878	A	Sidechain
2	A8	88	G	Sidechain
2	A8	880	G	Sidechain
2	A8	881	G	Sidechain
2	A8	882	G	Sidechain
2	A8	883	G	Sidechain
2	A8	889	C	Sidechain
2	A8	890	C	Sidechain
2	A8	891	G	Sidechain
2	A8	892	A	Sidechain
2	A8	895	U	Sidechain
2	A8	897	C	Sidechain
2	A8	899	A	Sidechain
2	A8	900	A	Sidechain
2	A8	901	C	Sidechain
2	A8	903	C	Sidechain
2	A8	906	U	Sidechain
2	A8	907	G	Sidechain
2	A8	909	A	Sidechain
2	A8	91	A	Sidechain
2	A8	910	A	Sidechain
2	A8	912	C	Sidechain
2	A8	913	U	Sidechain
2	A8	914	G	Sidechain
2	A8	915	C	Sidechain
2	A8	916	G	Sidechain
2	A8	917	A	Sidechain
2	A8	918	A	Sidechain
2	A8	919	U	Sidechain
2	A8	92	U	Sidechain
2	A8	920	A	Sidechain
2	A8	923	G	Sidechain
2	A8	926	G	Sidechain
2	A8	931	U	Sidechain

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Mol	Chain	Res	Type	Group
2	A8	932	U	Sidechain
2	A8	933	A	Sidechain
2	A8	937	C	Sidechain
2	A8	94	A	Sidechain
2	A8	940	G	Sidechain
2	A8	941	A	Sidechain
2	A8	942	G	Sidechain
2	A8	943	A	Sidechain
2	A8	945	A	Sidechain
2	A8	946	C	Sidechain
2	A8	948	C	Sidechain
2	A8	949	G	Sidechain
2	A8	950	G	Sidechain
2	A8	951	C	Sidechain
2	A8	954	G	Sidechain
2	A8	955	U	Sidechain
2	A8	957	C	Sidechain
2	A8	959	A	Sidechain
2	A8	960	A	Sidechain
2	A8	966	G	Sidechain
2	A8	968	C	Sidechain
2	A8	970	U	Sidechain
2	A8	973	A	Sidechain
2	A8	974	G	Sidechain
2	A8	976	G	Sidechain
2	A8	977	G	Sidechain
2	A8	978	G	Sidechain
2	A8	979	A	Sidechain
2	A8	982	C	Sidechain
2	A8	983	A	Sidechain
2	A8	984	A	Sidechain
2	A8	985	C	Sidechain
2	A8	989	G	Sidechain
2	A8	99	U	Sidechain
2	A8	990	A	Sidechain
2	A8	992	C	Sidechain
2	A8	993	G	Sidechain
2	A8	996	A	Sidechain
2	A8	999	U	Sidechain
3	AA	237	TYR	Sidechain
3	AA	238	ALA	Peptide
3	AA	245	ARG	Sidechain

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Mol	Chain	Res	Type	Group
3	AA	251	SER	Peptide
3	AA	260	TYR	Sidechain
3	AA	305	TYR	Sidechain
3	AA	367	ARG	Sidechain
3	AA	379	ARG	Sidechain
3	AA	383	TYR	Sidechain
3	AA	385	PRO	Peptide
3	AA	437	HIS	Peptide
3	AA	439	ALA	Peptide
4	AB	27	LYS	Peptide
4	AB	33	TYR	Sidechain
8	AD	125	TRP	Peptide
8	AD	128	ARG	Sidechain
8	AD	137	SER	Peptide
8	AD	155	VAL	Peptide
8	AD	169	ARG	Sidechain
8	AD	46	ARG	Peptide
8	AD	67	HIS	Sidechain
8	AD	73	VAL	Peptide
8	AD	83	ARG	Sidechain
9	AE	115	GLN	Peptide
9	AE	163	ASN	Peptide
9	AE	43	THR	Peptide
9	AE	51	GLU	Peptide
9	AE	57	LYS	Peptide
9	AE	85	PHE	Sidechain
10	AF	124	ARG	Sidechain
10	AF	142	TYR	Sidechain
10	AF	6	TYR	Sidechain
10	AF	82	TYR	Peptide
10	AF	84	ILE	Peptide
11	AG	119	GLY	Peptide
11	AG	150	TYR	Sidechain
11	AG	152	ARG	Sidechain
11	AG	163	TYR	Sidechain
11	AG	57	TYR	Sidechain
11	AG	94	ARG	Sidechain
12	AH	133	GLN	Peptide
12	AH	65	ALA	Peptide
13	AI	138	VAL	Peptide
13	AI	2	LYS	Peptide
13	AI	7	TYR	Sidechain

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Mol	Chain	Res	Type	Group
14	AJ	100	VAL	Peptide
14	AJ	119	PHE	Sidechain
14	AJ	27	ARG	Sidechain
14	AJ	63	ALA	Peptide
14	AJ	75	TYR	Sidechain
14	AJ	95	ARG	Sidechain
15	AK	29	ARG	Peptide,Sidechain
15	AK	31	TYR	Sidechain
15	AK	70	ARG	Peptide
16	AL	12	SER	Peptide
16	AL	123	ARG	Sidechain
16	AL	58	TYR	Sidechain
16	AL	78	ARG	Sidechain
17	AM	103	TYR	Sidechain
17	AM	2	LEU	Peptide
17	AM	41	LEU	Peptide
17	AM	59	ARG	Sidechain
17	AM	6	ARG	Peptide,Sidechain
17	AM	68	PHE	Peptide
17	AM	7	THR	Peptide
17	AM	70	ASP	Peptide
17	AM	74	THR	Peptide
17	AM	79	ALA	Peptide
17	AM	9	PHE	Sidechain
17	AM	91	TYR	Sidechain
18	AN	2	ARG	Sidechain
18	AN	30	ARG	Sidechain
18	AN	31	HIS	Sidechain
18	AN	94	TYR	Sidechain
19	AO	111	ARG	Sidechain
19	AO	16	ARG	Sidechain
19	AO	64	TYR	Sidechain
20	AP	15	ASP	Peptide
20	AP	20	ARG	Sidechain
20	AP	38	ARG	Sidechain
20	AP	51	ASN	Peptide
20	AP	71	ARG	Sidechain
21	AQ	14	LYS	Peptide
21	AQ	2	ARG	Sidechain
21	AQ	23	TYR	Peptide
21	AQ	44	TYR	Sidechain
21	AQ	46	TYR	Sidechain

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Mol	Chain	Res	Type	Group
21	AQ	49	ARG	Sidechain
21	AQ	54	ARG	Sidechain
22	AR	28	ALA	Peptide
22	AR	79	ARG	Sidechain
22	AR	80	ARG	Peptide
22	AR	93	PHE	Sidechain
23	AS	12	SER	Peptide
23	AS	23	LEU	Peptide
24	AT	73	ARG	Sidechain
24	AT	79	ASP	Peptide
24	AT	84	TYR	Sidechain
25	AU	5	ARG	Sidechain
25	AU	84	PHE	Sidechain
25	AU	85	ARG	Sidechain
25	AU	99	SER	Peptide
26	AV	31	TYR	Sidechain
27	AW	40	ARG	Sidechain
28	AX	17	ARG	Sidechain
28	AX	29	LEU	Peptide
29	AY	2	LYS	Peptide
29	AY	31	GLN	Peptide
30	AZ	15	ARG	Sidechain
30	AZ	6	ILE	Peptide
36	BA	1000	A	Sidechain
36	BA	1001	C	Sidechain
36	BA	1003	G	Sidechain
36	BA	1006	G	Sidechain
36	BA	1008	U	Sidechain
36	BA	101	A	Sidechain
36	BA	1015	G	Sidechain
36	BA	1016	A	Sidechain
36	BA	1017	U	Sidechain
36	BA	1019	A	Sidechain
36	BA	102	G	Sidechain
36	BA	1024	G	Sidechain
36	BA	1027	C	Sidechain
36	BA	1034	G	Sidechain
36	BA	1040	U	Sidechain
36	BA	1045	C	Sidechain
36	BA	1046	A	Sidechain
36	BA	1048	G	Sidechain
36	BA	105	G	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	1054	C	Sidechain
36	BA	1056	U	Sidechain
36	BA	1067	A	Sidechain
36	BA	1070	U	Sidechain
36	BA	1071	C	Sidechain
36	BA	1074	G	Sidechain
36	BA	1076	U	Sidechain
36	BA	1078	U	Sidechain
36	BA	1079	G	Sidechain
36	BA	108	G	Sidechain
36	BA	1080	A	Sidechain
36	BA	1081	A	Sidechain
36	BA	1083	U	Sidechain
36	BA	1084	G	Sidechain
36	BA	1088	G	Sidechain
36	BA	1094	G	Sidechain
36	BA	1095	U	Sidechain
36	BA	1096	C	Sidechain
36	BA	1098	C	Sidechain
36	BA	1099	G	Sidechain
36	BA	110	C	Sidechain
36	BA	1101	A	Sidechain
36	BA	1103	C	Sidechain
36	BA	1106	G	Sidechain
36	BA	1109	C	Sidechain
36	BA	111	G	Sidechain
36	BA	1110	A	Sidechain
36	BA	1111	A	Sidechain
36	BA	1112	C	Sidechain
36	BA	1116	U	Sidechain
36	BA	1118	U	Sidechain
36	BA	112	G	Sidechain
36	BA	1121	U	Sidechain
36	BA	1124	G	Sidechain
36	BA	1125	U	Sidechain
36	BA	1126	U	Sidechain
36	BA	1127	G	Sidechain
36	BA	1129	C	Sidechain
36	BA	113	G	Sidechain
36	BA	1131	G	Sidechain
36	BA	1132	C	Sidechain
36	BA	1134	G	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	114	U	Sidechain
36	BA	1144	G	Sidechain
36	BA	1145	A	Sidechain
36	BA	1151	A	Sidechain
36	BA	1156	G	Sidechain
36	BA	1161	C	Sidechain
36	BA	1164	G	Sidechain
36	BA	1166	G	Sidechain
36	BA	1167	A	Sidechain
36	BA	1168	U	Sidechain
36	BA	1174	G	Sidechain
36	BA	1178	G	Sidechain
36	BA	1179	A	Sidechain
36	BA	118	U	Sidechain
36	BA	1181	G	Sidechain
36	BA	1183	U	Sidechain
36	BA	1185	G	Sidechain
36	BA	1186	G	Sidechain
36	BA	1187	G	Sidechain
36	BA	119	A	Sidechain
36	BA	1191	A	Sidechain
36	BA	1193	G	Sidechain
36	BA	1195	C	Sidechain
36	BA	1198	G	Sidechain
36	BA	120	A	Sidechain
36	BA	1201	A	Sidechain
36	BA	1204	A	Sidechain
36	BA	1205	U	Sidechain
36	BA	1210	C	Sidechain
36	BA	1212	U	Sidechain
36	BA	1213	A	Sidechain
36	BA	1215	G	Sidechain
36	BA	1216	A	Sidechain
36	BA	1219	A	Sidechain
36	BA	122	G	Sidechain
36	BA	1221	G	Sidechain
36	BA	1224	U	Sidechain
36	BA	1226	C	Sidechain
36	BA	1228	C	Sidechain
36	BA	1229	A	Sidechain
36	BA	123	U	Sidechain
36	BA	1233	G	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	1235	U	Sidechain
36	BA	1237	C	Sidechain
36	BA	1239	A	Sidechain
36	BA	1242	G	Sidechain
36	BA	1243	C	Sidechain
36	BA	1246	A	Sidechain
36	BA	1249	C	Sidechain
36	BA	1252	A	Sidechain
36	BA	1255	G	Sidechain
36	BA	1257	A	Sidechain
36	BA	1258	G	Sidechain
36	BA	1259	C	Sidechain
36	BA	1260	G	Sidechain
36	BA	1262	C	Sidechain
36	BA	1264	U	Sidechain
36	BA	1265	C	Sidechain
36	BA	1266	G	Sidechain
36	BA	1268	G	Sidechain
36	BA	1269	A	Sidechain
36	BA	127	G	Sidechain
36	BA	1270	G	Sidechain
36	BA	1271	A	Sidechain
36	BA	1272	G	Sidechain
36	BA	1274	A	Sidechain
36	BA	1278	G	Sidechain
36	BA	1279	G	Sidechain
36	BA	1281	C	Sidechain
36	BA	1283	U	Sidechain
36	BA	1285	A	Sidechain
36	BA	1288	A	Sidechain
36	BA	1289	A	Sidechain
36	BA	1293	C	Sidechain
36	BA	1294	G	Sidechain
36	BA	1297	G	Sidechain
36	BA	1299	A	Sidechain
36	BA	13	U	Sidechain
36	BA	130	A	Sidechain
36	BA	1300	G	Sidechain
36	BA	1302	C	Sidechain
36	BA	1304	G	Sidechain
36	BA	1305	G	Sidechain
36	BA	1309	G	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	1315	U	Sidechain
36	BA	1316	G	Sidechain
36	BA	1319	A	Sidechain
36	BA	1323	G	Sidechain
36	BA	1324	A	Sidechain
36	BA	1327	C	Sidechain
36	BA	1330	U	Sidechain
36	BA	1331	G	Sidechain
36	BA	1334	G	Sidechain
36	BA	1338	G	Sidechain
36	BA	134	G	Sidechain
36	BA	1341	U	Sidechain
36	BA	1343	G	Sidechain
36	BA	1345	U	Sidechain
36	BA	1346	A	Sidechain
36	BA	1349	A	Sidechain
36	BA	135	C	Sidechain
36	BA	1353	G	Sidechain
36	BA	1354	U	Sidechain
36	BA	1356	G	Sidechain
36	BA	1358	U	Sidechain
36	BA	1359	C	Sidechain
36	BA	1360	A	Sidechain
36	BA	1361	G	Sidechain
36	BA	1362	A	Sidechain
36	BA	1363	A	Sidechain
36	BA	1365	G	Sidechain
36	BA	1374	A	Sidechain
36	BA	1379	G	Sidechain
36	BA	138	G	Sidechain
36	BA	1380	U	Sidechain
36	BA	1381	U	Sidechain
36	BA	1384	C	Sidechain
36	BA	1386	G	Sidechain
36	BA	1387	G	Sidechain
36	BA	1390	U	Sidechain
36	BA	1391	U	Sidechain
36	BA	1392	G	Sidechain
36	BA	1396	A	Sidechain
36	BA	1398	A	Sidechain
36	BA	1399	C	Sidechain
36	BA	14	U	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	140	U	Sidechain
36	BA	1405	G	Sidechain
36	BA	1406	U	Sidechain
36	BA	141	G	Sidechain
36	BA	1412	C	Sidechain
36	BA	1414	U	Sidechain
36	BA	1417	G	Sidechain
36	BA	1418	A	Sidechain
36	BA	1419	G	Sidechain
36	BA	1421	G	Sidechain
36	BA	1425	U	Sidechain
36	BA	1429	A	Sidechain
36	BA	143	A	Sidechain
36	BA	1432	G	Sidechain
36	BA	1437	A	Sidechain
36	BA	1438	G	Sidechain
36	BA	1439	G	Sidechain
36	BA	1440	U	Sidechain
36	BA	1441	A	Sidechain
36	BA	1445	U	Sidechain
36	BA	1446	A	Sidechain
36	BA	1447	A	Sidechain
36	BA	1448	C	Sidechain
36	BA	1449	C	Sidechain
36	BA	145	G	Sidechain
36	BA	1451	U	Sidechain
36	BA	1453	G	Sidechain
36	BA	1454	G	Sidechain
36	BA	1455	G	Sidechain
36	BA	1456	A	Sidechain
36	BA	1457	G	Sidechain
36	BA	1458	G	Sidechain
36	BA	1459	G	Sidechain
36	BA	146	G	Sidechain
36	BA	1464	U	Sidechain
36	BA	1465	A	Sidechain
36	BA	1467	C	Sidechain
36	BA	1470	U	Sidechain
36	BA	1471	U	Sidechain
36	BA	1474	U	Sidechain
36	BA	1475	G	Sidechain
36	BA	1476	A	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	1477	U	Sidechain
36	BA	1478	U	Sidechain
36	BA	1479	C	Sidechain
36	BA	1480	A	Sidechain
36	BA	1481	U	Sidechain
36	BA	1483	A	Sidechain
36	BA	1487	G	Sidechain
36	BA	1488	G	Sidechain
36	BA	149	A	Sidechain
36	BA	1494	G	Sidechain
36	BA	1497	G	Sidechain
36	BA	150	U	Sidechain
36	BA	1500	A	Sidechain
36	BA	1502	A	Sidechain
36	BA	1503	A	Sidechain
36	BA	1505	G	Sidechain
36	BA	1507	A	Sidechain
36	BA	1512	U	Sidechain
36	BA	1514	G	Sidechain
36	BA	1515	G	Sidechain
36	BA	1516	G	Sidechain
36	BA	1517	G	Sidechain
36	BA	1518	A	Sidechain
36	BA	1519	A	Sidechain
36	BA	1520	C	Sidechain
36	BA	1523	G	Sidechain
36	BA	1524	C	Sidechain
36	BA	1525	G	Sidechain
36	BA	1527	U	Sidechain
36	BA	1529	G	Sidechain
36	BA	153	C	Sidechain
36	BA	1530	G	Sidechain
36	BA	154	U	Sidechain
36	BA	155	A	Sidechain
36	BA	165	G	Sidechain
36	BA	166	U	Sidechain
36	BA	168	G	Sidechain
36	BA	169	C	Sidechain
36	BA	171	A	Sidechain
36	BA	172	A	Sidechain
36	BA	174	A	Sidechain
36	BA	175	C	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	178	C	Sidechain
36	BA	181	A	Sidechain
36	BA	183	C	Sidechain
36	BA	184	G	Sidechain
36	BA	195	A	Sidechain
36	BA	196	A	Sidechain
36	BA	20	U	Sidechain
36	BA	200	G	Sidechain
36	BA	201	G	Sidechain
36	BA	203	G	Sidechain
36	BA	204	G	Sidechain
36	BA	205	A	Sidechain
36	BA	208	U	Sidechain
36	BA	210	C	Sidechain
36	BA	212	G	Sidechain
36	BA	213	G	Sidechain
36	BA	216	U	Sidechain
36	BA	219	U	Sidechain
36	BA	222	C	Sidechain
36	BA	230	G	Sidechain
36	BA	233	C	Sidechain
36	BA	235	C	Sidechain
36	BA	236	A	Sidechain
36	BA	237	G	Sidechain
36	BA	239	U	Sidechain
36	BA	24	U	Sidechain
36	BA	241	G	Sidechain
36	BA	242	G	Sidechain
36	BA	243	A	Sidechain
36	BA	244	U	Sidechain
36	BA	245	U	Sidechain
36	BA	246	A	Sidechain
36	BA	250	A	Sidechain
36	BA	251	G	Sidechain
36	BA	253	A	Sidechain
36	BA	254	G	Sidechain
36	BA	260	G	Sidechain
36	BA	261	U	Sidechain
36	BA	262	A	Sidechain
36	BA	263	A	Sidechain
36	BA	264	C	Sidechain
36	BA	266	G	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	267	C	Sidechain
36	BA	269	C	Sidechain
36	BA	273	U	Sidechain
36	BA	274	A	Sidechain
36	BA	275	G	Sidechain
36	BA	285	C	Sidechain
36	BA	286	C	Sidechain
36	BA	288	A	Sidechain
36	BA	289	G	Sidechain
36	BA	291	U	Sidechain
36	BA	292	G	Sidechain
36	BA	293	G	Sidechain
36	BA	295	C	Sidechain
36	BA	297	G	Sidechain
36	BA	298	A	Sidechain
36	BA	300	A	Sidechain
36	BA	301	G	Sidechain
36	BA	305	G	Sidechain
36	BA	307	C	Sidechain
36	BA	308	C	Sidechain
36	BA	31	G	Sidechain
36	BA	315	A	Sidechain
36	BA	319	G	Sidechain
36	BA	320	A	Sidechain
36	BA	321	A	Sidechain
36	BA	323	U	Sidechain
36	BA	329	A	Sidechain
36	BA	337	G	Sidechain
36	BA	339	C	Sidechain
36	BA	340	U	Sidechain
36	BA	343	U	Sidechain
36	BA	345	C	Sidechain
36	BA	346	G	Sidechain
36	BA	35	G	Sidechain
36	BA	350	G	Sidechain
36	BA	359	G	Sidechain
36	BA	360	G	Sidechain
36	BA	361	G	Sidechain
36	BA	362	G	Sidechain
36	BA	365	U	Sidechain
36	BA	366	A	Sidechain
36	BA	367	U	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	368	U	Sidechain
36	BA	37	U	Sidechain
36	BA	370	C	Sidechain
36	BA	373	A	Sidechain
36	BA	374	A	Sidechain
36	BA	376	G	Sidechain
36	BA	377	G	Sidechain
36	BA	38	G	Sidechain
36	BA	380	G	Sidechain
36	BA	382	A	Sidechain
36	BA	384	G	Sidechain
36	BA	386	C	Sidechain
36	BA	388	G	Sidechain
36	BA	390	U	Sidechain
36	BA	391	G	Sidechain
36	BA	394	G	Sidechain
36	BA	395	C	Sidechain
36	BA	396	C	Sidechain
36	BA	399	G	Sidechain
36	BA	403	C	Sidechain
36	BA	405	U	Sidechain
36	BA	409	U	Sidechain
36	BA	411	A	Sidechain
36	BA	412	A	Sidechain
36	BA	416	G	Sidechain
36	BA	417	G	Sidechain
36	BA	419	C	Sidechain
36	BA	42	G	Sidechain
36	BA	420	U	Sidechain
36	BA	422	C	Sidechain
36	BA	423	G	Sidechain
36	BA	428	G	Sidechain
36	BA	429	U	Sidechain
36	BA	430	A	Sidechain
36	BA	432	A	Sidechain
36	BA	433	G	Sidechain
36	BA	438	U	Sidechain
36	BA	439	U	Sidechain
36	BA	440	C	Sidechain
36	BA	442	G	Sidechain
36	BA	443	C	Sidechain
36	BA	446	G	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	447	G	Sidechain
36	BA	449	G	Sidechain
36	BA	450	G	Sidechain
36	BA	451	A	Sidechain
36	BA	452	A	Sidechain
36	BA	454	G	Sidechain
36	BA	455	G	Sidechain
36	BA	457	G	Sidechain
36	BA	458	U	Sidechain
36	BA	46	G	Sidechain
36	BA	460	A	Sidechain
36	BA	461	A	Sidechain
36	BA	462	G	Sidechain
36	BA	463	U	Sidechain
36	BA	466	A	Sidechain
36	BA	467	U	Sidechain
36	BA	47	C	Sidechain
36	BA	472	U	Sidechain
36	BA	473	U	Sidechain
36	BA	476	U	Sidechain
36	BA	478	A	Sidechain
36	BA	480	U	Sidechain
36	BA	482	A	Sidechain
36	BA	483	C	Sidechain
36	BA	486	U	Sidechain
36	BA	487	A	Sidechain
36	BA	49	U	Sidechain
36	BA	494	G	Sidechain
36	BA	496	A	Sidechain
36	BA	499	A	Sidechain
36	BA	50	A	Sidechain
36	BA	500	G	Sidechain
36	BA	503	C	Sidechain
36	BA	508	U	Sidechain
36	BA	509	A	Sidechain
36	BA	51	A	Sidechain
36	BA	512	U	Sidechain
36	BA	513	C	Sidechain
36	BA	514	C	Sidechain
36	BA	517	G	Sidechain
36	BA	519	C	Sidechain
36	BA	52	C	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	520	A	Sidechain
36	BA	521	G	Sidechain
36	BA	522	C	Sidechain
36	BA	523	A	Sidechain
36	BA	526	C	Sidechain
36	BA	529	G	Sidechain
36	BA	53	A	Sidechain
36	BA	530	G	Sidechain
36	BA	531	U	Sidechain
36	BA	533	A	Sidechain
36	BA	534	U	Sidechain
36	BA	535	A	Sidechain
36	BA	540	G	Sidechain
36	BA	542	G	Sidechain
36	BA	545	C	Sidechain
36	BA	554	A	Sidechain
36	BA	556	C	Sidechain
36	BA	557	G	Sidechain
36	BA	56	U	Sidechain
36	BA	560	A	Sidechain
36	BA	564	C	Sidechain
36	BA	565	U	Sidechain
36	BA	566	G	Sidechain
36	BA	57	G	Sidechain
36	BA	571	U	Sidechain
36	BA	574	A	Sidechain
36	BA	581	G	Sidechain
36	BA	584	G	Sidechain
36	BA	585	G	Sidechain
36	BA	587	G	Sidechain
36	BA	588	G	Sidechain
36	BA	590	U	Sidechain
36	BA	592	G	Sidechain
36	BA	594	U	Sidechain
36	BA	595	A	Sidechain
36	BA	596	A	Sidechain
36	BA	598	U	Sidechain
36	BA	601	G	Sidechain
36	BA	604	G	Sidechain
36	BA	606	G	Sidechain
36	BA	607	A	Sidechain
36	BA	612	C	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	613	C	Sidechain
36	BA	615	G	Sidechain
36	BA	616	G	Sidechain
36	BA	618	C	Sidechain
36	BA	619	U	Sidechain
36	BA	622	A	Sidechain
36	BA	623	C	Sidechain
36	BA	624	C	Sidechain
36	BA	625	U	Sidechain
36	BA	627	G	Sidechain
36	BA	628	G	Sidechain
36	BA	632	U	Sidechain
36	BA	636	U	Sidechain
36	BA	638	U	Sidechain
36	BA	639	G	Sidechain
36	BA	644	U	Sidechain
36	BA	646	G	Sidechain
36	BA	649	A	Sidechain
36	BA	651	C	Sidechain
36	BA	652	U	Sidechain
36	BA	653	U	Sidechain
36	BA	655	A	Sidechain
36	BA	656	G	Sidechain
36	BA	659	U	Sidechain
36	BA	66	A	Sidechain
36	BA	661	G	Sidechain
36	BA	662	U	Sidechain
36	BA	663	A	Sidechain
36	BA	664	G	Sidechain
36	BA	665	A	Sidechain
36	BA	668	G	Sidechain
36	BA	669	G	Sidechain
36	BA	670	G	Sidechain
36	BA	672	U	Sidechain
36	BA	673	A	Sidechain
36	BA	674	G	Sidechain
36	BA	678	U	Sidechain
36	BA	68	G	Sidechain
36	BA	682	G	Sidechain
36	BA	684	U	Sidechain
36	BA	685	G	Sidechain
36	BA	687	A	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	688	G	Sidechain
36	BA	692	U	Sidechain
36	BA	693	G	Sidechain
36	BA	695	A	Sidechain
36	BA	697	U	Sidechain
36	BA	698	G	Sidechain
36	BA	699	C	Sidechain
36	BA	70	U	Sidechain
36	BA	700	G	Sidechain
36	BA	702	A	Sidechain
36	BA	703	G	Sidechain
36	BA	704	A	Sidechain
36	BA	705	G	Sidechain
36	BA	707	U	Sidechain
36	BA	708	C	Sidechain
36	BA	709	U	Sidechain
36	BA	713	G	Sidechain
36	BA	714	G	Sidechain
36	BA	715	A	Sidechain
36	BA	716	A	Sidechain
36	BA	717	U	Sidechain
36	BA	72	A	Sidechain
36	BA	721	G	Sidechain
36	BA	722	G	Sidechain
36	BA	723	U	Sidechain
36	BA	725	G	Sidechain
36	BA	727	G	Sidechain
36	BA	728	A	Sidechain
36	BA	729	A	Sidechain
36	BA	73	C	Sidechain
36	BA	732	C	Sidechain
36	BA	733	G	Sidechain
36	BA	737	C	Sidechain
36	BA	738	C	Sidechain
36	BA	739	C	Sidechain
36	BA	74	A	Sidechain
36	BA	740	U	Sidechain
36	BA	743	A	Sidechain
36	BA	745	G	Sidechain
36	BA	746	A	Sidechain
36	BA	750	C	Sidechain
36	BA	751	U	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	752	G	Sidechain
36	BA	754	C	Sidechain
36	BA	755	G	Sidechain
36	BA	756	C	Sidechain
36	BA	757	U	Sidechain
36	BA	759	A	Sidechain
36	BA	76	G	Sidechain
36	BA	760	G	Sidechain
36	BA	765	G	Sidechain
36	BA	769	G	Sidechain
36	BA	772	U	Sidechain
36	BA	776	G	Sidechain
36	BA	779	C	Sidechain
36	BA	78	A	Sidechain
36	BA	780	A	Sidechain
36	BA	79	G	Sidechain
36	BA	790	A	Sidechain
36	BA	793	U	Sidechain
36	BA	796	C	Sidechain
36	BA	798	U	Sidechain
36	BA	800	G	Sidechain
36	BA	803	G	Sidechain
36	BA	804	U	Sidechain
36	BA	805	C	Sidechain
36	BA	808	C	Sidechain
36	BA	809	G	Sidechain
36	BA	810	C	Sidechain
36	BA	812	G	Sidechain
36	BA	813	U	Sidechain
36	BA	814	A	Sidechain
36	BA	815	A	Sidechain
36	BA	817	C	Sidechain
36	BA	818	G	Sidechain
36	BA	820	U	Sidechain
36	BA	821	G	Sidechain
36	BA	822	U	Sidechain
36	BA	824	G	Sidechain
36	BA	833	G	Sidechain
36	BA	835	U	Sidechain
36	BA	837	U	Sidechain
36	BA	840	C	Sidechain
36	BA	843	U	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	844	G	Sidechain
36	BA	846	G	Sidechain
36	BA	847	G	Sidechain
36	BA	852	G	Sidechain
36	BA	855	U	Sidechain
36	BA	858	G	Sidechain
36	BA	86	G	Sidechain
36	BA	861	G	Sidechain
36	BA	863	U	Sidechain
36	BA	864	A	Sidechain
36	BA	869	G	Sidechain
36	BA	87	C	Sidechain
36	BA	870	U	Sidechain
36	BA	871	U	Sidechain
36	BA	872	A	Sidechain
36	BA	874	G	Sidechain
36	BA	879	C	Sidechain
36	BA	88	U	Sidechain
36	BA	881	G	Sidechain
36	BA	883	C	Sidechain
36	BA	884	U	Sidechain
36	BA	886	G	Sidechain
36	BA	887	G	Sidechain
36	BA	888	G	Sidechain
36	BA	889	A	Sidechain
36	BA	890	G	Sidechain
36	BA	891	U	Sidechain
36	BA	892	A	Sidechain
36	BA	898	G	Sidechain
36	BA	900	A	Sidechain
36	BA	902	G	Sidechain
36	BA	903	G	Sidechain
36	BA	906	A	Sidechain
36	BA	907	A	Sidechain
36	BA	911	U	Sidechain
36	BA	912	C	Sidechain
36	BA	915	A	Sidechain
36	BA	916	U	Sidechain
36	BA	919	A	Sidechain
36	BA	920	U	Sidechain
36	BA	922	G	Sidechain
36	BA	924	C	Sidechain

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Mol	Chain	Res	Type	Group
36	BA	925	G	Sidechain
36	BA	927	G	Sidechain
36	BA	928	G	Sidechain
36	BA	933	G	Sidechain
36	BA	936	C	Sidechain
36	BA	937	A	Sidechain
36	BA	939	G	Sidechain
36	BA	94	G	Sidechain
36	BA	940	C	Sidechain
36	BA	946	A	Sidechain
36	BA	951	G	Sidechain
36	BA	954	G	Sidechain
36	BA	958	A	Sidechain
36	BA	964	A	Sidechain
36	BA	967	C	Sidechain
36	BA	97	G	Sidechain
36	BA	974	A	Sidechain
36	BA	976	G	Sidechain
36	BA	978	A	Sidechain
36	BA	979	C	Sidechain
36	BA	980	C	Sidechain
36	BA	985	C	Sidechain
36	BA	986	U	Sidechain
36	BA	987	G	Sidechain
36	BA	989	U	Sidechain
36	BA	99	C	Sidechain
36	BA	991	U	Sidechain
36	BA	996	A	Sidechain
36	BA	998	C	Sidechain
37	BB	169	HIS	Peptide
37	BB	21	TYR	Sidechain
37	BB	212	TYR	Sidechain
37	BB	221	ARG	Sidechain
37	BB	90	PHE	Peptide
38	BC	163	ARG	Sidechain
38	BC	58	ARG	Sidechain
39	BD	110	ARG	Sidechain
39	BD	127	ARG	Sidechain
39	BD	167	PRO	Peptide
39	BD	183	ARG	Sidechain
39	BD	184	LYS	Peptide
39	BD	25	ARG	Sidechain

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Mol	Chain	Res	Type	Group
39	BD	44	LYS	Peptide
39	BD	55	ARG	Sidechain
39	BD	64	TYR	Sidechain
39	BD	74	TYR	Sidechain
39	BD	75	TYR	Sidechain
39	BD	80	ARG	Sidechain
40	BE	26	GLY	Peptide
41	BF	25	TYR	Sidechain
41	BF	4	TYR	Sidechain
41	BF	86	ARG	Peptide
42	BG	101	ARG	Sidechain
42	BG	137	ARG	Sidechain
42	BG	77	ARG	Sidechain
43	BH	116	ARG	Sidechain
43	BH	127	TYR	Sidechain
43	BH	85	TYR	Sidechain
43	BH	88	LYS	Peptide
44	BI	17	ARG	Sidechain
45	BJ	96	VAL	Peptide
46	BK	105	ARG	Sidechain
46	BK	115	ILE	Peptide
46	BK	117	HIS	Peptide
46	BK	52	ARG	Sidechain
46	BK	76	TYR	Sidechain
47	BL	101	LEU	Peptide
47	BL	103	CYS	Peptide
47	BL	109	ARG	Sidechain
47	BL	111	GLN	Peptide
47	BL	23	LEU	Peptide
47	BL	46	SER	Peptide
47	BL	49	ARG	Sidechain
47	BL	93	ARG	Peptide,Sidechain
48	BM	103	THR	Peptide
48	BM	110	GLY	Peptide
48	BM	20	SER	Peptide
48	BM	22	TYR	Sidechain
48	BM	28	ARG	Sidechain
48	BM	97	ARG	Sidechain
48	BM	99	GLN	Peptide
49	BN	35	ALA	Peptide
49	BN	39	ASP	Peptide
49	BN	40	ARG	Sidechain

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Mol	Chain	Res	Type	Group
49	BN	60	ARG	Sidechain
50	BO	16	ARG	Sidechain
50	BO	57	ARG	Sidechain
50	BO	77	TYR	Sidechain
50	BO	83	ARG	Sidechain
50	BO	88	ARG	Sidechain
51	BP	14	ARG	Sidechain
51	BP	16	PHE	Sidechain
51	BP	35	ARG	Sidechain
52	BQ	64	ARG	Peptide
53	BR	19	GLU	Peptide
53	BR	22	TYR	Sidechain
53	BR	52	ARG	Sidechain
53	BR	62	ARG	Sidechain
54	BS	60	PHE	Peptide
54	BS	73	PHE	Peptide
55	BT	49	ALA	Peptide
56	BU	11	PHE	Peptide
56	BU	32	ARG	Sidechain
56	BU	8	ASN	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A7	2507	0	1270	171	0
2	A8	62321	0	31344	3730	0
3	AA	3408	0	3619	13	0
4	AB	505	0	557	1	0
5	AC	257	0	272	1	0
6	A5	1733	0	1824	26	0
7	A6	2082	0	2157	51	0
8	AD	1565	0	1616	40	0
9	AE	1552	0	1619	32	0
10	AF	1420	0	1460	21	0
11	AG	1323	0	1374	23	0
12	AH	1111	0	1148	17	0
13	AI	1032	0	1088	26	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	AJ	1129	0	1162	30	0
15	AK	930	0	1003	21	0
16	AL	1045	0	1117	17	0
17	AM	1074	0	1157	26	0
18	AN	960	0	1000	33	0
19	AO	892	0	923	10	0
20	AP	917	0	965	11	0
21	AQ	947	0	1022	16	0
22	AR	816	0	839	19	0
23	AS	857	0	922	24	0
24	AT	738	0	807	14	0
25	AU	779	0	834	16	0
26	AV	753	0	780	25	0
27	AW	596	0	610	28	0
28	AX	625	0	655	19	0
29	AY	509	0	543	6	0
30	AZ	449	0	491	12	0
31	A0	444	0	461	9	0
32	A1	409	0	440	15	0
33	A2	377	0	418	9	0
34	A3	504	0	574	12	0
35	A4	302	0	343	10	0
36	BA	32831	0	16521	1591	0
37	BB	1704	0	1732	19	0
38	BC	1624	0	1699	21	0
39	BD	1643	0	1710	22	0
40	BE	1105	0	1148	23	0
41	BF	817	0	808	22	0
42	BG	1174	0	1230	12	0
43	BH	979	0	1034	17	0
44	BI	1022	0	1070	17	0
45	BJ	786	0	828	13	0
46	BK	877	0	887	18	0
47	BL	955	0	1019	23	0
48	BM	876	0	937	8	0
49	BN	805	0	847	4	0
50	BO	716	0	742	11	0
51	BP	638	0	656	11	0
52	BQ	648	0	691	11	0
53	BR	455	0	478	6	0
54	BS	637	0	665	26	0
55	BT	665	0	714	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	BU	425	0	449	4	0
All	All	148250	0	102279	6072	0

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 24.

All (6072) 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)
2:A8:1902:C:H1'	7:A6:242:HIS:CE1	2.14	0.83
36:BA:113:G:H1'	36:BA:354:G:H4'	1.61	0.83
2:A8:2121:G:H1	2:A8:2176:A:H61	1.27	0.82
36:BA:68:G:H1'	36:BA:151:A:H61	1.47	0.79
28:AX:18:SER:H	28:AX:22:ASN:H	1.30	0.79
2:A8:71:A:C2	2:A8:73:A:C2	2.72	0.78
2:A8:1383:A:C2	2:A8:1384:A:C2	2.72	0.78
2:A8:670:A:H61	9:AE:88:ARG:HH12	1.30	0.77
36:BA:858:G:H1	36:BA:869:G:H3'	1.51	0.75
2:A8:808:G:H4'	2:A8:2502:G:H1	1.51	0.75
2:A8:1842:G:H1'	7:A6:242:HIS:CE1	2.22	0.75
2:A8:2345:G:C5	2:A8:2347:C:C5	2.76	0.74
2:A8:1522:A:H5''	2:A8:1523:U:H3	1.53	0.73
2:A8:2233:U:H2'	2:A8:2234:G:C8	2.23	0.73
2:A8:1344:U:H4'	2:A8:1384:A:C4	2.23	0.73
2:A8:974:G:C8	2:A8:1186:G:H1'	2.23	0.73
2:A8:1650:A:C2	2:A8:2008:C:C2	2.76	0.73
36:BA:182:A:H2'	36:BA:184:G:C8	2.24	0.73
35:A4:7:VAL:HG22	35:A4:35:GLN:HE22	1.53	0.72
2:A8:1131:G:C4	14:AJ:77:HIS:CE1	2.76	0.72
2:A8:2115:G:H2'	2:A8:2117:A:H62	1.55	0.72
1:A7:29:A:H3'	1:A7:30:C:C6	2.25	0.72
2:A8:1274:A:C2	2:A8:1302:A:C2	2.78	0.72
2:A8:2298:A:C5	2:A8:2321:U:C5	2.79	0.71
2:A8:2884:U:H3	31:A0:40:HIS:HA	1.56	0.71
2:A8:251:A:C5	2:A8:252:G:H1'	2.26	0.71
2:A8:1358:G:C2	2:A8:1372:U:C5	2.79	0.71
2:A8:1474:U:C5	2:A8:1475:G:C6	2.78	0.71
2:A8:1473:G:C6	2:A8:1474:U:C4	2.79	0.71
2:A8:312:G:H21	2:A8:1211:C:H42	1.39	0.71
2:A8:294:A:C2	2:A8:346:A:C2	2.79	0.70
36:BA:327:A:H1'	36:BA:329:A:C8	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:413:G:H4'	36:BA:428:G:H21	1.56	0.70
36:BA:994:A:C4	36:BA:1216:A:H4'	2.26	0.70
36:BA:1299:A:H2	36:BA:1335:U:H3	1.38	0.70
36:BA:1305:G:H21	36:BA:1332:A:H8	1.39	0.70
2:A8:1473:G:C5	2:A8:1474:U:C5	2.80	0.70
47:BL:20:VAL:HG13	47:BL:85:ARG:HH22	1.56	0.70
18:AN:30:ARG:HE	18:AN:31:HIS:CE1	2.10	0.70
36:BA:199:A:H61	36:BA:218:U:H3	1.37	0.70
36:BA:872:A:C5	36:BA:874:G:C8	2.80	0.69
36:BA:892:A:H1'	36:BA:907:A:C6	2.27	0.69
2:A8:742:A:C4	2:A8:756:A:C2	2.80	0.69
2:A8:878:A:C2	2:A8:879:G:C5	2.80	0.69
2:A8:1473:G:C6	2:A8:1519:G:C6	2.81	0.69
2:A8:2711:A:C6	2:A8:2714:G:C8	2.80	0.69
2:A8:529:A:H5'	2:A8:2042:A:H61	1.56	0.69
36:BA:687:A:C2	36:BA:704:A:C4	2.80	0.69
2:A8:197:A:C4	2:A8:198:C:C6	2.81	0.69
1:A7:50:A:C2	1:A7:51:G:H1'	2.27	0.69
36:BA:518:C:H5''	36:BA:519:C:C6	2.27	0.69
18:AN:30:ARG:HE	18:AN:31:HIS:HE1	1.39	0.69
46:BK:45:THR:H	46:BK:68:ARG:HH21	1.41	0.68
40:BE:38:VAL:H	40:BE:46:GLY:H	1.41	0.68
1:A7:75:G:H21	26:AV:88:HIS:CD2	2.12	0.68
2:A8:248:G:H5'	2:A8:250:G:C5	2.28	0.68
2:A8:1360:G:C6	2:A8:1372:U:C2	2.82	0.68
2:A8:870:U:H2'	2:A8:871:U:H5''	1.76	0.68
2:A8:1726:C:C2	2:A8:1735:A:C2	2.82	0.68
2:A8:877:A:C2	2:A8:901:C:C2	2.81	0.68
36:BA:1446:A:H3'	36:BA:1447:A:H5''	1.74	0.68
2:A8:2547:A:C8	2:A8:2566:A:C8	2.82	0.68
36:BA:181:A:H62	36:BA:194:C:H2'	1.58	0.67
36:BA:1103:C:H4'	37:BB:99:MET:HE2	1.76	0.67
1:A7:100:G:H5'	2:A8:916:G:H4'	1.77	0.67
2:A8:480:A:H3'	2:A8:481:G:H5''	1.74	0.67
2:A8:1140:C:H4'	14:AJ:27:ARG:HE	1.59	0.67
2:A8:1426:G:H5''	2:A8:1427:A:H2'	1.75	0.67
2:A8:2197:U:H1'	2:A8:2198:A:C8	2.29	0.67
36:BA:1399:C:C4	36:BA:1502:A:C2	2.82	0.67
36:BA:1108:G:C5	36:BA:1109:C:C5	2.82	0.67
2:A8:1722:A:C2	2:A8:1723:G:C4	2.83	0.67
2:A8:1797:G:C6	2:A8:1823:G:C6	2.82	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AW:35:ILE:H	27:AW:36:ILE:HD12	1.60	0.67
36:BA:836:G:C6	36:BA:851:G:C5	2.83	0.67
2:A8:1022:G:H21	2:A8:1142:A:H2	1.42	0.67
2:A8:247:G:H4'	2:A8:386:G:C5	2.30	0.67
2:A8:2797:U:C5	2:A8:2800:A:C2	2.83	0.67
36:BA:1486:G:C6	36:BA:1487:G:C5	2.83	0.66
2:A8:1724:G:H1	2:A8:1737:G:H1'	1.60	0.66
44:BI:14:SER:HB2	44:BI:77:ALA:HB2	1.77	0.66
53:BR:69:TYR:CD1	53:BR:73:HIS:CD2	2.82	0.66
2:A8:1845:G:C2	2:A8:1846:G:C8	2.84	0.66
36:BA:602:A:C2	36:BA:637:C:C2	2.84	0.66
2:A8:2135:A:H61	2:A8:2156:G:H1'	1.60	0.66
36:BA:1422:G:C2	36:BA:1479:C:C2	2.83	0.66
2:A8:1790:C:H3'	2:A8:1828:G:H22	1.61	0.66
36:BA:71:A:C2	36:BA:72:A:C4	2.84	0.66
36:BA:242:G:C2	36:BA:285:C:C2	2.84	0.66
2:A8:528:A:H2'	2:A8:2042:A:C6	2.30	0.66
36:BA:98:A:C2	36:BA:99:C:C2	2.83	0.66
36:BA:568:G:C2	36:BA:883:C:C2	2.84	0.66
2:A8:1213:A:C8	2:A8:1237:A:C6	2.84	0.66
2:A8:1296:G:C2	2:A8:1645:G:C4	2.84	0.66
13:AI:4:VAL:HG12	13:AI:5:GLN:H	1.61	0.66
2:A8:1473:G:C6	2:A8:1519:G:C5	2.83	0.65
2:A8:1613:G:H22	2:A8:1617:C:H2'	1.60	0.65
2:A8:1770:G:C2	2:A8:1771:C:C2	2.84	0.65
2:A8:1940:U:H4'	2:A8:1965:C:C5	2.31	0.65
36:BA:109:A:C6	36:BA:326:G:C6	2.84	0.65
1:A7:66:A:C6	1:A7:107:G:H2'	2.31	0.65
2:A8:1707:G:C8	2:A8:1756:G:C4	2.84	0.65
36:BA:600:A:C2	36:BA:601:G:C4	2.84	0.65
2:A8:487:C:C4	2:A8:488:G:C6	2.83	0.65
2:A8:1024:G:H3'	2:A8:1025:G:H5''	1.78	0.65
2:A8:1127:A:H2'	2:A8:2518:A:C2	2.32	0.65
36:BA:1439:G:N2	36:BA:1463:U:H1'	2.12	0.65
2:A8:1661:G:C2	2:A8:2000:C:C2	2.85	0.65
36:BA:577:G:H1'	36:BA:816:A:C4	2.31	0.65
36:BA:1415:G:C2	36:BA:1486:G:C5	2.85	0.65
36:BA:115:G:H21	36:BA:117:G:H1	1.44	0.65
36:BA:1188:A:C2	38:BC:177:LEU:HD11	2.32	0.65
2:A8:2113:U:H3	2:A8:2168:G:H4'	1.62	0.65
23:AS:70:LYS:HB2	23:AS:110:ARG:HA	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2648:G:C6	2:A8:2673:G:C4	2.85	0.65
16:AL:107:PHE:HB3	16:AL:126:ARG:HE	1.62	0.65
2:A8:199:A:C2	2:A8:2434:A:C2	2.84	0.64
2:A8:1055:G:C5	2:A8:1056:G:H1'	2.32	0.64
2:A8:2288:A:C2	2:A8:2325:G:C4	2.85	0.64
36:BA:1513:A:C2	36:BA:1523:G:C5	2.84	0.64
2:A8:415:A:C2	2:A8:2409:G:C4	2.86	0.64
2:A8:1652:A:OP2	2:A8:1653:G:C5	2.49	0.64
2:A8:1054:A:C2	2:A8:1055:G:C4	2.86	0.64
2:A8:2724:U:H2'	2:A8:2725:A:C8	2.31	0.64
2:A8:890:C:H3'	2:A8:891:G:H4'	1.78	0.64
2:A8:1717:A:C2	2:A8:1718:G:H1'	2.33	0.64
2:A8:371:A:H61	2:A8:401:A:H3'	1.63	0.64
2:A8:1024:G:C6	2:A8:1025:G:C5	2.85	0.64
2:A8:1088:A:H61	13:AI:131:THR:HA	1.63	0.64
36:BA:113:G:C1'	36:BA:354:G:H4'	2.28	0.64
2:A8:278:A:C2	2:A8:362:A:C8	2.86	0.64
2:A8:2071:A:C2	2:A8:2072:C:C2	2.85	0.64
2:A8:2445:G:C6	2:A8:2446:G:C6	2.86	0.64
36:BA:282:A:C6	36:BA:283:U:C2	2.86	0.64
1:A7:86:G:C2	1:A7:91:C:C2	2.86	0.64
2:A8:2100:G:C2	2:A8:2190:G:H1'	2.33	0.64
36:BA:589:U:H1'	36:BA:653:U:H3	1.63	0.64
52:BQ:15:LYS:H	52:BQ:50:ASN:HD22	1.46	0.64
36:BA:615:G:H21	51:BP:47:GLU:HB3	1.61	0.64
1:A7:14:U:H3'	1:A7:15:A:H5'	1.80	0.64
2:A8:2081:U:H2'	2:A8:2237:G:H22	1.63	0.64
36:BA:120:A:H2'	36:BA:122:G:C5	2.33	0.64
36:BA:851:G:C6	36:BA:852:G:C5	2.86	0.64
2:A8:1486:U:C2	2:A8:1504:A:C2	2.87	0.63
36:BA:453:G:H3'	36:BA:454:G:C8	2.34	0.63
2:A8:138:U:H2'	2:A8:140:C:C4	2.34	0.63
2:A8:2261:C:C5	27:AW:13:ARG:HG3	2.33	0.63
2:A8:2744:G:H5'	2:A8:2755:C:C5	2.33	0.63
36:BA:414:A:H8	36:BA:428:G:H22	1.43	0.63
36:BA:516:U:H3'	36:BA:517:G:C8	2.33	0.63
36:BA:836:G:C6	36:BA:851:G:C6	2.86	0.63
2:A8:161:A:C5	2:A8:162:U:C5	2.87	0.63
2:A8:475:C:H1'	2:A8:509:C:C2	2.34	0.63
2:A8:2506:U:H3	2:A8:2584:U:H1'	1.63	0.63
2:A8:621:A:C5	2:A8:622:G:H1'	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1153:C:C4	2:A8:1154:G:C6	2.87	0.63
2:A8:1168:G:C6	2:A8:1182:G:C6	2.86	0.63
2:A8:875:G:C2	2:A8:903:C:C2	2.86	0.63
2:A8:77:G:H1'	29:AY:55:THR:HG21	1.80	0.63
2:A8:2682:A:C4	8:AD:11:MET:HE3	2.34	0.63
2:A8:2792:A:H3'	2:A8:2793:C:H5''	1.79	0.63
36:BA:369:G:H21	36:BA:393:A:H1'	1.64	0.63
2:A8:1138:G:C5	2:A8:1139:G:H1'	2.34	0.63
2:A8:250:G:C5	2:A8:251:A:C5	2.87	0.63
2:A8:1316:U:H4'	2:A8:1392:A:C5	2.34	0.63
2:A8:643:A:C8	2:A8:644:A:C8	2.87	0.62
2:A8:1334:G:H21	3:AA:367:ARG:HE	1.46	0.62
2:A8:2259:U:C6	2:A8:2427:C:C4	2.87	0.62
11:AG:96:ALA:H	11:AG:103:ASN:HD22	1.47	0.62
36:BA:858:G:H1	36:BA:869:G:C3'	2.11	0.62
2:A8:975:A:C4	2:A8:976:G:C8	2.87	0.62
2:A8:2354:C:O4'	27:AW:30:VAL:HG11	1.99	0.62
2:A8:775:G:C4	2:A8:794:A:C8	2.88	0.62
2:A8:1181:U:H2'	2:A8:1182:G:C8	2.35	0.62
16:AL:94:THR:H	16:AL:97:ALA:HB3	1.64	0.62
2:A8:41:C:C2	2:A8:439:A:C2	2.87	0.62
2:A8:1537:G:C5	2:A8:1538:G:H1'	2.34	0.62
2:A8:1722:A:C6	2:A8:1739:A:C8	2.87	0.62
2:A8:1731:G:C2	2:A8:1733:G:C4	2.87	0.62
2:A8:1845:G:C2	2:A8:1896:G:C4	2.88	0.62
2:A8:801:G:H21	9:AE:49:ARG:HG3	1.64	0.62
2:A8:1033:U:H3'	2:A8:1034:G:C5'	2.30	0.62
36:BA:1343:G:H21	44:BI:122:ARG:HH12	1.47	0.62
2:A8:783:A:C5	2:A8:785:G:H1'	2.34	0.62
2:A8:1658:C:C2	2:A8:2003:A:C2	2.87	0.62
8:AD:104:VAL:HG12	8:AD:107:VAL:H	1.65	0.62
36:BA:1421:G:C2	36:BA:1480:A:C2	2.87	0.62
2:A8:161:A:C6	2:A8:162:U:C4	2.88	0.62
2:A8:877:A:C6	2:A8:901:C:C4	2.87	0.62
2:A8:1165:A:C2	2:A8:1185:G:C6	2.88	0.62
25:AU:39:ASN:HB3	25:AU:62:ALA:H	1.64	0.62
36:BA:990:C:C2	36:BA:1216:A:C2	2.87	0.62
2:A8:1866:A:C2	2:A8:1876:A:C4	2.87	0.62
2:A8:2582:G:C2	2:A8:2583:G:C8	2.88	0.62
26:AV:30:ILE:HA	26:AV:91:PHE:HB2	1.81	0.62
36:BA:376:G:C2	36:BA:389:A:C2	2.87	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1315:U:C4	36:BA:1316:G:C6	2.88	0.62
2:A8:1949:G:C6	2:A8:1950:G:C6	2.88	0.62
36:BA:612:C:C2	36:BA:629:A:C2	2.88	0.62
2:A8:669:G:H22	9:AE:84:THR:HG22	1.65	0.61
2:A8:1956:U:H2'	2:A8:1957:C:H5'	1.82	0.61
2:A8:2625:G:C2	2:A8:2626:C:C2	2.88	0.61
10:AF:92:GLY:H	10:AF:95:MET:HE2	1.64	0.61
36:BA:242:G:C2	36:BA:245:U:C5	2.88	0.61
2:A8:486:C:H2'	2:A8:487:C:C6	2.35	0.61
36:BA:907:A:C5	36:BA:908:A:C8	2.88	0.61
36:BA:1068:G:C6	36:BA:1069:C:C5	2.88	0.61
2:A8:1168:G:C6	2:A8:1169:A:C5	2.88	0.61
2:A8:1862:G:C2	2:A8:1881:C:C2	2.89	0.61
36:BA:771:G:C6	36:BA:809:G:C6	2.88	0.61
2:A8:42:A:C2	2:A8:43:G:H1'	2.34	0.61
2:A8:514:A:C2	2:A8:515:A:C2	2.88	0.61
2:A8:640:C:C4	2:A8:641:U:C4	2.89	0.61
2:A8:1473:G:C5	2:A8:1474:U:C4	2.88	0.61
2:A8:2091:C:H3'	2:A8:2092:U:H5''	1.81	0.61
36:BA:193:C:H2'	36:BA:194:C:C6	2.35	0.61
36:BA:452:A:C8	36:BA:453:G:C8	2.88	0.61
36:BA:782:A:C6	36:BA:801:U:C2	2.88	0.61
2:A8:705:A:C2	2:A8:706:A:C5	2.88	0.61
2:A8:1485:U:C2	2:A8:1505:A:C2	2.88	0.61
2:A8:2516:A:C2	2:A8:2517:C:C2	2.88	0.61
36:BA:437:U:H1'	39:BD:119:HIS:CD2	2.36	0.61
2:A8:247:G:C5	2:A8:249:C:H1'	2.35	0.61
2:A8:1266:G:H1	2:A8:2012:G:H3'	1.66	0.61
14:AJ:77:HIS:CE1	14:AJ:83:GLY:O	2.53	0.61
2:A8:1321:A:H61	2:A8:1334:G:H4'	1.65	0.61
2:A8:2648:G:C4	2:A8:2673:G:C2	2.89	0.61
2:A8:528:A:H2'	2:A8:2042:A:C5	2.36	0.61
2:A8:750:A:C5	2:A8:753:A:H1'	2.35	0.61
2:A8:1722:A:C6	2:A8:1723:G:C6	2.88	0.61
26:AV:79:ARG:HE	26:AV:84:PRO:HA	1.66	0.61
40:BE:151:MET:HE2	40:BE:154:ALA:HB2	1.82	0.61
2:A8:89:A:C6	2:A8:90:U:C4	2.88	0.61
2:A8:1055:G:C6	2:A8:1056:G:H1'	2.35	0.61
2:A8:1532:A:C2	2:A8:1540:G:C4	2.89	0.61
2:A8:2478:A:C8	2:A8:2529:G:C5	2.88	0.61
36:BA:582:C:C2	36:BA:583:A:C8	2.89	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:629:A:C2	36:BA:630:A:H1'	2.36	0.61
36:BA:1129:C:H4'	44:BI:19:PHE:CZ	2.36	0.61
2:A8:21:A:C4	2:A8:520:G:C2	2.89	0.61
2:A8:993:G:C6	2:A8:1162:G:C6	2.89	0.61
2:A8:1797:G:C6	2:A8:1798:U:C4	2.89	0.61
2:A8:2744:G:H21	11:AG:142:GLN:HG2	1.66	0.61
36:BA:151:A:C2	36:BA:152:A:H1'	2.36	0.61
36:BA:526:C:C4	36:BA:527:G:H1'	2.36	0.61
2:A8:957:C:C4	2:A8:2459:A:C8	2.89	0.60
2:A8:2069:G:C2	2:A8:2443:C:C2	2.89	0.60
36:BA:57:G:C2	36:BA:356:A:C2	2.90	0.60
36:BA:541:G:C2	36:BA:542:G:H1'	2.36	0.60
2:A8:301:G:C2	2:A8:302:C:C2	2.88	0.60
2:A8:1473:G:C5	2:A8:1519:G:C6	2.89	0.60
7:A6:143:VAL:HA	7:A6:189:ALA:HA	1.82	0.60
2:A8:2583:G:C5	2:A8:2584:U:C6	2.89	0.60
36:BA:341:C:C2	36:BA:349:A:C2	2.89	0.60
36:BA:1453:G:C5	36:BA:1454:G:H1'	2.36	0.60
2:A8:2162:G:H3'	2:A8:2164:C:H41	1.65	0.60
7:A6:162:GLN:HE21	7:A6:164:VAL:HA	1.66	0.60
2:A8:1839:G:C8	2:A8:1927:A:C4	2.89	0.60
2:A8:2474:U:C5	2:A8:2475:C:C2	2.90	0.60
2:A8:2595:G:C2	2:A8:2599:G:C5	2.89	0.60
2:A8:2836:U:C2	2:A8:2883:A:C2	2.89	0.60
36:BA:890:G:H1	36:BA:906:A:H3'	1.67	0.60
36:BA:1144:G:N2	36:BA:1146:A:H62	2.00	0.60
36:BA:1514:G:C2	36:BA:1522:U:C2	2.90	0.60
2:A8:65:U:C4	2:A8:66:C:C5	2.89	0.60
2:A8:721:A:C2	2:A8:722:A:C4	2.90	0.60
2:A8:2152:G:H3'	2:A8:2153:C:C5	2.37	0.60
36:BA:257:G:C2	36:BA:258:G:C8	2.89	0.60
36:BA:1446:A:C3'	36:BA:1447:A:H5''	2.32	0.60
2:A8:874:G:C6	2:A8:904:G:C6	2.90	0.60
2:A8:2282:G:H5'	2:A8:2389:G:H1'	1.84	0.60
8:AD:32:ASN:H	8:AD:95:SER:HA	1.65	0.60
17:AM:34:LYS:HG2	17:AM:35:ALA:H	1.67	0.60
2:A8:901:C:C2	2:A8:902:C:C6	2.89	0.60
36:BA:1415:G:C4	36:BA:1486:G:C6	2.90	0.60
2:A8:1277:G:H4'	18:AN:24:MET:HE3	1.83	0.60
2:A8:1759:A:C5	2:A8:2697:G:H1'	2.36	0.60
2:A8:1899:A:C2	2:A8:1903:G:C2	2.90	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1943:U:C4	2:A8:1945:G:C8	2.90	0.60
2:A8:1567:G:C8	7:A6:82:TYR:CE1	2.90	0.59
2:A8:2134:A:H2	2:A8:2159:G:H21	1.51	0.59
7:A6:3:VAL:H	7:A6:17:LYS:H	1.50	0.59
8:AD:67:HIS:HA	8:AD:70:LYS:HZ2	1.66	0.59
36:BA:521:G:H4'	47:BL:69:GLU:HA	1.84	0.59
2:A8:999:U:H3'	2:A8:1154:G:C6	2.37	0.59
2:A8:1909:C:C2	2:A8:1922:G:C2	2.90	0.59
2:A8:2469:A:C6	2:A8:2482:A:C8	2.90	0.59
2:A8:265:A:C8	2:A8:266:G:H1'	2.36	0.59
2:A8:1935:G:H1'	2:A8:1964:G:C2	2.37	0.59
36:BA:50:A:H2'	36:BA:360:G:C2	2.37	0.59
36:BA:1480:A:C2	36:BA:1481:U:C2	2.91	0.59
2:A8:1773:A:C5	2:A8:1829:A:H1'	2.38	0.59
2:A8:2525:G:H4'	2:A8:2741:A:C2	2.37	0.59
41:BF:37:HIS:CE1	41:BF:65:GLU:HB2	2.37	0.59
2:A8:2277:G:C6	2:A8:2278:A:C8	2.90	0.59
2:A8:382:A:C2	2:A8:393:C:C2	2.90	0.59
2:A8:1351:C:C2	2:A8:1381:G:C2	2.90	0.59
2:A8:1866:A:H61	2:A8:1875:G:H2'	1.68	0.59
2:A8:2185:U:H2'	2:A8:2186:G:C8	2.38	0.59
2:A8:2507:C:H5''	2:A8:2573:C:H42	1.68	0.59
36:BA:564:C:C5	36:BA:565:U:C5	2.91	0.59
36:BA:1219:A:HO2'	54:BS:33:TRP:CD1	2.20	0.59
2:A8:528:A:C8	2:A8:2042:A:N7	2.71	0.59
2:A8:1948:G:C6	2:A8:1959:G:C6	2.90	0.59
36:BA:533:A:OP1	36:BA:533:A:C8	2.56	0.59
2:A8:160:A:C6	2:A8:161:A:C6	2.91	0.59
2:A8:1693:U:C6	2:A8:1977:A:H1'	2.38	0.59
36:BA:59:A:C5	36:BA:354:G:C6	2.91	0.59
36:BA:519:C:C4	36:BA:520:A:C6	2.91	0.59
36:BA:613:C:C2	36:BA:628:G:N2	2.71	0.59
38:BC:155:ARG:HH11	38:BC:194:VAL:HG23	1.68	0.59
2:A8:592:A:C2	2:A8:666:A:C5	2.90	0.59
2:A8:1003:G:C2	2:A8:1153:C:C2	2.91	0.59
2:A8:1907:G:C6	2:A8:1908:C:C4	2.91	0.59
27:AW:19:ARG:O	27:AW:20:LEU:HD13	2.03	0.59
2:A8:1024:G:C5	2:A8:1025:G:C5	2.91	0.59
2:A8:1220:G:C6	2:A8:1230:A:C6	2.91	0.59
2:A8:1727:C:C2	2:A8:1734:G:C2	2.91	0.59
2:A8:1858:A:C2	2:A8:1859:U:H1'	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2044:C:C2	2:A8:2625:G:C2	2.90	0.59
2:A8:2121:G:H21	6:A5:166:ASP:CG	2.11	0.59
36:BA:777:A:C2	36:BA:778:G:H1'	2.37	0.59
2:A8:861:A:C2	2:A8:917:A:C4	2.91	0.58
2:A8:950:G:C2	2:A8:968:C:C2	2.90	0.58
2:A8:1241:A:H3'	2:A8:1242:U:C5	2.38	0.58
2:A8:2789:C:C5	2:A8:2893:A:C6	2.90	0.58
36:BA:892:A:H1'	36:BA:907:A:C5	2.37	0.58
36:BA:892:A:C2	36:BA:893:C:C2	2.91	0.58
46:BK:23:HIS:H	46:BK:30:ILE:HB	1.67	0.58
2:A8:278:A:C2	2:A8:361:G:C2	2.91	0.58
2:A8:861:A:C2	2:A8:862:G:H1'	2.38	0.58
2:A8:1036:G:C6	2:A8:1120:G:C6	2.91	0.58
2:A8:1371:G:N2	2:A8:1372:U:C5	2.71	0.58
2:A8:2205:A:C2	2:A8:2220:U:H1'	2.38	0.58
2:A8:2330:G:N2	27:AW:40:ARG:HH12	2.01	0.58
36:BA:356:A:C2	36:BA:357:G:H1'	2.38	0.58
36:BA:809:G:C6	36:BA:810:C:C5	2.91	0.58
36:BA:836:G:C6	36:BA:837:U:C2	2.90	0.58
2:A8:248:G:H5'	2:A8:250:G:C6	2.37	0.58
2:A8:738:G:H2'	2:A8:739:A:C8	2.38	0.58
2:A8:1451:C:C5	2:A8:1458:U:C2	2.91	0.58
2:A8:2002:G:C2	2:A8:2003:A:C8	2.91	0.58
2:A8:2693:G:C2	2:A8:2717:C:C2	2.90	0.58
11:AG:26:LYS:HA	11:AG:32:LEU:H	1.69	0.58
36:BA:1458:G:H5'	55:BT:26:MET:HA	1.84	0.58
2:A8:181:A:H2'	2:A8:182:A:C8	2.38	0.58
2:A8:527:C:C4	2:A8:2779:U:H2'	2.38	0.58
2:A8:1000:A:H2'	2:A8:1001:A:C8	2.38	0.58
2:A8:1931:U:C2	2:A8:1932:A:C8	2.92	0.58
36:BA:994:A:H61	36:BA:1047:G:H1'	1.69	0.58
2:A8:18:U:H2'	2:A8:19:A:C8	2.38	0.58
2:A8:50:U:H5''	2:A8:51:G:C8	2.38	0.58
2:A8:1615:C:C6	2:A8:1617:C:C5	2.91	0.58
2:A8:1651:G:H5''	2:A8:1651:G:C8	2.38	0.58
36:BA:131:A:C2	36:BA:232:G:C4	2.91	0.58
36:BA:265:G:C8	36:BA:267:C:C5	2.91	0.58
36:BA:664:G:H22	36:BA:741:G:H1	1.51	0.58
52:BQ:46:HIS:H	52:BQ:73:THR:HA	1.68	0.58
2:A8:545:U:C6	2:A8:550:C:C2	2.92	0.58
2:A8:1438:U:H3'	2:A8:1552:A:H61	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BS:13:HIS:CE1	54:BS:34:SER:HB2	2.38	0.58
2:A8:1360:G:C8	2:A8:1361:G:C8	2.91	0.58
2:A8:1796:U:H2'	2:A8:1797:G:C8	2.38	0.58
2:A8:2788:C:H2'	2:A8:2789:C:C6	2.39	0.58
36:BA:691:G:H22	36:BA:695:A:H3'	1.68	0.58
2:A8:66:C:C4	2:A8:67:U:C4	2.92	0.58
2:A8:1103:A:C4	2:A8:1104:C:C6	2.92	0.58
2:A8:1440:U:H2'	2:A8:1441:G:C8	2.39	0.58
2:A8:1478:G:C5	2:A8:1514:G:C2	2.91	0.58
2:A8:2851:A:H1'	18:AN:61:ALA:HB2	1.85	0.58
26:AV:29:ILE:HD12	26:AV:31:TYR:CD2	2.39	0.58
36:BA:540:G:H21	39:BD:40:HIS:CG	2.22	0.58
41:BF:88:MET:HE3	41:BF:90:MET:HE1	1.85	0.58
2:A8:358:U:H2'	2:A8:359:G:C8	2.39	0.58
2:A8:494:G:H21	23:AS:57:ASN:HD21	1.50	0.58
2:A8:1392:A:C8	2:A8:1393:A:C2	2.91	0.58
2:A8:1835:G:C2	2:A8:1931:U:C6	2.92	0.58
2:A8:1866:A:C2	2:A8:1867:G:H1'	2.38	0.58
2:A8:2317:A:H3'	2:A8:2318:G:C8	2.38	0.58
2:A8:2513:A:C5	2:A8:2574:G:C6	2.92	0.58
2:A8:2808:G:H1'	2:A8:2891:U:C2	2.39	0.58
36:BA:933:G:H3'	36:BA:935:A:H62	1.69	0.58
2:A8:244:A:C2	2:A8:245:G:H1'	2.39	0.58
2:A8:901:C:C5	2:A8:901:C:OP2	2.57	0.58
2:A8:1532:A:C4	2:A8:1540:G:C2	2.92	0.58
2:A8:1842:G:C1'	7:A6:242:HIS:CE1	2.87	0.58
2:A8:2549:G:C6	2:A8:2560:A:C6	2.92	0.58
24:AT:69:ARG:HH22	24:AT:78:SER:H	1.52	0.58
36:BA:582:C:H41	36:BA:758:C:H2'	1.67	0.58
36:BA:838:G:C2	36:BA:849:G:H1'	2.39	0.58
2:A8:617:G:C6	2:A8:618:G:C5	2.92	0.57
2:A8:1194:A:H5''	2:A8:1194:A:C8	2.38	0.57
2:A8:1467:U:C5	2:A8:1546:G:H2'	2.39	0.57
28:AX:17:ARG:CZ	28:AX:23:ALA:HB2	2.34	0.57
36:BA:38:G:H4'	36:BA:547:A:C6	2.39	0.57
36:BA:103:U:H1'	36:BA:151:A:C2	2.39	0.57
36:BA:795:C:C5	36:BA:796:C:C5	2.92	0.57
36:BA:905:U:H3'	36:BA:906:A:C8	2.39	0.57
36:BA:1102:A:C2	36:BA:1103:C:C2	2.92	0.57
36:BA:1239:A:H62	36:BA:1299:A:H62	1.50	0.57
45:BJ:53:ILE:HG22	45:BJ:61:ALA:HB1	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:303:G:C2	2:A8:315:G:C4	2.92	0.57
2:A8:836:G:O6	2:A8:943:A:C2	2.57	0.57
2:A8:1021:A:H61	2:A8:1142:A:N6	2.01	0.57
2:A8:1021:A:H62	2:A8:1141:U:H3	1.51	0.57
2:A8:1142:A:H4'	14:AJ:27:ARG:HH22	1.70	0.57
36:BA:181:A:C8	36:BA:194:C:C5	2.92	0.57
36:BA:291:U:H3'	36:BA:305:G:H22	1.70	0.57
36:BA:907:A:C6	36:BA:908:A:C4	2.92	0.57
36:BA:1176:A:H2'	36:BA:1177:G:C8	2.38	0.57
1:A7:13:G:C6	1:A7:70:C:H5'	2.40	0.57
2:A8:1153:C:H5'	21:AQ:75:TYR:CE2	2.39	0.57
2:A8:2450:A:C2	2:A8:2451:A:C8	2.92	0.57
36:BA:284:C:H2'	36:BA:285:C:H6	1.69	0.57
2:A8:668:A:C2	2:A8:670:A:C6	2.92	0.57
2:A8:1890:A:H1'	2:A8:2234:G:H21	1.70	0.57
2:A8:2425:A:H5'	2:A8:2427:C:C6	2.39	0.57
7:A6:76:VAL:H	7:A6:93:VAL:HG23	1.69	0.57
36:BA:105:G:C6	36:BA:106:C:C4	2.92	0.57
36:BA:908:A:H2'	36:BA:909:A:C8	2.39	0.57
36:BA:1510:C:C2	36:BA:1526:G:C2	2.92	0.57
47:BL:35:ARG:HB3	47:BL:53:ARG:HH22	1.69	0.57
2:A8:870:U:C2'	2:A8:871:U:H5''	2.35	0.57
2:A8:1268:A:C2	2:A8:1269:A:H1'	2.40	0.57
2:A8:1441:G:C6	2:A8:1551:A:C2	2.93	0.57
2:A8:1910:G:C4	2:A8:1921:G:C2	2.92	0.57
2:A8:2086:U:H2'	2:A8:2087:G:C8	2.39	0.57
2:A8:2283:C:H5''	2:A8:2389:G:O2'	2.04	0.57
36:BA:423:G:C5	36:BA:424:G:H1'	2.39	0.57
1:A7:24:G:C8	1:A7:56:G:C5	2.93	0.57
2:A8:181:A:H1'	2:A8:435:C:C6	2.39	0.57
2:A8:507:A:H5''	2:A8:508:A:H3'	1.86	0.57
2:A8:1428:C:C5	2:A8:1569:A:H5''	2.39	0.57
2:A8:1699:G:C6	2:A8:1763:G:C4	2.92	0.57
2:A8:1831:G:C6	2:A8:1975:G:C6	2.92	0.57
2:A8:1900:A:C2	2:A8:1970:A:C4	2.93	0.57
2:A8:1936:A:H4'	2:A8:1937:A:C8	2.40	0.57
2:A8:2347:C:C5	2:A8:2382:G:C5	2.92	0.57
2:A8:2354:C:H1'	27:AW:30:VAL:HG21	1.87	0.57
2:A8:2677:G:C6	2:A8:2731:G:C6	2.93	0.57
14:AJ:92:MET:HA	14:AJ:99:ARG:HE	1.69	0.57
17:AM:24:THR:H	17:AM:66:ARG:HH12	1.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AU:87:GLU:CD	25:AU:87:GLU:H	2.12	0.57
36:BA:71:A:C4	36:BA:100:G:H1'	2.40	0.57
36:BA:292:G:C5	36:BA:293:G:H1'	2.39	0.57
36:BA:541:G:H1'	39:BD:40:HIS:CD2	2.39	0.57
36:BA:642:A:C5	43:BH:106:SER:HA	2.40	0.57
36:BA:866:C:C4	36:BA:867:G:H1'	2.39	0.57
2:A8:56:A:C2	2:A8:115:C:C2	2.92	0.57
2:A8:330:A:C8	2:A8:1210:G:H2'	2.40	0.57
2:A8:1093:G:H1'	13:AI:4:VAL:CG2	2.35	0.57
2:A8:1186:G:C2	2:A8:1187:G:H1'	2.39	0.57
2:A8:1689:A:C4	2:A8:1690:A:C8	2.92	0.57
26:AV:1:MET:HE3	26:AV:2:PHE:CE2	2.39	0.57
1:A7:83:G:C6	1:A7:84:G:C5	2.93	0.57
2:A8:1082:U:N3	2:A8:1086:A:C2	2.73	0.57
2:A8:1439:A:C5	2:A8:1553:A:C6	2.93	0.57
2:A8:1837:C:H2'	2:A8:1838:C:H5'	1.87	0.57
2:A8:2359:C:H5''	34:A3:50:SER:HB2	1.87	0.57
2:A8:2373:G:H2'	2:A8:2374:C:C6	2.40	0.57
2:A8:2677:G:C4	2:A8:2731:G:C2	2.93	0.57
24:AT:33:LYS:HZ2	24:AT:33:LYS:H	1.52	0.57
36:BA:642:A:C5	36:BA:643:C:C4	2.93	0.57
36:BA:704:A:C5	36:BA:705:G:C8	2.92	0.57
2:A8:1204:A:H4'	2:A8:1205:A:H3'	1.86	0.57
2:A8:1444:G:C2	2:A8:1548:A:C2	2.93	0.57
2:A8:1606:C:H4'	2:A8:1608:A:C4	2.39	0.57
2:A8:2218:G:C6	2:A8:2219:U:C4	2.93	0.57
2:A8:2776:A:C6	2:A8:2778:A:C6	2.93	0.57
1:A7:10:G:C2	1:A7:111:U:H1'	2.40	0.57
2:A8:529:A:C5	2:A8:2023:C:C2	2.92	0.57
2:A8:641:U:C4	2:A8:645:C:C5	2.93	0.57
2:A8:1360:G:C6	2:A8:1361:G:H1'	2.40	0.57
2:A8:2543:G:C8	2:A8:2766:A:H4'	2.40	0.57
36:BA:444:G:C6	36:BA:491:G:C6	2.93	0.57
36:BA:663:A:C2	36:BA:743:A:C2	2.92	0.57
36:BA:814:A:H3'	36:BA:816:A:C8	2.39	0.57
36:BA:1528:U:H4'	36:BA:1529:G:H21	1.69	0.57
41:BF:3:HIS:CE1	41:BF:37:HIS:HE1	2.23	0.57
2:A8:255:A:C2	2:A8:256:A:H1'	2.40	0.56
2:A8:880:G:C2	2:A8:881:G:C6	2.93	0.56
2:A8:1025:G:C5	2:A8:1135:C:H1'	2.41	0.56
2:A8:1086:A:H1'	2:A8:1103:A:H61	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2097:A:C4	2:A8:2193:G:N2	2.73	0.56
2:A8:2809:A:C6	2:A8:2891:U:H4'	2.40	0.56
36:BA:836:G:C5	36:BA:851:G:C6	2.93	0.56
40:BE:45:VAL:HG22	40:BE:71:ILE:HA	1.86	0.56
44:BI:9:GLY:O	44:BI:77:ALA:HB1	2.05	0.56
2:A8:448:U:H3	2:A8:583:G:H21	1.53	0.56
2:A8:960:A:H5'	2:A8:2457:U:H4'	1.86	0.56
2:A8:2533:U:C4	2:A8:2534:A:C4	2.93	0.56
2:A8:2588:G:C6	2:A8:2589:A:C5	2.93	0.56
36:BA:1060:U:H2'	36:BA:1061:G:C8	2.40	0.56
1:A7:85:G:C2	1:A7:92:C:C2	2.93	0.56
2:A8:233:A:C2	2:A8:234:U:H1'	2.40	0.56
2:A8:647:G:C6	2:A8:648:G:C6	2.94	0.56
2:A8:693:A:C2	2:A8:694:U:C2	2.94	0.56
2:A8:751:A:H2'	2:A8:789:A:C2	2.40	0.56
2:A8:1028:A:H1'	2:A8:2487:G:H4'	1.86	0.56
2:A8:1474:U:C4	2:A8:1475:G:C2	2.94	0.56
2:A8:1668:A:H5'	2:A8:1669:A:C5	2.40	0.56
2:A8:1723:G:C5	2:A8:1724:G:C5	2.93	0.56
2:A8:1794:A:H1'	2:A8:1900:A:C2	2.41	0.56
2:A8:1987:A:C2	2:A8:1988:G:C4	2.94	0.56
2:A8:2270:A:C5	2:A8:2271:G:H1'	2.40	0.56
2:A8:2372:U:H2'	2:A8:2373:G:C8	2.39	0.56
2:A8:2721:A:C2	2:A8:2873:A:C5	2.94	0.56
2:A8:2809:A:H2'	2:A8:2810:A:C8	2.41	0.56
7:A6:163:ILE:HG21	7:A6:166:ARG:HG2	1.86	0.56
36:BA:215:C:C4	36:BA:216:U:C4	2.93	0.56
36:BA:655:A:C2	36:BA:656:G:C4	2.93	0.56
36:BA:687:A:C2	36:BA:704:A:C5	2.92	0.56
36:BA:718:A:C2	36:BA:719:C:H1'	2.40	0.56
2:A8:300:A:H1'	2:A8:319:G:H1'	1.87	0.56
2:A8:1293:C:H2'	2:A8:1294:U:C6	2.40	0.56
2:A8:1496:A:H2'	2:A8:1498:C:C5	2.40	0.56
2:A8:1668:A:C2	2:A8:1993:U:H1'	2.41	0.56
6:A5:107:GLY:HA2	6:A5:131:LEU:HD12	1.87	0.56
36:BA:954:G:C2	36:BA:955:U:H1'	2.41	0.56
36:BA:1426:G:C4	36:BA:1475:G:C2	2.94	0.56
1:A7:29:A:C2	1:A7:56:G:C2	2.93	0.56
2:A8:197:A:C5	2:A8:198:C:C6	2.94	0.56
2:A8:226:A:C6	2:A8:227:A:C6	2.94	0.56
2:A8:285:G:C2	2:A8:286:U:C2	2.94	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:669:G:H21	9:AE:49:ARG:HE	1.53	0.56
2:A8:847:U:H6	2:A8:934:U:H1'	1.69	0.56
2:A8:1059:G:H4'	13:AI:115:ASP:HB3	1.87	0.56
2:A8:1427:A:H61	2:A8:1570:A:H3'	1.71	0.56
2:A8:1877:A:C2	2:A8:1878:G:C4	2.94	0.56
2:A8:1988:G:C2	2:A8:1989:G:H1'	2.41	0.56
2:A8:2370:G:C6	2:A8:2371:G:C5	2.93	0.56
2:A8:2660:A:C5	2:A8:2661:G:C6	2.93	0.56
36:BA:82:G:H3'	36:BA:83:C:H4'	1.88	0.56
36:BA:278:G:H21	36:BA:279:A:H62	1.53	0.56
36:BA:628:G:N2	36:BA:629:A:H1'	2.21	0.56
36:BA:683:G:C2	36:BA:708:C:C2	2.93	0.56
2:A8:844:A:C2	2:A8:935:C:C2	2.94	0.56
2:A8:1312:U:C2	2:A8:1603:A:C2	2.94	0.56
2:A8:2524:G:C2	2:A8:2540:C:C2	2.94	0.56
2:A8:2526:G:C6	2:A8:2527:C:C4	2.94	0.56
11:AG:102:ILE:HG22	11:AG:103:ASN:H	1.70	0.56
30:AZ:15:ARG:HE	30:AZ:19:HIS:CD2	2.24	0.56
36:BA:568:G:C6	36:BA:569:C:C4	2.94	0.56
36:BA:771:G:C4	36:BA:809:G:C2	2.94	0.56
36:BA:985:C:H2'	36:BA:986:U:C6	2.40	0.56
36:BA:1069:C:C5	36:BA:1094:G:C6	2.94	0.56
36:BA:1071:C:C2	36:BA:1105:A:C2	2.94	0.56
2:A8:360:U:C4	2:A8:361:G:C2	2.94	0.56
2:A8:460:A:C2	2:A8:461:C:H1'	2.41	0.56
2:A8:820:A:H4'	2:A8:836:G:H1	1.71	0.56
2:A8:1797:G:C5	2:A8:1798:U:C5	2.93	0.56
2:A8:1966:A:H1'	2:A8:2593:U:H5'	1.86	0.56
2:A8:2135:A:C6	2:A8:2136:G:C6	2.93	0.56
2:A8:2199:A:C8	2:A8:2225:A:C6	2.94	0.56
2:A8:2383:G:C6	2:A8:2384:U:C4	2.94	0.56
2:A8:2841:C:H2'	2:A8:2842:G:C8	2.41	0.56
36:BA:10:A:C2	36:BA:25:C:C2	2.94	0.56
36:BA:469:C:C4	36:BA:470:C:C2	2.94	0.56
2:A8:1085:A:H2'	2:A8:1086:A:C2	2.41	0.56
2:A8:1168:G:C2	2:A8:1182:G:C2	2.94	0.56
2:A8:1311:G:H5''	2:A8:1312:U:H5'	1.88	0.56
2:A8:1473:G:C4	2:A8:1519:G:C2	2.94	0.56
2:A8:1634:A:H3'	2:A8:1635:A:C5'	2.35	0.56
2:A8:2651:C:C2	2:A8:2670:A:C2	2.92	0.56
2:A8:2729:G:H1'	8:AD:192:ALA:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2776:A:C5	2:A8:2778:A:C5	2.94	0.56
30:AZ:15:ARG:HH21	30:AZ:19:HIS:CE1	2.23	0.56
36:BA:158:G:C6	36:BA:164:G:C5	2.93	0.56
36:BA:413:G:H4'	36:BA:428:G:N2	2.21	0.56
36:BA:450:G:C6	36:BA:481:G:C8	2.94	0.56
36:BA:672:U:H2'	36:BA:673:A:C8	2.41	0.56
36:BA:688:G:C6	36:BA:700:G:C5	2.94	0.56
36:BA:953:G:C6	36:BA:954:G:C5	2.93	0.56
2:A8:30:G:H2'	2:A8:31:C:C6	2.41	0.56
2:A8:487:C:H3'	2:A8:488:G:C8	2.41	0.56
2:A8:880:G:H2'	2:A8:881:G:C8	2.41	0.56
2:A8:987:C:C4'	2:A8:1001:A:H4'	2.36	0.56
2:A8:1287:A:C8	18:AN:105:GLY:HA3	2.41	0.56
2:A8:2513:A:C5	2:A8:2514:U:C4	2.93	0.56
36:BA:227:G:H21	51:BP:64:GLY:HA3	1.69	0.56
36:BA:278:G:N2	36:BA:279:A:H62	2.04	0.56
36:BA:505:G:C6	36:BA:535:A:C2	2.93	0.56
36:BA:628:G:H21	36:BA:629:A:H1'	1.71	0.56
36:BA:760:G:C5	36:BA:761:G:C8	2.94	0.56
36:BA:923:A:C2	36:BA:924:C:C2	2.93	0.56
36:BA:1244:G:C6	36:BA:1294:G:C6	2.94	0.56
55:BT:14:GLU:HA	55:BT:17:ARG:HE	1.71	0.56
2:A8:626:A:C8	16:AL:78:ARG:HD2	2.41	0.56
2:A8:794:A:C2	2:A8:795:C:C2	2.94	0.56
2:A8:1097:U:C5	2:A8:1098:A:C4	2.94	0.56
2:A8:1365:A:H3'	2:A8:1366:A:C8	2.41	0.56
2:A8:1668:A:C6	2:A8:1993:U:C6	2.94	0.56
2:A8:1767:G:C2	2:A8:1986:C:C2	2.94	0.56
2:A8:1827:U:C5'	2:A8:1971:U:H4'	2.36	0.56
2:A8:1896:G:C6	2:A8:1897:G:C5	2.93	0.56
2:A8:2041:U:H2'	2:A8:2042:A:C8	2.40	0.56
7:A6:140:VAL:H	7:A6:159:THR:HG21	1.71	0.56
36:BA:496:A:H2'	36:BA:497:G:C8	2.41	0.56
36:BA:687:A:H1'	36:BA:700:G:H21	1.71	0.56
43:BH:60:LEU:HD23	43:BH:60:LEU:H	1.71	0.56
1:A7:16:G:N2	1:A7:69:G:H1'	2.21	0.55
2:A8:321:U:H3'	2:A8:321:U:C6	2.41	0.55
2:A8:528:A:C8	2:A8:2042:A:C8	2.94	0.55
2:A8:529:A:C8	2:A8:2042:A:N6	2.74	0.55
2:A8:594:U:H2'	2:A8:595:C:C6	2.42	0.55
2:A8:868:U:H1'	2:A8:912:C:H4'	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1128:G:C5	2:A8:2518:A:C2	2.95	0.55
2:A8:2104:C:H2'	2:A8:2105:U:C6	2.41	0.55
2:A8:2407:A:C2	2:A8:2408:U:C2	2.94	0.55
2:A8:2466:C:C2	2:A8:2485:G:C2	2.93	0.55
2:A8:2599:G:C8	2:A8:2599:G:H5''	2.40	0.55
2:A8:2746:U:O4	2:A8:2755:C:H4'	2.06	0.55
36:BA:66:A:C2	36:BA:104:G:H1'	2.41	0.55
36:BA:366:A:H2'	36:BA:394:G:H22	1.71	0.55
36:BA:387:U:H2'	36:BA:389:A:C8	2.42	0.55
36:BA:712:A:C2	36:BA:713:G:C4	2.94	0.55
36:BA:905:U:H3'	36:BA:906:A:H8	1.71	0.55
52:BQ:16:MET:HE1	52:BQ:21:VAL:HG23	1.88	0.55
2:A8:221:A:C6	2:A8:233:A:C2	2.94	0.55
2:A8:455:C:H1'	2:A8:472:A:H2'	1.87	0.55
2:A8:604:G:C6	2:A8:625:G:C6	2.94	0.55
2:A8:618:G:C6	2:A8:619:G:C4	2.95	0.55
2:A8:701:G:C6	2:A8:702:U:C5	2.95	0.55
2:A8:1038:G:C2	2:A8:1118:C:C2	2.94	0.55
2:A8:1068:G:H21	2:A8:1069:A:H62	1.54	0.55
2:A8:1094:U:O5'	2:A8:1094:U:H6	1.89	0.55
2:A8:1469:A:H2'	2:A8:1470:A:C8	2.42	0.55
2:A8:2709:G:C2	2:A8:2710:C:C2	2.95	0.55
25:AU:94:PHE:HA	25:AU:101:THR:HA	1.87	0.55
36:BA:1218:C:H2'	36:BA:1219:A:C8	2.41	0.55
1:A7:16:G:C2	1:A7:69:G:N3	2.74	0.55
1:A7:20:G:C6	1:A7:64:G:C6	2.94	0.55
2:A8:121:G:C4	2:A8:131:A:C2	2.95	0.55
2:A8:187:G:C2	2:A8:210:C:C2	2.93	0.55
2:A8:783:A:C6	2:A8:785:G:H1'	2.41	0.55
2:A8:1098:A:C6	13:AI:4:VAL:HA	2.41	0.55
2:A8:1099:G:C5	2:A8:1100:C:C5	2.94	0.55
2:A8:1363:C:C2	2:A8:1369:G:C2	2.95	0.55
2:A8:1585:C:C5	2:A8:1586:A:C5	2.95	0.55
2:A8:1866:A:H61	2:A8:1875:G:C2'	2.19	0.55
2:A8:2694:G:C6	2:A8:2695:U:C4	2.93	0.55
2:A8:2867:G:H2'	2:A8:2868:A:C8	2.42	0.55
35:A4:16:ILE:HG12	35:A4:25:VAL:HG23	1.89	0.55
36:BA:317:U:C2	36:BA:337:G:C2	2.95	0.55
36:BA:800:G:H2'	36:BA:801:U:C6	2.41	0.55
36:BA:1084:G:H2'	36:BA:1085:U:C5	2.41	0.55
36:BA:1167:A:C2	36:BA:1168:U:C4	2.95	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1475:G:C2	36:BA:1476:A:C4	2.94	0.55
2:A8:424:G:H3'	2:A8:424:G:C8	2.42	0.55
2:A8:499:U:C4	2:A8:500:G:C6	2.95	0.55
2:A8:545:U:C5	2:A8:550:C:C4	2.94	0.55
2:A8:697:G:H2'	2:A8:698:C:C6	2.41	0.55
2:A8:1336:A:H1'	3:AA:368:PRO:HA	1.88	0.55
2:A8:1690:A:C6	2:A8:1691:C:C2	2.94	0.55
2:A8:1873:G:C6	2:A8:1874:C:C4	2.93	0.55
11:AG:97:VAL:H	11:AG:102:ILE:HG23	1.71	0.55
12:AH:114:GLU:HB3	12:AH:133:GLN:H	1.71	0.55
36:BA:453:G:C6	36:BA:480:U:C2	2.95	0.55
36:BA:465:A:N7	36:BA:468:A:C5	2.75	0.55
36:BA:796:C:H5''	46:BK:127:ARG:H	1.71	0.55
36:BA:1438:G:C2	36:BA:1464:U:C2	2.94	0.55
44:BI:71:ILE:HD12	44:BI:72:SER:H	1.72	0.55
1:A7:57:A:C4	1:A7:58:A:C8	2.95	0.55
2:A8:63:A:H2'	2:A8:64:A:C8	2.41	0.55
2:A8:599:A:H5''	9:AE:24:ASN:HD22	1.71	0.55
2:A8:1021:A:H61	2:A8:1142:A:H61	1.52	0.55
2:A8:1655:A:C6	2:A8:1656:C:C2	2.94	0.55
2:A8:1907:G:C5	2:A8:1908:C:C5	2.94	0.55
2:A8:1907:G:N1	2:A8:1924:C:C2	2.74	0.55
2:A8:1949:G:C5	2:A8:1950:G:C5	2.94	0.55
2:A8:2347:C:C5	2:A8:2382:G:C4	2.94	0.55
14:AJ:22:GLY:H	14:AJ:62:VAL:HA	1.72	0.55
36:BA:60:A:H5'	36:BA:387:U:H4'	1.89	0.55
36:BA:304:U:H2'	36:BA:305:G:C8	2.42	0.55
2:A8:196:A:OP1	2:A8:198:C:C4	2.60	0.55
2:A8:1171:G:C6	2:A8:1172:C:C4	2.95	0.55
2:A8:1342:A:C6	2:A8:1345:C:C2	2.95	0.55
2:A8:1553:A:C6	2:A8:1555:G:H1'	2.42	0.55
2:A8:1642:G:C6	2:A8:1643:G:C5	2.94	0.55
2:A8:1652:A:OP2	2:A8:1653:G:C6	2.59	0.55
2:A8:2273:A:C2	2:A8:2274:A:C4	2.95	0.55
2:A8:2461:A:C2	2:A8:2491:U:O4	2.59	0.55
2:A8:2662:A:H3'	2:A8:2663:G:H8	1.72	0.55
2:A8:2721:A:H1'	2:A8:2873:A:C8	2.42	0.55
54:BS:15:LEU:HA	54:BS:18:VAL:HB	1.87	0.55
2:A8:463:G:C2	2:A8:467:G:C5	2.94	0.55
2:A8:1451:C:H1'	2:A8:1452:G:C5	2.42	0.55
2:A8:1483:G:C6	2:A8:1484:U:C4	2.95	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1858:A:H61	2:A8:1884:G:H1'	1.72	0.55
2:A8:2410:G:C6	2:A8:2411:A:C5	2.95	0.55
36:BA:1053:G:C2	36:BA:1056:U:C4	2.94	0.55
36:BA:1439:G:N2	36:BA:1440:U:H1'	2.21	0.55
2:A8:527:C:H6	14:AJ:116:ARG:HH22	1.55	0.55
2:A8:1684:G:C6	2:A8:1685:C:C4	2.94	0.55
36:BA:42:G:H21	36:BA:622:A:H1'	1.72	0.55
36:BA:656:G:H2'	36:BA:657:U:C6	2.41	0.55
36:BA:665:A:C5	36:BA:733:G:C5	2.95	0.55
36:BA:666:G:C2	36:BA:741:G:C4	2.94	0.55
36:BA:864:A:H2'	36:BA:865:A:C1'	2.37	0.55
36:BA:1259:C:C5	36:BA:1260:G:C8	2.95	0.55
2:A8:768:G:C6	2:A8:769:U:C4	2.95	0.55
2:A8:1831:G:C6	2:A8:1832:C:C4	2.94	0.55
2:A8:2051:A:C8	2:A8:2051:A:OP2	2.60	0.55
2:A8:2659:G:N2	2:A8:2661:G:H3'	2.22	0.55
36:BA:461:A:C6	36:BA:473:U:H1'	2.42	0.55
36:BA:1377:A:H61	42:BG:9:ARG:CZ	2.20	0.55
40:BE:93:VAL:HB	40:BE:138:ALA:HB2	1.89	0.55
2:A8:89:A:C5	2:A8:90:U:C5	2.94	0.55
2:A8:695:G:C5	2:A8:768:G:C6	2.95	0.55
2:A8:851:C:H4'	30:AZ:46:MET:HA	1.89	0.55
2:A8:852:U:C5'	30:AZ:45:GLY:HA3	2.37	0.55
2:A8:877:A:C2	2:A8:878:A:H1'	2.41	0.55
2:A8:1024:G:C6	2:A8:1025:G:C6	2.95	0.55
2:A8:1720:U:C4	2:A8:1721:G:C5	2.95	0.55
2:A8:2307:G:H1	10:AF:40:GLY:HA2	1.72	0.55
2:A8:2378:A:C5	2:A8:2379:G:H1'	2.42	0.55
42:BG:98:LEU:HD23	42:BG:101:ARG:HH11	1.71	0.55
2:A8:638:G:H1'	2:A8:652:U:C5'	2.37	0.54
2:A8:1417:C:H1'	2:A8:1586:A:H61	1.72	0.54
2:A8:1676:A:C6	2:A8:1677:A:C6	2.95	0.54
2:A8:2097:A:C2	2:A8:2098:U:C2	2.94	0.54
2:A8:2744:G:C6	2:A8:2745:C:C5	2.95	0.54
2:A8:2779:U:C6	2:A8:2781:A:C2	2.95	0.54
12:AH:114:GLU:CB	12:AH:133:GLN:H	2.21	0.54
36:BA:408:A:H3'	36:BA:409:U:C6	2.42	0.54
36:BA:713:G:H2'	36:BA:714:G:C8	2.42	0.54
36:BA:852:G:C6	36:BA:853:C:C4	2.94	0.54
36:BA:904:U:H2'	36:BA:905:U:C6	2.43	0.54
1:A7:67:G:C6	1:A7:68:C:C4	2.95	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:756:A:C2	2:A8:757:G:H1'	2.42	0.54
2:A8:757:G:C6	2:A8:758:C:C6	2.95	0.54
2:A8:822:G:C6	2:A8:836:G:C5	2.95	0.54
2:A8:898:C:C4	2:A8:899:A:C8	2.95	0.54
2:A8:1678:A:H2'	2:A8:1679:A:C8	2.42	0.54
2:A8:1717:A:C6	2:A8:1718:G:C4	2.95	0.54
2:A8:1787:A:C5	2:A8:1788:C:C5	2.96	0.54
2:A8:2247:A:C5	2:A8:2248:C:C5	2.94	0.54
2:A8:2410:G:C4	2:A8:2411:A:C8	2.95	0.54
2:A8:2692:G:C6	2:A8:2718:G:C6	2.95	0.54
36:BA:105:G:C5	36:BA:106:C:C5	2.94	0.54
36:BA:446:G:C2	36:BA:489:C:C2	2.95	0.54
36:BA:568:G:H21	36:BA:574:A:H1'	1.72	0.54
36:BA:697:U:C5	36:BA:698:G:C8	2.95	0.54
36:BA:898:G:C2	36:BA:902:G:C5	2.95	0.54
36:BA:1118:U:H1'	36:BA:1179:A:C8	2.41	0.54
2:A8:471:A:C5	2:A8:472:A:C5	2.95	0.54
2:A8:493:G:C6	2:A8:494:G:C5	2.94	0.54
2:A8:612:G:C2	2:A8:617:G:C6	2.95	0.54
2:A8:692:C:C2	2:A8:771:G:C2	2.95	0.54
2:A8:812:C:H1'	2:A8:1250:G:C2	2.41	0.54
2:A8:910:A:C6	17:AM:13:HIS:CE1	2.96	0.54
2:A8:950:G:C6	2:A8:951:C:C5	2.95	0.54
2:A8:1269:A:H2'	2:A8:1270:C:C6	2.42	0.54
2:A8:1492:G:H1	2:A8:1498:C:H42	1.54	0.54
2:A8:1769:U:H2'	2:A8:1770:G:C8	2.42	0.54
2:A8:1786:A:H62	2:A8:1983:G:H1'	1.72	0.54
2:A8:1845:G:C6	2:A8:1896:G:C6	2.95	0.54
2:A8:2618:G:H21	8:AD:155:VAL:HG11	1.72	0.54
2:A8:2789:C:C4	2:A8:2893:A:C5	2.95	0.54
2:A8:2816:G:C6	2:A8:2817:U:C4	2.95	0.54
36:BA:258:G:C6	36:BA:269:C:C2	2.95	0.54
36:BA:318:G:C4	36:BA:336:A:C2	2.96	0.54
36:BA:518:C:C5	36:BA:529:G:C8	2.95	0.54
36:BA:688:G:H1'	36:BA:704:A:C2	2.43	0.54
36:BA:892:A:H61	36:BA:906:A:H2'	1.72	0.54
36:BA:986:U:H2'	36:BA:987:G:C8	2.43	0.54
36:BA:1415:G:C4	36:BA:1416:G:C8	2.96	0.54
2:A8:346:A:H3'	2:A8:347:A:C8	2.43	0.54
2:A8:990:A:C5	2:A8:1186:G:H4'	2.42	0.54
2:A8:1182:G:C6	2:A8:1183:U:C4	2.95	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1309:G:H21	2:A8:1611:C:H5'	1.72	0.54
2:A8:1742:U:C2	2:A8:1743:G:C8	2.96	0.54
2:A8:2543:G:C6	2:A8:2544:G:C5	2.96	0.54
15:AK:23:VAL:HG21	15:AK:32:ALA:HA	1.90	0.54
21:AQ:49:ARG:HH12	22:AR:74:ILE:HA	1.72	0.54
2:A8:86:G:C2	2:A8:97:C:C2	2.95	0.54
2:A8:270:A:H1'	2:A8:370:G:N2	2.22	0.54
2:A8:301:G:C4	2:A8:317:G:C2	2.95	0.54
2:A8:476:G:H22	2:A8:478:A:H3'	1.73	0.54
2:A8:629:G:C6	2:A8:630:G:C5	2.95	0.54
2:A8:1000:A:C8	2:A8:1154:G:N2	2.75	0.54
2:A8:1310:G:H2'	2:A8:1311:G:H5'	1.87	0.54
2:A8:1483:G:C2	2:A8:1507:C:O2	2.60	0.54
2:A8:1671:U:H1'	8:AD:134:HIS:CE1	2.43	0.54
2:A8:1860:G:C2	2:A8:1883:U:H1'	2.42	0.54
2:A8:1902:C:C5	2:A8:1903:G:C8	2.95	0.54
2:A8:2248:C:C5	2:A8:2249:U:C4	2.96	0.54
2:A8:2463:C:C2	2:A8:2488:G:C2	2.95	0.54
2:A8:2639:A:H1'	2:A8:2778:A:C2	2.42	0.54
9:AE:144:GLU:H	9:AE:185:LYS:HD2	1.72	0.54
36:BA:516:U:C4	36:BA:517:G:C6	2.95	0.54
36:BA:790:A:C6	36:BA:791:G:C6	2.95	0.54
36:BA:852:G:C5	36:BA:853:C:C5	2.95	0.54
2:A8:238:C:C4'	2:A8:609:A:H4'	2.38	0.54
2:A8:642:U:O2	2:A8:644:A:H3'	2.07	0.54
2:A8:684:G:C2	2:A8:794:A:C2	2.96	0.54
2:A8:1331:G:H1'	2:A8:1609:A:H61	1.71	0.54
2:A8:1422:G:C2	2:A8:1577:C:C2	2.95	0.54
2:A8:1440:U:O2	2:A8:1552:A:C8	2.61	0.54
2:A8:1688:U:C2	2:A8:1698:A:C2	2.95	0.54
2:A8:1854:A:H4'	2:A8:2233:U:H4'	1.90	0.54
2:A8:2269:G:N2	27:AW:20:LEU:HD12	2.23	0.54
6:A5:63:THR:HB	6:A5:195:ALA:HB2	1.88	0.54
9:AE:48:THR:HA	9:AE:83:VAL:HB	1.90	0.54
19:AO:30:ARG:HH11	19:AO:102:ARG:HB2	1.73	0.54
33:A2:24:THR:HG23	33:A2:27:GLY:HA3	1.90	0.54
36:BA:522:C:H1'	36:BA:536:C:C5'	2.37	0.54
36:BA:1239:A:H62	36:BA:1299:A:N6	2.06	0.54
36:BA:1413:A:C2	36:BA:1488:G:N3	2.76	0.54
36:BA:1439:G:C5	36:BA:1440:U:C4	2.96	0.54
40:BE:16:ALA:HB3	40:BE:34:ALA:HA	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:35:G:C6	2:A8:446:G:N2	2.76	0.54
2:A8:275:C:C5	2:A8:276:U:C5	2.96	0.54
2:A8:1252:G:C2	2:A8:1253:A:C2	2.96	0.54
2:A8:1791:A:C8	2:A8:1792:G:C8	2.96	0.54
2:A8:2097:A:C5	2:A8:2193:G:C2	2.96	0.54
2:A8:2341:G:C6	2:A8:2342:C:C4	2.96	0.54
2:A8:2347:C:H5'	2:A8:2382:G:O4'	2.08	0.54
2:A8:2796:U:C2	2:A8:2798:U:C2	2.96	0.54
14:AJ:71:ASP:CB	14:AJ:89:PHE:HB3	2.38	0.54
26:AV:79:ARG:HA	26:AV:86:LEU:HD23	1.90	0.54
2:A8:71:A:C2	2:A8:114:U:H1'	2.43	0.54
2:A8:483:A:C8	25:AU:44:HIS:ND1	2.76	0.54
2:A8:662:G:H2'	2:A8:663:G:C8	2.43	0.54
2:A8:964:C:O2	2:A8:2273:A:C2	2.61	0.54
2:A8:1496:A:H3'	2:A8:1498:C:H41	1.73	0.54
2:A8:1689:A:C8	2:A8:1700:A:C5	2.96	0.54
2:A8:1717:A:H61	2:A8:1743:G:C2'	2.20	0.54
2:A8:1906:G:H5''	2:A8:1929:G:C8	2.43	0.54
2:A8:2207:C:C2	2:A8:2218:G:C2	2.96	0.54
2:A8:2721:A:C2	2:A8:2722:G:H1'	2.43	0.54
2:A8:2813:A:C2	2:A8:2888:C:C2	2.95	0.54
36:BA:71:A:C2	36:BA:100:G:O4'	2.61	0.54
36:BA:258:G:C8	36:BA:258:G:H5'	2.43	0.54
36:BA:836:G:C2	36:BA:837:U:H1'	2.43	0.54
36:BA:895:G:C5	36:BA:896:C:C5	2.95	0.54
2:A8:370:G:C8	2:A8:423:A:OP2	2.61	0.54
2:A8:498:G:N3	25:AU:44:HIS:CE1	2.76	0.54
2:A8:529:A:C5'	2:A8:2042:A:H61	2.20	0.54
2:A8:752:A:C2	2:A8:1781:U:H1'	2.43	0.54
2:A8:1082:U:C4	2:A8:1086:A:C2	2.95	0.54
2:A8:1776:G:C2	2:A8:1777:U:C6	2.96	0.54
2:A8:2298:A:C6	2:A8:2299:U:C2	2.95	0.54
2:A8:2340:A:C2	2:A8:2341:G:C5	2.96	0.54
2:A8:2658:C:C4	2:A8:2659:G:C5	2.96	0.54
2:A8:2714:G:C5	2:A8:2715:C:C5	2.96	0.54
2:A8:2790:U:H3'	2:A8:2790:U:C6	2.43	0.54
2:A8:2832:U:C5	2:A8:2883:A:C8	2.95	0.54
36:BA:71:A:H61	36:BA:99:C:H1'	1.73	0.54
36:BA:697:U:C4	36:BA:698:G:C8	2.95	0.54
36:BA:768:A:C5	36:BA:769:G:C8	2.96	0.54
36:BA:838:G:C6	36:BA:839:C:C4	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1479:C:C2	36:BA:1480:A:C8	2.95	0.54
41:BF:3:HIS:H	41:BF:92:THR:HG23	1.72	0.54
2:A8:17:G:H2'	2:A8:18:U:C6	2.42	0.54
2:A8:80:G:H21	2:A8:294:A:H1'	1.73	0.54
2:A8:107:G:H21	2:A8:346:A:H62	1.55	0.54
2:A8:816:C:C2	2:A8:1192:G:C2	2.96	0.54
2:A8:925:A:C6	2:A8:926:G:C5	2.96	0.54
2:A8:1292:G:H22	18:AN:30:ARG:HH22	1.56	0.54
2:A8:1723:G:H3'	2:A8:1724:G:H8	1.72	0.54
2:A8:1766:G:C6	2:A8:1987:A:C6	2.95	0.54
2:A8:2536:G:C5	2:A8:2537:U:C4	2.96	0.54
14:AJ:57:LEU:HA	14:AJ:125:TYR:HB2	1.90	0.54
36:BA:12:U:H4'	36:BA:526:C:C4'	2.38	0.54
47:BL:108:ASP:H	47:BL:118:VAL:HB	1.71	0.54
1:A7:81:G:C5	1:A7:96:G:C2	2.96	0.53
2:A8:457:A:H61	2:A8:470:A:H5''	1.73	0.53
2:A8:627:A:C4	2:A8:637:A:C2	2.96	0.53
2:A8:687:C:C5	2:A8:788:A:C4	2.96	0.53
2:A8:1033:U:H3'	2:A8:1034:G:H5''	1.90	0.53
2:A8:1184:U:H2'	2:A8:1185:G:C8	2.44	0.53
2:A8:1386:C:H2'	2:A8:1387:A:C8	2.42	0.53
2:A8:2263:C:H41	27:AW:12:GLY:HA3	1.72	0.53
36:BA:113:G:H2'	36:BA:114:U:C6	2.43	0.53
36:BA:700:G:H5'	36:BA:700:G:C8	2.44	0.53
36:BA:1392:G:C2	36:BA:1393:U:C2	2.96	0.53
1:A7:30:C:C6	1:A7:31:C:C6	2.96	0.53
1:A7:69:G:C2	1:A7:70:C:C1'	2.91	0.53
2:A8:1059:G:H21	13:AI:127:SER:HA	1.73	0.53
2:A8:1062:G:C6	2:A8:1077:A:C6	2.96	0.53
2:A8:1138:G:C4	2:A8:1139:G:H1'	2.43	0.53
2:A8:1344:U:H4'	2:A8:1384:A:C5	2.43	0.53
2:A8:1419:A:C8	2:A8:1579:A:C6	2.96	0.53
7:A6:1:ALA:H2	7:A6:201:LEU:HB2	1.73	0.53
8:AD:138:LEU:HA	8:AD:140:HIS:CE1	2.43	0.53
22:AR:61:ALA:HB1	22:AR:98:ILE:H	1.73	0.53
36:BA:509:A:C2	36:BA:510:A:C2	2.95	0.53
2:A8:350:G:C5	2:A8:351:C:C5	2.96	0.53
2:A8:649:G:C8	2:A8:650:C:C5	2.96	0.53
2:A8:954:G:C5	2:A8:955:U:C6	2.96	0.53
2:A8:1224:U:H4'	22:AR:88:GLY:H	1.74	0.53
2:A8:1590:A:C2	2:A8:1591:A:C4	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1620:G:C5	2:A8:1621:U:C5	2.96	0.53
2:A8:2192:U:C6	2:A8:2192:U:H5''	2.43	0.53
2:A8:2468:A:H2'	2:A8:2476:A:N1	2.22	0.53
2:A8:2710:C:H2'	2:A8:2711:A:O4'	2.08	0.53
2:A8:2811:G:C6	2:A8:2812:G:C5	2.97	0.53
2:A8:2854:G:C6	2:A8:2864:G:C6	2.96	0.53
11:AG:89:VAL:HB	11:AG:160:GLY:H	1.73	0.53
14:AJ:3:THR:HG21	14:AJ:44:TYR:CZ	2.43	0.53
24:AT:12:ARG:HH22	24:AT:81:LYS:H	1.57	0.53
36:BA:120:A:H4'	36:BA:121:U:C4	2.43	0.53
36:BA:673:A:H2'	36:BA:674:G:C8	2.43	0.53
36:BA:1016:A:C5	36:BA:1017:U:H1'	2.43	0.53
56:BU:44:ARG:H	56:BU:44:ARG:HD2	1.73	0.53
2:A8:303:G:C4	2:A8:315:G:C2	2.96	0.53
2:A8:413:C:H2'	2:A8:414:C:C6	2.44	0.53
2:A8:742:A:C6	2:A8:743:A:C5	2.96	0.53
2:A8:974:G:H5''	2:A8:1186:G:H21	1.73	0.53
2:A8:1445:G:C5	2:A8:1446:C:C5	2.96	0.53
2:A8:1717:A:C2	2:A8:1744:A:C4	2.96	0.53
2:A8:2071:A:C2	2:A8:2441:U:N3	2.77	0.53
2:A8:2097:A:C6	2:A8:2193:G:C2	2.97	0.53
2:A8:2186:G:C2	2:A8:2187:U:H1'	2.44	0.53
2:A8:2281:A:H4'	2:A8:2388:A:C6	2.44	0.53
2:A8:2373:G:C2	2:A8:2381:A:C2	2.96	0.53
2:A8:2533:U:C5	2:A8:2534:A:C8	2.96	0.53
12:AH:1:MET:HG2	12:AH:3:VAL:H	1.73	0.53
36:BA:771:G:C2	36:BA:809:G:C4	2.96	0.53
36:BA:814:A:H5'	36:BA:1511:G:H4'	1.90	0.53
36:BA:861:G:C5	36:BA:862:C:C4	2.96	0.53
36:BA:1072:G:C6	36:BA:1073:U:C4	2.97	0.53
36:BA:1478:U:H2'	36:BA:1479:C:C6	2.43	0.53
37:BB:205:ALA:HB3	37:BB:208:ALA:HB3	1.90	0.53
2:A8:13:A:C2	2:A8:526:A:C8	2.96	0.53
2:A8:809:G:H2'	2:A8:810:U:C6	2.44	0.53
2:A8:1310:G:N7	2:A8:1311:G:C4	2.76	0.53
2:A8:1654:A:C8	2:A8:2005:A:C2	2.97	0.53
2:A8:1873:G:C5	2:A8:1874:C:C5	2.97	0.53
2:A8:2394:C:C5	2:A8:2395:C:C4	2.97	0.53
2:A8:2531:A:C4	2:A8:2532:G:C8	2.95	0.53
2:A8:2675:A:H61	2:A8:2732:G:H1	1.57	0.53
2:A8:2718:G:C2	2:A8:2719:G:H1'	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2809:A:H62	2:A8:2890:G:H2'	1.73	0.53
36:BA:68:G:C2	36:BA:69:G:H1'	2.44	0.53
36:BA:248:C:H4'	36:BA:283:U:H4'	1.89	0.53
36:BA:453:G:H3'	36:BA:454:G:H8	1.74	0.53
36:BA:518:C:H2'	36:BA:530:G:C4	2.44	0.53
36:BA:582:C:C2	36:BA:760:G:C6	2.96	0.53
36:BA:790:A:H2'	36:BA:791:G:C8	2.43	0.53
36:BA:1108:G:C6	36:BA:1109:C:C4	2.97	0.53
2:A8:156:A:C2	2:A8:171:U:C2	2.96	0.53
2:A8:291:G:C5	2:A8:350:G:C6	2.97	0.53
2:A8:416:U:C2	2:A8:417:C:C6	2.97	0.53
2:A8:962:G:H21	2:A8:2250:G:H1	1.55	0.53
2:A8:1220:G:C2	2:A8:1230:A:C4	2.96	0.53
2:A8:1697:G:C6	2:A8:1698:A:C5	2.97	0.53
2:A8:1772:A:C4	2:A8:1980:G:C2	2.97	0.53
2:A8:1947:C:C2	2:A8:1960:A:C2	2.96	0.53
2:A8:1987:A:C6	2:A8:1988:G:C5	2.97	0.53
2:A8:2264:C:C2	2:A8:2277:G:C2	2.96	0.53
2:A8:2330:G:C6	2:A8:2331:G:C4	2.97	0.53
2:A8:2468:A:C2	2:A8:2482:A:OP2	2.62	0.53
2:A8:2674:G:C5	2:A8:2675:A:C5	2.97	0.53
13:AI:109:ALA:HB2	13:AI:125:THR:HA	1.90	0.53
36:BA:8:A:C2	40:BE:106:ALA:HA	2.43	0.53
36:BA:462:G:H2'	36:BA:463:U:C6	2.44	0.53
36:BA:666:G:C5	36:BA:741:G:C6	2.96	0.53
54:BS:62:THR:HG23	54:BS:64:GLU:H	1.74	0.53
2:A8:189:G:C2'	2:A8:207:A:H61	2.21	0.53
2:A8:244:A:C6	2:A8:255:A:C8	2.97	0.53
2:A8:579:G:C6	2:A8:580:U:C4	2.97	0.53
2:A8:852:U:C4	2:A8:853:C:C4	2.96	0.53
2:A8:1499:C:C2	2:A8:1500:G:C8	2.96	0.53
2:A8:1537:G:C6	2:A8:1538:G:H1'	2.43	0.53
2:A8:1758:U:C6	2:A8:2695:U:H4'	2.44	0.53
2:A8:1807:G:C2	2:A8:1811:G:C5	2.97	0.53
2:A8:1938:A:C5	2:A8:2590:A:H1'	2.44	0.53
2:A8:2037:A:C2	2:A8:2038:G:C4	2.97	0.53
2:A8:2597:G:C6	2:A8:2598:A:C6	2.97	0.53
2:A8:2800:A:C5	2:A8:2801:G:H1'	2.44	0.53
2:A8:2887:A:H62	31:A0:39:ARG:HD3	1.73	0.53
18:AN:38:LEU:HA	18:AN:111:ALA:HB2	1.91	0.53
36:BA:369:G:C4	36:BA:393:A:C2	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:707:U:H5''	46:BK:21:HIS:CB	2.39	0.53
36:BA:1518:A:H2'	36:BA:1519:A:C8	2.43	0.53
51:BP:9:HIS:CD2	51:BP:16:PHE:CD1	2.97	0.53
1:A7:75:G:H1'	26:AV:29:ILE:HD13	1.90	0.53
2:A8:475:C:C4	2:A8:476:G:C5	2.97	0.53
2:A8:632:A:C5	2:A8:633:A:C5	2.97	0.53
2:A8:1003:G:C2	2:A8:1004:U:C6	2.97	0.53
2:A8:1383:A:C5	2:A8:1406:U:H1'	2.44	0.53
2:A8:1407:G:C2	2:A8:1596:A:C2	2.97	0.53
2:A8:1450:G:C2	2:A8:1451:C:C5	2.96	0.53
2:A8:1901:A:H2'	2:A8:1902:C:C5	2.43	0.53
2:A8:2216:G:C2	2:A8:2217:G:C4	2.96	0.53
2:A8:2317:A:H3'	2:A8:2318:G:H8	1.73	0.53
2:A8:2659:G:C2	2:A8:2663:G:C6	2.96	0.53
21:AQ:60:TRP:CE2	21:AQ:93:ILE:HB	2.44	0.53
36:BA:453:G:C5	36:BA:454:G:C5	2.96	0.53
36:BA:785:G:C2	36:BA:798:U:C2	2.97	0.53
39:BD:87:GLU:HA	39:BD:187:ARG:HH11	1.74	0.53
39:BD:129:VAL:HG12	39:BD:130:ASN:H	1.74	0.53
40:BE:22:LYS:H	40:BE:29:ILE:HB	1.74	0.53
48:BM:92:ARG:HB3	48:BM:94:LEU:HD12	1.90	0.53
2:A8:155:A:C2	2:A8:172:A:C4	2.97	0.53
2:A8:250:G:C6	2:A8:251:A:C6	2.96	0.53
2:A8:285:G:C2	2:A8:356:G:C4	2.97	0.53
2:A8:310:A:C2	2:A8:312:G:H1'	2.44	0.53
2:A8:768:G:C5	2:A8:769:U:C5	2.97	0.53
2:A8:932:U:H4'	2:A8:933:A:C4	2.44	0.53
2:A8:1913:A:C5	36:BA:1494:G:C8	2.97	0.53
2:A8:2437:G:C2	2:A8:2438:U:C2	2.96	0.53
2:A8:2437:G:C6	2:A8:2438:U:C4	2.97	0.53
36:BA:695:A:C2	36:BA:696:A:C4	2.97	0.53
36:BA:852:G:C5	36:BA:853:C:C4	2.96	0.53
38:BC:111:ASP:HB3	38:BC:114:LEU:H	1.74	0.53
43:BH:48:PHE:HA	43:BH:60:LEU:HA	1.91	0.53
1:A7:76:G:H5''	26:AV:13:GLY:H	1.73	0.53
2:A8:48:G:C2	2:A8:178:G:C5	2.97	0.53
2:A8:122:G:C4	2:A8:123:G:C8	2.97	0.53
2:A8:278:A:H1'	2:A8:362:A:C4	2.44	0.53
2:A8:301:G:C2	2:A8:317:G:C4	2.97	0.53
2:A8:373:U:H2'	2:A8:374:A:C8	2.43	0.53
2:A8:422:A:H3'	2:A8:423:A:H8	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1210:G:H22	2:A8:1237:A:H5''	1.74	0.53
2:A8:1608:A:C4	2:A8:1611:C:C5	2.97	0.53
2:A8:1842:G:C5	2:A8:1843:C:C4	2.97	0.53
2:A8:1890:A:H4'	2:A8:2086:U:H4'	1.91	0.53
2:A8:2004:G:H3'	2:A8:2005:A:C8	2.44	0.53
2:A8:2183:A:H2'	2:A8:2184:A:C8	2.44	0.53
2:A8:2627:G:C5	2:A8:2628:C:C4	2.97	0.53
23:AS:86:MET:O	23:AS:93:ALA:HA	2.09	0.53
36:BA:614:C:H3'	36:BA:614:C:C6	2.44	0.53
36:BA:809:G:C5	36:BA:810:C:C5	2.97	0.53
38:BC:155:ARG:H	38:BC:162:ALA:HA	1.74	0.53
2:A8:649:G:N7	2:A8:650:C:C5	2.77	0.52
2:A8:1578:U:C2	2:A8:1579:A:C8	2.97	0.52
2:A8:1901:A:H2'	2:A8:1902:C:C6	2.44	0.52
2:A8:1910:G:C2	2:A8:1911:U:C2	2.97	0.52
2:A8:2543:G:C6	2:A8:2544:G:C6	2.97	0.52
2:A8:2697:G:C6	2:A8:2711:A:C2	2.97	0.52
2:A8:2787:C:H5'	8:AD:66:GLY:HA3	1.92	0.52
35:A4:7:VAL:HG21	35:A4:23:ILE:CG2	2.39	0.52
36:BA:741:G:C6	36:BA:742:G:C5	2.97	0.52
36:BA:1430:A:C2	36:BA:1471:U:C2	2.97	0.52
37:BB:72:LYS:HG2	37:BB:163:ILE:HG21	1.92	0.52
46:BK:18:GLY:HA2	46:BK:36:ARG:H	1.74	0.52
2:A8:416:U:C4	2:A8:417:C:C4	2.98	0.52
2:A8:680:C:C2	2:A8:798:G:C2	2.97	0.52
2:A8:917:A:C6	2:A8:918:A:C4	2.97	0.52
2:A8:993:G:C6	2:A8:994:C:C4	2.97	0.52
2:A8:1054:A:C2	2:A8:1106:G:C6	2.98	0.52
2:A8:1196:C:H4'	2:A8:1226:A:C6	2.44	0.52
2:A8:1916:A:C5	2:A8:1917:U:C4	2.98	0.52
2:A8:2262:U:C2	2:A8:2279:G:C2	2.98	0.52
2:A8:2268:A:C8	2:A8:2268:A:H3'	2.44	0.52
2:A8:2718:G:C5	2:A8:2719:G:C8	2.97	0.52
15:AK:67:GLY:HA3	15:AK:77:ARG:HA	1.91	0.52
36:BA:297:G:H4'	36:BA:557:G:H4'	1.91	0.52
36:BA:655:A:C2	36:BA:754:C:C4	2.97	0.52
36:BA:918:A:H2'	36:BA:919:A:C8	2.43	0.52
36:BA:1088:G:C2	36:BA:1098:C:C2	2.97	0.52
36:BA:1375:A:C2	36:BA:1376:U:C2	2.98	0.52
2:A8:693:A:H2'	2:A8:694:U:C6	2.45	0.52
2:A8:1521:G:C5	2:A8:1522:A:C6	2.98	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1525:A:H3'	2:A8:1526:C:C6	2.44	0.52
2:A8:1921:G:C2	2:A8:1922:G:C8	2.97	0.52
2:A8:2091:C:H3'	2:A8:2092:U:C5'	2.40	0.52
2:A8:2256:G:C6	2:A8:2257:U:C4	2.97	0.52
2:A8:2489:U:C4	2:A8:2490:G:C6	2.97	0.52
2:A8:2674:G:C6	2:A8:2675:A:C6	2.97	0.52
2:A8:2714:G:O5'	2:A8:2714:G:H8	1.92	0.52
36:BA:51:A:C2	36:BA:116:A:C4	2.97	0.52
36:BA:112:G:C2	36:BA:330:C:C5	2.97	0.52
36:BA:131:A:C2	36:BA:132:C:C2	2.96	0.52
37:BB:108:GLN:H	37:BB:108:GLN:CD	2.17	0.52
40:BE:18:ASN:O	40:BE:32:PHE:HA	2.09	0.52
2:A8:52:A:C4	2:A8:118:A:C2	2.98	0.52
2:A8:420:C:H2'	2:A8:421:C:C6	2.44	0.52
2:A8:705:A:H2'	2:A8:706:A:C8	2.44	0.52
2:A8:836:G:C6	2:A8:837:C:C2	2.97	0.52
2:A8:860:U:C2	2:A8:2268:A:C8	2.97	0.52
2:A8:946:C:H2'	2:A8:947:A:C8	2.43	0.52
2:A8:1210:G:C6	2:A8:1237:A:C2	2.97	0.52
2:A8:1385:A:C4	2:A8:1403:A:C2	2.97	0.52
2:A8:1429:G:H2'	2:A8:1430:G:C8	2.44	0.52
2:A8:1620:G:C6	2:A8:1621:U:C5	2.97	0.52
2:A8:1831:G:C2	2:A8:1832:C:C2	2.98	0.52
2:A8:2177:C:H4'	6:A5:172:HIS:CE1	2.45	0.52
2:A8:2335:A:C5	2:A8:2337:G:C8	2.97	0.52
36:BA:607:A:H2'	36:BA:608:A:C8	2.45	0.52
36:BA:729:A:C2	36:BA:765:G:H4'	2.45	0.52
36:BA:980:C:H3'	36:BA:981:U:C6	2.44	0.52
36:BA:1169:A:H2'	36:BA:1170:A:O4'	2.09	0.52
36:BA:1179:A:H4'	44:BI:104:THR:HA	1.91	0.52
36:BA:1439:G:C2	36:BA:1440:U:C2	2.97	0.52
36:BA:1470:U:H2'	36:BA:1471:U:C6	2.45	0.52
36:BA:1488:G:C2	36:BA:1489:G:C8	2.97	0.52
47:BL:43:LYS:HZ1	47:BL:90:PRO:HD3	1.74	0.52
1:A7:14:U:C3'	1:A7:15:A:H5'	2.39	0.52
2:A8:597:G:H21	16:AL:12:SER:HA	1.74	0.52
2:A8:690:G:H1'	2:A8:779:U:H4'	1.92	0.52
2:A8:853:C:C4	2:A8:854:C:C5	2.98	0.52
2:A8:910:A:C8	17:AM:12:MET:HE3	2.44	0.52
2:A8:1707:G:C4	2:A8:1756:G:C2	2.97	0.52
2:A8:1764:C:C4	2:A8:1765:U:C5	2.98	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1852:U:H1'	2:A8:1890:A:H61	1.75	0.52
2:A8:1926:U:O2	2:A8:1928:A:C8	2.62	0.52
2:A8:2516:A:C6	2:A8:2569:G:C6	2.97	0.52
2:A8:2655:G:C5	2:A8:2664:G:C5	2.97	0.52
2:A8:2797:U:C5	2:A8:2800:A:H2	2.27	0.52
2:A8:2846:G:H5''	20:AP:52:ARG:CZ	2.39	0.52
2:A8:2884:U:H2'	2:A8:2885:G:C8	2.45	0.52
36:BA:52:C:C4	36:BA:53:A:C6	2.97	0.52
36:BA:117:G:C4	36:BA:118:U:H6	2.27	0.52
36:BA:246:A:C4	36:BA:282:A:C6	2.98	0.52
36:BA:455:G:C2	36:BA:478:A:C2	2.98	0.52
36:BA:507:C:C4	36:BA:508:U:C4	2.96	0.52
2:A8:56:A:C2	2:A8:57:C:C2	2.97	0.52
2:A8:187:G:H21	2:A8:1365:A:H61	1.56	0.52
2:A8:194:G:H3'	2:A8:195:A:C8	2.45	0.52
2:A8:291:G:C4	2:A8:350:G:C6	2.98	0.52
2:A8:519:U:H4'	23:AS:25:ARG:HH22	1.74	0.52
2:A8:874:G:C2	2:A8:875:G:H1'	2.44	0.52
2:A8:1115:G:C2	2:A8:1116:G:C4	2.98	0.52
2:A8:1223:G:C6	2:A8:1227:G:C6	2.97	0.52
2:A8:1242:U:C4	2:A8:1243:C:C4	2.98	0.52
2:A8:1276:A:OP2	2:A8:1645:G:C4	2.62	0.52
2:A8:1444:G:C6	2:A8:1445:G:C5	2.97	0.52
2:A8:1814:G:C6	2:A8:1815:A:C6	2.98	0.52
2:A8:2094:A:H1'	2:A8:2198:A:H61	1.73	0.52
2:A8:2346:A:H3'	2:A8:2347:C:H5''	1.91	0.52
2:A8:2469:A:C8	2:A8:2482:A:C6	2.98	0.52
2:A8:2677:G:C6	2:A8:2731:G:C5	2.98	0.52
36:BA:182:A:H2	36:BA:194:C:H42	1.55	0.52
36:BA:592:G:C6	36:BA:593:U:C4	2.98	0.52
36:BA:789:U:H1'	36:BA:792:A:C8	2.45	0.52
36:BA:892:A:N6	36:BA:906:A:H2'	2.24	0.52
36:BA:1499:A:C1'	36:BA:1520:C:H5'	2.40	0.52
37:BB:82:ALA:HA	37:BB:213:LEU:HD22	1.91	0.52
47:BL:75:GLU:HB2	47:BL:76:HIS:CE1	2.45	0.52
2:A8:198:C:C6	2:A8:198:C:O5'	2.63	0.52
2:A8:734:A:C2	2:A8:735:A:H1'	2.45	0.52
2:A8:1116:G:C5	2:A8:1117:C:C5	2.98	0.52
2:A8:2124:G:H21	6:A5:217:THR:HA	1.74	0.52
2:A8:2461:A:H1'	2:A8:2492:U:C2	2.45	0.52
2:A8:2531:A:C2	2:A8:2532:G:H1'	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2637:U:H2'	2:A8:2638:G:H5'	1.91	0.52
2:A8:2662:A:H3'	2:A8:2663:G:C8	2.45	0.52
2:A8:2838:G:H21	18:AN:45:ARG:HH22	1.57	0.52
7:A6:90:ILE:HG22	7:A6:91:ALA:H	1.74	0.52
14:AJ:71:ASP:HB2	14:AJ:89:PHE:HB3	1.91	0.52
22:AR:24:LYS:HB2	22:AR:92:TRP:HB3	1.92	0.52
22:AR:49:ILE:HD13	22:AR:53:PHE:C	2.35	0.52
36:BA:414:A:H5'	36:BA:428:G:N2	2.25	0.52
36:BA:441:A:C2	36:BA:497:G:C5	2.97	0.52
36:BA:444:G:C6	36:BA:445:G:C5	2.98	0.52
36:BA:718:A:C6	36:BA:719:C:C2	2.98	0.52
36:BA:801:U:H2'	36:BA:802:A:C8	2.45	0.52
36:BA:835:U:H5''	53:BR:52:ARG:HH12	1.75	0.52
36:BA:853:C:C4	36:BA:854:U:C4	2.97	0.52
36:BA:1109:C:C5	36:BA:1110:A:C5	2.98	0.52
2:A8:35:G:C6	2:A8:36:G:C5	2.97	0.52
2:A8:66:C:C2	2:A8:89:A:C6	2.97	0.52
2:A8:184:C:C2	2:A8:213:A:C6	2.98	0.52
2:A8:633:A:C5	2:A8:634:C:H1'	2.45	0.52
2:A8:687:C:C6	2:A8:687:C:O5'	2.63	0.52
2:A8:1000:A:C2	2:A8:1001:A:C4	2.97	0.52
2:A8:1241:A:H3'	2:A8:1242:U:C6	2.44	0.52
2:A8:1296:G:C4	2:A8:1645:G:C2	2.98	0.52
2:A8:1659:G:N2	2:A8:1660:G:H1'	2.24	0.52
2:A8:1750:G:C5	2:A8:1751:U:C5	2.98	0.52
2:A8:1787:A:C4	2:A8:1788:C:C6	2.98	0.52
2:A8:2661:G:C6	2:A8:2662:A:C6	2.98	0.52
7:A6:93:VAL:HG21	7:A6:95:TYR:CZ	2.45	0.52
35:A4:7:VAL:HG21	35:A4:23:ILE:HG22	1.92	0.52
36:BA:565:U:C4	36:BA:566:G:C5	2.97	0.52
36:BA:675:A:H1'	46:BK:117:HIS:CG	2.45	0.52
36:BA:1054:C:C5	36:BA:1196:A:C5	2.98	0.52
36:BA:1068:G:C6	36:BA:1069:C:C4	2.97	0.52
36:BA:1095:U:H5'	36:BA:1109:C:O2	2.08	0.52
36:BA:1162:C:C2	36:BA:1175:G:C2	2.98	0.52
36:BA:1238:A:H5'	36:BA:1336:C:H41	1.75	0.52
39:BD:115:GLN:HG3	39:BD:119:HIS:CD2	2.45	0.52
41:BF:92:THR:O	41:BF:96:VAL:HG23	2.10	0.52
2:A8:24:G:H1'	23:AS:77:ASP:HB3	1.92	0.52
2:A8:108:G:C6	2:A8:109:C:C4	2.98	0.52
2:A8:226:A:H1'	2:A8:230:G:C2	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:489:G:H4'	2:A8:490:C:C5	2.45	0.52
2:A8:602:A:H1'	2:A8:656:G:C2	2.45	0.52
2:A8:1136:G:C6	2:A8:1137:G:C5	2.98	0.52
2:A8:1344:U:H5'	2:A8:1384:A:C2	2.44	0.52
2:A8:1366:A:H3'	2:A8:1367:A:C8	2.45	0.52
2:A8:1488:C:C2	2:A8:1502:A:C2	2.98	0.52
2:A8:1535:A:H5''	2:A8:1536:C:C6	2.45	0.52
2:A8:1620:G:C6	2:A8:1621:U:C4	2.98	0.52
2:A8:1749:A:C2	2:A8:1750:G:C4	2.98	0.52
2:A8:2298:A:C6	2:A8:2321:U:C5	2.97	0.52
2:A8:2369:A:C2	2:A8:2370:G:C4	2.97	0.52
2:A8:2461:A:H2'	2:A8:2462:C:C6	2.45	0.52
2:A8:2496:C:C5	2:A8:2497:A:C6	2.98	0.52
2:A8:2572:A:N7	8:AD:150:GLN:HB3	2.25	0.52
2:A8:2898:U:H2'	2:A8:2899:A:C8	2.45	0.52
36:BA:337:G:C2	36:BA:338:A:C4	2.98	0.52
36:BA:469:C:C5	36:BA:470:C:C4	2.97	0.52
36:BA:851:G:C4	36:BA:852:G:C8	2.98	0.52
36:BA:1318:A:H62	49:BN:57:SER:HB2	1.74	0.52
44:BI:44:ARG:HE	44:BI:48:ARG:HH21	1.57	0.52
54:BS:12:LEU:HD12	54:BS:15:LEU:HD23	1.91	0.52
2:A8:312:G:N2	2:A8:1211:C:H42	2.07	0.52
2:A8:485:C:C2	2:A8:496:G:C2	2.98	0.52
2:A8:569:U:C4	2:A8:570:G:C5	2.97	0.52
2:A8:640:C:C5	2:A8:641:U:C4	2.98	0.52
2:A8:1042:G:C6	2:A8:1043:C:C4	2.98	0.52
2:A8:1120:G:C2	2:A8:1121:C:C2	2.98	0.52
2:A8:2243:U:O2	2:A8:2434:A:C2	2.62	0.52
2:A8:2809:A:N6	2:A8:2891:U:H4'	2.24	0.52
20:AP:32:VAL:HG12	20:AP:34:GLY:H	1.75	0.52
27:AW:30:VAL:HB	27:AW:59:PHE:CE2	2.44	0.52
36:BA:117:G:H3'	36:BA:118:U:C5	2.45	0.52
36:BA:250:A:H1'	36:BA:252:U:N1	2.25	0.52
36:BA:257:G:N2	36:BA:270:A:C4	2.78	0.52
36:BA:329:A:C8	36:BA:332:G:C6	2.98	0.52
36:BA:342:C:C2	36:BA:348:G:C2	2.97	0.52
36:BA:390:U:H2'	36:BA:391:G:C8	2.44	0.52
36:BA:565:U:H3'	36:BA:566:G:H2'	1.92	0.52
36:BA:614:C:H2'	36:BA:615:G:H5'	1.92	0.52
36:BA:617:G:C2	36:BA:618:C:C6	2.98	0.52
36:BA:858:G:N1	36:BA:869:G:H3'	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1423:G:C5	36:BA:1424:U:C5	2.98	0.52
1:A7:51:G:H2'	1:A7:52:A:H5''	1.92	0.51
2:A8:80:G:H1'	2:A8:346:A:C5	2.45	0.51
2:A8:144:A:C2	2:A8:145:C:C2	2.98	0.51
2:A8:303:G:C6	2:A8:315:G:C6	2.97	0.51
2:A8:620:G:H1'	2:A8:622:G:C6	2.45	0.51
2:A8:860:U:C4	2:A8:2268:A:C4	2.98	0.51
2:A8:1039:A:C6	2:A8:1040:A:C5	2.98	0.51
2:A8:1176:U:C5	2:A8:1177:G:C4	2.98	0.51
2:A8:1910:G:C2	2:A8:1921:G:C4	2.98	0.51
2:A8:2495:G:C5	2:A8:2496:C:C5	2.99	0.51
2:A8:2694:G:C5	2:A8:2695:U:C5	2.99	0.51
11:AG:101:VAL:HA	11:AG:115:GLN:HA	1.92	0.51
22:AR:60:LYS:N	22:AR:60:LYS:HZ2	2.08	0.51
36:BA:80:A:C2	36:BA:90:C:C2	2.98	0.51
36:BA:1058:G:C5	36:BA:1059:C:C5	2.98	0.51
36:BA:1237:C:H2'	36:BA:1336:C:C5	2.44	0.51
36:BA:1320:C:C4	54:BS:35:ARG:HB2	2.45	0.51
2:A8:95:A:C2	2:A8:96:C:C2	2.97	0.51
2:A8:188:G:C5	2:A8:189:G:C5	2.99	0.51
2:A8:197:A:C5	2:A8:198:C:C5	2.98	0.51
2:A8:1024:G:C3'	2:A8:1025:G:H5''	2.40	0.51
2:A8:1292:G:C6	2:A8:1293:C:C4	2.98	0.51
2:A8:1312:U:C6	24:AT:65:GLY:HA2	2.46	0.51
2:A8:2004:G:H3'	2:A8:2005:A:H8	1.73	0.51
2:A8:2115:G:H3'	2:A8:2116:G:C5'	2.40	0.51
2:A8:2239:G:C5	2:A8:2240:U:C5	2.98	0.51
2:A8:2259:U:O5'	2:A8:2259:U:H6	1.93	0.51
2:A8:2543:G:C6	2:A8:2765:A:C5	2.99	0.51
2:A8:2756:U:H1'	2:A8:2757:A:H5''	1.92	0.51
2:A8:2796:U:H3'	2:A8:2798:U:H3	1.75	0.51
2:A8:2839:G:C5	2:A8:2840:C:C5	2.98	0.51
2:A8:2842:G:N2	2:A8:2876:G:C4	2.78	0.51
7:A6:131:MET:HE1	7:A6:187:CYS:O	2.10	0.51
20:AP:51:ASN:H	20:AP:57:ALA:H	1.56	0.51
36:BA:171:A:C2	36:BA:172:A:C2	2.98	0.51
36:BA:681:A:C4	36:BA:710:G:C2	2.98	0.51
36:BA:720:C:H5	36:BA:721:G:HO2'	1.57	0.51
36:BA:859:G:C2	36:BA:860:A:C4	2.98	0.51
36:BA:1489:G:C2	36:BA:1490:U:C2	2.98	0.51
1:A7:69:G:C2	1:A7:70:C:H1'	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:7:G:C6	2:A8:8:C:C4	2.98	0.51
2:A8:55:G:C2	2:A8:56:A:C8	2.99	0.51
2:A8:244:A:C2	2:A8:255:A:C4	2.99	0.51
2:A8:468:G:C6	2:A8:469:G:C4	2.99	0.51
2:A8:515:A:C8	2:A8:516:C:C5	2.98	0.51
2:A8:527:C:C6	2:A8:528:A:C2	2.98	0.51
2:A8:577:G:H2'	2:A8:578:G:C8	2.45	0.51
2:A8:811:U:H2'	16:AL:21:ARG:HA	1.92	0.51
2:A8:895:U:H2'	2:A8:897:C:C5	2.46	0.51
2:A8:975:A:C8	2:A8:990:A:N6	2.79	0.51
2:A8:1164:C:H2'	2:A8:1165:A:O4'	2.11	0.51
2:A8:1174:U:H5'	2:A8:1175:A:C2	2.45	0.51
2:A8:1355:G:C6	2:A8:1377:G:C2	2.98	0.51
2:A8:1503:A:C6	2:A8:1504:A:C5	2.98	0.51
2:A8:1818:U:H4'	2:A8:1821:A:H1'	1.92	0.51
2:A8:1827:U:H5'	2:A8:1971:U:H4'	1.92	0.51
2:A8:1837:C:C2	2:A8:1904:G:C2	2.98	0.51
2:A8:1889:A:C4	2:A8:1890:A:C8	2.98	0.51
2:A8:1988:G:C6	2:A8:1989:G:C4	2.98	0.51
2:A8:2432:A:H3'	2:A8:2433:A:C8	2.44	0.51
2:A8:2446:G:C6	2:A8:2501:C:H2'	2.46	0.51
2:A8:2473:U:C5	2:A8:2474:U:N3	2.78	0.51
2:A8:2812:G:C2	2:A8:2889:C:C2	2.98	0.51
36:BA:775:G:C2	36:BA:776:G:C4	2.98	0.51
1:A7:16:G:C2	1:A7:69:G:C4	2.98	0.51
1:A7:29:A:C2	1:A7:30:C:C2	2.99	0.51
2:A8:231:A:C5	2:A8:232:G:C5	2.98	0.51
2:A8:815:C:C2	2:A8:1193:G:C2	2.98	0.51
2:A8:1808:A:H3'	2:A8:1809:A:C8	2.46	0.51
2:A8:2046:G:C4	2:A8:2623:G:N2	2.78	0.51
2:A8:2082:A:C5	2:A8:2239:G:C2	2.98	0.51
2:A8:2097:A:C5	2:A8:2098:U:C5	2.99	0.51
2:A8:2461:A:C5	2:A8:2462:C:C4	2.98	0.51
36:BA:860:A:H3'	36:BA:861:G:C8	2.46	0.51
36:BA:1426:G:C5	36:BA:1427:C:C5	2.98	0.51
40:BE:47:PHE:H	40:BE:66:ALA:HA	1.75	0.51
2:A8:9:G:H21	2:A8:10:A:H61	1.56	0.51
2:A8:132:G:C2	2:A8:148:U:C2	2.98	0.51
2:A8:279:A:C6	2:A8:280:U:C2	2.98	0.51
2:A8:312:G:C2	2:A8:313:G:C8	2.98	0.51
2:A8:532:A:H4'	2:A8:533:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:545:U:H3	2:A8:549:G:C1'	2.24	0.51
2:A8:628:G:C6	2:A8:636:G:C2	2.98	0.51
2:A8:647:G:C6	2:A8:648:G:C5	2.98	0.51
2:A8:695:G:C2	2:A8:768:G:C4	2.98	0.51
2:A8:855:G:C4	2:A8:923:G:C2	2.99	0.51
2:A8:881:G:C6	2:A8:882:G:C4	2.98	0.51
2:A8:1321:A:H61	2:A8:1334:G:C4'	2.22	0.51
2:A8:1388:G:C2	2:A8:1389:G:C4	2.99	0.51
2:A8:1406:U:H2'	2:A8:1407:G:C8	2.46	0.51
2:A8:1429:G:C2	2:A8:1430:G:C4	2.99	0.51
2:A8:1445:G:C4	2:A8:1446:C:C6	2.99	0.51
2:A8:1544:A:C6	2:A8:1545:A:C6	2.99	0.51
2:A8:1596:A:C2	2:A8:1597:A:C4	2.99	0.51
2:A8:1770:G:C6	2:A8:1771:C:C4	2.98	0.51
2:A8:1950:G:C8	2:A8:1951:U:C5	2.99	0.51
2:A8:2082:A:C8	2:A8:2239:G:N2	2.79	0.51
2:A8:2122:U:H2'	2:A8:2123:G:C8	2.45	0.51
2:A8:2626:C:C2	2:A8:2627:G:C8	2.99	0.51
2:A8:2692:G:C2	2:A8:2718:G:C2	2.98	0.51
2:A8:2735:G:C2	2:A8:2770:G:H1'	2.46	0.51
28:AX:64:ASP:HA	28:AX:67:LEU:HB2	1.93	0.51
35:A4:25:VAL:H	35:A4:35:GLN:HB3	1.75	0.51
36:BA:49:U:H3	36:BA:362:G:H1'	1.76	0.51
36:BA:356:A:H1'	36:BA:388:G:N2	2.26	0.51
36:BA:519:C:N4	36:BA:533:A:H61	2.08	0.51
36:BA:665:A:C8	36:BA:725:G:C2	2.98	0.51
36:BA:696:A:C5	36:BA:697:U:C5	2.99	0.51
36:BA:727:G:C6	36:BA:731:G:C6	2.99	0.51
36:BA:874:G:C6	36:BA:875:U:C4	2.99	0.51
36:BA:1278:G:H5'	36:BA:1278:G:C4	2.46	0.51
36:BA:1332:A:H2'	36:BA:1333:A:C8	2.46	0.51
36:BA:1507:A:C2	36:BA:1508:A:C4	2.99	0.51
38:BC:130:ARG:HH11	38:BC:133:MET:HE3	1.76	0.51
1:A7:49:C:H5''	19:AO:101:GLY:HA3	1.93	0.51
2:A8:244:A:C6	2:A8:245:G:C4	2.99	0.51
2:A8:278:A:H2	2:A8:361:G:H2'	1.74	0.51
2:A8:291:G:C2	2:A8:350:G:C4	2.99	0.51
2:A8:492:A:C2	23:AS:7:HIS:HE1	2.29	0.51
2:A8:780:G:H1'	2:A8:785:G:C2	2.46	0.51
2:A8:1571:A:H2'	2:A8:1572:A:C8	2.45	0.51
2:A8:1770:G:C5	2:A8:1771:C:C4	2.99	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2345:G:C6	2:A8:2381:A:C6	2.98	0.51
2:A8:2660:A:H2'	2:A8:2661:G:C8	2.46	0.51
2:A8:2673:G:C2	2:A8:2674:G:C4	2.99	0.51
2:A8:2745:C:H3'	2:A8:2746:U:C6	2.45	0.51
23:AS:60:HIS:CE1	23:AS:61:ASN:OD1	2.64	0.51
30:AZ:41:PRO:HA	30:AZ:44:ARG:HB2	1.93	0.51
36:BA:98:A:H2'	36:BA:99:C:C6	2.46	0.51
36:BA:116:A:C4	36:BA:117:G:C8	2.99	0.51
36:BA:233:C:O4'	36:BA:263:A:C2	2.64	0.51
36:BA:266:G:OP2	36:BA:267:C:C5	2.64	0.51
36:BA:1477:U:H2'	36:BA:1478:U:C6	2.46	0.51
2:A8:189:G:H2'	2:A8:207:A:H61	1.75	0.51
2:A8:638:G:H1'	2:A8:652:U:H5'	1.93	0.51
2:A8:930:G:C2	2:A8:933:A:C5	2.98	0.51
2:A8:1640:A:C6	2:A8:1641:A:C5	2.98	0.51
2:A8:1651:G:C2	2:A8:2007:U:C2	2.99	0.51
2:A8:2065:C:H1'	2:A8:2449:U:H3	1.75	0.51
2:A8:2097:A:C6	2:A8:2098:U:C4	2.99	0.51
2:A8:2218:G:C5	2:A8:2219:U:C5	2.99	0.51
2:A8:2399:G:C2	2:A8:2418:A:C4	2.99	0.51
2:A8:2588:G:C6	2:A8:2607:G:C5	2.99	0.51
2:A8:2661:G:C5	2:A8:2662:A:C5	2.99	0.51
8:AD:72:GLY:H	8:AD:92:VAL:HA	1.75	0.51
21:AQ:13:HIS:CD2	21:AQ:31:TYR:CG	2.99	0.51
36:BA:145:G:N2	36:BA:178:C:C2	2.79	0.51
36:BA:325:A:C5	36:BA:326:G:C6	2.99	0.51
36:BA:361:G:H2'	36:BA:362:G:O4'	2.11	0.51
36:BA:755:G:C2	36:BA:756:C:C5	2.98	0.51
36:BA:951:G:H1'	36:BA:971:G:H5'	1.93	0.51
36:BA:1106:G:C6	36:BA:1107:C:C5	2.98	0.51
36:BA:1431:A:C5	36:BA:1432:G:C5	2.99	0.51
36:BA:1513:A:C2	36:BA:1514:G:C8	2.99	0.51
37:BB:71:THR:HA	37:BB:163:ILE:HG22	1.93	0.51
51:BP:54:LEU:HA	51:BP:57:ILE:HG22	1.91	0.51
2:A8:204:A:O3'	2:A8:205:G:H4'	2.11	0.51
2:A8:905:A:C6	2:A8:906:U:C4	2.99	0.51
2:A8:1266:G:H22	2:A8:2012:G:H2'	1.74	0.51
2:A8:1924:C:C2	2:A8:1925:C:C6	2.99	0.51
2:A8:2242:G:C6	2:A8:2243:U:C4	2.98	0.51
2:A8:2263:C:H41	27:AW:12:GLY:CA	2.23	0.51
2:A8:2345:G:C8	2:A8:2381:A:C2	2.99	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2674:G:C6	2:A8:2675:A:C5	2.99	0.51
14:AJ:131:ASN:OD1	14:AJ:132:HIS:CE1	2.64	0.51
36:BA:202:G:O2'	36:BA:468:A:H8	1.93	0.51
36:BA:242:G:N1	36:BA:245:U:C4	2.79	0.51
36:BA:345:C:H1'	36:BA:346:G:C2	2.46	0.51
36:BA:515:G:C5	36:BA:516:U:C5	2.98	0.51
36:BA:761:G:C8	36:BA:761:G:O5'	2.64	0.51
36:BA:774:G:N2	36:BA:775:G:H1'	2.26	0.51
36:BA:1307:U:C4	36:BA:1308:U:C4	2.99	0.51
36:BA:1357:A:C5	36:BA:1358:U:C4	2.98	0.51
36:BA:1415:G:C2	36:BA:1486:G:C4	2.98	0.51
42:BG:137:ARG:HG3	42:BG:141:HIS:CE1	2.46	0.51
2:A8:185:G:C6	2:A8:212:G:C6	2.99	0.51
2:A8:407:G:C2	2:A8:421:C:C2	2.99	0.51
2:A8:559:G:C6	2:A8:560:C:C4	2.98	0.51
2:A8:563:A:H2'	2:A8:564:C:C6	2.46	0.51
2:A8:705:A:C2	2:A8:727:A:O4'	2.63	0.51
2:A8:917:A:C2	2:A8:918:A:H1'	2.46	0.51
2:A8:1139:G:C5	2:A8:1140:C:C5	2.99	0.51
2:A8:1271:G:C8	2:A8:1325:U:C4	2.99	0.51
2:A8:1383:A:C4	2:A8:1406:U:H1'	2.46	0.51
2:A8:1926:U:H1'	2:A8:1929:G:C6	2.45	0.51
2:A8:2402:U:C4	2:A8:2405:G:N7	2.79	0.51
2:A8:2648:G:C6	2:A8:2649:C:C4	2.99	0.51
2:A8:2663:G:C6	2:A8:2664:G:C4	2.99	0.51
2:A8:2736:A:C2	2:A8:2769:U:H1'	2.46	0.51
2:A8:2839:G:C6	2:A8:2840:C:C4	2.99	0.51
6:A5:46:VAL:HG13	6:A5:212:VAL:HG22	1.91	0.51
7:A6:64:VAL:HG12	7:A6:65:ASP:H	1.76	0.51
11:AG:106:LEU:HD23	11:AG:161:VAL:HG23	1.92	0.51
36:BA:162:A:C5	36:BA:163:C:H1'	2.46	0.51
36:BA:270:A:C2	36:BA:271:C:C2	2.98	0.51
36:BA:284:C:H2'	36:BA:285:C:C6	2.46	0.51
36:BA:517:G:H21	36:BA:529:G:H4'	1.76	0.51
36:BA:700:G:C8	36:BA:700:G:C5'	2.94	0.51
36:BA:833:G:C2	36:BA:834:U:C2	2.99	0.51
38:BC:155:ARG:HE	38:BC:160:GLU:HA	1.75	0.51
2:A8:45:G:H2'	2:A8:215:G:C6	2.46	0.51
2:A8:167:A:C2	2:A8:168:G:H1'	2.46	0.51
2:A8:493:G:H2'	2:A8:494:G:O4'	2.11	0.51
2:A8:611:C:C4	2:A8:612:G:C5	2.99	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:613:A:OP2	2:A8:614:A:C5	2.64	0.51
2:A8:814:C:C2	2:A8:1194:A:C2	2.98	0.51
2:A8:959:A:C5	2:A8:960:A:C5	2.99	0.51
2:A8:1342:A:C6	2:A8:1397:U:C5	2.99	0.51
2:A8:1519:G:C6	2:A8:1520:U:C4	2.99	0.51
2:A8:1766:G:C2	2:A8:1987:A:C4	2.99	0.51
2:A8:1908:C:C4	2:A8:1909:C:C5	2.99	0.51
2:A8:1973:G:C6	2:A8:1974:C:C4	2.98	0.51
2:A8:2229:U:O2	28:AX:33:HIS:CE1	2.63	0.51
2:A8:2553:G:C4	2:A8:2554:U:H1'	2.46	0.51
9:AE:1:MET:SD	9:AE:114:ARG:HA	2.51	0.51
24:AT:23:ALA:HA	24:AT:26:LYS:HG3	1.93	0.51
36:BA:155:A:C2	36:BA:167:A:C4	2.99	0.51
36:BA:213:G:C2	36:BA:214:C:H1'	2.46	0.51
36:BA:251:G:H4'	36:BA:252:U:H5'	1.92	0.51
36:BA:258:G:C5	36:BA:259:G:C8	2.99	0.51
36:BA:560:A:C2	36:BA:566:G:H5'	2.46	0.51
36:BA:564:C:C5	36:BA:565:U:C4	2.99	0.51
36:BA:696:A:C6	36:BA:697:U:C4	2.99	0.51
36:BA:825:A:C2	36:BA:876:C:C2	2.99	0.51
36:BA:1108:G:C4	36:BA:1109:C:C6	2.99	0.51
37:BB:71:THR:HB	37:BB:92:ASN:HA	1.92	0.51
1:A7:23:G:C2	1:A7:61:G:C2	2.99	0.50
1:A7:100:G:C5'	2:A8:916:G:H4'	2.40	0.50
2:A8:85:G:H21	2:A8:103:A:H1'	1.77	0.50
2:A8:187:G:C6	2:A8:188:G:C5	2.98	0.50
2:A8:221:A:C2	2:A8:233:A:C5	2.99	0.50
2:A8:228:C:C5	2:A8:2408:U:H5'	2.46	0.50
2:A8:346:A:C2	2:A8:347:A:C6	2.99	0.50
2:A8:1000:A:C6	2:A8:1001:A:C6	2.99	0.50
2:A8:1072:C:H42	2:A8:1092:C:N4	2.09	0.50
2:A8:1189:A:C2	2:A8:1190:G:H1'	2.46	0.50
2:A8:1223:G:C5	2:A8:1227:G:C6	2.98	0.50
2:A8:1466:U:H5'	2:A8:1545:A:C2	2.46	0.50
2:A8:1690:A:H3'	2:A8:1691:C:H6	1.76	0.50
2:A8:1820:U:H5''	2:A8:1821:A:C8	2.47	0.50
2:A8:1870:C:H3'	2:A8:1871:A:C8	2.46	0.50
2:A8:1926:U:H1'	2:A8:1929:G:C5	2.46	0.50
2:A8:2267:A:C8	2:A8:2267:A:H3'	2.46	0.50
2:A8:2279:G:C5	2:A8:2280:G:C8	2.99	0.50
2:A8:2293:G:C2	2:A8:2340:A:C2	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2402:U:H1'	2:A8:2404:U:H5	1.74	0.50
2:A8:2637:U:C2'	2:A8:2638:G:H5'	2.41	0.50
36:BA:160:A:H1'	36:BA:344:A:C4	2.46	0.50
36:BA:760:G:H3'	36:BA:761:G:H8	1.76	0.50
36:BA:936:C:H2'	36:BA:937:A:H8	1.77	0.50
36:BA:967:C:C6	36:BA:968:A:H2'	2.46	0.50
36:BA:1090:U:H2'	36:BA:1091:U:C6	2.46	0.50
36:BA:1426:G:C6	36:BA:1475:G:C6	2.98	0.50
2:A8:580:U:H2'	2:A8:581:C:C6	2.46	0.50
2:A8:666:A:H4'	16:AL:48:ARG:CZ	2.42	0.50
2:A8:780:G:C2	2:A8:785:G:C6	3.00	0.50
2:A8:814:C:H4'	2:A8:1224:U:H3	1.77	0.50
2:A8:931:U:C4	2:A8:1182:G:N2	2.79	0.50
2:A8:1115:G:C6	2:A8:1116:G:C5	2.99	0.50
2:A8:1334:G:C5	2:A8:1335:C:C5	2.99	0.50
2:A8:1423:G:H4'	2:A8:1492:G:H21	1.77	0.50
2:A8:1548:A:C2	2:A8:1549:A:C4	2.99	0.50
2:A8:1694:C:H4'	2:A8:1695:G:C5'	2.41	0.50
2:A8:1709:U:C2	2:A8:1750:G:C2	2.99	0.50
2:A8:1995:U:H3'	2:A8:1996:C:H2'	1.93	0.50
2:A8:2679:A:C2	2:A8:2729:G:C5	2.98	0.50
36:BA:324:G:C2	36:BA:326:G:H3'	2.46	0.50
36:BA:515:G:C6	36:BA:516:U:C4	2.98	0.50
36:BA:539:A:C2	36:BA:540:G:C4	3.00	0.50
36:BA:615:G:C5	36:BA:626:G:C6	2.99	0.50
36:BA:706:A:H2'	36:BA:707:U:C6	2.46	0.50
36:BA:759:A:H4'	36:BA:881:G:H5''	1.93	0.50
36:BA:903:G:C6	36:BA:904:U:C4	2.99	0.50
36:BA:917:G:C2	36:BA:918:A:C5	3.00	0.50
36:BA:1134:G:C6	36:BA:1141:C:C4	2.99	0.50
36:BA:1501:C:H3'	36:BA:1504:G:N7	2.27	0.50
38:BC:31:ASN:HB3	38:BC:58:ARG:HH22	1.76	0.50
53:BR:69:TYR:HB2	53:BR:73:HIS:CE1	2.45	0.50
1:A7:42:C:C2	1:A7:43:C:H1'	2.46	0.50
1:A7:78:A:C4	1:A7:99:A:C5	2.99	0.50
2:A8:35:G:C6	2:A8:36:G:C4	2.99	0.50
2:A8:63:A:C2	2:A8:91:A:C8	2.99	0.50
2:A8:79:C:C2	2:A8:108:G:C2	2.99	0.50
2:A8:167:A:H3'	2:A8:168:G:H8	1.76	0.50
2:A8:493:G:H1'	23:AS:7:HIS:CE1	2.45	0.50
2:A8:604:G:C6	2:A8:605:G:C5	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:710:U:H2'	2:A8:711:G:C8	2.46	0.50
2:A8:936:A:C2	2:A8:937:C:C2	2.99	0.50
2:A8:1016:G:C2	2:A8:1147:A:C4	3.00	0.50
2:A8:1336:A:C2	2:A8:1337:G:C4	2.99	0.50
2:A8:1685:C:H2'	2:A8:1686:C:O4'	2.11	0.50
2:A8:2037:A:H2'	2:A8:2038:G:C8	2.46	0.50
2:A8:2071:A:C5	2:A8:2072:C:C4	2.99	0.50
2:A8:2415:G:C8	2:A8:2415:G:O5'	2.64	0.50
2:A8:2648:G:C5	2:A8:2649:C:C5	2.99	0.50
2:A8:2690:U:H3	2:A8:2873:A:H5''	1.77	0.50
2:A8:2710:C:C4	2:A8:2711:A:C5	2.99	0.50
26:AV:16:ALA:HA	26:AV:19:ARG:HE	1.77	0.50
36:BA:71:A:N1	36:BA:72:A:C5	2.80	0.50
36:BA:322:C:H2'	36:BA:323:U:C6	2.46	0.50
36:BA:537:G:C2	36:BA:538:G:C4	2.99	0.50
36:BA:769:G:H4'	36:BA:1513:A:C5'	2.41	0.50
36:BA:1219:A:C6	36:BA:1220:G:C6	3.00	0.50
36:BA:1421:G:H1	36:BA:1479:C:H42	1.58	0.50
36:BA:1451:U:C6	36:BA:1453:G:N7	2.79	0.50
37:BB:14:HIS:CE1	37:BB:42:LEU:HG	2.47	0.50
39:BD:97:LEU:O	39:BD:101:VAL:HG23	2.11	0.50
40:BE:96:GLN:HA	40:BE:96:GLN:HE21	1.76	0.50
47:BL:37:TYR:CE1	47:BL:51:VAL:HG13	2.46	0.50
54:BS:31:ARG:HG3	54:BS:56:HIS:CE1	2.47	0.50
2:A8:161:A:H1'	2:A8:2208:C:H1'	1.93	0.50
2:A8:188:G:C6	2:A8:189:G:C5	3.00	0.50
2:A8:752:A:OP1	33:A2:1:MET:HE2	2.11	0.50
2:A8:1099:G:C5	13:AI:4:VAL:HG23	2.46	0.50
2:A8:1227:G:C6	2:A8:1228:G:C5	2.99	0.50
2:A8:1310:G:N2	2:A8:1610:A:C8	2.79	0.50
2:A8:1388:G:C6	2:A8:1389:G:C6	2.99	0.50
2:A8:1581:G:C2	2:A8:1582:C:C2	3.00	0.50
2:A8:1731:G:C4	2:A8:1733:G:C8	2.99	0.50
2:A8:1950:G:N2	2:A8:1957:C:C2	2.80	0.50
2:A8:2177:C:H4'	6:A5:172:HIS:HE1	1.75	0.50
2:A8:2255:G:C6	2:A8:2256:G:C6	3.00	0.50
2:A8:2331:G:H1'	27:AW:40:ARG:HH22	1.76	0.50
2:A8:2627:G:C6	2:A8:2777:G:C6	3.00	0.50
2:A8:2709:G:C5	2:A8:2710:C:C4	3.00	0.50
2:A8:2735:G:N1	2:A8:2770:G:H1'	2.27	0.50
7:A6:76:VAL:CG2	7:A6:94:LEU:H	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AF:56:LEU:HD21	10:AF:88:VAL:HG21	1.94	0.50
36:BA:730:G:H2'	36:BA:766:A:H5'	1.93	0.50
36:BA:834:U:H2'	36:BA:835:U:C6	2.47	0.50
36:BA:836:G:C4	36:BA:851:G:C2	2.98	0.50
36:BA:1102:A:H2'	36:BA:1103:C:C6	2.45	0.50
36:BA:1306:A:C2	36:BA:1332:A:H1'	2.46	0.50
36:BA:1499:A:H1'	36:BA:1520:C:H5'	1.93	0.50
37:BB:184:ALA:H	37:BB:198:VAL:HG11	1.75	0.50
2:A8:315:G:C2	2:A8:316:C:C2	2.99	0.50
2:A8:377:G:C2	2:A8:398:C:C2	3.00	0.50
2:A8:775:G:C5	2:A8:794:A:C8	2.99	0.50
2:A8:879:G:H1'	2:A8:900:A:C5	2.46	0.50
2:A8:1011:G:C6	2:A8:1151:A:C6	3.00	0.50
2:A8:1023:U:C5	2:A8:1024:G:C5	3.00	0.50
2:A8:1171:G:C2	2:A8:1179:G:C2	3.00	0.50
2:A8:1276:A:C2	2:A8:1277:G:C4	3.00	0.50
2:A8:1383:A:H2	2:A8:1405:U:O2	1.94	0.50
2:A8:1710:G:C2	2:A8:1749:A:C2	3.00	0.50
2:A8:1724:G:C5	2:A8:1725:U:C5	3.00	0.50
2:A8:1932:A:C2	2:A8:1933:G:H1'	2.47	0.50
2:A8:1940:U:H4'	2:A8:1965:C:H5	1.75	0.50
2:A8:2205:A:C2	2:A8:2206:C:C2	2.99	0.50
2:A8:2357:G:C2	2:A8:2361:G:C5	3.00	0.50
2:A8:2599:G:C6	2:A8:2600:A:C5	3.00	0.50
2:A8:2625:G:H3'	2:A8:2626:C:C6	2.47	0.50
2:A8:2693:G:C2	2:A8:2694:G:C8	2.99	0.50
2:A8:2834:G:N1	2:A8:2879:A:H2'	2.27	0.50
12:AH:27:ARG:HE	28:AX:35:HIS:CE1	2.29	0.50
36:BA:100:G:C5	36:BA:101:A:C5	2.99	0.50
36:BA:652:U:H1'	36:BA:653:U:C6	2.46	0.50
36:BA:675:A:H1'	46:BK:117:HIS:CD2	2.46	0.50
36:BA:795:C:C5	36:BA:796:C:C6	3.00	0.50
36:BA:980:C:C5	36:BA:981:U:C2	3.00	0.50
36:BA:1450:U:H2'	36:BA:1452:C:C4	2.46	0.50
1:A7:30:C:C5	1:A7:31:C:C5	3.00	0.50
1:A7:58:A:C2	1:A7:59:A:H1'	2.46	0.50
2:A8:268:C:C2	2:A8:425:G:C2	2.99	0.50
2:A8:410:G:H2'	2:A8:2407:A:C8	2.46	0.50
2:A8:966:G:H5'	2:A8:2272:U:H1'	1.93	0.50
2:A8:1563:U:H2'	2:A8:1564:C:C6	2.47	0.50
2:A8:2191:A:H3'	2:A8:2192:U:H6	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2219:U:C4	2:A8:2220:U:C4	3.00	0.50
2:A8:2237:G:H2'	2:A8:2239:G:C6	2.47	0.50
2:A8:2250:G:H2'	17:AM:82:MET:H	1.76	0.50
2:A8:2256:G:C5	2:A8:2257:U:C5	3.00	0.50
2:A8:2260:C:H2'	2:A8:2261:C:H6	1.77	0.50
2:A8:2278:A:H5''	27:AW:8:SER:HA	1.91	0.50
2:A8:2592:G:H2'	2:A8:2593:U:H5'	1.94	0.50
2:A8:2697:G:C5	2:A8:2698:U:C4	3.00	0.50
36:BA:114:U:H1'	36:BA:353:A:H1'	1.94	0.50
36:BA:394:G:C5	36:BA:395:C:C5	3.00	0.50
36:BA:793:U:C4	36:BA:1517:G:H5'	2.46	0.50
36:BA:887:G:C2	36:BA:911:U:C2	2.99	0.50
36:BA:926:G:H2'	36:BA:1505:G:H1'	1.94	0.50
36:BA:1301:U:C2	36:BA:1303:C:C6	3.00	0.50
43:BH:27:PRO:HA	43:BH:57:GLU:HA	1.94	0.50
47:BL:49:ARG:HB3	47:BL:65:TYR:CE2	2.46	0.50
1:A7:16:G:N2	1:A7:17:C:C2	2.79	0.50
1:A7:69:G:H5''	1:A7:69:G:C8	2.47	0.50
2:A8:131:A:C2	2:A8:132:G:C4	3.00	0.50
2:A8:282:A:C2	2:A8:359:G:C2	2.99	0.50
2:A8:387:U:H6	2:A8:387:U:H5'	1.77	0.50
2:A8:651:G:C8	2:A8:651:G:H5''	2.46	0.50
2:A8:776:G:H5''	2:A8:777:G:H8	1.76	0.50
2:A8:814:C:O2	2:A8:1194:A:C2	2.64	0.50
2:A8:925:A:C2	2:A8:926:G:C4	2.99	0.50
2:A8:1016:G:C5	2:A8:1147:A:C6	3.00	0.50
2:A8:1016:G:C6	2:A8:1147:A:C6	3.00	0.50
2:A8:1242:U:C6	2:A8:1242:U:O5'	2.65	0.50
2:A8:1532:A:H2'	2:A8:1533:C:C6	2.46	0.50
2:A8:1596:A:C6	2:A8:1597:A:C5	3.00	0.50
2:A8:1684:G:C6	2:A8:1705:A:C6	3.00	0.50
2:A8:1685:C:C4	2:A8:1686:C:C5	2.99	0.50
2:A8:1752:C:H2'	2:A8:1753:G:C8	2.46	0.50
2:A8:1805:A:C2	2:A8:1806:C:C2	3.00	0.50
2:A8:1866:A:C6	2:A8:1867:G:C4	2.99	0.50
2:A8:1889:A:C6	2:A8:1890:A:C4	2.99	0.50
2:A8:1973:G:C5	2:A8:1974:C:C4	2.99	0.50
2:A8:2041:U:H6	2:A8:2041:U:O5'	1.95	0.50
2:A8:2409:G:C2	2:A8:2410:G:C4	3.00	0.50
2:A8:2594:C:C2	2:A8:2600:A:C2	2.99	0.50
4:AB:57:PRO:HA	4:AB:60:TYR:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AO:7:ARG:HE	19:AO:11:ALA:CB	2.25	0.50
36:BA:110:C:H3'	36:BA:111:G:C8	2.47	0.50
36:BA:373:A:C2	36:BA:482:A:C2	2.99	0.50
36:BA:707:U:H2'	36:BA:708:C:C6	2.47	0.50
36:BA:1105:A:C2	36:BA:1106:G:C8	3.00	0.50
41:BF:3:HIS:CD2	41:BF:95:ALA:HA	2.47	0.50
1:A7:79:G:H4'	2:A8:862:G:C4'	2.41	0.50
2:A8:194:G:H3'	2:A8:195:A:H8	1.76	0.50
2:A8:294:A:C2	2:A8:346:A:N1	2.80	0.50
2:A8:529:A:C8	2:A8:2023:C:C4	3.00	0.50
2:A8:536:G:C6	2:A8:537:G:C4	2.99	0.50
2:A8:675:A:C6	2:A8:676:A:C2	2.99	0.50
2:A8:740:C:C2	2:A8:1981:A:C2	3.00	0.50
2:A8:1120:G:C6	2:A8:1121:C:C4	3.00	0.50
2:A8:1182:G:H2'	2:A8:1183:U:O4'	2.11	0.50
2:A8:1287:A:C5	2:A8:1288:G:C6	3.00	0.50
2:A8:1436:G:C2	2:A8:1557:C:C2	2.99	0.50
2:A8:1766:G:C4	2:A8:1987:A:C2	2.99	0.50
2:A8:1880:U:H2'	2:A8:1881:C:C6	2.46	0.50
2:A8:1917:U:C4	2:A8:1918:A:C5	2.99	0.50
2:A8:1917:U:O5'	2:A8:1917:U:H6	1.95	0.50
2:A8:2354:C:C1'	27:AW:30:VAL:HG11	2.41	0.50
2:A8:2430:A:H3'	2:A8:2431:U:C6	2.47	0.50
23:AS:72:THR:HG21	23:AS:108:SER:HB2	1.94	0.50
36:BA:27:G:C6	36:BA:557:G:C5	3.00	0.50
36:BA:142:G:C2	36:BA:143:A:C8	2.99	0.50
36:BA:270:A:C5	36:BA:271:C:C4	3.00	0.50
36:BA:882:C:N3	36:BA:883:C:C5	2.79	0.50
36:BA:1363:A:C5	36:BA:1365:G:C2	3.00	0.50
37:BB:75:ALA:HB3	37:BB:78:ALA:HB2	1.92	0.50
1:A7:16:G:C2	1:A7:17:C:C2	3.00	0.50
2:A8:23:G:C2	2:A8:24:G:C4	3.00	0.50
2:A8:238:C:C2	2:A8:260:G:C2	2.99	0.50
2:A8:872:U:C6	2:A8:872:U:H5''	2.47	0.50
2:A8:917:A:C6	2:A8:918:A:C5	3.00	0.50
2:A8:1528:A:C5	2:A8:1544:A:C5	3.00	0.50
2:A8:1570:A:H2'	2:A8:1571:A:C8	2.47	0.50
2:A8:1653:G:C6	18:AN:9:GLN:HB2	2.47	0.50
2:A8:2177:C:H4'	6:A5:170:ILE:HG12	1.94	0.50
2:A8:2567:G:C6	2:A8:2568:U:C4	3.00	0.50
3:AA:62:ILE:HD12	3:AA:62:ILE:H	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:214:C:C4	36:BA:215:C:C4	3.00	0.50
36:BA:257:G:C2	36:BA:270:A:C4	3.00	0.50
36:BA:283:U:C5	36:BA:284:C:C5	3.00	0.50
36:BA:349:A:C2	36:BA:350:G:C4	2.99	0.50
36:BA:449:G:C6	36:BA:450:G:C6	2.99	0.50
36:BA:1444:U:H1'	36:BA:1459:G:N2	2.26	0.50
40:BE:20:VAL:HG22	40:BE:31:SER:H	1.76	0.50
40:BE:23:THR:HA	40:BE:27:GLY:H	1.77	0.50
1:A7:16:G:C4	1:A7:69:G:C2	2.99	0.49
1:A7:20:G:C6	1:A7:21:G:C8	3.00	0.49
2:A8:95:A:H4'	29:AY:38:GLN:C	2.37	0.49
2:A8:98:G:C2	2:A8:100:U:N3	2.79	0.49
2:A8:278:A:C2	2:A8:361:G:H2'	2.46	0.49
2:A8:375:G:C6	2:A8:376:G:C5	3.00	0.49
2:A8:1220:G:C4	2:A8:1230:A:C2	3.00	0.49
2:A8:1297:C:H2'	2:A8:1298:C:C6	2.47	0.49
2:A8:1381:G:C6	2:A8:1382:G:C2	3.00	0.49
2:A8:1419:A:C6	2:A8:1421:G:H1'	2.47	0.49
2:A8:1659:G:C2	2:A8:2002:G:C4	3.00	0.49
2:A8:1914:C:C2	36:BA:1409:C:H4'	2.47	0.49
2:A8:2179:C:H2'	2:A8:2180:U:C6	2.47	0.49
2:A8:2449:U:C2'	2:A8:2501:C:H42	2.25	0.49
2:A8:2683:C:C5	2:A8:2684:U:C5	3.00	0.49
2:A8:2741:A:C6	2:A8:2742:G:H1'	2.47	0.49
16:AL:34:GLY:C	16:AL:35:HIS:CG	2.90	0.49
22:AR:39:LEU:O	22:AR:49:ILE:HD11	2.12	0.49
36:BA:11:G:C2	36:BA:24:U:C2	3.00	0.49
36:BA:356:A:H1'	36:BA:388:G:H22	1.76	0.49
36:BA:502:A:C2	36:BA:544:G:C2	3.00	0.49
36:BA:677:U:C4	36:BA:678:U:C4	3.00	0.49
36:BA:1084:G:H5'	36:BA:1102:A:OP2	2.12	0.49
36:BA:1439:G:H21	36:BA:1440:U:H1'	1.75	0.49
36:BA:1499:A:C2	36:BA:1500:A:C4	3.00	0.49
38:BC:171:ARG:HH21	38:BC:173:PRO:HG3	1.77	0.49
42:BG:99:ALA:HA	42:BG:102:TRP:CZ3	2.47	0.49
54:BS:18:VAL:HG13	54:BS:46:LEU:HD12	1.93	0.49
1:A7:80:U:H1'	2:A8:918:A:H1'	1.94	0.49
1:A7:99:A:C6	1:A7:100:G:C4	3.00	0.49
2:A8:152:A:C4	2:A8:175:G:C2	2.99	0.49
2:A8:199:A:C6	2:A8:2434:A:C5	3.00	0.49
2:A8:199:A:C5	2:A8:2434:A:C6	2.99	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:249:C:H6	2:A8:249:C:H5''	1.76	0.49
2:A8:904:G:C2	2:A8:905:A:C4	2.99	0.49
2:A8:1015:U:H3	2:A8:1147:A:H61	1.60	0.49
2:A8:1064:C:C5	2:A8:1065:U:C4	3.01	0.49
2:A8:1213:A:C2	2:A8:1214:A:C4	3.00	0.49
2:A8:1308:A:H3'	2:A8:1309:G:C8	2.48	0.49
2:A8:1630:A:C6	2:A8:1631:G:C4	2.99	0.49
2:A8:1782:U:C5	2:A8:2609:U:C4	3.01	0.49
2:A8:1815:A:C5	2:A8:1817:G:C6	3.00	0.49
2:A8:1842:G:C2	2:A8:1843:C:C2	2.99	0.49
2:A8:2314:A:O2'	10:AF:154:THR:HG21	2.12	0.49
2:A8:2327:A:C2	2:A8:2388:A:C2	3.00	0.49
2:A8:2361:G:C6	2:A8:2362:C:C4	3.00	0.49
6:A5:77:VAL:HB	6:A5:95:VAL:HG13	1.93	0.49
36:BA:160:A:H2'	36:BA:161:A:O4'	2.12	0.49
36:BA:332:G:C6	36:BA:333:U:C4	3.01	0.49
36:BA:337:G:C6	36:BA:338:A:C6	3.00	0.49
36:BA:448:A:H3'	36:BA:449:G:C8	2.46	0.49
36:BA:612:C:O2	36:BA:629:A:C2	2.65	0.49
36:BA:640:A:C5	36:BA:641:U:C4	3.00	0.49
36:BA:929:G:C2	36:BA:1389:C:C2	3.00	0.49
44:BI:20:ILE:HA	44:BI:60:LEU:HD11	1.93	0.49
54:BS:59:VAL:HB	54:BS:70:LEU:HD23	1.94	0.49
1:A7:16:G:C6	1:A7:69:G:C6	3.00	0.49
1:A7:80:U:H4'	2:A8:918:A:C2	2.47	0.49
2:A8:232:G:H22	2:A8:420:C:H5''	1.77	0.49
2:A8:360:U:H2'	2:A8:361:G:H1'	1.94	0.49
2:A8:742:A:C5	2:A8:756:A:C2	3.01	0.49
2:A8:1097:U:H3'	2:A8:1098:A:C8	2.47	0.49
2:A8:1213:A:C6	2:A8:1237:A:H1'	2.47	0.49
2:A8:1324:G:H3'	2:A8:1325:U:H4'	1.95	0.49
2:A8:1373:A:H4'	2:A8:2212:A:C4	2.47	0.49
2:A8:1482:G:C2	2:A8:1508:A:H1'	2.47	0.49
2:A8:1575:C:H2'	2:A8:1576:U:C6	2.47	0.49
2:A8:1627:G:C2	2:A8:1628:G:C8	3.00	0.49
2:A8:1724:G:C6	2:A8:1725:U:C4	3.00	0.49
2:A8:1841:U:H2'	2:A8:1842:G:C8	2.47	0.49
2:A8:1955:U:C5	2:A8:2552:U:H1'	2.47	0.49
2:A8:2082:A:O5'	2:A8:2082:A:H8	1.95	0.49
2:A8:2239:G:C6	2:A8:2240:U:C4	2.99	0.49
2:A8:2513:A:C6	2:A8:2574:G:C6	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2516:A:C6	2:A8:2517:C:C4	3.01	0.49
2:A8:2553:G:C5	2:A8:2554:U:H1'	2.47	0.49
2:A8:2570:G:C5	2:A8:2571:U:C4	3.01	0.49
2:A8:2794:C:C2	2:A8:2803:G:N2	2.80	0.49
6:A5:131:LEU:HD12	6:A5:132:GLY:H	1.77	0.49
36:BA:166:U:C6	36:BA:166:U:H5''	2.47	0.49
36:BA:414:A:H5'	36:BA:428:G:H22	1.77	0.49
36:BA:533:A:C2	36:BA:536:C:C6	3.00	0.49
2:A8:178:G:C6	2:A8:179:C:C4	3.00	0.49
2:A8:238:C:H4'	2:A8:609:A:H4'	1.94	0.49
2:A8:644:A:C2	2:A8:646:U:C6	3.00	0.49
2:A8:862:G:C5	2:A8:863:A:C8	3.00	0.49
2:A8:866:A:C5	2:A8:914:G:C5	3.00	0.49
2:A8:1308:A:H61	2:A8:1606:C:H1'	1.77	0.49
2:A8:1436:G:C5	2:A8:1437:C:C5	3.00	0.49
2:A8:1754:A:H62	2:A8:2694:G:H1'	1.77	0.49
2:A8:2097:A:C2	2:A8:2193:G:N3	2.81	0.49
2:A8:2597:G:C5	2:A8:2598:A:C5	3.00	0.49
2:A8:2769:U:C2	2:A8:2770:G:C8	3.00	0.49
2:A8:2848:G:C6	2:A8:2867:G:C6	3.00	0.49
15:AK:69:ARG:HE	15:AK:73:GLY:HA2	1.76	0.49
19:AO:79:ALA:HB3	19:AO:113:ALA:HB3	1.93	0.49
36:BA:76:G:H2'	36:BA:77:A:O4'	2.12	0.49
36:BA:124:C:C2	36:BA:238:A:C2	3.01	0.49
36:BA:300:A:C2	36:BA:566:G:O6	2.65	0.49
36:BA:568:G:C5	36:BA:569:C:C5	3.01	0.49
36:BA:692:U:H5'	36:BA:797:C:H4'	1.94	0.49
36:BA:836:G:C5	36:BA:837:U:C6	3.00	0.49
36:BA:864:A:C5	36:BA:865:A:C6	3.01	0.49
36:BA:1058:G:C6	36:BA:1059:C:C4	3.00	0.49
36:BA:1285:A:H4'	36:BA:1286:U:C2	2.47	0.49
36:BA:1303:C:C4	36:BA:1304:G:C5	3.00	0.49
1:A7:78:A:C4	1:A7:79:G:C8	3.01	0.49
2:A8:7:G:C2	2:A8:2897:U:C2	3.00	0.49
2:A8:90:U:H5	2:A8:91:A:HO2'	1.57	0.49
2:A8:221:A:C2	2:A8:266:G:OP2	2.66	0.49
2:A8:279:A:C2	2:A8:280:U:H1'	2.47	0.49
2:A8:623:C:C4	2:A8:624:C:C5	3.00	0.49
2:A8:670:A:N6	9:AE:88:ARG:HH12	2.04	0.49
2:A8:809:G:C5	2:A8:810:U:C4	3.01	0.49
2:A8:1099:G:C6	13:AI:4:VAL:HG23	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1174:U:H4'	2:A8:1175:A:C2	2.47	0.49
2:A8:1412:U:H2'	2:A8:1413:A:C8	2.48	0.49
2:A8:1544:A:C6	2:A8:1545:A:C5	3.00	0.49
2:A8:1831:G:C4	2:A8:1975:G:C2	3.01	0.49
2:A8:2331:G:H21	2:A8:2336:A:H8	1.60	0.49
2:A8:2527:C:C4	2:A8:2528:U:C4	3.00	0.49
2:A8:2615:U:C4	2:A8:2616:C:C5	3.01	0.49
2:A8:2747:G:O6	2:A8:2754:U:H3'	2.12	0.49
3:AA:100:ILE:HG13	3:AA:103:ASN:H	1.77	0.49
11:AG:106:LEU:HD22	11:AG:151:ARG:HB3	1.93	0.49
12:AH:48:GLU:H	12:AH:48:GLU:CD	2.20	0.49
26:AV:9:ARG:HG2	26:AV:11:GLU:H	1.78	0.49
36:BA:142:G:C2	36:BA:222:C:C2	3.01	0.49
36:BA:199:A:C2	36:BA:219:U:O2	2.66	0.49
36:BA:258:G:C6	36:BA:259:G:C4	3.01	0.49
36:BA:259:G:C2	36:BA:268:U:C2	3.00	0.49
36:BA:369:G:N2	36:BA:393:A:H1'	2.28	0.49
36:BA:604:G:N1	36:BA:605:U:C2	2.81	0.49
36:BA:646:G:C5	36:BA:647:C:C5	3.01	0.49
36:BA:860:A:H3'	36:BA:861:G:H8	1.76	0.49
36:BA:1091:U:C2	36:BA:1095:U:C2	3.00	0.49
36:BA:1413:A:C2	36:BA:1488:G:C2	3.01	0.49
36:BA:1433:A:C5	36:BA:1434:A:C5	3.00	0.49
36:BA:1516:G:H2'	36:BA:1518:A:OP2	2.12	0.49
38:BC:154:GLY:HA2	38:BC:163:ARG:H	1.78	0.49
54:BS:50:VAL:HG23	54:BS:74:ALA:HB2	1.95	0.49
1:A7:89:U:OP2	1:A7:90:C:C2	2.66	0.49
2:A8:21:A:C6	2:A8:520:G:C5	3.01	0.49
2:A8:401:A:H2'	2:A8:402:A:C8	2.47	0.49
2:A8:734:A:C4	2:A8:735:A:C8	3.00	0.49
2:A8:917:A:N6	2:A8:918:A:C6	2.80	0.49
2:A8:1040:A:C2	2:A8:1041:G:C8	3.00	0.49
2:A8:1142:A:C4'	14:AJ:27:ARG:HH22	2.24	0.49
2:A8:1274:A:C2	2:A8:1645:G:O4'	2.65	0.49
2:A8:1308:A:C5	2:A8:1309:G:C5	3.01	0.49
2:A8:1361:G:H2'	2:A8:1362:C:C6	2.48	0.49
2:A8:1389:G:C6	2:A8:1390:U:C4	3.01	0.49
2:A8:1653:G:C5	18:AN:9:GLN:HB2	2.47	0.49
2:A8:1670:C:H3'	2:A8:1671:U:C6	2.48	0.49
2:A8:1733:G:C6	2:A8:1734:G:C5	3.00	0.49
2:A8:1904:G:H1'	2:A8:1927:A:N1	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2027:G:C4	2:A8:2037:A:C2	3.00	0.49
2:A8:2199:A:C5	2:A8:2225:A:C5	3.01	0.49
2:A8:2359:C:H2'	2:A8:2360:G:C8	2.47	0.49
2:A8:2893:A:H4'	2:A8:2894:G:H5'	1.93	0.49
15:AK:34:VAL:HA	15:AK:61:VAL:HG13	1.94	0.49
36:BA:19:A:C6	36:BA:20:U:C4	3.00	0.49
36:BA:63:C:H1'	36:BA:380:G:H4'	1.95	0.49
36:BA:119:A:C5	36:BA:240:G:C4	3.00	0.49
36:BA:213:G:C4	36:BA:214:C:C6	2.99	0.49
36:BA:557:G:C6	36:BA:558:G:C2	3.00	0.49
36:BA:742:G:C4	36:BA:743:A:C8	3.00	0.49
36:BA:1413:A:C2	36:BA:1414:U:N1	2.81	0.49
36:BA:1438:G:C2	36:BA:1439:G:C4	3.01	0.49
2:A8:71:A:C4	2:A8:114:U:H1'	2.48	0.49
2:A8:106:C:H2'	2:A8:107:G:C8	2.47	0.49
2:A8:108:G:C5	2:A8:109:C:C5	3.00	0.49
2:A8:176:A:C2'	2:A8:177:G:H5'	2.43	0.49
2:A8:535:G:C5	2:A8:559:G:C6	3.01	0.49
2:A8:650:C:H5	2:A8:651:G:H21	1.58	0.49
2:A8:978:G:C2	2:A8:986:C:C2	3.01	0.49
2:A8:1079:C:O2	13:AI:130:GLY:HA3	2.12	0.49
2:A8:1098:A:C2	13:AI:5:GLN:N	2.81	0.49
2:A8:1300:G:N3	2:A8:1626:A:C2	2.81	0.49
2:A8:1782:U:C4	2:A8:2609:U:C5	3.01	0.49
2:A8:2293:G:C6	2:A8:2294:G:C5	3.01	0.49
2:A8:2563:U:H1'	2:A8:2566:A:C5	2.47	0.49
2:A8:2632:A:C6	2:A8:2633:G:C5	3.01	0.49
2:A8:2694:G:C2	2:A8:2716:C:C2	3.00	0.49
2:A8:2748:A:H5''	2:A8:2753:A:H62	1.78	0.49
2:A8:2839:G:H5'	18:AN:46:ARG:HA	1.95	0.49
2:A8:2870:C:C4	2:A8:2871:U:C4	3.01	0.49
2:A8:2884:U:H3	31:A0:40:HIS:CA	2.25	0.49
10:AF:69:ALA:HB3	10:AF:81:GLY:H	1.77	0.49
36:BA:35:G:H21	47:BL:114:SER:HB3	1.77	0.49
36:BA:236:A:C6	36:BA:237:G:C5	3.01	0.49
36:BA:606:G:H21	36:BA:631:C:H3'	1.78	0.49
36:BA:681:A:C2	36:BA:710:G:C4	3.01	0.49
36:BA:815:A:OP2	36:BA:816:A:C8	2.65	0.49
36:BA:881:G:C4	36:BA:882:C:C6	3.00	0.49
36:BA:1060:U:H3'	38:BC:2:GLN:HE22	1.76	0.49
38:BC:32:LEU:HA	38:BC:58:ARG:HH12	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:21:A:C2	2:A8:520:G:C4	3.00	0.49
2:A8:96:C:H4'	29:AY:41:HIS:CD2	2.48	0.49
2:A8:273:G:C2	2:A8:365:U:C2	3.01	0.49
2:A8:487:C:C5	2:A8:488:G:C6	3.01	0.49
2:A8:722:A:C5	2:A8:723:C:C4	3.01	0.49
2:A8:740:C:H42	2:A8:757:G:H1	1.61	0.49
2:A8:741:U:C2	2:A8:757:G:C2	3.00	0.49
2:A8:766:U:H2'	2:A8:767:U:C6	2.48	0.49
2:A8:811:U:C2	2:A8:1251:C:C5	3.00	0.49
2:A8:947:A:H2'	2:A8:948:C:C6	2.48	0.49
2:A8:991:C:H5''	2:A8:1185:G:H3'	1.93	0.49
2:A8:1116:G:C6	2:A8:1117:C:C5	3.01	0.49
2:A8:1139:G:O3'	14:AJ:26:GLY:HA3	2.12	0.49
2:A8:1359:A:C8	2:A8:1360:G:C8	3.01	0.49
2:A8:1455:G:C6	2:A8:1456:G:C5	3.01	0.49
2:A8:1477:A:C5	2:A8:1478:G:H1'	2.47	0.49
2:A8:1680:U:C4	2:A8:1681:G:C6	3.01	0.49
2:A8:1975:G:C5	2:A8:1976:U:C4	3.01	0.49
2:A8:2579:C:C4	2:A8:2580:U:C4	3.00	0.49
2:A8:2600:A:C2	2:A8:2601:C:C4	3.01	0.49
2:A8:2714:G:C6	2:A8:2715:C:C4	3.01	0.49
2:A8:2831:G:O4'	2:A8:2883:A:C2	2.66	0.49
11:AG:108:PHE:HB3	11:AG:110:HIS:CD2	2.46	0.49
36:BA:172:A:C8	36:BA:174:A:C8	3.00	0.49
36:BA:193:C:H2'	36:BA:194:C:C5	2.48	0.49
36:BA:267:C:C2	36:BA:268:U:C6	3.00	0.49
36:BA:468:A:C4	36:BA:469:C:C6	3.01	0.49
36:BA:596:A:C4	36:BA:597:G:C8	3.00	0.49
36:BA:600:A:C6	36:BA:601:G:C5	3.01	0.49
36:BA:607:A:C5	36:BA:608:A:C5	3.01	0.49
36:BA:627:G:C6	36:BA:628:G:C5	3.00	0.49
36:BA:715:A:H2'	36:BA:716:A:C8	2.47	0.49
36:BA:831:A:C2	36:BA:856:C:C2	2.99	0.49
36:BA:1395:C:H5''	36:BA:1402:C:H4'	1.94	0.49
36:BA:1401:G:C2	36:BA:1402:C:H1'	2.48	0.49
36:BA:1486:G:H2'	36:BA:1487:G:O4'	2.13	0.49
50:BO:49:HIS:CE1	50:BO:52:ARG:HH11	2.30	0.49
1:A7:21:G:C2	1:A7:63:C:C2	3.01	0.49
1:A7:86:G:N2	1:A7:91:C:H1'	2.28	0.49
2:A8:26:G:H2'	2:A8:514:A:H61	1.78	0.49
2:A8:187:G:H21	2:A8:1365:A:N6	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:221:A:C2	2:A8:233:A:C4	3.01	0.49
2:A8:279:A:C8	2:A8:362:A:H1'	2.48	0.49
2:A8:574:A:C6	2:A8:2054:A:H5'	2.48	0.49
2:A8:1419:A:C8	2:A8:1579:A:C5	3.01	0.49
2:A8:1695:G:H3'	2:A8:1695:G:N3	2.28	0.49
2:A8:1794:A:C6	2:A8:1826:G:C6	3.00	0.49
2:A8:1837:C:H1'	2:A8:1904:G:N2	2.28	0.49
2:A8:2405:G:H22	2:A8:2411:A:H3'	1.76	0.49
2:A8:2675:A:C8	2:A8:2676:C:C5	3.01	0.49
2:A8:2698:U:H2'	2:A8:2699:C:C6	2.47	0.49
36:BA:666:G:C6	36:BA:741:G:C5	3.01	0.49
36:BA:1327:C:H2'	36:BA:1328:C:C6	2.47	0.49
50:BO:16:ARG:H	50:BO:23:SER:CB	2.26	0.49
1:A7:32:U:C2	1:A7:51:G:C2	3.00	0.49
2:A8:221:A:H2'	2:A8:266:G:N7	2.27	0.49
2:A8:750:A:C4	2:A8:753:A:H1'	2.48	0.49
2:A8:762:U:H1'	2:A8:763:G:C4	2.47	0.49
2:A8:1358:G:C2	2:A8:1372:U:C6	3.00	0.49
2:A8:1359:A:H61	2:A8:2212:A:N6	2.10	0.49
2:A8:1372:U:H2'	2:A8:1373:A:C8	2.47	0.49
2:A8:1410:G:C2	2:A8:1593:A:N3	2.80	0.49
2:A8:1650:A:C2	2:A8:1651:G:H1'	2.47	0.49
2:A8:2298:A:N3	2:A8:2321:U:H2'	2.28	0.49
2:A8:2436:G:H5''	2:A8:2436:G:C8	2.48	0.49
2:A8:2659:G:N2	2:A8:2663:G:C6	2.81	0.49
2:A8:2799:A:C2	2:A8:2800:A:N6	2.81	0.49
8:AD:33:ARG:HH11	8:AD:72:GLY:HA3	1.77	0.49
36:BA:300:A:C5	36:BA:301:G:H1'	2.48	0.49
36:BA:356:A:C6	36:BA:357:G:C4	3.01	0.49
36:BA:393:A:C2	36:BA:394:G:C8	3.01	0.49
36:BA:760:G:H3'	36:BA:761:G:C8	2.48	0.49
36:BA:881:G:C5	36:BA:882:C:C5	3.00	0.49
36:BA:898:G:C4	36:BA:902:G:C6	3.01	0.49
36:BA:925:G:O4'	36:BA:1502:A:C2	2.66	0.49
36:BA:1269:A:H1'	36:BA:1326:U:H1'	1.95	0.49
48:BM:79:LEU:HD22	48:BM:86:ARG:CZ	2.43	0.49
1:A7:5:U:C2	1:A7:116:G:C2	3.00	0.48
2:A8:547:A:H2'	2:A8:548:G:H5'	1.94	0.48
2:A8:905:A:C5	2:A8:906:U:C5	3.01	0.48
2:A8:979:A:C2	2:A8:982:C:H2'	2.47	0.48
2:A8:1101:U:C4	2:A8:1102:C:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1127:A:C5	2:A8:2518:A:C6	3.01	0.48
2:A8:1169:A:C6	2:A8:1170:C:C4	3.01	0.48
2:A8:1544:A:C5	2:A8:1545:A:C5	3.01	0.48
2:A8:1656:C:C2	2:A8:1657:U:C6	3.01	0.48
2:A8:1677:A:H2'	2:A8:1678:A:C8	2.48	0.48
2:A8:1698:A:C8	2:A8:1700:A:O4'	2.66	0.48
2:A8:1790:C:H3'	2:A8:1828:G:N2	2.27	0.48
2:A8:2298:A:H61	2:A8:2318:G:H1'	1.79	0.48
2:A8:2371:G:H4'	32:A1:43:ARG:O	2.13	0.48
2:A8:2721:A:H2'	2:A8:2722:G:C8	2.48	0.48
11:AG:87:GLN:H	11:AG:164:ALA:HA	1.77	0.48
21:AQ:57:ARG:HA	21:AQ:60:TRP:CE3	2.48	0.48
23:AS:8:ARG:HE	23:AS:102:HIS:CD2	2.31	0.48
36:BA:243:A:C5	36:BA:245:U:C4	3.01	0.48
36:BA:553:A:H5''	47:BL:20:VAL:HG11	1.95	0.48
36:BA:778:G:C5	36:BA:779:C:C6	3.01	0.48
36:BA:836:G:N1	36:BA:851:G:C4	2.81	0.48
36:BA:901:A:C4	36:BA:902:G:H1'	2.48	0.48
36:BA:933:G:C2	36:BA:1385:G:C2	3.01	0.48
36:BA:1068:G:C5	36:BA:1069:C:C5	3.01	0.48
36:BA:1128:C:H2'	36:BA:1129:C:C6	2.48	0.48
36:BA:1300:G:C4	36:BA:1334:G:C6	3.01	0.48
36:BA:1426:G:C6	36:BA:1427:C:C4	3.01	0.48
1:A7:92:C:C4	1:A7:93:C:C5	3.01	0.48
2:A8:581:C:C2	2:A8:1260:A:C2	3.00	0.48
2:A8:638:G:C6	2:A8:639:U:C4	3.01	0.48
2:A8:693:A:H4'	2:A8:1354:A:H4'	1.95	0.48
2:A8:1216:G:C6	2:A8:1217:U:C2	3.01	0.48
2:A8:1606:C:H5''	2:A8:1607:C:H5''	1.95	0.48
2:A8:1722:A:C2	2:A8:1739:A:O4'	2.66	0.48
2:A8:1723:G:H3'	2:A8:1724:G:C8	2.48	0.48
2:A8:1734:G:C2	2:A8:1735:A:C8	3.01	0.48
2:A8:1783:A:C5	2:A8:2587:A:N1	2.81	0.48
2:A8:2029:G:C6	2:A8:2033:A:C8	3.01	0.48
2:A8:2066:C:H2'	2:A8:2067:G:C8	2.49	0.48
2:A8:2197:U:C2'	2:A8:2224:G:H1	2.26	0.48
2:A8:2521:C:C2	2:A8:2545:G:C2	3.01	0.48
2:A8:2596:U:H2'	2:A8:2597:G:C8	2.47	0.48
2:A8:2659:G:C4	2:A8:2661:G:OP2	2.66	0.48
2:A8:2691:C:H5'	2:A8:2872:A:H5''	1.94	0.48
2:A8:2869:G:C6	2:A8:2870:C:C4	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AR:67:GLY:HA3	22:AR:93:PHE:CZ	2.49	0.48
36:BA:432:A:H3'	36:BA:433:G:H8	1.79	0.48
36:BA:568:G:C2	36:BA:569:C:C2	3.01	0.48
36:BA:656:G:H2'	36:BA:657:U:H6	1.78	0.48
36:BA:767:A:H2'	36:BA:768:A:O4'	2.14	0.48
50:BO:76:ARG:HA	50:BO:79:ARG:HH11	1.77	0.48
1:A7:35:C:H41	1:A7:50:A:H1'	1.79	0.48
2:A8:43:G:H3'	2:A8:44:A:C8	2.48	0.48
2:A8:121:G:C6	2:A8:131:A:C5	3.02	0.48
2:A8:255:A:C5	2:A8:256:A:C8	3.01	0.48
2:A8:268:C:C2	2:A8:269:C:C5	3.01	0.48
2:A8:289:G:C6	2:A8:352:A:C6	3.01	0.48
2:A8:458:G:C2	2:A8:469:G:C6	3.02	0.48
2:A8:515:A:H1'	2:A8:581:C:H1'	1.96	0.48
2:A8:565:C:H4'	2:A8:1253:A:C6	2.48	0.48
2:A8:738:G:C2	2:A8:739:A:C4	3.01	0.48
2:A8:860:U:H2'	2:A8:861:A:H8	1.78	0.48
2:A8:1056:G:C6	2:A8:1102:C:OP2	2.66	0.48
2:A8:1199:U:H2'	2:A8:1200:C:C6	2.48	0.48
2:A8:1478:G:C6	2:A8:1514:G:C2	3.02	0.48
2:A8:1876:A:N6	2:A8:1877:A:C2	2.81	0.48
2:A8:2637:U:H1'	2:A8:2782:G:H22	1.78	0.48
2:A8:2674:G:H2'	2:A8:2675:A:C8	2.48	0.48
7:A6:42:ARG:HA	7:A6:48:ILE:HA	1.94	0.48
15:AK:111:PHE:HB2	15:AK:114:ILE:HG22	1.94	0.48
25:AU:84:PHE:HA	25:AU:93:ARG:HA	1.94	0.48
26:AV:34:LYS:H	26:AV:34:LYS:HE3	1.79	0.48
36:BA:253:A:C2	36:BA:275:G:H1'	2.49	0.48
36:BA:253:A:C6	36:BA:254:G:C5	3.01	0.48
36:BA:339:C:C4	36:BA:340:U:C4	3.01	0.48
36:BA:765:G:C6	36:BA:812:G:C5	3.01	0.48
36:BA:833:G:C5	36:BA:834:U:C4	3.01	0.48
36:BA:846:G:C2	36:BA:847:G:C8	3.01	0.48
36:BA:885:G:C2	36:BA:913:A:N1	2.81	0.48
36:BA:1057:G:C6	36:BA:1204:A:C6	3.02	0.48
36:BA:1118:U:H1'	36:BA:1179:A:N9	2.29	0.48
50:BO:69:LEU:HA	50:BO:76:ARG:HH21	1.79	0.48
2:A8:197:A:C4	2:A8:198:C:H6	2.30	0.48
2:A8:387:U:H3	2:A8:390:U:H3'	1.78	0.48
2:A8:425:G:C2	2:A8:426:C:C6	3.01	0.48
2:A8:617:G:H5''	9:AE:102:ARG:HH21	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:879:G:H1'	2:A8:900:A:C4	2.48	0.48
2:A8:1988:G:C5	2:A8:1989:G:C8	3.01	0.48
2:A8:2196:C:C4	2:A8:2197:U:C4	3.01	0.48
2:A8:2223:G:C2	2:A8:2224:G:H1'	2.47	0.48
2:A8:2445:G:H2'	2:A8:2446:G:C8	2.49	0.48
2:A8:2470:G:C6	2:A8:2481:G:N3	2.81	0.48
2:A8:2537:U:H2'	2:A8:2538:C:C6	2.48	0.48
2:A8:2605:U:H2'	2:A8:2606:C:C6	2.49	0.48
2:A8:2619:C:C6	2:A8:2619:C:H5''	2.47	0.48
2:A8:2788:C:C2	2:A8:2789:C:C5	3.02	0.48
2:A8:2801:G:C2	2:A8:2802:G:C4	3.02	0.48
13:AI:4:VAL:CG1	13:AI:5:GLN:H	2.25	0.48
13:AI:60:VAL:HG13	13:AI:64:ARG:HH21	1.77	0.48
14:AJ:58:ASN:HD21	14:AJ:61:LYS:HG3	1.77	0.48
36:BA:173:U:H1'	36:BA:197:A:C6	2.48	0.48
36:BA:258:G:C6	36:BA:259:G:C5	3.01	0.48
36:BA:761:G:C5	36:BA:762:U:C5	3.01	0.48
36:BA:881:G:C6	36:BA:882:C:C4	3.01	0.48
36:BA:901:A:C5	36:BA:902:G:H1'	2.48	0.48
36:BA:907:A:C2	36:BA:908:A:H1'	2.49	0.48
36:BA:995:C:H2'	36:BA:996:A:H5'	1.96	0.48
36:BA:1124:G:C8	36:BA:1145:A:O2'	2.65	0.48
36:BA:1449:C:C4	36:BA:1450:U:C4	3.01	0.48
36:BA:1470:U:H2'	36:BA:1471:U:H6	1.78	0.48
37:BB:15:PHE:CD1	37:BB:205:ALA:HB1	2.48	0.48
46:BK:116:PRO:HB2	46:BK:118:ASN:H	1.79	0.48
1:A7:78:A:C2	1:A7:99:A:C4	3.01	0.48
2:A8:39:G:C2	2:A8:441:U:C2	3.01	0.48
2:A8:157:C:C4	2:A8:158:U:C4	3.02	0.48
2:A8:186:G:C2	2:A8:211:C:C2	3.02	0.48
2:A8:199:A:C8	2:A8:2433:A:C6	3.02	0.48
2:A8:264:C:O2'	2:A8:429:A:C2	2.66	0.48
2:A8:317:G:C8	2:A8:317:G:H5''	2.49	0.48
2:A8:481:G:H4'	2:A8:506:G:H22	1.78	0.48
2:A8:535:G:C6	2:A8:536:G:C4	3.01	0.48
2:A8:866:A:C5	2:A8:867:C:C5	3.02	0.48
2:A8:895:U:H5'	2:A8:896:A:C6	2.49	0.48
2:A8:907:G:H1'	17:AM:66:ARG:HB3	1.94	0.48
2:A8:922:C:H1'	27:AW:21:GLY:HA3	1.95	0.48
2:A8:963:U:H2'	2:A8:964:C:C6	2.49	0.48
2:A8:1088:A:N6	13:AI:131:THR:HA	2.26	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1521:G:C6	2:A8:1522:A:C6	3.01	0.48
2:A8:2477:U:H4'	2:A8:2479:U:C5	2.48	0.48
2:A8:2528:U:C2	2:A8:2530:A:C8	3.01	0.48
7:A6:59:GLN:CD	7:A6:84:PRO:HB2	2.38	0.48
18:AN:13:ASN:HB2	18:AN:16:HIS:H	1.78	0.48
28:AX:75:GLU:CD	28:AX:75:GLU:H	2.22	0.48
36:BA:243:A:C2	36:BA:245:U:H2'	2.49	0.48
36:BA:248:C:H2'	36:BA:249:U:C6	2.48	0.48
36:BA:725:G:C6	36:BA:726:C:C4	3.02	0.48
36:BA:761:G:C6	36:BA:762:U:C4	3.01	0.48
36:BA:861:G:H21	36:BA:874:G:H5'	1.78	0.48
36:BA:907:A:C4	36:BA:908:A:C8	3.02	0.48
36:BA:1130:A:H4'	44:BI:19:PHE:HB3	1.95	0.48
41:BF:51:ILE:HB	53:BR:73:HIS:CD2	2.49	0.48
1:A7:69:G:C6	1:A7:70:C:C2	3.01	0.48
1:A7:73:A:C8	1:A7:104:A:C6	3.02	0.48
2:A8:185:G:C2	2:A8:212:G:C4	3.02	0.48
2:A8:246:C:H41	34:A3:7:ARG:HD3	1.78	0.48
2:A8:269:C:C2	2:A8:270:A:C8	3.01	0.48
2:A8:388:G:C8	2:A8:390:U:OP2	2.66	0.48
2:A8:712:G:N2	2:A8:720:U:H1'	2.29	0.48
2:A8:1296:G:C6	2:A8:1645:G:C6	3.02	0.48
2:A8:1383:A:C2	2:A8:1405:U:O2	2.66	0.48
2:A8:1665:A:H5''	15:AK:65:LYS:HZ3	1.78	0.48
2:A8:2053:G:H5'	8:AD:150:GLN:HA	1.96	0.48
2:A8:2282:G:H4'	2:A8:2389:G:O2'	2.13	0.48
7:A6:162:GLN:HE22	36:BA:713:G:H5''	1.78	0.48
9:AE:9:GLN:H	9:AE:9:GLN:CD	2.20	0.48
11:AG:106:LEU:HD22	11:AG:151:ARG:CB	2.44	0.48
36:BA:207:C:C2	36:BA:213:G:C2	3.02	0.48
36:BA:318:G:C2	36:BA:336:A:C4	3.02	0.48
36:BA:367:U:C6	36:BA:394:G:N2	2.82	0.48
36:BA:502:A:C2	36:BA:503:C:C2	3.01	0.48
36:BA:789:U:H2'	36:BA:791:G:C8	2.48	0.48
36:BA:789:U:H3'	36:BA:791:G:OP2	2.13	0.48
36:BA:858:G:H2'	36:BA:869:G:H1	1.78	0.48
36:BA:946:A:H2'	36:BA:947:G:C8	2.48	0.48
2:A8:55:G:C2	2:A8:116:C:C2	3.02	0.48
2:A8:749:A:H4'	2:A8:1271:G:H21	1.78	0.48
2:A8:877:A:C6	2:A8:878:A:C4	3.02	0.48
2:A8:904:G:C6	2:A8:905:A:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:909:A:H2'	2:A8:912:C:C5	2.48	0.48
2:A8:966:G:C6	2:A8:967:U:C4	3.01	0.48
2:A8:1042:G:C5	2:A8:1043:C:C5	3.01	0.48
2:A8:1218:G:C6	2:A8:1232:G:C5	3.02	0.48
2:A8:1241:A:N3	2:A8:1241:A:H5'	2.29	0.48
2:A8:1258:U:H2'	2:A8:1259:G:C8	2.48	0.48
2:A8:1410:G:C4	2:A8:1593:A:C2	3.02	0.48
2:A8:1517:G:C6	2:A8:1518:C:C4	3.02	0.48
2:A8:1623:G:C6	2:A8:1624:U:C5	3.02	0.48
2:A8:1770:G:C5	2:A8:1771:C:C5	3.02	0.48
2:A8:1854:A:H2	2:A8:2087:G:H2'	1.78	0.48
2:A8:1910:G:C6	2:A8:1921:G:C6	3.02	0.48
2:A8:1975:G:C6	2:A8:1976:U:C4	3.01	0.48
2:A8:2006:C:H5'	2:A8:2049:G:OP1	2.13	0.48
2:A8:2288:A:C2	2:A8:2325:G:C5	3.00	0.48
2:A8:2409:G:C6	2:A8:2410:G:C5	3.02	0.48
2:A8:2446:G:C5	2:A8:2501:C:H2'	2.49	0.48
2:A8:2814:A:C2	2:A8:2815:C:H1'	2.49	0.48
2:A8:2846:G:C5	2:A8:2847:U:C4	3.02	0.48
20:AP:28:LYS:HB3	20:AP:39:LEU:HB3	1.95	0.48
24:AT:21:SER:HA	24:AT:25:GLU:CD	2.38	0.48
34:A3:38:LYS:O	34:A3:42:HIS:CG	2.67	0.48
36:BA:59:A:C6	36:BA:354:G:C5	3.02	0.48
36:BA:212:G:C4	36:BA:213:G:C8	3.02	0.48
36:BA:679:C:H2'	36:BA:680:C:C6	2.49	0.48
36:BA:869:G:H4'	36:BA:872:A:O4'	2.13	0.48
36:BA:1142:G:C6	36:BA:1143:G:H1'	2.48	0.48
1:A7:86:G:C4	1:A7:87:U:C6	3.02	0.48
1:A7:115:A:C2	1:A7:116:G:C5	3.02	0.48
2:A8:36:G:H4'	2:A8:451:U:C4	2.49	0.48
2:A8:63:A:C8	2:A8:64:A:N7	2.82	0.48
2:A8:513:A:N6	2:A8:514:A:C6	2.82	0.48
2:A8:639:U:N3	2:A8:640:C:C4	2.82	0.48
2:A8:817:C:C2	2:A8:818:G:C8	3.02	0.48
2:A8:1069:A:C8	2:A8:1073:A:N7	2.82	0.48
2:A8:1560:G:C8	2:A8:1560:G:O5'	2.66	0.48
2:A8:1614:A:H61	23:AS:89:ALA:HA	1.79	0.48
2:A8:1664:A:C4	2:A8:1665:A:C8	3.02	0.48
2:A8:2064:C:H1'	2:A8:2450:A:C6	2.49	0.48
2:A8:2175:C:H4'	6:A5:219:GLY:O	2.13	0.48
2:A8:2230:G:C6	2:A8:2231:U:C4	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2596:U:C4	2:A8:2597:G:C6	3.01	0.48
2:A8:2690:U:H2'	2:A8:2872:A:C2	2.49	0.48
36:BA:285:C:N3	36:BA:286:C:C5	2.82	0.48
36:BA:310:G:C6	36:BA:311:C:C4	3.01	0.48
36:BA:537:G:C6	36:BA:538:G:C5	3.02	0.48
36:BA:778:G:C2	36:BA:779:C:H1'	2.48	0.48
36:BA:1463:U:H2'	36:BA:1464:U:C6	2.49	0.48
1:A7:13:G:H1'	1:A7:16:G:H1'	1.96	0.48
2:A8:269:C:C2	2:A8:424:G:C2	3.02	0.48
2:A8:457:A:H61	2:A8:470:A:H3'	1.78	0.48
2:A8:578:G:H5'	2:A8:1255:U:H4'	1.95	0.48
2:A8:592:A:C2	2:A8:666:A:C4	3.02	0.48
2:A8:645:C:C5'	2:A8:647:G:C6	2.96	0.48
2:A8:869:G:H21	17:AM:8:LYS:NZ	2.11	0.48
2:A8:959:A:H8	2:A8:959:A:H5''	1.79	0.48
2:A8:1017:G:C2	2:A8:1146:C:C2	3.02	0.48
2:A8:1081:U:H4'	13:AI:123:ALA:HB1	1.96	0.48
2:A8:1291:C:H2'	2:A8:1292:G:C8	2.49	0.48
2:A8:1339:G:N2	2:A8:1603:A:H1'	2.29	0.48
2:A8:1343:G:C5	2:A8:1597:A:C6	3.01	0.48
2:A8:1350:C:C2	2:A8:1382:G:N7	2.82	0.48
2:A8:1410:G:C2	2:A8:1411:U:C2	3.02	0.48
2:A8:1478:G:C2	2:A8:1514:G:H1'	2.49	0.48
2:A8:1615:C:C5	2:A8:1617:C:C4	3.02	0.48
2:A8:1655:A:H3'	2:A8:1656:C:C6	2.49	0.48
2:A8:1794:A:C5	2:A8:1795:C:C5	3.02	0.48
2:A8:2244:U:H1'	2:A8:2434:A:C4	2.49	0.48
2:A8:2333:A:C8	2:A8:2335:A:C5	3.02	0.48
2:A8:2721:A:C2	2:A8:2873:A:C6	3.01	0.48
7:A6:64:VAL:HG12	7:A6:65:ASP:N	2.29	0.48
26:AV:72:VAL:HA	26:AV:94:ALA:H	1.78	0.48
35:A4:30:GLU:HB2	35:A4:33:HIS:HB2	1.94	0.48
36:BA:361:G:C6	36:BA:362:G:C2	3.02	0.48
36:BA:691:G:N2	36:BA:695:A:C8	2.82	0.48
36:BA:853:C:C2	36:BA:854:U:C6	3.02	0.48
36:BA:1068:G:C8	36:BA:1094:G:C8	3.01	0.48
36:BA:1097:C:H2'	36:BA:1098:C:C6	2.48	0.48
36:BA:1186:G:C2	36:BA:1187:G:C8	3.02	0.48
2:A8:43:G:C2	2:A8:44:A:C4	3.02	0.48
2:A8:84:A:C8	2:A8:100:U:H1'	2.49	0.48
2:A8:397:U:C2	2:A8:398:C:C5	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:435:C:H2'	2:A8:436:C:H5'	1.95	0.48
2:A8:445:C:C4	2:A8:446:G:C5	3.02	0.48
2:A8:503:A:C5	2:A8:506:G:C5	3.01	0.48
2:A8:556:A:C2	2:A8:557:C:H1'	2.49	0.48
2:A8:955:U:OP2	17:AM:14:LYS:HB2	2.14	0.48
2:A8:961:C:H3'	2:A8:962:G:C5'	2.44	0.48
2:A8:1004:U:H1'	2:A8:1010:A:H2'	1.96	0.48
2:A8:1028:A:H2'	2:A8:1029:A:C8	2.49	0.48
2:A8:1050:A:H1'	2:A8:2751:G:C2	2.48	0.48
2:A8:1220:G:C6	2:A8:1221:C:C5	3.02	0.48
2:A8:1387:A:H5'	2:A8:1469:A:H1'	1.95	0.48
2:A8:1690:A:H3'	2:A8:1691:C:C6	2.49	0.48
2:A8:1739:A:H2'	2:A8:1740:G:O4'	2.14	0.48
2:A8:1765:U:C2	2:A8:1988:G:C2	3.02	0.48
2:A8:1904:G:N2	2:A8:1905:C:H1'	2.29	0.48
2:A8:2126:A:C2	2:A8:2173:A:H1'	2.48	0.48
2:A8:2260:C:C2	2:A8:2261:C:C5	3.02	0.48
2:A8:2341:G:C5	2:A8:2342:C:C5	3.02	0.48
2:A8:2346:A:C2	2:A8:2383:G:C6	3.02	0.48
2:A8:2478:A:C8	2:A8:2529:G:C6	3.02	0.48
2:A8:2526:G:C5	2:A8:2527:C:C5	3.01	0.48
2:A8:2625:G:C5	2:A8:2626:C:C4	3.02	0.48
2:A8:2697:G:C2	2:A8:2698:U:C2	3.02	0.48
2:A8:2792:A:C2	2:A8:2805:C:C2	3.02	0.48
2:A8:2800:A:N6	2:A8:2801:G:C5	2.82	0.48
7:A6:255:LYS:HB3	7:A6:269:ARG:HH12	1.78	0.48
20:AP:19:PHE:CE1	20:AP:25:VAL:HG12	2.49	0.48
36:BA:258:G:H5'	36:BA:258:G:H8	1.78	0.48
36:BA:954:G:C4	36:BA:955:U:C6	3.01	0.48
36:BA:1077:G:C2	36:BA:1081:A:C5	3.02	0.48
36:BA:1108:G:C4	36:BA:1109:C:C5	3.02	0.48
36:BA:1361:G:N2	36:BA:1362:A:H62	2.11	0.48
36:BA:1365:G:C5	36:BA:1366:C:C5	3.02	0.48
48:BM:84:CYS:HB2	48:BM:87:GLY:H	1.78	0.48
1:A7:33:G:C4	1:A7:50:A:C2	3.02	0.47
1:A7:50:A:C6	1:A7:51:G:C8	3.02	0.47
2:A8:2:G:C2	2:A8:2902:C:C2	3.01	0.47
2:A8:67:U:H6	2:A8:67:U:O5'	1.97	0.47
2:A8:117:G:H5'	2:A8:126:A:H8	1.78	0.47
2:A8:137:U:OP2	2:A8:137:U:C6	2.67	0.47
2:A8:415:A:C6	2:A8:416:U:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:622:G:C6	2:A8:623:C:C5	3.02	0.47
2:A8:1040:A:C2	2:A8:1116:G:N1	2.82	0.47
2:A8:1182:G:C5	2:A8:1183:U:C4	3.02	0.47
2:A8:1802:A:C6	2:A8:1817:G:N2	2.82	0.47
2:A8:1873:G:C4	2:A8:1874:C:C6	3.02	0.47
2:A8:1942:C:C6	2:A8:1943:U:C2	3.01	0.47
2:A8:2100:G:C5	2:A8:2190:G:C2	3.02	0.47
2:A8:2123:G:H22	2:A8:2176:A:H1'	1.79	0.47
2:A8:2124:G:C2	2:A8:2175:C:C2	3.02	0.47
2:A8:2162:G:C8	2:A8:2164:C:N4	2.82	0.47
2:A8:2216:G:C6	2:A8:2217:G:C5	3.02	0.47
2:A8:2335:A:H2'	2:A8:2336:A:H2'	1.96	0.47
2:A8:2416:C:C2	2:A8:2417:C:C6	3.02	0.47
2:A8:2455:G:C6	2:A8:2456:C:C4	3.02	0.47
2:A8:2563:U:H1'	2:A8:2566:A:C6	2.48	0.47
2:A8:2603:G:C6	2:A8:2604:U:C4	3.02	0.47
2:A8:2834:G:H2'	2:A8:2879:A:H61	1.79	0.47
28:AX:5:GLN:HA	28:AX:77:TYR:CZ	2.49	0.47
30:AZ:54:VAL:HG22	30:AZ:55:LYS:H	1.79	0.47
33:A2:30:VAL:HA	33:A2:33:ARG:HE	1.79	0.47
36:BA:112:G:H21	36:BA:354:G:C4'	2.27	0.47
36:BA:131:A:C2	36:BA:232:G:C5	3.02	0.47
36:BA:213:G:C5	36:BA:214:C:C6	3.02	0.47
36:BA:337:G:C6	36:BA:338:A:C5	3.02	0.47
36:BA:338:A:C2	36:BA:339:C:C2	3.01	0.47
36:BA:338:A:H2'	36:BA:339:C:C6	2.49	0.47
36:BA:426:U:H2'	36:BA:427:U:C6	2.49	0.47
36:BA:567:G:C6	36:BA:568:G:C8	3.02	0.47
36:BA:681:A:C2	36:BA:682:G:C4	3.02	0.47
36:BA:760:G:N1	36:BA:761:G:H1'	2.28	0.47
36:BA:827:U:C2	36:BA:874:G:C2	3.02	0.47
36:BA:1357:A:C5	36:BA:1358:U:C5	3.02	0.47
36:BA:1417:G:H2'	36:BA:1482:G:N2	2.29	0.47
36:BA:1478:U:H2'	36:BA:1479:C:H6	1.79	0.47
1:A7:16:G:C6	1:A7:17:C:C4	3.02	0.47
2:A8:227:A:C6	2:A8:2407:A:H1'	2.49	0.47
2:A8:503:A:C6	2:A8:505:A:C6	3.02	0.47
2:A8:727:A:C5	2:A8:728:G:C6	3.02	0.47
2:A8:770:G:H1'	2:A8:1379:U:C4	2.50	0.47
2:A8:959:A:H5''	2:A8:959:A:C8	2.49	0.47
2:A8:1053:C:C2	2:A8:1107:G:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1171:G:C2	2:A8:1172:C:C2	3.02	0.47
2:A8:1423:G:N2	2:A8:1424:G:H1'	2.29	0.47
2:A8:1444:G:C4	2:A8:1445:G:C8	3.02	0.47
2:A8:1526:C:C4	2:A8:1527:G:C5	3.02	0.47
2:A8:2251:G:C6	2:A8:2252:G:C5	3.02	0.47
2:A8:2661:G:C6	2:A8:2662:A:C5	3.02	0.47
20:AP:26:GLU:HA	20:AP:43:GLU:HA	1.96	0.47
25:AU:44:HIS:CD2	25:AU:57:ILE:HG12	2.48	0.47
36:BA:177:G:C8	36:BA:178:C:C6	3.02	0.47
36:BA:311:C:C4	36:BA:312:C:C5	3.02	0.47
36:BA:881:G:C2	36:BA:882:C:C2	3.03	0.47
36:BA:1191:A:C5	36:BA:1192:C:C4	3.01	0.47
36:BA:1215:G:C5	36:BA:1216:A:C8	3.02	0.47
36:BA:1399:C:N3	36:BA:1401:G:C2	2.82	0.47
47:BL:113:ARG:HA	47:BL:118:VAL:HG23	1.95	0.47
2:A8:24:G:C5	2:A8:25:U:C5	3.03	0.47
2:A8:223:A:C6	2:A8:422:A:C5	3.03	0.47
2:A8:372:G:H1'	2:A8:400:G:C6	2.48	0.47
2:A8:455:C:C5	2:A8:472:A:C5	3.02	0.47
2:A8:471:A:H3'	2:A8:472:A:C8	2.49	0.47
2:A8:554:U:C4	2:A8:555:G:C6	3.02	0.47
2:A8:669:G:C4	2:A8:801:G:C6	3.02	0.47
2:A8:748:G:C4	2:A8:750:A:C5	3.02	0.47
2:A8:814:C:H41	16:AL:25:SER:HB3	1.80	0.47
2:A8:828:U:H4'	2:A8:831:G:N1	2.29	0.47
2:A8:878:A:C2	2:A8:899:A:C2	3.02	0.47
2:A8:1031:G:C6	2:A8:1124:G:C6	3.02	0.47
2:A8:1103:A:C4	2:A8:1104:C:C5	3.02	0.47
2:A8:1165:A:C2	2:A8:1166:G:C8	3.03	0.47
2:A8:1174:U:C5'	2:A8:1175:A:C2	2.96	0.47
2:A8:1190:G:H2'	2:A8:1191:G:C8	2.49	0.47
2:A8:1360:G:H3'	2:A8:1361:G:H8	1.79	0.47
2:A8:1659:G:C2	2:A8:2002:G:C2	3.03	0.47
2:A8:1723:G:C6	2:A8:1724:G:C5	3.03	0.47
2:A8:1730:C:C5	2:A8:1731:G:C6	3.02	0.47
2:A8:1858:A:C4	2:A8:1885:A:C8	3.02	0.47
2:A8:1867:G:C6	2:A8:1868:C:C4	3.03	0.47
2:A8:1904:G:C2	2:A8:1905:C:H1'	2.49	0.47
2:A8:1966:A:C5	2:A8:2593:U:H4'	2.49	0.47
2:A8:2054:A:H3'	2:A8:2056:G:H4'	1.96	0.47
2:A8:2082:A:H3'	2:A8:2083:G:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2217:G:C4	2:A8:2218:G:C8	3.03	0.47
2:A8:2319:G:H4'	2:A8:2321:U:C6	2.49	0.47
2:A8:2330:G:C2	2:A8:2331:G:H1'	2.50	0.47
2:A8:2415:G:H1'	16:AL:66:PHE:CE2	2.49	0.47
2:A8:2812:G:N2	2:A8:2889:C:C2	2.82	0.47
3:AA:253:HIS:H	3:AA:253:HIS:CD2	2.32	0.47
7:A6:2:VAL:HA	7:A6:16:VAL:HG13	1.96	0.47
23:AS:8:ARG:CZ	23:AS:9:HIS:CE1	2.97	0.47
36:BA:182:A:H62	36:BA:224:U:H5'	1.79	0.47
36:BA:299:G:H2'	36:BA:300:A:C8	2.50	0.47
36:BA:592:G:C2	36:BA:648:A:C4	3.03	0.47
36:BA:628:G:C2	36:BA:629:A:C4	3.02	0.47
36:BA:657:U:H2'	36:BA:658:C:C6	2.49	0.47
36:BA:723:U:H3'	36:BA:723:U:C6	2.49	0.47
36:BA:810:C:H2'	36:BA:811:C:C6	2.49	0.47
50:BO:16:ARG:HB2	50:BO:23:SER:HG	1.77	0.47
2:A8:415:A:C4	2:A8:2409:G:C2	3.02	0.47
2:A8:644:A:C2	2:A8:646:U:C5	3.02	0.47
2:A8:780:G:C2	2:A8:785:G:C5	3.03	0.47
2:A8:878:A:C2	2:A8:879:G:C4	3.02	0.47
2:A8:880:G:N2	2:A8:898:C:C2	2.83	0.47
2:A8:1097:U:H3'	2:A8:1098:A:H8	1.78	0.47
2:A8:1488:C:C4	2:A8:1489:C:C5	3.03	0.47
2:A8:1797:G:C6	2:A8:1823:G:C5	3.02	0.47
2:A8:1854:A:C2	2:A8:2088:A:O4'	2.67	0.47
2:A8:1953:A:H1'	2:A8:2560:A:H1'	1.95	0.47
2:A8:2555:U:C6	2:A8:2556:C:C6	3.01	0.47
2:A8:2583:G:C6	2:A8:2584:U:C6	3.03	0.47
2:A8:2809:A:H62	2:A8:2890:G:C2'	2.27	0.47
36:BA:182:A:C2	36:BA:184:G:C5	3.03	0.47
36:BA:518:C:H5''	36:BA:519:C:H6	1.78	0.47
36:BA:731:G:C6	36:BA:732:C:C5	3.02	0.47
36:BA:766:A:C8	36:BA:814:A:C6	3.02	0.47
36:BA:1379:G:C4	36:BA:1380:U:C5	3.02	0.47
44:BI:17:ARG:HD2	44:BI:19:PHE:CE1	2.49	0.47
1:A7:30:C:O2	1:A7:30:C:H2'	2.13	0.47
1:A7:42:C:C4	1:A7:43:C:C2	3.03	0.47
1:A7:58:A:C2	1:A7:59:A:C1'	2.98	0.47
2:A8:204:A:C8	2:A8:206:U:C2	3.02	0.47
2:A8:207:A:C2	2:A8:208:C:H1'	2.49	0.47
2:A8:224:U:C4	2:A8:225:C:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:246:C:H41	34:A3:7:ARG:CD	2.26	0.47
2:A8:388:G:C8	2:A8:389:G:C8	3.03	0.47
2:A8:634:C:C4	2:A8:635:C:C5	3.03	0.47
2:A8:642:U:O5'	2:A8:642:U:C6	2.68	0.47
2:A8:742:A:C4	2:A8:743:A:C8	3.02	0.47
2:A8:1142:A:C4	2:A8:1144:A:C8	3.03	0.47
2:A8:1213:A:C6	2:A8:1214:A:C5	3.02	0.47
2:A8:1218:G:C5	2:A8:1232:G:C6	3.02	0.47
2:A8:1361:G:C8	2:A8:1361:G:O5'	2.67	0.47
2:A8:1371:G:C2	2:A8:1372:U:C5	3.02	0.47
2:A8:1454:C:H42	2:A8:2703:C:H41	1.62	0.47
2:A8:1690:A:C8	2:A8:1691:C:C5	3.02	0.47
2:A8:1826:G:H2'	2:A8:1827:U:C6	2.49	0.47
2:A8:1933:G:C5	2:A8:1934:C:C6	3.03	0.47
2:A8:1984:G:C5	2:A8:1985:C:C5	3.02	0.47
2:A8:2205:A:C6	2:A8:2206:C:C4	3.02	0.47
2:A8:2323:G:C6	2:A8:2324:U:C4	3.03	0.47
12:AH:47:PHE:HA	12:AH:50:ARG:HE	1.79	0.47
14:AJ:26:GLY:H	14:AJ:28:LEU:H	1.62	0.47
17:AM:33:LEU:HD22	17:AM:118:LYS:HZ1	1.80	0.47
17:AM:34:LYS:HB2	17:AM:131:VAL:HG11	1.96	0.47
17:AM:112:LEU:HA	17:AM:116:ALA:HB3	1.96	0.47
36:BA:110:C:H4'	51:BP:25:ARG:HE	1.80	0.47
36:BA:224:U:H2'	36:BA:225:C:C6	2.50	0.47
36:BA:232:G:C5	36:BA:233:C:C5	3.02	0.47
36:BA:244:U:C4	36:BA:894:G:C2	3.03	0.47
36:BA:270:A:C4	36:BA:271:C:C6	3.03	0.47
36:BA:329:A:N7	36:BA:332:G:C6	2.83	0.47
36:BA:478:A:C2	36:BA:479:U:C2	3.02	0.47
36:BA:925:G:C6	36:BA:927:G:C5	3.02	0.47
36:BA:944:G:H2'	36:BA:1338:G:H1	1.79	0.47
36:BA:1114:C:C4	36:BA:1115:U:C4	3.03	0.47
36:BA:1244:G:C6	36:BA:1245:C:C5	3.02	0.47
46:BK:66:ALA:HB2	46:BK:95:THR:HA	1.95	0.47
2:A8:188:G:C6	2:A8:189:G:C4	3.02	0.47
2:A8:190:A:N6	2:A8:191:A:C6	2.83	0.47
2:A8:327:G:C2	2:A8:336:C:C2	3.03	0.47
2:A8:374:A:C2	2:A8:401:A:C4	3.03	0.47
2:A8:439:A:C5	2:A8:440:C:C5	3.03	0.47
2:A8:494:G:H5'	23:AS:8:ARG:H	1.79	0.47
2:A8:813:U:C2	2:A8:1195:G:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:869:G:C6	2:A8:870:U:C4	3.02	0.47
2:A8:1268:A:C6	2:A8:2013:A:C8	3.02	0.47
2:A8:1279:G:C4'	18:AN:31:HIS:CE1	2.98	0.47
2:A8:1319:C:C2	2:A8:1334:G:C2	3.02	0.47
2:A8:1408:G:H22	2:A8:1595:C:H1'	1.80	0.47
2:A8:1434:A:H62	2:A8:1558:C:H42	1.61	0.47
2:A8:1965:C:H3'	2:A8:1966:A:H2'	1.97	0.47
2:A8:2218:G:N2	2:A8:2219:U:H1'	2.29	0.47
2:A8:2224:G:H4'	2:A8:2226:C:C2	2.49	0.47
2:A8:2393:U:H2'	2:A8:2394:C:C6	2.49	0.47
2:A8:2571:U:C4	2:A8:2574:G:C8	3.02	0.47
2:A8:2574:G:C6	2:A8:2575:C:C4	3.02	0.47
11:AG:22:VAL:HG13	11:AG:36:LEU:HB3	1.97	0.47
12:AH:97:ARG:HH12	12:AH:111:ALA:HB1	1.80	0.47
15:AK:23:VAL:HA	15:AK:38:ILE:HG22	1.96	0.47
20:AP:23:ASP:HA	20:AP:88:ARG:HA	1.96	0.47
36:BA:239:U:H5''	36:BA:239:U:H6	1.79	0.47
36:BA:246:A:C8	36:BA:279:A:C2	3.03	0.47
36:BA:246:A:C5	36:BA:282:A:C5	3.03	0.47
36:BA:424:G:C2	36:BA:425:G:C4	3.02	0.47
36:BA:468:A:C6	36:BA:469:C:C4	3.02	0.47
36:BA:483:C:C4	36:BA:484:G:C5	3.03	0.47
36:BA:687:A:H1'	36:BA:700:G:N2	2.29	0.47
36:BA:724:G:C2	36:BA:725:G:C4	3.03	0.47
36:BA:892:A:C5	36:BA:907:A:C8	3.03	0.47
36:BA:1074:G:C5	36:BA:1075:U:C4	3.03	0.47
36:BA:1160:G:C6	36:BA:1161:C:C4	3.02	0.47
38:BC:186:SER:HB2	38:BC:197:VAL:HG12	1.95	0.47
1:A7:42:C:C5	1:A7:43:C:C6	3.03	0.47
2:A8:9:G:H1'	2:A8:2895:G:C2	2.50	0.47
2:A8:71:A:N3	2:A8:114:U:H1'	2.29	0.47
2:A8:99:U:H4'	2:A8:100:U:C2	2.50	0.47
2:A8:244:A:H1'	2:A8:255:A:C6	2.49	0.47
2:A8:278:A:H1'	2:A8:362:A:C2	2.50	0.47
2:A8:291:G:C2	2:A8:350:G:C5	3.02	0.47
2:A8:320:A:H62	9:AE:132:LYS:HG2	1.79	0.47
2:A8:415:A:H4'	2:A8:1865:U:H4'	1.96	0.47
2:A8:429:A:C2	2:A8:430:A:N1	2.83	0.47
2:A8:535:G:C2	2:A8:536:G:H1'	2.49	0.47
2:A8:581:C:H2'	2:A8:582:A:C8	2.50	0.47
2:A8:599:A:C2	2:A8:659:G:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:705:A:C2	2:A8:706:A:C4	3.02	0.47
2:A8:729:G:H21	7:A6:10:PRO:HB2	1.79	0.47
2:A8:765:C:C4	2:A8:766:U:C4	3.02	0.47
2:A8:769:U:O2	2:A8:1379:U:H1'	2.15	0.47
2:A8:861:A:C6	2:A8:862:G:C4	3.03	0.47
2:A8:967:U:H2'	2:A8:968:C:H6	1.80	0.47
2:A8:1022:G:H1'	2:A8:1024:G:C6	2.50	0.47
2:A8:1129:A:H1'	2:A8:2516:A:H1'	1.96	0.47
2:A8:1196:C:H2'	2:A8:1197:G:O4'	2.13	0.47
2:A8:1276:A:C4	2:A8:1295:C:C2	3.03	0.47
2:A8:1326:U:C2	2:A8:1327:A:C8	3.02	0.47
2:A8:1608:A:C5	2:A8:1611:C:C6	3.03	0.47
2:A8:1692:U:O5'	2:A8:1692:U:C6	2.67	0.47
2:A8:1750:G:H21	2:A8:2860:A:H1'	1.80	0.47
2:A8:1831:G:C5	2:A8:1832:C:C4	3.02	0.47
2:A8:1838:C:C5	2:A8:1899:A:C6	3.03	0.47
2:A8:1858:A:C5	2:A8:1885:A:C8	3.02	0.47
2:A8:1873:G:C8	2:A8:1873:G:O5'	2.68	0.47
2:A8:1941:C:C4	2:A8:1942:C:N3	2.82	0.47
2:A8:1995:U:H2'	2:A8:1996:C:C6	2.50	0.47
2:A8:2064:C:H1'	2:A8:2450:A:C2	2.50	0.47
2:A8:2081:U:C2	2:A8:2237:G:N2	2.83	0.47
2:A8:2241:A:H2'	2:A8:2242:G:C8	2.49	0.47
2:A8:2284:A:H1'	2:A8:2325:G:N1	2.30	0.47
2:A8:2427:C:H5'	2:A8:2429:G:H5'	1.96	0.47
2:A8:2519:U:H4'	2:A8:2567:G:C2	2.49	0.47
2:A8:2596:U:C5	2:A8:2597:G:C6	3.02	0.47
2:A8:2677:G:C6	2:A8:2678:C:C4	3.03	0.47
2:A8:2711:A:C5	2:A8:2714:G:C8	3.02	0.47
2:A8:2723:C:H2'	2:A8:2724:U:O4'	2.14	0.47
2:A8:2740:A:C6	2:A8:2764:A:C8	3.03	0.47
19:AO:40:ILE:HG22	19:AO:44:GLY:HA2	1.96	0.47
27:AW:46:ALA:H	27:AW:79:ILE:HG12	1.79	0.47
32:A1:47:ILE:HD12	32:A1:49:LYS:HD3	1.97	0.47
36:BA:54:C:C2	36:BA:352:C:N4	2.83	0.47
36:BA:71:A:C8	36:BA:100:G:C4	3.03	0.47
36:BA:94:G:C2	36:BA:98:A:C2	3.02	0.47
36:BA:122:G:C6	36:BA:123:U:C4	3.02	0.47
36:BA:263:A:H3'	36:BA:263:A:C8	2.49	0.47
36:BA:525:C:C4	36:BA:526:C:C4	3.01	0.47
36:BA:539:A:C6	36:BA:540:G:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:708:C:H2'	36:BA:709:U:C6	2.49	0.47
36:BA:778:G:C4	36:BA:779:C:C6	3.03	0.47
36:BA:781:A:C6	36:BA:782:A:H1'	2.50	0.47
36:BA:1005:A:C6	36:BA:1006:G:H1'	2.49	0.47
36:BA:1226:C:H5'	48:BM:94:LEU:HD11	1.96	0.47
36:BA:1258:G:C4	36:BA:1259:C:C5	3.03	0.47
39:BD:112:GLU:HG3	39:BD:153:ARG:HH11	1.79	0.47
41:BF:3:HIS:CB	41:BF:96:VAL:H	2.27	0.47
48:BM:47:LEU:HG	48:BM:48:SER:H	1.79	0.47
1:A7:20:G:C2	1:A7:64:G:C4	3.03	0.47
1:A7:22:U:H2'	1:A7:23:G:C8	2.49	0.47
1:A7:24:G:C8	1:A7:56:G:C4	3.02	0.47
2:A8:26:G:C2'	2:A8:514:A:H61	2.28	0.47
2:A8:197:A:C2	2:A8:198:C:H1'	2.49	0.47
2:A8:261:G:C8	2:A8:261:G:H5''	2.49	0.47
2:A8:301:G:C6	2:A8:317:G:C6	3.02	0.47
2:A8:704:G:C6	2:A8:726:G:C4	3.02	0.47
2:A8:759:G:C6	2:A8:760:G:C5	3.03	0.47
2:A8:808:G:H4'	2:A8:2502:G:N1	2.26	0.47
2:A8:861:A:H3'	2:A8:862:G:H8	1.80	0.47
2:A8:1197:G:C6	2:A8:1198:U:C4	3.02	0.47
2:A8:1223:G:C4	2:A8:1227:G:C2	3.02	0.47
2:A8:1441:G:C2	2:A8:1551:A:N3	2.82	0.47
2:A8:1480:C:H2'	2:A8:1481:U:C6	2.49	0.47
2:A8:1648:U:C2	2:A8:2010:G:C2	3.03	0.47
2:A8:1770:G:C2	2:A8:1983:G:C4	3.03	0.47
2:A8:1802:A:H2'	2:A8:1803:A:C8	2.50	0.47
2:A8:1871:A:C5	2:A8:1872:A:C6	3.03	0.47
2:A8:1927:A:H2'	2:A8:1928:A:C8	2.50	0.47
2:A8:2057:G:C6	2:A8:2058:A:C5	3.03	0.47
2:A8:2098:U:C4	2:A8:2099:U:C4	3.02	0.47
2:A8:2261:C:C2	2:A8:2280:G:C2	3.03	0.47
2:A8:2335:A:C4	2:A8:2337:G:C8	3.03	0.47
2:A8:2482:A:C8	2:A8:2482:A:O5'	2.68	0.47
2:A8:2482:A:H3'	2:A8:2483:C:C6	2.50	0.47
2:A8:2709:G:C6	2:A8:2710:C:C4	3.03	0.47
2:A8:2734:A:H2'	2:A8:2735:G:H5'	1.96	0.47
2:A8:2850:A:C6	2:A8:2851:A:C6	3.02	0.47
6:A5:106:LYS:HZ1	6:A5:108:GLU:CG	2.28	0.47
10:AF:68:LYS:HB3	10:AF:70:ARG:HH11	1.80	0.47
10:AF:71:LYS:HB2	10:AF:78:ILE:HG21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AJ:35:ARG:HH12	14:AJ:52:ASP:CG	2.22	0.47
19:AO:41:ALA:HB3	19:AO:44:GLY:H	1.80	0.47
27:AW:76:ARG:HD2	27:AW:78:PHE:CZ	2.50	0.47
36:BA:441:A:C5	36:BA:442:G:C8	3.03	0.47
36:BA:676:A:H1'	46:BK:116:PRO:HB3	1.97	0.47
36:BA:704:A:N6	36:BA:705:G:C5	2.82	0.47
36:BA:766:A:C6	36:BA:767:A:C4	3.03	0.47
36:BA:925:G:C2	36:BA:1392:G:C2	3.03	0.47
36:BA:1426:G:C4	36:BA:1427:C:C6	3.03	0.47
36:BA:1438:G:H2'	36:BA:1439:G:C8	2.50	0.47
36:BA:1447:A:H5'	36:BA:1448:C:C6	2.50	0.47
36:BA:1458:G:C6	36:BA:1459:G:C6	3.03	0.47
47:BL:82:ARG:HH21	47:BL:85:ARG:H	1.62	0.47
54:BS:15:LEU:HD12	54:BS:18:VAL:HB	1.96	0.47
1:A7:62:C:N3	1:A7:63:C:C5	2.83	0.47
1:A7:104:A:H4'	26:AV:92:VAL:HG21	1.97	0.47
2:A8:2:G:C6	2:A8:3:U:C4	3.03	0.47
2:A8:137:U:C4	2:A8:138:U:C4	3.02	0.47
2:A8:155:A:C2	2:A8:156:A:C4	3.03	0.47
2:A8:244:A:C4	2:A8:255:A:C5	3.02	0.47
2:A8:277:G:C8	2:A8:361:G:O6	2.68	0.47
2:A8:493:G:H21	23:AS:50:VAL:HG12	1.79	0.47
2:A8:565:C:H5''	22:AR:82:HIS:CE1	2.50	0.47
2:A8:579:G:C5	2:A8:580:U:C5	3.03	0.47
2:A8:590:A:C5	2:A8:668:A:C2	3.03	0.47
2:A8:668:A:H2'	2:A8:670:A:H62	1.79	0.47
2:A8:781:A:C6	2:A8:1777:U:H5'	2.49	0.47
2:A8:781:A:C5	2:A8:1777:U:H4'	2.50	0.47
2:A8:808:G:H2'	2:A8:809:G:C8	2.50	0.47
2:A8:878:A:C8	2:A8:878:A:O5'	2.68	0.47
2:A8:1023:U:C4	2:A8:1024:G:C4	3.03	0.47
2:A8:1385:A:C2	2:A8:1386:C:C2	3.03	0.47
2:A8:1437:C:O4'	2:A8:1515:A:C2	2.68	0.47
2:A8:1523:U:H3'	2:A8:1524:G:H8	1.80	0.47
2:A8:1605:C:C5	2:A8:1606:C:C4	3.03	0.47
2:A8:1838:C:C6	2:A8:1899:A:C6	3.03	0.47
2:A8:2002:G:H4'	18:AN:13:ASN:HD22	1.80	0.47
2:A8:2199:A:C8	2:A8:2200:C:C5	3.03	0.47
2:A8:2291:U:H5'	2:A8:2381:A:H1'	1.96	0.47
2:A8:2472:G:H1'	2:A8:2478:A:H61	1.80	0.47
15:AK:29:ARG:HH12	15:AK:31:TYR:C	2.23	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:AZ:15:ARG:NE	30:AZ:19:HIS:CD2	2.83	0.47
36:BA:232:G:C6	36:BA:233:C:C4	3.03	0.47
36:BA:299:G:C5	36:BA:300:A:C5	3.03	0.47
36:BA:567:G:C2	36:BA:568:G:H1'	2.50	0.47
36:BA:697:U:O2	36:BA:798:U:H1'	2.15	0.47
36:BA:814:A:C8	36:BA:816:A:C8	3.03	0.47
36:BA:946:A:C2	36:BA:1236:A:C2	3.03	0.47
36:BA:1158:C:O2	36:BA:1158:C:H3'	2.15	0.47
36:BA:1312:G:C2	36:BA:1326:U:C2	3.03	0.47
36:BA:1443:C:C4	36:BA:1444:U:C4	3.03	0.47
2:A8:32:C:C4	2:A8:33:C:C5	3.02	0.47
2:A8:42:A:C2	2:A8:438:G:C5	3.03	0.47
2:A8:136:G:N3	2:A8:144:A:C2	2.83	0.47
2:A8:140:C:H1'	2:A8:141:G:C2	2.49	0.47
2:A8:186:G:N1	2:A8:187:G:C5	2.83	0.47
2:A8:592:A:H1'	2:A8:666:A:C2	2.50	0.47
2:A8:663:G:C6	2:A8:664:G:C5	3.03	0.47
2:A8:742:A:C2	2:A8:756:A:C4	3.02	0.47
2:A8:757:G:C2	2:A8:758:C:O4'	2.68	0.47
2:A8:1049:C:H1'	2:A8:1113:U:H4'	1.97	0.47
2:A8:1222:U:H1'	2:A8:1228:G:N2	2.30	0.47
2:A8:1570:A:C6	2:A8:1571:A:C6	3.03	0.47
2:A8:1715:G:C2	2:A8:1743:G:C5	3.02	0.47
2:A8:1913:A:C2	36:BA:1492:A:H2'	2.50	0.47
2:A8:1916:A:H2'	2:A8:1917:U:C6	2.50	0.47
2:A8:1927:A:C6	2:A8:1928:A:C6	3.03	0.47
2:A8:1936:A:C2	2:A8:1943:U:O4	2.68	0.47
2:A8:2198:A:C5	12:AH:29:PHE:CD2	3.03	0.47
2:A8:2200:C:OP1	28:AX:35:HIS:CG	2.68	0.47
2:A8:2470:G:C6	2:A8:2471:A:C5	3.03	0.47
2:A8:2677:G:C2	2:A8:2731:G:C4	3.03	0.47
2:A8:2791:G:C2	2:A8:2792:A:C4	3.03	0.47
15:AK:12:ASN:HA	15:AK:99:PHE:CE2	2.49	0.47
28:AX:17:ARG:HH21	28:AX:21:LEU:C	2.23	0.47
30:AZ:10:ARG:HD3	30:AZ:53:MET:HA	1.96	0.47
36:BA:118:U:O2	36:BA:288:A:C4	2.67	0.47
36:BA:315:A:H4'	36:BA:353:A:C6	2.50	0.47
36:BA:588:G:C2	36:BA:589:U:C2	3.03	0.47
36:BA:629:A:C5	36:BA:630:A:C8	3.03	0.47
36:BA:686:U:O2	36:BA:687:A:C5	2.69	0.47
36:BA:706:A:C5	36:BA:707:U:C4	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:735:C:H2'	36:BA:736:C:C6	2.51	0.47
36:BA:1376:U:H2'	36:BA:1377:A:C8	2.50	0.47
43:BH:46:GLU:HB3	43:BH:61:THR:HB	1.97	0.47
43:BH:106:SER:H	43:BH:120:LEU:HB3	1.80	0.47
1:A7:9:G:C2	1:A7:10:G:C8	3.03	0.46
1:A7:10:G:C6	1:A7:11:C:C4	3.03	0.46
1:A7:14:U:H3'	1:A7:15:A:C5'	2.43	0.46
2:A8:89:A:H2'	2:A8:90:U:C6	2.50	0.46
2:A8:121:G:C2	2:A8:122:G:C4	3.03	0.46
2:A8:141:G:C5	2:A8:142:A:H1'	2.50	0.46
2:A8:317:G:C2	2:A8:318:C:C6	3.03	0.46
2:A8:571:U:C4	2:A8:2030:A:C6	3.03	0.46
2:A8:627:A:C8	16:AL:111:ILE:HD12	2.50	0.46
2:A8:859:G:C2	2:A8:2268:A:C2	3.03	0.46
2:A8:1009:A:H2'	2:A8:1010:A:C4	2.50	0.46
2:A8:1021:A:C3'	2:A8:1021:A:C8	2.98	0.46
2:A8:1133:A:C8	2:A8:2026:U:H4'	2.50	0.46
2:A8:1412:U:O2	2:A8:1591:A:C2	2.68	0.46
2:A8:1684:G:C5	2:A8:1685:C:C5	3.04	0.46
2:A8:1719:G:N2	2:A8:1742:U:H1'	2.30	0.46
2:A8:2123:G:C2	2:A8:2176:A:N3	2.83	0.46
2:A8:2331:G:C5	2:A8:2332:C:C5	3.04	0.46
2:A8:2418:A:H1'	32:A1:18:HIS:HA	1.95	0.46
2:A8:2488:G:C6	2:A8:2489:U:C4	3.02	0.46
2:A8:2536:G:H3'	2:A8:2537:U:C6	2.50	0.46
2:A8:2555:U:H6	2:A8:2556:C:C6	2.33	0.46
2:A8:2650:U:C2	2:A8:2671:G:N1	2.83	0.46
2:A8:2737:G:C2	2:A8:2768:U:C2	3.03	0.46
2:A8:2790:U:H5'	2:A8:2893:A:C8	2.49	0.46
2:A8:2808:G:N2	2:A8:2890:G:H3'	2.30	0.46
8:AD:55:LYS:HB3	8:AD:57:ALA:H	1.79	0.46
32:A1:12:SER:HA	32:A1:48:TYR:CE1	2.50	0.46
36:BA:57:G:C6	36:BA:58:C:C4	3.03	0.46
36:BA:267:C:C4	36:BA:268:U:C5	3.03	0.46
36:BA:321:A:H62	36:BA:328:C:H1'	1.80	0.46
36:BA:654:G:C4	36:BA:655:A:C8	3.03	0.46
36:BA:773:G:C6	36:BA:774:G:C5	3.03	0.46
36:BA:865:A:C6	36:BA:866:C:C4	3.04	0.46
36:BA:867:G:C6	36:BA:868:C:C4	3.03	0.46
36:BA:894:G:C2	36:BA:895:G:C4	3.02	0.46
36:BA:895:G:C6	36:BA:896:C:C4	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1055:A:C2	36:BA:1056:U:H1'	2.50	0.46
36:BA:1069:C:H5	36:BA:1094:G:C6	2.32	0.46
36:BA:1224:U:C5	36:BA:1322:C:O2	2.68	0.46
36:BA:1315:U:H2'	36:BA:1316:G:C8	2.50	0.46
36:BA:1422:G:N2	36:BA:1479:C:C2	2.83	0.46
36:BA:1523:G:C6	36:BA:1524:C:C4	3.03	0.46
46:BK:63:GLN:HG3	46:BK:94:SER:HB3	1.97	0.46
2:A8:28:A:H61	2:A8:512:G:H1'	1.80	0.46
2:A8:48:G:H1	2:A8:177:G:P	2.39	0.46
2:A8:273:G:C6	2:A8:274:C:C4	3.04	0.46
2:A8:693:A:C4'	2:A8:1354:A:H4'	2.45	0.46
2:A8:700:G:C6	2:A8:701:G:C5	3.03	0.46
2:A8:743:A:C2	2:A8:744:U:C2	3.03	0.46
2:A8:1022:G:N2	2:A8:1142:A:C2	2.79	0.46
2:A8:1624:U:O5'	2:A8:1624:U:C6	2.68	0.46
2:A8:1638:C:H5''	2:A8:2711:A:O4'	2.15	0.46
2:A8:1722:A:C8	2:A8:1739:A:C6	3.04	0.46
2:A8:1815:A:O4'	2:A8:1817:G:C8	2.69	0.46
2:A8:2082:A:H3'	2:A8:2083:G:C8	2.51	0.46
2:A8:2256:G:C5	2:A8:2257:U:C4	3.03	0.46
2:A8:2303:G:C4	2:A8:2314:A:C2	3.03	0.46
2:A8:2423:U:C2	2:A8:2425:A:C6	3.03	0.46
2:A8:2718:G:C6	2:A8:2719:G:C4	3.03	0.46
2:A8:2854:G:C4	2:A8:2864:G:C2	3.03	0.46
3:AA:264:ILE:H	3:AA:264:ILE:HD12	1.78	0.46
8:AD:116:LYS:HA	18:AN:3:HIS:CE1	2.51	0.46
12:AH:121:VAL:HA	12:AH:128:HIS:CG	2.51	0.46
35:A4:25:VAL:HG12	35:A4:35:GLN:OE1	2.15	0.46
36:BA:27:G:C6	36:BA:28:A:C5	3.03	0.46
36:BA:256:U:H3	36:BA:270:A:H61	1.63	0.46
36:BA:327:A:C6	36:BA:329:A:C6	3.03	0.46
36:BA:582:C:C2	36:BA:760:G:N1	2.83	0.46
36:BA:617:G:C2	36:BA:618:C:C5	3.03	0.46
36:BA:731:G:C6	36:BA:732:C:C4	3.03	0.46
36:BA:757:U:H2'	36:BA:758:C:C6	2.49	0.46
36:BA:774:G:N2	36:BA:806:C:C2	2.84	0.46
36:BA:1179:A:C6	36:BA:1180:A:C6	3.03	0.46
36:BA:1422:G:C2	36:BA:1423:G:C4	3.04	0.46
36:BA:1476:A:C6	36:BA:1477:U:C4	3.03	0.46
2:A8:42:A:C2	2:A8:438:G:C4	3.03	0.46
2:A8:50:U:C5'	2:A8:51:G:C8	2.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:223:A:C6	2:A8:422:A:C6	3.04	0.46
2:A8:629:G:P	34:A3:17:GLY:H	2.39	0.46
2:A8:633:A:H1'	2:A8:2403:C:H4'	1.97	0.46
2:A8:733:G:H3'	2:A8:761:A:H61	1.79	0.46
2:A8:854:C:C2	2:A8:924:G:C2	3.02	0.46
2:A8:1213:A:H1'	2:A8:1237:A:C2	2.51	0.46
2:A8:1275:A:H61	18:AN:22:ARG:HH12	1.62	0.46
2:A8:1451:C:C5	2:A8:1458:U:N1	2.84	0.46
2:A8:1561:C:C4	2:A8:1562:U:C4	3.03	0.46
2:A8:1623:G:C2	2:A8:1624:U:C6	3.03	0.46
2:A8:1688:U:H2'	2:A8:1698:A:C6	2.50	0.46
2:A8:2029:G:N1	2:A8:2033:A:C8	2.83	0.46
2:A8:2095:A:N1	2:A8:2195:U:C2	2.84	0.46
2:A8:2120:G:N1	2:A8:2178:C:H1'	2.31	0.46
2:A8:2198:A:C4	2:A8:2225:A:N6	2.84	0.46
2:A8:2399:G:C2	2:A8:2400:G:C4	3.03	0.46
2:A8:2472:G:C6	2:A8:2475:C:C6	3.03	0.46
2:A8:2569:G:C6	2:A8:2570:G:C5	3.03	0.46
2:A8:2597:G:H2'	2:A8:2598:A:C8	2.50	0.46
2:A8:2745:C:H3'	2:A8:2746:U:C5	2.50	0.46
2:A8:2776:A:N1	2:A8:2782:G:H1'	2.30	0.46
7:A6:167:ASP:H	7:A6:171:VAL:HG12	1.80	0.46
7:A6:231:HIS:CD2	7:A6:239:PHE:CE2	3.04	0.46
13:AI:4:VAL:HG12	13:AI:5:GLN:N	2.29	0.46
14:AJ:57:LEU:HD12	14:AJ:125:TYR:HB2	1.98	0.46
25:AU:2:ALA:HB3	25:AU:84:PHE:CE2	2.50	0.46
36:BA:21:G:H2'	36:BA:22:G:C8	2.50	0.46
36:BA:156:C:C6	36:BA:156:C:H5''	2.51	0.46
36:BA:544:G:C6	36:BA:545:C:C4	3.04	0.46
36:BA:570:G:C6	36:BA:873:A:C2	3.03	0.46
36:BA:665:A:N3	36:BA:732:C:H2'	2.30	0.46
36:BA:722:G:C5	36:BA:724:G:C4	3.02	0.46
36:BA:766:A:C6	36:BA:814:A:C4	3.03	0.46
36:BA:1072:G:C5	36:BA:1073:U:C5	3.04	0.46
36:BA:1176:A:C6	36:BA:1177:G:C6	3.03	0.46
36:BA:1385:G:C2	36:BA:1386:G:C4	3.03	0.46
36:BA:1513:A:H1'	36:BA:1523:G:C2	2.50	0.46
1:A7:37:C:C4	1:A7:38:C:C4	3.03	0.46
1:A7:47:C:C5	1:A7:48:U:C5	3.04	0.46
2:A8:65:U:C6	2:A8:65:U:H3'	2.51	0.46
2:A8:412:A:C6	2:A8:413:C:C2	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:414:C:H4'	2:A8:1879:C:O2	2.16	0.46
2:A8:498:G:C2	2:A8:499:U:C6	3.03	0.46
2:A8:711:G:C6	2:A8:721:A:C6	3.04	0.46
2:A8:738:G:C6	2:A8:739:A:C6	3.03	0.46
2:A8:790:U:C5	2:A8:795:C:H5'	2.51	0.46
2:A8:1275:A:H2'	2:A8:1275:A:N3	2.30	0.46
2:A8:1342:A:C6	2:A8:1397:U:C4	3.03	0.46
2:A8:1358:G:N2	2:A8:1372:U:C6	2.84	0.46
2:A8:1365:A:H3'	2:A8:1366:A:H8	1.80	0.46
2:A8:1374:G:C6	2:A8:1375:U:C4	3.03	0.46
2:A8:1407:G:N2	2:A8:1408:G:C4	2.83	0.46
2:A8:1627:G:C5	2:A8:1640:A:C5	3.03	0.46
2:A8:1659:G:C4	2:A8:2002:G:C2	3.03	0.46
2:A8:1694:C:H4'	2:A8:1695:G:H5''	1.97	0.46
2:A8:1702:G:H4'	36:BA:1474:U:H5'	1.98	0.46
2:A8:1910:G:C6	2:A8:1911:U:C4	3.03	0.46
2:A8:2073:C:C2	2:A8:2437:G:C2	3.03	0.46
2:A8:2162:G:H3'	2:A8:2164:C:N4	2.31	0.46
2:A8:2235:G:H2'	2:A8:2236:U:C6	2.50	0.46
2:A8:2270:A:C6	2:A8:2271:G:H1'	2.50	0.46
2:A8:2516:A:C2	2:A8:2569:G:C2	3.03	0.46
2:A8:2592:G:C5	2:A8:2593:U:C6	3.04	0.46
2:A8:2597:G:C5	2:A8:2598:A:C6	3.03	0.46
2:A8:2733:A:H61	2:A8:2770:G:H2'	1.80	0.46
36:BA:44:A:C4	36:BA:399:G:C2	3.03	0.46
36:BA:193:C:C2	36:BA:194:C:C5	3.03	0.46
36:BA:327:A:C1'	36:BA:329:A:C8	2.97	0.46
36:BA:338:A:C6	36:BA:339:C:C4	3.04	0.46
36:BA:463:U:H3'	36:BA:464:U:C6	2.51	0.46
36:BA:666:G:C6	36:BA:741:G:C6	3.03	0.46
36:BA:838:G:N2	36:BA:849:G:H1'	2.31	0.46
36:BA:954:G:C5	36:BA:955:U:C6	3.02	0.46
36:BA:1043:G:H2'	36:BA:1044:A:C8	2.51	0.46
36:BA:1109:C:C4	36:BA:1110:A:C5	3.04	0.46
36:BA:1499:A:H2'	36:BA:1500:A:C8	2.50	0.46
1:A7:40:U:C2	1:A7:43:C:H3'	2.51	0.46
2:A8:23:G:C2	2:A8:518:G:C4	3.04	0.46
2:A8:185:G:C6	2:A8:186:G:C5	3.04	0.46
2:A8:221:A:C4	2:A8:266:G:C8	3.04	0.46
2:A8:424:G:C5	2:A8:425:G:C8	3.04	0.46
2:A8:499:U:O5'	2:A8:499:U:H6	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:565:C:C4'	2:A8:1253:A:C6	2.99	0.46
2:A8:618:G:C5	2:A8:619:G:C8	3.03	0.46
2:A8:762:U:C2	2:A8:763:G:C6	3.04	0.46
2:A8:852:U:C2	2:A8:853:C:C6	3.03	0.46
2:A8:1341:G:H5''	2:A8:1602:U:C4	2.51	0.46
2:A8:1459:G:C8	2:A8:1461:C:C5	3.03	0.46
2:A8:1721:G:C2	2:A8:1738:G:C2	3.04	0.46
2:A8:1734:G:N2	2:A8:1735:A:H1'	2.31	0.46
2:A8:1957:C:H4'	2:A8:1985:C:O4'	2.15	0.46
2:A8:1980:G:N2	2:A8:1982:U:H1'	2.30	0.46
2:A8:2107:G:C5	2:A8:2183:A:C2	3.03	0.46
2:A8:2171:A:H1'	2:A8:2172:U:C6	2.51	0.46
2:A8:2274:A:N1	2:A8:2276:G:H1'	2.30	0.46
2:A8:2597:G:C4	2:A8:2598:A:C5	3.03	0.46
2:A8:2603:G:C5	2:A8:2604:U:C5	3.03	0.46
2:A8:2637:U:C4	2:A8:2638:G:C5	3.04	0.46
2:A8:2660:A:N7	2:A8:2661:G:C6	2.83	0.46
2:A8:2675:A:N7	2:A8:2676:C:C5	2.84	0.46
2:A8:2847:U:C4	2:A8:2848:G:C5	3.04	0.46
22:AR:32:THR:HA	22:AR:61:ALA:O	2.15	0.46
36:BA:71:A:C2	36:BA:72:A:N9	2.83	0.46
36:BA:195:A:C2	36:BA:223:A:O4'	2.68	0.46
36:BA:242:G:N2	36:BA:245:U:C6	2.83	0.46
36:BA:296:U:H2'	36:BA:297:G:C8	2.50	0.46
36:BA:1086:U:H3	36:BA:1099:G:H22	1.63	0.46
36:BA:1258:G:H2'	36:BA:1259:C:C6	2.50	0.46
36:BA:1284:C:H3'	36:BA:1285:A:H5''	1.98	0.46
36:BA:1526:G:C6	36:BA:1527:U:C4	3.03	0.46
39:BD:119:HIS:CE1	39:BD:121:ALA:HB2	2.50	0.46
44:BI:80:HIS:CE1	44:BI:102:PHE:HA	2.50	0.46
1:A7:24:G:C5	1:A7:56:G:C2	3.04	0.46
1:A7:92:C:N3	1:A7:93:C:C5	2.84	0.46
1:A7:100:G:C6	1:A7:101:A:C4	3.04	0.46
1:A7:109:A:C2	1:A7:110:C:C2	3.03	0.46
2:A8:247:G:N2	2:A8:250:G:H5''	2.31	0.46
2:A8:248:G:C8	2:A8:250:G:H1'	2.50	0.46
2:A8:267:C:C6	2:A8:267:C:H5''	2.51	0.46
2:A8:282:A:C2	2:A8:283:G:C4	3.04	0.46
2:A8:433:C:H2'	2:A8:434:U:C6	2.50	0.46
2:A8:455:C:C5	2:A8:472:A:N7	2.84	0.46
2:A8:618:G:C6	2:A8:619:G:C5	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:855:G:H1'	2:A8:923:G:N2	2.31	0.46
2:A8:856:G:C2	2:A8:922:C:C2	3.03	0.46
2:A8:877:A:C6	2:A8:901:C:N3	2.83	0.46
2:A8:879:G:H1	2:A8:899:A:H1'	1.81	0.46
2:A8:967:U:H2'	2:A8:968:C:C6	2.50	0.46
2:A8:976:G:C8	2:A8:976:G:O5'	2.68	0.46
2:A8:978:G:C4	2:A8:979:A:C8	3.04	0.46
2:A8:1087:G:C4	2:A8:1103:A:C2	3.04	0.46
2:A8:1230:A:N1	2:A8:1231:U:C2	2.83	0.46
2:A8:1473:G:C5	2:A8:1519:G:N1	2.84	0.46
2:A8:1492:G:N2	2:A8:1499:C:C2	2.84	0.46
2:A8:1735:A:C2	2:A8:1736:U:H1'	2.51	0.46
2:A8:1931:U:C5	2:A8:1968:G:C2	3.02	0.46
2:A8:2347:C:H5	2:A8:2382:G:C8	2.33	0.46
2:A8:2371:G:H1'	32:A1:38:PHE:CE1	2.50	0.46
2:A8:2596:U:H2'	2:A8:2597:G:O4'	2.15	0.46
2:A8:2810:A:C8	2:A8:2811:G:C8	3.04	0.46
2:A8:2869:G:C5	2:A8:2870:C:C5	3.04	0.46
6:A5:27:ILE:HG21	6:A5:185:LEU:HB2	1.98	0.46
36:BA:16:A:H5''	40:BE:19:ARG:HH12	1.80	0.46
36:BA:97:G:C6	36:BA:98:A:H1'	2.50	0.46
36:BA:1014:A:C2	36:BA:1219:A:H1'	2.51	0.46
36:BA:1133:G:N1	36:BA:1142:G:C6	2.83	0.46
36:BA:1413:A:C2	36:BA:1414:U:C6	3.03	0.46
36:BA:1436:U:H2'	36:BA:1437:A:C8	2.51	0.46
1:A7:13:G:C8	1:A7:70:C:H4'	2.50	0.46
2:A8:49:A:C5	2:A8:177:G:C5	3.04	0.46
2:A8:190:A:C6	2:A8:207:A:H1'	2.51	0.46
2:A8:644:A:C8	2:A8:644:A:H3'	2.51	0.46
2:A8:776:G:H5''	2:A8:777:G:C8	2.50	0.46
2:A8:839:U:H2'	2:A8:840:C:C6	2.50	0.46
2:A8:1429:G:N2	2:A8:1566:A:C2	2.82	0.46
2:A8:1558:C:C1'	2:A8:1560:G:C8	2.98	0.46
2:A8:1770:G:C4	2:A8:1983:G:C2	3.04	0.46
2:A8:1858:A:C4	2:A8:1859:U:C6	3.04	0.46
2:A8:1896:G:C5	2:A8:1897:G:C8	3.04	0.46
2:A8:1906:G:H5'	2:A8:1929:G:O2'	2.16	0.46
2:A8:2194:U:C2	2:A8:2195:U:C6	3.03	0.46
2:A8:2341:G:C5	2:A8:2342:C:C4	3.04	0.46
2:A8:2410:G:C8	2:A8:2410:G:H5''	2.50	0.46
2:A8:2839:G:C4	2:A8:2840:C:C6	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:1:MET:HG2	26:AV:61:LEU:HA	1.98	0.46
36:BA:152:A:OP2	36:BA:153:C:C5	2.69	0.46
36:BA:195:A:C2	36:BA:196:A:C2	3.04	0.46
36:BA:302:G:H2'	36:BA:303:A:O4'	2.15	0.46
36:BA:600:A:C2	36:BA:639:G:N3	2.84	0.46
36:BA:756:C:O5'	36:BA:756:C:C6	2.69	0.46
36:BA:771:G:C5	36:BA:809:G:C6	3.04	0.46
36:BA:809:G:C6	36:BA:810:C:C4	3.03	0.46
36:BA:935:A:H1'	36:BA:1384:C:C2	2.50	0.46
36:BA:1127:G:C5	36:BA:1128:C:C5	3.04	0.46
36:BA:1258:G:C2	36:BA:1259:C:C4	3.04	0.46
36:BA:1425:U:C2	36:BA:1476:A:C2	3.03	0.46
54:BS:62:THR:H	54:BS:65:MET:HB2	1.81	0.46
1:A7:30:C:C6	1:A7:31:C:C5	3.04	0.46
2:A8:19:A:H1'	2:A8:554:U:H5'	1.98	0.46
2:A8:299:A:H1'	2:A8:322:A:C6	2.49	0.46
2:A8:532:A:C8	2:A8:2021:C:C2	3.03	0.46
2:A8:538:A:C2	2:A8:539:G:H1'	2.51	0.46
2:A8:621:A:C6	2:A8:622:G:H1'	2.50	0.46
2:A8:818:G:H3'	2:A8:1187:G:H22	1.79	0.46
2:A8:858:G:N1	2:A8:2268:A:C2	2.84	0.46
2:A8:906:U:H4'	17:AM:27:SER:HB2	1.97	0.46
2:A8:1107:G:C5	2:A8:1108:U:C5	3.04	0.46
2:A8:1129:A:H4'	2:A8:2516:A:H4'	1.97	0.46
2:A8:1579:A:C6	2:A8:1580:A:C5	3.04	0.46
2:A8:1770:G:C6	2:A8:1983:G:C6	3.04	0.46
2:A8:1807:G:C2	2:A8:1811:G:C6	3.04	0.46
2:A8:1872:A:C2	2:A8:1873:G:H1'	2.51	0.46
2:A8:1907:G:C6	2:A8:1908:C:C5	3.03	0.46
2:A8:2099:U:O2	2:A8:2191:A:C2	2.69	0.46
2:A8:2298:A:C2	2:A8:2299:U:H1'	2.50	0.46
2:A8:2345:G:H1'	2:A8:2382:G:H5'	1.97	0.46
2:A8:2472:G:C5	2:A8:2475:C:C5	3.02	0.46
2:A8:2507:C:C5'	2:A8:2573:C:H42	2.29	0.46
2:A8:2723:C:C4	2:A8:2724:U:C4	3.04	0.46
2:A8:2821:A:H61	18:AN:2:ARG:HH22	1.63	0.46
11:AG:22:VAL:HA	11:AG:36:LEU:HB3	1.98	0.46
17:AM:114:ARG:HG2	17:AM:114:ARG:HH21	1.81	0.46
18:AN:102:PHE:N	18:AN:110:MET:H	2.12	0.46
35:A4:27:CYS:H	35:A4:33:HIS:HB3	1.81	0.46
36:BA:352:C:H42	36:BA:357:G:H22	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:369:G:C2	36:BA:393:A:C4	3.04	0.46
36:BA:543:U:H2'	36:BA:544:G:C8	2.51	0.46
36:BA:572:A:C2	36:BA:864:A:C2	3.04	0.46
36:BA:600:A:C5	36:BA:639:G:C2	3.03	0.46
36:BA:604:G:C2	36:BA:635:A:N3	2.84	0.46
36:BA:774:G:C6	36:BA:775:G:C5	3.04	0.46
36:BA:788:U:C4	36:BA:789:U:C4	3.03	0.46
36:BA:796:C:H5'	46:BK:128:VAL:H	1.81	0.46
36:BA:1017:U:H2'	36:BA:1018:G:C8	2.51	0.46
36:BA:1215:G:H2'	36:BA:1216:A:H5'	1.98	0.46
36:BA:1304:G:C5	36:BA:1305:G:C6	3.04	0.46
36:BA:1415:G:C4	36:BA:1486:G:N1	2.84	0.46
36:BA:1459:G:C5	36:BA:1460:C:C5	3.03	0.46
2:A8:21:A:C5	2:A8:22:C:C5	3.03	0.46
2:A8:160:A:C5	2:A8:167:A:C2	3.04	0.46
2:A8:282:A:C6	2:A8:283:G:C6	3.03	0.46
2:A8:299:A:H2'	2:A8:300:A:C8	2.51	0.46
2:A8:305:C:C2	2:A8:313:G:C2	3.03	0.46
2:A8:487:C:H3'	2:A8:488:G:H8	1.79	0.46
2:A8:579:G:H4'	2:A8:2017:U:H2'	1.97	0.46
2:A8:598:U:H4'	16:AL:11:GLY:H	1.81	0.46
2:A8:1004:U:C6	2:A8:1004:U:O5'	2.69	0.46
2:A8:1009:A:C2	2:A8:1010:A:C2	3.04	0.46
2:A8:1063:G:C6	2:A8:1064:C:C4	3.04	0.46
2:A8:1182:G:C6	2:A8:1183:U:N3	2.83	0.46
2:A8:1431:A:C2	2:A8:1563:U:C2	3.04	0.46
2:A8:1446:C:H2'	2:A8:1447:C:H6	1.80	0.46
2:A8:1980:G:C2	2:A8:1982:U:C2	3.04	0.46
2:A8:2051:A:N6	2:A8:2614:A:H2'	2.31	0.46
18:AN:14:SER:HA	18:AN:17:ARG:CZ	2.46	0.46
20:AP:21:PRO:HA	20:AP:46:VAL:HB	1.98	0.46
26:AV:30:ILE:O	26:AV:37:PRO:HA	2.16	0.46
34:A3:13:PHE:CD1	34:A3:21:PHE:HB3	2.51	0.46
36:BA:72:A:C4	36:BA:73:C:C6	3.04	0.46
36:BA:212:G:C6	36:BA:213:G:C5	3.04	0.46
36:BA:228:A:H4'	51:BP:63:GLN:HE21	1.81	0.46
36:BA:285:C:C6	36:BA:285:C:O5'	2.69	0.46
36:BA:287:U:H2'	36:BA:288:A:C8	2.51	0.46
36:BA:563:A:N3	36:BA:563:A:H2'	2.30	0.46
36:BA:623:C:C2	36:BA:624:C:C6	3.04	0.46
36:BA:801:U:C2	36:BA:802:A:C8	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:828:U:C5	36:BA:859:G:C5	3.04	0.46
36:BA:838:G:N2	36:BA:839:C:H1'	2.31	0.46
36:BA:908:A:C8	36:BA:908:A:O5'	2.69	0.46
36:BA:1056:U:O4	36:BA:1200:C:C2	2.68	0.46
36:BA:1124:G:H2'	36:BA:1145:A:C5	2.50	0.46
36:BA:1465:A:H2'	36:BA:1466:C:C6	2.51	0.46
36:BA:1526:G:OP1	56:BU:37:TYR:CD1	2.69	0.46
1:A7:10:G:C5	1:A7:11:C:C5	3.03	0.46
1:A7:13:G:C5	1:A7:70:C:H4'	2.51	0.46
1:A7:100:G:C6	1:A7:101:A:C5	3.04	0.46
2:A8:89:A:C5	2:A8:90:U:C4	3.04	0.46
2:A8:419:U:H2'	2:A8:420:C:C6	2.50	0.46
2:A8:570:G:C5	2:A8:2030:A:C6	3.04	0.46
2:A8:611:C:C2	2:A8:618:G:C2	3.03	0.46
2:A8:649:G:C5	2:A8:650:C:C4	3.04	0.46
2:A8:713:G:C5	2:A8:714:U:C4	3.04	0.46
2:A8:762:U:H4'	2:A8:763:G:O4'	2.16	0.46
2:A8:869:G:C2	2:A8:909:A:N1	2.84	0.46
2:A8:1041:G:C2	2:A8:1115:G:N1	2.84	0.46
2:A8:1266:G:C6	23:AS:99:ARG:CZ	2.99	0.46
2:A8:1308:A:C5	2:A8:1309:G:C4	3.03	0.46
2:A8:1550:C:C4	2:A8:1551:A:C5	3.04	0.46
2:A8:1653:G:C8	18:AN:8:ARG:HA	2.51	0.46
2:A8:1675:C:C5	8:AD:134:HIS:CE1	3.04	0.46
2:A8:1782:U:H3'	2:A8:1782:U:C6	2.51	0.46
2:A8:1798:U:H5	7:A6:270:ARG:HH22	1.64	0.46
2:A8:2011:U:C2	2:A8:2012:G:C8	3.04	0.46
2:A8:2045:C:C2	2:A8:2624:G:C2	3.03	0.46
2:A8:2405:G:N2	2:A8:2411:A:H3'	2.31	0.46
2:A8:2477:U:H5''	2:A8:2479:U:O4	2.16	0.46
2:A8:2543:G:H5'	2:A8:2543:G:H8	1.80	0.46
2:A8:2800:A:C4	2:A8:2801:G:H1'	2.51	0.46
2:A8:2885:G:C5	2:A8:2886:A:C2	3.04	0.46
23:AS:9:HIS:HA	23:AS:102:HIS:CE1	2.51	0.46
36:BA:52:C:C4	36:BA:53:A:C5	3.04	0.46
36:BA:324:G:N3	36:BA:326:G:C8	2.84	0.46
36:BA:413:G:O3'	36:BA:428:G:C2	2.69	0.46
36:BA:598:U:H4'	43:BH:85:TYR:CZ	2.51	0.46
36:BA:615:G:H21	51:BP:47:GLU:CB	2.29	0.46
36:BA:842:U:H3'	36:BA:843:U:H4'	1.97	0.46
36:BA:851:G:C5	36:BA:852:G:C8	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:885:G:C2	36:BA:886:G:C8	3.04	0.46
36:BA:890:G:C6	36:BA:906:A:C8	3.03	0.46
36:BA:949:A:C2	36:BA:950:U:C2	3.03	0.46
36:BA:1127:G:H1'	36:BA:1280:A:C5	2.51	0.46
36:BA:1419:G:C4	36:BA:1482:G:C2	3.04	0.46
36:BA:1451:U:H2'	36:BA:1453:G:C5	2.51	0.46
40:BE:43:GLY:HA2	40:BE:117:ALA:HA	1.97	0.46
41:BF:5:GLU:HG3	41:BF:63:ASN:H	1.80	0.46
45:BJ:10:LEU:HD13	45:BJ:21:ALA:HB3	1.98	0.46
1:A7:9:G:C6	1:A7:112:G:C6	3.02	0.45
2:A8:121:G:C2	2:A8:131:A:C4	3.04	0.45
2:A8:169:G:C5	2:A8:170:U:C5	3.05	0.45
2:A8:188:G:C2	2:A8:209:C:C2	3.04	0.45
2:A8:319:G:C6	2:A8:333:G:C2	3.05	0.45
2:A8:452:G:C6	2:A8:453:A:C6	3.04	0.45
2:A8:629:G:H5'	2:A8:651:G:C5'	2.46	0.45
2:A8:650:C:C5	2:A8:651:G:N2	2.84	0.45
2:A8:661:A:C2	2:A8:662:G:C4	3.04	0.45
2:A8:711:G:C6	2:A8:712:G:C5	3.03	0.45
2:A8:960:A:H4'	2:A8:2457:U:H5'	1.98	0.45
2:A8:1186:G:H2'	2:A8:1187:G:C8	2.51	0.45
2:A8:1242:U:H3'	2:A8:1243:C:C6	2.51	0.45
2:A8:1266:G:N2	2:A8:2012:G:H2'	2.31	0.45
2:A8:1308:A:H3'	2:A8:1309:G:H8	1.81	0.45
2:A8:1517:G:C2	2:A8:1732:C:C2	3.04	0.45
2:A8:1989:G:C2	2:A8:1990:C:H1'	2.51	0.45
2:A8:2119:A:C6	2:A8:2171:A:C5	3.04	0.45
2:A8:2207:C:H1'	2:A8:2218:G:N2	2.31	0.45
2:A8:2217:G:C6	2:A8:2218:G:C5	3.04	0.45
2:A8:2525:G:C4'	2:A8:2741:A:C2	2.98	0.45
2:A8:2564:A:H2'	2:A8:2565:A:C5	2.51	0.45
2:A8:2578:G:H4'	2:A8:2578:G:OP2	2.16	0.45
2:A8:2628:C:H1'	2:A8:2781:A:C5	2.50	0.45
2:A8:2713:U:C4	2:A8:2715:C:OP1	2.69	0.45
8:AD:146:ILE:HG13	8:AD:147:GLY:H	1.80	0.45
14:AJ:20:ALA:HB3	14:AJ:59:ALA:HA	1.98	0.45
36:BA:122:G:C5	36:BA:123:U:C5	3.04	0.45
36:BA:138:G:C6	36:BA:139:A:C5	3.04	0.45
36:BA:153:C:C4	36:BA:154:U:C5	3.04	0.45
36:BA:757:U:H5'	36:BA:823:C:H1'	1.98	0.45
36:BA:883:C:N4	47:BL:1:ALA:HB2	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1084:G:H2'	36:BA:1085:U:C6	2.51	0.45
36:BA:1112:C:C5	36:BA:1113:C:C5	3.04	0.45
36:BA:1125:U:C5	45:BJ:40:ILE:HG21	2.51	0.45
36:BA:1380:U:H1'	36:BA:1381:U:C5	2.51	0.45
43:BH:29:SER:H	43:BH:32:LYS:HD2	1.81	0.45
50:BO:55:LEU:O	50:BO:59:VAL:HG23	2.16	0.45
2:A8:204:A:OP1	2:A8:206:U:H1'	2.17	0.45
2:A8:307:G:C2	2:A8:310:A:C8	3.04	0.45
2:A8:319:G:C6	2:A8:320:A:C5	3.03	0.45
2:A8:332:A:C6	2:A8:335:C:C2	3.03	0.45
2:A8:415:A:C2	2:A8:416:U:N1	2.85	0.45
2:A8:475:C:C1'	2:A8:509:C:C2	2.98	0.45
2:A8:528:A:C2	2:A8:2043:C:O5'	2.69	0.45
2:A8:562:U:C4	2:A8:2036:C:H1'	2.51	0.45
2:A8:582:A:C2	2:A8:583:G:C4	3.04	0.45
2:A8:690:G:H4'	2:A8:780:G:H5''	1.98	0.45
2:A8:785:G:C5	2:A8:786:C:C5	3.04	0.45
2:A8:805:G:H21	2:A8:831:G:H1'	1.81	0.45
2:A8:852:U:H5''	30:AZ:45:GLY:HA3	1.98	0.45
2:A8:877:A:N1	2:A8:901:C:C2	2.84	0.45
2:A8:1021:A:C8	2:A8:1021:A:H3'	2.50	0.45
2:A8:1204:A:C5	2:A8:1206:G:C6	3.04	0.45
2:A8:1243:C:C2	2:A8:1244:A:C8	3.05	0.45
2:A8:1303:G:C6	2:A8:1304:A:C6	3.04	0.45
2:A8:1482:G:N2	2:A8:1483:G:C4	2.85	0.45
2:A8:1603:A:C6	2:A8:1604:C:C2	3.04	0.45
2:A8:1655:A:H61	2:A8:2005:A:H1'	1.82	0.45
2:A8:1682:G:C6	2:A8:1683:U:C4	3.04	0.45
2:A8:1684:G:C2	2:A8:1705:A:C2	3.04	0.45
2:A8:1770:G:C4	2:A8:1771:C:C6	3.04	0.45
2:A8:1823:G:C6	2:A8:1824:G:C5	3.04	0.45
2:A8:2156:G:H2'	2:A8:2157:G:H5''	1.98	0.45
2:A8:2218:G:C5	2:A8:2219:U:C4	3.04	0.45
2:A8:2284:A:C6	2:A8:2285:C:C5	3.04	0.45
2:A8:2327:A:C4	2:A8:2388:A:C2	3.04	0.45
17:AM:4:PRO:HD2	17:AM:92:TRP:CD2	2.52	0.45
18:AN:30:ARG:HB3	18:AN:31:HIS:CE1	2.51	0.45
36:BA:276:G:C6	36:BA:277:C:C5	3.04	0.45
36:BA:418:C:H2'	36:BA:419:C:C6	2.51	0.45
36:BA:629:A:C4	36:BA:630:A:C8	3.05	0.45
36:BA:714:G:H2'	36:BA:715:A:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:802:A:H3'	36:BA:803:G:H8	1.81	0.45
36:BA:929:G:C2	36:BA:930:C:H1'	2.52	0.45
36:BA:1192:C:C4	36:BA:1193:G:H1'	2.52	0.45
36:BA:1404:C:H2'	36:BA:1405:G:C8	2.51	0.45
40:BE:15:ILE:HD12	40:BE:35:LEU:HG	1.99	0.45
52:BQ:4:ILE:H	52:BQ:4:ILE:HD12	1.81	0.45
1:A7:81:G:C6	1:A7:82:U:C4	3.04	0.45
2:A8:265:A:C2	2:A8:428:A:C4	3.05	0.45
2:A8:486:C:C2	2:A8:487:C:C5	3.04	0.45
2:A8:627:A:H8	16:AL:78:ARG:HH12	1.60	0.45
2:A8:628:G:C6	2:A8:629:G:C6	3.04	0.45
2:A8:711:G:C2	2:A8:721:A:C2	3.04	0.45
2:A8:738:G:C6	2:A8:759:G:C6	3.03	0.45
2:A8:748:G:C5	2:A8:750:A:C4	3.04	0.45
2:A8:843:G:C2	2:A8:844:A:C4	3.04	0.45
2:A8:953:G:C6	2:A8:954:G:N7	2.85	0.45
2:A8:955:U:C4	2:A8:956:G:C5	3.04	0.45
2:A8:1001:A:C8	2:A8:1002:G:C8	3.04	0.45
2:A8:1002:G:C6	2:A8:1154:G:N2	2.84	0.45
2:A8:1014:A:C6	2:A8:1149:G:C6	3.04	0.45
2:A8:1103:A:C5	2:A8:1104:C:C5	3.04	0.45
2:A8:1270:C:H2'	2:A8:1648:U:C6	2.52	0.45
2:A8:1339:G:H21	2:A8:1603:A:H1'	1.81	0.45
2:A8:1395:A:O3'	2:A8:1397:U:C5	2.69	0.45
2:A8:1707:G:C5	2:A8:1708:C:C5	3.04	0.45
2:A8:1974:C:C4	2:A8:1975:G:N7	2.84	0.45
2:A8:2057:G:C2	2:A8:2612:C:C2	3.04	0.45
2:A8:2072:C:N3	2:A8:2073:C:C5	2.85	0.45
2:A8:2217:G:C2	2:A8:2218:G:C4	3.04	0.45
2:A8:2247:A:C6	2:A8:2248:C:C4	3.04	0.45
2:A8:2400:G:C2	2:A8:2401:U:C2	3.03	0.45
2:A8:2410:G:H3'	2:A8:2411:A:H8	1.81	0.45
2:A8:2482:A:H3'	2:A8:2483:C:H6	1.81	0.45
2:A8:2628:C:H1'	2:A8:2781:A:C4	2.51	0.45
2:A8:2652:C:C2	2:A8:2669:G:C2	3.04	0.45
2:A8:2671:G:C6	2:A8:2672:U:C4	3.05	0.45
2:A8:2696:U:H2'	2:A8:2697:G:C8	2.52	0.45
2:A8:2776:A:C8	2:A8:2782:G:C6	3.03	0.45
2:A8:2819:G:C2	2:A8:2828:G:C4	3.04	0.45
2:A8:2895:G:C2	2:A8:2896:C:C2	3.05	0.45
10:AF:42:ALA:HB3	10:AF:84:ILE:HA	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:A3:29:ARG:HH12	34:A3:30:HIS:CG	2.34	0.45
36:BA:246:A:C5	36:BA:282:A:C6	3.04	0.45
36:BA:282:A:C4	36:BA:283:U:C6	3.04	0.45
36:BA:318:G:C6	36:BA:336:A:C6	3.04	0.45
36:BA:517:G:O6	36:BA:532:A:H5''	2.17	0.45
36:BA:565:U:C5	36:BA:566:G:C4	3.04	0.45
36:BA:595:A:C2	36:BA:643:C:N4	2.84	0.45
36:BA:617:G:C2	36:BA:624:C:C2	3.03	0.45
36:BA:831:A:C2	36:BA:856:C:O2	2.69	0.45
36:BA:847:G:C5	36:BA:848:C:C5	3.05	0.45
36:BA:858:G:H1	36:BA:869:G:C2'	2.29	0.45
36:BA:1055:A:C6	36:BA:1206:G:C5	3.04	0.45
36:BA:1115:U:H2'	36:BA:1116:U:C6	2.51	0.45
36:BA:1298:U:C5	42:BG:113:LYS:HD2	2.51	0.45
36:BA:1415:G:N2	36:BA:1416:G:H1'	2.31	0.45
36:BA:1433:A:C6	36:BA:1468:A:C4	3.05	0.45
36:BA:1463:U:H2'	36:BA:1464:U:H6	1.81	0.45
45:BJ:57:VAL:HG22	45:BJ:58:ASN:H	1.80	0.45
47:BL:18:SER:H	47:BL:23:LEU:CD2	2.30	0.45
1:A7:16:G:C6	1:A7:69:G:N1	2.85	0.45
1:A7:46:A:C5	1:A7:47:C:C4	3.05	0.45
2:A8:18:U:O5'	2:A8:18:U:H6	2.00	0.45
2:A8:19:A:C2	2:A8:522:A:C2	3.05	0.45
2:A8:68:G:C5	2:A8:69:C:C5	3.04	0.45
2:A8:134:G:C6	2:A8:135:U:C4	3.05	0.45
2:A8:554:U:H2'	2:A8:555:G:C1'	2.47	0.45
2:A8:734:A:C5	2:A8:735:A:C8	3.04	0.45
2:A8:962:G:C6	2:A8:963:U:C4	3.05	0.45
2:A8:1103:A:H3'	2:A8:1104:C:C6	2.52	0.45
2:A8:1410:G:C6	2:A8:1411:U:C4	3.04	0.45
2:A8:1430:G:C6	2:A8:1431:A:C5	3.04	0.45
2:A8:1439:A:C5	2:A8:1553:A:C5	3.05	0.45
2:A8:1536:C:H4'	2:A8:1537:G:N3	2.32	0.45
2:A8:1552:A:H2'	2:A8:1553:A:H5'	1.99	0.45
2:A8:1692:U:O5'	2:A8:1692:U:H6	2.00	0.45
2:A8:1753:G:C8	2:A8:1755:A:OP2	2.69	0.45
2:A8:1809:A:C5	2:A8:1810:A:C5	3.04	0.45
2:A8:1834:U:H1'	2:A8:1972:G:N2	2.31	0.45
2:A8:1889:A:H2'	2:A8:2086:U:O2'	2.16	0.45
2:A8:1946:U:H2'	2:A8:1947:C:H6	1.81	0.45
2:A8:1964:G:H4'	2:A8:1965:C:OP2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1982:U:C2	2:A8:1983:G:C8	3.04	0.45
2:A8:2346:A:H4'	2:A8:2382:G:H4'	1.97	0.45
2:A8:2411:A:C2	2:A8:2412:A:N7	2.84	0.45
2:A8:2416:C:C4	2:A8:2417:C:C5	3.04	0.45
2:A8:2759:G:C6	2:A8:2760:C:C4	3.04	0.45
2:A8:2800:A:C6	2:A8:2801:G:C4	3.04	0.45
2:A8:2832:U:C4	2:A8:2883:A:H8	2.34	0.45
7:A6:143:VAL:O	7:A6:151:GLY:HA3	2.17	0.45
21:AQ:13:HIS:CD2	21:AQ:31:TYR:CD2	3.04	0.45
36:BA:20:U:C4	36:BA:21:G:C5	3.04	0.45
36:BA:59:A:H4'	36:BA:388:G:H2'	1.98	0.45
36:BA:238:A:C2	36:BA:239:U:C2	3.04	0.45
36:BA:521:G:H5'	47:BL:71:HIS:CE1	2.52	0.45
36:BA:592:G:C6	36:BA:648:A:C5	3.04	0.45
36:BA:633:G:C5	36:BA:634:C:C5	3.05	0.45
36:BA:666:G:C2	36:BA:667:G:C4	3.04	0.45
36:BA:784:A:C2	36:BA:785:G:C4	3.05	0.45
36:BA:943:U:C4	36:BA:944:G:C6	3.04	0.45
36:BA:977:A:H2'	36:BA:978:A:H5''	1.98	0.45
36:BA:1068:G:C6	36:BA:1108:G:C2	3.05	0.45
36:BA:1256:A:H4'	36:BA:1258:G:C6	2.52	0.45
36:BA:1306:A:C2	36:BA:1307:U:H1'	2.52	0.45
43:BH:105:THR:HG22	43:BH:121:GLY:HA2	1.98	0.45
1:A7:7:G:C6	1:A7:8:C:C4	3.04	0.45
2:A8:90:U:H2'	2:A8:91:A:C2	2.51	0.45
2:A8:190:A:C6	2:A8:191:A:C4	3.04	0.45
2:A8:272:A:C2	2:A8:366:C:C2	3.04	0.45
2:A8:475:C:H4'	2:A8:510:C:H5'	1.99	0.45
2:A8:482:A:H4'	25:AU:44:HIS:HB2	1.97	0.45
2:A8:590:A:C4	2:A8:668:A:C2	3.05	0.45
2:A8:891:G:N2	2:A8:892:A:C5	2.85	0.45
2:A8:1213:A:N1	2:A8:1237:A:H1'	2.31	0.45
2:A8:1282:U:C4	2:A8:1283:G:C6	3.05	0.45
2:A8:1456:G:C6	2:A8:1457:U:C4	3.04	0.45
2:A8:1483:G:C5	2:A8:1484:U:C5	3.05	0.45
2:A8:1568:G:H5'	7:A6:59:GLN:HA	1.98	0.45
2:A8:1649:G:C6	2:A8:2009:A:C6	3.05	0.45
2:A8:1659:G:C6	2:A8:1660:G:C5	3.05	0.45
2:A8:1749:A:C6	2:A8:1750:G:C5	3.04	0.45
2:A8:1767:G:C5	2:A8:1768:C:C5	3.05	0.45
2:A8:1767:G:C6	2:A8:1768:C:C4	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1818:U:C5	7:A6:155:ARG:NH1	2.85	0.45
2:A8:1839:G:C5	2:A8:1840:G:C8	3.05	0.45
2:A8:1866:A:C4	2:A8:1876:A:C6	3.04	0.45
2:A8:1885:A:C8	2:A8:1885:A:O5'	2.70	0.45
2:A8:1905:C:H2'	2:A8:1930:G:H5''	1.98	0.45
2:A8:2199:A:N7	2:A8:2200:C:C5	2.85	0.45
2:A8:2455:G:C5	2:A8:2456:C:C5	3.04	0.45
2:A8:2496:C:C4	2:A8:2497:A:C2	3.05	0.45
2:A8:2811:G:N2	2:A8:2812:G:H1'	2.32	0.45
2:A8:2816:G:C2	2:A8:2831:G:C4	3.05	0.45
2:A8:2851:A:C5	2:A8:2852:G:C4	3.05	0.45
9:AE:37:ALA:HB1	9:AE:92:HIS:CD2	2.51	0.45
21:AQ:66:ALA:HA	21:AQ:69:ARG:HB2	1.99	0.45
34:A3:15:LYS:HA	34:A3:21:PHE:HA	1.99	0.45
36:BA:27:G:C6	36:BA:28:A:C6	3.03	0.45
36:BA:144:G:H2'	36:BA:145:G:C8	2.51	0.45
36:BA:204:G:C5	36:BA:465:A:C2	3.04	0.45
36:BA:204:G:C5	36:BA:465:A:H2	2.34	0.45
36:BA:323:U:C4	36:BA:324:G:C6	3.05	0.45
36:BA:563:A:C5	36:BA:567:G:H1'	2.52	0.45
36:BA:686:U:O4	36:BA:703:G:H1'	2.16	0.45
36:BA:690:G:C6	36:BA:691:G:C6	3.04	0.45
36:BA:751:U:C4	36:BA:752:G:C6	3.05	0.45
36:BA:788:U:H2'	36:BA:789:U:O4'	2.17	0.45
36:BA:927:G:C2	36:BA:1391:U:C2	3.05	0.45
36:BA:1206:G:H2'	36:BA:1207:G:O4'	2.16	0.45
36:BA:1380:U:C5	42:BG:2:ARG:HD3	2.52	0.45
44:BI:50:PRO:HB3	44:BI:79:ARG:HE	1.81	0.45
54:BS:10:ILE:O	54:BS:15:LEU:HB2	2.15	0.45
1:A7:30:C:C5	1:A7:31:C:C4	3.05	0.45
1:A7:31:C:H4'	10:AF:25:MET:HG2	1.99	0.45
1:A7:48:U:H4'	19:AO:100:HIS:CG	2.51	0.45
1:A7:78:A:C2	2:A8:861:A:H2	2.35	0.45
2:A8:85:G:C6	2:A8:98:G:C6	3.05	0.45
2:A8:263:G:H2'	2:A8:264:C:O4'	2.16	0.45
2:A8:340:A:C6	2:A8:341:C:C2	3.05	0.45
2:A8:350:G:C5	2:A8:351:C:C6	3.05	0.45
2:A8:377:G:C6	2:A8:378:C:C4	3.04	0.45
2:A8:460:A:C6	2:A8:461:C:C2	3.05	0.45
2:A8:594:U:C2	2:A8:664:G:C2	3.05	0.45
2:A8:649:G:C5	2:A8:650:C:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:869:G:C5	2:A8:870:U:C5	3.04	0.45
2:A8:941:A:H2'	2:A8:942:G:C8	2.51	0.45
2:A8:1091:G:H2'	2:A8:1092:C:C6	2.52	0.45
2:A8:1092:C:H42	2:A8:1100:C:H42	1.64	0.45
2:A8:1266:G:C6	2:A8:2012:G:C5	3.04	0.45
2:A8:1319:C:C2	2:A8:1320:C:C5	3.05	0.45
2:A8:1423:G:N2	2:A8:1576:U:H1'	2.31	0.45
2:A8:1426:G:H22	2:A8:1571:A:H3'	1.82	0.45
2:A8:1430:G:H2'	2:A8:1431:A:O4'	2.17	0.45
2:A8:1506:U:H2'	2:A8:1507:C:C6	2.52	0.45
2:A8:1550:C:H2'	2:A8:1551:A:O4'	2.17	0.45
2:A8:1572:A:C6	2:A8:1573:G:C5	3.04	0.45
2:A8:1689:A:N9	2:A8:1700:A:C6	2.85	0.45
2:A8:1845:G:N3	2:A8:1896:G:C2	2.84	0.45
2:A8:2070:A:C2	2:A8:2071:A:C4	3.05	0.45
2:A8:2152:G:H3'	2:A8:2153:C:C6	2.51	0.45
2:A8:2261:C:C6	27:AW:13:ARG:HG3	2.51	0.45
2:A8:2282:G:C5'	2:A8:2389:G:H1'	2.47	0.45
2:A8:2430:A:H3'	2:A8:2431:U:H6	1.81	0.45
2:A8:2437:G:C5	2:A8:2438:U:C4	3.04	0.45
2:A8:2451:A:C8	2:A8:2452:C:C5	3.03	0.45
2:A8:2473:U:C6	2:A8:2474:U:C2	3.04	0.45
2:A8:2817:U:C4	2:A8:2818:U:C5	3.05	0.45
2:A8:2856:A:C6	2:A8:2857:G:C5	3.04	0.45
7:A6:107:LYS:HG2	7:A6:195:GLY:HA2	1.98	0.45
15:AK:24:LEU:H	15:AK:38:ILE:HA	1.82	0.45
18:AN:47:VAL:HG23	18:AN:48:VAL:HG23	1.99	0.45
36:BA:44:A:N3	36:BA:399:G:C2	2.84	0.45
36:BA:158:G:C6	36:BA:159:G:C5	3.04	0.45
36:BA:282:A:C2	36:BA:283:U:H1'	2.52	0.45
36:BA:324:G:N2	36:BA:327:A:C8	2.85	0.45
36:BA:373:A:H1'	36:BA:482:A:C8	2.52	0.45
36:BA:551:U:C4	36:BA:552:U:C4	3.05	0.45
36:BA:668:G:C6	36:BA:669:G:C5	3.05	0.45
36:BA:781:A:C5	36:BA:802:A:C2	3.05	0.45
36:BA:790:A:C5	36:BA:791:G:C5	3.05	0.45
36:BA:859:G:H3'	36:BA:869:G:H22	1.81	0.45
36:BA:975:A:C5	49:BN:71:GLY:HA2	2.52	0.45
36:BA:995:C:H2'	36:BA:996:A:C5'	2.46	0.45
36:BA:1205:U:H4'	38:BC:189:HIS:CG	2.52	0.45
36:BA:1315:U:C2	36:BA:1323:G:C2	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1455:G:H2'	36:BA:1456:A:C8	2.51	0.45
36:BA:1457:G:C4	36:BA:1458:G:C8	3.05	0.45
36:BA:1486:G:N1	36:BA:1487:G:C4	2.85	0.45
1:A7:29:A:C2	1:A7:30:C:O2	2.70	0.45
1:A7:42:C:H42	10:AF:89:THR:HB	1.82	0.45
2:A8:25:U:OP2	2:A8:26:G:C6	2.69	0.45
2:A8:31:C:C4	2:A8:32:C:C5	3.04	0.45
2:A8:166:U:C2	2:A8:167:A:C8	3.05	0.45
2:A8:197:A:C2	2:A8:2430:A:C6	3.05	0.45
2:A8:855:G:C2	2:A8:923:G:C4	3.05	0.45
2:A8:1036:G:C6	2:A8:1037:G:C5	3.05	0.45
2:A8:1040:A:C2	2:A8:1116:G:C2	3.03	0.45
2:A8:1132:U:C6	14:AJ:84:ILE:CD1	2.99	0.45
2:A8:1141:U:H4'	2:A8:1142:A:O4'	2.17	0.45
2:A8:1343:G:C6	2:A8:1344:U:C4	3.05	0.45
2:A8:1419:A:C5	2:A8:1421:G:C4	3.05	0.45
2:A8:1429:G:C4	2:A8:1568:G:C6	3.05	0.45
2:A8:1689:A:C5	2:A8:1690:A:N7	2.84	0.45
2:A8:1705:A:C5	2:A8:1706:C:C4	3.04	0.45
2:A8:1813:G:C6	2:A8:1814:G:C5	3.04	0.45
2:A8:1884:G:C8	2:A8:1884:G:OP2	2.70	0.45
2:A8:1922:G:C2	2:A8:1923:U:C6	3.04	0.45
2:A8:1995:U:H2'	2:A8:1996:C:C5	2.51	0.45
2:A8:2010:G:C6	2:A8:2011:U:C4	3.05	0.45
2:A8:2097:A:C5	2:A8:2193:G:N2	2.85	0.45
2:A8:2355:G:C2	2:A8:2363:G:C4	3.05	0.45
2:A8:2435:A:C2	2:A8:2436:G:C4	3.05	0.45
2:A8:2464:G:C4	2:A8:2487:G:N2	2.85	0.45
2:A8:2466:C:C2	2:A8:2467:C:C6	3.05	0.45
2:A8:2533:U:H4'	2:A8:2664:G:H4'	1.98	0.45
2:A8:2632:A:C2	2:A8:2787:C:C2	3.05	0.45
7:A6:70:LYS:HG3	7:A6:71:ASP:H	1.81	0.45
12:AH:124:THR:HG23	12:AH:128:HIS:CE1	2.52	0.45
24:AT:72:GLN:HE21	24:AT:72:GLN:HA	1.81	0.45
28:AX:15:ASN:HB3	28:AX:23:ALA:HB1	1.99	0.45
28:AX:35:HIS:HB3	28:AX:37:PHE:CZ	2.52	0.45
36:BA:282:A:C2	36:BA:283:U:C1'	3.00	0.45
36:BA:595:A:H2'	36:BA:641:U:C4	2.52	0.45
36:BA:635:A:C2	36:BA:636:U:C2	3.05	0.45
36:BA:856:C:H5'	56:BU:46:ARG:HH12	1.81	0.45
36:BA:955:U:C6	36:BA:955:U:O5'	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1057:G:C6	36:BA:1058:G:C4	3.04	0.45
36:BA:1109:C:C4	36:BA:1110:A:C4	3.05	0.45
36:BA:1371:G:C6	36:BA:1372:U:C4	3.05	0.45
45:BJ:8:ILE:HD13	45:BJ:25:ILE:HD12	1.99	0.45
51:BP:8:ARG:HH21	51:BP:14:ARG:H	1.63	0.45
1:A7:16:G:C2	1:A7:69:G:C2	3.05	0.45
1:A7:78:A:H2	2:A8:861:A:C2	2.35	0.45
2:A8:35:G:C6	2:A8:446:G:C2	3.04	0.45
2:A8:122:G:C6	2:A8:123:G:C5	3.05	0.45
2:A8:190:A:N6	2:A8:207:A:H1'	2.32	0.45
2:A8:199:A:H61	2:A8:2433:A:H3'	1.81	0.45
2:A8:482:A:H4'	25:AU:44:HIS:CB	2.47	0.45
2:A8:571:U:C2	2:A8:575:A:C8	3.05	0.45
2:A8:625:G:C2	2:A8:626:A:C2	3.05	0.45
2:A8:629:G:H5'	2:A8:651:G:H4'	1.98	0.45
2:A8:782:A:H4'	2:A8:783:A:O5'	2.17	0.45
2:A8:876:C:H2'	2:A8:877:A:H8	1.81	0.45
2:A8:972:A:C8	2:A8:973:A:H2'	2.52	0.45
2:A8:1061:U:H2'	13:AI:11:GLN:CD	2.41	0.45
2:A8:1276:A:C2	2:A8:1295:C:H1'	2.51	0.45
2:A8:1372:U:N3	2:A8:1373:A:C5	2.85	0.45
2:A8:1395:A:H4'	2:A8:1397:U:C4	2.51	0.45
2:A8:1477:A:C4	2:A8:1515:A:C6	3.04	0.45
2:A8:1549:A:C2	2:A8:1550:C:C2	3.04	0.45
2:A8:1562:U:H2'	2:A8:1563:U:C6	2.52	0.45
2:A8:1661:G:C2	2:A8:1662:U:C2	3.04	0.45
2:A8:1664:A:C6	2:A8:1665:A:C5	3.05	0.45
2:A8:1668:A:C2	2:A8:1674:G:C8	3.05	0.45
2:A8:1765:U:C2	2:A8:1988:G:N2	2.85	0.45
2:A8:1853:A:C6	2:A8:1889:A:C4	3.05	0.45
2:A8:1959:G:C2	2:A8:1960:A:H1'	2.51	0.45
2:A8:1977:A:C6	2:A8:1978:A:C5	3.04	0.45
2:A8:2255:G:H1	2:A8:2275:C:H42	1.65	0.45
2:A8:2297:A:H2'	2:A8:2319:G:H21	1.82	0.45
2:A8:2789:C:C5	2:A8:2893:A:C5	3.05	0.45
3:AA:353:ALA:HB1	3:AA:376:ILE:HG23	1.98	0.45
22:AR:41:ILE:HG12	22:AR:54:VAL:HG11	1.97	0.45
24:AT:55:VAL:H	24:AT:88:LYS:HG2	1.82	0.45
36:BA:101:A:C6	36:BA:102:G:C5	3.05	0.45
36:BA:128:G:N3	36:BA:234:C:C2	2.84	0.45
36:BA:184:G:H4'	36:BA:224:U:O3'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:354:G:N2	36:BA:355:C:C2	2.85	0.45
36:BA:487:A:C6	36:BA:488:C:H1'	2.52	0.45
36:BA:608:A:C5	36:BA:609:A:C8	3.05	0.45
36:BA:654:G:C6	36:BA:655:A:C5	3.05	0.45
36:BA:935:A:H2'	36:BA:936:C:O4'	2.16	0.45
36:BA:1518:A:C6	36:BA:1519:A:C6	3.04	0.45
43:BH:127:TYR:N	43:BH:127:TYR:CD2	2.84	0.45
1:A7:6:G:C2	1:A7:115:A:C2	3.05	0.45
2:A8:43:G:H3'	2:A8:44:A:H8	1.81	0.45
2:A8:81:G:C2	2:A8:106:C:C2	3.05	0.45
2:A8:274:C:N3	2:A8:275:C:C5	2.85	0.45
2:A8:324:A:C6	2:A8:339:U:H4'	2.52	0.45
2:A8:332:A:C5	2:A8:335:C:C4	3.05	0.45
2:A8:347:A:C6	2:A8:348:A:C6	3.04	0.45
2:A8:488:G:C8	2:A8:490:C:OP2	2.70	0.45
2:A8:949:G:C2	2:A8:950:G:C8	3.05	0.45
2:A8:993:G:C4	2:A8:1162:G:C2	3.05	0.45
2:A8:1010:A:H1'	2:A8:1153:C:H1'	1.99	0.45
2:A8:1059:G:H21	13:AI:127:SER:CA	2.30	0.45
2:A8:1128:G:H4'	2:A8:2517:C:H4'	1.99	0.45
2:A8:1131:G:C5	2:A8:2025:C:H4'	2.52	0.45
2:A8:1364:G:C2	2:A8:1368:G:C6	3.04	0.45
2:A8:1545:A:C6	2:A8:1546:G:C4	3.05	0.45
2:A8:1650:A:C2	2:A8:1651:G:N9	2.84	0.45
2:A8:1659:G:C2	2:A8:1660:G:N9	2.85	0.45
2:A8:1680:U:H3'	2:A8:1681:G:C8	2.51	0.45
2:A8:1718:G:N1	2:A8:1743:G:H1'	2.31	0.45
2:A8:1742:U:C4	2:A8:1743:G:C5	3.05	0.45
2:A8:1755:A:H61	2:A8:2694:G:H2'	1.82	0.45
2:A8:1797:G:C2	2:A8:1823:G:C4	3.05	0.45
2:A8:1801:A:N1	2:A8:2203:U:C5	2.85	0.45
2:A8:2041:U:C2	2:A8:2042:A:N7	2.85	0.45
2:A8:2083:G:H2'	2:A8:2084:C:C6	2.52	0.45
2:A8:2088:A:C8	2:A8:2088:A:O5'	2.70	0.45
2:A8:2100:G:C6	2:A8:2101:A:C5	3.05	0.45
2:A8:2116:G:H3'	2:A8:2117:A:C8	2.52	0.45
2:A8:2265:U:O5'	2:A8:2265:U:H6	2.00	0.45
2:A8:2330:G:C5	2:A8:2331:G:C8	3.05	0.45
2:A8:2592:G:C2	2:A8:2603:G:C2	3.05	0.45
2:A8:2648:G:C5	2:A8:2673:G:C2	3.04	0.45
2:A8:2710:C:C4	2:A8:2711:A:C6	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2852:G:C2	2:A8:2853:C:C2	3.05	0.45
36:BA:254:G:C2	36:BA:273:U:C2	3.05	0.45
36:BA:466:A:H4'	36:BA:467:U:C4	2.52	0.45
36:BA:665:A:C4	36:BA:733:G:C5	3.05	0.45
36:BA:673:A:C2	36:BA:734:G:C2	3.05	0.45
36:BA:707:U:H5''	46:BK:21:HIS:HB3	1.98	0.45
36:BA:765:G:C4	36:BA:812:G:C2	3.05	0.45
36:BA:775:G:C4	36:BA:776:G:C8	3.05	0.45
36:BA:781:A:H2'	36:BA:782:A:H5'	1.99	0.45
36:BA:785:G:C6	36:BA:786:G:C5	3.05	0.45
36:BA:833:G:C6	36:BA:834:U:C4	3.04	0.45
36:BA:852:G:C2	36:BA:853:C:C2	3.05	0.45
36:BA:863:U:C4	36:BA:866:C:H5	2.34	0.45
36:BA:1220:G:N3	54:BS:53:GLY:HA2	2.31	0.45
36:BA:1332:A:C2	36:BA:1333:A:C4	3.05	0.45
36:BA:1378:C:H1'	42:BG:94:ARG:HH22	1.82	0.45
36:BA:1414:U:C2	36:BA:1415:G:C8	3.05	0.45
36:BA:1504:G:H4'	36:BA:1505:G:C4	2.51	0.45
52:BQ:10:ARG:HH12	52:BQ:25:GLU:H	1.63	0.45
2:A8:125:A:C1'	33:A2:13:ASN:HB2	2.47	0.45
2:A8:134:G:C2	2:A8:135:U:C2	3.05	0.45
2:A8:500:G:N2	2:A8:503:A:C8	2.85	0.45
2:A8:631:A:H3'	2:A8:632:A:C8	2.51	0.45
2:A8:764:A:H5''	7:A6:208:GLY:HA2	1.98	0.45
2:A8:785:G:C6	2:A8:786:C:C4	3.05	0.45
2:A8:857:G:C6	2:A8:858:G:C5	3.05	0.45
2:A8:1024:G:C8	2:A8:1025:G:H2'	2.52	0.45
2:A8:1139:G:C6	2:A8:1140:C:C5	3.05	0.45
2:A8:1173:U:H1'	2:A8:1177:G:H1	1.82	0.45
2:A8:1173:U:H2'	2:A8:1174:U:C1'	2.47	0.45
2:A8:1279:G:C2	2:A8:1292:G:C2	3.05	0.45
2:A8:1279:G:C6	2:A8:1292:G:C6	3.05	0.45
2:A8:1281:G:C6	2:A8:1282:U:C4	3.05	0.45
2:A8:1292:G:C5	2:A8:1293:C:C5	3.05	0.45
2:A8:1334:G:C6	2:A8:1335:C:C4	3.05	0.45
2:A8:1383:A:C2	2:A8:1384:A:N3	2.85	0.45
2:A8:1434:A:C6	2:A8:1435:G:C5	3.05	0.45
2:A8:1527:G:H21	2:A8:1545:A:H62	1.64	0.45
2:A8:1529:G:C5	2:A8:1530:G:C8	3.05	0.45
2:A8:1596:A:C6	2:A8:1597:A:C6	3.05	0.45
2:A8:1706:C:H2'	2:A8:1757:A:H5''	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1893:C:C2	2:A8:1894:C:C6	3.05	0.45
2:A8:1906:G:C2	2:A8:1907:G:C4	3.05	0.45
2:A8:1936:A:C6	2:A8:1945:G:C2	3.04	0.45
2:A8:1969:A:H1'	2:A8:1973:G:O4'	2.17	0.45
2:A8:1984:G:C6	2:A8:1985:C:C4	3.05	0.45
2:A8:2170:A:H5''	6:A5:132:GLY:CA	2.47	0.45
2:A8:2170:A:H5''	6:A5:132:GLY:HA2	1.99	0.45
2:A8:2255:G:C5	2:A8:2256:G:C5	3.05	0.45
2:A8:2366:A:C6	2:A8:2367:G:C4	3.05	0.45
2:A8:2391:G:H1'	2:A8:2424:C:N4	2.32	0.45
2:A8:2393:U:H2'	2:A8:2394:C:O4'	2.17	0.45
2:A8:2454:G:C6	2:A8:2455:G:C5	3.05	0.45
2:A8:2682:A:C8	8:AD:11:MET:HG3	2.52	0.45
2:A8:2734:A:N6	2:A8:2735:G:C4	2.85	0.45
2:A8:2830:C:H3'	8:AD:59:ARG:HH11	1.81	0.45
2:A8:2884:U:C2	31:A0:48:TYR:CZ	3.05	0.45
7:A6:157:ALA:CB	7:A6:196:ASN:HB2	2.47	0.45
8:AD:104:VAL:HG11	8:AD:206:ALA:H	1.82	0.45
9:AE:150:THR:HG22	9:AE:153:LEU:H	1.83	0.45
36:BA:63:C:C1'	36:BA:380:G:H4'	2.46	0.45
36:BA:85:U:H4'	36:BA:87:C:C2	2.52	0.45
36:BA:109:A:C6	36:BA:327:A:C6	3.05	0.45
36:BA:246:A:C6	36:BA:282:A:C5	3.05	0.45
36:BA:398:U:C2	36:BA:399:G:C8	3.05	0.45
36:BA:540:G:H21	39:BD:40:HIS:CE1	2.35	0.45
36:BA:544:G:C5	36:BA:545:C:C5	3.05	0.45
36:BA:555:U:H2'	36:BA:556:C:C6	2.52	0.45
36:BA:666:G:C4	36:BA:741:G:C2	3.05	0.45
36:BA:748:G:C6	36:BA:749:A:C5	3.05	0.45
36:BA:892:A:C4	36:BA:907:A:C8	3.05	0.45
36:BA:1342:C:H4'	44:BI:126:PHE:HB2	1.99	0.45
36:BA:1357:A:C4	36:BA:1358:U:C5	3.05	0.45
36:BA:1515:G:C2	36:BA:1521:C:C2	3.05	0.45
36:BA:1517:G:H2'	36:BA:1518:A:O4'	2.17	0.45
41:BF:3:HIS:CG	41:BF:96:VAL:H	2.34	0.45
41:BF:38:ARG:HH12	41:BF:100:SER:H	1.65	0.45
1:A7:81:G:O4'	2:A8:919:U:H5'	2.17	0.44
2:A8:86:G:C6	2:A8:87:U:C4	3.05	0.44
2:A8:117:G:H5'	2:A8:126:A:C8	2.52	0.44
2:A8:223:A:H1'	2:A8:421:C:H1'	1.99	0.44
2:A8:415:A:C2	2:A8:416:U:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:547:A:C6	2:A8:548:G:H1'	2.52	0.44
2:A8:771:G:C6	2:A8:772:C:C4	3.05	0.44
2:A8:815:C:H1'	2:A8:1193:G:N2	2.32	0.44
2:A8:1115:G:N1	2:A8:1116:G:C5	2.86	0.44
2:A8:1120:G:C5	2:A8:1121:C:C4	3.06	0.44
2:A8:1177:G:H2'	2:A8:1178:C:O4'	2.17	0.44
2:A8:1279:G:C2	2:A8:1280:G:C4	3.05	0.44
2:A8:1279:G:H4'	18:AN:31:HIS:CD2	2.52	0.44
2:A8:1309:G:N1	2:A8:1310:G:C5	2.85	0.44
2:A8:1381:G:H2'	2:A8:1382:G:H5'	1.99	0.44
2:A8:1477:A:C4	2:A8:1478:G:H1'	2.52	0.44
2:A8:1560:G:C6	2:A8:1561:C:C4	3.05	0.44
2:A8:1653:G:C6	18:AN:9:GLN:CB	3.00	0.44
2:A8:1699:G:C5	2:A8:1763:G:C2	3.05	0.44
2:A8:1727:C:C2	2:A8:1734:G:N2	2.85	0.44
2:A8:1739:A:C5	2:A8:1740:G:C5	3.05	0.44
2:A8:1792:G:C6	2:A8:1828:G:C4	3.05	0.44
2:A8:1891:G:C5	2:A8:1892:C:C5	3.05	0.44
2:A8:1942:C:C4	2:A8:1943:U:C4	3.05	0.44
2:A8:2380:C:H2'	2:A8:2381:A:C8	2.53	0.44
2:A8:2694:G:N2	2:A8:2716:C:H1'	2.32	0.44
2:A8:2795:C:C2	2:A8:2802:G:C2	3.04	0.44
2:A8:2801:G:C6	2:A8:2802:G:C6	3.06	0.44
2:A8:2838:G:C6	2:A8:2839:G:C5	3.05	0.44
2:A8:2839:G:H1'	18:AN:93:GLY:H	1.82	0.44
2:A8:2852:G:C6	2:A8:2853:C:C4	3.05	0.44
2:A8:2881:U:H2'	2:A8:2882:A:C8	2.52	0.44
8:AD:106:LYS:HE2	8:AD:173:GLN:HE22	1.82	0.44
10:AF:110:ILE:HD11	10:AF:176:PHE:HE1	1.82	0.44
12:AH:33:GLN:HA	28:AX:38:TRP:CZ2	2.52	0.44
15:AK:68:VAL:HG22	15:AK:78:PHE:CE1	2.52	0.44
20:AP:97:TYR:C	20:AP:99:LEU:H	2.24	0.44
29:AY:25:GLN:HA	29:AY:29:ARG:HB2	1.99	0.44
34:A3:23:HIS:O	34:A3:46:LYS:HA	2.17	0.44
34:A3:31:ILE:HG12	34:A3:33:THR:HG22	1.98	0.44
36:BA:48:C:C4	36:BA:365:U:H5	2.35	0.44
36:BA:155:A:C6	36:BA:167:A:C6	3.04	0.44
36:BA:185:U:H2'	36:BA:186:C:C6	2.52	0.44
36:BA:237:G:C6	36:BA:238:A:C5	3.04	0.44
36:BA:585:G:C5	36:BA:586:C:C5	3.05	0.44
36:BA:796:C:C5'	46:BK:128:VAL:H	2.30	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1333:A:H3'	36:BA:1334:G:H8	1.82	0.44
36:BA:1487:G:C6	36:BA:1488:G:C8	3.05	0.44
36:BA:1514:G:N2	36:BA:1515:G:H1'	2.32	0.44
40:BE:91:SER:HA	40:BE:129:SER:H	1.82	0.44
41:BF:3:HIS:CG	41:BF:95:ALA:HA	2.52	0.44
1:A7:61:G:C6	1:A7:62:C:C4	3.05	0.44
1:A7:94:A:C6	1:A7:95:U:C2	3.05	0.44
2:A8:49:A:C6	2:A8:118:A:C8	3.05	0.44
2:A8:155:A:C6	2:A8:172:A:C6	3.05	0.44
2:A8:322:A:C2	2:A8:340:A:C6	3.04	0.44
2:A8:419:U:H6	2:A8:419:U:O5'	1.99	0.44
2:A8:537:G:H22	2:A8:555:G:H2'	1.82	0.44
2:A8:583:G:C5	2:A8:584:C:C5	3.05	0.44
2:A8:628:G:H2'	2:A8:629:G:C8	2.52	0.44
2:A8:666:A:N1	2:A8:667:U:C2	2.85	0.44
2:A8:705:A:C8	2:A8:705:A:O5'	2.70	0.44
2:A8:760:G:C6	2:A8:761:A:C4	3.05	0.44
2:A8:1508:A:H5''	2:A8:1509:A:H2'	2.00	0.44
2:A8:1697:G:C4	2:A8:1698:A:C8	3.06	0.44
2:A8:1713:A:H3'	2:A8:1714:U:H5''	1.99	0.44
2:A8:1746:A:C2	2:A8:1747:U:C2	3.06	0.44
2:A8:1782:U:C4	2:A8:2609:U:C4	3.05	0.44
2:A8:1791:A:H8	2:A8:1792:G:C8	2.35	0.44
2:A8:1846:G:C6	2:A8:1847:A:C5	3.06	0.44
2:A8:1861:G:N2	2:A8:1882:U:H1'	2.31	0.44
2:A8:2056:G:H5'	2:A8:2056:G:C8	2.52	0.44
2:A8:2062:A:C5	2:A8:2503:A:N7	2.86	0.44
2:A8:2095:A:C6	2:A8:2096:C:C4	3.05	0.44
2:A8:2123:G:C6	2:A8:2124:G:C5	3.04	0.44
2:A8:2335:A:C6	2:A8:2337:G:H1'	2.52	0.44
2:A8:2391:G:C4	2:A8:2424:C:C5	3.06	0.44
2:A8:2516:A:N1	2:A8:2569:G:C5	2.85	0.44
2:A8:2710:C:N3	2:A8:2711:A:C5	2.85	0.44
2:A8:2829:A:H2'	2:A8:2830:C:C6	2.53	0.44
9:AE:60:TRP:CZ3	9:AE:71:GLY:HA2	2.52	0.44
26:AV:1:MET:HE2	26:AV:61:LEU:HG	2.00	0.44
36:BA:22:G:H2'	36:BA:23:C:C6	2.52	0.44
36:BA:113:G:C2	36:BA:315:A:C2	3.05	0.44
36:BA:246:A:C5	36:BA:279:A:C5	3.05	0.44
36:BA:382:A:H2'	36:BA:383:A:O4'	2.17	0.44
36:BA:411:A:C2	36:BA:428:G:N2	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:459:A:C2	36:BA:460:A:C8	3.05	0.44
36:BA:654:G:C8	36:BA:753:A:C6	3.05	0.44
36:BA:681:A:C6	36:BA:710:G:C6	3.06	0.44
36:BA:1176:A:C5	36:BA:1177:G:C6	3.05	0.44
36:BA:1439:G:C2	36:BA:1463:U:O2	2.70	0.44
37:BB:103:TRP:HA	37:BB:106:VAL:HB	2.00	0.44
47:BL:101:LEU:HD12	47:BL:101:LEU:H	1.82	0.44
52:BQ:27:PHE:HA	52:BQ:37:ILE:O	2.17	0.44
53:BR:62:ARG:HA	53:BR:67:LEU:HB3	1.99	0.44
1:A7:51:G:H21	1:A7:52:A:H8	1.63	0.44
1:A7:85:G:H2'	1:A7:86:G:H8	1.83	0.44
1:A7:113:C:H2'	1:A7:114:C:C6	2.52	0.44
2:A8:112:U:H2'	2:A8:113:U:H5'	2.00	0.44
2:A8:119:A:H4'	2:A8:120:U:C6	2.53	0.44
2:A8:237:C:C2	2:A8:261:G:C2	3.05	0.44
2:A8:289:G:C2	2:A8:352:A:C4	3.06	0.44
2:A8:326:G:C2	2:A8:337:C:C2	3.05	0.44
2:A8:415:A:C6	2:A8:2409:G:C6	3.05	0.44
2:A8:439:A:C2	2:A8:440:C:H1'	2.52	0.44
2:A8:500:G:C4	2:A8:502:A:OP2	2.71	0.44
2:A8:595:C:C2	2:A8:663:G:C2	3.05	0.44
2:A8:604:G:N2	2:A8:657:U:H4'	2.32	0.44
2:A8:633:A:OP2	2:A8:634:C:C5	2.70	0.44
2:A8:723:C:C4	2:A8:724:U:C4	3.05	0.44
2:A8:851:C:H2'	2:A8:852:U:C6	2.53	0.44
2:A8:863:A:C8	2:A8:863:A:O5'	2.70	0.44
2:A8:1180:U:H2'	2:A8:1181:U:O4'	2.17	0.44
2:A8:1195:G:H5''	2:A8:1195:G:C8	2.53	0.44
2:A8:1269:A:C2	2:A8:2012:G:H1'	2.52	0.44
2:A8:1356:G:N2	2:A8:1376:C:H1'	2.33	0.44
2:A8:1733:G:C4	2:A8:1734:G:C8	3.05	0.44
2:A8:1769:U:H1'	2:A8:1984:G:N2	2.33	0.44
2:A8:1770:G:H2'	2:A8:1771:C:O4'	2.17	0.44
2:A8:1845:G:N1	2:A8:1896:G:C5	2.85	0.44
2:A8:1889:A:C5	2:A8:1890:A:C5	3.06	0.44
2:A8:1983:G:N1	2:A8:1984:G:C5	2.86	0.44
2:A8:2046:G:H22	2:A8:2623:G:H1'	1.82	0.44
2:A8:2169:A:H4'	6:A5:129:GLN:HA	1.99	0.44
2:A8:2193:G:N2	2:A8:2194:U:C2	2.85	0.44
2:A8:2412:A:C6	2:A8:2413:G:C4	3.06	0.44
2:A8:2702:G:C6	2:A8:2703:C:C4	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2830:C:H1'	2:A8:2836:U:O4'	2.17	0.44
3:AA:160:ILE:HD11	5:AC:33:VAL:HG23	1.99	0.44
33:A2:1:MET:N	33:A2:1:MET:HE3	2.32	0.44
36:BA:241:G:N2	36:BA:286:C:C2	2.85	0.44
36:BA:243:A:O4'	36:BA:245:U:C6	2.70	0.44
36:BA:269:C:H2'	36:BA:270:A:H8	1.82	0.44
36:BA:343:U:H2'	36:BA:345:C:C4	2.53	0.44
36:BA:541:G:N2	36:BA:542:G:H1'	2.33	0.44
36:BA:622:A:C8	36:BA:623:C:C6	3.05	0.44
36:BA:1244:G:C5	36:BA:1294:G:C6	3.06	0.44
36:BA:1256:A:H4'	36:BA:1258:G:C4	2.52	0.44
36:BA:1365:G:C6	36:BA:1366:C:C4	3.05	0.44
36:BA:1413:A:C6	36:BA:1414:U:C5	3.05	0.44
36:BA:1428:A:C2	36:BA:1429:A:C4	3.05	0.44
36:BA:1465:A:C5	36:BA:1466:C:C4	3.05	0.44
37:BB:8:MET:HG3	37:BB:11:ALA:H	1.81	0.44
50:BO:45:HIS:CE1	50:BO:48:ASP:OD2	2.71	0.44
2:A8:35:G:H2'	2:A8:36:G:O4'	2.17	0.44
2:A8:221:A:C1'	2:A8:233:A:H1'	2.47	0.44
2:A8:275:C:C5	2:A8:276:U:C6	3.06	0.44
2:A8:541:A:C2	2:A8:542:C:C2	3.05	0.44
2:A8:670:A:H61	9:AE:88:ARG:NH1	2.08	0.44
2:A8:740:C:N4	2:A8:757:G:H1	2.16	0.44
2:A8:869:G:H21	17:AM:8:LYS:HZ2	1.65	0.44
2:A8:923:G:C2	2:A8:924:G:C8	3.05	0.44
2:A8:1128:G:C4'	2:A8:2517:C:H4'	2.47	0.44
2:A8:1432:G:H21	2:A8:1562:U:H1'	1.83	0.44
2:A8:1505:A:N1	2:A8:1506:U:C2	2.86	0.44
2:A8:1519:G:C5	2:A8:1520:U:C5	3.06	0.44
2:A8:1528:A:C8	2:A8:1544:A:N6	2.85	0.44
2:A8:1577:C:H2'	2:A8:1578:U:O4'	2.18	0.44
2:A8:1696:G:N1	2:A8:1697:G:H1'	2.32	0.44
2:A8:1756:G:C4	2:A8:1756:G:OP2	2.70	0.44
2:A8:1802:A:C8	2:A8:1802:A:H3'	2.53	0.44
2:A8:1809:A:C6	2:A8:1810:A:C6	3.06	0.44
2:A8:1907:G:N1	2:A8:1908:C:C2	2.86	0.44
2:A8:1945:G:C6	2:A8:1946:U:C4	3.05	0.44
2:A8:2070:A:N3	2:A8:2442:C:C2	2.86	0.44
2:A8:2126:A:H5'	6:A5:38:PHE:CE2	2.52	0.44
2:A8:2492:U:C2	2:A8:2493:U:C6	3.05	0.44
2:A8:2536:G:H3'	2:A8:2537:U:C5	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2588:G:C6	2:A8:2607:G:C4	3.06	0.44
8:AD:116:LYS:HD2	18:AN:3:HIS:CG	2.53	0.44
15:AK:23:VAL:HG21	15:AK:32:ALA:CA	2.47	0.44
22:AR:5:PHE:CZ	22:AR:12:HIS:HB2	2.52	0.44
22:AR:49:ILE:HD12	22:AR:51:VAL:O	2.18	0.44
36:BA:204:G:C2	36:BA:465:A:H5''	2.52	0.44
36:BA:230:G:C6	36:BA:231:U:C4	3.05	0.44
36:BA:310:G:C5	36:BA:311:C:C5	3.05	0.44
36:BA:342:C:C4	36:BA:343:U:C4	3.05	0.44
36:BA:424:G:H2'	36:BA:425:G:C8	2.53	0.44
36:BA:597:G:C4	36:BA:598:U:C6	3.06	0.44
36:BA:939:G:H1'	36:BA:1376:U:H1'	1.98	0.44
36:BA:1106:G:C6	36:BA:1107:C:C4	3.06	0.44
36:BA:1300:G:C5	36:BA:1334:G:C5	3.06	0.44
36:BA:1319:A:C4	36:BA:1323:G:C8	3.06	0.44
38:BC:49:ALA:HB1	38:BC:71:ARG:H	1.82	0.44
38:BC:116:ALA:O	38:BC:197:VAL:HG11	2.18	0.44
40:BE:82:HIS:CD2	43:BH:95:MET:SD	3.11	0.44
41:BF:16:GLU:CD	41:BF:16:GLU:H	2.24	0.44
2:A8:100:U:H4'	2:A8:101:A:H3'	1.98	0.44
2:A8:122:G:C5	2:A8:123:G:N7	2.86	0.44
2:A8:322:A:C4'	2:A8:340:A:H1'	2.47	0.44
2:A8:416:U:C4	2:A8:417:C:C5	3.06	0.44
2:A8:480:A:H3'	2:A8:481:G:C5'	2.46	0.44
2:A8:633:A:C6	2:A8:634:C:H1'	2.52	0.44
2:A8:818:G:C8	2:A8:818:G:O5'	2.70	0.44
2:A8:854:C:O2	2:A8:924:G:C2	2.70	0.44
2:A8:1000:A:C2	2:A8:1155:A:C4	3.05	0.44
2:A8:1149:G:H2'	2:A8:1150:C:C6	2.52	0.44
2:A8:1171:G:C5	2:A8:1172:C:C5	3.05	0.44
2:A8:1292:G:C2	2:A8:1293:C:C2	3.05	0.44
2:A8:1364:G:C2	2:A8:1368:G:C5	3.05	0.44
2:A8:1688:U:O4'	2:A8:1701:A:C6	2.71	0.44
2:A8:1713:A:C3'	2:A8:1714:U:H5''	2.47	0.44
2:A8:1719:G:N2	2:A8:1720:U:H1'	2.33	0.44
2:A8:1801:A:C6	2:A8:2203:U:C6	3.05	0.44
2:A8:1876:A:C5	2:A8:1877:A:C4	3.06	0.44
2:A8:1906:G:N1	2:A8:1907:G:C5	2.85	0.44
2:A8:1922:G:C6	2:A8:1923:U:C4	3.06	0.44
2:A8:2126:A:C6	2:A8:2173:A:C8	3.05	0.44
2:A8:2168:G:N2	2:A8:2171:A:C8	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2234:G:C4	2:A8:2235:G:C8	3.05	0.44
2:A8:2320:U:H1'	2:A8:2322:A:H62	1.82	0.44
2:A8:2425:A:H5'	2:A8:2427:C:O4'	2.18	0.44
2:A8:2578:G:C6	8:AD:145:SER:HB2	2.51	0.44
2:A8:2588:G:C5	2:A8:2607:G:C2	3.05	0.44
2:A8:2637:U:H1'	2:A8:2782:G:N2	2.32	0.44
2:A8:2713:U:H2'	2:A8:2715:C:OP2	2.16	0.44
2:A8:2759:G:H2'	2:A8:2760:C:H6	1.82	0.44
2:A8:2810:A:H61	2:A8:2890:G:C2'	2.30	0.44
2:A8:2818:U:H4'	2:A8:2837:A:O4'	2.18	0.44
2:A8:2854:G:C6	2:A8:2855:C:C4	3.05	0.44
8:AD:43:ASP:CG	8:AD:44:GLY:H	2.25	0.44
12:AH:88:GLY:HA3	12:AH:126:GLY:H	1.83	0.44
36:BA:127:G:N2	36:BA:235:C:C2	2.86	0.44
36:BA:156:C:H3'	36:BA:157:U:H6	1.82	0.44
36:BA:202:G:C2	36:BA:203:G:C4	3.06	0.44
36:BA:410:G:H1'	36:BA:433:G:C2	2.53	0.44
36:BA:458:U:H2'	36:BA:459:A:C8	2.53	0.44
36:BA:620:C:C2	39:BD:131:ILE:HG21	2.53	0.44
36:BA:633:G:C6	36:BA:634:C:C4	3.06	0.44
36:BA:697:U:H3	36:BA:798:U:C4'	2.30	0.44
36:BA:766:A:C5	36:BA:814:A:C4	3.05	0.44
36:BA:798:U:H2'	36:BA:799:G:O4'	2.18	0.44
36:BA:800:G:H2'	36:BA:801:U:C5	2.53	0.44
36:BA:892:A:H61	36:BA:906:A:C2'	2.30	0.44
36:BA:1412:C:C2	36:BA:1489:G:C2	3.06	0.44
42:BG:90:VAL:HG23	42:BG:95:ARG:HE	1.82	0.44
1:A7:7:G:C2	1:A7:8:C:C2	3.06	0.44
1:A7:61:G:C2	1:A7:62:C:C2	3.06	0.44
2:A8:28:A:H1'	2:A8:513:A:C2	2.53	0.44
2:A8:196:A:C6	2:A8:805:G:C2	3.06	0.44
2:A8:457:A:N6	2:A8:470:A:H5''	2.32	0.44
2:A8:479:A:N3	2:A8:481:G:H5''	2.33	0.44
2:A8:503:A:C4	2:A8:506:G:C8	3.06	0.44
2:A8:628:G:C6	2:A8:629:G:C5	3.05	0.44
2:A8:726:G:P	2:A8:1433:A:H4'	2.58	0.44
2:A8:742:A:C5	2:A8:743:A:C8	3.06	0.44
2:A8:924:G:H5''	27:AW:24:ARG:HH11	1.83	0.44
2:A8:995:C:C4	14:AJ:2:LYS:HA	2.52	0.44
2:A8:1009:A:C5	2:A8:1010:A:C6	3.05	0.44
2:A8:1112:G:C2	2:A8:1113:U:H1'	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1277:G:C2	2:A8:1294:U:C2	3.06	0.44
2:A8:1395:A:OP1	2:A8:1603:A:H5''	2.17	0.44
2:A8:1403:A:C2	2:A8:1404:C:C6	3.05	0.44
2:A8:1466:U:C4'	2:A8:1545:A:C2	3.01	0.44
2:A8:1525:A:C5	2:A8:1526:C:C4	3.05	0.44
2:A8:1532:A:C6	2:A8:1540:G:C6	3.06	0.44
2:A8:1540:G:C6	2:A8:1541:C:C5	3.06	0.44
2:A8:1724:G:C4	2:A8:1725:U:C6	3.06	0.44
2:A8:1744:A:C6	2:A8:1745:A:H1'	2.52	0.44
2:A8:1771:C:C2	2:A8:1772:A:C8	3.06	0.44
2:A8:1776:G:N2	2:A8:1789:A:H1'	2.33	0.44
2:A8:1801:A:C6	2:A8:2203:U:C5	3.06	0.44
2:A8:1809:A:H2'	2:A8:1810:A:C8	2.53	0.44
2:A8:1820:U:H1'	7:A6:199:HIS:HB2	2.00	0.44
2:A8:2005:A:C8	2:A8:2006:C:C5	3.05	0.44
2:A8:2600:A:N1	2:A8:2601:C:C4	2.86	0.44
2:A8:2795:C:C2	2:A8:2802:G:N2	2.85	0.44
2:A8:2814:A:H2'	31:A0:39:ARG:HD2	1.99	0.44
9:AE:188:MET:SD	9:AE:192:ALA:HB3	2.57	0.44
16:AL:78:ARG:HH11	16:AL:113:ALA:HB2	1.82	0.44
33:A2:30:VAL:CG2	33:A2:33:ARG:HH11	2.31	0.44
36:BA:78:A:C2	36:BA:92:U:C2	3.06	0.44
36:BA:199:A:C2	36:BA:200:G:H1'	2.52	0.44
36:BA:452:A:H2'	36:BA:453:G:C5'	2.48	0.44
36:BA:454:G:C5	36:BA:455:G:C8	3.05	0.44
36:BA:513:C:O2	36:BA:539:A:C2	2.70	0.44
36:BA:540:G:C6	36:BA:541:G:C5	3.05	0.44
36:BA:590:U:H2'	36:BA:591:U:C6	2.53	0.44
36:BA:1034:G:C6	36:BA:1035:A:C6	3.05	0.44
37:BB:41:ASN:HB3	37:BB:43:GLU:HG2	1.99	0.44
1:A7:20:G:C4	1:A7:64:G:C2	3.06	0.44
2:A8:71:A:H5''	2:A8:73:A:C4	2.52	0.44
2:A8:150:U:H2'	2:A8:151:C:C6	2.53	0.44
2:A8:192:C:H1'	2:A8:800:A:H62	1.82	0.44
2:A8:256:A:H2'	2:A8:257:C:C6	2.52	0.44
2:A8:303:G:C2	2:A8:304:U:H1'	2.53	0.44
2:A8:375:G:C2	2:A8:400:G:H1'	2.53	0.44
2:A8:553:G:C5	2:A8:554:U:C4	3.06	0.44
2:A8:694:U:H4'	2:A8:1378:A:N1	2.32	0.44
2:A8:722:A:C6	2:A8:723:C:C4	3.06	0.44
2:A8:869:G:C2	2:A8:909:A:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1022:G:C5	2:A8:1140:C:C4	3.05	0.44
2:A8:1041:G:C2	2:A8:1042:G:C8	3.06	0.44
2:A8:1281:G:C2	2:A8:1290:C:C2	3.06	0.44
2:A8:1293:C:H2'	2:A8:1294:U:H6	1.83	0.44
2:A8:1316:U:H4'	2:A8:1392:A:C6	2.52	0.44
2:A8:1407:G:N2	2:A8:1596:A:H1'	2.33	0.44
2:A8:1445:G:C6	2:A8:1446:C:C4	3.06	0.44
2:A8:1523:U:H3'	2:A8:1524:G:C8	2.53	0.44
2:A8:1582:C:C4	2:A8:1583:A:C8	3.06	0.44
2:A8:1627:G:H1'	2:A8:1640:A:C2	2.52	0.44
2:A8:2011:U:C4	2:A8:2012:G:C5	3.06	0.44
2:A8:2033:A:C6	2:A8:2036:C:C4	3.05	0.44
2:A8:2088:A:C6	2:A8:2089:C:C4	3.06	0.44
2:A8:2320:U:H3'	2:A8:2321:U:H5'	1.98	0.44
2:A8:2323:G:C5	2:A8:2324:U:C5	3.05	0.44
2:A8:2409:G:C4	2:A8:2410:G:C8	3.05	0.44
2:A8:2485:G:H4'	17:AM:124:LEU:C	2.42	0.44
2:A8:2543:G:N1	2:A8:2765:A:C8	2.86	0.44
2:A8:2620:C:H4'	8:AD:161:MET:HE3	1.99	0.44
2:A8:2699:C:C2	2:A8:2709:G:C2	3.05	0.44
2:A8:2796:U:H3'	2:A8:2798:U:N3	2.33	0.44
21:AQ:61:ILE:HG23	21:AQ:75:TYR:CE1	2.53	0.44
25:AU:45:GLN:HB2	25:AU:58:VAL:HG22	1.99	0.44
36:BA:35:G:C4	36:BA:550:G:C2	3.06	0.44
36:BA:243:A:N3	36:BA:245:U:H3'	2.32	0.44
36:BA:286:C:O5'	36:BA:286:C:C6	2.70	0.44
36:BA:413:G:H5''	36:BA:414:A:H5''	1.99	0.44
36:BA:747:A:C6	36:BA:748:G:C5	3.06	0.44
36:BA:834:U:N3	36:BA:835:U:C4	2.86	0.44
36:BA:836:G:C5	36:BA:837:U:C5	3.05	0.44
36:BA:909:A:C6	36:BA:910:C:C2	3.05	0.44
40:BE:32:PHE:CD2	40:BE:55:VAL:HG22	2.53	0.44
41:BF:3:HIS:CE1	41:BF:37:HIS:CE1	3.05	0.44
1:A7:58:A:C2	1:A7:59:A:N9	2.86	0.44
2:A8:57:C:H2'	2:A8:58:G:O4'	2.17	0.44
2:A8:382:A:C2	2:A8:383:C:H1'	2.52	0.44
2:A8:551:G:C6	2:A8:552:U:C4	3.06	0.44
2:A8:666:A:H1'	34:A3:3:ILE:HD11	1.99	0.44
2:A8:693:A:C2	2:A8:770:G:C2	3.06	0.44
2:A8:711:G:C2	2:A8:721:A:N3	2.86	0.44
2:A8:993:G:C2	2:A8:1162:G:C4	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1168:G:N1	2:A8:1169:A:C4	2.86	0.44
2:A8:1172:C:C4	2:A8:1173:U:C2	3.06	0.44
2:A8:1230:A:C6	2:A8:1231:U:C2	3.05	0.44
2:A8:1332:G:N7	2:A8:1609:A:H2'	2.32	0.44
2:A8:1360:G:N7	2:A8:1361:G:C8	2.85	0.44
2:A8:1503:A:N1	2:A8:1504:A:C4	2.86	0.44
2:A8:1558:C:O4'	2:A8:1560:G:C8	2.71	0.44
2:A8:1560:G:C5	2:A8:1561:C:C5	3.06	0.44
2:A8:1681:G:H1'	2:A8:1762:A:H2'	2.00	0.44
2:A8:1719:G:C2	2:A8:1742:U:O2	2.71	0.44
2:A8:1794:A:C6	2:A8:1795:C:C4	3.06	0.44
2:A8:1858:A:N1	2:A8:1859:U:C2	2.86	0.44
2:A8:1887:C:H3'	2:A8:1888:G:H21	1.82	0.44
2:A8:1898:U:O5'	2:A8:1898:U:H6	2.01	0.44
2:A8:2032:G:C6	2:A8:2454:G:O4'	2.71	0.44
2:A8:2119:A:C6	2:A8:2170:A:C5	3.06	0.44
2:A8:2167:U:C4	2:A8:2168:G:C6	3.06	0.44
2:A8:2279:G:N1	2:A8:2280:G:C4	2.86	0.44
2:A8:2399:G:H1'	32:A1:19:PHE:CE1	2.52	0.44
2:A8:2516:A:C2	2:A8:2569:G:C4	3.05	0.44
2:A8:2531:A:H5'	11:AG:173:ALA:N	2.33	0.44
2:A8:2602:A:C8	2:A8:2602:A:H3'	2.53	0.44
2:A8:2691:C:H2'	2:A8:2692:G:C8	2.53	0.44
2:A8:2713:U:C2	2:A8:2715:C:OP2	2.71	0.44
2:A8:2787:C:O4'	8:AD:63:PRO:HA	2.16	0.44
2:A8:2850:A:H2'	2:A8:2851:A:C8	2.52	0.44
6:A5:33:LEU:HB3	6:A5:220:ALA:H	1.82	0.44
36:BA:174:A:C5	36:BA:175:C:C6	3.05	0.44
36:BA:323:U:H2'	36:BA:324:G:O4'	2.18	0.44
36:BA:416:G:H2'	36:BA:417:G:O4'	2.17	0.44
36:BA:454:G:C4	36:BA:455:G:C8	3.06	0.44
36:BA:621:A:C5	36:BA:622:A:C5	3.05	0.44
36:BA:789:U:H1'	36:BA:792:A:N7	2.33	0.44
36:BA:867:G:C5	36:BA:868:C:C5	3.06	0.44
36:BA:1239:A:H5'	42:BG:118:ARG:HH12	1.82	0.44
36:BA:1421:G:N3	36:BA:1480:A:C2	2.86	0.44
45:BJ:45:ARG:H	45:BJ:71:LEU:HD12	1.83	0.44
46:BK:13:LYS:HE2	46:BK:76:TYR:CE2	2.53	0.44
2:A8:6:A:C2	2:A8:7:G:C5	3.05	0.44
2:A8:121:G:N1	2:A8:122:G:C5	2.86	0.44
2:A8:648:G:C5	2:A8:649:G:N7	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:712:G:C2	2:A8:720:U:C2	3.06	0.44
2:A8:743:A:C6	2:A8:744:U:C4	3.05	0.44
2:A8:783:A:H2'	2:A8:784:G:H4'	1.99	0.44
2:A8:874:G:H5'	2:A8:875:G:OP2	2.18	0.44
2:A8:877:A:N6	2:A8:901:C:C4	2.86	0.44
2:A8:948:C:H2'	2:A8:949:G:C8	2.53	0.44
2:A8:957:C:C5	2:A8:959:A:C6	3.06	0.44
2:A8:1031:G:C2	2:A8:1032:A:C4	3.06	0.44
2:A8:1036:G:C2	2:A8:1120:G:C4	3.05	0.44
2:A8:1128:G:C4	2:A8:2518:A:C2	3.06	0.44
2:A8:1151:A:C5	2:A8:1152:C:C5	3.06	0.44
2:A8:1454:C:N4	2:A8:2703:C:H41	2.16	0.44
2:A8:1688:U:H1'	2:A8:1701:A:C5	2.53	0.44
2:A8:1710:G:C6	2:A8:1749:A:C6	3.05	0.44
2:A8:2001:C:C2	2:A8:2002:G:C8	3.06	0.44
2:A8:2332:C:H4'	2:A8:2336:A:N6	2.33	0.44
2:A8:2369:A:C6	2:A8:2370:G:C6	3.06	0.44
2:A8:2478:A:H1'	2:A8:2529:G:H2'	1.99	0.44
2:A8:2637:U:C5	2:A8:2638:G:C5	3.06	0.44
2:A8:2639:A:C4	2:A8:2778:A:C5	3.06	0.44
12:AH:116:ARG:H	12:AH:131:SER:HB2	1.83	0.44
36:BA:183:C:C4	36:BA:224:U:H1'	2.53	0.44
36:BA:251:G:H1'	36:BA:266:G:C8	2.53	0.44
36:BA:255:G:C2	36:BA:256:U:C2	3.06	0.44
36:BA:600:A:C4	36:BA:639:G:C2	3.06	0.44
36:BA:688:G:C6	36:BA:689:C:C5	3.05	0.44
36:BA:727:G:C4	36:BA:731:G:C2	3.06	0.44
36:BA:763:G:C6	36:BA:764:C:C4	3.06	0.44
36:BA:1004:A:H1'	36:BA:1026:G:C5	2.53	0.44
36:BA:1033:G:C6	36:BA:1034:G:C5	3.06	0.44
36:BA:1167:A:H2'	36:BA:1169:A:H62	1.82	0.44
36:BA:1301:U:C4	36:BA:1303:C:C2	3.06	0.44
36:BA:1468:A:C5	36:BA:1469:C:C5	3.06	0.44
1:A7:92:C:C2	1:A7:93:C:C6	3.06	0.43
2:A8:64:A:H2'	2:A8:65:U:O4'	2.18	0.43
2:A8:311:A:O4'	2:A8:332:A:C5	2.71	0.43
2:A8:355:U:H2'	2:A8:356:G:H8	1.83	0.43
2:A8:387:U:H5'	2:A8:387:U:C6	2.53	0.43
2:A8:451:U:C5	2:A8:454:A:OP2	2.71	0.43
2:A8:577:G:C5	2:A8:578:G:C6	3.06	0.43
2:A8:632:A:H2'	2:A8:633:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:647:G:H2'	2:A8:648:G:O4'	2.18	0.43
2:A8:656:G:C5	2:A8:657:U:C4	3.06	0.43
2:A8:695:G:C2	2:A8:696:G:C8	3.06	0.43
2:A8:700:G:C4	2:A8:701:G:C8	3.06	0.43
2:A8:740:C:C6	2:A8:1981:A:C6	3.06	0.43
2:A8:869:G:C2	2:A8:870:U:C2	3.05	0.43
2:A8:1034:G:C2	2:A8:1035:U:H1'	2.53	0.43
2:A8:1091:G:C6	2:A8:1092:C:C4	3.06	0.43
2:A8:1120:G:C5	2:A8:1121:C:C5	3.06	0.43
2:A8:1129:A:C2	2:A8:2516:A:N3	2.86	0.43
2:A8:1294:U:C6	2:A8:1294:U:H5''	2.53	0.43
2:A8:1365:A:C2	2:A8:1366:A:H1'	2.53	0.43
2:A8:1404:C:H5'	2:A8:1471:G:H4'	2.01	0.43
2:A8:1416:G:C5	2:A8:1583:A:C2	3.06	0.43
2:A8:1528:A:C4	2:A8:1544:A:C5	3.06	0.43
2:A8:1545:A:N6	2:A8:1546:G:C2	2.86	0.43
2:A8:1881:C:C2	2:A8:1882:U:C6	3.06	0.43
2:A8:1943:U:C5	2:A8:1945:G:C8	3.06	0.43
2:A8:1973:G:C2	2:A8:1974:C:C2	3.05	0.43
2:A8:2335:A:H5''	2:A8:2337:G:O6	2.17	0.43
2:A8:2342:C:C4	2:A8:2343:U:C5	3.06	0.43
2:A8:2346:A:C4	2:A8:2383:G:C5	3.05	0.43
2:A8:2396:G:C6	2:A8:2421:G:C6	3.05	0.43
2:A8:2469:A:C8	2:A8:2469:A:C3'	3.01	0.43
2:A8:2766:A:C5	2:A8:2767:C:C5	3.05	0.43
2:A8:2796:U:C2	2:A8:2801:G:N2	2.86	0.43
2:A8:2815:C:H2'	2:A8:2816:G:C8	2.53	0.43
2:A8:2816:G:C5	2:A8:2817:U:C4	3.06	0.43
2:A8:2855:C:H2'	2:A8:2856:A:C8	2.53	0.43
10:AF:111:ARG:HH11	48:BM:66:GLY:HA3	1.83	0.43
13:AI:11:GLN:NE2	13:AI:74:PRO:HG3	2.32	0.43
14:AJ:106:LYS:C	14:AJ:108:MET:H	2.26	0.43
28:AX:66:VAL:HG12	28:AX:70:LEU:HD12	2.00	0.43
33:A2:42:LEU:H	33:A2:44:VAL:H	1.64	0.43
36:BA:72:A:C5	36:BA:73:C:C5	3.06	0.43
36:BA:75:G:C2	36:BA:76:G:C4	3.06	0.43
36:BA:239:U:OP1	36:BA:239:U:H4'	2.17	0.43
36:BA:261:U:C5	36:BA:264:C:OP2	2.70	0.43
36:BA:331:G:H21	55:BT:2:ASN:N	2.16	0.43
36:BA:364:A:C2	36:BA:365:U:C4	3.06	0.43
36:BA:541:G:C5	36:BA:542:G:C8	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:626:G:C2	36:BA:627:G:C4	3.06	0.43
36:BA:627:G:H2'	36:BA:628:G:C8	2.54	0.43
36:BA:786:G:C6	36:BA:787:A:C5	3.06	0.43
36:BA:869:G:C5'	36:BA:872:A:O4'	2.66	0.43
36:BA:1256:A:H4'	36:BA:1258:G:C5	2.52	0.43
36:BA:1486:G:C6	36:BA:1487:G:C6	3.06	0.43
36:BA:1486:G:C2	36:BA:1487:G:C4	3.06	0.43
52:BQ:21:VAL:HG22	52:BQ:44:HIS:CE1	2.53	0.43
1:A7:13:G:C5	1:A7:70:C:C5'	3.01	0.43
1:A7:75:G:H2'	1:A7:76:G:O4'	2.18	0.43
1:A7:88:C:C4	1:A7:89:U:C2	3.07	0.43
2:A8:7:G:C5	2:A8:8:C:C5	3.05	0.43
2:A8:158:U:H1'	2:A8:169:G:N2	2.32	0.43
2:A8:315:G:C6	2:A8:316:C:C4	3.05	0.43
2:A8:565:C:C4	2:A8:566:U:C4	3.05	0.43
2:A8:631:A:C4	2:A8:2416:C:H4'	2.53	0.43
2:A8:638:G:H1'	2:A8:652:U:H5''	2.00	0.43
2:A8:667:U:H1'	34:A3:1:PRO:H2	1.83	0.43
2:A8:810:U:C6	16:AL:29:LYS:HE2	2.53	0.43
2:A8:819:A:C5'	2:A8:819:A:C8	3.01	0.43
2:A8:924:G:N1	2:A8:925:A:C5	2.86	0.43
2:A8:1007:C:H3'	2:A8:1008:A:H8	1.83	0.43
2:A8:1011:G:H21	21:AQ:77:LYS:HE3	1.83	0.43
2:A8:1162:G:N1	2:A8:1163:G:C4	2.87	0.43
2:A8:1213:A:C8	2:A8:1237:A:C5	3.07	0.43
2:A8:1218:G:C6	2:A8:1219:U:C4	3.07	0.43
2:A8:1315:C:C2	2:A8:1338:G:C2	3.07	0.43
2:A8:1342:A:N1	2:A8:1397:U:C5	2.87	0.43
2:A8:1413:A:C6	2:A8:1414:C:C4	3.06	0.43
2:A8:1482:G:N1	2:A8:1483:G:C5	2.87	0.43
2:A8:1517:G:C5	2:A8:1518:C:C5	3.06	0.43
2:A8:1565:C:C2	2:A8:1567:G:C5	3.05	0.43
2:A8:1785:A:C4	2:A8:1787:A:C8	3.07	0.43
2:A8:1834:U:H4'	2:A8:1969:A:C6	2.53	0.43
2:A8:1926:U:C2	2:A8:1929:G:C2	3.06	0.43
2:A8:2024:G:C2	2:A8:2025:C:C2	3.06	0.43
2:A8:2038:G:C2	2:A8:2039:U:C2	3.06	0.43
2:A8:2051:A:H2'	2:A8:2614:A:N6	2.32	0.43
2:A8:2058:A:C2	2:A8:2611:C:N4	2.87	0.43
2:A8:2261:C:C2	2:A8:2262:U:C5	3.06	0.43
2:A8:2479:U:C4	2:A8:2480:C:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2584:U:C6	2:A8:2584:U:O5'	2.71	0.43
2:A8:2592:G:C6	2:A8:2603:G:C6	3.06	0.43
2:A8:2646:C:C4	2:A8:2647:U:C4	3.06	0.43
2:A8:2674:G:C5	2:A8:2675:A:N7	2.86	0.43
2:A8:2736:A:C8	2:A8:2736:A:H5''	2.53	0.43
2:A8:2834:G:H1'	2:A8:2883:A:N6	2.33	0.43
6:A5:234:ASN:HD22	6:A5:234:ASN:C	2.25	0.43
14:AJ:22:GLY:N	14:AJ:62:VAL:HA	2.33	0.43
19:AO:33:ARG:HA	19:AO:64:TYR:CE2	2.53	0.43
36:BA:133:U:H1'	36:BA:230:G:C2	2.53	0.43
36:BA:158:G:C6	36:BA:159:G:C6	3.06	0.43
36:BA:455:G:N3	36:BA:478:A:C2	2.86	0.43
36:BA:462:G:C6	36:BA:471:U:O2	2.70	0.43
36:BA:597:G:C5	36:BA:598:U:C4	3.06	0.43
36:BA:678:U:H2'	36:BA:679:C:C6	2.53	0.43
36:BA:838:G:C6	36:BA:849:G:C5	3.06	0.43
36:BA:1057:G:H3'	36:BA:1058:G:C8	2.53	0.43
36:BA:1178:G:C4	36:BA:1180:A:OP2	2.70	0.43
36:BA:1319:A:C5	36:BA:1323:G:C8	3.06	0.43
36:BA:1399:C:C2	36:BA:1401:G:C4	3.07	0.43
36:BA:1527:U:H2'	36:BA:1528:U:O4'	2.18	0.43
36:BA:1528:U:C4	36:BA:1530:G:N2	2.86	0.43
37:BB:147:LEU:O	37:BB:150:ILE:HG22	2.18	0.43
38:BC:66:THR:HG22	38:BC:68:HIS:CE1	2.53	0.43
39:BD:28:ASP:HA	39:BD:33:ILE:HG23	2.00	0.43
46:BK:85:VAL:HG23	46:BK:111:ASP:HA	2.00	0.43
54:BS:39:ILE:CD1	54:BS:61:VAL:HG12	2.48	0.43
1:A7:12:C:H3'	27:AW:74:LYS:H	1.83	0.43
1:A7:47:C:C4	1:A7:48:U:C4	3.06	0.43
2:A8:82:U:H2'	2:A8:83:A:C8	2.54	0.43
2:A8:84:A:N1	2:A8:103:A:C4	2.86	0.43
2:A8:308:G:H3'	2:A8:309:A:C8	2.53	0.43
2:A8:362:A:C4	2:A8:363:G:C8	3.07	0.43
2:A8:452:G:H2'	2:A8:453:A:C8	2.53	0.43
2:A8:563:A:C2	2:A8:564:C:C2	3.06	0.43
2:A8:639:U:N3	2:A8:640:C:C5	2.87	0.43
2:A8:722:A:C2	2:A8:723:C:C2	3.06	0.43
2:A8:828:U:H5''	2:A8:831:G:C2	2.53	0.43
2:A8:912:C:C5	2:A8:913:U:C5	3.05	0.43
2:A8:1351:C:H1'	2:A8:1381:G:N2	2.34	0.43
2:A8:1363:C:H1'	2:A8:1369:G:N2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1666:G:C5	2:A8:1667:G:C5	3.06	0.43
2:A8:1692:U:H1'	2:A8:1696:G:C2	2.53	0.43
2:A8:1698:A:OP1	2:A8:1700:A:H1'	2.18	0.43
2:A8:1814:G:C5	2:A8:1815:A:C5	3.06	0.43
2:A8:1953:A:C2	2:A8:2549:G:N3	2.87	0.43
2:A8:1969:A:H1'	2:A8:1973:G:C1'	2.48	0.43
2:A8:2025:C:C4	2:A8:2026:U:C4	3.06	0.43
2:A8:2069:G:N3	2:A8:2069:G:H2'	2.32	0.43
2:A8:2173:A:OP2	2:A8:2174:C:C5	2.71	0.43
2:A8:2532:G:C6	2:A8:2533:U:C2	3.07	0.43
2:A8:2844:G:H2'	2:A8:2845:U:C6	2.53	0.43
2:A8:2846:G:H2'	2:A8:2847:U:C6	2.54	0.43
3:AA:293:HIS:CD2	3:AA:293:HIS:N	2.86	0.43
31:A0:22:THR:HG22	31:A0:23:ALA:H	1.84	0.43
36:BA:22:G:O4'	36:BA:885:G:H1'	2.18	0.43
36:BA:56:U:C2	36:BA:57:G:C8	3.06	0.43
36:BA:74:A:C6	36:BA:75:G:C5	3.07	0.43
36:BA:171:A:H2'	36:BA:172:A:C8	2.52	0.43
36:BA:221:C:H2'	36:BA:222:C:H6	1.82	0.43
36:BA:291:U:H2'	36:BA:292:G:C8	2.52	0.43
36:BA:332:G:C6	36:BA:333:U:C5	3.06	0.43
36:BA:354:G:N1	36:BA:355:C:C4	2.85	0.43
36:BA:392:C:O4'	36:BA:482:A:C2	2.72	0.43
36:BA:402:G:C6	36:BA:403:C:C4	3.07	0.43
36:BA:417:G:C5	36:BA:418:C:C4	3.06	0.43
36:BA:665:A:C2	36:BA:732:C:H2'	2.53	0.43
36:BA:785:G:N2	36:BA:798:U:C2	2.86	0.43
36:BA:1312:G:O6	54:BS:2:ARG:HA	2.19	0.43
36:BA:1411:C:C6	36:BA:1411:C:H5''	2.53	0.43
1:A7:52:A:C2	1:A7:53:A:H1'	2.54	0.43
2:A8:98:G:C8	2:A8:99:U:C2	3.07	0.43
2:A8:144:A:C6	2:A8:145:C:C4	3.06	0.43
2:A8:221:A:C8	2:A8:266:G:N7	2.86	0.43
2:A8:272:A:C2	2:A8:366:C:O2	2.71	0.43
2:A8:362:A:C5	2:A8:363:G:C8	3.06	0.43
2:A8:459:U:C5	2:A8:469:G:N2	2.86	0.43
2:A8:698:C:C2	2:A8:762:U:C4	3.06	0.43
2:A8:794:A:C5	2:A8:795:C:C5	3.07	0.43
2:A8:825:A:C6	2:A8:826:U:C4	3.07	0.43
2:A8:849:A:C2	2:A8:850:U:C2	3.06	0.43
2:A8:957:C:H41	2:A8:2494:G:H22	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1000:A:C2	2:A8:1155:A:C2	3.07	0.43
2:A8:1039:A:N1	2:A8:1040:A:C4	2.86	0.43
2:A8:1069:A:C4	2:A8:1097:U:OP1	2.71	0.43
2:A8:1203:U:C4	2:A8:1204:A:C6	3.06	0.43
2:A8:1334:G:C2	2:A8:1335:C:C2	3.06	0.43
2:A8:1340:U:H5'	2:A8:1394:U:H4'	2.01	0.43
2:A8:1450:G:C2	2:A8:1451:C:C4	3.06	0.43
2:A8:1655:A:H4'	8:AD:118:PHE:CG	2.54	0.43
2:A8:1677:A:C5	2:A8:1678:A:C5	3.06	0.43
2:A8:1723:G:C6	2:A8:1724:G:C4	3.06	0.43
2:A8:1744:A:H3'	2:A8:1745:A:H8	1.83	0.43
2:A8:1803:A:C8	2:A8:1804:C:C6	3.06	0.43
2:A8:1812:U:H2'	2:A8:1813:G:C8	2.53	0.43
2:A8:1948:G:C2	2:A8:1959:G:C4	3.06	0.43
2:A8:2197:U:H2'	2:A8:2224:G:H1	1.83	0.43
2:A8:2279:G:C6	2:A8:2280:G:C5	3.06	0.43
2:A8:2327:A:C5	2:A8:2328:A:C5	3.07	0.43
2:A8:2330:G:H22	27:AW:40:ARG:HH12	1.64	0.43
2:A8:2333:A:N7	2:A8:2335:A:C6	2.87	0.43
2:A8:2468:A:C2	2:A8:2481:G:C2	3.06	0.43
2:A8:2659:G:C2	2:A8:2663:G:O6	2.71	0.43
2:A8:2738:A:C2	2:A8:2739:U:C6	3.07	0.43
2:A8:2788:C:H2'	2:A8:2789:C:H6	1.82	0.43
26:AV:26:PHE:CE2	26:AV:42:LEU:HB2	2.54	0.43
36:BA:124:C:N3	36:BA:238:A:C2	2.87	0.43
36:BA:347:G:C6	36:BA:348:G:C8	3.06	0.43
36:BA:411:A:C4	36:BA:429:U:C4	3.07	0.43
36:BA:465:A:N7	36:BA:468:A:C6	2.87	0.43
36:BA:577:G:O2'	36:BA:578:C:H5'	2.17	0.43
36:BA:856:C:C4	36:BA:857:C:C5	3.06	0.43
36:BA:977:A:C8	36:BA:1223:C:C6	3.06	0.43
36:BA:1311:A:C2	36:BA:1327:C:C2	3.06	0.43
36:BA:1460:C:H2'	36:BA:1461:G:O4'	2.19	0.43
36:BA:1515:G:C8	36:BA:1515:G:O5'	2.71	0.43
38:BC:122:GLN:HG3	38:BC:125:ARG:HH21	1.82	0.43
55:BT:34:VAL:HG22	55:BT:49:ALA:HB3	2.01	0.43
2:A8:541:A:C6	2:A8:542:C:C4	3.07	0.43
2:A8:775:G:C2	2:A8:777:G:C6	3.07	0.43
2:A8:879:G:C6	2:A8:880:G:H1'	2.53	0.43
2:A8:949:G:N2	2:A8:969:G:H1'	2.33	0.43
2:A8:949:G:N1	2:A8:969:G:C4	2.85	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1036:G:C4	2:A8:1120:G:C2	3.07	0.43
2:A8:1267:U:C5	2:A8:2012:G:N2	2.87	0.43
2:A8:1275:A:H61	18:AN:22:ARG:NH1	2.17	0.43
2:A8:1482:G:C2	2:A8:1483:G:C4	3.06	0.43
2:A8:1540:G:C2	2:A8:1541:C:N1	2.86	0.43
2:A8:1627:G:N2	2:A8:1640:A:H1'	2.34	0.43
2:A8:1739:A:H8	2:A8:1739:A:O5'	2.01	0.43
2:A8:1878:G:H2'	2:A8:1879:C:O4'	2.18	0.43
2:A8:1904:G:C8	2:A8:1904:G:O5'	2.72	0.43
2:A8:2080:A:C2	2:A8:2081:U:C2	3.06	0.43
2:A8:2123:G:H21	6:A5:43:ASP:CG	2.27	0.43
2:A8:2261:C:N3	2:A8:2262:U:C5	2.85	0.43
2:A8:2543:G:H2'	2:A8:2544:G:O4'	2.19	0.43
2:A8:2560:A:C6	2:A8:2561:U:C4	3.06	0.43
2:A8:2776:A:C6	2:A8:2782:G:C4	3.06	0.43
2:A8:2791:G:C2	2:A8:2806:C:C2	3.07	0.43
8:AD:55:LYS:CB	8:AD:57:ALA:H	2.31	0.43
25:AU:43:LYS:HG3	25:AU:45:GLN:HA	1.98	0.43
28:AX:36:ARG:HA	28:AX:47:THR:HB	2.00	0.43
33:A2:12:ARG:HE	33:A2:13:ASN:N	2.16	0.43
36:BA:54:C:O2	36:BA:358:U:C2	2.72	0.43
36:BA:181:A:C8	36:BA:194:C:C6	3.06	0.43
36:BA:258:G:C6	36:BA:269:C:O2	2.71	0.43
36:BA:512:U:C2	36:BA:513:C:C6	3.06	0.43
36:BA:513:C:C2	36:BA:539:A:N1	2.86	0.43
36:BA:517:G:O2'	36:BA:530:G:H4'	2.19	0.43
36:BA:520:A:N1	36:BA:536:C:H1'	2.33	0.43
36:BA:650:G:C5	36:BA:651:C:C5	3.07	0.43
36:BA:712:A:C6	36:BA:713:G:C6	3.06	0.43
36:BA:723:U:H3'	36:BA:724:G:C5'	2.48	0.43
36:BA:810:C:O5'	36:BA:810:C:C6	2.72	0.43
36:BA:842:U:H3'	36:BA:843:U:C5'	2.49	0.43
36:BA:1102:A:C6	36:BA:1103:C:C4	3.06	0.43
36:BA:1125:U:C6	45:BJ:40:ILE:HG21	2.53	0.43
36:BA:1144:G:H21	36:BA:1146:A:H62	1.67	0.43
36:BA:1206:G:H4'	38:BC:190:THR:O	2.18	0.43
36:BA:1266:G:C2	36:BA:1270:G:C5	3.07	0.43
36:BA:1307:U:H2'	36:BA:1308:U:O4'	2.17	0.43
36:BA:1358:U:C5	36:BA:1359:C:N3	2.87	0.43
36:BA:1415:G:C5	36:BA:1486:G:C6	3.07	0.43
36:BA:1489:G:C6	36:BA:1490:U:C4	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1514:G:C6	36:BA:1515:G:C5	3.07	0.43
40:BE:82:HIS:CG	43:BH:95:MET:SD	3.11	0.43
41:BF:3:HIS:HA	41:BF:65:GLU:HA	2.00	0.43
42:BG:102:TRP:CE3	42:BG:136:LYS:HA	2.52	0.43
48:BM:94:LEU:C	48:BM:108:ARG:HE	2.27	0.43
1:A7:15:A:C6	1:A7:109:A:C2	3.07	0.43
1:A7:16:G:C2	1:A7:17:C:N1	2.87	0.43
1:A7:21:G:C5	1:A7:22:U:C5	3.07	0.43
2:A8:23:G:C6	2:A8:518:G:C6	3.05	0.43
2:A8:60:G:C2	2:A8:62:U:C5	3.06	0.43
2:A8:160:A:C5	2:A8:161:A:C5	3.07	0.43
2:A8:164:C:H2'	2:A8:165:A:H5'	2.01	0.43
2:A8:192:C:C5'	2:A8:678:C:H1'	2.49	0.43
2:A8:248:G:OP2	2:A8:249:C:C6	2.72	0.43
2:A8:281:C:H2'	2:A8:282:A:C8	2.54	0.43
2:A8:579:G:C4'	2:A8:2017:U:H2'	2.48	0.43
2:A8:592:A:C2	2:A8:666:A:C6	3.07	0.43
2:A8:950:G:C6	2:A8:968:C:C4	3.06	0.43
2:A8:954:G:C2	2:A8:964:C:C2	3.07	0.43
2:A8:1120:G:C4	2:A8:1121:C:C6	3.07	0.43
2:A8:1128:G:H4'	2:A8:2517:C:C5'	2.49	0.43
2:A8:1274:A:C4	2:A8:1302:A:N1	2.87	0.43
2:A8:1482:G:N1	2:A8:1508:A:H1'	2.33	0.43
2:A8:1540:G:C6	2:A8:1541:C:C4	3.07	0.43
2:A8:1664:A:C8	2:A8:1664:A:O5'	2.71	0.43
2:A8:1665:A:C5	2:A8:1666:G:N7	2.86	0.43
2:A8:1903:G:C2	2:A8:1904:G:C8	3.06	0.43
2:A8:1933:G:C2	2:A8:1934:C:H1'	2.54	0.43
2:A8:2290:G:C6	2:A8:2291:U:C4	3.06	0.43
2:A8:2327:A:H2'	2:A8:2328:A:C8	2.54	0.43
2:A8:2330:G:C6	2:A8:2331:G:C5	3.06	0.43
2:A8:2378:A:C6	2:A8:2379:G:H1'	2.54	0.43
2:A8:2462:C:H2'	2:A8:2463:C:H6	1.84	0.43
2:A8:2527:C:C4	2:A8:2528:U:C5	3.07	0.43
2:A8:2714:G:C4	2:A8:2715:C:C6	3.07	0.43
2:A8:2731:G:C2	2:A8:2732:G:C2	3.06	0.43
2:A8:2786:U:C2	2:A8:2787:C:C6	3.07	0.43
36:BA:44:A:C2	36:BA:45:G:C4	3.07	0.43
36:BA:100:G:H3'	36:BA:101:A:H8	1.84	0.43
36:BA:100:G:H3'	36:BA:101:A:C8	2.54	0.43
36:BA:116:A:C5	36:BA:117:G:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:247:G:C6	36:BA:278:G:C2	3.06	0.43
36:BA:252:U:H2'	36:BA:253:A:C8	2.53	0.43
36:BA:298:A:C5	36:BA:299:G:C5	3.06	0.43
36:BA:428:G:H4'	36:BA:429:U:OP1	2.18	0.43
36:BA:470:C:C4	36:BA:471:U:C4	3.06	0.43
36:BA:568:G:N2	36:BA:574:A:H1'	2.34	0.43
36:BA:584:G:H2'	36:BA:585:G:C8	2.54	0.43
36:BA:606:G:H2'	36:BA:631:C:H2'	2.00	0.43
36:BA:704:A:C6	36:BA:705:G:C4	3.06	0.43
36:BA:830:G:C2	36:BA:831:A:C4	3.07	0.43
36:BA:838:G:C5	36:BA:839:C:C5	3.06	0.43
36:BA:865:A:C5	36:BA:866:C:C4	3.07	0.43
36:BA:1048:G:H1'	36:BA:1215:G:H5''	2.01	0.43
36:BA:1130:A:C2	36:BA:1146:A:C4	3.06	0.43
36:BA:1457:G:H5'	55:BT:30:PHE:CE2	2.53	0.43
41:BF:78:PHE:CD1	41:BF:84:VAL:HG11	2.53	0.43
1:A7:13:G:C4	1:A7:70:C:H4'	2.54	0.43
1:A7:73:A:C5	1:A7:104:A:C4	3.06	0.43
1:A7:104:A:C6	1:A7:105:G:H1'	2.53	0.43
2:A8:134:G:N3	2:A8:146:A:C2	2.86	0.43
2:A8:152:A:C6	2:A8:175:G:C5	3.06	0.43
2:A8:222:A:C5	2:A8:224:U:C2	3.07	0.43
2:A8:310:A:C5	2:A8:312:G:C4	3.07	0.43
2:A8:470:A:C6	2:A8:471:A:C5	3.06	0.43
2:A8:488:G:C6	2:A8:491:G:OP1	2.72	0.43
2:A8:492:A:C2	23:AS:7:HIS:CE1	3.06	0.43
2:A8:538:A:C4	2:A8:556:A:C5	3.06	0.43
2:A8:633:A:C1'	2:A8:2403:C:H4'	2.49	0.43
2:A8:649:G:H2'	2:A8:650:C:O4'	2.18	0.43
2:A8:782:A:OP2	2:A8:1788:C:H1'	2.19	0.43
2:A8:793:A:OP2	2:A8:2072:C:H5'	2.18	0.43
2:A8:813:U:H1'	2:A8:1226:A:H1'	2.01	0.43
2:A8:852:U:H5'	30:AZ:45:GLY:C	2.44	0.43
2:A8:1022:G:C6	2:A8:1140:C:C5	3.07	0.43
2:A8:1182:G:C2	2:A8:1183:U:C2	3.07	0.43
2:A8:1196:C:H2'	2:A8:1197:G:C8	2.54	0.43
2:A8:1347:A:C2	2:A8:1600:C:O2	2.71	0.43
2:A8:1525:A:H3'	2:A8:1526:C:H6	1.84	0.43
2:A8:1534:U:H4'	2:A8:1535:A:C6	2.54	0.43
2:A8:1604:C:H2'	2:A8:1605:C:H6	1.83	0.43
2:A8:1705:A:C6	2:A8:1706:C:C4	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1796:U:H2'	2:A8:1797:G:H8	1.82	0.43
2:A8:1866:A:N6	2:A8:1875:G:H2'	2.31	0.43
2:A8:2063:C:C2	2:A8:2064:C:C6	3.07	0.43
2:A8:2102:G:N1	2:A8:2188:U:C2	2.87	0.43
2:A8:2273:A:C6	2:A8:2274:A:C6	3.06	0.43
2:A8:2345:G:C5	2:A8:2381:A:C2	3.07	0.43
2:A8:2439:A:C6	2:A8:2586:U:H5''	2.53	0.43
2:A8:2472:G:H2'	2:A8:2529:G:N2	2.34	0.43
2:A8:2549:G:N1	2:A8:2550:G:C5	2.87	0.43
2:A8:2595:G:C4	2:A8:2597:G:OP2	2.71	0.43
2:A8:2606:C:N3	2:A8:2607:G:C8	2.87	0.43
2:A8:2759:G:H2'	2:A8:2760:C:C6	2.53	0.43
2:A8:2839:G:C2	2:A8:2880:C:N3	2.87	0.43
2:A8:2868:A:C6	2:A8:2869:G:C4	3.07	0.43
2:A8:2886:A:C8	31:A0:29:VAL:HB	2.53	0.43
9:AE:84:THR:HB	9:AE:85:PHE:H	1.66	0.43
12:AH:71:LYS:HB3	12:AH:78:VAL:HG22	2.01	0.43
29:AY:24:GLU:C	29:AY:29:ARG:HE	2.26	0.43
36:BA:45:G:C2	36:BA:398:U:C2	3.06	0.43
36:BA:109:A:C4	36:BA:327:A:C2	3.07	0.43
36:BA:152:A:H2'	36:BA:153:C:H5'	2.00	0.43
36:BA:198:G:C6	36:BA:199:A:C5	3.07	0.43
36:BA:262:A:H2'	36:BA:263:A:O4'	2.18	0.43
36:BA:446:G:C6	36:BA:447:G:C5	3.07	0.43
36:BA:461:A:N6	36:BA:473:U:C2	2.86	0.43
36:BA:642:A:H2'	36:BA:643:C:C6	2.54	0.43
36:BA:843:U:H5'	36:BA:844:G:C8	2.53	0.43
36:BA:926:G:C6	36:BA:1505:G:C5	3.07	0.43
36:BA:1056:U:C4	36:BA:1200:C:C2	3.07	0.43
36:BA:1299:A:C6	36:BA:1301:U:C2	3.07	0.43
1:A7:47:C:C5	1:A7:48:U:C4	3.07	0.43
1:A7:81:G:C4	1:A7:96:G:C2	3.06	0.43
1:A7:101:A:C6	1:A7:102:G:C5	3.07	0.43
2:A8:52:A:C2	2:A8:53:A:C4	3.06	0.43
2:A8:78:U:H2'	2:A8:79:C:C6	2.54	0.43
2:A8:80:G:H1'	2:A8:346:A:C4	2.54	0.43
2:A8:189:G:H3'	2:A8:205:G:H1	1.82	0.43
2:A8:303:G:N2	2:A8:304:U:H1'	2.34	0.43
2:A8:468:G:C2	2:A8:469:G:H1'	2.54	0.43
2:A8:570:G:C8	2:A8:570:G:H3'	2.53	0.43
2:A8:930:G:C2	2:A8:933:A:C4	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:942:G:C4	2:A8:943:A:C8	3.07	0.43
2:A8:993:G:C5	2:A8:994:C:C5	3.07	0.43
2:A8:1082:U:H3'	2:A8:1083:U:C6	2.54	0.43
2:A8:1165:A:C2	2:A8:1185:G:C5	3.07	0.43
2:A8:1169:A:C2	2:A8:1181:U:O2	2.72	0.43
2:A8:1194:A:C2	2:A8:1195:G:N9	2.87	0.43
2:A8:1303:G:H2'	2:A8:1304:A:C8	2.53	0.43
2:A8:1345:C:H4'	2:A8:1396:U:C4	2.54	0.43
2:A8:1473:G:C4	2:A8:1474:U:C5	3.06	0.43
2:A8:1668:A:H5'	2:A8:1669:A:C6	2.54	0.43
2:A8:1682:G:C2	2:A8:1683:U:C2	3.07	0.43
2:A8:1722:A:C4	2:A8:1739:A:C4	3.07	0.43
2:A8:1723:G:C4	2:A8:1724:G:C8	3.07	0.43
2:A8:1733:G:N1	2:A8:1734:G:C4	2.86	0.43
2:A8:1835:G:C6	2:A8:1931:U:C5	3.07	0.43
2:A8:2024:G:C6	2:A8:2040:G:C5	3.06	0.43
2:A8:2311:A:C8	2:A8:2311:A:OP2	2.72	0.43
2:A8:2528:U:C5	2:A8:2530:A:C5	3.07	0.43
2:A8:2529:G:OP2	2:A8:2530:A:C8	2.72	0.43
2:A8:2678:C:H5''	8:AD:124:ARG:HH22	1.83	0.43
2:A8:2715:C:C4	2:A8:2716:C:C5	3.07	0.43
2:A8:2729:G:C6	2:A8:2730:C:C4	3.07	0.43
2:A8:2850:A:C5	2:A8:2851:A:C5	3.06	0.43
7:A6:40:GLY:H	7:A6:53:ILE:HD13	1.82	0.43
7:A6:75:ALA:CB	7:A6:115:ILE:H	2.32	0.43
13:AI:113:ALA:HA	13:AI:124:MET:SD	2.58	0.43
14:AJ:50:THR:H	14:AJ:118:MET:HE1	1.84	0.43
19:AO:109:ALA:O	19:AO:113:ALA:HB2	2.19	0.43
23:AS:88:ARG:HG2	23:AS:89:ALA:H	1.84	0.43
36:BA:51:A:N1	36:BA:116:A:C4	2.87	0.43
36:BA:105:G:C5	36:BA:106:C:C4	3.07	0.43
36:BA:116:A:C6	36:BA:117:G:C4	3.07	0.43
36:BA:128:G:C2	36:BA:129:A:C5	3.07	0.43
36:BA:204:G:C6	36:BA:465:A:C2	3.07	0.43
36:BA:246:A:C4	36:BA:279:A:C6	3.07	0.43
36:BA:257:G:N3	36:BA:270:A:C2	2.87	0.43
36:BA:259:G:N2	36:BA:268:U:C2	2.87	0.43
36:BA:322:C:N4	36:BA:327:A:C8	2.87	0.43
36:BA:367:U:O2	36:BA:394:G:H1'	2.19	0.43
36:BA:449:G:H2'	36:BA:450:G:C8	2.54	0.43
36:BA:518:C:H5'	36:BA:530:G:H5'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:577:G:C2	36:BA:578:C:C2	3.07	0.43
36:BA:823:C:C2	36:BA:878:A:N1	2.87	0.43
36:BA:874:G:C5	36:BA:875:U:C5	3.06	0.43
36:BA:927:G:N2	36:BA:1391:U:H1'	2.34	0.43
36:BA:993:G:C8	36:BA:1213:A:N6	2.87	0.43
36:BA:1014:A:C2	54:BS:33:TRP:CD2	3.07	0.43
36:BA:1087:G:N2	36:BA:1099:G:H1'	2.34	0.43
36:BA:1530:G:N2	56:BU:39:LYS:HG3	2.33	0.43
41:BF:11:HIS:HB2	41:BF:14:GLN:H	1.82	0.43
54:BS:39:ILE:HD13	54:BS:61:VAL:HG12	2.01	0.43
54:BS:40:PHE:O	54:BS:44:ILE:HG23	2.18	0.43
1:A7:37:C:H3'	1:A7:38:C:C6	2.54	0.43
1:A7:53:A:C4	1:A7:54:G:C8	3.06	0.43
2:A8:113:U:H5''	2:A8:114:U:H5'	2.00	0.43
2:A8:271:G:C5	2:A8:367:G:C2	3.07	0.43
2:A8:370:G:N2	2:A8:424:G:C4	2.87	0.43
2:A8:438:G:C6	2:A8:439:A:C5	3.06	0.43
2:A8:650:C:C5	2:A8:651:G:N3	2.86	0.43
2:A8:677:A:H4'	2:A8:2071:A:H5'	2.00	0.43
2:A8:852:U:C4	2:A8:853:C:C5	3.07	0.43
2:A8:852:U:H2'	2:A8:853:C:O4'	2.19	0.43
2:A8:1003:G:C6	2:A8:1004:U:C4	3.07	0.43
2:A8:1086:A:H4'	2:A8:1104:C:H1'	1.99	0.43
2:A8:1105:U:H2'	2:A8:1106:G:C8	2.54	0.43
2:A8:1234:U:C2	2:A8:1235:G:C8	3.07	0.43
2:A8:1275:A:H3'	2:A8:1645:G:H21	1.83	0.43
2:A8:1299:G:H1	2:A8:1640:A:H5'	1.84	0.43
2:A8:1413:A:C2	2:A8:1590:A:C2	3.06	0.43
2:A8:1504:A:C6	2:A8:1505:A:C5	3.07	0.43
2:A8:1566:A:C2'	2:A8:1567:G:C8	3.01	0.43
2:A8:1668:A:C4	2:A8:1993:U:C2	3.07	0.43
2:A8:1713:A:N6	2:A8:1746:A:C2	2.87	0.43
2:A8:1769:U:H4'	2:A8:1958:C:O3'	2.18	0.43
2:A8:1835:G:C4	2:A8:1931:U:C2	3.07	0.43
2:A8:2333:A:C8	2:A8:2335:A:C4	3.07	0.43
2:A8:2476:A:H3'	2:A8:2477:U:C5	2.54	0.43
2:A8:2624:G:N2	2:A8:2625:G:H1'	2.34	0.43
2:A8:2759:G:H21	11:AG:138:GLN:CD	2.26	0.43
36:BA:47:C:C2	36:BA:49:U:C5	3.07	0.43
36:BA:48:C:C4	36:BA:365:U:C5	3.06	0.43
36:BA:131:A:C5	36:BA:232:G:C6	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:169:C:H2'	36:BA:170:U:C6	2.54	0.43
36:BA:205:A:H61	36:BA:215:C:H1'	1.83	0.43
36:BA:218:U:H2'	36:BA:219:U:C6	2.54	0.43
36:BA:232:G:H2'	36:BA:263:A:H2	1.83	0.43
36:BA:242:G:N1	36:BA:285:C:C4	2.87	0.43
36:BA:263:A:H2'	36:BA:264:C:C5	2.53	0.43
36:BA:373:A:C2	36:BA:374:A:C4	3.07	0.43
36:BA:570:G:H1'	36:BA:820:U:C4	2.54	0.43
36:BA:719:C:H2'	36:BA:720:C:H5'	2.01	0.43
36:BA:785:G:N2	36:BA:786:G:H1'	2.34	0.43
36:BA:786:G:C2	36:BA:797:C:C2	3.07	0.43
36:BA:851:G:N1	36:BA:852:G:C4	2.87	0.43
36:BA:914:A:C6	36:BA:915:A:C5	3.06	0.43
36:BA:1088:G:C2	36:BA:1089:G:C4	3.07	0.43
36:BA:1088:G:C6	36:BA:1089:G:C5	3.06	0.43
36:BA:1112:C:C6	36:BA:1113:C:C5	3.07	0.43
36:BA:1254:A:H2'	36:BA:1255:G:C8	2.54	0.43
36:BA:1349:A:H3'	36:BA:1350:A:H8	1.82	0.43
36:BA:1426:G:C2	36:BA:1475:G:N3	2.87	0.43
50:BO:17:ASP:H	50:BO:20:ASP:HB2	1.83	0.43
1:A7:106:G:H2'	1:A7:107:G:O4'	2.19	0.43
2:A8:41:C:C2	2:A8:42:A:C8	3.07	0.43
2:A8:53:A:C6	2:A8:54:G:C4	3.07	0.43
2:A8:120:U:C5	2:A8:149:A:C2	3.07	0.43
2:A8:123:G:C5	2:A8:124:G:C5	3.06	0.43
2:A8:169:G:C6	2:A8:170:U:C4	3.06	0.43
2:A8:192:C:C5	2:A8:193:U:C6	3.06	0.43
2:A8:222:A:C6	2:A8:224:U:C2	3.07	0.43
2:A8:370:G:C2	2:A8:424:G:C8	3.07	0.43
2:A8:599:A:C2	2:A8:659:G:C4	3.06	0.43
2:A8:648:G:C6	2:A8:649:G:N7	2.87	0.43
2:A8:845:A:C6	2:A8:932:U:C4	3.06	0.43
2:A8:860:U:H2'	2:A8:861:A:C8	2.54	0.43
2:A8:866:A:C6	2:A8:867:C:C4	3.07	0.43
2:A8:1015:U:H3	2:A8:1147:A:N6	2.17	0.43
2:A8:1041:G:C2	2:A8:1042:G:C5	3.07	0.43
2:A8:1177:G:C4	2:A8:1178:C:C6	3.07	0.43
2:A8:1400:U:H2'	2:A8:1401:G:C8	2.53	0.43
2:A8:1432:G:N2	2:A8:1562:U:H1'	2.33	0.43
2:A8:1446:C:C6	2:A8:1446:C:O5'	2.72	0.43
2:A8:1450:G:C4	2:A8:1451:C:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1582:C:H2'	2:A8:1583:A:H4'	2.00	0.43
2:A8:1666:G:H1	2:A8:1994:C:H42	1.67	0.43
2:A8:1707:G:C6	2:A8:1708:C:C4	3.07	0.43
2:A8:1835:G:H1'	2:A8:1931:U:O2	2.19	0.43
2:A8:1872:A:C6	2:A8:1873:G:C4	3.07	0.43
2:A8:1937:A:C5	2:A8:1939:U:C4	3.07	0.43
2:A8:2061:G:H4'	2:A8:2503:A:C4	2.54	0.43
2:A8:2120:G:N1	2:A8:2121:G:C2	2.87	0.43
2:A8:2161:C:H2'	2:A8:2162:G:C8	2.54	0.43
2:A8:2214:C:H2'	2:A8:2215:C:H5'	2.00	0.43
2:A8:2549:G:C2	2:A8:2560:A:C4	3.07	0.43
2:A8:2756:U:C1'	2:A8:2757:A:H5''	2.49	0.43
2:A8:2819:G:C6	2:A8:2821:A:C2	3.07	0.43
9:AE:19:PHE:CE1	9:AE:113:VAL:HG21	2.54	0.43
10:AF:69:ALA:CB	10:AF:82:TYR:CE2	3.02	0.43
14:AJ:73:VAL:HG22	14:AJ:88:THR:HG22	2.01	0.43
22:AR:77:PHE:CE1	22:AR:79:ARG:HA	2.54	0.43
36:BA:44:A:C2	36:BA:45:G:C8	3.07	0.43
36:BA:236:A:C2	36:BA:237:G:C4	3.07	0.43
36:BA:283:U:C4	36:BA:284:C:C6	3.06	0.43
36:BA:571:U:H3'	36:BA:572:A:C5'	2.49	0.43
36:BA:765:G:H3'	36:BA:765:G:C8	2.54	0.43
36:BA:1087:G:C2	36:BA:1088:G:C8	3.07	0.43
36:BA:1152:A:OP2	45:BJ:70:HIS:CE1	2.71	0.43
36:BA:1489:G:C5	36:BA:1490:U:C4	3.07	0.43
1:A7:90:C:C4	1:A7:91:C:C5	3.06	0.42
2:A8:46:G:C5	2:A8:47:C:C5	3.07	0.42
2:A8:64:A:N7	2:A8:65:U:C5	2.87	0.42
2:A8:119:A:O5'	2:A8:120:U:C5	2.72	0.42
2:A8:297:G:C6	2:A8:342:A:C6	3.06	0.42
2:A8:360:U:H2'	2:A8:361:G:C1'	2.49	0.42
2:A8:415:A:N3	2:A8:2409:G:C2	2.87	0.42
2:A8:545:U:H3	2:A8:549:G:H1'	1.83	0.42
2:A8:563:A:C6	2:A8:564:C:C4	3.07	0.42
2:A8:563:A:C6	2:A8:2018:G:C5	3.07	0.42
2:A8:663:G:C4	2:A8:664:G:C8	3.07	0.42
2:A8:708:G:C5	2:A8:709:U:C4	3.07	0.42
2:A8:825:A:C2	2:A8:826:U:C2	3.07	0.42
2:A8:869:G:C4	2:A8:870:U:C6	3.08	0.42
2:A8:1011:G:C2	2:A8:1013:C:C2	3.07	0.42
2:A8:1189:A:C6	2:A8:1190:G:C4	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1348:C:C6	2:A8:1348:C:H5''	2.54	0.42
2:A8:1439:A:C4	2:A8:1553:A:C6	3.07	0.42
2:A8:1613:G:H22	2:A8:1617:C:C2'	2.29	0.42
2:A8:1659:G:N2	2:A8:2002:G:C4	2.87	0.42
2:A8:1717:A:H61	2:A8:1743:G:H1'	1.84	0.42
2:A8:1750:G:C6	2:A8:1751:U:C4	3.07	0.42
2:A8:1853:A:C5	2:A8:1889:A:C5	3.07	0.42
2:A8:1907:G:C6	2:A8:1924:C:N3	2.87	0.42
2:A8:1940:U:H4'	2:A8:1965:C:C6	2.54	0.42
2:A8:2024:G:C6	2:A8:2025:C:C4	3.07	0.42
2:A8:2041:U:O5'	2:A8:2041:U:C6	2.71	0.42
2:A8:2175:C:H2'	2:A8:2176:A:C8	2.54	0.42
2:A8:2377:A:C5	2:A8:2378:A:C5	3.07	0.42
2:A8:2469:A:C8	2:A8:2469:A:H3'	2.54	0.42
2:A8:2565:A:N7	2:A8:2566:A:C2	2.87	0.42
2:A8:2574:G:C5	2:A8:2575:C:C5	3.07	0.42
2:A8:2658:C:H4'	11:AG:157:LYS:HG2	2.01	0.42
2:A8:2720:U:C2	2:A8:2721:A:C8	3.07	0.42
36:BA:61:G:C5	36:BA:62:U:C4	3.07	0.42
36:BA:111:G:H1	36:BA:330:C:H41	1.67	0.42
36:BA:202:G:N2	36:BA:216:U:C2	2.87	0.42
36:BA:295:C:N3	36:BA:303:A:C2	2.87	0.42
36:BA:301:G:C6	36:BA:302:G:C5	3.07	0.42
36:BA:373:A:C8	36:BA:373:A:OP2	2.72	0.42
36:BA:445:G:C6	36:BA:446:G:N7	2.87	0.42
36:BA:452:A:H3'	36:BA:453:G:H8	1.84	0.42
36:BA:468:A:C4	36:BA:469:C:C5	3.07	0.42
36:BA:506:G:C5	36:BA:507:C:C4	3.07	0.42
36:BA:577:G:C6	36:BA:578:C:C4	3.07	0.42
36:BA:658:C:N3	36:BA:749:A:C2	2.87	0.42
36:BA:706:A:C2	36:BA:707:U:C2	3.07	0.42
36:BA:769:G:C2	36:BA:770:C:C6	3.06	0.42
36:BA:775:G:C6	36:BA:776:G:C6	3.06	0.42
36:BA:803:G:H2'	36:BA:804:U:O4'	2.19	0.42
36:BA:852:G:H2'	36:BA:853:C:O4'	2.18	0.42
36:BA:1072:G:C4	36:BA:1104:G:N2	2.87	0.42
36:BA:1312:G:C6	36:BA:1326:U:C4	3.07	0.42
36:BA:1402:C:H2'	36:BA:1403:C:O4'	2.18	0.42
36:BA:1452:C:H1'	36:BA:1453:G:C2	2.54	0.42
37:BB:67:LEU:HD12	37:BB:89:PHE:HB2	2.01	0.42
40:BE:11:GLN:H	40:BE:44:ARG:NH2	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BQ:26:ARG:HH11	52:BQ:39:ARG:HG3	1.84	0.42
2:A8:182:A:C2	2:A8:183:C:C2	3.07	0.42
2:A8:188:G:C4	2:A8:189:G:C8	3.07	0.42
2:A8:206:U:C4	2:A8:207:A:N7	2.87	0.42
2:A8:241:A:H61	2:A8:255:A:H3'	1.83	0.42
2:A8:275:C:C2	2:A8:363:G:C2	3.07	0.42
2:A8:345:A:H1'	2:A8:346:A:H2	1.84	0.42
2:A8:428:A:C6	2:A8:429:A:C6	3.07	0.42
2:A8:429:A:C2	2:A8:430:A:C2	3.07	0.42
2:A8:460:A:C6	2:A8:470:A:C8	3.07	0.42
2:A8:465:G:H2'	2:A8:466:A:C8	2.54	0.42
2:A8:551:G:C2	2:A8:552:U:C2	3.06	0.42
2:A8:705:A:N1	2:A8:706:A:C6	2.87	0.42
2:A8:723:C:H2'	2:A8:724:U:O4'	2.19	0.42
2:A8:764:A:H5''	7:A6:208:GLY:CA	2.49	0.42
2:A8:771:G:C5	2:A8:772:C:C5	3.06	0.42
2:A8:874:G:C5	2:A8:875:G:C8	3.06	0.42
2:A8:878:A:N3	2:A8:879:G:C8	2.87	0.42
2:A8:1012:U:H3	2:A8:1143:A:H8	1.62	0.42
2:A8:1395:A:C4	2:A8:1398:C:C6	3.07	0.42
2:A8:1426:G:H3'	2:A8:1427:A:C8	2.55	0.42
2:A8:1670:C:H3'	2:A8:1671:U:H6	1.84	0.42
2:A8:1826:G:C6	2:A8:1827:U:C4	3.07	0.42
2:A8:1854:A:C4'	2:A8:2233:U:H4'	2.49	0.42
2:A8:1881:C:C4	2:A8:1882:U:C4	3.07	0.42
2:A8:1899:A:H1'	2:A8:1903:G:C6	2.54	0.42
2:A8:1917:U:C4	2:A8:1918:A:C6	3.07	0.42
2:A8:2163:A:H4'	6:A5:106:LYS:HZ3	1.84	0.42
2:A8:2244:U:C4	2:A8:2245:U:C4	3.06	0.42
2:A8:2319:G:O4'	2:A8:2321:U:C5	2.72	0.42
2:A8:2443:C:C2	2:A8:2444:G:C8	3.07	0.42
2:A8:2513:A:C6	2:A8:2574:G:C5	3.08	0.42
2:A8:2692:G:C2	2:A8:2718:G:N3	2.87	0.42
2:A8:2776:A:C5	2:A8:2782:G:C4	3.07	0.42
9:AE:90:GLN:HB3	9:AE:92:HIS:CE1	2.53	0.42
15:AK:2:GLN:HG3	15:AK:23:VAL:HG23	2.00	0.42
22:AR:73:LYS:HA	22:AR:87:GLN:O	2.18	0.42
26:AV:28:ALA:HA	26:AV:89:ILE:H	1.84	0.42
28:AX:39:VAL:HG23	28:AX:42:GLU:H	1.85	0.42
36:BA:297:G:C2	36:BA:301:G:C6	3.06	0.42
36:BA:313:A:C2	36:BA:314:C:C2	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:331:G:H2'	55:BT:3:ILE:HA	2.00	0.42
36:BA:376:G:C2	36:BA:377:G:C4	3.08	0.42
36:BA:417:G:H3'	36:BA:418:C:C6	2.53	0.42
36:BA:515:G:C6	36:BA:537:G:C6	3.06	0.42
36:BA:522:C:H1'	36:BA:536:C:H4'	2.00	0.42
36:BA:550:G:C6	36:BA:551:U:C4	3.06	0.42
36:BA:596:A:C2	36:BA:597:G:H1'	2.53	0.42
36:BA:604:G:C6	36:BA:635:A:C2	3.07	0.42
36:BA:613:C:C4	36:BA:614:C:C5	3.06	0.42
36:BA:746:A:H2'	36:BA:747:A:C8	2.54	0.42
36:BA:765:G:C2	36:BA:812:G:C6	3.07	0.42
36:BA:786:G:H2'	36:BA:787:A:O4'	2.19	0.42
36:BA:859:G:N7	36:BA:869:G:C2	2.87	0.42
36:BA:945:G:H1'	36:BA:1337:G:C2'	2.49	0.42
36:BA:1083:U:C5	36:BA:1084:G:C5	3.07	0.42
36:BA:1107:C:C4	36:BA:1108:G:N7	2.87	0.42
36:BA:1333:A:H3'	36:BA:1334:G:C8	2.53	0.42
36:BA:1416:G:C6	36:BA:1417:G:C5	3.07	0.42
36:BA:1425:U:C2	36:BA:1476:A:N1	2.87	0.42
36:BA:1459:G:C6	36:BA:1460:C:C4	3.07	0.42
36:BA:1501:C:OP1	36:BA:1508:A:H5'	2.19	0.42
44:BI:17:ARG:HD2	44:BI:19:PHE:CZ	2.54	0.42
54:BS:4:LEU:HD23	54:BS:4:LEU:H	1.83	0.42
1:A7:15:A:H3'	1:A7:16:G:H8	1.85	0.42
1:A7:72:G:H1'	1:A7:105:G:C2	2.54	0.42
2:A8:9:G:H3'	2:A8:2629:U:H3	1.85	0.42
2:A8:46:G:C6	2:A8:47:C:C4	3.07	0.42
2:A8:219:A:C2	2:A8:220:G:C2	3.07	0.42
2:A8:271:G:C2	2:A8:272:A:C4	3.07	0.42
2:A8:285:G:C5	2:A8:286:U:C4	3.07	0.42
2:A8:422:A:H3'	2:A8:423:A:C8	2.54	0.42
2:A8:424:G:N1	2:A8:425:G:C4	2.87	0.42
2:A8:457:A:N1	2:A8:470:A:H5''	2.34	0.42
2:A8:483:A:H4'	25:AU:45:GLN:O	2.19	0.42
2:A8:527:C:C6	2:A8:528:A:H2	2.36	0.42
2:A8:582:A:C6	2:A8:583:G:C5	3.07	0.42
2:A8:636:G:H1	16:AL:76:GLU:CD	2.27	0.42
2:A8:649:G:C6	2:A8:650:C:N3	2.87	0.42
2:A8:766:U:O5'	2:A8:766:U:H6	2.01	0.42
2:A8:876:C:H2'	2:A8:877:A:C8	2.54	0.42
2:A8:877:A:C5	2:A8:878:A:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1041:G:C2	2:A8:1115:G:C2	3.07	0.42
2:A8:1307:A:C4	2:A8:1308:A:C8	3.07	0.42
2:A8:1308:A:N6	2:A8:1606:C:H1'	2.33	0.42
2:A8:1319:C:H1'	2:A8:1334:G:N2	2.34	0.42
2:A8:1418:G:H1	2:A8:1578:U:H3'	1.83	0.42
2:A8:1432:G:C2	2:A8:1433:A:C5	3.07	0.42
2:A8:1483:G:N1	2:A8:1507:C:C2	2.87	0.42
2:A8:1595:C:C2	2:A8:1596:A:C8	3.08	0.42
2:A8:1650:A:C6	2:A8:1651:G:C5	3.08	0.42
2:A8:1665:A:C4	2:A8:1666:G:C8	3.07	0.42
2:A8:1703:G:C2	2:A8:1704:C:C2	3.07	0.42
2:A8:1733:G:C5	2:A8:1734:G:C8	3.07	0.42
2:A8:1782:U:C5	2:A8:1783:A:C8	3.07	0.42
2:A8:1889:A:H3'	2:A8:1890:A:C8	2.54	0.42
2:A8:1937:A:H62	2:A8:1940:U:H3	1.68	0.42
2:A8:2027:G:C6	2:A8:2028:U:C4	3.07	0.42
2:A8:2028:U:O5'	2:A8:2028:U:H6	2.02	0.42
2:A8:2093:G:N9	2:A8:2225:A:C2	2.87	0.42
2:A8:2241:A:C6	2:A8:2242:G:C6	3.07	0.42
2:A8:2292:U:H5''	2:A8:2378:A:H61	1.85	0.42
2:A8:2355:G:H5''	27:AW:32:ALA:HB1	2.01	0.42
2:A8:2404:U:C4	2:A8:2414:G:N1	2.87	0.42
2:A8:2523:G:C4	2:A8:2765:A:C6	3.07	0.42
2:A8:2559:C:C2	2:A8:2560:A:C8	3.08	0.42
2:A8:2633:G:C2	2:A8:2786:U:C2	3.07	0.42
2:A8:2699:C:C2	2:A8:2709:G:N1	2.87	0.42
2:A8:2800:A:N6	2:A8:2801:G:C4	2.88	0.42
2:A8:2888:C:C2	2:A8:2889:C:C6	3.07	0.42
15:AK:38:ILE:O	15:AK:58:LYS:HA	2.18	0.42
15:AK:62:VAL:HB	15:AK:82:ALA:HB3	2.00	0.42
17:AM:38:ARG:HH21	17:AM:98:PRO:HG2	1.84	0.42
21:AQ:63:ARG:O	21:AQ:67:ALA:HB3	2.20	0.42
23:AS:56:ALA:HA	23:AS:59:GLU:CD	2.44	0.42
26:AV:31:TYR:O	26:AV:92:VAL:HA	2.19	0.42
36:BA:238:A:C5	36:BA:239:U:C5	3.07	0.42
36:BA:247:G:N3	36:BA:282:A:C2	2.87	0.42
36:BA:258:G:H8	36:BA:258:G:C5'	2.32	0.42
36:BA:294:U:H2'	36:BA:295:C:C6	2.55	0.42
36:BA:457:G:C6	36:BA:458:U:C4	3.08	0.42
36:BA:483:C:C6	36:BA:484:G:C8	3.07	0.42
36:BA:575:G:C5'	36:BA:881:G:H21	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:615:G:C4	36:BA:626:G:C6	3.08	0.42
36:BA:622:A:C8	36:BA:623:C:C5	3.07	0.42
36:BA:814:A:C4'	36:BA:1511:G:H4'	2.49	0.42
36:BA:859:G:C6	36:BA:860:A:C5	3.07	0.42
36:BA:1044:A:C5	36:BA:1045:C:H1'	2.54	0.42
36:BA:1413:A:C4	36:BA:1488:G:N2	2.87	0.42
36:BA:1439:G:C4	36:BA:1440:U:C5	3.07	0.42
39:BD:159:GLU:HG3	39:BD:160:LEU:H	1.84	0.42
43:BH:96:ALA:HB1	43:BH:99:GLY:H	1.84	0.42
47:BL:36:VAL:H	47:BL:75:GLU:HG2	1.84	0.42
55:BT:20:ASN:C	55:BT:24:ARG:HE	2.28	0.42
1:A7:34:A:H4'	1:A7:35:C:C2	2.55	0.42
2:A8:67:U:H1'	2:A8:88:G:C2	2.54	0.42
2:A8:71:A:N3	2:A8:73:A:C2	2.86	0.42
2:A8:207:A:C6	2:A8:208:C:C2	3.07	0.42
2:A8:246:C:C4	2:A8:247:G:N7	2.87	0.42
2:A8:249:C:H5''	2:A8:249:C:C6	2.54	0.42
2:A8:253:C:H2'	2:A8:254:G:O4'	2.19	0.42
2:A8:265:A:H2'	2:A8:266:G:O4'	2.18	0.42
2:A8:455:C:H2'	2:A8:472:A:C2	2.54	0.42
2:A8:503:A:C6	2:A8:506:G:C5	3.08	0.42
2:A8:572:A:C5	2:A8:573:U:C5	3.08	0.42
2:A8:853:C:C2	2:A8:854:C:C6	3.07	0.42
2:A8:861:A:C5	2:A8:862:G:C4	3.08	0.42
2:A8:881:G:C2	2:A8:882:G:H1'	2.55	0.42
2:A8:918:A:H2'	2:A8:919:U:H5'	2.01	0.42
2:A8:922:C:C2	2:A8:923:G:C8	3.07	0.42
2:A8:1039:A:C2	2:A8:1117:C:O2	2.73	0.42
2:A8:1054:A:C2	2:A8:1055:G:C5	3.08	0.42
2:A8:1093:G:H21	2:A8:1098:A:H62	1.66	0.42
2:A8:1197:G:H4'	2:A8:1227:G:O3'	2.19	0.42
2:A8:1214:A:H4'	2:A8:1239:G:H4'	2.01	0.42
2:A8:1279:G:C6	2:A8:1280:G:C5	3.07	0.42
2:A8:1320:C:C4	2:A8:1330:C:C5	3.07	0.42
2:A8:1364:G:H1'	2:A8:1368:G:N2	2.34	0.42
2:A8:1444:G:C5	2:A8:1445:G:C5	3.08	0.42
2:A8:1527:G:C2	2:A8:1543:G:H2'	2.54	0.42
2:A8:1665:A:C2	2:A8:1666:G:C5	3.08	0.42
2:A8:1847:A:H1'	2:A8:1848:A:H62	1.84	0.42
2:A8:1850:G:N1	2:A8:1893:C:C2	2.88	0.42
2:A8:1948:G:C2	2:A8:1949:G:C4	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2048:G:C2	2:A8:2049:G:H1'	2.55	0.42
2:A8:2077:A:C5	2:A8:2435:A:C5	3.07	0.42
2:A8:2274:A:C6	2:A8:2276:G:H1'	2.54	0.42
2:A8:2298:A:C5	2:A8:2299:U:C6	3.07	0.42
2:A8:2824:C:C4	2:A8:2825:G:C5	3.07	0.42
3:AA:350:LYS:O	3:AA:353:ALA:HB3	2.19	0.42
9:AE:164:LEU:HD12	9:AE:165:HIS:CE1	2.54	0.42
12:AH:88:GLY:CA	12:AH:126:GLY:H	2.32	0.42
13:AI:92:PRO:HA	13:AI:136:GLY:HA3	2.01	0.42
22:AR:91:GLN:CD	22:AR:92:TRP:H	2.28	0.42
35:A4:25:VAL:CG2	35:A4:33:HIS:CE1	3.03	0.42
36:BA:39:G:C2	36:BA:404:G:C4	3.08	0.42
36:BA:59:A:C2	36:BA:331:G:C2	3.07	0.42
36:BA:154:U:C2	36:BA:168:G:C2	3.08	0.42
36:BA:202:G:H21	36:BA:465:A:H61	1.66	0.42
36:BA:250:A:H1'	36:BA:252:U:C6	2.53	0.42
36:BA:324:G:N1	36:BA:326:G:H3'	2.34	0.42
36:BA:540:G:C2	36:BA:541:G:C4	3.08	0.42
36:BA:760:G:C6	36:BA:761:G:C4	3.07	0.42
36:BA:773:G:N2	36:BA:774:G:H1'	2.34	0.42
36:BA:775:G:H2'	36:BA:776:G:O4'	2.18	0.42
36:BA:865:A:C5	36:BA:866:C:C5	3.07	0.42
36:BA:929:G:C5	36:BA:930:C:C6	3.07	0.42
36:BA:1099:G:C2	36:BA:1100:C:H1'	2.54	0.42
36:BA:1239:A:N6	36:BA:1299:A:H62	2.16	0.42
36:BA:1483:A:H2'	36:BA:1484:C:O4'	2.19	0.42
36:BA:1507:A:C2	36:BA:1530:G:O4'	2.72	0.42
38:BC:116:ALA:C	38:BC:197:VAL:HG11	2.44	0.42
55:BT:49:ALA:HA	55:BT:52:GLU:CD	2.44	0.42
2:A8:255:A:C6	2:A8:256:A:C4	3.07	0.42
2:A8:371:A:N6	2:A8:401:A:C8	2.87	0.42
2:A8:470:A:N6	2:A8:471:A:C6	2.88	0.42
2:A8:485:C:C2	2:A8:486:C:C6	3.08	0.42
2:A8:544:C:C6	2:A8:546:U:H5'	2.54	0.42
2:A8:565:C:H42	2:A8:576:U:H3	1.67	0.42
2:A8:592:A:C2	2:A8:593:U:C2	3.07	0.42
2:A8:607:U:C2	2:A8:620:G:O4'	2.72	0.42
2:A8:638:G:C2	2:A8:639:U:C2	3.07	0.42
2:A8:695:G:C2	2:A8:768:G:C5	3.07	0.42
2:A8:699:A:C8	2:A8:700:G:C8	3.08	0.42
2:A8:843:G:C2	2:A8:936:A:C4	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:904:G:C4	2:A8:905:A:C8	3.07	0.42
2:A8:1151:A:C4	2:A8:1152:C:C6	3.07	0.42
2:A8:1162:G:C6	2:A8:1163:G:C5	3.07	0.42
2:A8:1220:G:C5	2:A8:1230:A:N1	2.87	0.42
2:A8:1226:A:OP2	2:A8:1227:G:C8	2.73	0.42
2:A8:1286:A:C6	2:A8:1289:C:C2	3.08	0.42
2:A8:1668:A:H1'	2:A8:1670:C:C4	2.54	0.42
2:A8:1674:G:H21	2:A8:1677:A:N6	2.16	0.42
2:A8:1681:G:C6	2:A8:1762:A:C6	3.07	0.42
2:A8:1685:C:C2	2:A8:1686:C:C6	3.08	0.42
2:A8:1719:G:C2	2:A8:1742:U:C2	3.08	0.42
2:A8:1725:U:C4	2:A8:1726:C:C5	3.07	0.42
2:A8:1913:A:C6	36:BA:1494:G:C8	3.07	0.42
2:A8:1932:A:C8	2:A8:1933:G:C8	3.08	0.42
2:A8:1955:U:C5	2:A8:2557:G:N2	2.88	0.42
2:A8:2027:G:C2	2:A8:2028:U:C2	3.07	0.42
2:A8:2121:G:H1	2:A8:2176:A:N6	2.05	0.42
2:A8:2357:G:C4	2:A8:2361:G:C6	3.07	0.42
2:A8:2357:G:N2	2:A8:2359:C:H3'	2.33	0.42
2:A8:2394:C:C5	2:A8:2395:C:C5	3.08	0.42
2:A8:2543:G:C2	2:A8:2544:G:C4	3.07	0.42
2:A8:2618:G:C2	2:A8:2619:C:C2	3.08	0.42
2:A8:2656:U:O4	2:A8:2665:A:C8	2.72	0.42
2:A8:2675:A:C5	2:A8:2676:C:C6	3.07	0.42
2:A8:2698:U:C2	2:A8:2699:C:C5	3.08	0.42
2:A8:2832:U:H1'	2:A8:2834:G:C2	2.53	0.42
7:A6:230:PRO:HG2	7:A6:244:VAL:HG21	2.02	0.42
32:A1:38:PHE:HA	32:A1:45:HIS:HA	2.01	0.42
36:BA:243:A:C8	36:BA:245:U:C5	3.08	0.42
36:BA:413:G:H1	39:BD:30:LYS:C	2.27	0.42
36:BA:577:G:C6	36:BA:812:G:N2	2.85	0.42
36:BA:782:A:H2'	36:BA:783:C:H5'	2.02	0.42
36:BA:832:G:N2	36:BA:833:G:H1'	2.35	0.42
36:BA:859:G:OP2	36:BA:869:G:C6	2.71	0.42
36:BA:904:U:O5'	36:BA:904:U:C6	2.72	0.42
36:BA:979:C:C5	36:BA:980:C:C5	3.08	0.42
36:BA:1072:G:C4	36:BA:1104:G:C2	3.07	0.42
36:BA:1166:G:C2	36:BA:1171:A:C6	3.07	0.42
36:BA:1476:A:C4	36:BA:1477:U:C5	3.08	0.42
36:BA:1502:A:H5'	36:BA:1504:G:N7	2.34	0.42
39:BD:131:ILE:HG22	39:BD:134:TYR:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A7:56:G:H21	1:A7:59:A:H2	1.62	0.42
1:A7:68:C:C2	1:A7:69:G:C8	3.07	0.42
2:A8:21:A:C6	2:A8:22:C:C4	3.07	0.42
2:A8:112:U:H3'	2:A8:113:U:C6	2.54	0.42
2:A8:152:A:C2	2:A8:175:G:C4	3.07	0.42
2:A8:160:A:H2'	2:A8:161:A:C8	2.55	0.42
2:A8:285:G:C2	2:A8:356:G:C5	3.08	0.42
2:A8:285:G:H1'	2:A8:356:G:C2	2.54	0.42
2:A8:396:G:C5	2:A8:397:U:C5	3.07	0.42
2:A8:396:G:C6	2:A8:397:U:C4	3.07	0.42
2:A8:401:A:C2	2:A8:402:A:C4	3.08	0.42
2:A8:422:A:C6	2:A8:423:A:C5	3.07	0.42
2:A8:524:G:H5'	2:A8:539:G:N2	2.34	0.42
2:A8:575:A:C6	2:A8:576:U:C5	3.07	0.42
2:A8:594:U:H1'	2:A8:664:G:N2	2.35	0.42
2:A8:611:C:C2	2:A8:612:G:C8	3.08	0.42
2:A8:616:A:C2	2:A8:617:G:H1'	2.54	0.42
2:A8:759:G:H2'	2:A8:760:G:O4'	2.19	0.42
2:A8:817:C:H3'	2:A8:818:G:H8	1.84	0.42
2:A8:854:C:H1'	2:A8:924:G:N2	2.35	0.42
2:A8:861:A:C6	2:A8:917:A:C8	3.07	0.42
2:A8:949:G:C6	2:A8:950:G:N7	2.87	0.42
2:A8:954:G:C6	2:A8:955:U:C6	3.07	0.42
2:A8:1072:C:C4	2:A8:1093:G:C6	3.08	0.42
2:A8:1176:U:H2'	2:A8:1177:G:H5'	2.02	0.42
2:A8:1179:G:C2	2:A8:1180:U:C2	3.07	0.42
2:A8:1265:A:C4	2:A8:1267:U:C4	3.07	0.42
2:A8:1373:A:H5'	2:A8:2212:A:C8	2.55	0.42
2:A8:1491:G:N2	7:A6:100:ARG:HH21	2.17	0.42
2:A8:1838:C:N4	2:A8:1898:U:H2'	2.35	0.42
2:A8:1891:G:C6	2:A8:1892:C:C4	3.08	0.42
2:A8:1922:G:C6	2:A8:1923:U:C5	3.08	0.42
2:A8:1973:G:C5	2:A8:1974:C:C5	3.07	0.42
2:A8:2057:G:C5	2:A8:2058:A:C8	3.08	0.42
2:A8:2242:G:C5	2:A8:2243:U:C5	3.07	0.42
2:A8:2261:C:C2	2:A8:2280:G:N2	2.88	0.42
2:A8:2470:G:H5''	2:A8:2470:G:C8	2.54	0.42
2:A8:2471:A:O2'	2:A8:2472:G:C8	2.58	0.42
2:A8:2594:C:N3	2:A8:2600:A:C2	2.88	0.42
2:A8:2630:G:N2	2:A8:2631:G:C4	2.88	0.42
2:A8:2816:G:C2	2:A8:2817:U:C2	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2821:A:H2'	2:A8:2822:G:O4'	2.20	0.42
2:A8:2821:A:N6	18:AN:2:ARG:HH22	2.18	0.42
2:A8:2842:G:N3	2:A8:2876:G:C2	2.88	0.42
6:A5:34:ALA:HA	6:A5:219:GLY:HA3	2.02	0.42
7:A6:182:LYS:HG2	7:A6:267:VAL:HG22	2.01	0.42
10:AF:133:GLU:HA	10:AF:149:ARG:HE	1.85	0.42
11:AG:102:ILE:HG22	11:AG:103:ASN:N	2.33	0.42
15:AK:12:ASN:HA	15:AK:99:PHE:CZ	2.54	0.42
15:AK:115:ILE:HD13	15:AK:115:ILE:H	1.84	0.42
30:AZ:29:ARG:HB2	30:AZ:33:HIS:CE1	2.54	0.42
32:A1:34:GLU:HA	32:A1:48:TYR:O	2.19	0.42
36:BA:47:C:O2	36:BA:49:U:C5	2.72	0.42
36:BA:111:G:H22	36:BA:330:C:N4	2.18	0.42
36:BA:127:G:N2	36:BA:128:G:H1'	2.34	0.42
36:BA:144:G:C6	36:BA:145:G:C6	3.07	0.42
36:BA:214:C:C2	36:BA:215:C:C6	3.08	0.42
36:BA:260:G:C2	36:BA:267:C:C2	3.07	0.42
36:BA:652:U:O5'	36:BA:652:U:H6	2.03	0.42
36:BA:745:G:C5'	36:BA:851:G:H21	2.33	0.42
36:BA:745:G:H5'	36:BA:851:G:H21	1.85	0.42
36:BA:761:G:C4	36:BA:762:U:C6	3.08	0.42
36:BA:825:A:C6	36:BA:826:C:C4	3.08	0.42
36:BA:1181:G:C2	36:BA:1182:G:N2	2.87	0.42
36:BA:1215:G:C2'	36:BA:1216:A:H5'	2.49	0.42
36:BA:1267:C:N3	36:BA:1327:C:H4'	2.34	0.42
36:BA:1423:G:C6	36:BA:1424:U:C4	3.07	0.42
1:A7:16:G:C6	1:A7:17:C:N4	2.88	0.42
1:A7:61:G:H2'	1:A7:62:C:O4'	2.19	0.42
2:A8:77:G:C2	2:A8:78:U:C2	3.07	0.42
2:A8:103:A:C5	2:A8:104:A:C4	3.07	0.42
2:A8:114:U:C2	2:A8:115:C:C6	3.08	0.42
2:A8:161:A:C4	2:A8:162:U:C5	3.08	0.42
2:A8:176:A:H2'	2:A8:177:G:H5'	2.01	0.42
2:A8:204:A:C4	2:A8:206:U:C4	3.07	0.42
2:A8:345:A:N3	2:A8:346:A:N1	2.67	0.42
2:A8:391:A:C2	2:A8:392:U:H1'	2.54	0.42
2:A8:498:G:H2'	25:AU:44:HIS:CE1	2.55	0.42
2:A8:581:C:O2	2:A8:1260:A:C2	2.73	0.42
2:A8:597:G:C2	2:A8:661:A:C2	3.07	0.42
2:A8:712:G:C4	2:A8:713:G:C8	3.07	0.42
2:A8:745:G:H1'	2:A8:753:A:C2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:978:G:C8	2:A8:978:G:O5'	2.73	0.42
2:A8:1041:G:N2	2:A8:1042:G:C4	2.88	0.42
2:A8:1099:G:H1'	13:AI:4:VAL:HB	2.01	0.42
2:A8:1299:G:C2	2:A8:1642:G:C6	3.07	0.42
2:A8:1312:U:H1'	2:A8:1314:C:C5	2.55	0.42
2:A8:1321:A:C6	2:A8:1322:A:C5	3.06	0.42
2:A8:1343:G:C4	2:A8:1597:A:C2	3.08	0.42
2:A8:1389:G:C5	2:A8:1390:U:C5	3.08	0.42
2:A8:1419:A:C5	2:A8:1579:A:C4	3.08	0.42
2:A8:1468:U:H3	2:A8:1522:A:H1'	1.85	0.42
2:A8:1510:G:C2	2:A8:1511:G:C4	3.07	0.42
2:A8:1558:C:C2	2:A8:1560:G:C5	3.07	0.42
2:A8:1591:A:C2	2:A8:1592:C:C2	3.08	0.42
2:A8:1689:A:C2	2:A8:1690:A:C4	3.08	0.42
2:A8:1690:A:H61	2:A8:1697:G:H1'	1.85	0.42
2:A8:1719:G:C5	2:A8:1720:U:C5	3.08	0.42
2:A8:1825:U:H2'	2:A8:1826:G:C8	2.53	0.42
2:A8:1854:A:H62	2:A8:1888:G:H1'	1.84	0.42
2:A8:1916:A:H2'	2:A8:1917:U:O4'	2.19	0.42
2:A8:1925:C:H2'	2:A8:1926:U:C6	2.55	0.42
2:A8:1969:A:H1'	2:A8:1973:G:H1'	2.02	0.42
2:A8:2004:G:C2	2:A8:2005:A:H1'	2.54	0.42
2:A8:2080:A:C2	2:A8:2081:U:H1'	2.55	0.42
2:A8:2243:U:H2'	2:A8:2244:U:C6	2.55	0.42
2:A8:2246:G:C6	2:A8:2247:A:C5	3.07	0.42
2:A8:2278:A:H62	27:AW:10:ARG:HB3	1.84	0.42
2:A8:2305:U:O4'	10:AF:130:GLY:HA3	2.19	0.42
2:A8:2372:U:O2'	32:A1:45:HIS:CD2	2.73	0.42
2:A8:2399:G:C6	2:A8:2418:A:C6	3.07	0.42
2:A8:2413:G:C2	2:A8:2414:G:H1'	2.55	0.42
2:A8:2819:G:C6	2:A8:2828:G:C6	3.08	0.42
2:A8:2854:G:C2	2:A8:2864:G:C4	3.08	0.42
8:AD:2:ILE:HG22	8:AD:82:PHE:HB3	2.00	0.42
8:AD:125:TRP:CG	8:AD:161:MET:HA	2.55	0.42
13:AI:8:VAL:HG11	13:AI:26:ALA:CB	2.50	0.42
17:AM:110:GLU:HA	17:AM:113:ALA:H	1.84	0.42
23:AS:1:MET:HE1	23:AS:64:ALA:H	1.85	0.42
36:BA:147:G:C2	36:BA:148:G:C4	3.08	0.42
36:BA:208:U:H2'	36:BA:210:C:C6	2.55	0.42
36:BA:268:U:C4	36:BA:269:C:C5	3.07	0.42
36:BA:270:A:C5	36:BA:271:C:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:354:G:C2	36:BA:355:C:C6	3.07	0.42
36:BA:402:G:C5	36:BA:403:C:C5	3.08	0.42
36:BA:604:G:C6	36:BA:635:A:N1	2.88	0.42
36:BA:616:G:N2	36:BA:625:U:H1'	2.34	0.42
36:BA:838:G:C2	36:BA:839:C:C2	3.08	0.42
36:BA:858:G:H1	36:BA:869:G:H2'	1.85	0.42
36:BA:900:A:H2'	36:BA:901:A:C8	2.54	0.42
36:BA:950:U:H2'	36:BA:951:G:C8	2.54	0.42
36:BA:990:C:C4	36:BA:991:U:C5	3.08	0.42
36:BA:1089:G:C5	36:BA:1090:U:C5	3.08	0.42
36:BA:1276:G:C5	36:BA:1277:C:C4	3.08	0.42
36:BA:1410:A:C2	36:BA:1411:C:C2	3.08	0.42
47:BL:53:ARG:HH11	47:BL:53:ARG:HG3	1.84	0.42
2:A8:36:G:C6	2:A8:37:C:C5	3.08	0.42
2:A8:187:G:C4	2:A8:188:G:C8	3.07	0.42
2:A8:196:A:C2	2:A8:828:U:OP1	2.73	0.42
2:A8:266:G:C2	2:A8:267:C:H1'	2.54	0.42
2:A8:289:G:C6	2:A8:290:U:C4	3.07	0.42
2:A8:324:A:C5	2:A8:339:U:H4'	2.54	0.42
2:A8:379:G:C2	2:A8:396:G:C5	3.08	0.42
2:A8:699:A:O4'	2:A8:734:A:C2	2.72	0.42
2:A8:857:G:H5'	27:AW:68:PHE:CD2	2.55	0.42
2:A8:861:A:C4	2:A8:917:A:C6	3.08	0.42
2:A8:966:G:C5	2:A8:967:U:C4	3.08	0.42
2:A8:1022:G:C2	2:A8:1141:U:C6	3.08	0.42
2:A8:1054:A:C2	2:A8:1106:G:C5	3.08	0.42
2:A8:1135:C:H41	2:A8:1137:G:H3'	1.85	0.42
2:A8:1136:G:C5	2:A8:1137:G:C8	3.08	0.42
2:A8:1588:G:C6	2:A8:1589:U:C4	3.07	0.42
2:A8:1659:G:C4	2:A8:2002:G:N2	2.87	0.42
2:A8:1676:A:C5	2:A8:1677:A:C5	3.07	0.42
2:A8:1686:C:O2	2:A8:1703:G:C2	2.73	0.42
2:A8:1754:A:H2'	2:A8:1755:A:C8	2.54	0.42
2:A8:1862:G:N2	2:A8:1863:G:C4	2.88	0.42
2:A8:1871:A:C5	2:A8:1872:A:C5	3.08	0.42
2:A8:1904:G:C6	2:A8:1905:C:C5	3.07	0.42
2:A8:1933:G:C5	2:A8:1934:C:C5	3.07	0.42
2:A8:2113:U:N3	2:A8:2168:G:H4'	2.32	0.42
2:A8:2191:A:H3'	2:A8:2192:U:C6	2.53	0.42
2:A8:2223:G:C6	2:A8:2224:G:C4	3.08	0.42
2:A8:2270:A:C4	2:A8:2271:G:H1'	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2287:A:C6	2:A8:2289:G:C4	3.07	0.42
2:A8:2379:G:C6	2:A8:2380:C:C4	3.08	0.42
2:A8:2463:C:C2	2:A8:2464:G:C8	3.08	0.42
2:A8:2513:A:C2	2:A8:2514:U:C2	3.07	0.42
2:A8:2586:U:H3'	2:A8:2608:G:H22	1.85	0.42
2:A8:2739:U:H3'	2:A8:2763:G:H1	1.84	0.42
2:A8:2852:G:C5	2:A8:2853:C:C5	3.08	0.42
2:A8:2868:A:C2	2:A8:2869:G:H1'	2.55	0.42
8:AD:179:ARG:HB3	8:AD:188:LEU:H	1.85	0.42
24:AT:59:ASN:H	24:AT:85:VAL:HG12	1.84	0.42
26:AV:31:TYR:CE2	26:AV:90:ASP:HB3	2.55	0.42
36:BA:38:G:H1'	36:BA:397:A:N6	2.34	0.42
36:BA:198:G:C2	36:BA:199:A:C4	3.08	0.42
36:BA:208:U:O5'	36:BA:208:U:H6	2.03	0.42
36:BA:245:U:C2	36:BA:284:C:O2	2.73	0.42
36:BA:338:A:C5	36:BA:339:C:C4	3.08	0.42
36:BA:352:C:O2	36:BA:352:C:H2'	2.18	0.42
36:BA:519:C:H41	36:BA:533:A:H61	1.67	0.42
36:BA:524:G:C5	36:BA:525:C:C4	3.08	0.42
36:BA:689:C:H4'	36:BA:705:G:O2'	2.19	0.42
36:BA:851:G:C5	36:BA:852:G:N7	2.87	0.42
36:BA:859:G:H2'	36:BA:860:A:C8	2.55	0.42
36:BA:994:A:C4	36:BA:995:C:C6	3.08	0.42
36:BA:1048:G:H1'	36:BA:1215:G:C5'	2.50	0.42
36:BA:1107:C:C2	36:BA:1108:G:C8	3.07	0.42
36:BA:1226:C:H5'	48:BM:94:LEU:CD1	2.50	0.42
36:BA:1434:A:C6	36:BA:1435:G:C4	3.07	0.42
43:BH:103:VAL:H	43:BH:111:THR:HA	1.85	0.42
47:BL:86:VAL:HG23	47:BL:88:ASP:H	1.83	0.42
1:A7:93:C:H5	26:AV:18:ARG:HH12	1.63	0.42
2:A8:26:G:C6	2:A8:27:G:C6	3.07	0.42
2:A8:134:G:N2	2:A8:146:A:C4	2.88	0.42
2:A8:303:G:C5	2:A8:304:U:C5	3.08	0.42
2:A8:315:G:C5	2:A8:316:C:C5	3.08	0.42
2:A8:325:G:C6	2:A8:326:G:C5	3.08	0.42
2:A8:529:A:C8	2:A8:2042:A:C6	3.07	0.42
2:A8:583:G:C6	2:A8:584:C:C5	3.08	0.42
2:A8:608:A:C5	2:A8:609:A:C5	3.08	0.42
2:A8:629:G:C6	2:A8:630:G:C6	3.08	0.42
2:A8:653:U:H3'	2:A8:654:A:C2	2.55	0.42
2:A8:811:U:O2	2:A8:1250:G:H5''	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:853:C:C6	2:A8:853:C:H3'	2.55	0.42
2:A8:919:U:H3	2:A8:920:A:N6	2.18	0.42
2:A8:1179:G:N2	2:A8:1180:U:H1'	2.35	0.42
2:A8:1306:C:C2	2:A8:1623:G:C4	3.08	0.42
2:A8:1324:G:H5''	2:A8:1324:G:C8	2.54	0.42
2:A8:1391:U:H2'	2:A8:1393:A:C2	2.54	0.42
2:A8:1422:G:H21	2:A8:1496:A:H2	1.67	0.42
2:A8:1446:C:H2'	2:A8:1447:C:C6	2.54	0.42
2:A8:1522:A:C5'	2:A8:1523:U:H3	2.26	0.42
2:A8:1626:A:O5'	2:A8:1626:A:C8	2.73	0.42
2:A8:1659:G:N3	2:A8:2002:G:C2	2.88	0.42
2:A8:1751:U:H2'	2:A8:1752:C:C6	2.55	0.42
2:A8:1753:G:C2	2:A8:1755:A:H3'	2.54	0.42
2:A8:1793:C:H2'	2:A8:1794:A:O4'	2.20	0.42
2:A8:1842:G:H2'	2:A8:1843:C:C6	2.55	0.42
2:A8:2027:G:C2	2:A8:2037:A:C4	3.08	0.42
2:A8:2123:G:N2	2:A8:2176:A:H1'	2.34	0.42
2:A8:2193:G:C2	2:A8:2194:U:C6	3.07	0.42
2:A8:2272:U:O5'	2:A8:2272:U:H6	2.03	0.42
2:A8:2355:G:H1'	2:A8:2363:G:N2	2.35	0.42
2:A8:2543:G:C8	2:A8:2543:G:H5'	2.55	0.42
2:A8:2690:U:H3	2:A8:2873:A:C5'	2.33	0.42
2:A8:2705:A:H3'	2:A8:2706:A:H8	1.84	0.42
2:A8:2721:A:C2	2:A8:2873:A:C4	3.08	0.42
2:A8:2773:C:H2'	2:A8:2774:C:H6	1.85	0.42
2:A8:2859:G:C5	2:A8:2860:A:C5	3.08	0.42
9:AE:63:LYS:C	9:AE:65:THR:H	2.28	0.42
9:AE:114:ARG:HE	9:AE:115:GLN:HE22	1.68	0.42
13:AI:32:VAL:HG21	13:AI:58:ILE:HG21	2.00	0.42
17:AM:69:PRO:HA	17:AM:94:ALA:HB2	2.02	0.42
32:A1:49:LYS:H	32:A1:49:LYS:HZ3	1.67	0.42
36:BA:75:G:C6	36:BA:76:G:C5	3.08	0.42
36:BA:213:G:H3'	36:BA:214:C:C6	2.55	0.42
36:BA:448:A:C5	36:BA:487:A:C2	3.08	0.42
36:BA:454:G:C6	36:BA:455:G:C5	3.08	0.42
36:BA:461:A:H2'	36:BA:462:G:OP2	2.18	0.42
36:BA:506:G:C6	36:BA:507:C:N3	2.88	0.42
36:BA:675:A:H4'	53:BR:70:THR:HG21	2.00	0.42
36:BA:1353:G:H2'	36:BA:1354:U:C6	2.55	0.42
41:BF:3:HIS:C	41:BF:92:THR:HA	2.45	0.42
51:BP:8:ARG:NH2	51:BP:14:ARG:H	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A7:28:C:H3'	1:A7:29:A:H8	1.84	0.42
1:A7:44:G:C4'	1:A7:46:A:H62	2.33	0.42
2:A8:18:U:H1'	2:A8:555:G:OP1	2.20	0.42
2:A8:98:G:N7	2:A8:99:U:C4	2.88	0.42
2:A8:225:C:H3'	2:A8:226:A:H8	1.84	0.42
2:A8:242:G:C2	2:A8:254:G:C4	3.07	0.42
2:A8:242:G:C2	2:A8:254:G:C5	3.07	0.42
2:A8:379:G:C6	2:A8:380:G:C5	3.08	0.42
2:A8:418:C:H2'	2:A8:419:U:C6	2.55	0.42
2:A8:504:A:C5	2:A8:504:A:OP1	2.73	0.42
2:A8:557:C:H2'	2:A8:558:U:C6	2.54	0.42
2:A8:612:G:C8	2:A8:614:A:C2	3.08	0.42
2:A8:695:G:C4	2:A8:768:G:C6	3.08	0.42
2:A8:716:A:C5	2:A8:717:C:C6	3.07	0.42
2:A8:775:G:C5	2:A8:777:G:C2	3.08	0.42
2:A8:809:G:C2	2:A8:810:U:C2	3.08	0.42
2:A8:857:G:H2'	2:A8:858:G:O4'	2.19	0.42
2:A8:953:G:C6	2:A8:954:G:C5	3.08	0.42
2:A8:1091:G:H2'	2:A8:1092:C:H6	1.85	0.42
2:A8:1223:G:C8	22:AR:71:LYS:NZ	2.88	0.42
2:A8:1233:C:C2	2:A8:1234:U:C6	3.07	0.42
2:A8:1235:G:C5	2:A8:1236:G:C6	3.08	0.42
2:A8:1279:G:H4'	18:AN:31:HIS:CG	2.55	0.42
2:A8:1380:G:C2	2:A8:1381:G:C8	3.08	0.42
2:A8:1491:G:C6	2:A8:1492:G:C5	3.07	0.42
2:A8:1770:G:H21	2:A8:1786:A:H62	1.66	0.42
2:A8:1823:G:C6	2:A8:1824:G:C6	3.07	0.42
2:A8:1840:G:C6	2:A8:1841:U:C4	3.08	0.42
2:A8:1853:A:H2'	2:A8:1854:A:O4'	2.19	0.42
2:A8:1980:G:N1	2:A8:1982:U:C2	2.87	0.42
2:A8:1998:A:H4'	2:A8:2725:A:H5'	2.02	0.42
2:A8:2021:C:H4'	2:A8:2022:U:OP2	2.20	0.42
2:A8:2065:C:C5'	2:A8:2251:G:H21	2.32	0.42
2:A8:2170:A:C5'	6:A5:132:GLY:HA2	2.50	0.42
2:A8:2289:G:C4'	2:A8:2383:G:H21	2.33	0.42
2:A8:2345:G:H1'	2:A8:2381:A:H2'	2.01	0.42
2:A8:2363:G:N2	2:A8:2364:C:C2	2.88	0.42
2:A8:2460:U:H2'	2:A8:2461:A:O4'	2.19	0.42
2:A8:2530:A:C3'	2:A8:2531:A:H5''	2.50	0.42
2:A8:2560:A:C5	2:A8:2561:U:C5	3.08	0.42
2:A8:2720:U:H1'	2:A8:2872:A:N7	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2766:A:C4	2:A8:2767:C:C6	3.08	0.42
2:A8:2776:A:H4'	2:A8:2778:A:OP1	2.19	0.42
9:AE:114:ARG:HE	9:AE:115:GLN:NE2	2.18	0.42
11:AG:97:VAL:N	11:AG:102:ILE:HG23	2.35	0.42
32:A1:8:ILE:CG1	32:A1:22:THR:HG23	2.50	0.42
36:BA:108:G:C5	36:BA:109:A:N1	2.87	0.42
36:BA:198:G:C4	36:BA:220:G:C2	3.07	0.42
36:BA:264:C:H2'	36:BA:265:G:C8	2.55	0.42
36:BA:629:A:C2	36:BA:630:A:C1'	3.02	0.42
36:BA:669:G:C2	36:BA:738:C:C2	3.08	0.42
36:BA:683:G:C6	36:BA:684:U:C4	3.08	0.42
36:BA:840:C:C2	36:BA:847:G:C2	3.08	0.42
36:BA:1077:G:C2	36:BA:1081:A:C4	3.08	0.42
36:BA:1213:A:C4	36:BA:1215:G:H1'	2.55	0.42
36:BA:1410:A:H2'	36:BA:1411:C:C6	2.55	0.42
36:BA:1458:G:C2	36:BA:1459:G:C4	3.08	0.42
36:BA:1461:G:H2'	36:BA:1462:C:C6	2.54	0.42
36:BA:1514:G:N2	36:BA:1522:U:H1'	2.35	0.42
41:BF:12:PRO:HB3	41:BF:44:ARG:HH21	1.85	0.42
1:A7:4:C:C2	1:A7:117:G:C2	3.08	0.41
1:A7:51:G:C2'	1:A7:52:A:H5''	2.51	0.41
1:A7:75:G:H2'	1:A7:76:G:C8	2.55	0.41
1:A7:99:A:C4	1:A7:100:G:C8	3.08	0.41
2:A8:73:A:H3'	2:A8:73:A:C8	2.55	0.41
2:A8:190:A:N9	2:A8:207:A:C2	2.88	0.41
2:A8:282:A:H3'	2:A8:283:G:H8	1.85	0.41
2:A8:388:G:H2'	2:A8:389:G:C4	2.55	0.41
2:A8:588:U:C2	9:AE:85:PHE:CD1	3.08	0.41
2:A8:819:A:C8	2:A8:819:A:H5'	2.55	0.41
2:A8:907:G:H21	17:AM:67:VAL:HG12	1.84	0.41
2:A8:1042:G:N2	2:A8:1114:C:H1'	2.35	0.41
2:A8:1057:A:C2	2:A8:1082:U:C2	3.08	0.41
2:A8:1063:G:C2	2:A8:1064:C:C2	3.08	0.41
2:A8:1116:G:C6	2:A8:1117:C:C4	3.08	0.41
2:A8:1193:G:N2	2:A8:1194:A:H1'	2.35	0.41
2:A8:1299:G:H5''	2:A8:1301:A:H5''	2.02	0.41
2:A8:1432:G:N2	2:A8:1433:A:C4	2.88	0.41
2:A8:1433:A:C2	2:A8:1561:C:O2	2.73	0.41
2:A8:1591:A:C6	2:A8:1592:C:C4	3.08	0.41
2:A8:1605:C:C5	2:A8:1606:C:C5	3.08	0.41
2:A8:1650:A:C2	2:A8:1651:G:C1'	3.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1689:A:C5	2:A8:1700:A:C4	3.07	0.41
2:A8:1839:G:C1'	2:A8:1927:A:C8	3.03	0.41
2:A8:1948:G:N1	2:A8:1949:G:C5	2.87	0.41
2:A8:1948:G:C4	2:A8:1959:G:C2	3.07	0.41
2:A8:1954:G:C2	2:A8:1956:U:N3	2.88	0.41
2:A8:2019:A:C6	2:A8:2020:A:C5	3.08	0.41
2:A8:2077:A:C2	2:A8:2078:C:C6	3.08	0.41
2:A8:2181:U:C4	2:A8:2182:U:C2	3.08	0.41
2:A8:2320:U:H5	2:A8:2332:C:C2	2.39	0.41
2:A8:2330:G:C2	2:A8:2386:A:C2	3.08	0.41
2:A8:2349:G:N2	2:A8:2369:A:H1'	2.35	0.41
2:A8:2464:G:N2	2:A8:2487:G:H1'	2.35	0.41
2:A8:2722:G:H4'	18:AN:4:ARG:HB2	2.01	0.41
2:A8:2816:G:C6	2:A8:2831:G:C6	3.07	0.41
7:A6:64:VAL:HG13	7:A6:104:LEU:H	1.85	0.41
7:A6:137:GLY:H	7:A6:163:ILE:HB	1.85	0.41
10:AF:94:ARG:HD2	10:AF:101:ARG:HH12	1.85	0.41
15:AK:63:ARG:HE	15:AK:82:ALA:HB2	1.85	0.41
21:AQ:9:ALA:O	21:AQ:13:HIS:CG	2.73	0.41
21:AQ:13:HIS:HA	21:AQ:31:TYR:CE1	2.55	0.41
28:AX:70:LEU:H	28:AX:73:ARG:NE	2.17	0.41
36:BA:56:U:O2	36:BA:368:U:C2	2.73	0.41
36:BA:68:G:C4'	36:BA:171:A:H1'	2.50	0.41
36:BA:109:A:C6	36:BA:326:G:C5	3.08	0.41
36:BA:111:G:C6	36:BA:112:G:C5	3.08	0.41
36:BA:119:A:C5	36:BA:288:A:C2	3.08	0.41
36:BA:175:C:C4	36:BA:176:C:C5	3.07	0.41
36:BA:255:G:H2'	36:BA:256:U:C6	2.54	0.41
36:BA:405:U:H5''	36:BA:495:A:N1	2.35	0.41
36:BA:594:U:C4	36:BA:595:A:C6	3.08	0.41
36:BA:836:G:C5	36:BA:851:G:N1	2.88	0.41
36:BA:1054:C:C6	36:BA:1196:A:C4	3.08	0.41
36:BA:1134:G:C2	36:BA:1135:U:H1'	2.54	0.41
36:BA:1152:A:H4'	45:BJ:15:HIS:CD2	2.55	0.41
36:BA:1179:A:H2'	36:BA:1180:A:O4'	2.20	0.41
36:BA:1277:C:O2'	36:BA:1279:G:C8	2.72	0.41
36:BA:1346:A:H5''	36:BA:1348:U:H1'	2.02	0.41
36:BA:1411:C:H5''	36:BA:1411:C:H6	1.85	0.41
36:BA:1455:G:C6	36:BA:1456:A:C6	3.08	0.41
37:BB:172:ILE:HA	37:BB:176:ASN:HD22	1.85	0.41
54:BS:17:LYS:H	54:BS:30:LEU:HD22	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A7:43:C:C2	1:A7:45:A:C5	3.08	0.41
1:A7:61:G:C5	1:A7:62:C:C4	3.08	0.41
1:A7:99:A:C2	1:A7:100:G:H1'	2.55	0.41
2:A8:35:G:C4	2:A8:454:A:C2	3.08	0.41
2:A8:121:G:C5	2:A8:131:A:C6	3.08	0.41
2:A8:226:A:C4	2:A8:227:A:C5	3.08	0.41
2:A8:291:G:H1'	2:A8:350:G:C2	2.55	0.41
2:A8:380:G:C2	2:A8:381:G:H1'	2.55	0.41
2:A8:510:C:C4	2:A8:511:U:C4	3.08	0.41
2:A8:536:G:C5	2:A8:537:G:C8	3.08	0.41
2:A8:577:G:C2	2:A8:578:G:C2	3.07	0.41
2:A8:639:U:C2	2:A8:640:C:C5	3.09	0.41
2:A8:868:U:N3	2:A8:869:G:C5	2.88	0.41
2:A8:903:C:C2	2:A8:904:G:C8	3.08	0.41
2:A8:978:G:C2	2:A8:979:A:C4	3.09	0.41
2:A8:1020:A:C5	2:A8:1141:U:O2	2.73	0.41
2:A8:1062:G:H2'	2:A8:1063:G:C8	2.55	0.41
2:A8:1081:U:H1'	13:AI:116:MET:HE1	2.02	0.41
2:A8:1103:A:H3'	2:A8:1104:C:C5	2.55	0.41
2:A8:1366:A:H3'	2:A8:1367:A:H8	1.86	0.41
2:A8:1415:U:H1'	2:A8:1588:G:N2	2.35	0.41
2:A8:1439:A:H3'	2:A8:1440:U:C5'	2.49	0.41
2:A8:1452:G:H3'	2:A8:1453:A:H5''	2.03	0.41
2:A8:1487:U:C2	2:A8:1503:A:C2	3.08	0.41
2:A8:1564:C:H2'	2:A8:1565:C:C6	2.55	0.41
2:A8:1603:A:C2	2:A8:1604:C:H1'	2.55	0.41
2:A8:1638:C:H4'	2:A8:2697:G:N2	2.35	0.41
2:A8:1775:U:C5	2:A8:1776:G:C8	3.07	0.41
2:A8:1785:A:C5	2:A8:1787:A:C8	3.08	0.41
2:A8:1848:A:C8	36:BA:702:A:C5	3.08	0.41
2:A8:1923:U:C2	2:A8:1924:C:C6	3.08	0.41
2:A8:2048:G:C6	2:A8:2049:G:C8	3.08	0.41
2:A8:2061:G:OP1	2:A8:2503:A:C2	2.74	0.41
2:A8:2190:G:C2	2:A8:2191:A:C4	3.08	0.41
2:A8:2219:U:C4	2:A8:2220:U:C5	3.07	0.41
2:A8:2253:G:H3'	2:A8:2254:C:C6	2.55	0.41
2:A8:2276:G:H21	17:AM:13:HIS:CE1	2.38	0.41
2:A8:2304:G:O2'	10:AF:152:ASP:HB3	2.21	0.41
2:A8:2344:U:H3'	32:A1:45:HIS:HE1	1.85	0.41
2:A8:2400:G:N1	2:A8:2401:U:C2	2.87	0.41
2:A8:2450:A:C2	2:A8:2451:A:N9	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2473:U:C4	2:A8:2473:U:OP1	2.73	0.41
2:A8:2509:G:C6	2:A8:2510:C:C5	3.08	0.41
2:A8:2595:G:C4	2:A8:2599:G:N1	2.87	0.41
2:A8:2660:A:C8	2:A8:2661:G:C5	3.08	0.41
2:A8:2663:G:C8	2:A8:2664:G:C8	3.08	0.41
2:A8:2675:A:H5'	15:AK:29:ARG:HB2	2.01	0.41
2:A8:2895:G:C6	2:A8:2896:C:C4	3.08	0.41
9:AE:23:PHE:CD1	9:AE:28:VAL:HG21	2.55	0.41
19:AO:11:ALA:HA	19:AO:14:ALA:HB3	2.02	0.41
22:AR:39:LEU:HA	22:AR:54:VAL:H	1.84	0.41
25:AU:3:LYS:HG2	25:AU:84:PHE:HB2	2.01	0.41
27:AW:55:ASP:O	27:AW:56:HIS:CD2	2.73	0.41
36:BA:13:U:C4	36:BA:21:G:C2	3.08	0.41
36:BA:154:U:H3'	36:BA:154:U:C6	2.55	0.41
36:BA:258:G:C8	36:BA:258:G:C5'	3.03	0.41
36:BA:270:A:C8	36:BA:270:A:O5'	2.73	0.41
36:BA:275:G:H3'	36:BA:276:G:H8	1.85	0.41
36:BA:300:A:C6	36:BA:301:G:H1'	2.56	0.41
36:BA:410:G:H2'	36:BA:429:U:C4	2.56	0.41
36:BA:651:C:H2'	36:BA:652:U:O4'	2.20	0.41
36:BA:668:G:H4'	50:BO:47:LYS:HB2	2.02	0.41
36:BA:947:G:H2'	36:BA:948:C:C6	2.55	0.41
36:BA:951:G:C1'	36:BA:971:G:H5'	2.49	0.41
36:BA:958:A:C6	36:BA:959:A:N1	2.88	0.41
36:BA:1073:U:C2	36:BA:1074:G:C8	3.07	0.41
36:BA:1085:U:H3'	36:BA:1086:U:C6	2.54	0.41
36:BA:1269:A:H4'	36:BA:1325:C:O2'	2.20	0.41
36:BA:1303:C:C5	36:BA:1304:G:C5	3.08	0.41
36:BA:1441:A:C6	36:BA:1442:G:C4	3.08	0.41
49:BN:41:TRP:CG	49:BN:42:ASN:H	2.37	0.41
1:A7:7:G:C5	1:A7:8:C:C4	3.08	0.41
1:A7:67:G:C6	1:A7:68:C:C5	3.09	0.41
2:A8:75:G:H4'	29:AY:48:ARG:HE	1.85	0.41
2:A8:86:G:N2	2:A8:97:C:H1'	2.35	0.41
2:A8:189:G:C5	2:A8:205:G:C6	3.08	0.41
2:A8:388:G:C8	2:A8:389:G:N7	2.88	0.41
2:A8:524:G:C6	2:A8:525:U:C4	3.08	0.41
2:A8:531:C:C2	2:A8:2019:A:C2	3.08	0.41
2:A8:566:U:H4'	2:A8:809:G:OP1	2.21	0.41
2:A8:787:C:C5	2:A8:791:C:C4	3.09	0.41
2:A8:814:C:C2	2:A8:1194:A:N1	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:854:C:C2	2:A8:924:G:N1	2.88	0.41
2:A8:875:G:C5	2:A8:876:C:C6	3.08	0.41
2:A8:950:G:C8	2:A8:950:G:H3'	2.55	0.41
2:A8:960:A:N1	17:AM:82:MET:HE1	2.36	0.41
2:A8:1050:A:C2	2:A8:1051:G:H1'	2.55	0.41
2:A8:1056:G:N1	2:A8:1102:C:C5	2.81	0.41
2:A8:1443:U:O2	2:A8:1549:A:C2	2.73	0.41
2:A8:1459:G:C8	2:A8:1461:C:C4	3.07	0.41
2:A8:1480:C:C4	2:A8:1481:U:C4	3.08	0.41
2:A8:1722:A:C5	2:A8:1739:A:C8	3.08	0.41
2:A8:1773:A:N7	2:A8:1774:C:C5	2.88	0.41
2:A8:1890:A:H4'	2:A8:2086:U:C4'	2.50	0.41
2:A8:1906:G:OP2	2:A8:1930:G:H5'	2.20	0.41
2:A8:1964:G:C2	2:A8:1967:C:C5	3.08	0.41
2:A8:1988:G:C4	2:A8:1989:G:C8	3.07	0.41
2:A8:2056:G:C6	2:A8:2057:G:C5	3.08	0.41
2:A8:2084:C:C6	2:A8:2085:U:C5	3.08	0.41
2:A8:2239:G:C4	2:A8:2240:U:C6	3.09	0.41
2:A8:2299:U:H6	2:A8:2299:U:O5'	2.03	0.41
2:A8:2411:A:C8	2:A8:2411:A:O5'	2.73	0.41
2:A8:2551:C:C5	2:A8:2552:U:C4	3.09	0.41
2:A8:2599:G:N2	2:A8:2600:A:H1'	2.35	0.41
2:A8:2619:C:H1'	8:AD:155:VAL:HB	2.02	0.41
2:A8:2662:A:C8	2:A8:2663:G:C8	3.09	0.41
2:A8:2685:G:C2	2:A8:2725:A:C2	3.08	0.41
2:A8:2748:A:H2'	2:A8:2749:A:C8	2.54	0.41
2:A8:2769:U:C6	2:A8:2769:U:H5''	2.55	0.41
3:AA:353:ALA:CB	3:AA:377:GLU:HA	2.50	0.41
8:AD:122:VAL:CG1	8:AD:141:ARG:HH21	2.33	0.41
14:AJ:130:HIS:CE1	14:AJ:137:PRO:HG2	2.55	0.41
20:AP:19:PHE:HE1	20:AP:25:VAL:HG12	1.84	0.41
32:A1:13:SER:N	32:A1:49:LYS:HZ1	2.18	0.41
36:BA:184:G:C5	36:BA:185:U:C4	3.09	0.41
36:BA:246:A:N3	36:BA:247:G:H1'	2.35	0.41
36:BA:283:U:C5	36:BA:284:C:C6	3.08	0.41
36:BA:320:A:C2	36:BA:321:A:C4	3.08	0.41
36:BA:321:A:H4'	36:BA:1436:U:H5'	2.02	0.41
36:BA:376:G:C6	36:BA:377:G:C6	3.08	0.41
36:BA:469:C:H2'	36:BA:470:C:C6	2.55	0.41
36:BA:475:C:H2'	36:BA:476:U:H6	1.86	0.41
36:BA:598:U:H4'	43:BH:85:TYR:CE1	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:601:G:C6	36:BA:602:A:C5	3.09	0.41
36:BA:704:A:C4	36:BA:705:G:C8	3.08	0.41
36:BA:766:A:C5	36:BA:814:A:C5	3.09	0.41
36:BA:799:G:C6	36:BA:800:G:C4	3.09	0.41
36:BA:815:A:OP2	36:BA:816:A:H8	2.03	0.41
36:BA:828:U:H5	36:BA:858:G:H21	1.68	0.41
36:BA:1068:G:C6	36:BA:1108:G:C4	3.08	0.41
36:BA:1431:A:C6	36:BA:1432:G:C5	3.08	0.41
36:BA:1525:G:N1	36:BA:1526:G:C5	2.88	0.41
41:BF:46:GLN:HG2	41:BF:48:ALA:H	1.85	0.41
41:BF:90:MET:HB3	41:BF:91:ARG:HE	1.85	0.41
43:BH:42:GLU:HB3	43:BH:44:PHE:CZ	2.55	0.41
49:BN:41:TRP:CG	49:BN:42:ASN:N	2.88	0.41
2:A8:10:A:H1'	2:A8:2800:A:H5'	2.03	0.41
2:A8:23:G:C5	2:A8:518:G:C6	3.08	0.41
2:A8:45:G:H2'	2:A8:215:G:C5	2.56	0.41
2:A8:222:A:N6	2:A8:232:G:H1'	2.36	0.41
2:A8:226:A:H61	2:A8:419:U:H1'	1.85	0.41
2:A8:300:A:H1'	2:A8:319:G:C1'	2.50	0.41
2:A8:554:U:C4	2:A8:555:G:C5	3.08	0.41
2:A8:582:A:C2	2:A8:1259:G:C2	3.07	0.41
2:A8:605:G:C2	2:A8:624:C:C2	3.08	0.41
2:A8:613:A:H3'	2:A8:614:A:C5'	2.50	0.41
2:A8:638:G:H2'	2:A8:639:U:O4'	2.21	0.41
2:A8:651:G:C8	2:A8:652:U:C5	3.07	0.41
2:A8:708:G:C2	2:A8:709:U:C2	3.09	0.41
2:A8:740:C:C5	2:A8:1981:A:N1	2.89	0.41
2:A8:753:A:H2'	2:A8:754:U:C6	2.56	0.41
2:A8:1169:A:C5	2:A8:1170:C:C5	3.08	0.41
2:A8:1625:C:C4	2:A8:1626:A:C8	3.08	0.41
2:A8:1700:A:H5'	2:A8:1700:A:C8	2.56	0.41
2:A8:1709:U:H2'	2:A8:1710:G:C8	2.56	0.41
2:A8:1767:G:N2	2:A8:1986:C:H1'	2.35	0.41
2:A8:1820:U:H3	7:A6:197:ALA:HA	1.86	0.41
2:A8:1859:U:C2	2:A8:1860:G:C8	3.09	0.41
2:A8:1861:G:N2	2:A8:1862:G:H1'	2.35	0.41
2:A8:1912:A:C2	2:A8:1919:A:C2	3.08	0.41
2:A8:2027:G:C5	2:A8:2028:U:C4	3.08	0.41
2:A8:2037:A:C2	2:A8:2038:G:C5	3.08	0.41
2:A8:2088:A:C2	2:A8:2089:C:C2	3.08	0.41
2:A8:2100:G:C8	2:A8:2190:G:N2	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2135:A:C5	2:A8:2136:G:C5	3.09	0.41
2:A8:2317:A:N7	2:A8:2318:G:C5	2.88	0.41
2:A8:2347:C:H5'	2:A8:2382:G:C1'	2.50	0.41
2:A8:2348:U:C2	2:A8:2349:G:C8	3.08	0.41
2:A8:2391:G:N1	2:A8:2424:C:H3'	2.36	0.41
2:A8:2409:G:C6	2:A8:2410:G:C6	3.09	0.41
2:A8:2476:A:C2	2:A8:2477:U:C2	3.07	0.41
2:A8:2478:A:N7	2:A8:2479:U:C5	2.88	0.41
2:A8:2511:U:C4	2:A8:2512:C:C5	3.08	0.41
2:A8:2563:U:C6	2:A8:2563:U:O5'	2.74	0.41
2:A8:2567:G:C5	2:A8:2568:U:C5	3.08	0.41
2:A8:2693:G:N2	2:A8:2694:G:H1'	2.35	0.41
2:A8:2700:A:C2	2:A8:2708:G:C4	3.08	0.41
2:A8:2758:A:C2	2:A8:2759:G:H1'	2.55	0.41
2:A8:2772:C:H2'	2:A8:2773:C:C6	2.55	0.41
2:A8:2816:G:C5	2:A8:2817:U:C5	3.08	0.41
2:A8:2858:C:C5	2:A8:2859:G:C5	3.07	0.41
2:A8:2862:G:C6	2:A8:2863:C:C4	3.09	0.41
7:A6:157:ALA:HB2	7:A6:199:HIS:CE1	2.56	0.41
11:AG:9:VAL:HG22	11:AG:48:THR:HG22	2.02	0.41
24:AT:5:GLU:HA	24:AT:8:LEU:HD12	2.02	0.41
36:BA:12:U:H2'	36:BA:13:U:H5''	2.03	0.41
36:BA:19:A:C5	36:BA:20:U:C5	3.08	0.41
36:BA:96:U:H2'	36:BA:97:G:C8	2.56	0.41
36:BA:112:G:C4	36:BA:113:G:C8	3.09	0.41
36:BA:120:A:C8	36:BA:120:A:H3'	2.55	0.41
36:BA:151:A:H3'	36:BA:152:A:H8	1.85	0.41
36:BA:198:G:C5	36:BA:220:G:C2	3.08	0.41
36:BA:213:G:C2	36:BA:214:C:C1'	3.03	0.41
36:BA:238:A:C6	36:BA:239:U:C4	3.08	0.41
36:BA:410:G:H3'	39:BD:25:ARG:HH12	1.86	0.41
36:BA:611:C:H2'	36:BA:612:C:H6	1.84	0.41
36:BA:922:G:N2	36:BA:1398:A:H1'	2.34	0.41
36:BA:967:C:H2'	36:BA:968:A:C2	2.55	0.41
36:BA:978:A:C8	36:BA:979:C:C5	3.09	0.41
36:BA:1005:A:C5	36:BA:1006:G:H1'	2.56	0.41
36:BA:1006:G:C6	36:BA:1024:G:C5	3.08	0.41
36:BA:1425:U:O2	36:BA:1476:A:C2	2.74	0.41
1:A7:79:G:C5	1:A7:80:U:C5	3.09	0.41
1:A7:83:G:C6	1:A7:94:A:C6	3.09	0.41
2:A8:60:G:C4	2:A8:74:A:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:67:U:H2'	2:A8:68:G:C8	2.54	0.41
2:A8:134:G:C2	2:A8:146:A:C4	3.08	0.41
2:A8:201:C:H3'	2:A8:201:C:C6	2.55	0.41
2:A8:221:A:H2	2:A8:266:G:OP2	2.02	0.41
2:A8:460:A:C4	2:A8:470:A:C5	3.09	0.41
2:A8:538:A:C6	2:A8:539:G:C4	3.08	0.41
2:A8:572:A:C2	2:A8:2033:A:C2	3.09	0.41
2:A8:834:G:C2	2:A8:835:C:H1'	2.56	0.41
2:A8:845:A:C2	2:A8:934:U:N3	2.89	0.41
2:A8:874:G:C2	2:A8:904:G:C2	3.08	0.41
2:A8:963:U:H2'	2:A8:964:C:H6	1.85	0.41
2:A8:1024:G:C5	2:A8:1025:G:C4	3.09	0.41
2:A8:1031:G:C2	2:A8:1032:A:C5	3.08	0.41
2:A8:1031:G:H4'	35:A4:6:SER:HA	2.03	0.41
2:A8:1062:G:C8	2:A8:1088:A:N7	2.88	0.41
2:A8:1062:G:C2	2:A8:1063:G:C4	3.08	0.41
2:A8:1301:A:C8	2:A8:1303:G:C8	3.08	0.41
2:A8:1352:U:C2	2:A8:1380:G:C2	3.08	0.41
2:A8:1482:G:C2	2:A8:1483:G:C8	3.09	0.41
2:A8:1519:G:N1	2:A8:1520:U:C2	2.88	0.41
2:A8:1613:G:C2	2:A8:1617:C:C5	3.07	0.41
2:A8:1614:A:H61	23:AS:89:ALA:CA	2.32	0.41
2:A8:1631:G:H1'	2:A8:1635:A:N6	2.36	0.41
2:A8:1688:U:O2	2:A8:1700:A:C5'	2.68	0.41
2:A8:1696:G:C2	2:A8:1697:G:H1'	2.55	0.41
2:A8:1718:G:C4	2:A8:1719:G:C8	3.08	0.41
2:A8:1722:A:H2'	2:A8:1723:G:O4'	2.20	0.41
2:A8:1770:G:C2	2:A8:1983:G:N3	2.89	0.41
2:A8:1846:G:C2	2:A8:1895:C:C2	3.08	0.41
2:A8:1906:G:N1	2:A8:1925:C:C2	2.88	0.41
2:A8:1935:G:H4'	2:A8:1937:A:C2	2.55	0.41
2:A8:1936:A:N1	2:A8:1963:U:C2	2.89	0.41
2:A8:1948:G:H1'	36:BA:1483:A:H1'	2.02	0.41
2:A8:2162:G:C2	2:A8:2163:A:N7	2.88	0.41
2:A8:2228:G:H2'	2:A8:2229:U:C6	2.56	0.41
2:A8:2271:G:H2'	2:A8:2272:U:C6	2.55	0.41
2:A8:2345:G:C6	2:A8:2347:C:C5	3.08	0.41
2:A8:2349:G:C5	2:A8:2350:C:C5	3.08	0.41
2:A8:2354:C:H1'	27:AW:30:VAL:HG11	2.01	0.41
2:A8:2536:G:C8	2:A8:2536:G:O5'	2.74	0.41
2:A8:2718:G:C2	2:A8:2719:G:C1'	3.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2745:C:C4	2:A8:2746:U:C4	3.08	0.41
2:A8:2801:G:H2'	2:A8:2802:G:C8	2.56	0.41
2:A8:2849:U:H4'	2:A8:2868:A:C2	2.54	0.41
8:AD:12:THR:O	8:AD:23:PRO:HA	2.21	0.41
36:BA:148:G:H2'	36:BA:149:A:H5''	2.02	0.41
36:BA:214:C:C6	36:BA:214:C:O5'	2.74	0.41
36:BA:244:U:C2	36:BA:894:G:N3	2.88	0.41
36:BA:408:A:C2	36:BA:409:U:C2	3.07	0.41
36:BA:428:G:O4'	36:BA:430:A:C8	2.73	0.41
36:BA:579:A:C4	36:BA:763:G:C2	3.09	0.41
36:BA:774:G:C4	36:BA:775:G:C8	3.09	0.41
36:BA:782:A:N6	36:BA:783:C:C2	2.88	0.41
36:BA:859:G:C8	36:BA:869:G:N2	2.88	0.41
36:BA:926:G:C6	36:BA:1505:G:C6	3.08	0.41
36:BA:1118:U:H1'	36:BA:1179:A:C1'	2.50	0.41
36:BA:1282:C:H2'	36:BA:1283:U:C6	2.56	0.41
36:BA:1419:G:C5	36:BA:1420:U:C5	3.08	0.41
36:BA:1426:G:C4	36:BA:1475:G:N2	2.88	0.41
36:BA:1433:A:C5	36:BA:1468:A:C4	3.08	0.41
36:BA:1526:G:C5	36:BA:1527:U:C5	3.09	0.41
37:BB:26:MET:HA	37:BB:191:ASP:HA	2.03	0.41
38:BC:120:THR:HG23	38:BC:197:VAL:HB	2.03	0.41
54:BS:39:ILE:HG23	54:BS:61:VAL:HB	2.03	0.41
1:A7:85:G:C2	1:A7:86:G:C8	3.09	0.41
2:A8:176:A:C6	2:A8:177:G:N7	2.89	0.41
2:A8:199:A:N6	2:A8:2433:A:H3'	2.36	0.41
2:A8:492:A:C5	2:A8:493:G:C4	3.09	0.41
2:A8:535:G:C5'	21:AQ:52:ARG:HH21	2.34	0.41
2:A8:536:G:H21	14:AJ:47:HIS:CD2	2.38	0.41
2:A8:729:G:H4'	2:A8:763:G:H5'	2.02	0.41
2:A8:862:G:C2	2:A8:863:A:H1'	2.56	0.41
2:A8:879:G:H8	2:A8:879:G:O5'	2.03	0.41
2:A8:954:G:N7	2:A8:955:U:C5	2.89	0.41
2:A8:977:G:C2	2:A8:978:G:C8	3.08	0.41
2:A8:1000:A:C5	2:A8:1001:A:C5	3.09	0.41
2:A8:1023:U:C5	2:A8:1024:G:C4	3.08	0.41
2:A8:1051:G:C5	2:A8:1052:C:C5	3.08	0.41
2:A8:1062:G:C2	2:A8:1063:G:C5	3.08	0.41
2:A8:1186:G:C6	2:A8:1187:G:C4	3.09	0.41
2:A8:1237:A:N3	2:A8:1237:A:H2'	2.36	0.41
2:A8:1268:A:H3'	2:A8:1269:A:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1468:U:H2'	2:A8:1522:A:C6	2.55	0.41
2:A8:1473:G:C2	2:A8:1519:G:C4	3.08	0.41
2:A8:1498:C:H5'	2:A8:1577:C:H5'	2.02	0.41
2:A8:1624:U:C2	2:A8:1625:C:C6	3.08	0.41
2:A8:1660:G:C2	2:A8:2001:C:C2	3.09	0.41
2:A8:1775:U:OP1	2:A8:1980:G:H4'	2.21	0.41
2:A8:1782:U:H3'	2:A8:1782:U:H6	1.86	0.41
2:A8:1799:G:O4'	2:A8:1800:C:C5	2.74	0.41
2:A8:2010:G:C5	2:A8:2011:U:C5	3.08	0.41
2:A8:2024:G:C5	2:A8:2025:C:C5	3.08	0.41
2:A8:2070:A:C2	2:A8:2442:C:C6	3.09	0.41
2:A8:2132:U:H2'	2:A8:2134:A:C2	2.56	0.41
2:A8:2180:U:H2'	2:A8:2181:U:C6	2.55	0.41
2:A8:2291:U:H4'	2:A8:2373:G:N2	2.35	0.41
2:A8:2293:G:C6	2:A8:2340:A:N1	2.89	0.41
2:A8:2340:A:N1	2:A8:2341:G:C5	2.88	0.41
2:A8:2352:A:H2'	2:A8:2353:G:H5'	2.02	0.41
2:A8:2414:G:H2'	2:A8:2415:G:C8	2.56	0.41
2:A8:2461:A:C2	2:A8:2490:G:N2	2.88	0.41
2:A8:2461:A:C6	2:A8:2462:C:C4	3.08	0.41
2:A8:2631:G:C2	2:A8:2788:C:C2	3.09	0.41
2:A8:2661:G:O6	2:A8:2662:A:C6	2.73	0.41
2:A8:2742:G:H1	2:A8:2762:C:H42	1.68	0.41
8:AD:46:ARG:HB3	8:AD:83:ARG:HH11	1.85	0.41
8:AD:140:HIS:C	8:AD:142:VAL:H	2.29	0.41
11:AG:25:ILE:H	11:AG:33:THR:H	1.68	0.41
14:AJ:42:ALA:HA	21:AQ:67:ALA:HB1	2.03	0.41
14:AJ:125:TYR:CE2	14:AJ:130:HIS:HB3	2.55	0.41
22:AR:6:GLN:HA	22:AR:11:GLN:HE22	1.85	0.41
26:AV:79:ARG:HA	26:AV:86:LEU:HA	2.02	0.41
28:AX:36:ARG:HA	28:AX:47:THR:CB	2.51	0.41
36:BA:51:A:C6	36:BA:116:A:C5	3.08	0.41
36:BA:416:G:C6	36:BA:417:G:C6	3.08	0.41
36:BA:524:G:C6	36:BA:525:C:C4	3.09	0.41
36:BA:542:G:H4'	39:BD:41:GLY:CA	2.50	0.41
36:BA:764:C:N4	36:BA:812:G:H1	2.18	0.41
39:BD:166:LYS:HA	39:BD:172:VAL:HG21	2.03	0.41
2:A8:60:G:C6	2:A8:74:A:C6	3.08	0.41
2:A8:63:A:N6	2:A8:89:A:H62	2.19	0.41
2:A8:197:A:C8	2:A8:2068:U:N3	2.89	0.41
2:A8:214:G:C6	2:A8:215:G:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:480:A:N3	2:A8:480:A:H2'	2.36	0.41
2:A8:592:A:N3	2:A8:666:A:C2	2.89	0.41
2:A8:758:C:C2	2:A8:759:G:C8	3.09	0.41
2:A8:763:G:N3	2:A8:765:C:H1'	2.36	0.41
2:A8:780:G:N2	2:A8:782:A:C2	2.89	0.41
2:A8:976:G:H4'	2:A8:1156:A:C6	2.56	0.41
2:A8:986:C:N3	2:A8:987:C:C5	2.89	0.41
2:A8:1097:U:C2	2:A8:1098:A:H1'	2.56	0.41
2:A8:1131:G:N9	14:AJ:77:HIS:CE1	2.89	0.41
2:A8:1137:G:C6	2:A8:1138:G:C5	3.08	0.41
2:A8:1176:U:H6	2:A8:1176:U:C5'	2.33	0.41
2:A8:1213:A:N1	2:A8:1214:A:C4	2.88	0.41
2:A8:1309:G:C2	2:A8:1310:G:C4	3.09	0.41
2:A8:1311:G:C5'	2:A8:1312:U:H5'	2.51	0.41
2:A8:1340:U:C2	2:A8:1603:A:C8	3.08	0.41
2:A8:1386:C:H1'	2:A8:1470:A:H1'	2.02	0.41
2:A8:1507:C:C4	2:A8:1508:A:C5	3.09	0.41
2:A8:1649:G:H21	18:AN:107:ASN:HB3	1.86	0.41
2:A8:1766:G:C2	2:A8:1987:A:N3	2.89	0.41
2:A8:1797:G:C5	2:A8:1823:G:C6	3.09	0.41
2:A8:1799:G:C4	2:A8:1819:A:N7	2.89	0.41
2:A8:1890:A:C8	2:A8:1890:A:O5'	2.73	0.41
2:A8:1956:U:O5'	2:A8:1956:U:C6	2.73	0.41
2:A8:2064:C:H1'	2:A8:2450:A:N1	2.36	0.41
2:A8:2201:G:H2'	2:A8:2202:U:C6	2.55	0.41
2:A8:2286:G:H1'	2:A8:2287:A:C5	2.56	0.41
2:A8:2375:G:C2	2:A8:2379:G:C6	3.08	0.41
2:A8:2435:A:C4	2:A8:2436:G:C8	3.09	0.41
2:A8:2446:G:H2'	2:A8:2501:C:C5	2.55	0.41
2:A8:2643:G:C4	2:A8:2644:G:C8	3.09	0.41
2:A8:2816:G:C4	2:A8:2817:U:C5	3.09	0.41
2:A8:2834:G:C5	2:A8:2879:A:C2	3.09	0.41
2:A8:2866:U:O2	2:A8:2868:A:H1'	2.21	0.41
18:AN:92:GLY:HA2	18:AN:94:TYR:CE2	2.56	0.41
21:AQ:75:TYR:C	21:AQ:75:TYR:CD2	2.99	0.41
36:BA:39:G:C4	36:BA:404:G:C2	3.08	0.41
36:BA:55:A:OP2	36:BA:352:C:N4	2.53	0.41
36:BA:137:U:H1'	51:BP:64:GLY:HA3	2.03	0.41
36:BA:162:A:OP2	36:BA:163:C:C5	2.74	0.41
36:BA:164:G:N2	36:BA:165:G:C4	2.89	0.41
36:BA:275:G:C6	36:BA:276:G:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:473:U:H2'	36:BA:474:G:C8	2.56	0.41
36:BA:506:G:N7	36:BA:507:C:C4	2.89	0.41
36:BA:575:G:C8	36:BA:821:G:OP2	2.73	0.41
36:BA:600:A:C4	36:BA:639:G:N2	2.89	0.41
36:BA:683:G:N1	36:BA:684:U:C2	2.89	0.41
36:BA:807:A:C5	36:BA:808:C:C5	3.09	0.41
36:BA:863:U:C6	36:BA:865:A:C8	3.08	0.41
36:BA:881:G:N1	36:BA:882:C:C2	2.88	0.41
36:BA:951:G:H1'	36:BA:1231:G:N2	2.36	0.41
36:BA:1026:G:C5	36:BA:1027:C:C5	3.09	0.41
36:BA:1074:G:C6	36:BA:1075:U:C4	3.09	0.41
36:BA:1280:A:C8	45:BJ:43:PRO:HD2	2.56	0.41
36:BA:1316:G:H1'	36:BA:1360:A:C2	2.56	0.41
36:BA:1321:U:O5'	36:BA:1321:U:H6	2.04	0.41
36:BA:1326:U:H2'	36:BA:1327:C:C6	2.55	0.41
36:BA:1348:U:C2	36:BA:1349:A:C8	3.08	0.41
44:BI:4:GLN:HB2	44:BI:20:ILE:H	1.84	0.41
44:BI:17:ARG:CD	44:BI:19:PHE:CZ	3.04	0.41
54:BS:8:PRO:CB	54:BS:10:ILE:HG23	2.50	0.41
1:A7:9:G:C4	1:A7:112:G:C2	3.08	0.41
2:A8:28:A:N6	2:A8:512:G:H1'	2.36	0.41
2:A8:224:U:C5	2:A8:420:C:H4'	2.56	0.41
2:A8:485:C:C4	2:A8:496:G:C6	3.09	0.41
2:A8:573:U:C5'	2:A8:575:A:H62	2.34	0.41
2:A8:612:G:H2'	2:A8:614:A:O4'	2.21	0.41
2:A8:656:G:C6	2:A8:657:U:C4	3.09	0.41
2:A8:690:G:H2'	2:A8:691:C:C6	2.56	0.41
2:A8:751:A:C2	23:AS:91:GLY:HA3	2.56	0.41
2:A8:909:A:O5'	2:A8:909:A:H8	2.04	0.41
2:A8:930:G:H2'	2:A8:933:A:C2	2.55	0.41
2:A8:976:G:C6	2:A8:988:A:C2	3.09	0.41
2:A8:1041:G:C2	2:A8:1115:G:C6	3.09	0.41
2:A8:1092:C:H42	2:A8:1100:C:N4	2.19	0.41
2:A8:1197:G:C2	2:A8:1250:G:N1	2.89	0.41
2:A8:1296:G:C2	2:A8:1645:G:N3	2.89	0.41
2:A8:1315:C:O5'	2:A8:1315:C:C6	2.74	0.41
2:A8:1410:G:N2	2:A8:1593:A:H1'	2.36	0.41
2:A8:1495:A:H1'	2:A8:1579:A:H4'	2.03	0.41
2:A8:1560:G:C4	2:A8:1561:C:C6	3.09	0.41
2:A8:1590:A:N1	2:A8:1591:A:C5	2.89	0.41
2:A8:1607:C:C2	2:A8:1621:U:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1689:A:N6	2:A8:1697:G:H2'	2.35	0.41
2:A8:1805:A:H4'	7:A6:247:TRP:CZ2	2.56	0.41
2:A8:1842:G:C6	2:A8:1843:C:C4	3.08	0.41
2:A8:1855:U:C5	2:A8:1856:U:C5	3.08	0.41
2:A8:1932:A:H3'	2:A8:1933:G:H8	1.85	0.41
2:A8:2064:C:H3'	2:A8:2065:C:C6	2.55	0.41
2:A8:2234:G:C2	2:A8:2235:G:C4	3.09	0.41
2:A8:2241:A:C2	2:A8:2242:G:C4	3.09	0.41
2:A8:2314:A:C2	2:A8:2315:G:C4	3.09	0.41
2:A8:2425:A:C8	2:A8:2427:C:C2	3.08	0.41
2:A8:2591:C:C5	7:A6:235:GLU:HG2	2.56	0.41
2:A8:2662:A:N6	2:A8:2663:G:C2	2.89	0.41
2:A8:2685:G:C6	2:A8:2686:G:C5	3.08	0.41
2:A8:2867:G:C2'	2:A8:2868:A:C8	3.04	0.41
3:AA:234:VAL:HG13	3:AA:251:SER:O	2.20	0.41
7:A6:168:GLY:H	7:A6:171:VAL:HG12	1.86	0.41
8:AD:125:TRP:HA	8:AD:125:TRP:CE3	2.55	0.41
10:AF:103:ILE:H	10:AF:106:ALA:HB2	1.86	0.41
21:AQ:60:TRP:CZ2	21:AQ:93:ILE:HB	2.56	0.41
31:A0:37:HIS:CG	31:A0:38:LEU:N	2.88	0.41
36:BA:138:G:C2	36:BA:226:G:H1'	2.55	0.41
36:BA:237:G:C4	36:BA:238:A:C8	3.09	0.41
36:BA:251:G:C2	36:BA:266:G:C5	3.08	0.41
36:BA:319:G:C2	36:BA:335:C:C2	3.09	0.41
36:BA:408:A:C2	36:BA:435:A:C2	3.09	0.41
36:BA:602:A:C6	36:BA:603:U:C4	3.09	0.41
36:BA:772:U:H3	36:BA:807:A:H61	1.69	0.41
36:BA:775:G:C2	36:BA:805:C:C4	3.08	0.41
36:BA:794:A:C5	36:BA:795:C:C5	3.09	0.41
36:BA:954:G:C5	36:BA:955:U:C5	3.09	0.41
36:BA:1072:G:C2	36:BA:1104:G:N3	2.89	0.41
36:BA:1239:A:H1'	36:BA:1241:G:C4	2.56	0.41
36:BA:1258:G:C6	36:BA:1259:C:N4	2.88	0.41
36:BA:1294:G:C6	36:BA:1295:U:C4	3.09	0.41
36:BA:1426:G:C5	36:BA:1475:G:N1	2.89	0.41
39:BD:148:ALA:HA	39:BD:151:GLN:HG3	2.01	0.41
46:BK:22:ILE:HG22	46:BK:31:VAL:HA	2.02	0.41
54:BS:10:ILE:HB	54:BS:15:LEU:HD13	2.02	0.41
1:A7:16:G:N3	1:A7:17:C:C6	2.89	0.41
1:A7:18:G:H1'	1:A7:67:G:C2	2.56	0.41
1:A7:58:A:H2	1:A7:59:A:H1'	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A7:65:U:H6	1:A7:65:U:O5'	2.02	0.41
1:A7:91:C:N3	1:A7:92:C:C5	2.88	0.41
2:A8:38:A:C2	2:A8:442:G:C2	3.09	0.41
2:A8:178:G:C5	2:A8:179:C:C5	3.09	0.41
2:A8:185:G:C4	2:A8:212:G:C2	3.09	0.41
2:A8:197:A:N3	2:A8:2430:A:C6	2.88	0.41
2:A8:221:A:N1	2:A8:265:A:C8	2.89	0.41
2:A8:227:A:C2	2:A8:228:C:C4	3.09	0.41
2:A8:262:A:C6	2:A8:263:G:C2	3.09	0.41
2:A8:311:A:N6	2:A8:328:U:H3'	2.36	0.41
2:A8:337:C:H2'	2:A8:338:G:O4'	2.21	0.41
2:A8:376:G:N2	2:A8:399:U:H1'	2.36	0.41
2:A8:407:G:C2	2:A8:408:G:C8	3.08	0.41
2:A8:452:G:H21	2:A8:457:A:H1'	1.86	0.41
2:A8:599:A:C2	2:A8:600:G:C5	3.08	0.41
2:A8:607:U:O4	2:A8:619:G:H2'	2.20	0.41
2:A8:607:U:N3	2:A8:608:A:C8	2.89	0.41
2:A8:669:G:H22	9:AE:84:THR:CG2	2.30	0.41
2:A8:676:A:H2	2:A8:2069:G:H2'	1.86	0.41
2:A8:693:A:C6	2:A8:770:G:C6	3.09	0.41
2:A8:794:A:C4	2:A8:795:C:C5	3.09	0.41
2:A8:848:C:H2'	2:A8:849:A:C8	2.56	0.41
2:A8:874:G:C2	2:A8:904:G:C4	3.08	0.41
2:A8:889:C:C5	2:A8:890:C:C5	3.09	0.41
2:A8:923:G:H1'	27:AW:23:LYS:HE3	2.03	0.41
2:A8:950:G:C2	2:A8:951:C:C6	3.09	0.41
2:A8:962:G:C5	2:A8:963:U:C5	3.09	0.41
2:A8:996:A:C6	2:A8:1160:G:C4	3.09	0.41
2:A8:1016:G:C4	2:A8:1147:A:C2	3.09	0.41
2:A8:1048:A:C6	2:A8:1049:C:C4	3.09	0.41
2:A8:1087:G:C2	2:A8:1103:A:C4	3.09	0.41
2:A8:1128:G:N7	2:A8:2490:G:H5'	2.36	0.41
2:A8:1129:A:H4'	2:A8:2516:A:C4'	2.50	0.41
2:A8:1182:G:N1	2:A8:1183:U:C2	2.89	0.41
2:A8:1310:G:H21	2:A8:1610:A:H8	1.62	0.41
2:A8:1360:G:C5	2:A8:1361:G:C8	3.09	0.41
2:A8:1395:A:C4	2:A8:1398:C:C5	3.09	0.41
2:A8:1408:G:N1	2:A8:1595:C:C2	2.89	0.41
2:A8:1410:G:C2	2:A8:1593:A:C2	3.08	0.41
2:A8:1411:U:H2'	2:A8:1412:U:O4'	2.21	0.41
2:A8:1422:G:H1'	2:A8:1495:A:N1	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1439:A:C5	2:A8:1440:U:O4'	2.74	0.41
2:A8:1655:A:C5	2:A8:1656:C:C2	3.09	0.41
2:A8:1661:G:C2	2:A8:1662:U:N1	2.89	0.41
2:A8:1680:U:O5'	2:A8:1680:U:C6	2.74	0.41
2:A8:1682:G:C5	2:A8:1683:U:C5	3.09	0.41
2:A8:1686:C:C4	2:A8:1687:G:C5	3.08	0.41
2:A8:1703:G:C6	2:A8:1704:C:C4	3.08	0.41
2:A8:1730:C:C2	2:A8:1731:G:C2	3.08	0.41
2:A8:1735:A:C2	2:A8:1736:U:C2	3.09	0.41
2:A8:1831:G:C5	2:A8:1832:C:C5	3.08	0.41
2:A8:1889:A:C2	2:A8:1890:A:H1'	2.55	0.41
2:A8:1906:G:H3'	2:A8:1906:G:C8	2.56	0.41
2:A8:1975:G:C5	2:A8:1976:U:C5	3.09	0.41
2:A8:2020:A:C8	2:A8:2020:A:H5''	2.56	0.41
2:A8:2027:G:H1	2:A8:2036:C:H42	1.69	0.41
2:A8:2080:A:N3	2:A8:2241:A:C2	2.89	0.41
2:A8:2085:U:O2	2:A8:2235:G:C2	2.74	0.41
2:A8:2097:A:C4	2:A8:2098:U:C6	3.09	0.41
2:A8:2097:A:N1	2:A8:2098:U:C2	2.89	0.41
2:A8:2123:G:H1'	6:A5:172:HIS:HB2	2.03	0.41
2:A8:2241:A:C2	2:A8:2242:G:C5	3.09	0.41
2:A8:2253:G:C2	2:A8:2254:C:H1'	2.56	0.41
2:A8:2257:U:O5'	2:A8:2257:U:H6	2.04	0.41
2:A8:2259:U:C6	2:A8:2259:U:O5'	2.73	0.41
2:A8:2271:G:H2'	2:A8:2272:U:H6	1.86	0.41
2:A8:2286:G:H1'	2:A8:2287:A:C6	2.55	0.41
2:A8:2289:G:O2'	2:A8:2383:G:H1'	2.21	0.41
2:A8:2298:A:C4	2:A8:2321:U:C6	3.09	0.41
2:A8:2366:A:H4'	27:AW:51:GLY:HA2	2.03	0.41
2:A8:2366:A:C2	2:A8:2367:G:H1'	2.56	0.41
2:A8:2446:G:H2'	2:A8:2501:C:H5	1.85	0.41
2:A8:2461:A:H1'	2:A8:2492:U:N3	2.36	0.41
2:A8:2473:U:C5	2:A8:2473:U:OP1	2.74	0.41
2:A8:2488:G:C2	2:A8:2489:U:C2	3.09	0.41
2:A8:2544:G:C6	2:A8:2545:G:C5	3.08	0.41
2:A8:2592:G:N1	2:A8:2603:G:C6	2.89	0.41
2:A8:2602:A:H4'	2:A8:2603:G:C5'	2.51	0.41
2:A8:2648:G:C6	2:A8:2673:G:C5	3.08	0.41
2:A8:2697:G:H2'	2:A8:2698:U:C6	2.55	0.41
2:A8:2722:G:C2	2:A8:2723:C:C2	3.09	0.41
2:A8:2819:G:C5	2:A8:2821:A:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2834:G:C4	2:A8:2879:A:C6	3.09	0.41
2:A8:2842:G:N2	2:A8:2843:G:H1'	2.36	0.41
2:A8:2902:C:C4	2:A8:2903:U:C4	3.09	0.41
10:AF:31:GLU:HA	10:AF:95:MET:HE1	2.02	0.41
12:AH:1:MET:HB3	12:AH:20:ASN:HA	2.02	0.41
15:AK:35:GLY:CA	15:AK:60:VAL:HG23	2.51	0.41
15:AK:69:ARG:HA	15:AK:74:SER:O	2.20	0.41
16:AL:34:GLY:C	16:AL:35:HIS:CD2	2.99	0.41
24:AT:70:HIS:HB3	24:AT:73:ARG:HB3	2.03	0.41
26:AV:16:ALA:HA	26:AV:19:ARG:HH21	1.84	0.41
28:AX:2:ARG:HH11	28:AX:30:PRO:HB2	1.86	0.41
30:AZ:17:PRO:HA	30:AZ:20:LYS:HB2	2.02	0.41
33:A2:9:VAL:HA	33:A2:12:ARG:HB2	2.02	0.41
36:BA:37:U:H2'	36:BA:38:G:O4'	2.21	0.41
36:BA:111:G:C4	36:BA:112:G:C8	3.08	0.41
36:BA:120:A:H2'	36:BA:122:G:N7	2.36	0.41
36:BA:151:A:C6	36:BA:171:A:C6	3.09	0.41
36:BA:199:A:C2	36:BA:200:G:C1'	3.04	0.41
36:BA:246:A:C8	36:BA:282:A:N6	2.88	0.41
36:BA:282:A:C5	36:BA:283:U:C6	3.09	0.41
36:BA:413:G:C8	39:BD:32:LYS:HE3	2.56	0.41
36:BA:419:C:N4	36:BA:420:U:C4	2.89	0.41
36:BA:457:G:C2	36:BA:476:U:C2	3.09	0.41
36:BA:596:A:C2	36:BA:645:G:N3	2.89	0.41
36:BA:683:G:C2	36:BA:684:U:H1'	2.55	0.41
36:BA:741:G:C4	36:BA:742:G:C8	3.08	0.41
36:BA:747:A:N1	36:BA:748:G:C4	2.88	0.41
36:BA:881:G:H2'	36:BA:882:C:O4'	2.21	0.41
36:BA:904:U:O5'	36:BA:904:U:H6	2.03	0.41
36:BA:945:G:H1'	36:BA:1337:G:H1'	2.02	0.41
36:BA:1068:G:C6	36:BA:1108:G:N3	2.89	0.41
36:BA:1072:G:C4	36:BA:1073:U:C6	3.08	0.41
36:BA:1089:G:C6	36:BA:1090:U:C4	3.08	0.41
36:BA:1198:G:C5	36:BA:1199:U:C5	3.09	0.41
36:BA:1213:A:C5	36:BA:1215:G:C4	3.09	0.41
36:BA:1213:A:C2	36:BA:1215:G:H1'	2.56	0.41
36:BA:1239:A:H1'	36:BA:1241:G:C5	2.55	0.41
36:BA:1268:G:C6	36:BA:1269:A:C6	3.09	0.41
36:BA:1416:G:C6	36:BA:1417:G:C4	3.09	0.41
36:BA:1462:C:C5	36:BA:1463:U:C5	3.09	0.41
36:BA:1511:G:C4	36:BA:1525:G:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:1513:A:C4	36:BA:1523:G:C6	3.09	0.41
39:BD:78:ALA:HB1	39:BD:88:ASN:HB2	2.01	0.41
43:BH:105:THR:HG21	43:BH:110:MET:SD	2.61	0.41
45:BJ:9:ARG:HE	45:BJ:71:LEU:HB3	1.86	0.41
47:BL:37:TYR:CZ	47:BL:51:VAL:HG13	2.56	0.41
50:BO:33:ALA:O	50:BO:37:HIS:CD2	2.73	0.41
1:A7:3:C:H2'	1:A7:4:C:H6	1.86	0.41
1:A7:16:G:N1	1:A7:17:C:C4	2.89	0.41
1:A7:42:C:C6	1:A7:43:C:C6	3.09	0.41
2:A8:84:A:N3	2:A8:85:G:H1'	2.36	0.41
2:A8:85:G:C6	2:A8:86:G:C5	3.09	0.41
2:A8:104:A:C5	2:A8:105:C:C5	3.09	0.41
2:A8:186:G:C2	2:A8:187:G:C8	3.08	0.41
2:A8:195:A:C8	2:A8:198:C:N4	2.89	0.41
2:A8:204:A:C5	2:A8:206:U:C4	3.09	0.41
2:A8:437:U:H2'	2:A8:438:G:C8	2.56	0.41
2:A8:572:A:C6	2:A8:573:U:C4	3.09	0.41
2:A8:843:G:C6	2:A8:936:A:C6	3.09	0.41
2:A8:868:U:C4	2:A8:869:G:C5	3.09	0.41
2:A8:874:G:C6	2:A8:875:G:C8	3.09	0.41
2:A8:943:A:C2	2:A8:944:C:C2	3.09	0.41
2:A8:957:C:C5	2:A8:959:A:C5	3.08	0.41
2:A8:1141:U:O2	2:A8:1142:A:C6	2.74	0.41
2:A8:1205:A:C5	9:AE:165:HIS:CE1	3.09	0.41
2:A8:1274:A:N1	2:A8:1302:A:C2	2.89	0.41
2:A8:1356:G:N2	2:A8:1357:C:H1'	2.36	0.41
2:A8:1389:G:C6	2:A8:1390:U:C5	3.09	0.41
2:A8:1419:A:C8	2:A8:1421:G:C6	3.09	0.41
2:A8:1448:G:C6	2:A8:1449:G:C5	3.09	0.41
2:A8:1451:C:H2'	2:A8:1458:U:H5'	2.03	0.41
2:A8:1490:A:H62	2:A8:1500:G:N2	2.19	0.41
2:A8:1649:G:C4	2:A8:2009:A:C2	3.09	0.41
2:A8:1719:G:C6	2:A8:1720:U:C4	3.09	0.41
2:A8:1763:G:C8	2:A8:1763:G:H3'	2.56	0.41
2:A8:1765:U:C2	2:A8:1766:G:C8	3.09	0.41
2:A8:1813:G:C6	2:A8:1814:G:C4	3.09	0.41
2:A8:1821:A:C5	2:A8:1822:C:C5	3.09	0.41
2:A8:1916:A:C2	2:A8:1917:U:C2	3.09	0.41
2:A8:1934:C:C2	2:A8:1935:G:C8	3.10	0.41
2:A8:1945:G:C2	2:A8:1946:U:C2	3.09	0.41
2:A8:2286:G:C6	2:A8:2346:A:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2332:C:H1'	2:A8:2336:A:C8	2.56	0.41
2:A8:2435:A:H2'	2:A8:2436:G:O4'	2.21	0.41
2:A8:2460:U:O2	2:A8:2493:U:C2	2.74	0.41
2:A8:2508:G:H4'	2:A8:2555:U:O4'	2.21	0.41
2:A8:2537:U:O5'	2:A8:2537:U:H6	2.04	0.41
2:A8:2627:G:C2	2:A8:2777:G:C4	3.08	0.41
2:A8:2644:G:C5	2:A8:2645:G:N1	2.89	0.41
2:A8:2657:A:C2	2:A8:2665:A:C4	3.08	0.41
2:A8:2796:U:C2	2:A8:2801:G:C2	3.09	0.41
2:A8:2797:U:H5	2:A8:2800:A:C2	2.37	0.41
2:A8:2797:U:C6	2:A8:2800:A:H2	2.39	0.41
2:A8:2817:U:C4	2:A8:2818:U:C6	3.09	0.41
2:A8:2834:G:H1'	2:A8:2883:A:H61	1.86	0.41
8:AD:47:ALA:HB2	8:AD:83:ARG:HD2	2.03	0.41
17:AM:24:THR:H	17:AM:66:ARG:HH22	1.69	0.41
32:A1:50:GLU:HB3	32:A1:51:ALA:H	1.62	0.41
36:BA:56:U:H2'	36:BA:57:G:C8	2.56	0.41
36:BA:57:G:H1	36:BA:355:C:H42	1.69	0.41
36:BA:102:G:H1'	36:BA:152:A:O2'	2.21	0.41
36:BA:188:C:H5	36:BA:190:A:C6	2.39	0.41
36:BA:249:U:H6	36:BA:249:U:O5'	2.04	0.41
36:BA:315:A:N3	36:BA:353:A:H2'	2.36	0.41
36:BA:356:A:C2	36:BA:368:U:H1'	2.56	0.41
36:BA:389:A:C8	36:BA:390:U:C5	3.09	0.41
36:BA:428:G:C2	36:BA:430:A:N6	2.89	0.41
36:BA:579:A:C6	36:BA:763:G:C6	3.09	0.41
36:BA:592:G:C6	36:BA:648:A:C6	3.09	0.41
36:BA:666:G:H21	50:BO:50:HIS:HB2	1.84	0.41
36:BA:681:A:C2	36:BA:710:G:N3	2.89	0.41
36:BA:777:A:C6	36:BA:778:G:C4	3.09	0.41
36:BA:790:A:C5	36:BA:791:G:C6	3.09	0.41
36:BA:810:C:H2'	36:BA:811:C:H6	1.86	0.41
36:BA:883:C:H41	47:BL:1:ALA:HB2	1.86	0.41
36:BA:893:C:H2'	36:BA:894:G:C8	2.56	0.41
36:BA:1123:U:C4	36:BA:1124:G:N7	2.89	0.41
36:BA:1161:C:H2'	36:BA:1162:C:H6	1.86	0.41
36:BA:1287:A:C6	36:BA:1288:A:C6	3.09	0.41
36:BA:1316:G:H5'	36:BA:1317:C:OP2	2.21	0.41
36:BA:1395:C:H1'	36:BA:1399:C:C5	2.56	0.41
36:BA:1441:A:C2	36:BA:1442:G:H1'	2.55	0.41
37:BB:26:MET:HE1	37:BB:38:HIS:CE1	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BS:8:PRO:HB2	54:BS:10:ILE:HG23	2.03	0.41
54:BS:14:LEU:HA	54:BS:32:THR:HG22	2.02	0.41
2:A8:21:A:H61	2:A8:519:U:H3	1.68	0.40
2:A8:38:A:C6	2:A8:442:G:C6	3.09	0.40
2:A8:50:U:H3'	2:A8:51:G:H5'	2.02	0.40
2:A8:367:G:H21	2:A8:368:A:H62	1.68	0.40
2:A8:374:A:H4'	2:A8:422:A:C2	2.55	0.40
2:A8:381:G:C2	2:A8:394:C:C2	3.08	0.40
2:A8:565:C:H4'	2:A8:1253:A:C5	2.56	0.40
2:A8:590:A:C2	2:A8:668:A:N3	2.89	0.40
2:A8:602:A:C4	2:A8:656:G:C6	3.09	0.40
2:A8:712:G:N2	2:A8:713:G:H1'	2.36	0.40
2:A8:735:A:C8	2:A8:736:C:C5	3.09	0.40
2:A8:868:U:O5'	2:A8:868:U:C6	2.74	0.40
2:A8:910:A:H62	17:AM:12:MET:HA	1.85	0.40
2:A8:1277:G:C2	2:A8:1294:U:O2	2.74	0.40
2:A8:1279:G:H4'	18:AN:31:HIS:CE1	2.57	0.40
2:A8:1309:G:C4	2:A8:1310:G:C8	3.10	0.40
2:A8:1392:A:H62	24:AT:19:LYS:HD3	1.87	0.40
2:A8:1492:G:H1	2:A8:1498:C:N4	2.18	0.40
2:A8:1619:G:C2	2:A8:1620:G:C4	3.09	0.40
2:A8:1877:A:H2'	2:A8:1878:G:O4'	2.21	0.40
2:A8:1911:U:N3	2:A8:1918:A:C4	2.89	0.40
2:A8:1987:A:N1	2:A8:1988:G:C4	2.90	0.40
2:A8:2058:A:C6	2:A8:2059:A:N6	2.89	0.40
2:A8:2071:A:H2'	2:A8:2072:C:C6	2.56	0.40
2:A8:2086:U:C2	2:A8:2234:G:C2	3.09	0.40
2:A8:2193:G:N3	2:A8:2194:U:C6	2.89	0.40
2:A8:2263:C:C2	2:A8:2278:A:C2	3.09	0.40
2:A8:2282:G:C6	2:A8:2425:A:C6	3.09	0.40
2:A8:2303:G:C2	2:A8:2314:A:C4	3.08	0.40
2:A8:2350:C:C4	2:A8:2351:G:C5	3.10	0.40
2:A8:2460:U:C4	2:A8:2461:A:C5	3.09	0.40
2:A8:2484:G:C2	2:A8:2485:G:C8	3.09	0.40
2:A8:2514:U:H2'	2:A8:2515:C:C6	2.56	0.40
2:A8:2527:C:C2	2:A8:2528:U:C6	3.09	0.40
2:A8:2634:A:C2	2:A8:2785:C:C2	3.08	0.40
2:A8:2643:G:H2'	2:A8:2644:G:C8	2.56	0.40
9:AE:37:ALA:HB3	9:AE:93:SER:HA	2.03	0.40
10:AF:178:LYS:HE2	10:AF:178:LYS:HA	2.03	0.40
11:AG:52:GLY:HA3	11:AG:61:TRP:CZ2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:26:PHE:CZ	26:AV:42:LEU:HB2	2.56	0.40
27:AW:70:VAL:HG23	27:AW:76:ARG:HB3	2.01	0.40
28:AX:35:HIS:CD2	28:AX:37:PHE:CE1	3.08	0.40
31:A0:48:TYR:HB3	31:A0:49:ARG:H	1.67	0.40
36:BA:44:A:H1'	36:BA:399:G:N2	2.36	0.40
36:BA:235:C:H4'	52:BQ:72:TRP:HE1	1.86	0.40
36:BA:347:G:C2	36:BA:348:G:H1'	2.56	0.40
36:BA:397:A:N6	36:BA:548:G:C4	2.88	0.40
36:BA:484:G:C2	36:BA:486:U:C5	3.09	0.40
36:BA:504:C:N3	36:BA:542:G:C2	2.89	0.40
36:BA:566:G:H4'	36:BA:567:G:H5'	2.03	0.40
36:BA:748:G:C4	36:BA:749:A:C8	3.10	0.40
36:BA:773:G:N2	36:BA:807:A:C4	2.89	0.40
36:BA:782:A:N1	36:BA:801:U:H1'	2.36	0.40
36:BA:920:U:H2'	36:BA:921:U:C6	2.56	0.40
36:BA:945:G:C2	36:BA:1337:G:C2	3.08	0.40
36:BA:1057:G:H3'	36:BA:1058:G:H8	1.84	0.40
36:BA:1117:A:C8	36:BA:1118:U:H5	2.40	0.40
36:BA:1385:G:N1	36:BA:1386:G:C5	2.89	0.40
36:BA:1438:G:H2'	36:BA:1439:G:H8	1.86	0.40
36:BA:1444:U:O2	36:BA:1459:G:C2	2.74	0.40
41:BF:10:VAL:HG21	41:BF:15:SER:HA	2.01	0.40
42:BG:43:TYR:HA	42:BG:46:LEU:HD12	2.04	0.40
42:BG:105:GLU:HA	42:BG:108:ARG:HE	1.85	0.40
46:BK:80:ASN:HA	46:BK:105:ARG:H	1.85	0.40
1:A7:29:A:C6	1:A7:30:C:N3	2.90	0.40
2:A8:36:G:N2	2:A8:445:C:C2	2.89	0.40
2:A8:45:G:C2	2:A8:215:G:C2	3.09	0.40
2:A8:49:A:C8	2:A8:51:G:C2	3.10	0.40
2:A8:379:G:N1	2:A8:380:G:C4	2.89	0.40
2:A8:391:A:C5	2:A8:392:U:C6	3.10	0.40
2:A8:424:G:C6	2:A8:425:G:C5	3.08	0.40
2:A8:528:A:C4	2:A8:2042:A:H3'	2.56	0.40
2:A8:599:A:H1'	2:A8:659:G:N2	2.36	0.40
2:A8:726:G:H5''	2:A8:1433:A:H5'	2.03	0.40
2:A8:769:U:H2'	2:A8:770:G:O4'	2.21	0.40
2:A8:801:G:N2	9:AE:49:ARG:HG3	2.32	0.40
2:A8:854:C:C2	2:A8:855:G:C8	3.08	0.40
2:A8:866:A:H61	2:A8:913:U:H1'	1.87	0.40
2:A8:924:G:C2	2:A8:925:A:C4	3.09	0.40
2:A8:936:A:C6	2:A8:937:C:C4	3.08	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:977:G:C2	2:A8:987:C:C2	3.09	0.40
2:A8:1014:A:C2	2:A8:1149:G:C2	3.09	0.40
2:A8:1019:U:O2'	2:A8:1021:A:C2	2.73	0.40
2:A8:1052:C:H2'	2:A8:1053:C:H6	1.86	0.40
2:A8:1060:U:C1'	2:A8:1062:G:H5'	2.51	0.40
2:A8:1175:A:H2'	2:A8:1176:U:C4'	2.52	0.40
2:A8:1177:G:C5	2:A8:1178:C:C5	3.09	0.40
2:A8:1179:G:C2	2:A8:1180:U:N1	2.90	0.40
2:A8:1311:G:H4'	2:A8:1313:U:C5	2.56	0.40
2:A8:1350:C:N3	2:A8:1351:C:C5	2.90	0.40
2:A8:1423:G:C2	2:A8:1576:U:C2	3.09	0.40
2:A8:1507:C:O2	2:A8:1507:C:H2'	2.21	0.40
2:A8:1687:G:H1'	2:A8:1702:G:C2	2.56	0.40
2:A8:1787:A:C6	2:A8:1788:C:C4	3.09	0.40
2:A8:1823:G:C2	2:A8:1824:G:C4	3.10	0.40
2:A8:1969:A:H2'	2:A8:1972:G:H21	1.86	0.40
2:A8:2024:G:N2	2:A8:2040:G:H1'	2.36	0.40
2:A8:2049:G:C2	2:A8:2620:C:C2	3.09	0.40
2:A8:2074:U:C2	2:A8:2436:G:C2	3.09	0.40
2:A8:2234:G:C6	2:A8:2235:G:C5	3.09	0.40
2:A8:2267:A:H62	2:A8:2271:G:H1	1.67	0.40
2:A8:2285:C:O4'	2:A8:2288:A:C2	2.75	0.40
2:A8:2345:G:N3	2:A8:2381:A:H2'	2.36	0.40
2:A8:2352:A:C4	2:A8:2366:A:C2	3.09	0.40
2:A8:2410:G:C6	2:A8:2411:A:C4	3.09	0.40
2:A8:2469:A:C5	2:A8:2482:A:C5	3.08	0.40
2:A8:2521:C:H2'	2:A8:2522:U:C6	2.56	0.40
2:A8:2570:G:C6	2:A8:2571:U:N3	2.89	0.40
2:A8:2692:G:C2	2:A8:2718:G:C4	3.09	0.40
2:A8:2714:G:C8	2:A8:2714:G:O5'	2.73	0.40
2:A8:2795:C:H2'	2:A8:2796:U:O4'	2.21	0.40
2:A8:2821:A:H2'	2:A8:2822:G:C8	2.56	0.40
2:A8:2888:C:C6	2:A8:2888:C:O5'	2.74	0.40
3:AA:362:PHE:CE1	3:AA:368:PRO:HD2	2.56	0.40
7:A6:141:HIS:CE1	7:A6:191:LEU:O	2.74	0.40
9:AE:148:ILE:HB	9:AE:169:VAL:HA	2.04	0.40
12:AH:78:VAL:HG23	12:AH:144:VAL:CG1	2.51	0.40
32:A1:8:ILE:HG13	32:A1:22:THR:HG23	2.02	0.40
36:BA:27:G:C2	36:BA:557:G:H1'	2.56	0.40
36:BA:262:A:C6	36:BA:263:A:C2	3.08	0.40
36:BA:574:A:C8	36:BA:574:A:O5'	2.75	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:646:G:C6	36:BA:647:C:C4	3.09	0.40
36:BA:694:A:C2	36:BA:695:A:H1'	2.57	0.40
36:BA:729:A:N1	36:BA:765:G:H4'	2.35	0.40
36:BA:1101:A:OP2	36:BA:1102:A:H4'	2.20	0.40
36:BA:1167:A:C4	36:BA:1169:A:C6	3.09	0.40
36:BA:1171:A:C2	36:BA:1172:C:C2	3.09	0.40
36:BA:1185:G:C6	36:BA:1186:G:C6	3.10	0.40
36:BA:1277:C:C4	36:BA:1278:G:O6	2.74	0.40
36:BA:1324:A:C2	36:BA:1325:C:H1'	2.56	0.40
36:BA:1413:A:C6	36:BA:1414:U:C4	3.09	0.40
36:BA:1419:G:C2	36:BA:1420:U:C2	3.10	0.40
36:BA:1421:G:C2	36:BA:1422:G:C8	3.09	0.40
36:BA:1423:G:H22	36:BA:1478:U:H1'	1.85	0.40
36:BA:1494:G:C6	36:BA:1495:U:C4	3.09	0.40
40:BE:77:ASN:HB2	40:BE:79:THR:H	1.86	0.40
51:BP:59:HIS:CD2	51:BP:59:HIS:N	2.87	0.40
1:A7:33:G:C4	1:A7:50:A:N1	2.89	0.40
1:A7:33:G:N3	1:A7:50:A:C2	2.89	0.40
1:A7:87:U:C6	1:A7:87:U:H3'	2.56	0.40
2:A8:24:G:H21	23:AS:78:GLU:CB	2.34	0.40
2:A8:38:A:C6	2:A8:39:G:C5	3.09	0.40
2:A8:108:G:N1	2:A8:109:C:C2	2.89	0.40
2:A8:141:G:C4	2:A8:142:A:H1'	2.56	0.40
2:A8:321:U:H5	2:A8:322:A:C8	2.39	0.40
2:A8:367:G:N2	2:A8:368:A:H62	2.20	0.40
2:A8:494:G:N2	23:AS:57:ASN:HD21	2.18	0.40
2:A8:543:G:C2	2:A8:551:G:C4	3.10	0.40
2:A8:556:A:C6	2:A8:557:C:C2	3.10	0.40
2:A8:569:U:O4	2:A8:570:G:C6	2.74	0.40
2:A8:576:U:H4'	2:A8:2502:G:H2'	2.03	0.40
2:A8:739:A:C2	2:A8:758:C:N3	2.89	0.40
2:A8:826:U:H2'	2:A8:828:U:O4'	2.20	0.40
2:A8:847:U:C4	2:A8:932:U:O2	2.74	0.40
2:A8:1063:G:C5	2:A8:1064:C:C5	3.09	0.40
2:A8:1232:G:C5	2:A8:1233:C:C5	3.10	0.40
2:A8:1277:G:N2	2:A8:1294:U:H1'	2.36	0.40
2:A8:1310:G:H1'	2:A8:1611:C:H5'	2.03	0.40
2:A8:1405:U:H2'	2:A8:1406:U:C6	2.57	0.40
2:A8:1733:G:C2	2:A8:1734:G:C4	3.09	0.40
2:A8:1911:U:H6	2:A8:1911:U:O5'	2.05	0.40
2:A8:2046:G:C2	2:A8:2623:G:N3	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2188:U:H2'	2:A8:2189:U:O4'	2.22	0.40
2:A8:2209:G:C2	2:A8:2216:G:C2	3.09	0.40
2:A8:2337:G:C6	2:A8:2338:C:C5	3.10	0.40
2:A8:2423:U:C2	2:A8:2425:A:C5	3.10	0.40
2:A8:2425:A:H5''	2:A8:2426:A:H3'	2.02	0.40
2:A8:2552:U:H3'	2:A8:2554:U:OP2	2.22	0.40
2:A8:2677:G:C6	2:A8:2678:C:C5	3.10	0.40
2:A8:2747:G:N2	2:A8:2748:A:H62	2.20	0.40
2:A8:2799:A:C2	2:A8:2800:A:C6	3.09	0.40
2:A8:2802:G:C2	2:A8:2803:G:C4	3.09	0.40
2:A8:2832:U:C4	2:A8:2883:A:C8	3.09	0.40
2:A8:2851:A:N7	2:A8:2852:G:C5	2.90	0.40
7:A6:141:HIS:CE1	7:A6:190:THR:HB	2.56	0.40
8:AD:125:TRP:HB3	8:AD:127:PHE:CE1	2.56	0.40
9:AE:60:TRP:H	9:AE:61:ARG:CZ	2.34	0.40
17:AM:1:MET:HA	17:AM:43:ALA:HB3	2.02	0.40
26:AV:29:ILE:HD12	26:AV:31:TYR:CE2	2.56	0.40
36:BA:205:A:H2'	36:BA:206:C:C6	2.56	0.40
36:BA:394:G:C6	36:BA:395:C:C4	3.09	0.40
36:BA:511:C:H2'	36:BA:534:U:C2	2.57	0.40
36:BA:520:A:H2'	47:BL:69:GLU:HG3	2.04	0.40
36:BA:521:G:N7	47:BL:47:ALA:HB1	2.36	0.40
36:BA:560:A:N7	36:BA:566:G:C6	2.89	0.40
36:BA:565:U:C6	36:BA:566:G:C8	3.09	0.40
36:BA:773:G:N3	36:BA:807:A:C2	2.90	0.40
36:BA:809:G:N2	36:BA:810:C:H1'	2.36	0.40
36:BA:847:G:C6	36:BA:848:C:C4	3.09	0.40
36:BA:862:C:H1'	36:BA:874:G:C5'	2.51	0.40
36:BA:888:G:C2	36:BA:908:A:C5	3.09	0.40
36:BA:1074:G:N3	36:BA:1102:A:C2	2.89	0.40
36:BA:1160:G:C5	36:BA:1161:C:C4	3.09	0.40
36:BA:1185:G:C2	36:BA:1186:G:C4	3.09	0.40
36:BA:1307:U:H2'	36:BA:1308:U:C6	2.56	0.40
36:BA:1412:C:H2'	36:BA:1413:A:C8	2.56	0.40
36:BA:1518:A:C5	36:BA:1519:A:C5	3.09	0.40
36:BA:1531:A:H2'	36:BA:1532:U:C4	2.56	0.40
40:BE:17:VAL:HA	40:BE:33:THR:O	2.22	0.40
52:BQ:61:ARG:HE	52:BQ:75:VAL:HG21	1.85	0.40
55:BT:37:ALA:HB3	55:BT:46:ALA:HB2	2.04	0.40
1:A7:78:A:H2	2:A8:861:A:H2	1.69	0.40
1:A7:86:G:C8	1:A7:86:G:O5'	2.75	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:64:A:H1'	24:AT:70:HIS:CG	2.56	0.40
2:A8:94:A:H2'	2:A8:95:A:O4'	2.22	0.40
2:A8:95:A:H2'	2:A8:96:C:O4'	2.22	0.40
2:A8:156:A:C6	2:A8:157:C:C4	3.10	0.40
2:A8:162:U:C5	2:A8:2218:G:H4'	2.56	0.40
2:A8:182:A:C6	2:A8:183:C:C4	3.09	0.40
2:A8:187:G:N2	2:A8:210:C:H1'	2.36	0.40
2:A8:231:A:C6	2:A8:232:G:C6	3.10	0.40
2:A8:274:C:C2	2:A8:275:C:C5	3.10	0.40
2:A8:289:G:C4	2:A8:352:A:C2	3.10	0.40
2:A8:300:A:C8	25:AU:81:ARG:HD3	2.56	0.40
2:A8:306:U:H2'	2:A8:307:G:O4'	2.22	0.40
2:A8:327:G:N2	2:A8:328:U:C2	2.90	0.40
2:A8:594:U:H2'	2:A8:595:C:H6	1.86	0.40
2:A8:662:G:C2	2:A8:663:G:C5	3.10	0.40
2:A8:819:A:C5'	2:A8:819:A:H8	2.34	0.40
2:A8:1039:A:H2'	2:A8:1040:A:O4'	2.22	0.40
2:A8:1124:G:H2'	2:A8:1125:G:H5'	2.04	0.40
2:A8:1387:A:C4'	2:A8:1469:A:H1'	2.51	0.40
2:A8:1432:G:N2	2:A8:1562:U:C2	2.89	0.40
2:A8:1443:U:H2'	2:A8:1444:G:C8	2.55	0.40
2:A8:1512:C:H3'	2:A8:1513:U:H6	1.85	0.40
2:A8:1562:U:C2	2:A8:1563:U:C5	3.09	0.40
2:A8:1633:G:C8	2:A8:1633:G:OP2	2.74	0.40
2:A8:1663:G:H1	2:A8:1997:C:H42	1.68	0.40
2:A8:1718:G:H2'	2:A8:1719:G:O4'	2.22	0.40
2:A8:1860:G:C2	2:A8:1861:G:C4	3.09	0.40
2:A8:1907:G:H22	2:A8:1924:C:H1'	1.85	0.40
2:A8:1913:A:C2	36:BA:1493:A:H3'	2.57	0.40
2:A8:1949:G:C6	2:A8:1950:G:C5	3.09	0.40
2:A8:2010:G:N1	2:A8:2011:U:C2	2.90	0.40
2:A8:2023:C:C6	2:A8:2023:C:H3'	2.57	0.40
2:A8:2125:G:N7	6:A5:110:ASN:HA	2.36	0.40
2:A8:2259:U:C2	2:A8:2260:C:C6	3.09	0.40
2:A8:2312:U:H4'	10:AF:84:ILE:HG23	2.04	0.40
2:A8:2349:G:C2	2:A8:2369:A:N3	2.89	0.40
2:A8:2376:A:H3'	2:A8:2377:A:C8	2.57	0.40
2:A8:2423:U:O3'	2:A8:2425:A:H2'	2.22	0.40
2:A8:2444:G:N1	2:A8:2445:G:C5	2.90	0.40
2:A8:2588:G:C6	2:A8:2589:A:C4	3.10	0.40
2:A8:2688:G:H1'	2:A8:2721:A:H61	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:2709:G:H2'	2:A8:2710:C:C6	2.56	0.40
2:A8:2851:A:H3'	2:A8:2852:G:C8	2.57	0.40
2:A8:2859:G:H2'	2:A8:2860:A:C8	2.56	0.40
2:A8:2902:C:C4	2:A8:2903:U:C5	3.10	0.40
24:AT:29:THR:HA	24:AT:86:THR:HA	2.04	0.40
36:BA:33:A:C2	36:BA:34:C:C2	3.09	0.40
36:BA:266:G:H4'	36:BA:268:U:C5	2.57	0.40
36:BA:297:G:N3	36:BA:301:G:C6	2.89	0.40
36:BA:455:G:C2	36:BA:478:A:N1	2.90	0.40
36:BA:541:G:C1'	39:BD:40:HIS:CD2	3.04	0.40
36:BA:575:G:C2	36:BA:881:G:C4	3.10	0.40
36:BA:683:G:C5	36:BA:684:U:C5	3.09	0.40
36:BA:684:U:H2'	36:BA:685:G:O4'	2.21	0.40
36:BA:813:U:C2	36:BA:814:A:C8	3.09	0.40
36:BA:832:G:C2	36:BA:855:U:C2	3.09	0.40
36:BA:888:G:H22	36:BA:908:A:H3'	1.85	0.40
36:BA:889:A:H61	36:BA:907:A:H5''	1.86	0.40
36:BA:954:G:C2	36:BA:955:U:C1'	3.04	0.40
36:BA:968:A:C2	36:BA:1062:U:H4'	2.57	0.40
36:BA:1061:G:H5'	45:BJ:61:ALA:HB2	2.04	0.40
36:BA:1112:C:C5	38:BC:177:LEU:HB2	2.57	0.40
36:BA:1250:A:C6	36:BA:1251:A:C6	3.09	0.40
36:BA:1338:G:H2'	36:BA:1339:A:C8	2.57	0.40
36:BA:1399:C:C5	36:BA:1502:A:C2	3.09	0.40
36:BA:1399:C:O4'	36:BA:1401:G:C8	2.74	0.40
36:BA:1424:U:C2	36:BA:1425:U:C6	3.09	0.40
36:BA:1455:G:H2'	36:BA:1456:A:O4'	2.22	0.40
1:A7:29:A:H3'	1:A7:30:C:H6	1.81	0.40
1:A7:65:U:H2'	1:A7:108:A:N6	2.36	0.40
1:A7:83:G:C2	1:A7:84:G:C4	3.09	0.40
1:A7:84:G:C2	1:A7:85:G:C4	3.10	0.40
2:A8:64:A:H61	2:A8:90:U:H3	1.69	0.40
2:A8:160:A:C2	2:A8:161:A:C4	3.09	0.40
2:A8:233:A:C2	2:A8:234:U:C1'	3.05	0.40
2:A8:422:A:C2	2:A8:423:A:H1'	2.57	0.40
2:A8:432:A:C6	2:A8:433:C:C4	3.09	0.40
2:A8:627:A:P	2:A8:637:A:H61	2.44	0.40
2:A8:735:A:H3'	2:A8:736:C:C6	2.57	0.40
2:A8:947:A:H2'	2:A8:948:C:O4'	2.21	0.40
2:A8:957:C:H41	2:A8:2494:G:N2	2.19	0.40
2:A8:1072:C:H41	13:AI:3:LYS:HG3	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A8:1139:G:C6	2:A8:1140:C:C4	3.09	0.40
2:A8:1388:G:C6	2:A8:1389:G:C5	3.10	0.40
2:A8:1416:G:N2	2:A8:1585:C:H41	2.20	0.40
2:A8:1520:U:C4	2:A8:1521:G:C6	3.09	0.40
2:A8:1643:G:C2	2:A8:1644:C:H1'	2.57	0.40
2:A8:1659:G:C5	2:A8:1660:G:C8	3.10	0.40
2:A8:1668:A:C6	2:A8:1674:G:C4	3.09	0.40
2:A8:1674:G:H21	2:A8:1677:A:H61	1.70	0.40
2:A8:1827:U:C5	7:A6:220:ARG:CD	3.04	0.40
2:A8:2038:G:C6	2:A8:2039:U:C4	3.09	0.40
2:A8:2046:G:C6	2:A8:2047:C:C4	3.10	0.40
2:A8:2163:A:OP2	2:A8:2165:C:C5	2.75	0.40
2:A8:2193:G:H21	2:A8:2194:U:H1'	1.86	0.40
2:A8:2301:C:C2	2:A8:2316:G:C2	3.10	0.40
2:A8:2405:G:H5'	16:AL:69:ARG:HE	1.87	0.40
2:A8:2436:G:N3	2:A8:2436:G:H2'	2.36	0.40
2:A8:2523:G:C4	2:A8:2524:G:C8	3.10	0.40
2:A8:2528:U:C4	2:A8:2530:A:C4	3.10	0.40
2:A8:2663:G:C5	2:A8:2664:G:C8	3.09	0.40
2:A8:2667:C:H1'	11:AG:108:PHE:CD2	2.57	0.40
2:A8:2674:G:C4	2:A8:2675:A:C8	3.09	0.40
2:A8:2685:G:N3	2:A8:2725:A:C2	2.90	0.40
2:A8:2710:C:H2'	2:A8:2711:A:C8	2.56	0.40
2:A8:2746:U:C4	2:A8:2747:G:C5	3.10	0.40
2:A8:2834:G:H21	2:A8:2882:A:N6	2.19	0.40
2:A8:2835:A:C4	2:A8:2879:A:C6	3.09	0.40
2:A8:2848:G:H1'	2:A8:2868:A:N6	2.37	0.40
6:A5:15:VAL:HG12	6:A5:16:ASP:H	1.87	0.40
7:A6:1:ALA:H2	7:A6:201:LEU:CB	2.33	0.40
17:AM:63:ILE:HB	17:AM:103:TYR:CE1	2.56	0.40
20:AP:30:TRP:CE2	20:AP:37:LYS:HD2	2.56	0.40
36:BA:42:G:N2	36:BA:622:A:H1'	2.36	0.40
36:BA:185:U:C4	36:BA:186:C:C4	3.09	0.40
36:BA:418:C:H4'	36:BA:540:G:H4'	2.02	0.40
36:BA:445:G:C2	36:BA:490:C:C2	3.10	0.40
36:BA:461:A:N6	36:BA:473:U:H1'	2.36	0.40
36:BA:462:G:OP1	36:BA:462:G:C8	2.75	0.40
36:BA:503:C:N3	36:BA:504:C:C5	2.90	0.40
36:BA:585:G:C6	36:BA:586:C:C4	3.09	0.40
36:BA:628:G:N2	36:BA:629:A:C4	2.89	0.40
36:BA:763:G:H2'	36:BA:764:C:H6	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BA:930:C:C4	36:BA:931:C:C5	3.09	0.40
36:BA:1007:U:H2'	36:BA:1008:U:C6	2.57	0.40
36:BA:1069:C:C4	36:BA:1070:U:C5	3.10	0.40
36:BA:1092:A:C2	36:BA:1183:U:C4	3.10	0.40
36:BA:1162:C:H2'	36:BA:1163:A:C8	2.57	0.40
36:BA:1244:G:C2	36:BA:1294:G:C4	3.09	0.40
36:BA:1348:U:H4'	44:BI:121:ARG:HB3	2.04	0.40
36:BA:1357:A:C6	36:BA:1358:U:C4	3.09	0.40
36:BA:1419:G:C6	36:BA:1420:U:C4	3.09	0.40
36:BA:1517:G:C5	36:BA:1518:A:C5	3.09	0.40
40:BE:79:THR:HG21	40:BE:121:ASN:H	1.86	0.40
45:BJ:14:ASP:HB2	45:BJ:17:LEU:HB2	2.02	0.40
52:BQ:9:GLY:O	52:BQ:57:VAL:HA	2.22	0.40

There are no symmetry-related clashes.

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 PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	AA	440/442 (100%)	383 (87%)	41 (9%)	16 (4%)	2	20
4	AB	63/65 (97%)	55 (87%)	3 (5%)	5 (8%)	1	10
5	AC	30/53 (57%)	29 (97%)	1 (3%)	0	100	100
6	A5	232/234 (99%)	199 (86%)	18 (8%)	15 (6%)	1	12
7	A6	269/273 (98%)	192 (71%)	55 (20%)	22 (8%)	0	9
8	AD	207/209 (99%)	144 (70%)	40 (19%)	23 (11%)	0	5
9	AE	199/201 (99%)	155 (78%)	29 (15%)	15 (8%)	1	10
10	AF	176/179 (98%)	120 (68%)	34 (19%)	22 (12%)	0	4
11	AG	174/177 (98%)	129 (74%)	24 (14%)	21 (12%)	0	4
12	AH	147/149 (99%)	102 (69%)	32 (22%)	13 (9%)	0	8

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	AI	139/142 (98%)	122 (88%)	11 (8%)	6 (4%)	2	17
14	AJ	140/142 (99%)	109 (78%)	22 (16%)	9 (6%)	1	12
15	AK	119/123 (97%)	87 (73%)	26 (22%)	6 (5%)	1	16
16	AL	141/144 (98%)	107 (76%)	18 (13%)	16 (11%)	0	5
17	AM	134/136 (98%)	91 (68%)	31 (23%)	12 (9%)	0	8
18	AN	118/127 (93%)	89 (75%)	21 (18%)	8 (7%)	1	11
19	AO	114/117 (97%)	94 (82%)	17 (15%)	3 (3%)	4	25
20	AP	112/115 (97%)	82 (73%)	20 (18%)	10 (9%)	0	8
21	AQ	115/118 (98%)	87 (76%)	20 (17%)	8 (7%)	1	11
22	AR	101/103 (98%)	84 (83%)	11 (11%)	6 (6%)	1	13
23	AS	108/110 (98%)	85 (79%)	17 (16%)	6 (6%)	1	14
24	AT	91/100 (91%)	60 (66%)	23 (25%)	8 (9%)	0	8
25	AU	100/104 (96%)	67 (67%)	17 (17%)	16 (16%)	0	2
26	AV	92/94 (98%)	73 (79%)	17 (18%)	2 (2%)	5	29
27	AW	77/85 (91%)	48 (62%)	13 (17%)	16 (21%)	0	2
28	AX	75/78 (96%)	49 (65%)	19 (25%)	7 (9%)	0	8
29	AY	61/63 (97%)	41 (67%)	19 (31%)	1 (2%)	7	38
30	AZ	56/59 (95%)	49 (88%)	6 (11%)	1 (2%)	6	34
31	A0	54/57 (95%)	41 (76%)	8 (15%)	5 (9%)	0	8
32	A1	48/55 (87%)	37 (77%)	6 (12%)	5 (10%)	0	6
33	A2	44/46 (96%)	33 (75%)	7 (16%)	4 (9%)	0	8
34	A3	62/65 (95%)	48 (77%)	10 (16%)	4 (6%)	1	12
35	A4	36/38 (95%)	27 (75%)	6 (17%)	3 (8%)	0	9
37	BB	216/241 (90%)	165 (76%)	40 (18%)	11 (5%)	1	15
38	BC	204/233 (88%)	158 (78%)	30 (15%)	16 (8%)	1	10
39	BD	203/206 (98%)	163 (80%)	28 (14%)	12 (6%)	1	13
40	BE	148/167 (89%)	106 (72%)	32 (22%)	10 (7%)	1	11
41	BF	98/135 (73%)	71 (72%)	16 (16%)	11 (11%)	0	5
42	BG	148/179 (83%)	110 (74%)	26 (18%)	12 (8%)	1	9
43	BH	127/130 (98%)	87 (68%)	32 (25%)	8 (6%)	1	13
44	BI	125/130 (96%)	99 (79%)	16 (13%)	10 (8%)	1	9

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	BJ	96/103 (93%)	79 (82%)	9 (9%)	8 (8%)	0	9
46	BK	115/129 (89%)	87 (76%)	15 (13%)	13 (11%)	0	5
47	BL	121/124 (98%)	104 (86%)	13 (11%)	4 (3%)	3	21
48	BM	111/118 (94%)	83 (75%)	18 (16%)	10 (9%)	0	8
49	BN	98/101 (97%)	68 (69%)	21 (21%)	9 (9%)	0	8
50	BO	86/89 (97%)	76 (88%)	7 (8%)	3 (4%)	3	20
51	BP	78/82 (95%)	63 (81%)	9 (12%)	6 (8%)	1	10
52	BQ	78/84 (93%)	58 (74%)	12 (15%)	8 (10%)	0	6
53	BR	53/75 (71%)	44 (83%)	7 (13%)	2 (4%)	2	19
54	BS	77/92 (84%)	57 (74%)	16 (21%)	4 (5%)	1	15
55	BT	83/87 (95%)	71 (86%)	8 (10%)	4 (5%)	2	16
56	BU	49/71 (69%)	33 (67%)	11 (22%)	5 (10%)	0	7
All	All	6388/6779 (94%)	4900 (77%)	1008 (16%)	480 (8%)	1	10

All (480) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	AA	239	LYS
3	AA	349	PRO
6	A5	55	SER
6	A5	59	VAL
7	A6	78	GLU
7	A6	124	LYS
7	A6	175	LEU
7	A6	254	LYS
8	AD	31	ALA
8	AD	107	VAL
8	AD	174	SER
9	AE	10	SER
9	AE	179	SER
10	AF	41	GLU
10	AF	84	ILE
10	AF	87	LYS
10	AF	88	VAL
10	AF	118	ALA
10	AF	159	ALA
11	AG	2	ARG
11	AG	47	ASN

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Mol	Chain	Res	Type
11	AG	95	ALA
11	AG	151	ARG
13	AI	6	ALA
14	AJ	47	HIS
14	AJ	110	PRO
14	AJ	140	LEU
15	AK	70	ARG
15	AK	112	MET
16	AL	36	LYS
17	AM	20	LEU
17	AM	79	ALA
17	AM	116	ALA
18	AN	81	ASN
18	AN	102	PHE
18	AN	106	ASP
20	AP	20	ARG
20	AP	25	VAL
20	AP	26	GLU
21	AQ	5	ARG
21	AQ	87	VAL
21	AQ	95	ALA
21	AQ	105	PHE
23	AS	76	VAL
24	AT	18	GLU
24	AT	23	ALA
24	AT	70	HIS
25	AU	2	ALA
25	AU	12	VAL
25	AU	65	GLN
25	AU	87	GLU
25	AU	92	VAL
27	AW	17	ALA
27	AW	23	LYS
27	AW	52	CYS
27	AW	56	HIS
27	AW	65	LYS
32	A1	4	ILE
32	A1	51	ALA
34	A3	2	LYS
34	A3	31	ILE
34	A3	62	PRO
35	A4	3	VAL

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Mol	Chain	Res	Type
38	BC	205	GLU
39	BD	7	LYS
39	BD	43	ARG
40	BE	17	VAL
40	BE	45	VAL
41	BF	83	ALA
42	BG	110	ARG
44	BI	8	THR
44	BI	27	ILE
45	BJ	57	VAL
45	BJ	67	ILE
46	BK	17	ASP
46	BK	58	THR
46	BK	118	ASN
46	BK	125	LYS
46	BK	126	ARG
47	BL	47	ALA
48	BM	3	ILE
48	BM	103	THR
49	BN	35	ALA
49	BN	40	ARG
49	BN	80	ARG
51	BP	48	GLU
52	BQ	31	PRO
54	BS	5	LYS
55	BT	68	LYS
56	BU	32	ARG
3	AA	256	LEU
3	AA	368	PRO
3	AA	375	TYR
3	AA	376	ILE
3	AA	441	ALA
4	AB	28	PRO
6	A5	92	ALA
6	A5	201	PRO
7	A6	35	LYS
7	A6	104	LEU
7	A6	136	VAL
7	A6	169	ALA
7	A6	171	VAL
7	A6	239	PHE
8	AD	109	VAL

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Mol	Chain	Res	Type
8	AD	134	HIS
8	AD	167	ASN
8	AD	196	ALA
8	AD	197	THR
9	AE	71	GLY
9	AE	83	VAL
9	AE	96	VAL
10	AF	12	VAL
10	AF	32	LYS
10	AF	78	ILE
10	AF	145	VAL
11	AG	8	VAL
11	AG	12	ALA
11	AG	97	VAL
11	AG	118	ALA
11	AG	164	ALA
11	AG	172	GLU
12	AH	15	LEU
12	AH	33	GLN
12	AH	105	ALA
13	AI	23	VAL
14	AJ	43	GLU
16	AL	41	ARG
16	AL	46	VAL
16	AL	68	SER
16	AL	111	ILE
16	AL	115	GLU
17	AM	16	ARG
17	AM	67	VAL
17	AM	73	ILE
18	AN	12	ARG
19	AO	108	ASP
20	AP	13	LYS
20	AP	15	ASP
21	AQ	90	ASP
21	AQ	116	LEU
22	AR	27	ILE
22	AR	43	ASN
22	AR	98	ILE
22	AR	101	ILE
23	AS	66	ILE
25	AU	42	LYS

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Mol	Chain	Res	Type
25	AU	50	ALA
27	AW	19	ARG
27	AW	24	ARG
27	AW	35	ILE
27	AW	75	ASN
27	AW	77	LYS
28	AX	44	ARG
30	AZ	15	ARG
31	A0	37	HIS
31	A0	38	LEU
32	A1	13	SER
33	A2	36	ALA
37	BB	195	VAL
37	BB	216	VAL
38	BC	21	TRP
38	BC	76	ILE
38	BC	101	ASN
38	BC	116	ALA
38	BC	129	PHE
39	BD	31	CYS
39	BD	130	ASN
40	BE	85	LYS
40	BE	88	HIS
41	BF	4	TYR
41	BF	53	LYS
41	BF	85	ILE
41	BF	87	SER
42	BG	10	LYS
42	BG	40	SER
42	BG	78	ARG
42	BG	116	ALA
43	BH	66	GLN
43	BH	116	ARG
44	BI	12	LYS
44	BI	57	VAL
44	BI	60	LEU
44	BI	107	ALA
44	BI	112	ARG
45	BJ	74	VAL
45	BJ	81	GLU
46	BK	52	ARG
47	BL	23	LEU

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Mol	Chain	Res	Type
48	BM	87	GLY
48	BM	104	ASN
49	BN	63	CYS
52	BQ	12	VAL
52	BQ	15	LYS
54	BS	31	ARG
3	AA	247	TYR
3	AA	249	ALA
3	AA	295	GLU
4	AB	26	ARG
6	A5	18	THR
6	A5	127	LEU
6	A5	147	PRO
7	A6	12	ARG
7	A6	52	HIS
7	A6	106	PRO
7	A6	205	GLY
8	AD	94	GLN
8	AD	135	GLY
8	AD	161	MET
8	AD	185	ASN
8	AD	203	VAL
9	AE	45	ALA
9	AE	54	GLY
9	AE	56	GLY
9	AE	123	LYS
9	AE	124	PHE
9	AE	129	PRO
9	AE	138	LEU
10	AF	64	PRO
10	AF	136	ILE
10	AF	144	LYS
11	AG	9	VAL
11	AG	62	ALA
12	AH	35	LYS
13	AI	94	LYS
14	AJ	26	GLY
14	AJ	59	ALA
14	AJ	128	ASN
16	AL	58	TYR
16	AL	69	ARG
16	AL	86	GLU

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Mol	Chain	Res	Type
16	AL	113	ALA
16	AL	138	ALA
16	AL	143	GLU
18	AN	59	SER
18	AN	100	CYS
19	AO	52	SER
20	AP	35	SER
20	AP	107	ALA
22	AR	65	ALA
24	AT	39	THR
24	AT	69	ARG
24	AT	91	GLN
25	AU	43	LYS
25	AU	47	PRO
25	AU	85	ARG
25	AU	97	SER
25	AU	100	GLU
26	AV	59	GLU
27	AW	41	GLY
27	AW	60	ALA
27	AW	71	LYS
28	AX	12	VAL
31	A0	34	GLY
31	A0	55	ALA
33	A2	20	ALA
34	A3	51	LYS
37	BB	36	LYS
37	BB	43	GLU
38	BC	23	ALA
38	BC	47	ALA
38	BC	111	ASP
38	BC	190	THR
39	BD	146	GLU
39	BD	147	LYS
39	BD	174	ALA
39	BD	175	GLY
39	BD	178	GLU
39	BD	191	SER
40	BE	47	PHE
40	BE	124	ALA
40	BE	151	MET
41	BF	48	ALA

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Mol	Chain	Res	Type
41	BF	99	ALA
42	BG	18	GLY
42	BG	118	ARG
43	BH	3	GLN
43	BH	94	VAL
43	BH	96	ALA
44	BI	58	GLU
45	BJ	17	LEU
45	BJ	41	PRO
45	BJ	85	ASP
46	BK	93	GLU
47	BL	72	ASN
48	BM	22	TYR
48	BM	29	SER
49	BN	50	LEU
50	BO	45	HIS
50	BO	87	ARG
51	BP	47	GLU
52	BQ	49	ASN
52	BQ	71	SER
53	BR	22	TYR
54	BS	61	VAL
55	BT	6	ALA
56	BU	39	LYS
3	AA	311	TYR
3	AA	387	LEU
6	A5	35	THR
6	A5	73	VAL
6	A5	80	GLN
6	A5	159	GLY
7	A6	120	ASP
7	A6	132	ARG
7	A6	133	ASN
7	A6	257	ARG
8	AD	45	TYR
8	AD	106	LYS
8	AD	143	PRO
8	AD	168	GLU
8	AD	183	GLU
9	AE	15	SER
9	AE	95	LYS
9	AE	103	GLY

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Mol	Chain	Res	Type
10	AF	44	ALA
10	AF	103	ILE
10	AF	175	PRO
11	AG	21	GLN
11	AG	28	LYS
11	AG	63	GLN
11	AG	110	HIS
12	AH	30	LEU
12	AH	82	SER
12	AH	117	LEU
13	AI	3	LYS
14	AJ	99	ARG
15	AK	87	ASN
15	AK	116	SER
17	AM	27	SER
17	AM	28	PHE
17	AM	43	ALA
17	AM	72	PRO
18	AN	15	SER
20	AP	6	GLN
23	AS	65	ASP
23	AS	72	THR
23	AS	88	ARG
25	AU	63	ALA
26	AV	45	ASP
32	A1	24	LYS
33	A2	11	LYS
35	A4	7	VAL
35	A4	16	ILE
37	BB	14	HIS
37	BB	99	MET
37	BB	205	ALA
38	BC	3	LYS
39	BD	68	GLU
40	BE	110	MET
41	BF	80	PHE
42	BG	138	GLU
46	BK	79	LYS
47	BL	100	ALA
3	AA	229	MET
3	AA	259	VAL
4	AB	24	PRO

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Mol	Chain	Res	Type
6	A5	112	ASP
8	AD	98	VAL
10	AF	79	ARG
10	AF	120	SER
10	AF	127	TYR
10	AF	142	TYR
10	AF	176	PHE
11	AG	7	PRO
11	AG	117	PRO
11	AG	141	GLY
12	AH	14	SER
12	AH	39	ALA
15	AK	5	THR
16	AL	64	PHE
16	AL	81	ASP
16	AL	133	ALA
19	AO	69	ASP
20	AP	5	LYS
20	AP	81	ASP
21	AQ	86	SER
23	AS	60	HIS
24	AT	55	VAL
25	AU	62	ALA
25	AU	68	ASN
27	AW	68	PHE
28	AX	18	SER
28	AX	30	PRO
28	AX	40	GLU
28	AX	53	LYS
33	A2	16	HIS
37	BB	47	PRO
37	BB	131	LYS
38	BC	6	PRO
39	BD	67	LEU
40	BE	60	GLN
40	BE	137	ARG
41	BF	33	GLU
41	BF	79	ARG
41	BF	95	ALA
43	BH	74	ILE
44	BI	26	LYS
46	BK	116	PRO

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Mol	Chain	Res	Type
46	BK	123	PRO
48	BM	11	HIS
48	BM	65	GLU
49	BN	19	TYR
49	BN	61	ASN
50	BO	7	THR
51	BP	29	ASN
51	BP	56	ARG
53	BR	35	SER
56	BU	14	ALA
4	AB	29	THR
6	A5	220	ALA
6	A5	227	ALA
7	A6	48	ILE
8	AD	46	ARG
8	AD	175	LEU
11	AG	32	LEU
12	AH	55	GLU
12	AH	91	PHE
12	AH	118	PRO
12	AH	142	VAL
13	AI	7	TYR
14	AJ	14	ASP
22	AR	53	PHE
27	AW	8	SER
28	AX	17	ARG
29	AY	19	LEU
32	A1	36	LYS
37	BB	132	GLU
38	BC	16	PRO
38	BC	26	LYS
42	BG	70	PRO
42	BG	130	LYS
42	BG	146	ALA
43	BH	90	GLU
44	BI	121	ARG
45	BJ	43	PRO
46	BK	37	GLN
46	BK	96	ILE
46	BK	114	PRO
48	BM	109	LYS
49	BN	42	ASN

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Mol	Chain	Res	Type
49	BN	70	HIS
51	BP	11	ALA
52	BQ	11	VAL
52	BQ	50	ASN
52	BQ	51	GLU
54	BS	28	LYS
56	BU	34	ARG
3	AA	320	PRO
4	AB	57	PRO
7	A6	158	GLY
7	A6	195	GLY
8	AD	152	PRO
17	AM	93	VAL
25	AU	66	VAL
43	BH	55	LYS
56	BU	52	VAL
3	AA	255	PRO
10	AF	59	ILE
16	AL	119	PRO
18	AN	97	ILE
24	AT	90	GLY
48	BM	6	ILE
55	BT	3	ILE
8	AD	180	VAL
11	AG	112	VAL
15	AK	62	VAL
31	A0	54	ILE
37	BB	79	VAL
38	BC	108	PRO
55	BT	56	ILE
6	A5	128	GLY
7	A6	21	PRO
17	AM	109	PRO
21	AQ	33	VAL
27	AW	73	PRO
38	BC	15	LYS
42	BG	15	PRO
51	BP	33	ILE
13	AI	18	ASN

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 PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	AA	362/362 (100%)	343 (95%)	19 (5%)	21	42
4	AB	52/52 (100%)	48 (92%)	4 (8%)	12	32
5	AC	28/45 (62%)	28 (100%)	0	100	100
6	A5	181/181 (100%)	173 (96%)	8 (4%)	25	47
7	A6	216/218 (99%)	199 (92%)	17 (8%)	11	32
8	AD	164/164 (100%)	142 (87%)	22 (13%)	4	14
9	AE	165/165 (100%)	160 (97%)	5 (3%)	36	57
10	AF	149/150 (99%)	135 (91%)	14 (9%)	8	26
11	AG	137/138 (99%)	127 (93%)	10 (7%)	13	34
12	AH	114/114 (100%)	108 (95%)	6 (5%)	20	41
13	AI	109/110 (99%)	101 (93%)	8 (7%)	13	34
14	AJ	116/116 (100%)	106 (91%)	10 (9%)	10	29
15	AK	102/104 (98%)	93 (91%)	9 (9%)	9	28
16	AL	102/103 (99%)	94 (92%)	8 (8%)	11	32
17	AM	109/109 (100%)	100 (92%)	9 (8%)	10	30
18	AN	100/103 (97%)	94 (94%)	6 (6%)	17	39
19	AO	86/87 (99%)	83 (96%)	3 (4%)	32	53
20	AP	99/100 (99%)	90 (91%)	9 (9%)	9	27
21	AQ	89/90 (99%)	82 (92%)	7 (8%)	11	32
22	AR	84/84 (100%)	77 (92%)	7 (8%)	10	30
23	AS	93/93 (100%)	83 (89%)	10 (11%)	6	21
24	AT	80/84 (95%)	73 (91%)	7 (9%)	9	28
25	AU	83/85 (98%)	78 (94%)	5 (6%)	17	39
26	AV	78/78 (100%)	69 (88%)	9 (12%)	5	18
27	AW	59/63 (94%)	53 (90%)	6 (10%)	7	23
28	AX	67/68 (98%)	64 (96%)	3 (4%)	24	46

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
29	AY	55/55 (100%)	55 (100%)	0	100	100
30	AZ	48/49 (98%)	45 (94%)	3 (6%)	16	37
31	A0	47/48 (98%)	44 (94%)	3 (6%)	16	37
32	A1	45/49 (92%)	43 (96%)	2 (4%)	25	47
33	A2	38/38 (100%)	34 (90%)	4 (10%)	6	21
34	A3	51/52 (98%)	46 (90%)	5 (10%)	7	24
35	A4	34/34 (100%)	32 (94%)	2 (6%)	18	39
37	BB	180/199 (90%)	174 (97%)	6 (3%)	33	55
38	BC	170/190 (90%)	162 (95%)	8 (5%)	23	45
39	BD	172/173 (99%)	163 (95%)	9 (5%)	21	42
40	BE	113/126 (90%)	103 (91%)	10 (9%)	9	28
41	BF	87/116 (75%)	81 (93%)	6 (7%)	14	36
42	BG	123/147 (84%)	121 (98%)	2 (2%)	55	70
43	BH	104/105 (99%)	94 (90%)	10 (10%)	8	25
44	BI	105/107 (98%)	99 (94%)	6 (6%)	18	40
45	BJ	86/90 (96%)	82 (95%)	4 (5%)	23	45
46	BK	90/99 (91%)	79 (88%)	11 (12%)	5	17
47	BL	103/104 (99%)	96 (93%)	7 (7%)	14	36
48	BM	91/96 (95%)	87 (96%)	4 (4%)	25	47
49	BN	83/84 (99%)	79 (95%)	4 (5%)	23	44
50	BO	76/77 (99%)	73 (96%)	3 (4%)	28	49
51	BP	65/65 (100%)	62 (95%)	3 (5%)	24	45
52	BQ	74/78 (95%)	69 (93%)	5 (7%)	14	36
53	BR	48/65 (74%)	45 (94%)	3 (6%)	16	37
54	BS	70/79 (89%)	64 (91%)	6 (9%)	10	29
55	BT	65/66 (98%)	57 (88%)	8 (12%)	4	17
56	BU	44/61 (72%)	43 (98%)	1 (2%)	44	64
All	All	5291/5518 (96%)	4935 (93%)	356 (7%)	17	36

All (356) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	AA	3	LYS

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Mol	Chain	Res	Type
3	AA	5	ILE
3	AA	8	LEU
3	AA	57	GLU
3	AA	66	ARG
3	AA	180	GLN
3	AA	204	VAL
3	AA	253	HIS
3	AA	256	LEU
3	AA	261	VAL
3	AA	306	TYR
3	AA	363	VAL
3	AA	367	ARG
3	AA	368	PRO
3	AA	380	LEU
3	AA	382	ARG
3	AA	387	LEU
3	AA	389	VAL
3	AA	437	HIS
4	AB	12	ARG
4	AB	23	TRP
4	AB	56	VAL
4	AB	60	TYR
6	A5	13	GLU
6	A5	50	ILE
6	A5	106	LYS
6	A5	151	GLU
6	A5	166	ASP
6	A5	174	THR
6	A5	222	VAL
6	A5	234	ASN
7	A6	12	ARG
7	A6	22	GLU
7	A6	38	LYS
7	A6	48	ILE
7	A6	70	LYS
7	A6	76	VAL
7	A6	77	VAL
7	A6	100	ARG
7	A6	120	ASP
7	A6	128	THR
7	A6	136	VAL
7	A6	155	ARG

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Mol	Chain	Res	Type
7	A6	182	LYS
7	A6	199	HIS
7	A6	202	ARG
7	A6	238	ASN
7	A6	266	ILE
8	AD	12	THR
8	AD	15	PHE
8	AD	39	ASP
8	AD	56	LYS
8	AD	63	PRO
8	AD	94	GLN
8	AD	108	ASP
8	AD	122	VAL
8	AD	128	ARG
8	AD	129	THR
8	AD	133	THR
8	AD	148	GLN
8	AD	150	GLN
8	AD	155	VAL
8	AD	156	PHE
8	AD	167	ASN
8	AD	168	GLU
8	AD	173	GLN
8	AD	175	LEU
8	AD	176	ASP
8	AD	183	GLU
8	AD	201	LEU
9	AE	4	VAL
9	AE	24	ASN
9	AE	132	LYS
9	AE	146	VAL
9	AE	150	THR
10	AF	27	VAL
10	AF	64	PRO
10	AF	67	THR
10	AF	73	VAL
10	AF	79	ARG
10	AF	84	ILE
10	AF	88	VAL
10	AF	91	ARG
10	AF	95	MET
10	AF	98	PHE

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Mol	Chain	Res	Type
10	AF	129	MET
10	AF	133	GLU
10	AF	147	ARG
10	AF	158	THR
11	AG	26	LYS
11	AG	42	VAL
11	AG	47	ASN
11	AG	59	ASP
11	AG	112	VAL
11	AG	129	GLU
11	AG	136	ASP
11	AG	140	ILE
11	AG	162	ARG
11	AG	166	GLU
12	AH	37	VAL
12	AH	47	PHE
12	AH	66	ASN
12	AH	103	VAL
12	AH	135	HIS
12	AH	137	GLU
13	AI	8	VAL
13	AI	25	PRO
13	AI	64	ARG
13	AI	92	PRO
13	AI	96	LYS
13	AI	104	GLN
13	AI	117	THR
13	AI	131	THR
14	AJ	1	MET
14	AJ	17	VAL
14	AJ	39	LYS
14	AJ	50	THR
14	AJ	65	THR
14	AJ	78	THR
14	AJ	84	ILE
14	AJ	98	GLU
14	AJ	113	PRO
14	AJ	140	LEU
15	AK	50	LYS
15	AK	51	VAL
15	AK	60	VAL
15	AK	64	THR

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Mol	Chain	Res	Type
15	AK	74	SER
15	AK	75	VAL
15	AK	76	ILE
15	AK	112	MET
15	AK	115	ILE
16	AL	6	LEU
16	AL	23	ILE
16	AL	35	HIS
16	AL	61	LEU
16	AL	64	PHE
16	AL	111	ILE
16	AL	116	VAL
16	AL	135	ILE
17	AM	10	ARG
17	AM	26	VAL
17	AM	33	LEU
17	AM	89	VAL
17	AM	96	ILE
17	AM	103	TYR
17	AM	110	GLU
17	AM	118	LYS
17	AM	136	MET
18	AN	8	ARG
18	AN	10	LEU
18	AN	60	VAL
18	AN	90	ARG
18	AN	106	ASP
18	AN	120	GLU
19	AO	7	ARG
19	AO	31	THR
19	AO	78	VAL
20	AP	24	THR
20	AP	25	VAL
20	AP	27	VAL
20	AP	28	LYS
20	AP	88	ARG
20	AP	99	LEU
20	AP	101	GLU
20	AP	113	LEU
20	AP	114	ASN
21	AQ	17	LEU
21	AQ	18	LYS

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Mol	Chain	Res	Type
21	AQ	30	VAL
21	AQ	58	GLN
21	AQ	63	ARG
21	AQ	93	ILE
21	AQ	97	ILE
22	AR	39	LEU
22	AR	46	GLU
22	AR	60	LYS
22	AR	73	LYS
22	AR	78	ARG
22	AR	91	GLN
22	AR	95	ASP
23	AS	3	THR
23	AS	6	LYS
23	AS	9	HIS
23	AS	11	ARG
23	AS	52	GLU
23	AS	68	ASP
23	AS	75	PHE
23	AS	76	VAL
23	AS	90	LYS
23	AS	98	LYS
24	AT	2	ILE
24	AT	3	ARG
24	AT	33	LYS
24	AT	54	GLU
24	AT	64	LYS
24	AT	72	GLN
24	AT	84	TYR
25	AU	43	LYS
25	AU	51	LEU
25	AU	76	THR
25	AU	81	ARG
25	AU	86	PHE
26	AV	2	PHE
26	AV	10	LYS
26	AV	25	LYS
26	AV	27	PRO
26	AV	31	TYR
26	AV	34	LYS
26	AV	46	LYS
26	AV	77	VAL

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Mol	Chain	Res	Type
26	AV	80	HIS
27	AW	19	ARG
27	AW	20	LEU
27	AW	43	LYS
27	AW	55	ASP
27	AW	65	LYS
27	AW	69	GLU
28	AX	26	ARG
28	AX	32	LEU
28	AX	77	TYR
30	AZ	7	THR
30	AZ	16	LEU
30	AZ	43	ILE
31	A0	9	ARG
31	A0	24	VAL
31	A0	30	ASP
32	A1	34	GLU
32	A1	49	LYS
33	A2	1	MET
33	A2	12	ARG
33	A2	13	ASN
33	A2	24	THR
34	A3	1	PRO
34	A3	5	THR
34	A3	7	ARG
34	A3	30	HIS
34	A3	63	TYR
35	A4	4	ARG
35	A4	37	GLN
37	BB	17	HIS
37	BB	69	VAL
37	BB	119	GLN
37	BB	140	LEU
37	BB	147	LEU
37	BB	195	VAL
38	BC	3	LYS
38	BC	11	LEU
38	BC	55	VAL
38	BC	67	ILE
38	BC	88	LYS
38	BC	115	VAL
38	BC	166	TRP

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Mol	Chain	Res	Type
38	BC	187	GLU
39	BD	31	CYS
39	BD	33	ILE
39	BD	40	HIS
39	BD	45	PRO
39	BD	68	GLU
39	BD	99	ASN
39	BD	129	VAL
39	BD	142	VAL
39	BD	194	ILE
40	BE	13	LYS
40	BE	19	ARG
40	BE	53	ARG
40	BE	55	VAL
40	BE	59	ILE
40	BE	75	LEU
40	BE	96	GLN
40	BE	122	VAL
40	BE	146	MET
40	BE	151	MET
41	BF	58	HIS
41	BF	60	VAL
41	BF	68	GLN
41	BF	77	THR
41	BF	91	ARG
41	BF	98	GLU
42	BG	73	GLU
42	BG	75	LYS
43	BH	27	PRO
43	BH	31	LEU
43	BH	53	ASP
43	BH	59	GLU
43	BH	66	GLN
43	BH	79	ARG
43	BH	88	LYS
43	BH	90	GLU
43	BH	117	GLN
43	BH	128	VAL
44	BI	26	LYS
44	BI	31	GLN
44	BI	62	LEU
44	BI	71	ILE

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Mol	Chain	Res	Type
44	BI	91	GLU
44	BI	98	ARG
45	BJ	31	ARG
45	BJ	36	VAL
45	BJ	96	VAL
45	BJ	99	GLN
46	BK	13	LYS
46	BK	14	GLN
46	BK	17	ASP
46	BK	19	VAL
46	BK	25	SER
46	BK	27	ASN
46	BK	37	GLN
46	BK	64	VAL
46	BK	79	LYS
46	BK	107	THR
46	BK	115	ILE
47	BL	20	VAL
47	BL	26	CYS
47	BL	29	LYS
47	BL	48	LEU
47	BL	79	ILE
47	BL	96	THR
47	BL	120	ARG
48	BM	22	TYR
48	BM	76	ILE
48	BM	100	ARG
48	BM	101	THR
49	BN	36	SER
49	BN	45	LEU
49	BN	81	ILE
49	BN	100	TRP
50	BO	5	GLU
50	BO	63	ARG
50	BO	86	LEU
51	BP	2	VAL
51	BP	18	GLN
51	BP	29	ASN
52	BQ	16	MET
52	BQ	44	HIS
52	BQ	51	GLU
52	BQ	62	GLU

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Mol	Chain	Res	Type
52	BQ	79	GLU
53	BR	21	ASP
53	BR	22	TYR
53	BR	34	GLU
54	BS	4	LEU
54	BS	12	LEU
54	BS	15	LEU
54	BS	59	VAL
54	BS	62	THR
54	BS	70	LEU
55	BT	7	LYS
55	BT	8	LYS
55	BT	9	ARG
55	BT	12	GLN
55	BT	14	GLU
55	BT	18	LYS
55	BT	26	MET
55	BT	27	MET
56	BU	53	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (114) such sidechains are listed below:

Mol	Chain	Res	Type
3	AA	108	GLN
3	AA	146	GLN
3	AA	198	ASN
3	AA	277	GLN
3	AA	293	HIS
3	AA	322	HIS
4	AB	55	HIS
5	AC	32	HIS
6	A5	47	ASN
6	A5	67	HIS
6	A5	168	ASN
6	A5	172	HIS
6	A5	234	ASN
7	A6	20	ASN
7	A6	52	HIS
7	A6	141	HIS
7	A6	162	GLN
7	A6	229	HIS
7	A6	231	HIS

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Mol	Chain	Res	Type
8	AD	126	ASN
8	AD	148	GLN
9	AE	24	ASN
9	AE	62	GLN
9	AE	92	HIS
9	AE	163	ASN
10	AF	36	ASN
11	AG	47	ASN
11	AG	100	ASN
11	AG	103	ASN
11	AG	110	HIS
11	AG	142	GLN
12	AH	73	ASN
13	AI	11	GLN
13	AI	18	ASN
13	AI	33	ASN
14	AJ	47	HIS
14	AJ	77	HIS
14	AJ	80	HIS
14	AJ	130	HIS
15	AK	4	GLN
16	AL	35	HIS
17	AM	22	GLN
18	AN	3	HIS
18	AN	18	GLN
18	AN	31	HIS
18	AN	62	ASN
19	AO	19	GLN
19	AO	100	HIS
20	AP	40	GLN
21	AQ	58	GLN
22	AR	82	HIS
22	AR	87	GLN
23	AS	7	HIS
23	AS	9	HIS
23	AS	31	GLN
23	AS	57	ASN
23	AS	60	HIS
24	AT	70	HIS
24	AT	72	GLN
24	AT	92	ASN
26	AV	44	HIS

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Mol	Chain	Res	Type
26	AV	80	HIS
26	AV	87	GLN
26	AV	88	HIS
27	AW	49	ASN
28	AX	33	HIS
28	AX	35	HIS
29	AY	36	GLN
31	A0	18	HIS
31	A0	41	HIS
32	A1	44	GLN
32	A1	45	HIS
33	A2	13	ASN
34	A3	23	HIS
35	A4	33	HIS
35	A4	35	GLN
37	BB	14	HIS
37	BB	17	HIS
37	BB	18	GLN
37	BB	57	ASN
37	BB	102	ASN
37	BB	169	HIS
38	BC	2	GLN
38	BC	68	HIS
39	BD	70	GLN
39	BD	84	ASN
39	BD	119	HIS
39	BD	130	ASN
40	BE	69	ASN
41	BF	37	HIS
41	BF	58	HIS
42	BG	141	HIS
42	BG	147	ASN
44	BI	80	HIS
45	BJ	15	HIS
45	BJ	99	GLN
47	BL	28	GLN
47	BL	76	HIS
47	BL	95	HIS
48	BM	11	HIS
48	BM	13	HIS
49	BN	3	GLN
49	BN	48	GLN

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Mol	Chain	Res	Type
49	BN	59	GLN
50	BO	34	GLN
50	BO	37	HIS
50	BO	41	HIS
50	BO	49	HIS
51	BP	18	GLN
51	BP	29	ASN
54	BS	13	HIS
55	BT	12	GLN
55	BT	20	ASN
55	BT	77	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A7	116/120 (96%)	24 (20%)	4 (3%)
2	A8	2902/2904 (99%)	543 (18%)	109 (3%)
36	BA	1530/1542 (99%)	299 (19%)	51 (3%)
All	All	4548/4566 (99%)	866 (19%)	164 (3%)

All (866) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A7	9	G
1	A7	12	C
1	A7	13	G
1	A7	14	U
1	A7	15	A
1	A7	16	G
1	A7	25	U
1	A7	26	C
1	A7	29	A
1	A7	30	C
1	A7	41	G
1	A7	42	C
1	A7	43	C
1	A7	45	A
1	A7	52	A
1	A7	53	A
1	A7	66	A
1	A7	67	G

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Mol	Chain	Res	Type
1	A7	87	U
1	A7	88	C
1	A7	90	C
1	A7	91	C
1	A7	99	A
1	A7	109	A
2	A8	10	A
2	A8	11	C
2	A8	25	U
2	A8	26	G
2	A8	35	G
2	A8	46	G
2	A8	51	G
2	A8	62	U
2	A8	71	A
2	A8	74	A
2	A8	75	G
2	A8	91	A
2	A8	95	A
2	A8	99	U
2	A8	100	U
2	A8	101	A
2	A8	103	A
2	A8	118	A
2	A8	120	U
2	A8	125	A
2	A8	127	A
2	A8	136	G
2	A8	137	U
2	A8	139	U
2	A8	140	C
2	A8	141	G
2	A8	143	C
2	A8	144	A
2	A8	160	A
2	A8	162	U
2	A8	163	C
2	A8	164	C
2	A8	181	A
2	A8	196	A
2	A8	199	A
2	A8	216	A

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Mol	Chain	Res	Type
2	A8	218	A
2	A8	221	A
2	A8	222	A
2	A8	233	A
2	A8	241	A
2	A8	248	G
2	A8	249	C
2	A8	255	A
2	A8	265	A
2	A8	266	G
2	A8	268	C
2	A8	271	G
2	A8	273	G
2	A8	276	U
2	A8	277	G
2	A8	278	A
2	A8	281	C
2	A8	283	G
2	A8	285	G
2	A8	286	U
2	A8	299	A
2	A8	311	A
2	A8	329	G
2	A8	330	A
2	A8	331	C
2	A8	333	G
2	A8	346	A
2	A8	352	A
2	A8	353	C
2	A8	362	A
2	A8	363	G
2	A8	364	C
2	A8	369	U
2	A8	371	A
2	A8	372	G
2	A8	386	G
2	A8	387	U
2	A8	389	G
2	A8	404	A
2	A8	405	U
2	A8	406	G
2	A8	411	G

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Mol	Chain	Res	Type
2	A8	412	A
2	A8	424	G
2	A8	451	U
2	A8	452	G
2	A8	456	C
2	A8	457	A
2	A8	479	A
2	A8	481	G
2	A8	489	G
2	A8	490	C
2	A8	504	A
2	A8	505	A
2	A8	508	A
2	A8	509	C
2	A8	512	G
2	A8	528	A
2	A8	530	G
2	A8	531	C
2	A8	532	A
2	A8	533	G
2	A8	544	C
2	A8	546	U
2	A8	547	A
2	A8	548	G
2	A8	549	G
2	A8	550	C
2	A8	555	G
2	A8	563	A
2	A8	568	U
2	A8	573	U
2	A8	574	A
2	A8	575	A
2	A8	586	A
2	A8	588	U
2	A8	603	A
2	A8	613	A
2	A8	614	A
2	A8	615	U
2	A8	616	A
2	A8	620	G
2	A8	621	A
2	A8	627	A

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Mol	Chain	Res	Type
2	A8	637	A
2	A8	642	U
2	A8	645	C
2	A8	646	U
2	A8	647	G
2	A8	651	G
2	A8	652	U
2	A8	653	U
2	A8	655	A
2	A8	656	G
2	A8	671	C
2	A8	686	U
2	A8	687	C
2	A8	730	A
2	A8	747	U
2	A8	757	G
2	A8	762	U
2	A8	763	G
2	A8	764	A
2	A8	775	G
2	A8	776	G
2	A8	781	A
2	A8	782	A
2	A8	784	G
2	A8	789	A
2	A8	790	U
2	A8	793	A
2	A8	794	A
2	A8	801	G
2	A8	802	A
2	A8	805	G
2	A8	812	C
2	A8	819	A
2	A8	827	U
2	A8	828	U
2	A8	829	A
2	A8	845	A
2	A8	847	U
2	A8	859	G
2	A8	869	G
2	A8	871	U
2	A8	875	G

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Mol	Chain	Res	Type
2	A8	876	C
2	A8	881	G
2	A8	887	U
2	A8	888	C
2	A8	891	G
2	A8	896	A
2	A8	897	C
2	A8	900	A
2	A8	901	C
2	A8	910	A
2	A8	911	A
2	A8	912	C
2	A8	919	U
2	A8	931	U
2	A8	932	U
2	A8	933	A
2	A8	941	A
2	A8	945	A
2	A8	946	C
2	A8	957	C
2	A8	959	A
2	A8	961	C
2	A8	973	A
2	A8	974	G
2	A8	980	A
2	A8	982	C
2	A8	983	A
2	A8	985	C
2	A8	991	C
2	A8	995	C
2	A8	996	A
2	A8	1012	U
2	A8	1013	C
2	A8	1022	G
2	A8	1025	G
2	A8	1026	G
2	A8	1027	A
2	A8	1028	A
2	A8	1033	U
2	A8	1034	G
2	A8	1045	C
2	A8	1046	A

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Mol	Chain	Res	Type
2	A8	1047	G
2	A8	1054	A
2	A8	1056	G
2	A8	1057	A
2	A8	1061	U
2	A8	1062	G
2	A8	1069	A
2	A8	1070	A
2	A8	1071	G
2	A8	1078	U
2	A8	1083	U
2	A8	1088	A
2	A8	1103	A
2	A8	1104	C
2	A8	1112	G
2	A8	1116	G
2	A8	1130	U
2	A8	1132	U
2	A8	1133	A
2	A8	1134	A
2	A8	1135	C
2	A8	1136	G
2	A8	1139	G
2	A8	1142	A
2	A8	1174	U
2	A8	1175	A
2	A8	1176	U
2	A8	1195	G
2	A8	1205	A
2	A8	1206	G
2	A8	1211	C
2	A8	1238	G
2	A8	1241	A
2	A8	1242	U
2	A8	1248	G
2	A8	1249	U
2	A8	1250	G
2	A8	1253	A
2	A8	1255	U
2	A8	1256	G
2	A8	1266	G
2	A8	1271	G

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Mol	Chain	Res	Type
2	A8	1272	A
2	A8	1273	U
2	A8	1275	A
2	A8	1276	A
2	A8	1300	G
2	A8	1301	A
2	A8	1312	U
2	A8	1321	A
2	A8	1325	U
2	A8	1326	U
2	A8	1332	G
2	A8	1333	G
2	A8	1337	G
2	A8	1352	U
2	A8	1365	A
2	A8	1368	G
2	A8	1374	G
2	A8	1379	U
2	A8	1383	A
2	A8	1384	A
2	A8	1392	A
2	A8	1396	U
2	A8	1416	G
2	A8	1419	A
2	A8	1420	A
2	A8	1421	G
2	A8	1427	A
2	A8	1428	C
2	A8	1439	A
2	A8	1451	C
2	A8	1453	A
2	A8	1454	C
2	A8	1458	U
2	A8	1459	G
2	A8	1460	U
2	A8	1461	C
2	A8	1469	A
2	A8	1470	A
2	A8	1476	U
2	A8	1477	A
2	A8	1478	G
2	A8	1482	G

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Mol	Chain	Res	Type
2	A8	1490	A
2	A8	1493	C
2	A8	1494	A
2	A8	1497	U
2	A8	1498	C
2	A8	1504	A
2	A8	1505	A
2	A8	1507	C
2	A8	1508	A
2	A8	1509	A
2	A8	1523	U
2	A8	1524	G
2	A8	1532	A
2	A8	1535	A
2	A8	1536	C
2	A8	1538	G
2	A8	1552	A
2	A8	1560	G
2	A8	1566	A
2	A8	1567	G
2	A8	1569	A
2	A8	1578	U
2	A8	1583	A
2	A8	1584	U
2	A8	1585	C
2	A8	1608	A
2	A8	1614	A
2	A8	1618	A
2	A8	1619	G
2	A8	1634	A
2	A8	1635	A
2	A8	1640	A
2	A8	1647	U
2	A8	1648	U
2	A8	1653	G
2	A8	1654	A
2	A8	1674	G
2	A8	1678	A
2	A8	1694	C
2	A8	1695	G
2	A8	1699	G
2	A8	1700	A

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Mol	Chain	Res	Type
2	A8	1715	G
2	A8	1730	C
2	A8	1731	G
2	A8	1733	G
2	A8	1738	G
2	A8	1756	G
2	A8	1758	U
2	A8	1759	A
2	A8	1761	C
2	A8	1764	C
2	A8	1773	A
2	A8	1776	G
2	A8	1781	U
2	A8	1782	U
2	A8	1784	A
2	A8	1786	A
2	A8	1787	A
2	A8	1800	C
2	A8	1801	A
2	A8	1808	A
2	A8	1809	A
2	A8	1816	C
2	A8	1829	A
2	A8	1870	C
2	A8	1871	A
2	A8	1884	G
2	A8	1896	G
2	A8	1906	G
2	A8	1913	A
2	A8	1914	C
2	A8	1929	G
2	A8	1930	G
2	A8	1931	U
2	A8	1937	A
2	A8	1938	A
2	A8	1939	U
2	A8	1940	U
2	A8	1952	A
2	A8	1954	G
2	A8	1955	U
2	A8	1963	U
2	A8	1965	C

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Mol	Chain	Res	Type
2	A8	1967	C
2	A8	1970	A
2	A8	1971	U
2	A8	1972	G
2	A8	1991	U
2	A8	1993	U
2	A8	1997	C
2	A8	2020	A
2	A8	2022	U
2	A8	2023	C
2	A8	2030	A
2	A8	2031	A
2	A8	2032	G
2	A8	2033	A
2	A8	2043	C
2	A8	2055	C
2	A8	2056	G
2	A8	2060	A
2	A8	2061	G
2	A8	2062	A
2	A8	2065	C
2	A8	2069	G
2	A8	2076	U
2	A8	2077	A
2	A8	2096	C
2	A8	2102	G
2	A8	2103	C
2	A8	2104	C
2	A8	2112	G
2	A8	2116	G
2	A8	2117	A
2	A8	2118	U
2	A8	2119	A
2	A8	2128	G
2	A8	2129	C
2	A8	2130	U
2	A8	2131	U
2	A8	2132	U
2	A8	2133	G
2	A8	2134	A
2	A8	2135	A
2	A8	2136	G

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Mol	Chain	Res	Type
2	A8	2137	U
2	A8	2148	G
2	A8	2149	U
2	A8	2152	G
2	A8	2153	C
2	A8	2155	U
2	A8	2158	A
2	A8	2159	G
2	A8	2160	C
2	A8	2164	C
2	A8	2167	U
2	A8	2176	A
2	A8	2178	C
2	A8	2179	C
2	A8	2181	U
2	A8	2183	A
2	A8	2187	U
2	A8	2192	U
2	A8	2198	A
2	A8	2203	U
2	A8	2204	G
2	A8	2212	A
2	A8	2213	U
2	A8	2214	C
2	A8	2225	A
2	A8	2238	G
2	A8	2239	G
2	A8	2250	G
2	A8	2251	G
2	A8	2266	A
2	A8	2269	G
2	A8	2278	A
2	A8	2279	G
2	A8	2283	C
2	A8	2287	A
2	A8	2288	A
2	A8	2297	A
2	A8	2298	A
2	A8	2305	U
2	A8	2307	G
2	A8	2308	G
2	A8	2310	C

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Mol	Chain	Res	Type
2	A8	2311	A
2	A8	2320	U
2	A8	2321	U
2	A8	2322	A
2	A8	2324	U
2	A8	2325	G
2	A8	2333	A
2	A8	2334	U
2	A8	2335	A
2	A8	2336	A
2	A8	2337	G
2	A8	2347	C
2	A8	2379	G
2	A8	2383	G
2	A8	2385	C
2	A8	2394	C
2	A8	2395	C
2	A8	2396	G
2	A8	2402	U
2	A8	2406	A
2	A8	2407	A
2	A8	2423	U
2	A8	2425	A
2	A8	2426	A
2	A8	2427	C
2	A8	2429	G
2	A8	2430	A
2	A8	2434	A
2	A8	2441	U
2	A8	2449	U
2	A8	2472	G
2	A8	2476	A
2	A8	2478	A
2	A8	2491	U
2	A8	2502	G
2	A8	2503	A
2	A8	2505	G
2	A8	2506	U
2	A8	2518	A
2	A8	2519	U
2	A8	2529	G
2	A8	2533	U

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Mol	Chain	Res	Type
2	A8	2554	U
2	A8	2566	A
2	A8	2567	G
2	A8	2572	A
2	A8	2573	C
2	A8	2581	G
2	A8	2582	G
2	A8	2585	U
2	A8	2586	U
2	A8	2602	A
2	A8	2609	U
2	A8	2613	U
2	A8	2628	C
2	A8	2629	U
2	A8	2661	G
2	A8	2682	A
2	A8	2689	U
2	A8	2690	U
2	A8	2714	G
2	A8	2733	A
2	A8	2734	A
2	A8	2744	G
2	A8	2748	A
2	A8	2755	C
2	A8	2757	A
2	A8	2765	A
2	A8	2778	A
2	A8	2791	G
2	A8	2793	C
2	A8	2798	U
2	A8	2799	A
2	A8	2800	A
2	A8	2808	G
2	A8	2809	A
2	A8	2821	A
2	A8	2832	U
2	A8	2833	U
2	A8	2836	U
2	A8	2849	U
2	A8	2850	A
2	A8	2867	G
2	A8	2872	A

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Mol	Chain	Res	Type
2	A8	2873	A
2	A8	2883	A
2	A8	2884	U
36	BA	6	G
36	BA	7	A
36	BA	9	G
36	BA	14	U
36	BA	15	G
36	BA	31	G
36	BA	32	A
36	BA	39	G
36	BA	47	C
36	BA	48	C
36	BA	49	U
36	BA	50	A
36	BA	51	A
36	BA	52	C
36	BA	55	A
36	BA	61	G
36	BA	65	A
36	BA	67	C
36	BA	70	U
36	BA	71	A
36	BA	75	G
36	BA	79	G
36	BA	80	A
36	BA	83	C
36	BA	84	U
36	BA	85	U
36	BA	86	G
36	BA	88	U
36	BA	91	U
36	BA	101	A
36	BA	108	G
36	BA	119	A
36	BA	121	U
36	BA	122	G
36	BA	130	A
36	BA	131	A
36	BA	144	G
36	BA	149	A
36	BA	155	A

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Mol	Chain	Res	Type
36	BA	182	A
36	BA	183	C
36	BA	184	G
36	BA	188	C
36	BA	196	A
36	BA	197	A
36	BA	198	G
36	BA	205	A
36	BA	209	U
36	BA	210	C
36	BA	211	G
36	BA	239	U
36	BA	240	G
36	BA	243	A
36	BA	244	U
36	BA	245	U
36	BA	247	G
36	BA	250	A
36	BA	251	G
36	BA	257	G
36	BA	258	G
36	BA	262	A
36	BA	266	G
36	BA	267	C
36	BA	280	C
36	BA	289	G
36	BA	306	A
36	BA	308	C
36	BA	328	C
36	BA	329	A
36	BA	330	C
36	BA	332	G
36	BA	345	C
36	BA	352	C
36	BA	353	A
36	BA	354	G
36	BA	367	U
36	BA	373	A
36	BA	374	A
36	BA	382	A
36	BA	397	A
36	BA	398	U

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Mol	Chain	Res	Type
36	BA	406	G
36	BA	408	A
36	BA	409	U
36	BA	411	A
36	BA	412	A
36	BA	413	G
36	BA	414	A
36	BA	416	G
36	BA	421	U
36	BA	424	G
36	BA	429	U
36	BA	430	A
36	BA	435	A
36	BA	451	A
36	BA	452	A
36	BA	456	A
36	BA	459	A
36	BA	461	A
36	BA	462	G
36	BA	463	U
36	BA	465	A
36	BA	466	A
36	BA	467	U
36	BA	468	A
36	BA	481	G
36	BA	482	A
36	BA	484	G
36	BA	485	U
36	BA	486	U
36	BA	493	A
36	BA	499	A
36	BA	508	U
36	BA	511	C
36	BA	512	U
36	BA	518	C
36	BA	519	C
36	BA	527	G
36	BA	532	A
36	BA	533	A
36	BA	534	U
36	BA	535	A
36	BA	546	A

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Mol	Chain	Res	Type
36	BA	547	A
36	BA	562	U
36	BA	572	A
36	BA	573	A
36	BA	574	A
36	BA	575	G
36	BA	576	C
36	BA	577	G
36	BA	596	A
36	BA	631	C
36	BA	633	G
36	BA	665	A
36	BA	666	G
36	BA	700	G
36	BA	701	U
36	BA	721	G
36	BA	724	G
36	BA	731	G
36	BA	747	A
36	BA	748	G
36	BA	752	G
36	BA	755	G
36	BA	777	A
36	BA	781	A
36	BA	782	A
36	BA	790	A
36	BA	792	A
36	BA	793	U
36	BA	794	A
36	BA	812	G
36	BA	815	A
36	BA	817	C
36	BA	818	G
36	BA	819	A
36	BA	820	U
36	BA	821	G
36	BA	828	U
36	BA	841	C
36	BA	842	U
36	BA	843	U
36	BA	844	G
36	BA	845	A

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Mol	Chain	Res	Type
36	BA	846	G
36	BA	847	G
36	BA	849	G
36	BA	864	A
36	BA	873	A
36	BA	913	A
36	BA	914	A
36	BA	926	G
36	BA	927	G
36	BA	934	C
36	BA	935	A
36	BA	945	G
36	BA	960	U
36	BA	961	U
36	BA	968	A
36	BA	969	A
36	BA	971	G
36	BA	974	A
36	BA	975	A
36	BA	976	G
36	BA	977	A
36	BA	981	U
36	BA	991	U
36	BA	992	U
36	BA	993	G
36	BA	994	A
36	BA	996	A
36	BA	1004	A
36	BA	1018	G
36	BA	1020	G
36	BA	1028	C
36	BA	1030	U
36	BA	1031	C
36	BA	1032	G
36	BA	1034	G
36	BA	1035	A
36	BA	1036	A
36	BA	1043	G
36	BA	1050	G
36	BA	1053	G
36	BA	1054	C
36	BA	1064	G

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Mol	Chain	Res	Type
36	BA	1065	U
36	BA	1066	C
36	BA	1067	A
36	BA	1085	U
36	BA	1086	U
36	BA	1092	A
36	BA	1094	G
36	BA	1095	U
36	BA	1101	A
36	BA	1118	U
36	BA	1119	C
36	BA	1124	G
36	BA	1125	U
36	BA	1130	A
36	BA	1133	G
36	BA	1134	G
36	BA	1135	U
36	BA	1136	C
36	BA	1137	C
36	BA	1138	G
36	BA	1139	G
36	BA	1140	C
36	BA	1145	A
36	BA	1159	U
36	BA	1160	G
36	BA	1181	G
36	BA	1184	G
36	BA	1190	G
36	BA	1191	A
36	BA	1192	C
36	BA	1196	A
36	BA	1197	A
36	BA	1202	U
36	BA	1212	U
36	BA	1213	A
36	BA	1214	C
36	BA	1215	G
36	BA	1225	A
36	BA	1226	C
36	BA	1227	A
36	BA	1238	A
36	BA	1249	C

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Mol	Chain	Res	Type
36	BA	1258	G
36	BA	1261	A
36	BA	1270	G
36	BA	1278	G
36	BA	1279	G
36	BA	1280	A
36	BA	1285	A
36	BA	1286	U
36	BA	1287	A
36	BA	1297	G
36	BA	1298	U
36	BA	1300	G
36	BA	1301	U
36	BA	1303	C
36	BA	1305	G
36	BA	1316	G
36	BA	1318	A
36	BA	1319	A
36	BA	1320	C
36	BA	1322	C
36	BA	1323	G
36	BA	1331	G
36	BA	1336	C
36	BA	1346	A
36	BA	1353	G
36	BA	1363	A
36	BA	1364	U
36	BA	1380	U
36	BA	1381	U
36	BA	1397	C
36	BA	1398	A
36	BA	1399	C
36	BA	1419	G
36	BA	1432	G
36	BA	1446	A
36	BA	1447	A
36	BA	1448	C
36	BA	1454	G
36	BA	1493	A
36	BA	1494	G
36	BA	1497	G
36	BA	1499	A

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Mol	Chain	Res	Type
36	BA	1503	A
36	BA	1505	G
36	BA	1506	U
36	BA	1517	G
36	BA	1520	C
36	BA	1529	G
36	BA	1532	U
36	BA	1533	C

All (164) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A7	15	A
1	A7	41	G
1	A7	66	A
1	A7	88	C
2	A8	25	U
2	A8	34	U
2	A8	50	U
2	A8	92	U
2	A8	99	U
2	A8	100	U
2	A8	127	A
2	A8	139	U
2	A8	162	U
2	A8	163	C
2	A8	241	A
2	A8	329	G
2	A8	386	G
2	A8	489	G
2	A8	548	G
2	A8	549	G
2	A8	614	A
2	A8	615	U
2	A8	620	G
2	A8	651	G
2	A8	670	A
2	A8	686	U
2	A8	752	A
2	A8	762	U
2	A8	776	G
2	A8	789	A

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Mol	Chain	Res	Type
2	A8	793	A
2	A8	801	G
2	A8	827	U
2	A8	828	U
2	A8	880	G
2	A8	890	C
2	A8	932	U
2	A8	943	A
2	A8	957	C
2	A8	961	C
2	A8	973	A
2	A8	982	C
2	A8	995	C
2	A8	1027	A
2	A8	1033	U
2	A8	1129	A
2	A8	1130	U
2	A8	1133	A
2	A8	1175	A
2	A8	1205	A
2	A8	1210	G
2	A8	1211	C
2	A8	1248	G
2	A8	1300	G
2	A8	1332	G
2	A8	1384	A
2	A8	1494	A
2	A8	1497	U
2	A8	1536	C
2	A8	1559	U
2	A8	1579	A
2	A8	1608	A
2	A8	1609	A
2	A8	1618	A
2	A8	1626	A
2	A8	1694	C
2	A8	1699	G
2	A8	1729	U
2	A8	1757	A
2	A8	1781	U
2	A8	1808	A
2	A8	1870	C

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Mol	Chain	Res	Type
2	A8	1900	A
2	A8	1930	G
2	A8	1938	A
2	A8	1953	A
2	A8	2021	C
2	A8	2060	A
2	A8	2076	U
2	A8	2129	C
2	A8	2131	U
2	A8	2132	U
2	A8	2133	G
2	A8	2134	A
2	A8	2147	A
2	A8	2152	G
2	A8	2158	A
2	A8	2172	U
2	A8	2178	C
2	A8	2203	U
2	A8	2282	G
2	A8	2309	A
2	A8	2336	A
2	A8	2394	C
2	A8	2405	G
2	A8	2425	A
2	A8	2448	A
2	A8	2471	A
2	A8	2503	A
2	A8	2518	A
2	A8	2530	A
2	A8	2534	A
2	A8	2581	G
2	A8	2602	A
2	A8	2628	C
2	A8	2733	A
2	A8	2756	U
2	A8	2798	U
2	A8	2799	A
2	A8	2808	G
2	A8	2832	U
2	A8	2867	G
2	A8	2894	G
36	BA	5	U

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Mol	Chain	Res	Type
36	BA	51	A
36	BA	60	A
36	BA	130	A
36	BA	197	A
36	BA	239	U
36	BA	243	A
36	BA	279	A
36	BA	328	C
36	BA	344	A
36	BA	353	A
36	BA	366	A
36	BA	372	C
36	BA	381	C
36	BA	412	A
36	BA	413	G
36	BA	428	G
36	BA	429	U
36	BA	451	A
36	BA	467	U
36	BA	481	G
36	BA	484	G
36	BA	518	C
36	BA	574	A
36	BA	700	G
36	BA	701	U
36	BA	819	A
36	BA	871	U
36	BA	960	U
36	BA	968	A
36	BA	991	U
36	BA	1030	U
36	BA	1049	U
36	BA	1065	U
36	BA	1101	A
36	BA	1136	C
36	BA	1137	C
36	BA	1159	U
36	BA	1168	U
36	BA	1190	G
36	BA	1201	A
36	BA	1214	C
36	BA	1226	C

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Mol	Chain	Res	Type
36	BA	1278	G
36	BA	1286	U
36	BA	1297	G
36	BA	1300	G
36	BA	1322	C
36	BA	1335	U
36	BA	1398	A
36	BA	1493	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

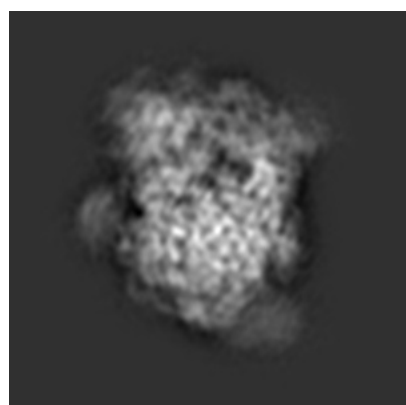
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-1484. These allow visual inspection of the internal detail of the map and identification of artifacts.

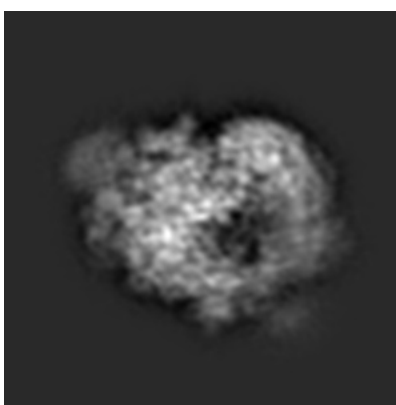
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

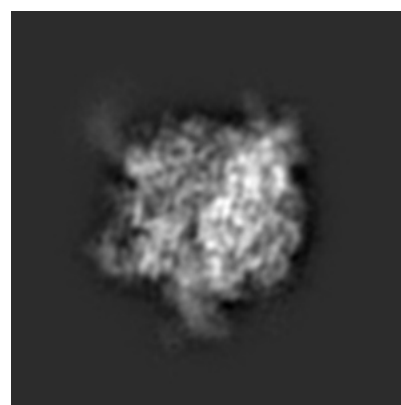
6.1.1 Primary map



X



Y

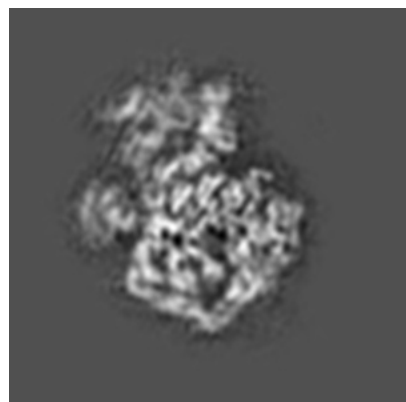


Z

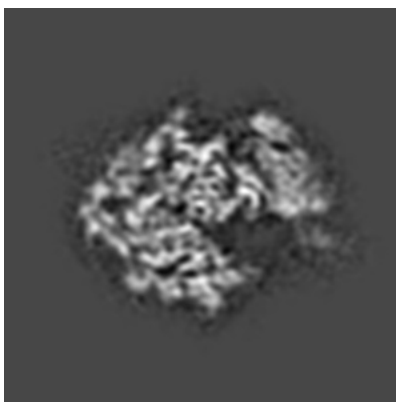
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

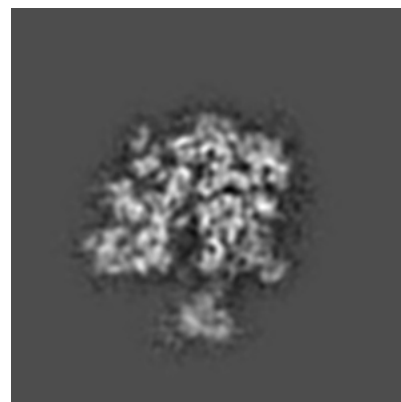
6.2.1 Primary map



X Index: 72



Y Index: 72

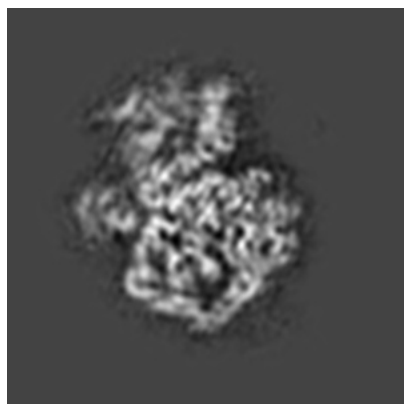


Z Index: 72

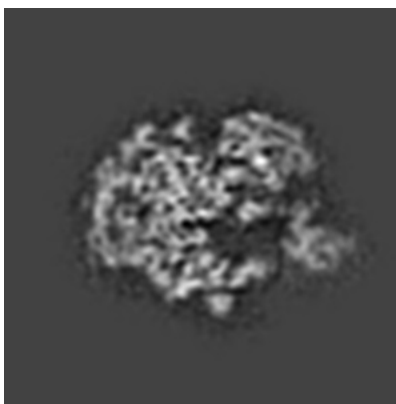
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 73



Y Index: 67

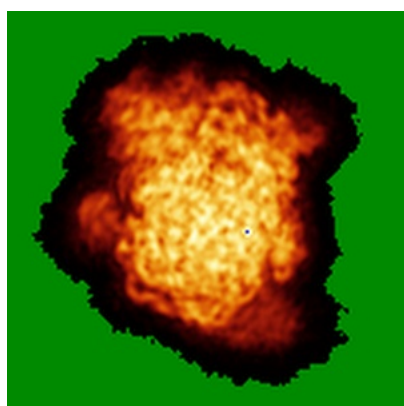


Z Index: 63

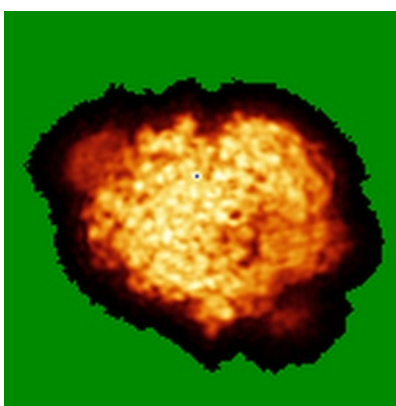
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

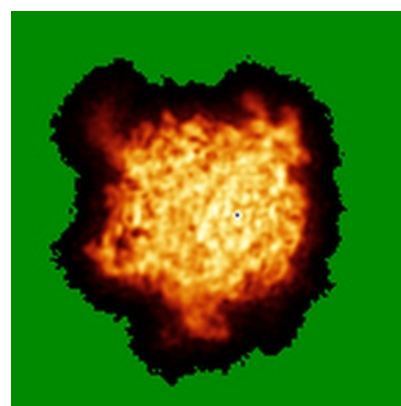
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.95. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

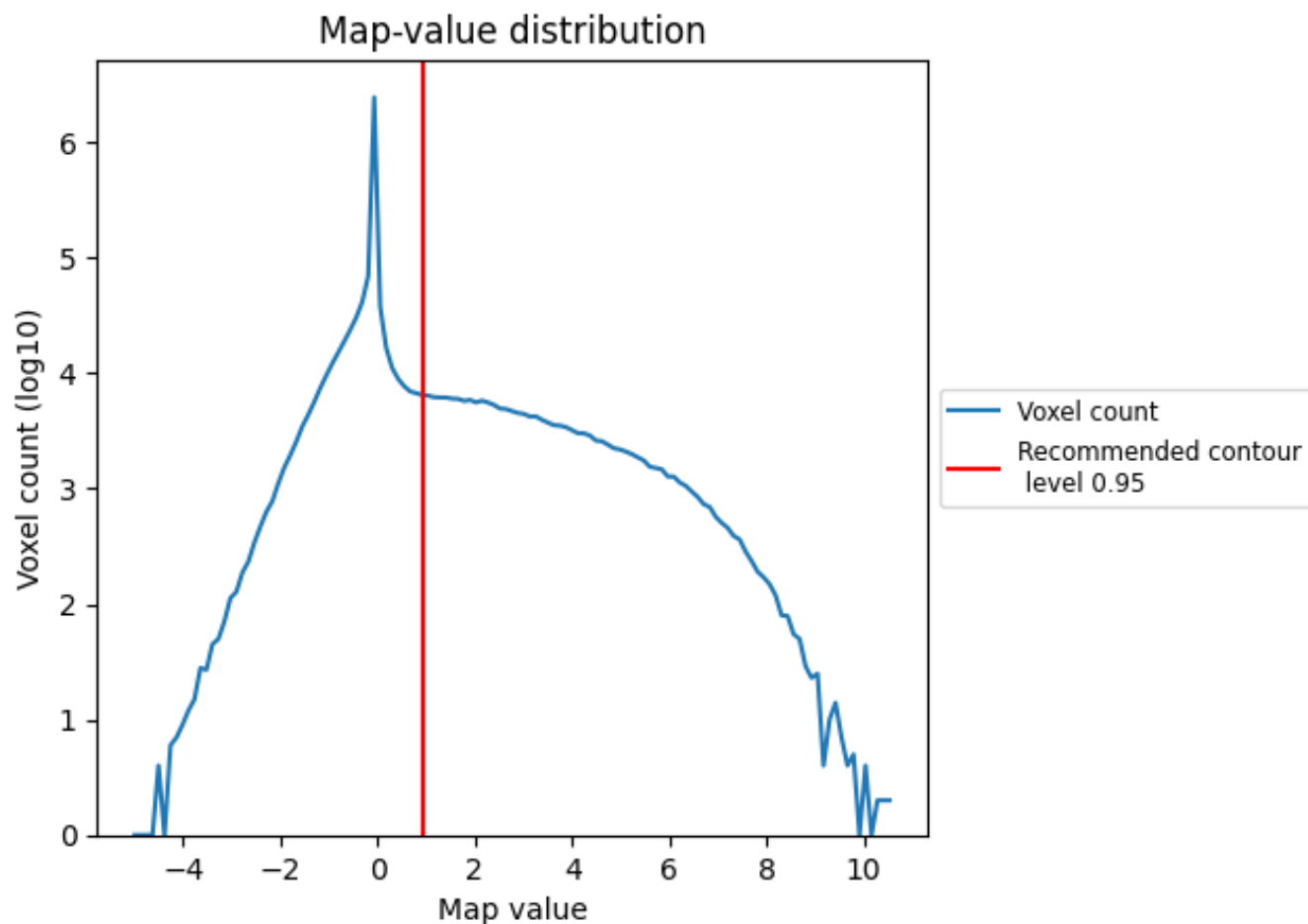
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

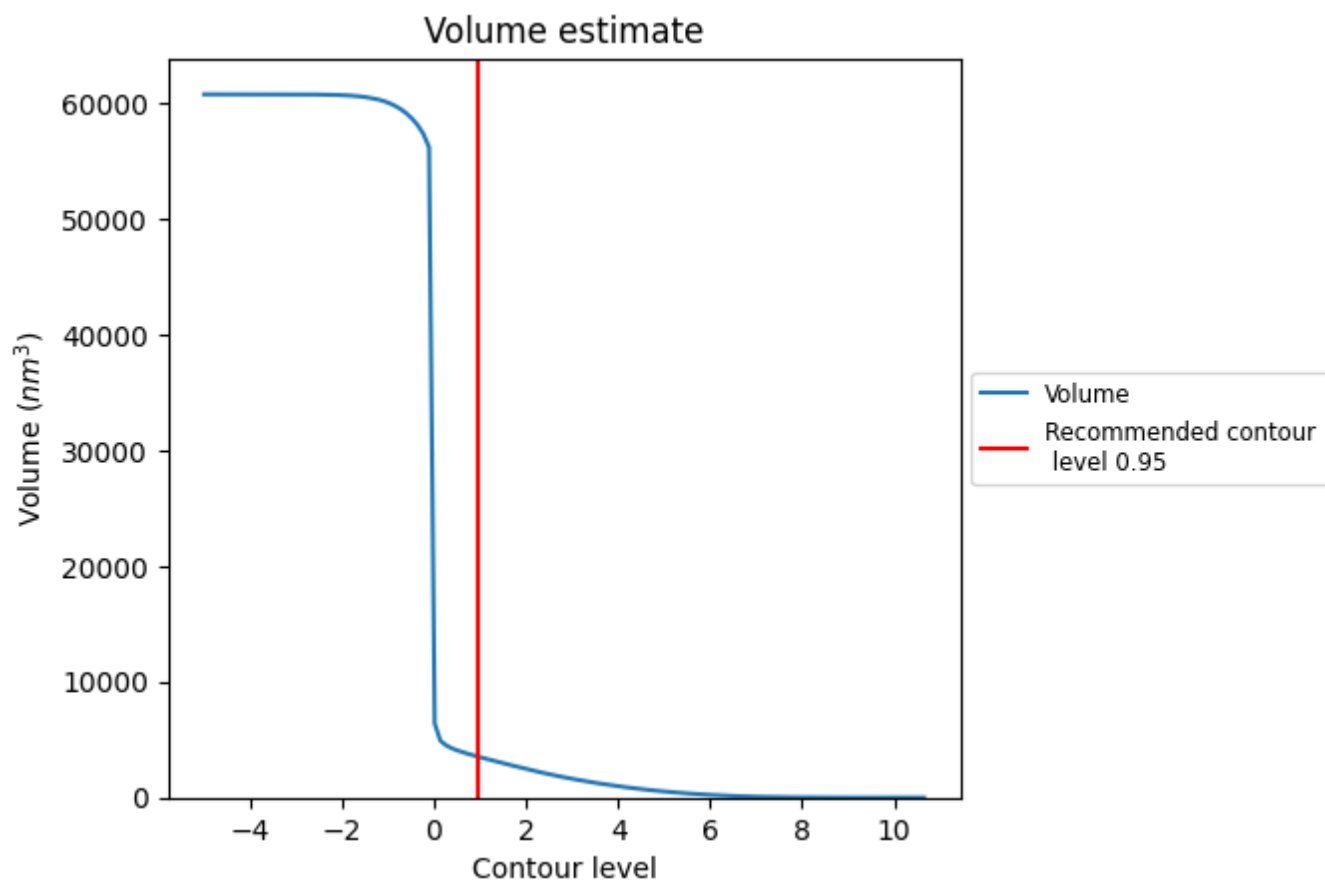
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

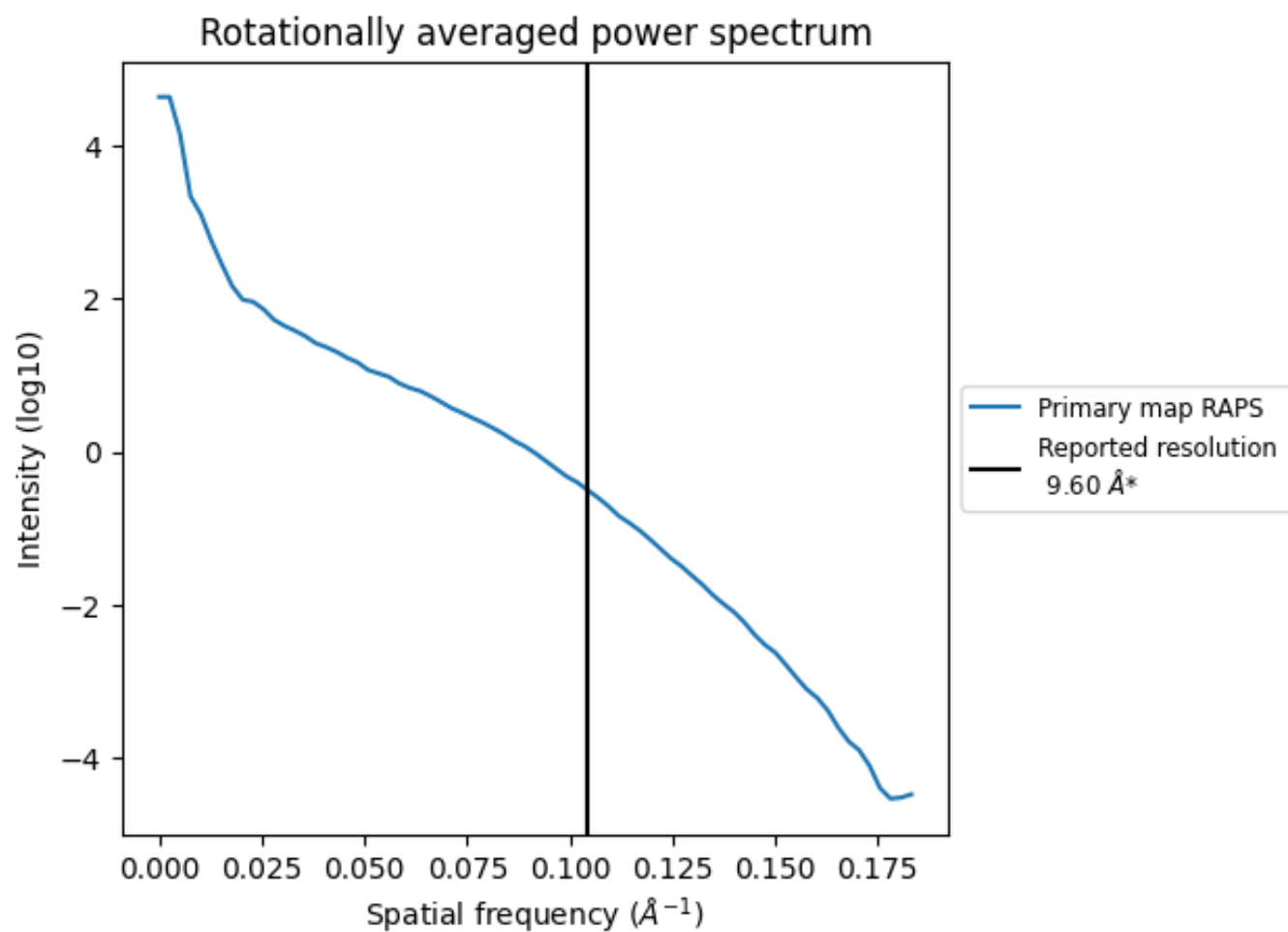
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3544 nm³; this corresponds to an approximate mass of 3201 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.104 Å⁻¹

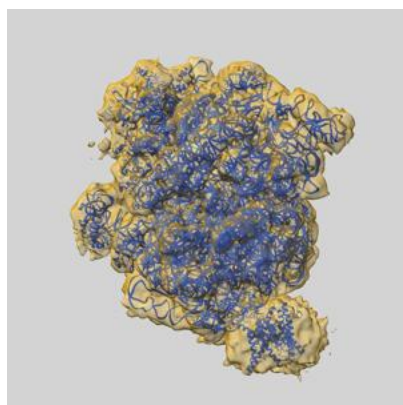
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

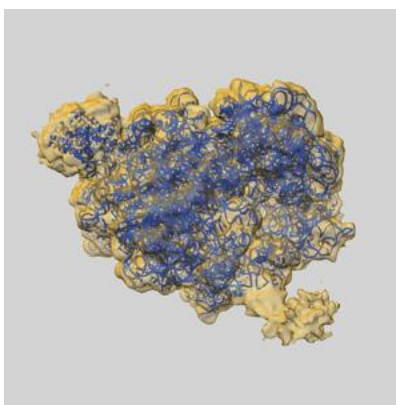
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-1484 and PDB model 4V7I. Per-residue inclusion information can be found in section 3 on page 15.

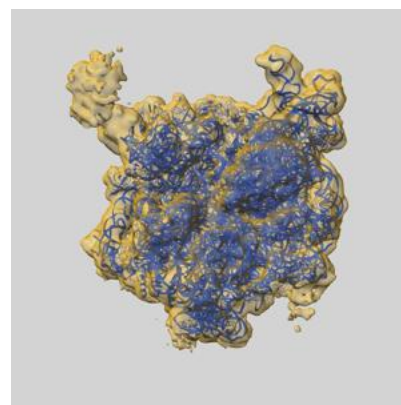
9.1 Map-model overlay [i](#)



X



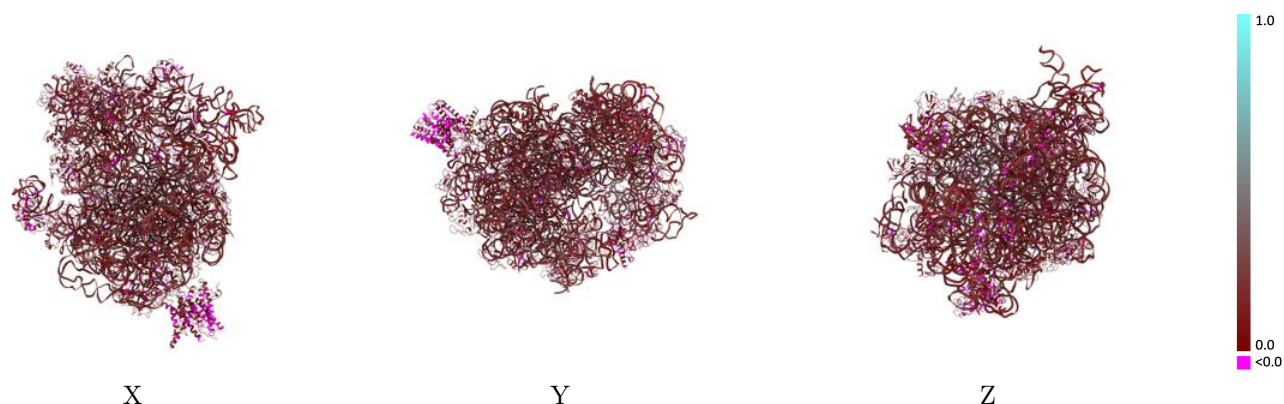
Y



Z

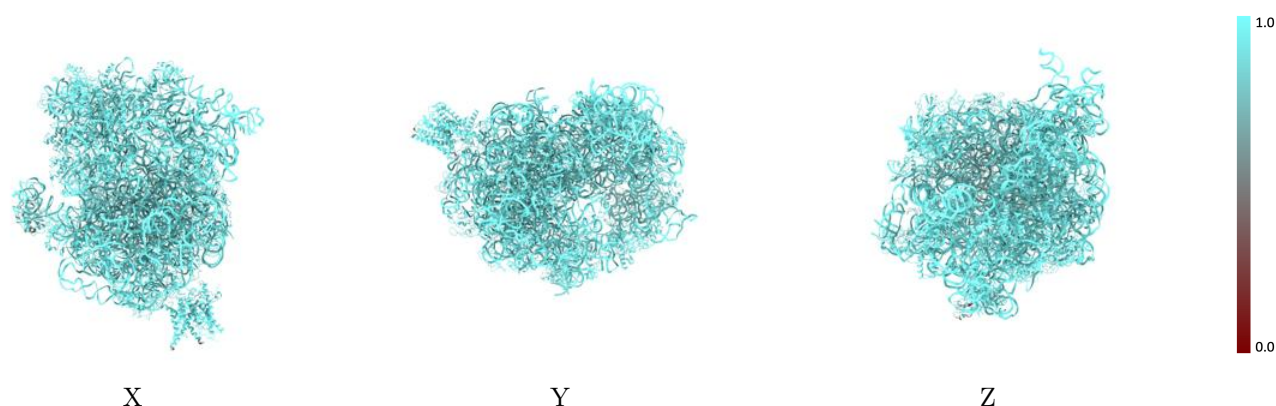
The images above show the 3D surface view of the map at the recommended contour level 0.95 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



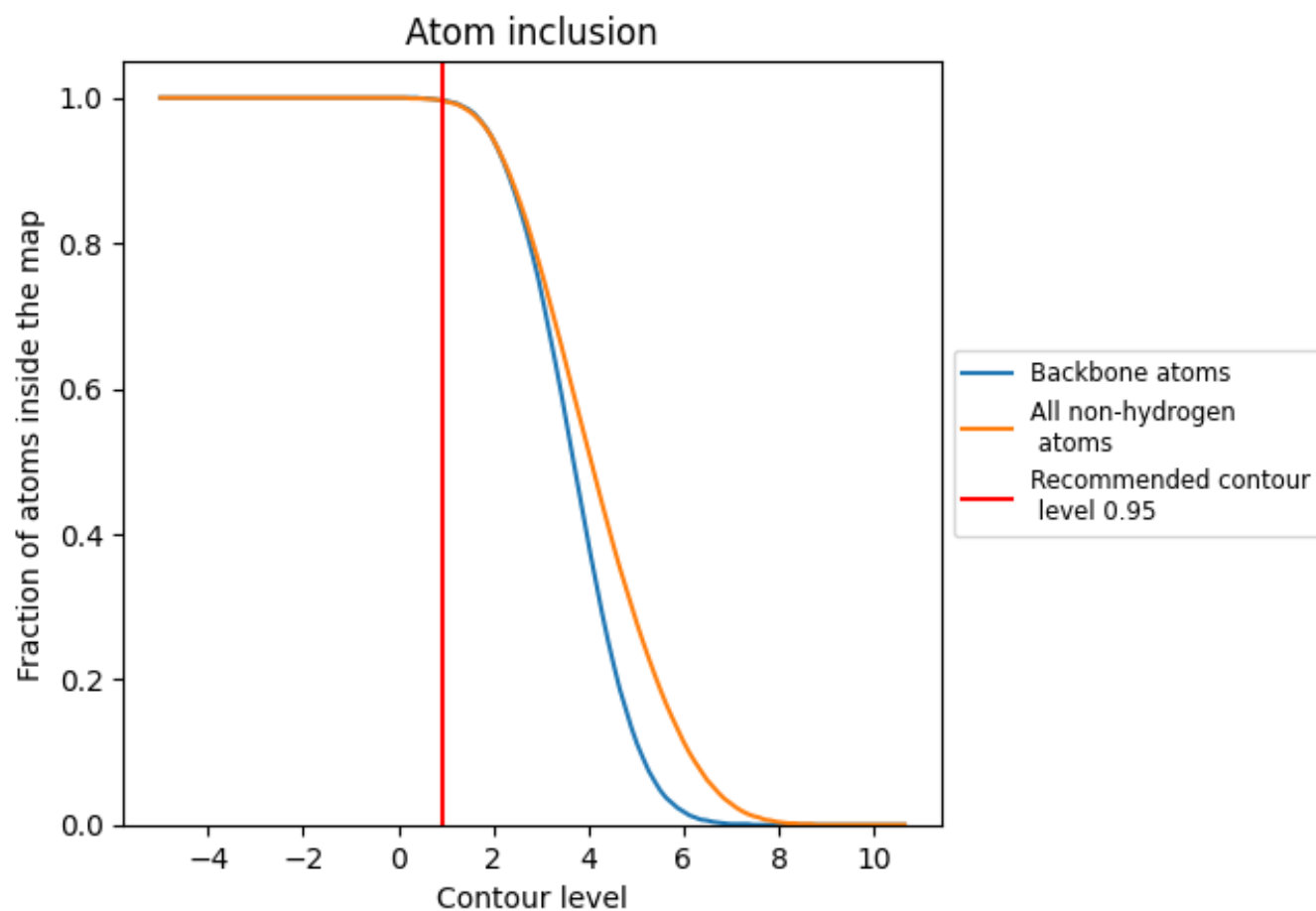
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.95).

9.4 Atom inclusion [i](#)



At the recommended contour level, 100% of all backbone atoms, 100% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.95) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9960	 0.1610
A0	 0.9950	 0.1140
A1	 0.9950	 0.1310
A2	 0.9970	 0.1410
A3	 0.9780	 0.1300
A4	 0.9900	 0.1310
A5	 0.9080	 0.0820
A6	 0.9910	 0.1380
A7	 1.0000	 0.1830
A8	 0.9990	 0.1810
AA	 0.9710	 0.0740
AB	 0.9620	 0.1110
AC	 0.9920	 0.0350
AD	 0.9920	 0.1380
AE	 0.9990	 0.1290
AF	 0.9980	 0.1540
AG	 0.9990	 0.1610
AH	 0.9720	 0.1580
AI	 1.0000	 0.1010
AJ	 0.9890	 0.1590
AK	 0.9740	 0.1580
AL	 0.9940	 0.1270
AM	 0.9850	 0.1460
AN	 0.9980	 0.1410
AO	 0.9980	 0.1320
AP	 0.9930	 0.1520
AQ	 0.9900	 0.1300
AR	 0.9940	 0.1480
AS	 0.9950	 0.1460
AT	 0.9970	 0.1290
AU	 0.9880	 0.1180
AV	 0.9970	 0.1550
AW	 0.9930	 0.1240
AX	 0.9900	 0.1590
AY	 1.0000	 0.1390



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Chain	Atom inclusion	Q-score
AZ	 0.9930	 0.1470
BA	 1.0000	 0.1710
BB	 0.9980	 0.1530
BC	 0.9960	 0.1200
BD	 0.9980	 0.1150
BE	 0.9980	 0.1280
BF	 0.9990	 0.1650
BG	 0.9960	 0.1350
BH	 0.9940	 0.1440
BI	 1.0000	 0.1030
BJ	 0.9970	 0.0880
BK	 0.9980	 0.1390
BL	 0.9860	 0.1320
BM	 0.9950	 0.1580
BN	 0.9970	 0.0940
BO	 0.9940	 0.1470
BP	 1.0000	 0.0910
BQ	 1.0000	 0.1400
BR	 1.0000	 0.1580
BS	 1.0000	 0.0920
BT	 0.9990	 0.1380
BU	 1.0000	 0.1930