Full wwPDB EM Validation Report (i)

Nov 20, 2022 – 05:31 AM EST

PDB ID	:	4V7D
EMDB ID	:	EMD-5800
Title	:	Structure of the Ribosome with Elongation Factor G Trapped in the Pre-Translocation State (pre-translocation 70S*tRNA*EF-G structure)
Authors	:	Brilot, A.F.; Korostelev, A.A.; Ermolenko, D.N.; Grigorieff, N.
Deposited on	:	2013-11-21
Resolution	:	7.60 Å(reported)
Based on initial models	:	3R8S, 1MMS, 1ZAV, 3U4M, 1DD3

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 (i) 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 (i)) were used in the production of this report:

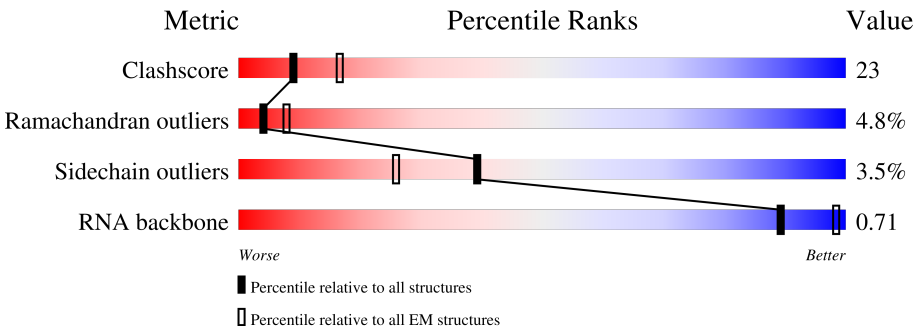
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 7.60 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)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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 <=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	AA	2903	52% 43% 6%
2	AB	119	56% 38% 6%
3	AC	233	50% 49% 47%
4	AD	272	43% 53%
5	AE	209	7% 58% 40%
6	AF	201	6% 55% 43%
7	AG	178	7% 36% 59%

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Mol	Chain	Length	Quality of chain
8	AH	176	13% 55% 41%
9	AI	149	11% 12% 18% 5% 64%
10	AJ	165	37% 36% 42% 21%
11	AK	141	55% 33% 50% 17%
12	AL	120	55% 28% 28% 43%
13	AM	142	49% 49%
14	AN	123	49% 50%
15	AO	144	6% 47% 47% 6%
16	AP	136	59% 39%
17	AQ	127	43% 44% 7% 6%
18	AR	117	45% 52%
19	AS	114	54% 43%
20	AT	117	51% 48%
21	AU	103	11% 47% 50%
22	AV	110	52% 47%
23	AW	100	41% 49% 7%
24	AX	103	10% 46% 47% 6%
25	AY	94	9% 51% 47%
26	AZ	84	7% 58% 30% 10%
27	A1	77	45% 53%
28	A2	63	8% 44% 52%
29	A3	58	5% 57% 41%
30	A4	56	11% 52% 46%
31	A5	54	22% 56% 33% 7%
32	A6	46	39% 61%

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Mol	Chain	Length	Quality of chain
33	A7	64	39% 59%
34	A8	38	53% 47%
35	BA	1542	52% 42% 6%
36	BB	240	28% 21% 58% 12% 9%
37	BC	232	14% 38% 47% 11%
38	BD	205	9% 36% 53% 11%
39	BE	166	7% 46% 39% 5% 10%
40	BF	131	12% 27% 44% 5% 24%
41	BG	178	8% 39% 42% 15%
42	BH	129	5% 52% 44%
43	BI	129	6% 39% 50% 10%
44	BJ	103	21% 33% 50% 12% 5%
45	BK	128	6% 41% 47% 9%
46	BL	123	6% 46% 50%
47	BM	117	13% 34% 57% 5%
48	BN	100	7% 34% 53% 8%
49	BO	88	7% 38% 57% 6%
50	BP	82	6% 35% 60% 5%
51	BQ	83	6% 39% 45% 13%
52	BR	74	8% 36% 36% 26%
53	BS	91	8% 42% 38% 13%
54	BT	86	6% 40% 48% 12%
55	BU	70	20% 33% 26% 14% 27%
56	BV	76	18% 43% 42% 14%
56	BW	76	51% 39% 9%

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Mol	Chain	Length	Quality of chain
57	BX	18	39% 61%
58	BZ	711	34% 34% 56% 6%
59	BY	6	17% 17% 67%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
59	5OH	BY	6	-	-	X	-

2 Entry composition (i)

There are 60 unique types of molecules in this entry. The entry contains 153817 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 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	AA	2897	62192	27744	11444	20107	2897	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	AB	119	2548	1135	466	829	118	0	0

- Molecule 3 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	AC	225	1675	1047	305	317	6	0	0

- Molecule 4 is a protein called 50S ribosomal protein L2.

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

- Molecule 5 is a protein called 50S ribosomal protein L3.

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

- Molecule 6 is a protein called 50S ribosomal protein L4.

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

- Molecule 7 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	AG	177	1410	899	249	256	6	0	0

- Molecule 8 is a protein called 50S ribosomal protein L6.

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

- Molecule 9 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	AI	53	409	261	74	73	1	0	0

- Molecule 10 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	AJ	131	988	625	175	183	5	0	0

- Molecule 11 is a protein called 50S ribosomal protein L11.

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

- Molecule 12 is a protein called 50S ribosomal protein L12.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
12	AL	68	487	306	82	99	0	0

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	AN	122	938	587	180	165	6	0	0

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	AZ	76	575	356	117	101	1	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	A1	77	625	388	129	106	2	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	A2	63	509	313	99	95	2	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	A3	58	449	281	87	79	2	0	0

- Molecule 30 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	A4	56	444	269	94	80	1	0	0

- Molecule 31 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
31	A5	50	409	263	75	71	0	0

- Molecule 32 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	A6	46	377	228	90	57	2	0	0

- Molecule 33 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	A7	64	504	323	105	74	2	0	0

- Molecule 34 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	A8	38	302	185	65	48	4	0	0

- Molecule 35 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
35	BA	1538	32995	14716	6050	10691	1538	0	0

- Molecule 36 is a protein called 30S ribosomal protein S2.

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

- Molecule 37 is a protein called 30S ribosomal protein S3.

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

- Molecule 38 is a protein called 30S ribosomal protein S4.

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

- Molecule 39 is a protein called 30S ribosomal protein S5.

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

- Molecule 40 is a protein called 30S ribosomal protein S6.

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

- Molecule 41 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	BG	151	1181	735	227	215	4	0	0

- Molecule 42 is a protein called 30S ribosomal protein S8.

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

- Molecule 43 is a protein called 30S ribosomal protein S9.

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

- Molecule 44 is a protein called 30S ribosomal protein S10.

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

- Molecule 45 is a protein called 30S ribosomal protein S11.

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

- Molecule 46 is a protein called 30S ribosomal protein S12.

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

- Molecule 47 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
47	BM	114	883	546	178	156	3	0	0

- Molecule 48 is a protein called 30S ribosomal protein S14.

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

- Molecule 49 is a protein called 30S ribosomal protein S15.

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

- Molecule 50 is a protein called 30S ribosomal protein S16.

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

- Molecule 51 is a protein called 30S ribosomal protein S17.

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

- Molecule 52 is a protein called 30S ribosomal protein S18.

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

- Molecule 53 is a protein called 30S ribosomal protein S19.

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

- Molecule 54 is a protein called 30S ribosomal protein S20.

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

- Molecule 55 is a protein called 30S ribosomal protein S21.

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

- Molecule 56 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BV	76	Total 1619	C 723	N 290	O 531	P 75	0	0
56	BW	76	Total 1622	C 723	N 290	O 533	P 76	0	0

- Molecule 57 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BX	18	Total 386	C 173	N 71	O 124	P 18	0	0

- Molecule 58 is a protein called Elongation Factor G.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	BZ	686	Total 5301	C 3341	N 912	O 1025	S 23	0	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BZ	705	LEU	-	expression tag	UNP P0A6M8
BZ	706	GLU	-	expression tag	UNP P0A6M8
BZ	707	HIS	-	expression tag	UNP P0A6M8
BZ	708	HIS	-	expression tag	UNP P0A6M8
BZ	709	HIS	-	expression tag	UNP P0A6M8
BZ	710	HIS	-	expression tag	UNP P0A6M8
BZ	711	HIS	-	expression tag	UNP P0A6M8
BZ	712	HIS	-	expression tag	UNP P0A6M8

- Molecule 59 is a protein called viomycin.

Mol	Chain	Residues	Atoms				AltConf	Trace
59	BY	6	Total 48	C 25	N 13	O 10	0	0

- Molecule 60 is ZINC ION (three-letter code: ZN) (formula: Zn).

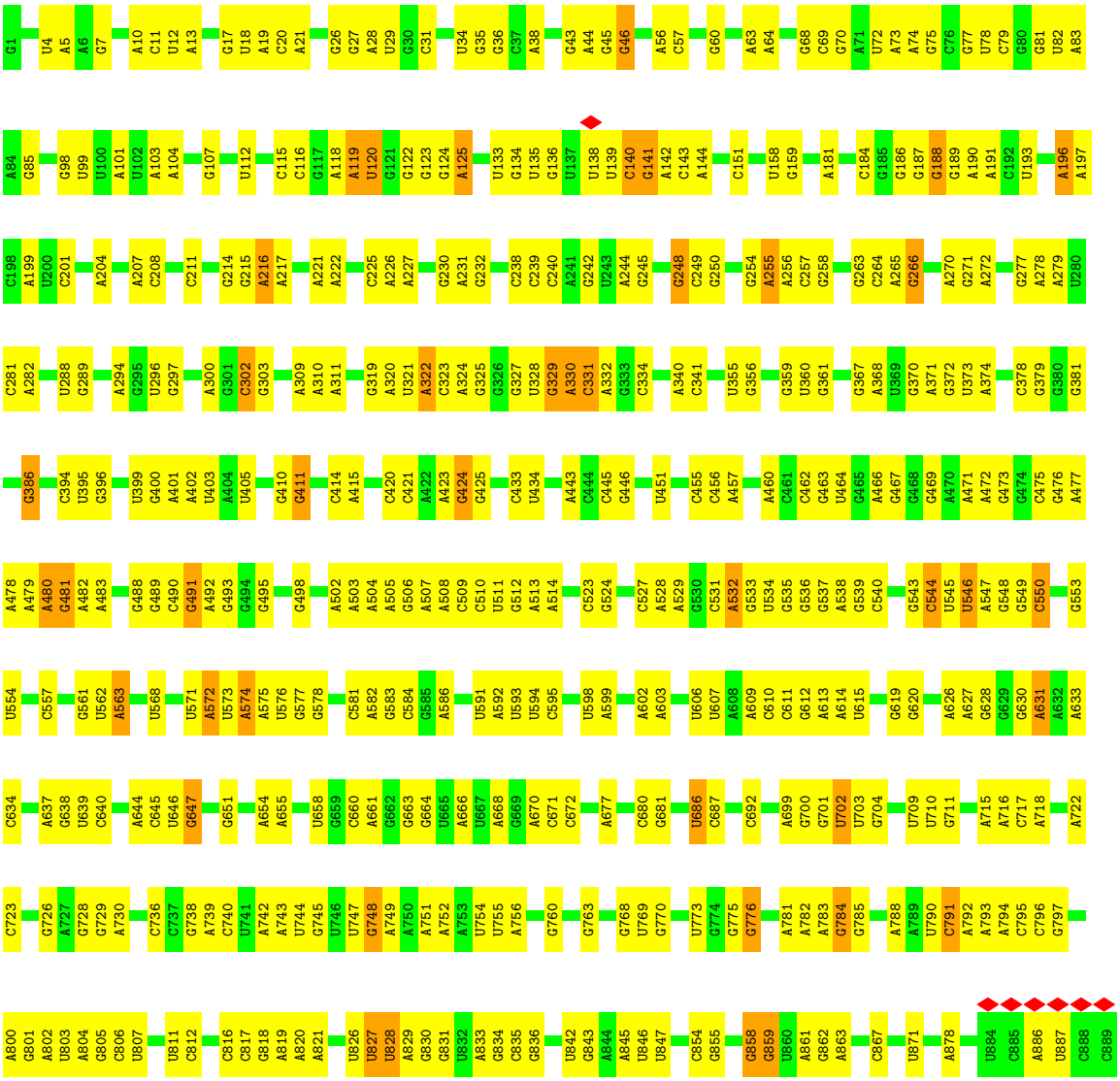
Mol	Chain	Residues	Atoms		AltConf
60	A8	1	Total 1	Zn 1	0

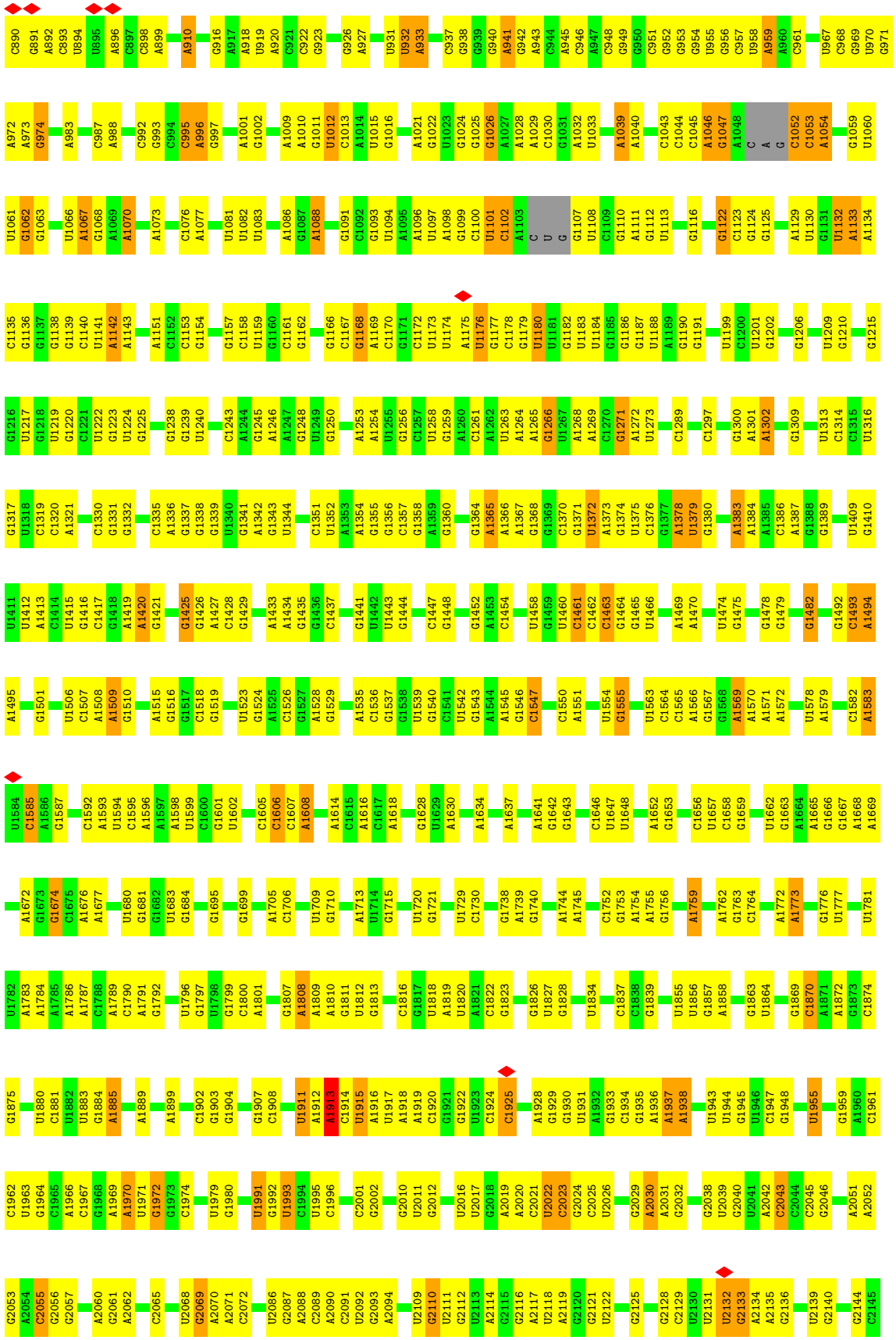
3 Residue-property plots (i)

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: 23S ribosomal RNA

Chain AA: 52% 43% 6%




C890 G891 A892 C893 U894 U895 A896 C897 C898 A899 A910 G916 A917 A918 U919 A920 C921 C922 G923 G926 A927 U931 U932 A933 C937 G938 G939 G940 A941 G942 A943 C944 A945 C946 A947 C948 G949 G950 C951 G952 G953 G954 U955 G956 C957 U958 A959 A960 C961 U967 C968 G969 U970 G971
A972 A973 G974 A983 C987 A988 C992 G993 C994 C995 A996 G997 A1001 G1002 A1009 A1010 G1011 U1012 C1013 A1014 U1015 G1016 A1021 G1022 U1023 G1024 G1025 G1026 A1027 A1028 A1029 C1030 G1031 A1032 U1033 A1039 A1040 C1043 C1044 C1045 A1046 G1047 A1048 C A G C1052 C1053 A1054 G1059 U1060
U1061 G1062 G1063 U1066 A1067 G1068 A1069 A1070 A1073 C1076 A1077 U1081 U1082 U1083 A1086 G1087 A1088 G1091 C1092 G1093 U1094 A1095 A1096 U1097 A1098 G1099 C1100 U1101 C1102 A1103 C U U G G1107 U1108 C1109 G1110 A1111 G1112 U1113 G1116 G1122 C1123 G1124 G1125 A1129 U1130 G1131 U1132 A1133 A1134
C1135 G1136 G1137 G1138 G1139 C1140 U1141 A1142 A1143 A1151 C1152 C1153 G1154 G1157 C1158 U1159 G1160 C1161 G1162 G1166 C1167 G1168 A1169 C1170 G1171 C1172 U1173 U1174 A1175 U1176 G1177 C1178 G1179 U1180 U1181 G1182 U1183 U1184 G1185 G1186 G1187 U1188 A1189 G1190 G1191 U1199 C1200 U1201 G1202 G1206 U1209 G1210 G1215
G1216 U1217 G1218 U1219 G1220 C1221 U1222 G1223 U1224 G1225 G1238 G1239 U1240 C1243 A1244 G1245 A1246 A1247 G1248 U1249 G1250 A1253 A1254 U1255 G1256 C1257 U1258 G1259 A1260 C1261 A1262 U1263 A1264 A1265 G1266 U1267 A1268 A1269 C1270 G1271 A1272 U1273 C1289 C1297 G1300 A1301 A1302 G1309 U1313 C1314 C1315 U1316
G1317 U1318 C1319 C1320 A1321 C1330 G1331 G1332 C1335 A1336 G1337 G1338 G1339 U1340 G1341 A1342 G1343 U1344 C1351 U1352 A1353 A1354 G1355 G1356 C1357 G1358 A1359 G1360 G1364 A1365 A1366 A1367 G1368 G1369 C1370 G1371 U1372 A1373 G1374 U1375 C1376 G1377 A1378 U1379 G1380 A1383 A1384 A1385 C1386 A1387 G1388 G1389 U1409 G1410
U1411 U1412 A1413 C1414 U1415 G1416 C1417 G1418 A1419 A1420 G1421 G1425 G1426 A1427 C1428 G1429 A1433 A1434 G1435 G1436 C1437 G1441 U1442 U1443 G1444 C1447 G1448 G1452 A1453 C1454 U1458 G1459 U1460 C1461 C1462 C1463 G1464 G1465 U1466 A1469 A1470 U1474 G1475 G1478 G1479 G1482 G1492 C1493 A1494
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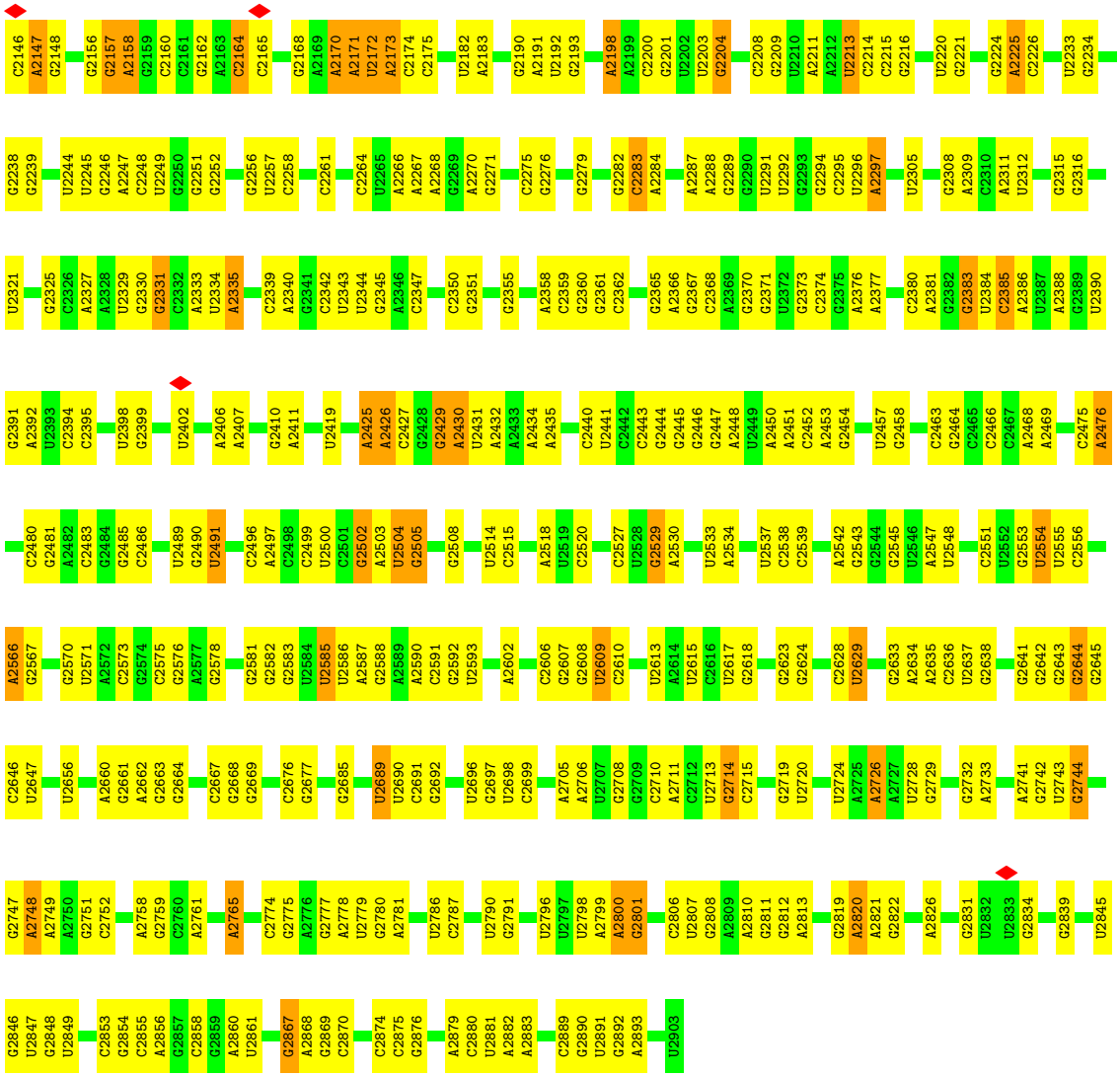
G2053 A2054 C2055 G2056 G2057 A2060 G2061 A2062 C2065 U2068 G2069 A2070 A2071 C2072 U2086 G2087 A2088 C2089 A2090 C2091 U2092 G2093 A2094 U2109 G2110 U2111 G2112 U2113 A2114 G2115 G2116 A2117 U2118 A2119 G2120 G2121 U2122 G2125 G2128 C2129 U2130 U2131 U2132 G2133 A2134 A2135 G2136 U2139 G2140 G2144 C2145

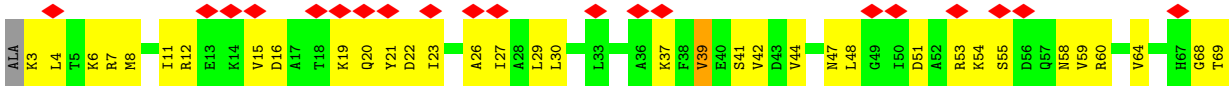


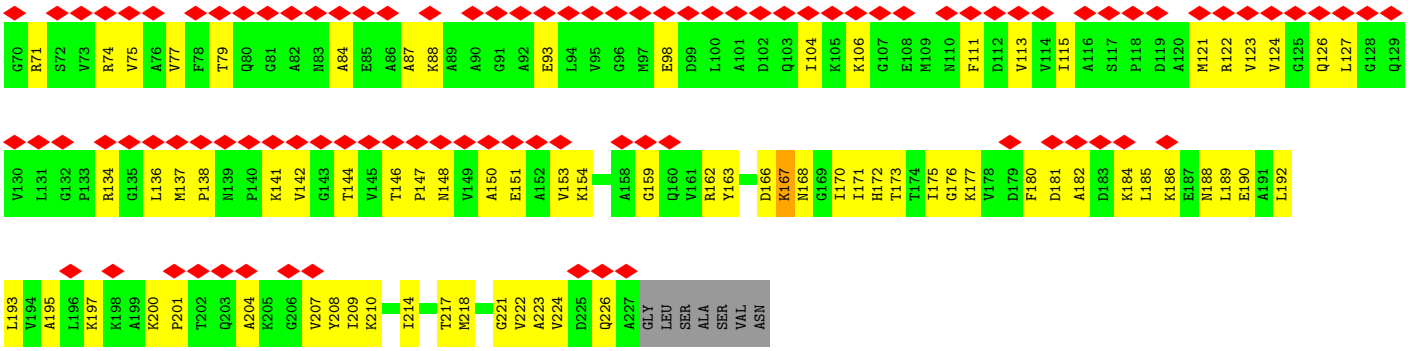
- Molecule 2: 5S ribosomal RNA

Chain AB:

- Molecule 3: 50S ribosomal protein L1

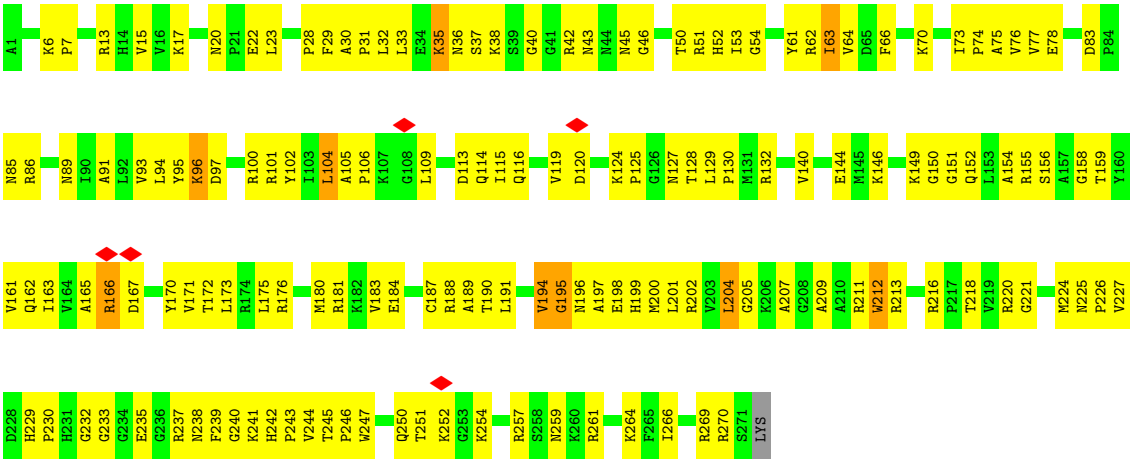
Chain AC:





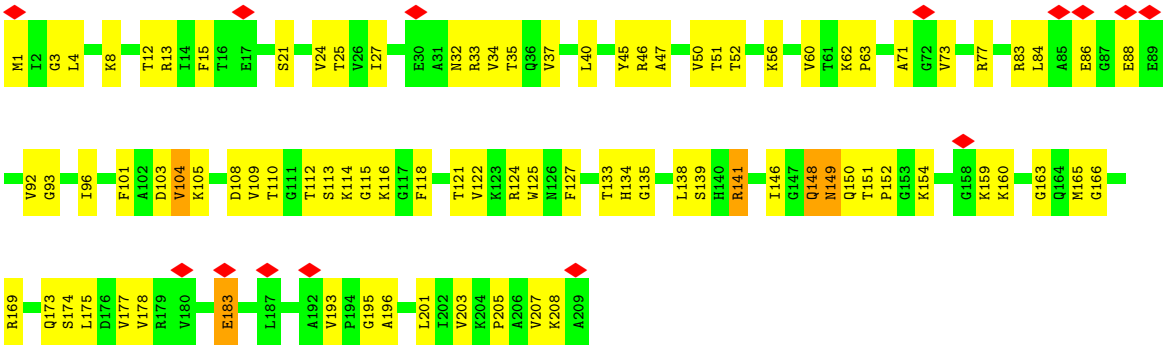
- Molecule 4: 50S ribosomal protein L2

Chain AD:



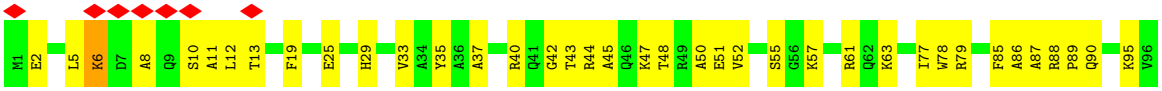
- Molecule 5: 50S ribosomal protein L3

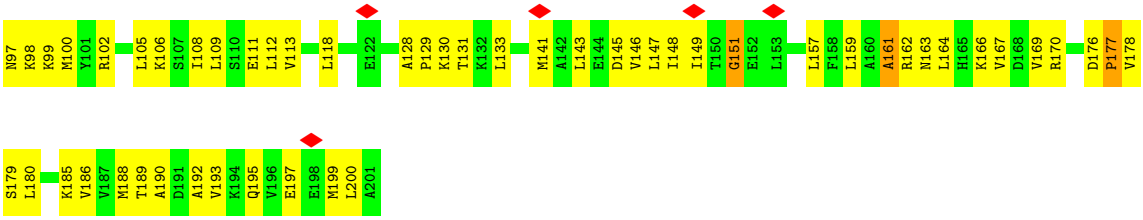
Chain AE:



- Molecule 6: 50S ribosomal protein L4

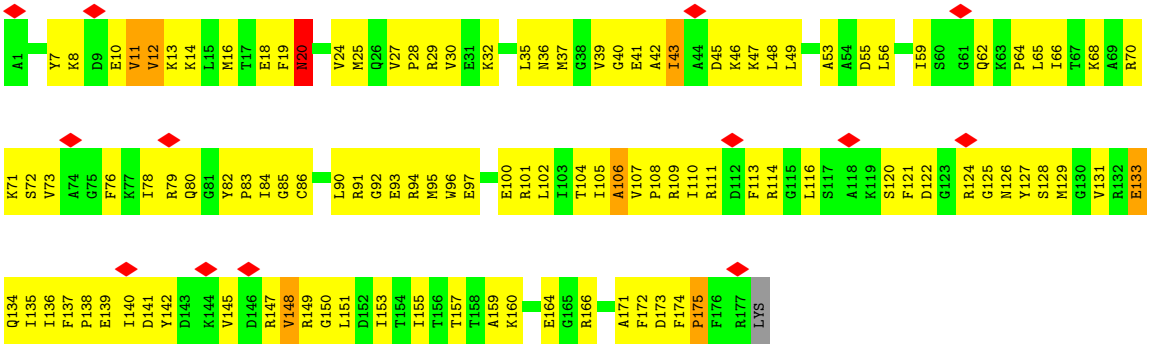
Chain AF:





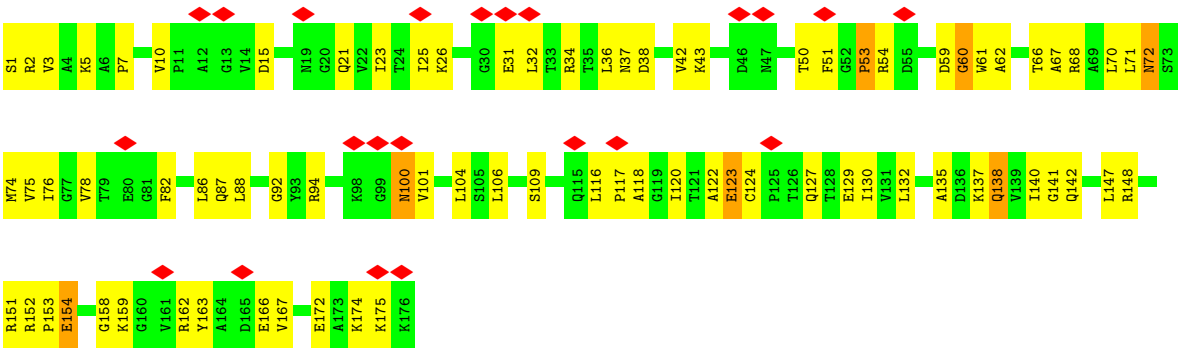
• Molecule 7: 50S ribosomal protein L5

Chain AG:



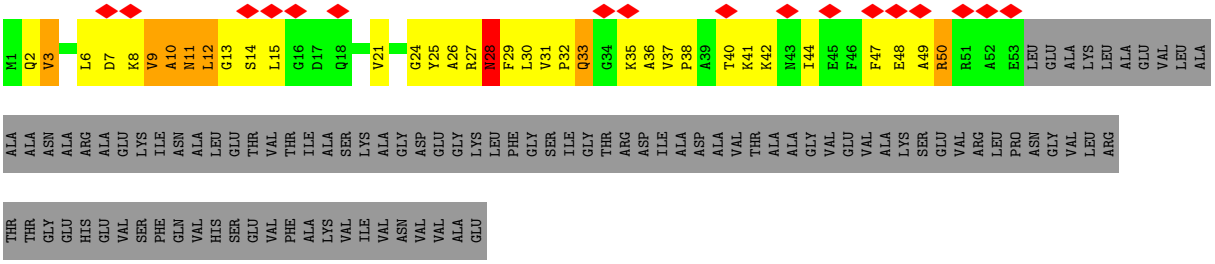
• Molecule 8: 50S ribosomal protein L6

Chain AH:



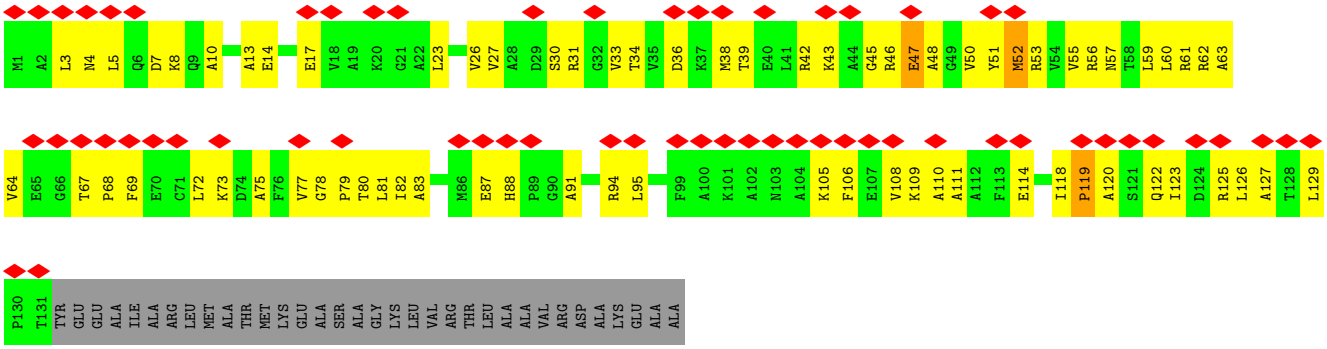
• Molecule 9: 50S ribosomal protein L9

Chain AI:



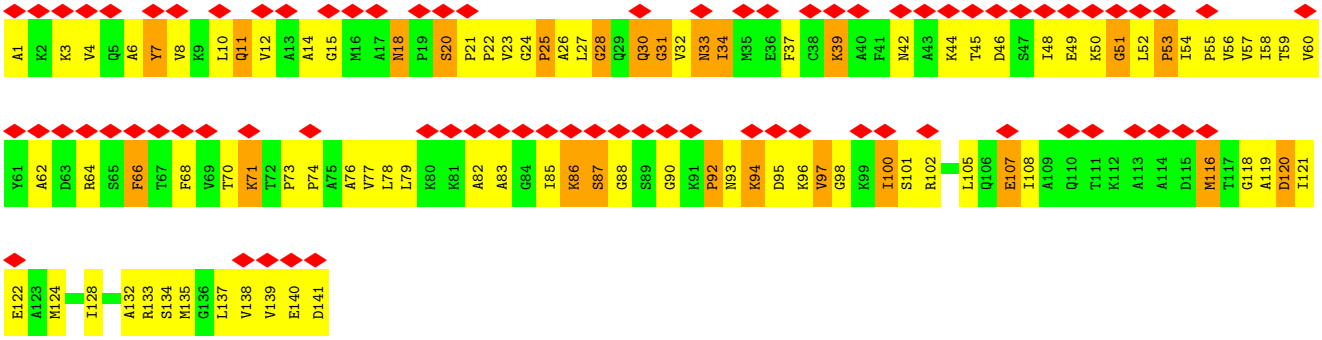
• Molecule 10: 50S ribosomal protein L10

Chain AJ:



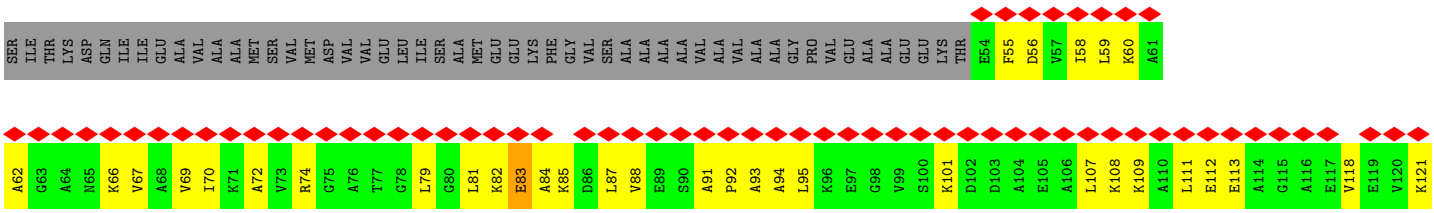
- Molecule 11: 50S ribosomal protein L11

Chain AK:



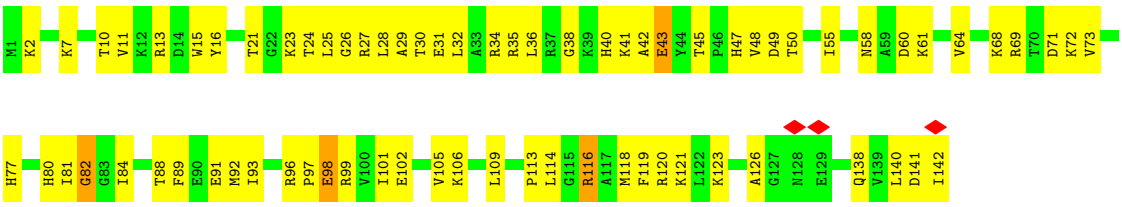
- Molecule 12: 50S ribosomal protein L12

Chain AL:



- Molecule 13: 50S ribosomal protein L13

Chain AM:

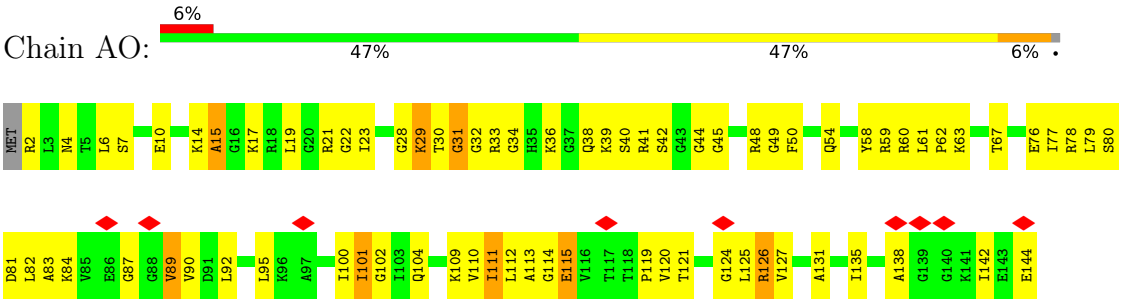


- Molecule 14: 50S ribosomal protein L14

Chain AN:

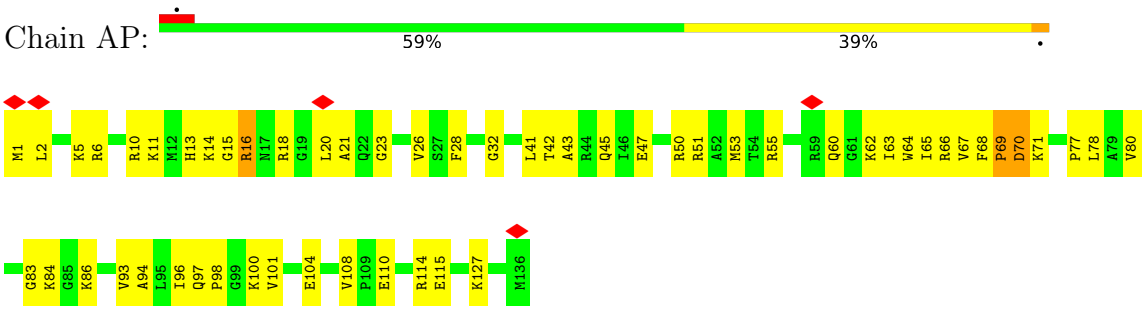
- Molecule 15: 50S ribosomal protein L15

Chain AO:



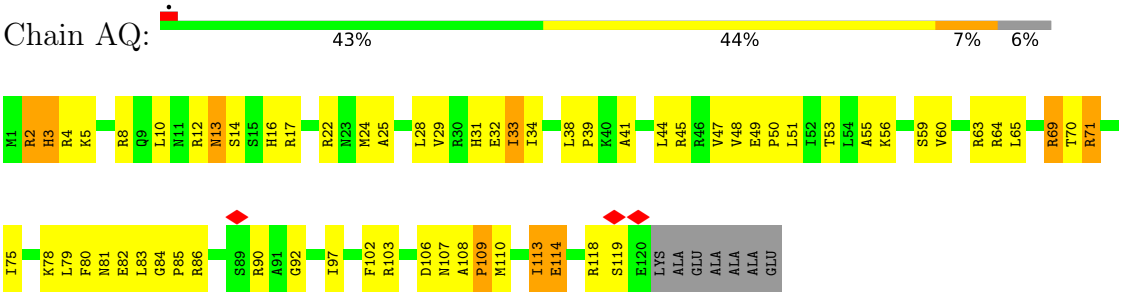
- Molecule 16: 50S ribosomal protein L16

Chain AP:



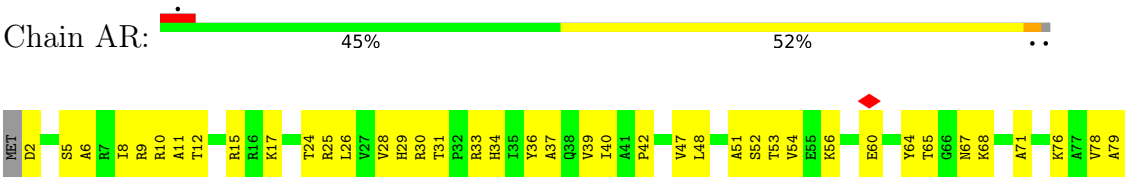
- Molecule 17: 50S ribosomal protein L17

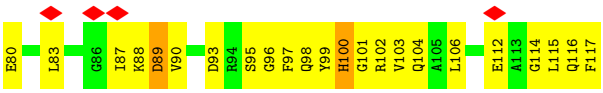
Chain AQ:



- Molecule 18: 50S ribosomal protein L18

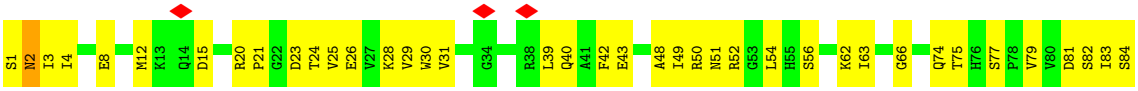
Chain AR:





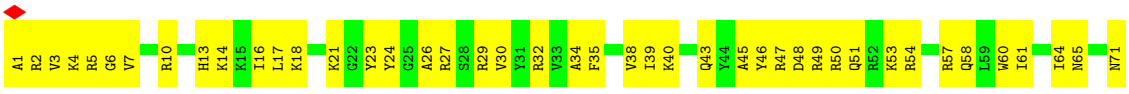
• Molecule 19: 50S ribosomal protein L19

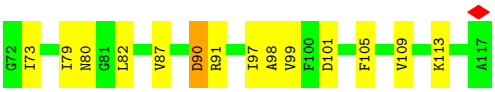
Chain AS:



• Molecule 20: 50S ribosomal protein L20

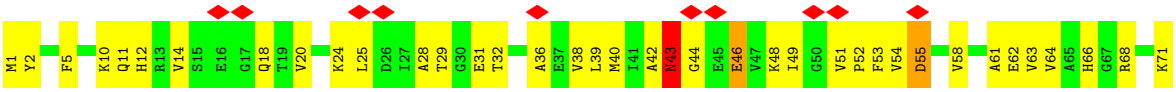
Chain AT:

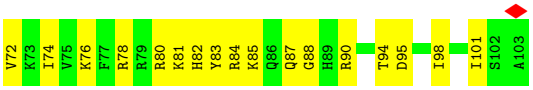




• Molecule 21: 50S ribosomal protein L21

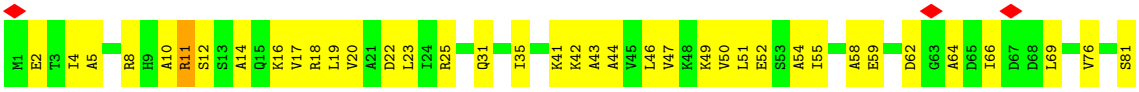
Chain AU:

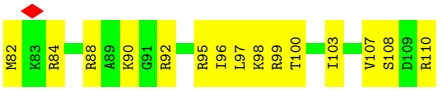




• Molecule 22: 50S ribosomal protein L22

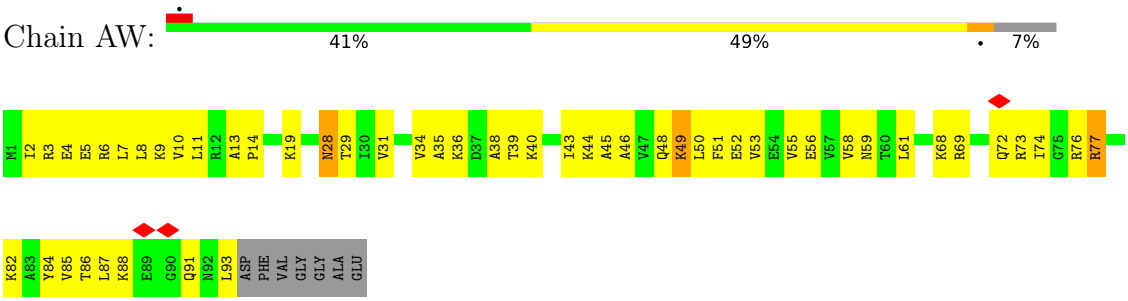
Chain AV:





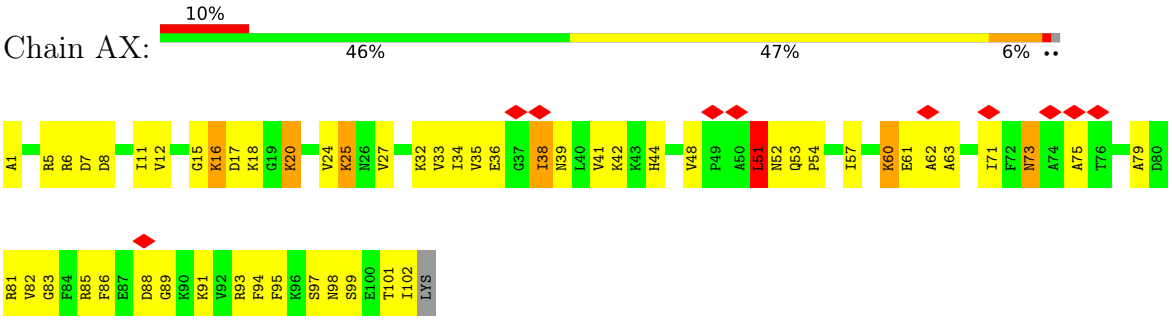
• Molecule 23: 50S ribosomal protein L23

Chain AW:



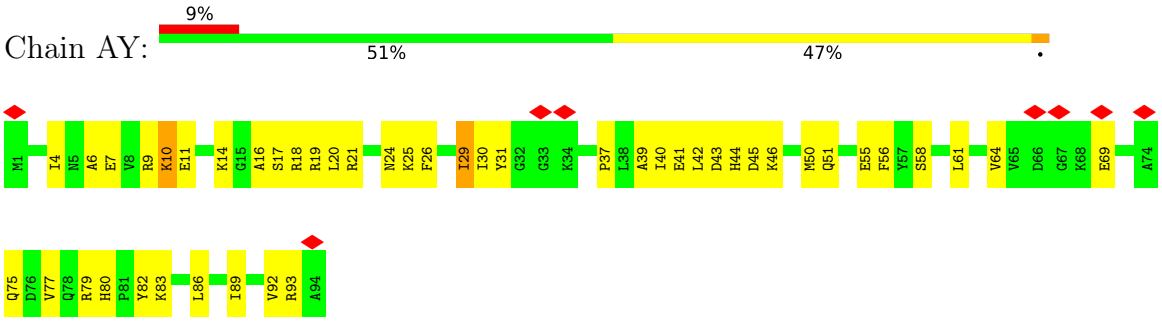
- Molecule 24: 50S ribosomal protein L24

Chain AX:



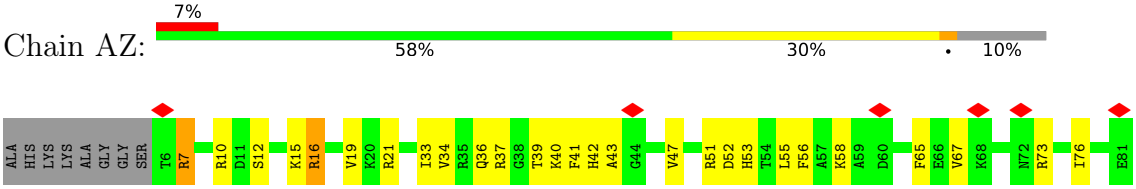
- Molecule 25: 50S ribosomal protein L25

Chain AY:



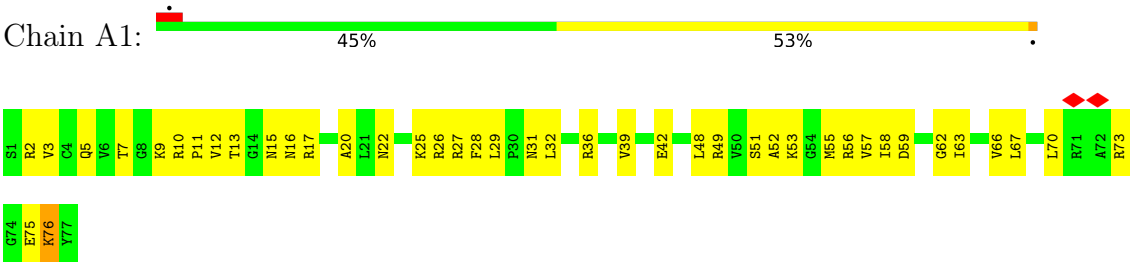
- Molecule 26: 50S ribosomal protein L27

Chain AZ:



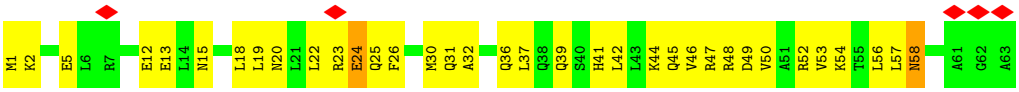
- Molecule 27: 50S ribosomal protein L28

Chain A1:



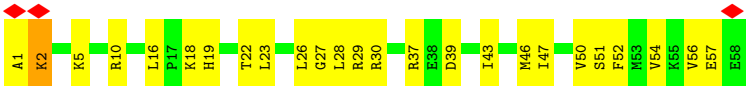
- Molecule 28: 50S ribosomal protein L29

Chain A2: 8% 44% 52%



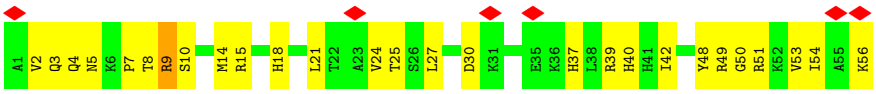
• Molecule 29: 50S ribosomal protein L30

Chain A3: 5% 57% 41%



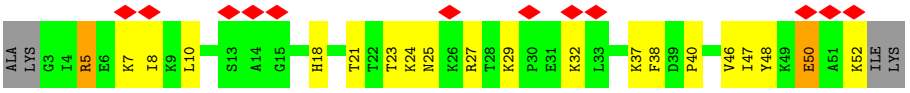
• Molecule 30: 50S ribosomal protein L32

Chain A4: 11% 52% 46%



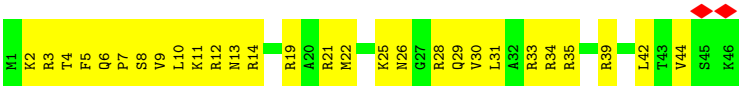
• Molecule 31: 50S ribosomal protein L33

Chain A5: 22% 56% 33% 7%



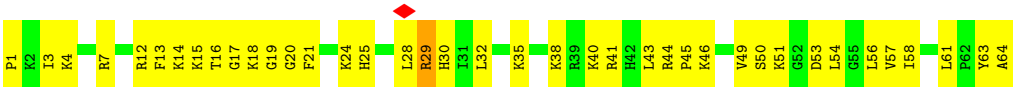
• Molecule 32: 50S ribosomal protein L34

Chain A6: 39% 61%



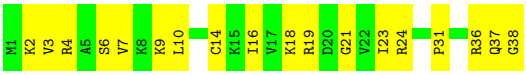
• Molecule 33: 50S ribosomal protein L35

Chain A7: 39% 59%



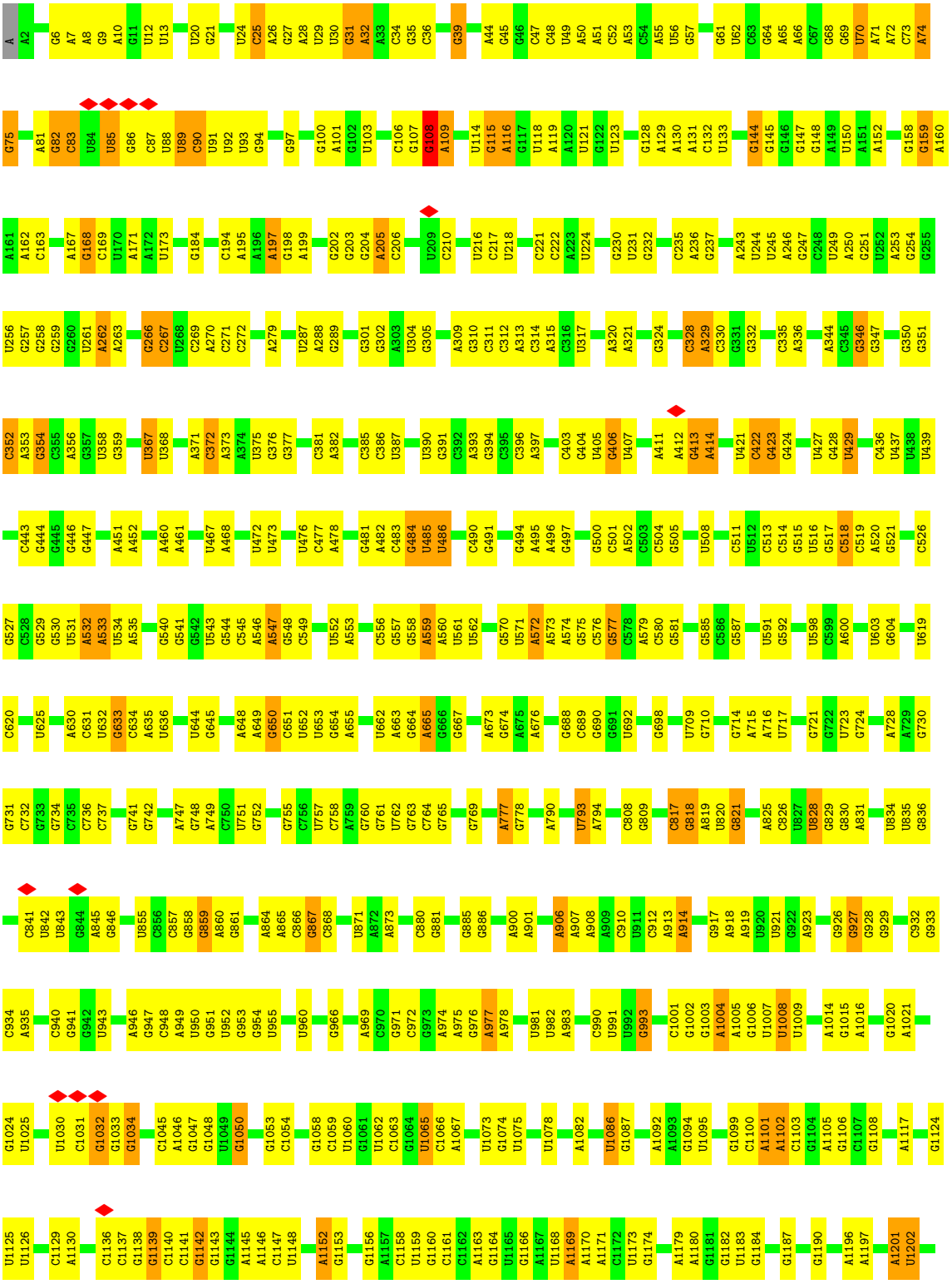
• Molecule 34: 50S ribosomal protein L36

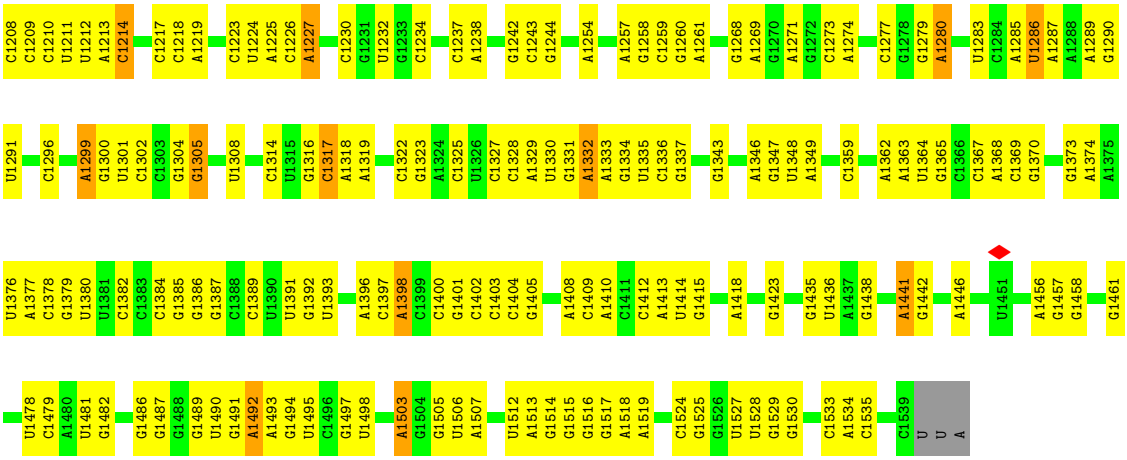
Chain A8: 53% 47%



• Molecule 35: 16S ribosomal RNA

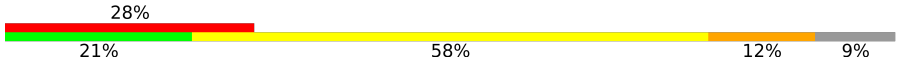
Chain BA: 52% 42% 6%

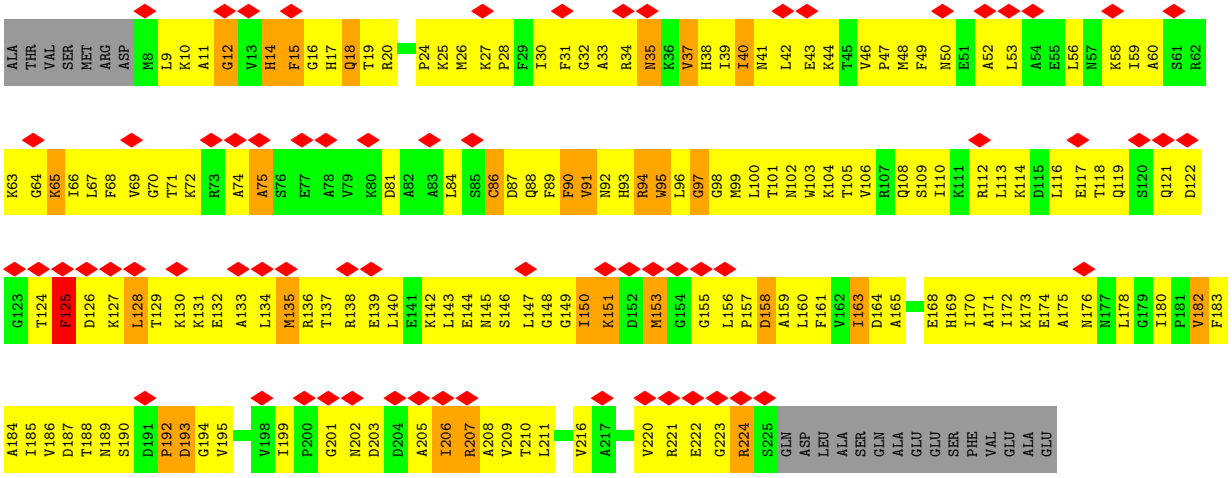




• Molecule 36: 30S ribosomal protein S2

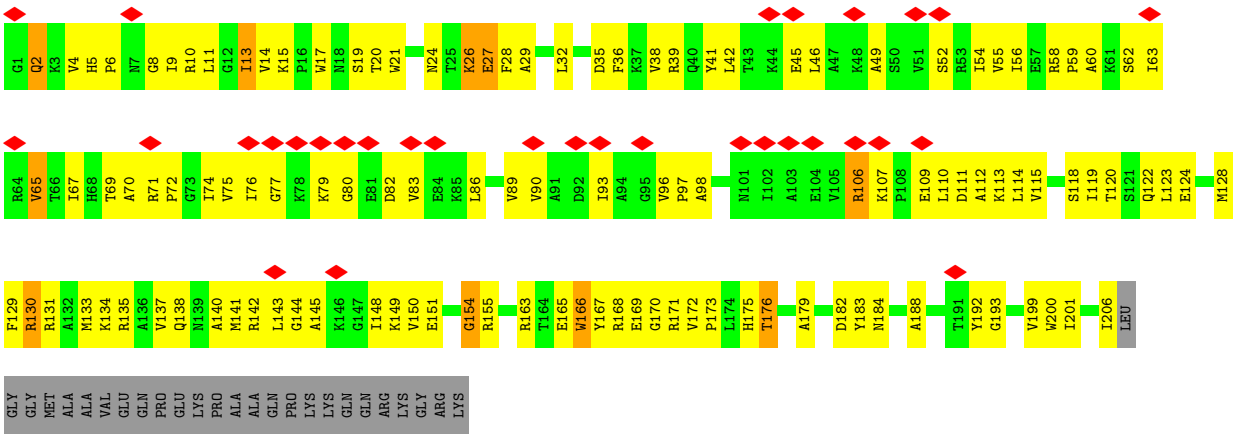
Chain BB:





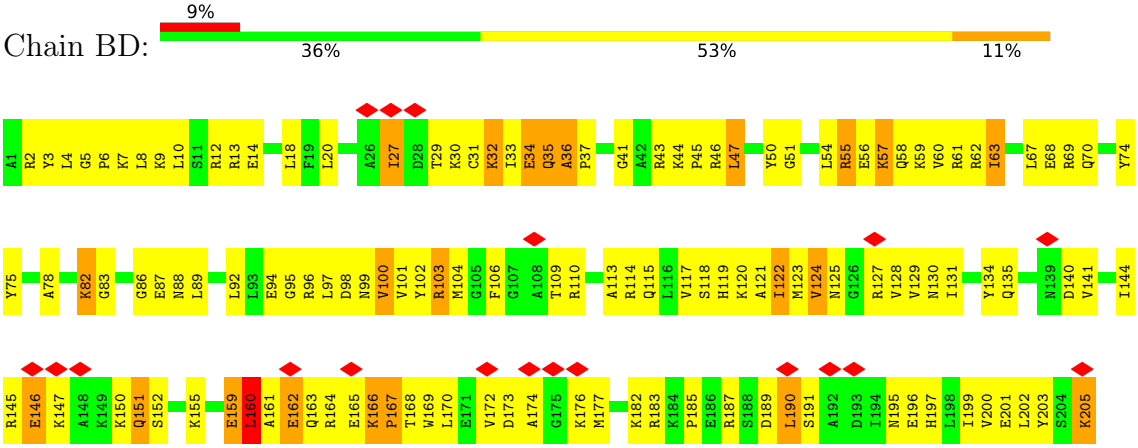
• Molecule 37: 30S ribosomal protein S3

Chain BC:



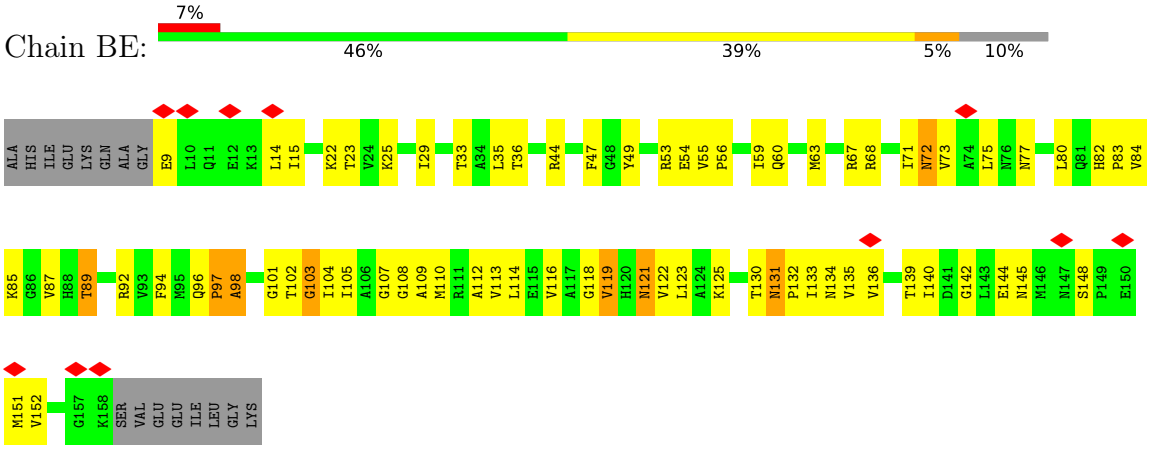
- Molecule 38: 30S ribosomal protein S4

Chain BD:



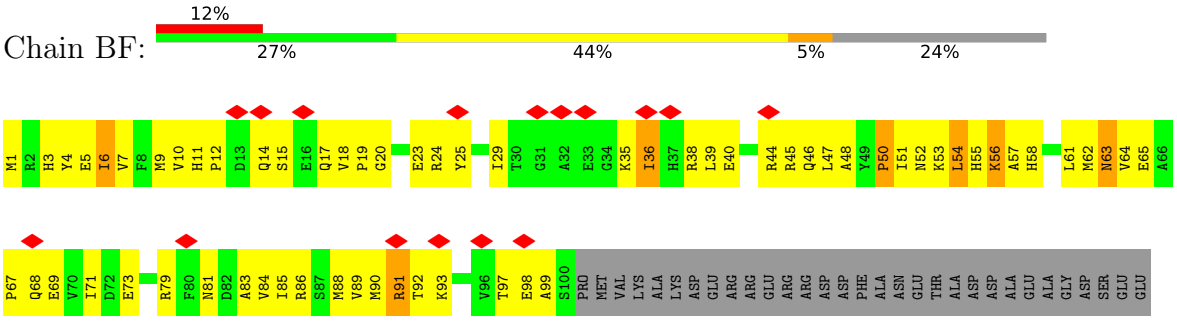
- Molecule 39: 30S ribosomal protein S5

Chain BE:



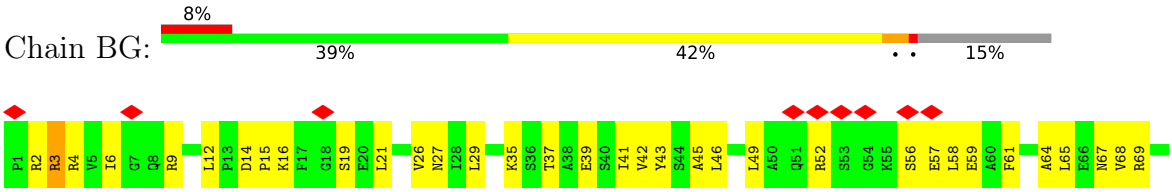
- Molecule 40: 30S ribosomal protein S6

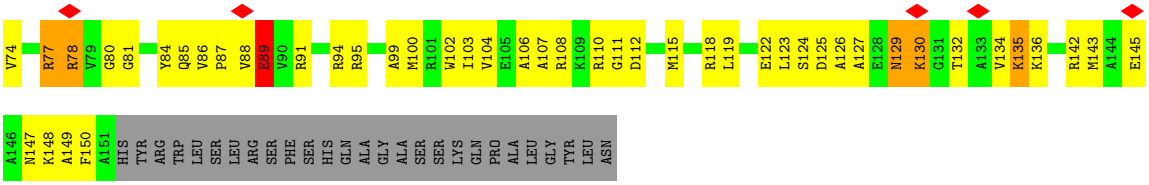
Chain BF:



- Molecule 41: 30S ribosomal protein S7

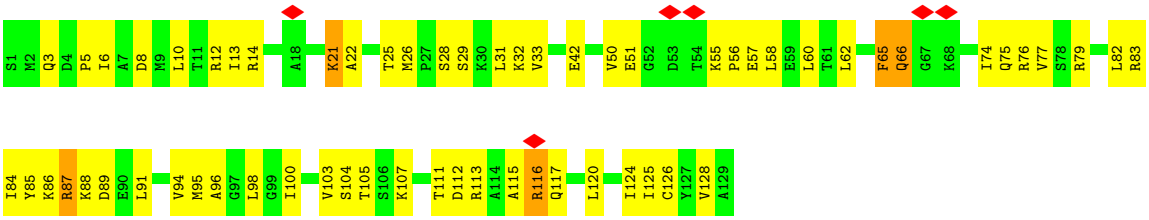
Chain BG:





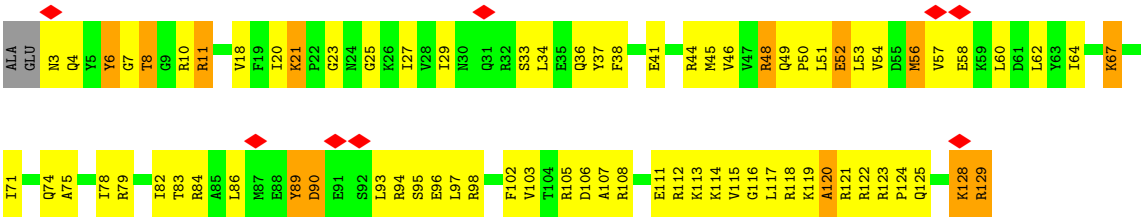
- Molecule 42: 30S ribosomal protein S8

Chain BH:



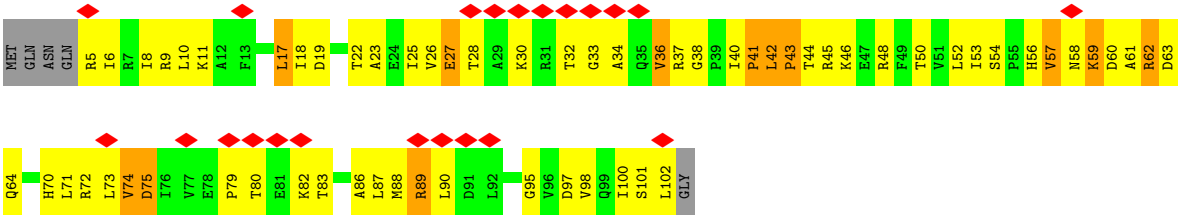
- Molecule 43: 30S ribosomal protein S9

Chain BI:



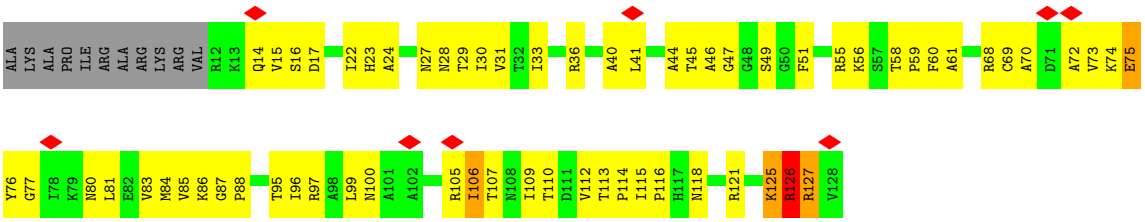
- Molecule 44: 30S ribosomal protein S10

Chain BJ:



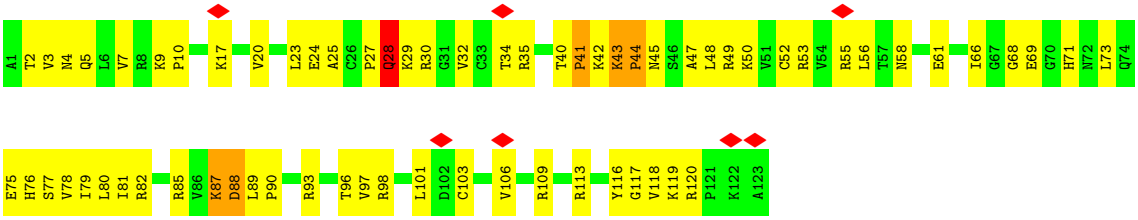
- Molecule 45: 30S ribosomal protein S11

Chain BK:



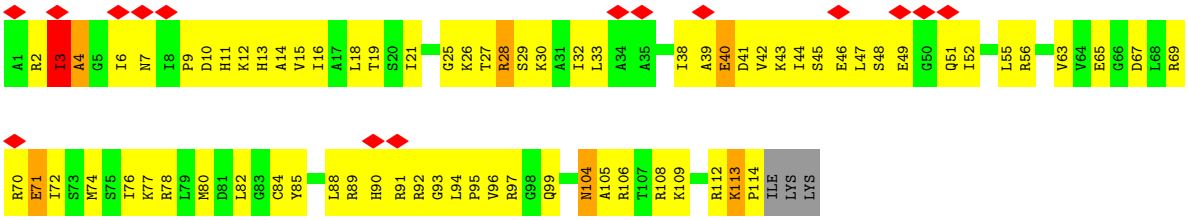
- Molecule 46: 30S ribosomal protein S12

Chain BL:



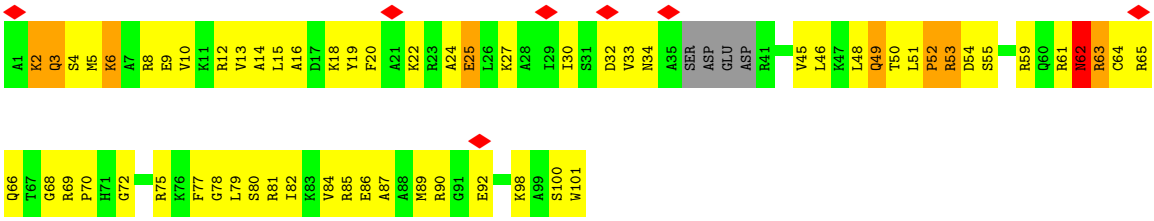
- Molecule 47: 30S ribosomal protein S13

Chain BM:



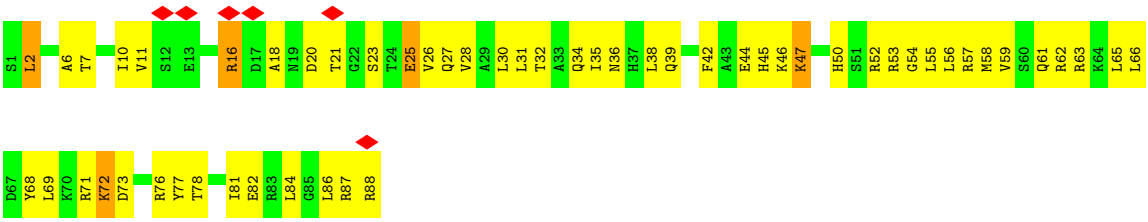
- Molecule 48: 30S ribosomal protein S14

Chain BN:



- Molecule 49: 30S ribosomal protein S15

Chain BO:

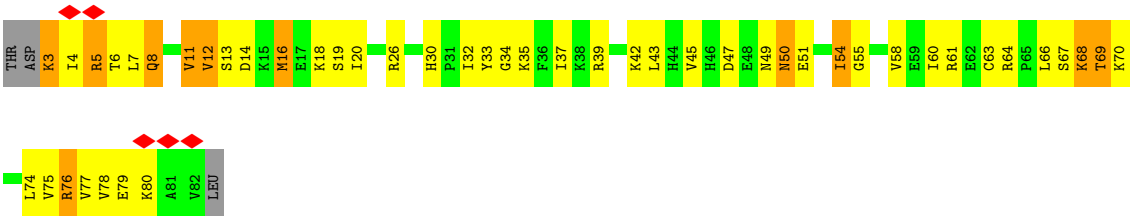


- Molecule 50: 30S ribosomal protein S16

Chain BP:

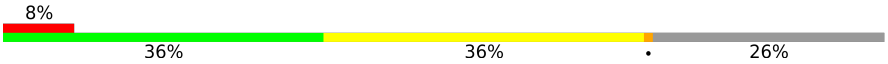
• Molecule 51: 30S ribosomal protein S17

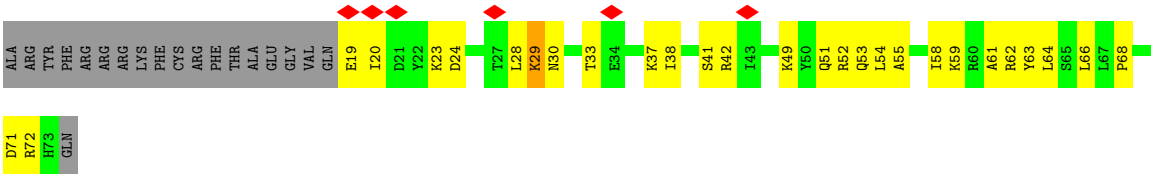
Chain BQ:



• Molecule 52: 30S ribosomal protein S18

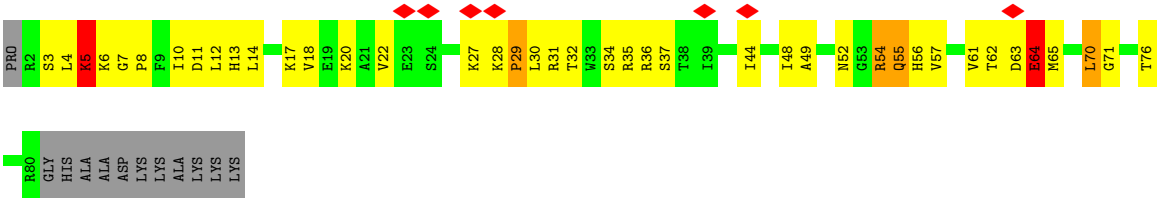
Chain BR:





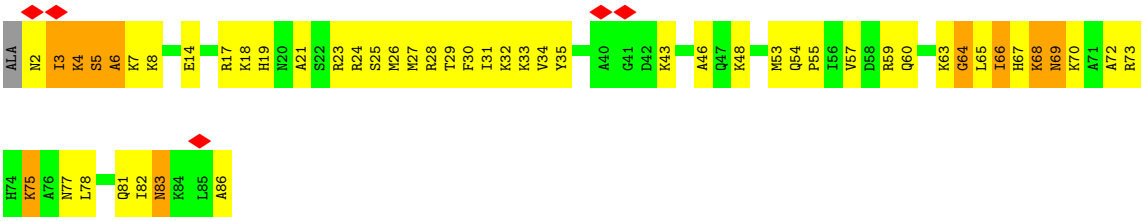
• Molecule 53: 30S ribosomal protein S19

Chain BS:



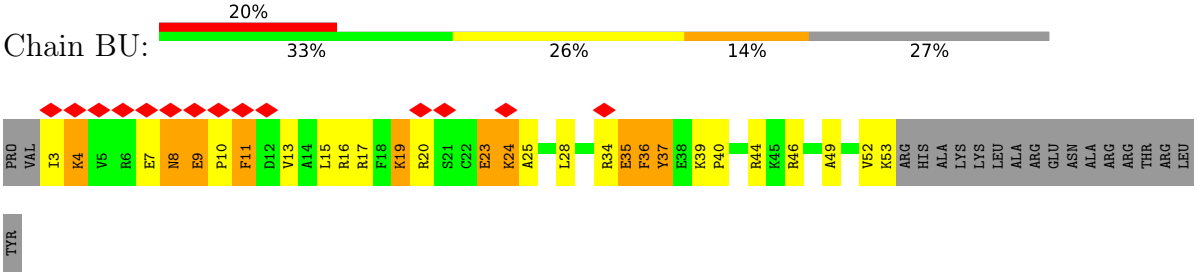
• Molecule 54: 30S ribosomal protein S20

Chain BT:



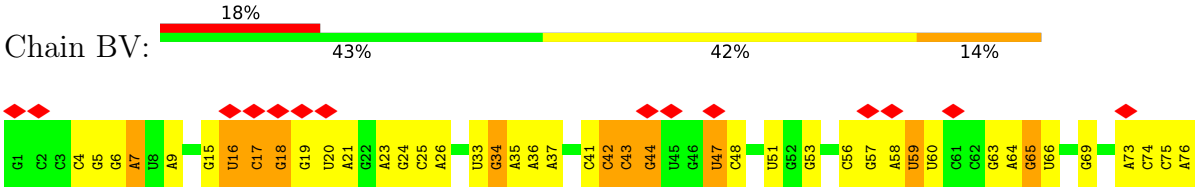
- Molecule 55: 30S ribosomal protein S21

Chain BU:



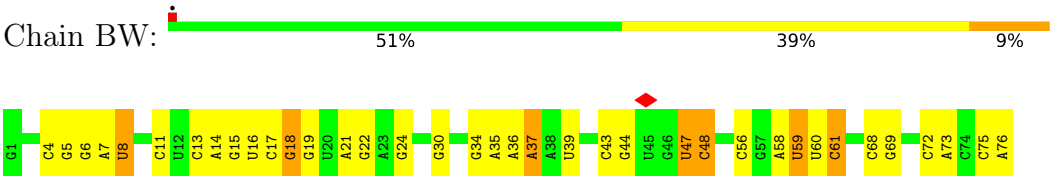
- Molecule 56: tRNA

Chain BV:



- Molecule 56: tRNA

Chain BW:

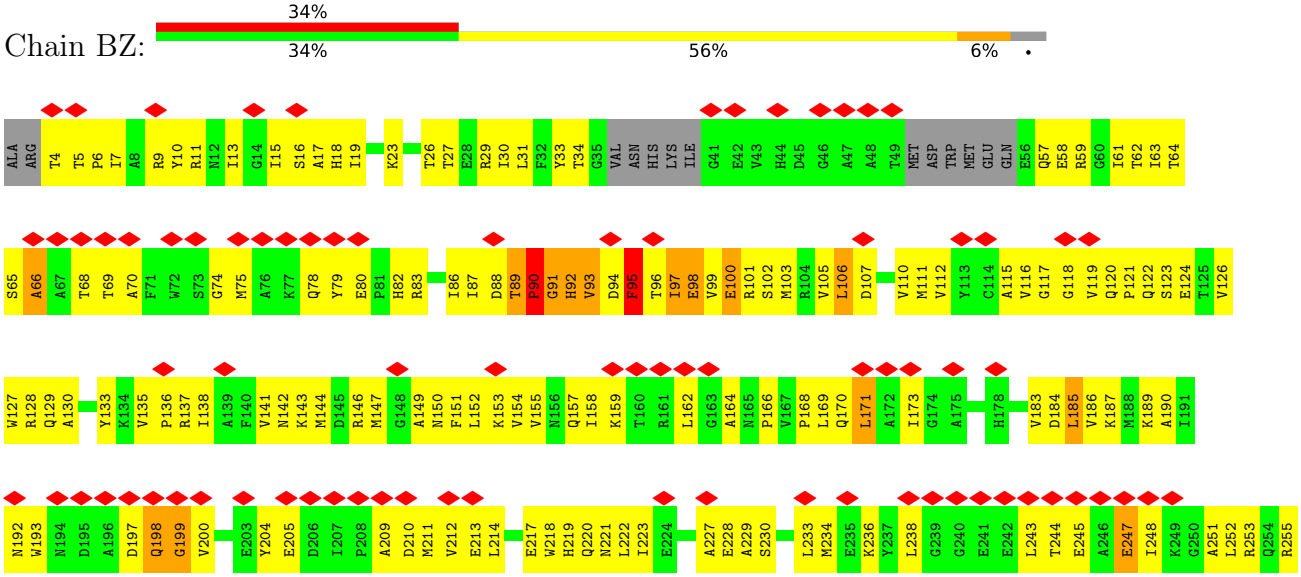


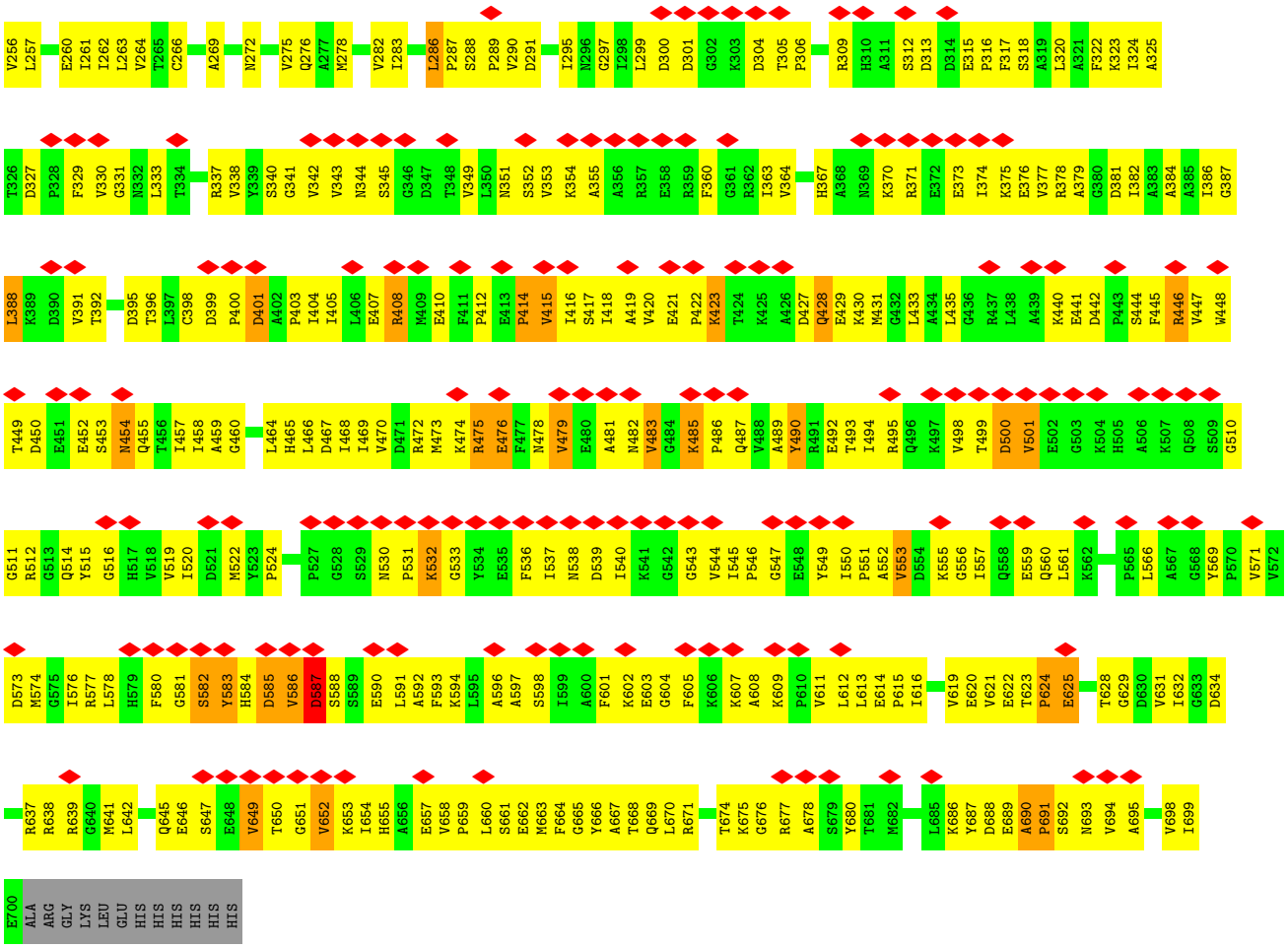
- Molecule 57: mRNA

Chain BX:

- Molecule 58: Elongation Factor G

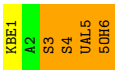
Chain BZ:





- Molecule 59: viomycin

Chain BY:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	85115	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	CTFFIND3, FREALIGN per micrograph	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	30	Depositor
Minimum defocus (nm)	1150	Depositor
Maximum defocus (nm)	6950	Depositor
Magnification	134615	Depositor
Image detector	FEI FALCON I (4k x 4k)	Depositor
Maximum map value	1.446	Depositor
Minimum map value	-0.459	Depositor
Average map value	-0.029	Depositor
Map value standard deviation	0.177	Depositor
Recommended contour level	0.32	Depositor
Map size (Å)	332.8, 332.8, 332.8	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\|>5$	RMSZ	$\#\|Z\|>5$
1	AA	0.33	11/69653 (0.0%)	0.64	18/108657 (0.0%)
2	AB	0.23	0/2847	0.62	0/4440
3	AC	0.22	0/1690	0.41	0/2278
4	AD	0.22	0/2121	0.41	0/2852
5	AE	0.24	0/1586	0.41	0/2134
6	AF	0.23	0/1571	0.40	0/2113
7	AG	0.26	0/1434	0.40	0/1926
8	AH	0.23	0/1343	0.41	0/1816
9	AI	0.27	0/414	0.43	0/556
10	AJ	0.25	0/1001	0.42	0/1350
11	AK	0.24	0/1046	0.44	0/1410
12	AL	0.23	0/488	0.40	0/652
13	AM	0.23	0/1152	0.40	0/1551
14	AN	0.23	0/947	0.42	0/1268
15	AO	0.24	0/1054	0.42	0/1403
16	AP	0.25	0/1093	0.41	0/1460
17	AQ	0.25	0/973	0.39	0/1301
18	AR	0.23	0/902	0.38	0/1209
19	AS	0.24	0/929	0.41	0/1242
20	AT	0.25	0/960	0.37	0/1278
21	AU	0.25	0/829	0.43	0/1107
22	AV	0.21	0/864	0.41	0/1156
23	AW	0.22	0/744	0.41	0/994
24	AX	0.25	0/787	0.41	0/1051
25	AY	0.25	0/766	0.39	0/1025
26	AZ	0.26	0/582	0.37	0/769
27	A1	0.25	0/635	0.39	0/848
28	A2	0.24	0/510	0.42	0/677
29	A3	0.23	0/453	0.42	0/605
30	A4	0.23	0/450	0.40	0/599
31	A5	0.27	0/416	0.41	0/554
32	A6	0.25	0/380	0.39	0/498

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	A7	0.25	0/513	0.40	0/676
34	A8	0.24	0/303	0.40	0/397
35	BA	0.28	4/36944 (0.0%)	0.65	4/57632 (0.0%)
36	BB	0.25	0/1735	0.43	0/2338
37	BC	0.24	0/1651	0.41	0/2225
38	BD	0.23	0/1665	0.40	0/2227
39	BE	0.24	0/1118	0.43	0/1504
40	BF	0.24	0/835	0.43	0/1128
41	BG	0.23	0/1195	0.42	0/1602
42	BH	0.24	0/989	0.41	0/1326
43	BI	0.24	0/1034	0.42	0/1375
44	BJ	0.22	0/796	0.45	0/1077
45	BK	0.24	0/893	0.41	0/1205
46	BL	0.22	0/969	0.42	0/1300
47	BM	0.21	0/892	0.42	0/1193
48	BN	0.24	0/785	0.39	0/1043
49	BO	0.23	0/722	0.41	0/964
50	BP	0.25	0/659	0.39	0/884
51	BQ	0.24	0/657	0.43	0/881
52	BR	0.23	0/462	0.40	0/621
53	BS	0.25	0/652	0.43	0/877
54	BT	0.24	0/671	0.41	0/888
55	BU	0.26	0/430	0.43	0/570
56	BV	0.33	2/1809 (0.1%)	0.73	6/2819 (0.2%)
56	BW	0.33	1/1812 (0.1%)	0.65	0/2823
57	BX	0.37	0/432	0.67	0/671
58	BZ	0.29	0/5398	0.59	1/7304 (0.0%)
59	BY	2.44	2/11 (18.2%)	0.76	0/13
All	All	0.29	20/166652 (0.0%)	0.59	29/248342 (0.0%)

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	AA	0	2

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	1911	U	O3'-P	-49.96	1.01	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	BA	867	G	O3'-P	15.84	1.80	1.61
1	AA	867	C	O3'-P	12.49	1.76	1.61
35	BA	906	A	O3'-P	10.44	1.73	1.61
1	AA	1425	G	O3'-P	7.22	1.69	1.61
1	AA	1101	U	O3'-P	7.19	1.69	1.61
1	AA	1110	G	O3'-P	6.74	1.69	1.61
1	AA	602	A	O3'-P	-6.45	1.53	1.61
56	BV	7	A	O3'-P	-6.01	1.53	1.61
56	BW	47	U	O3'-P	-5.89	1.54	1.61
1	AA	626	A	O3'-P	-5.86	1.54	1.61
35	BA	108	G	O3'-P	5.64	1.68	1.61
35	BA	25	C	O3'-P	-5.54	1.54	1.61
1	AA	1024	G	O3'-P	5.50	1.67	1.61
1	AA	1102	C	O3'-P	5.37	1.67	1.61
1	AA	2391	G	O3'-P	-5.32	1.54	1.61
56	BV	44	G	O3'-P	5.17	1.67	1.61
59	BY	3	SER	CA-C	-5.16	1.39	1.52
59	BY	4	SER	CA-C	-5.15	1.39	1.52
1	AA	270	A	O3'-P	5.12	1.67	1.61

All (29) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	BA	906	A	P-O3'-C3'	-25.65	88.92	119.70
35	BA	906	A	O3'-P-O5'	18.08	138.35	104.00
1	AA	1911	U	P-O3'-C3'	-15.29	101.35	119.70
35	BA	906	A	OP1-P-O3'	-12.39	77.94	105.20
1	AA	1911	U	OP2-P-O3'	10.59	128.49	105.20
1	AA	1911	U	OP1-P-O3'	-9.63	84.01	105.20
35	BA	867	G	O3'-P-O5'	-9.32	86.29	104.00
56	BV	47	U	OP1-P-O3'	7.73	122.21	105.20
1	AA	1045	C	P-O3'-C3'	-7.64	110.53	119.70
56	BV	65	G	O3'-P-O5'	-7.59	89.58	104.00
1	AA	2468	A	OP1-P-O3'	7.01	120.62	105.20
56	BV	47	U	P-O3'-C3'	-6.82	111.51	119.70
1	AA	1122	G	OP2-P-O3'	6.82	120.19	105.20
1	AA	1122	G	P-O3'-C3'	-6.06	112.43	119.70
58	BZ	625	GLU	N-CA-C	-6.05	94.67	111.00
56	BV	47	U	O3'-P-O5'	-6.01	92.59	104.00
1	AA	1991	U	OP2-P-O3'	-6.00	92.00	105.20
1	AA	859	G	OP2-P-O3'	5.97	118.33	105.20
1	AA	1606	C	OP1-P-O3'	5.95	118.30	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	AA	1759	A	O3'-P-O5'	5.60	114.65	104.00
1	AA	1991	U	O3'-P-O5'	5.56	114.57	104.00
56	BV	65	G	OP2-P-O3'	5.43	117.15	105.20
1	AA	932	U	OP1-P-O3'	5.15	116.53	105.20
1	AA	932	U	OP2-P-O3'	-5.13	93.91	105.20
1	AA	1039	A	P-O3'-C3'	-5.12	113.56	119.70
1	AA	1039	A	OP2-P-O3'	5.11	116.44	105.20
56	BV	65	G	P-O3'-C3'	5.07	125.78	119.70
1	AA	322	A	OP2-P-O3'	5.01	116.23	105.20
1	AA	2644	G	OP2-P-O3'	5.00	116.21	105.20

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AA	1913	A	Sidechain
1	AA	1915	U	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	62192	0	31283	1405	0
2	AB	2548	0	1292	51	0
3	AC	1675	0	1763	103	0
4	AD	2082	0	2157	180	0
5	AE	1565	0	1616	93	0
6	AF	1552	0	1619	117	0
7	AG	1410	0	1447	129	0
8	AH	1323	0	1374	82	0
9	AI	409	0	429	37	0
10	AJ	988	0	1025	87	0
11	AK	1032	0	1088	123	0
12	AL	487	0	515	46	0
13	AM	1129	0	1162	72	0
14	AN	938	0	1012	64	0
15	AO	1045	0	1117	115	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	AP	1074	0	1157	65	0
17	AQ	960	0	1000	69	0
18	AR	892	0	923	59	0
19	AS	917	0	965	62	0
20	AT	947	0	1022	76	0
21	AU	816	0	839	67	0
22	AV	857	0	922	56	0
23	AW	738	0	807	73	0
24	AX	779	0	834	54	0
25	AY	753	0	780	42	0
26	AZ	575	0	589	39	0
27	A1	625	0	655	43	0
28	A2	509	0	543	42	0
29	A3	449	0	491	30	0
30	A4	444	0	461	42	0
31	A5	409	0	440	19	0
32	A6	377	0	418	41	0
33	A7	504	0	574	59	0
34	A8	302	0	343	32	0
35	BA	32995	0	16607	686	0
36	BB	1704	0	1732	194	0
37	BC	1624	0	1699	120	0
38	BD	1643	0	1710	171	0
39	BE	1105	0	1148	79	0
40	BF	817	0	808	70	0
41	BG	1181	0	1240	98	0
42	BH	979	0	1034	85	0
43	BI	1022	0	1070	118	0
44	BJ	786	0	828	81	0
45	BK	877	0	887	76	0
46	BL	955	0	1019	99	0
47	BM	883	0	944	82	0
48	BN	774	0	827	92	0
49	BO	714	0	737	56	0
50	BP	649	0	666	63	0
51	BQ	648	0	691	59	0
52	BR	455	0	478	37	0
53	BS	637	0	665	38	0
54	BT	665	0	714	73	0
55	BU	425	0	449	33	0
56	BV	1619	0	822	56	0
56	BW	1622	0	821	47	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	BX	386	0	194	11	0
58	BZ	5301	0	5269	667	0
59	BY	48	0	40	13	0
60	A8	1	0	0	0	0
All	All	153817	0	105761	5995	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 23.

All (5995) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1912:A:C2	1:AA:1919:A:C5	2.13	1.37
1:AA:1052:C:OP1	1:AA:2752:C:H5'	1.10	1.21
1:AA:2876:G:H5"	19:AS:2:ASN:HB2	1.19	1.19
1:AA:1916:A:H2	35:BA:1409:C:OP1	1.21	1.19
1:AA:250:G:H4'	15:AO:59:ARG:HD3	1.18	1.17
1:AA:45:G:H5'	1:AA:46:G:H5'	1.25	1.16
1:AA:1083:U:OP1	10:AJ:50:VAL:HG23	1.46	1.14
35:BA:790:A:H5'	56:BW:39:U:OP1	1.46	1.14
35:BA:1033:G:H2'	35:BA:1034:G:H5"	1.32	1.11
35:BA:1397:C:H42	57:BX:22:A:H3'	0.98	1.11
6:AF:111:GLU:HG3	15:AO:2:ARG:HH22	1.11	1.11
1:AA:489:G:H22	1:AA:1320:C:H3'	1.10	1.10
58:BZ:93:VAL:CG1	58:BZ:94:ASP:H	1.65	1.10
25:AY:10:LYS:HE2	25:AY:10:LYS:H	1.16	1.10
1:AA:1052:C:OP1	1:AA:2752:C:C5'	1.99	1.09
58:BZ:625:GLU:HB2	58:BZ:650:THR:O	1.50	1.09
58:BZ:236:LYS:HD2	58:BZ:243:LEU:HD23	1.34	1.09
1:AA:1915:U:O4	35:BA:1409:C:H5"	1.51	1.09
35:BA:1209:C:H4'	58:BZ:585:ASP:HA	1.11	1.08
35:BA:966:G:H1'	56:BW:34:G:H4'	1.15	1.08
6:AF:111:GLU:HG3	15:AO:2:ARG:NH2	1.69	1.07
1:AA:244:A:H5"	15:AO:67:THR:HG21	1.31	1.06
58:BZ:93:VAL:HG13	58:BZ:94:ASP:N	1.66	1.06
58:BZ:624:PRO:O	58:BZ:651:GLY:HA2	1.54	1.06
58:BZ:93:VAL:HG13	58:BZ:94:ASP:H	0.89	1.06
35:BA:75:G:O4'	35:BA:75:G:OP1	1.73	1.06
23:AW:14:PRO:HD3	28:A2:30:MET:CE	1.85	1.06
35:BA:237:G:H5"	51:BQ:26:ARG:NH2	1.71	1.06
54:BT:66:ILE:HD11	54:BT:70:LYS:HG2	1.37	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:5:LYS:NZ	56:BV:53:G:H4'	1.69	1.05
58:BZ:6:PRO:HG3	58:BZ:9:ARG:HE	1.19	1.03
1:AA:1912:A:C2	1:AA:1919:A:C4	2.47	1.03
58:BZ:90:PRO:HG3	58:BZ:98:GLU:HB3	1.40	1.03
51:BQ:11:VAL:HG12	51:BQ:12:VAL:H	1.25	1.02
38:BD:36:ALA:H	38:BD:37:PRO:HD3	1.23	1.02
1:AA:1916:A:C2	35:BA:1409:C:OP1	2.12	1.01
1:AA:784:G:OP1	1:AA:2588:G:H5"	1.60	1.01
58:BZ:297:GLY:HA3	58:BZ:405:ILE:HD12	1.39	1.01
41:BG:149:ALA:HB1	45:BK:58:THR:HB	1.40	1.01
15:AO:95:LEU:HB3	15:AO:100:ILE:HD11	1.41	1.01
1:AA:187:G:H2'	1:AA:188:G:H5"	1.43	1.00
1:AA:1167:C:H2'	1:AA:1168:G:H5"	1.41	1.00
38:BD:162:GLU:HA	38:BD:166:LYS:HD3	1.44	1.00
2:AB:82:U:H5"	29:A3:16:LEU:CD1	1.93	0.99
3:AC:201:PRO:HG2	3:AC:204:ALA:HB2	1.39	0.99
16:AP:5:LYS:HZ1	56:BV:53:G:C4'	1.75	0.98
1:AA:953:G:H5"	16:AP:16:ARG:NH1	1.79	0.98
4:AD:194:VAL:HG22	4:AD:195:GLY:H	1.26	0.98
50:BP:46:LYS:HD3	50:BP:47:GLU:H	1.26	0.98
1:AA:1061:U:H4'	1:AA:1070:A:H1'	1.45	0.97
39:BE:82:HIS:HD2	42:BH:98:LEU:HD12	1.26	0.97
58:BZ:632:ILE:HG23	58:BZ:642:LEU:HD21	1.46	0.97
5:AE:151:THR:HB	5:AE:152:PRO:HD3	1.43	0.97
35:BA:167:A:H2'	35:BA:168:G:H5"	1.46	0.97
35:BA:230:G:H4'	50:BP:25:ARG:NH2	1.79	0.97
1:AA:64:A:H5"	23:AW:76:ARG:O	1.65	0.96
1:AA:1912:A:C2	1:AA:1919:A:C6	2.52	0.96
1:AA:1912:A:N7	1:AA:1918:A:C2	2.34	0.96
35:BA:1209:C:C4'	58:BZ:585:ASP:HA	1.94	0.96
36:BB:163:ILE:HG23	36:BB:164:ASP:H	1.30	0.95
3:AC:163:TYR:HB2	3:AC:171:ILE:HD11	1.47	0.94
1:AA:2741:A:H5"	34:A8:36:ARG:NH2	1.82	0.94
35:BA:790:A:OP1	56:BW:39:U:H5'	1.67	0.94
46:BL:32:VAL:HG12	46:BL:78:VAL:HG22	1.49	0.94
58:BZ:102:SER:O	58:BZ:106:LEU:HG	1.68	0.94
35:BA:737:C:H5'	40:BF:89:VAL:HG23	1.48	0.94
39:BE:54:GLU:HG2	39:BE:56:PRO:HD2	1.48	0.94
35:BA:1397:C:N4	57:BX:22:A:H3'	1.80	0.94
1:AA:1666:G:H4'	14:AN:6:THR:HG23	1.48	0.94
54:BT:24:ARG:HG2	54:BT:28:ARG:HH12	1.31	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BI:129:ARG:HB3	43:BI:129:ARG:HH11	1.33	0.94
58:BZ:169:LEU:HD11	58:BZ:263:LEU:HB3	1.50	0.94
43:BI:18:VAL:HA	43:BI:64:ILE:HG22	1.48	0.94
7:AG:32:LYS:HD3	7:AG:91:ARG:HH11	1.32	0.93
1:AA:1107:G:P	10:AJ:56:ARG:HG3	2.07	0.93
35:BA:310:G:H5"	50:BP:31:ARG:HB2	1.49	0.93
1:AA:1107:G:OP1	10:AJ:56:ARG:N	2.00	0.93
1:AA:1754:A:H4'	19:AS:102:ARG:HH21	1.33	0.93
30:A4:9:ARG:HB3	30:A4:9:ARG:HH21	1.33	0.93
4:AD:235:GLU:H	4:AD:238:ASN:HD22	1.16	0.93
58:BZ:427:ASP:HA	58:BZ:430:LYS:HE2	1.47	0.93
5:AE:141:ARG:HB3	5:AE:141:ARG:HH11	1.33	0.93
51:BQ:75:VAL:HG23	51:BQ:76:ARG:HG3	1.51	0.92
58:BZ:119:VAL:HG13	58:BZ:121:PRO:HD3	1.52	0.92
35:BA:12:U:H4'	35:BA:526:C:H4'	1.50	0.92
35:BA:518:C:OP1	58:BZ:510:GLY:HA2	1.69	0.92
58:BZ:96:THR:HA	58:BZ:129:GLN:NE2	1.82	0.92
1:AA:1223:G:P	21:AU:68:ARG:HH12	1.91	0.92
1:AA:1915:U:OP1	56:BV:25:C:H4'	1.70	0.92
11:AK:82:ALA:HB1	11:AK:108:ILE:HD13	1.49	0.92
14:AN:49:ARG:HH11	14:AN:49:ARG:HB2	1.33	0.92
4:AD:106:PRO:HD2	4:AD:109:LEU:HD22	1.49	0.91
58:BZ:414:PRO:O	58:BZ:415:VAL:HG22	1.68	0.91
1:AA:2553:G:H1'	1:AA:2582:G:H21	1.35	0.91
34:A8:3:VAL:HG12	34:A8:36:ARG:HB3	1.47	0.91
58:BZ:520:ILE:HB	58:BZ:576:ILE:HD11	1.53	0.91
6:AF:111:GLU:CB	15:AO:2:ARG:HH12	1.83	0.91
5:AE:12:THR:HG22	5:AE:13:ARG:H	1.33	0.91
14:AN:26:GLY:HA3	14:AN:30:ARG:HH11	1.36	0.91
1:AA:1912:A:N3	1:AA:1919:A:C6	2.39	0.91
1:AA:489:G:N2	1:AA:1320:C:H3'	1.85	0.91
1:AA:1062:G:N2	11:AK:134:SER:OG	2.03	0.91
11:AK:48:ILE:HG13	11:AK:49:GLU:H	1.36	0.90
3:AC:98:GLU:HG3	3:AC:123:VAL:HG11	1.51	0.90
6:AF:25:GLU:OE1	15:AO:7:SER:N	2.03	0.90
46:BL:4:ASN:HA	51:BQ:35:LYS:HZ2	1.35	0.90
55:BU:19:LYS:HA	55:BU:19:LYS:HZ3	1.36	0.90
1:AA:1993:U:H4'	5:AE:133:THR:HG21	1.53	0.90
1:AA:18:U:O2'	1:AA:554:U:H5"	1.70	0.90
1:AA:1912:A:N1	1:AA:1919:A:N7	2.20	0.90
35:BA:598:U:H4'	42:BH:85:TYR:HD1	1.34	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:226:A:H5”	1:AA:257:C:O2’	1.71	0.90
1:AA:701:G:H2’	1:AA:702:U:H5”	1.53	0.90
36:BB:170:ILE:H	36:BB:170:ILE:HD12	1.34	0.90
1:AA:250:G:C4’	15:AO:59:ARG:HD3	2.02	0.90
40:BF:35:LYS:HB2	40:BF:65:GLU:HB3	1.54	0.90
1:AA:215:G:H4’	1:AA:216:A:H4’	1.55	0.89
22:AV:59:GLU:HA	22:AV:64:ALA:HA	1.52	0.89
1:AA:744:U:H5”	1:AA:1658:C:H5”	1.55	0.89
1:AA:776:G:H1	1:AA:2072:C:H5’	1.37	0.89
11:AK:46:ASP:HA	11:AK:50:LYS:HD2	1.54	0.89
18:AR:40:ILE:HG12	18:AR:47:VAL:HG12	1.55	0.89
41:BG:129:ASN:HA	41:BG:134:VAL:HG11	1.54	0.89
10:AJ:48:ALA:HA	11:AK:118:GLY:HA2	1.53	0.89
1:AA:1912:A:H2	1:AA:1919:A:C4	1.90	0.89
1:AA:2443:C:OP1	6:AF:63:LYS:HD3	1.72	0.89
6:AF:25:GLU:OE1	15:AO:6:LEU:HA	1.71	0.89
4:AD:77:VAL:HG21	4:AD:109:LEU:HD11	1.54	0.89
1:AA:64:A:OP1	23:AW:77:ARG:HA	1.73	0.88
1:AA:1820:U:C4	4:AD:158:GLY:HA3	2.08	0.88
26:AZ:36:GLN:HE22	26:AZ:41:PHE:HB2	1.37	0.88
1:AA:920:A:OP1	29:A3:18:LYS:HE3	1.73	0.88
1:AA:1158:C:H5”	29:A3:30:ARG:HD3	1.55	0.88
56:BV:41:C:H3’	56:BV:42:C:H5”	1.56	0.88
35:BA:439:U:H4’	38:BD:120:LYS:HE3	1.51	0.88
13:AM:140:LEU:HG	13:AM:142:ILE:HD13	1.55	0.88
58:BZ:639:ARG:HH22	58:BZ:659:PRO:HG2	1.37	0.88
1:AA:1199:U:H1’	20:AT:3:VAL:HG22	1.55	0.88
16:AP:5:LYS:HZ2	56:BV:53:G:H4’	1.37	0.88
35:BA:972:C:O2’	44:BJ:57:VAL:HA	1.72	0.88
1:AA:651:G:H5’	33:A7:18:LYS:HG3	1.54	0.88
1:AA:2427:C:H5”	1:AA:2429:G:H5’	1.56	0.88
35:BA:87:C:H2’	35:BA:88:U:H5’	1.55	0.88
36:BB:127:LYS:HG3	36:BB:128:LEU:H	1.39	0.88
7:AG:142:TYR:CG	47:BM:70:ARG:NH1	2.42	0.87
36:BB:209:VAL:HG23	36:BB:210:THR:H	1.39	0.87
38:BD:10:LEU:HD13	38:BD:62:ARG:HD3	1.55	0.87
58:BZ:349:VAL:HG12	58:BZ:399:ASP:HB3	1.56	0.87
36:BB:150:ILE:HG23	36:BB:151:LYS:H	1.38	0.87
35:BA:1438:G:H5”	54:BT:32:LYS:NZ	1.90	0.87
38:BD:9:LYS:HB3	38:BD:9:LYS:HZ3	1.37	0.87
58:BZ:92:HIS:CE1	58:BZ:465:HIS:HA	2.10	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:96:THR:HA	58:BZ:129:GLN:HE22	1.37	0.86
35:BA:73:C:O2'	35:BA:74:A:H5"	1.74	0.86
53:BS:28:LYS:HB3	53:BS:29:PRO:HD2	1.57	0.86
1:AA:1107:G:H5"	10:AJ:56:ARG:HA	1.57	0.86
35:BA:150:U:H3	35:BA:171:A:H62	1.20	0.86
4:AD:251:THR:HG22	4:AD:252:LYS:H	1.41	0.86
3:AC:44:VAL:HG22	3:AC:214:ILE:HG22	1.58	0.86
11:AK:100:ILE:HG22	11:AK:101:SER:H	1.40	0.86
25:AY:10:LYS:HE3	25:AY:11:GLU:HG2	1.57	0.86
11:AK:54:ILE:HG12	11:AK:73:PRO:HB3	1.58	0.86
41:BG:149:ALA:HB1	45:BK:58:THR:CB	2.06	0.86
1:AA:2876:G:C5'	19:AS:2:ASN:HB2	2.03	0.86
47:BM:40:GLU:HG3	47:BM:41:ASP:H	1.40	0.86
58:BZ:475:ARG:HB3	58:BZ:475:ARG:HH11	1.39	0.86
6:AF:111:GLU:CG	15:AO:2:ARG:HH22	1.89	0.85
1:AA:910:A:N3	1:AA:2264:C:O2'	2.09	0.85
35:BA:981:U:H3'	35:BA:982:U:H5"	1.55	0.85
51:BQ:58:VAL:HG13	51:BQ:60:ILE:HD11	1.57	0.85
6:AF:111:GLU:HB3	15:AO:2:ARG:HH12	1.41	0.85
24:AX:60:LYS:HG3	24:AX:61:GLU:H	1.42	0.85
40:BF:29:ILE:HD13	40:BF:64:VAL:HG11	1.59	0.85
4:AD:198:GLU:HA	4:AD:201:LEU:HD13	1.57	0.85
14:AN:40:LYS:HE3	14:AN:57:VAL:HG12	1.59	0.85
35:BA:1237:C:H3'	35:BA:1238:A:H5'	1.56	0.85
11:AK:23:VAL:HG23	11:AK:24:GLY:H	1.41	0.85
16:AP:5:LYS:NZ	56:BV:53:G:C4'	2.36	0.85
1:AA:2790:U:H5'	1:AA:2893:A:N7	1.92	0.85
22:AV:90:LYS:HD2	22:AV:92:ARG:HH12	1.42	0.85
35:BA:1092:A:H5"	41:BG:3:ARG:CZ	2.06	0.85
1:AA:668:A:H2'	1:AA:670:A:H62	1.42	0.84
1:AA:1599:U:OP1	23:AW:40:LYS:N	2.08	0.84
34:A8:2:LYS:HE2	34:A8:4:ARG:HE	1.41	0.84
35:BA:927:G:H4'	35:BA:1503:A:N7	1.92	0.84
36:BB:110:ILE:HG12	36:BB:150:ILE:HG12	1.57	0.84
1:AA:2591:C:OP1	4:AD:237:ARG:HD2	1.77	0.84
1:AA:2656:U:H4'	58:BZ:146:ARG:HH12	1.40	0.84
35:BA:158:G:H2'	35:BA:159:G:H5"	1.60	0.84
24:AX:60:LYS:HA	24:AX:60:LYS:HE3	1.58	0.84
1:AA:2800:A:H3'	1:AA:2801:G:H5'	1.60	0.84
22:AV:66:ILE:HA	22:AV:69:LEU:HD23	1.58	0.84
38:BD:160:LEU:HD13	38:BD:160:LEU:H	1.41	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:834:G:H1'	1:AA:2358:A:N3	1.92	0.84
11:AK:133:ARG:HD3	11:AK:139:VAL:HB	1.58	0.84
40:BF:6:ILE:HG12	40:BF:89:VAL:HG12	1.59	0.84
15:AO:62:PRO:HB2	33:A7:29:ARG:NH2	1.93	0.84
35:BA:328:C:H4'	35:BA:329:A:H5"	1.60	0.84
58:BZ:158:ILE:HD12	58:BZ:162:LEU:HD12	1.59	0.84
46:BL:4:ASN:HA	51:BQ:35:LYS:NZ	1.93	0.84
48:BN:61:ARG:HG3	48:BN:62:ASN:H	1.43	0.83
43:BI:129:ARG:HB3	43:BI:129:ARG:NH1	1.93	0.83
32:A6:34:ARG:HE	32:A6:39:ARG:HG3	1.43	0.83
39:BE:82:HIS:CD2	42:BH:98:LEU:HD12	2.12	0.83
35:BA:649:A:H2'	35:BA:650:G:H5"	1.60	0.83
40:BF:1:MET:HA	40:BF:67:PRO:HA	1.60	0.83
11:AK:135:MET:HG3	11:AK:137:LEU:HG	1.59	0.83
22:AV:23:LEU:HD11	30:A4:21:LEU:HD12	1.60	0.83
53:BS:62:THR:HG22	53:BS:63:ASP:H	1.43	0.83
30:A4:9:ARG:HB3	30:A4:9:ARG:NH2	1.94	0.83
35:BA:1060:U:H4'	44:BJ:54:SER:HA	1.61	0.83
8:AH:59:ASP:HB2	8:AH:62:ALA:HB3	1.61	0.82
35:BA:1126:U:O2	35:BA:1280:A:H2'	1.78	0.82
35:BA:1209:C:H4'	58:BZ:585:ASP:CA	2.03	0.82
43:BI:46:VAL:HA	43:BI:49:GLN:HE21	1.44	0.82
43:BI:50:PRO:HD3	43:BI:79:ARG:HG2	1.60	0.82
44:BJ:57:VAL:HG22	44:BJ:58:ASN:H	1.42	0.82
35:BA:350:G:H5"	54:BT:2:ASN:HD22	1.43	0.82
45:BK:15:VAL:HG22	45:BK:16:SER:H	1.44	0.82
45:BK:87:GLY:H	45:BK:113:THR:HG22	1.45	0.82
58:BZ:416:ILE:HD11	58:BZ:667:ALA:CB	2.10	0.82
45:BK:126:ARG:HA	45:BK:126:ARG:HE	1.42	0.82
4:AD:106:PRO:HG2	4:AD:109:LEU:HB2	1.62	0.82
9:AI:3:VAL:HG12	9:AI:38:PRO:HA	1.61	0.82
42:BH:5:PRO:HG2	42:BH:6:ILE:HD12	1.62	0.82
53:BS:54:ARG:HG3	53:BS:55:GLN:H	1.44	0.82
1:AA:331:C:OP1	1:AA:1238:G:OP2	1.98	0.81
1:AA:1912:A:N1	1:AA:1919:A:C5	2.48	0.81
4:AD:244:VAL:HG12	4:AD:250:GLN:HA	1.60	0.81
35:BA:636:U:H5"	51:BQ:5:ARG:HG2	1.62	0.81
38:BD:97:LEU:HB2	38:BD:134:TYR:HB3	1.63	0.81
50:BP:4:ILE:HG12	50:BP:21:VAL:HG22	1.60	0.81
36:BB:130:LYS:HE2	36:BB:130:LYS:HA	1.60	0.81
37:BC:19:SER:HB3	37:BC:21:TRP:HE1	1.44	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:142:TYR:CD2	47:BM:70:ARG:NH1	2.47	0.81
15:AO:100:ILE:HD12	15:AO:101:ILE:HG23	1.62	0.81
56:BV:33:U:H2'	56:BV:34:G:H5"	1.60	0.81
43:BI:117:LEU:HA	43:BI:124:PRO:HD3	1.59	0.81
47:BM:106:ARG:HE	47:BM:112:ARG:HB3	1.43	0.81
1:AA:1083:U:P	10:AJ:50:VAL:HG23	2.20	0.81
12:AL:72:ALA:HB1	12:AL:111:LEU:HD22	1.61	0.81
58:BZ:6:PRO:HG3	58:BZ:9:ARG:NE	1.96	0.81
39:BE:87:VAL:HG23	39:BE:92:ARG:HG2	1.63	0.81
1:AA:2334:U:H5"	18:AR:9:ARG:HB2	1.63	0.80
9:AI:27:ARG:HD3	27:A1:59:ASP:OD1	1.80	0.80
1:AA:2291:U:H5"	1:AA:2380:C:O2'	1.80	0.80
25:AY:9:ARG:HD3	25:AY:39:ALA:HB1	1.63	0.80
6:AF:111:GLU:HB3	15:AO:2:ARG:NH1	1.96	0.80
19:AS:88:ARG:HD2	19:AS:112:ARG:HH21	1.46	0.80
35:BA:835:U:OP1	52:BR:52:ARG:NH2	2.12	0.80
36:BB:63:LYS:HA	36:BB:63:LYS:HE2	1.61	0.80
53:BS:4:LEU:HD23	53:BS:8:PRO:HA	1.61	0.80
1:AA:29:U:H4'	20:AT:6:GLY:HA3	1.62	0.80
35:BA:230:G:H4'	50:BP:25:ARG:HH22	1.44	0.80
35:BA:1047:G:H5"	48:BN:3:GLN:HE21	1.45	0.80
45:BK:22:ILE:HD11	45:BK:85:VAL:HG13	1.62	0.80
1:AA:671:C:H41	15:AO:41:ARG:HA	1.46	0.80
1:AA:1916:A:O3'	1:AA:1917:U:P	2.39	0.80
1:AA:1494:A:H2	1:AA:1579:A:O4'	1.65	0.80
11:AK:25:PRO:HG2	58:BZ:646:GLU:HA	1.63	0.80
35:BA:598:U:H4'	42:BH:85:TYR:CD1	2.16	0.80
38:BD:2:ARG:NE	38:BD:114:ARG:HH11	1.80	0.80
58:BZ:121:PRO:HB2	58:BZ:677:ARG:HG2	1.62	0.80
38:BD:55:ARG:HA	38:BD:55:ARG:HE	1.46	0.80
58:BZ:698:VAL:HG13	58:BZ:699:ILE:HD12	1.64	0.80
35:BA:1007:U:H2'	35:BA:1008:U:H5"	1.64	0.80
35:BA:1102:A:H4'	36:BB:94:ARG:HH22	1.45	0.80
58:BZ:173:ILE:HD11	58:BZ:183:VAL:HG13	1.64	0.80
16:AP:5:LYS:HZ3	16:AP:5:LYS:HB3	1.45	0.79
19:AS:112:ARG:HG2	19:AS:114:ASN:HD21	1.45	0.79
11:AK:78:LEU:HD13	11:AK:108:ILE:HG22	1.63	0.79
26:AZ:33:ILE:HG22	26:AZ:34:VAL:HG23	1.64	0.79
1:AA:1124:G:H1'	34:A8:38:GLY:OXT	1.82	0.79
1:AA:2602:A:H2	56:BV:73:A:C8	2.00	0.79
28:A2:12:GLU:HA	28:A2:15:ASN:HD22	1.47	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:943:U:H1'	43:BI:125:GLN:HE22	1.46	0.79
46:BL:71:HIS:HB2	46:BL:73:LEU:HD23	1.64	0.79
49:BO:72:LYS:HE2	49:BO:72:LYS:HA	1.63	0.79
58:BZ:184:ASP:OD1	58:BZ:186:VAL:HG12	1.82	0.79
58:BZ:396:THR:HB	58:BZ:404:ILE:HD12	1.64	0.79
58:BZ:624:PRO:O	58:BZ:651:GLY:CA	2.29	0.79
1:AA:770:G:H5"	32:A6:10:LEU:HD23	1.63	0.79
35:BA:653:U:H5'	42:BH:55:LYS:HZ2	1.47	0.79
24:AX:25:LYS:HA	24:AX:25:LYS:HE3	1.63	0.79
37:BC:107:LYS:HB3	37:BC:110:LEU:HD23	1.62	0.79
1:AA:2876:G:H5"	19:AS:2:ASN:CB	2.08	0.79
16:AP:5:LYS:HE3	56:BV:53:G:O5'	1.83	0.79
16:AP:42:THR:HG22	16:AP:93:VAL:HG12	1.63	0.79
25:AY:77:VAL:HG23	25:AY:89:ILE:HG12	1.65	0.79
58:BZ:501:VAL:HG11	58:BZ:604:GLY:HA2	1.64	0.79
35:BA:530:G:O2'	58:BZ:511:GLY:HA3	1.83	0.79
58:BZ:364:VAL:HG13	58:BZ:384:ALA:HB3	1.63	0.79
1:AA:1915:U:O4	35:BA:1409:C:C5'	2.32	0.78
10:AJ:27:VAL:HG11	10:AJ:75:ALA:HB1	1.65	0.78
36:BB:99:MET:HA	36:BB:106:VAL:HG21	1.65	0.78
58:BZ:150:ASN:HD22	58:BZ:153:LYS:HD2	1.47	0.78
4:AD:15:VAL:HG22	4:AD:205:GLY:HA3	1.64	0.78
52:BR:49:LYS:HG2	52:BR:53:GLN:HE21	1.47	0.78
54:BT:34:VAL:HG11	54:BT:78:LEU:HD13	1.65	0.78
1:AA:1068:G:H21	1:AA:1096:A:H5'	1.49	0.78
3:AC:175:ILE:HG22	3:AC:188:ASN:HB3	1.65	0.78
25:AY:17:SER:HB3	25:AY:21:ARG:HH12	1.49	0.78
36:BB:72:LYS:HE2	36:BB:75:ALA:HB3	1.64	0.78
10:AJ:36:ASP:CG	11:AK:1:ALA:HA	2.02	0.78
23:AW:14:PRO:HD3	28:A2:30:MET:SD	2.24	0.78
44:BJ:32:THR:HG23	44:BJ:33:GLY:H	1.46	0.78
21:AU:10:LYS:HG3	21:AU:12:HIS:HE1	1.49	0.78
36:BB:207:ARG:HB3	36:BB:207:ARG:HH11	1.48	0.78
58:BZ:154:VAL:HA	58:BZ:157:GLN:HE21	1.46	0.78
17:AQ:83:LEU:HD23	17:AQ:86:ARG:HH21	1.48	0.78
32:A6:34:ARG:HH21	32:A6:39:ARG:HD2	1.48	0.78
1:AA:45:G:C5'	1:AA:46:G:H5'	2.11	0.78
1:AA:2125:G:OP1	3:AC:71:ARG:NH1	2.16	0.78
16:AP:11:LYS:HD3	16:AP:86:LYS:HD3	1.65	0.78
58:BZ:6:PRO:CG	58:BZ:9:ARG:HE	1.95	0.78
1:AA:244:A:C5'	15:AO:67:THR:HG21	2.11	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AU:24:LYS:HA	21:AU:94:THR:HG23	1.65	0.78
27:A1:73:ARG:HG3	27:A1:75:GLU:HG2	1.66	0.78
38:BD:104:MET:HG2	38:BD:170:LEU:HD22	1.63	0.78
48:BN:15:LEU:HD23	48:BN:18:LYS:HD2	1.66	0.78
58:BZ:585:ASP:O	58:BZ:586:VAL:HG13	1.83	0.78
25:AY:10:LYS:HE2	25:AY:10:LYS:N	1.96	0.78
27:A1:76:LYS:HA	27:A1:76:LYS:HE3	1.65	0.78
1:AA:523:C:H5"	1:AA:540:C:O2'	1.83	0.77
1:AA:1364:G:H5'	1:AA:1809:A:H1'	1.66	0.77
38:BD:195:ASN:HD22	38:BD:197:HIS:HE1	1.32	0.77
58:BZ:91:GLY:O	58:BZ:92:HIS:ND1	2.16	0.77
58:BZ:419:ALA:HA	58:BZ:457:ILE:HD13	1.66	0.77
1:AA:244:A:H5"	15:AO:67:THR:CG2	2.11	0.77
4:AD:17:LYS:HE2	4:AD:17:LYS:HA	1.67	0.77
10:AJ:36:ASP:OD1	11:AK:1:ALA:HA	1.83	0.77
14:AN:49:ARG:HB2	14:AN:49:ARG:NH1	1.97	0.77
35:BA:237:G:H5"	51:BQ:26:ARG:CZ	2.13	0.77
58:BZ:315:GLU:HB3	58:BZ:316:PRO:HD2	1.66	0.77
35:BA:167:A:C2'	35:BA:168:G:H5"	2.14	0.77
40:BF:3:HIS:H	40:BF:92:THR:HG23	1.47	0.77
1:AA:543:G:H2'	1:AA:544:C:H5"	1.65	0.77
35:BA:653:U:H5'	42:BH:55:LYS:NZ	1.99	0.77
59:BY:6:5OH:HS	59:BY:6:5OH:N	1.99	0.77
10:AJ:5:LEU:HA	10:AJ:8:LYS:HZ3	1.49	0.77
1:AA:187:G:C2'	1:AA:188:G:H5"	2.15	0.77
35:BA:1208:C:O2'	58:BZ:586:VAL:HA	1.84	0.77
35:BA:1328:C:H5"	47:BM:27:THR:HG21	1.67	0.77
58:BZ:26:THR:O	58:BZ:30:ILE:HG13	1.84	0.77
35:BA:494:G:H2'	35:BA:495:A:H5"	1.66	0.77
58:BZ:422:PRO:HB2	58:BZ:427:ASP:HB2	1.67	0.77
1:AA:1437:C:O2'	1:AA:1516:G:H4'	1.84	0.77
4:AD:61:TYR:HA	4:AD:85:ASN:HD21	1.47	0.77
38:BD:47:LEU:HD23	38:BD:47:LEU:H	1.47	0.77
58:BZ:414:PRO:HG2	58:BZ:415:VAL:H	1.49	0.77
1:AA:995:C:H42	13:AM:2:LYS:HA	1.50	0.77
22:AV:23:LEU:HD11	30:A4:21:LEU:HB2	1.67	0.77
37:BC:69:THR:HG21	37:BC:75:VAL:HG21	1.67	0.77
58:BZ:228:GLU:HB2	58:BZ:255:ARG:HH22	1.49	0.77
1:AA:607:U:O3'	6:AF:95:LYS:NZ	2.17	0.76
1:AA:1309:G:H4'	32:A6:7:PRO:HB2	1.67	0.76
35:BA:1491:G:H5'	46:BL:90:PRO:HG2	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BV:42:C:H3'	56:BV:43:C:H5"	1.65	0.76
1:AA:773:U:H5'	4:AD:46:GLY:HA3	1.65	0.76
35:BA:243:A:H4'	35:BA:244:U:H3'	1.67	0.76
36:BB:207:ARG:HB3	36:BB:207:ARG:NH1	2.00	0.76
1:AA:1167:C:C2'	1:AA:1168:G:H5"	2.14	0.76
7:AG:73:VAL:HG22	7:AG:78:ILE:HD11	1.68	0.76
58:BZ:668:THR:HA	58:BZ:671:ARG:HG2	1.67	0.76
1:AA:2602:A:C2	56:BV:73:A:C8	2.73	0.76
36:BB:114:LYS:HA	36:BB:117:GLU:HG2	1.68	0.76
43:BI:6:TYR:HB2	43:BI:18:VAL:O	1.86	0.76
1:AA:2256:G:O2'	26:AZ:7:ARG:NH1	2.19	0.76
8:AH:175:LYS:NZ	58:BZ:637:ARG:NE	2.34	0.76
5:AE:104:VAL:HG23	5:AE:105:LYS:H	1.50	0.76
19:AS:20:ARG:HD3	19:AS:112:ARG:NH1	2.00	0.76
35:BA:350:G:H5"	54:BT:2:ASN:ND2	2.00	0.76
35:BA:451:A:H4'	35:BA:452:A:O4'	1.86	0.76
35:BA:1438:G:OP1	54:BT:28:ARG:HD3	1.85	0.76
41:BG:110:ARG:HG2	41:BG:111:GLY:H	1.51	0.76
42:BH:77:VAL:HG23	42:BH:126:CYS:HA	1.67	0.76
1:AA:646:U:H3'	1:AA:647:G:H5"	1.68	0.76
21:AU:51:VAL:HB	21:AU:52:PRO:HD2	1.67	0.76
1:AA:265:A:H4'	1:AA:266:G:H5'	1.68	0.76
23:AW:14:PRO:HD3	28:A2:30:MET:HE1	1.68	0.76
17:AQ:29:VAL:HG13	17:AQ:83:LEU:HD11	1.66	0.76
25:AY:10:LYS:H	25:AY:10:LYS:CE	1.97	0.76
35:BA:504:C:H2'	35:BA:511:C:H5	1.51	0.76
1:AA:250:G:H4'	15:AO:59:ARG:CD	2.08	0.76
4:AD:140:VAL:HG22	4:AD:191:LEU:HD13	1.68	0.76
6:AF:5:LEU:HB2	6:AF:8:ALA:HB3	1.67	0.76
3:AC:55:SER:HA	3:AC:58:ASN:HD21	1.51	0.75
4:AD:35:LYS:HE3	4:AD:37:SER:HB3	1.65	0.75
36:BB:18:GLN:HG2	36:BB:189:ASN:HD22	1.50	0.75
38:BD:190:LEU:O	38:BD:190:LEU:HD12	1.85	0.75
35:BA:864:A:H2	35:BA:917:G:H21	1.31	0.75
2:AB:82:U:H5"	29:A3:16:LEU:HD12	1.66	0.75
4:AD:20:ASN:HD22	4:AD:23:LEU:HB2	1.51	0.75
29:A3:2:LYS:HD3	29:A3:2:LYS:H	1.51	0.75
37:BC:120:THR:HG23	37:BC:188:ALA:HB2	1.69	0.75
58:BZ:89:THR:N	58:BZ:90:PRO:HD2	2.01	0.75
1:AA:1111:A:H4'	1:AA:1112:G:H5'	1.69	0.75
56:BV:41:C:H3'	56:BV:42:C:C5'	2.17	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:630:G:H2'	1:AA:631:A:H5"	1.68	0.75
22:AV:22:ASP:HA	22:AV:25:ARG:HH12	1.51	0.75
45:BK:112:VAL:HG12	52:BR:72:ARG:HH21	1.51	0.75
55:BU:9:GLU:H	55:BU:10:PRO:HD2	1.51	0.75
58:BZ:89:THR:N	58:BZ:90:PRO:CD	2.50	0.75
58:BZ:245:GLU:O	58:BZ:248:ILE:HG12	1.86	0.75
58:BZ:299:LEU:HD23	58:BZ:300:ASP:N	2.01	0.75
58:BZ:352:SER:HB3	58:BZ:404:ILE:HG12	1.67	0.75
4:AD:221:GLY:HA2	4:AD:224:MET:HE3	1.67	0.75
58:BZ:100:GLU:HG3	58:BZ:101:ARG:N	2.02	0.75
58:BZ:416:ILE:O	58:BZ:459:ALA:HA	1.87	0.75
1:AA:2642:G:H5'	13:AM:80:HIS:CD2	2.21	0.75
1:AA:2743:U:H2'	1:AA:2744:G:H5"	1.69	0.75
38:BD:36:ALA:N	38:BD:37:PRO:HD3	2.02	0.75
37:BC:13:ILE:H	37:BC:13:ILE:HD13	1.52	0.75
1:AA:672:C:H5'	6:AF:85:PHE:CZ	2.22	0.74
3:AC:142:VAL:HB	3:AC:162:ARG:HD2	1.67	0.74
38:BD:47:LEU:HD12	38:BD:51:GLY:HA3	1.69	0.74
1:AA:606:U:H4'	1:AA:658:U:O2'	1.86	0.74
1:AA:1108:U:OP1	10:AJ:57:ASN:ND2	2.20	0.74
3:AC:30:LEU:HD12	3:AC:214:ILE:HD12	1.69	0.74
38:BD:2:ARG:HH21	38:BD:114:ARG:HD3	1.52	0.74
1:AA:1494:A:H2	1:AA:1579:A:C1'	2.01	0.74
1:AA:2685:G:H1	1:AA:2724:U:H3	1.35	0.74
13:AM:118:MET:HA	13:AM:121:LYS:HE3	1.70	0.74
35:BA:89:U:O2'	35:BA:90:C:H5"	1.86	0.74
40:BF:81:ASN:HD21	40:BF:83:ALA:HB3	1.53	0.74
58:BZ:244:THR:OG1	58:BZ:247:GLU:HB3	1.88	0.74
35:BA:521:G:H4'	46:BL:69:GLU:HG2	1.67	0.74
54:BT:33:LYS:HE2	54:BT:33:LYS:HA	1.69	0.74
3:AC:27:ILE:HD13	3:AC:186:LYS:HB2	1.69	0.74
15:AO:90:VAL:HG23	15:AO:120:VAL:HG21	1.69	0.74
46:BL:27:PRO:HG2	46:BL:28:GLN:OE1	1.88	0.74
58:BZ:469:ILE:O	58:BZ:473:MET:HG3	1.87	0.74
1:AA:2343:U:HO2'	1:AA:2373:G:HO2'	1.33	0.74
30:A4:39:ARG:HG3	30:A4:40:HIS:ND1	2.02	0.74
58:BZ:620:GLU:OE1	58:BZ:653:LYS:HD2	1.88	0.74
1:AA:464:U:H5'	32:A6:5:PHE:CD2	2.22	0.74
4:AD:235:GLU:H	4:AD:238:ASN:ND2	1.85	0.74
41:BG:135:LYS:HA	41:BG:135:LYS:HE2	1.68	0.74
1:AA:2502:G:H5'	1:AA:2503:A:H5"	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:1187:G:O2'	48:BN:100:SER:HB2	1.86	0.74
37:BC:15:LYS:HA	37:BC:15:LYS:HE3	1.68	0.74
38:BD:103:ARG:HB3	38:BD:167:PRO:HG2	1.68	0.74
47:BM:93:GLY:HA2	47:BM:108:ARG:HH12	1.53	0.74
4:AD:140:VAL:HG11	4:AD:189:ALA:HB1	1.68	0.74
58:BZ:557:ILE:HG13	58:BZ:597:ALA:HB1	1.68	0.74
1:AA:858:G:H21	1:AA:2268:A:H2'	1.52	0.73
55:BU:19:LYS:HA	55:BU:19:LYS:NZ	2.02	0.73
1:AA:2172:U:H4'	1:AA:2173:A:H5'	1.70	0.73
5:AE:122:VAL:HB	5:AE:141:ARG:HH12	1.53	0.73
35:BA:828:U:H2'	36:BB:24:PRO:HB3	1.70	0.73
58:BZ:183:VAL:HG12	58:BZ:190:ALA:HB2	1.69	0.73
35:BA:1409:C:H2'	35:BA:1410:A:C8	2.23	0.73
1:AA:752:A:O2'	1:AA:1781:U:H5'	1.89	0.73
31:A5:8:ILE:HD13	31:A5:24:LYS:HD2	1.69	0.73
38:BD:87:GLU:HG2	38:BD:187:ARG:HD3	1.69	0.73
15:AO:14:LYS:HD3	15:AO:15:ALA:N	2.04	0.73
46:BL:29:LYS:HZ1	46:BL:58:ASN:HB3	1.52	0.73
1:AA:329:G:H4'	1:AA:477:A:H4'	1.70	0.73
15:AO:79:LEU:HD12	15:AO:114:GLY:N	2.04	0.73
19:AS:112:ARG:HG2	19:AS:114:ASN:ND2	2.03	0.73
24:AX:71:ILE:HD13	24:AX:82:VAL:HG22	1.69	0.73
35:BA:1497:G:H1'	35:BA:1518:A:H2	1.54	0.73
40:BF:91:ARG:HG3	40:BF:92:THR:H	1.53	0.73
55:BU:35:GLU:OE1	55:BU:37:TYR:HB2	1.89	0.73
58:BZ:353:VAL:HG13	58:BZ:354:LYS:HD2	1.71	0.73
1:AA:1993:U:H4'	5:AE:133:THR:CG2	2.18	0.73
3:AC:77:VAL:HG11	3:AC:87:ALA:HB1	1.70	0.73
11:AK:11:GLN:HE22	11:AK:53:PRO:HB3	1.54	0.73
19:AS:20:ARG:HD3	19:AS:112:ARG:HH12	1.52	0.73
43:BI:83:THR:HB	43:BI:97:LEU:HD21	1.71	0.73
44:BJ:28:THR:HG22	44:BJ:86:ALA:HB1	1.71	0.73
55:BU:13:VAL:HG13	55:BU:15:LEU:HG	1.70	0.73
1:AA:1199:U:C1'	20:AT:3:VAL:HG22	2.19	0.73
7:AG:66:ILE:HD12	7:AG:66:ILE:O	1.89	0.73
1:AA:1222:U:P	21:AU:90:ARG:HH22	2.12	0.73
1:AA:2656:U:H4'	58:BZ:146:ARG:NH1	2.03	0.73
13:AM:21:THR:HA	13:AM:61:LYS:HB3	1.70	0.72
41:BG:149:ALA:HA	45:BK:60:PHE:HB2	1.69	0.72
1:AA:528:A:H2'	1:AA:529:A:H5"	1.71	0.72
1:AA:2309:A:C4	56:BV:56:C:OP1	2.42	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:175:LYS:NZ	58:BZ:637:ARG:CD	2.52	0.72
48:BN:24:ALA:O	48:BN:27:LYS:HG3	1.89	0.72
44:BJ:27:GLU:HA	44:BJ:30:LYS:HE2	1.70	0.72
58:BZ:623:THR:O	58:BZ:623:THR:HG23	1.88	0.72
1:AA:1501:G:H5"	4:AD:94:LEU:HD21	1.71	0.72
1:AA:2011:U:OP1	22:AV:42:LYS:HD3	1.89	0.72
15:AO:61:LEU:O	33:A7:12:ARG:NH2	2.23	0.72
22:AV:23:LEU:HD11	30:A4:21:LEU:CD1	2.18	0.72
35:BA:1271:A:H5'	35:BA:1314:C:H5"	1.71	0.72
36:BB:32:GLY:HA3	36:BB:39:ILE:H	1.55	0.72
38:BD:44:LYS:HD2	38:BD:46:ARG:HE	1.54	0.72
47:BM:77:LYS:HD3	47:BM:80:MET:HE3	1.72	0.72
1:AA:78:U:OP2	28:A2:2:LYS:HD3	1.89	0.72
14:AN:43:ILE:HD12	14:AN:56:ASP:HB2	1.70	0.72
36:BB:224:ARG:H	36:BB:224:ARG:NE	1.87	0.72
1:AA:1912:A:C5	1:AA:1918:A:C2	2.78	0.72
1:AA:1916:A:H2	35:BA:1409:C:P	2.12	0.72
2:AB:42:C:O4'	7:AG:65:LEU:HB2	1.90	0.72
48:BN:5:MET:HE3	48:BN:63:ARG:HH22	1.55	0.72
1:AA:2539:C:H5'	34:A8:3:VAL:HG21	1.71	0.72
7:AG:32:LYS:HD3	7:AG:91:ARG:NH1	2.04	0.72
1:AA:1341:G:O2'	23:AW:59:ASN:ND2	2.23	0.72
1:AA:1792:G:OP1	4:AD:204:LEU:HD13	1.89	0.72
1:AA:2741:A:H5"	34:A8:36:ARG:HH22	1.55	0.72
12:AL:66:LYS:HE3	12:AL:85:LYS:NZ	2.05	0.72
35:BA:25:C:H41	35:BA:559:A:H61	1.37	0.72
6:AF:111:GLU:HB2	15:AO:2:ARG:HH12	1.55	0.71
35:BA:1106:G:H5"	37:BC:171:ARG:HG2	1.72	0.71
58:BZ:19:ILE:HB	58:BZ:93:VAL:HG22	1.71	0.71
1:AA:1938:A:N1	1:AA:2590:A:H1'	2.06	0.71
38:BD:36:ALA:H	38:BD:37:PRO:CD	1.99	0.71
58:BZ:116:VAL:HB	58:BZ:146:ARG:HD2	1.72	0.71
5:AE:40:LEU:HD23	5:AE:45:TYR:HA	1.72	0.71
17:AQ:24:MET:HE3	17:AQ:44:LEU:HB2	1.72	0.71
35:BA:263:A:P	54:BT:73:ARG:HH22	2.12	0.71
35:BA:1033:G:C2'	35:BA:1034:G:H5"	2.16	0.71
37:BC:155:ARG:HA	37:BC:155:ARG:HE	1.56	0.71
44:BJ:80:THR:HG22	44:BJ:82:LYS:H	1.53	0.71
51:BQ:11:VAL:HG12	51:BQ:12:VAL:N	2.04	0.71
56:BV:42:C:C3'	56:BV:43:C:H5"	2.19	0.71
1:AA:646:U:C3'	1:AA:647:G:H5"	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:149:ARG:HG3	7:AG:150:GLY:H	1.55	0.71
35:BA:653:U:OP1	42:BH:55:LYS:HD2	1.90	0.71
58:BZ:63:ILE:HG23	58:BZ:64:THR:H	1.55	0.71
1:AA:687:C:OP1	32:A6:6:GLN:HG3	1.90	0.71
15:AO:30:THR:O	15:AO:33:ARG:HG2	1.90	0.71
21:AU:28:ALA:HB3	21:AU:31:GLU:HG2	1.71	0.71
1:AA:954:G:OP2	16:AP:16:ARG:NE	2.23	0.71
3:AC:4:LEU:HD21	3:AC:12:ARG:HH21	1.56	0.71
3:AC:4:LEU:HD23	3:AC:8:MET:HG3	1.71	0.71
7:AG:40:GLY:HA2	7:AG:84:ILE:HD11	1.71	0.71
25:AY:29:ILE:HD13	25:AY:30:ILE:N	2.05	0.71
36:BB:185:ILE:HA	36:BB:199:ILE:HB	1.72	0.71
1:AA:1546:G:H5"	1:AA:1547:C:H5"	1.71	0.71
41:BG:78:ARG:NH1	41:BG:81:GLY:H	1.88	0.71
56:BV:16:U:H3	56:BV:18:G:H5'	1.53	0.71
1:AA:310:A:OP1	24:AX:18:LYS:HD2	1.91	0.71
4:AD:89:ASN:HD21	4:AD:196:ASN:HD22	1.39	0.71
37:BC:8:GLY:HA2	37:BC:11:LEU:HG	1.72	0.71
58:BZ:585:ASP:O	58:BZ:586:VAL:HG22	1.91	0.71
1:AA:1912:A:N1	1:AA:1919:A:C8	2.59	0.71
35:BA:1492:A:H2'	35:BA:1493:A:C8	2.25	0.71
1:AA:1107:G:OP1	10:AJ:56:ARG:HG3	1.91	0.71
1:AA:1141:U:H4'	1:AA:1142:A:O4'	1.91	0.71
1:AA:2491:U:H5'	1:AA:2570:G:H5"	1.73	0.71
1:AA:2553:G:H3'	1:AA:2554:U:H5"	1.72	0.71
58:BZ:639:ARG:NH2	58:BZ:659:PRO:HG2	2.05	0.71
1:AA:701:G:C2'	1:AA:702:U:H5"	2.21	0.70
1:AA:2132:U:O2	3:AC:6:LYS:CD	2.39	0.70
35:BA:932:C:H5	41:BG:2:ARG:HH22	1.37	0.70
35:BA:1201:A:H1'	35:BA:1202:U:OP2	1.91	0.70
51:BQ:11:VAL:HB	51:BQ:55:GLY:H	1.55	0.70
58:BZ:189:LYS:HD2	58:BZ:204:TYR:CE1	2.26	0.70
58:BZ:614:GLU:OE1	58:BZ:659:PRO:HB3	1.91	0.70
45:BK:55:ARG:HA	45:BK:55:ARG:HE	1.56	0.70
54:BT:60:GLN:HB3	54:BT:65:LEU:HD11	1.73	0.70
58:BZ:262:ILE:HG13	58:BZ:262:ILE:O	1.90	0.70
1:AA:1474:U:H2'	1:AA:1475:G:H5'	1.72	0.70
4:AD:239:PHE:HD1	4:AD:241:LYS:H	1.37	0.70
9:AI:31:VAL:HB	9:AI:32:PRO:HD3	1.73	0.70
33:A7:24:LYS:HB2	33:A7:46:LYS:HE3	1.72	0.70
58:BZ:446:ARG:HG2	58:BZ:448:TRP:HE1	1.55	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:321:U:H1'	6:AF:162:ARG:NH1	2.06	0.70
20:AT:47:ARG:HG2	20:AT:51:GLN:HE21	1.56	0.70
47:BM:26:LYS:HE2	47:BM:30:LYS:HD2	1.70	0.70
38:BD:69:ARG:HA	38:BD:69:ARG:HE	1.56	0.70
58:BZ:189:LYS:HD2	58:BZ:204:TYR:HE1	1.56	0.70
1:AA:2350:C:H5	33:A7:41:ARG:HE	1.39	0.70
7:AG:133:GLU:HB3	7:AG:135:ILE:HD13	1.72	0.70
18:AR:24:THR:HG22	18:AR:42:PRO:HD3	1.73	0.70
35:BA:546:A:OP1	38:BD:69:ARG:HB2	1.92	0.70
39:BE:148:SER:HB2	39:BE:151:MET:HB2	1.73	0.70
46:BL:42:LYS:HG2	46:BL:43:LYS:H	1.55	0.70
56:BW:7:A:H3'	56:BW:8:U:H5'	1.72	0.70
58:BZ:233:LEU:HD22	58:BZ:243:LEU:HD13	1.73	0.70
58:BZ:632:ILE:HD11	58:BZ:645:GLN:OE1	1.92	0.70
1:AA:1807:G:H2'	1:AA:1808:A:H5'	1.74	0.70
6:AF:143:LEU:HD22	6:AF:146:VAL:HG11	1.74	0.70
21:AU:25:LEU:H	21:AU:94:THR:HG21	1.56	0.70
35:BA:952:U:H5'	35:BA:972:C:N4	2.07	0.70
39:BE:103:GLY:HA3	39:BE:121:ASN:HA	1.74	0.70
53:BS:5:LYS:HD2	53:BS:6:LYS:HG2	1.73	0.70
55:BU:36:PHE:HB3	55:BU:40:PRO:HD3	1.72	0.70
58:BZ:494:ILE:HB	58:BZ:608:ALA:O	1.91	0.70
58:BZ:639:ARG:HH21	58:BZ:662:GLU:HG3	1.57	0.70
1:AA:607:U:OP1	6:AF:97:ASN:HA	1.92	0.70
1:AA:1454:C:H5'	17:AQ:63:ARG:NH2	2.06	0.70
8:AH:21:GLN:HE22	8:AH:54:ARG:HH22	1.40	0.70
10:AJ:91:ALA:HB1	10:AJ:94:ARG:HH12	1.57	0.70
58:BZ:229:ALA:H	58:BZ:255:ARG:NH2	1.90	0.70
1:AA:2350:C:H5	33:A7:41:ARG:NE	1.89	0.70
2:AB:12:C:H4'	2:AB:15:A:H62	1.57	0.70
24:AX:39:ASN:HD22	24:AX:62:ALA:HB3	1.57	0.70
35:BA:728:A:C5	49:BO:53:ARG:NH1	2.60	0.70
1:AA:672:C:H5'	6:AF:85:PHE:HZ	1.54	0.70
1:AA:687:C:O4'	32:A6:4:THR:HA	1.92	0.70
1:AA:744:U:C5'	1:AA:1658:C:H5"	2.22	0.70
24:AX:53:GLN:N	24:AX:54:PRO:HD2	2.06	0.70
38:BD:7:LYS:HG3	38:BD:8:LEU:HD22	1.73	0.70
46:BL:56:LEU:HD21	46:BL:81:ILE:HD11	1.74	0.70
58:BZ:92:HIS:NE2	58:BZ:465:HIS:HA	2.07	0.70
58:BZ:472:ARG:NH1	58:BZ:476:GLU:HG2	2.07	0.70
1:AA:2875:C:H4'	19:AS:1:SER:HB2	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AZ:43:ALA:HB2	26:AZ:55:LEU:HD22	1.74	0.69
50:BP:46:LYS:CD	50:BP:47:GLU:H	2.02	0.69
1:AA:2748:A:H5'	8:AH:3:VAL:HG21	1.73	0.69
16:AP:110:GLU:HG2	16:AP:114:ARG:HH22	1.57	0.69
38:BD:150:LYS:HB2	38:BD:155:LYS:HE3	1.74	0.69
58:BZ:417:SER:HB3	58:BZ:457:ILE:CG2	2.23	0.69
11:AK:25:PRO:CG	58:BZ:646:GLU:HA	2.21	0.69
17:AQ:2:ARG:HA	17:AQ:5:LYS:HD2	1.73	0.69
56:BW:36:A:H2'	56:BW:37:A:H5"	1.74	0.69
9:AI:30:LEU:HB3	9:AI:36:ALA:HB3	1.72	0.69
11:AK:120:ASP:O	11:AK:124:MET:HG3	1.92	0.69
17:AQ:41:ALA:HB1	17:AQ:97:ILE:HD12	1.74	0.69
20:AT:18:LYS:HA	20:AT:21:LYS:HE2	1.74	0.69
38:BD:205:LYS:OXT	38:BD:205:LYS:HD2	1.92	0.69
49:BO:21:THR:HA	49:BO:26:VAL:HG11	1.73	0.69
1:AA:1107:G:P	10:AJ:56:ARG:CG	2.79	0.69
1:AA:2132:U:O2	3:AC:6:LYS:HD3	1.93	0.69
47:BM:113:LYS:HB3	47:BM:114:PRO:HD3	1.73	0.69
58:BZ:19:ILE:HD13	58:BZ:93:VAL:HA	1.74	0.69
1:AA:1820:U:O2	4:AD:199:HIS:HB3	1.93	0.69
37:BC:26:LYS:H	37:BC:26:LYS:HD2	1.57	0.69
37:BC:110:LEU:HD21	37:BC:143:LEU:HB2	1.73	0.69
54:BT:64:GLY:HA2	54:BT:67:HIS:NE2	2.06	0.69
58:BZ:485:LYS:HB3	58:BZ:486:PRO:CD	2.22	0.69
1:AA:1993:U:HO2'	5:AE:134:HIS:HE2	1.39	0.69
4:AD:28:PRO:HG2	4:AD:33:LEU:HD11	1.74	0.69
11:AK:21:PRO:HB2	11:AK:22:PRO:HD3	1.75	0.69
26:AZ:55:LEU:HD12	26:AZ:76:ILE:HD12	1.73	0.69
35:BA:500:G:H5"	46:BL:120:ARG:HH12	1.57	0.69
41:BG:46:LEU:HB3	41:BG:57:GLU:OE2	1.93	0.69
42:BH:77:VAL:HG12	42:BH:84:ILE:HG13	1.75	0.69
58:BZ:103:MET:SD	58:BZ:135:VAL:HG11	2.32	0.69
58:BZ:450:ASP:HB3	58:BZ:453:SER:HB3	1.75	0.69
58:BZ:466:LEU:O	58:BZ:470:VAL:HG23	1.92	0.69
58:BZ:674:THR:O	58:BZ:677:ARG:HG3	1.92	0.69
1:AA:2758:A:H2	8:AH:70:LEU:HD11	1.58	0.69
7:AG:124:ARG:HA	7:AG:124:ARG:HE	1.58	0.69
33:A7:32:LEU:HB3	33:A7:40:LYS:HD3	1.74	0.69
1:AA:464:U:H1'	1:AA:686:U:H5	1.57	0.69
4:AD:38:LYS:HE3	4:AD:40:GLY:HA2	1.74	0.69
14:AN:26:GLY:HA3	14:AN:30:ARG:NH1	2.06	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:1074:G:H21	35:BA:1101:A:H2	1.41	0.69
58:BZ:105:VAL:HG13	58:BZ:337:ARG:HB2	1.75	0.69
14:AN:77:ILE:H	14:AN:77:ILE:HD12	1.57	0.68
1:AA:2093:G:O5'	9:AI:24:GLY:HA3	1.94	0.68
1:AA:2131:U:H5'	1:AA:2132:U:H5"	1.74	0.68
1:AA:2451:A:H1'	56:BV:76:A:H2'	1.75	0.68
14:AN:121:GLU:HG2	14:AN:122:VAL:HG23	1.76	0.68
37:BC:150:VAL:HG12	37:BC:199:VAL:HG12	1.75	0.68
58:BZ:632:ILE:HG23	58:BZ:642:LEU:CD2	2.23	0.68
1:AA:575:A:H5'	1:AA:2500:U:H5'	1.74	0.68
3:AC:74:ARG:HB3	3:AC:74:ARG:NH1	2.08	0.68
35:BA:1305:G:H21	35:BA:1332:A:H2	1.41	0.68
58:BZ:392:THR:HG22	58:BZ:440:LYS:NZ	2.08	0.68
1:AA:184:C:H4'	1:AA:217:A:C2	2.27	0.68
1:AA:378:C:H4'	1:AA:1855:U:OP1	1.93	0.68
11:AK:66:PHE:H	11:AK:66:PHE:HD2	1.41	0.68
36:BB:46:VAL:HB	36:BB:47:PRO:HD3	1.74	0.68
50:BP:6:LEU:HB3	50:BP:17:TYR:HB3	1.75	0.68
1:AA:2171:A:O2'	1:AA:2172:U:H5'	1.92	0.68
1:AA:2831:G:H1'	1:AA:2883:A:H2'	1.75	0.68
35:BA:1227:A:OP2	47:BM:109:LYS:HE3	1.92	0.68
50:BP:6:LEU:HG	50:BP:19:VAL:HG12	1.74	0.68
1:AA:2020:A:H5'	30:A4:8:THR:HG22	1.74	0.68
35:BA:87:C:C2'	35:BA:88:U:H5'	2.22	0.68
38:BD:29:THR:HG22	38:BD:30:LYS:H	1.59	0.68
1:AA:64:A:H5"	23:AW:76:ARG:C	2.13	0.68
27:A1:58:ILE:HG12	27:A1:66:VAL:HG21	1.76	0.68
35:BA:158:G:C2'	35:BA:159:G:H5"	2.24	0.68
35:BA:585:G:H4'	46:BL:4:ASN:HD21	1.59	0.68
45:BK:83:VAL:HG11	45:BK:96:ILE:HG22	1.73	0.68
58:BZ:485:LYS:HB3	58:BZ:486:PRO:HD3	1.75	0.68
58:BZ:667:ALA:HA	58:BZ:680:TYR:CE2	2.28	0.68
39:BE:44:ARG:HG2	39:BE:72:ASN:HB3	1.75	0.68
54:BT:34:VAL:HG21	54:BT:53:MET:SD	2.34	0.68
58:BZ:423:LYS:HG3	58:BZ:481:ALA:HA	1.75	0.68
15:AO:79:LEU:HD12	15:AO:114:GLY:H	1.59	0.68
1:AA:592:A:O2'	33:A7:3:ILE:HG13	1.94	0.68
1:AA:1667:G:OP1	14:AN:7:MET:HG2	1.94	0.68
14:AN:98:ARG:HA	14:AN:118:LEU:HD13	1.76	0.68
22:AV:2:GLU:HA	22:AV:108:SER:HB3	1.74	0.68
37:BC:59:PRO:HG2	37:BC:62:SER:HB3	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BM:33:LEU:HB3	47:BM:38:ILE:HB	1.75	0.68
53:BS:62:THR:HB	53:BS:64:GLU:OE2	1.94	0.68
6:AF:2:GLU:HB3	6:AF:11:ALA:HB1	1.74	0.67
7:AG:116:LEU:HD23	7:AG:175:PRO:HB2	1.75	0.67
34:A8:19:ARG:HD2	34:A8:24:ARG:HD2	1.76	0.67
54:BT:3:ILE:HA	54:BT:7:LYS:HD3	1.76	0.67
58:BZ:99:VAL:HB	58:BZ:129:GLN:NE2	2.09	0.67
35:BA:1346:A:C4	41:BG:9:ARG:NH1	2.62	0.67
35:BA:1367:C:O2'	44:BJ:50:THR:HG21	1.93	0.67
46:BL:43:LYS:H	46:BL:43:LYS:HD3	1.59	0.67
58:BZ:92:HIS:O	58:BZ:93:VAL:HG12	1.94	0.67
12:AL:81:LEU:HD23	58:BZ:228:GLU:HG2	1.74	0.67
17:AQ:79:LEU:HG	17:AQ:83:LEU:HD12	1.76	0.67
35:BA:1202:U:N3	48:BN:82:ILE:HG21	2.09	0.67
1:AA:940:G:H2'	1:AA:941:A:H5"	1.76	0.67
1:AA:1151:A:H4'	20:AT:80:ASN:OD1	1.94	0.67
1:AA:2515:C:OP1	13:AM:81:ILE:HG12	1.94	0.67
35:BA:31:G:H3'	35:BA:32:A:H5"	1.77	0.67
41:BG:15:PRO:HB2	43:BI:45:MET:CE	2.25	0.67
58:BZ:474:LYS:HG2	58:BZ:479:VAL:O	1.95	0.67
10:AJ:42:ARG:HG2	10:AJ:51:TYR:O	1.95	0.67
18:AR:6:ALA:HA	18:AR:9:ARG:HH12	1.59	0.67
35:BA:619:U:O2	38:BD:129:VAL:HA	1.95	0.67
39:BE:14:LEU:HB3	39:BE:36:THR:HG22	1.75	0.67
56:BW:7:A:H3'	56:BW:8:U:C5'	2.25	0.67
58:BZ:691:PRO:HD2	58:BZ:694:VAL:HB	1.76	0.67
1:AA:1864:U:OP1	1:AA:2410:G:O2'	2.13	0.67
1:AA:1916:A:C2	35:BA:1409:C:P	2.85	0.67
4:AD:86:ARG:HB3	4:AD:86:ARG:NH1	2.09	0.67
52:BR:49:LYS:HA	52:BR:52:ARG:HH12	1.59	0.67
58:BZ:7:ILE:HA	58:BZ:10:TYR:CD2	2.30	0.67
1:AA:414:C:H1'	1:AA:1864:U:H1'	1.75	0.67
35:BA:736:C:H5'	40:BF:88:MET:HE2	1.76	0.67
35:BA:1202:U:H3	48:BN:82:ILE:HG21	1.60	0.67
58:BZ:388:LEU:HB3	58:BZ:391:VAL:CG2	2.25	0.67
1:AA:1777:U:H3	1:AA:1787:A:H61	1.42	0.67
11:AK:20:SER:HB3	11:AK:21:PRO:HD3	1.77	0.67
19:AS:26:GLU:HA	19:AS:43:GLU:HA	1.74	0.67
35:BA:676:A:H1'	45:BK:116:PRO:HB3	1.77	0.67
47:BM:94:LEU:HB3	47:BM:95:PRO:HD2	1.76	0.67
49:BO:35:ILE:HD13	49:BO:59:VAL:HG22	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:234:MET:O	58:BZ:238:LEU:HD13	1.95	0.67
58:BZ:352:SER:HB3	58:BZ:404:ILE:CG1	2.25	0.67
58:BZ:453:SER:O	58:BZ:454:ASN:HB2	1.95	0.67
1:AA:370:G:P	1:AA:423:A:H62	2.17	0.67
1:AA:1389:G:H5'	1:AA:1526:C:H5"	1.76	0.67
4:AD:166:ARG:HB2	4:AD:166:ARG:NH2	2.09	0.67
35:BA:346:G:H2'	35:BA:347:G:H5'	1.77	0.67
35:BA:368:U:C4	58:BZ:386:ILE:HG12	2.30	0.67
35:BA:413:G:H4'	35:BA:414:A:H5"	1.76	0.67
36:BB:113:LEU:HD13	36:BB:143:LEU:HB2	1.77	0.67
50:BP:7:ALA:HB3	50:BP:18:GLN:HB3	1.77	0.67
1:AA:2122:U:O2'	3:AC:166:ASP:HB3	1.95	0.67
33:A7:61:LEU:HB3	33:A7:64:ALA:HB2	1.77	0.67
45:BK:23:HIS:HB3	45:BK:30:ILE:HG23	1.77	0.67
54:BT:4:LYS:O	54:BT:6:ALA:N	2.28	0.67
56:BV:4:C:H42	56:BV:69:G:H1	1.43	0.67
58:BZ:427:ASP:CA	58:BZ:430:LYS:HE2	2.25	0.67
10:AJ:46:ARG:HG2	10:AJ:48:ALA:H	1.60	0.66
39:BE:131:ASN:HB3	39:BE:134:ASN:HD22	1.58	0.66
58:BZ:510:GLY:C	58:BZ:512:ARG:H	1.97	0.66
58:BZ:624:PRO:HG3	58:BZ:677:ARG:NE	2.10	0.66
1:AA:886:A:O2'	1:AA:887:U:H4'	1.96	0.66
11:AK:52:LEU:O	11:AK:54:ILE:HG13	1.95	0.66
17:AQ:13:ASN:HD21	17:AQ:16:HIS:HB2	1.59	0.66
29:A3:27:GLY:HA3	29:A3:37:ARG:HH21	1.61	0.66
35:BA:1458:G:H5'	54:BT:26:MET:HB3	1.76	0.66
51:BQ:61:ARG:HH12	51:BQ:63:CYS:HB3	1.59	0.66
1:AA:658:U:O2'	6:AF:97:ASN:ND2	2.29	0.66
1:AA:754:U:HO2'	1:AA:1618:A:H2	1.43	0.66
1:AA:1223:G:P	21:AU:68:ARG:NH1	2.67	0.66
1:AA:1341:G:O3'	23:AW:59:ASN:HB3	1.96	0.66
1:AA:2016:U:H1'	30:A4:2:VAL:HG21	1.77	0.66
1:AA:2065:C:H5'	1:AA:2251:G:H21	1.60	0.66
1:AA:2147:A:H2'	1:AA:2148:G:O4'	1.96	0.66
4:AD:194:VAL:HG22	4:AD:195:GLY:N	2.06	0.66
15:AO:79:LEU:HD11	15:AO:112:LEU:HD12	1.77	0.66
1:AA:480:A:H5'	24:AX:41:VAL:HG21	1.77	0.66
1:AA:489:G:H22	1:AA:1320:C:C3'	1.98	0.66
1:AA:1063:G:OP1	11:AK:76:ALA:CB	2.44	0.66
9:AI:33:GLN:HE21	9:AI:35:LYS:NZ	1.94	0.66
25:AY:14:LYS:HB2	25:AY:18:ARG:NH1	2.10	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:427:U:H4'	35:BA:541:G:H5"	1.77	0.66
46:BL:75:GLU:HG2	46:BL:76:HIS:ND1	2.11	0.66
58:BZ:170:GLN:NE2	58:BZ:266:CYS:H	1.93	0.66
1:AA:1219:U:OP2	20:AT:18:LYS:HE3	1.96	0.66
1:AA:2330:G:H2'	1:AA:2331:G:H5"	1.78	0.66
35:BA:396:C:H2'	35:BA:397:A:H5"	1.77	0.66
41:BG:3:ARG:HG3	41:BG:4:ARG:H	1.60	0.66
58:BZ:6:PRO:HG2	58:BZ:9:ARG:HB2	1.78	0.66
5:AE:8:LYS:HB2	5:AE:201:LEU:HD11	1.77	0.66
7:AG:135:ILE:H	7:AG:135:ILE:HD12	1.59	0.66
35:BA:516:U:H5"	58:BZ:591:LEU:HD22	1.76	0.66
58:BZ:360:PHE:CZ	58:BZ:363:ILE:HG12	2.30	0.66
1:AA:2256:G:H4'	26:AZ:7:ARG:HH12	1.60	0.66
35:BA:8:A:N6	38:BD:201:GLU:HB3	2.11	0.66
48:BN:12:ARG:HD3	48:BN:54:ASP:HB3	1.77	0.66
54:BT:68:LYS:HB2	54:BT:68:LYS:NZ	2.11	0.66
1:AA:60:G:H5"	28:A2:47:ARG:HH22	1.60	0.66
1:AA:1059:G:H2'	1:AA:1060:U:C5	2.31	0.66
1:AA:1912:A:N6	1:AA:1918:A:H1'	2.10	0.66
1:AA:1916:A:N1	35:BA:1408:A:O3'	2.29	0.66
16:AP:60:GLN:HE21	16:AP:108:VAL:HG12	1.61	0.66
32:A6:31:LEU:HB3	32:A6:35:ARG:HH12	1.60	0.66
45:BK:112:VAL:HA	52:BR:72:ARG:NH2	2.10	0.66
58:BZ:143:LYS:NZ	58:BZ:146:ARG:HH21	1.94	0.66
1:AA:692:C:H5"	4:AD:38:LYS:HD2	1.77	0.66
1:AA:1052:C:H2'	1:AA:1053:C:C6	2.30	0.66
4:AD:61:TYR:HA	4:AD:85:ASN:ND2	2.10	0.66
11:AK:24:GLY:O	11:AK:27:LEU:HG	1.96	0.66
35:BA:649:A:C2'	35:BA:650:G:H5"	2.25	0.66
41:BG:42:VAL:O	41:BG:46:LEU:HD13	1.95	0.66
1:AA:201:C:H4'	1:AA:386:G:C2	2.31	0.66
1:AA:571:U:O2'	21:AU:80:ARG:NH2	2.28	0.66
4:AD:251:THR:HG22	4:AD:252:LYS:N	2.11	0.66
35:BA:570:G:O2'	35:BA:819:A:H2'	1.96	0.66
46:BL:40:THR:OG1	59:BY:6:5OH:HRA	1.95	0.66
56:BV:33:U:C2'	56:BV:34:G:H5"	2.26	0.66
3:AC:8:MET:SD	3:AC:11:ILE:HD11	2.36	0.65
18:AR:64:TYR:HB3	18:AR:67:ASN:HD22	1.60	0.65
28:A2:13:GLU:HG2	28:A2:57:LEU:HB2	1.77	0.65
32:A6:30:VAL:HG22	32:A6:33:ARG:HH12	1.60	0.65
1:AA:575:A:H5'	1:AA:2500:U:C5'	2.25	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1681:G:N3	1:AA:1762:A:H2'	2.11	0.65
11:AK:58:ILE:HG22	11:AK:60:VAL:HG23	1.78	0.65
33:A7:7:ARG:HA	33:A7:7:ARG:HE	1.59	0.65
35:BA:714:G:H21	35:BA:777:A:H1'	1.61	0.65
58:BZ:192:ASN:HB2	58:BZ:205:GLU:OE1	1.95	0.65
1:AA:776:G:H1	1:AA:2072:C:C5'	2.08	0.65
6:AF:45:ALA:HB1	6:AF:88:ARG:HH11	1.61	0.65
51:BQ:54:ILE:HD13	51:BQ:55:GLY:N	2.10	0.65
1:AA:1077:A:C5'	11:AK:93:ASN:ND2	2.59	0.65
1:AA:2633:G:H5"	1:AA:2812:G:H5'	1.79	0.65
35:BA:132:C:H5"	54:BT:68:LYS:NZ	2.11	0.65
42:BH:125:ILE:H	42:BH:125:ILE:HD12	1.62	0.65
43:BI:23:GLY:H	43:BI:60:LEU:HA	1.60	0.65
58:BZ:31:LEU:HG	58:BZ:68:THR:HG21	1.78	0.65
1:AA:1068:G:N2	1:AA:1096:A:H5'	2.12	0.65
1:AA:2553:G:N3	1:AA:2583:G:H1'	2.12	0.65
14:AN:116:ILE:HD12	14:AN:117:SER:N	2.12	0.65
35:BA:865:A:H5'	35:BA:1078:U:O4	1.96	0.65
37:BC:155:ARG:HD3	37:BC:193:GLY:HA3	1.77	0.65
52:BR:49:LYS:HG2	52:BR:53:GLN:NE2	2.10	0.65
58:BZ:11:ARG:HH21	58:BZ:288:SER:HB3	1.62	0.65
58:BZ:75:MET:HB3	58:BZ:79:TYR:HB2	1.78	0.65
58:BZ:253:ARG:O	58:BZ:257:LEU:HD13	1.97	0.65
1:AA:773:U:C5'	4:AD:46:GLY:HA3	2.26	0.65
1:AA:2133:G:H2'	1:AA:2157:G:N2	2.11	0.65
9:AI:2:GLN:O	9:AI:3:VAL:HG22	1.96	0.65
19:AS:24:THR:HB	19:AS:87:ARG:HB3	1.77	0.65
41:BG:58:LEU:HD23	41:BG:58:LEU:H	1.62	0.65
42:BH:28:SER:HB3	42:BH:56:PRO:HB3	1.78	0.65
1:AA:1133:A:O2'	1:AA:2026:U:H4'	1.97	0.65
1:AA:2248:C:H2'	1:AA:2249:U:H5'	1.79	0.65
1:AA:2553:G:C1'	1:AA:2582:G:H21	2.08	0.65
3:AC:55:SER:HA	3:AC:58:ASN:ND2	2.11	0.65
6:AF:149:ILE:HG23	6:AF:188:MET:HA	1.79	0.65
37:BC:26:LYS:HB3	37:BC:26:LYS:NZ	2.12	0.65
58:BZ:628:THR:HB	58:BZ:652:VAL:HG11	1.77	0.65
1:AA:1713:A:H61	1:AA:1745:A:H61	1.43	0.65
1:AA:2055:C:H5'	1:AA:2056:G:H5'	1.79	0.65
8:AH:175:LYS:NZ	58:BZ:637:ARG:CZ	2.60	0.65
20:AT:2:ARG:HH22	20:AT:4:LYS:HG2	1.62	0.65
28:A2:13:GLU:OE2	28:A2:53:VAL:HG13	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:123:U:H5"	35:BA:311:C:O2'	1.97	0.65
36:BB:163:ILE:HG23	36:BB:164:ASP:N	2.08	0.65
58:BZ:257:LEU:HG	58:BZ:287:PRO:HB3	1.78	0.65
1:AA:215:G:C4'	1:AA:216:A:H4'	2.27	0.65
36:BB:12:GLY:HA3	36:BB:207:ARG:HH22	1.62	0.65
46:BL:43:LYS:HB2	46:BL:43:LYS:NZ	2.12	0.65
58:BZ:584:HIS:CG	58:BZ:585:ASP:N	2.65	0.65
59:BY:5:UAL:C	59:BY:6:5OH:HS	2.27	0.65
1:AA:958:U:H2'	2:AB:89:U:C2	2.31	0.65
1:AA:2282:G:H21	1:AA:2390:U:H3	1.44	0.65
1:AA:2395:C:H1'	56:BW:76:A:H4'	1.79	0.65
14:AN:21:CYS:HA	14:AN:41:ILE:HG22	1.79	0.65
15:AO:82:LEU:HD11	15:AO:120:VAL:HG11	1.78	0.65
35:BA:910:C:H5	46:BL:17:LYS:NZ	1.94	0.65
37:BC:106:ARG:H	37:BC:106:ARG:HD3	1.61	0.65
43:BI:48:ARG:O	43:BI:48:ARG:HD3	1.97	0.65
19:AS:20:ARG:HB2	19:AS:21:PRO:HD2	1.79	0.64
44:BJ:10:LEU:HD21	44:BJ:25:ILE:HD12	1.79	0.64
58:BZ:537:ILE:HD11	58:BZ:577:ARG:HB2	1.79	0.64
58:BZ:594:LYS:HB3	58:BZ:594:LYS:NZ	2.12	0.64
1:AA:2780:G:H22	13:AM:96:ARG:HH12	1.45	0.64
6:AF:111:GLU:CB	15:AO:2:ARG:NH1	2.55	0.64
22:AV:20:VAL:HG11	22:AV:44:ALA:HA	1.80	0.64
24:AX:39:ASN:ND2	24:AX:62:ALA:HB3	2.12	0.64
45:BK:126:ARG:HA	45:BK:126:ARG:NE	2.12	0.64
48:BN:90:ARG:NH1	48:BN:90:ARG:HB2	2.11	0.64
58:BZ:173:ILE:HD11	58:BZ:183:VAL:CG1	2.27	0.64
58:BZ:322:PHE:O	58:BZ:323:LYS:HG2	1.97	0.64
58:BZ:324:ILE:HG13	58:BZ:440:LYS:HE3	1.78	0.64
58:BZ:416:ILE:HD11	58:BZ:667:ALA:HB3	1.78	0.64
1:AA:1389:G:C5'	1:AA:1526:C:H5"	2.26	0.64
1:AA:1494:A:C2	1:AA:1579:A:H1'	2.33	0.64
1:AA:2198:A:C4	9:AI:29:PHE:HB2	2.32	0.64
1:AA:2256:G:O3'	26:AZ:7:ARG:NH1	2.29	0.64
22:AV:58:ALA:HA	22:AV:62:ASP:OD2	1.97	0.64
35:BA:966:G:N3	56:BW:34:G:O4'	2.30	0.64
39:BE:123:LEU:HD12	39:BE:123:LEU:O	1.97	0.64
43:BI:112:ARG:NH2	44:BJ:64:GLN:HE22	1.95	0.64
46:BL:23:LEU:HG	46:BL:24:GLU:H	1.60	0.64
58:BZ:510:GLY:C	58:BZ:512:ARG:N	2.51	0.64
1:AA:199:A:N6	1:AA:2434:A:C5	2.65	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:300:A:H8	24:AX:81:ARG:HH12	1.44	0.64
1:AA:1928:A:H2'	1:AA:1929:G:H5"	1.79	0.64
1:AA:1934:C:H4'	1:AA:1974:C:O3'	1.97	0.64
11:AK:57:VAL:HG12	11:AK:58:ILE:H	1.60	0.64
36:BB:16:GLY:N	36:BB:39:ILE:HG23	2.12	0.64
38:BD:29:THR:HB	38:BD:30:LYS:NZ	2.12	0.64
43:BI:29:ILE:HG22	43:BI:64:ILE:HG12	1.78	0.64
7:AG:68:LYS:N	7:AG:68:LYS:HD2	2.12	0.64
7:AG:110:ILE:HG12	7:AG:136:ILE:HG21	1.78	0.64
36:BB:112:ARG:O	36:BB:116:LEU:HD23	1.97	0.64
47:BM:28:ARG:O	47:BM:32:ILE:HG12	1.97	0.64
56:BV:42:C:H2'	56:BV:43:C:H5"	1.80	0.64
1:AA:329:G:O4'	1:AA:477:A:C1'	2.46	0.64
1:AA:479:A:O2'	1:AA:481:G:H5'	1.97	0.64
1:AA:646:U:O4	1:AA:2368:C:H1'	1.97	0.64
1:AA:1217:U:C5	20:AT:14:LYS:NZ	2.66	0.64
1:AA:1222:U:P	21:AU:90:ARG:HH12	2.20	0.64
1:AA:1924:C:H3'	1:AA:1925:C:H5"	1.78	0.64
2:AB:43:C:H2'	2:AB:44:G:H5"	1.80	0.64
11:AK:23:VAL:HG23	11:AK:24:GLY:N	2.12	0.64
17:AQ:65:LEU:HG	17:AQ:69:ARG:HH12	1.62	0.64
35:BA:1031:C:H4'	35:BA:1032:G:C2	2.32	0.64
35:BA:1409:C:H2'	35:BA:1410:A:H8	1.63	0.64
50:BP:6:LEU:HD11	50:BP:71:VAL:HG22	1.80	0.64
58:BZ:472:ARG:HH11	58:BZ:476:GLU:HG2	1.62	0.64
58:BZ:556:GLY:HA3	58:BZ:594:LYS:O	1.97	0.64
1:AA:792:A:H3'	1:AA:793:A:H5'	1.78	0.64
24:AX:57:ILE:H	24:AX:57:ILE:HD12	1.63	0.64
35:BA:123:U:OP1	35:BA:312:C:H5'	1.98	0.64
35:BA:404:G:H4'	35:BA:439:U:H3	1.62	0.64
38:BD:75:TYR:HE2	38:BD:200:VAL:HA	1.63	0.64
38:BD:122:ILE:H	38:BD:122:ILE:HD13	1.62	0.64
46:BL:2:THR:HG22	46:BL:4:ASN:H	1.61	0.64
58:BZ:446:ARG:NH1	58:BZ:446:ARG:HB2	2.12	0.64
1:AA:506:G:H4'	1:AA:509:C:H1'	1.79	0.64
1:AA:644:A:H2'	1:AA:645:C:H5"	1.80	0.64
1:AA:2728:U:OP1	14:AN:70:ARG:HG3	1.98	0.64
27:A1:31:ASN:HD22	27:A1:52:ALA:HB2	1.62	0.64
28:A2:32:ALA:HB2	28:A2:37:LEU:HD23	1.80	0.64
30:A4:42:ILE:HG22	30:A4:48:TYR:HB2	1.78	0.64
35:BA:13:U:H1'	35:BA:914:A:H5"	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:375:U:OP1	50:BP:70:ARG:HD3	1.98	0.64
37:BC:11:LEU:HB3	37:BC:17:TRP:HE1	1.62	0.64
58:BZ:345:SER:HA	58:BZ:360:PHE:CD2	2.32	0.64
58:BZ:475:ARG:HH11	58:BZ:475:ARG:CB	2.09	0.64
13:AM:69:ARG:HA	13:AM:89:PHE:HB3	1.79	0.64
35:BA:546:A:OP2	38:BD:67:LEU:HB3	1.97	0.64
35:BA:664:G:H22	35:BA:741:G:H1	1.44	0.64
58:BZ:34:THR:HB	58:BZ:70:ALA:CB	2.28	0.64
58:BZ:99:VAL:HB	58:BZ:129:GLN:HE22	1.62	0.64
58:BZ:623:THR:CG2	58:BZ:628:THR:HA	2.28	0.64
1:AA:543:G:C2'	1:AA:544:C:H5"	2.28	0.64
4:AD:89:ASN:ND2	4:AD:196:ASN:HD22	1.95	0.64
23:AW:14:PRO:HD3	28:A2:30:MET:HE3	1.79	0.64
35:BA:966:G:H1'	56:BW:34:G:C4'	2.10	0.64
35:BA:1271:A:C5'	35:BA:1314:C:H5"	2.28	0.64
45:BK:22:ILE:HG22	45:BK:31:VAL:HG13	1.80	0.64
51:BQ:37:ILE:HD12	51:BQ:37:ILE:O	1.98	0.64
54:BT:30:PHE:O	54:BT:34:VAL:HG23	1.98	0.64
58:BZ:17:ALA:HB1	58:BZ:112:VAL:O	1.98	0.64
58:BZ:152:LEU:HA	58:BZ:155:VAL:HG22	1.80	0.64
1:AA:1183:U:H5"	29:A3:29:ARG:NE	2.13	0.63
37:BC:96:VAL:HB	37:BC:97:PRO:HD2	1.79	0.63
40:BF:88:MET:SD	52:BR:64:LEU:HD21	2.39	0.63
42:BH:10:LEU:HD12	42:BH:76:ARG:HG2	1.80	0.63
49:BO:32:THR:HG22	49:BO:36:ASN:HD21	1.62	0.63
51:BQ:11:VAL:CG1	51:BQ:12:VAL:H	2.08	0.63
58:BZ:7:ILE:HA	58:BZ:10:TYR:HD2	1.62	0.63
58:BZ:345:SER:HA	58:BZ:360:PHE:HD2	1.62	0.63
1:AA:2553:G:H1'	1:AA:2582:G:N2	2.10	0.63
4:AD:225:ASN:HB3	4:AD:226:PRO:HD2	1.80	0.63
16:AP:1:MET:HB3	16:AP:43:ALA:HB1	1.80	0.63
36:BB:170:ILE:H	36:BB:170:ILE:CD1	2.08	0.63
43:BI:112:ARG:HD2	48:BN:101:TRP:O	1.98	0.63
54:BT:24:ARG:HG2	54:BT:28:ARG:NH1	2.09	0.63
58:BZ:489:ALA:O	58:BZ:490:TYR:HB2	1.99	0.63
1:AA:529:A:OP2	13:AM:113:PRO:HD3	1.97	0.63
1:AA:2732:G:O2'	1:AA:2733:A:H5'	1.99	0.63
2:AB:55:U:H4'	7:AG:24:VAL:HG12	1.80	0.63
22:AV:22:ASP:HA	22:AV:25:ARG:NH1	2.12	0.63
39:BE:83:PRO:HB3	39:BE:96:GLN:HG2	1.78	0.63
58:BZ:446:ARG:HG2	58:BZ:448:TRP:NE1	2.13	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1441:G:H4'	1:AA:1628:G:C5'	2.29	0.63
1:AA:1902:C:H4'	4:AD:241:LYS:O	1.97	0.63
6:AF:146:VAL:HG12	6:AF:185:LYS:HB2	1.80	0.63
35:BA:580:C:H2'	35:BA:581:G:O4'	1.98	0.63
35:BA:1486:G:H2'	35:BA:1487:G:O4'	1.98	0.63
41:BG:78:ARG:HH12	41:BG:81:GLY:H	1.46	0.63
58:BZ:388:LEU:HB3	58:BZ:391:VAL:HG22	1.80	0.63
1:AA:319:G:H1	1:AA:323:C:H42	1.45	0.63
1:AA:1063:G:OP1	11:AK:76:ALA:HB2	1.98	0.63
4:AD:170:TYR:HA	4:AD:184:GLU:HA	1.80	0.63
15:AO:29:LYS:HG2	15:AO:30:THR:HG23	1.80	0.63
35:BA:197:A:C6	35:BA:221:C:H4'	2.33	0.63
48:BN:8:ARG:O	48:BN:12:ARG:HG2	1.98	0.63
58:BZ:15:ILE:HG22	58:BZ:23:LYS:HG3	1.78	0.63
1:AA:1837:C:H2'	1:AA:1899:A:H61	1.64	0.63
1:AA:2172:U:H4'	1:AA:2173:A:C5'	2.29	0.63
17:AQ:78:LYS:HG3	17:AQ:82:GLU:OE1	1.99	0.63
18:AR:29:HIS:HB3	18:AR:36:TYR:HB2	1.81	0.63
35:BA:245:U:O2'	35:BA:246:A:H5'	1.99	0.63
48:BN:69:ARG:CZ	48:BN:81:ARG:HH12	2.11	0.63
56:BV:42:C:C2'	56:BV:43:C:H5"	2.29	0.63
1:AA:1132:U:H3'	1:AA:1133:A:H5"	1.80	0.63
1:AA:1911:U:OP1	56:BV:24:G:H4'	1.98	0.63
20:AT:39:ILE:HG22	20:AT:43:GLN:HE21	1.64	0.63
34:A8:36:ARG:HG2	34:A8:37:GLN:N	2.13	0.63
35:BA:558:G:H2'	35:BA:559:A:C2	2.34	0.63
35:BA:1101:A:H1'	35:BA:1102:A:OP2	1.98	0.63
35:BA:1296:C:H5'	47:BM:13:HIS:CE1	2.34	0.63
37:BC:113:LYS:HD3	37:BC:184:ASN:HD21	1.62	0.63
42:BH:65:PHE:CD2	42:BH:66:GLN:HG2	2.34	0.63
46:BL:41:PRO:HG2	46:BL:47:ALA:H	1.64	0.63
6:AF:118:LEU:HD11	6:AF:188:MET:HG3	1.81	0.63
15:AO:92:LEU:H	15:AO:92:LEU:HD12	1.62	0.63
24:AX:6:ARG:HG3	24:AX:7:ASP:OD1	1.98	0.63
35:BA:93:U:H2'	35:BA:94:G:H5'	1.81	0.63
38:BD:29:THR:HG22	38:BD:30:LYS:HD3	1.81	0.63
48:BN:69:ARG:NH2	48:BN:81:ARG:HH22	1.96	0.63
49:BO:30:LEU:HD12	49:BO:31:LEU:N	2.14	0.63
1:AA:1130:U:C2	1:AA:2025:C:H5'	2.33	0.63
1:AA:2204:G:O5'	4:AD:149:LYS:HE2	1.98	0.63
11:AK:28:GLY:HA2	11:AK:32:VAL:HB	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:57:VAL:HG12	11:AK:58:ILE:N	2.14	0.63
18:AR:51:ALA:HB3	18:AR:78:VAL:HG22	1.80	0.63
21:AU:10:LYS:HG3	21:AU:12:HIS:CE1	2.33	0.63
22:AV:23:LEU:HD11	30:A4:21:LEU:CB	2.29	0.63
26:AZ:16:ARG:N	26:AZ:16:ARG:HD2	2.13	0.63
36:BB:170:ILE:HD12	36:BB:170:ILE:N	2.12	0.63
45:BK:106:ILE:HD13	45:BK:107:THR:N	2.14	0.63
58:BZ:374:ILE:HG22	58:BZ:375:LYS:N	2.13	0.63
58:BZ:546:PRO:HB2	58:BZ:549:TYR:CD2	2.33	0.63
1:AA:619:G:H3'	1:AA:620:G:H21	1.64	0.62
1:AA:996:A:OP1	21:AU:10:LYS:HD2	1.97	0.62
1:AA:1053:C:C3'	1:AA:1054:A:H5"	2.29	0.62
1:AA:1107:G:H5"	10:AJ:56:ARG:CA	2.28	0.62
1:AA:1108:U:C5'	10:AJ:78:GLY:HA2	2.28	0.62
1:AA:1225:G:OP1	21:AU:71:LYS:HD2	1.98	0.62
1:AA:1266:G:N7	22:AV:16:LYS:HE3	2.13	0.62
1:AA:2311:A:O4'	7:AG:76:PHE:CD1	2.52	0.62
4:AD:54:GLY:HA3	4:AD:216:ARG:HD2	1.79	0.62
5:AE:113:SER:HA	5:AE:195:GLY:H	1.63	0.62
5:AE:159:LYS:HD3	5:AE:160:LYS:N	2.14	0.62
16:AP:21:ALA:HB1	16:AP:100:LYS:HG2	1.80	0.62
24:AX:73:ASN:HD21	24:AX:75:ALA:HB3	1.64	0.62
33:A7:16:THR:HG22	33:A7:20:GLY:O	1.98	0.62
35:BA:855:U:OP2	35:BA:871:U:O4	2.17	0.62
35:BA:1014:A:C2	35:BA:1219:A:H1'	2.34	0.62
36:BB:168:GLU:HB3	36:BB:171:ALA:HB3	1.80	0.62
1:AA:1140:C:H5'	13:AM:26:GLY:HA3	1.80	0.62
5:AE:103:ASP:O	5:AE:105:LYS:N	2.33	0.62
9:AI:26:ALA:HA	9:AI:30:LEU:HB2	1.80	0.62
35:BA:1373:G:H5"	41:BG:35:LYS:HB2	1.80	0.62
40:BF:81:ASN:ND2	40:BF:83:ALA:HB3	2.12	0.62
43:BI:115:VAL:CG2	44:BJ:62:ARG:HD2	2.29	0.62
58:BZ:164:ALA:HB1	58:BZ:262:ILE:HD13	1.81	0.62
1:AA:699:A:H5'	1:AA:1634:A:N6	2.14	0.62
1:AA:1869:G:H3'	1:AA:1870:C:H5"	1.80	0.62
35:BA:500:G:H5"	46:BL:120:ARG:NH1	2.13	0.62
35:BA:1273:C:H2'	35:BA:1274:A:O4'	1.99	0.62
42:BH:6:ILE:HD12	42:BH:6:ILE:H	1.62	0.62
47:BM:3:ILE:HD13	47:BM:3:ILE:N	2.13	0.62
50:BP:68:SER:HB2	50:BP:71:VAL:HG23	1.79	0.62
56:BV:43:C:H2'	56:BV:44:G:O4'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:186:VAL:HG13	58:BZ:187:LYS:HG3	1.79	0.62
58:BZ:236:LYS:HD2	58:BZ:243:LEU:CD2	2.22	0.62
4:AD:130:PRO:HA	4:AD:188:ARG:HA	1.80	0.62
35:BA:966:G:C1'	56:BW:34:G:H4'	2.09	0.62
35:BA:1382:C:H4'	41:BG:78:ARG:NH2	2.14	0.62
37:BC:19:SER:HB3	37:BC:21:TRP:NE1	2.13	0.62
46:BL:4:ASN:CA	51:BQ:35:LYS:NZ	2.62	0.62
58:BZ:445:PHE:HB2	58:BZ:459:ALA:O	1.98	0.62
1:AA:1039:A:O2'	25:AY:45:ASP:HB3	1.99	0.62
1:AA:2790:U:O5'	1:AA:2893:A:N6	2.32	0.62
1:AA:2847:U:H2'	1:AA:2848:G:H5'	1.81	0.62
1:AA:118:A:H2'	1:AA:120:U:O4	2.00	0.62
1:AA:834:G:H1'	1:AA:2358:A:C2	2.34	0.62
1:AA:1266:G:C5	22:AV:16:LYS:HE3	2.34	0.62
1:AA:2451:A:H5'	56:BV:76:A:C2	2.35	0.62
1:AA:2590:A:H5"	4:AD:237:ARG:NH1	2.14	0.62
27:A1:2:ARG:HG2	27:A1:49:ARG:NH1	2.15	0.62
39:BE:113:VAL:HG13	39:BE:114:LEU:HD12	1.81	0.62
45:BK:15:VAL:HG22	45:BK:16:SER:N	2.12	0.62
58:BZ:398:CYS:SG	58:BZ:404:ILE:HG22	2.39	0.62
1:AA:1151:A:O2'	20:AT:80:ASN:HB2	2.00	0.62
1:AA:2010:G:H5"	22:AV:42:LYS:HB2	1.80	0.62
3:AC:23:ILE:HG22	3:AC:186:LYS:HG3	1.80	0.62
21:AU:61:ALA:HB2	21:AU:98:ILE:HD13	1.81	0.62
23:AW:58:VAL:HG22	23:AW:85:VAL:HG13	1.82	0.62
35:BA:173:U:OP1	35:BA:198:G:H4'	2.00	0.62
35:BA:427:U:C4'	35:BA:541:G:H5"	2.30	0.62
48:BN:61:ARG:HG3	48:BN:62:ASN:N	2.14	0.62
1:AA:2233:U:H2'	1:AA:2234:G:C8	2.35	0.62
1:AA:2451:A:H4'	56:BV:76:A:C5	2.35	0.62
10:AJ:52:MET:SD	10:AJ:83:ALA:HB2	2.39	0.62
35:BA:133:U:P	54:BT:68:LYS:HE2	2.40	0.62
35:BA:1377:A:C6	41:BG:6:ILE:HD11	2.34	0.62
36:BB:95:TRP:HZ3	36:BB:170:ILE:HG22	1.63	0.62
36:BB:137:THR:HA	36:BB:140:LEU:HD13	1.82	0.62
58:BZ:31:LEU:HD12	58:BZ:86:ILE:HD12	1.82	0.62
58:BZ:95:PHE:O	58:BZ:99:VAL:HG23	2.00	0.62
58:BZ:159:LYS:HG2	58:BZ:166:PRO:HD2	1.81	0.62
1:AA:1077:A:H5'	11:AK:93:ASN:ND2	2.15	0.62
4:AD:30:ALA:HA	4:AD:33:LEU:HD12	1.82	0.62
17:AQ:13:ASN:ND2	17:AQ:16:HIS:HB2	2.15	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BC:26:LYS:HD2	37:BC:26:LYS:N	2.14	0.62
44:BJ:52:LEU:HD21	44:BJ:59:LYS:HA	1.81	0.62
47:BM:97:ARG:HB2	47:BM:99:GLN:OE1	1.99	0.62
58:BZ:690:ALA:HB1	58:BZ:691:PRO:CD	2.29	0.62
6:AF:25:GLU:OE1	15:AO:6:LEU:CA	2.45	0.62
11:AK:100:ILE:HG22	11:AK:101:SER:N	2.11	0.62
12:AL:67:VAL:CG1	58:BZ:234:MET:HG2	2.30	0.62
23:AW:73:ARG:HH21	23:AW:73:ARG:HA	1.64	0.62
36:BB:150:ILE:HG23	36:BB:151:LYS:N	2.12	0.62
44:BJ:44:THR:HG22	44:BJ:70:HIS:HA	1.81	0.62
58:BZ:33:TYR:OH	58:BZ:272:ASN:HB3	2.00	0.62
58:BZ:547:GLY:HA2	58:BZ:550:ILE:HG12	1.80	0.62
1:AA:140:C:H4'	1:AA:141:G:N2	2.15	0.61
1:AA:1911:U:O2'	1:AA:1912:A:H5'	1.99	0.61
1:AA:2796:U:H3	1:AA:2799:A:H61	1.48	0.61
5:AE:148:GLN:OE1	5:AE:152:PRO:HG2	1.98	0.61
13:AM:58:ASN:HB3	13:AM:61:LYS:HB2	1.80	0.61
16:AP:77:PRO:HG2	16:AP:80:VAL:HG21	1.81	0.61
43:BI:50:PRO:HB3	43:BI:83:THR:HG23	1.82	0.61
48:BN:90:ARG:HH12	48:BN:92:GLU:HG3	1.65	0.61
56:BW:35:A:H2'	56:BW:36:A:H8	1.64	0.61
1:AA:197:A:H4'	1:AA:2069:G:OP2	2.00	0.61
1:AA:329:G:O4'	1:AA:477:A:H1'	1.99	0.61
1:AA:545:U:H2'	1:AA:546:U:O3'	2.01	0.61
3:AC:148:ASN:HD22	3:AC:151:GLU:HB3	1.65	0.61
15:AO:62:PRO:CB	33:A7:29:ARG:NH2	2.62	0.61
22:AV:84:ARG:HB2	22:AV:96:ILE:HG13	1.81	0.61
35:BA:302:G:N3	35:BA:556:C:H4'	2.15	0.61
53:BS:10:ILE:HG13	53:BS:37:SER:HB3	1.81	0.61
1:AA:1053:C:H2'	1:AA:1054:A:H5"	1.81	0.61
1:AA:2330:G:C3'	1:AA:2331:G:H5"	2.30	0.61
16:AP:69:PRO:HA	16:AP:94:ALA:HB2	1.81	0.61
35:BA:230:G:C4'	50:BP:25:ARG:HH22	2.12	0.61
35:BA:477:C:H2'	35:BA:478:A:C8	2.36	0.61
44:BJ:10:LEU:HB2	44:BJ:72:ARG:HB2	1.82	0.61
46:BL:28:GLN:HG2	46:BL:80:LEU:HD11	1.82	0.61
58:BZ:392:THR:HG22	58:BZ:440:LYS:HZ1	1.63	0.61
58:BZ:519:VAL:HG12	58:BZ:580:PHE:O	1.99	0.61
58:BZ:639:ARG:HH21	58:BZ:662:GLU:CG	2.12	0.61
1:AA:835:C:H4'	1:AA:2358:A:H4'	1.82	0.61
1:AA:2875:C:H4'	19:AS:1:SER:CB	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:108:ILE:HG23	6:AF:109:LEU:HD12	1.83	0.61
8:AH:140:ILE:HD12	8:AH:141:GLY:N	2.15	0.61
35:BA:1268:G:H1'	35:BA:1327:C:H5'	1.83	0.61
1:AA:118:A:OP2	1:AA:119:A:H5"	2.01	0.61
5:AE:56:LYS:O	5:AE:60:VAL:HG23	2.01	0.61
8:AH:123:GLU:CD	8:AH:124:CYS:H	2.04	0.61
12:AL:107:LEU:O	12:AL:111:LEU:HG	1.98	0.61
15:AO:59:ARG:HA	33:A7:12:ARG:HH22	1.64	0.61
30:A4:9:ARG:HH21	30:A4:9:ARG:CB	2.12	0.61
35:BA:36:C:H5"	46:BL:119:LYS:HG2	1.83	0.61
45:BK:30:ILE:HD13	45:BK:45:THR:HG22	1.82	0.61
51:BQ:76:ARG:O	51:BQ:76:ARG:HD3	2.00	0.61
53:BS:30:LEU:HD23	53:BS:48:ILE:HG13	1.81	0.61
58:BZ:649:VAL:HG12	58:BZ:650:THR:H	1.65	0.61
1:AA:1912:A:N6	1:AA:1918:A:C1'	2.64	0.61
7:AG:19:PHE:C	7:AG:20:ASN:HD22	2.04	0.61
8:AH:175:LYS:HZ1	58:BZ:637:ARG:CZ	2.13	0.61
8:AH:175:LYS:HZ1	58:BZ:637:ARG:NE	1.96	0.61
10:AJ:59:LEU:HD23	10:AJ:59:LEU:O	2.01	0.61
17:AQ:22:ARG:HG3	17:AQ:70:THR:H	1.66	0.61
21:AU:78:ARG:HB3	21:AU:83:TYR:HB3	1.83	0.61
35:BA:1032:G:H2'	35:BA:1033:G:H5'	1.81	0.61
48:BN:80:SER:O	48:BN:84:VAL:HG23	2.01	0.61
58:BZ:121:PRO:HB2	58:BZ:677:ARG:CG	2.31	0.61
58:BZ:377:VAL:HG13	58:BZ:381:ASP:HB3	1.83	0.61
58:BZ:427:ASP:HA	58:BZ:430:LYS:CE	2.25	0.61
58:BZ:449:THR:HA	58:BZ:455:GLN:O	2.01	0.61
1:AA:2743:U:C2'	1:AA:2744:G:H5"	2.30	0.61
4:AD:259:ASN:OD1	4:AD:261:ARG:HB3	2.00	0.61
14:AN:77:ILE:HD12	14:AN:77:ILE:N	2.15	0.61
35:BA:981:U:H4'	48:BN:63:ARG:HH21	1.66	0.61
41:BG:115:MET:O	41:BG:115:MET:HE3	2.01	0.61
1:AA:1061:U:H4'	1:AA:1070:A:C1'	2.26	0.61
1:AA:2719:G:H5"	19:AS:95:LYS:HZ1	1.65	0.61
12:AL:111:LEU:HB2	12:AL:118:VAL:HG21	1.83	0.61
19:AS:74:GLN:HB2	19:AS:77:SER:HB2	1.82	0.61
29:A3:2:LYS:HD3	29:A3:2:LYS:N	2.16	0.61
36:BB:140:LEU:O	36:BB:144:GLU:HG2	2.01	0.61
39:BE:44:ARG:HA	39:BE:72:ASN:HA	1.80	0.61
58:BZ:189:LYS:HB2	58:BZ:204:TYR:CE1	2.35	0.61
58:BZ:520:ILE:HD12	58:BZ:576:ILE:HD11	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1869:G:H3'	1:AA:1870:C:C5'	2.30	0.61
1:AA:2480:C:H2'	1:AA:2481:G:O4'	2.01	0.61
4:AD:43:ASN:HD21	4:AD:45:ASN:HD22	1.47	0.61
13:AM:43:GLU:CD	13:AM:43:GLU:H	2.04	0.61
14:AN:23:LYS:HB3	14:AN:40:LYS:HB3	1.83	0.61
21:AU:5:PHE:HA	21:AU:39:LEU:HD13	1.82	0.61
24:AX:60:LYS:HG3	24:AX:61:GLU:N	2.15	0.61
35:BA:55:A:H2	58:BZ:330:VAL:HA	1.66	0.61
35:BA:858:G:C2'	35:BA:859:G:H5"	2.30	0.61
40:BF:12:PRO:HG3	40:BF:54:LEU:HD11	1.83	0.61
56:BV:42:C:H3'	56:BV:43:C:C5'	2.30	0.61
59:BY:4:SER:O	59:BY:5:UAL:N1	2.34	0.61
1:AA:1357:C:H2'	1:AA:1358:G:O4'	2.01	0.61
1:AA:2425:A:H4'	1:AA:2426:A:O5'	2.00	0.61
3:AC:111:PHE:HE1	3:AC:136:LEU:HD13	1.66	0.61
6:AF:161:ALA:HA	6:AF:164:LEU:HD23	1.83	0.61
25:AY:29:ILE:HD11	25:AY:37:PRO:HB3	1.83	0.61
35:BA:8:A:H1'	39:BE:107:GLY:HA2	1.82	0.61
35:BA:714:G:N2	35:BA:777:A:H1'	2.14	0.61
37:BC:56:ILE:HG12	37:BC:65:VAL:HG22	1.83	0.61
45:BK:44:ALA:HB3	45:BK:69:CYS:HB2	1.83	0.61
48:BN:63:ARG:HB3	48:BN:68:GLY:HA2	1.83	0.61
11:AK:33:ASN:HD22	11:AK:34:ILE:N	1.99	0.60
12:AL:59:LEU:HD21	12:AL:88:VAL:HG13	1.83	0.60
38:BD:61:ARG:HH21	38:BD:67:LEU:HA	1.66	0.60
43:BI:115:VAL:HG21	44:BJ:62:ARG:HD2	1.84	0.60
44:BJ:56:HIS:O	44:BJ:57:VAL:HG12	2.00	0.60
58:BZ:220:GLN:HA	58:BZ:223:ILE:HG12	1.83	0.60
1:AA:135:U:H3	1:AA:144:A:H61	1.47	0.60
1:AA:1913:A:C6	56:BV:37:A:O2'	2.54	0.60
1:AA:2056:G:OP2	1:AA:2504:U:H5"	2.00	0.60
1:AA:2590:A:H5"	4:AD:237:ARG:HH12	1.66	0.60
1:AA:2644:G:H2'	1:AA:2645:G:H5'	1.83	0.60
11:AK:56:VAL:HA	11:AK:71:LYS:HE2	1.83	0.60
35:BA:352:C:H4'	35:BA:354:G:OP1	2.00	0.60
36:BB:209:VAL:HG23	36:BB:210:THR:N	2.12	0.60
37:BC:6:PRO:HG2	37:BC:200:TRP:HE1	1.64	0.60
50:BP:23:ASP:HB3	50:BP:26:ASN:ND2	2.16	0.60
58:BZ:158:ILE:HG23	58:BZ:166:PRO:HG3	1.84	0.60
58:BZ:583:TYR:N	58:BZ:583:TYR:CD1	2.68	0.60
1:AA:628:G:H5"	33:A7:17:GLY:HA2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1441:G:H4'	1:AA:1628:G:H5'	1.83	0.60
1:AA:2329:U:H2'	1:AA:2330:G:C8	2.37	0.60
23:AW:3:ARG:HB2	23:AW:6:ARG:HB3	1.83	0.60
35:BA:114:U:H2'	35:BA:115:G:C8	2.36	0.60
36:BB:86:CYS:HB2	36:BB:88:GLN:OE1	2.00	0.60
36:BB:125:PHE:N	36:BB:125:PHE:CD2	2.69	0.60
37:BC:131:ARG:O	37:BC:135:ARG:HG2	2.01	0.60
53:BS:49:ALA:HB1	53:BS:56:HIS:HB3	1.84	0.60
58:BZ:15:ILE:HD12	58:BZ:15:ILE:N	2.16	0.60
58:BZ:150:ASN:ND2	58:BZ:153:LYS:HD2	2.16	0.60
1:AA:186:G:H2'	1:AA:187:G:H8	1.66	0.60
1:AA:1448:G:H1	1:AA:1463:C:H42	1.48	0.60
1:AA:2093:G:O6	1:AA:2225:A:H5"	2.01	0.60
6:AF:105:LEU:O	6:AF:109:LEU:HD13	2.01	0.60
12:AL:66:LYS:HE3	12:AL:85:LYS:HZ1	1.67	0.60
22:AV:82:MET:HB2	22:AV:98:LYS:HB2	1.84	0.60
35:BA:1506:U:O2'	35:BA:1507:A:H5'	2.01	0.60
48:BN:32:ASP:CG	48:BN:33:VAL:H	2.04	0.60
1:AA:1077:A:C5'	11:AK:93:ASN:HD21	2.14	0.60
11:AK:48:ILE:HG13	11:AK:49:GLU:N	2.13	0.60
14:AN:10:VAL:HG12	14:AN:12:ASP:H	1.67	0.60
21:AU:78:ARG:HG3	21:AU:81:LYS:HB2	1.82	0.60
36:BB:47:PRO:HA	36:BB:50:ASN:HD22	1.66	0.60
36:BB:65:LYS:NZ	36:BB:155:GLY:HA3	2.16	0.60
43:BI:51:LEU:HD13	43:BI:56:MET:HG2	1.83	0.60
58:BZ:93:VAL:CG1	58:BZ:94:ASP:N	2.36	0.60
58:BZ:374:ILE:HG22	58:BZ:376:GLU:H	1.66	0.60
1:AA:1107:G:O5'	10:AJ:56:ARG:HG2	2.02	0.60
1:AA:2309:A:N3	56:BV:56:C:OP1	2.35	0.60
7:AG:137:PHE:HB2	7:AG:140:ILE:HD13	1.84	0.60
15:AO:33:ARG:HE	15:AO:40:SER:HA	1.65	0.60
35:BA:483:C:H2'	35:BA:484:G:C8	2.36	0.60
35:BA:1534:A:H61	57:BX:11:U:H3	1.48	0.60
54:BT:4:LYS:HE2	54:BT:4:LYS:C	2.21	0.60
58:BZ:146:ARG:HG2	58:BZ:147:MET:N	2.16	0.60
1:AA:29:U:C4'	20:AT:6:GLY:HA3	2.32	0.60
1:AA:1082:U:O2'	10:AJ:42:ARG:NH1	2.34	0.60
1:AA:2256:G:H4'	26:AZ:7:ARG:NH1	2.17	0.60
1:AA:2427:C:C5'	1:AA:2429:G:H5'	2.30	0.60
8:AH:36:LEU:HD21	8:AH:71:LEU:HD11	1.83	0.60
19:AS:3:ILE:N	19:AS:3:ILE:HD12	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AS:88:ARG:HD2	19:AS:112:ARG:NH2	2.15	0.60
27:A1:2:ARG:NH2	27:A1:29:LEU:HD13	2.17	0.60
32:A6:31:LEU:HD22	32:A6:42:LEU:HB3	1.83	0.60
35:BA:460:A:H61	35:BA:472:U:H3	1.49	0.60
35:BA:1102:A:H4'	36:BB:94:ARG:NH2	2.13	0.60
36:BB:207:ARG:O	36:BB:211:LEU:HD13	2.01	0.60
42:BH:21:LYS:HE2	42:BH:22:ALA:H	1.65	0.60
1:AA:528:A:C2'	1:AA:529:A:H5"	2.31	0.60
1:AA:1827:U:H5"	1:AA:1972:G:P	2.41	0.60
6:AF:164:LEU:H	6:AF:164:LEU:HD22	1.66	0.60
7:AG:42:ALA:HB1	7:AG:49:LEU:HB2	1.84	0.60
9:AI:7:ASP:CG	9:AI:8:LYS:H	2.05	0.60
12:AL:59:LEU:HD23	12:AL:88:VAL:HA	1.82	0.60
13:AM:116:ARG:O	13:AM:120:ARG:HG3	2.02	0.60
14:AN:2:ILE:HG21	14:AN:8:LEU:HD21	1.84	0.60
14:AN:11:ALA:HB2	14:AN:64:ARG:HH22	1.67	0.60
24:AX:85:ARG:HH12	24:AX:99:SER:HB2	1.66	0.60
31:A5:32:LYS:HB3	31:A5:32:LYS:NZ	2.17	0.60
35:BA:230:G:C4'	50:BP:25:ARG:NH2	2.59	0.60
51:BQ:30:HIS:HB3	51:BQ:34:GLY:H	1.66	0.60
54:BT:75:LYS:NZ	54:BT:75:LYS:HB3	2.16	0.60
56:BV:5:G:H2'	56:BV:6:G:H8	1.66	0.60
58:BZ:121:PRO:HG3	58:BZ:675:LYS:HD3	1.82	0.60
1:AA:783:A:O3'	1:AA:2588:G:H4'	2.02	0.60
1:AA:886:A:C2'	1:AA:887:U:H4'	2.31	0.60
12:AL:62:ALA:HA	12:AL:69:VAL:HG21	1.84	0.60
12:AL:83:GLU:CD	12:AL:83:GLU:H	2.05	0.60
28:A2:39:GLN:HE21	28:A2:42:LEU:HD11	1.66	0.60
36:BB:34:ARG:HE	36:BB:35:ASN:H	1.49	0.60
41:BG:67:ASN:ND2	41:BG:127:ALA:HA	2.16	0.60
43:BI:46:VAL:HG21	43:BI:75:ALA:HB1	1.84	0.60
56:BW:36:A:C3'	56:BW:37:A:H5"	2.32	0.60
58:BZ:520:ILE:CB	58:BZ:576:ILE:HD11	2.30	0.60
58:BZ:522:MET:HB3	58:BZ:576:ILE:HD13	1.83	0.60
1:AA:322:A:H5'	1:AA:340:A:H1'	1.84	0.60
17:AQ:103:ARG:O	17:AQ:107:ASN:HA	2.02	0.60
58:BZ:27:THR:O	58:BZ:31:LEU:HD13	2.02	0.60
58:BZ:353:VAL:HG13	58:BZ:354:LYS:CD	2.32	0.60
58:BZ:400:PRO:O	58:BZ:401:ASP:HB2	2.01	0.60
58:BZ:465:HIS:O	58:BZ:469:ILE:HG13	2.01	0.60
58:BZ:620:GLU:HG2	58:BZ:655:HIS:CD2	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:577:G:OP1	1:AA:2502:G:H2'	2.02	0.59
1:AA:1190:G:OP1	15:AO:32:GLY:HA2	2.01	0.59
1:AA:2663:G:H2'	1:AA:2664:G:O4'	2.02	0.59
12:AL:58:ILE:HD12	12:AL:94:ALA:HA	1.84	0.59
13:AM:41:LYS:HB3	13:AM:43:GLU:OE2	2.02	0.59
22:AV:52:GLU:HA	22:AV:55:ILE:HD12	1.84	0.59
23:AW:69:ARG:HB3	23:AW:74:ILE:HG22	1.82	0.59
38:BD:12:ARG:HG2	38:BD:33:ILE:HA	1.84	0.59
40:BF:18:VAL:N	40:BF:19:PRO:HD2	2.16	0.59
43:BI:106:ASP:OD2	43:BI:108:ARG:HG3	2.02	0.59
58:BZ:18:HIS:HB2	58:BZ:123:SER:CB	2.31	0.59
58:BZ:169:LEU:CD1	58:BZ:263:LEU:HB3	2.27	0.59
1:AA:29:U:C5'	20:AT:6:GLY:HA3	2.32	0.59
1:AA:575:A:C4'	1:AA:2500:U:H5"	2.31	0.59
1:AA:1447:C:H2'	1:AA:1448:G:C8	2.37	0.59
1:AA:2157:G:H4'	1:AA:2158:A:OP1	2.01	0.59
7:AG:140:ILE:HD12	7:AG:140:ILE:N	2.18	0.59
9:AI:8:LYS:O	9:AI:13:GLY:HA2	2.02	0.59
35:BA:452:A:O2'	50:BP:73:ALA:HB1	2.02	0.59
43:BI:67:LYS:HD3	43:BI:67:LYS:N	2.18	0.59
44:BJ:80:THR:HB	44:BJ:83:THR:HG22	1.83	0.59
48:BN:2:LYS:HE2	48:BN:4:SER:OG	2.01	0.59
56:BW:35:A:H2'	56:BW:36:A:C8	2.38	0.59
58:BZ:453:SER:O	58:BZ:454:ASN:CB	2.49	0.59
1:AA:1093:G:H21	1:AA:1098:A:H62	1.51	0.59
1:AA:1657:U:O3'	5:AE:138:LEU:HD23	2.02	0.59
1:AA:2022:U:O2'	1:AA:2617:U:H5'	2.02	0.59
3:AC:68:GLY:HA2	3:AC:159:GLY:HA3	1.84	0.59
12:AL:70:ILE:HG21	12:AL:81:LEU:HD13	1.82	0.59
33:A7:40:LYS:HB2	33:A7:40:LYS:NZ	2.17	0.59
35:BA:1209:C:H5'	58:BZ:586:VAL:H	1.66	0.59
36:BB:118:THR:O	36:BB:122:ASP:HB2	2.01	0.59
38:BD:197:HIS:O	38:BD:201:GLU:HG3	2.02	0.59
48:BN:4:SER:O	48:BN:8:ARG:HG3	2.03	0.59
58:BZ:255:ARG:HG3	58:BZ:261:ILE:HG12	1.84	0.59
58:BZ:667:ALA:HA	58:BZ:680:TYR:HE2	1.67	0.59
1:AA:1444:G:H1	1:AA:1547:C:H42	1.49	0.59
1:AA:1494:A:C2	1:AA:1579:A:C1'	2.84	0.59
10:AJ:126:LEU:HA	10:AJ:129:LEU:HG	1.84	0.59
35:BA:173:U:H5"	35:BA:198:G:O2'	2.02	0.59
35:BA:730:G:H2'	35:BA:731:G:H5'	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:1073:U:H3	35:BA:1102:A:H61	1.51	0.59
35:BA:1271:A:H5'	35:BA:1314:C:C5'	2.32	0.59
44:BJ:42:LEU:HD22	44:BJ:71:LEU:HB2	1.83	0.59
45:BK:33:ILE:HG12	45:BK:69:CYS:SG	2.42	0.59
58:BZ:100:GLU:HG3	58:BZ:101:ARG:H	1.66	0.59
1:AA:446:G:OP1	20:AT:2:ARG:HD3	2.02	0.59
1:AA:1168:G:H2'	1:AA:1169:A:O4'	2.02	0.59
1:AA:1344:U:H4'	1:AA:1384:A:C6	2.37	0.59
1:AA:2451:A:H4'	56:BV:76:A:C4	2.38	0.59
1:AA:2790:U:C5'	1:AA:2893:A:H62	2.15	0.59
3:AC:30:LEU:HD11	3:AC:42:VAL:HG13	1.84	0.59
4:AD:96:LYS:HE2	4:AD:96:LYS:N	2.16	0.59
35:BA:1438:G:H5"	54:BT:32:LYS:HZ1	1.64	0.59
36:BB:16:GLY:H	36:BB:39:ILE:HD12	1.67	0.59
48:BN:87:ALA:HB1	48:BN:92:GLU:HB2	1.84	0.59
58:BZ:360:PHE:CE2	58:BZ:363:ILE:HG12	2.37	0.59
58:BZ:422:PRO:HG3	58:BZ:428:GLN:HA	1.85	0.59
1:AA:27:G:N2	1:AA:512:G:H1'	2.18	0.59
4:AD:52:HIS:C	4:AD:53:ILE:HD12	2.23	0.59
4:AD:77:VAL:HG22	4:AD:93:VAL:HG12	1.84	0.59
22:AV:23:LEU:HD21	30:A4:21:LEU:HB2	1.84	0.59
35:BA:737:C:H5'	40:BF:89:VAL:CG2	2.30	0.59
36:BB:121:GLN:HG2	36:BB:122:ASP:OD1	2.02	0.59
58:BZ:516:GLY:HA3	58:BZ:596:ALA:HB2	1.84	0.59
58:BZ:616:ILE:HG13	58:BZ:688:ASP:OD2	2.03	0.59
1:AA:85:G:OP1	24:AX:5:ARG:HA	2.02	0.59
1:AA:692:C:H4'	4:AD:38:LYS:O	2.02	0.59
1:AA:1674:G:H21	1:AA:1677:A:H61	1.49	0.59
1:AA:2342:C:O2'	1:AA:2374:C:H5"	2.01	0.59
1:AA:2846:G:OP2	19:AS:51:ASN:HB2	2.02	0.59
9:AI:9:VAL:HG12	9:AI:10:ALA:H	1.68	0.59
12:AL:62:ALA:HB1	12:AL:66:LYS:HA	1.83	0.59
12:AL:87:LEU:HD12	12:AL:93:ALA:HB1	1.84	0.59
21:AU:1:MET:HB2	21:AU:43:ASN:HD21	1.67	0.59
28:A2:24:GLU:HB3	28:A2:46:VAL:HG11	1.85	0.59
35:BA:55:A:C2	58:BZ:330:VAL:HA	2.37	0.59
35:BA:106:C:H2'	35:BA:107:G:C8	2.37	0.59
38:BD:69:ARG:HA	38:BD:69:ARG:NE	2.17	0.59
38:BD:117:VAL:HA	38:BD:122:ILE:HD12	1.83	0.59
46:BL:98:ARG:HA	46:BL:103:CYS:SG	2.41	0.59
48:BN:98:LYS:HB2	48:BN:98:LYS:NZ	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BO:32:THR:HG22	49:BO:36:ASN:ND2	2.17	0.59
51:BQ:30:HIS:HB3	51:BQ:34:GLY:N	2.18	0.59
58:BZ:560:GLN:HG3	58:BZ:598:SER:HA	1.84	0.59
58:BZ:674:THR:HB	58:BZ:677:ARG:HB2	1.83	0.59
1:AA:687:C:H5"	32:A6:2:LYS:HE2	1.85	0.59
1:AA:2275:C:O2	16:AP:84:LYS:HD3	2.03	0.59
10:AJ:26:VAL:HG23	10:AJ:111:ALA:HB2	1.83	0.59
14:AN:58:LEU:HD21	14:AN:86:LEU:HD22	1.84	0.59
15:AO:23:ILE:HG12	21:AU:82:HIS:CE1	2.37	0.59
22:AV:90:LYS:HB2	22:AV:92:ARG:NH1	2.18	0.59
24:AX:57:ILE:HD12	24:AX:57:ILE:N	2.18	0.59
29:A3:2:LYS:HE3	29:A3:39:ASP:HB3	1.85	0.59
35:BA:423:G:H2'	35:BA:424:G:H5'	1.83	0.59
43:BI:18:VAL:HG11	43:BI:82:ILE:HG12	1.85	0.59
45:BK:125:LYS:O	45:BK:126:ARG:HG2	2.03	0.59
58:BZ:96:THR:CA	58:BZ:129:GLN:HE22	2.12	0.59
58:BZ:667:ALA:HB2	58:BZ:680:TYR:OH	2.03	0.59
1:AA:370:G:P	1:AA:423:A:N6	2.76	0.59
12:AL:60:LYS:NZ	12:AL:60:LYS:HB3	2.17	0.59
14:AN:38:ILE:HD11	14:AN:112:PHE:HZ	1.68	0.59
35:BA:501:C:P	46:BL:113:ARG:HH21	2.25	0.59
44:BJ:32:THR:HG21	44:BJ:83:THR:HA	1.85	0.59
1:AA:244:A:H62	1:AA:254:G:H21	1.48	0.59
1:AA:1599:U:OP1	23:AW:40:LYS:HG3	2.03	0.59
1:AA:1837:C:H2'	1:AA:1899:A:N6	2.17	0.59
1:AA:2114:A:H2'	1:AA:2114:A:N3	2.17	0.59
11:AK:8:VAL:HG22	11:AK:58:ILE:HG13	1.85	0.59
11:AK:102:ARG:HB2	11:AK:141:ASP:HA	1.85	0.59
35:BA:864:A:C2	35:BA:917:G:N2	2.66	0.59
35:BA:927:G:H4'	35:BA:1503:A:C5	2.38	0.59
35:BA:1279:G:H3'	35:BA:1279:G:N3	2.18	0.59
35:BA:1285:A:H4'	35:BA:1286:U:O2	2.03	0.59
36:BB:16:GLY:H	36:BB:39:ILE:HG23	1.66	0.59
53:BS:62:THR:HG22	53:BS:63:ASP:N	2.17	0.59
58:BZ:63:ILE:HG23	58:BZ:64:THR:N	2.18	0.59
1:AA:125:A:H4'	32:A6:13:ASN:HB3	1.84	0.58
1:AA:1108:U:H5"	10:AJ:78:GLY:HA2	1.85	0.58
15:AO:58:TYR:CD1	15:AO:59:ARG:HG3	2.38	0.58
32:A6:25:LYS:HA	32:A6:28:ARG:NH2	2.18	0.58
35:BA:1347:G:N2	35:BA:1373:G:H2'	2.18	0.58
36:BB:187:ASP:HA	36:BB:201:GLY:O	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BF:35:LYS:O	40:BF:64:VAL:HG13	2.02	0.58
41:BG:74:VAL:HA	41:BG:87:PRO:HA	1.85	0.58
41:BG:74:VAL:HB	41:BG:85:GLN:HE21	1.67	0.58
48:BN:14:ALA:O	48:BN:18:LYS:HG3	2.03	0.58
53:BS:20:LYS:HB2	53:BS:20:LYS:NZ	2.18	0.58
58:BZ:352:SER:HB3	58:BZ:404:ILE:CD1	2.32	0.58
58:BZ:699:ILE:HD12	58:BZ:699:ILE:H	1.68	0.58
1:AA:1010:A:H5'	20:AT:61:ILE:HG21	1.84	0.58
1:AA:2132:U:O2	3:AC:6:LYS:HD2	2.02	0.58
1:AA:2276:G:OP2	16:AP:83:GLY:HA2	2.02	0.58
1:AA:2491:U:H5'	1:AA:2570:G:C5'	2.33	0.58
14:AN:58:LEU:HD13	14:AN:58:LEU:N	2.18	0.58
23:AW:2:ILE:HD12	23:AW:2:ILE:N	2.18	0.58
35:BA:57:G:H4'	58:BZ:373:GLU:OE1	2.03	0.58
35:BA:195:A:H1'	35:BA:222:C:O2'	2.02	0.58
35:BA:858:G:H2'	35:BA:859:G:H5"	1.85	0.58
35:BA:1001:C:H2'	35:BA:1002:G:C8	2.38	0.58
46:BL:42:LYS:HG2	46:BL:43:LYS:HD3	1.85	0.58
52:BR:23:LYS:HB2	52:BR:23:LYS:NZ	2.18	0.58
58:BZ:96:THR:CA	58:BZ:129:GLN:NE2	2.64	0.58
58:BZ:168:PRO:HG3	58:BZ:218:TRP:CZ3	2.38	0.58
1:AA:1417:C:H1'	1:AA:1587:G:H21	1.68	0.58
1:AA:1819:A:H5"	4:AD:159:THR:HG21	1.84	0.58
1:AA:2491:U:C5'	1:AA:2570:G:H5"	2.33	0.58
5:AE:151:THR:HB	5:AE:152:PRO:CD	2.28	0.58
7:AG:155:ILE:N	7:AG:155:ILE:HD12	2.18	0.58
8:AH:163:TYR:HB2	8:AH:166:GLU:HB2	1.84	0.58
13:AM:140:LEU:CG	13:AM:142:ILE:HD13	2.32	0.58
22:AV:4:ILE:N	22:AV:4:ILE:HD12	2.18	0.58
25:AY:24:ASN:OD1	25:AY:44:HIS:HB3	2.03	0.58
33:A7:38:LYS:HA	33:A7:41:ARG:NH2	2.18	0.58
35:BA:1032:G:C2'	35:BA:1033:G:H5'	2.33	0.58
39:BE:82:HIS:HB2	39:BE:83:PRO:HD2	1.85	0.58
46:BL:44:PRO:HG2	46:BL:45:ASN:H	1.68	0.58
56:BW:36:A:C2'	56:BW:37:A:H5"	2.33	0.58
1:AA:190:A:H3'	1:AA:204:A:H61	1.67	0.58
1:AA:995:C:N4	13:AM:2:LYS:HA	2.19	0.58
7:AG:47:LYS:NZ	7:AG:47:LYS:HB3	2.19	0.58
22:AV:46:LEU:O	22:AV:50:VAL:HG23	2.04	0.58
51:BQ:60:ILE:N	51:BQ:60:ILE:HD12	2.18	0.58
58:BZ:88:ASP:CG	58:BZ:89:THR:H	2.06	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:89:THR:O	58:BZ:91:GLY:N	2.35	0.58
1:AA:1367:A:H2'	1:AA:1368:G:H5'	1.83	0.58
1:AA:1546:G:H5"	1:AA:1547:C:C5'	2.33	0.58
1:AA:1668:A:H61	1:AA:1676:A:H61	1.52	0.58
1:AA:1863:G:H4'	1:AA:2411:A:H4'	1.86	0.58
4:AD:20:ASN:HD21	4:AD:22:GLU:HG3	1.68	0.58
8:AH:175:LYS:HZ2	58:BZ:637:ARG:CD	2.16	0.58
9:AI:9:VAL:HG12	9:AI:10:ALA:N	2.19	0.58
36:BB:207:ARG:HH11	36:BB:207:ARG:CB	2.16	0.58
37:BC:58:ARG:HH12	37:BC:63:ILE:HD12	1.69	0.58
41:BG:56:SER:HB3	41:BG:59:GLU:HG2	1.86	0.58
43:BI:25:GLY:HA3	43:BI:57:VAL:O	2.02	0.58
1:AA:466:A:H2'	1:AA:467:G:H5'	1.85	0.58
1:AA:543:G:C3'	1:AA:544:C:H5"	2.34	0.58
1:AA:1344:U:H4'	1:AA:1384:A:C5	2.38	0.58
1:AA:1474:U:C2'	1:AA:1475:G:H5'	2.34	0.58
5:AE:62:LYS:HB2	5:AE:63:PRO:HD3	1.85	0.58
8:AH:122:ALA:HB2	8:AH:132:LEU:HD23	1.85	0.58
14:AN:13:ASN:HD22	14:AN:98:ARG:HB2	1.68	0.58
17:AQ:45:ARG:HB3	17:AQ:49:GLU:OE2	2.03	0.58
35:BA:830:G:H4'	36:BB:20:ARG:O	2.04	0.58
35:BA:1092:A:H5"	41:BG:3:ARG:NE	2.19	0.58
35:BA:1108:G:H5'	37:BC:175:HIS:CD2	2.39	0.58
35:BA:1498:U:H4'	35:BA:1519:A:H2	1.67	0.58
39:BE:121:ASN:HD22	39:BE:121:ASN:N	2.00	0.58
43:BI:89:TYR:HB3	43:BI:93:LEU:HD21	1.85	0.58
48:BN:30:ILE:HD12	48:BN:30:ILE:N	2.19	0.58
58:BZ:11:ARG:NH2	58:BZ:288:SER:HB3	2.18	0.58
58:BZ:639:ARG:NH2	58:BZ:662:GLU:HG3	2.17	0.58
58:BZ:653:LYS:HE3	58:BZ:655:HIS:NE2	2.19	0.58
1:AA:1009:A:O4'	20:AT:58:GLN:HB2	2.04	0.58
1:AA:1914:C:N4	35:BA:1409:C:O3'	2.37	0.58
11:AK:25:PRO:HG2	58:BZ:646:GLU:HG3	1.84	0.58
11:AK:25:PRO:CB	58:BZ:646:GLU:HA	2.34	0.58
11:AK:71:LYS:HD3	11:AK:71:LYS:N	2.19	0.58
35:BA:728:A:C4	49:BO:53:ARG:NH1	2.72	0.58
58:BZ:105:VAL:HG12	58:BZ:105:VAL:O	2.04	0.58
58:BZ:638:ARG:HH22	58:BZ:669:GLN:HG3	1.68	0.58
1:AA:120:U:H5"	1:AA:122:G:OP2	2.04	0.58
1:AA:1912:A:C6	1:AA:1918:A:N3	2.71	0.58
1:AA:2845:U:H5"	19:AS:51:ASN:O	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:18:ARG:NH2	16:AP:18:ARG:HB3	2.19	0.58
31:A5:47:ILE:N	31:A5:47:ILE:HD12	2.18	0.58
33:A7:24:LYS:HA	33:A7:46:LYS:HG2	1.85	0.58
34:A8:2:LYS:HB3	34:A8:2:LYS:NZ	2.19	0.58
36:BB:138:ARG:O	36:BB:142:LYS:HB2	2.03	0.58
37:BC:41:TYR:OH	37:BC:89:VAL:HG11	2.03	0.58
38:BD:57:LYS:HD2	38:BD:58:GLN:N	2.18	0.58
40:BF:3:HIS:HB2	40:BF:92:THR:HG23	1.86	0.58
43:BI:93:LEU:HD12	43:BI:94:ARG:N	2.19	0.58
47:BM:7:ASN:ND2	47:BM:9:PRO:HD3	2.19	0.58
49:BO:23:SER:HB3	49:BO:26:VAL:HG23	1.86	0.58
1:AA:1223:G:OP1	21:AU:68:ARG:NH2	2.34	0.58
1:AA:2311:A:H5"	7:AG:76:PHE:HE1	1.69	0.58
5:AE:4:LEU:HD23	5:AE:101:PHE:HE1	1.69	0.58
5:AE:110:THR:HG21	5:AE:169:ARG:HE	1.69	0.58
16:AP:5:LYS:NZ	16:AP:5:LYS:HB3	2.18	0.58
35:BA:184:G:H4'	35:BA:224:U:O3'	2.04	0.58
35:BA:1260:G:H4'	35:BA:1283:U:O2'	2.04	0.58
36:BB:105:THR:O	36:BB:108:GLN:HG2	2.04	0.58
38:BD:182:LYS:HB3	38:BD:182:LYS:HZ3	1.68	0.58
39:BE:59:ILE:O	39:BE:63:MET:HG2	2.04	0.58
45:BK:112:VAL:HG12	52:BR:72:ARG:NH2	2.18	0.58
48:BN:6:LYS:O	48:BN:10:VAL:HG23	2.04	0.58
1:AA:664:G:H1'	1:AA:940:G:H5"	1.85	0.58
1:AA:745:G:O2'	1:AA:748:G:H1'	2.03	0.58
1:AA:807:U:H4'	1:AA:2445:G:O3'	2.04	0.58
1:AA:1222:U:OP2	21:AU:90:ARG:NH2	2.36	0.58
1:AA:2469:A:O2'	16:AP:55:ARG:NH2	2.37	0.58
9:AI:9:VAL:HG12	9:AI:12:LEU:HD21	1.83	0.58
15:AO:120:VAL:HG22	15:AO:121:THR:N	2.19	0.58
33:A7:49:VAL:HG11	33:A7:57:VAL:HG21	1.86	0.58
36:BB:207:ARG:HH12	36:BB:211:LEU:HD21	1.69	0.58
39:BE:71:ILE:HD13	39:BE:144:GLU:HG3	1.86	0.58
42:BH:91:LEU:HD12	42:BH:116:ARG:HG3	1.84	0.58
48:BN:53:ARG:HG3	48:BN:59:ARG:NE	2.18	0.58
55:BU:8:ASN:H	55:BU:11:PHE:HZ	1.52	0.58
58:BZ:100:GLU:CG	58:BZ:101:ARG:N	2.67	0.58
58:BZ:168:PRO:HG3	58:BZ:218:TRP:CE3	2.39	0.58
1:AA:1053:C:H3'	1:AA:1054:A:H5"	1.85	0.57
1:AA:1495:A:H2	1:AA:1578:U:O2	1.86	0.57
7:AG:102:LEU:HA	7:AG:106:ALA:HB3	1.84	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:50:LYS:HD3	11:AK:50:LYS:N	2.19	0.57
13:AM:116:ARG:HD3	13:AM:116:ARG:H	1.69	0.57
15:AO:142:ILE:N	15:AO:142:ILE:HD12	2.19	0.57
23:AW:44:LYS:O	23:AW:48:GLN:HG2	2.04	0.57
25:AY:80:HIS:HB3	25:AY:83:LYS:O	2.03	0.57
29:A3:51:SER:HA	29:A3:54:VAL:HG22	1.85	0.57
38:BD:29:THR:HG22	38:BD:30:LYS:N	2.19	0.57
39:BE:97:PRO:HG2	39:BE:98:ALA:H	1.69	0.57
41:BG:108:ARG:HH21	41:BG:118:ARG:NH1	2.01	0.57
45:BK:28:ASN:HD22	45:BK:56:LYS:HD2	1.69	0.57
56:BV:25:C:H2'	56:BV:26:A:C4'	2.33	0.57
58:BZ:544:VAL:O	58:BZ:582:SER:HA	2.04	0.57
1:AA:606:U:H5"	6:AF:97:ASN:HD22	1.69	0.57
1:AA:1874:C:H2'	1:AA:1875:G:O4'	2.04	0.57
1:AA:2045:C:H5"	30:A4:14:MET:CE	2.35	0.57
8:AH:116:LEU:HD13	8:AH:120:ILE:O	2.04	0.57
25:AY:64:VAL:HG22	25:AY:69:GLU:HG2	1.86	0.57
26:AZ:19:VAL:HA	26:AZ:34:VAL:HG22	1.86	0.57
35:BA:1060:U:H5"	44:BJ:53:ILE:HG22	1.84	0.57
35:BA:1534:A:N6	57:BX:11:U:H3	2.01	0.57
42:BH:85:TYR:C	42:BH:86:LYS:HD2	2.24	0.57
46:BL:9:LYS:HB2	46:BL:9:LYS:NZ	2.19	0.57
58:BZ:317:PHE:CA	58:BZ:341:GLY:HA3	2.34	0.57
58:BZ:560:GLN:NE2	58:BZ:598:SER:HB3	2.19	0.57
1:AA:1077:A:H5"	11:AK:93:ASN:ND2	2.18	0.57
1:AA:2204:G:H4'	4:AD:149:LYS:HB2	1.85	0.57
1:AA:2330:G:H3'	1:AA:2331:G:H5"	1.85	0.57
5:AE:104:VAL:HG23	5:AE:105:LYS:N	2.16	0.57
6:AF:148:ILE:HG21	6:AF:157:LEU:HD21	1.85	0.57
12:AL:84:ALA:O	12:AL:88:VAL:HG23	2.03	0.57
17:AQ:69:ARG:C	17:AQ:71:ARG:H	2.08	0.57
26:AZ:41:PHE:O	26:AZ:55:LEU:HD11	2.04	0.57
35:BA:368:U:C5	58:BZ:386:ILE:HG12	2.39	0.57
35:BA:375:U:OP1	50:BP:70:ARG:HB2	2.04	0.57
35:BA:1170:A:H2'	35:BA:1171:A:O4'	2.04	0.57
36:BB:224:ARG:NE	36:BB:224:ARG:N	2.53	0.57
38:BD:117:VAL:HA	38:BD:122:ILE:CD1	2.35	0.57
44:BJ:6:ILE:HD12	44:BJ:6:ILE:O	2.03	0.57
58:BZ:96:THR:HA	58:BZ:129:GLN:CD	2.23	0.57
58:BZ:546:PRO:HB2	58:BZ:549:TYR:CE2	2.39	0.57
1:AA:296:U:H2'	1:AA:297:G:C8	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:414:C:O2	1:AA:1864:U:H4'	2.04	0.57
2:AB:66:A:H61	2:AB:107:G:H2'	1.69	0.57
12:AL:70:ILE:HG21	12:AL:81:LEU:CD1	2.34	0.57
15:AO:38:GLN:HG2	15:AO:45:GLY:H	1.67	0.57
16:AP:21:ALA:HB2	16:AP:97:GLN:HB2	1.87	0.57
17:AQ:33:ILE:HD12	17:AQ:118:ARG:HH21	1.68	0.57
34:A8:9:LYS:NZ	34:A8:9:LYS:HB3	2.19	0.57
38:BD:96:ARG:O	38:BD:100:VAL:HG23	2.05	0.57
39:BE:131:ASN:HD22	39:BE:132:PRO:HD2	1.69	0.57
41:BG:37:THR:O	41:BG:41:ILE:HG13	2.04	0.57
43:BI:112:ARG:NH1	48:BN:101:TRP:H	2.02	0.57
58:BZ:155:VAL:O	58:BZ:159:LYS:HG3	2.04	0.57
1:AA:1912:A:C5	1:AA:1918:A:N3	2.73	0.57
1:AA:2092:U:H5'	1:AA:2225:A:H2	1.69	0.57
8:AH:175:LYS:NZ	58:BZ:637:ARG:HD2	2.19	0.57
9:AI:37:VAL:HG11	9:AI:47:PHE:CE2	2.40	0.57
15:AO:79:LEU:H	15:AO:113:ALA:HB3	1.70	0.57
21:AU:80:ARG:NH1	21:AU:80:ARG:HB2	2.19	0.57
35:BA:160:A:O4'	35:BA:344:A:C6	2.57	0.57
35:BA:1209:C:H5'	58:BZ:586:VAL:N	2.18	0.57
36:BB:165:ALA:HB3	36:BB:190:SER:HB3	1.86	0.57
42:BH:6:ILE:HD12	42:BH:6:ILE:N	2.19	0.57
50:BP:7:ALA:HB1	50:BP:9:HIS:CE1	2.38	0.57
54:BT:53:MET:O	54:BT:57:VAL:HG23	2.04	0.57
58:BZ:422:PRO:HG3	58:BZ:428:GLN:HG2	1.86	0.57
58:BZ:621:VAL:HG11	58:BZ:631:VAL:HG11	1.86	0.57
58:BZ:623:THR:HG21	58:BZ:628:THR:HA	1.86	0.57
1:AA:1599:U:H5'	23:AW:39:THR:HG23	1.86	0.57
1:AA:1912:A:C4	1:AA:1919:A:C6	2.92	0.57
1:AA:2016:U:H1'	30:A4:2:VAL:CG2	2.34	0.57
5:AE:13:ARG:HD2	5:AE:15:PHE:CZ	2.39	0.57
6:AF:105:LEU:HD12	6:AF:200:LEU:HD11	1.86	0.57
8:AH:104:LEU:HD11	8:AH:147:LEU:HD22	1.87	0.57
13:AM:121:LYS:HB2	13:AM:121:LYS:NZ	2.19	0.57
15:AO:120:VAL:HG22	15:AO:121:THR:H	1.69	0.57
35:BA:500:G:C5'	46:BL:120:ARG:HH12	2.17	0.57
35:BA:1380:U:C4	41:BG:2:ARG:HD3	2.40	0.57
38:BD:44:LYS:NZ	38:BD:44:LYS:HB2	2.19	0.57
43:BI:27:ILE:HD12	43:BI:27:ILE:N	2.19	0.57
58:BZ:420:VAL:HG11	58:BZ:431:MET:CE	2.35	0.57
1:AA:1389:G:H5'	1:AA:1526:C:C5'	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2743:U:C3'	1:AA:2744:G:H5"	2.34	0.57
7:AG:7:TYR:HD2	7:AG:11:VAL:HB	1.69	0.57
7:AG:135:ILE:HD12	7:AG:135:ILE:N	2.19	0.57
8:AH:158:GLY:HA3	8:AH:162:ARG:NH1	2.20	0.57
15:AO:59:ARG:HA	33:A7:12:ARG:NH2	2.19	0.57
33:A7:7:ARG:HA	33:A7:7:ARG:NE	2.19	0.57
35:BA:880:C:C5	46:BL:5:GLN:NE2	2.72	0.57
35:BA:1142:G:H2'	35:BA:1143:G:O4'	2.04	0.57
36:BB:175:ALA:HB1	36:BB:182:VAL:HG21	1.85	0.57
43:BI:115:VAL:HG21	44:BJ:62:ARG:HB2	1.87	0.57
58:BZ:15:ILE:O	58:BZ:23:LYS:HE3	2.03	0.57
58:BZ:494:ILE:HG21	58:BZ:608:ALA:HB3	1.86	0.57
1:AA:250:G:C5'	15:AO:59:ARG:HD3	2.35	0.57
1:AA:254:G:C2'	1:AA:255:A:H5"	2.35	0.57
1:AA:910:A:H1'	1:AA:2264:C:O2'	2.04	0.57
1:AA:1955:U:H2'	1:AA:2551:C:O2'	2.04	0.57
1:AA:2591:C:H2'	1:AA:2592:G:H8	1.69	0.57
3:AC:146:THR:OG1	3:AC:147:PRO:HD2	2.05	0.57
8:AH:159:LYS:NZ	8:AH:159:LYS:HB3	2.20	0.57
18:AR:26:LEU:HD11	18:AR:78:VAL:HG11	1.87	0.57
18:AR:26:LEU:HD13	18:AR:39:VAL:HG22	1.86	0.57
19:AS:8:GLU:HA	19:AS:54:LEU:HD22	1.85	0.57
34:A8:23:ILE:HB	34:A8:38:GLY:HA3	1.87	0.57
35:BA:940:C:H2'	35:BA:941:G:C8	2.40	0.57
37:BC:149:LYS:HE2	37:BC:168:ARG:HG2	1.87	0.57
37:BC:168:ARG:HD2	37:BC:169:GLU:N	2.20	0.57
38:BD:2:ARG:HE	38:BD:114:ARG:HH11	1.50	0.57
47:BM:15:VAL:HA	47:BM:29:SER:OG	2.05	0.57
58:BZ:18:HIS:HD2	58:BZ:123:SER:N	2.03	0.57
58:BZ:492:GLU:HB3	58:BZ:605:PHE:HZ	1.68	0.57
1:AA:1052:C:C5'	1:AA:2752:C:H4'	2.35	0.57
1:AA:1462:C:H2'	1:AA:1463:C:H5'	1.86	0.57
1:AA:2330:G:C2'	1:AA:2331:G:H5"	2.34	0.57
5:AE:25:THR:HG21	5:AE:193:VAL:HG22	1.87	0.57
5:AE:46:ARG:HB3	5:AE:84:LEU:HD12	1.86	0.57
11:AK:86:LYS:HD2	11:AK:87:SER:N	2.20	0.57
13:AM:7:LYS:O	13:AM:11:VAL:HG23	2.05	0.57
15:AO:54:GLN:HE21	15:AO:60:ARG:NH1	2.03	0.57
35:BA:158:G:C3'	35:BA:159:G:H5"	2.34	0.57
47:BM:89:ARG:HA	47:BM:89:ARG:HE	1.69	0.57
47:BM:89:ARG:HH21	47:BM:92:ARG:HD3	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BT:54:GLN:N	54:BT:55:PRO:HD2	2.20	0.57
1:AA:1138:G:H2'	1:AA:1139:G:O4'	2.04	0.57
3:AC:193:LEU:HB3	3:AC:226:GLN:HG3	1.87	0.57
5:AE:141:ARG:HB3	5:AE:141:ARG:NH1	2.11	0.57
35:BA:579:A:H4'	35:BA:728:A:N3	2.20	0.57
38:BD:144:ILE:HD12	38:BD:144:ILE:N	2.20	0.57
56:BW:72:C:H2'	56:BW:73:A:H8	1.70	0.57
58:BZ:57:GLN:O	58:BZ:61:ILE:HG13	2.05	0.57
58:BZ:536:PHE:HD1	58:BZ:576:ILE:HG23	1.70	0.57
58:BZ:553:VAL:HG23	58:BZ:597:ALA:HB2	1.86	0.57
1:AA:190:A:H2'	1:AA:191:A:O4'	2.05	0.56
1:AA:630:G:C2'	1:AA:631:A:H5"	2.35	0.56
4:AD:32:LEU:HB3	4:AD:63:ILE:HB	1.86	0.56
7:AG:37:MET:HB2	7:AG:56:LEU:HD21	1.87	0.56
14:AN:25:LEU:HD12	14:AN:38:ILE:HG22	1.87	0.56
35:BA:106:C:H2'	35:BA:107:G:H8	1.70	0.56
35:BA:309:A:H5"	50:BP:29:ASN:O	2.05	0.56
42:BH:10:LEU:HD11	42:BH:126:CYS:SG	2.45	0.56
49:BO:2:LEU:HB2	49:BO:34:GLN:CD	2.25	0.56
58:BZ:571:VAL:HG11	58:BZ:601:PHE:HZ	1.70	0.56
1:AA:533:G:OP1	20:AT:27:ARG:HD2	2.05	0.56
5:AE:151:THR:CB	5:AE:152:PRO:HD3	2.27	0.56
7:AG:7:TYR:O	7:AG:12:VAL:HG23	2.06	0.56
10:AJ:48:ALA:HB3	10:AJ:50:VAL:HG12	1.87	0.56
15:AO:79:LEU:HG	15:AO:113:ALA:H	1.70	0.56
17:AQ:53:THR:HA	17:AQ:56:LYS:HE2	1.87	0.56
19:AS:113:LEU:HD12	19:AS:113:LEU:O	2.05	0.56
28:A2:31:GLN:HG2	28:A2:37:LEU:HB2	1.87	0.56
35:BA:74:A:H2'	35:BA:75:G:OP1	2.04	0.56
36:BB:96:LEU:HD12	36:BB:147:LEU:HD21	1.87	0.56
38:BD:6:PRO:HB2	38:BD:9:LYS:HZ2	1.70	0.56
39:BE:142:GLY:HA2	39:BE:145:ASN:HD21	1.70	0.56
42:BH:125:ILE:HD12	42:BH:125:ILE:N	2.19	0.56
58:BZ:399:ASP:N	58:BZ:400:PRO:CD	2.67	0.56
58:BZ:594:LYS:HB3	58:BZ:594:LYS:HZ3	1.68	0.56
58:BZ:649:VAL:HG12	58:BZ:650:THR:N	2.20	0.56
1:AA:242:G:C6	33:A7:4:LYS:NZ	2.73	0.56
1:AA:488:G:H4'	22:AV:49:LYS:HE3	1.88	0.56
1:AA:776:G:N1	1:AA:2072:C:H5'	2.15	0.56
1:AA:956:G:H2'	1:AA:957:C:H2'	1.86	0.56
1:AA:1912:A:C4	1:AA:1919:A:N6	2.74	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2726:A:N3	14:AN:67:LYS:NZ	2.52	0.56
4:AD:7:PRO:HA	4:AD:13:ARG:HB3	1.86	0.56
4:AD:202:ARG:HH22	4:AD:213:ARG:HH21	1.53	0.56
4:AD:216:ARG:HB3	4:AD:216:ARG:NH1	2.20	0.56
9:AI:33:GLN:HE21	9:AI:35:LYS:HZ3	1.53	0.56
10:AJ:94:ARG:HG2	10:AJ:127:ALA:HA	1.88	0.56
11:AK:96:LYS:HE3	11:AK:138:VAL:HG22	1.86	0.56
13:AM:34:ARG:HH12	13:AM:40:HIS:HB3	1.69	0.56
13:AM:73:VAL:HG22	13:AM:88:THR:HG22	1.87	0.56
14:AN:61:VAL:HB	14:AN:87:LEU:HD11	1.88	0.56
15:AO:76:GLU:HG3	15:AO:111:ILE:HG12	1.86	0.56
18:AR:15:ARG:HH21	18:AR:95:SER:HB3	1.71	0.56
20:AT:57:ARG:HG2	20:AT:57:ARG:HH11	1.70	0.56
22:AV:23:LEU:CD1	30:A4:21:LEU:HD12	2.33	0.56
27:A1:27:ARG:HD3	27:A1:29:LEU:HD21	1.87	0.56
33:A7:58:ILE:HD12	33:A7:58:ILE:H	1.70	0.56
35:BA:381:C:H2'	35:BA:382:A:O4'	2.04	0.56
35:BA:545:C:O2'	35:BA:549:C:H5"	2.05	0.56
35:BA:906:A:H2'	35:BA:907:A:O5'	2.03	0.56
35:BA:1210:C:H5'	35:BA:1214:C:N4	2.21	0.56
36:BB:18:GLN:O	36:BB:37:VAL:HG23	2.05	0.56
36:BB:30:ILE:HG13	36:BB:40:ILE:HA	1.88	0.56
36:BB:95:TRP:CZ3	36:BB:170:ILE:HG22	2.40	0.56
43:BI:53:LEU:H	43:BI:53:LEU:HD12	1.70	0.56
44:BJ:89:ARG:NH1	44:BJ:89:ARG:HB2	2.21	0.56
49:BO:42:PHE:CE2	49:BO:52:ARG:HA	2.41	0.56
50:BP:6:LEU:CD1	50:BP:71:VAL:HG22	2.35	0.56
50:BP:60:TRP:HA	50:BP:63:GLN:HB3	1.86	0.56
54:BT:68:LYS:HB2	54:BT:68:LYS:HZ2	1.71	0.56
56:BW:43:C:H2'	56:BW:44:G:H5'	1.87	0.56
58:BZ:100:GLU:HB2	58:BZ:133:TYR:CE2	2.39	0.56
58:BZ:399:ASP:N	58:BZ:400:PRO:HD2	2.21	0.56
58:BZ:591:LEU:HD12	58:BZ:594:LYS:NZ	2.21	0.56
1:AA:1273:U:H5"	1:AA:1646:C:N4	2.21	0.56
1:AA:2475:C:H2'	1:AA:2476:A:H5'	1.86	0.56
1:AA:2485:G:H5"	16:AP:45:GLN:HE21	1.69	0.56
1:AA:2644:G:C2'	1:AA:2645:G:H5'	2.36	0.56
11:AK:25:PRO:HG2	58:BZ:646:GLU:CA	2.35	0.56
21:AU:74:ILE:N	21:AU:74:ILE:HD12	2.21	0.56
35:BA:346:G:C2'	35:BA:347:G:H5'	2.34	0.56
39:BE:132:PRO:HA	39:BE:135:VAL:HG12	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BF:51:ILE:HD12	40:BF:86:ARG:NE	2.21	0.56
45:BK:95:THR:HG23	45:BK:96:ILE:N	2.21	0.56
50:BP:76:LYS:HB2	50:BP:76:LYS:NZ	2.21	0.56
53:BS:31:ARG:HA	53:BS:49:ALA:HB3	1.88	0.56
53:BS:48:ILE:N	53:BS:48:ILE:HD12	2.20	0.56
56:BV:25:C:H2'	56:BV:26:A:H4'	1.87	0.56
58:BZ:142:ASN:ND2	58:BZ:269:ALA:H	2.03	0.56
1:AA:60:G:H5"	28:A2:47:ARG:NH2	2.20	0.56
1:AA:575:A:H4'	1:AA:2500:U:H5"	1.87	0.56
1:AA:973:A:H5"	21:AU:81:LYS:HG3	1.87	0.56
1:AA:1370:C:H2'	1:AA:1371:G:O4'	2.05	0.56
1:AA:1959:G:H4'	35:BA:1418:A:H1'	1.87	0.56
8:AH:175:LYS:HZ3	58:BZ:637:ARG:HD2	1.71	0.56
10:AJ:42:ARG:HA	10:AJ:51:TYR:HB3	1.88	0.56
11:AK:25:PRO:HB3	58:BZ:647:SER:H	1.69	0.56
19:AS:3:ILE:HD12	19:AS:3:ILE:H	1.71	0.56
19:AS:83:ILE:HD12	19:AS:83:ILE:N	2.21	0.56
20:AT:16:ILE:HG23	20:AT:38:VAL:HG21	1.86	0.56
25:AY:6:ALA:HB1	25:AY:40:ILE:HG23	1.86	0.56
25:AY:25:LYS:HD3	25:AY:43:ASP:HA	1.86	0.56
35:BA:981:U:H3'	35:BA:982:U:C5'	2.30	0.56
37:BC:154:GLY:HA2	37:BC:163:ARG:H	1.70	0.56
38:BD:82:LYS:HD3	38:BD:83:GLY:N	2.20	0.56
44:BJ:8:ILE:HG12	44:BJ:100:ILE:HG22	1.86	0.56
48:BN:14:ALA:HB1	48:BN:18:LYS:HE2	1.87	0.56
58:BZ:34:THR:HB	58:BZ:70:ALA:HB1	1.86	0.56
58:BZ:88:ASP:O	58:BZ:89:THR:OG1	2.24	0.56
1:AA:827:U:H4'	1:AA:828:U:C5	2.41	0.56
1:AA:1052:C:P	1:AA:2752:C:H5'	2.36	0.56
5:AE:105:LYS:NZ	5:AE:105:LYS:HB3	2.20	0.56
5:AE:124:ARG:HA	5:AE:165:MET:SD	2.45	0.56
10:AJ:52:MET:SD	10:AJ:81:LEU:HD22	2.45	0.56
11:AK:39:LYS:HB2	11:AK:39:LYS:NZ	2.20	0.56
11:AK:74:PRO:O	11:AK:77:VAL:HG22	2.06	0.56
17:AQ:38:LEU:HB3	17:AQ:39:PRO:HD3	1.86	0.56
29:A3:27:GLY:HA3	29:A3:37:ARG:NH2	2.20	0.56
37:BC:166:TRP:H	37:BC:166:TRP:HE3	1.53	0.56
37:BC:168:ARG:HH11	37:BC:170:GLY:H	1.51	0.56
44:BJ:36:VAL:HG12	44:BJ:38:GLY:H	1.71	0.56
44:BJ:52:LEU:HD12	44:BJ:54:SER:O	2.05	0.56
56:BV:5:G:H2'	56:BV:6:G:C8	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:616:ILE:CG2	58:BZ:657:GLU:HB3	2.36	0.56
58:BZ:638:ARG:NE	58:BZ:666:TYR:CD1	2.74	0.56
1:AA:1443:U:H2'	1:AA:1444:G:C8	2.41	0.56
1:AA:1935:G:H1'	1:AA:1964:G:N2	2.21	0.56
1:AA:2741:A:C5'	34:A8:36:ARG:HH22	2.16	0.56
6:AF:48:THR:O	6:AF:52:VAL:HG23	2.04	0.56
8:AH:5:LYS:O	8:AH:7:PRO:HD3	2.06	0.56
15:AO:62:PRO:HB2	33:A7:29:ARG:CZ	2.36	0.56
18:AR:68:LYS:HA	18:AR:102:ARG:HG2	1.87	0.56
32:A6:42:LEU:HD22	32:A6:42:LEU:H	1.70	0.56
35:BA:109:A:N6	35:BA:324:G:H1'	2.21	0.56
36:BB:27:LYS:HB3	36:BB:28:PRO:HD3	1.88	0.56
38:BD:102:TYR:CE1	38:BD:109:THR:HA	2.41	0.56
42:BH:21:LYS:HE2	42:BH:21:LYS:HA	1.86	0.56
44:BJ:53:ILE:HG12	44:BJ:63:ASP:HB2	1.88	0.56
58:BZ:97:ILE:HD11	58:BZ:444:SER:HB2	1.88	0.56
58:BZ:200:VAL:O	58:BZ:200:VAL:HG12	2.05	0.56
58:BZ:515:TYR:O	58:BZ:592:ALA:HB1	2.05	0.56
59:BY:6:5OH:N	59:BY:6:5OH:CS	2.66	0.56
1:AA:340:A:H2'	1:AA:341:C:O4'	2.06	0.56
1:AA:2351:G:H2'	1:AA:2365:G:H22	1.70	0.56
7:AG:138:PRO:HG2	7:AG:139:GLU:OE2	2.05	0.56
10:AJ:55:VAL:HG11	10:AJ:59:LEU:HD22	1.88	0.56
12:AL:66:LYS:O	12:AL:70:ILE:HG13	2.06	0.56
35:BA:649:A:C3'	35:BA:650:G:H5"	2.36	0.56
36:BB:125:PHE:N	36:BB:125:PHE:HD2	2.04	0.56
36:BB:133:ALA:O	36:BB:137:THR:HG23	2.06	0.56
41:BG:94:ARG:HB2	41:BG:94:ARG:NH1	2.21	0.56
55:BU:4:LYS:O	55:BU:4:LYS:HD2	2.05	0.56
58:BZ:18:HIS:HB2	58:BZ:123:SER:HB2	1.86	0.56
58:BZ:146:ARG:HG3	58:BZ:146:ARG:HH11	1.71	0.56
58:BZ:327:ASP:OD2	58:BZ:330:VAL:HG22	2.05	0.56
58:BZ:363:ILE:HG21	58:BZ:377:VAL:HG23	1.86	0.56
58:BZ:429:GLU:O	58:BZ:433:LEU:HD13	2.06	0.56
1:AA:2094:A:H5'	9:AI:25:TYR:CD1	2.41	0.56
1:AA:2351:G:H2'	1:AA:2365:G:N2	2.20	0.56
1:AA:2642:G:C5'	13:AM:80:HIS:CD2	2.88	0.56
4:AD:165:ALA:HB3	4:AD:172:THR:HB	1.87	0.56
6:AF:157:LEU:HG	6:AF:169:VAL:HG21	1.86	0.56
13:AM:141:ASP:C	13:AM:142:ILE:HD12	2.26	0.56
22:AV:8:ARG:HB3	22:AV:8:ARG:NH1	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:A5:47:ILE:HD12	31:A5:47:ILE:H	1.71	0.56
35:BA:302:G:O2'	35:BA:556:C:H5"	2.05	0.56
35:BA:501:C:OP1	46:BL:120:ARG:HB2	2.06	0.56
35:BA:981:U:OP1	48:BN:8:ARG:NH1	2.37	0.56
35:BA:1148:U:H5"	43:BI:8:THR:HG23	1.88	0.56
35:BA:1414:U:H2'	35:BA:1415:G:H8	1.71	0.56
40:BF:29:ILE:HG21	40:BF:64:VAL:HG11	1.87	0.56
44:BJ:32:THR:HG23	44:BJ:33:GLY:N	2.19	0.56
48:BN:85:ARG:O	48:BN:89:MET:HG2	2.06	0.56
1:AA:263:G:H2'	1:AA:264:C:O4'	2.06	0.56
1:AA:1053:C:C2'	1:AA:1054:A:H5"	2.36	0.56
1:AA:1966:A:C4	1:AA:2593:U:H4'	2.41	0.56
3:AC:217:THR:HG22	3:AC:218:MET:CE	2.36	0.56
6:AF:102:ARG:HB2	6:AF:102:ARG:NH2	2.21	0.56
35:BA:864:A:H2	35:BA:917:G:N2	2.01	0.56
35:BA:1299:A:H2'	35:BA:1299:A:N3	2.21	0.56
36:BB:206:ILE:N	36:BB:206:ILE:HD13	2.21	0.56
38:BD:169:TRP:CD2	38:BD:185:PRO:HG3	2.41	0.56
39:BE:82:HIS:CE1	42:BH:95:MET:HE2	2.41	0.56
41:BG:3:ARG:HG3	41:BG:4:ARG:N	2.21	0.56
42:BH:95:MET:HB2	42:BH:98:LEU:O	2.06	0.56
44:BJ:64:GLN:NE2	48:BN:101:TRP:CZ2	2.74	0.56
47:BM:78:ARG:O	47:BM:82:LEU:HG	2.05	0.56
58:BZ:498:VAL:HG22	58:BZ:500:ASP:H	1.71	0.56
58:BZ:583:TYR:N	58:BZ:583:TYR:HD1	2.04	0.56
58:BZ:698:VAL:CG1	58:BZ:699:ILE:HD12	2.34	0.56
1:AA:186:G:H2'	1:AA:187:G:C8	2.41	0.55
1:AA:188:G:O3'	27:A1:13:THR:HG21	2.07	0.55
1:AA:1166:G:N2	1:AA:1184:U:H1'	2.21	0.55
1:AA:1570:A:H2'	1:AA:1571:A:C8	2.40	0.55
1:AA:2256:G:H4'	26:AZ:7:ARG:HH22	1.69	0.55
1:AA:2256:G:O3'	26:AZ:7:ARG:CZ	2.54	0.55
1:AA:2343:U:O2'	1:AA:2344:U:H5'	2.05	0.55
4:AD:226:PRO:HB3	4:AD:232:GLY:HA2	1.88	0.55
6:AF:77:ILE:HG13	6:AF:78:TRP:HD1	1.71	0.55
7:AG:91:ARG:HA	7:AG:95:MET:SD	2.46	0.55
11:AK:33:ASN:HD22	11:AK:34:ILE:H	1.55	0.55
15:AO:126:ARG:H	15:AO:126:ARG:HD3	1.71	0.55
27:A1:9:LYS:HE3	27:A1:53:LYS:HD3	1.87	0.55
35:BA:790:A:OP1	56:BW:39:U:C5'	2.50	0.55
35:BA:913:A:OP1	46:BL:42:LYS:NZ	2.33	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:950:U:H2'	35:BA:951:G:C8	2.42	0.55
37:BC:113:LYS:HD3	37:BC:184:ASN:ND2	2.22	0.55
39:BE:113:VAL:HG13	39:BE:114:LEU:CD1	2.36	0.55
58:BZ:367:HIS:HB2	58:BZ:370:LYS:O	2.05	0.55
58:BZ:435:LEU:HB3	58:BZ:447:VAL:HG21	1.88	0.55
58:BZ:519:VAL:O	58:BZ:578:LEU:HD12	2.05	0.55
1:AA:329:G:H4'	1:AA:477:A:C4'	2.36	0.55
1:AA:1796:U:H2'	1:AA:1797:G:H8	1.71	0.55
10:AJ:81:LEU:HD23	10:AJ:82:ILE:N	2.22	0.55
31:A5:7:LYS:HA	31:A5:23:THR:HG22	1.86	0.55
35:BA:320:A:H2'	35:BA:321:A:C8	2.42	0.55
36:BB:59:ILE:HD12	36:BB:60:ALA:N	2.21	0.55
39:BE:140:ILE:N	39:BE:140:ILE:HD12	2.22	0.55
41:BG:64:ALA:HA	41:BG:67:ASN:HD22	1.70	0.55
42:BH:6:ILE:HB	42:BH:76:ARG:NH1	2.21	0.55
44:BJ:70:HIS:C	44:BJ:71:LEU:HD22	2.26	0.55
46:BL:23:LEU:HG	46:BL:24:GLU:N	2.20	0.55
50:BP:23:ASP:OD2	50:BP:25:ARG:HB2	2.06	0.55
58:BZ:295:ILE:HG12	58:BZ:309:ARG:HH21	1.70	0.55
58:BZ:414:PRO:HA	58:BZ:460:GLY:O	2.06	0.55
3:AC:217:THR:HG22	3:AC:218:MET:HE3	1.88	0.55
7:AG:93:GLU:O	7:AG:97:GLU:HG3	2.06	0.55
27:A1:39:VAL:CG2	27:A1:42:GLU:HB2	2.36	0.55
36:BB:206:ILE:HD13	36:BB:206:ILE:H	1.72	0.55
38:BD:36:ALA:N	38:BD:37:PRO:CD	2.66	0.55
38:BD:103:ARG:NH2	38:BD:110:ARG:HH22	2.04	0.55
40:BF:47:LEU:HG	40:BF:56:LYS:HA	1.89	0.55
41:BG:26:VAL:HG12	41:BG:42:VAL:HG21	1.88	0.55
41:BG:106:ALA:HB1	41:BG:132:THR:HB	1.87	0.55
48:BN:48:LEU:HD23	48:BN:48:LEU:O	2.06	0.55
50:BP:36:VAL:HG23	50:BP:53:ASP:HB3	1.88	0.55
56:BV:16:U:H3'	56:BV:17:C:H5'	1.88	0.55
58:BZ:560:GLN:HB3	58:BZ:602:LYS:HE2	1.89	0.55
58:BZ:665:GLY:O	58:BZ:669:GLN:HG2	2.06	0.55
1:AA:792:A:H2'	1:AA:2440:C:O2	2.06	0.55
1:AA:1827:U:H5"	1:AA:1972:G:OP2	2.06	0.55
5:AE:115:GLY:HA2	5:AE:166:GLY:HA3	1.88	0.55
7:AG:82:TYR:HD2	7:AG:83:PRO:HD2	1.72	0.55
9:AI:9:VAL:CG1	9:AI:12:LEU:HD21	2.36	0.55
14:AN:1:MET:SD	14:AN:67:LYS:HE3	2.46	0.55
15:AO:19:LEU:HD12	15:AO:19:LEU:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AQ:28:LEU:HD22	17:AQ:44:LEU:HD21	1.87	0.55
20:AT:35:PHE:CE1	20:AT:39:ILE:HD11	2.41	0.55
35:BA:1412:C:OP1	46:BL:53:ARG:NH1	2.40	0.55
44:BJ:57:VAL:HG22	44:BJ:58:ASN:N	2.18	0.55
46:BL:79:ILE:HD12	46:BL:96:THR:HG23	1.89	0.55
49:BO:69:LEU:HD21	49:BO:76:ARG:HB2	1.88	0.55
50:BP:19:VAL:HG22	50:BP:38:PHE:HA	1.89	0.55
54:BT:19:HIS:O	54:BT:23:ARG:HG2	2.06	0.55
58:BZ:252:LEU:O	58:BZ:256:VAL:HG13	2.07	0.55
58:BZ:338:VAL:HG12	58:BZ:379:ALA:HA	1.89	0.55
58:BZ:445:PHE:CB	58:BZ:459:ALA:O	2.54	0.55
1:AA:296:U:H2'	1:AA:297:G:H8	1.70	0.55
1:AA:663:G:H4'	15:AO:17:LYS:HE3	1.88	0.55
1:AA:1966:A:H1'	1:AA:2593:U:H5'	1.88	0.55
1:AA:2742:G:OP1	34:A8:36:ARG:HD2	2.07	0.55
2:AB:93:C:OP2	25:AY:18:ARG:HD3	2.06	0.55
3:AC:74:ARG:HB3	3:AC:74:ARG:HH11	1.70	0.55
13:AM:45:THR:HB	13:AM:48:VAL:HB	1.86	0.55
23:AW:51:PHE:O	23:AW:53:VAL:HG13	2.07	0.55
23:AW:58:VAL:HG13	23:AW:85:VAL:HG22	1.88	0.55
35:BA:932:C:H5	41:BG:2:ARG:NH2	2.02	0.55
35:BA:1497:G:O2'	35:BA:1498:U:H5'	2.06	0.55
51:BQ:45:VAL:HG21	51:BQ:60:ILE:HG12	1.87	0.55
54:BT:66:ILE:HG23	54:BT:66:ILE:O	2.04	0.55
54:BT:83:ASN:HD22	54:BT:83:ASN:H	1.54	0.55
58:BZ:445:PHE:O	58:BZ:446:ARG:NH1	2.40	0.55
1:AA:56:A:H2'	1:AA:57:C:O4'	2.07	0.55
1:AA:1044:C:OP1	10:AJ:3:LEU:O	2.25	0.55
1:AA:1494:A:C2	1:AA:1579:A:O4'	2.55	0.55
1:AA:1827:U:O2'	1:AA:1828:G:H5'	2.06	0.55
3:AC:136:LEU:O	3:AC:138:PRO:HD3	2.06	0.55
5:AE:141:ARG:HH11	5:AE:141:ARG:CB	2.13	0.55
7:AG:113:PHE:HZ	7:AG:175:PRO:HB3	1.71	0.55
11:AK:25:PRO:HB2	58:BZ:646:GLU:HA	1.88	0.55
13:AM:98:GLU:OE1	13:AM:126:ALA:HB2	2.05	0.55
16:AP:28:PHE:HB2	16:AP:104:GLU:OE2	2.07	0.55
16:AP:32:GLY:HA2	16:AP:104:GLU:HA	1.88	0.55
23:AW:29:THR:HG21	23:AW:84:TYR:HB3	1.89	0.55
23:AW:31:VAL:HG11	23:AW:82:LYS:HE3	1.87	0.55
27:A1:32:LEU:HA	27:A1:51:SER:HA	1.87	0.55
35:BA:1020:G:H2'	35:BA:1021:A:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BB:9:LEU:HD21	36:BB:11:ALA:O	2.07	0.55
36:BB:129:THR:HG22	36:BB:131:LYS:H	1.72	0.55
38:BD:160:LEU:H	38:BD:160:LEU:CD1	2.16	0.55
41:BG:86:VAL:HG22	41:BG:150:PHE:HB3	1.89	0.55
52:BR:41:SER:HB2	52:BR:51:GLN:HE21	1.71	0.55
58:BZ:154:VAL:HA	58:BZ:157:GLN:NE2	2.19	0.55
1:AA:271:G:H1'	1:AA:272:A:C8	2.41	0.55
1:AA:709:U:H3	1:AA:722:A:H61	1.54	0.55
1:AA:744:U:H4'	1:AA:1658:C:H4'	1.89	0.55
1:AA:2002:G:OP1	17:AQ:13:ASN:HA	2.06	0.55
4:AD:64:VAL:HA	4:AD:102:TYR:HB2	1.88	0.55
24:AX:34:ILE:HD13	24:AX:63:ALA:HA	1.89	0.55
35:BA:73:C:HO2'	35:BA:74:A:H8	1.55	0.55
35:BA:167:A:C3'	35:BA:168:G:H5"	2.36	0.55
38:BD:131:ILE:HD12	38:BD:131:ILE:O	2.07	0.55
38:BD:196:GLU:O	38:BD:200:VAL:HG23	2.07	0.55
45:BK:113:THR:O	45:BK:115:ILE:HG12	2.06	0.55
50:BP:57:ILE:O	50:BP:61:VAL:HG23	2.07	0.55
53:BS:44:ILE:HG12	53:BS:62:THR:O	2.07	0.55
56:BV:57:G:H2'	56:BV:58:A:H5'	1.89	0.55
58:BZ:550:ILE:N	58:BZ:551:PRO:CD	2.70	0.55
1:AA:646:U:H3'	1:AA:647:G:C5'	2.34	0.55
1:AA:1052:C:P	1:AA:2751:G:O2'	2.65	0.55
1:AA:1154:G:OP2	20:AT:57:ARG:NH1	2.39	0.55
1:AA:2094:A:H4'	9:AI:25:TYR:CE1	2.42	0.55
1:AA:2295:C:O2'	1:AA:2296:U:H5'	2.07	0.55
4:AD:209:ALA:HA	4:AD:212:TRP:CZ2	2.42	0.55
9:AI:26:ALA:HA	9:AI:30:LEU:HD12	1.88	0.55
11:AK:71:LYS:HD3	11:AK:71:LYS:H	1.70	0.55
31:A5:32:LYS:HB3	31:A5:32:LYS:HZ2	1.71	0.55
41:BG:39:GLU:HA	41:BG:42:VAL:HG22	1.89	0.55
46:BL:29:LYS:NZ	46:BL:58:ASN:HB3	2.22	0.55
46:BL:98:ARG:HB2	46:BL:116:TYR:HA	1.89	0.55
54:BT:77:ASN:O	54:BT:81:GLN:HG2	2.06	0.55
55:BU:46:ARG:HA	55:BU:46:ARG:HE	1.72	0.55
58:BZ:295:ILE:HG23	58:BZ:309:ARG:HE	1.72	0.55
58:BZ:621:VAL:CG1	58:BZ:631:VAL:HG11	2.37	0.55
1:AA:827:U:H2'	1:AA:2068:U:O2	2.07	0.55
1:AA:2547:A:H4'	14:AN:29:HIS:CE1	2.42	0.55
11:AK:79:LEU:HA	11:AK:83:ALA:HB3	1.89	0.55
13:AM:32:LEU:O	13:AM:36:LEU:HG	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AN:49:ARG:HH11	14:AN:49:ARG:CB	2.13	0.55
17:AQ:90:ARG:NH1	17:AQ:90:ARG:HB2	2.22	0.55
35:BA:52:C:H2'	35:BA:53:A:C8	2.41	0.55
38:BD:18:LEU:HB2	38:BD:20:LEU:HG	1.87	0.55
41:BG:149:ALA:HA	45:BK:60:PHE:CB	2.36	0.55
45:BK:95:THR:HG23	45:BK:96:ILE:H	1.72	0.55
51:BQ:3:LYS:C	51:BQ:4:ILE:HD12	2.26	0.55
58:BZ:247:GLU:O	58:BZ:251:ALA:N	2.39	0.55
1:AA:828:U:H4'	1:AA:831:G:N1	2.22	0.55
1:AA:1501:G:C5'	4:AD:94:LEU:HD21	2.37	0.55
1:AA:2708:G:H1'	17:AQ:71:ARG:NH2	2.22	0.55
6:AF:195:GLN:O	6:AF:199:MET:HG3	2.07	0.55
9:AI:30:LEU:HB3	9:AI:36:ALA:CB	2.36	0.55
12:AL:67:VAL:HG12	58:BZ:234:MET:CE	2.37	0.55
29:A3:2:LYS:H	29:A3:2:LYS:CD	2.20	0.55
30:A4:10:SER:O	30:A4:14:MET:HG3	2.06	0.55
35:BA:254:G:H5"	51:BQ:70:LYS:HD2	1.88	0.55
35:BA:1230:C:C5'	56:BW:30:G:H5"	2.37	0.55
36:BB:34:ARG:HE	36:BB:34:ARG:HA	1.72	0.55
37:BC:155:ARG:HA	37:BC:155:ARG:NE	2.20	0.55
41:BG:130:LYS:N	41:BG:134:VAL:HG21	2.22	0.55
1:AA:1083:U:H5'	10:AJ:53:ARG:HD2	1.88	0.54
1:AA:1599:U:P	23:AW:40:LYS:HG3	2.47	0.54
1:AA:2425:A:H5"	1:AA:2427:C:O4'	2.07	0.54
35:BA:530:G:H3'	35:BA:530:G:N3	2.22	0.54
38:BD:103:ARG:CZ	38:BD:110:ARG:HH22	2.19	0.54
39:BE:22:LYS:HB3	39:BE:29:ILE:HG23	1.89	0.54
47:BM:89:ARG:HA	47:BM:89:ARG:NE	2.22	0.54
51:BQ:4:ILE:HD12	51:BQ:4:ILE:N	2.22	0.54
56:BV:64:A:H2'	56:BV:65:G:H8	1.71	0.54
58:BZ:4:THR:HG23	58:BZ:5:THR:HG23	1.89	0.54
1:AA:17:G:H4'	20:AT:24:TYR:CE1	2.42	0.54
1:AA:193:U:O3'	1:AA:803:U:H4'	2.07	0.54
1:AA:1047:G:H3'	10:AJ:56:ARG:HH12	1.72	0.54
5:AE:12:THR:HG22	5:AE:13:ARG:N	2.12	0.54
32:A6:3:ARG:NE	32:A6:3:ARG:HA	2.22	0.54
33:A7:58:ILE:HD12	33:A7:58:ILE:N	2.23	0.54
36:BB:12:GLY:HA3	36:BB:207:ARG:NH2	2.21	0.54
36:BB:127:LYS:HG3	36:BB:128:LEU:N	2.14	0.54
38:BD:97:LEU:O	38:BD:101:VAL:HG23	2.07	0.54
45:BK:28:ASN:HD21	45:BK:47:GLY:H	1.52	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BL:106:VAL:HG23	46:BL:116:TYR:HB3	1.90	0.54
47:BM:32:ILE:HG22	47:BM:55:LEU:HD22	1.89	0.54
47:BM:44:ILE:N	47:BM:44:ILE:HD12	2.21	0.54
47:BM:49:GLU:HA	47:BM:52:ILE:HD12	1.89	0.54
58:BZ:94:ASP:HB3	58:BZ:126:VAL:CG1	2.38	0.54
58:BZ:422:PRO:CG	58:BZ:428:GLN:HG2	2.38	0.54
58:BZ:423:LYS:HE3	58:BZ:481:ALA:C	2.28	0.54
1:AA:329:G:O4'	1:AA:477:A:O4'	2.25	0.54
1:AA:464:U:H5'	32:A6:5:PHE:HD2	1.70	0.54
1:AA:2316:G:H4'	7:AG:124:ARG:HH11	1.72	0.54
10:AJ:38:MET:O	10:AJ:42:ARG:HG3	2.08	0.54
11:AK:30:GLN:N	11:AK:30:GLN:NE2	2.55	0.54
35:BA:1242:G:H4'	35:BA:1304:G:OP1	2.07	0.54
43:BI:49:GLN:N	43:BI:50:PRO:HD2	2.22	0.54
43:BI:93:LEU:HA	43:BI:96:GLU:OE1	2.08	0.54
58:BZ:353:VAL:HG11	58:BZ:395:ASP:CG	2.28	0.54
58:BZ:553:VAL:HA	58:BZ:597:ALA:HB2	1.89	0.54
1:AA:242:G:H5"	33:A7:63:TYR:CE2	2.42	0.54
1:AA:1314:C:H42	1:AA:1338:G:H1	1.55	0.54
2:AB:49:C:OP1	18:AR:101:GLY:HA3	2.07	0.54
13:AM:102:GLU:HB3	13:AM:119:PHE:HZ	1.72	0.54
25:AY:29:ILE:HD12	25:AY:31:TYR:HD2	1.73	0.54
33:A7:40:LYS:HB2	33:A7:40:LYS:HZ2	1.70	0.54
35:BA:831:A:OP1	36:BB:20:ARG:HG3	2.07	0.54
35:BA:1047:G:H5"	48:BN:3:GLN:NE2	2.18	0.54
36:BB:184:ALA:HB3	36:BB:195:VAL:HG21	1.90	0.54
38:BD:89:LEU:HD23	38:BD:199:ILE:HD12	1.90	0.54
38:BD:182:LYS:HB3	38:BD:182:LYS:NZ	2.23	0.54
45:BK:23:HIS:HB3	45:BK:30:ILE:CG2	2.37	0.54
53:BS:52:ASN:HB2	53:BS:76:THR:HA	1.88	0.54
58:BZ:255:ARG:HD2	58:BZ:260:GLU:HB2	1.89	0.54
1:AA:948:C:H2'	1:AA:949:G:C8	2.42	0.54
1:AA:997:G:OP1	20:AT:90:ASP:HB2	2.07	0.54
1:AA:1010:A:OP1	20:AT:61:ILE:HG22	2.08	0.54
1:AA:1415:U:O2	1:AA:1415:U:H3'	2.07	0.54
1:AA:1681:G:C2	1:AA:1762:A:C8	2.95	0.54
1:AA:2553:G:C3'	1:AA:2554:U:H5"	2.38	0.54
1:AA:2839:G:O2'	17:AQ:92:GLY:HA2	2.07	0.54
12:AL:81:LEU:HD12	12:AL:85:LYS:HB2	1.89	0.54
21:AU:1:MET:CB	21:AU:43:ASN:HD21	2.21	0.54
25:AY:14:LYS:HB2	25:AY:18:ARG:HH12	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:A3:2:LYS:HG2	29:A3:39:ASP:HB3	1.88	0.54
35:BA:356:A:H1'	35:BA:368:U:O2'	2.08	0.54
35:BA:808:C:H2'	35:BA:809:G:C8	2.42	0.54
35:BA:1391:U:H2'	35:BA:1392:G:C8	2.43	0.54
36:BB:9:LEU:HD23	36:BB:10:LYS:N	2.23	0.54
36:BB:103:TRP:HZ2	36:BB:153:MET:HG2	1.73	0.54
43:BI:105:ARG:HH11	43:BI:107:ALA:HA	1.73	0.54
44:BJ:10:LEU:HD12	44:BJ:10:LEU:N	2.23	0.54
1:AA:7:G:H4'	13:AM:15:TRP:CH2	2.42	0.54
1:AA:607:U:P	6:AF:98:LYS:H	2.29	0.54
1:AA:672:C:C5'	6:AF:85:PHE:CZ	2.90	0.54
1:AA:743:A:OP1	5:AE:135:GLY:HA2	2.06	0.54
1:AA:1460:U:H3'	1:AA:1461:C:C5'	2.37	0.54
1:AA:2469:A:O2'	16:AP:55:ARG:NH1	2.40	0.54
1:AA:2585:U:H5"	56:BV:76:A:OP1	2.08	0.54
4:AD:30:ALA:HB3	4:AD:31:PRO:HD3	1.89	0.54
6:AF:130:LYS:HB2	6:AF:133:LEU:HG	1.90	0.54
20:AT:53:LYS:O	20:AT:57:ARG:HB2	2.08	0.54
20:AT:71:ASN:ND2	20:AT:109:VAL:HG21	2.23	0.54
33:A7:38:LYS:HA	33:A7:41:ARG:CZ	2.38	0.54
35:BA:335:C:H2'	35:BA:336:A:H8	1.73	0.54
37:BC:52:SER:HB2	37:BC:113:LYS:HB3	1.90	0.54
38:BD:101:VAL:HG13	38:BD:106:PHE:HB2	1.89	0.54
45:BK:46:ALA:HB1	45:BK:61:ALA:HB1	1.89	0.54
50:BP:23:ASP:HB3	50:BP:26:ASN:HD22	1.71	0.54
58:BZ:299:LEU:HD22	58:BZ:301:ASP:OD2	2.08	0.54
58:BZ:370:LYS:HG3	58:BZ:371:ARG:N	2.23	0.54
1:AA:948:C:H2'	1:AA:949:G:H8	1.72	0.54
1:AA:2055:C:H5'	1:AA:2056:G:C5'	2.37	0.54
1:AA:2575:C:H5"	5:AE:149:ASN:HD22	1.71	0.54
1:AA:2820:A:C4	17:AQ:4:ARG:HD3	2.43	0.54
4:AD:224:MET:O	4:AD:233:GLY:HA2	2.07	0.54
10:AJ:120:ALA:O	10:AJ:123:ILE:HG12	2.08	0.54
12:AL:108:LYS:HA	12:AL:118:VAL:HG11	1.89	0.54
13:AM:29:ALA:HA	13:AM:32:LEU:HD12	1.89	0.54
15:AO:49:GLY:HA3	15:AO:58:TYR:HE2	1.72	0.54
28:A2:45:GLN:HG3	28:A2:46:VAL:HG23	1.89	0.54
35:BA:310:G:C5'	50:BP:31:ARG:HB2	2.31	0.54
35:BA:587:G:H4'	42:BH:3:GLN:CA	2.38	0.54
38:BD:61:ARG:NH1	38:BD:68:GLU:HG2	2.23	0.54
38:BD:147:LYS:HD3	38:BD:147:LYS:N	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BE:15:ILE:N	39:BE:15:ILE:HD12	2.23	0.54
39:BE:35:LEU:HD21	39:BE:136:VAL:HG11	1.89	0.54
40:BF:90:MET:HE1	52:BR:64:LEU:HD11	1.90	0.54
41:BG:64:ALA:HB1	41:BG:126:ALA:HB3	1.90	0.54
43:BI:60:LEU:HD23	43:BI:60:LEU:N	2.23	0.54
44:BJ:19:ASP:HB3	44:BJ:72:ARG:NH2	2.23	0.54
44:BJ:42:LEU:HD23	44:BJ:43:PRO:N	2.22	0.54
46:BL:73:LEU:HD11	46:BL:103:CYS:HA	1.88	0.54
47:BM:45:SER:C	47:BM:47:LEU:H	2.11	0.54
1:AA:568:U:H4'	1:AA:945:A:N6	2.23	0.54
1:AA:1351:C:H2'	1:AA:1352:U:C6	2.43	0.54
1:AA:2125:G:P	3:AC:71:ARG:HH12	2.31	0.54
11:AK:68:PHE:HD1	11:AK:68:PHE:H	1.56	0.54
14:AN:104:THR:HB	14:AN:106:GLU:OE1	2.08	0.54
26:AZ:39:THR:HG23	26:AZ:53:HIS:HD2	1.72	0.54
33:A7:29:ARG:HG2	33:A7:29:ARG:HH21	1.73	0.54
49:BO:62:ARG:HA	49:BO:65:LEU:HD12	1.89	0.54
51:BQ:66:LEU:HD12	51:BQ:66:LEU:N	2.23	0.54
54:BT:5:SER:C	54:BT:7:LYS:H	2.10	0.54
1:AA:330:A:H1'	1:AA:1210:G:O6	2.08	0.54
1:AA:954:G:P	16:AP:14:LYS:HB3	2.48	0.54
1:AA:1067:A:H5"	58:BZ:641:MET:SD	2.48	0.54
8:AH:23:ILE:HG13	8:AH:71:LEU:HD21	1.89	0.54
12:AL:56:ASP:O	12:AL:121:LYS:HD2	2.07	0.54
13:AM:24:THR:HB	13:AM:27:ARG:HB2	1.89	0.54
15:AO:110:VAL:HG11	15:AO:135:ILE:HD11	1.90	0.54
22:AV:14:ALA:O	22:AV:18:ARG:HG3	2.07	0.54
23:AW:56:GLU:HA	23:AW:88:LYS:HE2	1.90	0.54
35:BA:12:U:H4'	35:BA:526:C:C4'	2.29	0.54
40:BF:39:LEU:HD23	40:BF:62:MET:SD	2.48	0.54
42:BH:88:LYS:HA	42:BH:91:LEU:HG	1.90	0.54
53:BS:18:VAL:O	53:BS:22:VAL:HG23	2.06	0.54
54:BT:75:LYS:HB3	54:BT:75:LYS:HZ3	1.73	0.54
58:BZ:89:THR:H	58:BZ:90:PRO:HD2	1.71	0.54
58:BZ:94:ASP:HB3	58:BZ:126:VAL:HG13	1.88	0.54
58:BZ:418:ILE:HG21	58:BZ:466:LEU:HD23	1.89	0.54
1:AA:672:C:H5	15:AO:42:SER:HB2	1.72	0.54
1:AA:701:G:C3'	1:AA:702:U:H5"	2.38	0.54
1:AA:1336:A:OP2	23:AW:68:LYS:NZ	2.40	0.54
1:AA:2751:G:N3	1:AA:2751:G:H2'	2.23	0.54
4:AD:226:PRO:HD3	4:AD:233:GLY:N	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:109:ARG:HH22	7:AG:138:PRO:HB3	1.73	0.54
12:AL:67:VAL:HG12	58:BZ:234:MET:HE2	1.90	0.54
16:AP:66:ARG:HB2	16:AP:101:VAL:O	2.08	0.54
35:BA:921:U:H5"	35:BA:1082:A:H5"	1.90	0.54
43:BI:79:ARG:HD3	43:BI:102:PHE:CD1	2.43	0.54
43:BI:83:THR:HG21	43:BI:102:PHE:HB3	1.90	0.54
52:BR:29:LYS:HD2	52:BR:30:ASN:N	2.23	0.54
1:AA:302:C:H2'	1:AA:303:G:H8	1.73	0.53
1:AA:302:C:H2'	1:AA:303:G:C8	2.43	0.53
1:AA:309:A:H2'	1:AA:310:A:H5'	1.89	0.53
1:AA:475:C:H4'	1:AA:510:C:H5'	1.90	0.53
1:AA:606:U:P	6:AF:99:LYS:HD2	2.48	0.53
1:AA:1799:G:C5	4:AD:175:LEU:HD13	2.44	0.53
2:AB:57:A:N3	7:AG:25:MET:O	2.41	0.53
7:AG:66:ILE:HA	7:AG:86:CYS:HB3	1.90	0.53
10:AJ:48:ALA:CA	11:AK:118:GLY:HA2	2.31	0.53
13:AM:96:ARG:NH2	13:AM:98:GLU:HB2	2.22	0.53
35:BA:825:A:O2'	42:BH:12:ARG:NH1	2.41	0.53
35:BA:949:A:N3	35:BA:971:G:O6	2.40	0.53
36:BB:65:LYS:HE3	36:BB:158:ASP:OD2	2.07	0.53
36:BB:65:LYS:HZ3	36:BB:155:GLY:HA3	1.71	0.53
51:BQ:68:LYS:O	51:BQ:69:THR:HB	2.08	0.53
58:BZ:485:LYS:CB	58:BZ:486:PRO:CD	2.86	0.53
58:BZ:544:VAL:CG1	58:BZ:581:GLY:H	2.20	0.53
7:AG:79:ARG:HG2	7:AG:80:GLN:N	2.22	0.53
8:AH:21:GLN:NE2	8:AH:54:ARG:HH22	2.07	0.53
11:AK:10:LEU:N	11:AK:10:LEU:HD23	2.23	0.53
11:AK:116:MET:SD	11:AK:128:ILE:HD11	2.48	0.53
17:AQ:49:GLU:HB2	17:AQ:50:PRO:HD3	1.90	0.53
21:AU:66:HIS:ND1	21:AU:94:THR:HG22	2.23	0.53
35:BA:133:U:OP2	54:BT:68:LYS:HE2	2.07	0.53
36:BB:93:HIS:CG	36:BB:145:ASN:HB2	2.43	0.53
42:BH:74:ILE:HD13	42:BH:128:VAL:HG22	1.90	0.53
50:BP:52:LEU:HD11	50:BP:57:ILE:HD11	1.90	0.53
58:BZ:92:HIS:NE2	58:BZ:465:HIS:CA	2.72	0.53
1:AA:85:G:OP1	24:AX:6:ARG:N	2.41	0.53
1:AA:970:U:H2'	1:AA:971:G:H8	1.73	0.53
5:AE:104:VAL:O	5:AE:105:LYS:HB2	2.08	0.53
11:AK:14:ALA:HB3	11:AK:51:GLY:H	1.72	0.53
17:AQ:55:ALA:HA	17:AQ:80:PHE:CE1	2.43	0.53
35:BA:648:A:H2'	35:BA:649:A:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BK:33:ILE:HB	45:BK:73:VAL:HG11	1.89	0.53
47:BM:3:ILE:HD11	47:BM:9:PRO:HD2	1.90	0.53
48:BN:27:LYS:HD2	48:BN:27:LYS:C	2.29	0.53
54:BT:46:ALA:HB1	54:BT:82:ILE:HG22	1.90	0.53
58:BZ:13:ILE:HD11	58:BZ:86:ILE:HG12	1.89	0.53
58:BZ:197:ASP:OD1	58:BZ:198:GLN:HG2	2.08	0.53
1:AA:1239:G:H2'	1:AA:1240:U:O4'	2.08	0.53
1:AA:2019:A:H62	30:A4:5:ASN:HD21	1.56	0.53
1:AA:2052:A:N3	5:AE:154:LYS:HA	2.23	0.53
1:AA:2726:A:H4'	14:AN:1:MET:HE3	1.90	0.53
4:AD:75:ALA:HA	4:AD:95:TYR:HA	1.90	0.53
5:AE:33:ARG:HB3	5:AE:73:VAL:HG11	1.90	0.53
6:AF:99:LYS:HG2	6:AF:102:ARG:HH12	1.74	0.53
6:AF:147:LEU:HD23	6:AF:180:LEU:HD23	1.91	0.53
8:AH:67:ALA:O	8:AH:71:LEU:HD13	2.08	0.53
10:AJ:5:LEU:CA	10:AJ:8:LYS:HZ3	2.20	0.53
14:AN:68:GLY:HA3	14:AN:77:ILE:O	2.08	0.53
15:AO:81:ASP:C	15:AO:83:ALA:H	2.11	0.53
35:BA:1316:G:H2'	35:BA:1318:A:OP2	2.07	0.53
35:BA:1438:G:C5'	54:BT:32:LYS:NZ	2.69	0.53
36:BB:101:THR:HG22	36:BB:174:GLU:OE1	2.08	0.53
40:BF:54:LEU:HD13	40:BF:55:HIS:N	2.23	0.53
42:BH:13:ILE:HD11	42:BH:60:LEU:HD13	1.90	0.53
43:BI:33:SER:HB3	43:BI:36:GLN:HG3	1.89	0.53
47:BM:14:ALA:O	47:BM:18:LEU:HD23	2.09	0.53
50:BP:10:GLY:HA3	50:BP:16:PHE:N	2.24	0.53
50:BP:55:ASP:OD1	50:BP:56:ARG:HG2	2.09	0.53
58:BZ:550:ILE:O	58:BZ:553:VAL:HG13	2.08	0.53
1:AA:1420:A:O2'	1:AA:1421:G:H5'	2.08	0.53
1:AA:1582:C:H2'	1:AA:1583:A:H5"	1.88	0.53
6:AF:111:GLU:CG	15:AO:2:ARG:NH2	2.55	0.53
10:AJ:13:ALA:O	10:AJ:17:GLU:HG3	2.09	0.53
15:AO:126:ARG:HD3	15:AO:126:ARG:N	2.24	0.53
18:AR:64:TYR:HB3	18:AR:67:ASN:ND2	2.23	0.53
20:AT:46:TYR:HA	20:AT:49:ARG:NH2	2.23	0.53
26:AZ:19:VAL:HG13	26:AZ:34:VAL:HG22	1.91	0.53
35:BA:1024:G:H2'	35:BA:1025:U:H5'	1.90	0.53
40:BF:46:GLN:HA	40:BF:56:LYS:HG2	1.90	0.53
42:BH:62:LEU:HD22	42:BH:62:LEU:N	2.23	0.53
58:BZ:227:ALA:HA	58:BZ:233:LEU:HD13	1.90	0.53
58:BZ:412:PRO:HG3	58:BZ:444:SER:HA	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:797:G:OP2	6:AF:57:LYS:HB2	2.09	0.53
1:AA:1094:U:H2'	1:AA:1096:A:OP2	2.09	0.53
1:AA:1820:U:N3	4:AD:158:GLY:HA3	2.23	0.53
1:AA:2039:U:H2'	1:AA:2040:G:C8	2.44	0.53
8:AH:70:LEU:O	8:AH:74:MET:HG3	2.09	0.53
11:AK:66:PHE:CD2	11:AK:66:PHE:N	2.73	0.53
12:AL:66:LYS:HE3	12:AL:85:LYS:HZ2	1.74	0.53
14:AN:113:MET:SD	14:AN:116:ILE:HD11	2.49	0.53
35:BA:880:C:OP2	46:BL:5:GLN:CG	2.57	0.53
35:BA:993:G:H2'	35:BA:993:G:N3	2.24	0.53
37:BC:13:ILE:HD13	37:BC:13:ILE:N	2.20	0.53
38:BD:43:ARG:NE	38:BD:43:ARG:HA	2.24	0.53
43:BI:97:LEU:HG	43:BI:103:VAL:HG13	1.90	0.53
46:BL:32:VAL:HG12	46:BL:78:VAL:CG2	2.32	0.53
58:BZ:69:THR:OG1	58:BZ:83:ARG:NH1	2.41	0.53
58:BZ:143:LYS:HZ3	58:BZ:146:ARG:HH21	1.56	0.53
58:BZ:193:TRP:HH2	58:BZ:276:GLN:NE2	2.07	0.53
1:AA:700:G:H2'	1:AA:701:G:H8	1.74	0.53
1:AA:886:A:H2'	1:AA:887:U:H4'	1.89	0.53
4:AD:173:LEU:HD22	4:AD:173:LEU:N	2.24	0.53
6:AF:86:ALA:HB3	6:AF:88:ARG:HH22	1.74	0.53
7:AG:141:ASP:O	7:AG:145:VAL:HG13	2.08	0.53
8:AH:174:LYS:HG2	8:AH:175:LYS:N	2.24	0.53
12:AL:91:ALA:N	12:AL:92:PRO:HD2	2.23	0.53
24:AX:53:GLN:N	24:AX:54:PRO:CD	2.71	0.53
35:BA:24:U:H2'	35:BA:25:C:C6	2.44	0.53
36:BB:66:ILE:HG22	36:BB:67:LEU:N	2.24	0.53
43:BI:21:LYS:NZ	43:BI:23:GLY:HA3	2.23	0.53
43:BI:51:LEU:HA	43:BI:54:VAL:HG23	1.89	0.53
53:BS:64:GLU:OE2	53:BS:65:MET:HG3	2.08	0.53
54:BT:28:ARG:O	54:BT:32:LYS:HG2	2.09	0.53
58:BZ:19:ILE:HB	58:BZ:93:VAL:CG2	2.38	0.53
58:BZ:539:ASP:HB3	58:BZ:578:LEU:O	2.08	0.53
58:BZ:658:VAL:HG11	58:BZ:663:MET:SD	2.47	0.53
1:AA:7:G:H4'	13:AM:15:TRP:HH2	1.73	0.53
1:AA:125:A:C4'	32:A6:13:ASN:HB3	2.38	0.53
1:AA:1912:A:N6	1:AA:1918:A:C4	2.77	0.53
1:AA:2156:G:H2'	1:AA:2157:G:O4'	2.09	0.53
2:AB:98:G:C2'	2:AB:99:A:H5"	2.39	0.53
4:AD:140:VAL:HG13	4:AD:190:THR:O	2.09	0.53
5:AE:146:ILE:HA	5:AE:159:LYS:NZ	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:36:ASN:O	7:AG:151:LEU:HD12	2.09	0.53
9:AI:49:ALA:HB3	9:AI:50:ARG:HE	1.74	0.53
18:AR:29:HIS:CD2	18:AR:30:ARG:H	2.27	0.53
23:AW:36:LYS:O	23:AW:36:LYS:HD3	2.08	0.53
35:BA:115:G:H1'	35:BA:116:A:OP2	2.08	0.53
35:BA:162:A:H2'	35:BA:163:C:O4'	2.09	0.53
35:BA:423:G:C2'	35:BA:424:G:H5'	2.39	0.53
35:BA:514:C:H2'	35:BA:515:G:H8	1.73	0.53
35:BA:1438:G:H5"	54:BT:32:LYS:HZ3	1.71	0.53
35:BA:1492:A:OP1	46:BL:42:LYS:HA	2.09	0.53
41:BG:4:ARG:HA	41:BG:4:ARG:NE	2.23	0.53
41:BG:107:ALA:HB2	41:BG:122:GLU:HG3	1.91	0.53
53:BS:17:LYS:HD3	53:BS:30:LEU:HD11	1.91	0.53
58:BZ:317:PHE:HA	58:BZ:341:GLY:HA3	1.91	0.53
58:BZ:400:PRO:O	58:BZ:401:ASP:CB	2.57	0.53
1:AA:703:U:H2'	1:AA:704:G:H5'	1.90	0.53
1:AA:768:G:N2	1:AA:1379:U:O2'	2.41	0.53
1:AA:1099:G:H2'	1:AA:1100:C:O4'	2.09	0.53
1:AA:1130:U:O2	1:AA:2025:C:OP1	2.27	0.53
1:AA:2010:G:OP1	22:AV:41:LYS:HA	2.08	0.53
1:AA:2350:C:H2'	1:AA:2351:G:O4'	2.09	0.53
1:AA:2831:G:OP1	5:AE:56:LYS:HE2	2.09	0.53
10:AJ:111:ALA:HB3	10:AJ:118:ILE:HD11	1.91	0.53
20:AT:34:ALA:O	20:AT:38:VAL:HG23	2.09	0.53
35:BA:1048:G:OP1	48:BN:2:LYS:HA	2.09	0.53
37:BC:36:PHE:HZ	48:BN:90:ARG:HH12	1.57	0.53
38:BD:27:ILE:HG22	38:BD:27:ILE:O	2.09	0.53
39:BE:131:ASN:HD22	39:BE:132:PRO:CD	2.22	0.53
41:BG:145:GLU:HA	41:BG:148:LYS:HE2	1.90	0.53
42:BH:12:ARG:HG2	42:BH:26:MET:HE2	1.90	0.53
45:BK:49:SER:OG	45:BK:68:ARG:HG3	2.09	0.53
54:BT:64:GLY:HA2	54:BT:67:HIS:CD2	2.44	0.53
58:BZ:120:GLN:HG3	58:BZ:120:GLN:O	2.07	0.53
58:BZ:642:LEU:HD12	58:BZ:642:LEU:N	2.24	0.53
58:BZ:674:THR:HG21	58:BZ:678:ALA:CB	2.39	0.53
1:AA:331:C:N4	1:AA:1209:U:N3	2.57	0.53
1:AA:715:A:O4'	49:BO:59:VAL:HG11	2.08	0.53
1:AA:2311:A:O4'	7:AG:76:PHE:HD1	1.90	0.53
1:AA:2591:C:H2'	1:AA:2592:G:C8	2.43	0.53
15:AO:77:ILE:O	15:AO:111:ILE:HB	2.09	0.53
15:AO:78:ARG:NH2	15:AO:78:ARG:HB3	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:A7:13:PHE:HB2	33:A7:61:LEU:HD11	1.91	0.53
36:BB:163:ILE:HG12	36:BB:164:ASP:N	2.24	0.53
39:BE:75:LEU:HD12	39:BE:75:LEU:N	2.24	0.53
41:BG:119:LEU:HD23	41:BG:123:LEU:HD23	1.91	0.53
42:BH:25:THR:HB	42:BH:57:GLU:OE2	2.08	0.53
45:BK:106:ILE:HD11	45:BK:109:ILE:HG13	1.90	0.53
58:BZ:623:THR:HB	58:BZ:631:VAL:HG21	1.90	0.53
1:AA:411:G:OP2	1:AA:2407:A:OP2	2.27	0.52
1:AA:420:C:O2'	1:AA:421:C:H5'	2.08	0.52
1:AA:1009:A:C4'	20:AT:58:GLN:HB2	2.39	0.52
1:AA:1059:G:H4'	11:AK:116:MET:HE1	1.91	0.52
1:AA:1243:C:H1'	15:AO:4:ASN:O	2.09	0.52
1:AA:1681:G:N2	1:AA:1763:G:OP2	2.39	0.52
1:AA:2056:G:H4'	30:A4:4:GLN:HE22	1.74	0.52
1:AA:2329:U:H2'	1:AA:2330:G:H8	1.73	0.52
1:AA:2539:C:C5'	34:A8:3:VAL:HG21	2.37	0.52
2:AB:30:C:H2'	2:AB:31:C:O4'	2.08	0.52
4:AD:264:LYS:O	4:AD:264:LYS:HD3	2.09	0.52
8:AH:51:PHE:CE2	8:AH:68:ARG:HA	2.44	0.52
16:AP:71:LYS:HB3	16:AP:93:VAL:O	2.09	0.52
19:AS:29:VAL:HG13	19:AS:79:VAL:HG12	1.89	0.52
19:AS:48:ALA:HB2	19:AS:97:TYR:HE2	1.73	0.52
27:A1:56:ARG:HA	27:A1:59:ASP:OD2	2.09	0.52
40:BF:47:LEU:HD13	40:BF:51:ILE:HG22	1.90	0.52
41:BG:58:LEU:HD23	41:BG:58:LEU:N	2.25	0.52
45:BK:106:ILE:HD13	45:BK:106:ILE:C	2.30	0.52
58:BZ:30:ILE:HG22	58:BZ:86:ILE:HD11	1.91	0.52
58:BZ:313:ASP:OD1	58:BZ:379:ALA:HB3	2.08	0.52
58:BZ:417:SER:HB3	58:BZ:457:ILE:HG23	1.91	0.52
1:AA:255:A:H2'	1:AA:256:A:O4'	2.08	0.52
1:AA:2282:G:H4'	1:AA:2283:C:H5"	1.91	0.52
12:AL:81:LEU:HD23	58:BZ:228:GLU:OE2	2.09	0.52
14:AN:24:VAL:HG13	14:AN:33:ALA:HB2	1.91	0.52
18:AR:6:ALA:HA	18:AR:9:ARG:NH1	2.24	0.52
20:AT:2:ARG:NH2	20:AT:4:LYS:HG2	2.23	0.52
23:AW:56:GLU:HB2	23:AW:88:LYS:HD3	1.90	0.52
35:BA:1368:A:OP1	44:BJ:64:GLN:NE2	2.41	0.52
36:BB:186:VAL:HB	36:BB:190:SER:HB2	1.91	0.52
38:BD:113:ALA:O	38:BD:117:VAL:HG23	2.09	0.52
38:BD:162:GLU:OE2	38:BD:163:GLN:HG3	2.09	0.52
45:BK:80:ASN:HB3	45:BK:105:ARG:HB3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BK:96:ILE:C	45:BK:96:ILE:HD12	2.30	0.52
47:BM:85:TYR:O	47:BM:89:ARG:HG2	2.08	0.52
48:BN:6:LYS:H	48:BN:6:LYS:HD3	1.74	0.52
56:BV:6:G:O2'	56:BV:7:A:H5'	2.10	0.52
58:BZ:152:LEU:O	58:BZ:155:VAL:HG22	2.08	0.52
1:AA:1554:U:H3'	1:AA:1555:G:H5'	1.90	0.52
1:AA:2747:G:O2'	8:AH:66:THR:HG22	2.09	0.52
11:AK:83:ALA:HB1	11:AK:100:ILE:HD12	1.92	0.52
14:AN:77:ILE:H	14:AN:77:ILE:CD1	2.23	0.52
21:AU:54:VAL:HG12	21:AU:55:ASP:N	2.25	0.52
22:AV:51:LEU:O	22:AV:55:ILE:HG13	2.10	0.52
35:BA:1124:G:H3'	35:BA:1145:A:N1	2.23	0.52
35:BA:1209:C:C5'	58:BZ:586:VAL:H	2.22	0.52
40:BF:5:GLU:HG2	40:BF:90:MET:HE3	1.92	0.52
41:BG:99:ALA:O	41:BG:103:ILE:HG13	2.09	0.52
42:BH:10:LEU:HD22	42:BH:74:ILE:HG12	1.90	0.52
45:BK:30:ILE:HD13	45:BK:45:THR:CG2	2.38	0.52
58:BZ:18:HIS:CD2	58:BZ:122:GLN:HB2	2.44	0.52
58:BZ:29:ARG:NE	58:BZ:29:ARG:HA	2.25	0.52
58:BZ:585:ASP:C	58:BZ:586:VAL:HG22	2.30	0.52
1:AA:19:A:H5'	1:AA:554:U:OP1	2.09	0.52
1:AA:1523:U:O2'	1:AA:1524:G:H5'	2.09	0.52
1:AA:2256:G:H4'	26:AZ:7:ARG:NH2	2.24	0.52
1:AA:2529:G:OP2	1:AA:2530:A:H5"	2.10	0.52
1:AA:2800:A:H3'	1:AA:2801:G:C5'	2.35	0.52
4:AD:152:GLN:HA	4:AD:155:ARG:HD2	1.90	0.52
6:AF:45:ALA:HA	6:AF:87:ALA:O	2.09	0.52
10:AJ:27:VAL:HG23	10:AJ:80:THR:HG23	1.91	0.52
12:AL:109:LYS:O	12:AL:113:GLU:HG3	2.08	0.52
13:AM:45:THR:HG22	13:AM:47:HIS:H	1.74	0.52
19:AS:25:VAL:HG23	19:AS:84:SER:C	2.30	0.52
21:AU:85:LYS:NZ	21:AU:85:LYS:HB3	2.24	0.52
34:A8:4:ARG:NH1	34:A8:6:SER:HB3	2.24	0.52
35:BA:8:A:H61	38:BD:201:GLU:HB3	1.74	0.52
35:BA:132:C:H5"	54:BT:68:LYS:HZ3	1.74	0.52
39:BE:110:MET:O	39:BE:114:LEU:HD13	2.10	0.52
51:BQ:80:LYS:HD3	51:BQ:80:LYS:N	2.24	0.52
53:BS:48:ILE:HG21	53:BS:70:LEU:HD11	1.91	0.52
58:BZ:442:ASP:OD1	58:BZ:444:SER:HB3	2.10	0.52
1:AA:63:A:O2'	23:AW:77:ARG:NE	2.43	0.52
1:AA:248:G:O5'	1:AA:249:C:H5"	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1801:A:N6	1:AA:2201:G:O2'	2.43	0.52
1:AA:1808:A:N6	27:A1:27:ARG:NH2	2.57	0.52
1:AA:2345:G:N3	1:AA:2381:A:H2'	2.24	0.52
5:AE:32:ASN:HB3	5:AE:50:VAL:HB	1.91	0.52
5:AE:109:VAL:HG22	5:AE:203:VAL:HG22	1.92	0.52
7:AG:48:LEU:CD1	7:AG:149:ARG:HH22	2.21	0.52
9:AI:24:GLY:O	9:AI:28:ASN:HB2	2.08	0.52
10:AJ:5:LEU:HD23	10:AJ:8:LYS:HZ1	1.74	0.52
11:AK:85:ILE:HD12	11:AK:85:ILE:O	2.09	0.52
12:AL:79:LEU:HB3	12:AL:83:GLU:HG2	1.92	0.52
15:AO:111:ILE:N	15:AO:111:ILE:HD12	2.25	0.52
18:AR:56:LYS:O	18:AR:60:GLU:HG3	2.09	0.52
35:BA:910:C:C5	46:BL:17:LYS:NZ	2.77	0.52
35:BA:1005:A:H2'	35:BA:1006:G:O4'	2.09	0.52
37:BC:106:ARG:HD3	37:BC:106:ARG:N	2.25	0.52
45:BK:14:GLN:HE22	45:BK:77:GLY:HA3	1.74	0.52
49:BO:42:PHE:HE2	49:BO:52:ARG:HA	1.74	0.52
1:AA:773:U:C4'	4:AD:46:GLY:HA3	2.40	0.52
1:AA:1223:G:P	21:AU:68:ARG:HH22	2.31	0.52
1:AA:2121:G:O2'	3:AC:167:LYS:HE3	2.09	0.52
1:AA:2312:U:OP1	7:AG:70:ARG:HB3	2.09	0.52
1:AA:2811:G:H2'	1:AA:2812:G:C8	2.44	0.52
3:AC:121:MET:HA	3:AC:124:VAL:HG12	1.91	0.52
5:AE:24:VAL:HG12	5:AE:178:VAL:HG21	1.90	0.52
5:AE:52:THR:O	5:AE:77:ARG:HG2	2.10	0.52
7:AG:101:ARG:HA	7:AG:104:THR:HG22	1.92	0.52
10:AJ:64:VAL:HG21	10:AJ:72:LEU:HD12	1.91	0.52
19:AS:23:ASP:HA	19:AS:89:GLY:H	1.75	0.52
35:BA:202:G:H2'	35:BA:203:G:H8	1.74	0.52
35:BA:1100:C:H2'	35:BA:1101:A:H4'	1.91	0.52
35:BA:1494:G:O6	59:BY:1:KBE:HAA	2.10	0.52
36:BB:37:VAL:HG13	36:BB:37:VAL:O	2.10	0.52
37:BC:24:ASN:HB2	37:BC:26:LYS:HD3	1.91	0.52
43:BI:7:GLY:HA3	43:BI:84:ARG:C	2.30	0.52
43:BI:128:LYS:N	43:BI:128:LYS:HD2	2.25	0.52
51:BQ:30:HIS:CE1	51:BQ:32:ILE:HB	2.44	0.52
51:BQ:68:LYS:O	51:BQ:69:THR:CB	2.57	0.52
53:BS:61:VAL:HA	53:BS:65:MET:SD	2.48	0.52
58:BZ:312:SER:HB3	58:BZ:315:GLU:CG	2.40	0.52
58:BZ:492:GLU:CD	58:BZ:566:LEU:HB2	2.30	0.52
1:AA:1605:C:H2'	1:AA:1606:C:O4'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:76:VAL:HA	4:AD:113:ASP:O	2.09	0.52
6:AF:193:VAL:O	6:AF:197:GLU:HB2	2.10	0.52
10:AJ:23:LEU:HD11	10:AJ:114:GLU:HG2	1.91	0.52
10:AJ:45:GLY:HA2	10:AJ:95:LEU:HD13	1.90	0.52
11:AK:96:LYS:CE	11:AK:138:VAL:HG22	2.40	0.52
12:AL:72:ALA:HB1	12:AL:111:LEU:CD2	2.37	0.52
19:AS:52:ARG:HG2	19:AS:52:ARG:HH11	1.73	0.52
25:AY:86:LEU:HD13	25:AY:89:ILE:HD11	1.91	0.52
35:BA:12:U:H2'	35:BA:13:U:H5"	1.91	0.52
35:BA:367:U:O2'	35:BA:368:U:H4'	2.09	0.52
36:BB:139:GLU:O	36:BB:143:LEU:HG	2.09	0.52
36:BB:156:LEU:HD23	36:BB:156:LEU:H	1.74	0.52
36:BB:223:GLY:H	36:BB:224:ARG:NH2	2.07	0.52
53:BS:14:LEU:HD22	53:BS:34:SER:HB3	1.91	0.52
1:AA:549:G:H5"	1:AA:550:C:C6	2.45	0.52
1:AA:2125:G:P	3:AC:71:ARG:NH1	2.83	0.52
1:AA:2638:G:H22	1:AA:2775:G:H2'	1.74	0.52
6:AF:25:GLU:HG3	15:AO:6:LEU:HD22	1.91	0.52
7:AG:46:LYS:NZ	7:AG:83:PRO:HG2	2.24	0.52
12:AL:81:LEU:HD23	58:BZ:228:GLU:CG	2.39	0.52
26:AZ:55:LEU:CD1	26:AZ:76:ILE:HD12	2.40	0.52
28:A2:25:GLN:OE1	28:A2:50:VAL:HG21	2.09	0.52
37:BC:10:ARG:O	37:BC:15:LYS:HB3	2.10	0.52
47:BM:21:ILE:N	47:BM:21:ILE:HD12	2.24	0.52
1:AA:471:A:OP1	6:AF:79:ARG:NH2	2.43	0.52
1:AA:796:C:H2'	1:AA:797:G:C8	2.45	0.52
1:AA:1672:A:C2	1:AA:2582:G:H5'	2.44	0.52
1:AA:2539:C:H5'	34:A8:3:VAL:CG2	2.38	0.52
1:AA:2812:G:H2'	1:AA:2813:A:O4'	2.08	0.52
2:AB:51:G:O2'	2:AB:52:A:H5'	2.10	0.52
3:AC:74:ARG:HA	3:AC:93:GLU:HG3	1.91	0.52
22:AV:11:ARG:N	22:AV:11:ARG:HD2	2.24	0.52
25:AY:61:LEU:HD22	25:AY:61:LEU:N	2.24	0.52
28:A2:46:VAL:O	28:A2:50:VAL:HG23	2.09	0.52
35:BA:952:U:H5'	35:BA:972:C:H41	1.73	0.52
35:BA:1319:A:H2'	53:BS:3:SER:OG	2.10	0.52
36:BB:25:LYS:O	36:BB:192:PRO:HG3	2.09	0.52
45:BK:55:ARG:HA	45:BK:55:ARG:NE	2.25	0.52
49:BO:32:THR:OG1	49:BO:84:LEU:HD21	2.09	0.52
50:BP:14:ARG:HB3	50:BP:14:ARG:NH1	2.24	0.52
51:BQ:67:SER:O	51:BQ:68:LYS:C	2.48	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:398:CYS:HB2	58:BZ:404:ILE:HG22	1.91	0.52
58:BZ:581:GLY:O	58:BZ:582:SER:HB3	2.09	0.52
1:AA:781:A:H2'	1:AA:1777:U:O2'	2.09	0.52
1:AA:1215:G:H5"	20:AT:7:VAL:HG21	1.92	0.52
1:AA:1454:C:H5'	17:AQ:63:ARG:HH21	1.75	0.52
1:AA:1928:A:C3'	1:AA:1929:G:H5"	2.40	0.52
1:AA:2257:U:O2'	1:AA:2258:C:H5'	2.10	0.52
11:AK:105:LEU:HA	11:AK:108:ILE:HD12	1.90	0.52
28:A2:56:LEU:C	28:A2:58:ASN:H	2.12	0.52
35:BA:263:A:H5'	54:BT:69:ASN:ND2	2.25	0.52
35:BA:857:C:H2'	35:BA:858:G:C8	2.45	0.52
35:BA:1332:A:H2'	35:BA:1333:A:O4'	2.10	0.52
36:BB:98:GLY:O	36:BB:102:ASN:HB2	2.10	0.52
36:BB:143:LEU:O	36:BB:147:LEU:HB2	2.10	0.52
37:BC:166:TRP:HE3	37:BC:166:TRP:N	2.08	0.52
38:BD:122:ILE:O	38:BD:128:VAL:HG23	2.10	0.52
41:BG:39:GLU:O	41:BG:42:VAL:HG22	2.10	0.52
48:BN:12:ARG:HG3	48:BN:12:ARG:HH11	1.73	0.52
49:BO:56:LEU:O	49:BO:56:LEU:HD23	2.10	0.52
52:BR:61:ALA:HA	52:BR:66:LEU:HD12	1.92	0.52
58:BZ:17:ALA:HB2	58:BZ:112:VAL:HB	1.92	0.52
58:BZ:138:ILE:HD13	58:BZ:286:LEU:HD13	1.92	0.52
1:AA:158:U:H2'	1:AA:159:G:O4'	2.10	0.51
1:AA:1796:U:H2'	1:AA:1797:G:C8	2.45	0.51
1:AA:1810:A:H2'	1:AA:1811:G:O4'	2.10	0.51
1:AA:1858:A:H1'	1:AA:1885:A:C2	2.44	0.51
1:AA:2554:U:H2'	1:AA:2555:U:C6	2.45	0.51
1:AA:2633:G:H5'	1:AA:2811:G:O2'	2.10	0.51
1:AA:2810:A:H2'	1:AA:2811:G:O4'	2.09	0.51
3:AC:77:VAL:HA	3:AC:115:ILE:O	2.10	0.51
10:AJ:4:ASN:HB3	10:AJ:7:ASP:OD2	2.10	0.51
35:BA:403:C:H5'	38:BD:131:ILE:HG22	1.92	0.51
35:BA:632:U:H3'	35:BA:633:G:H5'	1.92	0.51
35:BA:757:U:H2'	35:BA:758:C:O4'	2.10	0.51
35:BA:1369:C:H2'	35:BA:1370:G:C8	2.44	0.51
36:BB:192:PRO:C	36:BB:194:GLY:H	2.14	0.51
38:BD:94:GLU:HG2	38:BD:185:PRO:HG2	1.91	0.51
39:BE:114:LEU:HD23	39:BE:122:VAL:HG21	1.93	0.51
44:BJ:10:LEU:HG	44:BJ:98:VAL:HG12	1.91	0.51
58:BZ:553:VAL:O	58:BZ:557:ILE:HG13	2.09	0.51
58:BZ:591:LEU:HD12	58:BZ:594:LYS:HZ1	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:674:THR:HG21	58:BZ:678:ALA:HB2	1.92	0.51
1:AA:1856:U:H2'	1:AA:1857:G:H5'	1.93	0.51
1:AA:2533:U:H2'	1:AA:2534:A:O4'	2.10	0.51
2:AB:95:U:H2'	2:AB:96:G:C8	2.45	0.51
3:AC:193:LEU:HD13	3:AC:226:GLN:HG3	1.91	0.51
17:AQ:22:ARG:HG3	17:AQ:70:THR:N	2.25	0.51
35:BA:571:U:H5"	35:BA:819:A:C5	2.45	0.51
41:BG:68:VAL:HG21	41:BG:103:ILE:HD11	1.91	0.51
44:BJ:17:LEU:O	44:BJ:17:LEU:HD23	2.10	0.51
51:BQ:54:ILE:HD13	51:BQ:54:ILE:C	2.30	0.51
52:BR:33:THR:HG22	52:BR:37:LYS:O	2.11	0.51
56:BW:48:C:H2'	56:BW:59:U:C4'	2.40	0.51
58:BZ:90:PRO:C	58:BZ:95:PHE:HD2	2.13	0.51
58:BZ:446:ARG:HB2	58:BZ:446:ARG:HH11	1.74	0.51
58:BZ:586:VAL:HG23	58:BZ:587:ASP:OD1	2.10	0.51
1:AA:17:G:H4'	20:AT:24:TYR:HE1	1.75	0.51
1:AA:941:A:H2'	1:AA:942:G:O4'	2.09	0.51
1:AA:1263:U:O2'	30:A4:7:PRO:HD2	2.10	0.51
1:AA:1443:U:H2'	1:AA:1444:G:H8	1.73	0.51
1:AA:1912:A:C8	1:AA:1918:A:C2	2.98	0.51
1:AA:2383:G:O2'	1:AA:2384:U:H5'	2.10	0.51
1:AA:2705:A:H2'	1:AA:2706:A:O4'	2.10	0.51
4:AD:74:PRO:HB2	4:AD:96:LYS:HD3	1.91	0.51
7:AG:73:VAL:H	7:AG:78:ILE:CD1	2.23	0.51
8:AH:15:ASP:HB2	8:AH:26:LYS:HG3	1.92	0.51
16:AP:50:ARG:HD3	16:AP:65:ILE:HD11	1.91	0.51
17:AQ:75:ILE:HD12	17:AQ:75:ILE:N	2.25	0.51
21:AU:72:VAL:O	21:AU:88:GLY:HA2	2.10	0.51
35:BA:651:C:O2'	35:BA:652:U:H5'	2.10	0.51
35:BA:927:G:C4'	35:BA:1503:A:N7	2.69	0.51
35:BA:1187:G:H5"	43:BI:114:LYS:HE3	1.90	0.51
36:BB:44:LYS:C	36:BB:47:PRO:HD2	2.30	0.51
38:BD:176:LYS:HD3	38:BD:176:LYS:N	2.26	0.51
40:BF:24:ARG:H	40:BF:24:ARG:HD3	1.75	0.51
40:BF:97:THR:HG22	40:BF:98:GLU:N	2.25	0.51
44:BJ:37:ARG:HB2	44:BJ:75:ASP:HB2	1.93	0.51
48:BN:98:LYS:HB2	48:BN:98:LYS:HZ2	1.75	0.51
50:BP:7:ALA:HB1	50:BP:9:HIS:ND1	2.26	0.51
55:BU:52:VAL:HG13	55:BU:53:LYS:N	2.24	0.51
58:BZ:315:GLU:HB3	58:BZ:316:PRO:CD	2.39	0.51
58:BZ:422:PRO:HB2	58:BZ:427:ASP:CB	2.38	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:435:LEU:HD21	58:BZ:458:ILE:CD1	2.40	0.51
1:AA:937:C:H2'	1:AA:938:G:C8	2.45	0.51
1:AA:1336:A:P	23:AW:68:LYS:HZ3	2.33	0.51
1:AA:2344:U:H5'	1:AA:2373:G:H4'	1.92	0.51
4:AD:29:PHE:CE2	4:AD:31:PRO:HB2	2.45	0.51
4:AD:140:VAL:HG13	4:AD:190:THR:C	2.30	0.51
4:AD:266:ILE:HD13	4:AD:269:ARG:HH11	1.76	0.51
6:AF:12:LEU:HD23	6:AF:13:THR:N	2.26	0.51
7:AG:76:PHE:O	7:AG:78:ILE:HG23	2.09	0.51
11:AK:132:ALA:O	11:AK:137:LEU:HD12	2.10	0.51
18:AR:53:THR:HB	18:AR:65:THR:HB	1.92	0.51
20:AT:35:PHE:HE1	20:AT:39:ILE:HD11	1.75	0.51
27:A1:16:ASN:OD1	27:A1:26:ARG:HD2	2.10	0.51
35:BA:232:G:C1'	35:BA:262:A:H61	2.24	0.51
35:BA:1317:C:H2'	35:BA:1318:A:H5'	1.92	0.51
37:BC:118:SER:O	37:BC:122:GLN:HG3	2.10	0.51
38:BD:47:LEU:HD12	38:BD:51:GLY:CA	2.40	0.51
40:BF:54:LEU:HD22	40:BF:55:HIS:H	1.76	0.51
41:BG:29:LEU:HD23	41:BG:29:LEU:O	2.09	0.51
49:BO:61:GLN:O	49:BO:65:LEU:HG	2.09	0.51
58:BZ:256:VAL:HG12	58:BZ:261:ILE:HG13	1.93	0.51
1:AA:561:G:H4'	20:AT:47:ARG:HH22	1.75	0.51
1:AA:817:C:H2'	1:AA:818:G:O4'	2.10	0.51
1:AA:1355:G:H2'	1:AA:1356:G:H8	1.75	0.51
1:AA:2811:G:H2'	1:AA:2812:G:H8	1.76	0.51
2:AB:49:C:OP1	18:AR:102:ARG:N	2.37	0.51
4:AD:166:ARG:HB2	4:AD:166:ARG:HH21	1.73	0.51
7:AG:28:PRO:HG2	7:AG:164:GLU:HB3	1.92	0.51
11:AK:25:PRO:HG2	58:BZ:646:GLU:CG	2.41	0.51
11:AK:25:PRO:HA	11:AK:34:ILE:CD1	2.40	0.51
21:AU:83:TYR:OH	21:AU:85:LYS:HD3	2.09	0.51
23:AW:14:PRO:CD	28:A2:30:MET:SD	2.98	0.51
31:A5:5:ARG:HH12	31:A5:23:THR:C	2.14	0.51
33:A7:38:LYS:HA	33:A7:41:ARG:NH1	2.25	0.51
35:BA:6:G:O6	39:BE:98:ALA:HB1	2.09	0.51
35:BA:1062:U:H2'	35:BA:1063:C:C6	2.46	0.51
35:BA:1065:U:H5"	35:BA:1190:G:N2	2.26	0.51
35:BA:1087:G:N2	35:BA:1099:G:H1'	2.26	0.51
37:BC:35:ASP:O	37:BC:39:ARG:HG3	2.10	0.51
38:BD:54:LEU:O	38:BD:54:LEU:HD23	2.11	0.51
38:BD:101:VAL:HB	38:BD:113:ALA:HB1	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BF:40:GLU:HB2	40:BF:61:LEU:HB3	1.92	0.51
41:BG:15:PRO:O	43:BI:45:MET:HE2	2.11	0.51
45:BK:22:ILE:HD12	45:BK:22:ILE:O	2.10	0.51
47:BM:72:ILE:O	47:BM:76:ILE:HG13	2.11	0.51
48:BN:20:PHE:HE1	48:BN:55:SER:HG	1.58	0.51
58:BZ:141:VAL:HG11	58:BZ:151:PHE:HD1	1.76	0.51
58:BZ:691:PRO:O	58:BZ:693:ASN:N	2.44	0.51
1:AA:477:A:H2'	1:AA:478:A:O4'	2.11	0.51
1:AA:2618:G:O2'	5:AE:154:LYS:HB2	2.11	0.51
7:AG:100:GLU:O	7:AG:104:THR:HG22	2.10	0.51
13:AM:31:GLU:O	13:AM:35:ARG:HG3	2.10	0.51
15:AO:100:ILE:CD1	15:AO:101:ILE:HG23	2.37	0.51
17:AQ:45:ARG:HA	17:AQ:48:VAL:HG12	1.93	0.51
22:AV:25:ARG:NH1	22:AV:25:ARG:HB2	2.26	0.51
23:AW:68:LYS:HZ1	23:AW:77:ARG:NH2	2.08	0.51
28:A2:56:LEU:O	28:A2:57:LEU:HB3	2.11	0.51
35:BA:1009:U:H3	35:BA:1020:G:H1	1.57	0.51
35:BA:1481:U:H2'	35:BA:1482:G:C8	2.46	0.51
37:BC:11:LEU:HB3	37:BC:17:TRP:NE1	2.25	0.51
39:BE:131:ASN:ND2	39:BE:133:ILE:HG22	2.26	0.51
44:BJ:41:PRO:HG2	44:BJ:42:LEU:H	1.75	0.51
44:BJ:89:ARG:HH11	44:BJ:89:ARG:HA	1.76	0.51
45:BK:22:ILE:HG22	45:BK:31:VAL:HG22	1.91	0.51
45:BK:86:LYS:HG3	45:BK:114:PRO:HD3	1.93	0.51
45:BK:127:ARG:H	45:BK:127:ARG:HD3	1.76	0.51
46:BL:20:VAL:HG13	46:BL:20:VAL:O	2.11	0.51
48:BN:63:ARG:HD2	48:BN:63:ARG:N	2.25	0.51
50:BP:78:VAL:O	50:BP:78:VAL:HG22	2.11	0.51
56:BW:6:G:O2'	56:BW:7:A:H5'	2.10	0.51
58:BZ:498:VAL:HG21	58:BZ:501:VAL:HG22	1.93	0.51
58:BZ:544:VAL:HG11	58:BZ:581:GLY:H	1.75	0.51
1:AA:951:C:H2'	1:AA:952:G:H8	1.75	0.51
1:AA:973:A:H5'	1:AA:1188:U:H1'	1.93	0.51
3:AC:175:ILE:CG2	3:AC:188:ASN:HB3	2.38	0.51
8:AH:82:PHE:CE2	8:AH:137:LYS:HB2	2.46	0.51
8:AH:88:LEU:N	8:AH:88:LEU:HD12	2.26	0.51
8:AH:92:GLY:HA3	58:BZ:147:MET:SD	2.51	0.51
13:AM:88:THR:O	13:AM:92:MET:HG2	2.10	0.51
21:AU:64:VAL:HG22	21:AU:95:ASP:O	2.10	0.51
24:AX:51:LEU:HD12	24:AX:52:ASN:OD1	2.10	0.51
33:A7:56:LEU:HD12	33:A7:56:LEU:N	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:147:G:H2'	35:BA:148:G:C8	2.45	0.51
35:BA:404:G:OP1	38:BD:118:SER:HB3	2.11	0.51
35:BA:1493:A:H2	56:BV:36:A:H1'	1.76	0.51
37:BC:149:LYS:HG3	37:BC:200:TRP:HE3	1.76	0.51
38:BD:86:GLY:HA3	38:BD:196:GLU:HB3	1.91	0.51
44:BJ:37:ARG:HA	44:BJ:37:ARG:NE	2.25	0.51
44:BJ:87:LEU:O	44:BJ:87:LEU:HD13	2.11	0.51
1:AA:31:C:H4'	1:AA:1238:G:H4'	1.92	0.51
1:AA:199:A:N6	1:AA:2434:A:C6	2.79	0.51
1:AA:716:A:H4'	49:BO:39:GLN:NE2	2.26	0.51
1:AA:859:G:OP2	26:AZ:40:LYS:NZ	2.42	0.51
1:AA:1030:C:OP2	16:AP:127:LYS:HE3	2.11	0.51
1:AA:1314:C:N4	1:AA:1338:G:H1	2.08	0.51
1:AA:1428:C:O2'	1:AA:1429:G:H5'	2.11	0.51
1:AA:1667:G:OP1	14:AN:7:MET:CG	2.58	0.51
4:AD:140:VAL:CG1	4:AD:189:ALA:HB1	2.38	0.51
6:AF:6:LYS:HE2	6:AF:141:MET:HB2	1.91	0.51
7:AG:24:VAL:O	7:AG:27:VAL:HG12	2.11	0.51
13:AM:98:GLU:OE1	13:AM:98:GLU:N	2.43	0.51
33:A7:25:HIS:HB3	33:A7:43:LEU:HD22	1.93	0.51
35:BA:501:C:P	46:BL:113:ARG:NH2	2.84	0.51
35:BA:1438:G:C5'	54:BT:32:LYS:HZ1	2.24	0.51
42:BH:13:ILE:HG23	42:BH:62:LEU:HD11	1.92	0.51
43:BI:62:LEU:N	43:BI:62:LEU:HD23	2.26	0.51
49:BO:35:ILE:O	49:BO:39:GLN:HB2	2.11	0.51
50:BP:53:ASP:O	50:BP:57:ILE:HG13	2.11	0.51
58:BZ:75:MET:HB3	58:BZ:79:TYR:CB	2.39	0.51
58:BZ:142:ASN:ND2	58:BZ:142:ASN:O	2.43	0.51
58:BZ:255:ARG:HD2	58:BZ:260:GLU:CB	2.40	0.51
58:BZ:430:LYS:HE3	58:BZ:479:VAL:HG22	1.93	0.51
58:BZ:510:GLY:O	58:BZ:512:ARG:HG2	2.11	0.51
58:BZ:638:ARG:HH21	58:BZ:669:GLN:HB2	1.76	0.51
1:AA:11:C:H2'	1:AA:12:U:H5'	1.92	0.51
1:AA:188:G:H2'	1:AA:189:G:O4'	2.11	0.51
1:AA:2452:C:H42	1:AA:2504:U:H3	1.59	0.51
3:AC:104:ILE:HD12	3:AC:104:ILE:N	2.26	0.51
10:AJ:10:ALA:O	10:AJ:14:GLU:HG3	2.11	0.51
13:AM:25:LEU:HD22	13:AM:89:PHE:HE2	1.75	0.51
21:AU:1:MET:CE	21:AU:101:ILE:HB	2.41	0.51
21:AU:39:LEU:N	21:AU:39:LEU:HD12	2.26	0.51
22:AV:97:LEU:HD22	22:AV:97:LEU:N	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A6:30:VAL:HA	32:A6:33:ARG:CZ	2.41	0.51
35:BA:1334:G:H2'	35:BA:1335:U:H5'	1.92	0.51
37:BC:86:LEU:O	37:BC:90:VAL:HG23	2.11	0.51
37:BC:133:MET:O	37:BC:137:VAL:HG23	2.11	0.51
37:BC:166:TRP:N	37:BC:166:TRP:CE3	2.76	0.51
41:BG:3:ARG:HH11	41:BG:3:ARG:HB2	1.75	0.51
41:BG:147:ASN:ND2	45:BK:55:ARG:HH12	2.09	0.51
42:BH:21:LYS:HE2	42:BH:22:ALA:N	2.26	0.51
50:BP:68:SER:HB2	50:BP:71:VAL:CG2	2.41	0.51
58:BZ:16:SER:O	58:BZ:111:MET:HA	2.11	0.51
58:BZ:212:VAL:HG13	58:BZ:213:GLU:N	2.26	0.51
58:BZ:498:VAL:HG21	58:BZ:501:VAL:CG2	2.41	0.51
58:BZ:623:THR:HG23	58:BZ:628:THR:HA	1.92	0.51
1:AA:996:A:H61	1:AA:1159:U:H3	1.59	0.51
1:AA:2039:U:H2'	1:AA:2040:G:H8	1.76	0.51
16:AP:69:PRO:O	16:AP:70:ASP:OD2	2.29	0.51
16:AP:78:LEU:HD12	16:AP:78:LEU:N	2.26	0.51
19:AS:102:ARG:HD3	19:AS:106:ALA:O	2.10	0.51
35:BA:7:A:H5"	39:BE:105:ILE:HD12	1.93	0.51
35:BA:446:G:H2'	35:BA:447:G:O4'	2.11	0.51
35:BA:501:C:H2'	35:BA:502:A:C8	2.45	0.51
37:BC:119:ILE:O	37:BC:123:LEU:HG	2.11	0.51
42:BH:84:ILE:HG23	42:BH:86:LYS:HE3	1.93	0.51
43:BI:45:MET:SD	43:BI:45:MET:N	2.84	0.51
43:BI:57:VAL:HG12	43:BI:58:GLU:HG2	1.92	0.51
43:BI:74:GLN:O	43:BI:78:ILE:HG13	2.11	0.51
43:BI:105:ARG:NH1	43:BI:107:ALA:HA	2.25	0.51
49:BO:47:LYS:HB2	49:BO:47:LYS:NZ	2.26	0.51
50:BP:36:VAL:HG13	50:BP:36:VAL:O	2.11	0.51
50:BP:46:LYS:HD3	50:BP:47:GLU:N	2.10	0.51
53:BS:11:ASP:HB3	53:BS:13:HIS:CE1	2.46	0.51
56:BW:36:A:H3'	56:BW:37:A:H5"	1.92	0.51
58:BZ:420:VAL:HG11	58:BZ:431:MET:HE3	1.92	0.51
1:AA:38:A:O2'	6:AF:43:THR:HA	2.11	0.50
1:AA:544:C:H2'	1:AA:545:U:O4'	2.11	0.50
1:AA:858:G:N2	1:AA:2268:A:H2'	2.23	0.50
1:AA:1598:A:O3'	23:AW:39:THR:HG23	2.11	0.50
1:AA:2045:C:O3'	30:A4:14:MET:HB3	2.12	0.50
1:AA:2093:G:N7	1:AA:2225:A:H2'	2.27	0.50
1:AA:2267:A:H3'	1:AA:2267:A:N3	2.25	0.50
1:AA:2628:C:O2'	1:AA:2781:A:H2'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:26:LYS:HB3	8:AH:31:GLU:HG3	1.93	0.50
14:AN:8:LEU:HD12	14:AN:8:LEU:N	2.27	0.50
14:AN:111:LYS:HG3	14:AN:112:PHE:CD2	2.46	0.50
15:AO:92:LEU:H	15:AO:92:LEU:CD1	2.25	0.50
22:AV:17:VAL:HG11	22:AV:103:ILE:HG12	1.92	0.50
24:AX:48:VAL:HG13	24:AX:51:LEU:O	2.12	0.50
35:BA:173:U:H5	35:BA:199:A:H1'	1.76	0.50
35:BA:231:U:H2'	35:BA:232:G:C8	2.46	0.50
35:BA:673:A:H4'	40:BF:86:ARG:HH12	1.76	0.50
35:BA:793:U:O2	35:BA:1516:G:H4'	2.10	0.50
35:BA:910:C:H5	46:BL:17:LYS:HZ2	1.59	0.50
35:BA:1223:C:C5	35:BA:1224:U:H5	2.29	0.50
36:BB:35:ASN:O	36:BB:37:VAL:HG12	2.11	0.50
38:BD:57:LYS:HG2	38:BD:202:LEU:HD23	1.93	0.50
38:BD:173:ASP:CG	38:BD:174:ALA:H	2.14	0.50
41:BG:110:ARG:HG2	41:BG:111:GLY:N	2.25	0.50
42:BH:8:ASP:O	42:BH:12:ARG:HB2	2.11	0.50
42:BH:76:ARG:HA	42:BH:126:CYS:CB	2.41	0.50
48:BN:69:ARG:NH1	48:BN:81:ARG:HH12	2.09	0.50
58:BZ:219:HIS:O	58:BZ:223:ILE:HG23	2.11	0.50
58:BZ:299:LEU:HB3	58:BZ:305:THR:OG1	2.11	0.50
58:BZ:421:GLU:OE2	58:BZ:455:GLN:NE2	2.44	0.50
1:AA:29:U:H4'	20:AT:6:GLY:CA	2.35	0.50
1:AA:69:C:O2'	1:AA:70:G:H5'	2.10	0.50
1:AA:926:G:H2'	1:AA:927:A:C8	2.47	0.50
1:AA:943:A:OP1	15:AO:34:GLY:HA3	2.11	0.50
1:AA:1032:A:O2'	34:A8:16:ILE:HG21	2.12	0.50
1:AA:1224:U:O2'	21:AU:87:GLN:HG3	2.11	0.50
1:AA:2483:C:O2'	16:AP:51:ARG:NH1	2.45	0.50
3:AC:197:LYS:HD3	3:AC:226:GLN:HE22	1.76	0.50
4:AD:161:VAL:HG12	4:AD:162:GLN:N	2.27	0.50
4:AD:198:GLU:OE1	4:AD:198:GLU:N	2.44	0.50
5:AE:122:VAL:HG13	5:AE:127:PHE:O	2.10	0.50
8:AH:122:ALA:CB	8:AH:132:LEU:HD23	2.42	0.50
23:AW:73:ARG:NH2	23:AW:73:ARG:HB3	2.25	0.50
24:AX:17:ASP:HB3	24:AX:20:LYS:HB2	1.93	0.50
37:BC:26:LYS:HG2	37:BC:27:GLU:H	1.76	0.50
37:BC:206:ILE:O	37:BC:206:ILE:HG13	2.11	0.50
41:BG:12:LEU:HD22	41:BG:12:LEU:N	2.26	0.50
43:BI:60:LEU:HD23	43:BI:60:LEU:H	1.77	0.50
44:BJ:40:ILE:HD12	44:BJ:40:ILE:N	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:275:VAL:O	58:BZ:278:MET:HB3	2.12	0.50
58:BZ:489:ALA:O	58:BZ:490:TYR:CB	2.59	0.50
58:BZ:530:ASN:ND2	58:BZ:532:LYS:NZ	2.59	0.50
59:BY:3:SER:O	59:BY:4:SER:HB3	2.11	0.50
1:AA:36:G:H4'	1:AA:451:U:C2	2.47	0.50
1:AA:507:A:H5'	1:AA:509:C:O4'	2.11	0.50
1:AA:686:U:O2	32:A6:8:SER:HB3	2.11	0.50
1:AA:1364:G:C5'	1:AA:1809:A:H1'	2.40	0.50
1:AA:1419:A:O2'	1:AA:1420:A:H5"	2.11	0.50
1:AA:1425:G:H2'	1:AA:1426:G:O4'	2.12	0.50
1:AA:1630:A:H5'	1:AA:2698:U:OP1	2.12	0.50
1:AA:2030:A:N3	1:AA:2499:C:H5"	2.26	0.50
1:AA:2380:C:H5'	18:AR:17:LYS:NZ	2.27	0.50
1:AA:2860:A:H2'	1:AA:2861:U:H5'	1.93	0.50
4:AD:130:PRO:HG3	4:AD:188:ARG:HG2	1.92	0.50
10:AJ:77:VAL:HG13	10:AJ:77:VAL:O	2.11	0.50
11:AK:10:LEU:HD23	11:AK:10:LEU:H	1.76	0.50
17:AQ:71:ARG:HH21	17:AQ:71:ARG:HG2	1.76	0.50
20:AT:109:VAL:HG12	20:AT:113:LYS:HE3	1.93	0.50
35:BA:530:G:HO2'	58:BZ:511:GLY:HA3	1.75	0.50
35:BA:817:C:O4'	35:BA:819:A:H4'	2.11	0.50
35:BA:1103:C:H4'	36:BB:96:LEU:HD13	1.93	0.50
36:BB:132:GLU:O	36:BB:136:ARG:HG3	2.11	0.50
36:BB:145:ASN:C	36:BB:147:LEU:H	2.13	0.50
36:BB:156:LEU:HD23	36:BB:156:LEU:N	2.26	0.50
37:BC:143:LEU:HD22	37:BC:143:LEU:N	2.26	0.50
43:BI:18:VAL:HG22	43:BI:64:ILE:HG21	1.93	0.50
43:BI:112:ARG:CZ	48:BN:101:TRP:CD1	2.95	0.50
44:BJ:59:LYS:H	44:BJ:59:LYS:HD2	1.76	0.50
47:BM:10:ASP:CG	47:BM:11:HIS:H	2.14	0.50
48:BN:77:PHE:HD1	48:BN:84:VAL:HG13	1.76	0.50
49:BO:7:THR:O	49:BO:11:VAL:HG23	2.11	0.50
55:BU:46:ARG:HA	55:BU:46:ARG:NE	2.26	0.50
58:BZ:90:PRO:HB3	58:BZ:95:PHE:HB3	1.93	0.50
58:BZ:90:PRO:HB3	58:BZ:95:PHE:CB	2.42	0.50
58:BZ:555:LYS:O	58:BZ:559:GLU:HG3	2.11	0.50
1:AA:940:G:C2'	1:AA:941:A:H5"	2.40	0.50
1:AA:970:U:H2'	1:AA:971:G:C8	2.46	0.50
1:AA:973:A:H5"	21:AU:81:LYS:CG	2.41	0.50
1:AA:1928:A:C2'	1:AA:1929:G:H5"	2.40	0.50
3:AC:200:LYS:HE3	3:AC:208:TYR:HB2	1.91	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:104:LEU:HD12	4:AD:104:LEU:N	2.27	0.50
4:AD:119:VAL:HG23	4:AD:120:ASP:OD1	2.11	0.50
4:AD:163:ILE:HG12	4:AD:173:LEU:CD1	2.41	0.50
28:A2:50:VAL:O	28:A2:54:LYS:HB2	2.11	0.50
31:A5:25:ASN:OD1	31:A5:27:ARG:HB2	2.12	0.50
35:BA:335:C:H2'	35:BA:336:A:C8	2.46	0.50
35:BA:473:U:OP1	50:BP:76:LYS:HE2	2.11	0.50
35:BA:1376:U:H2'	35:BA:1377:A:C8	2.47	0.50
43:BI:29:ILE:HD13	43:BI:34:LEU:HD12	1.93	0.50
43:BI:53:LEU:HD12	43:BI:53:LEU:N	2.26	0.50
49:BO:54:GLY:O	49:BO:58:MET:HG3	2.11	0.50
54:BT:5:SER:O	54:BT:7:LYS:N	2.45	0.50
55:BU:39:LYS:N	55:BU:40:PRO:CD	2.74	0.50
58:BZ:522:MET:CE	58:BZ:604:GLY:HA3	2.42	0.50
58:BZ:530:ASN:HB2	58:BZ:531:PRO:HD2	1.93	0.50
1:AA:1179:G:N7	1:AA:1180:U:H1'	2.26	0.50
1:AA:1378:A:H1'	1:AA:1379:U:C6	2.47	0.50
1:AA:1571:A:H2'	1:AA:1572:A:C8	2.46	0.50
1:AA:1827:U:H2'	1:AA:1828:G:O4'	2.12	0.50
1:AA:2394:C:H5"	15:AO:63:LYS:HE2	1.92	0.50
1:AA:2576:G:N3	1:AA:2576:G:H3'	2.26	0.50
1:AA:2661:G:H2'	1:AA:2662:A:O4'	2.11	0.50
1:AA:2780:G:H22	13:AM:96:ARG:NH1	2.10	0.50
2:AB:50:A:P	18:AR:68:LYS:HG3	2.51	0.50
8:AH:1:SER:O	8:AH:5:LYS:HG2	2.12	0.50
8:AH:106:LEU:HD13	8:AH:151:ARG:CB	2.41	0.50
9:AI:50:ARG:N	9:AI:50:ARG:NE	2.59	0.50
15:AO:92:LEU:HD12	15:AO:92:LEU:N	2.25	0.50
20:AT:82:LEU:HB3	20:AT:87:VAL:HB	1.93	0.50
23:AW:4:GLU:O	23:AW:8:LEU:HG	2.11	0.50
34:A8:24:ARG:NH2	34:A8:36:ARG:HG3	2.26	0.50
35:BA:953:G:H2'	35:BA:954:G:O4'	2.11	0.50
35:BA:1190:G:H5"	37:BC:175:HIS:HE1	1.76	0.50
35:BA:1230:C:H5'	56:BW:30:G:H5"	1.94	0.50
38:BD:196:GLU:HA	38:BD:199:ILE:HG12	1.94	0.50
40:BF:7:VAL:HG13	40:BF:7:VAL:O	2.12	0.50
46:BL:98:ARG:HB2	46:BL:116:TYR:C	2.32	0.50
48:BN:19:TYR:CD2	48:BN:51:LEU:HD22	2.47	0.50
54:BT:66:ILE:CD1	54:BT:70:LYS:HG2	2.27	0.50
55:BU:7:GLU:HB3	55:BU:11:PHE:CE2	2.47	0.50
58:BZ:87:ILE:N	58:BZ:87:ILE:HD12	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:351:ASN:HD22	58:BZ:391:VAL:HG12	1.77	0.50
58:BZ:388:LEU:HB3	58:BZ:391:VAL:HG21	1.93	0.50
58:BZ:421:GLU:O	58:BZ:422:PRO:C	2.48	0.50
59:BY:3:SER:O	59:BY:5:UAL:N	2.37	0.50
1:AA:532:A:H2'	1:AA:532:A:N3	2.27	0.50
1:AA:1083:U:H5'	10:AJ:53:ARG:CD	2.41	0.50
1:AA:1266:G:N2	1:AA:2012:G:H2'	2.27	0.50
1:AA:1506:U:H2'	1:AA:1507:C:C6	2.45	0.50
1:AA:2134:A:H62	1:AA:2157:G:H1'	1.77	0.50
1:AA:2661:G:O2'	58:BZ:464:LEU:HD21	2.11	0.50
1:AA:2733:A:N6	5:AE:208:LYS:HE2	2.26	0.50
22:AV:5:ALA:HB3	22:AV:54:ALA:HB2	1.94	0.50
31:A5:10:LEU:HB3	31:A5:48:TYR:HB3	1.94	0.50
35:BA:526:C:C2'	35:BA:527:G:H5'	2.42	0.50
36:BB:192:PRO:O	36:BB:194:GLY:N	2.41	0.50
46:BL:41:PRO:HG2	46:BL:47:ALA:N	2.27	0.50
47:BM:14:ALA:HB3	47:BM:33:LEU:HD21	1.93	0.50
56:BW:48:C:H2'	56:BW:59:U:H4'	1.94	0.50
58:BZ:13:ILE:O	58:BZ:87:ILE:HB	2.11	0.50
58:BZ:169:LEU:O	58:BZ:185:LEU:HB3	2.12	0.50
1:AA:715:A:H1'	49:BO:59:VAL:HG21	1.93	0.50
1:AA:1046:A:H3'	1:AA:1047:G:H5'	1.94	0.50
1:AA:1995:U:H2'	1:AA:1996:C:C5	2.45	0.50
1:AA:2875:C:C4'	19:AS:1:SER:HB2	2.40	0.50
2:AB:65:U:C2'	2:AB:66:A:H5'	2.42	0.50
3:AC:4:LEU:CD2	3:AC:12:ARG:HH21	2.23	0.50
3:AC:44:VAL:HG21	3:AC:189:LEU:HD22	1.94	0.50
3:AC:115:ILE:HD12	3:AC:153:VAL:HG12	1.93	0.50
4:AD:129:LEU:N	4:AD:129:LEU:HD23	2.26	0.50
4:AD:144:GLU:HG2	4:AD:150:GLY:C	2.32	0.50
4:AD:245:THR:HB	4:AD:246:PRO:HD2	1.94	0.50
5:AE:150:GLN:HG2	5:AE:150:GLN:O	2.12	0.50
6:AF:164:LEU:HD22	6:AF:164:LEU:N	2.26	0.50
7:AG:62:GLN:NE2	7:AG:90:LEU:HD23	2.26	0.50
18:AR:24:THR:OG1	18:AR:90:VAL:HG12	2.12	0.50
28:A2:5:GLU:OE1	28:A2:53:VAL:HG22	2.12	0.50
35:BA:83:C:H2'	35:BA:85:U:OP2	2.11	0.50
35:BA:202:G:H2'	35:BA:203:G:C8	2.47	0.50
36:BB:202:ASN:HB3	36:BB:208:ALA:HB2	1.93	0.50
38:BD:82:LYS:HD3	38:BD:82:LYS:C	2.32	0.50
42:BH:50:VAL:HG13	42:BH:50:VAL:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BL:109:ARG:HG3	46:BL:118:VAL:HG21	1.93	0.50
58:BZ:100:GLU:C	58:BZ:100:GLU:OE1	2.50	0.50
58:BZ:418:ILE:CG2	58:BZ:466:LEU:HD23	2.42	0.50
1:AA:607:U:H5"	6:AF:98:LYS:HE2	1.93	0.50
1:AA:1132:U:H2'	1:AA:1133:A:C8	2.47	0.50
1:AA:2144:G:H1'	1:AA:2147:A:H61	1.77	0.50
1:AA:2741:A:H4'	34:A8:36:ARG:HH12	1.77	0.50
4:AD:172:THR:CG2	4:AD:180:MET:HB3	2.42	0.50
7:AG:12:VAL:O	7:AG:16:MET:HG2	2.11	0.50
8:AH:43:LYS:HB2	8:AH:50:THR:OG1	2.11	0.50
8:AH:86:LEU:N	8:AH:86:LEU:HD12	2.27	0.50
20:AT:39:ILE:HG22	20:AT:43:GLN:NE2	2.25	0.50
35:BA:194:C:O2'	35:BA:195:A:H5'	2.11	0.50
35:BA:1004:A:H2'	35:BA:1005:A:O4'	2.12	0.50
35:BA:1238:A:C5'	35:BA:1336:C:H41	2.24	0.50
35:BA:1401:G:H2'	35:BA:1402:C:O4'	2.12	0.50
36:BB:113:LEU:HD13	36:BB:143:LEU:CB	2.42	0.50
41:BG:68:VAL:HG23	41:BG:99:ALA:HB1	1.94	0.50
45:BK:84:MET:HA	45:BK:110:THR:O	2.11	0.50
45:BK:127:ARG:HD3	45:BK:127:ARG:N	2.26	0.50
47:BM:39:ALA:HB3	47:BM:42:VAL:CG1	2.41	0.50
58:BZ:374:ILE:CG2	58:BZ:375:LYS:N	2.74	0.50
1:AA:445:C:OP1	20:AT:1:ALA:HA	2.12	0.50
1:AA:1460:U:H3'	1:AA:1461:C:H5"	1.94	0.50
1:AA:2109:U:H2'	1:AA:2110:G:C8	2.46	0.50
1:AA:2129:C:OP2	3:AC:37:LYS:NZ	2.44	0.50
1:AA:2662:A:H2'	1:AA:2663:G:O4'	2.12	0.50
1:AA:2847:U:C2'	1:AA:2848:G:H5'	2.42	0.50
1:AA:2849:U:H4'	1:AA:2868:A:C2	2.47	0.50
4:AD:95:TYR:HB2	4:AD:97:ASP:OD1	2.12	0.50
4:AD:140:VAL:HG11	4:AD:189:ALA:CB	2.38	0.50
6:AF:118:LEU:HD12	6:AF:186:VAL:O	2.12	0.50
12:AL:108:LYS:HG3	12:AL:118:VAL:HB	1.94	0.50
13:AM:84:ILE:O	13:AM:84:ILE:HG23	2.12	0.50
15:AO:63:LYS:HG2	33:A7:12:ARG:HE	1.77	0.50
15:AO:82:LEU:HD23	15:AO:82:LEU:C	2.32	0.50
23:AW:93:LEU:N	23:AW:93:LEU:HD22	2.27	0.50
25:AY:75:GLN:HB2	25:AY:92:VAL:HG23	1.94	0.50
34:A8:36:ARG:HG2	34:A8:37:GLN:H	1.76	0.50
35:BA:13:U:C1'	35:BA:914:A:H5"	2.42	0.50
35:BA:760:G:H2'	35:BA:761:G:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BB:40:ILE:HD13	36:BB:40:ILE:N	2.27	0.50
38:BD:70:GLN:HG2	38:BD:74:TYR:CE2	2.46	0.50
58:BZ:214:LEU:O	58:BZ:218:TRP:HD1	1.95	0.50
58:BZ:695:ALA:O	58:BZ:698:VAL:HG12	2.11	0.50
1:AA:958:U:H2'	2:AB:89:U:O2	2.12	0.49
1:AA:1066:U:H2'	1:AA:1068:G:OP2	2.12	0.49
4:AD:257:ARG:NH2	4:AD:266:ILE:HD11	2.27	0.49
7:AG:14:LYS:O	7:AG:18:GLU:HG3	2.12	0.49
7:AG:107:VAL:HG13	7:AG:110:ILE:HD12	1.93	0.49
17:AQ:28:LEU:HD22	17:AQ:44:LEU:CD2	2.42	0.49
19:AS:87:ARG:HH12	19:AS:89:GLY:HA2	1.77	0.49
20:AT:45:ALA:O	20:AT:49:ARG:HG3	2.12	0.49
27:A1:2:ARG:O	27:A1:11:PRO:HD3	2.11	0.49
30:A4:27:LEU:N	30:A4:27:LEU:HD12	2.27	0.49
35:BA:81:A:H2'	35:BA:82:G:H5'	1.94	0.49
35:BA:477:C:H2'	35:BA:478:A:H8	1.75	0.49
35:BA:978:A:H4'	35:BA:1322:C:C5	2.47	0.49
35:BA:1016:A:H4'	35:BA:1218:C:H4'	1.94	0.49
35:BA:1291:U:H4'	43:BI:41:GLU:HG3	1.92	0.49
35:BA:1412:C:H2'	35:BA:1413:A:C8	2.47	0.49
36:BB:31:PHE:CE1	36:BB:41:ASN:HA	2.47	0.49
36:BB:58:LYS:HD3	36:BB:58:LYS:C	2.32	0.49
36:BB:93:HIS:O	36:BB:94:ARG:C	2.49	0.49
37:BC:106:ARG:H	37:BC:106:ARG:CD	2.25	0.49
39:BE:140:ILE:HD12	39:BE:140:ILE:H	1.77	0.49
43:BI:79:ARG:HD2	43:BI:79:ARG:C	2.31	0.49
44:BJ:102:LEU:HD22	44:BJ:102:LEU:N	2.28	0.49
51:BQ:20:ILE:HD12	51:BQ:20:ILE:N	2.26	0.49
56:BW:14:A:H2'	56:BW:15:G:H5'	1.93	0.49
1:AA:249:C:H2'	1:AA:2394:C:O3'	2.12	0.49
1:AA:1912:A:C6	1:AA:1919:A:N7	2.80	0.49
1:AA:2025:C:H42	1:AA:2038:G:H1	1.59	0.49
1:AA:2279:G:H21	1:AA:2327:A:H2	1.60	0.49
1:AA:2366:A:H2'	1:AA:2367:G:O4'	2.12	0.49
1:AA:2765:A:H3'	1:AA:2765:A:N3	2.27	0.49
2:AB:28:C:P	18:AR:31:THR:HG21	2.52	0.49
3:AC:26:ALA:HB1	3:AC:214:ILE:CD1	2.42	0.49
3:AC:39:VAL:O	3:AC:39:VAL:HG13	2.12	0.49
3:AC:185:LEU:O	3:AC:189:LEU:HG	2.12	0.49
6:AF:88:ARG:HB3	6:AF:89:PRO:HD2	1.94	0.49
8:AH:3:VAL:HG12	8:AH:68:ARG:HD2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AY:26:PHE:CE1	25:AY:42:LEU:HB2	2.48	0.49
35:BA:367:U:HO2'	35:BA:368:U:H4'	1.77	0.49
36:BB:131:LYS:O	36:BB:135:MET:HB2	2.12	0.49
41:BG:89:GLU:OE1	41:BG:89:GLU:N	2.45	0.49
42:BH:29:SER:O	42:BH:33:VAL:HG23	2.12	0.49
46:BL:23:LEU:HD22	46:BL:58:ASN:CB	2.42	0.49
56:BV:16:U:N3	56:BV:18:G:H5'	2.25	0.49
58:BZ:18:HIS:CE1	58:BZ:19:ILE:HG22	2.47	0.49
58:BZ:209:ALA:O	58:BZ:212:VAL:HG12	2.11	0.49
1:AA:511:U:H2'	1:AA:512:G:H5'	1.94	0.49
1:AA:687:C:H1'	32:A6:4:THR:HG22	1.94	0.49
1:AA:1599:U:P	23:AW:39:THR:HG23	2.52	0.49
1:AA:1880:U:H2'	1:AA:1881:C:C6	2.46	0.49
1:AA:1936:A:H4'	1:AA:1937:A:C8	2.46	0.49
7:AG:105:ILE:HG13	7:AG:106:ALA:N	2.27	0.49
8:AH:140:ILE:HD12	8:AH:140:ILE:C	2.33	0.49
11:AK:25:PRO:CB	58:BZ:647:SER:H	2.26	0.49
17:AQ:29:VAL:HG11	17:AQ:79:LEU:HD11	1.94	0.49
18:AR:52:SER:OG	18:AR:54:VAL:HG12	2.11	0.49
21:AU:38:VAL:HG22	21:AU:40:MET:H	1.77	0.49
26:AZ:39:THR:HG23	26:AZ:53:HIS:CD2	2.46	0.49
35:BA:66:A:H4'	35:BA:173:U:C5	2.48	0.49
35:BA:460:A:H2'	35:BA:461:A:O4'	2.12	0.49
36:BB:94:ARG:HH12	36:BB:96:LEU:HA	1.77	0.49
37:BC:120:THR:O	37:BC:124:GLU:HG3	2.12	0.49
39:BE:54:GLU:HG2	39:BE:56:PRO:CD	2.31	0.49
39:BE:83:PRO:CB	39:BE:96:GLN:HG2	2.42	0.49
50:BP:8:ARG:C	50:BP:29:ASN:HD21	2.16	0.49
58:BZ:144:MET:HA	58:BZ:149:ALA:HB1	1.94	0.49
58:BZ:304:ASP:O	58:BZ:305:THR:OG1	2.24	0.49
58:BZ:352:SER:HB3	58:BZ:404:ILE:HD13	1.95	0.49
58:BZ:638:ARG:NE	58:BZ:666:TYR:HD1	2.10	0.49
1:AA:680:C:H2'	1:AA:681:G:H8	1.77	0.49
1:AA:1528:A:H2'	1:AA:1529:G:O4'	2.12	0.49
2:AB:11:C:C2'	2:AB:12:C:H5'	2.42	0.49
4:AD:115:ILE:HD12	4:AD:115:ILE:O	2.12	0.49
5:AE:101:PHE:CD2	5:AE:104:VAL:HG11	2.48	0.49
9:AI:11:ASN:O	9:AI:12:LEU:HB3	2.12	0.49
16:AP:2:LEU:HD22	16:AP:2:LEU:N	2.28	0.49
25:AY:82:TYR:CE1	25:AY:83:LYS:HG3	2.47	0.49
28:A2:23:ARG:NE	28:A2:23:ARG:HA	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A6:3:ARG:HA	32:A6:3:ARG:CZ	2.43	0.49
33:A7:50:SER:O	33:A7:54:LEU:HG	2.13	0.49
35:BA:1016:A:C4'	35:BA:1218:C:H4'	2.42	0.49
35:BA:1441:A:H62	35:BA:1461:G:H21	1.61	0.49
35:BA:1458:G:P	54:BT:29:THR:HG21	2.53	0.49
36:BB:34:ARG:HA	36:BB:34:ARG:NE	2.27	0.49
36:BB:68:PHE:CD1	36:BB:161:PHE:HB3	2.47	0.49
37:BC:206:ILE:O	37:BC:206:ILE:HG23	2.13	0.49
41:BG:69:ARG:HD2	41:BG:95:ARG:HG2	1.95	0.49
43:BI:49:GLN:O	43:BI:52:GLU:HG3	2.12	0.49
45:BK:24:ALA:HA	45:BK:29:THR:HG22	1.94	0.49
45:BK:70:ALA:O	45:BK:74:LYS:HG3	2.13	0.49
58:BZ:164:ALA:O	58:BZ:262:ILE:HG12	2.11	0.49
58:BZ:295:ILE:CG1	58:BZ:309:ARG:HH21	2.24	0.49
58:BZ:520:ILE:HB	58:BZ:576:ILE:CD1	2.35	0.49
1:AA:107:G:H1'	1:AA:294:A:H1'	1.94	0.49
1:AA:464:U:C2	1:AA:788:A:C6	3.00	0.49
1:AA:680:C:H2'	1:AA:681:G:C8	2.47	0.49
1:AA:736:C:H42	1:AA:760:G:H1	1.58	0.49
1:AA:833:A:H2'	1:AA:834:G:C8	2.47	0.49
1:AA:1187:G:H5"	21:AU:83:TYR:CE2	2.48	0.49
1:AA:1592:C:H2'	1:AA:1593:A:C8	2.47	0.49
1:AA:2046:G:H1'	30:A4:18:HIS:CD2	2.47	0.49
1:AA:2874:C:H5"	17:AQ:4:ARG:HH21	1.78	0.49
3:AC:150:ALA:O	3:AC:154:LYS:HG3	2.12	0.49
4:AD:51:ARG:O	4:AD:52:HIS:HB2	2.13	0.49
15:AO:89:VAL:O	15:AO:89:VAL:HG13	2.13	0.49
17:AQ:79:LEU:C	17:AQ:81:ASN:H	2.16	0.49
19:AS:29:VAL:CG1	19:AS:79:VAL:HG12	2.42	0.49
23:AW:46:ALA:O	23:AW:50:LEU:HD13	2.12	0.49
35:BA:526:C:H2'	35:BA:527:G:O4'	2.12	0.49
35:BA:730:G:C2'	35:BA:731:G:H5'	2.42	0.49
35:BA:808:C:H2'	35:BA:809:G:H8	1.77	0.49
35:BA:1232:U:H5"	43:BI:125:GLN:O	2.13	0.49
35:BA:1438:G:H5"	54:BT:32:LYS:CE	2.42	0.49
36:BB:59:ILE:HD12	36:BB:59:ILE:C	2.33	0.49
43:BI:21:LYS:HD2	43:BI:21:LYS:C	2.32	0.49
48:BN:25:GLU:HG2	48:BN:25:GLU:O	2.12	0.49
58:BZ:17:ALA:CB	58:BZ:112:VAL:HB	2.43	0.49
58:BZ:29:ARG:HA	58:BZ:29:ARG:HE	1.78	0.49
58:BZ:638:ARG:NH2	58:BZ:669:GLN:HB2	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:698:VAL:HG13	58:BZ:699:ILE:N	2.27	0.49
1:AA:43:G:H2'	1:AA:44:A:O4'	2.11	0.49
1:AA:820:A:H4'	1:AA:836:G:H22	1.78	0.49
1:AA:987:C:H2'	1:AA:988:A:O4'	2.12	0.49
1:AA:2045:C:H5"	30:A4:14:MET:HE1	1.94	0.49
1:AA:2339:C:H2'	1:AA:2340:A:C8	2.48	0.49
3:AC:53:ARG:NH1	56:BW:61:C:O2'	2.46	0.49
15:AO:125:LEU:HD12	15:AO:125:LEU:N	2.27	0.49
27:A1:39:VAL:HG21	27:A1:42:GLU:HB2	1.95	0.49
32:A6:12:ARG:HH21	32:A6:44:VAL:HG11	1.77	0.49
35:BA:237:G:H5"	51:BQ:26:ARG:HH21	1.67	0.49
35:BA:513:C:H2'	35:BA:514:C:C6	2.48	0.49
35:BA:1105:A:H2'	35:BA:1106:G:H8	1.78	0.49
36:BB:17:HIS:HB3	36:BB:187:ASP:OD1	2.11	0.49
38:BD:43:ARG:HA	38:BD:43:ARG:CZ	2.42	0.49
38:BD:122:ILE:HD13	38:BD:122:ILE:N	2.26	0.49
46:BL:85:ARG:HA	46:BL:93:ARG:HA	1.93	0.49
47:BM:3:ILE:O	47:BM:4:ALA:HB3	2.11	0.49
48:BN:3:GLN:HA	48:BN:6:LYS:HE3	1.93	0.49
52:BR:52:ARG:HG3	52:BR:52:ARG:HH11	1.77	0.49
58:BZ:158:ILE:CD1	58:BZ:162:LEU:HD12	2.37	0.49
1:AA:12:U:H2'	1:AA:13:A:H5'	1.93	0.49
1:AA:189:G:P	27:A1:13:THR:HG21	2.52	0.49
1:AA:1077:A:H5'	11:AK:93:ASN:CG	2.33	0.49
1:AA:1371:G:O2'	1:AA:1372:U:H5"	2.13	0.49
1:AA:1606:C:H4'	1:AA:1608:A:C4	2.48	0.49
6:AF:88:ARG:NE	6:AF:88:ARG:HA	2.28	0.49
7:AG:157:THR:HG22	7:AG:159:ALA:H	1.76	0.49
17:AQ:2:ARG:HD3	17:AQ:5:LYS:HB2	1.94	0.49
17:AQ:13:ASN:HD22	17:AQ:13:ASN:N	2.09	0.49
17:AQ:24:MET:HE2	17:AQ:44:LEU:HD13	1.95	0.49
17:AQ:106:ASP:OD1	17:AQ:108:ALA:HB2	2.12	0.49
20:AT:13:HIS:O	20:AT:17:LEU:HD23	2.13	0.49
35:BA:1050:G:N2	58:BZ:585:ASP:OD1	2.45	0.49
35:BA:1336:C:H4'	35:BA:1337:G:O4'	2.13	0.49
36:BB:66:ILE:HD12	36:BB:159:ALA:HB3	1.95	0.49
36:BB:89:PHE:HD2	36:BB:149:GLY:O	1.96	0.49
36:BB:121:GLN:CD	36:BB:121:GLN:H	2.15	0.49
38:BD:121:ALA:O	38:BD:144:ILE:HG23	2.13	0.49
40:BF:18:VAL:HG21	40:BF:58:HIS:ND1	2.28	0.49
46:BL:41:PRO:CG	46:BL:47:ALA:H	2.23	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BR:41:SER:HB2	52:BR:51:GLN:NE2	2.27	0.49
52:BR:49:LYS:HA	52:BR:52:ARG:NH1	2.26	0.49
58:BZ:141:VAL:O	58:BZ:141:VAL:HG13	2.12	0.49
58:BZ:209:ALA:O	58:BZ:211:MET:N	2.45	0.49
58:BZ:519:VAL:HG11	58:BZ:580:PHE:HB3	1.94	0.49
58:BZ:619:VAL:O	58:BZ:655:HIS:HA	2.13	0.49
58:BZ:659:PRO:HB2	58:BZ:662:GLU:H	1.77	0.49
1:AA:29:U:H5"	20:AT:6:GLY:HA3	1.94	0.49
1:AA:227:A:N6	1:AA:410:G:O2'	2.41	0.49
1:AA:751:A:O4'	22:AV:90:LYS:HA	2.12	0.49
1:AA:1342:A:C5'	23:AW:59:ASN:ND2	2.76	0.49
1:AA:1914:C:H5'	59:BY:4:SER:O	2.13	0.49
1:AA:2248:C:H42	1:AA:2256:G:H1	1.60	0.49
7:AG:160:LYS:N	7:AG:160:LYS:HD2	2.26	0.49
8:AH:32:LEU:HD12	8:AH:32:LEU:N	2.27	0.49
8:AH:68:ARG:C	8:AH:68:ARG:HD3	2.33	0.49
12:AL:101:LYS:HD3	12:AL:121:LYS:O	2.13	0.49
15:AO:19:LEU:HD22	15:AO:31:GLY:O	2.13	0.49
22:AV:81:SER:HA	22:AV:99:ARG:HA	1.95	0.49
23:AW:73:ARG:HH21	23:AW:73:ARG:CA	2.24	0.49
28:A2:23:ARG:HA	28:A2:23:ARG:HE	1.78	0.49
35:BA:692:U:H5	45:BK:27:ASN:ND2	2.11	0.49
35:BA:1333:A:H2'	35:BA:1334:G:O4'	2.12	0.49
35:BA:1516:G:H2'	35:BA:1518:A:OP2	2.13	0.49
40:BF:91:ARG:HG3	40:BF:92:THR:N	2.27	0.49
41:BG:15:PRO:HB2	43:BI:45:MET:HE2	1.93	0.49
41:BG:74:VAL:HG11	41:BG:143:MET:HG3	1.94	0.49
43:BI:48:ARG:HD3	43:BI:48:ARG:C	2.32	0.49
46:BL:42:LYS:CG	46:BL:43:LYS:H	2.25	0.49
52:BR:61:ALA:HB1	52:BR:66:LEU:HB2	1.94	0.49
58:BZ:209:ALA:C	58:BZ:211:MET:H	2.16	0.49
58:BZ:522:MET:SD	58:BZ:604:GLY:HA3	2.53	0.49
58:BZ:623:THR:O	58:BZ:624:PRO:C	2.51	0.49
1:AA:797:G:P	6:AF:57:LYS:HB2	2.53	0.49
1:AA:1015:U:H2'	1:AA:1016:G:C8	2.48	0.49
1:AA:1662:U:H2'	1:AA:1663:G:C8	2.48	0.49
1:AA:1822:C:H2'	1:AA:1823:G:H8	1.78	0.49
2:AB:5:U:H2'	2:AB:6:G:C8	2.48	0.49
7:AG:43:ILE:HD13	7:AG:43:ILE:H	1.78	0.49
7:AG:102:LEU:HD21	7:AG:153:ILE:HG21	1.95	0.49
14:AN:116:ILE:HD12	14:AN:116:ILE:C	2.32	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A6:34:ARG:HB3	32:A6:39:ARG:HG3	1.94	0.49
35:BA:1024:G:C2'	35:BA:1025:U:H5'	2.43	0.49
36:BB:42:LEU:HD12	36:BB:43:GLU:N	2.28	0.49
37:BC:148:ILE:HD12	37:BC:201:ILE:HG12	1.95	0.49
43:BI:117:LEU:HD12	43:BI:117:LEU:N	2.27	0.49
44:BJ:89:ARG:HH11	44:BJ:89:ARG:CA	2.26	0.49
45:BK:81:LEU:N	45:BK:81:LEU:HD23	2.27	0.49
45:BK:96:ILE:HD12	45:BK:97:ARG:N	2.28	0.49
48:BN:90:ARG:HB2	48:BN:90:ARG:HH11	1.76	0.49
51:BQ:7:LEU:N	51:BQ:7:LEU:HD12	2.27	0.49
56:BW:60:U:H5"	56:BW:61:C:H5	1.77	0.49
58:BZ:34:THR:HB	58:BZ:70:ALA:HB3	1.93	0.49
58:BZ:327:ASP:HB3	58:BZ:331:GLY:H	1.77	0.49
58:BZ:351:ASN:OD1	58:BZ:353:VAL:HG12	2.13	0.49
1:AA:1086:A:H3'	1:AA:1086:A:N3	2.28	0.49
1:AA:1386:C:H1'	1:AA:1470:A:H1'	1.94	0.49
1:AA:1755:A:H2'	1:AA:1756:G:H5'	1.95	0.49
1:AA:1818:U:H2'	4:AD:155:ARG:HB2	1.94	0.49
1:AA:2200:C:P	27:A1:36:ARG:HD3	2.53	0.49
1:AA:2224:G:H4'	1:AA:2226:C:C2	2.48	0.49
1:AA:2581:G:H2'	1:AA:2581:G:N3	2.28	0.49
1:AA:2660:A:H2'	1:AA:2661:G:O4'	2.13	0.49
2:AB:15:A:O2'	2:AB:16:G:H5'	2.13	0.49
4:AD:130:PRO:HB2	4:AD:132:ARG:HG2	1.95	0.49
4:AD:202:ARG:NH2	4:AD:213:ARG:HH21	2.10	0.49
5:AE:12:THR:CG2	5:AE:13:ARG:H	2.16	0.49
12:AL:70:ILE:O	12:AL:74:ARG:HG2	2.12	0.49
17:AQ:47:VAL:C	17:AQ:50:PRO:HD2	2.33	0.49
18:AR:97:PHE:HB3	18:AR:103:VAL:HG21	1.94	0.49
24:AX:95:PHE:CE1	24:AX:102:ILE:HG12	2.48	0.49
33:A7:28:LEU:C	33:A7:29:ARG:HD2	2.34	0.49
35:BA:526:C:H2'	35:BA:527:G:H5'	1.95	0.49
35:BA:545:C:P	38:BD:61:ARG:HH12	2.36	0.49
35:BA:587:G:H4'	42:BH:3:GLN:HA	1.94	0.49
35:BA:1491:G:H5'	46:BL:90:PRO:CG	2.40	0.49
38:BD:57:LYS:HD2	38:BD:57:LYS:C	2.32	0.49
38:BD:100:VAL:O	38:BD:100:VAL:HG12	2.12	0.49
43:BI:54:VAL:HG21	43:BI:86:LEU:HD21	1.95	0.49
54:BT:59:ARG:O	54:BT:63:LYS:HG2	2.13	0.49
58:BZ:197:ASP:O	58:BZ:199:GLY:N	2.45	0.49
58:BZ:422:PRO:HG3	58:BZ:428:GLN:CA	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:634:ASP:OD2	58:BZ:666:TYR:HE1	1.96	0.49
1:AA:584:C:H5	20:AT:5:ARG:HH12	1.61	0.48
1:AA:598:U:H2'	1:AA:599:A:C8	2.48	0.48
1:AA:1083:U:OP1	10:AJ:50:VAL:CG2	2.39	0.48
1:AA:2430:A:H3'	1:AA:2430:A:N3	2.27	0.48
1:AA:2450:A:HO2'	56:BV:76:A:H2	1.61	0.48
1:AA:2636:C:H2'	1:AA:2637:U:C6	2.48	0.48
3:AC:74:ARG:HH11	3:AC:74:ARG:CB	2.26	0.48
4:AD:200:MET:HG3	4:AD:201:LEU:HD12	1.95	0.48
8:AH:100:ASN:H	8:AH:100:ASN:ND2	2.11	0.48
19:AS:90:ALA:HB2	19:AS:112:ARG:CA	2.43	0.48
21:AU:38:VAL:HG13	21:AU:54:VAL:CG2	2.42	0.48
29:A3:26:LEU:HD21	29:A3:46:MET:HB2	1.94	0.48
32:A6:31:LEU:CB	32:A6:35:ARG:HH12	2.25	0.48
32:A6:42:LEU:HD22	32:A6:42:LEU:N	2.27	0.48
34:A8:2:LYS:HE2	34:A8:4:ARG:NE	2.20	0.48
35:BA:205:A:H2'	35:BA:206:C:H5'	1.94	0.48
35:BA:396:C:C2'	35:BA:397:A:H5"	2.41	0.48
35:BA:579:A:C4'	35:BA:728:A:N3	2.75	0.48
35:BA:1129:C:C2	35:BA:1139:G:C6	3.00	0.48
35:BA:1323:G:O2'	35:BA:1362:A:H4'	2.13	0.48
35:BA:1374:A:H4'	41:BG:27:ASN:HD22	1.77	0.48
36:BB:163:ILE:HD11	36:BB:203:ASP:O	2.13	0.48
39:BE:121:ASN:HD22	39:BE:121:ASN:H	1.61	0.48
40:BF:79:ARG:HA	40:BF:79:ARG:NE	2.28	0.48
42:BH:77:VAL:HG11	42:BH:124:ILE:CD1	2.42	0.48
46:BL:89:LEU:HD12	46:BL:89:LEU:N	2.27	0.48
53:BS:10:ILE:HA	53:BS:37:SER:HA	1.94	0.48
58:BZ:18:HIS:NE2	58:BZ:122:GLN:HB2	2.27	0.48
58:BZ:288:SER:OG	58:BZ:290:VAL:HG12	2.13	0.48
58:BZ:612:LEU:HB2	58:BZ:690:ALA:CB	2.43	0.48
1:AA:527:C:H4'	1:AA:528:A:O4'	2.13	0.48
1:AA:1209:U:H2'	1:AA:1210:G:H21	1.78	0.48
1:AA:1434:A:H2'	1:AA:1435:G:C8	2.48	0.48
1:AA:1542:U:H2'	1:AA:1543:G:O4'	2.13	0.48
1:AA:1637:A:H4'	1:AA:2711:A:O2'	2.13	0.48
1:AA:2020:A:H5'	30:A4:8:THR:CG2	2.43	0.48
1:AA:2157:G:O2'	1:AA:2158:A:O5'	2.29	0.48
2:AB:5:U:H2'	2:AB:6:G:H8	1.78	0.48
3:AC:193:LEU:HD22	3:AC:226:GLN:HG3	1.95	0.48
13:AM:141:ASP:O	13:AM:142:ILE:HD12	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AN:41:ILE:C	14:AN:41:ILE:HD12	2.34	0.48
17:AQ:31:HIS:O	17:AQ:33:ILE:HG22	2.13	0.48
17:AQ:69:ARG:HD3	17:AQ:69:ARG:N	2.28	0.48
18:AR:5:SER:HA	18:AR:8:ILE:HD12	1.94	0.48
18:AR:17:LYS:O	18:AR:17:LYS:HD3	2.14	0.48
29:A3:50:VAL:HA	29:A3:52:PHE:CE1	2.49	0.48
35:BA:619:U:O2	38:BD:129:VAL:HG13	2.13	0.48
36:BB:173:LYS:C	36:BB:173:LYS:HD3	2.33	0.48
46:BL:43:LYS:HB2	46:BL:43:LYS:HZ3	1.77	0.48
46:BL:101:LEU:N	46:BL:101:LEU:HD12	2.28	0.48
48:BN:16:ALA:HA	48:BN:55:SER:O	2.12	0.48
50:BP:5:ARG:O	50:BP:19:VAL:HA	2.13	0.48
58:BZ:95:PHE:CG	58:BZ:98:GLU:HB2	2.48	0.48
58:BZ:116:VAL:CB	58:BZ:146:ARG:HD2	2.41	0.48
58:BZ:363:ILE:CD1	58:BZ:376:GLU:HA	2.42	0.48
58:BZ:545:ILE:HG23	58:BZ:593:PHE:CE1	2.48	0.48
58:BZ:662:GLU:HA	58:BZ:662:GLU:OE1	2.13	0.48
1:AA:196:A:H2'	1:AA:196:A:N3	2.29	0.48
1:AA:231:A:C2'	1:AA:232:G:H5'	2.43	0.48
1:AA:644:A:H2'	1:AA:645:C:C5'	2.44	0.48
1:AA:700:G:H2'	1:AA:701:G:C8	2.48	0.48
1:AA:1599:U:C5'	23:AW:39:THR:HG23	2.43	0.48
1:AA:1924:C:H3'	1:AA:1925:C:C5'	2.42	0.48
1:AA:2609:U:O2'	1:AA:2610:C:H5'	2.14	0.48
5:AE:25:THR:O	5:AE:27:ILE:HG13	2.14	0.48
7:AG:37:MET:SD	7:AG:149:ARG:HG2	2.53	0.48
11:AK:15:GLY:HA2	11:AK:50:LYS:HB3	1.95	0.48
25:AY:4:ILE:HD11	25:AY:56:PHE:HE1	1.77	0.48
35:BA:132:C:H5"	54:BT:68:LYS:HZ1	1.79	0.48
35:BA:518:C:OP1	58:BZ:510:GLY:CA	2.54	0.48
35:BA:835:U:OP1	52:BR:52:ARG:CZ	2.61	0.48
35:BA:880:C:C6	46:BL:5:GLN:NE2	2.81	0.48
36:BB:52:ALA:O	36:BB:56:LEU:HB2	2.14	0.48
37:BC:55:VAL:O	37:BC:65:VAL:HA	2.12	0.48
37:BC:77:GLY:HA3	37:BC:82:ASP:OD1	2.13	0.48
38:BD:104:MET:O	38:BD:172:VAL:HG21	2.12	0.48
42:BH:88:LYS:HG3	42:BH:89:ASP:OD1	2.12	0.48
47:BM:13:HIS:HB2	47:BM:16:ILE:HD12	1.94	0.48
49:BO:31:LEU:O	49:BO:35:ILE:HG13	2.13	0.48
50:BP:12:LYS:HG2	50:BP:13:LYS:HG2	1.95	0.48
52:BR:71:ASP:OD1	55:BU:3:ILE:HG21	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:96:THR:O	58:BZ:100:GLU:HB3	2.13	0.48
58:BZ:151:PHE:O	58:BZ:155:VAL:HG13	2.13	0.48
1:AA:63:A:O3'	23:AW:77:ARG:HG3	2.13	0.48
1:AA:187:G:C3'	1:AA:188:G:H5"	2.43	0.48
1:AA:244:A:H2'	1:AA:245:G:O4'	2.13	0.48
1:AA:254:G:H2'	1:AA:255:A:H5"	1.94	0.48
1:AA:402:A:H2'	1:AA:403:U:H5'	1.96	0.48
1:AA:796:C:OP1	6:AF:57:LYS:HE2	2.12	0.48
1:AA:862:G:H2'	1:AA:863:A:O4'	2.14	0.48
1:AA:1372:U:H2'	1:AA:1373:A:O4'	2.13	0.48
1:AA:2011:U:H2'	1:AA:2012:G:O4'	2.13	0.48
1:AA:2570:G:H2'	1:AA:2571:U:O4'	2.13	0.48
1:AA:2646:C:H2'	1:AA:2647:U:O4'	2.13	0.48
3:AC:181:ASP:HB2	3:AC:184:LYS:HG2	1.95	0.48
5:AE:21:SER:HB2	14:AN:73:ASP:O	2.14	0.48
7:AG:135:ILE:H	7:AG:135:ILE:CD1	2.25	0.48
8:AH:100:ASN:ND2	8:AH:101:VAL:HG23	2.28	0.48
10:AJ:60:LEU:HD21	10:AJ:82:ILE:HD13	1.95	0.48
11:AK:52:LEU:N	11:AK:52:LEU:HD12	2.28	0.48
16:AP:20:LEU:HD22	16:AP:20:LEU:N	2.28	0.48
21:AU:80:ARG:HB2	21:AU:80:ARG:CZ	2.44	0.48
28:A2:39:GLN:HB2	28:A2:41:HIS:ND1	2.29	0.48
35:BA:866:C:H4'	35:BA:919:A:H5"	1.95	0.48
35:BA:946:A:H2'	35:BA:947:G:C8	2.48	0.48
38:BD:159:GLU:C	38:BD:161:ALA:H	2.17	0.48
41:BG:58:LEU:H	41:BG:58:LEU:CD2	2.24	0.48
42:BH:125:ILE:H	42:BH:125:ILE:CD1	2.24	0.48
45:BK:58:THR:HB	45:BK:59:PRO:HD2	1.95	0.48
58:BZ:92:HIS:HE1	58:BZ:468:ILE:HG12	1.77	0.48
58:BZ:538:ASN:OD1	58:BZ:540:ILE:HG12	2.13	0.48
1:AA:184:C:H4'	1:AA:217:A:H2	1.76	0.48
1:AA:1223:G:O6	21:AU:71:LYS:NZ	2.47	0.48
4:AD:74:PRO:HB2	4:AD:96:LYS:CD	2.44	0.48
4:AD:91:ALA:HB2	4:AD:105:ALA:HB2	1.94	0.48
5:AE:3:GLY:C	5:AE:4:LEU:HD22	2.34	0.48
6:AF:131:THR:HB	6:AF:164:LEU:HD21	1.94	0.48
8:AH:106:LEU:HD13	8:AH:151:ARG:HB3	1.94	0.48
19:AS:90:ALA:HB2	19:AS:112:ARG:HA	1.95	0.48
23:AW:61:LEU:CD1	23:AW:82:LYS:HB3	2.44	0.48
35:BA:1379:G:O2'	35:BA:1380:U:H5'	2.13	0.48
35:BA:1513:A:H2'	35:BA:1514:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BH:13:ILE:HG23	42:BH:62:LEU:CD1	2.44	0.48
58:BZ:414:PRO:O	58:BZ:415:VAL:CG2	2.54	0.48
1:AA:482:A:H1'	1:AA:498:G:N2	2.28	0.48
1:AA:646:U:C5'	1:AA:647:G:H5"	2.44	0.48
1:AA:710:U:H2'	1:AA:711:G:H8	1.79	0.48
1:AA:1025:G:H3'	1:AA:1026:G:C5'	2.43	0.48
1:AA:1053:C:H2'	1:AA:1054:A:C5'	2.44	0.48
1:AA:2667:C:N3	8:AH:109:SER:OG	2.34	0.48
3:AC:30:LEU:HD23	3:AC:30:LEU:C	2.34	0.48
3:AC:51:ASP:OD1	3:AC:54:LYS:HG3	2.14	0.48
4:AD:264:LYS:HD3	4:AD:264:LYS:C	2.33	0.48
5:AE:35:THR:O	5:AE:71:ALA:HB2	2.12	0.48
10:AJ:50:VAL:HG13	10:AJ:50:VAL:O	2.14	0.48
11:AK:45:THR:HG22	11:AK:50:LYS:HG3	1.94	0.48
13:AM:47:HIS:ND1	13:AM:48:VAL:HG23	2.28	0.48
13:AM:105:VAL:O	13:AM:109:LEU:HG	2.13	0.48
23:AW:61:LEU:C	23:AW:61:LEU:HD12	2.34	0.48
35:BA:751:U:C2'	35:BA:752:G:H5'	2.44	0.48
35:BA:950:U:H1'	35:BA:971:G:C5	2.48	0.48
35:BA:1330:U:H2'	35:BA:1331:G:H5'	1.95	0.48
36:BB:53:LEU:HD22	36:BB:53:LEU:N	2.28	0.48
38:BD:31:CYS:O	38:BD:32:LYS:HB2	2.14	0.48
39:BE:72:ASN:HD22	39:BE:72:ASN:N	2.11	0.48
41:BG:29:LEU:HA	41:BG:104:VAL:HG11	1.95	0.48
41:BG:45:ALA:HB1	41:BG:119:LEU:HD22	1.96	0.48
41:BG:52:ARG:NH2	41:BG:124:SER:HB2	2.29	0.48
44:BJ:59:LYS:H	44:BJ:59:LYS:CD	2.26	0.48
46:BL:50:LYS:HD2	46:BL:50:LYS:N	2.28	0.48
47:BM:21:ILE:HG23	47:BM:65:GLU:OE2	2.12	0.48
47:BM:40:GLU:HG3	47:BM:41:ASP:N	2.20	0.48
48:BN:81:ARG:HG2	48:BN:81:ARG:HH11	1.78	0.48
49:BO:86:LEU:HD23	49:BO:86:LEU:N	2.28	0.48
55:BU:52:VAL:HG22	55:BU:53:LYS:HG2	1.96	0.48
58:BZ:143:LYS:O	58:BZ:149:ALA:HB1	2.14	0.48
1:AA:231:A:H2'	1:AA:232:G:H5'	1.95	0.48
1:AA:821:A:O2'	1:AA:945:A:H3'	2.13	0.48
1:AA:971:G:H2'	1:AA:972:A:O4'	2.13	0.48
1:AA:1081:U:H2'	1:AA:1082:U:C6	2.49	0.48
4:AD:104:LEU:HD12	4:AD:104:LEU:H	1.77	0.48
6:AF:77:ILE:HG13	6:AF:78:TRP:CD1	2.48	0.48
6:AF:164:LEU:H	6:AF:164:LEU:CD2	2.25	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:71:LEU:O	8:AH:75:VAL:HG23	2.13	0.48
15:AO:38:GLN:O	15:AO:44:GLY:HA3	2.14	0.48
25:AY:82:TYR:CD1	25:AY:83:LYS:HG3	2.49	0.48
35:BA:257:G:H2'	35:BA:258:G:C8	2.48	0.48
35:BA:921:U:H5"	35:BA:1082:A:C5'	2.44	0.48
35:BA:940:C:H2'	35:BA:941:G:H8	1.78	0.48
36:BB:18:GLN:CG	36:BB:189:ASN:HD22	2.23	0.48
37:BC:54:ILE:HG13	37:BC:54:ILE:O	2.14	0.48
37:BC:58:ARG:NH1	37:BC:63:ILE:HD12	2.28	0.48
39:BE:73:VAL:HG23	39:BE:75:LEU:HD11	1.96	0.48
39:BE:136:VAL:HG22	39:BE:136:VAL:O	2.14	0.48
42:BH:28:SER:HB2	42:BH:58:LEU:HB2	1.94	0.48
46:BL:3:VAL:O	46:BL:7:VAL:HG23	2.13	0.48
47:BM:49:GLU:OE2	47:BM:52:ILE:HD12	2.13	0.48
50:BP:8:ARG:NH2	50:BP:15:PRO:HB3	2.29	0.48
51:BQ:79:GLU:C	51:BQ:80:LYS:HD3	2.34	0.48
53:BS:28:LYS:HB3	53:BS:29:PRO:CD	2.38	0.48
58:BZ:89:THR:O	58:BZ:90:PRO:C	2.51	0.48
1:AA:288:U:H2'	1:AA:289:G:H8	1.79	0.48
1:AA:533:G:H5'	20:AT:23:TYR:CD2	2.49	0.48
1:AA:703:U:C2'	1:AA:704:G:H5'	2.44	0.48
1:AA:2053:G:H5'	5:AE:149:ASN:O	2.14	0.48
1:AA:2164:C:H2'	1:AA:2165:C:H5	1.79	0.48
1:AA:2251:G:H2'	1:AA:2252:G:C8	2.49	0.48
1:AA:2261:C:C6	26:AZ:12:SER:HB3	2.48	0.48
1:AA:2741:A:C5'	34:A8:36:ARG:NH2	2.67	0.48
7:AG:107:VAL:HB	7:AG:108:PRO:HD3	1.95	0.48
7:AG:124:ARG:HA	7:AG:124:ARG:NE	2.28	0.48
23:AW:61:LEU:HD11	23:AW:82:LYS:HB3	1.96	0.48
25:AY:31:TYR:HA	25:AY:93:ARG:HH12	1.79	0.48
26:AZ:16:ARG:HD2	26:AZ:16:ARG:H	1.77	0.48
27:A1:20:ALA:HB3	27:A1:22:ASN:OD1	2.14	0.48
29:A3:43:ILE:O	29:A3:47:ILE:HG13	2.14	0.48
35:BA:29:U:O2'	35:BA:30:U:H5'	2.14	0.48
35:BA:663:A:H5'	35:BA:836:G:OP1	2.14	0.48
35:BA:818:G:O2'	35:BA:819:A:H5'	2.14	0.48
35:BA:829:G:C4'	36:BB:24:PRO:HG3	2.43	0.48
37:BC:111:ASP:OD2	37:BC:114:LEU:HG	2.13	0.48
38:BD:13:ARG:CZ	38:BD:37:PRO:HB3	2.44	0.48
38:BD:37:PRO:HD2	38:BD:41:GLY:CA	2.44	0.48
38:BD:131:ILE:CD1	38:BD:134:TYR:HB2	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BI:11:ARG:C	43:BI:11:ARG:HD3	2.33	0.48
43:BI:20:ILE:HG21	43:BI:60:LEU:HD12	1.94	0.48
43:BI:50:PRO:HG3	43:BI:82:ILE:HD12	1.95	0.48
43:BI:116:GLY:C	43:BI:117:LEU:HD12	2.34	0.48
44:BJ:37:ARG:HA	44:BJ:37:ARG:HE	1.78	0.48
45:BK:87:GLY:N	45:BK:113:THR:HG22	2.21	0.48
48:BN:20:PHE:HA	48:BN:24:ALA:CB	2.43	0.48
54:BT:14:GLU:OE1	54:BT:18:LYS:HE2	2.13	0.48
58:BZ:622:GLU:HA	58:BZ:652:VAL:O	2.14	0.48
1:AA:288:U:H2'	1:AA:289:G:C8	2.49	0.48
1:AA:1462:C:H2'	1:AA:1463:C:C5'	2.44	0.48
1:AA:1822:C:H2'	1:AA:1823:G:C8	2.49	0.48
1:AA:1912:A:H5"	1:AA:1913:A:OP1	2.14	0.48
1:AA:2023:C:H4'	1:AA:2617:U:O3'	2.14	0.48
1:AA:2394:C:N4	56:BW:76:A:N3	2.61	0.48
1:AA:2463:C:H2'	1:AA:2464:G:C8	2.48	0.48
1:AA:2628:C:H3'	1:AA:2629:U:H5'	1.95	0.48
1:AA:2710:C:H2'	1:AA:2711:A:C8	2.49	0.48
4:AD:70:LYS:HE3	4:AD:73:ILE:HD12	1.95	0.48
4:AD:166:ARG:HH21	4:AD:166:ARG:CB	2.27	0.48
6:AF:48:THR:C	6:AF:50:ALA:H	2.16	0.48
21:AU:49:ILE:HB	21:AU:51:VAL:O	2.13	0.48
33:A7:28:LEU:HA	33:A7:32:LEU:HD21	1.96	0.48
35:BA:396:C:C3'	35:BA:397:A:H5"	2.44	0.48
35:BA:1328:C:H2'	35:BA:1329:A:C8	2.49	0.48
36:BB:26:MET:HG2	36:BB:188:THR:HA	1.96	0.48
36:BB:165:ALA:HB2	36:BB:186:VAL:HG12	1.95	0.48
38:BD:29:THR:HB	38:BD:30:LYS:HZ2	1.79	0.48
47:BM:26:LYS:O	47:BM:26:LYS:HD3	2.14	0.48
55:BU:11:PHE:CD2	55:BU:11:PHE:N	2.81	0.48
1:AA:933:A:H3'	1:AA:933:A:N3	2.29	0.48
1:AA:1342:A:H5"	23:AW:59:ASN:ND2	2.29	0.48
1:AA:1358:G:H1'	1:AA:1374:G:N2	2.29	0.48
1:AA:1669:A:O4'	14:AN:5:GLN:HG3	2.13	0.48
7:AG:102:LEU:O	7:AG:107:VAL:HG23	2.14	0.48
8:AH:2:ARG:HG3	8:AH:2:ARG:HH21	1.79	0.48
8:AH:100:ASN:H	8:AH:100:ASN:HD22	1.61	0.48
9:AI:40:THR:C	9:AI:42:LYS:H	2.17	0.48
13:AM:23:LYS:HB2	13:AM:28:LEU:HD22	1.96	0.48
19:AS:31:VAL:HG11	19:AS:40:GLN:NE2	2.28	0.48
23:AW:11:LEU:HD23	23:AW:34:VAL:HG12	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:A4:24:VAL:HG13	30:A4:25:THR:N	2.29	0.48
35:BA:257:G:H2'	35:BA:258:G:H8	1.79	0.48
35:BA:517:G:H4'	35:BA:519:C:C4	2.49	0.48
38:BD:75:TYR:CE2	38:BD:203:TYR:HB2	2.49	0.48
39:BE:121:ASN:N	39:BE:121:ASN:ND2	2.61	0.48
40:BF:3:HIS:N	40:BF:92:THR:HG23	2.22	0.48
42:BH:21:LYS:HE2	42:BH:21:LYS:CA	2.44	0.48
46:BL:98:ARG:HD2	46:BL:103:CYS:SG	2.54	0.48
48:BN:30:ILE:HD12	48:BN:30:ILE:H	1.79	0.48
48:BN:50:THR:CG2	53:BS:12:LEU:HD12	2.44	0.48
48:BN:90:ARG:HH11	48:BN:90:ARG:CB	2.27	0.48
49:BO:62:ARG:O	49:BO:66:LEU:HG	2.14	0.48
54:BT:48:LYS:C	54:BT:48:LYS:HD3	2.34	0.48
1:AA:729:G:H4'	1:AA:763:G:C5'	2.44	0.47
1:AA:1482:G:H1'	1:AA:1509:A:H61	1.79	0.47
1:AA:1813:G:H4'	4:AD:43:ASN:HA	1.95	0.47
1:AA:1883:U:H2'	1:AA:1884:G:H5'	1.95	0.47
1:AA:1914:C:N4	35:BA:1409:C:O2'	2.46	0.47
1:AA:2719:G:H5"	19:AS:95:LYS:NZ	2.29	0.47
1:AA:2720:U:H5'	1:AA:2846:G:H4'	1.96	0.47
6:AF:200:LEU:HD22	6:AF:200:LEU:N	2.29	0.47
7:AG:43:ILE:HD13	7:AG:43:ILE:N	2.29	0.47
7:AG:120:SER:HB2	7:AG:127:TYR:CE1	2.48	0.47
8:AH:167:VAL:O	8:AH:167:VAL:HG13	2.14	0.47
16:AP:10:ARG:HB3	16:AP:10:ARG:NH2	2.29	0.47
20:AT:60:TRP:O	20:AT:64:ILE:HG13	2.14	0.47
27:A1:52:ALA:HA	27:A1:55:MET:HE2	1.95	0.47
34:A8:19:ARG:C	34:A8:21:GLY:H	2.17	0.47
35:BA:32:A:H61	35:BA:552:U:H3	1.62	0.47
35:BA:235:C:H2'	35:BA:236:A:C8	2.49	0.47
35:BA:315:A:O2'	35:BA:330:C:H4'	2.13	0.47
35:BA:428:G:H4'	35:BA:429:U:O5'	2.13	0.47
35:BA:482:A:H2'	35:BA:483:C:O4'	2.14	0.47
35:BA:1125:U:O2'	35:BA:1126:U:H2'	2.14	0.47
35:BA:1243:C:H2'	35:BA:1244:G:C8	2.49	0.47
36:BB:56:LEU:C	36:BB:56:LEU:HD13	2.34	0.47
38:BD:103:ARG:HG2	38:BD:103:ARG:HH11	1.79	0.47
40:BF:62:MET:HG3	40:BF:63:ASN:N	2.29	0.47
48:BN:16:ALA:O	48:BN:20:PHE:HB2	2.14	0.47
51:BQ:5:ARG:NH1	51:BQ:5:ARG:HB3	2.29	0.47
58:BZ:187:LYS:HD2	58:BZ:189:LYS:HE2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:287:PRO:HB2	58:BZ:291:ASP:HB2	1.96	0.47
58:BZ:500:ASP:CG	58:BZ:501:VAL:H	2.16	0.47
1:AA:68:G:H2'	1:AA:69:C:O4'	2.14	0.47
1:AA:492:A:H2'	1:AA:493:G:O4'	2.14	0.47
1:AA:593:U:H2'	1:AA:594:U:C6	2.50	0.47
1:AA:1077:A:H2	1:AA:1088:A:H2'	1.78	0.47
1:AA:1289:C:O2'	1:AA:1330:C:H4'	2.13	0.47
1:AA:2489:U:C2'	1:AA:2490:G:H5'	2.43	0.47
7:AG:90:LEU:HB3	7:AG:95:MET:HA	1.96	0.47
8:AH:100:ASN:HD22	8:AH:100:ASN:N	2.11	0.47
9:AI:47:PHE:HA	9:AI:50:ARG:HD2	1.96	0.47
12:AL:81:LEU:CD2	58:BZ:228:GLU:HG2	2.44	0.47
15:AO:61:LEU:O	33:A7:12:ARG:HD3	2.13	0.47
17:AQ:102:PHE:HD1	17:AQ:109:PRO:HA	1.79	0.47
23:AW:13:ALA:HA	28:A2:30:MET:SD	2.54	0.47
28:A2:15:ASN:O	28:A2:19:LEU:HG	2.14	0.47
35:BA:912:C:O2'	35:BA:913:A:H5'	2.13	0.47
45:BK:83:VAL:HG11	45:BK:96:ILE:CG2	2.42	0.47
52:BR:29:LYS:HD2	52:BR:29:LYS:C	2.35	0.47
58:BZ:30:ILE:CG2	58:BZ:86:ILE:HD11	2.44	0.47
58:BZ:92:HIS:NE2	58:BZ:465:HIS:N	2.62	0.47
58:BZ:670:LEU:C	58:BZ:670:LEU:HD13	2.33	0.47
1:AA:606:U:OP2	6:AF:99:LYS:HE2	2.14	0.47
1:AA:858:G:H8	1:AA:858:G:OP2	1.97	0.47
1:AA:953:G:H3'	16:AP:16:ARG:CZ	2.43	0.47
1:AA:1032:A:H5'	34:A8:7:VAL:O	2.14	0.47
1:AA:1417:C:C1'	1:AA:1587:G:H21	2.25	0.47
1:AA:2691:C:H2'	1:AA:2692:G:C8	2.49	0.47
2:AB:50:A:OP1	18:AR:68:LYS:HG3	2.14	0.47
3:AC:3:LYS:HG2	3:AC:4:LEU:HD12	1.96	0.47
3:AC:15:VAL:HG22	3:AC:29:LEU:HD21	1.96	0.47
3:AC:47:ASN:ND2	3:AC:210:LYS:HD3	2.29	0.47
4:AD:156:SER:O	4:AD:194:VAL:HG11	2.14	0.47
6:AF:105:LEU:HA	6:AF:108:ILE:HG22	1.96	0.47
10:AJ:59:LEU:O	10:AJ:63:ALA:HB2	2.14	0.47
10:AJ:61:ARG:HH12	10:AJ:73:LYS:HG2	1.78	0.47
11:AK:78:LEU:O	11:AK:82:ALA:HB3	2.14	0.47
15:AO:41:ARG:HH21	15:AO:41:ARG:HG2	1.79	0.47
18:AR:115:LEU:HG	18:AR:117:PHE:HD2	1.79	0.47
31:A5:32:LYS:HZ1	31:A5:50:GLU:HA	1.78	0.47
35:BA:577:G:N2	35:BA:765:G:H1'	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:1230:C:H5"	56:BW:30:G:H5"	1.97	0.47
35:BA:1478:U:H2'	35:BA:1479:C:C6	2.49	0.47
35:BA:1489:G:H2'	35:BA:1490:U:O4'	2.15	0.47
36:BB:91:VAL:HG11	36:BB:95:TRP:HD1	1.79	0.47
38:BD:55:ARG:HA	38:BD:55:ARG:NE	2.22	0.47
38:BD:78:ALA:HB1	38:BD:88:ASN:HB2	1.95	0.47
40:BF:24:ARG:HD3	40:BF:24:ARG:N	2.29	0.47
48:BN:2:LYS:HD3	48:BN:5:MET:HG2	1.96	0.47
48:BN:33:VAL:C	48:BN:34:ASN:HD22	2.18	0.47
49:BO:25:GLU:OE1	49:BO:25:GLU:N	2.48	0.47
54:BT:17:ARG:HD2	54:BT:17:ARG:C	2.35	0.47
56:BW:72:C:H2'	56:BW:73:A:C8	2.49	0.47
58:BZ:197:ASP:C	58:BZ:199:GLY:H	2.17	0.47
58:BZ:530:ASN:OD1	58:BZ:532:LYS:HB2	2.15	0.47
58:BZ:639:ARG:O	58:BZ:639:ARG:HG2	2.15	0.47
1:AA:81:G:H2'	1:AA:82:U:O4'	2.13	0.47
1:AA:211:C:H5'	1:AA:1366:A:O2'	2.14	0.47
1:AA:619:G:H3'	1:AA:620:G:N2	2.29	0.47
1:AA:686:U:H5"	32:A6:11:LYS:HE2	1.96	0.47
1:AA:796:C:OP1	6:AF:57:LYS:CE	2.61	0.47
1:AA:910:A:O2'	1:AA:2264:C:H4'	2.13	0.47
1:AA:1582:C:C3'	1:AA:1583:A:H5"	2.45	0.47
1:AA:2021:C:P	30:A4:8:THR:HG21	2.55	0.47
3:AC:197:LYS:HD3	3:AC:226:GLN:NE2	2.29	0.47
6:AF:178:VAL:HG13	6:AF:179:SER:N	2.29	0.47
7:AG:11:VAL:HG22	7:AG:171:ALA:HB1	1.95	0.47
10:AJ:119:PRO:HG2	10:AJ:122:GLN:HG2	1.95	0.47
15:AO:90:VAL:HG23	15:AO:120:VAL:CG2	2.42	0.47
18:AR:79:ALA:O	18:AR:83:LEU:HG	2.14	0.47
21:AU:29:THR:O	21:AU:29:THR:HG22	2.15	0.47
22:AV:41:LYS:HB2	22:AV:44:ALA:HB2	1.96	0.47
25:AY:18:ARG:HH11	25:AY:18:ARG:HG3	1.79	0.47
25:AY:29:ILE:HD13	25:AY:29:ILE:C	2.34	0.47
27:A1:3:VAL:HG13	27:A1:10:ARG:HB3	1.97	0.47
28:A2:49:ASP:O	28:A2:53:VAL:HG23	2.14	0.47
35:BA:880:C:OP2	46:BL:5:GLN:HG2	2.14	0.47
35:BA:1059:C:H4'	48:BN:85:ARG:NH2	2.30	0.47
35:BA:1238:A:H5"	35:BA:1336:C:H41	1.79	0.47
35:BA:1498:U:C4	57:BX:17:U:H4'	2.50	0.47
36:BB:94:ARG:NH1	36:BB:96:LEU:HA	2.29	0.47
38:BD:118:SER:C	38:BD:120:LYS:H	2.17	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BD:118:SER:HA	38:BD:130:ASN:O	2.14	0.47
43:BI:89:TYR:O	43:BI:90:ASP:OD2	2.31	0.47
50:BP:48:GLU:OE2	50:BP:51:ARG:HB2	2.14	0.47
58:BZ:533:GLY:O	58:BZ:573:ASP:HA	2.13	0.47
1:AA:103:A:H2'	1:AA:104:A:O4'	2.14	0.47
1:AA:471:A:OP1	6:AF:79:ARG:NH1	2.47	0.47
1:AA:951:C:H2'	1:AA:952:G:C8	2.49	0.47
1:AA:1124:G:H1'	34:A8:38:GLY:C	2.35	0.47
1:AA:2029:G:O6	1:AA:2032:G:H5"	2.14	0.47
1:AA:2466:C:H5"	34:A8:6:SER:HB2	1.96	0.47
4:AD:259:ASN:C	4:AD:261:ARG:H	2.18	0.47
5:AE:125:TRP:CG	5:AE:160:LYS:HB3	2.49	0.47
7:AG:131:VAL:O	7:AG:131:VAL:HG23	2.15	0.47
7:AG:131:VAL:HG23	7:AG:151:LEU:HB3	1.95	0.47
16:AP:21:ALA:CB	16:AP:100:LYS:HG2	2.45	0.47
18:AR:37:ALA:HB2	18:AR:106:LEU:HD11	1.96	0.47
30:A4:39:ARG:O	30:A4:40:HIS:HB2	2.15	0.47
31:A5:37:LYS:HB2	31:A5:48:TYR:CE2	2.49	0.47
35:BA:505:G:H4'	35:BA:534:U:C4	2.50	0.47
35:BA:521:G:H5'	46:BL:68:GLY:O	2.15	0.47
35:BA:950:U:H2'	35:BA:951:G:H8	1.78	0.47
35:BA:1020:G:H2'	35:BA:1021:A:C8	2.50	0.47
37:BC:6:PRO:HD2	37:BC:183:TYR:CD2	2.49	0.47
37:BC:166:TRP:HH2	39:BE:53:ARG:HH11	1.63	0.47
42:BH:28:SER:HB3	42:BH:56:PRO:CB	2.44	0.47
42:BH:100:ILE:C	42:BH:100:ILE:HD12	2.35	0.47
43:BI:112:ARG:NH2	44:BJ:64:GLN:NE2	2.62	0.47
50:BP:33:ILE:HG21	50:BP:60:TRP:CH2	2.50	0.47
58:BZ:320:LEU:HD13	58:BZ:320:LEU:C	2.34	0.47
58:BZ:583:TYR:HB2	58:BZ:588:SER:OG	2.14	0.47
1:AA:974:G:C5'	1:AA:1186:G:H21	2.27	0.47
1:AA:1153:C:OP1	20:AT:91:ARG:NH2	2.47	0.47
1:AA:1508:A:H2'	1:AA:1509:A:C8	2.49	0.47
1:AA:2831:G:P	5:AE:56:LYS:HE2	2.55	0.47
4:AD:226:PRO:CA	4:AD:232:GLY:HA2	2.45	0.47
6:AF:19:PHE:CE1	6:AF:109:LEU:HD23	2.49	0.47
8:AH:104:LEU:HD21	8:AH:130:ILE:HD11	1.97	0.47
10:AJ:39:THR:O	10:AJ:43:LYS:HG2	2.14	0.47
11:AK:3:LYS:CD	11:AK:4:VAL:H	2.28	0.47
11:AK:139:VAL:HG13	11:AK:139:VAL:O	2.15	0.47
13:AM:38:GLY:HA3	13:AM:50:THR:OG1	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AP:42:THR:OG1	16:AP:45:GLN:HG3	2.14	0.47
20:AT:79:ILE:HD12	20:AT:91:ARG:NH1	2.29	0.47
26:AZ:15:LYS:HB2	26:AZ:37:ARG:HH21	1.78	0.47
32:A6:10:LEU:HD11	32:A6:14:ARG:NE	2.30	0.47
36:BB:205:ALA:O	36:BB:209:VAL:HG22	2.15	0.47
37:BC:26:LYS:HB3	37:BC:26:LYS:HZ2	1.79	0.47
38:BD:2:ARG:HE	38:BD:114:ARG:CD	2.28	0.47
38:BD:196:GLU:O	38:BD:199:ILE:HG12	2.15	0.47
49:BO:28:VAL:HG11	49:BO:66:LEU:HD21	1.97	0.47
55:BU:8:ASN:HB3	55:BU:9:GLU:OE2	2.14	0.47
58:BZ:122:GLN:HE21	58:BZ:677:ARG:HA	1.79	0.47
58:BZ:214:LEU:O	58:BZ:214:LEU:HD23	2.14	0.47
58:BZ:531:PRO:O	58:BZ:533:GLY:N	2.43	0.47
1:AA:476:G:H4'	1:AA:502:A:N1	2.29	0.47
1:AA:578:G:H5'	1:AA:1254:A:OP1	2.15	0.47
1:AA:687:C:H4'	32:A6:3:ARG:O	2.15	0.47
1:AA:940:G:C3'	1:AA:941:A:H5"	2.45	0.47
1:AA:942:G:H2'	1:AA:943:A:O4'	2.15	0.47
1:AA:1028:A:N6	1:AA:1125:G:H2'	2.28	0.47
1:AA:1182:G:H2'	1:AA:1183:U:O4'	2.15	0.47
1:AA:1537:G:H3'	1:AA:1537:G:N3	2.30	0.47
1:AA:2266:A:H4'	1:AA:2267:A:C4	2.50	0.47
1:AA:2581:G:H4'	1:AA:2582:G:C8	2.49	0.47
2:AB:78:A:H62	2:AB:98:G:H21	1.62	0.47
3:AC:77:VAL:HG22	3:AC:79:THR:HG23	1.95	0.47
6:AF:164:LEU:HB2	6:AF:167:VAL:HB	1.96	0.47
7:AG:11:VAL:HG21	7:AG:172:PHE:CE1	2.50	0.47
7:AG:35:LEU:N	7:AG:35:LEU:HD12	2.30	0.47
7:AG:48:LEU:HD11	7:AG:149:ARG:HH22	1.80	0.47
8:AH:25:ILE:HG22	8:AH:78:VAL:HG21	1.96	0.47
9:AI:6:LEU:HD12	9:AI:6:LEU:N	2.29	0.47
9:AI:44:ILE:O	9:AI:48:GLU:HB2	2.15	0.47
13:AM:98:GLU:O	13:AM:102:GLU:HG3	2.15	0.47
15:AO:33:ARG:NE	15:AO:40:SER:HA	2.29	0.47
17:AQ:113:ILE:HG23	17:AQ:113:ILE:O	2.15	0.47
19:AS:82:SER:C	19:AS:83:ILE:HD12	2.35	0.47
20:AT:26:ALA:HB1	20:AT:30:VAL:HB	1.97	0.47
20:AT:54:ARG:O	20:AT:58:GLN:HG2	2.14	0.47
24:AX:27:VAL:HG23	24:AX:33:VAL:HG12	1.97	0.47
25:AY:16:ALA:O	25:AY:20:LEU:HG	2.14	0.47
28:A2:1:MET:O	28:A2:5:GLU:HG2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:A6:42:LEU:H	32:A6:42:LEU:CD2	2.27	0.47
35:BA:436:C:H2'	35:BA:437:U:C6	2.50	0.47
35:BA:620:C:H5'	38:BD:134:TYR:HE1	1.80	0.47
35:BA:1014:A:H2'	35:BA:1015:G:O4'	2.13	0.47
35:BA:1210:C:H2'	35:BA:1211:U:O4'	2.14	0.47
35:BA:1225:A:H2'	35:BA:1226:C:C5	2.50	0.47
35:BA:1518:A:H2'	35:BA:1519:A:C8	2.50	0.47
36:BB:131:LYS:HA	36:BB:135:MET:HE2	1.97	0.47
37:BC:168:ARG:HD2	37:BC:168:ARG:C	2.35	0.47
37:BC:176:THR:HG22	37:BC:179:ALA:H	1.79	0.47
38:BD:47:LEU:HD23	38:BD:47:LEU:N	2.23	0.47
38:BD:57:LYS:O	38:BD:61:ARG:HG3	2.15	0.47
38:BD:117:VAL:O	38:BD:130:ASN:HA	2.15	0.47
38:BD:146:GLU:OE1	38:BD:146:GLU:N	2.47	0.47
39:BE:118:GLY:O	39:BE:119:VAL:C	2.53	0.47
39:BE:132:PRO:O	39:BE:136:VAL:HG12	2.14	0.47
41:BG:61:PHE:HE1	41:BG:65:LEU:HD22	1.79	0.47
43:BI:117:LEU:HA	43:BI:124:PRO:CD	2.36	0.47
44:BJ:23:ALA:O	44:BJ:27:GLU:HB2	2.15	0.47
44:BJ:57:VAL:HG13	44:BJ:58:ASN:ND2	2.30	0.47
45:BK:121:ARG:HH11	45:BK:121:ARG:HG2	1.80	0.47
46:BL:75:GLU:O	46:BL:76:HIS:HB2	2.15	0.47
54:BT:82:ILE:C	54:BT:82:ILE:HD12	2.34	0.47
58:BZ:103:MET:HA	58:BZ:106:LEU:CD1	2.44	0.47
58:BZ:446:ARG:CG	58:BZ:448:TRP:NE1	2.77	0.47
58:BZ:492:GLU:OE2	58:BZ:566:LEU:HB2	2.15	0.47
1:AA:214:G:O2'	1:AA:215:G:H5'	2.14	0.47
1:AA:514:A:H5'	20:AT:10:ARG:NH2	2.29	0.47
1:AA:790:U:H3	1:AA:795:C:H5'	1.80	0.47
1:AA:922:C:H2'	1:AA:923:G:H8	1.80	0.47
1:AA:1594:U:H2'	1:AA:1595:C:C6	2.50	0.47
1:AA:1912:A:H61	1:AA:1918:A:H1'	1.78	0.47
1:AA:2807:U:O2	1:AA:2892:G:C2	2.67	0.47
4:AD:257:ARG:HH11	4:AD:257:ARG:HG2	1.80	0.47
7:AG:39:VAL:HG11	7:AG:42:ALA:HB2	1.97	0.47
8:AH:68:ARG:HD3	8:AH:68:ARG:O	2.14	0.47
8:AH:68:ARG:O	8:AH:72:ASN:HB2	2.15	0.47
10:AJ:47:GLU:HG2	11:AK:119:ALA:CB	2.45	0.47
12:AL:59:LEU:HB2	12:AL:95:LEU:HD11	1.96	0.47
13:AM:42:ALA:HB1	20:AT:99:VAL:HG22	1.96	0.47
13:AM:93:ILE:HA	13:AM:97:PRO:HG3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AU:14:VAL:HG21	21:AU:20:VAL:HB	1.95	0.47
31:A5:8:ILE:HG22	31:A5:52:LYS:HB2	1.97	0.47
35:BA:600:A:OP2	42:BH:87:ARG:HG2	2.15	0.47
35:BA:1377:A:N1	41:BG:6:ILE:HD11	2.30	0.47
37:BC:52:SER:HA	37:BC:113:LYS:HG2	1.97	0.47
37:BC:155:ARG:HD3	37:BC:192:TYR:O	2.15	0.47
39:BE:25:LYS:HD3	39:BE:25:LYS:C	2.35	0.47
42:BH:76:ARG:HA	42:BH:126:CYS:HB3	1.97	0.47
43:BI:128:LYS:HD2	43:BI:128:LYS:H	1.79	0.47
45:BK:22:ILE:HD12	45:BK:22:ILE:C	2.35	0.47
45:BK:75:GLU:OE1	45:BK:75:GLU:N	2.48	0.47
48:BN:6:LYS:HD3	48:BN:6:LYS:N	2.30	0.47
48:BN:64:CYS:HB3	48:BN:68:GLY:H	1.80	0.47
49:BO:6:ALA:O	49:BO:10:ILE:HG13	2.14	0.47
55:BU:15:LEU:H	55:BU:17:ARG:NH1	2.12	0.47
58:BZ:80:GLU:OE1	58:BZ:80:GLU:N	2.47	0.47
58:BZ:124:GLU:O	58:BZ:128:ARG:HG2	2.15	0.47
58:BZ:282:VAL:O	58:BZ:286:LEU:HB2	2.15	0.47
1:AA:797:G:P	6:AF:55:SER:HG	2.36	0.47
1:AA:1026:G:OP2	1:AA:1134:A:H1'	2.14	0.47
1:AA:1297:C:OP1	1:AA:2710:C:H4'	2.14	0.47
1:AA:2542:A:H4'	1:AA:2543:G:C8	2.49	0.47
1:AA:2547:A:H2'	1:AA:2548:U:C6	2.50	0.47
3:AC:4:LEU:HD23	3:AC:8:MET:CG	2.42	0.47
3:AC:21:TYR:O	3:AC:224:VAL:HA	2.15	0.47
5:AE:104:VAL:HG23	5:AE:177:VAL:HG11	1.95	0.47
13:AM:11:VAL:HG11	13:AM:50:THR:HA	1.97	0.47
14:AN:58:LEU:HD13	14:AN:58:LEU:H	1.79	0.47
16:AP:23:GLY:O	16:AP:101:VAL:HG23	2.15	0.47
16:AP:41:LEU:HG	16:AP:96:ILE:HG13	1.97	0.47
19:AS:112:ARG:O	19:AS:113:LEU:HD12	2.15	0.47
21:AU:32:THR:HA	21:AU:62:GLU:HA	1.96	0.47
29:A3:23:LEU:HD22	29:A3:28:LEU:HD12	1.96	0.47
35:BA:204:G:H2'	35:BA:205:A:H5"	1.96	0.47
35:BA:269:C:H2'	35:BA:270:A:C8	2.50	0.47
35:BA:504:C:H2'	35:BA:511:C:C5	2.41	0.47
35:BA:1382:C:H4'	41:BG:78:ARG:HH21	1.80	0.47
36:BB:71:THR:HG22	36:BB:93:HIS:N	2.29	0.47
38:BD:6:PRO:HB2	38:BD:9:LYS:NZ	2.29	0.47
38:BD:164:ARG:HG2	38:BD:165:GLU:N	2.30	0.47
41:BG:69:ARG:CD	41:BG:95:ARG:HG2	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BG:145:GLU:HA	41:BG:148:LYS:HB2	1.97	0.47
42:BH:104:SER:HB2	42:BH:125:ILE:HD11	1.97	0.47
43:BI:111:GLU:OE2	43:BI:120:ALA:HB1	2.15	0.47
43:BI:129:ARG:HH11	43:BI:129:ARG:CB	2.15	0.47
46:BL:73:LEU:HD22	46:BL:73:LEU:N	2.30	0.47
46:BL:75:GLU:C	46:BL:77:SER:H	2.18	0.47
47:BM:14:ALA:C	47:BM:16:ILE:H	2.18	0.47
49:BO:35:ILE:HA	49:BO:55:LEU:HD11	1.97	0.47
51:BQ:11:VAL:HG12	51:BQ:13:SER:H	1.80	0.47
56:BW:5:G:H2'	56:BW:6:G:H8	1.80	0.47
58:BZ:407:GLU:O	58:BZ:408:ARG:HB2	2.15	0.47
58:BZ:414:PRO:CG	58:BZ:415:VAL:H	2.18	0.47
58:BZ:536:PHE:CD1	58:BZ:576:ILE:HG23	2.49	0.47
58:BZ:585:ASP:O	58:BZ:586:VAL:CG1	2.58	0.47
58:BZ:613:LEU:HA	58:BZ:688:ASP:O	2.14	0.47
58:BZ:686:LYS:HG3	58:BZ:687:TYR:N	2.29	0.47
1:AA:77:G:OP1	28:A2:2:LYS:NZ	2.41	0.47
1:AA:136:G:H1	1:AA:143:C:H42	1.63	0.47
1:AA:329:G:O6	24:AX:16:LYS:HG2	2.15	0.47
1:AA:677:A:O2'	1:AA:2071:A:H5'	2.15	0.47
1:AA:811:U:N3	15:AO:21:ARG:NH2	2.62	0.47
1:AA:1001:A:H2'	1:AA:1002:G:O4'	2.15	0.47
1:AA:1046:A:N3	10:AJ:62:ARG:NE	2.49	0.47
1:AA:2256:G:C3'	26:AZ:7:ARG:NH1	2.78	0.47
1:AA:2309:A:C2	56:BV:56:C:OP1	2.67	0.47
1:AA:2875:C:H2'	1:AA:2876:G:H8	1.80	0.47
3:AC:163:TYR:HB3	3:AC:173:THR:HG21	1.97	0.47
5:AE:159:LYS:HD3	5:AE:159:LYS:C	2.34	0.47
8:AH:66:THR:O	8:AH:70:LEU:HG	2.14	0.47
23:AW:2:ILE:HG23	23:AW:7:LEU:HD11	1.96	0.47
35:BA:116:A:H61	35:BA:313:A:H1'	1.78	0.47
35:BA:256:U:H2'	35:BA:257:G:C8	2.50	0.47
35:BA:591:U:H2'	35:BA:592:G:C8	2.49	0.47
36:BB:9:LEU:HD23	36:BB:9:LEU:C	2.34	0.47
36:BB:84:LEU:HD22	36:BB:90:PHE:CZ	2.50	0.47
37:BC:54:ILE:HG22	37:BC:67:ILE:HA	1.97	0.47
38:BD:122:ILE:HG22	38:BD:144:ILE:HG13	1.96	0.47
38:BD:169:TRP:CH2	38:BD:190:LEU:HD23	2.50	0.47
46:BL:98:ARG:HH11	46:BL:98:ARG:HG3	1.80	0.47
47:BM:63:VAL:HG13	47:BM:67:ASP:HB3	1.96	0.47
58:BZ:323:LYS:HD3	58:BZ:441:GLU:HG3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:549:G:H5”	1:AA:550:C:H6	1.79	0.46
1:AA:1313:U:O2	1:AA:1313:U:H3’	2.15	0.46
1:AA:1776:G:N2	1:AA:1789:A:H1’	2.30	0.46
1:AA:1919:A:H2’	1:AA:1920:C:H5’	1.96	0.46
1:AA:2297:A:N1	1:AA:2321:U:H5	2.13	0.46
1:AA:2376:A:H2’	1:AA:2377:A:O4’	2.15	0.46
3:AC:4:LEU:HD12	3:AC:4:LEU:N	2.30	0.46
3:AC:26:ALA:HB1	3:AC:214:ILE:HD13	1.97	0.46
10:AJ:36:ASP:CG	11:AK:1:ALA:CA	2.79	0.46
13:AM:64:VAL:HG21	13:AM:68:LYS:HB2	1.96	0.46
16:AP:97:GLN:OE1	16:AP:97:GLN:N	2.48	0.46
21:AU:38:VAL:C	21:AU:39:LEU:HD12	2.35	0.46
25:AY:4:ILE:HG22	25:AY:42:LEU:HD22	1.97	0.46
35:BA:654:G:H2’	35:BA:655:A:O4’	2.15	0.46
36:BB:209:VAL:CG2	36:BB:210:THR:H	2.21	0.46
37:BC:110:LEU:N	37:BC:110:LEU:HD22	2.30	0.46
38:BD:37:PRO:HD2	38:BD:41:GLY:HA2	1.96	0.46
38:BD:59:LYS:HD2	38:BD:59:LYS:C	2.35	0.46
38:BD:103:ARG:NE	38:BD:110:ARG:HH22	2.13	0.46
39:BE:33:THR:HB	39:BE:49:TYR:HE2	1.80	0.46
42:BH:6:ILE:H	42:BH:6:ILE:CD1	2.28	0.46
43:BI:112:ARG:HH21	44:BJ:64:GLN:HE22	1.63	0.46
45:BK:99:LEU:HD22	45:BK:99:LEU:H	1.80	0.46
45:BK:125:LYS:HD3	45:BK:125:LYS:N	2.30	0.46
47:BM:44:ILE:HD12	47:BM:44:ILE:H	1.80	0.46
54:BT:83:ASN:HD22	54:BT:83:ASN:N	2.13	0.46
58:BZ:295:ILE:HG23	58:BZ:309:ARG:NE	2.30	0.46
1:AA:72:U:O2’	1:AA:73:A:H5’	2.15	0.46
1:AA:225:C:H2’	1:AA:226:A:O4’	2.15	0.46
1:AA:320:A:N3	6:AF:163:ASN:ND2	2.63	0.46
1:AA:572:A:OP2	21:AU:80:ARG:NH2	2.47	0.46
1:AA:834:G:O2’	1:AA:2358:A:H1’	2.16	0.46
1:AA:1827:U:H1’	1:AA:1970:A:N3	2.30	0.46
1:AA:1913:A:N6	56:BV:37:A:O2’	2.47	0.46
1:AA:2020:A:O3’	30:A4:8:THR:HG21	2.15	0.46
1:AA:2475:C:C2’	1:AA:2476:A:H5’	2.46	0.46
5:AE:207:VAL:HG13	5:AE:208:LYS:HG3	1.97	0.46
15:AO:77:ILE:HG22	15:AO:78:ARG:N	2.30	0.46
16:AP:110:GLU:HG2	16:AP:114:ARG:NH2	2.28	0.46
19:AS:25:VAL:HG23	19:AS:84:SER:O	2.14	0.46
23:AW:55:VAL:HG13	23:AW:86:THR:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:A1:53:LYS:O	27:A1:57:VAL:HG23	2.16	0.46
33:A7:44:ARG:HB3	33:A7:45:PRO:HD3	1.97	0.46
33:A7:53:ASP:O	33:A7:57:VAL:HG23	2.16	0.46
35:BA:8:A:H5"	39:BE:125:LYS:NZ	2.30	0.46
35:BA:1491:G:C5'	46:BL:90:PRO:HG2	2.43	0.46
36:BB:150:ILE:CG2	36:BB:151:LYS:H	2.20	0.46
37:BC:36:PHE:CZ	48:BN:92:GLU:HG3	2.51	0.46
39:BE:103:GLY:CA	39:BE:121:ASN:HA	2.42	0.46
40:BF:25:TYR:O	40:BF:29:ILE:HG13	2.15	0.46
42:BH:113:ARG:O	42:BH:117:GLN:HG3	2.14	0.46
43:BI:53:LEU:H	43:BI:53:LEU:CD1	2.28	0.46
43:BI:113:LYS:HD3	43:BI:113:LYS:C	2.35	0.46
55:BU:34:ARG:HG2	55:BU:36:PHE:H	1.80	0.46
1:AA:742:A:H2'	1:AA:743:A:C8	2.50	0.46
1:AA:1889:A:O2'	1:AA:2087:G:H5'	2.15	0.46
1:AA:2358:A:H2'	1:AA:2359:C:O4'	2.16	0.46
2:AB:104:A:H2'	2:AB:105:G:O4'	2.15	0.46
7:AG:66:ILE:HA	7:AG:86:CYS:CB	2.45	0.46
23:AW:49:LYS:HD3	23:AW:49:LYS:N	2.31	0.46
35:BA:603:U:H2'	35:BA:604:G:C8	2.50	0.46
35:BA:966:G:C6	35:BA:1400:C:N4	2.83	0.46
35:BA:1492:A:H5'	59:BY:6:5OH:NP	2.29	0.46
35:BA:1524:C:H2'	35:BA:1525:G:C8	2.50	0.46
36:BB:202:ASN:OD1	36:BB:203:ASP:N	2.48	0.46
43:BI:3:ASN:CG	43:BI:4:GLN:H	2.18	0.46
44:BJ:88:MET:C	44:BJ:90:LEU:H	2.19	0.46
46:BL:27:PRO:O	46:BL:28:GLN:HB3	2.14	0.46
49:BO:38:LEU:O	49:BO:42:PHE:HD1	1.99	0.46
51:BQ:18:LYS:HE2	51:BQ:49:ASN:H	1.80	0.46
56:BV:51:U:H3	56:BV:63:G:H1	1.63	0.46
58:BZ:474:LYS:HA	58:BZ:479:VAL:H	1.80	0.46
58:BZ:674:THR:C	58:BZ:676:GLY:H	2.18	0.46
1:AA:281:C:H2'	1:AA:282:A:C8	2.51	0.46
1:AA:332:A:H1'	1:AA:334:C:OP2	2.15	0.46
1:AA:491:G:C2	1:AA:1321:A:OP1	2.69	0.46
1:AA:633:A:H2'	1:AA:634:C:H5'	1.96	0.46
1:AA:660:C:H2'	1:AA:661:A:C8	2.51	0.46
1:AA:959:A:N3	1:AA:2457:U:O2'	2.47	0.46
1:AA:1652:A:H2'	1:AA:1653:G:H5'	1.97	0.46
2:AB:11:C:H2'	2:AB:12:C:H5'	1.96	0.46
3:AC:84:ALA:O	3:AC:88:LYS:HG3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:105:ALA:O	4:AD:195:GLY:HA2	2.15	0.46
4:AD:115:ILE:HD12	4:AD:115:ILE:C	2.35	0.46
6:AF:25:GLU:CD	15:AO:7:SER:H	2.15	0.46
6:AF:105:LEU:HD21	6:AF:177:PRO:HG3	1.97	0.46
6:AF:108:ILE:HG23	6:AF:109:LEU:CD1	2.45	0.46
11:AK:11:GLN:HE21	11:AK:12:VAL:N	2.13	0.46
19:AS:31:VAL:HG21	19:AS:40:GLN:HE21	1.80	0.46
21:AU:46:GLU:OE1	21:AU:46:GLU:N	2.48	0.46
24:AX:17:ASP:CA	24:AX:20:LYS:HD3	2.45	0.46
26:AZ:51:ARG:HG3	26:AZ:52:ASP:N	2.30	0.46
31:A5:32:LYS:HZ1	31:A5:50:GLU:CA	2.29	0.46
33:A7:32:LEU:HD23	33:A7:35:LYS:HD2	1.96	0.46
34:A8:18:LYS:HE2	34:A8:21:GLY:HA2	1.96	0.46
35:BA:826:C:H5'	42:BH:12:ARG:CZ	2.45	0.46
36:BB:206:ILE:H	36:BB:206:ILE:CD1	2.29	0.46
37:BC:13:ILE:HG12	37:BC:14:VAL:HG22	1.97	0.46
38:BD:124:VAL:HG23	38:BD:125:ASN:N	2.30	0.46
41:BG:3:ARG:HB2	41:BG:3:ARG:NH1	2.31	0.46
46:BL:23:LEU:CG	46:BL:24:GLU:H	2.22	0.46
46:BL:43:LYS:N	46:BL:44:PRO:HD2	2.30	0.46
52:BR:71:ASP:OD2	55:BU:3:ILE:HG13	2.16	0.46
53:BS:30:LEU:HB3	53:BS:48:ILE:HA	1.97	0.46
58:BZ:91:GLY:O	58:BZ:92:HIS:CG	2.69	0.46
58:BZ:229:ALA:H	58:BZ:255:ARG:HH22	1.62	0.46
58:BZ:230:SER:HB3	58:BZ:233:LEU:HD12	1.96	0.46
58:BZ:468:ILE:C	58:BZ:468:ILE:HD12	2.35	0.46
58:BZ:494:ILE:HG13	58:BZ:524:PRO:HB3	1.97	0.46
58:BZ:520:ILE:HD12	58:BZ:576:ILE:CD1	2.46	0.46
1:AA:381:G:OP1	27:A1:17:ARG:HD3	2.15	0.46
1:AA:800:A:O4'	1:AA:802:A:H5'	2.15	0.46
1:AA:1039:A:H61	1:AA:1116:G:H1	1.61	0.46
1:AA:1129:A:N6	1:AA:2490:G:H5"	2.30	0.46
1:AA:2091:C:H4'	27:A1:55:MET:CE	2.45	0.46
3:AC:180:PHE:HB2	3:AC:185:LEU:HD21	1.98	0.46
4:AD:70:LYS:HG2	4:AD:101:ARG:NH1	2.31	0.46
6:AF:42:GLY:HA3	6:AF:90:GLN:O	2.15	0.46
15:AO:58:TYR:HD1	15:AO:59:ARG:HG3	1.79	0.46
16:AP:62:LYS:HE3	16:AP:64:TRP:NE1	2.30	0.46
17:AQ:44:LEU:O	17:AQ:48:VAL:HG12	2.15	0.46
26:AZ:19:VAL:HA	26:AZ:34:VAL:HG13	1.97	0.46
33:A7:28:LEU:O	33:A7:29:ARG:HD2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:230:G:H4'	50:BP:25:ARG:HH21	1.71	0.46
35:BA:520:A:OP1	46:BL:48:LEU:HB3	2.15	0.46
35:BA:966:G:N3	56:BW:34:G:C4'	2.78	0.46
35:BA:1384:C:H2'	35:BA:1385:G:C8	2.50	0.46
40:BF:9:MET:HG3	40:BF:85:ILE:HB	1.97	0.46
40:BF:11:HIS:ND1	40:BF:12:PRO:HD2	2.30	0.46
40:BF:54:LEU:HD13	40:BF:54:LEU:C	2.36	0.46
44:BJ:34:ALA:O	44:BJ:36:VAL:HG23	2.15	0.46
46:BL:98:ARG:HB2	46:BL:116:TYR:CA	2.46	0.46
47:BM:33:LEU:N	47:BM:33:LEU:HD12	2.31	0.46
48:BN:82:ILE:HG22	48:BN:86:GLU:OE2	2.14	0.46
49:BO:73:ASP:HB3	49:BO:76:ARG:HD3	1.97	0.46
51:BQ:26:ARG:NH1	51:BQ:39:ARG:HB3	2.30	0.46
53:BS:5:LYS:CD	53:BS:6:LYS:HG2	2.42	0.46
54:BT:53:MET:HE1	54:BT:78:LEU:HD12	1.97	0.46
58:BZ:90:PRO:HA	58:BZ:98:GLU:HG3	1.97	0.46
58:BZ:222:LEU:HD23	58:BZ:222:LEU:C	2.35	0.46
58:BZ:248:ILE:O	58:BZ:252:LEU:HG	2.16	0.46
58:BZ:256:VAL:HG23	58:BZ:257:LEU:CD1	2.46	0.46
1:AA:710:U:H2'	1:AA:711:G:C8	2.50	0.46
1:AA:953:G:H5"	16:AP:16:ARG:HH11	1.73	0.46
1:AA:1101:U:H2'	1:AA:1102:C:C5	2.51	0.46
1:AA:1354:A:OP1	4:AD:35:LYS:HE2	2.14	0.46
1:AA:1463:C:H2'	1:AA:1464:G:O4'	2.16	0.46
1:AA:2016:U:C1'	30:A4:2:VAL:HG21	2.43	0.46
4:AD:181:ARG:NH2	4:AD:183:VAL:HG22	2.31	0.46
14:AN:59:LYS:HG3	14:AN:89:ASN:OD1	2.16	0.46
18:AR:34:HIS:HA	18:AR:65:THR:O	2.16	0.46
20:AT:57:ARG:O	20:AT:61:ILE:HG13	2.15	0.46
27:A1:70:LEU:HB3	27:A1:75:GLU:HB2	1.98	0.46
32:A6:26:ASN:HA	32:A6:29:GLN:OE1	2.16	0.46
35:BA:737:C:C5'	40:BF:89:VAL:HG23	2.35	0.46
35:BA:1124:G:H3'	35:BA:1145:A:C6	2.50	0.46
38:BD:29:THR:CG2	38:BD:30:LYS:HD3	2.45	0.46
46:BL:109:ARG:HB2	46:BL:118:VAL:HG11	1.97	0.46
52:BR:55:ALA:O	52:BR:59:LYS:HG3	2.16	0.46
53:BS:36:ARG:HH11	53:BS:36:ARG:HG2	1.81	0.46
53:BS:54:ARG:HG3	53:BS:55:GLN:N	2.22	0.46
58:BZ:58:GLU:O	58:BZ:62:THR:HG23	2.16	0.46
58:BZ:343:VAL:O	58:BZ:343:VAL:HG13	2.15	0.46
58:BZ:515:TYR:HB3	58:BZ:587:ASP:OD2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:322:A:OP2	6:AF:163:ASN:HB2	2.15	0.46
1:AA:575:A:O2'	1:AA:576:U:H5'	2.16	0.46
1:AA:784:G:C4	4:AD:227:VAL:HG11	2.51	0.46
1:AA:1052:C:H5'	1:AA:2752:C:H4'	1.97	0.46
1:AA:1219:U:H2'	1:AA:1220:G:C8	2.51	0.46
1:AA:1883:U:C2'	1:AA:1884:G:H5'	2.46	0.46
1:AA:1917:U:O2'	1:AA:1918:A:H5'	2.16	0.46
4:AD:204:LEU:HD12	4:AD:204:LEU:N	2.31	0.46
7:AG:30:VAL:HG23	7:AG:30:VAL:O	2.15	0.46
10:AJ:57:ASN:O	10:AJ:61:ARG:HB2	2.15	0.46
11:AK:101:SER:HA	11:AK:140:GLU:HB2	1.98	0.46
23:AW:5:GLU:O	23:AW:9:LYS:HG3	2.16	0.46
26:AZ:33:ILE:HG21	26:AZ:76:ILE:HG21	1.97	0.46
35:BA:751:U:H2'	35:BA:752:G:H5'	1.97	0.46
36:BB:131:LYS:HG3	36:BB:135:MET:HE2	1.97	0.46
37:BC:6:PRO:HG2	37:BC:200:TRP:NE1	2.28	0.46
39:BE:47:PHE:H	39:BE:47:PHE:HD1	1.64	0.46
40:BF:90:MET:CE	52:BR:64:LEU:HD11	2.45	0.46
42:BH:112:ASP:O	42:BH:115:ALA:HB3	2.15	0.46
47:BM:90:HIS:CE1	47:BM:96:VAL:HG21	2.49	0.46
50:BP:76:LYS:HB2	50:BP:76:LYS:HZ3	1.80	0.46
58:BZ:638:ARG:NH2	58:BZ:669:GLN:HG3	2.31	0.46
1:AA:524:G:H5'	1:AA:539:G:H21	1.80	0.46
1:AA:574:A:H2	5:AE:150:GLN:OE1	1.98	0.46
1:AA:854:C:H2'	1:AA:855:G:H8	1.81	0.46
1:AA:1371:G:C2'	1:AA:1372:U:H5"	2.45	0.46
1:AA:1495:A:C2	1:AA:1578:U:O2	2.69	0.46
1:AA:1705:A:O2'	1:AA:1706:C:H5'	2.15	0.46
1:AA:2174:C:O2'	1:AA:2175:C:H5'	2.15	0.46
1:AA:2220:U:H2'	1:AA:2221:G:C8	2.51	0.46
4:AD:154:ALA:HB2	4:AD:161:VAL:HG23	1.97	0.46
4:AD:230:PRO:HD2	4:AD:246:PRO:HA	1.98	0.46
5:AE:183:GLU:N	5:AE:183:GLU:OE1	2.48	0.46
6:AF:97:ASN:HB2	6:AF:100:MET:CG	2.46	0.46
7:AG:19:PHE:O	7:AG:20:ASN:C	2.53	0.46
25:AY:41:GLU:HG3	25:AY:41:GLU:O	2.16	0.46
27:A1:67:LEU:HD23	27:A1:70:LEU:HD12	1.97	0.46
32:A6:12:ARG:HH21	32:A6:12:ARG:HG2	1.81	0.46
32:A6:22:MET:HA	32:A6:28:ARG:HG2	1.98	0.46
35:BA:620:C:H5'	38:BD:134:TYR:CE1	2.51	0.46
35:BA:866:C:H4'	35:BA:919:A:C5'	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:1210:C:OP1	58:BZ:583:TYR:CD2	2.69	0.46
39:BE:84:VAL:HG21	39:BE:142:GLY:O	2.16	0.46
40:BF:17:GLN:HE22	40:BF:24:ARG:NH2	2.14	0.46
40:BF:39:LEU:C	40:BF:39:LEU:HD13	2.36	0.46
47:BM:2:ARG:O	47:BM:3:ILE:C	2.54	0.46
47:BM:99:GLN:OE1	47:BM:99:GLN:N	2.47	0.46
51:BQ:20:ILE:HD13	51:BQ:47:ASP:OD1	2.16	0.46
55:BU:16:ARG:NH1	55:BU:19:LYS:HG3	2.31	0.46
56:BV:35:A:H2'	56:BV:36:A:O4'	2.16	0.46
58:BZ:493:THR:O	58:BZ:611:VAL:HG12	2.16	0.46
1:AA:378:C:H2'	1:AA:379:G:C8	2.51	0.46
1:AA:609:A:H2'	1:AA:610:C:O4'	2.16	0.46
1:AA:816:C:H2'	1:AA:817:C:C6	2.51	0.46
1:AA:1021:A:H3'	1:AA:1021:A:N3	2.30	0.46
1:AA:1183:U:H5"	29:A3:29:ARG:HE	1.76	0.46
1:AA:1566:A:O2'	1:AA:1567:G:H5'	2.16	0.46
1:AA:2350:C:C5	33:A7:41:ARG:NE	2.79	0.46
1:AA:2362:C:OP2	33:A7:43:LEU:HD21	2.15	0.46
1:AA:2713:U:H3'	1:AA:2714:G:H5"	1.98	0.46
2:AB:95:U:H2'	2:AB:96:G:H8	1.80	0.46
6:AF:86:ALA:CB	6:AF:88:ARG:HH22	2.29	0.46
10:AJ:47:GLU:HG2	11:AK:119:ALA:HB3	1.98	0.46
20:AT:35:PHE:O	20:AT:39:ILE:HG13	2.15	0.46
22:AV:17:VAL:HG12	22:AV:76:VAL:HG21	1.98	0.46
35:BA:1527:U:O2'	35:BA:1528:U:H5'	2.16	0.46
36:BB:102:ASN:HB3	36:BB:106:VAL:HG23	1.98	0.46
36:BB:202:ASN:HB3	36:BB:208:ALA:CB	2.46	0.46
38:BD:141:VAL:HG23	38:BD:141:VAL:O	2.16	0.46
42:BH:74:ILE:HG23	42:BH:74:ILE:O	2.16	0.46
49:BO:69:LEU:O	49:BO:69:LEU:HD23	2.16	0.46
58:BZ:312:SER:HB3	58:BZ:315:GLU:HG2	1.97	0.46
1:AA:77:G:OP1	28:A2:52:ARG:NH2	2.49	0.46
1:AA:1059:G:H2'	1:AA:1060:U:C6	2.50	0.46
1:AA:1827:U:OP1	1:AA:1971:U:O3'	2.34	0.46
2:AB:28:C:OP1	18:AR:31:THR:HG21	2.15	0.46
5:AE:177:VAL:O	5:AE:177:VAL:HG13	2.15	0.46
7:AG:71:LYS:HA	7:AG:80:GLN:OE1	2.16	0.46
11:AK:14:ALA:HB2	11:AK:52:LEU:O	2.15	0.46
35:BA:26:A:H2'	35:BA:27:G:H5'	1.98	0.46
35:BA:61:G:O2'	35:BA:386:C:H1'	2.15	0.46
35:BA:92:U:H2'	35:BA:93:U:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:405:U:H5”	35:BA:495:A:H2	1.81	0.46
35:BA:496:A:H3’	35:BA:496:A:N3	2.31	0.46
35:BA:692:U:H5	45:BK:27:ASN:HD22	1.63	0.46
35:BA:885:G:H2’	35:BA:886:G:C8	2.51	0.46
35:BA:1374:A:OP1	41:BG:27:ASN:ND2	2.49	0.46
36:BB:169:HIS:O	36:BB:173:LYS:HB2	2.16	0.46
36:BB:216:VAL:O	36:BB:220:VAL:HG23	2.16	0.46
36:BB:223:GLY:H	36:BB:224:ARG:CZ	2.29	0.46
38:BD:59:LYS:HD2	38:BD:59:LYS:O	2.16	0.46
38:BD:67:LEU:HD22	38:BD:67:LEU:N	2.30	0.46
39:BE:139:THR:OG1	39:BE:140:ILE:HD12	2.16	0.46
40:BF:20:GLY:O	40:BF:23:GLU:HB3	2.16	0.46
41:BG:49:LEU:HD13	41:BG:49:LEU:C	2.36	0.46
42:BH:103:VAL:HB	42:BH:124:ILE:HG22	1.96	0.46
44:BJ:40:ILE:HG21	44:BJ:73:LEU:HD12	1.98	0.46
53:BS:10:ILE:HG13	53:BS:37:SER:CB	2.46	0.46
54:BT:27:MET:O	54:BT:31:ILE:HG13	2.16	0.46
56:BW:14:A:C2’	56:BW:15:G:H5’	2.45	0.46
58:BZ:218:TRP:HA	58:BZ:221:ASN:HB2	1.98	0.46
58:BZ:304:ASP:HB3	58:BZ:306:PRO:HD3	1.97	0.46
58:BZ:557:ILE:O	58:BZ:561:LEU:HD13	2.16	0.46
1:AA:56:A:N6	1:AA:70:G:N1	2.64	0.45
1:AA:451:U:H4’	6:AF:47:LYS:NZ	2.31	0.45
1:AA:722:A:H2’	1:AA:723:C:O4’	2.17	0.45
1:AA:1061:U:O4	11:AK:55:PRO:HG3	2.15	0.45
1:AA:1077:A:H5’	11:AK:93:ASN:HD21	1.77	0.45
1:AA:1217:U:C6	20:AT:14:LYS:NZ	2.84	0.45
1:AA:1224:U:H4’	21:AU:88:GLY:O	2.15	0.45
1:AA:1387:A:H5’	1:AA:1469:A:H1’	1.97	0.45
1:AA:2585:U:H3’	1:AA:2585:U:OP2	2.16	0.45
4:AD:229:HIS:CD2	4:AD:246:PRO:HB3	2.51	0.45
7:AG:8:LYS:HA	7:AG:12:VAL:HG21	1.98	0.45
11:AK:54:ILE:HG12	11:AK:73:PRO:CB	2.36	0.45
13:AM:77:HIS:HE1	13:AM:82:GLY:HA2	1.80	0.45
13:AM:106:LYS:HB2	13:AM:119:PHE:CE2	2.51	0.45
16:AP:65:ILE:HG22	16:AP:67:VAL:O	2.16	0.45
24:AX:57:ILE:H	24:AX:57:ILE:CD1	2.28	0.45
35:BA:690:G:H1’	35:BA:698:G:H22	1.81	0.45
35:BA:933:G:OP2	41:BG:2:ARG:HB3	2.16	0.45
35:BA:1147:C:H2’	35:BA:1148:U:C6	2.51	0.45
35:BA:1396:A:H4’	35:BA:1398:A:H1’	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BC:111:ASP:O	37:BC:115:VAL:HG23	2.16	0.45
39:BE:103:GLY:HA3	39:BE:121:ASN:CA	2.43	0.45
40:BF:29:ILE:HG21	40:BF:64:VAL:CG1	2.46	0.45
41:BG:112:ASP:HB2	41:BG:118:ARG:HG2	1.97	0.45
45:BK:125:LYS:O	45:BK:125:LYS:HG2	2.15	0.45
46:BL:79:ILE:HG22	46:BL:103:CYS:HB2	1.97	0.45
53:BS:35:ARG:HH21	53:BS:52:ASN:HA	1.81	0.45
54:BT:72:ALA:HA	54:BT:75:LYS:HD2	1.97	0.45
58:BZ:88:ASP:O	58:BZ:89:THR:HG23	2.16	0.45
58:BZ:103:MET:O	58:BZ:106:LEU:HD12	2.16	0.45
58:BZ:146:ARG:O	58:BZ:149:ALA:CB	2.64	0.45
58:BZ:295:ILE:HG12	58:BZ:309:ARG:NH2	2.31	0.45
58:BZ:418:ILE:HG13	58:BZ:418:ILE:O	2.16	0.45
1:AA:460:A:H62	1:AA:469:G:H21	1.64	0.45
1:AA:563:A:H4'	20:AT:40:LYS:NZ	2.31	0.45
1:AA:1122:G:O2'	1:AA:1123:C:H5'	2.16	0.45
1:AA:1669:A:C1'	14:AN:5:GLN:HG3	2.47	0.45
1:AA:1681:G:C6	1:AA:1762:A:C5	3.04	0.45
1:AA:2215:C:H2'	1:AA:2216:G:C8	2.51	0.45
4:AD:86:ARG:CB	4:AD:86:ARG:HH11	2.30	0.45
7:AG:7:TYR:CD2	7:AG:11:VAL:HB	2.50	0.45
7:AG:10:GLU:O	7:AG:13:LYS:HG2	2.16	0.45
9:AI:10:ALA:O	9:AI:12:LEU:N	2.50	0.45
10:AJ:4:ASN:O	10:AJ:8:LYS:HG3	2.17	0.45
11:AK:27:LEU:C	11:AK:27:LEU:HD12	2.36	0.45
28:A2:12:GLU:HA	28:A2:15:ASN:ND2	2.26	0.45
29:A3:51:SER:HA	29:A3:54:VAL:CG2	2.46	0.45
32:A6:9:VAL:HG12	32:A6:13:ASN:ND2	2.31	0.45
35:BA:1166:G:C6	35:BA:1168:U:H5"	2.51	0.45
37:BC:41:TYR:CE1	37:BC:45:GLU:HG3	2.51	0.45
39:BE:73:VAL:HG23	39:BE:75:LEU:CD1	2.45	0.45
43:BI:114:LYS:H	43:BI:120:ALA:HA	1.82	0.45
47:BM:26:LYS:O	47:BM:30:LYS:HG3	2.17	0.45
50:BP:6:LEU:HD12	50:BP:6:LEU:N	2.31	0.45
50:BP:12:LYS:O	50:BP:13:LYS:HB2	2.16	0.45
55:BU:10:PRO:O	55:BU:11:PHE:HB3	2.17	0.45
56:BV:33:U:C3'	56:BV:34:G:H5"	2.46	0.45
56:BW:18:G:H2'	56:BW:18:G:N3	2.30	0.45
58:BZ:465:HIS:CE1	58:BZ:469:ILE:HD11	2.51	0.45
1:AA:38:A:C5'	6:AF:45:ALA:HB3	2.46	0.45
1:AA:124:G:C8	32:A6:19:ARG:NH2	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1177:G:H2'	1:AA:1178:C:O4'	2.16	0.45
1:AA:1938:A:C2	1:AA:2590:A:H1'	2.51	0.45
1:AA:2761:A:H1'	8:AH:142:GLN:CD	2.36	0.45
4:AD:78:GLU:OE1	4:AD:94:LEU:HD22	2.17	0.45
4:AD:159:THR:HA	4:AD:176:ARG:HH21	1.80	0.45
7:AG:72:SER:HB2	7:AG:80:GLN:N	2.32	0.45
7:AG:148:VAL:HG23	7:AG:148:VAL:O	2.16	0.45
9:AI:25:TYR:CE2	9:AI:30:LEU:HD21	2.51	0.45
11:AK:94:LYS:HD3	11:AK:94:LYS:N	2.31	0.45
13:AM:121:LYS:HB2	13:AM:121:LYS:HZ2	1.79	0.45
14:AN:26:GLY:O	14:AN:30:ARG:HD2	2.17	0.45
15:AO:81:ASP:O	15:AO:82:LEU:HB3	2.15	0.45
23:AW:6:ARG:O	23:AW:10:VAL:HG23	2.15	0.45
24:AX:83:GLY:HA3	24:AX:94:PHE:CE1	2.52	0.45
28:A2:44:LYS:O	28:A2:48:ARG:HG2	2.16	0.45
30:A4:5:ASN:O	30:A4:7:PRO:HD3	2.15	0.45
35:BA:8:A:H5"	39:BE:125:LYS:HZ3	1.82	0.45
35:BA:505:G:OP2	35:BA:535:A:H5'	2.17	0.45
35:BA:676:A:O3'	45:BK:114:PRO:HB3	2.15	0.45
39:BE:72:ASN:ND2	39:BE:72:ASN:H	2.13	0.45
42:BH:58:LEU:C	42:BH:58:LEU:HD13	2.37	0.45
48:BN:45:VAL:HG23	48:BN:46:LEU:N	2.31	0.45
56:BW:36:A:H2'	56:BW:37:A:C5'	2.45	0.45
58:BZ:119:VAL:CG1	58:BZ:121:PRO:HD3	2.37	0.45
58:BZ:245:GLU:HA	58:BZ:248:ILE:HG12	1.99	0.45
58:BZ:659:PRO:C	58:BZ:661:SER:N	2.67	0.45
1:AA:135:U:H2'	1:AA:136:G:C8	2.51	0.45
1:AA:543:G:H3'	1:AA:544:C:H5"	1.98	0.45
1:AA:729:G:H3'	1:AA:729:G:N3	2.31	0.45
1:AA:1052:C:H3'	1:AA:1052:C:H6	1.81	0.45
1:AA:1355:G:H2'	1:AA:1356:G:C8	2.51	0.45
1:AA:1582:C:H3'	1:AA:1583:A:H5"	1.99	0.45
1:AA:1583:A:H4'	1:AA:1585:C:N4	2.32	0.45
1:AA:1709:U:H2'	1:AA:1710:G:C8	2.52	0.45
1:AA:1913:A:C6	35:BA:1494:G:H5"	2.52	0.45
1:AA:2256:G:C4'	26:AZ:7:ARG:HH12	2.28	0.45
1:AA:2504:U:H2'	1:AA:2505:G:H5'	1.99	0.45
1:AA:2553:G:O2'	1:AA:2582:G:N2	2.50	0.45
1:AA:2808:G:C2	1:AA:2891:U:C2	3.05	0.45
1:AA:2819:G:H2'	1:AA:2821:A:N7	2.31	0.45
1:AA:2834:G:H2'	1:AA:2879:A:H61	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:83:G:H4'	29:A3:52:PHE:CD2	2.51	0.45
6:AF:149:ILE:HD12	6:AF:170:ARG:O	2.17	0.45
7:AG:7:TYR:OH	7:AG:29:ARG:HG2	2.17	0.45
7:AG:35:LEU:HB3	7:AG:151:LEU:HD11	1.99	0.45
11:AK:138:VAL:HG12	11:AK:139:VAL:N	2.32	0.45
22:AV:96:ILE:HG13	22:AV:96:ILE:O	2.15	0.45
35:BA:393:A:H5'	35:BA:483:C:O2'	2.16	0.45
35:BA:1066:C:H2'	35:BA:1067:A:H5'	1.99	0.45
37:BC:19:SER:HA	37:BC:56:ILE:O	2.16	0.45
38:BD:33:ILE:HG12	38:BD:34:GLU:N	2.31	0.45
47:BM:2:ARG:HG2	47:BM:2:ARG:HH11	1.81	0.45
47:BM:39:ALA:HB3	47:BM:42:VAL:HG11	1.99	0.45
58:BZ:158:ILE:CG2	58:BZ:166:PRO:HG3	2.47	0.45
58:BZ:344:ASN:OD1	58:BZ:345:SER:N	2.50	0.45
1:AA:83:A:H5"	24:AX:1:ALA:N	2.31	0.45
1:AA:226:A:H5'	1:AA:257:C:O3'	2.16	0.45
1:AA:321:U:H1'	6:AF:162:ARG:HH12	1.78	0.45
1:AA:367:G:H2'	1:AA:368:A:O4'	2.17	0.45
1:AA:475:C:H4'	1:AA:510:C:C5'	2.46	0.45
1:AA:792:A:C3'	1:AA:793:A:H5'	2.43	0.45
1:AA:1223:G:OP2	21:AU:68:ARG:NH1	2.49	0.45
1:AA:1507:C:H2'	1:AA:1508:A:C4'	2.46	0.45
1:AA:1777:U:H3	1:AA:1787:A:N6	2.13	0.45
1:AA:1790:C:P	4:AD:218:THR:H	2.39	0.45
1:AA:1912:A:H61	1:AA:1918:A:C1'	2.30	0.45
1:AA:2343:U:H2'	1:AA:2344:U:C6	2.52	0.45
1:AA:2355:G:OP1	26:AZ:21:ARG:NH2	2.50	0.45
4:AD:105:ALA:HB1	4:AD:109:LEU:HD23	1.99	0.45
4:AD:159:THR:HA	4:AD:176:ARG:NH2	2.32	0.45
7:AG:73:VAL:H	7:AG:78:ILE:HD12	1.79	0.45
8:AH:71:LEU:HA	8:AH:74:MET:SD	2.56	0.45
10:AJ:48:ALA:CB	10:AJ:50:VAL:HG12	2.46	0.45
15:AO:79:LEU:N	15:AO:113:ALA:HB3	2.31	0.45
15:AO:110:VAL:HG23	15:AO:127:VAL:HG22	1.98	0.45
16:AP:16:ARG:N	16:AP:16:ARG:HD2	2.31	0.45
16:AP:26:VAL:HG13	16:AP:104:GLU:CD	2.36	0.45
35:BA:168:G:H2'	35:BA:169:C:O4'	2.16	0.45
35:BA:253:A:H2'	35:BA:254:G:H8	1.81	0.45
35:BA:1217:C:OP1	48:BN:4:SER:HB2	2.16	0.45
35:BA:1328:C:H2'	35:BA:1329:A:H8	1.80	0.45
37:BC:9:ILE:HG23	37:BC:10:ARG:HG3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BD:32:LYS:O	38:BD:36:ALA:HB3	2.16	0.45
38:BD:151:GLN:HG3	38:BD:152:SER:N	2.31	0.45
40:BF:15:SER:HA	40:BF:18:VAL:HG23	1.98	0.45
40:BF:47:LEU:HD21	40:BF:57:ALA:HB3	1.99	0.45
41:BG:102:TRP:CD1	41:BG:136:LYS:HG2	2.52	0.45
42:BH:10:LEU:HD12	42:BH:76:ARG:CG	2.45	0.45
42:BH:42:GLU:OE1	42:BH:111:THR:HG21	2.17	0.45
49:BO:44:GLU:HG2	49:BO:45:HIS:CD2	2.52	0.45
49:BO:86:LEU:C	49:BO:88:ARG:H	2.20	0.45
58:BZ:514:GLN:HA	58:BZ:514:GLN:NE2	2.31	0.45
58:BZ:674:THR:C	58:BZ:676:GLY:N	2.69	0.45
1:AA:538:A:H4'	13:AM:7:LYS:HG2	1.98	0.45
1:AA:581:C:H2'	1:AA:582:A:C8	2.52	0.45
1:AA:644:A:C2'	1:AA:645:C:H5"	2.45	0.45
1:AA:1595:C:H2'	1:AA:1596:A:C8	2.52	0.45
1:AA:1936:A:H3'	1:AA:1937:A:H5'	1.97	0.45
2:AB:55:U:C4'	7:AG:24:VAL:HG12	2.45	0.45
3:AC:15:VAL:HG11	3:AC:222:VAL:HG22	1.98	0.45
3:AC:207:VAL:O	3:AC:207:VAL:HG23	2.16	0.45
4:AD:74:PRO:HG3	4:AD:116:GLN:OE1	2.17	0.45
4:AD:199:HIS:O	4:AD:202:ARG:HG2	2.16	0.45
7:AG:70:ARG:HG2	7:AG:70:ARG:HH21	1.81	0.45
8:AH:122:ALA:HB2	8:AH:132:LEU:HA	1.98	0.45
12:AL:70:ILE:HG12	12:AL:88:VAL:HG21	1.99	0.45
12:AL:111:LEU:HD12	12:AL:118:VAL:HG11	1.98	0.45
14:AN:1:MET:HG3	14:AN:67:LYS:HG3	1.98	0.45
16:AP:5:LYS:CE	56:BV:53:G:O5'	2.61	0.45
17:AQ:14:SER:HA	17:AQ:17:ARG:NH1	2.31	0.45
18:AR:2:ASP:HB3	18:AR:5:SER:OG	2.16	0.45
18:AR:106:LEU:HD23	18:AR:106:LEU:C	2.37	0.45
19:AS:108:ARG:HD2	19:AS:108:ARG:N	2.32	0.45
21:AU:14:VAL:HG13	21:AU:18:GLN:NE2	2.32	0.45
26:AZ:7:ARG:HH11	26:AZ:7:ARG:HG3	1.82	0.45
27:A1:39:VAL:HG23	27:A1:42:GLU:HB2	1.98	0.45
28:A2:31:GLN:HE21	28:A2:37:LEU:HB2	1.81	0.45
31:A5:46:VAL:HG22	31:A5:47:ILE:N	2.31	0.45
33:A7:14:LYS:HD3	33:A7:15:LYS:N	2.32	0.45
35:BA:64:G:H4'	35:BA:65:A:H3'	1.98	0.45
35:BA:204:G:C2'	35:BA:205:A:H5"	2.46	0.45
35:BA:216:U:H2'	35:BA:217:C:C6	2.51	0.45
35:BA:358:U:H2'	35:BA:359:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:372:C:N4	35:BA:387:U:H2'	2.32	0.45
35:BA:717:U:H4'	45:BK:118:ASN:HD22	1.81	0.45
35:BA:820:U:H3'	35:BA:821:G:C5'	2.47	0.45
35:BA:1147:C:H4'	43:BI:6:TYR:OH	2.16	0.45
35:BA:1494:G:C6	59:BY:1:KBE:HAA	2.52	0.45
36:BB:12:GLY:H	36:BB:211:LEU:CD2	2.30	0.45
36:BB:14:HIS:CD2	36:BB:15:PHE:N	2.84	0.45
36:BB:19:THR:C	36:BB:20:ARG:HE	2.20	0.45
38:BD:8:LEU:O	38:BD:12:ARG:HG3	2.16	0.45
38:BD:14:GLU:HG3	38:BD:59:LYS:HG2	1.99	0.45
38:BD:94:GLU:HA	38:BD:99:ASN:ND2	2.32	0.45
38:BD:151:GLN:HG3	38:BD:152:SER:H	1.82	0.45
43:BI:112:ARG:HD2	48:BN:101:TRP:C	2.36	0.45
44:BJ:9:ARG:O	44:BJ:98:VAL:HA	2.17	0.45
47:BM:12:LYS:CA	47:BM:43:LYS:HE3	2.47	0.45
47:BM:89:ARG:HD3	47:BM:95:PRO:O	2.16	0.45
52:BR:54:LEU:O	52:BR:58:ILE:HG13	2.16	0.45
54:BT:83:ASN:H	54:BT:83:ASN:ND2	2.14	0.45
58:BZ:552:ALA:O	58:BZ:594:LYS:HA	2.16	0.45
58:BZ:689:GLU:OE1	58:BZ:689:GLU:N	2.50	0.45
1:AA:483:A:O4'	24:AX:44:HIS:HB3	2.17	0.45
1:AA:606:U:OP1	6:AF:99:LYS:HD2	2.15	0.45
1:AA:607:U:OP1	6:AF:98:LYS:N	2.49	0.45
1:AA:738:G:O2'	1:AA:739:A:H5'	2.17	0.45
1:AA:974:G:OP1	1:AA:1187:G:H4'	2.16	0.45
1:AA:1448:G:H1	1:AA:1463:C:N4	2.11	0.45
1:AA:1492:G:H5"	1:AA:1493:C:H5'	1.99	0.45
1:AA:1720:U:H2'	1:AA:1721:G:O4'	2.17	0.45
1:AA:2553:G:H2'	1:AA:2554:U:H4'	1.97	0.45
3:AC:166:ASP:OD1	3:AC:168:ASN:HB3	2.17	0.45
5:AE:84:LEU:HD22	5:AE:88:GLU:HB3	1.97	0.45
6:AF:145:ASP:HA	6:AF:166:LYS:O	2.16	0.45
10:AJ:108:VAL:HB	10:AJ:123:ILE:HD13	1.99	0.45
11:AK:21:PRO:CB	11:AK:22:PRO:HD3	2.46	0.45
11:AK:51:GLY:C	11:AK:52:LEU:HD12	2.37	0.45
11:AK:92:PRO:HD2	11:AK:94:LYS:CE	2.46	0.45
13:AM:60:ASP:HB3	13:AM:97:PRO:HG2	1.98	0.45
14:AN:71:ARG:HB3	14:AN:72:PRO:HD2	1.99	0.45
15:AO:90:VAL:HG13	15:AO:95:LEU:HD21	1.98	0.45
19:AS:21:PRO:HD3	19:AS:49:ILE:HD12	1.97	0.45
20:AT:16:ILE:HD12	20:AT:16:ILE:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AT:79:ILE:HD12	20:AT:91:ARG:HH12	1.82	0.45
20:AT:109:VAL:CG1	20:AT:113:LYS:HE3	2.46	0.45
24:AX:32:LYS:HE2	24:AX:63:ALA:CB	2.46	0.45
27:A1:62:GLY:O	27:A1:66:VAL:HG23	2.16	0.45
35:BA:649:A:H2'	35:BA:650:G:C5'	2.40	0.45
37:BC:89:VAL:HG23	37:BC:90:VAL:N	2.32	0.45
37:BC:171:ARG:HG2	37:BC:171:ARG:HH11	1.81	0.45
40:BF:3:HIS:H	40:BF:92:THR:CG2	2.25	0.45
41:BG:29:LEU:HD23	41:BG:29:LEU:C	2.37	0.45
41:BG:149:ALA:HB2	45:BK:60:PHE:HB3	1.99	0.45
42:BH:124:ILE:HG13	42:BH:124:ILE:O	2.17	0.45
44:BJ:71:LEU:HD22	44:BJ:71:LEU:N	2.32	0.45
46:BL:23:LEU:HD22	46:BL:58:ASN:HB2	1.99	0.45
48:BN:48:LEU:HD23	48:BN:48:LEU:C	2.37	0.45
54:BT:48:LYS:HD3	54:BT:48:LYS:O	2.16	0.45
56:BV:64:A:H2'	56:BV:65:G:C8	2.50	0.45
58:BZ:18:HIS:HD2	58:BZ:122:GLN:C	2.20	0.45
58:BZ:233:LEU:HA	58:BZ:243:LEU:HD21	1.99	0.45
58:BZ:317:PHE:HA	58:BZ:340:SER:O	2.16	0.45
58:BZ:616:ILE:HG21	58:BZ:657:GLU:HB3	1.99	0.45
1:AA:85:G:OP1	24:AX:5:ARG:CA	2.65	0.45
1:AA:239:C:H2'	1:AA:240:C:O4'	2.17	0.45
1:AA:495:G:H4'	22:AV:4:ILE:O	2.17	0.45
1:AA:828:U:H2'	1:AA:829:A:C8	2.52	0.45
1:AA:842:U:H2'	1:AA:843:G:C8	2.52	0.45
1:AA:1820:U:H3	4:AD:197:ALA:HA	1.81	0.45
1:AA:2289:G:O3'	1:AA:2384:U:H4'	2.17	0.45
1:AA:2419:U:H5"	31:A5:21:THR:CG2	2.47	0.45
1:AA:2537:U:H2'	1:AA:2538:C:C6	2.52	0.45
3:AC:27:ILE:HD12	3:AC:182:ALA:C	2.37	0.45
4:AD:66:PHE:CE2	4:AD:104:LEU:HD11	2.52	0.45
5:AE:113:SER:HA	5:AE:195:GLY:N	2.30	0.45
6:AF:118:LEU:HD11	6:AF:188:MET:SD	2.57	0.45
8:AH:175:LYS:HZ2	58:BZ:637:ARG:CZ	2.29	0.45
10:AJ:27:VAL:CG2	10:AJ:80:THR:HG23	2.46	0.45
11:AK:23:VAL:CG2	11:AK:24:GLY:H	2.22	0.45
15:AO:124:GLY:C	15:AO:125:LEU:HD12	2.37	0.45
32:A6:30:VAL:HA	32:A6:33:ARG:NH1	2.31	0.45
35:BA:144:G:H2'	35:BA:145:G:O4'	2.17	0.45
35:BA:516:U:H5"	58:BZ:591:LEU:CD2	2.45	0.45
35:BA:1169:A:H2'	35:BA:1170:A:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:1254:A:OP2	44:BJ:45:ARG:HD2	2.17	0.45
36:BB:65:LYS:HD3	36:BB:65:LYS:N	2.31	0.45
36:BB:69:VAL:O	36:BB:163:ILE:HG22	2.15	0.45
36:BB:99:MET:HG3	36:BB:100:LEU:N	2.31	0.45
37:BC:24:ASN:O	37:BC:28:PHE:HB2	2.17	0.45
38:BD:58:GLN:O	38:BD:62:ARG:HG2	2.17	0.45
38:BD:61:ARG:CZ	38:BD:68:GLU:HG2	2.47	0.45
41:BG:21:LEU:C	41:BG:21:LEU:HD13	2.37	0.45
44:BJ:11:LYS:HA	44:BJ:70:HIS:O	2.16	0.45
58:BZ:88:ASP:CG	58:BZ:89:THR:N	2.70	0.45
58:BZ:233:LEU:HD23	58:BZ:243:LEU:HD22	1.98	0.45
1:AA:238:C:H4'	1:AA:609:A:O4'	2.17	0.45
1:AA:770:G:C5'	32:A6:10:LEU:HD23	2.41	0.45
1:AA:1344:U:C4'	1:AA:1384:A:C6	3.00	0.45
1:AA:1358:G:H1'	1:AA:1374:G:H22	1.82	0.45
1:AA:1507:C:H2'	1:AA:1508:A:H4'	1.99	0.45
1:AA:1564:C:O2'	1:AA:1565:C:H5'	2.17	0.45
1:AA:2056:G:H4'	30:A4:4:GLN:NE2	2.32	0.45
1:AA:2248:C:C2'	1:AA:2249:U:H5'	2.46	0.45
1:AA:2308:G:C6	7:AG:76:PHE:CZ	3.05	0.45
2:AB:65:U:H2'	2:AB:66:A:H5'	1.99	0.45
3:AC:60:ARG:HE	3:AC:142:VAL:CG1	2.30	0.45
4:AD:128:THR:HA	4:AD:189:ALA:O	2.16	0.45
4:AD:250:GLN:HB3	4:AD:254:LYS:HG2	1.99	0.45
6:AF:151:GLY:N	6:AF:192:ALA:HB2	2.31	0.45
7:AG:78:ILE:HD12	7:AG:78:ILE:C	2.37	0.45
15:AO:131:ALA:O	15:AO:135:ILE:HG13	2.17	0.45
17:AQ:59:SER:O	17:AQ:63:ARG:HG3	2.17	0.45
23:AW:35:ALA:HB3	23:AW:38:ALA:HB2	1.98	0.45
25:AY:6:ALA:HB1	25:AY:40:ILE:CG2	2.47	0.45
25:AY:31:TYR:O	25:AY:92:VAL:HA	2.17	0.45
35:BA:49:U:O2'	35:BA:50:A:H2'	2.17	0.45
35:BA:571:U:H5'	35:BA:819:A:C8	2.52	0.45
35:BA:1218:C:H2'	35:BA:1219:A:C8	2.52	0.45
35:BA:1237:C:H3'	35:BA:1238:A:C5'	2.39	0.45
36:BB:125:PHE:CD2	36:BB:126:ASP:N	2.79	0.45
36:BB:172:ILE:HG22	36:BB:176:ASN:HD21	1.82	0.45
38:BD:31:CYS:SG	38:BD:32:LYS:N	2.86	0.45
41:BG:77:ARG:O	41:BG:84:TYR:HB2	2.17	0.45
42:BH:75:GLN:O	42:BH:126:CYS:HB2	2.17	0.45
43:BI:96:GLU:H	43:BI:96:GLU:CD	2.19	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BL:4:ASN:CA	51:BQ:35:LYS:HZ2	2.15	0.45
49:BO:27:GLN:O	49:BO:31:LEU:HG	2.17	0.45
52:BR:58:ILE:O	52:BR:62:ARG:HG3	2.16	0.45
56:BV:59:U:O2'	56:BV:60:U:H5'	2.17	0.45
58:BZ:13:ILE:O	58:BZ:87:ILE:N	2.41	0.45
58:BZ:288:SER:HB2	58:BZ:289:PRO:CD	2.46	0.45
58:BZ:423:LYS:HE3	58:BZ:482:ASN:N	2.31	0.45
1:AA:1161:C:H2'	1:AA:1162:G:C8	2.52	0.45
1:AA:1343:G:H5'	1:AA:1598:A:OP1	2.16	0.45
1:AA:1928:A:H2'	1:AA:1929:G:C5'	2.47	0.45
1:AA:1928:A:H3'	1:AA:1929:G:H5"	1.99	0.45
1:AA:2443:C:H2'	1:AA:2444:G:H8	1.80	0.45
6:AF:159:LEU:HD12	6:AF:159:LEU:N	2.32	0.45
8:AH:3:VAL:O	8:AH:68:ARG:HG3	2.17	0.45
8:AH:23:ILE:HD11	8:AH:42:VAL:HG11	1.98	0.45
13:AM:101:ILE:O	13:AM:105:VAL:HG23	2.15	0.45
18:AR:71:ALA:HB2	18:AR:102:ARG:HB3	1.99	0.45
23:AW:39:THR:O	23:AW:43:ILE:HG13	2.16	0.45
26:AZ:36:GLN:NE2	26:AZ:41:PHE:HB2	2.19	0.45
35:BA:667:G:H4'	49:BO:50:HIS:CE1	2.52	0.45
35:BA:948:C:OP2	47:BM:104:ASN:HB3	2.17	0.45
35:BA:1180:A:P	43:BI:98:ARG:HH12	2.40	0.45
35:BA:1187:G:C5'	43:BI:114:LYS:HE3	2.47	0.45
36:BB:70:GLY:O	36:BB:92:ASN:HA	2.17	0.45
38:BD:3:TYR:O	38:BD:4:LEU:HB2	2.17	0.45
38:BD:12:ARG:HD2	38:BD:32:LYS:O	2.17	0.45
47:BM:47:LEU:HD23	47:BM:48:SER:O	2.17	0.45
49:BO:69:LEU:HD21	49:BO:76:ARG:CB	2.47	0.45
49:BO:78:THR:HA	49:BO:81:ILE:HG12	1.98	0.45
50:BP:2:VAL:HG13	50:BP:65:ALA:HA	1.99	0.45
51:BQ:3:LYS:C	51:BQ:3:LYS:HD2	2.37	0.45
58:BZ:560:GLN:HG3	58:BZ:598:SER:CA	2.46	0.45
58:BZ:631:VAL:HG13	58:BZ:666:TYR:OH	2.17	0.45
1:AA:523:C:H2'	1:AA:524:G:C8	2.52	0.44
1:AA:639:U:H2'	1:AA:640:C:C6	2.52	0.44
1:AA:749:A:H4'	1:AA:1271:G:N3	2.32	0.44
1:AA:1107:G:OP1	10:AJ:55:VAL:HA	2.16	0.44
1:AA:1834:U:H4'	1:AA:1969:A:C5	2.52	0.44
1:AA:2024:G:H4'	5:AE:154:LYS:NZ	2.32	0.44
1:AA:2168:G:C6	56:BW:56:C:N4	2.85	0.44
1:AA:2294:G:OP1	18:AR:98:GLN:NE2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2555:U:H2'	1:AA:2556:C:H5'	2.00	0.44
3:AC:30:LEU:HD23	3:AC:30:LEU:O	2.18	0.44
3:AC:48:LEU:HD22	3:AC:208:TYR:CZ	2.52	0.44
3:AC:127:LEU:N	3:AC:127:LEU:HD12	2.33	0.44
4:AD:78:GLU:OE1	4:AD:94:LEU:HB2	2.17	0.44
4:AD:124:LYS:HB2	4:AD:125:PRO:HD2	1.98	0.44
5:AE:37:VAL:HG23	5:AE:92:VAL:HG22	2.00	0.44
7:AG:53:ALA:O	7:AG:64:PRO:HG3	2.17	0.44
10:AJ:52:MET:HG3	10:AJ:81:LEU:HD21	1.98	0.44
14:AN:49:ARG:HH21	35:BA:1423:G:H5"	1.82	0.44
20:AT:50:ARG:HG2	20:AT:50:ARG:HH11	1.82	0.44
35:BA:390:U:H2'	35:BA:391:G:C8	2.52	0.44
35:BA:546:A:H4'	35:BA:548:G:O2'	2.17	0.44
36:BB:192:PRO:O	36:BB:193:ASP:CG	2.56	0.44
36:BB:222:GLU:HA	36:BB:224:ARG:NH2	2.32	0.44
37:BC:4:VAL:O	37:BC:6:PRO:HD3	2.16	0.44
37:BC:168:ARG:NH1	37:BC:170:GLY:H	2.13	0.44
38:BD:94:GLU:CG	38:BD:185:PRO:HG2	2.48	0.44
39:BE:72:ASN:HD22	39:BE:72:ASN:H	1.66	0.44
39:BE:85:LYS:HD3	39:BE:94:PHE:HD2	1.83	0.44
50:BP:74:LEU:O	50:BP:78:VAL:HG12	2.17	0.44
53:BS:63:ASP:O	53:BS:64:GLU:HB3	2.17	0.44
58:BZ:141:VAL:CG2	58:BZ:154:VAL:HG21	2.47	0.44
1:AA:26:G:O2'	1:AA:27:G:H5'	2.16	0.44
1:AA:78:U:H2'	1:AA:79:C:C6	2.51	0.44
1:AA:466:A:C2'	1:AA:467:G:H5'	2.45	0.44
1:AA:704:G:H1'	1:AA:726:G:N2	2.33	0.44
1:AA:754:U:O2'	1:AA:1618:A:H2	1.97	0.44
1:AA:940:G:H2'	1:AA:941:A:C5'	2.44	0.44
1:AA:955:U:OP2	16:AP:14:LYS:N	2.50	0.44
1:AA:1947:C:H2'	1:AA:1948:G:H8	1.81	0.44
1:AA:2016:U:H4'	1:AA:2057:G:H4'	1.99	0.44
1:AA:2623:G:H2'	1:AA:2624:G:H8	1.83	0.44
3:AC:175:ILE:HG22	3:AC:175:ILE:O	2.16	0.44
7:AG:134:GLN:OE1	7:AG:134:GLN:N	2.50	0.44
8:AH:154:GLU:OE1	8:AH:154:GLU:N	2.48	0.44
11:AK:33:ASN:ND2	11:AK:34:ILE:N	2.65	0.44
17:AQ:69:ARG:O	17:AQ:71:ARG:N	2.50	0.44
19:AS:8:GLU:O	19:AS:12:MET:HG3	2.18	0.44
23:AW:28:ASN:OD1	23:AW:91:GLN:HB3	2.18	0.44
28:A2:45:GLN:O	28:A2:47:ARG:N	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:A4:2:VAL:HG22	30:A4:3:GLN:N	2.31	0.44
35:BA:69:G:H2'	35:BA:70:U:C6	2.52	0.44
35:BA:73:C:O2'	35:BA:74:A:H8	2.00	0.44
35:BA:855:U:OP2	35:BA:871:U:C4	2.70	0.44
38:BD:9:LYS:HB3	38:BD:9:LYS:NZ	2.19	0.44
38:BD:123:MET:HG3	38:BD:145:ARG:HG2	1.98	0.44
39:BE:68:ARG:HG3	39:BE:68:ARG:HH11	1.82	0.44
40:BF:36:ILE:HG23	40:BF:36:ILE:O	2.17	0.44
42:BH:14:ARG:HB2	42:BH:74:ILE:CG2	2.47	0.44
48:BN:61:ARG:CG	48:BN:62:ASN:N	2.79	0.44
54:BT:33:LYS:HE2	54:BT:33:LYS:CA	2.43	0.44
55:BU:28:LEU:HD23	55:BU:28:LEU:C	2.37	0.44
55:BU:46:ARG:HH21	55:BU:49:ALA:CB	2.30	0.44
56:BW:13:C:H2'	56:BW:14:A:H8	1.82	0.44
58:BZ:80:GLU:O	58:BZ:80:GLU:HG2	2.16	0.44
58:BZ:100:GLU:HB2	58:BZ:133:TYR:CZ	2.52	0.44
58:BZ:388:LEU:HD23	58:BZ:391:VAL:HG21	1.99	0.44
58:BZ:430:LYS:CD	58:BZ:479:VAL:HG22	2.47	0.44
58:BZ:623:THR:O	58:BZ:628:THR:HG22	2.18	0.44
1:AA:378:C:H2'	1:AA:379:G:H8	1.83	0.44
1:AA:968:C:H2'	1:AA:969:G:C8	2.52	0.44
1:AA:1264:A:O3'	1:AA:2615:U:H5'	2.17	0.44
1:AA:1790:C:H2'	1:AA:1791:A:C5	2.53	0.44
1:AA:2017:U:H4'	30:A4:4:GLN:O	2.17	0.44
1:AA:2875:C:O3'	19:AS:1:SER:HB2	2.17	0.44
13:AM:16:TYR:HA	13:AM:138:GLN:O	2.18	0.44
15:AO:119:PRO:HG3	15:AO:138:ALA:O	2.16	0.44
17:AQ:103:ARG:HB3	17:AQ:108:ALA:H	1.82	0.44
35:BA:397:A:H3'	35:BA:397:A:N3	2.32	0.44
35:BA:715:A:H2'	35:BA:716:A:C8	2.52	0.44
35:BA:717:U:H2'	35:BA:734:G:OP2	2.16	0.44
35:BA:1258:G:H2'	35:BA:1259:C:C6	2.52	0.44
35:BA:1402:C:H2'	35:BA:1403:C:O4'	2.17	0.44
35:BA:1492:A:H3'	59:BY:6:5OH:HNQ	1.82	0.44
36:BB:158:ASP:O	36:BB:180:ILE:HG23	2.17	0.44
39:BE:29:ILE:HG23	39:BE:29:ILE:O	2.16	0.44
41:BG:86:VAL:HG22	41:BG:150:PHE:CB	2.48	0.44
49:BO:16:ARG:N	49:BO:16:ARG:HD3	2.32	0.44
58:BZ:158:ILE:HD12	58:BZ:162:LEU:CD1	2.39	0.44
58:BZ:337:ARG:HA	58:BZ:382:ILE:HG22	1.99	0.44
1:AA:646:U:C4	1:AA:2368:C:H1'	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:740:C:H5'	1:AA:1784:A:H2'	1.99	0.44
1:AA:1412:U:H2'	1:AA:1413:A:C8	2.52	0.44
1:AA:1508:A:H2'	1:AA:1509:A:N7	2.32	0.44
1:AA:2089:C:H2'	1:AA:2090:A:C8	2.53	0.44
1:AA:2398:U:H2'	1:AA:2399:G:C8	2.52	0.44
2:AB:49:C:H2'	2:AB:50:A:C8	2.53	0.44
3:AC:64:VAL:O	3:AC:64:VAL:HG13	2.18	0.44
4:AD:83:ASP:OD1	4:AD:86:ARG:HG2	2.18	0.44
7:AG:84:ILE:HG23	7:AG:85:GLY:N	2.32	0.44
7:AG:105:ILE:C	7:AG:108:PRO:HD2	2.38	0.44
7:AG:111:ARG:HG2	7:AG:111:ARG:HH21	1.83	0.44
10:AJ:30:SER:OG	10:AJ:33:VAL:HG11	2.18	0.44
10:AJ:60:LEU:CD2	10:AJ:82:ILE:HD13	2.47	0.44
11:AK:56:VAL:HG21	11:AK:68:PHE:HD2	1.81	0.44
12:AL:55:PHE:HB3	12:AL:121:LYS:HB3	2.00	0.44
15:AO:77:ILE:HB	15:AO:109:LYS:O	2.18	0.44
16:AP:16:ARG:HH11	16:AP:16:ARG:HG2	1.82	0.44
21:AU:98:ILE:HG21	21:AU:101:ILE:HD11	1.99	0.44
24:AX:42:LYS:HB3	24:AX:57:ILE:HG23	1.99	0.44
36:BB:30:ILE:HA	36:BB:40:ILE:HA	1.98	0.44
36:BB:134:LEU:HD12	36:BB:137:THR:OG1	2.17	0.44
38:BD:59:LYS:O	38:BD:63:ILE:HG13	2.17	0.44
40:BF:50:PRO:HG3	40:BF:55:HIS:HE1	1.81	0.44
44:BJ:73:LEU:HB3	44:BJ:75:ASP:OD1	2.17	0.44
45:BK:97:ARG:HH11	45:BK:97:ARG:HG3	1.83	0.44
48:BN:2:LYS:HB3	48:BN:5:MET:HG2	1.98	0.44
51:BQ:58:VAL:HG13	51:BQ:60:ILE:CD1	2.39	0.44
55:BU:24:LYS:HD3	55:BU:24:LYS:C	2.38	0.44
56:BW:68:C:H2'	56:BW:69:G:H8	1.82	0.44
58:BZ:398:CYS:CB	58:BZ:404:ILE:HG22	2.47	0.44
1:AA:545:U:O2	1:AA:545:U:H3'	2.18	0.44
1:AA:919:U:H2'	1:AA:920:A:O4'	2.18	0.44
1:AA:973:A:C2	1:AA:1187:G:N2	2.85	0.44
1:AA:1335:C:H2'	1:AA:1336:A:C8	2.52	0.44
1:AA:1911:U:O2'	1:AA:1912:A:C5'	2.66	0.44
1:AA:2042:A:H2'	1:AA:2043:C:H5'	2.00	0.44
3:AC:126:GLN:HG3	3:AC:127:LEU:HD13	1.98	0.44
4:AD:75:ALA:HB3	4:AD:115:ILE:CD1	2.46	0.44
6:AF:113:VAL:HG22	6:AF:118:LEU:HD23	1.98	0.44
7:AG:122:ASP:OD2	7:AG:124:ARG:HB2	2.18	0.44
7:AG:129:MET:HG3	7:AG:153:ILE:HB	1.97	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:94:ARG:HD2	8:AH:127:GLN:HB3	2.00	0.44
10:AJ:5:LEU:HA	10:AJ:8:LYS:NZ	2.27	0.44
11:AK:100:ILE:HG13	11:AK:132:ALA:HB1	2.00	0.44
16:AP:66:ARG:HH11	16:AP:66:ARG:HG3	1.82	0.44
17:AQ:8:ARG:HH21	17:AQ:8:ARG:HG2	1.83	0.44
35:BA:75:G:O4'	35:BA:75:G:P	2.73	0.44
35:BA:109:A:H62	35:BA:324:G:H1'	1.81	0.44
35:BA:314:C:O2'	35:BA:315:A:H5'	2.17	0.44
35:BA:1007:U:C2'	35:BA:1008:U:H5"	2.42	0.44
35:BA:1086:U:O3'	35:BA:1389:C:H4'	2.18	0.44
42:BH:31:LEU:HD13	42:BH:31:LEU:C	2.38	0.44
45:BK:99:LEU:HD22	45:BK:99:LEU:N	2.32	0.44
46:BL:120:ARG:HD2	46:BL:120:ARG:C	2.38	0.44
58:BZ:189:LYS:HB2	58:BZ:204:TYR:HE1	1.81	0.44
58:BZ:649:VAL:CG1	58:BZ:650:THR:H	2.26	0.44
1:AA:491:G:N3	1:AA:1321:A:OP1	2.51	0.44
1:AA:576:U:H5"	1:AA:2503:A:OP1	2.18	0.44
1:AA:804:A:H2'	1:AA:806:C:C4	2.53	0.44
1:AA:919:U:O2'	2:AB:81:G:H4'	2.17	0.44
1:AA:1012:U:O4	13:AM:30:THR:HG21	2.18	0.44
1:AA:1245:G:H2'	1:AA:1246:A:C8	2.53	0.44
1:AA:1336:A:OP2	23:AW:68:LYS:CE	2.65	0.44
1:AA:1342:A:H5'	23:AW:59:ASN:HD22	1.83	0.44
1:AA:1427:A:H4'	1:AA:1428:C:O4'	2.17	0.44
1:AA:1808:A:C6	27:A1:27:ARG:CZ	3.00	0.44
1:AA:1916:A:N1	35:BA:1409:C:H5'	2.31	0.44
1:AA:2220:U:H2'	1:AA:2221:G:H8	1.83	0.44
1:AA:2698:U:H2'	1:AA:2699:C:C6	2.51	0.44
1:AA:2759:G:H21	8:AH:138:GLN:HG3	1.82	0.44
5:AE:121:THR:HB	5:AE:127:PHE:CD1	2.52	0.44
6:AF:47:LYS:HA	6:AF:51:GLU:OE1	2.17	0.44
6:AF:102:ARG:O	6:AF:106:LYS:HG3	2.18	0.44
6:AF:128:ALA:O	6:AF:130:LYS:N	2.51	0.44
8:AH:71:LEU:HD12	8:AH:71:LEU:N	2.32	0.44
11:AK:3:LYS:HD2	11:AK:4:VAL:H	1.83	0.44
13:AM:7:LYS:HB2	13:AM:10:THR:OG1	2.18	0.44
23:AW:86:THR:HG22	23:AW:87:LEU:N	2.32	0.44
27:A1:63:ILE:O	27:A1:67:LEU:HG	2.17	0.44
33:A7:58:ILE:H	33:A7:58:ILE:CD1	2.30	0.44
35:BA:517:G:H4'	35:BA:519:C:N3	2.33	0.44
35:BA:1497:G:C2'	35:BA:1498:U:H5'	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BC:63:ILE:HG23	37:BC:98:ALA:HA	2.00	0.44
39:BE:80:LEU:N	39:BE:80:LEU:HD22	2.33	0.44
47:BM:47:LEU:HG	47:BM:51:GLN:HB2	1.99	0.44
58:BZ:15:ILE:CG2	58:BZ:23:LYS:HG3	2.47	0.44
58:BZ:146:ARG:O	58:BZ:149:ALA:HB2	2.17	0.44
58:BZ:227:ALA:HA	58:BZ:233:LEU:HB3	2.00	0.44
1:AA:327:G:H2'	1:AA:328:U:O4'	2.18	0.44
1:AA:491:G:N2	1:AA:1321:A:OP1	2.51	0.44
1:AA:664:G:C1'	1:AA:940:G:H5"	2.46	0.44
1:AA:740:C:H5'	1:AA:1784:A:C2'	2.47	0.44
1:AA:1061:U:C4'	1:AA:1070:A:H1'	2.32	0.44
1:AA:1201:U:H2'	1:AA:1202:G:C8	2.53	0.44
1:AA:1713:A:H61	1:AA:1745:A:N6	2.14	0.44
1:AA:1807:G:C2'	1:AA:1808:A:H5'	2.46	0.44
1:AA:2135:A:O2'	1:AA:2160:C:H5'	2.18	0.44
1:AA:2136:G:N2	1:AA:2156:G:H1'	2.33	0.44
1:AA:2385:C:H2'	1:AA:2386:A:C8	2.52	0.44
1:AA:2853:C:H2'	1:AA:2854:G:C8	2.52	0.44
4:AD:50:THR:HG22	4:AD:53:ILE:HD13	1.99	0.44
5:AE:109:VAL:HG23	5:AE:175:LEU:HD12	2.00	0.44
12:AL:108:LYS:O	12:AL:112:GLU:HG3	2.17	0.44
15:AO:62:PRO:HB2	33:A7:29:ARG:HH22	1.75	0.44
25:AY:7:GLU:O	25:AY:41:GLU:HG2	2.18	0.44
28:A2:31:GLN:HE21	28:A2:37:LEU:CA	2.31	0.44
35:BA:100:G:H2'	35:BA:101:A:O4'	2.18	0.44
35:BA:373:A:N6	35:BA:391:G:H21	2.16	0.44
35:BA:918:A:H2'	35:BA:919:A:O4'	2.18	0.44
35:BA:927:G:H2'	35:BA:928:G:C8	2.53	0.44
35:BA:1330:U:C2'	35:BA:1331:G:H5'	2.48	0.44
35:BA:1349:A:OP2	43:BI:119:LYS:HE2	2.18	0.44
36:BB:41:ASN:HB3	36:BB:44:LYS:HB3	2.00	0.44
37:BC:32:LEU:HD13	37:BC:32:LEU:C	2.37	0.44
43:BI:78:ILE:O	43:BI:82:ILE:HG13	2.18	0.44
51:BQ:64:ARG:HG2	51:BQ:64:ARG:HH11	1.83	0.44
58:BZ:256:VAL:HG11	58:BZ:263:LEU:CD1	2.47	0.44
58:BZ:371:ARG:HH11	58:BZ:371:ARG:HG3	1.82	0.44
58:BZ:387:GLY:O	58:BZ:388:LEU:C	2.56	0.44
58:BZ:515:TYR:CD1	58:BZ:516:GLY:N	2.86	0.44
1:AA:83:A:OP1	24:AX:91:LYS:HD2	2.17	0.44
1:AA:232:G:H22	1:AA:420:C:H5"	1.82	0.44
1:AA:322:A:H5'	1:AA:340:A:C1'	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1067:A:H1'	58:BZ:642:LEU:O	2.18	0.44
1:AA:1112:G:O2'	1:AA:1113:U:H5'	2.17	0.44
1:AA:1265:A:OP2	1:AA:2615:U:OP1	2.35	0.44
1:AA:1302:A:H5"	1:AA:1608:A:OP1	2.18	0.44
1:AA:1938:A:C6	1:AA:2590:A:H1'	2.52	0.44
1:AA:2117:A:H61	1:AA:2170:A:N6	2.15	0.44
1:AA:2139:U:H2'	1:AA:2140:G:H8	1.83	0.44
1:AA:2192:U:H2'	1:AA:2193:G:C8	2.53	0.44
1:AA:2743:U:H3'	1:AA:2744:G:H5"	2.00	0.44
4:AD:124:LYS:HG3	4:AD:127:ASN:OD1	2.17	0.44
6:AF:118:LEU:HD11	6:AF:188:MET:CG	2.46	0.44
7:AG:78:ILE:HD12	7:AG:78:ILE:O	2.17	0.44
11:AK:93:ASN:C	11:AK:95:ASP:H	2.21	0.44
11:AK:133:ARG:HG3	11:AK:137:LEU:O	2.17	0.44
15:AO:82:LEU:HD21	15:AO:120:VAL:HG11	1.99	0.44
19:AS:74:GLN:HA	19:AS:74:GLN:HE21	1.82	0.44
21:AU:49:ILE:O	21:AU:49:ILE:HG13	2.17	0.44
25:AY:46:LYS:O	25:AY:50:MET:HG3	2.18	0.44
27:A1:12:VAL:HG22	27:A1:28:PHE:HB2	2.00	0.44
32:A6:22:MET:HG3	32:A6:22:MET:O	2.17	0.44
35:BA:133:U:P	54:BT:68:LYS:CE	3.05	0.44
35:BA:630:A:H2'	35:BA:631:C:O4'	2.18	0.44
35:BA:1299:A:O2'	35:BA:1300:G:H4'	2.17	0.44
35:BA:1300:G:H1'	35:BA:1301:U:H5	1.83	0.44
36:BB:114:LYS:HA	36:BB:117:GLU:CG	2.44	0.44
36:BB:140:LEU:HD12	36:BB:140:LEU:N	2.33	0.44
37:BC:38:VAL:O	37:BC:42:LEU:HD13	2.18	0.44
38:BD:110:ARG:HG2	38:BD:110:ARG:HH11	1.83	0.44
39:BE:25:LYS:HD3	39:BE:25:LYS:O	2.18	0.44
45:BK:15:VAL:CG2	45:BK:16:SER:H	2.23	0.44
46:BL:42:LYS:HG2	46:BL:43:LYS:HZ2	1.82	0.44
46:BL:109:ARG:CB	46:BL:118:VAL:HG11	2.48	0.44
47:BM:92:ARG:HG2	47:BM:92:ARG:HH11	1.82	0.44
48:BN:5:MET:HB3	48:BN:63:ARG:HH12	1.83	0.44
48:BN:52:PRO:O	48:BN:53:ARG:HB2	2.18	0.44
56:BV:6:G:C2'	56:BV:7:A:H5'	2.47	0.44
56:BW:5:G:H2'	56:BW:6:G:C8	2.52	0.44
56:BW:16:U:H2'	56:BW:17:C:H5"	2.00	0.44
58:BZ:183:VAL:HG23	58:BZ:183:VAL:O	2.18	0.44
58:BZ:185:LEU:HD23	58:BZ:222:LEU:HD12	1.98	0.44
58:BZ:297:GLY:O	58:BZ:306:PRO:HA	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:374:ILE:HG22	58:BZ:375:LYS:H	1.83	0.44
1:AA:19:A:O2'	1:AA:553:G:H4'	2.18	0.44
1:AA:755:U:H2'	1:AA:756:A:C8	2.53	0.44
1:AA:955:U:OP2	16:AP:14:LYS:HB2	2.17	0.44
1:AA:1097:U:H2'	1:AA:1098:A:H5'	1.99	0.44
1:AA:1140:C:OP1	13:AM:25:LEU:HB3	2.17	0.44
1:AA:1190:G:H2'	1:AA:1191:G:H8	1.82	0.44
1:AA:1582:C:C2'	1:AA:1583:A:H5"	2.48	0.44
1:AA:1759:A:H5"	1:AA:2715:C:O2'	2.18	0.44
1:AA:1826:G:H2'	1:AA:1827:U:C6	2.53	0.44
1:AA:1915:U:O4	35:BA:1409:C:H4'	2.18	0.44
1:AA:2215:C:H2'	1:AA:2216:G:H8	1.83	0.44
1:AA:2463:C:H2'	1:AA:2464:G:H8	1.81	0.44
1:AA:2881:U:H2'	1:AA:2882:A:H8	1.83	0.44
3:AC:41:SER:HA	3:AC:177:LYS:HA	2.00	0.44
5:AE:4:LEU:HD22	5:AE:4:LEU:N	2.33	0.44
11:AK:34:ILE:O	11:AK:34:ILE:HG22	2.18	0.44
11:AK:83:ALA:HB2	11:AK:105:LEU:HD21	2.00	0.44
13:AM:68:LYS:HA	13:AM:72:LYS:H	1.83	0.44
13:AM:71:ASP:O	13:AM:73:VAL:HG23	2.17	0.44
18:AR:28:VAL:HG12	18:AR:93:ASP:O	2.18	0.44
35:BA:880:C:H2'	35:BA:881:G:H8	1.83	0.44
35:BA:1108:G:H5'	37:BC:175:HIS:HD2	1.82	0.44
35:BA:1512:U:H2'	35:BA:1513:A:C8	2.53	0.44
36:BB:30:ILE:HD11	36:BB:38:HIS:ND1	2.33	0.44
36:BB:148:GLY:O	36:BB:151:LYS:HE3	2.18	0.44
36:BB:224:ARG:H	36:BB:224:ARG:HE	1.62	0.44
37:BC:29:ALA:HB1	48:BN:65:ARG:NH2	2.32	0.44
38:BD:9:LYS:HZ3	38:BD:9:LYS:CB	2.20	0.44
38:BD:189:ASP:O	38:BD:190:LEU:HG	2.18	0.44
39:BE:105:ILE:O	39:BE:105:ILE:HG13	2.17	0.44
41:BG:119:LEU:HD23	41:BG:119:LEU:C	2.38	0.44
43:BI:118:ARG:HB2	43:BI:122:ARG:HB3	2.00	0.44
48:BN:66:GLN:HG3	48:BN:79:LEU:HD22	2.00	0.44
51:BQ:14:ASP:OD1	51:BQ:54:ILE:HB	2.18	0.44
58:BZ:499:THR:HG23	58:BZ:500:ASP:OD1	2.17	0.44
1:AA:296:U:O2'	24:AX:86:PHE:HE2	2.01	0.43
1:AA:355:U:H2'	1:AA:356:G:C8	2.53	0.43
1:AA:514:A:H4'	20:AT:10:ARG:HH12	1.83	0.43
1:AA:1268:A:H2'	1:AA:1269:A:O4'	2.18	0.43
1:AA:1339:G:H5"	23:AW:19:LYS:HD3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1563:U:H2'	1:AA:1564:C:C6	2.53	0.43
1:AA:2200:C:OP2	27:A1:36:ARG:HD3	2.18	0.43
1:AA:2457:U:O2'	1:AA:2458:G:H5'	2.18	0.43
3:AC:189:LEU:O	3:AC:193:LEU:HG	2.18	0.43
4:AD:161:VAL:CG1	4:AD:173:LEU:HB3	2.47	0.43
7:AG:8:LYS:HA	7:AG:12:VAL:CG2	2.48	0.43
8:AH:32:LEU:HD11	8:AH:135:ALA:HB1	2.00	0.43
8:AH:158:GLY:HA3	8:AH:162:ARG:HH11	1.81	0.43
10:AJ:47:GLU:H	10:AJ:47:GLU:CD	2.21	0.43
11:AK:24:GLY:C	11:AK:26:ALA:H	2.21	0.43
15:AO:110:VAL:CG2	15:AO:127:VAL:HG22	2.48	0.43
17:AQ:25:ALA:O	17:AQ:29:VAL:HG23	2.18	0.43
21:AU:11:GLN:HE21	21:AU:39:LEU:HD22	1.83	0.43
24:AX:73:ASN:ND2	24:AX:75:ALA:HB3	2.30	0.43
30:A4:51:ARG:HB2	30:A4:51:ARG:NH2	2.33	0.43
35:BA:560:A:H5"	35:BA:561:U:H3'	2.00	0.43
35:BA:1304:G:H1'	35:BA:1334:G:N2	2.33	0.43
35:BA:1376:U:H2'	35:BA:1377:A:H8	1.83	0.43
43:BI:56:MET:SD	43:BI:57:VAL:N	2.78	0.43
43:BI:121:ARG:HG3	43:BI:121:ARG:HH11	1.83	0.43
43:BI:122:ARG:HG3	43:BI:122:ARG:HH11	1.83	0.43
52:BR:54:LEU:C	52:BR:54:LEU:HD13	2.38	0.43
58:BZ:327:ASP:C	58:BZ:329:PHE:H	2.21	0.43
1:AA:133:U:H2'	1:AA:134:G:C8	2.53	0.43
1:AA:611:C:H2'	1:AA:612:G:O4'	2.17	0.43
1:AA:1380:G:H1'	1:AA:1569:A:H61	1.83	0.43
1:AA:1478:G:H2'	1:AA:1479:G:H8	1.83	0.43
1:AA:1658:C:H2'	1:AA:1659:G:H8	1.83	0.43
1:AA:1665:A:H5"	14:AN:66:LYS:HG3	1.99	0.43
1:AA:2453:A:H2'	1:AA:2454:G:H8	1.83	0.43
1:AA:2726:A:H4'	14:AN:1:MET:CE	2.48	0.43
3:AC:19:LYS:O	3:AC:223:ALA:HB3	2.18	0.43
3:AC:69:THR:O	3:AC:176:GLY:HA2	2.17	0.43
4:AD:52:HIS:NE2	4:AD:218:THR:HG23	2.33	0.43
4:AD:53:ILE:HD12	4:AD:53:ILE:N	2.33	0.43
4:AD:61:TYR:CD2	4:AD:62:ARG:N	2.86	0.43
4:AD:62:ARG:O	4:AD:64:VAL:HG23	2.18	0.43
7:AG:116:LEU:HD22	7:AG:116:LEU:N	2.33	0.43
10:AJ:31:ARG:HD3	10:AJ:79:PRO:HB3	2.00	0.43
15:AO:100:ILE:HD12	15:AO:100:ILE:C	2.38	0.43
23:AW:77:ARG:HG2	23:AW:77:ARG:HH11	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:A1:27:ARG:HD3	27:A1:29:LEU:CD2	2.48	0.43
35:BA:406:G:O2'	35:BA:407:U:H5'	2.18	0.43
35:BA:665:A:N3	35:BA:732:C:H2'	2.33	0.43
35:BA:857:C:H2'	35:BA:858:G:H8	1.80	0.43
35:BA:1158:C:O2	35:BA:1158:C:H3'	2.17	0.43
38:BD:54:LEU:HD23	38:BD:54:LEU:C	2.39	0.43
41:BG:125:ASP:OD2	41:BG:130:LYS:HE3	2.18	0.43
44:BJ:10:LEU:HD22	44:BJ:22:THR:OG1	2.18	0.43
52:BR:24:ASP:O	52:BR:28:LEU:HD13	2.18	0.43
55:BU:4:LYS:HD2	55:BU:4:LYS:C	2.39	0.43
56:BW:37:A:C2	57:BX:16:U:O2	2.71	0.43
1:AA:411:G:OP1	1:AA:2407:A:OP1	2.36	0.43
1:AA:433:C:O2'	1:AA:434:U:H5'	2.18	0.43
1:AA:800:A:H1'	1:AA:802:A:OP2	2.18	0.43
1:AA:1091:G:H1	1:AA:1100:C:H42	1.66	0.43
1:AA:1258:U:H2'	1:AA:1259:G:C8	2.52	0.43
1:AA:1695:G:C8	4:AD:7:PRO:HG2	2.53	0.43
1:AA:2774:C:H2'	1:AA:2775:G:O4'	2.18	0.43
1:AA:2820:A:H4'	17:AQ:3:HIS:CD2	2.53	0.43
2:AB:37:C:O2	18:AR:100:HIS:HE1	2.01	0.43
3:AC:27:ILE:HD12	3:AC:182:ALA:O	2.18	0.43
3:AC:48:LEU:HD13	3:AC:59:VAL:HG21	2.00	0.43
5:AE:112:THR:O	5:AE:195:GLY:HA2	2.17	0.43
19:AS:28:LYS:HE2	19:AS:39:LEU:HD23	2.00	0.43
20:AT:97:ILE:HG23	20:AT:101:ASP:HB3	2.01	0.43
21:AU:80:ARG:NH1	21:AU:80:ARG:CB	2.82	0.43
27:A1:5:GLN:NE2	27:A1:48:LEU:HD22	2.33	0.43
27:A1:73:ARG:HE	27:A1:75:GLU:HG3	1.83	0.43
35:BA:28:A:H2'	35:BA:29:U:O4'	2.18	0.43
35:BA:1117:A:N6	35:BA:1156:G:H22	2.17	0.43
36:BB:150:ILE:O	36:BB:151:LYS:C	2.57	0.43
37:BC:172:VAL:N	37:BC:173:PRO:HD3	2.33	0.43
48:BN:9:GLU:O	48:BN:13:VAL:HG12	2.19	0.43
50:BP:4:ILE:CD1	50:BP:57:ILE:HG23	2.48	0.43
51:BQ:6:THR:C	51:BQ:7:LEU:HD12	2.39	0.43
58:BZ:31:LEU:HD12	58:BZ:86:ILE:CD1	2.47	0.43
58:BZ:119:VAL:O	58:BZ:120:GLN:C	2.55	0.43
58:BZ:430:LYS:HE3	58:BZ:479:VAL:HG13	2.00	0.43
58:BZ:533:GLY:O	58:BZ:574:MET:N	2.48	0.43
1:AA:98:G:O2'	1:AA:99:U:H5'	2.19	0.43
1:AA:320:A:H4'	1:AA:322:A:N7	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:329:G:C4'	1:AA:477:A:H4'	2.42	0.43
1:AA:861:A:H2'	1:AA:862:G:O4'	2.18	0.43
1:AA:2333:A:H5'	1:AA:2335:A:H1'	2.00	0.43
1:AA:2514:U:H2'	1:AA:2515:C:C6	2.54	0.43
1:AA:2520:C:H42	1:AA:2545:G:H1	1.66	0.43
1:AA:2696:U:H2'	1:AA:2697:G:C8	2.54	0.43
1:AA:2831:G:OP1	1:AA:2834:G:H4'	2.18	0.43
4:AD:43:ASN:ND2	4:AD:45:ASN:H	2.16	0.43
4:AD:43:ASN:ND2	4:AD:45:ASN:HD22	2.14	0.43
4:AD:226:PRO:HD3	4:AD:233:GLY:H	1.83	0.43
5:AE:32:ASN:HA	5:AE:51:THR:O	2.19	0.43
5:AE:149:ASN:OD1	5:AE:150:GLN:N	2.52	0.43
8:AH:10:VAL:HG23	8:AH:10:VAL:O	2.18	0.43
9:AI:21:VAL:HG21	9:AI:25:TYR:HD2	1.83	0.43
10:AJ:67:THR:O	10:AJ:69:PHE:N	2.51	0.43
10:AJ:109:LYS:O	10:AJ:120:ALA:HB2	2.17	0.43
12:AL:111:LEU:CB	12:AL:118:VAL:HG21	2.46	0.43
15:AO:82:LEU:HD21	15:AO:120:VAL:CG1	2.48	0.43
16:AP:53:MET:HG3	16:AP:63:ILE:HD13	1.99	0.43
17:AQ:48:VAL:HG13	17:AQ:49:GLU:N	2.33	0.43
19:AS:31:VAL:HG11	19:AS:40:GLN:HE21	1.83	0.43
19:AS:88:ARG:CD	19:AS:112:ARG:HH21	2.26	0.43
35:BA:855:U:OP2	35:BA:871:U:N3	2.51	0.43
35:BA:865:A:H5'	35:BA:1078:U:C4	2.53	0.43
35:BA:1130:A:O2'	43:BI:4:GLN:HG3	2.19	0.43
35:BA:1414:U:H2'	35:BA:1415:G:C8	2.52	0.43
35:BA:1491:G:H2'	59:BY:6:5OH:O	2.18	0.43
37:BC:149:LYS:HE3	37:BC:172:VAL:HG21	2.00	0.43
38:BD:131:ILE:HD12	38:BD:131:ILE:C	2.39	0.43
44:BJ:87:LEU:HD13	44:BJ:87:LEU:C	2.39	0.43
45:BK:22:ILE:HD11	45:BK:85:VAL:HA	2.00	0.43
45:BK:41:LEU:HB3	45:BK:76:TYR:CE2	2.53	0.43
46:BL:41:PRO:HB3	46:BL:45:ASN:HB2	2.00	0.43
46:BL:88:ASP:HB3	46:BL:89:LEU:HD12	2.00	0.43
46:BL:113:ARG:HH11	46:BL:113:ARG:HG3	1.81	0.43
47:BM:19:THR:HG22	47:BM:25:GLY:O	2.18	0.43
52:BR:19:GLU:HA	52:BR:54:LEU:HD23	2.00	0.43
56:BW:37:A:C2	57:BX:16:U:C2	3.07	0.43
57:BX:16:U:H2'	57:BX:17:U:C6	2.54	0.43
1:AA:4:U:H2'	1:AA:5:A:C8	2.54	0.43
1:AA:534:U:H2'	1:AA:535:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:992:C:H2'	1:AA:993:G:H8	1.84	0.43
1:AA:1614:A:N6	22:AV:88:ARG:O	2.51	0.43
1:AA:2114:A:H61	1:AA:2170:A:H61	1.66	0.43
1:AA:2245:U:H5"	1:AA:2246:G:H5'	2.00	0.43
1:AA:2279:G:N2	1:AA:2327:A:H2	2.17	0.43
3:AC:111:PHE:CE1	3:AC:136:LEU:HD13	2.51	0.43
4:AD:144:GLU:HB2	4:AD:187:CYS:HB3	2.01	0.43
4:AD:209:ALA:O	4:AD:213:ARG:HD2	2.17	0.43
5:AE:4:LEU:HD11	5:AE:96:ILE:CG2	2.49	0.43
6:AF:29:HIS:O	6:AF:33:VAL:HG23	2.18	0.43
6:AF:44:ARG:HG2	6:AF:44:ARG:HH21	1.83	0.43
7:AG:11:VAL:HG21	7:AG:172:PHE:CZ	2.54	0.43
8:AH:87:GLN:HA	8:AH:129:GLU:HA	2.00	0.43
11:AK:18:ASN:HA	11:AK:37:PHE:HD2	1.83	0.43
11:AK:55:PRO:CD	11:AK:74:PRO:HD3	2.48	0.43
12:AL:81:LEU:CD1	12:AL:85:LYS:HB2	2.49	0.43
17:AQ:79:LEU:N	17:AQ:79:LEU:HD12	2.34	0.43
17:AQ:84:GLY:N	17:AQ:85:PRO:HD2	2.33	0.43
18:AR:6:ALA:O	18:AR:10:ARG:HB2	2.18	0.43
19:AS:50:ARG:HG3	19:AS:50:ARG:HH11	1.83	0.43
25:AY:79:ARG:HH11	25:AY:79:ARG:HG2	1.83	0.43
35:BA:34:C:H2'	35:BA:35:G:C8	2.53	0.43
35:BA:317:U:P	35:BA:353:A:H61	2.41	0.43
35:BA:644:U:H2'	35:BA:645:G:C8	2.53	0.43
36:BB:127:LYS:CG	36:BB:128:LEU:H	2.17	0.43
36:BB:156:LEU:H	36:BB:156:LEU:CD2	2.31	0.43
37:BC:148:ILE:CD1	37:BC:201:ILE:HG12	2.48	0.43
38:BD:7:LYS:HB2	38:BD:20:LEU:HD13	2.00	0.43
39:BE:67:ARG:HG2	39:BE:67:ARG:HH11	1.84	0.43
40:BF:38:ARG:HB3	40:BF:63:ASN:HB2	2.01	0.43
40:BF:62:MET:O	40:BF:63:ASN:ND2	2.51	0.43
41:BG:119:LEU:O	41:BG:123:LEU:HD23	2.19	0.43
42:BH:82:LEU:HD23	42:BH:82:LEU:C	2.39	0.43
44:BJ:48:ARG:HG2	44:BJ:48:ARG:HH11	1.84	0.43
45:BK:86:LYS:HB2	45:BK:112:VAL:HG23	1.99	0.43
46:BL:55:ARG:HA	46:BL:61:GLU:HA	2.01	0.43
50:BP:6:LEU:HD23	50:BP:17:TYR:HB3	2.01	0.43
51:BQ:77:VAL:HG12	51:BQ:78:VAL:N	2.34	0.43
53:BS:4:LEU:N	53:BS:4:LEU:HD12	2.32	0.43
58:BZ:169:LEU:HB2	58:BZ:264:VAL:O	2.19	0.43
58:BZ:338:VAL:CG1	58:BZ:379:ALA:HA	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:530:ASN:ND2	58:BZ:532:LYS:HZ1	2.16	0.43
58:BZ:628:THR:OG1	58:BZ:629:GLY:N	2.52	0.43
1:AA:17:G:OP1	30:A4:9:ARG:HG3	2.18	0.43
1:AA:115:C:H2'	1:AA:116:C:C6	2.53	0.43
1:AA:792:A:N7	1:AA:2440:C:C1'	2.81	0.43
1:AA:893:C:H2'	1:AA:894:U:O4'	2.18	0.43
1:AA:937:C:H2'	1:AA:938:G:H8	1.82	0.43
1:AA:1339:G:OP1	23:AW:82:LYS:NZ	2.48	0.43
1:AA:1386:C:H2'	1:AA:1387:A:C8	2.53	0.43
1:AA:1599:U:OP2	23:AW:40:LYS:HD2	2.18	0.43
1:AA:1808:A:C5	27:A1:27:ARG:CZ	3.01	0.43
1:AA:2251:G:H2'	1:AA:2252:G:H8	1.83	0.43
1:AA:2282:G:C4'	1:AA:2283:C:H5"	2.48	0.43
1:AA:2443:C:H2'	1:AA:2444:G:C8	2.53	0.43
2:AB:63:C:H2'	2:AB:64:G:H8	1.83	0.43
6:AF:108:ILE:O	6:AF:112:LEU:HG	2.18	0.43
6:AF:151:GLY:HA2	6:AF:192:ALA:HA	2.01	0.43
6:AF:170:ARG:HG2	6:AF:170:ARG:HH21	1.84	0.43
10:AJ:51:TYR:HD1	10:AJ:52:MET:HB2	1.84	0.43
13:AM:49:ASP:HB2	13:AM:114:LEU:HD11	2.01	0.43
20:AT:57:ARG:HA	20:AT:60:TRP:CE3	2.53	0.43
24:AX:52:ASN:C	24:AX:54:PRO:HD2	2.38	0.43
29:A3:5:LYS:O	29:A3:56:VAL:HA	2.18	0.43
35:BA:371:A:H2'	35:BA:372:C:O4'	2.19	0.43
35:BA:422:C:H1'	35:BA:423:G:N2	2.34	0.43
35:BA:763:G:H2'	35:BA:764:C:C6	2.53	0.43
35:BA:1535:C:H42	57:BX:10:G:H1	1.66	0.43
37:BC:20:THR:HG23	37:BC:20:THR:O	2.17	0.43
37:BC:79:LYS:N	37:BC:79:LYS:HD2	2.34	0.43
47:BM:44:ILE:O	47:BM:47:LEU:HB3	2.18	0.43
47:BM:45:SER:O	47:BM:46:GLU:HB3	2.18	0.43
47:BM:76:ILE:HG22	47:BM:80:MET:HE1	1.99	0.43
58:BZ:15:ILE:N	58:BZ:15:ILE:CD1	2.81	0.43
58:BZ:100:GLU:HA	58:BZ:133:TYR:CE2	2.53	0.43
58:BZ:229:ALA:CB	58:BZ:255:ARG:HH21	2.32	0.43
58:BZ:256:VAL:HG23	58:BZ:257:LEU:HD12	2.00	0.43
58:BZ:412:PRO:CG	58:BZ:444:SER:HA	2.48	0.43
58:BZ:638:ARG:NH2	58:BZ:666:TYR:HA	2.34	0.43
1:AA:324:A:H2'	1:AA:325:G:O4'	2.18	0.43
1:AA:370:G:O5'	1:AA:423:A:N6	2.52	0.43
1:AA:591:U:O2'	33:A7:1:PRO:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:666:A:H4'	15:AO:48:ARG:HD3	2.01	0.43
1:AA:918:A:C2	2:AB:80:U:H4'	2.54	0.43
1:AA:1222:U:P	21:AU:90:ARG:NH2	2.89	0.43
1:AA:1386:C:H2'	1:AA:1387:A:H8	1.84	0.43
1:AA:1539:U:H2'	1:AA:1540:G:C8	2.54	0.43
1:AA:1598:A:O3'	23:AW:39:THR:CG2	2.65	0.43
1:AA:1908:C:H42	1:AA:1922:G:H1	1.65	0.43
1:AA:2821:A:H2'	1:AA:2822:G:C8	2.54	0.43
2:AB:98:G:H2'	2:AB:99:A:H5"	1.99	0.43
4:AD:245:THR:C	4:AD:247:TRP:H	2.22	0.43
5:AE:1:MET:HG3	5:AE:205:PRO:HG2	2.01	0.43
5:AE:21:SER:H	14:AN:73:ASP:HA	1.83	0.43
5:AE:116:LYS:HG3	5:AE:165:MET:HE3	2.01	0.43
11:AK:105:LEU:HA	11:AK:108:ILE:HB	2.01	0.43
14:AN:6:THR:O	14:AN:20:MET:HA	2.18	0.43
24:AX:93:ARG:O	24:AX:101:THR:HA	2.19	0.43
27:A1:7:THR:OG1	27:A1:9:LYS:HG3	2.19	0.43
35:BA:107:G:H3'	35:BA:108:G:H5"	2.00	0.43
35:BA:350:G:OP1	54:BT:2:ASN:N	2.51	0.43
35:BA:741:G:H2'	35:BA:742:G:O4'	2.18	0.43
35:BA:829:G:H4'	36:BB:24:PRO:HG3	2.01	0.43
37:BC:142:ARG:HG3	37:BC:142:ARG:HH11	1.84	0.43
38:BD:115:GLN:HA	38:BD:115:GLN:HE21	1.83	0.43
38:BD:160:LEU:HD13	38:BD:160:LEU:N	2.22	0.43
38:BD:173:ASP:OD2	38:BD:176:LYS:HE2	2.19	0.43
42:BH:13:ILE:HD11	42:BH:60:LEU:CD1	2.48	0.43
42:BH:112:ASP:O	42:BH:116:ARG:HD3	2.19	0.43
43:BI:48:ARG:HH11	43:BI:48:ARG:HG3	1.84	0.43
48:BN:63:ARG:HG3	48:BN:70:PRO:HG3	2.01	0.43
48:BN:78:GLY:O	48:BN:79:LEU:HD23	2.18	0.43
58:BZ:143:LYS:HZ2	58:BZ:146:ARG:HH21	1.64	0.43
58:BZ:255:ARG:CD	58:BZ:260:GLU:HB2	2.48	0.43
58:BZ:621:VAL:HG11	58:BZ:631:VAL:CG1	2.47	0.43
1:AA:536:G:H2'	1:AA:537:G:O4'	2.17	0.43
1:AA:792:A:C6	1:AA:2440:C:C6	3.06	0.43
1:AA:1680:U:C2'	1:AA:1681:G:H5'	2.49	0.43
1:AA:1903:G:H2'	1:AA:1904:G:H8	1.84	0.43
1:AA:2347:C:O2'	31:A5:38:PHE:HB3	2.18	0.43
1:AA:2529:G:H4'	8:AH:174:LYS:HD2	2.00	0.43
1:AA:2786:U:O2'	1:AA:2787:C:H5'	2.19	0.43
7:AG:114:ARG:HG3	7:AG:114:ARG:HH21	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:85:ILE:HD12	11:AK:85:ILE:C	2.39	0.43
13:AM:60:ASP:OD1	13:AM:61:LYS:HD2	2.19	0.43
18:AR:106:LEU:HD23	18:AR:106:LEU:O	2.18	0.43
33:A7:44:ARG:HH11	33:A7:44:ARG:HG3	1.83	0.43
33:A7:50:SER:HB2	33:A7:53:ASP:OD2	2.19	0.43
34:A8:9:LYS:HB3	34:A8:14:CYS:HB2	2.00	0.43
35:BA:287:U:H2'	35:BA:288:A:C8	2.53	0.43
35:BA:709:U:H2'	35:BA:710:G:C8	2.53	0.43
36:BB:60:ALA:HA	36:BB:64:GLY:HA3	2.00	0.43
38:BD:183:ARG:HH11	38:BD:183:ARG:HG3	1.83	0.43
40:BF:86:ARG:HG2	40:BF:86:ARG:HH11	1.84	0.43
41:BG:123:LEU:HD22	41:BG:123:LEU:N	2.34	0.43
42:BH:82:LEU:HD23	42:BH:83:ARG:N	2.34	0.43
43:BI:46:VAL:CA	43:BI:49:GLN:HE21	2.23	0.43
46:BL:87:LYS:HG3	46:BL:87:LYS:O	2.19	0.43
47:BM:78:ARG:HG2	47:BM:78:ARG:HH11	1.84	0.43
51:BQ:8:GLN:HA	51:BQ:8:GLN:HE21	1.84	0.43
52:BR:20:ILE:HD12	52:BR:20:ILE:C	2.38	0.43
53:BS:4:LEU:O	53:BS:6:LYS:N	2.51	0.43
56:BW:4:C:H2'	56:BW:5:G:C8	2.54	0.43
58:BZ:92:HIS:N	58:BZ:95:PHE:CD2	2.87	0.43
58:BZ:229:ALA:HB3	58:BZ:255:ARG:HH21	1.84	0.43
58:BZ:420:VAL:HG11	58:BZ:431:MET:HE2	1.99	0.43
58:BZ:501:VAL:HG12	58:BZ:603:GLU:HG3	2.01	0.43
58:BZ:699:ILE:HD12	58:BZ:699:ILE:N	2.32	0.43
1:AA:189:G:OP1	27:A1:13:THR:HB	2.19	0.43
1:AA:1186:G:H2'	1:AA:1187:G:O4'	2.18	0.43
1:AA:1342:A:C5'	23:AW:59:ASN:HD22	2.32	0.43
1:AA:2315:G:H4'	7:AG:126:ASN:HD21	1.82	0.43
1:AA:2370:G:H2'	1:AA:2371:G:C8	2.54	0.43
3:AC:60:ARG:O	3:AC:141:LYS:HE2	2.19	0.43
4:AD:166:ARG:HA	4:AD:171:VAL:HG12	2.01	0.43
5:AE:46:ARG:NH1	5:AE:84:LEU:HB2	2.34	0.43
6:AF:35:TYR:CE2	6:AF:176:ASP:HB2	2.53	0.43
6:AF:128:ALA:O	6:AF:133:LEU:HD12	2.18	0.43
10:AJ:33:VAL:HG22	10:AJ:34:THR:N	2.34	0.43
11:AK:28:GLY:CA	11:AK:32:VAL:HB	2.47	0.43
15:AO:77:ILE:CD1	15:AO:95:LEU:HD13	2.49	0.43
15:AO:109:LYS:HB2	15:AO:111:ILE:CD1	2.49	0.43
16:AP:110:GLU:CG	16:AP:114:ARG:HH22	2.28	0.43
19:AS:74:GLN:HA	19:AS:74:GLN:NE2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AW:74:ILE:C	23:AW:74:ILE:HD12	2.38	0.43
34:A8:24:ARG:HH22	34:A8:36:ARG:HG3	1.83	0.43
35:BA:52:C:H2'	35:BA:53:A:H8	1.81	0.43
35:BA:107:G:H2'	35:BA:108:G:H5"	2.01	0.43
35:BA:483:C:H2'	35:BA:484:G:N7	2.34	0.43
35:BA:543:U:H2'	35:BA:544:G:H8	1.83	0.43
35:BA:762:U:H2'	35:BA:763:G:C8	2.53	0.43
35:BA:1105:A:H2'	35:BA:1106:G:C8	2.53	0.43
35:BA:1277:C:O2'	35:BA:1279:G:H1'	2.19	0.43
39:BE:108:GLY:O	39:BE:109:ALA:HB3	2.19	0.43
40:BF:9:MET:CE	40:BF:86:ARG:HD2	2.49	0.43
41:BG:69:ARG:HG2	41:BG:69:ARG:HH11	1.84	0.43
42:BH:28:SER:CB	42:BH:58:LEU:HB2	2.48	0.43
47:BM:3:ILE:N	47:BM:3:ILE:CD1	2.81	0.43
50:BP:20:VAL:HG23	50:BP:34:GLU:O	2.19	0.43
58:BZ:82:HIS:CD2	58:BZ:283:ILE:HD13	2.54	0.43
58:BZ:421:GLU:CD	58:BZ:455:GLN:HE21	2.22	0.43
1:AA:562:U:H2'	1:AA:572:A:O4'	2.19	0.43
1:AA:594:U:H2'	1:AA:595:C:C6	2.54	0.43
1:AA:833:A:OP1	15:AO:39:LYS:HD3	2.19	0.43
1:AA:1077:A:H5'	11:AK:93:ASN:OD1	2.19	0.43
1:AA:1695:G:H3'	1:AA:1695:G:N3	2.34	0.43
1:AA:1744:A:H2'	1:AA:1745:A:O4'	2.19	0.43
1:AA:1790:C:H4'	4:AD:207:ALA:CB	2.48	0.43
1:AA:2410:G:H2'	1:AA:2411:A:O4'	2.18	0.43
1:AA:2553:G:H2'	1:AA:2554:U:C4'	2.49	0.43
1:AA:2719:G:C5'	19:AS:95:LYS:HZ1	2.32	0.43
1:AA:2869:G:H2'	1:AA:2870:C:O4'	2.19	0.43
4:AD:250:GLN:HA	4:AD:250:GLN:HE21	1.84	0.43
5:AE:47:ALA:HA	5:AE:84:LEU:HG	2.01	0.43
5:AE:133:THR:OG1	5:AE:134:HIS:N	2.51	0.43
6:AF:37:ALA:HA	6:AF:40:ARG:HG2	2.01	0.43
18:AR:28:VAL:HG23	18:AR:36:TYR:O	2.18	0.43
20:AT:29:ARG:HG2	20:AT:29:ARG:HH11	1.83	0.43
24:AX:83:GLY:O	24:AX:93:ARG:HA	2.19	0.43
26:AZ:56:PHE:HE1	26:AZ:58:LYS:HG2	1.84	0.43
29:A3:22:THR:HG23	29:A3:46:MET:HB3	2.01	0.43
35:BA:377:G:H5"	50:BP:24:SER:HB2	2.01	0.43
35:BA:600:A:OP1	42:BH:87:ARG:HB3	2.19	0.43
35:BA:952:U:H2'	35:BA:953:G:C8	2.53	0.43
47:BM:89:ARG:NH2	47:BM:92:ARG:HD3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BN:61:ARG:CG	48:BN:62:ASN:H	2.14	0.43
49:BO:66:LEU:HB3	49:BO:77:TYR:HE1	1.84	0.43
58:BZ:173:ILE:HG23	58:BZ:211:MET:CE	2.49	0.43
58:BZ:360:PHE:HZ	58:BZ:363:ILE:HG12	1.80	0.43
1:AA:373:U:H2'	1:AA:374:A:H8	1.84	0.42
1:AA:402:A:C2'	1:AA:403:U:H5'	2.49	0.42
1:AA:1011:G:OP2	20:AT:65:ASN:ND2	2.52	0.42
1:AA:1409:U:H2'	1:AA:1410:G:C8	2.54	0.42
1:AA:1752:C:H2'	1:AA:1753:G:C8	2.53	0.42
1:AA:1916:A:C2	35:BA:1408:A:O3'	2.72	0.42
2:AB:86:G:H1	2:AB:90:C:H42	1.68	0.42
4:AD:226:PRO:CB	4:AD:232:GLY:HA2	2.49	0.42
5:AE:21:SER:CB	14:AN:73:ASP:O	2.67	0.42
5:AE:122:VAL:CB	5:AE:141:ARG:HH12	2.28	0.42
7:AG:73:VAL:HG23	7:AG:76:PHE:HB2	2.01	0.42
12:AL:108:LYS:HE3	12:AL:118:VAL:O	2.19	0.42
14:AN:42:THR:CG2	14:AN:44:LYS:HE2	2.49	0.42
17:AQ:75:ILE:HD12	17:AQ:75:ILE:H	1.83	0.42
18:AR:9:ARG:HH11	18:AR:9:ARG:HG2	1.84	0.42
18:AR:29:HIS:CD2	18:AR:30:ARG:N	2.87	0.42
26:AZ:47:VAL:HG13	26:AZ:56:PHE:O	2.18	0.42
26:AZ:65:PHE:CD1	26:AZ:76:ILE:HG12	2.54	0.42
30:A4:48:TYR:CD2	30:A4:49:ARG:HG3	2.54	0.42
35:BA:1224:U:O2'	35:BA:1225:A:H5'	2.19	0.42
36:BB:66:ILE:HG22	36:BB:67:LEU:H	1.83	0.42
37:BC:9:ILE:HD13	48:BN:98:LYS:HZ3	1.84	0.42
37:BC:71:ARG:O	37:BC:74:ILE:HG22	2.19	0.42
40:BF:88:MET:CE	52:BR:63:TYR:CD2	3.02	0.42
42:BH:10:LEU:CD1	42:BH:76:ARG:HG2	2.48	0.42
43:BI:49:GLN:C	43:BI:51:LEU:H	2.23	0.42
44:BJ:59:LYS:HD2	44:BJ:59:LYS:N	2.34	0.42
47:BM:12:LYS:HA	47:BM:43:LYS:HE3	2.00	0.42
47:BM:84:CYS:O	47:BM:88:LEU:HG	2.19	0.42
58:BZ:78:GLN:O	58:BZ:78:GLN:HG2	2.18	0.42
58:BZ:101:ARG:O	58:BZ:105:VAL:HG23	2.18	0.42
58:BZ:324:ILE:HG21	58:BZ:440:LYS:HE3	2.00	0.42
58:BZ:342:VAL:HG12	58:BZ:378:ARG:HA	2.00	0.42
58:BZ:415:VAL:HB	58:BZ:680:TYR:CE1	2.54	0.42
58:BZ:560:GLN:CD	58:BZ:602:LYS:HE2	2.39	0.42
1:AA:1374:G:H2'	1:AA:1375:U:O4'	2.19	0.42
1:AA:1662:U:H2'	1:AA:1663:G:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2070:A:O2'	1:AA:2071:A:H5'	2.19	0.42
1:AA:2720:U:H4'	1:AA:2845:U:O2'	2.19	0.42
4:AD:6:LYS:HB3	4:AD:7:PRO:HD2	2.01	0.42
7:AG:149:ARG:HG3	7:AG:150:GLY:N	2.30	0.42
15:AO:109:LYS:HG2	15:AO:126:ARG:HB2	2.00	0.42
18:AR:30:ARG:HD2	18:AR:102:ARG:HH11	1.84	0.42
21:AU:76:LYS:HB2	21:AU:85:LYS:HB2	2.01	0.42
23:AW:45:ALA:O	23:AW:48:GLN:HB2	2.19	0.42
28:A2:22:LEU:O	28:A2:26:PHE:HB3	2.19	0.42
29:A3:10:ARG:HG2	29:A3:10:ARG:HH21	1.83	0.42
29:A3:16:LEU:H	29:A3:19:HIS:HD2	1.66	0.42
29:A3:19:HIS:O	29:A3:23:LEU:HG	2.19	0.42
35:BA:70:U:OP2	35:BA:70:U:H6	2.02	0.42
35:BA:552:U:H2'	35:BA:553:A:C8	2.54	0.42
35:BA:570:G:H5'	35:BA:820:U:O4'	2.18	0.42
35:BA:974:A:P	48:BN:69:ARG:HH22	2.42	0.42
35:BA:1101:A:H1'	35:BA:1102:A:P	2.59	0.42
35:BA:1402:C:H41	57:BX:18:C:P	2.42	0.42
36:BB:153:MET:HG3	36:BB:155:GLY:H	1.83	0.42
38:BD:96:ARG:HG2	38:BD:96:ARG:HH11	1.84	0.42
38:BD:115:GLN:HA	38:BD:115:GLN:NE2	2.35	0.42
40:BF:79:ARG:HA	40:BF:79:ARG:HE	1.83	0.42
45:BK:105:ARG:HG2	45:BK:105:ARG:HH11	1.83	0.42
47:BM:33:LEU:CD2	47:BM:40:GLU:HA	2.49	0.42
49:BO:44:GLU:O	49:BO:45:HIS:HB2	2.19	0.42
50:BP:6:LEU:HA	50:BP:19:VAL:HA	2.00	0.42
54:BT:53:MET:HG3	54:BT:54:GLN:N	2.32	0.42
55:BU:3:ILE:HD13	55:BU:19:LYS:HE3	2.01	0.42
55:BU:9:GLU:N	55:BU:10:PRO:HD2	2.26	0.42
56:BV:25:C:H2'	56:BV:26:A:O4'	2.19	0.42
56:BV:26:A:H61	56:BV:44:G:N2	2.17	0.42
58:BZ:631:VAL:CG1	58:BZ:654:ILE:HD12	2.49	0.42
1:AA:230:G:H2'	1:AA:231:A:O4'	2.19	0.42
1:AA:1564:C:H2'	1:AA:1565:C:C6	2.55	0.42
1:AA:1812:U:H2'	1:AA:1813:G:H8	1.83	0.42
1:AA:2164:C:H2'	1:AA:2165:C:C5	2.54	0.42
1:AA:2392:A:OP2	33:A7:30:HIS:NE2	2.52	0.42
3:AC:23:ILE:HD13	3:AC:190:GLU:HG2	2.02	0.42
5:AE:13:ARG:HD3	5:AE:21:SER:OG	2.19	0.42
7:AG:94:ARG:NH1	7:AG:94:ARG:HB3	2.34	0.42
8:AH:148:ARG:HG3	8:AH:148:ARG:HH11	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:100:ILE:CG2	11:AK:101:SER:H	2.14	0.42
13:AM:27:ARG:HG2	13:AM:27:ARG:HH11	1.84	0.42
14:AN:99:ILE:HG12	14:AN:118:LEU:HD12	2.02	0.42
15:AO:63:LYS:HA	33:A7:12:ARG:HG2	2.01	0.42
19:AS:88:ARG:HB3	19:AS:112:ARG:NH2	2.35	0.42
21:AU:38:VAL:HG22	21:AU:39:LEU:N	2.33	0.42
35:BA:39:G:O6	35:BA:547:A:H5"	2.18	0.42
35:BA:351:G:N3	35:BA:351:G:H2'	2.34	0.42
35:BA:1001:C:H2'	35:BA:1002:G:H8	1.80	0.42
35:BA:1368:A:OP2	43:BI:113:LYS:HD2	2.20	0.42
36:BB:110:ILE:CG2	36:BB:114:LYS:HE3	2.49	0.42
37:BC:32:LEU:HD13	37:BC:32:LEU:O	2.18	0.42
41:BG:142:ARG:HG2	41:BG:142:ARG:HH11	1.84	0.42
42:BH:83:ARG:HB3	42:BH:85:TYR:CE2	2.54	0.42
43:BI:79:ARG:HD2	43:BI:79:ARG:O	2.19	0.42
44:BJ:11:LYS:CG	44:BJ:97:ASP:HB3	2.48	0.42
45:BK:27:ASN:O	45:BK:56:LYS:HG3	2.19	0.42
46:BL:30:ARG:HG2	46:BL:30:ARG:HH11	1.84	0.42
47:BM:6:ILE:C	47:BM:6:ILE:HD12	2.39	0.42
47:BM:10:ASP:CG	47:BM:11:HIS:N	2.72	0.42
50:BP:12:LYS:C	50:BP:14:ARG:H	2.22	0.42
54:BT:21:ALA:O	54:BT:25:SER:HB2	2.18	0.42
58:BZ:427:ASP:HA	58:BZ:430:LYS:HG2	2.01	0.42
1:AA:739:A:H5"	1:AA:1784:A:N1	2.35	0.42
1:AA:1550:C:H2'	1:AA:1551:A:C8	2.55	0.42
1:AA:2190:G:O2'	1:AA:2191:A:H5'	2.19	0.42
1:AA:2258:C:O2'	1:AA:2427:C:OP2	2.37	0.42
1:AA:2392:A:P	33:A7:30:HIS:CE1	3.13	0.42
1:AA:2749:A:OP2	1:AA:2751:G:H5"	2.20	0.42
1:AA:2780:G:OP2	13:AM:120:ARG:HD3	2.20	0.42
2:AB:27:C:OP1	18:AR:34:HIS:NE2	2.47	0.42
4:AD:181:ARG:HH21	4:AD:181:ARG:HG2	1.84	0.42
4:AD:242:HIS:O	4:AD:244:VAL:HG13	2.18	0.42
5:AE:118:PHE:CE1	5:AE:163:GLY:HA2	2.54	0.42
5:AE:125:TRP:CD1	5:AE:160:LYS:HB3	2.54	0.42
7:AG:55:ASP:O	7:AG:59:ILE:HG13	2.19	0.42
7:AG:107:VAL:HA	7:AG:110:ILE:HG13	2.01	0.42
7:AG:125:GLY:O	7:AG:157:THR:HB	2.19	0.42
10:AJ:87:GLU:HG2	10:AJ:88:HIS:N	2.34	0.42
12:AL:60:LYS:HB3	12:AL:60:LYS:HZ3	1.83	0.42
13:AM:47:HIS:HD1	13:AM:48:VAL:HG23	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AT:98:ALA:HB2	20:AT:105:PHE:CD2	2.53	0.42
25:AY:51:GLN:HA	25:AY:56:PHE:CD2	2.54	0.42
26:AZ:37:ARG:HH11	26:AZ:37:ARG:HG3	1.84	0.42
31:A5:25:ASN:O	31:A5:29:LYS:HB2	2.18	0.42
33:A7:21:PHE:O	33:A7:49:VAL:HG23	2.20	0.42
35:BA:34:C:H2'	35:BA:35:G:H8	1.84	0.42
35:BA:928:G:H2'	35:BA:929:G:H8	1.84	0.42
35:BA:1163:A:H2'	35:BA:1164:G:C8	2.55	0.42
35:BA:1514:G:H2'	35:BA:1515:G:C8	2.54	0.42
36:BB:14:HIS:CD2	36:BB:15:PHE:H	2.36	0.42
36:BB:175:ALA:CB	36:BB:182:VAL:HG21	2.50	0.42
38:BD:2:ARG:NH2	38:BD:114:ARG:HD3	2.29	0.42
39:BE:15:ILE:HG23	39:BE:109:ALA:HA	2.01	0.42
41:BG:39:GLU:HB2	41:BG:43:TYR:CE2	2.54	0.42
41:BG:91:ARG:HG2	41:BG:91:ARG:HH11	1.84	0.42
43:BI:29:ILE:HD11	43:BI:37:TYR:HB3	2.00	0.42
43:BI:112:ARG:NH2	48:BN:101:TRP:NE1	2.67	0.42
45:BK:17:ASP:O	45:BK:36:ARG:HG2	2.20	0.42
46:BL:41:PRO:CD	46:BL:47:ALA:H	2.32	0.42
47:BM:69:ARG:HH11	47:BM:69:ARG:HG2	1.84	0.42
51:BQ:67:SER:HB3	51:BQ:70:LYS:HD3	2.01	0.42
51:BQ:78:VAL:HG12	51:BQ:79:GLU:HG3	2.02	0.42
56:BV:65:G:O2'	56:BV:66:U:H5'	2.19	0.42
58:BZ:418:ILE:HD13	58:BZ:466:LEU:HD23	2.01	0.42
58:BZ:522:MET:HE1	58:BZ:604:GLY:HA3	2.01	0.42
58:BZ:625:GLU:CB	58:BZ:650:THR:O	2.43	0.42
1:AA:445:C:O3'	20:AT:2:ARG:HD3	2.19	0.42
1:AA:584:C:OP2	20:AT:5:ARG:CZ	2.67	0.42
1:AA:953:G:H2'	1:AA:954:G:H8	1.85	0.42
1:AA:1710:G:H4'	1:AA:2858:C:O2	2.19	0.42
1:AA:1912:A:N3	1:AA:1919:A:N1	2.66	0.42
1:AA:2056:G:P	1:AA:2504:U:H5"	2.58	0.42
1:AA:2135:A:HO2'	1:AA:2160:C:H5'	1.83	0.42
1:AA:2360:G:H2'	1:AA:2361:G:H5'	2.00	0.42
2:AB:14:U:O2	2:AB:107:G:H4'	2.19	0.42
4:AD:17:LYS:HA	4:AD:17:LYS:CE	2.44	0.42
4:AD:64:VAL:HG22	4:AD:102:TYR:HB3	2.02	0.42
7:AG:47:LYS:HB3	7:AG:47:LYS:HZ3	1.83	0.42
10:AJ:61:ARG:HG3	10:AJ:61:ARG:HH11	1.84	0.42
11:AK:11:GLN:NE2	11:AK:11:GLN:C	2.73	0.42
14:AN:7:MET:C	14:AN:8:LEU:HD12	2.40	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AO:101:ILE:HG13	15:AO:102:GLY:N	2.34	0.42
16:AP:6:ARG:HG2	16:AP:6:ARG:HH11	1.84	0.42
21:AU:36:ALA:HA	21:AU:58:VAL:HG23	2.01	0.42
22:AV:69:LEU:HB3	22:AV:107:VAL:CG2	2.50	0.42
27:A1:27:ARG:HH11	27:A1:29:LEU:HD21	1.84	0.42
30:A4:30:ASP:OD1	30:A4:50:GLY:HA2	2.19	0.42
33:A7:44:ARG:N	33:A7:45:PRO:HD2	2.34	0.42
35:BA:10:A:OP2	39:BE:130:THR:HG21	2.20	0.42
35:BA:232:G:H1'	35:BA:262:A:H61	1.84	0.42
35:BA:249:U:H2'	35:BA:250:A:H5"	2.01	0.42
36:BB:118:THR:O	36:BB:118:THR:HG22	2.20	0.42
40:BF:44:ARG:HH11	40:BF:44:ARG:HG3	1.85	0.42
40:BF:68:GLN:OE1	40:BF:68:GLN:N	2.44	0.42
44:BJ:9:ARG:HG2	44:BJ:9:ARG:HH11	1.85	0.42
44:BJ:18:ILE:HG23	44:BJ:19:ASP:N	2.34	0.42
44:BJ:22:THR:O	44:BJ:26:VAL:HG23	2.19	0.42
44:BJ:40:ILE:HG23	44:BJ:41:PRO:HD2	2.00	0.42
44:BJ:40:ILE:HB	44:BJ:73:LEU:HB2	2.02	0.42
46:BL:49:ARG:C	46:BL:50:LYS:HD2	2.40	0.42
49:BO:68:TYR:O	49:BO:71:ARG:HB3	2.19	0.42
50:BP:42:ILE:HG22	50:BP:42:ILE:O	2.19	0.42
51:BQ:49:ASN:O	51:BQ:50:ASN:C	2.58	0.42
52:BR:49:LYS:O	52:BR:53:GLN:HG3	2.20	0.42
58:BZ:481:ALA:O	58:BZ:483:VAL:N	2.51	0.42
58:BZ:501:VAL:O	58:BZ:501:VAL:HG23	2.19	0.42
58:BZ:571:VAL:HG13	58:BZ:605:PHE:HE2	1.83	0.42
58:BZ:585:ASP:O	58:BZ:586:VAL:CG2	2.64	0.42
1:AA:524:G:H5'	1:AA:539:G:N2	2.35	0.42
1:AA:728:G:O2'	1:AA:729:G:H5"	2.20	0.42
1:AA:871:U:H4'	16:AP:68:PHE:CE2	2.55	0.42
1:AA:1029:A:H5"	16:AP:127:LYS:NZ	2.34	0.42
1:AA:1342:A:H5'	23:AW:59:ASN:ND2	2.35	0.42
1:AA:1365:A:O2'	27:A1:10:ARG:NH1	2.53	0.42
1:AA:1856:U:C2'	1:AA:1857:G:H5'	2.50	0.42
4:AD:76:VAL:HB	4:AD:114:GLN:HE22	1.84	0.42
7:AG:32:LYS:CD	7:AG:91:ARG:HH11	2.17	0.42
7:AG:120:SER:HB3	7:AG:128:SER:O	2.20	0.42
7:AG:121:PHE:HE2	7:AG:166:ARG:HD3	1.85	0.42
7:AG:142:TYR:CB	47:BM:70:ARG:NH1	2.82	0.42
8:AH:59:ASP:OD1	8:AH:60:GLY:N	2.52	0.42
9:AI:2:GLN:O	9:AI:3:VAL:O	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AQ:28:LEU:O	17:AQ:32:GLU:HA	2.19	0.42
17:AQ:108:ALA:O	17:AQ:110:MET:N	2.52	0.42
22:AV:43:ALA:O	22:AV:47:VAL:HG12	2.19	0.42
22:AV:84:ARG:HB2	22:AV:96:ILE:CG1	2.47	0.42
23:AW:61:LEU:HD12	23:AW:61:LEU:O	2.19	0.42
31:A5:18:HIS:CD2	31:A5:40:PRO:HD2	2.55	0.42
35:BA:261:U:H2'	35:BA:263:A:OP2	2.19	0.42
35:BA:1078:U:O2	39:BE:89:THR:HG21	2.19	0.42
35:BA:1217:C:O2'	35:BA:1218:C:H5'	2.20	0.42
38:BD:30:LYS:HD3	38:BD:30:LYS:N	2.34	0.42
38:BD:92:LEU:HD22	38:BD:92:LEU:N	2.35	0.42
38:BD:150:LYS:HB2	38:BD:155:LYS:CE	2.45	0.42
42:BH:94:VAL:HG12	42:BH:95:MET:HG3	2.00	0.42
43:BI:21:LYS:HZ2	43:BI:23:GLY:HA3	1.84	0.42
43:BI:29:ILE:HG22	43:BI:64:ILE:CG1	2.47	0.42
43:BI:123:ARG:HH21	43:BI:123:ARG:HG3	1.85	0.42
46:BL:113:ARG:HB3	46:BL:118:VAL:O	2.20	0.42
47:BM:91:ARG:HH11	47:BM:91:ARG:HG3	1.84	0.42
47:BM:106:ARG:NE	47:BM:112:ARG:HE	2.17	0.42
51:BQ:26:ARG:HG3	51:BQ:26:ARG:HH11	1.84	0.42
58:BZ:97:ILE:HG23	58:BZ:101:ARG:HH22	1.84	0.42
58:BZ:474:LYS:HE3	58:BZ:483:VAL:HG23	2.02	0.42
1:AA:414:C:H1'	1:AA:1864:U:C1'	2.48	0.42
1:AA:424:G:H2'	1:AA:425:G:C8	2.54	0.42
1:AA:506:G:H5"	1:AA:509:C:O2'	2.20	0.42
1:AA:528:A:H3'	13:AM:113:PRO:HG3	2.01	0.42
1:AA:821:A:HO2'	1:AA:945:A:H3'	1.84	0.42
1:AA:954:G:H5"	16:AP:13:HIS:HB3	2.02	0.42
1:AA:1052:C:P	1:AA:2751:G:HO2'	2.42	0.42
1:AA:1188:U:H4'	21:AU:81:LYS:O	2.19	0.42
1:AA:1961:C:C2'	1:AA:1962:C:H5'	2.50	0.42
1:AA:2283:C:H2'	1:AA:2284:A:O4'	2.20	0.42
7:AG:16:MET:O	7:AG:20:ASN:HA	2.20	0.42
10:AJ:27:VAL:HG22	10:AJ:109:LYS:HE3	2.00	0.42
17:AQ:114:GLU:OE1	17:AQ:114:GLU:N	2.47	0.42
22:AV:97:LEU:HD22	22:AV:97:LEU:H	1.85	0.42
24:AX:48:VAL:HG13	24:AX:48:VAL:O	2.19	0.42
29:A3:50:VAL:O	29:A3:54:VAL:HG22	2.19	0.42
35:BA:68:G:H21	35:BA:152:A:H1'	1.83	0.42
35:BA:115:G:H4'	35:BA:116:A:H5'	2.02	0.42
35:BA:777:A:H2'	35:BA:778:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:829:G:H2'	35:BA:830:G:H8	1.84	0.42
35:BA:1092:A:C5'	41:BG:3:ARG:NE	2.83	0.42
35:BA:1202:U:C2	48:BN:82:ILE:HG21	2.55	0.42
35:BA:1289:A:H2'	35:BA:1290:G:H5'	2.01	0.42
36:BB:14:HIS:HD2	36:BB:15:PHE:H	1.66	0.42
36:BB:91:VAL:HG11	36:BB:95:TRP:CD1	2.54	0.42
36:BB:165:ALA:CB	36:BB:186:VAL:HG12	2.50	0.42
38:BD:47:LEU:H	38:BD:47:LEU:CD2	2.24	0.42
40:BF:53:LYS:O	40:BF:54:LEU:HB3	2.20	0.42
42:BH:51:GLU:N	42:BH:51:GLU:OE2	2.52	0.42
44:BJ:5:ARG:HG2	44:BJ:79:PRO:HB3	2.02	0.42
46:BL:34:THR:HG22	46:BL:35:ARG:HG3	2.01	0.42
46:BL:88:ASP:C	46:BL:89:LEU:HD12	2.40	0.42
58:BZ:99:VAL:O	58:BZ:103:MET:HG2	2.20	0.42
58:BZ:122:GLN:NE2	58:BZ:677:ARG:HA	2.35	0.42
58:BZ:230:SER:HB3	58:BZ:233:LEU:HG	2.01	0.42
58:BZ:243:LEU:O	58:BZ:244:THR:C	2.58	0.42
58:BZ:543:GLY:O	58:BZ:544:VAL:C	2.58	0.42
58:BZ:584:HIS:CG	58:BZ:585:ASP:H	2.35	0.42
1:AA:296:U:O2'	24:AX:86:PHE:CE2	2.73	0.42
1:AA:1047:G:H3'	10:AJ:56:ARG:NH1	2.34	0.42
1:AA:1201:U:H2'	1:AA:1202:G:H8	1.85	0.42
1:AA:1261:C:H41	22:AV:95:ARG:HH22	1.68	0.42
1:AA:1383:A:H2'	1:AA:1384:A:O4'	2.20	0.42
1:AA:1642:G:H2'	1:AA:1643:G:C8	2.55	0.42
1:AA:1658:C:H2'	1:AA:1659:G:C8	2.55	0.42
1:AA:1786:A:N6	1:AA:2606:C:H5'	2.35	0.42
1:AA:2440:C:H5"	1:AA:2587:A:H4'	2.01	0.42
2:AB:60:C:H2'	2:AB:61:G:C8	2.55	0.42
3:AC:214:ILE:O	3:AC:221:GLY:HA2	2.20	0.42
15:AO:114:GLY:O	15:AO:115:GLU:O	2.37	0.42
18:AR:9:ARG:HA	18:AR:12:THR:OG1	2.20	0.42
19:AS:3:ILE:H	19:AS:3:ILE:CD1	2.33	0.42
20:AT:23:TYR:HD1	20:AT:27:ARG:HB3	1.85	0.42
21:AU:2:TYR:CE1	21:AU:42:ALA:HB3	2.54	0.42
23:AW:48:GLN:OE1	23:AW:55:VAL:HG23	2.20	0.42
32:A6:10:LEU:HD11	32:A6:14:ARG:CZ	2.49	0.42
32:A6:31:LEU:HB3	32:A6:35:ARG:NH1	2.31	0.42
34:A8:2:LYS:HB3	34:A8:2:LYS:HZ3	1.82	0.42
35:BA:484:G:H1'	35:BA:486:U:OP2	2.19	0.42
35:BA:1002:G:H2'	35:BA:1003:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:1308:U:P	47:BM:99:GLN:HE22	2.43	0.42
36:BB:16:GLY:HA3	36:BB:39:ILE:HA	2.01	0.42
36:BB:87:ASP:N	36:BB:88:GLN:OE1	2.53	0.42
37:BC:26:LYS:HG2	37:BC:27:GLU:CD	2.40	0.42
37:BC:89:VAL:O	37:BC:93:ILE:HG13	2.19	0.42
37:BC:133:MET:CE	37:BC:151:GLU:HA	2.50	0.42
39:BE:131:ASN:CB	39:BE:134:ASN:HD22	2.30	0.42
44:BJ:53:ILE:CG1	44:BJ:63:ASP:HB2	2.49	0.42
44:BJ:72:ARG:O	44:BJ:73:LEU:HD23	2.19	0.42
47:BM:15:VAL:HG23	47:BM:16:ILE:HG13	2.01	0.42
47:BM:33:LEU:CB	47:BM:38:ILE:HB	2.48	0.42
47:BM:89:ARG:CB	47:BM:96:VAL:HG22	2.50	0.42
48:BN:72:GLY:O	48:BN:80:SER:HA	2.20	0.42
51:BQ:20:ILE:HD12	51:BQ:20:ILE:H	1.84	0.42
53:BS:30:LEU:O	53:BS:32:THR:HG23	2.20	0.42
54:BT:72:ALA:HA	54:BT:75:LYS:CD	2.50	0.42
55:BU:19:LYS:HZ1	55:BU:23:GLU:HB2	1.84	0.42
58:BZ:539:ASP:OD1	58:BZ:539:ASP:O	2.38	0.42
1:AA:12:U:C2'	1:AA:13:A:H5'	2.50	0.42
1:AA:464:U:H5'	32:A6:5:PHE:CE2	2.53	0.42
1:AA:598:U:H2'	1:AA:599:A:H8	1.85	0.42
1:AA:791:C:C2	1:AA:794:A:H5'	2.54	0.42
1:AA:1179:G:C5	1:AA:1180:U:H1'	2.55	0.42
1:AA:2198:A:C8	9:AI:29:PHE:CD1	3.08	0.42
1:AA:2446:G:H2'	1:AA:2447:G:H5"	2.01	0.42
1:AA:2496:C:C2'	1:AA:2497:A:H5'	2.50	0.42
2:AB:50:A:OP2	18:AR:67:ASN:HA	2.20	0.42
2:AB:106:G:H2'	2:AB:107:G:O4'	2.19	0.42
3:AC:75:VAL:HG22	3:AC:113:VAL:CG1	2.50	0.42
19:AS:42:PHE:CZ	19:AS:62:LYS:HE2	2.54	0.42
24:AX:15:GLY:O	24:AX:17:ASP:N	2.53	0.42
28:A2:39:GLN:HB2	28:A2:41:HIS:CE1	2.55	0.42
29:A3:16:LEU:HB2	29:A3:19:HIS:CD2	2.55	0.42
35:BA:476:U:H2'	35:BA:477:C:C6	2.55	0.42
35:BA:858:G:O2'	35:BA:859:G:H5"	2.20	0.42
37:BC:26:LYS:HG2	37:BC:27:GLU:N	2.34	0.42
37:BC:76:ILE:HG22	37:BC:80:GLY:H	1.85	0.42
37:BC:141:MET:HA	37:BC:144:GLY:O	2.19	0.42
39:BE:59:ILE:HG13	39:BE:60:GLN:N	2.35	0.42
41:BG:91:ARG:O	41:BG:95:ARG:HB2	2.20	0.42
49:BO:47:LYS:HB2	49:BO:47:LYS:HZ3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BO:56:LEU:HD23	49:BO:56:LEU:C	2.40	0.42
49:BO:57:ARG:HG2	49:BO:57:ARG:HH11	1.85	0.42
49:BO:81:ILE:HG13	49:BO:82:GLU:CD	2.39	0.42
49:BO:81:ILE:HA	49:BO:86:LEU:HD21	2.02	0.42
54:BT:68:LYS:O	54:BT:70:LYS:N	2.53	0.42
58:BZ:142:ASN:HD21	58:BZ:269:ALA:HB3	1.84	0.42
58:BZ:169:LEU:HD21	58:BZ:263:LEU:HD22	2.01	0.42
58:BZ:220:GLN:CA	58:BZ:223:ILE:HG12	2.50	0.42
58:BZ:230:SER:HB3	58:BZ:233:LEU:CG	2.50	0.42
1:AA:528:A:H5"	1:AA:557:C:OP1	2.20	0.42
1:AA:717:C:H2'	1:AA:718:A:O4'	2.20	0.42
1:AA:738:G:C2'	1:AA:739:A:H5'	2.50	0.42
1:AA:1331:G:O2'	1:AA:1332:G:H5'	2.19	0.42
1:AA:1465:G:H2'	1:AA:1466:U:O4'	2.20	0.42
1:AA:1681:G:H21	1:AA:1762:A:H3'	1.85	0.42
1:AA:2256:G:H4'	26:AZ:7:ARG:CZ	2.49	0.42
1:AA:2270:A:H2'	1:AA:2271:G:O4'	2.19	0.42
1:AA:2646:C:N4	1:AA:2732:G:N1	2.67	0.42
2:AB:12:C:H4'	2:AB:15:A:N6	2.31	0.42
3:AC:167:LYS:HD2	3:AC:167:LYS:C	2.39	0.42
5:AE:34:VAL:HB	5:AE:93:GLY:H	1.85	0.42
6:AF:5:LEU:HD12	6:AF:5:LEU:N	2.34	0.42
6:AF:61:ARG:HG3	6:AF:63:LYS:O	2.20	0.42
8:AH:53:PRO:HG3	8:AH:61:TRP:NE1	2.35	0.42
11:AK:12:VAL:HG11	11:AK:22:PRO:HB3	2.01	0.42
14:AN:21:CYS:CA	14:AN:41:ILE:HG22	2.48	0.42
16:AP:32:GLY:CA	16:AP:104:GLU:HA	2.48	0.42
18:AR:89:ASP:HA	18:AR:116:GLN:O	2.19	0.42
19:AS:108:ARG:HH21	19:AS:108:ARG:HG2	1.85	0.42
22:AV:90:LYS:CD	22:AV:92:ARG:HH12	2.21	0.42
26:AZ:36:GLN:OE1	26:AZ:40:LYS:HB3	2.20	0.42
26:AZ:42:HIS:NE2	26:AZ:73:ARG:HD3	2.34	0.42
35:BA:236:A:H5"	51:BQ:43:LEU:HD21	2.01	0.42
35:BA:253:A:H2'	35:BA:254:G:C8	2.55	0.42
35:BA:526:C:H2'	35:BA:527:G:C4'	2.50	0.42
35:BA:977:A:H3'	35:BA:977:A:N3	2.34	0.42
43:BI:89:TYR:HB3	43:BI:93:LEU:CD2	2.50	0.42
49:BO:86:LEU:O	49:BO:87:ARG:HB3	2.20	0.42
51:BQ:61:ARG:NH1	51:BQ:63:CYS:HB3	2.31	0.42
52:BR:72:ARG:HH11	52:BR:72:ARG:HG3	1.85	0.42
53:BS:13:HIS:O	53:BS:17:LYS:HE2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:495:ARG:HH22	58:BZ:689:GLU:HG2	1.85	0.42
1:AA:702:U:H2'	1:AA:703:U:C6	2.54	0.41
1:AA:1070:A:C2	1:AA:1097:U:H4'	2.55	0.41
1:AA:1167:C:C3'	1:AA:1168:G:H5"	2.50	0.41
1:AA:1316:U:H2'	1:AA:1317:G:C8	2.55	0.41
1:AA:1367:A:C2'	1:AA:1368:G:H5'	2.48	0.41
1:AA:1739:A:H2'	1:AA:1740:G:O4'	2.20	0.41
1:AA:2182:U:H2'	1:AA:2183:A:C8	2.55	0.41
1:AA:2889:C:H2'	1:AA:2890:G:O4'	2.19	0.41
3:AC:207:VAL:HG23	3:AC:210:LYS:HG2	2.01	0.41
4:AD:146:LYS:HD2	4:AD:149:LYS:HE3	2.02	0.41
11:AK:56:VAL:HG23	11:AK:70:THR:HA	2.02	0.41
12:AL:74:ARG:HH11	12:AL:74:ARG:HG3	1.85	0.41
13:AM:88:THR:OG1	13:AM:91:GLU:HG3	2.19	0.41
24:AX:12:VAL:HB	24:AX:17:ASP:O	2.20	0.41
25:AY:16:ALA:HA	25:AY:19:ARG:CZ	2.50	0.41
28:A2:31:GLN:HE21	28:A2:37:LEU:CB	2.33	0.41
29:A3:57:GLU:N	29:A3:57:GLU:OE2	2.53	0.41
35:BA:55:A:H1'	58:BZ:329:PHE:HB3	2.01	0.41
35:BA:452:A:O2'	50:BP:73:ALA:CB	2.67	0.41
35:BA:530:G:OP1	35:BA:531:U:H5"	2.20	0.41
35:BA:747:A:H2'	35:BA:748:G:C8	2.55	0.41
35:BA:972:C:HO2'	44:BJ:57:VAL:HA	1.82	0.41
35:BA:990:C:O2'	35:BA:991:U:H5'	2.20	0.41
35:BA:1173:U:H2'	35:BA:1174:G:H8	1.85	0.41
35:BA:1456:A:H2'	35:BA:1457:G:O4'	2.20	0.41
36:BB:97:GLY:HA2	36:BB:170:ILE:HG21	2.01	0.41
37:BC:70:ALA:C	37:BC:72:PRO:HD3	2.40	0.41
38:BD:44:LYS:HB2	38:BD:44:LYS:HZ2	1.83	0.41
38:BD:56:GLU:O	38:BD:60:VAL:HG23	2.20	0.41
40:BF:10:VAL:HA	40:BF:84:VAL:HA	2.02	0.41
46:BL:52:CYS:SG	46:BL:66:ILE:HD11	2.60	0.41
51:BQ:16:MET:N	51:BQ:16:MET:SD	2.93	0.41
55:BU:20:ARG:HH11	55:BU:20:ARG:HG2	1.85	0.41
58:BZ:18:HIS:HB2	58:BZ:123:SER:CA	2.50	0.41
58:BZ:115:ALA:HB3	58:BZ:143:LYS:O	2.20	0.41
58:BZ:170:GLN:C	58:BZ:171:LEU:HD13	2.40	0.41
58:BZ:217:GLU:O	58:BZ:220:GLN:HG2	2.20	0.41
1:AA:859:G:N2	1:AA:916:G:H2'	2.35	0.41
1:AA:1599:U:OP2	23:AW:40:LYS:CD	2.68	0.41
1:AA:2168:G:C5	56:BW:56:C:C4	3.07	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2553:G:O2'	1:AA:2582:G:C2	2.73	0.41
1:AA:2602:A:OP1	56:BV:75:C:OP1	2.38	0.41
5:AE:125:TRP:CE3	5:AE:160:LYS:HD2	2.55	0.41
7:AG:109:ARG:NH2	7:AG:138:PRO:HB3	2.34	0.41
15:AO:78:ARG:HH22	15:AO:80:SER:HB3	1.84	0.41
24:AX:35:VAL:HB	24:AX:38:ILE:HG13	2.03	0.41
26:AZ:67:VAL:HA	26:AZ:73:ARG:O	2.20	0.41
35:BA:62:U:H5"	35:BA:385:C:O2'	2.20	0.41
35:BA:258:G:H2'	35:BA:259:G:O4'	2.20	0.41
35:BA:266:G:H4'	35:BA:267:C:C5	2.55	0.41
35:BA:748:G:H2'	35:BA:749:A:C8	2.55	0.41
35:BA:860:A:H2'	35:BA:861:G:O4'	2.20	0.41
35:BA:867:G:H2'	35:BA:868:C:C6	2.55	0.41
35:BA:1261:A:H1'	35:BA:1283:U:H5"	2.01	0.41
35:BA:1347:G:H22	35:BA:1373:G:H2'	1.85	0.41
36:BB:44:LYS:O	36:BB:47:PRO:HD2	2.20	0.41
36:BB:131:LYS:HG3	36:BB:135:MET:CE	2.49	0.41
37:BC:134:LYS:O	37:BC:138:GLN:HG3	2.19	0.41
38:BD:7:LYS:HB2	38:BD:20:LEU:HB3	2.02	0.41
38:BD:96:ARG:HB3	38:BD:98:ASP:OD1	2.20	0.41
48:BN:19:TYR:HD2	48:BN:51:LEU:HD22	1.84	0.41
51:BQ:8:GLN:HA	51:BQ:8:GLN:NE2	2.35	0.41
56:BW:7:A:C3'	56:BW:8:U:C5'	2.96	0.41
58:BZ:65:SER:O	58:BZ:66:ALA:C	2.58	0.41
58:BZ:105:VAL:O	58:BZ:105:VAL:CG1	2.67	0.41
58:BZ:317:PHE:HA	58:BZ:340:SER:C	2.40	0.41
58:BZ:370:LYS:CG	58:BZ:371:ARG:N	2.83	0.41
58:BZ:416:ILE:O	58:BZ:459:ALA:CA	2.63	0.41
58:BZ:561:LEU:HA	58:BZ:601:PHE:CE2	2.55	0.41
58:BZ:663:MET:HE3	58:BZ:666:TYR:HB3	2.01	0.41
1:AA:151:C:H5'	1:AA:1360:G:OP1	2.21	0.41
1:AA:563:A:OP2	1:AA:572:A:H5'	2.19	0.41
1:AA:1336:A:H2'	1:AA:1337:G:C8	2.55	0.41
1:AA:2001:C:H1'	1:AA:2689:U:C4	2.56	0.41
1:AA:2370:G:H2'	1:AA:2371:G:O4'	2.20	0.41
1:AA:2586:U:H2'	1:AA:2587:A:C8	2.55	0.41
1:AA:2623:G:OP1	1:AA:2826:A:H1'	2.20	0.41
1:AA:2720:U:H5'	1:AA:2846:G:C4'	2.49	0.41
3:AC:209:ILE:HG13	3:AC:226:GLN:NE2	2.34	0.41
4:AD:104:LEU:H	4:AD:104:LEU:CD1	2.33	0.41
4:AD:220:ARG:HG3	4:AD:220:ARG:HH11	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:164:LEU:CB	6:AF:167:VAL:HB	2.50	0.41
8:AH:172:GLU:HA	8:AH:172:GLU:OE1	2.20	0.41
10:AJ:55:VAL:HG13	10:AJ:59:LEU:HD13	2.01	0.41
11:AK:14:ALA:HB3	11:AK:51:GLY:N	2.34	0.41
14:AN:58:LEU:HD23	14:AN:59:LYS:O	2.20	0.41
15:AO:23:ILE:HD12	21:AU:84:ARG:HG2	2.02	0.41
17:AQ:3:HIS:C	17:AQ:5:LYS:H	2.23	0.41
17:AQ:13:ASN:ND2	17:AQ:13:ASN:N	2.68	0.41
18:AR:48:LEU:HD13	18:AR:87:ILE:HD12	2.01	0.41
18:AR:99:TYR:CE1	18:AR:104:GLN:HG3	2.56	0.41
19:AS:30:TRP:NE1	19:AS:81:ASP:HB2	2.36	0.41
25:AY:31:TYR:CE1	25:AY:92:VAL:HG22	2.55	0.41
25:AY:80:HIS:NE2	25:AY:83:LYS:HE2	2.36	0.41
31:A5:47:ILE:H	31:A5:47:ILE:CD1	2.32	0.41
32:A6:21:ARG:HH21	32:A6:21:ARG:HG3	1.84	0.41
35:BA:128:G:O2'	35:BA:129:A:H5'	2.20	0.41
35:BA:304:U:O2'	35:BA:305:G:H5'	2.20	0.41
35:BA:443:C:H2'	35:BA:444:G:C8	2.55	0.41
35:BA:484:G:O3'	35:BA:485:U:H3'	2.19	0.41
35:BA:490:C:H2'	35:BA:491:G:H8	1.85	0.41
35:BA:526:C:H2'	35:BA:527:G:C5'	2.49	0.41
35:BA:587:G:H4'	42:BH:3:GLN:HB3	2.02	0.41
35:BA:1103:C:C5'	36:BB:96:LEU:HD22	2.51	0.41
35:BA:1442:G:H22	35:BA:1461:G:H1'	1.85	0.41
37:BC:63:ILE:HG12	37:BC:65:VAL:HG23	2.01	0.41
38:BD:35:GLN:O	38:BD:36:ALA:HB2	2.21	0.41
42:BH:105:THR:C	42:BH:107:LYS:H	2.24	0.41
47:BM:47:LEU:HD23	47:BM:47:LEU:C	2.40	0.41
47:BM:56:ARG:HH11	47:BM:56:ARG:HG3	1.85	0.41
49:BO:38:LEU:HD12	49:BO:38:LEU:N	2.35	0.41
56:BW:11:C:H42	56:BW:24:G:H1	1.69	0.41
57:BX:5:A:H2'	57:BX:6:G:C8	2.55	0.41
58:BZ:115:ALA:HB2	58:BZ:141:VAL:CG2	2.50	0.41
58:BZ:130:ALA:O	58:BZ:135:VAL:HG12	2.20	0.41
58:BZ:638:ARG:HH21	58:BZ:669:GLN:CB	2.33	0.41
1:AA:480:A:H5'	24:AX:41:VAL:CG2	2.49	0.41
1:AA:513:A:H2	1:AA:582:A:H4'	1.85	0.41
1:AA:826:U:H2'	1:AA:828:U:O4'	2.20	0.41
1:AA:1545:A:N6	1:AA:1546:G:N2	2.68	0.41
1:AA:1641:A:H2'	1:AA:1642:G:O4'	2.20	0.41
1:AA:1903:G:OP1	4:AD:240:GLY:N	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1912:A:C2	1:AA:1919:A:C8	3.07	0.41
1:AA:2168:G:C6	56:BW:56:C:C4	3.08	0.41
1:AA:2855:C:H2'	1:AA:2856:A:C8	2.56	0.41
1:AA:2881:U:H2'	1:AA:2882:A:C8	2.56	0.41
3:AC:22:ASP:OD1	3:AC:23:ILE:N	2.53	0.41
5:AE:40:LEU:HD23	5:AE:45:TYR:CA	2.46	0.41
7:AG:42:ALA:CB	7:AG:49:LEU:HB2	2.49	0.41
8:AH:34:ARG:HH11	8:AH:34:ARG:HG3	1.85	0.41
10:AJ:60:LEU:O	10:AJ:64:VAL:HG12	2.21	0.41
11:AK:42:ASN:HA	11:AK:45:THR:HB	2.02	0.41
11:AK:95:ASP:O	11:AK:97:VAL:HG23	2.20	0.41
15:AO:41:ARG:HG2	15:AO:41:ARG:NH2	2.35	0.41
18:AR:28:VAL:HG13	18:AR:28:VAL:O	2.21	0.41
18:AR:31:THR:HG22	18:AR:33:ARG:H	1.85	0.41
20:AT:46:TYR:HA	20:AT:49:ARG:CZ	2.50	0.41
21:AU:81:LYS:HD2	21:AU:81:LYS:N	2.34	0.41
22:AV:19:LEU:O	30:A4:21:LEU:HD12	2.20	0.41
24:AX:5:ARG:HG3	24:AX:93:ARG:NH2	2.35	0.41
28:A2:20:ASN:O	28:A2:24:GLU:HB2	2.20	0.41
29:A3:30:ARG:HG2	29:A3:30:ARG:HH11	1.86	0.41
35:BA:44:A:H2'	35:BA:45:G:C8	2.56	0.41
35:BA:73:C:C2	35:BA:74:A:C8	3.08	0.41
35:BA:577:G:C6	35:BA:765:G:C2	3.08	0.41
36:BB:14:HIS:HB2	36:BB:208:ALA:HB2	2.01	0.41
36:BB:102:ASN:C	36:BB:104:LYS:H	2.24	0.41
38:BD:95:GLY:HA3	38:BD:135:GLN:HE22	1.85	0.41
39:BE:119:VAL:O	39:BE:119:VAL:HG23	2.20	0.41
40:BF:4:TYR:CE2	40:BF:71:ILE:HG21	2.54	0.41
40:BF:98:GLU:HG3	40:BF:99:ALA:N	2.35	0.41
41:BG:14:ASP:HB3	41:BG:19:SER:H	1.86	0.41
42:BH:21:LYS:HA	42:BH:21:LYS:CE	2.49	0.41
42:BH:31:LEU:HD13	42:BH:31:LEU:O	2.20	0.41
43:BI:44:ARG:HG2	43:BI:44:ARG:HH11	1.85	0.41
43:BI:105:ARG:C	43:BI:105:ARG:HD3	2.41	0.41
52:BR:54:LEU:O	52:BR:54:LEU:HD13	2.20	0.41
53:BS:57:VAL:O	53:BS:57:VAL:HG23	2.20	0.41
58:BZ:82:HIS:CE1	58:BZ:283:ILE:HG23	2.55	0.41
58:BZ:110:VAL:O	58:BZ:110:VAL:HG13	2.21	0.41
58:BZ:115:ALA:HB3	58:BZ:143:LYS:HB2	2.02	0.41
58:BZ:185:LEU:HD11	58:BZ:218:TRP:HB2	2.02	0.41
58:BZ:245:GLU:HG3	58:BZ:248:ILE:HD11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BZ:566:LEU:HD22	58:BZ:699:ILE:HD11	2.03	0.41
58:BZ:658:VAL:CG1	58:BZ:663:MET:SD	3.08	0.41
1:AA:207:A:H2'	1:AA:208:C:O4'	2.21	0.41
1:AA:528:A:C8	13:AM:116:ARG:NH2	2.89	0.41
1:AA:533:G:OP1	20:AT:24:TYR:HB3	2.21	0.41
1:AA:1029:A:N3	1:AA:2486:C:H1'	2.35	0.41
1:AA:1265:A:H3'	30:A4:15:ARG:NH1	2.35	0.41
1:AA:1783:A:H4'	1:AA:2608:G:H5'	2.02	0.41
1:AA:1979:U:O2'	1:AA:1980:G:H5'	2.21	0.41
1:AA:2261:C:H1'	1:AA:2388:A:H1'	2.02	0.41
1:AA:2777:G:O4'	1:AA:2779:U:H5	2.04	0.41
4:AD:270:ARG:HG2	4:AD:270:ARG:HH11	1.84	0.41
5:AE:13:ARG:HD2	5:AE:15:PHE:CE1	2.55	0.41
7:AG:92:GLY:O	7:AG:96:TRP:HD1	2.03	0.41
9:AI:7:ASP:CG	9:AI:8:LYS:N	2.73	0.41
10:AJ:27:VAL:HG13	10:AJ:110:ALA:H	1.86	0.41
13:AM:96:ARG:HH21	13:AM:99:ARG:HG2	1.85	0.41
18:AR:11:ALA:HB2	18:AR:96:GLY:N	2.36	0.41
20:AT:73:ILE:HG21	20:AT:109:VAL:HG13	2.03	0.41
33:A7:38:LYS:HA	33:A7:41:ARG:HH22	1.84	0.41
35:BA:20:U:H2'	35:BA:21:G:O4'	2.21	0.41
35:BA:66:A:H5'	35:BA:173:U:O4	2.20	0.41
35:BA:923:A:H61	35:BA:1393:U:H3	1.69	0.41
35:BA:952:U:H2'	35:BA:953:G:H8	1.86	0.41
35:BA:1348:U:OP1	43:BI:111:GLU:N	2.45	0.41
36:BB:185:ILE:HG13	36:BB:185:ILE:O	2.21	0.41
38:BD:4:LEU:HD12	38:BD:4:LEU:N	2.35	0.41
39:BE:35:LEU:HD21	39:BE:136:VAL:CG1	2.50	0.41
39:BE:112:ALA:O	39:BE:116:VAL:HG22	2.21	0.41
39:BE:148:SER:O	39:BE:152:VAL:HG13	2.20	0.41
41:BG:112:ASP:HB2	41:BG:118:ARG:CG	2.51	0.41
43:BI:38:PHE:C	43:BI:38:PHE:CD1	2.94	0.41
44:BJ:17:LEU:HD23	44:BJ:17:LEU:C	2.41	0.41
44:BJ:46:LYS:HG3	44:BJ:46:LYS:O	2.21	0.41
45:BK:15:VAL:CG2	45:BK:16:SER:N	2.82	0.41
58:BZ:92:HIS:NE2	58:BZ:464:LEU:C	2.74	0.41
58:BZ:244:THR:O	58:BZ:248:ILE:HG23	2.19	0.41
58:BZ:317:PHE:CG	58:BZ:318:SER:N	2.88	0.41
58:BZ:374:ILE:CG2	58:BZ:375:LYS:H	2.32	0.41
58:BZ:495:ARG:HH22	58:BZ:689:GLU:CB	2.33	0.41
58:BZ:663:MET:CE	58:BZ:666:TYR:HD2	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:582:A:H2'	1:AA:583:G:C8	2.55	0.41
1:AA:769:U:H2'	1:AA:770:G:C8	2.55	0.41
1:AA:1176:U:H2'	1:AA:1177:G:C8	2.55	0.41
1:AA:1433:A:H2'	1:AA:1434:A:C8	2.55	0.41
1:AA:1656:C:OP1	5:AE:141:ARG:NH1	2.53	0.41
1:AA:2213:U:O2'	1:AA:2214:C:H5'	2.20	0.41
1:AA:2606:C:H2'	1:AA:2607:G:C8	2.56	0.41
1:AA:2676:C:H2'	1:AA:2677:G:H8	1.84	0.41
1:AA:2743:U:H2'	1:AA:2744:G:C5'	2.46	0.41
3:AC:7:ARG:HG2	3:AC:7:ARG:HH11	1.84	0.41
3:AC:142:VAL:HG23	3:AC:144:THR:HG23	2.03	0.41
5:AE:33:ARG:O	5:AE:50:VAL:HA	2.21	0.41
7:AG:134:GLN:OE1	7:AG:135:ILE:HD12	2.21	0.41
12:AL:87:LEU:HD21	12:AL:95:LEU:HA	2.01	0.41
17:AQ:60:VAL:O	17:AQ:64:ARG:HG3	2.20	0.41
18:AR:17:LYS:HD3	18:AR:17:LYS:C	2.41	0.41
18:AR:76:LYS:O	18:AR:80:GLU:HG3	2.20	0.41
22:AV:17:VAL:HA	22:AV:43:ALA:HB1	2.01	0.41
22:AV:69:LEU:HD12	22:AV:107:VAL:HG22	2.03	0.41
22:AV:110:ARG:HG3	22:AV:110:ARG:HH21	1.86	0.41
35:BA:403:C:H2'	35:BA:404:G:C8	2.55	0.41
35:BA:508:U:H4'	38:BD:50:TYR:CE2	2.56	0.41
35:BA:625:U:H4'	50:BP:16:PHE:CZ	2.56	0.41
36:BB:169:HIS:HB2	36:BB:170:ILE:HD12	2.02	0.41
37:BC:5:HIS:CD2	37:BC:8:GLY:H	2.38	0.41
37:BC:59:PRO:HD2	37:BC:62:SER:O	2.21	0.41
37:BC:111:ASP:HB3	37:BC:114:LEU:HD12	2.02	0.41
37:BC:128:MET:SD	37:BC:130:ARG:CZ	3.09	0.41
41:BG:58:LEU:HG	41:BG:59:GLU:N	2.36	0.41
42:BH:5:PRO:HB2	42:BH:32:LYS:HE3	2.03	0.41
42:BH:10:LEU:HD22	42:BH:74:ILE:CG1	2.50	0.41
43:BI:83:THR:HG21	43:BI:102:PHE:CB	2.49	0.41
43:BI:115:VAL:HG23	44:BJ:62:ARG:HD2	1.99	0.41
46:BL:56:LEU:HB3	46:BL:58:ASN:OD1	2.20	0.41
54:BT:35:TYR:CD1	54:BT:35:TYR:C	2.94	0.41
55:BU:25:ALA:HA	55:BU:28:LEU:HB3	2.01	0.41
58:BZ:88:ASP:O	58:BZ:89:THR:CB	2.68	0.41
58:BZ:233:LEU:CD2	58:BZ:243:LEU:HD22	2.51	0.41
58:BZ:325:ALA:N	58:BZ:333:LEU:O	2.52	0.41
58:BZ:510:GLY:O	58:BZ:512:ARG:N	2.53	0.41
58:BZ:638:ARG:NH2	58:BZ:669:GLN:CB	2.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:394:C:O2'	1:AA:395:U:H5'	2.21	0.41
1:AA:1107:G:H5"	10:AJ:56:ARG:N	2.36	0.41
1:AA:1107:G:O5'	10:AJ:56:ARG:CG	2.66	0.41
1:AA:1172:C:N3	1:AA:1173:U:H1'	2.35	0.41
1:AA:1582:C:H2'	1:AA:1583:A:C5'	2.50	0.41
1:AA:2638:G:N2	1:AA:2775:G:H2'	2.34	0.41
4:AD:42:ARG:HG3	4:AD:42:ARG:HH11	1.86	0.41
6:AF:5:LEU:HD13	6:AF:10:SER:O	2.20	0.41
7:AG:39:VAL:HG13	7:AG:40:GLY:N	2.36	0.41
11:AK:97:VAL:HG12	11:AK:98:GLY:N	2.35	0.41
17:AQ:14:SER:HA	17:AQ:17:ARG:CZ	2.51	0.41
17:AQ:17:ARG:HH21	17:AQ:17:ARG:HG3	1.85	0.41
19:AS:4:ILE:O	19:AS:8:GLU:HG3	2.21	0.41
19:AS:50:ARG:O	19:AS:56:SER:HA	2.21	0.41
22:AV:59:GLU:HA	22:AV:64:ALA:CA	2.38	0.41
23:AW:77:ARG:HD2	23:AW:77:ARG:N	2.35	0.41
24:AX:11:ILE:HG21	24:AX:79:ALA:HB2	2.03	0.41
35:BA:301:G:H22	35:BA:557:G:H5'	1.86	0.41
35:BA:540:G:H2'	35:BA:541:G:O4'	2.21	0.41
35:BA:579:A:O4'	35:BA:728:A:H2	2.04	0.41
35:BA:634:C:H2'	35:BA:635:A:C8	2.55	0.41
35:BA:731:G:O2'	35:BA:732:C:H5'	2.21	0.41
35:BA:1458:G:OP1	54:BT:29:THR:CG2	2.68	0.41
35:BA:1494:G:N2	35:BA:1495:U:C2	2.88	0.41
36:BB:119:GLN:HG2	36:BB:124:THR:O	2.20	0.41
38:BD:12:ARG:CB	38:BD:12:ARG:NH1	2.84	0.41
40:BF:47:LEU:HG	40:BF:56:LYS:CA	2.50	0.41
42:BH:28:SER:HB2	42:BH:58:LEU:N	2.36	0.41
46:BL:10:PRO:HB3	51:BQ:33:TYR:OH	2.20	0.41
46:BL:56:LEU:HD21	46:BL:81:ILE:CD1	2.45	0.41
48:BN:20:PHE:HA	48:BN:24:ALA:HB2	2.02	0.41
54:BT:43:LYS:HE2	54:BT:86:ALA:HA	2.02	0.41
56:BV:63:G:H2'	56:BV:64:A:C8	2.55	0.41
58:BZ:398:CYS:C	58:BZ:400:PRO:HD2	2.40	0.41
58:BZ:464:LEU:HA	58:BZ:467:ASP:HB3	2.02	0.41
58:BZ:482:ASN:O	58:BZ:483:VAL:C	2.59	0.41
58:BZ:514:GLN:HA	58:BZ:514:GLN:HE21	1.85	0.41
1:AA:28:A:H1'	1:AA:513:A:C2	2.56	0.41
1:AA:244:A:OP2	33:A7:7:ARG:NH1	2.52	0.41
1:AA:271:G:H1'	1:AA:272:A:N7	2.36	0.41
1:AA:401:A:H2'	1:AA:402:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1352:U:H5'	1:AA:1571:A:H1'	2.02	0.41
1:AA:1812:U:H2'	1:AA:1813:G:C8	2.55	0.41
1:AA:2089:C:H2'	1:AA:2090:A:H8	1.85	0.41
1:AA:2875:C:H2'	1:AA:2876:G:C8	2.55	0.41
2:AB:63:C:H2'	2:AB:64:G:C8	2.56	0.41
3:AC:137:MET:CE	3:AC:138:PRO:HD2	2.50	0.41
5:AE:84:LEU:HD13	5:AE:88:GLU:O	2.21	0.41
6:AF:141:MET:SD	6:AF:143:LEU:HD12	2.61	0.41
7:AG:105:ILE:O	7:AG:109:ARG:HG3	2.21	0.41
8:AH:2:ARG:O	8:AH:5:LYS:HB2	2.20	0.41
13:AM:55:ILE:HG12	13:AM:123:LYS:HB2	2.03	0.41
14:AN:64:ARG:HD3	14:AN:102:PRO:O	2.20	0.41
17:AQ:47:VAL:O	17:AQ:51:LEU:HG	2.21	0.41
18:AR:25:ARG:HG2	18:AR:25:ARG:HH21	1.86	0.41
20:AT:2:ARG:HG2	20:AT:2:ARG:HH21	1.85	0.41
24:AX:93:ARG:HB2	24:AX:102:ILE:HD12	2.03	0.41
26:AZ:10:ARG:HH11	26:AZ:10:ARG:HG3	1.85	0.41
35:BA:231:U:H2'	35:BA:232:G:H8	1.85	0.41
35:BA:532:A:H3'	35:BA:533:A:C5'	2.50	0.41
35:BA:859:G:H2'	35:BA:860:A:O4'	2.21	0.41
35:BA:1045:C:H2'	35:BA:1046:A:O4'	2.21	0.41
35:BA:1382:C:C4'	41:BG:78:ARG:HH21	2.34	0.41
35:BA:1384:C:H2'	35:BA:1385:G:H8	1.83	0.41
36:BB:160:LEU:HD23	36:BB:160:LEU:C	2.41	0.41
36:BB:207:ARG:HH12	36:BB:211:LEU:CD2	2.32	0.41
37:BC:140:ALA:CB	37:BC:148:ILE:HG21	2.50	0.41
38:BD:12:ARG:CG	38:BD:33:ILE:HA	2.49	0.41
38:BD:168:THR:HG22	38:BD:168:THR:O	2.21	0.41
42:BH:79:ARG:HG3	42:BH:82:LEU:H	1.85	0.41
44:BJ:59:LYS:HD2	44:BJ:60:ASP:H	1.85	0.41
45:BK:127:ARG:HG2	45:BK:127:ARG:HH11	1.84	0.41
46:BL:49:ARG:HH11	46:BL:49:ARG:HG3	1.86	0.41
50:BP:70:ARG:O	50:BP:74:LEU:HG	2.20	0.41
1:AA:31:C:H4'	1:AA:1238:G:C5'	2.51	0.41
1:AA:83:A:H5"	24:AX:1:ALA:H1	1.85	0.41
1:AA:238:C:H5'	1:AA:609:A:H4'	2.03	0.41
1:AA:359:G:O2'	1:AA:360:U:H5'	2.21	0.41
1:AA:399:U:H2'	1:AA:400:G:O4'	2.20	0.41
1:AA:534:U:H2'	1:AA:535:G:H8	1.86	0.41
1:AA:581:C:OP1	20:AT:32:ARG:HG3	2.21	0.41
1:AA:1043:C:H2'	1:AA:1044:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1539:U:H2'	1:AA:1540:G:H8	1.85	0.41
1:AA:1601:G:C2'	1:AA:1602:U:H5'	2.51	0.41
1:AA:1683:U:H2'	1:AA:1684:G:C8	2.55	0.41
1:AA:1772:A:H2'	1:AA:1773:A:H5'	2.02	0.41
1:AA:1933:G:H2'	1:AA:1934:C:O4'	2.21	0.41
1:AA:1943:U:C1'	1:AA:1945:G:H5'	2.51	0.41
1:AA:2246:G:O2'	1:AA:2247:A:H5'	2.21	0.41
1:AA:2276:G:OP2	16:AP:83:GLY:CA	2.66	0.41
1:AA:2432:A:H1'	56:BW:75:C:O4'	2.21	0.41
4:AD:202:ARG:NH2	4:AD:213:ARG:NH2	2.69	0.41
4:AD:239:PHE:O	4:AD:241:LYS:HG2	2.21	0.41
6:AF:12:LEU:HD23	6:AF:12:LEU:C	2.41	0.41
7:AG:29:ARG:HH11	7:AG:29:ARG:HG3	1.85	0.41
7:AG:43:ILE:H	7:AG:43:ILE:CD1	2.34	0.41
7:AG:147:ARG:HG2	7:AG:148:VAL:N	2.35	0.41
8:AH:72:ASN:O	8:AH:76:ILE:HG12	2.21	0.41
8:AH:152:ARG:HB2	8:AH:152:ARG:NH2	2.36	0.41
8:AH:153:PRO:HA	8:AH:159:LYS:O	2.20	0.41
11:AK:107:GLU:OE2	11:AK:108:ILE:HG13	2.21	0.41
14:AN:5:GLN:NE2	14:AN:5:GLN:HA	2.36	0.41
15:AO:48:ARG:C	15:AO:50:PHE:H	2.23	0.41
17:AQ:10:LEU:O	17:AQ:12:ARG:HG3	2.21	0.41
23:AW:4:GLU:OE1	28:A2:18:LEU:HD11	2.20	0.41
23:AW:48:GLN:O	23:AW:52:GLU:HA	2.20	0.41
28:A2:31:GLN:HE21	28:A2:37:LEU:HA	1.86	0.41
30:A4:53:VAL:O	30:A4:54:ILE:HB	2.21	0.41
30:A4:56:LYS:HG2	30:A4:56:LYS:OXT	2.21	0.41
35:BA:89:U:HO2'	35:BA:90:C:H5"	1.86	0.41
35:BA:107:G:C3'	35:BA:108:G:H5"	2.51	0.41
35:BA:591:U:H2'	35:BA:592:G:H8	1.85	0.41
35:BA:688:G:O2'	35:BA:689:C:H5'	2.21	0.41
35:BA:769:G:H4'	35:BA:1513:A:H4'	2.02	0.41
35:BA:834:U:H2'	35:BA:835:U:C6	2.55	0.41
35:BA:907:A:H2'	35:BA:908:A:O4'	2.21	0.41
35:BA:1058:G:H2'	35:BA:1059:C:O4'	2.21	0.41
35:BA:1179:A:H5"	43:BI:98:ARG:NH2	2.36	0.41
35:BA:1234:C:H5'	35:BA:1365:G:OP1	2.20	0.41
35:BA:1359:C:OP2	48:BN:75:ARG:NE	2.53	0.41
35:BA:1438:G:P	54:BT:32:LYS:HZ1	2.43	0.41
36:BB:86:CYS:SG	36:BB:221:ARG:HB2	2.61	0.41
36:BB:88:GLN:HG3	36:BB:220:VAL:HG11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BB:100:LEU:CD1	36:BB:178:LEU:HD12	2.50	0.41
36:BB:187:ASP:OD2	36:BB:188:THR:HG23	2.21	0.41
37:BC:109:GLU:N	37:BC:109:GLU:OE2	2.54	0.41
38:BD:150:LYS:HA	38:BD:177:MET:HE1	2.03	0.41
38:BD:173:ASP:CG	38:BD:174:ALA:N	2.74	0.41
39:BE:14:LEU:HD12	39:BE:14:LEU:C	2.41	0.41
42:BH:84:ILE:HG21	42:BH:124:ILE:HD11	2.03	0.41
43:BI:20:ILE:CG2	43:BI:60:LEU:HD12	2.50	0.41
43:BI:119:LYS:O	43:BI:119:LYS:HG3	2.21	0.41
48:BN:48:LEU:O	48:BN:50:THR:N	2.54	0.41
48:BN:77:PHE:CD1	48:BN:84:VAL:HG13	2.54	0.41
49:BO:44:GLU:O	49:BO:46:LYS:N	2.53	0.41
51:BQ:42:LYS:O	51:BQ:43:LEU:HD23	2.21	0.41
55:BU:36:PHE:HB3	55:BU:40:PRO:CD	2.44	0.41
58:BZ:15:ILE:CD1	58:BZ:86:ILE:HG23	2.51	0.41
58:BZ:59:ARG:O	58:BZ:63:ILE:HG22	2.20	0.41
58:BZ:198:GLN:O	58:BZ:199:GLY:C	2.59	0.41
58:BZ:317:PHE:N	58:BZ:341:GLY:HA3	2.36	0.41
58:BZ:353:VAL:HG13	58:BZ:354:LYS:N	2.36	0.41
58:BZ:363:ILE:HD12	58:BZ:376:GLU:HA	2.02	0.41
58:BZ:615:PRO:HG2	58:BZ:660:LEU:HB3	2.01	0.41
1:AA:331:C:N4	1:AA:1209:U:H3	2.19	0.41
1:AA:937:C:P	33:A7:51:LYS:HD3	2.60	0.41
1:AA:967:U:H2'	1:AA:968:C:C6	2.56	0.41
1:AA:2244:U:H2'	1:AA:2245:U:O4'	2.21	0.41
1:AA:2527:C:H5"	34:A8:31:PRO:HB3	2.03	0.41
1:AA:2641:G:H2'	1:AA:2642:G:H8	1.86	0.41
3:AC:20:GLN:HG3	3:AC:20:GLN:O	2.21	0.41
4:AD:144:GLU:HG2	4:AD:151:GLY:N	2.36	0.41
5:AE:83:ARG:HH21	5:AE:83:ARG:HG3	1.86	0.41
6:AF:149:ILE:HG23	6:AF:149:ILE:O	2.21	0.41
10:AJ:4:ASN:OD1	10:AJ:5:LEU:N	2.54	0.41
11:AK:57:VAL:CG1	11:AK:58:ILE:H	2.32	0.41
21:AU:43:ASN:HD22	21:AU:43:ASN:HA	1.57	0.41
24:AX:36:GLU:HA	24:AX:61:GLU:OE2	2.21	0.41
29:A3:1:ALA:HB1	29:A3:2:LYS:HD3	2.03	0.41
35:BA:529:G:H22	46:BL:47:ALA:HB2	1.86	0.41
35:BA:662:U:H2'	35:BA:663:A:C8	2.56	0.41
35:BA:955:U:OP1	56:BV:41:C:OP1	2.39	0.41
35:BA:1074:G:H2'	35:BA:1075:U:C6	2.56	0.41
37:BC:76:ILE:HA	37:BC:83:VAL:CG2	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BD:7:LYS:HZ3	38:BD:8:LEU:HD21	1.85	0.41
39:BE:72:ASN:N	39:BE:72:ASN:ND2	2.69	0.41
40:BF:45:ARG:HG2	40:BF:45:ARG:HH11	1.86	0.41
40:BF:48:ALA:HB1	52:BR:68:PRO:HG3	2.03	0.41
47:BM:6:ILE:HD12	47:BM:7:ASN:N	2.36	0.41
47:BM:93:GLY:CA	47:BM:108:ARG:HH12	2.28	0.41
47:BM:108:ARG:HH11	47:BM:108:ARG:HG3	1.86	0.41
55:BU:44:ARG:HD2	55:BU:44:ARG:N	2.36	0.41
58:BZ:152:LEU:CA	58:BZ:155:VAL:HG22	2.51	0.41
58:BZ:412:PRO:HB2	58:BZ:444:SER:OG	2.21	0.41
58:BZ:560:GLN:CG	58:BZ:598:SER:HA	2.50	0.41
1:AA:248:G:N3	1:AA:2431:U:H4'	2.36	0.40
1:AA:258:G:H1'	15:AO:104:GLN:NE2	2.35	0.40
1:AA:446:G:P	20:AT:2:ARG:HD3	2.61	0.40
1:AA:472:A:H2'	1:AA:473:G:H5'	2.03	0.40
1:AA:954:G:OP1	16:AP:14:LYS:HB3	2.21	0.40
1:AA:1666:G:C2'	1:AA:1667:G:H5'	2.50	0.40
1:AA:2051:A:H2'	1:AA:2578:G:OP1	2.21	0.40
1:AA:2086:U:H2'	1:AA:2087:G:C8	2.56	0.40
1:AA:2091:C:H4'	27:A1:55:MET:HE1	2.03	0.40
1:AA:2741:A:H2'	1:AA:2742:G:O4'	2.21	0.40
2:AB:72:G:H21	2:AB:104:A:H62	1.69	0.40
3:AC:16:ASP:HB3	3:AC:19:LYS:HB3	2.02	0.40
3:AC:134:ARG:HH11	3:AC:134:ARG:HG3	1.86	0.40
3:AC:192:LEU:O	3:AC:195:ALA:HB3	2.21	0.40
4:AD:36:ASN:HB2	4:AD:61:TYR:HB2	2.03	0.40
4:AD:75:ALA:HB2	4:AD:95:TYR:CD2	2.56	0.40
4:AD:140:VAL:CG2	4:AD:191:LEU:HD13	2.46	0.40
4:AD:211:ARG:HH21	4:AD:211:ARG:HG3	1.85	0.40
6:AF:111:GLU:CB	15:AO:2:ARG:HH22	2.33	0.40
7:AG:142:TYR:O	7:AG:145:VAL:HG22	2.20	0.40
11:AK:30:GLN:NE2	11:AK:30:GLN:H	2.19	0.40
15:AO:54:GLN:NE2	15:AO:60:ARG:NH1	2.69	0.40
19:AS:102:ARG:HH11	19:AS:102:ARG:HG2	1.87	0.40
21:AU:43:ASN:HB3	21:AU:44:GLY:H	1.57	0.40
35:BA:56:U:H2'	35:BA:57:G:C8	2.56	0.40
35:BA:673:A:H2'	35:BA:674:G:C8	2.56	0.40
35:BA:1269:A:HO2'	35:BA:1325:C:HO2'	1.66	0.40
35:BA:1404:C:H2'	35:BA:1405:G:C8	2.56	0.40
35:BA:1435:G:H2'	35:BA:1436:U:C6	2.56	0.40
35:BA:1493:A:C2	56:BV:36:A:H1'	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BC:10:ARG:HG3	37:BC:10:ARG:HH11	1.86	0.40
37:BC:112:ALA:HB2	37:BC:182:ASP:O	2.21	0.40
40:BF:52:ASN:N	40:BF:52:ASN:HD22	2.19	0.40
41:BG:41:ILE:HG21	41:BG:115:MET:HG3	2.03	0.40
41:BG:65:LEU:HG	41:BG:69:ARG:HH21	1.86	0.40
43:BI:8:THR:HG21	43:BI:10:ARG:HH22	1.86	0.40
45:BK:30:ILE:HD12	45:BK:31:VAL:N	2.36	0.40
49:BO:18:ALA:C	49:BO:20:ASP:H	2.24	0.40
58:BZ:95:PHE:CE1	58:BZ:97:ILE:HG22	2.56	0.40
58:BZ:142:ASN:HD21	58:BZ:269:ALA:H	1.65	0.40
58:BZ:452:GLU:OE1	58:BZ:569:TYR:HD1	2.03	0.40
58:BZ:689:GLU:O	58:BZ:690:ALA:O	2.40	0.40
1:AA:462:C:H2'	1:AA:463:G:C8	2.56	0.40
1:AA:502:A:H2'	1:AA:503:A:H5'	2.03	0.40
1:AA:638:G:O2'	1:AA:639:U:H5'	2.21	0.40
1:AA:898:C:H2'	1:AA:899:A:O4'	2.22	0.40
1:AA:1518:C:H2'	1:AA:1519:G:C8	2.57	0.40
1:AA:1936:A:H2	1:AA:1943:U:H3	1.68	0.40
1:AA:2508:G:O3'	1:AA:2555:U:H5'	2.22	0.40
1:AA:2634:A:H2'	1:AA:2635:A:O4'	2.21	0.40
1:AA:2668:G:H2'	1:AA:2669:G:H8	1.86	0.40
1:AA:2676:C:H2'	1:AA:2677:G:C8	2.56	0.40
1:AA:2867:G:C6	19:AS:20:ARG:NH1	2.89	0.40
2:AB:7:G:C5'	18:AR:29:HIS:ND1	2.85	0.40
4:AD:100:ARG:HH11	4:AD:100:ARG:HG3	1.86	0.40
4:AD:201:LEU:HD12	4:AD:201:LEU:N	2.36	0.40
4:AD:216:ARG:CB	4:AD:216:ARG:HH11	2.34	0.40
4:AD:250:GLN:HA	4:AD:250:GLN:NE2	2.35	0.40
6:AF:102:ARG:HH21	6:AF:102:ARG:CB	2.34	0.40
6:AF:159:LEU:HD12	6:AF:159:LEU:H	1.87	0.40
7:AG:68:LYS:N	7:AG:68:LYS:CD	2.83	0.40
11:AK:30:GLN:HG2	11:AK:31:GLY:N	2.36	0.40
11:AK:53:PRO:HD2	11:AK:77:VAL:CG1	2.51	0.40
11:AK:92:PRO:HD2	11:AK:94:LYS:HE2	2.03	0.40
15:AO:58:TYR:O	33:A7:12:ARG:NH2	2.53	0.40
15:AO:81:ASP:OD1	15:AO:84:LYS:HD2	2.22	0.40
17:AQ:33:ILE:HG23	17:AQ:33:ILE:O	2.22	0.40
17:AQ:79:LEU:O	17:AQ:80:PHE:HB2	2.21	0.40
25:AY:55:GLU:HA	25:AY:58:SER:OG	2.20	0.40
33:A7:14:LYS:HD3	33:A7:14:LYS:C	2.40	0.40
34:A8:9:LYS:HB3	34:A8:9:LYS:HZ2	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BA:118:U:H2'	35:BA:119:A:H5"	2.03	0.40
35:BA:271:C:H2'	35:BA:272:C:C6	2.56	0.40
35:BA:1152:A:H2'	35:BA:1153:G:C8	2.57	0.40
35:BA:1386:G:H2'	35:BA:1387:G:H8	1.86	0.40
36:BB:14:HIS:CD2	36:BB:14:HIS:H	2.39	0.40
36:BB:56:LEU:HD11	36:BB:220:VAL:CG2	2.51	0.40
36:BB:183:PHE:N	36:BB:183:PHE:CD2	2.89	0.40
37:BC:149:LYS:HE3	37:BC:172:VAL:HB	2.03	0.40
40:BF:14:GLN:O	40:BF:18:VAL:HG23	2.21	0.40
40:BF:51:ILE:HD12	40:BF:86:ARG:HE	1.85	0.40
41:BG:100:MET:O	41:BG:104:VAL:HG23	2.21	0.40
43:BI:79:ARG:HG3	43:BI:79:ARG:HH11	1.86	0.40
43:BI:95:SER:O	43:BI:98:ARG:HB2	2.21	0.40
43:BI:112:ARG:HH22	44:BJ:64:GLN:CD	2.23	0.40
48:BN:59:ARG:HG2	48:BN:59:ARG:O	2.21	0.40
49:BO:63:ARG:NH2	49:BO:87:ARG:HH12	2.19	0.40
54:BT:32:LYS:CD	54:BT:35:TYR:HE2	2.35	0.40
58:BZ:18:HIS:HB2	58:BZ:123:SER:HA	2.03	0.40
58:BZ:164:ALA:CB	58:BZ:262:ILE:HD13	2.51	0.40
58:BZ:227:ALA:HB2	58:BZ:243:LEU:HD11	2.03	0.40
58:BZ:552:ALA:HB2	58:BZ:590:GLU:HA	2.02	0.40
1:AA:20:C:H2'	1:AA:21:A:C8	2.55	0.40
1:AA:123:G:H5"	1:AA:1375:U:O2'	2.21	0.40
1:AA:309:A:C2'	1:AA:310:A:H5'	2.51	0.40
1:AA:355:U:H2'	1:AA:356:G:H8	1.86	0.40
1:AA:443:A:H2'	6:AF:40:ARG:HH12	1.87	0.40
1:AA:709:U:H2'	1:AA:710:U:C6	2.57	0.40
1:AA:1052:C:OP1	1:AA:2751:G:O2'	2.38	0.40
1:AA:1319:C:O2'	1:AA:1320:C:H5'	2.21	0.40
1:AA:1444:G:H1	1:AA:1547:C:N4	2.18	0.40
1:AA:1518:C:H2'	1:AA:1519:G:H8	1.87	0.40
1:AA:2087:G:H2'	1:AA:2088:A:H8	1.87	0.40
1:AA:2208:C:H2'	1:AA:2209:G:C8	2.56	0.40
1:AA:2489:U:H2'	1:AA:2490:G:H5'	2.04	0.40
1:AA:2566:A:N1	14:AN:28:SER:OG	2.51	0.40
1:AA:2637:U:H2'	1:AA:2638:G:H5'	2.03	0.40
1:AA:2643:G:H2'	1:AA:2644:G:O4'	2.22	0.40
2:AB:40:U:H3'	2:AB:41:G:H4'	2.03	0.40
3:AC:122:ARG:HG2	3:AC:122:ARG:HH11	1.86	0.40
5:AE:108:ASP:CG	5:AE:173:GLN:HA	2.42	0.40
6:AF:189:THR:HG22	6:AF:190:ALA:N	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:45:ASP:OD2	7:AG:48:LEU:HB2	2.22	0.40
7:AG:107:VAL:N	7:AG:108:PRO:CD	2.85	0.40
8:AH:51:PHE:CD2	8:AH:68:ARG:HA	2.57	0.40
11:AK:93:ASN:C	11:AK:95:ASP:N	2.75	0.40
13:AM:13:ARG:NH1	13:AM:49:ASP:HB3	2.36	0.40
16:AP:70:ASP:OD2	16:AP:70:ASP:C	2.59	0.40
17:AQ:28:LEU:HD13	17:AQ:34:ILE:HG12	2.03	0.40
18:AR:29:HIS:HD2	18:AR:30:ARG:H	1.70	0.40
22:AV:10:ALA:O	22:AV:100:THR:HB	2.21	0.40
22:AV:31:GLN:O	22:AV:35:ILE:HG12	2.21	0.40
24:AX:38:ILE:HG22	24:AX:39:ASN:N	2.36	0.40
24:AX:60:LYS:CG	24:AX:61:GLU:H	2.14	0.40
27:A1:15:ASN:OD1	27:A1:25:LYS:HD3	2.20	0.40
35:BA:217:C:H2'	35:BA:218:U:C6	2.55	0.40
35:BA:309:A:C5'	50:BP:29:ASN:O	2.70	0.40
35:BA:1059:C:H4'	48:BN:85:ARG:HH22	1.86	0.40
35:BA:1343:G:H4'	43:BI:123:ARG:HB3	2.02	0.40
36:BB:109:SER:O	36:BB:112:ARG:HB3	2.21	0.40
37:BC:46:LEU:HB3	37:BC:49:ALA:HB3	2.03	0.40
43:BI:18:VAL:HG21	43:BI:82:ILE:HG13	2.03	0.40
46:BL:82:ARG:HH11	46:BL:82:ARG:HG3	1.87	0.40
48:BN:13:VAL:O	48:BN:16:ALA:HB3	2.22	0.40
48:BN:69:ARG:HG2	48:BN:69:ARG:HH11	1.85	0.40
52:BR:38:ILE:HG13	52:BR:62:ARG:NH2	2.36	0.40
54:BT:5:SER:C	54:BT:7:LYS:N	2.73	0.40
54:BT:32:LYS:HD3	54:BT:35:TYR:HE2	1.86	0.40
58:BZ:74:GLY:N	58:BZ:79:TYR:CE2	2.87	0.40
58:BZ:111:MET:HE3	58:BZ:127:TRP:HA	2.02	0.40
58:BZ:245:GLU:C	58:BZ:247:GLU:N	2.72	0.40
58:BZ:550:ILE:HB	58:BZ:551:PRO:HD3	2.03	0.40
1:AA:414:C:H2'	1:AA:415:A:C8	2.57	0.40
1:AA:443:A:H3'	6:AF:40:ARG:NH1	2.36	0.40
1:AA:671:C:H2'	1:AA:672:C:C6	2.57	0.40
1:AA:891:G:H2'	1:AA:892:A:C8	2.57	0.40
1:AA:1140:C:H2'	1:AA:1141:U:H5'	2.02	0.40
1:AA:1550:C:H2'	1:AA:1551:A:H8	1.87	0.40
1:AA:1813:G:C4'	4:AD:43:ASN:HA	2.50	0.40
1:AA:2380:C:H5'	18:AR:17:LYS:HZ1	1.87	0.40
2:AB:60:C:H2'	2:AB:61:G:H8	1.85	0.40
4:AD:194:VAL:CG2	4:AD:195:GLY:H	2.09	0.40
9:AI:41:LYS:HA	9:AI:44:ILE:CD1	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AO:23:ILE:HD12	21:AU:84:ARG:NE	2.37	0.40
20:AT:48:ASP:C	20:AT:50:ARG:H	2.25	0.40
30:A4:39:ARG:HH11	30:A4:39:ARG:HG2	1.87	0.40
35:BA:376:G:H4'	50:BP:5:ARG:HD2	2.03	0.40
35:BA:393:A:H2'	35:BA:394:G:H8	1.86	0.40
36:BB:30:ILE:HD11	36:BB:38:HIS:CG	2.56	0.40
36:BB:94:ARG:NH1	36:BB:96:LEU:HD23	2.36	0.40
36:BB:130:LYS:HE2	36:BB:130:LYS:CA	2.43	0.40
37:BC:26:LYS:H	37:BC:26:LYS:CD	2.31	0.40
38:BD:3:TYR:C	38:BD:5:GLY:H	2.25	0.40
39:BE:55:VAL:N	39:BE:56:PRO:HD2	2.37	0.40
41:BG:119:LEU:HD23	41:BG:119:LEU:O	2.22	0.40
44:BJ:26:VAL:HG22	44:BJ:74:VAL:HG13	2.03	0.40
47:BM:71:GLU:O	47:BM:74:MET:HB3	2.22	0.40
51:BQ:74:LEU:HD12	51:BQ:74:LEU:C	2.42	0.40
52:BR:42:ARG:NH1	52:BR:42:ARG:HB2	2.36	0.40
58:BZ:135:VAL:HA	58:BZ:136:PRO:HD3	1.97	0.40
58:BZ:185:LEU:O	58:BZ:185:LEU:HG	2.22	0.40
58:BZ:628:THR:HB	58:BZ:652:VAL:CG1	2.48	0.40
1:AA:72:U:C4	1:AA:112:U:H4'	2.57	0.40
1:AA:123:G:H4'	1:AA:1376:C:O5'	2.21	0.40
1:AA:279:A:H61	1:AA:361:G:C2'	2.34	0.40
1:AA:736:C:N4	1:AA:760:G:H1	2.20	0.40
1:AA:955:U:OP1	16:AP:13:HIS:HA	2.21	0.40
1:AA:1169:A:O2'	1:AA:1170:C:H5'	2.21	0.40
1:AA:1245:G:H2'	1:AA:1246:A:H8	1.87	0.40
1:AA:2291:U:H2'	1:AA:2292:U:C6	2.56	0.40
1:AA:2315:G:H2'	1:AA:2316:G:C8	2.56	0.40
1:AA:2806:C:H42	1:AA:2892:G:H1	1.70	0.40
3:AC:170:ILE:HG22	3:AC:171:ILE:N	2.37	0.40
4:AD:75:ALA:HB3	4:AD:115:ILE:HD11	2.03	0.40
5:AE:114:LYS:HE2	5:AE:196:ALA:CB	2.52	0.40
9:AI:12:LEU:N	9:AI:12:LEU:HD23	2.36	0.40
10:AJ:125:ARG:HH11	10:AJ:125:ARG:HG3	1.86	0.40
14:AN:5:GLN:HA	14:AN:5:GLN:HE21	1.86	0.40
14:AN:77:ILE:N	14:AN:77:ILE:CD1	2.83	0.40
15:AO:22:GLY:O	15:AO:28:GLY:HA3	2.22	0.40
15:AO:82:LEU:HG	15:AO:90:VAL:HG21	2.03	0.40
15:AO:126:ARG:HH21	15:AO:126:ARG:HG2	1.86	0.40
19:AS:63:ILE:HG23	19:AS:66:GLY:O	2.21	0.40
20:AT:51:GLN:HA	20:AT:54:ARG:HD2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AU:63:VAL:HG11	21:AU:66:HIS:CE1	2.57	0.40
22:AV:8:ARG:NH1	22:AV:8:ARG:CB	2.85	0.40
22:AV:8:ARG:CB	22:AV:8:ARG:HH11	2.34	0.40
24:AX:8:ASP:O	24:AX:24:VAL:HG23	2.21	0.40
35:BA:103:U:OP2	54:BT:8:LYS:HE3	2.21	0.40
35:BA:572:A:H5"	35:BA:917:G:H4'	2.03	0.40
35:BA:574:A:C2'	35:BA:575:G:H5"	2.52	0.40
35:BA:900:A:H2'	35:BA:901:A:C8	2.57	0.40
35:BA:946:A:H2'	35:BA:947:G:H8	1.86	0.40
37:BC:15:LYS:HA	37:BC:15:LYS:CE	2.45	0.40
37:BC:129:PHE:H	37:BC:129:PHE:HD1	1.64	0.40
38:BD:54:LEU:HG	38:BD:57:LYS:HE3	2.04	0.40
39:BE:22:LYS:HB3	39:BE:29:ILE:CG2	2.51	0.40
41:BG:88:VAL:HG22	41:BG:89:GLU:N	2.37	0.40
43:BI:112:ARG:HH22	44:BJ:64:GLN:NE2	2.19	0.40
49:BO:47:LYS:O	49:BO:47:LYS:HG3	2.21	0.40
49:BO:88:ARG:HH11	49:BO:88:ARG:HG3	1.86	0.40
54:BT:73:ARG:HG3	54:BT:73:ARG:HH11	1.86	0.40
58:BZ:468:ILE:HD12	58:BZ:469:ILE:N	2.36	0.40
58:BZ:540:ILE:HD11	58:BZ:578:LEU:HG	2.01	0.40
58:BZ:634:ASP:OD2	58:BZ:666:TYR:CE1	2.75	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	AC	223/233 (96%)	203 (91%)	18 (8%)	2 (1%)	17 57
4	AD	269/272 (99%)	222 (82%)	39 (14%)	8 (3%)	4 28
5	AE	207/209 (99%)	179 (86%)	22 (11%)	6 (3%)	4 29
6	AF	199/201 (99%)	170 (85%)	24 (12%)	5 (2%)	5 32

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	AG	175/178 (98%)	145 (83%)	21 (12%)	9 (5%)	2	19
8	AH	174/176 (99%)	144 (83%)	24 (14%)	6 (3%)	3	26
9	AI	51/149 (34%)	28 (55%)	15 (29%)	8 (16%)	0	3
10	AJ	129/165 (78%)	108 (84%)	16 (12%)	5 (4%)	3	23
11	AK	139/141 (99%)	77 (55%)	39 (28%)	23 (16%)	0	3
12	AL	66/120 (55%)	55 (83%)	10 (15%)	1 (2%)	10	46
13	AM	140/142 (99%)	118 (84%)	21 (15%)	1 (1%)	22	63
14	AN	120/123 (98%)	102 (85%)	13 (11%)	5 (4%)	3	22
15	AO	141/144 (98%)	110 (78%)	21 (15%)	10 (7%)	1	14
16	AP	134/136 (98%)	115 (86%)	15 (11%)	4 (3%)	4	28
17	AQ	118/127 (93%)	98 (83%)	14 (12%)	6 (5%)	2	19
18	AR	114/117 (97%)	95 (83%)	15 (13%)	4 (4%)	3	25
19	AS	112/114 (98%)	94 (84%)	14 (12%)	4 (4%)	3	25
20	AT	115/117 (98%)	104 (90%)	10 (9%)	1 (1%)	17	57
21	AU	101/103 (98%)	81 (80%)	16 (16%)	4 (4%)	3	23
22	AV	108/110 (98%)	88 (82%)	18 (17%)	2 (2%)	8	38
23	AW	91/100 (91%)	79 (87%)	11 (12%)	1 (1%)	14	52
24	AX	100/103 (97%)	76 (76%)	17 (17%)	7 (7%)	1	14
25	AY	92/94 (98%)	85 (92%)	7 (8%)	0	100	100
26	AZ	74/84 (88%)	63 (85%)	10 (14%)	1 (1%)	11	46
27	A1	75/77 (97%)	65 (87%)	10 (13%)	0	100	100
28	A2	61/63 (97%)	51 (84%)	8 (13%)	2 (3%)	4	26
29	A3	56/58 (97%)	53 (95%)	3 (5%)	0	100	100
30	A4	54/56 (96%)	47 (87%)	7 (13%)	0	100	100
31	A5	48/54 (89%)	38 (79%)	8 (17%)	2 (4%)	3	22
32	A6	44/46 (96%)	39 (89%)	5 (11%)	0	100	100
33	A7	62/64 (97%)	52 (84%)	9 (14%)	1 (2%)	9	44
34	A8	36/38 (95%)	28 (78%)	7 (19%)	1 (3%)	5	30
36	BB	216/240 (90%)	140 (65%)	51 (24%)	25 (12%)	0	6
37	BC	204/232 (88%)	169 (83%)	28 (14%)	7 (3%)	3	26
38	BD	203/205 (99%)	161 (79%)	26 (13%)	16 (8%)	1	12

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	BE	148/166 (89%)	111 (75%)	27 (18%)	10 (7%)	1	15
40	BF	98/131 (75%)	71 (72%)	20 (20%)	7 (7%)	1	14
41	BG	149/178 (84%)	123 (83%)	21 (14%)	5 (3%)	3	26
42	BH	127/129 (98%)	112 (88%)	11 (9%)	4 (3%)	4	27
43	BI	125/129 (97%)	95 (76%)	25 (20%)	5 (4%)	3	23
44	BJ	96/103 (93%)	65 (68%)	19 (20%)	12 (12%)	0	5
45	BK	115/128 (90%)	88 (76%)	22 (19%)	5 (4%)	2	22
46	BL	121/123 (98%)	95 (78%)	18 (15%)	8 (7%)	1	15
47	BM	112/117 (96%)	94 (84%)	12 (11%)	6 (5%)	2	19
48	BN	92/100 (92%)	67 (73%)	19 (21%)	6 (6%)	1	16
49	BO	86/88 (98%)	73 (85%)	11 (13%)	2 (2%)	6	34
50	BP	80/82 (98%)	59 (74%)	16 (20%)	5 (6%)	1	17
51	BQ	78/83 (94%)	56 (72%)	14 (18%)	8 (10%)	0	8
52	BR	53/74 (72%)	49 (92%)	4 (8%)	0	100	100
53	BS	77/91 (85%)	56 (73%)	14 (18%)	7 (9%)	1	11
54	BT	83/86 (96%)	69 (83%)	7 (8%)	7 (8%)	1	12
55	BU	49/70 (70%)	29 (59%)	14 (29%)	6 (12%)	0	5
58	BZ	680/711 (96%)	565 (83%)	76 (11%)	39 (6%)	1	18
59	BY	2/6 (33%)	1 (50%)	1 (50%)	0	100	100
All	All	6622/7186 (92%)	5360 (81%)	943 (14%)	319 (5%)	4	21

All (319) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	AE	104	VAL
8	AH	37	ASN
8	AH	118	ALA
9	AI	3	VAL
9	AI	9	VAL
9	AI	10	ALA
9	AI	12	LEU
11	AK	62	ALA
11	AK	92	PRO
15	AO	115	GLU
19	AS	113	LEU

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Mol	Chain	Res	Type
21	AU	43	ASN
28	A2	24	GLU
36	BB	15	PHE
36	BB	33	ALA
36	BB	86	CYS
36	BB	94	ARG
36	BB	163	ILE
38	BD	32	LYS
38	BD	36	ALA
38	BD	151	GLN
38	BD	190	LEU
38	BD	191	SER
39	BE	103	GLY
39	BE	104	ILE
39	BE	119	VAL
40	BF	91	ARG
41	BG	129	ASN
43	BI	8	THR
43	BI	71	ILE
43	BI	90	ASP
44	BJ	57	VAL
44	BJ	101	SER
46	BL	41	PRO
47	BM	3	ILE
47	BM	40	GLU
48	BN	49	GLN
48	BN	52	PRO
53	BS	5	LYS
53	BS	64	GLU
54	BT	5	SER
54	BT	6	ALA
54	BT	66	ILE
54	BT	68	LYS
54	BT	69	ASN
58	BZ	89	THR
58	BZ	90	PRO
58	BZ	95	PHE
58	BZ	198	GLN
58	BZ	210	ASP
58	BZ	414	PRO
58	BZ	454	ASN
58	BZ	485	LYS

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Mol	Chain	Res	Type
58	BZ	585	ASP
58	BZ	586	VAL
58	BZ	624	PRO
58	BZ	690	ALA
58	BZ	692	SER
4	AD	35	LYS
7	AG	11	VAL
7	AG	20	ASN
8	AH	38	ASP
8	AH	60	GLY
8	AH	117	PRO
9	AI	11	ASN
9	AI	14	SER
9	AI	28	ASN
10	AJ	68	PRO
11	AK	6	ALA
11	AK	100	ILE
12	AL	82	LYS
13	AM	82	GLY
14	AN	35	VAL
17	AQ	113	ILE
18	AR	88	LYS
21	AU	55	ASP
22	AV	11	ARG
24	AX	16	LYS
36	BB	12	GLY
36	BB	74	ALA
36	BB	153	MET
36	BB	158	ASP
36	BB	192	PRO
37	BC	65	VAL
37	BC	165	GLU
40	BF	36	ILE
41	BG	80	GLY
41	BG	130	LYS
42	BH	65	PHE
42	BH	66	GLN
42	BH	87	ARG
44	BJ	61	ALA
44	BJ	62	ARG
45	BK	72	ALA
46	BL	25	ALA

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Mol	Chain	Res	Type
46	BL	44	PRO
46	BL	87	LYS
46	BL	88	ASP
47	BM	105	ALA
47	BM	113	LYS
48	BN	53	ARG
51	BQ	8	GLN
51	BQ	12	VAL
51	BQ	19	SER
51	BQ	68	LYS
51	BQ	69	THR
53	BS	27	LYS
55	BU	23	GLU
55	BU	37	TYR
58	BZ	66	ALA
58	BZ	93	VAL
58	BZ	118	GLY
58	BZ	388	LEU
58	BZ	408	ARG
58	BZ	483	VAL
58	BZ	490	TYR
58	BZ	500	ASP
58	BZ	501	VAL
58	BZ	532	LYS
58	BZ	587	ASP
3	AC	106	LYS
4	AD	167	ASP
4	AD	204	LEU
5	AE	86	GLU
5	AE	174	SER
7	AG	106	ALA
7	AG	174	PHE
7	AG	175	PRO
10	AJ	105	LYS
11	AK	20	SER
11	AK	51	GLY
11	AK	64	ARG
11	AK	88	GLY
11	AK	97	VAL
14	AN	91	SER
14	AN	120	PRO
15	AO	15	ALA

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Mol	Chain	Res	Type
17	AQ	3	HIS
17	AQ	119	SER
19	AS	75	THR
21	AU	48	LYS
24	AX	51	LEU
24	AX	97	SER
24	AX	98	ASN
31	A5	50	GLU
34	A8	10	LEU
36	BB	81	ASP
36	BB	193	ASP
37	BC	60	ALA
37	BC	145	ALA
38	BD	166	LYS
39	BE	77	ASN
39	BE	89	THR
40	BF	56	LYS
42	BH	96	ALA
43	BI	52	GLU
44	BJ	75	ASP
45	BK	40	ALA
45	BK	88	PRO
46	BL	117	GLY
47	BM	4	ALA
47	BM	104	ASN
49	BO	2	LEU
49	BO	72	LYS
50	BP	80	LYS
51	BQ	5	ARG
54	BT	3	ILE
55	BU	9	GLU
58	BZ	117	GLY
58	BZ	355	ALA
58	BZ	401	ASP
58	BZ	415	VAL
58	BZ	478	ASN
58	BZ	582	SER
58	BZ	664	PHE
58	BZ	691	PRO
4	AD	194	VAL
4	AD	243	PRO
5	AE	149	ASN

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Mol	Chain	Res	Type
6	AF	129	PRO
7	AG	133	GLU
7	AG	173	ASP
9	AI	33	GLN
11	AK	7	TYR
11	AK	34	ILE
11	AK	59	THR
11	AK	87	SER
11	AK	116	MET
11	AK	122	GLU
15	AO	111	ILE
16	AP	70	ASP
17	AQ	33	ILE
18	AR	100	HIS
19	AS	15	ASP
20	AT	90	ASP
23	AW	72	GLN
24	AX	38	ILE
28	A2	36	GLN
36	BB	35	ASN
36	BB	37	VAL
36	BB	75	ALA
36	BB	95	TRP
36	BB	128	LEU
36	BB	151	LYS
36	BB	182	VAL
37	BC	176	THR
38	BD	35	GLN
38	BD	119	HIS
38	BD	124	VAL
38	BD	159	GLU
38	BD	160	LEU
38	BD	167	PRO
39	BE	23	THR
39	BE	98	ALA
39	BE	102	THR
41	BG	16	LYS
43	BI	120	ALA
44	BJ	17	LEU
44	BJ	36	VAL
45	BK	51	PHE
46	BL	28	GLN

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Mol	Chain	Res	Type
48	BN	2	LYS
48	BN	22	LYS
48	BN	62	ASN
50	BP	49	GLY
51	BQ	50	ASN
53	BS	7	GLY
53	BS	54	ARG
53	BS	71	GLY
55	BU	8	ASN
55	BU	24	LYS
55	BU	36	PHE
58	BZ	423	LYS
58	BZ	649	VAL
4	AD	104	LEU
5	AE	148	GLN
6	AF	6	LYS
6	AF	161	ALA
10	AJ	52	MET
10	AJ	106	PHE
10	AJ	119	PRO
11	AK	44	LYS
14	AN	119	ALA
15	AO	29	LYS
15	AO	36	LYS
17	AQ	71	ARG
17	AQ	109	PRO
18	AR	89	ASP
19	AS	94	ALA
22	AV	12	SER
24	AX	88	ASP
26	AZ	7	ARG
36	BB	125	PHE
36	BB	146	SER
36	BB	157	PRO
37	BC	154	GLY
38	BD	100	VAL
39	BE	97	PRO
40	BF	6	ILE
40	BF	50	PRO
40	BF	54	LEU
40	BF	93	LYS
41	BG	89	GLU

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Mol	Chain	Res	Type
44	BJ	41	PRO
45	BK	126	ARG
53	BS	29	PRO
58	BZ	199	GLY
5	AE	139	SER
11	AK	120	ASP
15	AO	10	GLU
16	AP	69	PRO
18	AR	114	GLY
21	AU	53	PHE
31	A5	5	ARG
37	BC	2	GLN
38	BD	45	PRO
44	BJ	42	LEU
50	BP	44	SER
50	BP	78	VAL
11	AK	121	ILE
15	AO	89	VAL
24	AX	89	GLY
36	BB	91	VAL
36	BB	150	ILE
44	BJ	43	PRO
46	BL	97	VAL
58	BZ	609	LYS
4	AD	195	GLY
7	AG	148	VAL
11	AK	31	GLY
11	AK	53	PRO
15	AO	31	GLY
15	AO	101	ILE
16	AP	98	PRO
44	BJ	74	VAL
51	BQ	11	VAL
3	AC	39	VAL
6	AF	177	PRO
14	AN	93	GLN
15	AO	87	GLY
33	A7	19	GLY
36	BB	97	GLY
38	BD	27	ILE
39	BE	101	GLY
44	BJ	95	GLY

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Mol	Chain	Res	Type
50	BP	36	VAL
58	BZ	91	GLY
4	AD	63	ILE
7	AG	12	VAL
8	AH	53	PRO
11	AK	28	GLY
16	AP	15	GLY
38	BD	63	ILE
6	AF	151	GLY
11	AK	25	PRO
11	AK	90	GLY
54	BT	64	GLY
58	BZ	403	PRO
58	BZ	479	VAL

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	AC	175/180 (97%)	173 (99%)	2 (1%)	73	84
4	AD	216/217 (100%)	213 (99%)	3 (1%)	67	80
5	AE	164/164 (100%)	162 (99%)	2 (1%)	71	83
6	AF	165/165 (100%)	165 (100%)	0	100	100
7	AG	148/149 (99%)	145 (98%)	3 (2%)	55	74
8	AH	137/137 (100%)	132 (96%)	5 (4%)	35	59
9	AI	42/114 (37%)	39 (93%)	3 (7%)	14	39
10	AJ	100/123 (81%)	99 (99%)	1 (1%)	76	86
11	AK	109/109 (100%)	98 (90%)	11 (10%)	7	25
12	AL	47/84 (56%)	46 (98%)	1 (2%)	53	72
13	AM	116/116 (100%)	113 (97%)	3 (3%)	46	66
14	AN	103/104 (99%)	102 (99%)	1 (1%)	76	86
15	AO	102/103 (99%)	100 (98%)	2 (2%)	55	74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	AP	109/109 (100%)	106 (97%)	3 (3%)	43	65
17	AQ	100/103 (97%)	96 (96%)	4 (4%)	31	55
18	AR	86/87 (99%)	85 (99%)	1 (1%)	71	83
19	AS	99/99 (100%)	97 (98%)	2 (2%)	55	74
20	AT	89/89 (100%)	89 (100%)	0	100	100
21	AU	84/84 (100%)	82 (98%)	2 (2%)	49	69
22	AV	93/93 (100%)	93 (100%)	0	100	100
23	AW	80/84 (95%)	77 (96%)	3 (4%)	33	57
24	AX	83/84 (99%)	78 (94%)	5 (6%)	19	44
25	AY	78/78 (100%)	76 (97%)	2 (3%)	46	66
26	AZ	56/62 (90%)	55 (98%)	1 (2%)	59	77
27	A1	67/67 (100%)	66 (98%)	1 (2%)	65	80
28	A2	55/55 (100%)	54 (98%)	1 (2%)	59	77
29	A3	48/48 (100%)	47 (98%)	1 (2%)	53	72
30	A4	47/47 (100%)	45 (96%)	2 (4%)	29	53
31	A5	45/48 (94%)	45 (100%)	0	100	100
32	A6	38/38 (100%)	38 (100%)	0	100	100
33	A7	51/51 (100%)	50 (98%)	1 (2%)	55	74
34	A8	34/34 (100%)	34 (100%)	0	100	100
36	BB	180/198 (91%)	168 (93%)	12 (7%)	16	41
37	BC	170/189 (90%)	162 (95%)	8 (5%)	26	51
38	BD	172/172 (100%)	159 (92%)	13 (8%)	13	37
39	BE	113/125 (90%)	109 (96%)	4 (4%)	36	59
40	BF	87/112 (78%)	84 (97%)	3 (3%)	37	60
41	BG	124/146 (85%)	119 (96%)	5 (4%)	31	55
42	BH	104/104 (100%)	101 (97%)	3 (3%)	42	64
43	BI	105/106 (99%)	96 (91%)	9 (9%)	10	32
44	BJ	86/90 (96%)	83 (96%)	3 (4%)	36	59
45	BK	90/98 (92%)	84 (93%)	6 (7%)	16	41
46	BL	103/103 (100%)	101 (98%)	2 (2%)	57	75
47	BM	92/95 (97%)	89 (97%)	3 (3%)	38	61

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
48	BN	79/83 (95%)	73 (92%)	6 (8%)	13	37
49	BO	76/76 (100%)	73 (96%)	3 (4%)	32	56
50	BP	65/65 (100%)	62 (95%)	3 (5%)	27	52
51	BQ	74/77 (96%)	69 (93%)	5 (7%)	16	41
52	BR	48/64 (75%)	47 (98%)	1 (2%)	53	72
53	BS	70/78 (90%)	66 (94%)	4 (6%)	20	45
54	BT	65/65 (100%)	62 (95%)	3 (5%)	27	52
55	BU	44/60 (73%)	40 (91%)	4 (9%)	9	29
58	BZ	563/585 (96%)	539 (96%)	24 (4%)	29	53
59	BY	2/2 (100%)	2 (100%)	0	100	100
All	All	5478/5818 (94%)	5288 (96%)	190 (4%)	39	59

All (190) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	AC	167	LYS
3	AC	172	HIS
4	AD	96	LYS
4	AD	166	ARG
4	AD	212	TRP
5	AE	141	ARG
5	AE	183	GLU
7	AG	20	ASN
7	AG	41	GLU
7	AG	43	ILE
8	AH	72	ASN
8	AH	100	ASN
8	AH	123	GLU
8	AH	138	GLN
8	AH	154	GLU
9	AI	15	LEU
9	AI	28	ASN
9	AI	50	ARG
10	AJ	47	GLU
11	AK	7	TYR
11	AK	11	GLN
11	AK	18	ASN
11	AK	30	GLN

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Mol	Chain	Res	Type
11	AK	33	ASN
11	AK	39	LYS
11	AK	66	PHE
11	AK	71	LYS
11	AK	86	LYS
11	AK	94	LYS
11	AK	107	GLU
12	AL	83	GLU
13	AM	43	GLU
13	AM	98	GLU
13	AM	116	ARG
14	AN	58	LEU
15	AO	126	ARG
15	AO	144	GLU
16	AP	16	ARG
16	AP	47	GLU
16	AP	115	GLU
17	AQ	2	ARG
17	AQ	13	ASN
17	AQ	69	ARG
17	AQ	114	GLU
18	AR	112	GLU
19	AS	2	ASN
19	AS	108	ARG
21	AU	43	ASN
21	AU	46	GLU
23	AW	28	ASN
23	AW	49	LYS
23	AW	77	ARG
24	AX	20	LYS
24	AX	25	LYS
24	AX	51	LEU
24	AX	60	LYS
24	AX	73	ASN
25	AY	10	LYS
25	AY	29	ILE
26	AZ	16	ARG
27	A1	76	LYS
28	A2	58	ASN
29	A3	2	LYS
30	A4	9	ARG
30	A4	37	HIS

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Mol	Chain	Res	Type
33	A7	29	ARG
36	BB	14	HIS
36	BB	18	GLN
36	BB	40	ILE
36	BB	48	MET
36	BB	49	PHE
36	BB	65	LYS
36	BB	90	PHE
36	BB	125	PHE
36	BB	135	MET
36	BB	206	ILE
36	BB	207	ARG
36	BB	224	ARG
37	BC	2	GLN
37	BC	13	ILE
37	BC	26	LYS
37	BC	27	GLU
37	BC	106	ARG
37	BC	130	ARG
37	BC	166	TRP
37	BC	167	TYR
38	BD	34	GLU
38	BD	47	LEU
38	BD	55	ARG
38	BD	57	LYS
38	BD	82	LYS
38	BD	103	ARG
38	BD	122	ILE
38	BD	127	ARG
38	BD	140	ASP
38	BD	146	GLU
38	BD	160	LEU
38	BD	162	GLU
38	BD	205	LYS
39	BE	9	GLU
39	BE	72	ASN
39	BE	121	ASN
39	BE	131	ASN
40	BF	63	ASN
40	BF	69	GLU
40	BF	73	GLU
41	BG	3	ARG

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Mol	Chain	Res	Type
41	BG	77	ARG
41	BG	78	ARG
41	BG	89	GLU
41	BG	135	LYS
42	BH	21	LYS
42	BH	116	ARG
42	BH	120	LEU
43	BI	6	TYR
43	BI	11	ARG
43	BI	21	LYS
43	BI	48	ARG
43	BI	56	MET
43	BI	67	LYS
43	BI	89	TYR
43	BI	128	LYS
43	BI	129	ARG
44	BJ	27	GLU
44	BJ	59	LYS
44	BJ	89	ARG
45	BK	75	GLU
45	BK	100	ASN
45	BK	106	ILE
45	BK	125	LYS
45	BK	126	ARG
45	BK	127	ARG
46	BL	28	GLN
46	BL	43	LYS
47	BM	3	ILE
47	BM	28	ARG
47	BM	71	GLU
48	BN	3	GLN
48	BN	6	LYS
48	BN	25	GLU
48	BN	49	GLN
48	BN	62	ASN
48	BN	63	ARG
49	BO	16	ARG
49	BO	25	GLU
49	BO	47	LYS
50	BP	1	MET
50	BP	46	LYS
50	BP	76	LYS

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Mol	Chain	Res	Type
51	BQ	3	LYS
51	BQ	16	MET
51	BQ	51	GLU
51	BQ	54	ILE
51	BQ	76	ARG
52	BR	29	LYS
53	BS	5	LYS
53	BS	55	GLN
53	BS	64	GLU
53	BS	70	LEU
54	BT	4	LYS
54	BT	75	LYS
54	BT	83	ASN
55	BU	4	LYS
55	BU	11	PHE
55	BU	19	LYS
55	BU	35	GLU
58	BZ	90	PRO
58	BZ	92	HIS
58	BZ	95	PHE
58	BZ	97	ILE
58	BZ	98	GLU
58	BZ	100	GLU
58	BZ	106	LEU
58	BZ	107	ASP
58	BZ	137	ARG
58	BZ	171	LEU
58	BZ	185	LEU
58	BZ	247	GLU
58	BZ	286	LEU
58	BZ	410	GLU
58	BZ	428	GLN
58	BZ	446	ARG
58	BZ	475	ARG
58	BZ	476	GLU
58	BZ	487	GLN
58	BZ	553	VAL
58	BZ	583	TYR
58	BZ	587	ASP
58	BZ	607	LYS
58	BZ	652	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (168)

such sidechains are listed below:

Mol	Chain	Res	Type
3	AC	57	GLN
3	AC	58	ASN
3	AC	67	HIS
4	AD	20	ASN
4	AD	45	ASN
4	AD	85	ASN
4	AD	89	ASN
4	AD	114	GLN
4	AD	133	ASN
4	AD	162	GLN
4	AD	238	ASN
4	AD	250	GLN
5	AE	94	GLN
5	AE	140	HIS
6	AF	97	ASN
6	AF	163	ASN
7	AG	20	ASN
7	AG	51	ASN
7	AG	62	GLN
7	AG	80	GLN
8	AH	21	GLN
8	AH	100	ASN
9	AI	28	ASN
9	AI	33	GLN
9	AI	43	ASN
10	AJ	6	GLN
11	AK	11	GLN
11	AK	18	ASN
11	AK	29	GLN
11	AK	30	GLN
11	AK	33	ASN
11	AK	42	ASN
11	AK	104	GLN
11	AK	110	GLN
13	AM	77	HIS
13	AM	128	ASN
13	AM	135	GLN
13	AM	138	GLN
14	AN	5	GLN
14	AN	13	ASN
14	AN	29	HIS
14	AN	93	GLN

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Mol	Chain	Res	Type
15	AO	54	GLN
16	AP	60	GLN
17	AQ	3	HIS
17	AQ	9	GLN
17	AQ	13	ASN
17	AQ	18	GLN
17	AQ	62	ASN
18	AR	29	HIS
18	AR	38	GLN
18	AR	98	GLN
19	AS	2	ASN
19	AS	6	GLN
19	AS	40	GLN
19	AS	74	GLN
19	AS	114	ASN
20	AT	43	GLN
20	AT	51	GLN
20	AT	71	ASN
21	AU	12	HIS
21	AU	18	GLN
21	AU	43	ASN
21	AU	87	GLN
22	AV	31	GLN
22	AV	57	ASN
23	AW	28	ASN
23	AW	59	ASN
23	AW	91	GLN
24	AX	39	ASN
24	AX	68	ASN
24	AX	73	ASN
26	AZ	53	HIS
27	A1	5	GLN
27	A1	31	ASN
28	A2	15	ASN
28	A2	20	ASN
28	A2	25	GLN
28	A2	27	ASN
28	A2	31	GLN
28	A2	39	GLN
28	A2	41	HIS
28	A2	58	ASN
29	A3	8	GLN

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Mol	Chain	Res	Type
30	A4	3	GLN
30	A4	4	GLN
30	A4	5	ASN
30	A4	18	HIS
32	A6	6	GLN
32	A6	13	ASN
36	BB	14	HIS
36	BB	50	ASN
36	BB	176	ASN
36	BB	189	ASN
37	BC	5	HIS
37	BC	24	ASN
37	BC	139	ASN
38	BD	53	GLN
38	BD	73	ASN
38	BD	88	ASN
38	BD	115	GLN
38	BD	197	HIS
39	BE	69	ASN
39	BE	72	ASN
39	BE	82	HIS
39	BE	96	GLN
39	BE	121	ASN
39	BE	131	ASN
39	BE	134	ASN
40	BF	3	HIS
40	BF	46	GLN
40	BF	52	ASN
40	BF	55	HIS
40	BF	81	ASN
41	BG	67	ASN
41	BG	85	GLN
41	BG	121	ASN
41	BG	129	ASN
41	BG	147	ASN
43	BI	49	GLN
43	BI	80	HIS
43	BI	125	GLN
44	BJ	20	GLN
44	BJ	99	GLN
45	BK	14	GLN
45	BK	21	HIS

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Mol	Chain	Res	Type
45	BK	28	ASN
45	BK	118	ASN
46	BL	5	GLN
46	BL	72	ASN
46	BL	111	GLN
47	BM	7	ASN
47	BM	13	HIS
48	BN	34	ASN
48	BN	62	ASN
48	BN	66	GLN
49	BO	36	ASN
49	BO	45	HIS
49	BO	49	HIS
49	BO	61	GLN
50	BP	18	GLN
50	BP	26	ASN
51	BQ	8	GLN
52	BR	53	GLN
54	BT	47	GLN
54	BT	54	GLN
54	BT	69	ASN
54	BT	77	ASN
54	BT	83	ASN
58	BZ	82	HIS
58	BZ	122	GLN
58	BZ	129	GLN
58	BZ	131	ASN
58	BZ	142	ASN
58	BZ	150	ASN
58	BZ	157	GLN
58	BZ	165	ASN
58	BZ	170	GLN
58	BZ	258	ASN
58	BZ	276	GLN
58	BZ	296	ASN
58	BZ	454	ASN
58	BZ	455	GLN
58	BZ	465	HIS
58	BZ	487	GLN
58	BZ	514	GLN
58	BZ	530	ASN
58	BZ	579	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	2894/2903 (99%)	291 (10%)	4 (0%)
2	AB	118/119 (99%)	11 (9%)	0
35	BA	1537/1542 (99%)	164 (10%)	4 (0%)
56	BV	75/76 (98%)	15 (20%)	1 (1%)
56	BW	75/76 (98%)	11 (14%)	0
57	BX	17/18 (94%)	3 (17%)	0
All	All	4716/4734 (99%)	495 (10%)	9 (0%)

All (495) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	10	A
1	AA	34	U
1	AA	35	G
1	AA	46	G
1	AA	74	A
1	AA	75	G
1	AA	101	A
1	AA	119	A
1	AA	120	U
1	AA	125	A
1	AA	138	U
1	AA	139	U
1	AA	140	C
1	AA	141	G
1	AA	142	A
1	AA	181	A
1	AA	188	G
1	AA	196	A
1	AA	216	A
1	AA	221	A
1	AA	222	A
1	AA	248	G
1	AA	255	A
1	AA	266	G
1	AA	277	G
1	AA	278	A
1	AA	302	C
1	AA	311	A
1	AA	329	G
1	AA	330	A

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Mol	Chain	Res	Type
1	AA	331	C
1	AA	371	A
1	AA	372	G
1	AA	386	G
1	AA	396	G
1	AA	405	U
1	AA	411	G
1	AA	424	G
1	AA	455	C
1	AA	456	C
1	AA	457	A
1	AA	480	A
1	AA	481	G
1	AA	490	C
1	AA	491	G
1	AA	504	A
1	AA	505	A
1	AA	508	A
1	AA	531	C
1	AA	532	A
1	AA	544	C
1	AA	546	U
1	AA	547	A
1	AA	548	G
1	AA	550	C
1	AA	563	A
1	AA	572	A
1	AA	573	U
1	AA	574	A
1	AA	586	A
1	AA	603	A
1	AA	613	A
1	AA	614	A
1	AA	615	U
1	AA	627	A
1	AA	631	A
1	AA	637	A
1	AA	647	G
1	AA	654	A
1	AA	655	A
1	AA	686	U
1	AA	702	U

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Mol	Chain	Res	Type
1	AA	730	A
1	AA	747	U
1	AA	748	G
1	AA	775	G
1	AA	776	G
1	AA	782	A
1	AA	784	G
1	AA	785	G
1	AA	791	C
1	AA	801	G
1	AA	805	G
1	AA	812	C
1	AA	819	A
1	AA	827	U
1	AA	828	U
1	AA	830	G
1	AA	845	A
1	AA	846	U
1	AA	847	U
1	AA	858	G
1	AA	878	A
1	AA	890	C
1	AA	896	A
1	AA	910	A
1	AA	931	U
1	AA	932	U
1	AA	933	A
1	AA	941	A
1	AA	946	C
1	AA	959	A
1	AA	961	C
1	AA	974	G
1	AA	983	A
1	AA	995	C
1	AA	996	A
1	AA	1012	U
1	AA	1013	C
1	AA	1022	G
1	AA	1026	G
1	AA	1033	U
1	AA	1040	A
1	AA	1046	A

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Mol	Chain	Res	Type
1	AA	1047	G
1	AA	1053	C
1	AA	1054	A
1	AA	1062	G
1	AA	1067	A
1	AA	1070	A
1	AA	1073	A
1	AA	1076	C
1	AA	1088	A
1	AA	1132	U
1	AA	1133	A
1	AA	1135	C
1	AA	1136	G
1	AA	1142	A
1	AA	1143	A
1	AA	1157	G
1	AA	1168	G
1	AA	1174	U
1	AA	1175	A
1	AA	1176	U
1	AA	1180	U
1	AA	1206	G
1	AA	1248	G
1	AA	1250	G
1	AA	1253	A
1	AA	1256	G
1	AA	1266	G
1	AA	1271	G
1	AA	1272	A
1	AA	1300	G
1	AA	1301	A
1	AA	1302	A
1	AA	1365	A
1	AA	1372	U
1	AA	1379	U
1	AA	1383	A
1	AA	1416	G
1	AA	1420	A
1	AA	1452	G
1	AA	1458	U
1	AA	1461	C
1	AA	1463	C

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Mol	Chain	Res	Type
1	AA	1482	G
1	AA	1493	C
1	AA	1494	A
1	AA	1509	A
1	AA	1510	G
1	AA	1515	A
1	AA	1535	A
1	AA	1536	C
1	AA	1547	C
1	AA	1555	G
1	AA	1569	A
1	AA	1583	A
1	AA	1585	C
1	AA	1607	C
1	AA	1608	A
1	AA	1616	A
1	AA	1647	U
1	AA	1648	U
1	AA	1674	G
1	AA	1699	G
1	AA	1715	G
1	AA	1729	U
1	AA	1730	C
1	AA	1738	G
1	AA	1764	C
1	AA	1773	A
1	AA	1800	C
1	AA	1808	A
1	AA	1816	C
1	AA	1839	G
1	AA	1870	C
1	AA	1872	A
1	AA	1885	A
1	AA	1907	G
1	AA	1913	A
1	AA	1925	C
1	AA	1930	G
1	AA	1931	U
1	AA	1937	A
1	AA	1938	A
1	AA	1944	U
1	AA	1955	U

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Mol	Chain	Res	Type
1	AA	1963	U
1	AA	1967	C
1	AA	1970	A
1	AA	1972	G
1	AA	1991	U
1	AA	1992	G
1	AA	1993	U
1	AA	2022	U
1	AA	2023	C
1	AA	2030	A
1	AA	2031	A
1	AA	2043	C
1	AA	2055	C
1	AA	2060	A
1	AA	2061	G
1	AA	2062	A
1	AA	2069	G
1	AA	2110	G
1	AA	2111	U
1	AA	2112	G
1	AA	2116	G
1	AA	2118	U
1	AA	2119	A
1	AA	2128	G
1	AA	2132	U
1	AA	2133	G
1	AA	2146	C
1	AA	2147	A
1	AA	2158	A
1	AA	2162	G
1	AA	2164	C
1	AA	2170	A
1	AA	2171	A
1	AA	2172	U
1	AA	2173	A
1	AA	2198	A
1	AA	2203	U
1	AA	2204	G
1	AA	2211	A
1	AA	2213	U
1	AA	2225	A
1	AA	2238	G

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Mol	Chain	Res	Type
1	AA	2239	G
1	AA	2283	C
1	AA	2287	A
1	AA	2288	A
1	AA	2297	A
1	AA	2305	U
1	AA	2325	G
1	AA	2331	G
1	AA	2335	A
1	AA	2383	G
1	AA	2385	C
1	AA	2402	U
1	AA	2406	A
1	AA	2425	A
1	AA	2426	A
1	AA	2429	G
1	AA	2430	A
1	AA	2435	A
1	AA	2441	U
1	AA	2448	A
1	AA	2476	A
1	AA	2491	U
1	AA	2502	G
1	AA	2504	U
1	AA	2505	G
1	AA	2518	A
1	AA	2529	G
1	AA	2554	U
1	AA	2566	A
1	AA	2567	G
1	AA	2573	C
1	AA	2585	U
1	AA	2609	U
1	AA	2613	U
1	AA	2629	U
1	AA	2689	U
1	AA	2690	U
1	AA	2714	G
1	AA	2726	A
1	AA	2729	G
1	AA	2744	G
1	AA	2748	A

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Mol	Chain	Res	Type
1	AA	2765	A
1	AA	2778	A
1	AA	2791	G
1	AA	2798	U
1	AA	2800	A
1	AA	2801	G
1	AA	2820	A
1	AA	2867	G
1	AA	2880	C
2	AB	15	A
2	AB	35	C
2	AB	36	C
2	AB	41	G
2	AB	44	G
2	AB	56	G
2	AB	66	A
2	AB	89	U
2	AB	90	C
2	AB	99	A
2	AB	109	A
35	BA	9	G
35	BA	31	G
35	BA	32	A
35	BA	39	G
35	BA	47	C
35	BA	48	C
35	BA	51	A
35	BA	70	U
35	BA	71	A
35	BA	72	A
35	BA	75	G
35	BA	82	G
35	BA	83	C
35	BA	85	U
35	BA	86	G
35	BA	89	U
35	BA	90	C
35	BA	91	U
35	BA	97	G
35	BA	108	G
35	BA	109	A
35	BA	116	A

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Mol	Chain	Res	Type
35	BA	121	U
35	BA	130	A
35	BA	131	A
35	BA	144	G
35	BA	159	G
35	BA	168	G
35	BA	197	A
35	BA	205	A
35	BA	210	C
35	BA	247	G
35	BA	251	G
35	BA	262	A
35	BA	266	G
35	BA	267	C
35	BA	279	A
35	BA	289	G
35	BA	328	C
35	BA	329	A
35	BA	332	G
35	BA	346	G
35	BA	352	C
35	BA	354	G
35	BA	367	U
35	BA	372	C
35	BA	406	G
35	BA	411	A
35	BA	412	A
35	BA	413	G
35	BA	414	A
35	BA	421	U
35	BA	422	C
35	BA	423	G
35	BA	429	U
35	BA	467	U
35	BA	468	A
35	BA	481	G
35	BA	484	G
35	BA	485	U
35	BA	486	U
35	BA	497	G
35	BA	518	C
35	BA	532	A

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Mol	Chain	Res	Type
35	BA	533	A
35	BA	547	A
35	BA	559	A
35	BA	562	U
35	BA	572	A
35	BA	573	A
35	BA	576	C
35	BA	577	G
35	BA	633	G
35	BA	650	G
35	BA	665	A
35	BA	721	G
35	BA	723	U
35	BA	724	G
35	BA	755	G
35	BA	777	A
35	BA	793	U
35	BA	794	A
35	BA	817	C
35	BA	818	G
35	BA	821	G
35	BA	828	U
35	BA	841	C
35	BA	842	U
35	BA	843	U
35	BA	845	A
35	BA	846	G
35	BA	859	G
35	BA	873	A
35	BA	914	A
35	BA	926	G
35	BA	927	G
35	BA	934	C
35	BA	935	A
35	BA	960	U
35	BA	969	A
35	BA	975	A
35	BA	976	G
35	BA	977	A
35	BA	983	A
35	BA	993	G
35	BA	1004	A

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Mol	Chain	Res	Type
35	BA	1008	U
35	BA	1030	U
35	BA	1032	G
35	BA	1034	G
35	BA	1050	G
35	BA	1053	G
35	BA	1054	C
35	BA	1065	U
35	BA	1086	U
35	BA	1094	G
35	BA	1095	U
35	BA	1101	A
35	BA	1102	A
35	BA	1136	C
35	BA	1137	C
35	BA	1138	G
35	BA	1139	G
35	BA	1140	C
35	BA	1141	C
35	BA	1142	G
35	BA	1146	A
35	BA	1152	A
35	BA	1159	U
35	BA	1160	G
35	BA	1161	C
35	BA	1169	A
35	BA	1182	G
35	BA	1183	U
35	BA	1184	G
35	BA	1196	A
35	BA	1197	A
35	BA	1202	U
35	BA	1212	U
35	BA	1213	A
35	BA	1214	C
35	BA	1227	A
35	BA	1257	A
35	BA	1280	A
35	BA	1286	U
35	BA	1287	A
35	BA	1299	A
35	BA	1302	C

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Mol	Chain	Res	Type
35	BA	1305	G
35	BA	1317	C
35	BA	1332	A
35	BA	1363	A
35	BA	1364	U
35	BA	1378	C
35	BA	1398	A
35	BA	1441	A
35	BA	1446	A
35	BA	1492	A
35	BA	1503	A
35	BA	1505	G
35	BA	1517	G
35	BA	1529	G
35	BA	1530	G
35	BA	1533	C
56	BV	9	A
56	BV	16	U
56	BV	17	C
56	BV	18	G
56	BV	19	G
56	BV	20	U
56	BV	21	A
56	BV	23	A
56	BV	34	G
56	BV	42	C
56	BV	43	C
56	BV	47	U
56	BV	48	C
56	BV	59	U
56	BV	74	C
56	BW	8	U
56	BW	18	G
56	BW	19	G
56	BW	21	A
56	BW	22	G
56	BW	37	A
56	BW	47	U
56	BW	48	C
56	BW	58	A
56	BW	59	U
56	BW	61	C

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Mol	Chain	Res	Type
57	BX	12	A
57	BX	13	A
57	BX	14	A

All (9) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	1052	C
1	AA	1378	A
1	AA	2157	G
1	AA	2425	A
35	BA	74	A
35	BA	115	G
35	BA	1101	A
35	BA	1201	A
56	BV	15	G

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

4 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
59	KBE	BY	1	59	8,8,9	0.58	0	7,8,10	0.88	0
59	DPP	BY	2	59	3,5,6	0.53	0	1,5,7	0.28	0
59	UAL	BY	5	59	7,8,9	2.26	3 (42%)	5,9,11	2.68	2 (40%)
59	5OH	BY	6	59	8,12,13	0.71	0	3,16,18	2.00	1 (33%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
59	KBE	BY	1	59	-	1/7/7/8	-
59	DPP	BY	2	59	-	0/2/4/6	-
59	UAL	BY	5	59	-	0/3/7/9	-
59	5OH	BY	6	59	-	0/2/18/20	0/1/1/1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	BY	5	UAL	C1-N1	-4.01	1.34	1.40
59	BY	5	UAL	C-CA	-3.72	1.39	1.45
59	BY	5	UAL	CA-N	2.17	1.40	1.35

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
59	BY	5	UAL	CA-CB-N1	-5.09	116.00	125.60
59	BY	6	5OH	CR-CB-CA	-3.14	109.22	112.61
59	BY	5	UAL	O-C-CA	-2.75	121.90	125.39

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
59	BY	1	KBE	C-CA-CB-N

There are no ring outliers.

3 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
59	BY	1	KBE	2	0
59	BY	5	UAL	3	0
59	BY	6	5OH	7	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	AA	3
35	BA	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AA	1916:A	O3'	1917:U	P	2.39
1	BA	867:G	O3'	868:C	P	1.80
1	AA	867:C	O3'	868:U	P	1.76
1	AA	1911:U	O3'	1912:A	P	1.01

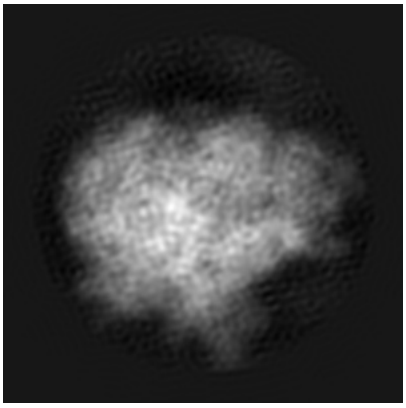
6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-5800. These allow visual inspection of the internal detail of the map and identification of artifacts.

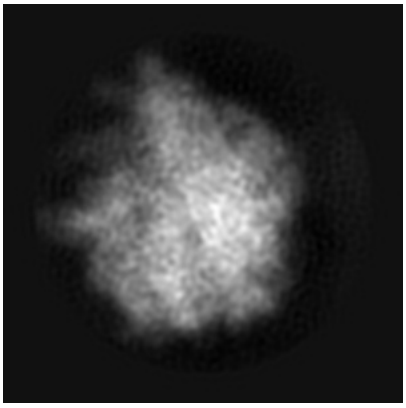
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections (i)

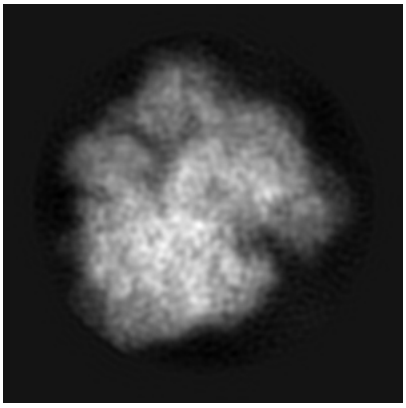
6.1.1 Primary map



X



Y

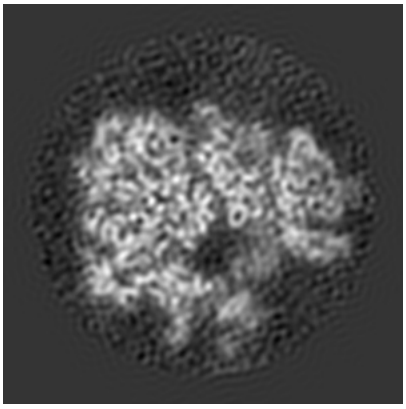


Z

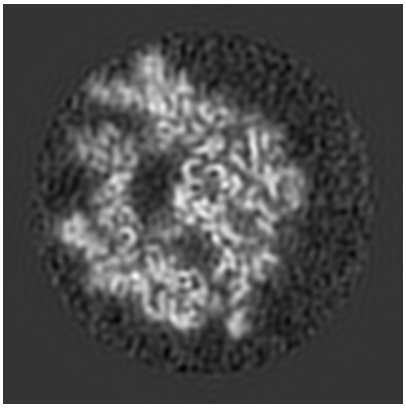
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

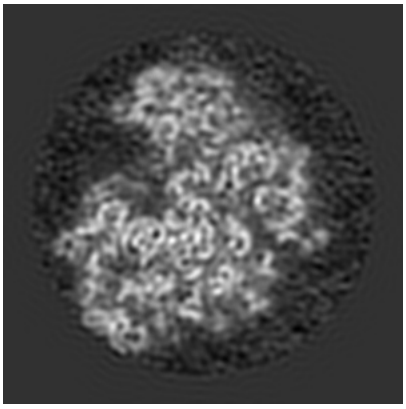
6.2.1 Primary map



X Index: 160



Y Index: 160

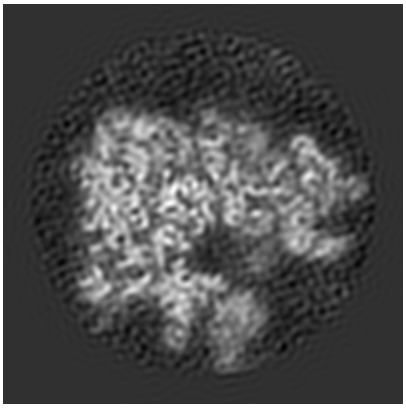


Z Index: 160

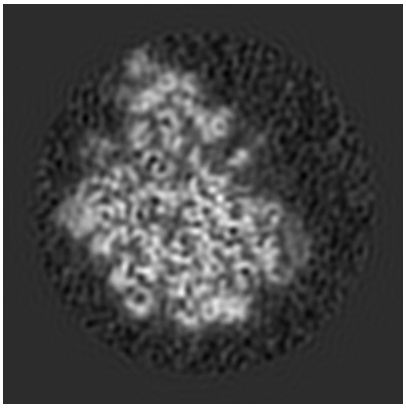
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

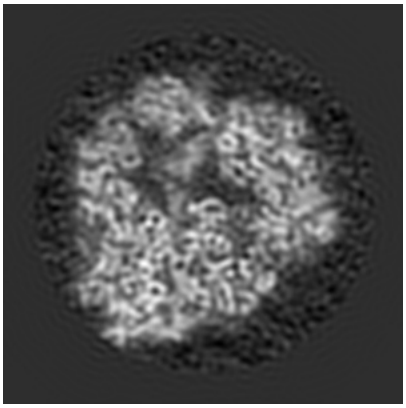
6.3.1 Primary map



X Index: 155



Y Index: 144

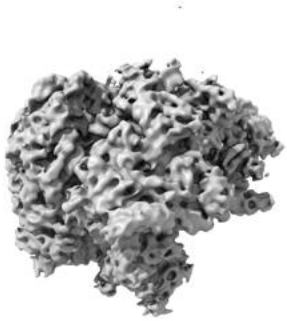


Z Index: 138

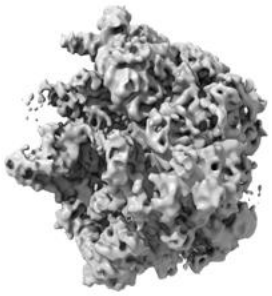
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

6.4.1 Primary map



X



Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.32. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

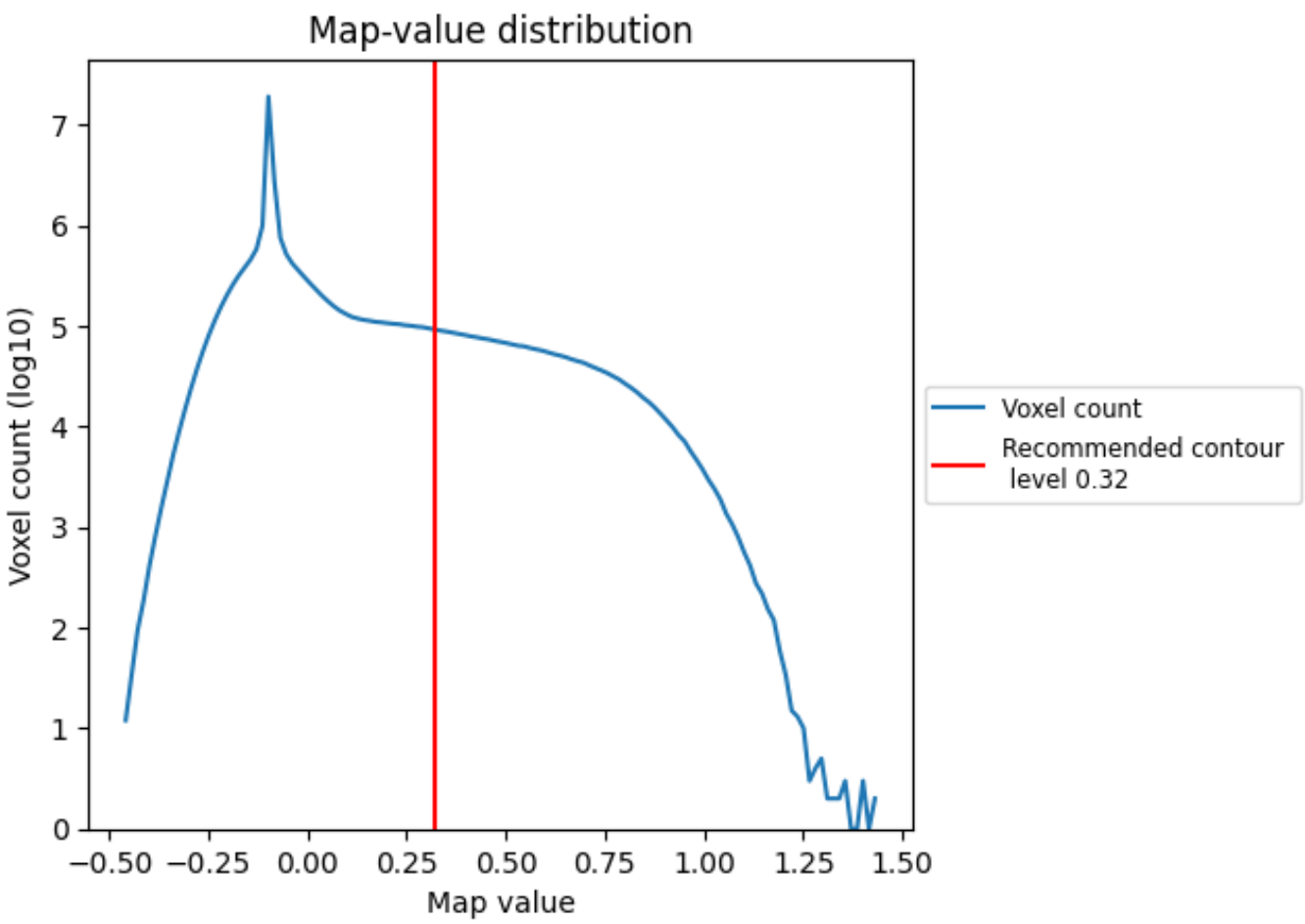
6.5 Mask visualisation (i)

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

7 Map analysis (i)

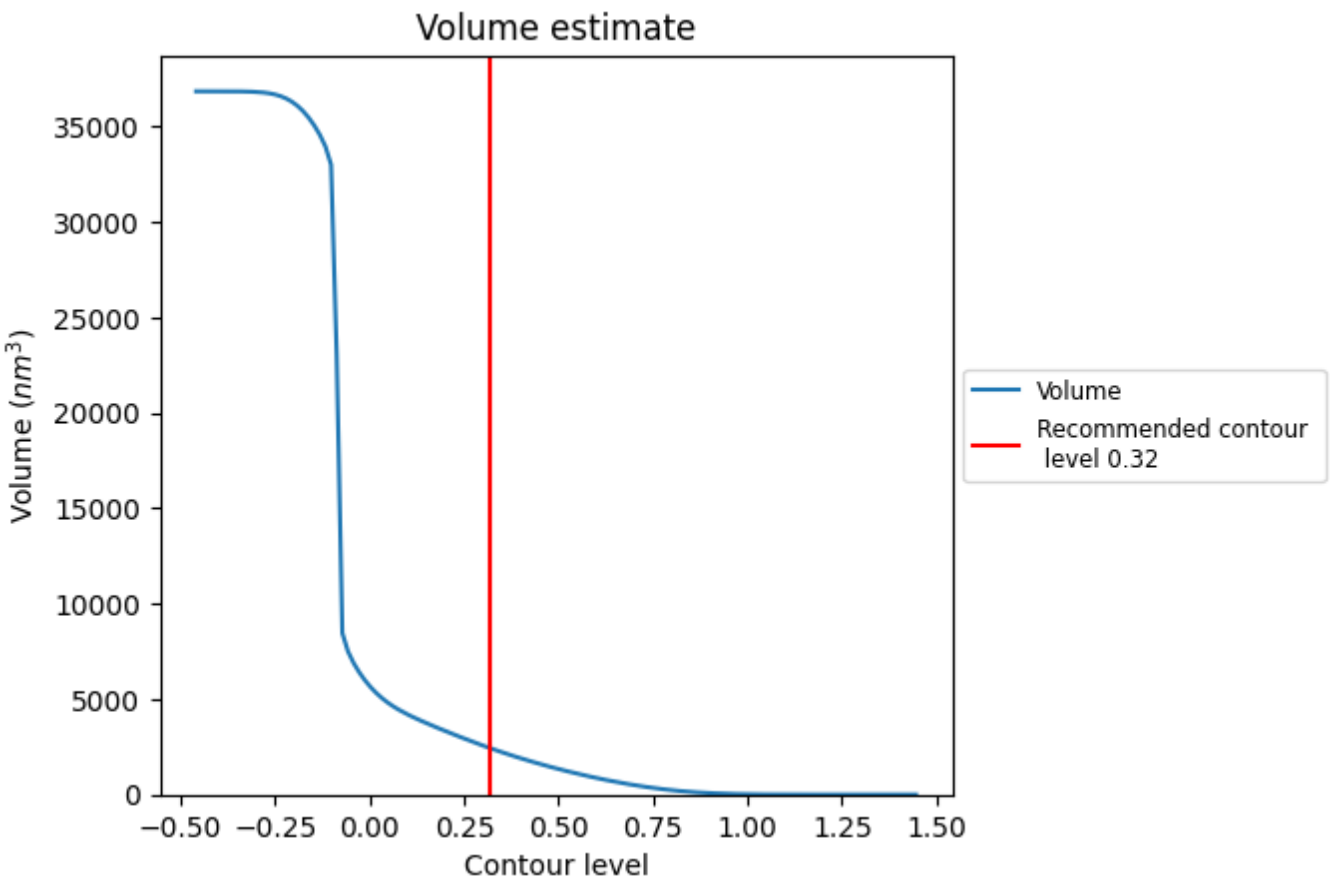
This section contains the results of statistical analysis of the map.

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.

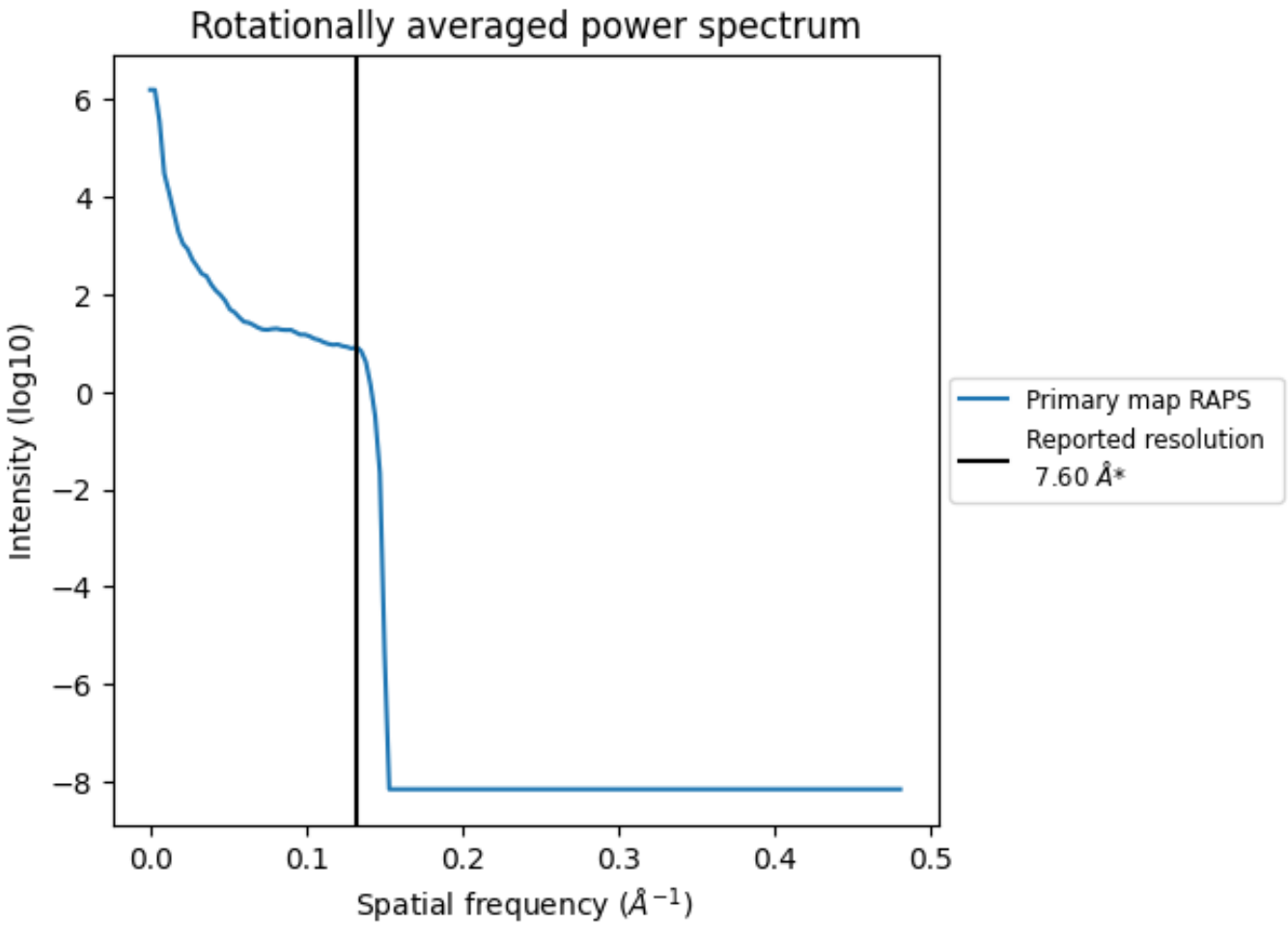
7.2 Volume estimate (i)



The volume at the recommended contour level is 2426 nm^3; this corresponds to an approximate mass of 2192 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 (i)



*Reported resolution corresponds to spatial frequency of 0.132 Å^{-1}

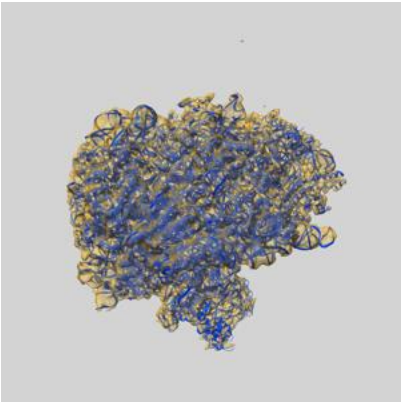
8 Fourier-Shell correlation (i)

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

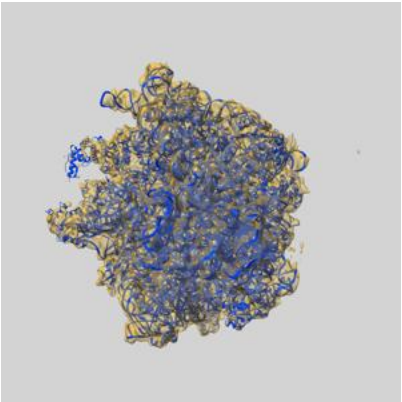
9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-5800 and PDB model 4V7D. Per-residue inclusion information can be found in section 3 on page 15.

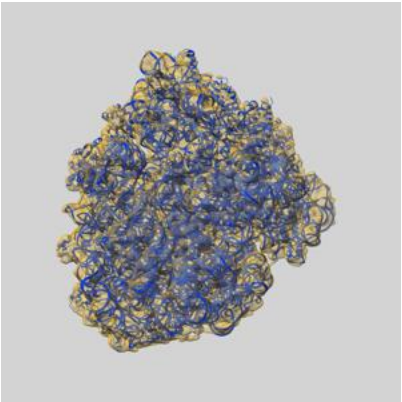
9.1 Map-model overlay (i)



X



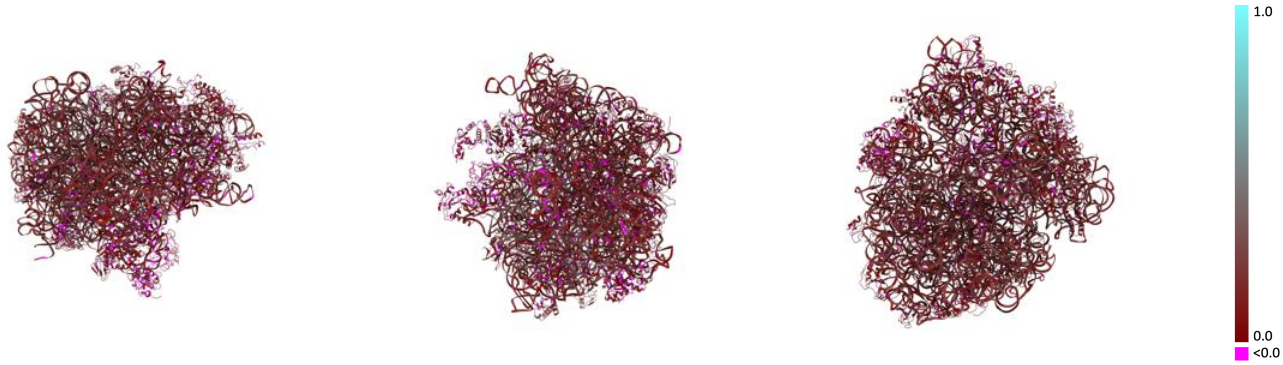
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.32 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.

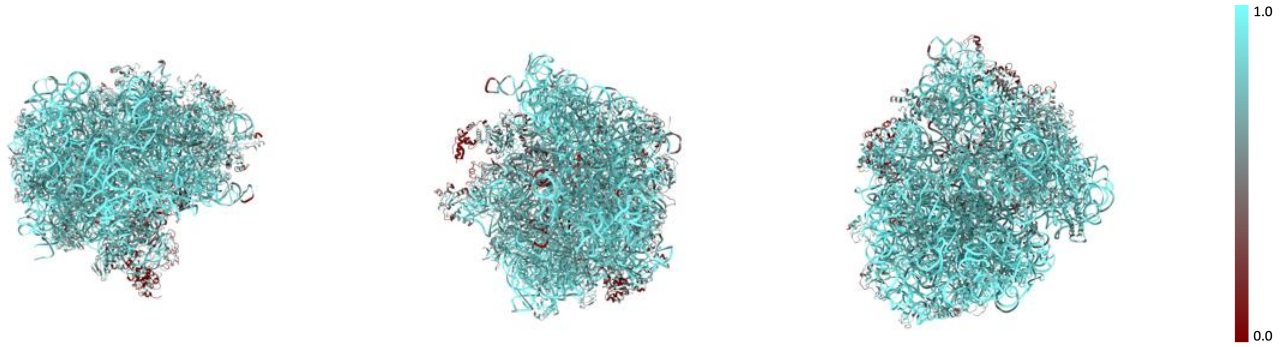
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according 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.

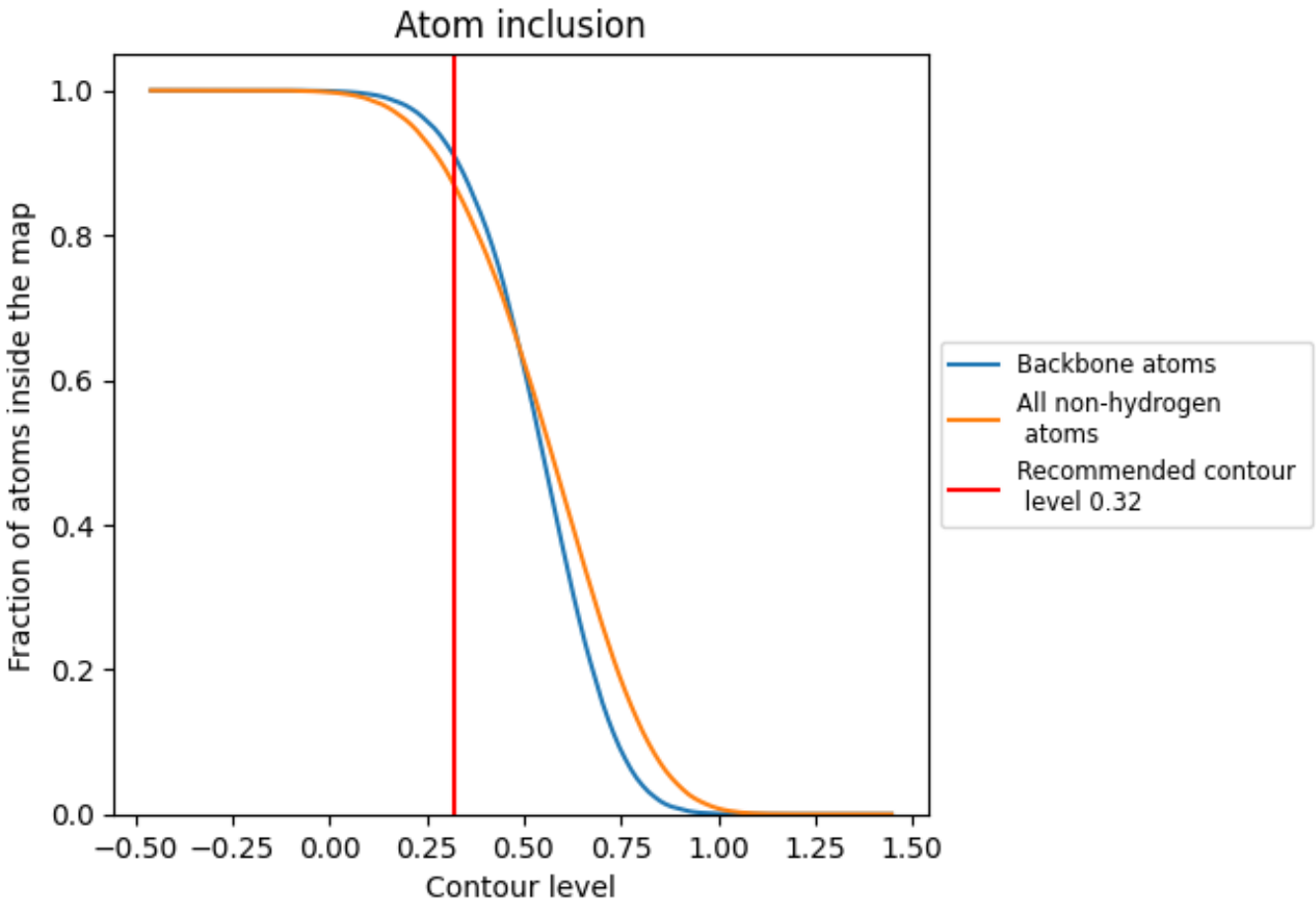
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (0.32).

9.4 Atom inclusion (i)



At the recommended contour level, 91% of all backbone atoms, 87% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.32) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8705	0.1650
A1	0.7920	0.1180
A2	0.7364	0.1450
A3	0.8078	0.1500
A4	0.7944	0.1300
A5	0.5935	0.1250
A6	0.8704	0.1170
A7	0.8371	0.1190
A8	0.9078	0.1140
AA	0.9669	0.1910
AB	0.9651	0.1950
AC	0.4188	0.0720
AD	0.8418	0.1300
AE	0.7705	0.1160
AF	0.7717	0.1260
AG	0.7626	0.1320
AH	0.7340	0.1370
AI	0.5174	0.1440
AJ	0.4473	0.0660
AK	0.3953	0.0440
AL	0.0371	0.0920
AM	0.8227	0.1330
AN	0.7240	0.1470
AO	0.7963	0.1330
AP	0.7630	0.1340
AQ	0.8525	0.1200
AR	0.8262	0.1340
AS	0.7376	0.1500
AT	0.8634	0.1040
AU	0.7817	0.1270
AV	0.7608	0.1260
AW	0.7936	0.1480
AX	0.7549	0.1260
AY	0.7751	0.1620
AZ	0.8283	0.1160

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Chain	Atom inclusion	Q-score
BA	0.9510	0.1840
BB	0.5564	0.1370
BC	0.6489	0.1310
BD	0.7591	0.1180
BE	0.7442	0.1380
BF	0.6533	0.1410
BG	0.7028	0.1420
BH	0.7531	0.1460
BI	0.7783	0.1070
BJ	0.6018	0.0740
BK	0.7573	0.1390
BL	0.7633	0.1320
BM	0.7062	0.1400
BN	0.7941	0.1140
BO	0.7449	0.1460
BP	0.8517	0.1390
BQ	0.7595	0.1300
BR	0.7179	0.1290
BS	0.7391	0.1200
BT	0.7969	0.1540
BU	0.5862	0.1290
BV	0.6986	0.1090
BW	0.9402	0.2020
BX	0.8394	0.1410
BY	0.8958	0.1980
BZ	0.5308	0.0990