



Full wwPDB EM Validation Report ⓘ

Mar 25, 2026 – 01:42 AM UTC

PDB ID : 3JCE / pdb_00003jce
EMDB ID : EMD-6550
Title : Structure of Escherichia coli EF4 in pretranslocational ribosomes (Pre EF4)
Authors : Zhang, D.; Yan, K.; Liu, G.; Song, G.; Luo, J.; Shi, Y.; Cheng, E.; Wu, S.;
Jiang, T.; Low, J.; Gao, N.; Qin, Y.
Deposited on : 2015-12-01
Resolution : 3.20 Å(reported)
Based on initial model : 4V9O

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

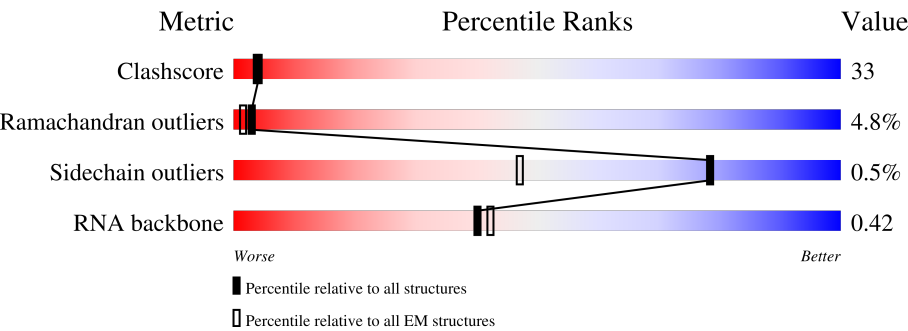
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.20 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	229148	23984
Ramachandran outliers	224038	23583
Sidechain outliers	223484	23102
RNA backbone	8273	3508

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

Mol	Chain	Length	Quality of chain
1	a	1533	62% 32% 55% 13%
2	c	233	73% 43% 43% 12%
3	d	206	82% 34% 63% .
4	e	167	75% 35% 53% 10%
5	f	135	57% 30% 39% 7% 24%
6	g	179	70% 42% 40% . 16%
7	h	130	71% 42% 55% ..

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Mol	Chain	Length	Quality of chain
8	i	130	
9	j	103	
10	k	129	
11	l	124	
12	m	118	
13	n	101	
14	o	89	
15	p	82	
16	q	84	
17	r	75	
18	s	92	
19	t	87	
20	u	71	
21	b	241	
22	0	57	
23	1	55	
24	2	46	
25	3	65	
26	4	38	
27	5	234	
28	A	2904	
29	B	120	
30	C	273	
31	D	209	
32	E	201	

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Mol	Chain	Length	Quality of chain
33	F	179	
34	G	177	
35	H	149	
36	I	142	
37	J	142	
38	K	123	
39	L	144	
40	M	136	
41	N	127	
42	O	117	
43	P	115	
44	Q	118	
45	R	103	
46	S	110	
47	T	100	
48	U	104	
49	V	94	
50	W	85	
51	X	78	
52	Y	63	
53	Z	59	
54	6	76	
54	9	76	
55	7	15	
56	8	77	

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Mol	Chain	Length	Quality of chain
57	x	599	85% 33% 59% 6%

2 Entry composition

There are 60 unique types of molecules in this entry. The entry contains 154017 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 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	a	1533	Total	C	N	O	P	0	0
			32895	14671	6036	10655	1533		

- Molecule 2 is a protein called 30S ribosomal protein S3.

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

- Molecule 3 is a protein called 30S ribosomal protein S4.

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

- Molecule 4 is a protein called 30S ribosomal protein S5.

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

- Molecule 5 is a protein called 30S ribosomal protein S6, fully modified isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	f	102	Total	C	N	O	S	0	0
			832	525	150	150	7		

- Molecule 6 is a protein called 30S ribosomal protein S7.

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

- Molecule 7 is a protein called 30S ribosomal protein S8.

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

- Molecule 8 is a protein called 30S ribosomal protein S9.

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

- Molecule 9 is a protein called 30S ribosomal protein S10.

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

- Molecule 10 is a protein called 30S ribosomal protein S11.

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

- Molecule 11 is a protein called 30S ribosomal protein S12.

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

- Molecule 12 is a protein called 30S ribosomal protein S13.

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

- Molecule 13 is a protein called 30S ribosomal protein S14.

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

- Molecule 14 is a protein called 30S ribosomal protein S15.

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

- Molecule 15 is a protein called 30S ribosomal protein S16.

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

- Molecule 16 is a protein called 30S ribosomal protein S17.

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

- Molecule 17 is a protein called 30S ribosomal protein S18.

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

- Molecule 18 is a protein called 30S ribosomal protein S19.

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

- Molecule 19 is a protein called 30S ribosomal protein S20.

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

- Molecule 20 is a protein called 30S ribosomal protein S21.

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

- Molecule 21 is a protein called 30S ribosomal protein S2.

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

- Molecule 22 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	0	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 23 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	1	50	Total	C	N	O	S	0	0
			409	263	75	71			

- Molecule 24 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	2	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 25 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	3	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 26 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	4	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 27 is a protein called Large ribosomal subunit protein uL1.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	5	234	Total	C	N	O	S	0	0
			1733	1081	315	330	7		

- Molecule 28 is a RNA chain called 23 ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	A	2903	Total	C	N	O	P	0	0
			62320	27801	11467	20149	2903		

- Molecule 29 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	B	118	Total	C	N	O	P	0	0
			2529	1126	464	821	118		

- Molecule 30 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	C	270	Total	C	N	O	S	0	0
			2076	1285	422	362	7		

- Molecule 31 is a protein called 50S ribosomal protein L3.

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

- Molecule 32 is a protein called 50S ribosomal protein L4.

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

- Molecule 33 is a protein called 50S ribosomal protein L5.

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

- Molecule 34 is a protein called 50S ribosomal protein L6.

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

- Molecule 35 is a protein called 50S ribosomal protein L9.

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

- Molecule 36 is a protein called 50S ribosomal protein L11.

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

- Molecule 37 is a protein called 50S ribosomal protein L13.

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

- Molecule 38 is a protein called 50S ribosomal protein L14.

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

- Molecule 39 is a protein called 50S ribosomal protein L15.

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

- Molecule 40 is a protein called 50S ribosomal protein L16.

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

- Molecule 41 is a protein called 50S ribosomal protein L17.

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

- Molecule 42 is a protein called 50S ribosomal protein L18.

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

- Molecule 43 is a protein called 50S ribosomal protein L19.

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

- Molecule 44 is a protein called 50S ribosomal protein L20.

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

- Molecule 45 is a protein called 50S ribosomal protein L21.

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

- Molecule 46 is a protein called 50S ribosomal protein L22.

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

- Molecule 47 is a protein called 50S ribosomal protein L23.

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

- Molecule 48 is a protein called 50S ribosomal protein L24.

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

- Molecule 49 is a protein called 50S ribosomal protein L25.

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

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

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

- Molecule 51 is a protein called 50S ribosomal protein L28.

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

- Molecule 52 is a protein called 50S ribosomal protein L29.

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

- Molecule 53 is a protein called 50S ribosomal protein L30.

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

- Molecule 54 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	6	76	Total	C	N	O	P	0	0
			1622	723	290	533	76		
54	9	76	Total	C	N	O	P	0	0
			1623	723	290	534	76		

- Molecule 55 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	7	15	Total	C	N	O	P	0	0
			320	144	59	102	15		

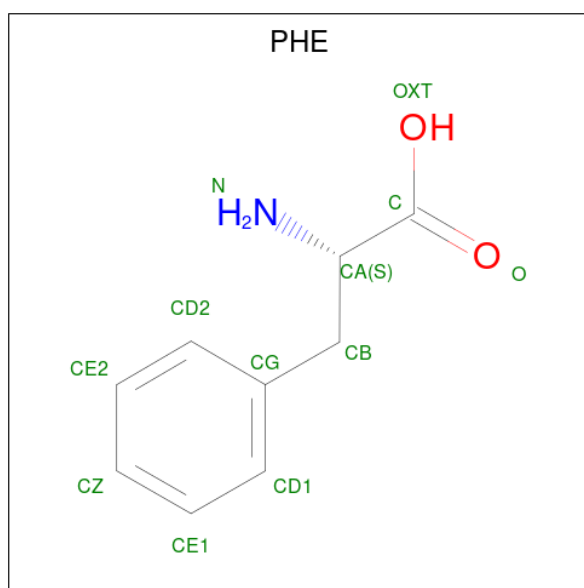
- Molecule 56 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	8	77	Total	C	N	O	P	0	0
			1640	732	297	535	76		

- Molecule 57 is a protein called Elongation factor 4.

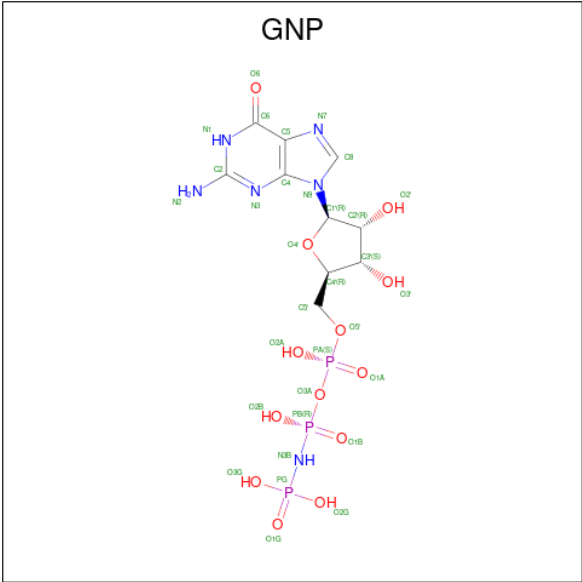
Mol	Chain	Residues	Atoms					AltConf	Trace
57	x	586	Total	C	N	O	S	0	0
			4573	2885	792	875	21		

- Molecule 58 is PHENYLALANINE (CCD ID: PHE) (formula: $C_9H_{11}NO_2$).



Mol	Chain	Residues	Atoms				AltConf
58	6	1	Total	C	N	O	0
			11	9	1	1	

- Molecule 59 is PHOSPHOAMINOPHOSPHONIC ACID-GUANYLATE ESTER (CCD ID: GNP) (formula: $C_{10}H_{17}N_6O_{13}P_3$).



Mol	Chain	Residues	Atoms					AltConf
59	x	1	Total	C	N	O	P	0
			32	10	6	13	3	

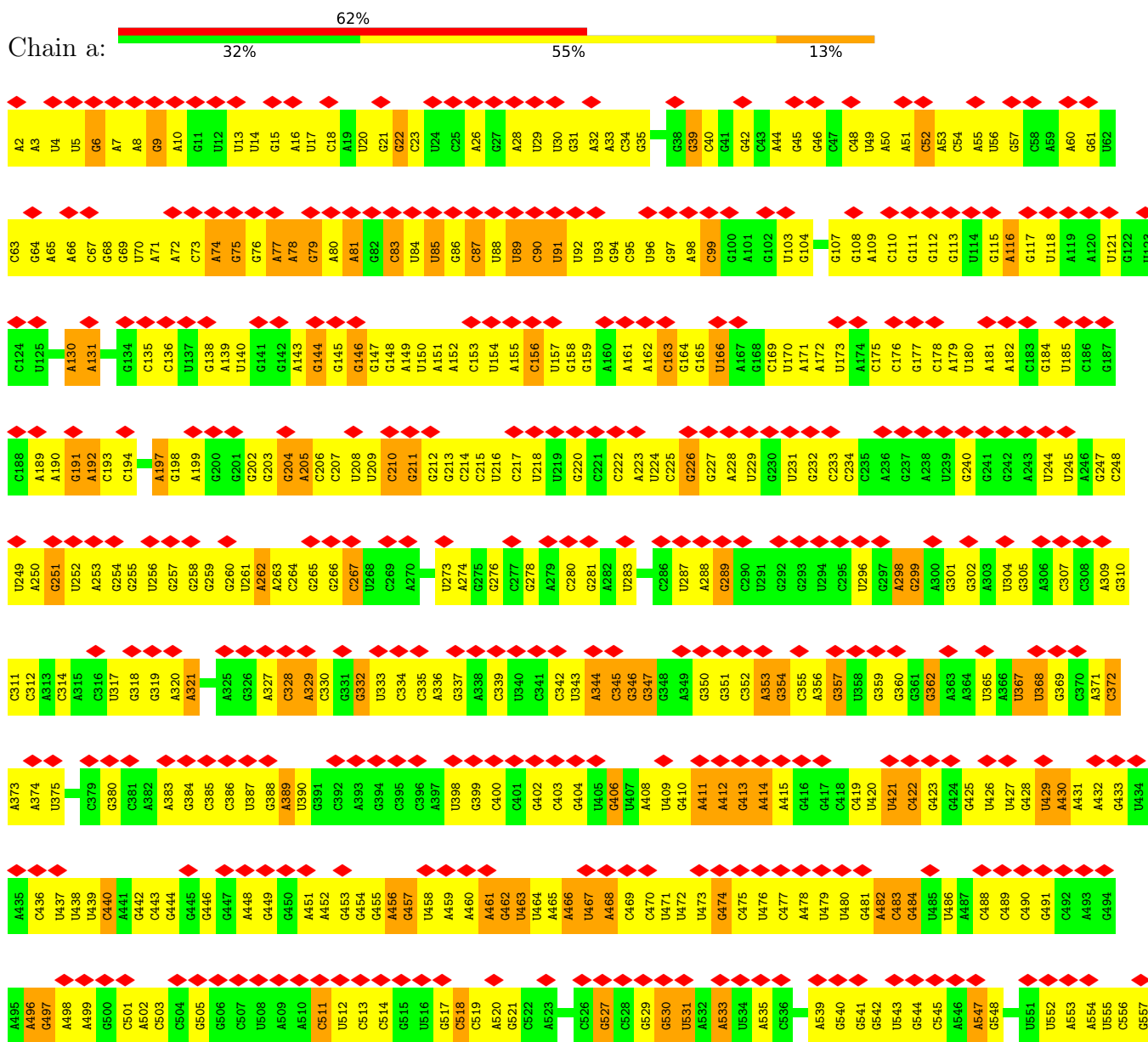
- Molecule 60 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
60	x	1	Total	Mg	0
			1	1	

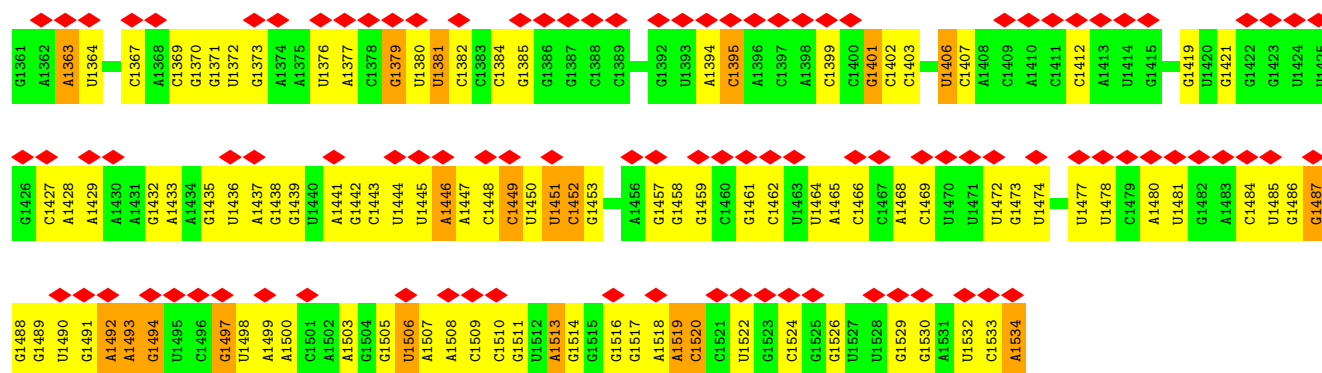
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

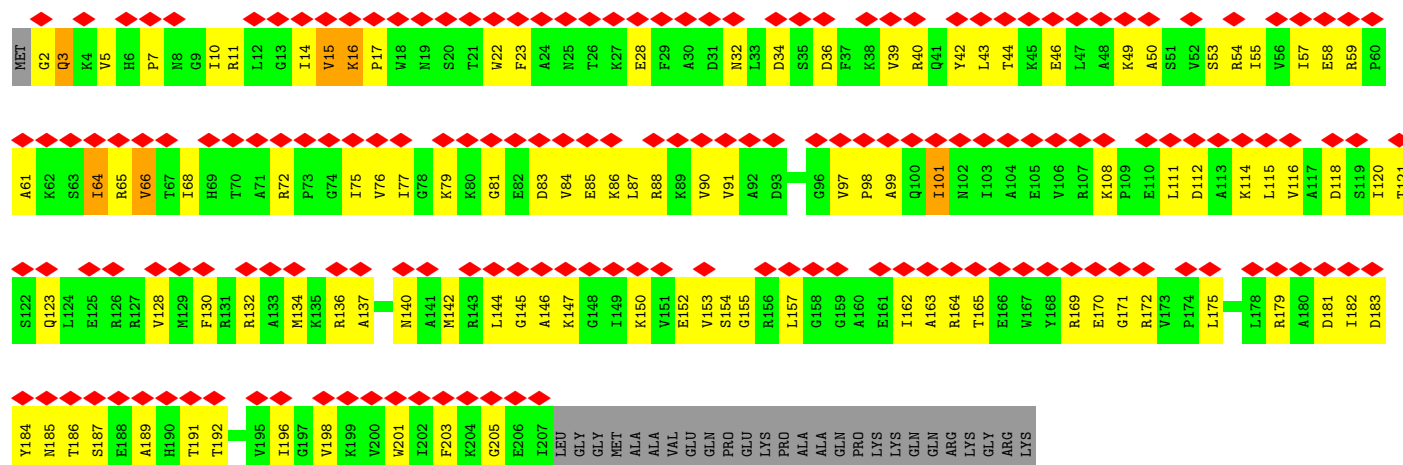
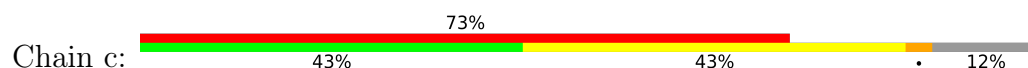
• Molecule 1: 16S ribosomal RNA



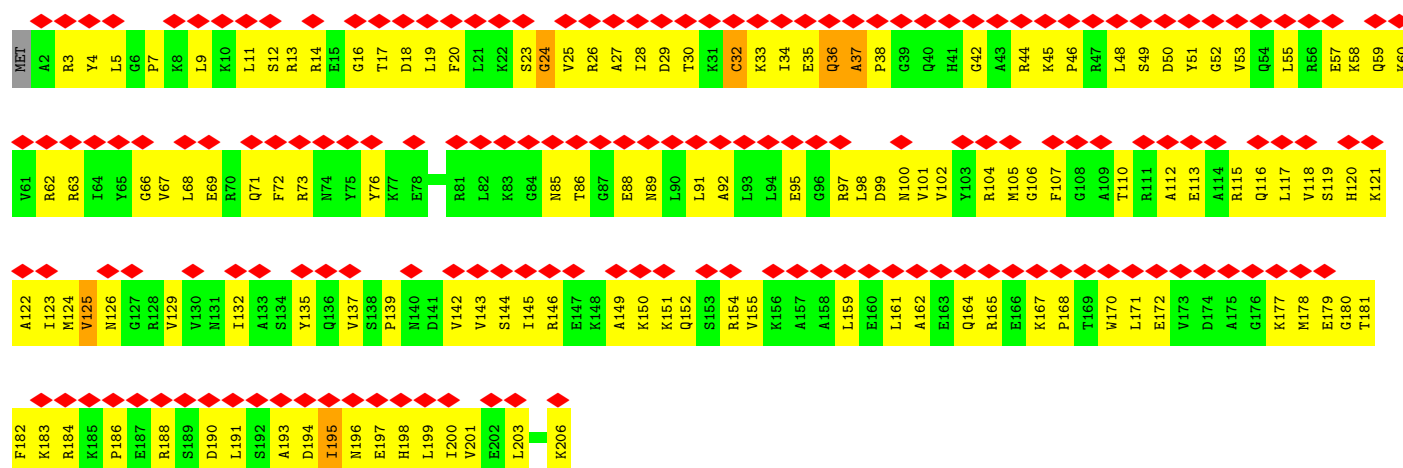
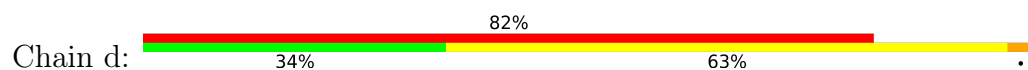
G1300	U1301	C1302	C1303	G1304	G1305	C1306	U1307	U1308	C1309	G1310	A1311	C1312	U1313	G1314	U1315	G1316	C1317	A1318	C1319	C1320	U1321	C1322	G1323	A1324	C1325	C1326	C1327	C1328	A1329	U1330	C1331	A1332	C1333	C1334	C1335	C1336	C1337	C1338	U1341	C1342	C1343	C1344	C1345	C1346	G1347	U1348	A1349	A1350	U1351	C1352	G1353	U1354	C1355	U1356	C1357	U1358	C1359	A1360	
C1237	A1238	A1239	U1240	G1241	G1242	C1243	G1244	C1245	A1246	U1247	A1248	C1249	A1250	A1251	A1252	C1253	A1254	G1255	A1256	A1257	G1258	C1259	G1260	A1261	C1262	C1263	U1264	C1265	G1266	C1267	G1272	A1273	A1274	A1275	G1276	C1277	G1278	G1279	A1280	C1281	C1282	U1283	C1284	A1285	U1286	A1287	A1288	C1289	U1291	G1292	C1293	G1294	U1295	C1296	G1297	U1298	A1299		
A1117	U1118	C1119	C1120	U1121	U1122	U1123	G1124	U1125	U1126	G1127	C1128	C1129	A1130	G1131	C1132	G1133	G1134	U1135	C1136	C1137	G1138	G1139	C1140	C1141	G1142	G1143	G1144	A1145	A1146	C1147	U1148	C1149	A1150	A1151	A1152	G1153	G1154	A1155	G1156	A1157	C1158	U1159	G1160	C1161	C1162	A1163	G1164	U1165	G1166	A1167	U1168	A1169	C1170	A1171	C1172	U1173	G1174	G1175	A1176
G1177	G1178	A1179	A1180	G1181	G1182	U1183	G1184	G1185	G1186	G1187	A1188	U1189	G1190	A1191	C1192	G1193	U1194	C1195	A1196	A1197	G1198	U1199	C1200	A1201	U1202	C1203	A1204	U1205	G1206	G1207	C1208	C1209	G1210	U1211	U1212	A1213	G1214	G1215	A1216	C1217	C1218	A1219	G1220	G1221	C1222	C1223	U1224	A1225	C1226	A1227	C1228	A1229	C1230	G1231	U1232	G1233	C1234	U1235	A1236
G1053	C1054	A1055	U1056	G1057	G1058	C1059	U1060	G1061	U1062	C1063	G1064	U1065	C1066	U1070	G1071	U1072	U1073	G1074	U1075	U1076	G1077	U1078	G1079	A1080	A1081	A1082	U1083	G1084	U1085	U1086	G1087	G1088	U1091	A1092	A1093	G1094	U1095	C1096	G1097	C1098	G1099	U1099	C1100	A1101	C1102	C1103	G1104	A1105	G1106	C1107	G1108	A1111	C1112	G1113	C1114	U1115	U1116		
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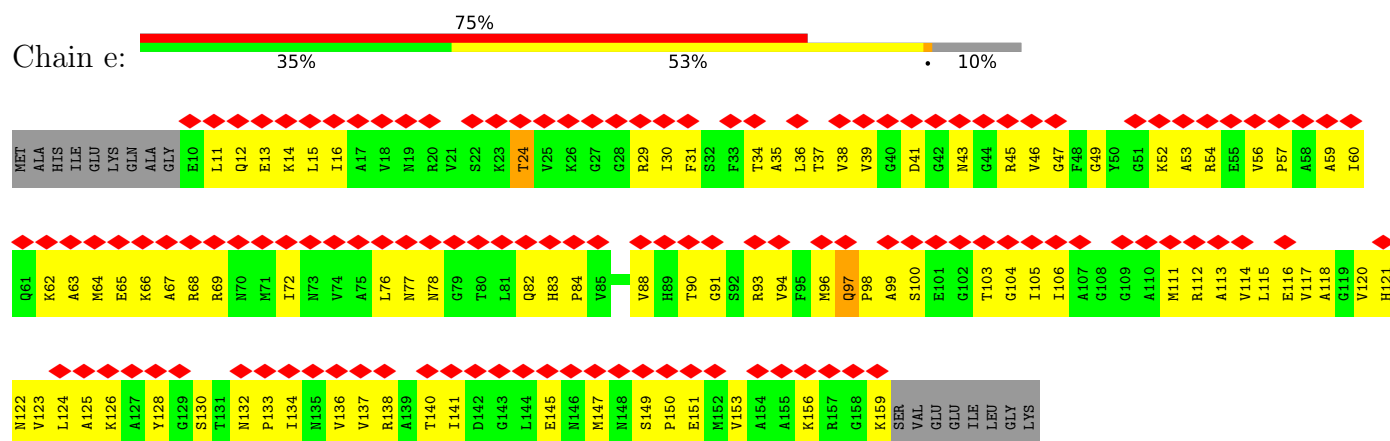
• Molecule 2: 30S ribosomal protein S3



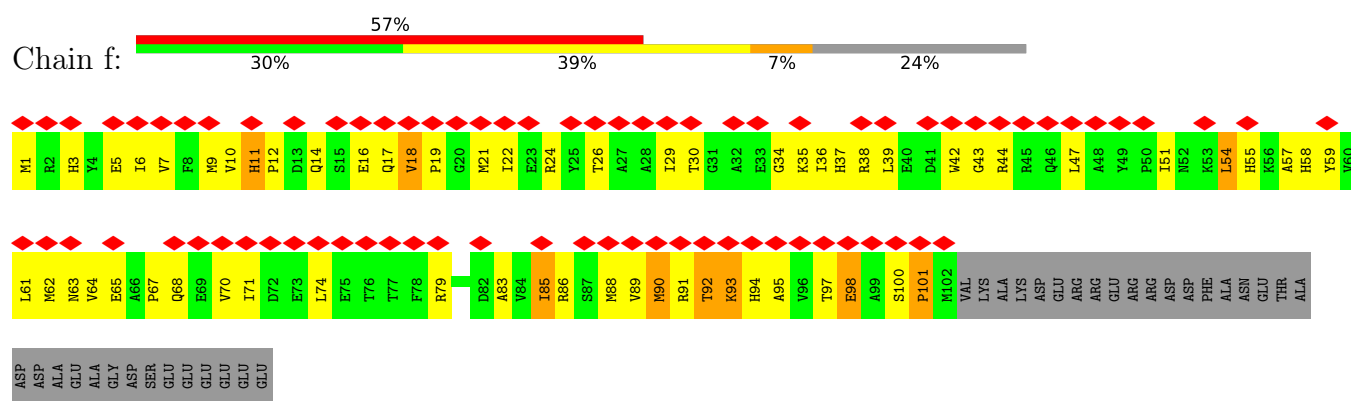
• Molecule 3: 30S ribosomal protein S4



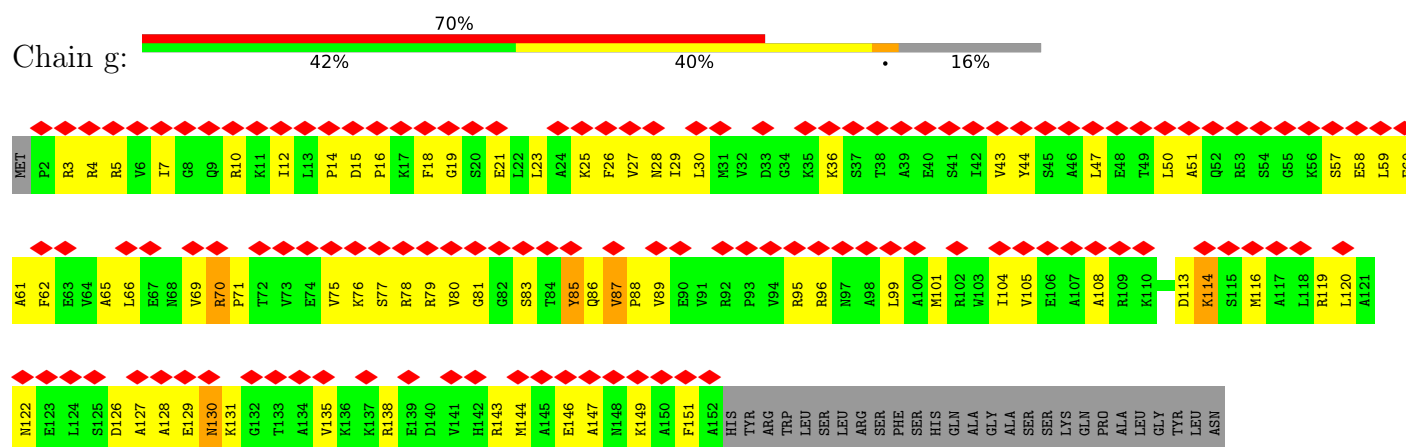
• Molecule 4: 30S ribosomal protein S5



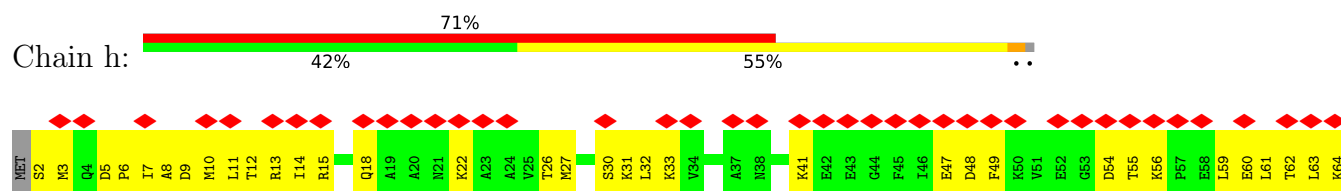
- Molecule 5: 30S ribosomal protein S6, fully modified isoform

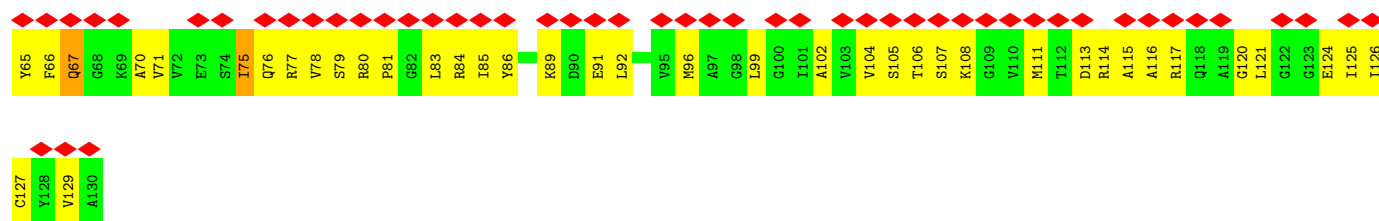


- Molecule 6: 30S ribosomal protein S7

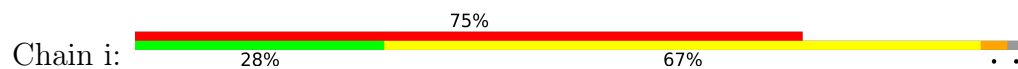


- Molecule 7: 30S ribosomal protein S8

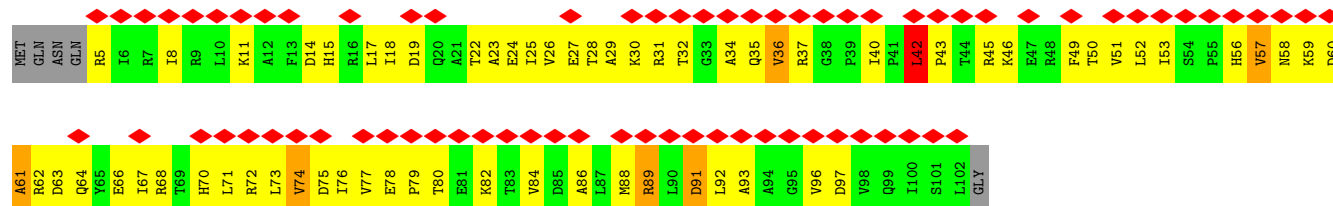




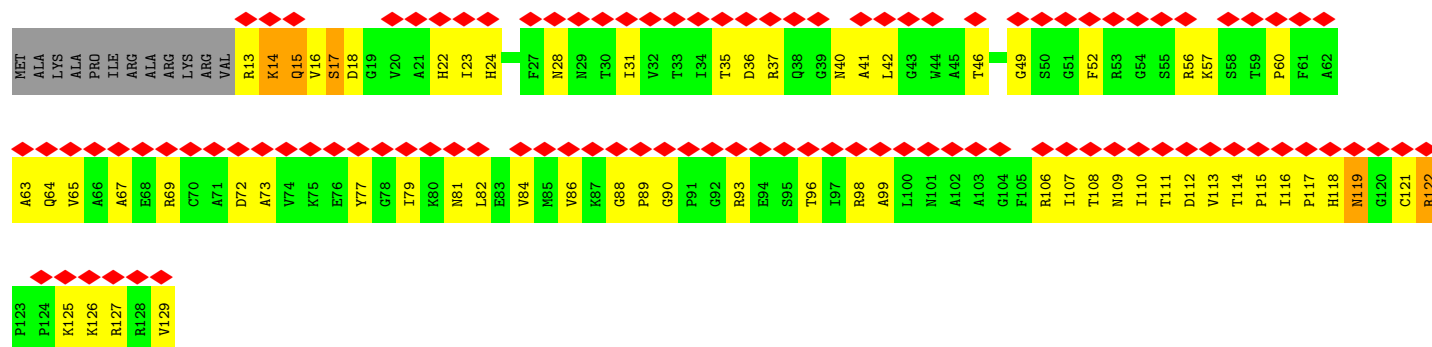
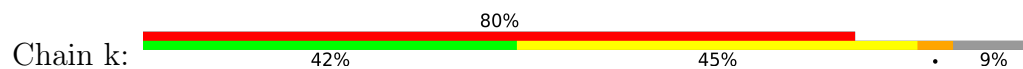
• Molecule 8: 30S ribosomal protein S9



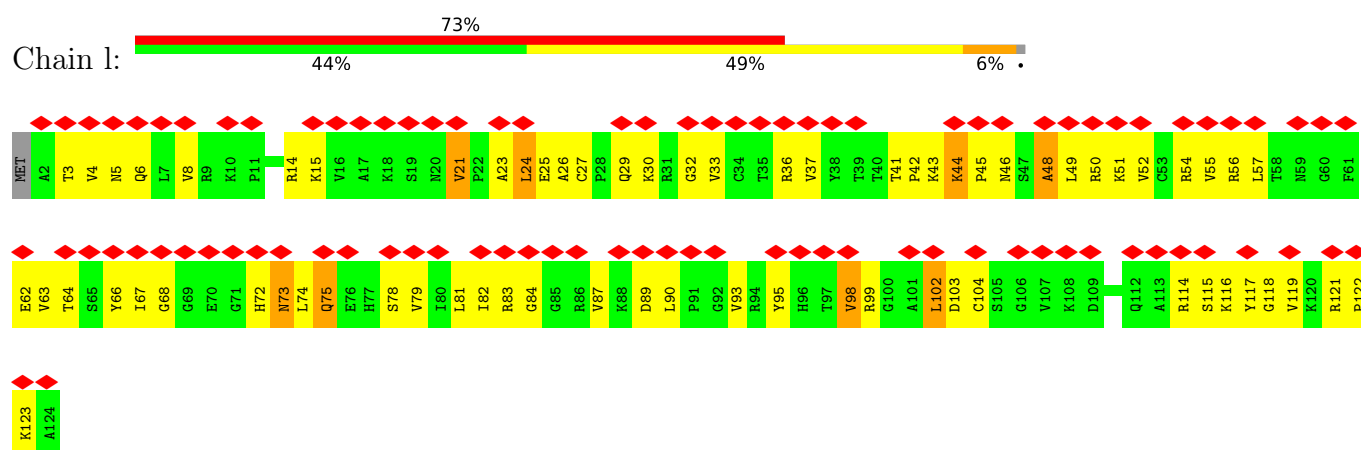
• Molecule 9: 30S ribosomal protein S10



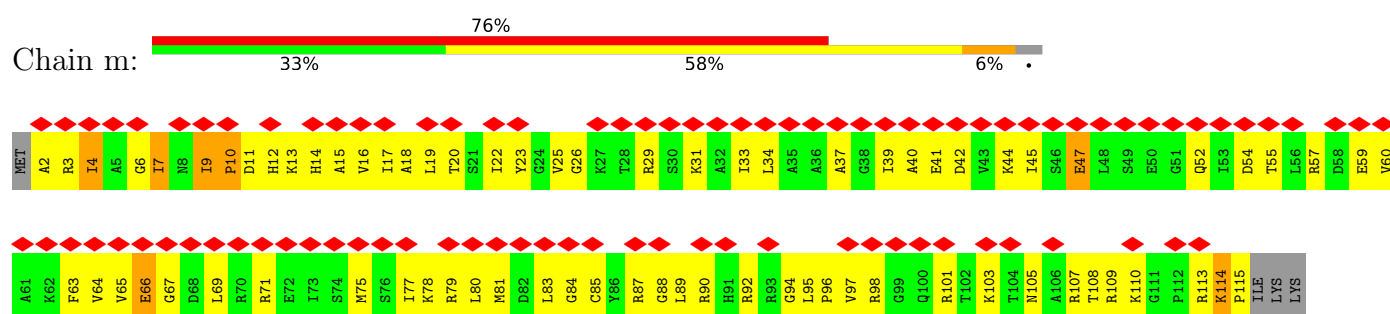
• Molecule 10: 30S ribosomal protein S11



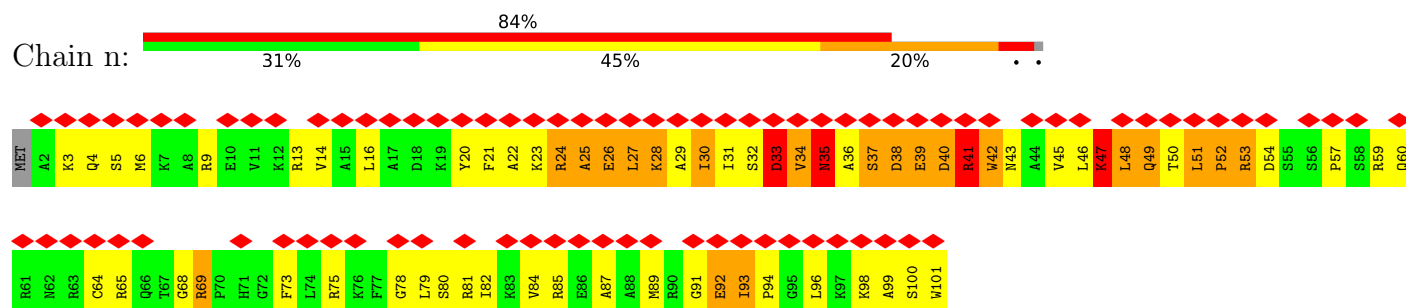
• Molecule 11: 30S ribosomal protein S12



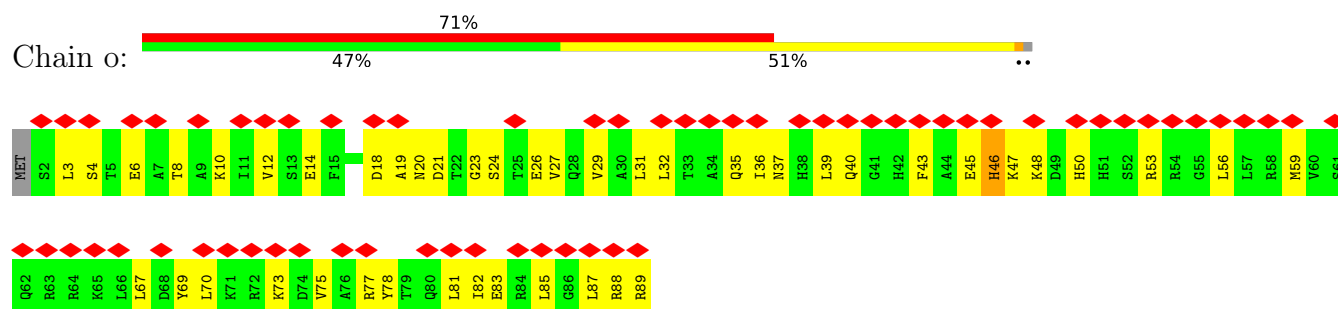
• Molecule 12: 30S ribosomal protein S13



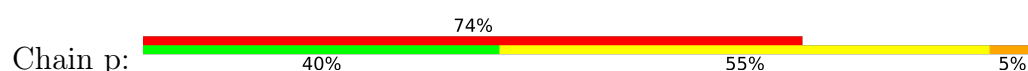
• Molecule 13: 30S ribosomal protein S14

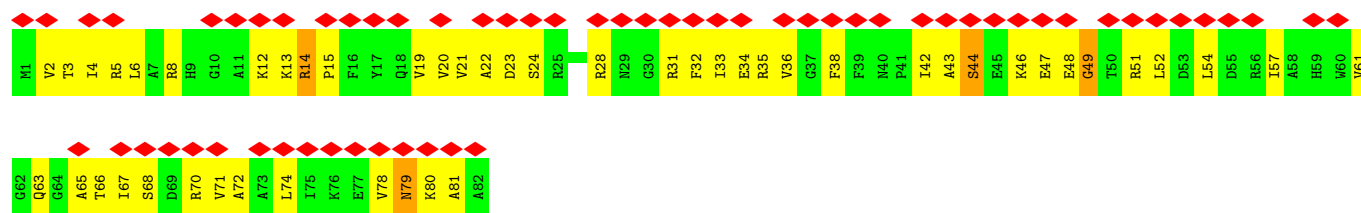


• Molecule 14: 30S ribosomal protein S15

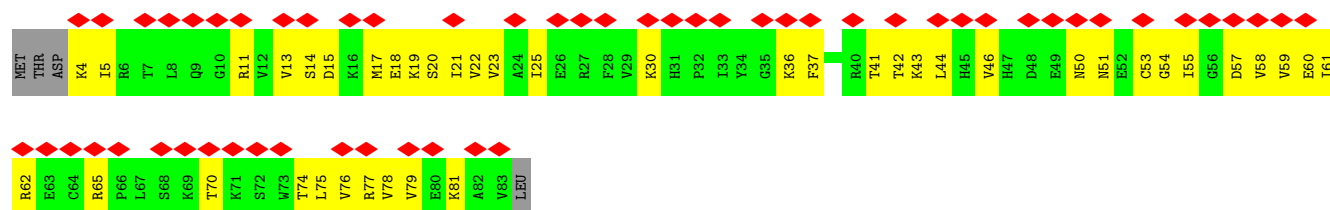
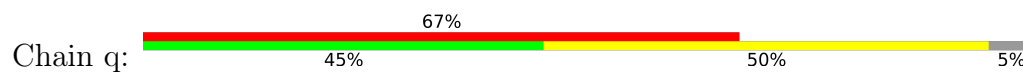


• Molecule 15: 30S ribosomal protein S16

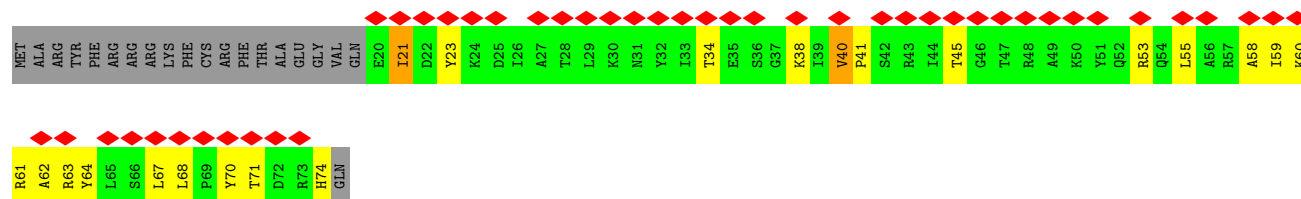
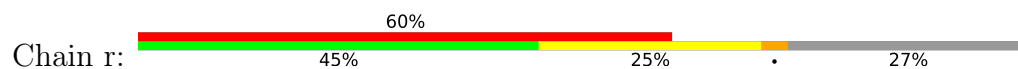




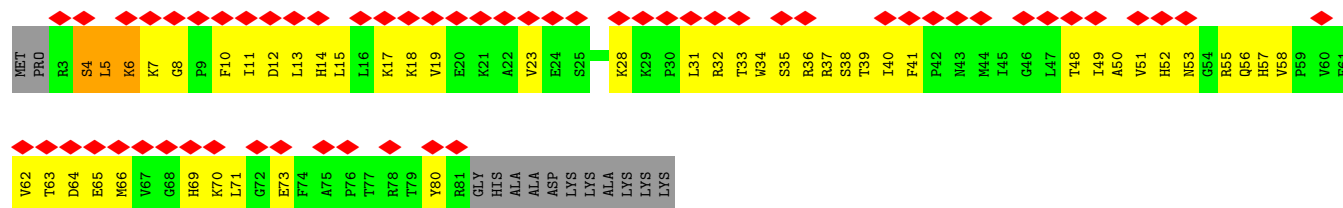
• Molecule 16: 30S ribosomal protein S17



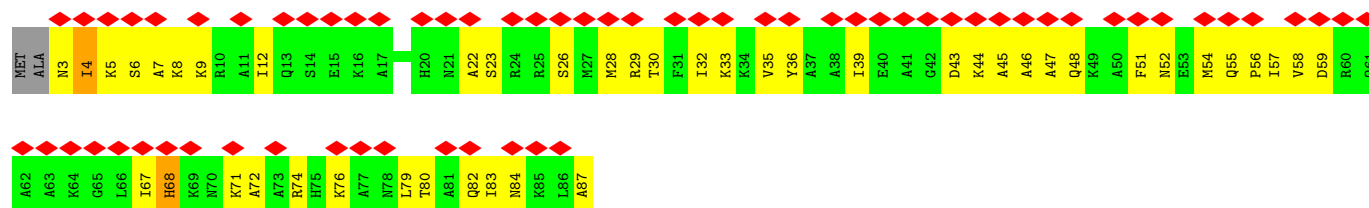
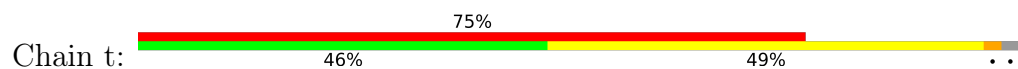
• Molecule 17: 30S ribosomal protein S18



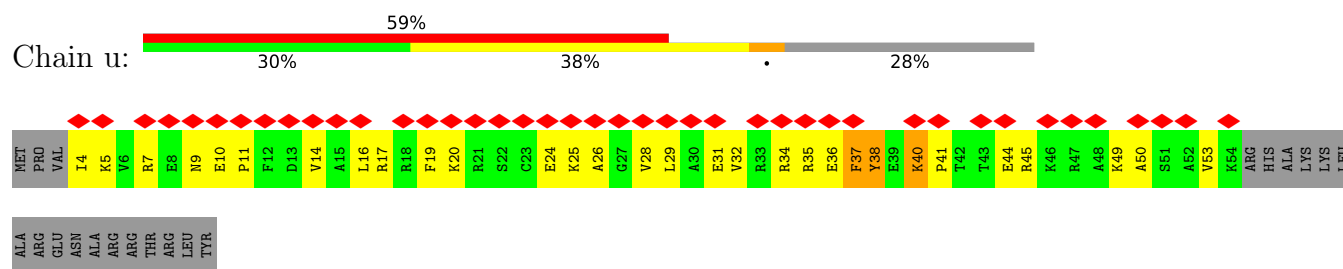
• Molecule 18: 30S ribosomal protein S19



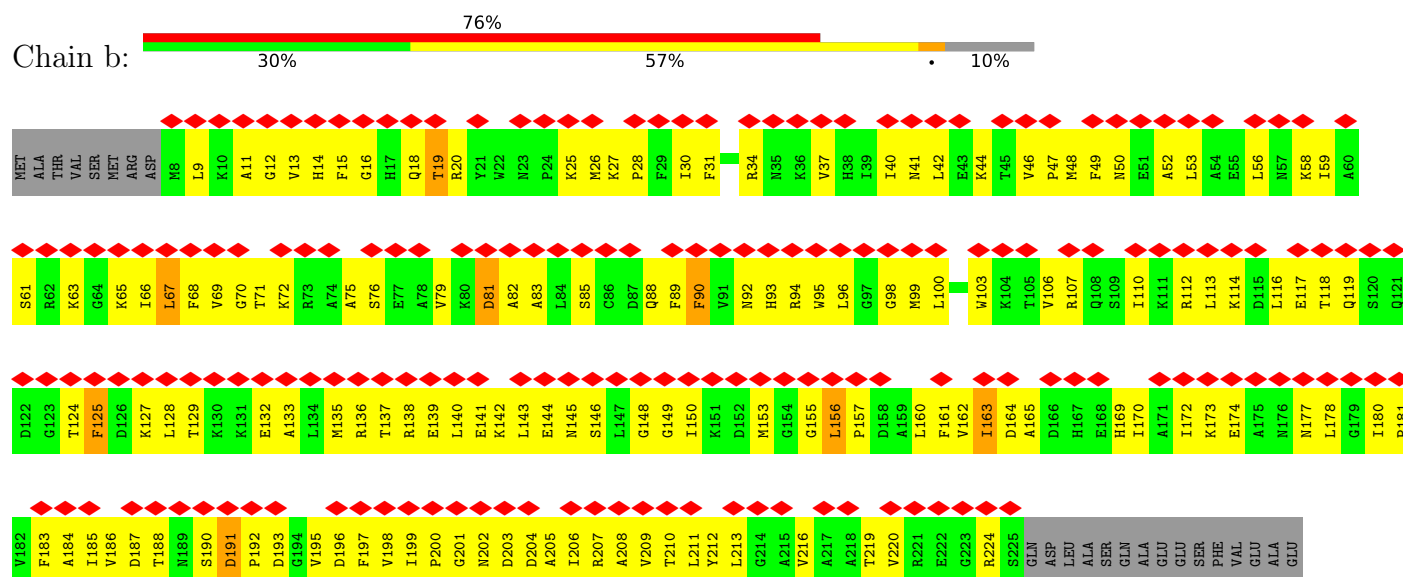
• Molecule 19: 30S ribosomal protein S20



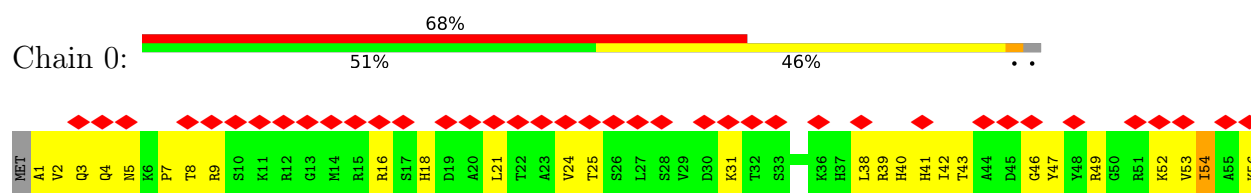
- Molecule 20: 30S ribosomal protein S21



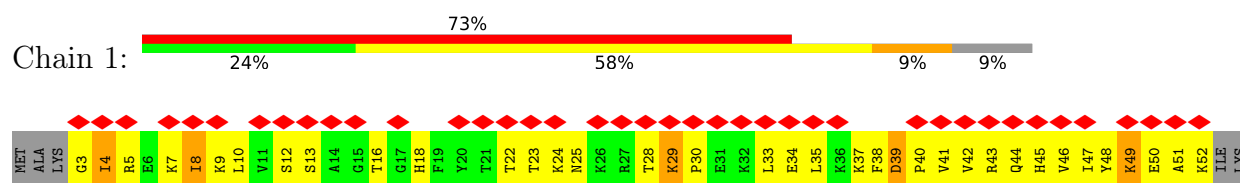
- Molecule 21: 30S ribosomal protein S2



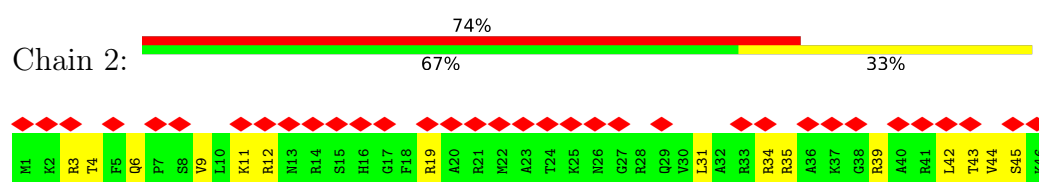
- Molecule 22: 50S ribosomal protein L32



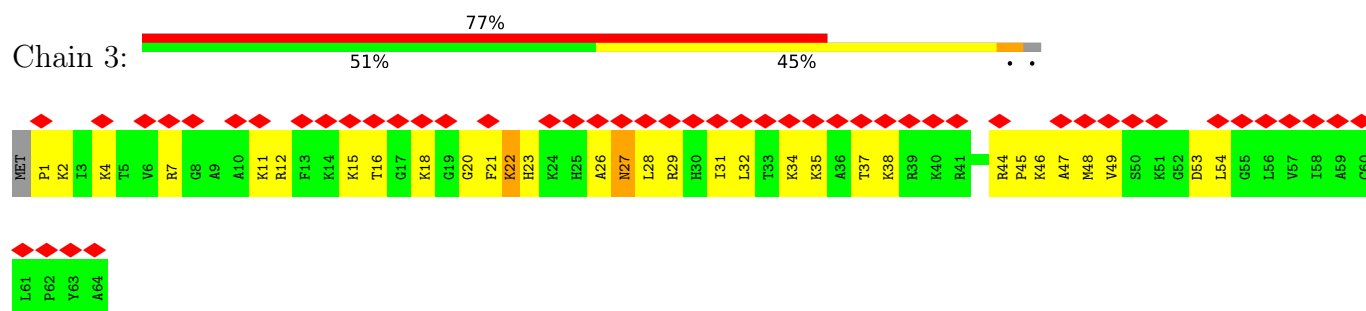
- Molecule 23: 50S ribosomal protein L33



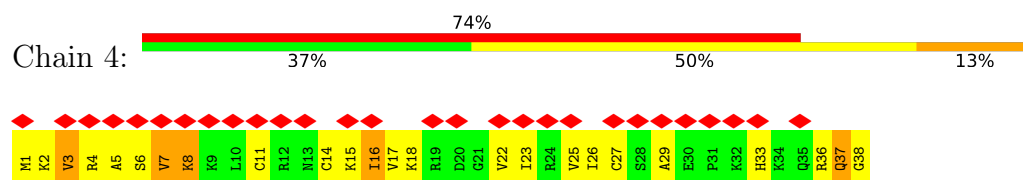
- Molecule 24: 50S ribosomal protein L34



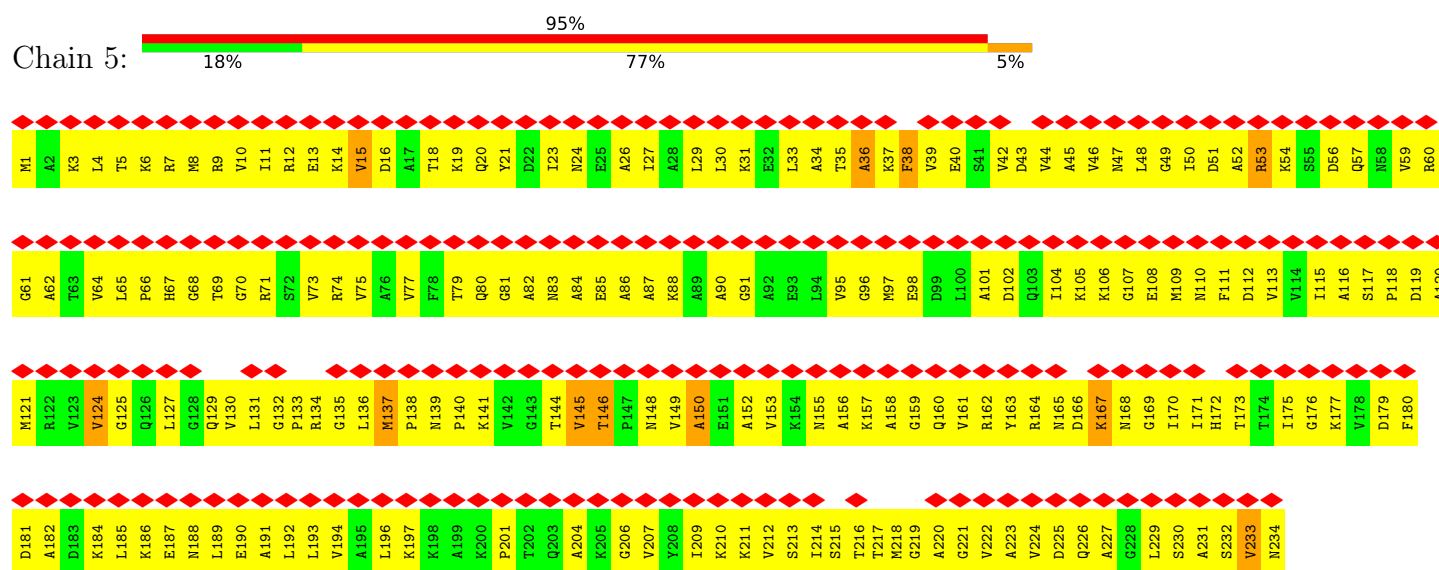
- Molecule 25: 50S ribosomal protein L35



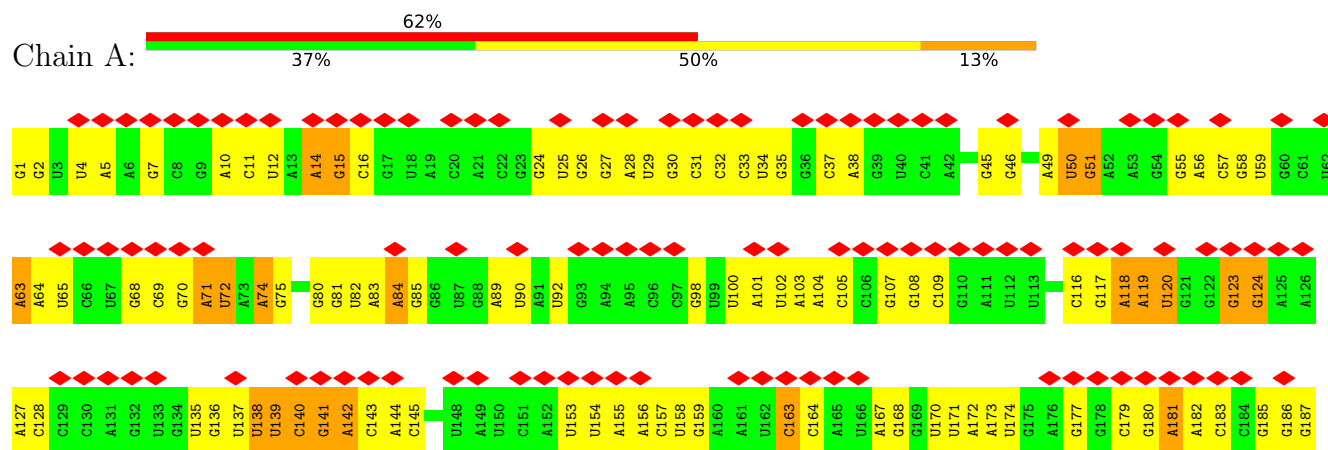
- Molecule 26: 50S ribosomal protein L36

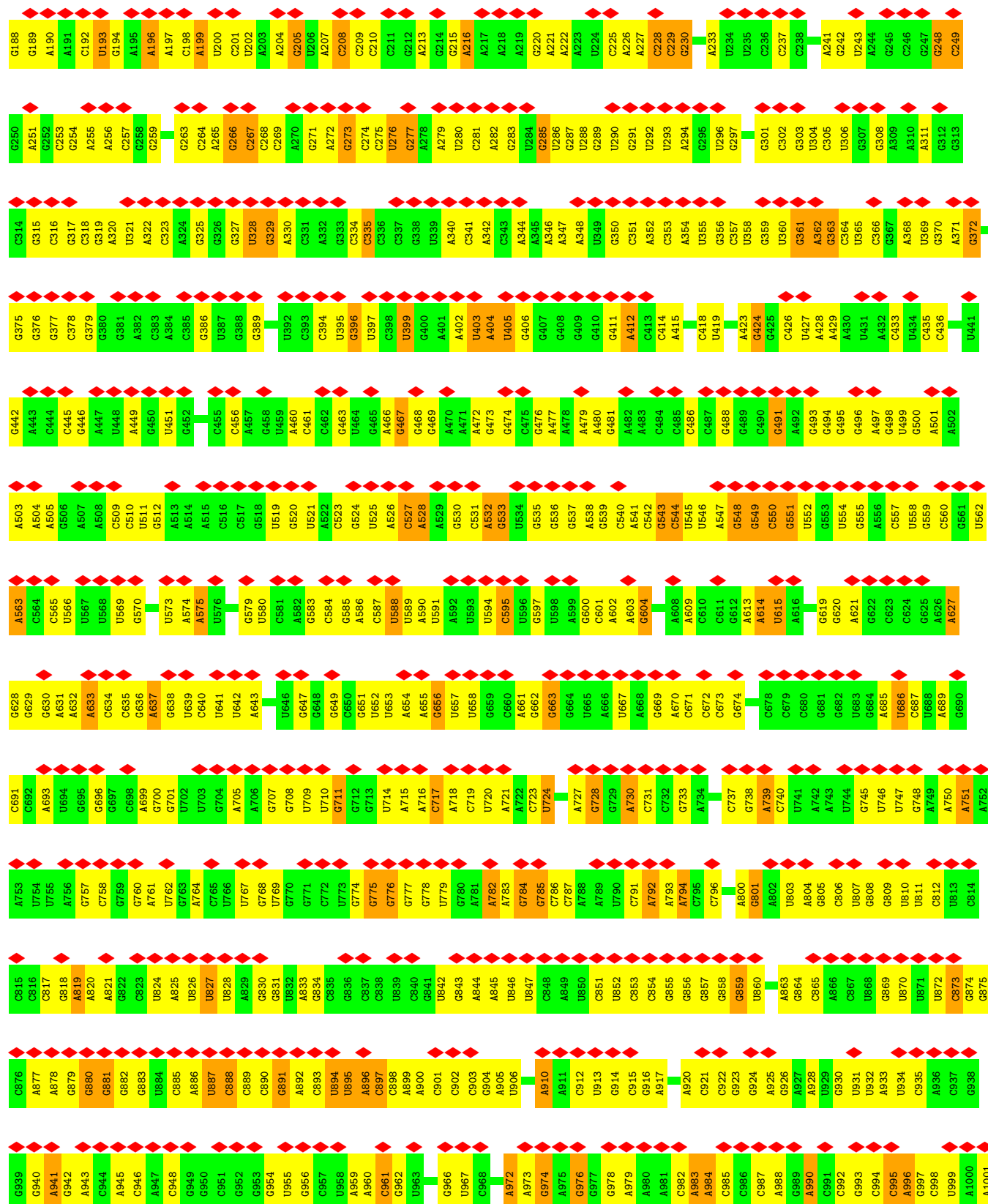


- Molecule 27: Large ribosomal subunit protein uL1



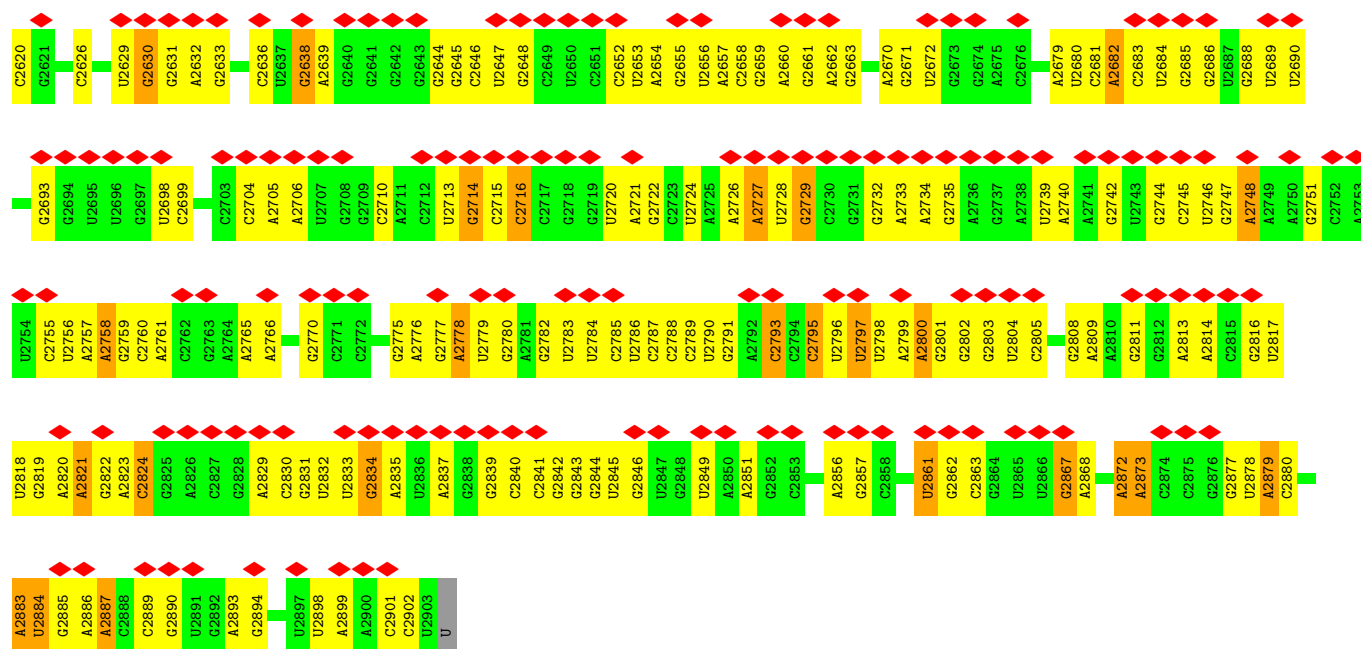
- Molecule 28: 23S ribosomal RNA



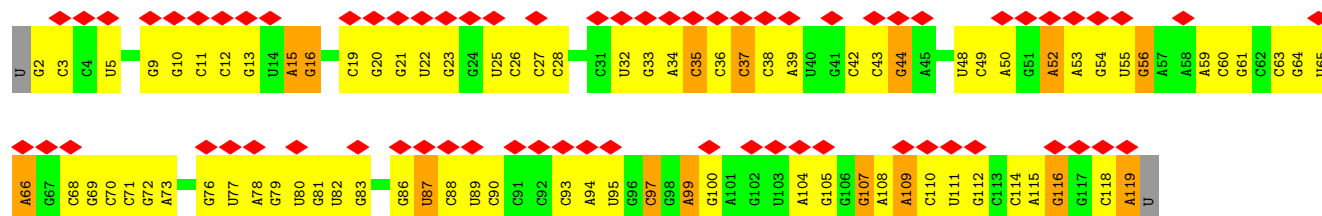


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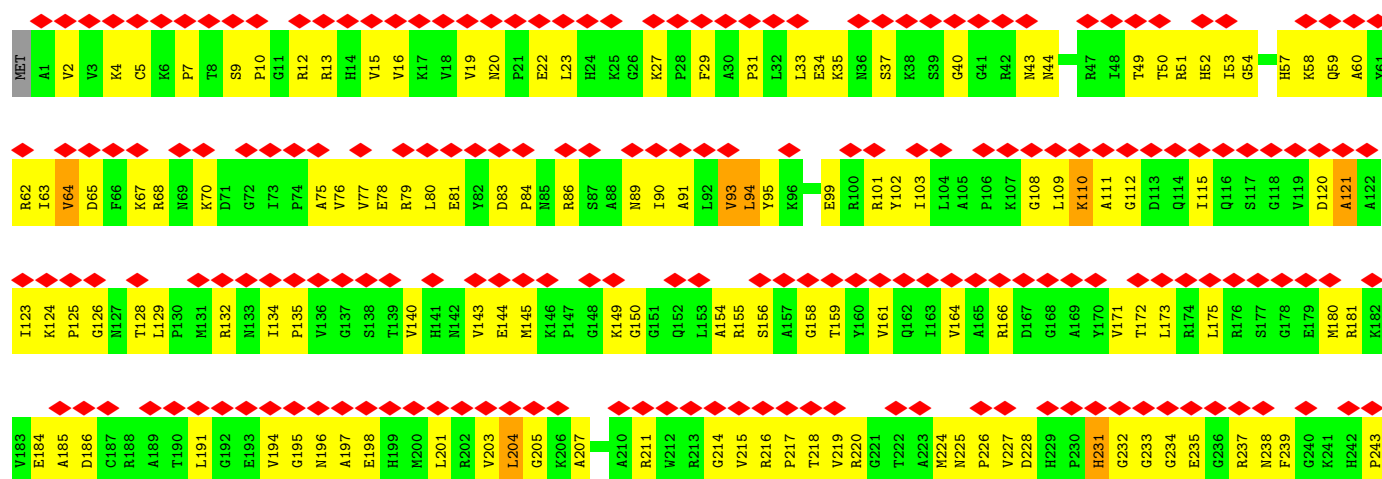
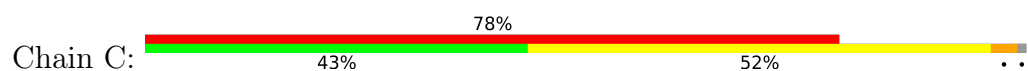
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A2560	A2435	A2496	G2371	A2309	U2249	A2183	G2123	C1997	C1934	A1810
U2561	G2436	A2497	U2372	C2310	G2250	A2184	G2124	A1998	G1935	G1811
U2562	G2437	C2498	G2373	A2311	G2251	U2185	G2125	G1999	G1936	U1812
U2563	U2438	C2499	C2374	U2312	G2252	G2186	A2126	C2000	A1937	G1813
A2564	A2439	U2500	C2375	C2313	G2253	U2187	G2127	C2001	A1938	G1814
A2565	C2440	C2501	A2376	A2314	G2254	U2188	G2128	C2006	U1939	A1815
A2566	U2441	G2502	G2377	C2315	G2255	U2189	G2129	U1940	G1878	C1816
G2567	G2442	A2503	A2378	G2316	G2256	G2190	U2130	C1941	U1880	G1817
U2568	G2443	U2504	G2379	G2317	U2257	A2191	U2131	C1942	U1881	U1818
G2569	G2444	G2505	G2383	G2318	C2258	U2192	U2132	U1943	U1882	A1819
U2570	G2445	U2506	U2384	G2319	U2259	G2193	G2133	A1820	U1883	U1820
U2571	G2446	C2507	U2385	U2320	G2260	U2194	A2134	U1944	A1821	A1821
A2572	G2447	U2508	A2386	U2321	G2261	U2195	G2135	G1945	C1822	G1823
C2573	U2448	G2509	U2387	A2322	U2262	C2196	U2136	C1947	G1824	G1824
G2574	U2449	C2510	U2390	G2323	G2263	U2197	U2137	G1948	U1826	G1826
U2575	A2450	U2511	G2391	U2324	U2264	A2198	G2138	U1951	U1827	U1827
G2576	A2451	C2512	A2392	C2325	A2265	A2199	U2139	A2020	A1828	U1828
A2577	C2452	U2513	U2393	C2326	A2267	U2202	G2140	C2021	A1829	A1829
C2578	A2453	G2514	U2394	A2327	A2268	U2203	G2141	U1952	C1830	C1830
C2579	G2454	C2515	C2395	A2328	G2269	G2204	A2142	G1953	G1831	G1831
U2580	G2455	A2516	G2396	U2329	A2270	A2205	G2143	U1954	C1832	C1832
C2581	G2456	C2517	G2397	G2330	G2271	C2206	G2144	U1955	C1833	C1833
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U2583	G2458	U2519	U2399	C2332	A2273	A2211	C2146	C1957	G1896	G1896
U2584	A2459	C2520	G2399	A2333	A2274	A2212	A2147	C1958	G1897	G1897
U2585	U2460	C2521	G2400	A2334	C2275	U2213	G2148	G1959	U1898	U1898
U2586	A2461	U2522	U2401	A2335	G2276	C2214	U2149	C2030	A1899	A1899
G2587	G2462	G2523	C2403	A2336	G2277	C2215	C2150	C1961	A1900	A1900
A2588	C2463	G2524	U2404	G2337	A2278	G2216	U2151	U1962	A1901	A1901
A2589	G2464	G2525	U2405	C2338	G2279	G2217	C2152	G1963	U1841	U1841
C2590	G2465	C2526	G2406	C2339	G2280	U2220	C2153	C1964	G1842	G1842
U2591	A2466	G2527	A2407	A2340	A2281	G2221	A2154	C1965	G1903	G1903
G2592	G2467	U2528	G2408	G2341	G2282	U2222	U2155	A1966	C1905	C1905
U2593	A2468	A2529	G2409	C2342	C2283	C2222	G2156	C1967	G1906	G1906
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G2595	G2470	U2531	A2411	U2344	C2285	G2224	A2158	A1969	A1848	A1848
U2596	A2471	C2532	A2412	C2345	G2286	G2225	G2159	U1970	G1849	G1849
U2599	G2472	U2533	G2413	A2346	A2287	A2226	C2160	U1971	G1850	G1850
A2600	U2473	A2534	G2414	C2347	A2288	G2227	C2161	G1972	A1912	A1912
C2601	U2474	G2535	G2415	U2348	G2289	U2233	G2162	U1975	A1913	A1913
A2602	A2475	C2536	C2416	G2349	G2290	G2234	C2043	U1976	C1914	C1914
G2603	G2476	U2537	G2417	C2350	G2291	G2235	C2044	A1977	U1915	U1915
U2604	U2477	C2538	A2418	U2351	U2292	U2236	C2045	U1978	A1916	A1916
U2605	A2478	G2539	U2419	C2352	G2293	G2237	G2046	U1979	U1917	U1917
A2642	U2479	U2540	C2420	G2353	G2294	U2238	C2047	A1918	A1918	A1918
U2546	G2480	G2541	G2421	C2354	G2295	U2239	U2048	U1919	A1919	A1919
A2547	C2481	U2542	G2422	U2355	U2296	U2240	G2049	A1981	C1920	C1920
U2548	A2482	C2483	U2423	G2356	A2297	G2241	C2050	U1982	G1921	G1921
G2549	G2484	U2549	C2424	G2357	A2298	U2242	C2051	G1983	U1922	U1922
C2611	G2485	G2550	A2425	C2358	U2299	G2243	G1984	U1979	U1923	U1923
C2612	G2486	U2551	C2426	C2359	C2300	U2244	C1985	G1980	C1924	C1924
U2613	U2488	G2552	G2427	C2360	C2301	U2245	C1986	U1987	U1925	U1925
A2614	U2489	U2553	U2302	C2361	U2302	G2246	C1987	G1988	U1926	U1926
C2615	G2490	U2554	U2303	G2362	U2303	U2247	G1989	U1927	A1927	A1927
G2616	U2491	C2555	G2304	C2363	G2304	U2248	U1991	A1928	A1928	A1928
U2617	U2492	C2556	G2305	C2364	G2305	U2249	C1992	G1929	C1868	C1868
G2618	U2493	G2557	A2366	G2365	U2306	U2250	U1993	G1930	G1869	G1869
C2619	G2494	U2558	G2367	A2366	G2307	U2251	C1994	U1931	C1870	C1870
							U1995	U1932	A1871	A1871



• Molecule 29: 5S ribosomal RNA

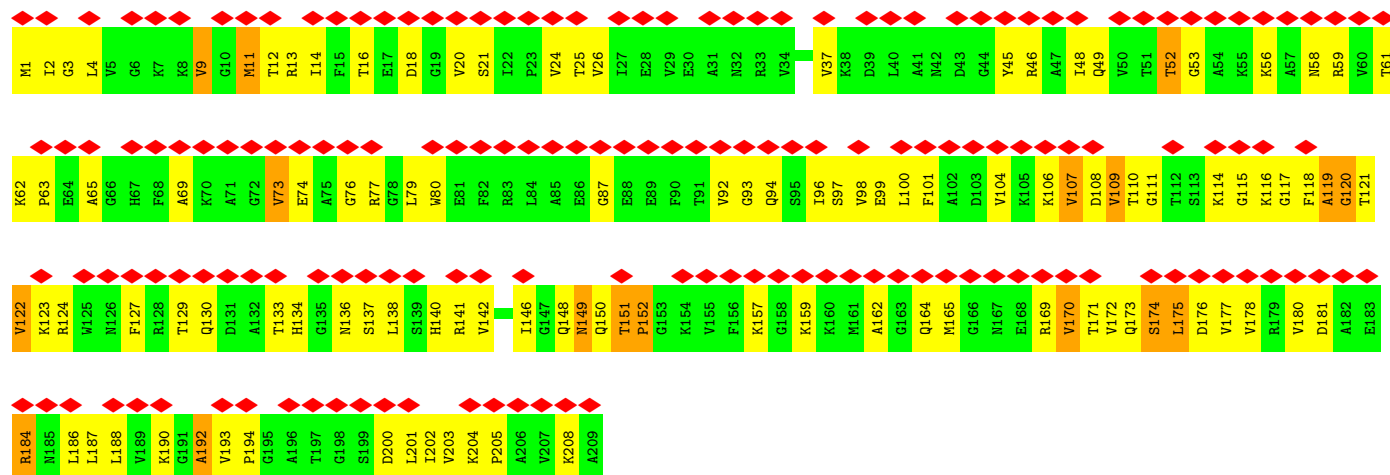
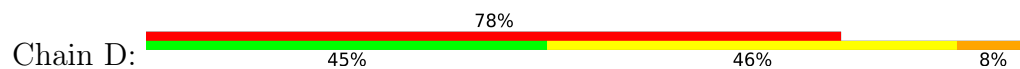


• Molecule 30: 50S ribosomal protein L2

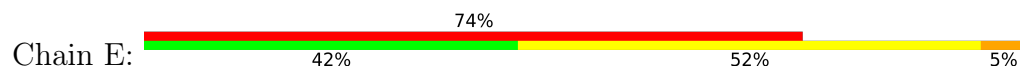




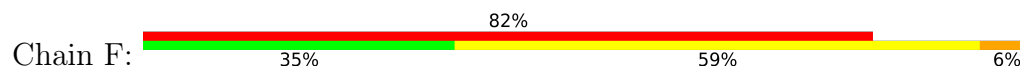
• Molecule 31: 50S ribosomal protein L3

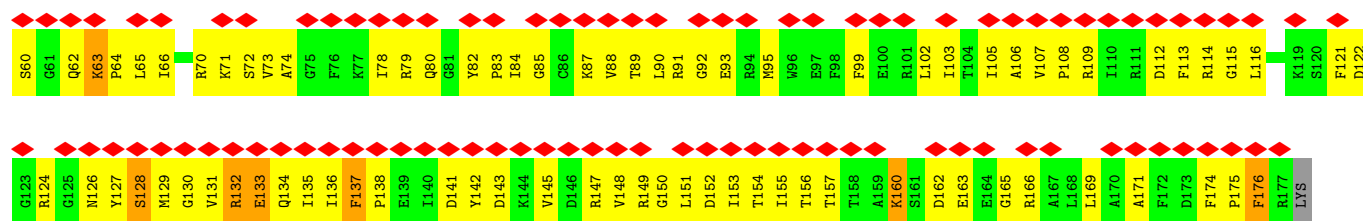


• Molecule 32: 50S ribosomal protein L4

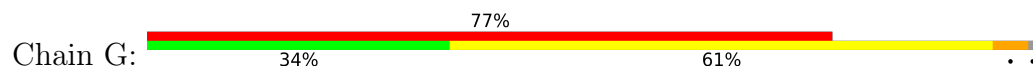


• Molecule 33: 50S ribosomal protein L5

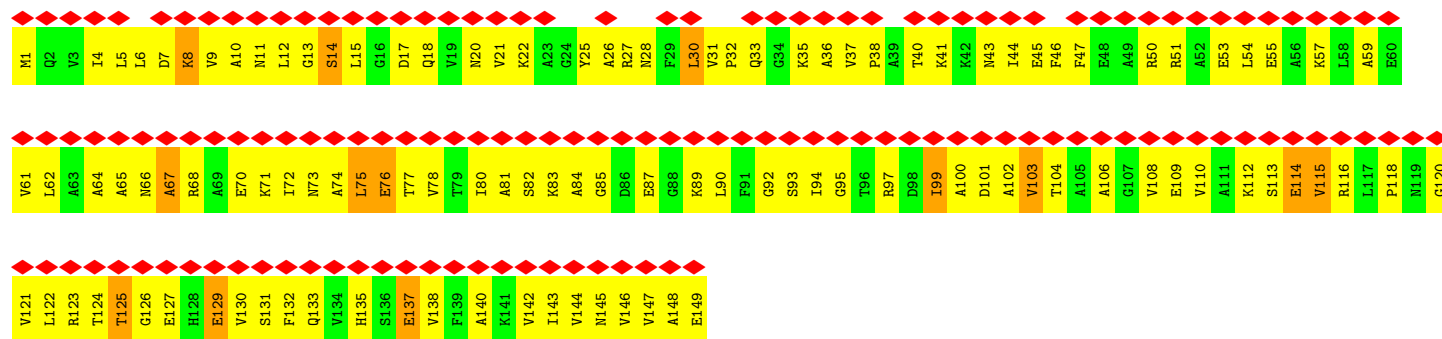




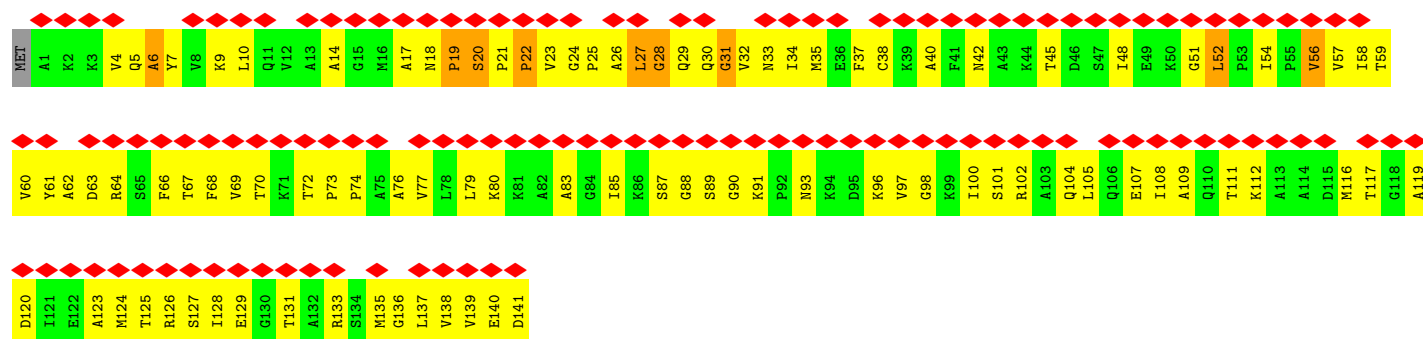
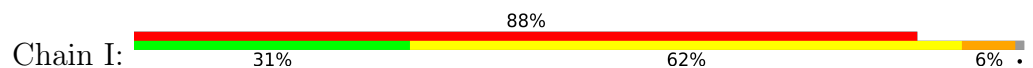
• Molecule 34: 50S ribosomal protein L6



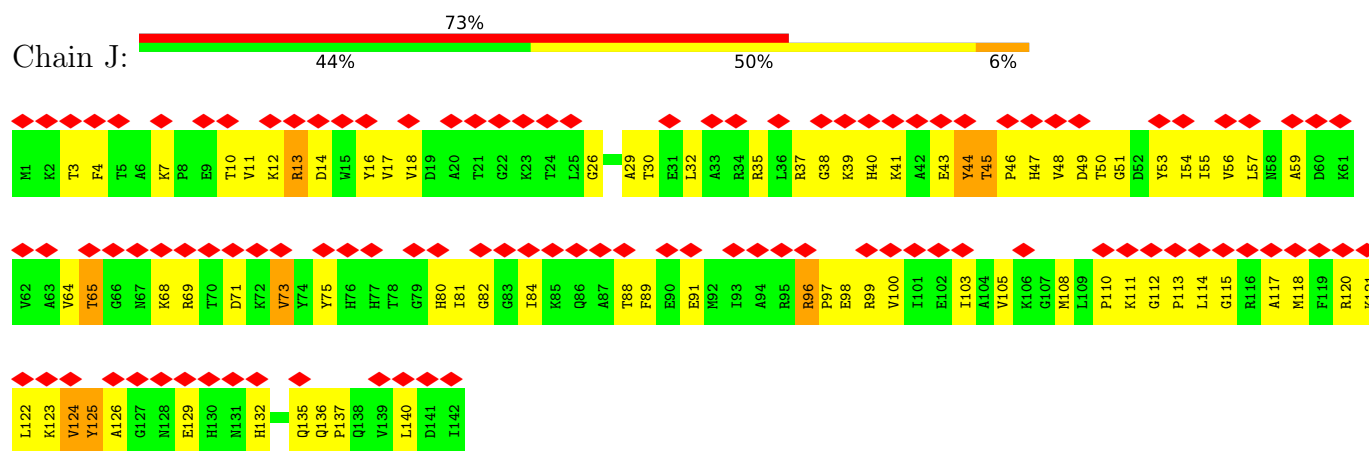
• Molecule 35: 50S ribosomal protein L9



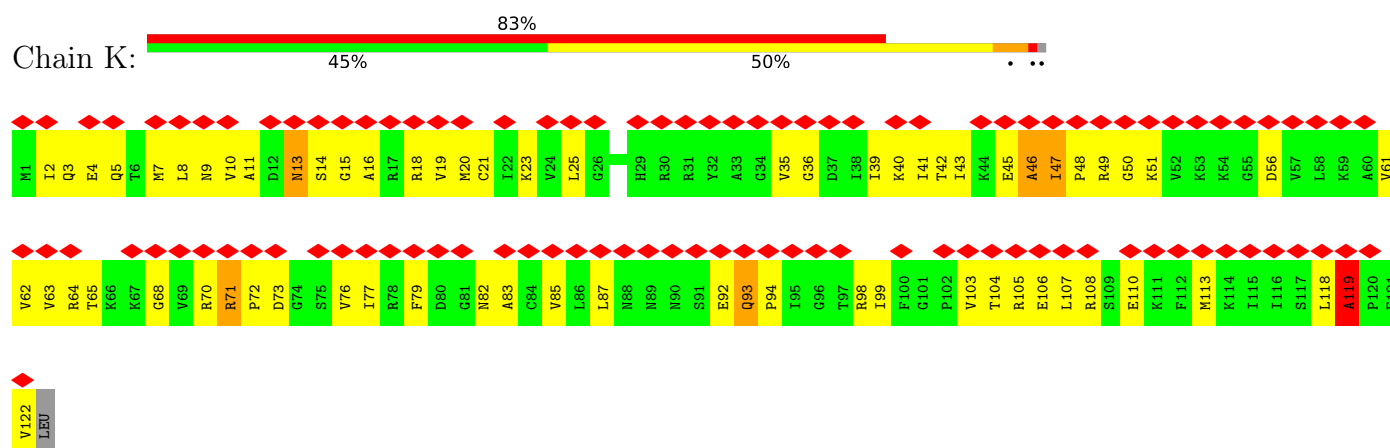
• Molecule 36: 50S ribosomal protein L11



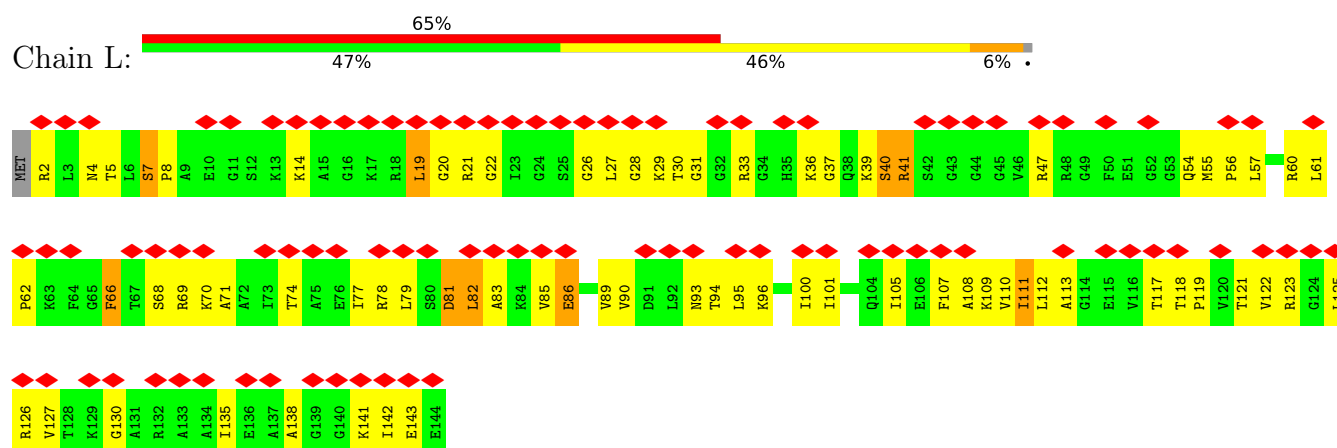
• Molecule 37: 50S ribosomal protein L13



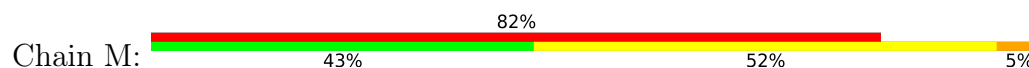
• Molecule 38: 50S ribosomal protein L14

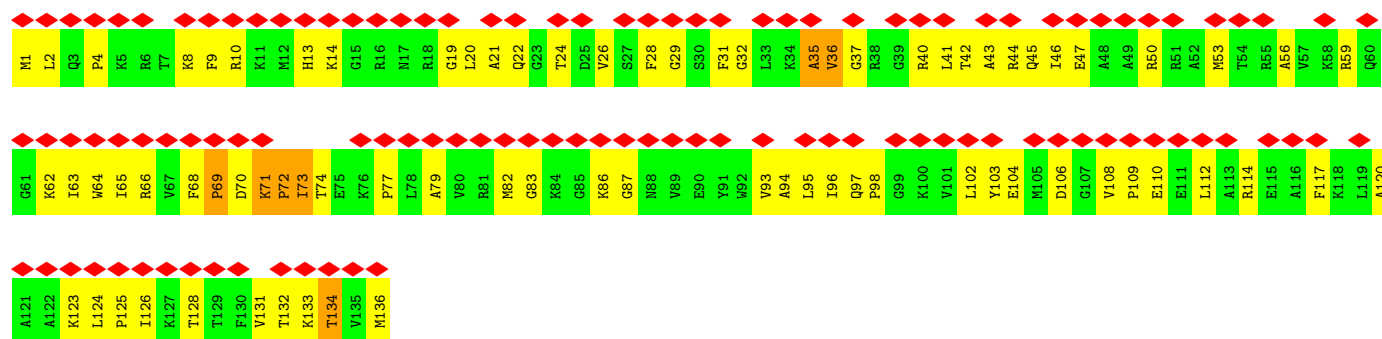


• Molecule 39: 50S ribosomal protein L15

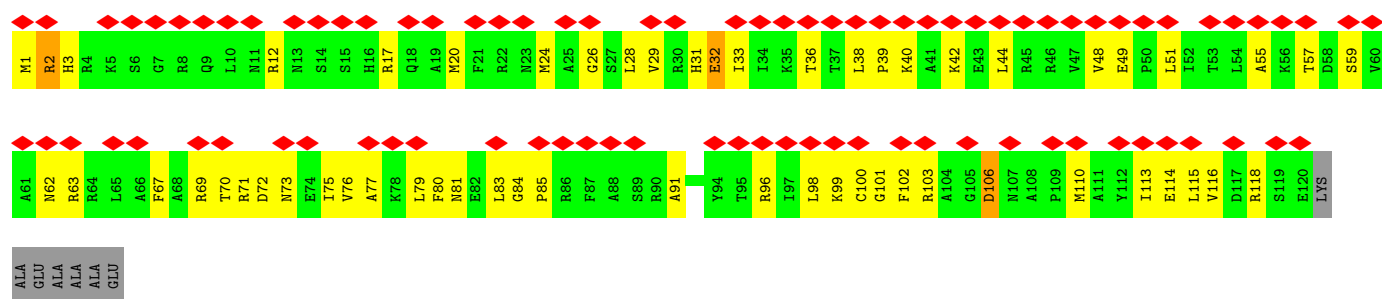


• Molecule 40: 50S ribosomal protein L16

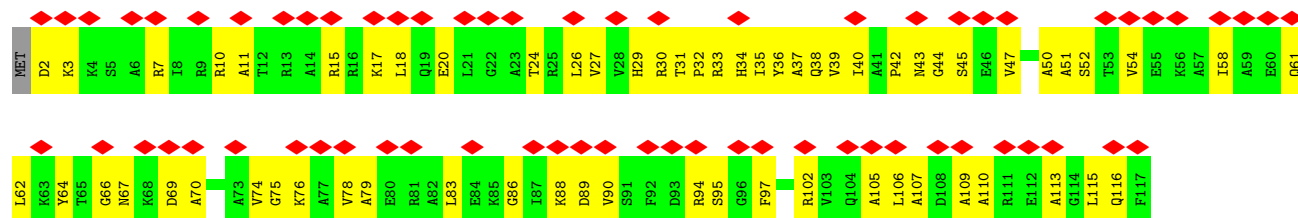




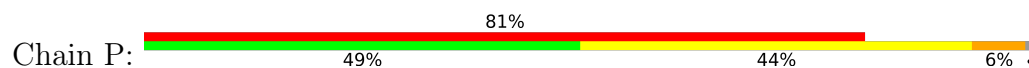
• Molecule 41: 50S ribosomal protein L17



• Molecule 42: 50S ribosomal protein L18

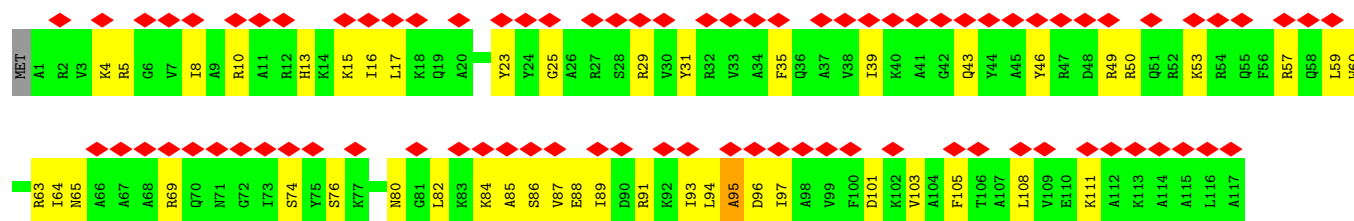


• Molecule 43: 50S ribosomal protein L19

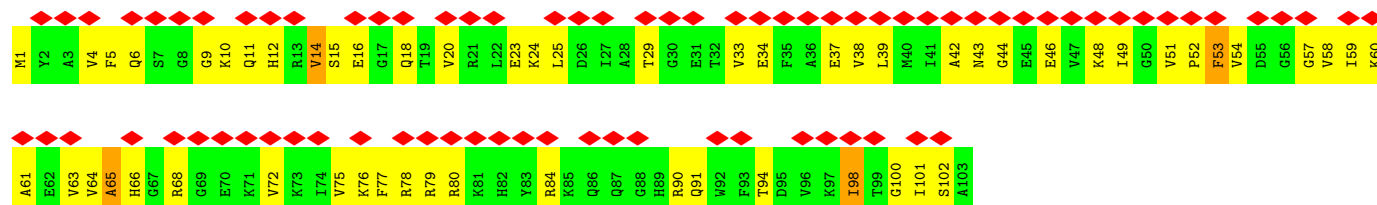
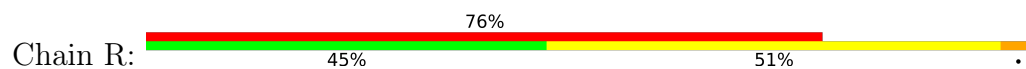


• Molecule 44: 50S ribosomal protein L20

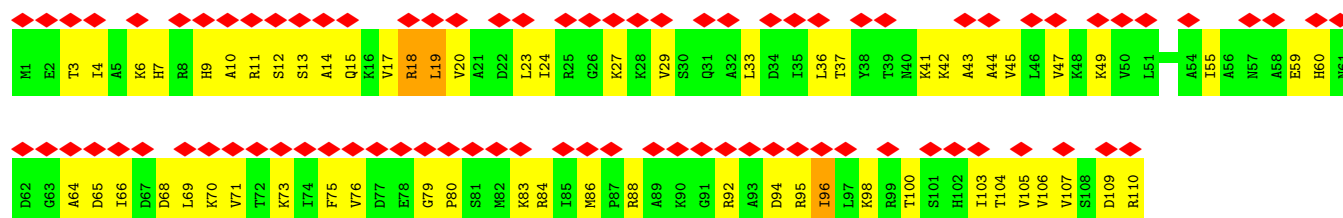
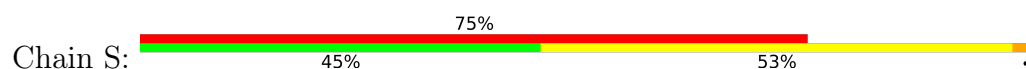




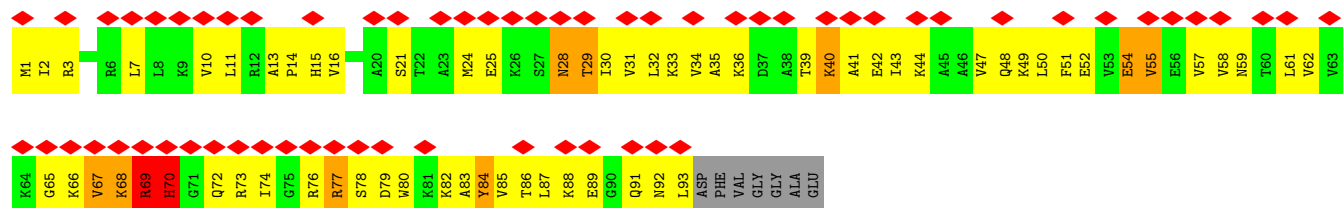
• Molecule 45: 50S ribosomal protein L21



• Molecule 46: 50S ribosomal protein L22

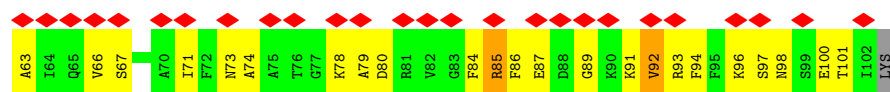


• Molecule 47: 50S ribosomal protein L23

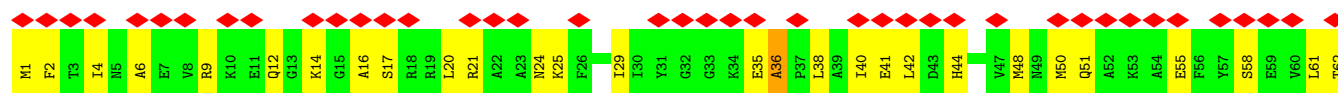


• Molecule 48: 50S ribosomal protein L24

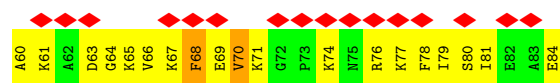
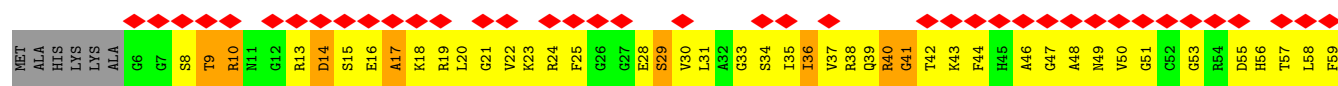




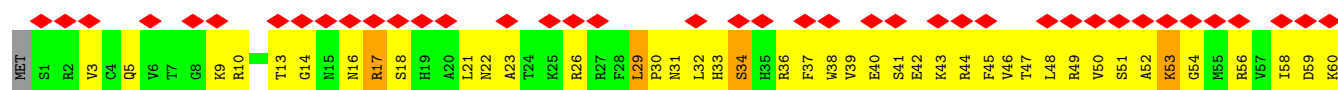
• Molecule 49: 50S ribosomal protein L25



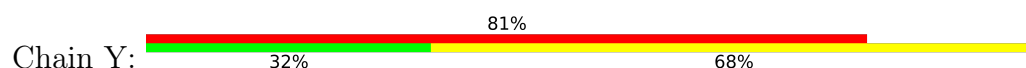
• Molecule 50: 50S ribosomal protein L27



• Molecule 51: 50S ribosomal protein L28

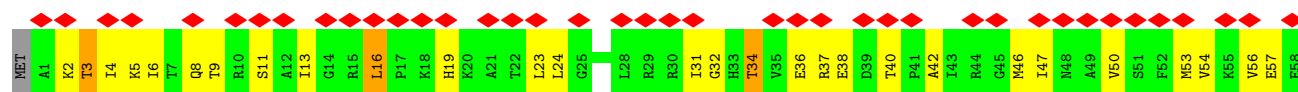


• Molecule 52: 50S ribosomal protein L29



• Molecule 53: 50S ribosomal protein L30

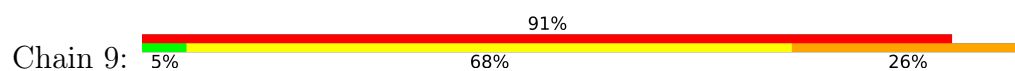




- Molecule 54: tRNA



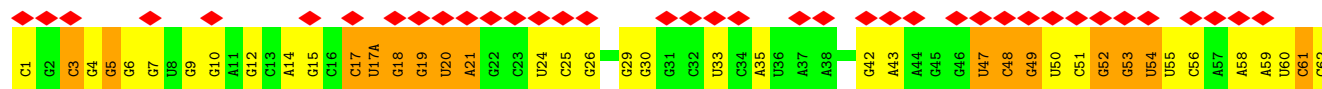
- Molecule 54: tRNA



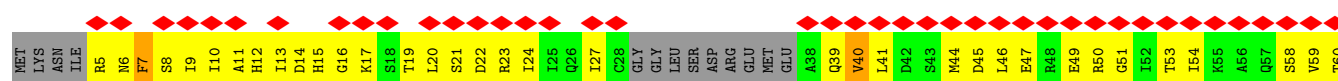
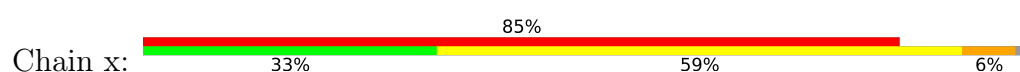
- Molecule 55: mRNA



- Molecule 56: tRNA



- Molecule 57: Elongation factor 4



V542	R482	C422	D362	V302	T242	P181	E121	L61
K543	V483	V423	L363	S303	P242	P182	M122	D62
Q544	D484	E424	I364	S304		P183	D123	Y63
L545	V485	K425	T365	D305	V245	E184	L124	K64
R546	L486	R426	T366	D306	D246	G185	E125	A65
K547	I487	Q427	A367	D307	R247	D186	V126	S66
N548	W488	V428	P368	E308	T248	P187	V127	D67
V549	Q489	Q429	T369	A309	E249	E188	P128	G68
L550	E490	T430	V370	F310	L250	G189	V129	E69
A551	R491	W431	V371	R311	K251	P190	T70	T70
K552	V492	W432	Y372	D312	C252	L191	N131	Y71
C553	D493	V433	E373	A313	G253	Q192	K132	Q72
Y554	W494	W434	V374	L314	E254	A193	L133	L73
G555	L495	H435	G375	G315	V255	L194	D134	N74
G556	A496	Q436	T376	K316	G256	I195	L135	F75
D557	L497	R437	T377	L317	W257	I196	P136	I76
L558	T498	Q438	S378	G318	L258	D197	A137	D77
S559	T499	V439	S379	L319	C260	S198	A138	T78
R560	W500	A440	E380	N320	A261	W199	D139	P79
K561	H501	L441	V381	D321	I262	F200	P140	G80
K562	D502	T442	T382	A322	K263	D201	E141	H81
K563	N503	Y443	Y383	S323	D264	N202	V143	V82
L564	S504	E444	V384	L324	I265	Y203	A144	D83
L565	O505	T445	D385	F325	H266	L204	E145	F84
Q566	N506	P446	S386	Y326	G267	G205	E146	S85
K567	R507	W447	P387	E327	A268	V206	I147	Y86
Q568	G508	A448	S388	P328	P269	V207	E148	E87
K569	E509	E449	K389	E329	V270	S208	D149	V88
E570	S510	V450	L390	S330	G271	L209	I150	S89
G571	L511	W451	P391	S331	D272	I210	V151	R90
K572	V512	L452	A392	S332	T273	R211	G152	S91
K573	E513	D453	V393	A333	L274	I212	I153	L92
R574	K514	F454	N394	L334	T275	K213	D154	A93
N575	L515	F455	N395	G335	L276	N214	A155	A94
K576	K516	D456	T396	F336	A277	G215	T156	C95
Q577	D517	R457	Y397	G337	R278	T216	D157	E96
L578	L518	L458	E398	F338	N279	L217	A158	G97
Q579	L519	K459	L399	F339	P280	R218	A98	A98
N580	F520	S460	R400	R339	A281	K219	R160	L99
V581	R521	T461	E401	C340	E282	G220	C161	L100
E582	Q522	S462	P402	G341	K283	D221	S162	V101
L583	F524	R463	L403	F342	A284	K222	A163	V102
Q585	Q525	Y465	A404	L343	L285	V223	K164	D103
E586	D525	A466	E405	G344	P286	K224	T165	A104
A587	L526	S467	H407	L345	G287	V225	G166	G105
F588	A527	L468	M408	L346	F288	M226	V167	Q106
L589	W528	D469	L409	H347	K289	S227	G168	G107
A590	Q529	Y470	M348	E349	K290	V169	V108	V108
T591	L410	N471	P411	I350	K291	Q170	D171	E109
L592	F472	Q412	Q412	I351	K292	Q230	V172	A110
H593	K473	A413	A413	Q352	P293	T231	L173	Q111
V594	R474	Y414	L415	R354	Q294	Y232	T112	T112
G595	F475	L416	L416	L355	V295	N233	E174	L113
K596	Q476	G416	G416	L356	V296	A234	A114	A114
D597	A477	N417	N417	E356	A297	D235	V177	N115
N598	S478	V418	V418	E357	G298	R236	R178	C116
K599	R539	T419	T419	E358	F299	L237	Y117	Y117
	S540	W420	W420	Y359	F300	D238	T118	T118
	T541	L421	L421	D360	P301	F240	A119	A119
				L361			M120	M120

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	107706	Depositor
Resolution determination method	Not provided	
CTF correction method	Not provided	
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	Not provided	
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.036	Depositor
Minimum map value	-0.014	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.01	Depositor
Map size ($\text{\AA}$)	422.40002, 422.40002, 422.40002	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.32, 1.32, 1.32	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: GNP, MG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	a	0.34	0/36834	0.30	0/57462
2	c	0.57	0/1651	0.87	4/2225 (0.2%)
3	d	0.50	0/1665	0.82	2/2227 (0.1%)
4	e	0.64	0/1118	0.94	2/1504 (0.1%)
5	f	0.51	0/851	0.91	4/1150 (0.3%)
6	g	0.52	0/1195	0.86	3/1602 (0.2%)
7	h	0.59	0/989	0.88	2/1326 (0.2%)
8	i	0.50	0/1034	0.88	1/1375 (0.1%)
9	j	0.51	0/796	0.84	2/1077 (0.2%)
10	k	0.59	0/893	0.96	4/1205 (0.3%)
11	l	0.60	0/969	0.95	6/1300 (0.5%)
12	m	0.52	0/892	0.93	5/1193 (0.4%)
13	n	0.51	0/817	1.04	7/1088 (0.6%)
14	o	0.61	0/722	0.76	0/964
15	p	0.49	0/659	0.92	2/884 (0.2%)
16	q	0.53	0/657	0.84	0/881
17	r	0.55	0/462	0.92	4/621 (0.6%)
18	s	0.45	0/652	0.86	2/877 (0.2%)
19	t	0.55	0/671	0.77	0/888
20	u	0.51	0/430	0.84	0/570
21	b	0.49	0/1735	0.90	7/2338 (0.3%)
22	0	0.63	0/450	0.81	0/599
23	1	0.55	0/416	0.97	5/554 (0.9%)
24	2	0.71	0/380	0.90	2/498 (0.4%)
25	3	0.60	0/513	0.84	0/676
26	4	0.60	0/303	0.91	0/397
27	5	0.35	0/1748	0.94	6/2355 (0.3%)
28	A	0.39	0/69799	0.32	0/108892
29	B	0.29	0/2828	0.27	0/4410
30	C	0.68	0/2115	0.95	5/2844 (0.2%)
31	D	0.64	0/1586	0.98	9/2134 (0.4%)
32	E	0.58	0/1571	0.86	3/2113 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	F	0.46	0/1434	0.82	4/1926 (0.2%)
34	G	0.48	0/1343	0.82	1/1816 (0.1%)
35	H	0.42	0/1122	0.99	4/1515 (0.3%)
36	I	0.40	0/1046	0.89	3/1410 (0.2%)
37	J	0.63	0/1152	0.95	5/1551 (0.3%)
38	K	0.64	0/947	0.97	6/1268 (0.5%)
39	L	0.60	0/1054	0.94	2/1403 (0.1%)
40	M	0.65	0/1093	1.09	8/1460 (0.5%)
41	N	0.65	0/973	0.85	0/1301
42	O	0.53	0/902	0.81	0/1209
43	P	0.55	0/929	0.95	3/1242 (0.2%)
44	Q	0.75	0/960	0.84	1/1278 (0.1%)
45	R	0.59	0/829	0.84	3/1107 (0.3%)
46	S	0.68	0/864	0.96	5/1156 (0.4%)
47	T	0.56	0/744	0.90	2/994 (0.2%)
48	U	0.49	0/787	0.89	2/1051 (0.2%)
49	V	0.51	0/766	0.83	2/1025 (0.2%)
50	W	0.64	0/603	1.06	4/797 (0.5%)
51	X	0.61	0/635	0.93	3/848 (0.4%)
52	Y	0.57	0/510	0.80	0/677
53	Z	0.60	0/453	0.99	3/605 (0.5%)
54	6	0.37	1/1812 (0.1%)	0.40	2/2820 (0.1%)
54	9	0.15	0/1813	0.27	0/2823
55	7	0.32	0/358	0.39	0/555
56	8	0.30	0/1832	0.30	0/2855
57	x	0.49	0/4646	0.88	15/6285 (0.2%)
All	All	0.44	1/167008 (0.0%)	0.55	165/249206 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
11	l	0	1
20	u	0	1
All	All	0	2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
54	6	75	C	O3'-P	-9.67	1.46	1.61

All (165) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	M	71	LYS	CA-C-N	10.74	130.97	119.05
40	M	71	LYS	C-N-CA	10.74	130.97	119.05
15	p	14	ARG	CA-C-N	10.71	130.81	119.78
15	p	14	ARG	C-N-CA	10.71	130.81	119.78
39	L	7	SER	CA-C-N	10.41	130.50	119.78
39	L	7	SER	C-N-CA	10.41	130.50	119.78
40	M	124	LEU	CA-C-N	10.38	130.70	119.28
40	M	124	LEU	C-N-CA	10.38	130.70	119.28
50	W	71	LYS	N-CA-C	9.59	117.95	108.75
27	5	146	THR	CA-C-N	9.29	129.49	119.28
27	5	146	THR	C-N-CA	9.29	129.49	119.28
31	D	151	THR	CA-C-N	-9.27	108.25	119.84
31	D	151	THR	C-N-CA	-9.27	108.25	119.84
5	f	90	MET	N-CA-C	9.12	119.95	108.19
32	E	58	LYS	CA-C-N	8.94	129.11	119.28
32	E	58	LYS	C-N-CA	8.94	129.11	119.28
21	b	191	ASP	CA-C-N	8.86	129.03	119.28
21	b	191	ASP	C-N-CA	8.86	129.03	119.28
31	D	52	THR	N-CA-C	8.65	115.87	108.78
13	n	69	ARG	CA-C-N	8.49	128.48	119.05
13	n	69	ARG	C-N-CA	8.49	128.48	119.05
10	k	122	ARG	CA-C-N	8.29	125.63	119.66
10	k	122	ARG	C-N-CA	8.29	125.63	119.66
57	x	410	LEU	CA-C-N	8.22	128.25	119.78
57	x	410	LEU	C-N-CA	8.22	128.25	119.78
13	n	93	ILE	CA-C-N	8.18	128.20	119.78
13	n	93	ILE	C-N-CA	8.18	128.20	119.78
54	6	75	C	O3'-P-O5'	8.10	116.15	104.00
30	C	27	LYS	CA-C-N	8.08	128.01	119.85
30	C	27	LYS	C-N-CA	8.08	128.01	119.85
23	1	29	LYS	CA-C-N	8.01	128.09	119.28
23	1	29	LYS	C-N-CA	8.01	128.09	119.28
13	n	51	LEU	CA-C-N	7.87	129.68	119.84
13	n	51	LEU	C-N-CA	7.87	129.68	119.84
2	c	16	LYS	CA-C-N	7.86	127.79	119.85
2	c	16	LYS	C-N-CA	7.86	127.79	119.85
37	J	96	ARG	CA-C-N	7.80	127.86	119.28
37	J	96	ARG	C-N-CA	7.80	127.86	119.28
54	6	75	C	OP2-P-O3'	7.68	131.03	108.00
17	r	40	VAL	CA-C-N	7.66	127.67	119.78
17	r	40	VAL	C-N-CA	7.66	127.67	119.78
57	x	241	THR	CA-C-N	-7.42	111.12	119.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
57	x	241	THR	C-N-CA	-7.42	111.12	119.28
53	Z	13	ILE	N-CA-C	7.40	118.17	110.62
21	b	156	LEU	CA-C-N	7.38	127.38	119.78
21	b	156	LEU	C-N-CA	7.38	127.38	119.78
38	K	119	ALA	CA-C-N	7.18	127.18	119.28
38	K	119	ALA	C-N-CA	7.18	127.18	119.28
12	m	66	GLU	CB-CA-C	-7.17	108.31	116.63
36	I	28	GLY	N-CA-C	-7.14	105.86	115.36
11	l	41	THR	CA-C-N	7.08	127.08	119.78
11	l	41	THR	C-N-CA	7.08	127.08	119.78
43	P	16	VAL	CA-C-N	6.96	126.88	119.85
43	P	16	VAL	C-N-CA	6.96	126.88	119.85
46	S	18	ARG	N-CA-C	-6.92	100.74	110.50
57	x	78	THR	CA-C-N	6.83	126.74	119.85
57	x	78	THR	C-N-CA	6.83	126.74	119.85
57	x	292	LYS	CA-C-N	6.82	126.73	119.85
57	x	292	LYS	C-N-CA	6.82	126.73	119.85
51	X	29	LEU	CA-C-N	6.75	126.66	119.85
51	X	29	LEU	C-N-CA	6.75	126.66	119.85
35	H	6	LEU	N-CA-C	-6.56	104.67	114.64
11	l	21	VAL	CA-C-N	6.56	126.49	119.28
11	l	21	VAL	C-N-CA	6.56	126.49	119.28
36	I	52	LEU	CA-C-N	6.54	126.52	119.78
36	I	52	LEU	C-N-CA	6.54	126.52	119.78
10	k	90	GLY	CA-C-N	6.52	126.50	119.78
10	k	90	GLY	C-N-CA	6.52	126.50	119.78
7	h	92	LEU	CA-C-N	6.51	126.49	119.78
7	h	92	LEU	C-N-CA	6.51	126.49	119.78
37	J	124	VAL	N-CA-C	6.50	117.49	111.45
33	F	137	PHE	CA-C-N	6.48	126.41	119.28
33	F	137	PHE	C-N-CA	6.48	126.41	119.28
30	C	93	VAL	N-CA-C	6.47	117.56	111.48
8	i	59	GLU	N-CA-C	-6.42	104.66	114.16
9	j	42	LEU	CA-C-N	6.36	126.33	119.78
9	j	42	LEU	C-N-CA	6.36	126.33	119.78
45	R	9	GLY	N-CA-C	-6.34	106.49	115.30
45	R	44	GLY	N-CA-C	-6.33	107.03	115.32
44	Q	95	ALA	N-CA-C	-6.32	105.63	113.15
57	x	386	SER	CA-C-N	6.22	126.12	119.28
57	x	386	SER	C-N-CA	6.22	126.12	119.28
53	Z	16	LEU	CA-C-N	6.22	126.12	119.28
53	Z	16	LEU	C-N-CA	6.22	126.12	119.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	V	36	ALA	CA-C-N	6.19	126.16	119.78
49	V	36	ALA	C-N-CA	6.19	126.16	119.78
43	P	86	LYS	CB-CA-C	-6.18	109.43	116.54
46	S	79	GLY	CA-C-N	6.13	126.10	119.78
46	S	79	GLY	C-N-CA	6.13	126.10	119.78
40	M	83	GLY	N-CA-C	6.13	125.18	114.76
46	S	86	MET	CA-C-N	6.12	126.09	119.78
46	S	86	MET	C-N-CA	6.12	126.09	119.78
11	l	24	LEU	N-CA-C	6.11	118.41	110.53
51	X	54	GLY	N-CA-C	-6.02	105.35	113.24
50	W	71	LYS	CB-CA-C	-6.02	107.68	116.53
12	m	9	ILE	CA-C-N	6.01	127.35	119.84
12	m	9	ILE	C-N-CA	6.01	127.35	119.84
31	D	9	VAL	N-CA-C	-5.99	107.08	112.12
2	c	108	LYS	CA-C-N	5.98	125.86	119.28
2	c	108	LYS	C-N-CA	5.98	125.86	119.28
31	D	52	THR	CB-CA-C	-5.96	108.48	117.07
21	b	180	ILE	CA-C-N	5.94	125.90	119.78
21	b	180	ILE	C-N-CA	5.94	125.90	119.78
4	e	97	GLN	CA-C-N	5.92	125.79	119.28
4	e	97	GLN	C-N-CA	5.92	125.79	119.28
6	g	70	ARG	CA-C-N	5.90	125.86	119.78
6	g	70	ARG	C-N-CA	5.90	125.86	119.78
12	m	7	ILE	N-CA-C	-5.77	105.77	111.77
38	K	71	ARG	CA-C-N	5.76	125.44	119.05
38	K	71	ARG	C-N-CA	5.76	125.44	119.05
23	l	39	ASP	CA-C-N	5.74	125.59	119.28
23	l	39	ASP	C-N-CA	5.74	125.59	119.28
32	E	38	GLY	N-CA-C	-5.73	108.26	115.08
30	C	93	VAL	CB-CA-C	-5.70	106.87	111.71
31	D	174	SER	CB-CA-C	-5.67	110.02	116.54
3	d	37	ALA	CA-C-N	5.64	125.49	119.28
3	d	37	ALA	C-N-CA	5.64	125.49	119.28
45	R	14	VAL	N-CA-C	5.64	115.97	107.80
57	x	139	ASP	CA-C-N	5.61	125.45	119.28
57	x	139	ASP	C-N-CA	5.61	125.45	119.28
21	b	90	PHE	N-CA-C	5.56	116.72	108.60
50	W	53	GLY	N-CA-C	-5.52	104.06	112.51
6	g	87	VAL	N-CA-C	5.49	113.30	107.76
35	H	99	ILE	N-CA-C	5.48	115.53	107.75
24	2	6	GLN	CA-C-N	5.46	125.40	119.78
24	2	6	GLN	C-N-CA	5.46	125.40	119.78

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	C	40	GLY	N-CA-C	-5.42	107.84	115.32
37	J	73	VAL	N-CA-C	5.40	118.36	112.96
12	m	66	GLU	N-CA-C	5.33	117.09	108.08
5	f	11	HIS	CA-C-N	5.33	125.14	119.28
5	f	11	HIS	C-N-CA	5.33	125.14	119.28
13	n	93	ILE	N-CA-C	5.33	113.21	108.63
18	s	41	PHE	CA-C-N	5.32	125.14	119.28
18	s	41	PHE	C-N-CA	5.32	125.14	119.28
47	T	62	VAL	N-CA-C	5.32	114.41	106.85
38	K	47	ILE	CA-C-N	5.32	124.95	119.05
38	K	47	ILE	C-N-CA	5.32	124.95	119.05
47	T	54	GLU	N-CA-C	5.32	117.07	111.28
5	f	18	VAL	CB-CA-C	-5.30	107.06	114.00
37	J	73	VAL	CB-CA-C	-5.29	106.40	111.06
31	D	142	VAL	CA-C-N	5.28	125.09	119.28
31	D	142	VAL	C-N-CA	5.28	125.09	119.28
27	5	36	ALA	CA-C-N	5.28	131.20	121.70
27	5	36	ALA	C-N-CA	5.28	131.20	121.70
35	H	129	GLU	N-CA-C	5.27	113.10	108.78
50	W	40	ARG	N-CA-C	-5.24	104.17	111.30
33	F	63	LYS	CA-C-N	5.24	125.18	119.78
33	F	63	LYS	C-N-CA	5.24	125.18	119.78
27	5	137	MET	CA-C-N	5.24	125.17	119.78
27	5	137	MET	C-N-CA	5.24	125.17	119.78
17	r	68	LEU	CA-C-N	5.23	124.99	119.76
17	r	68	LEU	C-N-CA	5.23	124.99	119.76
48	U	84	PHE	N-CA-C	5.20	117.09	109.24
57	x	279	ASN	CA-C-N	5.19	125.13	119.78
57	x	279	ASN	C-N-CA	5.19	125.13	119.78
40	M	72	PRO	N-CA-C	5.19	120.74	113.53
48	U	89	GLY	N-CA-C	-5.18	108.47	115.21
11	l	102	LEU	CB-CA-C	-5.17	110.20	117.23
57	x	315	GLY	N-CA-C	-5.14	108.58	115.32
40	M	19	GLY	N-CA-C	5.14	118.04	112.29
40	M	70	ASP	N-CA-C	5.12	118.50	111.54
23	1	49	LYS	N-CA-C	5.12	114.90	108.45
34	G	10	VAL	N-CA-C	5.12	113.50	107.77
31	D	52	THR	CA-C-O	5.08	120.88	117.94
35	H	8	LYS	N-CA-C	-5.05	107.07	114.39

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
11	l	23	ALA	Peptide
20	u	37	PHE	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	a	32895	0	16553	1105	0
2	c	1624	0	1696	115	0
3	d	1643	0	1707	158	0
4	e	1105	0	1148	113	0
5	f	832	0	824	88	0
6	g	1181	0	1238	89	0
7	h	979	0	1031	108	0
8	i	1022	0	1070	129	0
9	j	786	0	828	93	0
10	k	877	0	887	83	0
11	l	955	0	1016	97	0
12	m	883	0	941	117	0
13	n	805	0	843	202	0
14	o	714	0	734	46	0
15	p	649	0	666	57	0
16	q	648	0	691	44	0
17	r	455	0	478	25	0
18	s	637	0	665	62	0
19	t	665	0	714	61	0
20	u	425	0	449	64	0
21	b	1704	0	1732	192	0
22	0	444	0	461	40	0
23	1	409	0	440	51	0
24	2	377	0	418	16	0
25	3	504	0	574	33	0
26	4	302	0	340	40	0
27	5	1733	0	1824	398	0
28	A	62320	0	31344	2050	0
29	B	2529	0	1281	96	0
30	C	2076	0	2152	170	0
31	D	1565	0	1616	141	0
32	E	1552	0	1619	139	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
33	F	1410	0	1447	130	0
34	G	1323	0	1374	156	0
35	H	1111	0	1148	237	0
36	I	1032	0	1088	166	0
37	J	1129	0	1162	119	0
38	K	938	0	1012	77	0
39	L	1045	0	1117	100	0
40	M	1074	0	1157	86	0
41	N	960	0	1000	58	0
42	O	892	0	923	84	0
43	P	917	0	965	90	0
44	Q	947	0	1022	101	0
45	R	816	0	839	96	0
46	S	857	0	922	60	0
47	T	738	0	807	99	0
48	U	779	0	834	53	0
49	V	753	0	780	48	0
50	W	596	0	610	120	0
51	X	625	0	655	64	0
52	Y	509	0	543	49	0
53	Z	449	0	491	34	0
54	6	1622	0	820	55	0
54	9	1623	0	821	163	0
55	7	320	0	162	22	0
56	8	1640	0	837	55	0
57	x	4573	0	4619	550	0
58	6	11	0	8	1	0
59	x	32	0	13	3	0
60	x	1	0	0	0	0
All	All	154017	0	105156	8213	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 33.

All (8213) 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)
13:n:28:LYS:CE	13:n:48:LEU:HB3	1.52	1.39
13:n:32:SER:HB2	13:n:45:VAL:CG1	1.58	1.32
13:n:48:LEU:O	13:n:50:THR:N	1.61	1.29
13:n:35:ASN:OD1	13:n:42:TRP:CD1	1.89	1.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:12:HIS:CE1	57:x:109:GLU:OE2	1.85	1.25
57:x:195:ILE:O	57:x:196:ILE:HD13	1.44	1.17
50:W:37:VAL:HG12	50:W:38:ARG:HG3	1.19	1.17
10:k:23:ILE:HD11	10:k:86:VAL:HG22	1.18	1.17
13:n:35:ASN:OD1	13:n:42:TRP:HD1	1.24	1.15
13:n:28:LYS:HE2	13:n:48:LEU:CB	1.77	1.15
35:H:90:LEU:HD11	35:H:146:VAL:HG23	1.27	1.15
13:n:28:LYS:HE3	13:n:48:LEU:CD1	1.76	1.14
42:O:51:ALA:HB3	42:O:78:VAL:HG12	1.25	1.14
13:n:28:LYS:CE	13:n:48:LEU:CB	2.25	1.14
57:x:284:ALA:HB1	57:x:285:LEU:HA	1.23	1.13
31:D:119:ALA:HB1	31:D:124:ARG:HB2	1.24	1.13
28:A:558:U:H5''	37:J:111:LYS:HE3	1.24	1.13
31:D:184:ARG:HG2	31:D:186:LEU:HD13	1.26	1.13
13:n:41:ARG:NH1	13:n:42:TRP:N	1.98	1.12
27:5:85:GLU:HG2	27:5:88:LYS:HD2	1.30	1.12
57:x:281:ALA:HB3	57:x:283:LYS:HD3	1.18	1.12
1:a:723:U:H5'	20:u:49:LYS:HE2	1.31	1.11
27:5:62:ALA:HB3	27:5:145:VAL:HA	1.28	1.11
57:x:350:ILE:O	57:x:352:GLN:N	1.83	1.11
57:x:13:ILE:HG12	57:x:80:GLY:O	1.50	1.11
9:j:53:ILE:HG12	9:j:61:ALA:HB1	1.31	1.10
13:n:28:LYS:HE3	13:n:48:LEU:HD13	1.16	1.10
27:5:71:ARG:HA	27:5:177:LYS:HB2	1.24	1.10
28:A:1336:A:P	47:T:68:LYS:HZ3	1.75	1.09
31:D:151:THR:HG23	31:D:152:PRO:HD3	1.18	1.09
27:5:42:VAL:HG21	27:5:175:ILE:HB	1.30	1.08
13:n:41:ARG:HH11	13:n:42:TRP:N	1.49	1.08
35:H:77:THR:HG22	35:H:144:VAL:HB	1.26	1.08
57:x:241:THR:HG22	57:x:242:PRO:HD2	1.25	1.08
27:5:51:ASP:HB2	27:5:204:ALA:HB2	1.32	1.08
12:m:3:ARG:HB2	12:m:57:ARG:HH12	1.06	1.07
15:p:54:LEU:HD22	15:p:80:LYS:HD2	1.36	1.07
36:I:105:LEU:HA	36:I:108:ILE:HD12	1.36	1.07
13:n:32:SER:HB2	13:n:45:VAL:HG11	1.07	1.06
57:x:342:PHE:CD2	57:x:348:MET:HB2	1.91	1.06
48:U:38:ILE:HG23	48:U:39:ASN:H	1.18	1.05
13:n:46:LEU:CB	13:n:47:LYS:HZ3	1.70	1.05
28:A:1813:G:H1'	30:C:49:THR:HG21	1.38	1.05
8:i:84:THR:HG21	8:i:103:PHE:HB3	1.39	1.05
27:5:44:VAL:HG23	27:5:212:VAL:HG13	1.33	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:C:68:ARG:HD3	30:C:103:ILE:HD13	1.35	1.05
8:i:36:GLU:HA	8:i:40:GLY:HA3	1.06	1.04
28:A:2117:A:H4'	28:A:2145:C:H4'	1.31	1.04
40:M:53:MET:HE3	40:M:63:ILE:HD13	1.40	1.04
13:n:35:ASN:HB2	18:s:7:LYS:HE2	1.39	1.03
27:5:131:LEU:HD13	27:5:138:PRO:HG2	1.35	1.03
33:F:105:ILE:HD12	33:F:138:PRO:HG2	1.40	1.03
13:n:27:LEU:HA	13:n:30:ILE:HG13	1.40	1.03
27:5:45:ALA:HB3	27:5:213:SER:HB2	1.34	1.03
5:f:1:MET:HE2	5:f:67:PRO:HD3	1.39	1.02
8:i:99:ARG:HG3	8:i:104:VAL:HG21	1.39	1.02
13:n:41:ARG:HH12	13:n:42:TRP:HA	1.23	1.02
30:C:132:ARG:HG2	35:H:120:GLY:HA3	1.39	1.02
31:D:151:THR:CG2	31:D:152:PRO:HD3	1.89	1.02
13:n:27:LEU:HA	13:n:30:ILE:CD1	1.88	1.02
34:G:102:ILE:HD12	34:G:116:LEU:HD11	1.38	1.02
41:N:44:LEU:HD23	41:N:113:ILE:HD13	1.39	1.02
21:b:69:VAL:HB	21:b:162:VAL:HG23	1.38	1.01
27:5:33:LEU:HG	27:5:220:ALA:HB3	1.43	1.01
27:5:11:ILE:HG22	27:5:33:LEU:HD12	1.41	1.01
8:i:129:LYS:HG3	8:i:130:ARG:HG3	1.36	1.01
22:0:42:ILE:HD11	41:N:98:LEU:HB3	1.39	1.01
33:F:39:VAL:HG11	33:F:49:LEU:HD13	1.39	1.01
54:9:40:C:H2'	54:9:41:C:H5''	1.40	1.01
28:A:1645:G:H5''	28:A:1646:C:H5'	1.41	1.00
34:G:26:LYS:HB2	34:G:32:LEU:HG	1.40	1.00
21:b:163:ILE:HG23	21:b:164:ASP:H	1.25	1.00
28:A:1533:C:H2'	28:A:1534:U:H5''	1.44	1.00
35:H:90:LEU:HG	35:H:147:VAL:HG12	1.40	1.00
37:J:44:TYR:HB2	44:Q:63:ARG:HB3	1.40	1.00
15:p:54:LEU:HB3	15:p:80:LYS:HE3	1.42	1.00
13:n:38:ASP:HB2	13:n:39:GLU:CG	1.92	1.00
31:D:2:ILE:HD12	31:D:96:ILE:HD13	1.44	0.99
13:n:27:LEU:HA	13:n:30:ILE:CG1	1.91	0.99
35:H:83:LYS:HG3	35:H:90:LEU:HD22	1.44	0.99
57:x:349:GLU:O	57:x:352:GLN:HB3	1.63	0.99
28:A:1800:C:H5'	30:C:145:MET:HE1	1.42	0.99
42:O:79:ALA:HB1	42:O:115:LEU:HD13	1.41	0.99
10:k:84:VAL:HG23	10:k:107:ILE:HD11	1.46	0.98
27:5:69:THR:HG22	27:5:73:VAL:HG12	1.42	0.98
57:x:10:ILE:HD11	57:x:92:LEU:HD21	1.46	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:32:SER:CB	13:n:45:VAL:HG11	1.93	0.98
1:a:461:A:H2'	1:a:462:G:H5''	1.45	0.98
9:j:27:GLU:HA	9:j:30:LYS:HE2	1.46	0.98
20:u:25:LYS:HG2	20:u:26:ALA:H	1.26	0.98
27:5:134:ARG:HB3	28:A:2125:G:H1	1.24	0.98
9:j:57:VAL:HG12	9:j:58:ASN:H	1.24	0.98
52:Y:9:LYS:HG3	52:Y:11:VAL:H	1.27	0.98
35:H:67:ALA:HB3	35:H:68:ARG:HA	1.43	0.98
48:U:35:VAL:HB	48:U:38:ILE:HG21	1.44	0.98
36:I:17:ALA:HB1	36:I:38:CYS:HA	1.46	0.97
43:P:50:ARG:HB2	43:P:56:SER:HB3	1.45	0.97
21:b:156:LEU:HD22	21:b:178:LEU:HD21	1.43	0.97
27:5:130:VAL:HB	28:A:2170:A:H1'	1.46	0.97
43:P:4:ILE:HG22	43:P:5:LYS:H	1.28	0.97
27:5:36:ALA:HA	27:5:37:LYS:HG2	1.44	0.97
28:A:547:A:H3'	28:A:548:G:H5'	1.46	0.97
28:A:1043:C:H2'	28:A:1044:C:H5''	1.43	0.97
34:G:96:ALA:HB3	34:G:103:ASN:HB2	1.46	0.97
34:G:1:SER:HA	34:G:4:ALA:HB3	1.44	0.97
57:x:195:ILE:C	57:x:196:ILE:HD13	1.90	0.97
8:i:28:ILE:HG23	8:i:63:LEU:HD11	1.42	0.96
28:A:1336:A:P	47:T:68:LYS:NZ	2.36	0.96
34:G:24:THR:HG21	34:G:32:LEU:HD23	1.45	0.96
57:x:192:GLN:HE21	57:x:283:LYS:HD2	1.30	0.96
44:Q:111:LYS:HB2	45:R:48:LYS:HE3	1.43	0.96
36:I:4:VAL:HG13	36:I:59:THR:HG23	1.47	0.96
32:E:32:VAL:HG23	32:E:178:VAL:HG12	1.47	0.96
54:6:35:A:H1'	54:6:36:A:H5'	1.48	0.96
1:a:225:C:H2'	1:a:226:G:H5''	1.47	0.96
27:5:115:ILE:HG21	27:5:153:VAL:HG22	1.44	0.96
35:H:94:ILE:HA	35:H:114:GLU:HG3	1.45	0.96
3:d:58:LYS:HD3	3:d:203:LEU:HD23	1.47	0.96
27:5:148:ASN:HB2	27:5:152:ALA:HB2	1.45	0.96
27:5:36:ALA:HA	27:5:37:LYS:CG	1.95	0.95
28:A:1597:A:H5''	28:A:1598:A:H5'	1.46	0.95
43:P:25:VAL:HB	43:P:83:ILE:HD11	1.45	0.95
57:x:282:GLU:HB3	57:x:283:LYS:HA	1.48	0.95
15:p:4:ILE:HG13	15:p:21:VAL:HG22	1.47	0.95
36:I:96:LYS:HG2	36:I:138:VAL:HG23	1.47	0.95
5:f:62:MET:HG3	5:f:64:VAL:HG23	1.47	0.95
23:1:34:GLU:HG2	23:1:49:LYS:HG2	1.47	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:31:ILE:C	13:n:34:VAL:HG11	1.91	0.95
13:n:41:ARG:HH11	13:n:42:TRP:H	0.95	0.95
27:5:79:THR:HA	27:5:120:ALA:HB3	1.47	0.94
28:A:996:A:H4'	44:Q:91:ARG:HE	1.27	0.94
49:V:86:LEU:HD13	49:V:89:ILE:HD11	1.47	0.94
13:n:35:ASN:HB2	18:s:7:LYS:CE	1.98	0.94
36:I:10:LEU:HD21	36:I:23:VAL:HG12	1.46	0.94
21:b:53:LEU:HD21	21:b:216:VAL:HG12	1.46	0.94
38:K:108:ARG:NH2	38:K:113:MET:SD	2.41	0.94
7:h:41:LYS:HD3	7:h:48:ASP:HA	1.49	0.94
33:F:113:PHE:HE1	33:F:116:LEU:HD12	1.30	0.94
1:a:206:C:H2'	1:a:207:C:H6	1.33	0.94
26:4:7:VAL:HG23	26:4:8:LYS:H	1.32	0.93
44:Q:43:GLN:HE21	45:R:77:PHE:HB3	1.33	0.93
4:e:82:GLN:H	4:e:147:MET:HE3	1.31	0.93
57:x:350:ILE:O	57:x:353:GLU:N	2.01	0.93
1:a:1086:U:HO2'	1:a:1087:G:H8	0.95	0.93
39:L:95:LEU:HB2	39:L:101:ILE:HD11	1.47	0.93
27:5:175:ILE:HG22	27:5:185:LEU:HD22	1.49	0.93
36:I:85:ILE:HG22	36:I:87:SER:H	1.30	0.93
57:x:241:THR:HG22	57:x:242:PRO:CD	1.99	0.92
3:d:60:LYS:HE3	3:d:195:ILE:HG22	1.49	0.92
28:A:2131:U:H3	28:A:2157:G:HO2'	1.05	0.92
41:N:33:ILE:HD13	41:N:114:GLU:HB3	1.49	0.92
26:4:3:VAL:HG23	26:4:4:ARG:H	1.30	0.92
31:D:151:THR:HG23	31:D:152:PRO:CD	1.98	0.92
1:a:203:G:H1'	1:a:465:A:H61	1.34	0.92
15:p:46:LYS:HG3	15:p:48:GLU:H	1.31	0.92
21:b:49:PHE:HA	21:b:52:ALA:HB3	1.51	0.92
34:G:26:LYS:HD2	34:G:32:LEU:HD11	1.52	0.92
1:a:823:C:HO2'	7:h:2:SER:N	1.68	0.92
4:e:39:VAL:HG22	4:e:67:ALA:HB1	1.52	0.92
13:n:46:LEU:HB2	13:n:47:LYS:HZ3	1.35	0.92
27:5:27:ILE:HG22	27:5:31:LYS:HE3	1.50	0.92
43:P:21:PRO:HD3	43:P:49:ILE:HD12	1.48	0.92
24:2:3:ARG:NH2	28:A:1613:G:O2'	2.03	0.91
1:a:1406:U:H2'	1:a:1407:C:H5'	1.49	0.91
33:F:79:ARG:HB3	33:F:82:TYR:CE2	2.05	0.91
6:g:143:ARG:HD3	54:9:41:C:H4'	1.50	0.91
12:m:29:ARG:HH21	12:m:63:PHE:HB2	1.35	0.91
11:l:24:LEU:HG	11:l:25:GLU:HG3	1.52	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2192:U:H2'	28:A:2193:G:H5'	1.52	0.91
1:a:664:G:H22	1:a:741:G:H1	1.15	0.91
35:H:37:VAL:HG13	35:H:38:PRO:HD2	1.52	0.91
36:I:4:VAL:HG12	36:I:6:ALA:H	1.36	0.91
13:n:27:LEU:CA	13:n:30:ILE:HG13	2.01	0.91
13:n:28:LYS:HE3	13:n:48:LEU:CG	1.99	0.91
50:W:13:ARG:HG2	50:W:14:ASP:H	1.32	0.91
57:x:300:PHE:HD1	57:x:337:GLY:HA3	1.35	0.91
1:a:653:U:H5'	7:h:56:LYS:HE2	1.51	0.91
28:A:279:A:H2'	28:A:280:U:H5'	1.50	0.91
6:g:23:LEU:HD11	6:g:59:LEU:HD21	1.49	0.91
8:i:34:SER:HB3	8:i:37:GLN:HG2	1.52	0.91
13:n:40:ASP:O	13:n:41:ARG:HG3	1.71	0.91
57:x:130:LEU:HD12	57:x:160:ARG:HG2	1.53	0.91
1:a:1029:U:H4'	1:a:1030:U:H5	1.33	0.90
13:n:32:SER:HB2	13:n:45:VAL:HG12	1.51	0.90
23:1:8:ILE:HD13	23:1:24:LYS:HG2	1.53	0.90
28:A:710:U:H2'	28:A:711:G:H5''	1.51	0.90
54:6:76:A:C6	57:x:545:LEU:HD23	2.07	0.90
13:n:46:LEU:CB	13:n:47:LYS:NZ	2.33	0.90
33:F:147:ARG:HG3	33:F:149:ARG:H	1.32	0.90
44:Q:87:VAL:HG12	44:Q:89:ILE:HG23	1.50	0.90
28:A:2298:A:OP1	33:F:70:ARG:NH2	2.02	0.90
28:A:2354:C:H4'	50:W:31:LEU:HD22	1.51	0.90
34:G:15:ASP:HB2	34:G:26:LYS:HB3	1.50	0.90
10:k:88:GLY:H	10:k:114:THR:HG22	1.33	0.90
28:A:2140:G:H2'	28:A:2141:G:C8	2.07	0.90
8:i:36:GLU:CA	8:i:40:GLY:HA3	2.00	0.89
43:P:17:PRO:HG3	43:P:83:ILE:HG23	1.55	0.89
57:x:135:LEU:HD12	57:x:136:PRO:HD2	1.50	0.89
49:V:72:VAL:HG12	49:V:93:ARG:HA	1.52	0.89
27:5:30:LEU:HD11	27:5:216:THR:H	1.37	0.89
28:A:2355:G:H4'	50:W:20:LEU:HD13	1.52	0.89
5:f:86:ARG:NE	17:r:64:TYR:O	2.04	0.89
9:j:5:ARG:HE	9:j:79:PRO:HG3	1.33	0.89
36:I:79:LEU:HD12	36:I:131:THR:HG22	1.53	0.89
48:U:92:VAL:HG22	48:U:93:ARG:H	1.36	0.89
57:x:281:ALA:CB	57:x:283:LYS:HD3	2.03	0.89
57:x:410:LEU:HD22	57:x:418:VAL:HG21	1.54	0.89
28:A:1069:A:H1'	28:A:1073:A:H62	1.38	0.89
13:n:48:LEU:C	13:n:50:THR:H	1.80	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:635:C:OP2	39:L:126:ARG:NH1	2.06	0.89
43:P:50:ARG:HD3	43:P:75:THR:HG21	1.54	0.89
35:H:144:VAL:HG23	35:H:146:VAL:HG13	1.53	0.89
11:l:83:ARG:HG2	11:l:84:GLY:H	1.38	0.89
28:A:1482:G:H2'	28:A:1483:G:H8	1.36	0.89
44:Q:91:ARG:HD3	45:R:11:GLN:HB2	1.53	0.89
51:X:36:ARG:HG2	51:X:47:THR:HG22	1.55	0.89
13:n:24:ARG:O	13:n:27:LEU:N	2.05	0.88
13:n:41:ARG:NH1	13:n:42:TRP:CA	2.36	0.88
20:u:34:ARG:HH11	20:u:35:ARG:HG2	1.38	0.88
3:d:197:GLU:HA	3:d:200:ILE:HG22	1.55	0.88
23:1:8:ILE:HG23	23:1:51:ALA:HA	1.55	0.88
1:a:1447:A:H5''	1:a:1448:C:H5	1.38	0.88
28:A:2138:G:H2'	28:A:2139:U:H6	1.38	0.88
13:n:39:GLU:CB	13:n:40:ASP:HA	2.04	0.88
36:I:98:GLY:HA3	36:I:137:LEU:HD22	1.56	0.88
38:K:71:ARG:HB3	38:K:72:PRO:HD2	1.55	0.88
5:f:86:ARG:HH21	17:r:64:TYR:HB3	1.36	0.88
20:u:14:VAL:HG13	20:u:16:LEU:HG	1.54	0.88
38:K:10:VAL:HG21	38:K:16:ALA:HB3	1.53	0.88
28:A:960:A:H61	40:M:82:MET:HE3	1.36	0.88
54:6:35:A:H1'	54:6:36:A:C5'	2.04	0.88
27:5:212:VAL:HB	27:5:224:VAL:HG11	1.56	0.88
7:h:96:MET:HE2	7:h:99:LEU:HD11	1.56	0.88
35:H:129:GLU:CG	35:H:146:VAL:HG22	2.04	0.88
5:f:6:ILE:HD11	5:f:71:ILE:HD11	1.56	0.87
6:g:75:VAL:HG11	6:g:144:MET:HG3	1.54	0.87
40:M:134:THR:HG22	40:M:136:MET:H	1.37	0.87
37:J:44:TYR:CD1	44:Q:63:ARG:HD3	2.09	0.87
45:R:49:ILE:HD12	45:R:52:PRO:HA	1.56	0.87
51:X:3:VAL:HG22	51:X:10:ARG:HG2	1.54	0.87
37:J:55:ILE:HG22	37:J:123:LYS:HB2	1.57	0.87
38:K:18:ARG:HB3	38:K:45:GLU:HG2	1.57	0.87
53:Z:23:LEU:HD21	53:Z:53:MET:HE2	1.54	0.87
54:9:2:C:H2'	54:9:3:C:H5'	1.52	0.87
21:b:205:ALA:HB3	21:b:208:ALA:HB3	1.55	0.87
27:5:186:LYS:HD2	27:5:189:LEU:HD12	1.57	0.87
28:A:1336:A:OP2	47:T:68:LYS:NZ	2.07	0.87
35:H:1:MET:N	35:H:21:VAL:O	2.08	0.87
35:H:78:VAL:HG12	35:H:81:ALA:HA	1.55	0.87
57:x:519:ILE:HD12	57:x:528:ILE:HD11	1.54	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:b:140:LEU:O	21:b:144:GLU:N	2.08	0.87
35:H:104:THR:HG23	35:H:109:GLU:HA	1.55	0.87
53:Z:8:GLN:HG2	53:Z:31:ILE:HA	1.54	0.87
57:x:284:ALA:CB	57:x:285:LEU:HA	2.01	0.87
25:3:7:ARG:NH1	28:A:243:U:OP2	2.07	0.87
25:3:38:LYS:NZ	28:A:2365:G:N7	2.23	0.87
28:A:1199:U:H5'	44:Q:4:LYS:HE3	1.53	0.87
1:a:1007:U:H2'	1:a:1008:U:H5'	1.54	0.87
50:W:49:ASN:HB3	50:W:81:ILE:HD12	1.57	0.87
21:b:116:LEU:HB3	21:b:140:LEU:HD11	1.54	0.87
46:S:59:GLU:HA	46:S:64:ALA:HB2	1.56	0.86
38:K:108:ARG:HH12	38:K:113:MET:HA	1.40	0.86
43:P:50:ARG:HB2	43:P:56:SER:CB	2.04	0.86
54:9:4:C:H42	54:9:69:G:H1	1.18	0.86
1:a:68:G:H4'	1:a:171:A:H1'	1.57	0.86
12:m:90:ARG:HG2	12:m:97:VAL:HA	1.56	0.86
13:n:28:LYS:HE3	13:n:48:LEU:CB	2.01	0.86
27:5:43:ASP:H	27:5:214:ILE:HD12	1.40	0.86
29:B:86:G:H2'	29:B:87:U:H5''	1.55	0.86
13:n:33:ASP:HB2	13:n:34:VAL:HA	1.56	0.86
13:n:46:LEU:HB3	13:n:47:LYS:NZ	1.90	0.86
57:x:147:ILE:HG23	57:x:151:VAL:HB	1.57	0.86
47:T:54:GLU:HG3	47:T:88:LYS:HB3	1.53	0.86
3:d:35:GLU:HG3	3:d:36:GLN:H	1.40	0.86
55:7:13:C:N4	54:9:34:G:O6	2.08	0.86
1:a:718:A:H5'	10:k:119:ASN:ND2	1.90	0.86
27:5:36:ALA:HB1	27:5:38:PHE:N	1.91	0.86
27:5:42:VAL:HA	27:5:214:ILE:HD11	1.56	0.86
28:A:1474:U:H2'	28:A:1475:G:H5'	1.58	0.86
35:H:93:SER:H	35:H:116:ARG:HB3	1.40	0.86
57:x:109:GLU:HB3	57:x:112:THR:H	1.39	0.86
1:a:135:C:H2'	1:a:136:C:H5'	1.58	0.86
13:n:39:GLU:HB2	13:n:40:ASP:HA	1.55	0.86
28:A:880:G:N2	28:A:897:C:N3	2.23	0.86
35:H:104:THR:HA	35:H:109:GLU:H	1.41	0.86
37:J:17:VAL:HG13	37:J:137:PRO:HB2	1.57	0.86
13:n:38:ASP:HB2	13:n:39:GLU:HG2	1.58	0.85
28:A:1175:A:H5'	28:A:1176:U:H4'	1.57	0.85
28:A:2138:G:H2'	28:A:2139:U:C6	2.10	0.85
36:I:17:ALA:CB	36:I:38:CYS:HA	2.05	0.85
28:A:1055:G:H1	28:A:1104:C:H42	1.24	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:I:100:ILE:HB	36:I:139:VAL:HG23	1.58	0.85
28:A:2230:G:H5''	51:X:29:LEU:HD11	1.58	0.85
43:P:50:ARG:CB	43:P:56:SER:HB3	2.06	0.85
43:P:105:LYS:HE3	43:P:108:ARG:HH22	1.37	0.85
4:e:13:GLU:HB3	4:e:39:VAL:HG12	1.59	0.85
15:p:2:VAL:HG23	15:p:65:ALA:HA	1.57	0.85
28:A:355:U:H2'	28:A:356:G:C8	2.12	0.85
36:I:102:ARG:HB3	36:I:141:ASP:HA	1.58	0.85
57:x:12:HIS:HB2	57:x:112:THR:OG1	1.76	0.85
57:x:433:VAL:HG23	57:x:434:TYR:HB2	1.58	0.85
57:x:241:THR:CG2	57:x:242:PRO:HD2	2.05	0.85
57:x:455:PHE:HD1	57:x:468:LEU:HD12	1.40	0.85
30:C:251:THR:HG22	30:C:252:LYS:H	1.42	0.85
34:G:84:LYS:HD2	34:G:131:VAL:HB	1.58	0.84
4:e:105:ILE:H	4:e:123:VAL:H	1.25	0.84
8:i:99:ARG:HG3	8:i:104:VAL:CG2	2.06	0.84
13:n:35:ASN:HB3	13:n:38:ASP:O	1.75	0.84
34:G:24:THR:HG23	34:G:32:LEU:HB3	1.58	0.84
9:j:11:LYS:HE2	9:j:71:LEU:HD21	1.57	0.84
35:H:64:ALA:HA	35:H:71:LYS:HE3	1.57	0.84
47:T:28:ASN:HB2	47:T:91:GLN:HE22	1.42	0.84
12:m:3:ARG:HB2	12:m:57:ARG:NH1	1.92	0.84
13:n:6:MET:SD	13:n:9:ARG:NH1	2.50	0.84
13:n:28:LYS:HE2	13:n:48:LEU:HB3	0.86	0.84
49:V:58:SER:O	49:V:73:LYS:NZ	2.11	0.84
50:W:19:ARG:HH11	50:W:22:VAL:HG11	1.41	0.84
28:A:1567:G:H5'	30:C:57:HIS:HD2	1.40	0.84
44:Q:94:LEU:CD2	45:R:4:VAL:HG21	2.07	0.84
47:T:58:VAL:HG12	47:T:85:VAL:HA	1.60	0.84
47:T:68:LYS:HD3	47:T:69:ARG:N	1.93	0.84
28:A:1568:G:H4'	30:C:58:LYS:HB3	1.59	0.84
24:2:12:ARG:HE	24:2:44:VAL:HG11	1.41	0.84
36:I:105:LEU:HD11	36:I:139:VAL:HG21	1.58	0.84
1:a:8:A:C6	3:d:206:LYS:HB3	2.13	0.84
8:i:36:GLU:HA	8:i:40:GLY:CA	2.00	0.84
13:n:33:ASP:HB2	13:n:34:VAL:CA	2.07	0.84
30:C:134:ILE:HD13	30:C:140:VAL:HG11	1.59	0.84
49:V:6:ALA:HB2	49:V:42:LEU:HD23	1.60	0.84
13:n:16:LEU:HD12	13:n:54:ASP:HB2	1.59	0.83
27:5:80:GLN:HG2	27:5:120:ALA:CB	2.07	0.83
53:Z:6:ILE:HD11	53:Z:47:ILE:HD11	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:13:LYS:HE3	12:m:18:ALA:HA	1.59	0.83
28:A:880:G:O2'	28:A:881:G:N7	2.10	0.83
28:A:2091:C:H3'	28:A:2092:U:H5''	1.58	0.83
32:E:149:ILE:HG13	32:E:188:MET:HA	1.61	0.83
50:W:23:LYS:HG2	50:W:24:ARG:H	1.42	0.83
57:x:342:PHE:HD2	57:x:348:MET:HB2	1.41	0.83
57:x:196:ILE:HG22	57:x:197:ASP:H	1.43	0.83
28:A:2432:A:H1'	54:9:75:C:H1'	1.58	0.83
11:l:43:LYS:HG2	11:l:44:LYS:HG3	1.61	0.83
54:9:38:A:H2'	54:9:39:U:H5''	1.60	0.83
27:5:45:ALA:HB1	28:A:2177:C:H4'	1.60	0.83
28:A:2557:G:H2'	28:A:2558:C:C6	2.12	0.83
57:x:300:PHE:CD1	57:x:337:GLY:HA3	2.12	0.83
25:3:46:LYS:NZ	28:A:631:A:OP1	2.12	0.83
28:A:716:A:C2	28:A:717:C:H1'	2.14	0.83
1:a:206:C:H2'	1:a:207:C:C6	2.12	0.83
11:l:44:LYS:HB3	11:l:45:PRO:CD	2.07	0.83
28:A:2639:A:O3'	37:J:96:ARG:NH2	2.12	0.83
27:5:139:ASN:HB3	28:A:2123:G:OP1	1.78	0.83
1:a:782:A:H2'	1:a:783:C:H5'	1.61	0.82
6:g:113:ASP:HB2	6:g:119:ARG:HG2	1.61	0.82
28:A:1069:A:H1'	28:A:1073:A:N6	1.94	0.82
28:A:1779:U:OP2	28:A:1784:A:N6	2.12	0.82
28:A:2115:G:H3'	28:A:2116:G:H5''	1.61	0.82
35:H:54:LEU:HA	35:H:57:LYS:HZ3	1.44	0.82
36:I:29:GLN:HE21	57:x:434:TYR:HD1	1.27	0.82
57:x:402:PRO:HB3	57:x:475:PHE:HE1	1.42	0.82
7:h:18:GLN:NE2	7:h:70:ALA:HB1	1.93	0.82
14:o:29:VAL:HG11	14:o:67:LEU:HD21	1.61	0.82
31:D:107:VAL:HG22	31:D:108:ASP:H	1.44	0.82
57:x:429:GLN:NE2	57:x:432:MET:SD	2.52	0.82
57:x:594:VAL:HG22	57:x:599:LYS:HB2	1.60	0.82
20:u:40:LYS:H	20:u:41:PRO:HD2	1.43	0.82
27:5:80:GLN:HG2	27:5:120:ALA:HB2	1.60	0.82
5:f:3:HIS:H	5:f:92:THR:HG23	1.43	0.82
43:P:50:ARG:HD2	43:P:56:SER:HB3	1.60	0.82
57:x:282:GLU:H	57:x:283:LYS:HB3	1.44	0.82
2:c:77:ILE:HA	2:c:84:VAL:HG23	1.60	0.82
28:A:996:A:H5'	44:Q:91:ARG:HH21	1.44	0.82
28:A:2115:G:H5'	28:A:2167:U:H4'	1.60	0.82
30:C:132:ARG:HG2	35:H:120:GLY:CA	2.08	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:H:129:GLU:HG3	35:H:146:VAL:HG22	1.61	0.82
1:a:1305:G:H22	1:a:1331:G:H2'	1.42	0.82
6:g:86:GLN:NE2	54:9:32:U:O2'	2.13	0.82
37:J:44:TYR:CD1	44:Q:59:LEU:HD21	2.14	0.82
57:x:192:GLN:HB3	57:x:285:LEU:HD11	1.60	0.82
1:a:1412:C:OP1	11:l:54:ARG:NH1	2.12	0.82
4:e:104:GLY:HA3	4:e:122:ASN:HB2	1.61	0.82
27:5:64:VAL:HA	27:5:160:GLN:HA	1.62	0.82
28:A:1248:G:OP1	32:E:44:ARG:NH1	2.13	0.82
35:H:41:LYS:HA	35:H:44:ILE:HG12	1.59	0.82
57:x:593:HIS:O	57:x:595:GLY:N	2.11	0.82
1:a:597:G:H2'	1:a:598:U:H5'	1.61	0.82
13:n:41:ARG:NH1	13:n:42:TRP:HA	1.94	0.82
23:1:50:GLU:HG3	23:1:51:ALA:H	1.45	0.82
51:X:39:VAL:HG21	51:X:42:GLU:HB2	1.61	0.82
57:x:429:GLN:HE21	57:x:432:MET:HB2	1.43	0.82
57:x:521:ARG:HB3	57:x:545:LEU:HD11	1.59	0.82
9:j:11:LYS:HB3	9:j:71:LEU:HD23	1.60	0.82
13:n:41:ARG:HH12	13:n:42:TRP:CA	1.92	0.82
28:A:996:A:OP2	44:Q:91:ARG:NH2	2.13	0.82
28:A:2822:G:H2'	28:A:2823:A:H5''	1.61	0.82
1:a:461:A:C2'	1:a:462:G:H5''	2.09	0.81
27:5:65:LEU:HD12	27:5:161:VAL:HG21	1.62	0.81
35:H:41:LYS:H	35:H:44:ILE:HG23	1.45	0.81
57:x:295:VAL:HG23	57:x:342:PHE:HB2	1.62	0.81
1:a:1181:G:O2'	1:a:1182:G:N7	2.13	0.81
23:1:9:LYS:HD3	23:1:52:LYS:C	2.05	0.81
28:A:1923:U:O2'	56:8:12:G:H1'	1.79	0.81
28:A:2060:A:O4'	28:A:2502:G:H4'	1.80	0.81
33:F:39:VAL:HG12	33:F:85:GLY:HA2	1.60	0.81
1:a:64:G:H4'	1:a:65:A:H3'	1.60	0.81
1:a:1029:U:H4'	1:a:1030:U:C5	2.14	0.81
16:q:11:ARG:HG2	16:q:58:VAL:HG22	1.61	0.81
28:A:833:A:OP2	39:L:39:LYS:NZ	2.13	0.81
28:A:1327:A:C2'	28:A:1328:A:H5'	2.11	0.81
30:C:68:ARG:HD3	30:C:103:ILE:CD1	2.10	0.81
33:F:11:VAL:HG22	33:F:171:ALA:HB1	1.61	0.81
42:O:75:GLY:HA3	42:O:106:LEU:HB2	1.61	0.81
43:P:62:LYS:HE2	43:P:64:SER:HB2	1.61	0.81
48:U:12:VAL:HG21	48:U:38:ILE:HD11	1.62	0.81
57:x:135:LEU:HB3	57:x:138:ALA:HB2	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:9:59:U:H2'	54:9:60:U:H5'	1.63	0.81
1:a:77:A:H5'	1:a:79:G:C2	2.15	0.81
18:s:50:ALA:HB1	18:s:57:HIS:HB3	1.63	0.81
27:5:67:HIS:NE2	27:5:187:GLU:OE1	2.13	0.81
35:H:85:GLY:HA2	35:H:90:LEU:HD23	1.63	0.81
53:Z:8:GLN:CG	53:Z:31:ILE:HA	2.11	0.81
1:a:1367:C:H5'	9:j:62:ARG:HH11	1.43	0.81
2:c:132:ARG:HB3	2:c:136:ARG:NH1	1.95	0.81
21:b:46:VAL:HA	21:b:49:PHE:CE2	2.15	0.81
27:5:15:VAL:HB	27:5:33:LEU:HD13	1.60	0.81
27:5:134:ARG:HB3	28:A:2125:G:N1	1.95	0.81
28:A:1094:U:O2'	28:A:1096:A:N7	2.13	0.81
54:9:18:G:H22	54:9:55:U:H1'	1.46	0.81
12:m:29:ARG:NH2	12:m:63:PHE:HB2	1.94	0.81
30:C:226:PRO:HG3	30:C:233:GLY:HA2	1.61	0.81
36:I:102:ARG:CB	36:I:141:ASP:HA	2.11	0.81
28:A:2345:G:H4'	28:A:2346:A:H5''	1.63	0.81
35:H:90:LEU:HG	35:H:147:VAL:CG1	2.11	0.81
56:8:75:C:OP2	57:x:560:ARG:NH1	2.14	0.81
5:f:47:LEU:HD13	5:f:51:ILE:HG22	1.61	0.81
28:A:2588:G:H2'	28:A:2589:A:H5'	1.61	0.81
34:G:94:ARG:HB3	34:G:105:SER:HB3	1.62	0.81
56:8:67:C:H2'	56:8:68:C:H5'	1.61	0.81
57:x:12:HIS:HA	57:x:109:GLU:OE1	1.81	0.81
28:A:2134:A:N7	28:A:2135:A:H1'	1.96	0.80
28:A:2375:G:N2	28:A:2378:A:OP2	2.13	0.80
28:A:2588:G:C2'	28:A:2589:A:H5'	2.11	0.80
34:G:84:LYS:HB2	34:G:132:LEU:H	1.44	0.80
36:I:76:ALA:HA	36:I:131:THR:CG2	2.10	0.80
57:x:458:LEU:HD12	57:x:468:LEU:HD11	1.62	0.80
21:b:187:ASP:HB2	21:b:203:ASP:HB3	1.60	0.80
34:G:22:VAL:HG12	34:G:36:LEU:HD21	1.63	0.80
1:a:421:U:H5'	1:a:422:C:C5	2.17	0.80
11:l:68:GLY:O	11:l:99:ARG:NH1	2.14	0.80
27:5:140:PRO:HD3	28:A:2122:U:H5''	1.63	0.80
28:A:2061:G:H5''	28:A:2503:A:H5''	1.63	0.80
33:F:113:PHE:CE1	33:F:116:LEU:HD12	2.15	0.80
38:K:71:ARG:HE	38:K:106:GLU:CG	1.95	0.80
44:Q:63:ARG:NH1	44:Q:95:ALA:O	2.14	0.80
5:f:42:TRP:HB2	5:f:59:TYR:HB2	1.63	0.80
8:i:24:GLY:N	8:i:60:LYS:O	2.14	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:396:G:OP2	51:X:9:LYS:NZ	2.14	0.80
33:F:10:GLU:O	33:F:12:VAL:N	2.13	0.80
24:2:12:ARG:NE	24:2:44:VAL:HG11	1.96	0.80
28:A:1022:G:H22	28:A:1142:A:H2	1.30	0.80
34:G:102:ILE:CD1	34:G:116:LEU:HD11	2.11	0.80
35:H:78:VAL:HG23	35:H:146:VAL:HG11	1.63	0.80
28:A:468:G:H2'	28:A:469:G:H5'	1.63	0.80
28:A:2474:U:OP2	28:A:2475:C:N4	2.12	0.80
34:G:104:LEU:HB2	34:G:112:VAL:CG2	2.11	0.80
37:J:39:LYS:HA	37:J:43:GLU:HB2	1.61	0.80
41:N:73:ASN:HA	41:N:76:VAL:HG12	1.64	0.80
20:u:14:VAL:HG13	20:u:16:LEU:CG	2.10	0.80
28:A:1059:G:H1	28:A:1079:C:H42	1.29	0.80
28:A:1495:A:H2	28:A:1578:U:H1'	1.46	0.80
28:A:2061:G:O2'	28:A:2062:A:H5''	1.81	0.80
30:C:234:GLY:O	30:C:238:ASN:ND2	2.15	0.80
1:a:80:A:H1'	1:a:90:C:H1'	1.62	0.80
2:c:43:LEU:HD23	2:c:68:ILE:HD11	1.62	0.80
27:5:14:LYS:HE2	28:A:2131:U:OP1	1.80	0.80
28:A:320:A:N3	32:E:163:ASN:ND2	2.30	0.80
28:A:630:G:N2	28:A:633:A:OP2	2.15	0.80
35:H:47:PHE:HA	35:H:50:ARG:HE	1.46	0.80
1:a:530:G:O2'	1:a:531:U:OP2	1.99	0.80
28:A:1080:A:H1'	36:I:127:SER:HA	1.62	0.80
28:A:2062:A:N7	28:A:2503:A:N6	2.30	0.80
28:A:2123:G:H1'	28:A:2176:A:N1	1.97	0.80
42:O:51:ALA:HB3	42:O:78:VAL:CG1	2.10	0.80
11:l:50:ARG:HG3	11:l:90:LEU:HD11	1.62	0.79
36:I:4:VAL:HG21	36:I:7:TYR:HB3	1.65	0.79
57:x:151:VAL:HG12	57:x:153:ILE:HG12	1.65	0.79
1:a:1196:A:O4'	55:7:23:A:N6	2.15	0.79
11:l:57:LEU:HD21	11:l:82:ILE:HG21	1.64	0.79
28:A:280:U:H2'	28:A:281:C:C6	2.17	0.79
57:x:165:THR:OG1	57:x:166:GLY:HA2	1.83	0.79
5:f:18:VAL:HG21	5:f:58:HIS:CD2	2.16	0.79
28:A:2110:G:H5''	28:A:2111:U:H5	1.45	0.79
35:H:70:GLU:HG2	35:H:74:ALA:HB3	1.61	0.79
28:A:856:G:C1'	50:W:23:LYS:HD3	2.11	0.79
1:a:442:G:H2'	1:a:443:C:H5'	1.65	0.79
16:q:14:SER:HB3	16:q:22:VAL:CG1	2.11	0.79
27:5:65:LEU:HG	27:5:161:VAL:HB	1.63	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:558:U:H5''	37:J:111:LYS:CE	2.10	0.79
31:D:37:VAL:HG12	31:D:48:ILE:HG22	1.64	0.79
36:I:116:MET:HE2	36:I:124:MET:HB3	1.65	0.79
44:Q:94:LEU:HD23	45:R:4:VAL:HG21	1.63	0.79
45:R:38:VAL:HG13	45:R:54:VAL:HG22	1.62	0.79
6:g:57:SER:HB3	6:g:60:GLU:HG2	1.65	0.79
28:A:1942:C:OP1	57:x:547:LYS:NZ	2.13	0.79
20:u:10:GLU:CG	20:u:11:PRO:HD3	2.13	0.79
27:5:33:LEU:HG	27:5:220:ALA:CB	2.12	0.79
36:I:105:LEU:CD1	36:I:139:VAL:HG21	2.13	0.79
4:e:82:GLN:H	4:e:147:MET:CE	1.96	0.79
27:5:60:ARG:HD3	27:5:164:ARG:NE	1.98	0.79
27:5:65:LEU:HD13	27:5:188:ASN:HB3	1.65	0.79
28:A:192:C:H2'	28:A:193:U:H5'	1.62	0.79
28:A:2061:G:N2	28:A:2062:A:O2'	2.16	0.79
28:A:2134:A:H1'	28:A:2159:G:N3	1.97	0.79
28:A:2505:G:N2	28:A:2610:C:O2	2.16	0.79
9:j:5:ARG:HB3	9:j:77:VAL:HA	1.63	0.79
28:A:998:C:N4	28:A:1157:G:O6	2.16	0.79
47:T:69:ARG:HD2	47:T:70:HIS:N	1.98	0.79
54:9:16:U:C5	54:9:18:G:H5''	2.19	0.79
1:a:1226:C:O2'	12:m:110:LYS:NZ	2.16	0.78
28:A:215:G:H4'	28:A:216:A:H4'	1.63	0.78
42:O:106:LEU:HA	42:O:109:ALA:HB3	1.64	0.78
56:8:17:C:H5''	56:8:17(A):U:C6	2.18	0.78
2:c:77:ILE:HA	2:c:84:VAL:CG2	2.12	0.78
4:e:38:VAL:HG12	4:e:117:VAL:HG21	1.63	0.78
27:5:140:PRO:HB2	27:5:164:ARG:NH2	1.97	0.78
34:G:116:LEU:HD21	34:G:122:ALA:HB2	1.65	0.78
28:A:2305:U:H5''	33:F:130:GLY:HA3	1.65	0.78
44:Q:91:ARG:NH1	45:R:11:GLN:O	2.17	0.78
27:5:83:ASN:ND2	27:5:118:PRO:HG2	1.99	0.78
28:A:547:A:H3'	28:A:548:G:C5'	2.14	0.78
33:F:33:ILE:HG12	33:F:155:ILE:HG12	1.66	0.78
27:5:51:ASP:CB	27:5:204:ALA:HB2	2.13	0.78
28:A:2602:A:H4'	28:A:2603:G:C5'	2.14	0.78
31:D:52:THR:HG21	31:D:77:ARG:HE	1.49	0.78
39:L:2:ARG:O	39:L:5:THR:HG22	1.84	0.78
1:a:76:G:N2	1:a:93:U:O2	2.17	0.78
3:d:132:ILE:HD11	3:d:135:TYR:HB2	1.66	0.78
11:l:83:ARG:HB2	11:l:98:VAL:HG23	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:9:40:C:C2'	54:9:41:C:H5''	2.14	0.78
13:n:33:ASP:CB	13:n:34:VAL:HB	2.14	0.78
28:A:1654:A:O2'	31:D:118:PHE:HB3	1.82	0.78
28:A:2327:A:H2'	28:A:2328:A:C8	2.18	0.78
30:C:158:GLY:H	30:C:194:VAL:HG13	1.48	0.78
33:F:79:ARG:HB3	33:F:82:TYR:HE2	1.45	0.78
39:L:81:ASP:O	39:L:83:ALA:N	2.17	0.78
8:i:124:ARG:HG3	8:i:125:PRO:HD2	1.65	0.78
10:k:112:ASP:OD2	20:u:20:LYS:NZ	2.17	0.78
13:n:35:ASN:HA	13:n:38:ASP:OD2	1.84	0.78
47:T:40:LYS:O	47:T:43:ILE:HG13	1.84	0.78
50:W:29:SER:N	50:W:63:ASP:OD1	2.17	0.78
57:x:350:ILE:C	57:x:352:GLN:N	2.40	0.78
1:a:1296:C:O3'	1:a:1302:C:N4	2.16	0.78
8:i:124:ARG:CG	8:i:125:PRO:HD2	2.14	0.78
21:b:11:ALA:HB1	21:b:13:VAL:HG13	1.63	0.78
27:5:140:PRO:CD	28:A:2122:U:H5''	2.13	0.78
30:C:5:CYS:SG	30:C:12:ARG:NH2	2.55	0.78
9:j:5:ARG:HG2	9:j:79:PRO:HD3	1.66	0.77
13:n:33:ASP:N	13:n:34:VAL:HB	1.98	0.77
16:q:13:VAL:O	16:q:22:VAL:HG13	1.84	0.77
23:1:7:LYS:HG2	23:1:23:THR:HG22	1.66	0.77
28:A:905:A:H2'	28:A:906:U:H5'	1.66	0.77
28:A:2644:G:N2	28:A:2770:G:O6	2.16	0.77
32:E:98:LYS:HB3	32:E:102:ARG:HH22	1.49	0.77
50:W:24:ARG:CZ	50:W:65:LYS:HG2	2.13	0.77
1:a:422:C:H1'	1:a:423:G:N2	1.99	0.77
1:a:542:G:O3'	3:d:14:ARG:NH2	2.18	0.77
13:n:21:PHE:CA	13:n:25:ALA:HB3	2.12	0.77
20:u:41:PRO:HA	20:u:44:GLU:HB3	1.66	0.77
31:D:124:ARG:NH1	31:D:164:GLN:O	2.17	0.77
2:c:16:LYS:NZ	2:c:181:ASP:OD1	2.18	0.77
27:5:177:LYS:HG3	27:5:179:ASP:H	1.47	0.77
27:5:181:ASP:HB2	27:5:184:LYS:HB2	1.66	0.77
35:H:116:ARG:NH2	35:H:126:GLY:O	2.18	0.77
45:R:68:ARG:HD3	45:R:90:ARG:HB2	1.65	0.77
1:a:1302:C:H5''	1:a:1303:C:OP2	1.85	0.77
28:A:2324:U:H3'	28:A:2325:G:H5'	1.67	0.77
46:S:18:ARG:O	46:S:19:LEU:HB2	1.85	0.77
1:a:261:U:OP2	19:t:74:ARG:NH2	2.18	0.77
28:A:2358:A:H61	39:L:54:GLN:HE22	1.32	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:9:5:G:N2	54:9:68:C:O2	2.17	0.77
54:9:29:G:H2'	54:9:30:G:H8	1.49	0.77
1:a:1282:C:H2'	1:a:1283:U:C6	2.19	0.77
9:j:80:THR:HG22	9:j:82:LYS:H	1.49	0.77
28:A:279:A:OP2	28:A:361:G:N2	2.17	0.77
27:5:1:MET:HB3	28:A:2120:G:C8	2.20	0.77
28:A:2796:U:H3	28:A:2799:A:H61	1.30	0.77
35:H:94:ILE:CA	35:H:114:GLU:HG3	2.14	0.77
54:9:40:C:H2'	54:9:41:C:C5'	2.15	0.77
1:a:1239:A:H62	1:a:1299:A:H62	1.32	0.77
10:k:88:GLY:N	10:k:114:THR:HG22	2.00	0.77
27:5:18:THR:HG23	27:5:222:VAL:HA	1.65	0.77
28:A:2793:C:N4	28:A:2803:G:O6	2.15	0.77
38:K:104:THR:HB	38:K:106:GLU:OE1	1.85	0.77
27:5:146:THR:HG22	27:5:152:ALA:HB1	1.66	0.77
28:A:2114:A:C5	28:A:2115:G:H1'	2.21	0.77
43:P:4:ILE:O	43:P:6:GLN:N	2.18	0.77
34:G:8:VAL:CG1	34:G:49:LEU:HB2	2.15	0.76
39:L:74:THR:HG22	39:L:107:PHE:HB2	1.66	0.76
44:Q:25:GLY:O	44:Q:29:ARG:NH1	2.18	0.76
57:x:12:HIS:ND1	57:x:109:GLU:CD	2.22	0.76
1:a:1450:U:H2'	1:a:1452:C:N3	1.99	0.76
5:f:12:PRO:HG3	5:f:54:LEU:HD11	1.67	0.76
9:j:53:ILE:CG1	9:j:61:ALA:HB1	2.12	0.76
28:A:895:U:H2'	28:A:897:C:C6	2.20	0.76
34:G:102:ILE:HD12	34:G:116:LEU:CD1	2.16	0.76
34:G:104:LEU:HB2	34:G:112:VAL:HG21	1.65	0.76
37:J:114:LEU:CD2	37:J:118:MET:HE3	2.15	0.76
4:e:114:VAL:HG11	4:e:137:VAL:HG23	1.63	0.76
13:n:28:LYS:CE	13:n:48:LEU:CG	2.62	0.76
27:5:46:VAL:CG2	27:5:212:VAL:HG22	2.14	0.76
28:A:287:G:O6	28:A:352:A:N6	2.18	0.76
28:A:710:U:C2'	28:A:711:G:H5''	2.15	0.76
28:A:1043:C:C2'	28:A:1044:C:H5''	2.15	0.76
28:A:1584:U:H2'	28:A:1585:C:C5'	2.15	0.76
38:K:19:VAL:CG1	38:K:41:ILE:HG23	2.16	0.76
44:Q:93:ILE:HG23	44:Q:94:LEU:HD13	1.66	0.76
1:a:225:C:C2'	1:a:226:G:H5''	2.15	0.76
27:5:29:LEU:HB2	27:5:222:VAL:HG21	1.67	0.76
28:A:1771:C:C2'	28:A:1772:A:H5'	2.15	0.76
29:B:43:C:H2'	29:B:44:G:H5'	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:R:61:ALA:HB2	45:R:98:ILE:HD13	1.66	0.76
48:U:38:ILE:HG23	48:U:39:ASN:N	1.96	0.76
57:x:45:ASP:OD2	57:x:357:ARG:NH1	2.18	0.76
54:9:19:G:H22	54:9:56:C:H42	1.29	0.76
8:i:52:LEU:HB3	8:i:57:MET:HB3	1.66	0.76
21:b:184:ALA:HB3	21:b:195:VAL:CG2	2.15	0.76
27:5:11:ILE:HG22	27:5:33:LEU:CD1	2.14	0.76
28:A:1141:U:H4'	28:A:1142:A:O4'	1.85	0.76
28:A:2112:G:C2'	28:A:2113:U:H5'	2.15	0.76
28:A:2162:G:H4'	28:A:2164:C:H1'	1.67	0.76
31:D:2:ILE:CD1	31:D:96:ILE:HD13	2.15	0.76
44:Q:93:ILE:HG23	44:Q:94:LEU:CD1	2.15	0.76
57:x:401:GLU:HB2	57:x:480:MET:HE1	1.67	0.76
5:f:68:GLN:HA	5:f:71:ILE:HG22	1.68	0.76
37:J:64:VAL:O	37:J:65:THR:HG22	1.85	0.76
44:Q:63:ARG:HH12	44:Q:95:ALA:C	1.93	0.76
44:Q:85:ALA:O	44:Q:88:GLU:HB2	1.85	0.76
28:A:2125:G:H1'	28:A:2173:A:H61	1.50	0.76
57:x:282:GLU:N	57:x:283:LYS:HB3	2.00	0.76
1:a:452:A:N6	1:a:480:U:O2	2.18	0.76
28:A:662:G:C2'	28:A:663:G:H5'	2.16	0.76
28:A:2392:A:C2	39:L:55:MET:HE3	2.21	0.76
30:C:164:VAL:HG21	30:C:180:MET:HE1	1.67	0.76
32:E:146:VAL:CG2	32:E:167:VAL:HG23	2.15	0.76
17:r:71:THR:HG23	17:r:74:HIS:H	1.50	0.76
21:b:103:TRP:CH2	21:b:155:GLY:HA2	2.21	0.76
27:5:37:LYS:HG3	27:5:38:PHE:CD2	2.21	0.76
43:P:50:ARG:HG3	43:P:51:ASN:H	1.50	0.76
57:x:237:LEU:HD13	57:x:250:LEU:HG	1.67	0.76
27:5:7:ARG:HH12	27:5:219:GLY:H	1.34	0.76
28:A:1254:A:H5''	28:A:1255:U:H5'	1.68	0.76
43:P:21:PRO:HD3	43:P:49:ILE:CD1	2.16	0.76
50:W:19:ARG:HH11	50:W:22:VAL:CG1	1.99	0.76
57:x:262:ILE:O	57:x:264:ASP:N	2.18	0.76
57:x:322:ALA:O	57:x:324:LEU:N	2.19	0.76
28:A:1059:G:H2'	28:A:1060:U:C5	2.21	0.75
29:B:21:G:N2	29:B:63:C:O2	2.18	0.75
35:H:73:ASN:HA	35:H:130:VAL:HG13	1.68	0.75
53:Z:23:LEU:HD21	53:Z:53:MET:CE	2.16	0.75
54:9:39:U:H2'	54:9:40:C:H5'	1.67	0.75
1:a:439:U:H2'	1:a:440:C:H5'	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1029:U:H1'	1:a:1033:G:H1	1.50	0.75
13:n:38:ASP:HB2	13:n:39:GLU:CD	2.12	0.75
20:u:10:GLU:HG2	20:u:11:PRO:HD3	1.67	0.75
27:5:115:ILE:HG21	27:5:153:VAL:CG2	2.16	0.75
28:A:140:C:H4'	28:A:141:G:OP1	1.85	0.75
28:A:2693:G:O6	28:A:2716:C:N4	2.16	0.75
30:C:16:VAL:HB	30:C:203:VAL:HG12	1.66	0.75
1:a:190:A:C5	1:a:191:G:H1'	2.22	0.75
1:a:844:G:N2	1:a:846:G:O4'	2.19	0.75
21:b:14:HIS:HB2	21:b:202:ASN:HB2	1.69	0.75
28:A:1918:A:O2'	28:A:1920:C:N4	2.18	0.75
30:C:29:PHE:CE2	30:C:31:PRO:HG2	2.20	0.75
30:C:184:GLU:O	30:C:186:ASP:N	2.18	0.75
50:W:9:THR:HG23	50:W:10:ARG:HG3	1.69	0.75
54:9:39:U:C2'	54:9:40:C:H5'	2.16	0.75
1:a:653:U:H6	7:h:56:LYS:HE3	1.51	0.75
18:s:15:LEU:HD13	18:s:33:THR:HG21	1.68	0.75
28:A:1799:G:OP1	30:C:257:ARG:NE	2.19	0.75
28:A:2537:U:H2'	28:A:2538:C:C6	2.22	0.75
44:Q:91:ARG:NH1	45:R:11:GLN:H	1.85	0.75
57:x:415:LEU:CD1	57:x:441:LEU:HD11	2.16	0.75
54:9:15:G:N1	54:9:48:C:O2	2.19	0.75
1:a:1305:G:N2	1:a:1331:G:H2'	2.01	0.75
11:l:83:ARG:HB2	11:l:98:VAL:CG2	2.16	0.75
14:o:35:GLN:HG2	14:o:59:MET:HE1	1.67	0.75
15:p:36:VAL:HG21	15:p:57:ILE:HG13	1.69	0.75
18:s:32:ARG:HH11	18:s:57:HIS:CD2	2.04	0.75
27:5:35:THR:HG23	27:5:219:GLY:HA2	1.67	0.75
27:5:71:ARG:HA	27:5:177:LYS:CB	2.11	0.75
28:A:863:A:O3'	29:B:100:G:N2	2.17	0.75
28:A:1064:C:H5'	36:I:88:GLY:H	1.50	0.75
35:H:37:VAL:CG1	35:H:38:PRO:HD2	2.15	0.75
37:J:43:GLU:O	37:J:45:THR:N	2.19	0.75
45:R:4:VAL:HG13	45:R:39:LEU:HB2	1.67	0.75
1:a:463:U:H2'	1:a:464:U:H5'	1.69	0.75
1:a:944:G:N1	1:a:1338:G:OP2	2.19	0.75
10:k:125:LYS:O	20:u:34:ARG:NH2	2.19	0.75
27:5:21:TYR:O	27:5:225:ASP:N	2.16	0.75
27:5:81:GLY:H	27:5:84:ALA:HB3	1.50	0.75
40:M:66:ARG:NH1	40:M:104:GLU:OE2	2.18	0.75
1:a:1228:C:OP1	12:m:107:ARG:NH1	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:86:ARG:NH2	17:r:64:TYR:HB3	2.02	0.75
12:m:34:LEU:HD12	12:m:41:GLU:HG2	1.69	0.75
26:4:2:LYS:NZ	28:A:2478:A:OP2	2.20	0.75
28:A:544:C:H42	28:A:548:G:P	2.09	0.75
33:F:127:TYR:HE2	33:F:129:MET:HB3	1.52	0.75
5:f:26:THR:O	5:f:30:THR:N	2.19	0.75
9:j:57:VAL:HG12	9:j:58:ASN:N	2.02	0.75
13:n:27:LEU:HA	13:n:30:ILE:HD11	1.68	0.75
1:a:844:G:H2'	1:a:845:A:H5''	1.68	0.75
3:d:85:ASN:N	3:d:88:GLU:OE2	2.20	0.75
4:e:106:ILE:HD11	4:e:124:LEU:CD2	2.17	0.75
28:A:1413:A:H61	28:A:1589:U:H3	1.34	0.75
28:A:2133:G:H2'	28:A:2134:A:H4'	1.68	0.75
34:G:132:LEU:O	34:G:140:ILE:HD11	1.87	0.75
35:H:104:THR:HA	35:H:109:GLU:N	2.02	0.75
57:x:499:THR:HG21	57:x:507:ARG:NE	2.02	0.75
1:a:148:G:O2'	1:a:1446:A:N3	2.18	0.74
1:a:671:G:O2'	5:f:79:ARG:NH2	2.20	0.74
9:j:35:GLN:HG3	9:j:36:VAL:H	1.51	0.74
27:5:134:ARG:CB	28:A:2125:G:H1	2.00	0.74
57:x:109:GLU:CD	57:x:111:GLN:HB2	2.11	0.74
54:9:18:G:H1	54:9:55:U:H1'	1.52	0.74
12:m:18:ALA:CB	12:m:45:ILE:HD11	2.18	0.74
16:q:30:LYS:HB3	16:q:37:PHE:CE1	2.21	0.74
19:t:83:ILE:HD12	19:t:84:ASN:HB3	1.68	0.74
28:A:1087:G:H2'	28:A:1088:A:H5''	1.67	0.74
28:A:2478:A:O2'	28:A:2536:G:N2	2.19	0.74
51:X:34:SER:HA	51:X:49:ARG:HA	1.69	0.74
51:X:67:LEU:HD23	51:X:70:LEU:HD12	1.68	0.74
57:x:140:PRO:HB2	57:x:160:ARG:CZ	2.17	0.74
57:x:518:LEU:HD21	57:x:591:ILE:HD11	1.70	0.74
1:a:870:U:H4'	1:a:871:U:H5''	1.69	0.74
2:c:97:VAL:HB	2:c:98:PRO:HD2	1.68	0.74
16:q:60:GLU:OE1	16:q:77:ARG:NH2	2.21	0.74
28:A:613:A:H3'	28:A:614:A:H5'	1.69	0.74
28:A:1064:C:OP1	36:I:80:LYS:NZ	2.17	0.74
28:A:2189:U:C2'	28:A:2190:G:H5'	2.17	0.74
28:A:2502:G:H3'	28:A:2502:G:OP2	1.86	0.74
38:K:19:VAL:HG13	38:K:41:ILE:HG23	1.68	0.74
28:A:996:A:H4'	44:Q:91:ARG:NE	2.01	0.74
28:A:1175:A:H5'	28:A:1176:U:C4'	2.16	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:L:108:ALA:HB3	39:L:125:LEU:HD22	1.67	0.74
50:W:18:LYS:HE3	50:W:19:ARG:HG2	1.69	0.74
1:a:202:G:H1	1:a:215:C:H42	1.35	0.74
1:a:796:C:H5''	10:k:127:ARG:HA	1.70	0.74
1:a:1296:C:C3'	1:a:1302:C:H42	2.01	0.74
5:f:18:VAL:HG21	5:f:58:HIS:HD2	1.51	0.74
26:4:11:CYS:SG	26:4:33:HIS:ND1	2.57	0.74
28:A:856:G:H1'	50:W:23:LYS:HD3	1.68	0.74
28:A:887:U:O2'	28:A:888:C:H5''	1.86	0.74
28:A:1327:A:H2'	28:A:1328:A:H5'	1.67	0.74
32:E:134:LEU:CD2	32:E:161:ALA:HB2	2.18	0.74
38:K:108:ARG:NH1	38:K:113:MET:HA	2.02	0.74
54:9:67:C:H2'	54:9:68:C:C6	2.22	0.74
11:l:75:GLN:HE21	57:x:336:PHE:HE1	1.33	0.74
12:m:114:LYS:HB2	12:m:115:PRO:HD3	1.69	0.74
27:5:7:ARG:HH12	27:5:219:GLY:N	1.85	0.74
28:A:528:A:C2	28:A:2042:A:H2'	2.22	0.74
28:A:2683:C:H4'	31:D:13:ARG:NH1	2.02	0.74
34:G:101:VAL:HG12	34:G:115:GLN:HA	1.70	0.74
44:Q:111:LYS:HD3	45:R:48:LYS:HE2	1.69	0.74
14:o:35:GLN:CG	14:o:59:MET:HE1	2.17	0.74
21:b:114:LYS:HA	21:b:117:GLU:HG2	1.68	0.74
28:A:289:G:H2'	28:A:290:U:C6	2.23	0.74
28:A:1680:U:O2'	28:A:1763:G:N7	2.17	0.74
28:A:2748:A:H1'	34:G:66:THR:CG2	2.18	0.74
34:G:84:LYS:CD	34:G:131:VAL:HB	2.18	0.74
53:Z:23:LEU:CD1	53:Z:50:VAL:HG11	2.17	0.74
57:x:162:SER:HB3	57:x:167:VAL:HG13	1.69	0.74
54:9:52:G:O6	54:9:62:C:N4	2.20	0.74
7:h:7:ILE:HD11	7:h:32:LEU:HD23	1.68	0.74
28:A:1801:A:OP2	30:C:149:LYS:NZ	2.20	0.74
28:A:1893:C:H2'	28:A:1894:C:H5'	1.69	0.74
28:A:2469:A:H61	28:A:2481:G:H1'	1.52	0.74
38:K:47:ILE:HG23	38:K:48:PRO:HD2	1.67	0.74
57:x:59:VAL:HG21	57:x:75:PHE:HD2	1.51	0.74
1:a:203:G:N2	1:a:204:G:O6	2.20	0.74
13:n:35:ASN:HB2	18:s:7:LYS:NZ	2.02	0.74
13:n:42:TRP:CH2	18:s:8:GLY:HA2	2.22	0.74
1:a:203:G:O2'	1:a:465:A:N1	2.21	0.74
2:c:118:ASP:HA	2:c:121:THR:HG22	1.69	0.74
21:b:26:MET:CE	21:b:192:PRO:HB3	2.18	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:275:C:H2'	28:A:276:U:H4'	1.70	0.74
28:A:535:G:H2'	28:A:536:G:H8	1.52	0.74
28:A:544:C:N4	28:A:547:A:O3'	2.20	0.74
35:H:14:SER:OG	35:H:17:ASP:HB2	1.88	0.74
44:Q:91:ARG:HH11	45:R:11:GLN:H	1.36	0.74
1:a:6:G:O2'	1:a:7:A:H5''	1.87	0.73
1:a:951:G:OP2	12:m:101:ARG:NH2	2.21	0.73
4:e:13:GLU:CB	4:e:39:VAL:HG12	2.17	0.73
9:j:15:HIS:HB3	9:j:70:HIS:NE2	2.03	0.73
28:A:1723:G:H2'	28:A:1724:G:O4'	1.86	0.73
28:A:2167:U:H2'	28:A:2168:G:O4'	1.87	0.73
31:D:58:ASN:OD1	31:D:59:ARG:N	2.21	0.73
36:I:4:VAL:CB	36:I:7:TYR:HB3	2.17	0.73
47:T:32:LEU:H	47:T:83:ALA:HB3	1.53	0.73
54:6:1:G:H1	54:6:72:C:H42	1.34	0.73
1:a:632:U:H3'	1:a:633:G:H5'	1.70	0.73
19:t:67:ILE:HG23	19:t:71:LYS:HD3	1.69	0.73
28:A:2111:U:H1'	28:A:2117:A:H5''	1.70	0.73
57:x:162:SER:CB	57:x:167:VAL:HG13	2.17	0.73
57:x:531:ALA:HB2	57:x:536:ILE:HG12	1.69	0.73
21:b:209:VAL:O	21:b:213:LEU:N	2.19	0.73
28:A:987:C:H2'	28:A:988:A:H5'	1.70	0.73
44:Q:16:ILE:HD12	44:Q:31:TYR:HE1	1.52	0.73
1:a:512:U:OP1	3:d:44:ARG:NH2	2.21	0.73
12:m:83:LEU:HD21	18:s:65:GLU:HG2	1.71	0.73
21:b:135:MET:HA	21:b:138:ARG:HG2	1.70	0.73
28:A:404:A:H1'	28:A:405:U:OP2	1.89	0.73
28:A:1220:G:H1	28:A:1229:C:H42	1.35	0.73
28:A:1494:A:H2'	28:A:1495:A:C8	2.23	0.73
28:A:2140:G:C2	28:A:2152:G:H1'	2.22	0.73
30:C:109:LEU:HD12	30:C:110:LYS:HG3	1.68	0.73
32:E:58:LYS:NZ	32:E:70:SER:OG	2.19	0.73
42:O:106:LEU:O	42:O:110:ALA:N	2.18	0.73
45:R:49:ILE:CD1	45:R:52:PRO:HA	2.19	0.73
57:x:401:GLU:HB2	57:x:480:MET:CE	2.19	0.73
54:9:63:G:H2'	54:9:64:A:C8	2.23	0.73
1:a:88:U:H2'	1:a:89:U:C6	2.24	0.73
1:a:714:G:N2	1:a:777:A:N3	2.37	0.73
9:j:66:GLU:HG2	13:n:99:ALA:HB2	1.70	0.73
11:l:114:ARG:HG3	11:l:119:VAL:HB	1.71	0.73
13:n:64:CYS:HB2	13:n:80:SER:OG	1.89	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:5:109:MET:CE	27:5:111:PHE:HB2	2.18	0.73
27:5:172:HIS:NE2	28:A:2177:C:H1'	2.03	0.73
28:A:602:A:HO2'	28:A:604:G:HO2'	1.33	0.73
28:A:821:A:N6	28:A:972:A:O2'	2.20	0.73
32:E:188:MET:SD	32:E:193:VAL:HG22	2.28	0.73
33:F:3:LEU:HA	33:F:6:TYR:HB3	1.69	0.73
15:p:51:ARG:C	15:p:52:LEU:HD12	2.14	0.73
27:5:24:ASN:HD21	27:5:232:SER:HB2	1.51	0.73
27:5:27:ILE:CG2	27:5:31:LYS:HE3	2.19	0.73
27:5:107:GLY:HA3	28:A:2162:G:C2	2.24	0.73
28:A:141:G:N7	47:T:2:ILE:HD11	2.02	0.73
28:A:265:A:H4'	28:A:266:G:OP1	1.87	0.73
28:A:2221:G:H5'	35:H:137:GLU:HG2	1.71	0.73
31:D:16:THR:CG2	31:D:20:VAL:HB	2.18	0.73
57:x:284:ALA:HB1	57:x:285:LEU:CA	2.11	0.73
54:9:9:A:C2'	54:9:11:C:H41	2.00	0.73
1:a:1367:C:H5'	9:j:62:ARG:NH1	2.03	0.73
14:o:3:LEU:HB2	14:o:35:GLN:NE2	2.04	0.73
57:x:349:GLU:O	57:x:352:GLN:CB	2.36	0.73
1:a:446:G:H1	1:a:488:C:H42	1.36	0.73
3:d:95:GLU:HG2	3:d:186:PRO:HG3	1.71	0.73
13:n:35:ASN:CB	18:s:7:LYS:HE2	2.18	0.73
13:n:41:ARG:HD3	13:n:41:ARG:N	2.03	0.73
13:n:51:LEU:HB2	13:n:52:PRO:HD2	1.71	0.73
21:b:69:VAL:O	21:b:163:ILE:HG22	1.89	0.73
23:1:7:LYS:HA	23:1:23:THR:HG22	1.69	0.73
28:A:1107:G:H2'	28:A:1108:U:C6	2.24	0.73
28:A:2354:C:H4'	50:W:31:LEU:CD2	2.17	0.73
36:I:19:PRO:HB2	36:I:22:PRO:HD2	1.69	0.73
43:P:88:ARG:NH2	43:P:114:ASN:OD1	2.22	0.73
47:T:28:ASN:CB	47:T:91:GLN:HE22	2.01	0.73
49:V:21:ARG:NH2	49:V:87:GLN:O	2.21	0.73
56:8:6:G:H1	56:8:67:C:H42	1.37	0.73
57:x:548:ASN:O	57:x:550:LEU:N	2.22	0.73
1:a:328:C:H4'	1:a:329:A:H5''	1.69	0.73
6:g:14:PRO:HB2	6:g:19:GLY:HA2	1.69	0.73
13:n:28:LYS:CE	13:n:48:LEU:HD13	2.08	0.73
21:b:65:LYS:HD2	21:b:153:MET:HG3	1.71	0.73
26:4:7:VAL:O	26:4:8:LYS:HG2	1.89	0.73
28:A:280:U:H2'	28:A:281:C:H6	1.54	0.73
28:A:1414:C:O2	28:A:1588:G:N1	2.16	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1725:U:H2'	28:A:1726:C:C6	2.24	0.73
28:A:2834:G:H2'	28:A:2879:A:H61	1.54	0.73
1:a:197:A:N3	1:a:198:G:H1'	2.04	0.73
1:a:386:C:C2'	1:a:387:U:H5'	2.17	0.73
2:c:42:TYR:CD2	2:c:43:LEU:HD12	2.23	0.73
23:1:3:GLY:O	23:1:5:ARG:N	2.22	0.73
28:A:880:G:H1	28:A:897:C:H42	1.36	0.73
51:X:75:GLU:HG3	51:X:77:TYR:H	1.54	0.73
51:X:75:GLU:HG3	51:X:77:TYR:N	2.04	0.73
57:x:6:ASN:HB3	57:x:95:CYS:SG	2.29	0.73
1:a:261:U:OP2	19:t:71:LYS:NZ	2.22	0.72
2:c:42:TYR:HD2	2:c:43:LEU:HD12	1.53	0.72
3:d:168:PRO:HB3	3:d:170:TRP:CH2	2.24	0.72
13:n:30:ILE:O	13:n:34:VAL:HG21	1.89	0.72
20:u:50:ALA:O	20:u:53:VAL:HG12	1.89	0.72
22:0:2:VAL:CG1	28:A:2016:U:H1'	2.19	0.72
34:G:84:LYS:CB	34:G:132:LEU:H	2.01	0.72
39:L:135:ILE:HB	39:L:142:ILE:HD11	1.69	0.72
8:i:22:LYS:HG3	8:i:23:PRO:HD2	1.70	0.72
28:A:2158:A:OP2	28:A:2159:G:N1	2.22	0.72
29:B:60:C:H2'	29:B:61:G:C8	2.24	0.72
41:N:38:LEU:HB3	41:N:39:PRO:HD3	1.69	0.72
1:a:1524:C:OP1	10:k:125:LYS:NZ	2.19	0.72
23:1:50:GLU:HG3	23:1:51:ALA:N	2.03	0.72
28:A:548:G:H4'	28:A:549:G:C4	2.23	0.72
28:A:1266:G:N2	28:A:2013:A:OP2	2.19	0.72
28:A:1582:C:O2'	28:A:1585:C:N3	2.20	0.72
28:A:2332:C:OP1	50:W:76:ARG:NH2	2.22	0.72
57:x:404:ALA:HB2	57:x:447:MET:HG2	1.71	0.72
57:x:444:GLU:OE1	57:x:474:ARG:NH1	2.15	0.72
1:a:782:A:C2'	1:a:783:C:H5'	2.19	0.72
1:a:1112:C:H1'	2:c:179:ARG:HH11	1.55	0.72
21:b:116:LEU:HD23	21:b:140:LEU:CD1	2.19	0.72
27:5:110:ASN:HA	28:A:2126:A:OP2	1.89	0.72
28:A:855:G:N3	50:W:23:LYS:HD2	2.04	0.72
28:A:1047:G:HO2'	28:A:1110:G:H1	1.36	0.72
29:B:60:C:H2'	29:B:61:G:H8	1.53	0.72
31:D:149:ASN:OD1	31:D:150:GLN:N	2.21	0.72
10:k:112:ASP:H	20:u:4:ILE:HG21	1.54	0.72
19:t:5:LYS:HG3	19:t:7:ALA:H	1.54	0.72
28:A:757:G:H2'	28:A:758:C:H5'	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2177:C:H2'	28:A:2178:C:O4'	1.88	0.72
28:A:2221:G:OP1	35:H:137:GLU:HB3	1.87	0.72
28:A:2262:U:OP1	50:W:38:ARG:NH2	2.21	0.72
32:E:121:VAL:O	32:E:190:ALA:N	2.19	0.72
56:8:67:C:C2'	56:8:68:C:H5'	2.18	0.72
54:9:3:C:H2'	54:9:4:C:O4'	1.90	0.72
13:n:26:GLU:O	13:n:30:ILE:HG12	1.89	0.72
28:A:414:C:H2'	28:A:415:A:H8	1.54	0.72
28:A:1107:G:H2'	28:A:1108:U:H6	1.53	0.72
28:A:1199:U:C5'	44:Q:4:LYS:HE3	2.20	0.72
28:A:1533:C:H2'	28:A:1534:U:C5'	2.19	0.72
35:H:30:LEU:HB3	35:H:36:ALA:HB3	1.71	0.72
47:T:11:LEU:HD22	47:T:32:LEU:HD13	1.71	0.72
1:a:1027:C:H2'	1:a:1028:C:C5	2.24	0.72
3:d:150:LYS:HG3	3:d:178:MET:SD	2.30	0.72
4:e:83:HIS:HB2	4:e:84:PRO:HD2	1.72	0.72
5:f:29:ILE:HD13	5:f:64:VAL:HG21	1.72	0.72
27:5:42:VAL:CG2	27:5:175:ILE:HB	2.15	0.72
27:5:83:ASN:HD21	27:5:118:PRO:HG2	1.54	0.72
28:A:783:A:H8	28:A:784:G:H5''	1.54	0.72
30:C:43:ASN:OD1	30:C:44:ASN:N	2.22	0.72
30:C:64:VAL:HG21	30:C:86:ARG:NH2	2.05	0.72
30:C:83:ASP:OD2	30:C:86:ARG:NH2	2.23	0.72
48:U:3:LYS:O	48:U:93:ARG:NH2	2.23	0.72
57:x:12:HIS:CG	57:x:109:GLU:OE1	2.32	0.72
11:l:27:CYS:HB2	11:l:30:LYS:HD3	1.72	0.72
28:A:2116:G:O6	28:A:2148:G:H4'	1.89	0.72
28:A:2659:G:OP2	34:G:157:LYS:NZ	2.19	0.72
28:A:2684:U:O4'	38:K:70:ARG:NH1	2.21	0.72
32:E:62:GLN:NE2	32:E:69:ARG:O	2.22	0.72
36:I:129:GLU:O	36:I:133:ARG:N	2.20	0.72
57:x:196:ILE:HB	57:x:209:LEU:HD22	1.71	0.72
28:A:1798:U:OP2	30:C:270:ARG:NH2	2.23	0.72
40:M:42:THR:HA	40:M:93:VAL:HG12	1.69	0.72
47:T:50:LEU:HD23	52:Y:26:PHE:CZ	2.25	0.72
1:a:736:C:H2'	1:a:737:C:C6	2.25	0.72
1:a:1314:C:H5	18:s:6:LYS:HD3	1.53	0.72
3:d:58:LYS:NZ	3:d:69:GLU:OE2	2.23	0.72
5:f:7:VAL:CG1	5:f:88:MET:HB3	2.19	0.72
28:A:855:G:N2	50:W:23:LYS:HE2	2.05	0.72
57:x:71:TYR:CZ	57:x:177:VAL:HG11	2.25	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:410:LEU:CD2	57:x:418:VAL:HG21	2.20	0.72
54:9:63:G:H2'	54:9:64:A:H8	1.54	0.72
27:5:212:VAL:HB	27:5:224:VAL:CG1	2.18	0.71
28:A:543:G:H3'	28:A:544:C:H5''	1.72	0.71
28:A:1069:A:C1'	28:A:1073:A:H62	2.03	0.71
28:A:2386:A:C2	50:W:38:ARG:HG2	2.24	0.71
57:x:120:MET:HE1	57:x:153:ILE:HD11	1.71	0.71
57:x:455:PHE:CD1	57:x:468:LEU:HD12	2.24	0.71
54:9:16:U:H3'	54:9:17:C:H5'	1.72	0.71
1:a:7:A:C8	4:e:124:LEU:HD13	2.25	0.71
1:a:386:C:H2'	1:a:387:U:H5'	1.72	0.71
9:j:35:GLN:HG2	9:j:77:VAL:C	2.13	0.71
27:5:71:ARG:NH2	28:A:2126:A:OP1	2.23	0.71
28:A:279:A:C2'	28:A:280:U:H5'	2.20	0.71
28:A:495:G:H5''	46:S:4:ILE:HD11	1.71	0.71
28:A:2103:C:H2'	28:A:2104:C:C6	2.25	0.71
32:E:31:VAL:HG21	32:E:104:ALA:HB2	1.71	0.71
57:x:282:GLU:HB3	57:x:283:LYS:CA	2.19	0.71
2:c:32:ASN:HA	2:c:59:ARG:HH12	1.54	0.71
21:b:184:ALA:HB3	21:b:195:VAL:HG21	1.72	0.71
28:A:45:G:N2	28:A:433:C:O2	2.23	0.71
28:A:998:C:OP2	44:Q:57:ARG:NH2	2.23	0.71
28:A:2547:A:H2'	28:A:2548:U:C6	2.26	0.71
28:A:2662:A:H4'	57:x:346:LEU:HD21	1.70	0.71
57:x:585:GLN:O	57:x:588:PHE:HB3	1.89	0.71
54:9:9:A:H2'	54:9:11:C:H41	1.56	0.71
1:a:1298:U:OP2	6:g:114:LYS:NZ	2.22	0.71
15:p:46:LYS:HE3	15:p:48:GLU:HB3	1.72	0.71
28:A:290:U:H3	28:A:350:G:H1	1.35	0.71
28:A:2137:U:H2'	28:A:2138:G:C8	2.25	0.71
28:A:2330:G:H21	50:W:38:ARG:HA	1.54	0.71
31:D:172:VAL:CG2	31:D:194:PRO:HD3	2.21	0.71
35:H:75:LEU:HD23	35:H:103:VAL:HG13	1.72	0.71
37:J:16:TYR:CD1	37:J:140:LEU:HD23	2.25	0.71
57:x:40:VAL:HG12	57:x:41:LEU:HD22	1.73	0.71
2:c:72:ARG:O	2:c:75:ILE:HG22	1.89	0.71
23:1:50:GLU:CG	23:1:51:ALA:H	2.04	0.71
28:A:883:G:H1	28:A:894:U:H1'	1.56	0.71
28:A:1771:C:H2'	28:A:1772:A:H5'	1.72	0.71
54:6:57:G:H2'	54:6:58:A:H5'	1.71	0.71
57:x:113:LEU:HD21	57:x:150:ILE:CG2	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:697:U:H2'	1:a:698:G:H5'	1.72	0.71
10:k:24:HIS:HB3	10:k:31:ILE:HG13	1.70	0.71
17:r:23:TYR:HB3	17:r:58:ALA:HB1	1.71	0.71
22:0:42:ILE:HG22	22:0:43:THR:O	1.90	0.71
34:G:84:LYS:HB3	34:G:132:LEU:O	1.91	0.71
35:H:72:ILE:HG12	35:H:130:VAL:CG2	2.20	0.71
40:M:8:LYS:HE3	40:M:9:PHE:CE2	2.25	0.71
9:j:35:GLN:HB2	9:j:78:GLU:HB2	1.73	0.71
31:D:14:ILE:HD11	31:D:178:VAL:HG11	1.72	0.71
31:D:184:ARG:CG	31:D:186:LEU:HD13	2.13	0.71
32:E:4:VAL:HG12	32:E:6:LYS:H	1.54	0.71
32:E:146:VAL:HG23	32:E:167:VAL:HG23	1.70	0.71
33:F:109:ARG:HD3	33:F:136:ILE:O	1.91	0.71
35:H:82:SER:HB3	35:H:99:ILE:HG22	1.73	0.71
47:T:39:THR:O	47:T:41:ALA:N	2.24	0.71
47:T:87:LEU:HB2	47:T:91:GLN:HG2	1.71	0.71
48:U:9:GLU:HA	48:U:23:LYS:HA	1.71	0.71
57:x:322:ALA:C	57:x:324:LEU:H	1.96	0.71
1:a:413:G:H1'	1:a:428:G:H21	1.54	0.71
1:a:1211:U:H1'	1:a:1213:A:C2	2.26	0.71
10:k:112:ASP:OD1	10:k:113:VAL:N	2.23	0.71
11:l:44:LYS:HB3	11:l:45:PRO:HD3	1.72	0.71
28:A:1534:U:H5'	28:A:1535:A:OP1	1.91	0.71
28:A:2210:U:H4'	28:A:2211:A:H5'	1.72	0.71
42:O:62:LEU:HD13	42:O:70:ALA:CB	2.21	0.71
45:R:49:ILE:HB	45:R:51:VAL:O	1.91	0.71
1:a:372:C:H42	1:a:389:A:H62	1.39	0.71
1:a:1162:C:N4	1:a:1174:G:O6	2.17	0.71
3:d:102:VAL:HG13	3:d:107:PHE:HB2	1.72	0.71
13:n:28:LYS:HD3	13:n:49:GLN:CD	2.16	0.71
27:5:140:PRO:HG3	28:A:2122:U:OP1	1.91	0.71
28:A:554:U:H2'	28:A:555:G:H5'	1.73	0.71
28:A:948:C:O2	28:A:984:A:O2'	2.08	0.71
28:A:2123:G:H1'	28:A:2176:A:C2	2.26	0.71
28:A:2135:A:H3'	28:A:2136:G:H8	1.55	0.71
28:A:2503:A:O2'	28:A:2504:U:H5'	1.90	0.71
28:A:2800:A:H3'	28:A:2801:G:H5'	1.71	0.71
30:C:75:ALA:HB2	30:C:95:TYR:CD1	2.25	0.71
30:C:251:THR:HG22	30:C:252:LYS:N	2.05	0.71
31:D:9:VAL:HG22	31:D:26:VAL:O	1.90	0.71
34:G:15:ASP:N	34:G:26:LYS:O	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:J:44:TYR:HD1	44:Q:59:LEU:HD21	1.54	0.71
39:L:79:LEU:H	39:L:113:ALA:HB3	1.55	0.71
1:a:162:A:H3'	1:a:163:C:O4'	1.90	0.71
1:a:723:U:H6	20:u:49:LYS:HE3	1.54	0.71
8:i:44:ALA:HA	8:i:47:VAL:HG22	1.71	0.71
24:2:12:ARG:HE	24:2:44:VAL:CG1	2.04	0.71
28:A:2006:C:O2'	28:A:2823:A:N3	2.24	0.71
28:A:2115:G:H3'	28:A:2116:G:C5'	2.21	0.71
28:A:2139:U:H2'	28:A:2140:G:H5'	1.71	0.71
28:A:2490:G:H4'	28:A:2491:U:OP1	1.89	0.71
30:C:128:THR:C	30:C:129:LEU:HD12	2.16	0.71
34:G:101:VAL:HA	34:G:116:LEU:HD13	1.73	0.71
45:R:39:LEU:O	45:R:49:ILE:HG23	1.91	0.71
45:R:58:VAL:CG1	45:R:102:SER:HB2	2.21	0.71
57:x:282:GLU:CB	57:x:283:LYS:HA	2.19	0.71
1:a:189:A:H2'	1:a:190:A:O4'	1.91	0.70
1:a:216:U:H2'	1:a:217:C:C6	2.26	0.70
1:a:933:G:N2	1:a:1384:C:O2	2.21	0.70
1:a:1296:C:H4'	1:a:1302:C:H42	1.55	0.70
3:d:125:VAL:HG23	3:d:126:ASN:H	1.56	0.70
4:e:105:ILE:HB	4:e:121:HIS:O	1.91	0.70
28:A:974:G:H4'	45:R:78:ARG:HH22	1.54	0.70
28:A:2105:U:H2'	28:A:2106:U:O4'	1.90	0.70
33:F:107:VAL:HB	33:F:108:PRO:HD3	1.73	0.70
35:H:1:MET:N	35:H:20:ASN:OD1	2.19	0.70
35:H:4:ILE:HD11	35:H:44:ILE:HA	1.72	0.70
44:Q:13:HIS:O	44:Q:17:LEU:HD13	1.91	0.70
57:x:44:MET:HB3	57:x:47:GLU:OE1	1.91	0.70
15:p:8:ARG:HE	15:p:15:PRO:HB3	1.56	0.70
28:A:139:U:C5	47:T:1:MET:HG2	2.26	0.70
28:A:2324:U:H3'	28:A:2325:G:C5'	2.21	0.70
30:C:9:SER:HB2	30:C:10:PRO:HD2	1.73	0.70
31:D:49:GLN:NE2	31:D:79:LEU:HD13	2.06	0.70
35:H:4:ILE:HD11	35:H:44:ILE:HG22	1.71	0.70
35:H:94:ILE:HA	35:H:114:GLU:CG	2.20	0.70
42:O:66:GLY:HA2	42:O:102:ARG:NH1	2.06	0.70
43:P:88:ARG:HD2	43:P:112:ARG:NH2	2.06	0.70
1:a:978:A:HO2'	1:a:1322:C:H5	1.39	0.70
13:n:28:LYS:CE	13:n:48:LEU:HD22	2.21	0.70
21:b:185:ILE:HA	21:b:199:ILE:HG13	1.72	0.70
27:5:129:GLN:HB2	28:A:2170:A:C2	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2147:A:H3'	28:A:2148:G:C8	2.26	0.70
34:G:15:ASP:HB3	34:G:26:LYS:H	1.55	0.70
44:Q:43:GLN:NE2	45:R:77:PHE:HB3	2.07	0.70
57:x:9:ILE:CG2	57:x:17:LYS:HG3	2.21	0.70
57:x:159:VAL:HG11	57:x:172:VAL:HG12	1.72	0.70
1:a:1432:G:O2'	1:a:1468:A:N6	2.25	0.70
1:a:1443:C:O2	1:a:1459:G:N2	2.19	0.70
2:c:120:ILE:HD11	2:c:137:ALA:HB2	1.73	0.70
12:m:11:ASP:HA	12:m:45:ILE:HB	1.74	0.70
12:m:12:HIS:HA	12:m:44:LYS:HE3	1.73	0.70
28:A:864:G:OP2	40:M:22:GLN:NE2	2.24	0.70
28:A:1816:C:N4	30:C:34:GLU:OE2	2.24	0.70
57:x:116:CYS:SG	57:x:120:MET:HE2	2.31	0.70
57:x:133:ILE:HD12	57:x:160:ARG:HB3	1.72	0.70
2:c:43:LEU:CD2	2:c:68:ILE:HD11	2.21	0.70
16:q:61:ILE:HG22	16:q:75:LEU:HA	1.74	0.70
27:5:212:VAL:HG21	27:5:227:ALA:HB3	1.73	0.70
28:A:549:G:H5''	28:A:550:C:C6	2.26	0.70
28:A:856:G:H1'	50:W:23:LYS:HB2	1.73	0.70
35:H:46:PHE:CE2	35:H:50:ARG:HD3	2.27	0.70
35:H:71:LYS:HD2	35:H:108:VAL:HG13	1.73	0.70
36:I:100:ILE:O	36:I:140:GLU:N	2.22	0.70
39:L:77:ILE:CD1	39:L:108:ALA:HB1	2.21	0.70
43:P:30:TRP:CE3	43:P:37:LYS:HE2	2.27	0.70
1:a:521:G:OP2	11:l:51:LYS:NZ	2.21	0.70
27:5:62:ALA:HB3	27:5:145:VAL:CA	2.16	0.70
28:A:631:A:O2'	39:L:66:PHE:HB3	1.91	0.70
28:A:2146:C:H4'	28:A:2148:G:C2	2.27	0.70
28:A:2270:A:O2'	50:W:16:GLU:OE2	2.10	0.70
34:G:19:ASN:O	34:G:22:VAL:HG22	1.92	0.70
1:a:390:U:H4'	15:p:28:ARG:HH11	1.54	0.70
1:a:802:A:H2'	1:a:803:G:H5'	1.74	0.70
3:d:85:ASN:HB3	3:d:88:GLU:CG	2.21	0.70
21:b:70:GLY:HA3	21:b:79:VAL:HG21	1.73	0.70
24:2:4:THR:HG22	28:A:687:C:H1'	1.73	0.70
27:5:8:MET:HG2	28:A:2175:C:H5''	1.72	0.70
39:L:95:LEU:CB	39:L:101:ILE:HD11	2.22	0.70
1:a:76:G:H3'	1:a:77:A:H5''	1.73	0.70
1:a:555:U:H2'	1:a:556:C:C6	2.27	0.70
1:a:974:A:OP1	13:n:69:ARG:NH2	2.24	0.70
13:n:35:ASN:CG	13:n:42:TRP:HD1	2.00	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:511:U:H2'	28:A:512:G:H5'	1.73	0.70
28:A:2313:C:H5''	33:F:87:LYS:HD3	1.72	0.70
28:A:2800:A:H3'	28:A:2801:G:C5'	2.22	0.70
37:J:29:ALA:HB1	37:J:105:VAL:HG12	1.74	0.70
49:V:1:MET:HE2	49:V:2:PHE:CE1	2.27	0.70
52:Y:56:LEU:O	52:Y:58:ASN:N	2.24	0.70
54:9:21:A:N6	54:9:48:C:O4'	2.25	0.70
1:a:304:U:C2'	1:a:305:G:H5'	2.21	0.70
3:d:124:MET:HG2	3:d:129:VAL:HA	1.74	0.70
13:n:28:LYS:HD3	13:n:49:GLN:OE1	1.92	0.70
27:5:36:ALA:CA	27:5:37:LYS:HG2	2.21	0.70
27:5:129:GLN:HB2	28:A:2170:A:H2	1.56	0.70
32:E:172:ALA:HB2	32:E:192:ALA:HB1	1.73	0.70
47:T:36:LYS:HE3	47:T:80:TRP:HA	1.72	0.70
50:W:24:ARG:NH2	50:W:84:GLU:OE1	2.24	0.70
55:7:21:C:H2'	55:7:22:A:H5'	1.74	0.70
57:x:5:ARG:N	57:x:72:GLN:O	2.23	0.70
57:x:166:GLY:HA3	57:x:167:VAL:C	2.16	0.70
1:a:1299:A:N3	1:a:1299:A:H2'	2.07	0.70
2:c:14:ILE:O	2:c:16:LYS:N	2.24	0.70
9:j:35:GLN:HG2	9:j:77:VAL:CA	2.21	0.70
28:A:72:U:OP2	52:Y:54:LYS:NZ	2.25	0.70
28:A:833:A:H2'	28:A:834:G:H8	1.56	0.70
28:A:1070:A:H5'	28:A:1072:C:OP2	1.92	0.70
28:A:2352:A:N6	50:W:30:VAL:HG11	2.06	0.70
28:A:2845:U:O3'	43:P:52:ARG:NH1	2.25	0.70
31:D:111:GLY:HA3	31:D:194:PRO:HG2	1.74	0.70
54:9:68:C:O2'	54:9:69:G:H5'	1.92	0.70
11:l:44:LYS:CB	11:l:45:PRO:CD	2.70	0.69
18:s:31:LEU:O	18:s:50:ALA:N	2.22	0.69
27:5:50:ILE:HG12	27:5:169:GLY:HA3	1.73	0.69
28:A:1466:U:HO2'	28:A:1546:G:HO2'	1.40	0.69
28:A:1818:U:OP2	30:C:155:ARG:NH1	2.24	0.69
35:H:14:SER:CB	35:H:17:ASP:HB2	2.22	0.69
57:x:281:ALA:HB3	57:x:283:LYS:CD	2.10	0.69
57:x:499:THR:HG21	57:x:507:ARG:CD	2.22	0.69
1:a:74:A:H2'	1:a:75:G:H5''	1.73	0.69
1:a:475:C:C2'	1:a:476:U:H5'	2.21	0.69
2:c:153:VAL:HG12	2:c:198:VAL:HG22	1.74	0.69
27:5:65:LEU:HD22	27:5:191:ALA:HB3	1.73	0.69
27:5:85:GLU:CG	27:5:88:LYS:HD2	2.18	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:956:G:O6	40:M:14:LYS:NZ	2.25	0.69
28:A:2153:C:O2'	28:A:2154:A:H5''	1.92	0.69
35:H:66:ASN:O	35:H:68:ARG:HA	1.92	0.69
56:8:3:C:H2'	56:8:4:G:H5'	1.74	0.69
57:x:12:HIS:ND1	57:x:109:GLU:OE2	2.19	0.69
57:x:113:LEU:HD21	57:x:150:ILE:HG22	1.73	0.69
2:c:186:THR:HG22	2:c:187:SER:N	2.07	0.69
4:e:114:VAL:HG23	4:e:115:LEU:HD12	1.74	0.69
8:i:38:TYR:HD2	8:i:39:PHE:CD2	2.10	0.69
21:b:46:VAL:HB	21:b:47:PRO:HD3	1.74	0.69
22:0:2:VAL:HG11	28:A:2016:U:H1'	1.74	0.69
23:1:35:LEU:HD11	23:1:37:LYS:HD2	1.74	0.69
27:5:46:VAL:HG22	27:5:212:VAL:HG22	1.73	0.69
34:G:24:THR:OG1	34:G:34:ARG:NE	2.24	0.69
35:H:75:LEU:HD23	35:H:103:VAL:HG22	1.74	0.69
44:Q:49:ARG:O	44:Q:53:LYS:NZ	2.25	0.69
56:8:54:U:H2'	56:8:55:U:O4'	1.93	0.69
57:x:350:ILE:O	57:x:351:ILE:C	2.34	0.69
1:a:210:C:H4'	1:a:211:G:C2	2.28	0.69
21:b:13:VAL:HB	21:b:207:ARG:CD	2.22	0.69
28:A:84:A:P	48:U:5:ARG:HH22	2.14	0.69
28:A:1607:C:N4	28:A:1622:G:OP2	2.25	0.69
31:D:109:VAL:HG13	31:D:201:LEU:HD23	1.73	0.69
32:E:149:ILE:CG1	32:E:188:MET:HA	2.22	0.69
33:F:35:LEU:CD2	33:F:153:ILE:HG22	2.23	0.69
33:F:39:VAL:CG1	33:F:49:LEU:HD13	2.17	0.69
54:6:60:U:H5''	54:6:61:C:H5	1.57	0.69
57:x:60:THR:HB	57:x:239:ILE:HD12	1.74	0.69
6:g:50:LEU:HD23	6:g:61:ALA:HB1	1.75	0.69
28:A:1097:U:H2'	28:A:1098:A:H5'	1.75	0.69
28:A:1177:G:H3'	28:A:1178:C:H5''	1.74	0.69
28:A:1413:A:H2'	28:A:1414:C:H5'	1.75	0.69
34:G:21:GLN:NE2	34:G:38:ASP:O	2.26	0.69
36:I:4:VAL:CG2	36:I:7:TYR:HB3	2.23	0.69
41:N:20:MET:HE1	41:N:40:LYS:CE	2.22	0.69
57:x:12:HIS:HD1	57:x:13:ILE:N	1.90	0.69
57:x:86:TYR:HE2	57:x:322:ALA:HB3	1.58	0.69
57:x:109:GLU:OE1	57:x:111:GLN:HB2	1.93	0.69
57:x:402:PRO:HB3	57:x:475:PHE:CE1	2.27	0.69
57:x:525:ASP:HB2	57:x:544:GLN:HG3	1.74	0.69
54:9:16:U:H5	54:9:18:G:H5''	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:t:48:GLN:HE21	19:t:52:ASN:HD21	1.41	0.69
28:A:2760:C:O2'	28:A:2761:A:H5'	1.93	0.69
56:8:61:C:H2'	56:8:62:C:H6	1.58	0.69
57:x:273:THR:HG21	57:x:283:LYS:HE2	1.73	0.69
57:x:350:ILE:C	57:x:352:GLN:H	2.00	0.69
1:a:28:A:O2'	1:a:296:U:OP1	2.10	0.69
2:c:64:ILE:CG2	2:c:99:ALA:HB2	2.23	0.69
2:c:191:THR:HG21	2:c:196:ILE:HD12	1.73	0.69
13:n:46:LEU:HB3	13:n:47:LYS:HZ1	1.58	0.69
28:A:1847:A:OP1	28:A:1847:A:H2'	1.91	0.69
36:I:40:ALA:HB1	36:I:68:PHE:CE2	2.27	0.69
43:P:50:ARG:CD	43:P:56:SER:HB3	2.22	0.69
49:V:76:ASP:OD1	49:V:77:VAL:N	2.24	0.69
57:x:225:VAL:HG22	57:x:274:LEU:CD2	2.22	0.69
1:a:653:U:C5	7:h:56:LYS:HG2	2.28	0.69
1:a:778:G:O2'	10:k:121:CYS:HB3	1.92	0.69
1:a:1286:U:H2'	1:a:1287:A:H5'	1.73	0.69
2:c:85:GLU:OE1	2:c:88:ARG:NH1	2.25	0.69
4:e:111:MET:CE	4:e:125:ALA:HB1	2.23	0.69
9:j:63:ASP:OD2	13:n:85:ARG:NH1	2.25	0.69
19:t:9:LYS:O	19:t:12:ILE:HG22	1.93	0.69
19:t:36:TYR:CE2	19:t:79:LEU:HD21	2.28	0.69
21:b:67:LEU:HD22	21:b:160:LEU:HD13	1.75	0.69
27:5:43:ASP:H	27:5:214:ILE:CD1	2.04	0.69
27:5:77:VAL:HG22	27:5:115:ILE:HB	1.74	0.69
28:A:1007:C:H5''	37:J:37:ARG:NH2	2.08	0.69
28:A:1071:G:H1'	28:A:1089:A:C8	2.28	0.69
28:A:2203:U:H5''	28:A:2204:G:OP1	1.93	0.69
35:H:73:ASN:OD1	35:H:131:SER:HA	1.93	0.69
35:H:113:SER:HA	35:H:133:GLN:CD	2.18	0.69
38:K:71:ARG:HE	38:K:106:GLU:HG2	1.57	0.69
54:9:2:C:C2'	54:9:3:C:H5'	2.23	0.69
54:9:58:A:H1'	54:9:60:U:H5	1.56	0.69
1:a:304:U:O2'	1:a:305:G:H5'	1.91	0.69
1:a:501:C:OP1	11:l:114:ARG:NH2	2.25	0.69
1:a:527:G:O2'	1:a:535:A:N1	2.23	0.69
1:a:1000:A:H2'	1:a:1001:C:C6	2.28	0.69
1:a:1179:A:H2'	1:a:1180:A:O4'	1.93	0.69
5:f:29:ILE:HD13	5:f:64:VAL:HG11	1.73	0.69
6:g:143:ARG:CD	54:9:41:C:H4'	2.23	0.69
10:k:28:ASN:O	10:k:57:LYS:NZ	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:138:U:OP1	28:A:140:C:N4	2.25	0.69
32:E:58:LYS:HE3	32:E:60:TRP:O	1.93	0.69
49:V:17:SER:HB3	49:V:21:ARG:HH12	1.57	0.69
55:7:23:A:H1'	55:7:24:A:C8	2.27	0.69
57:x:99:LEU:HD23	57:x:127:VAL:HB	1.73	0.69
1:a:482:A:H2'	1:a:483:C:H5'	1.74	0.69
3:d:85:ASN:HB3	3:d:88:GLU:CD	2.18	0.69
8:i:4:ASN:OD1	8:i:5:GLN:N	2.26	0.69
9:j:32:THR:HG21	9:j:86:ALA:CB	2.22	0.69
20:u:25:LYS:CG	20:u:26:ALA:H	2.02	0.69
27:5:168:ASN:ND2	28:A:2179:C:H5'	2.07	0.69
28:A:177:G:OP2	28:A:177:G:N2	2.23	0.69
28:A:468:G:C2'	28:A:469:G:H5'	2.23	0.69
28:A:1478:G:H1	28:A:1513:U:H3	1.41	0.69
28:A:1508:A:O2'	28:A:1509:A:O4'	2.07	0.69
28:A:2097:A:H2'	28:A:2098:U:C6	2.28	0.69
28:A:2339:C:H2'	28:A:2340:A:C8	2.27	0.69
43:P:87:ARG:NH2	43:P:109:ILE:O	2.23	0.69
1:a:597:G:C2'	1:a:598:U:H5'	2.22	0.68
1:a:723:U:C6	20:u:49:LYS:HE3	2.28	0.68
8:i:51:PRO:HB3	8:i:84:THR:HG22	1.76	0.68
27:5:68:GLY:HA2	27:5:159:GLY:CA	2.23	0.68
28:A:1077:A:H1'	36:I:93:ASN:HD22	1.56	0.68
28:A:2112:G:H1'	54:9:19:G:C2	2.28	0.68
28:A:2139:U:N3	28:A:2140:G:N7	2.41	0.68
28:A:2502:G:H3'	28:A:2502:G:P	2.33	0.68
37:J:122:LEU:O	37:J:123:LYS:HD2	1.92	0.68
54:9:16:U:C4	54:9:18:G:H3'	2.28	0.68
10:k:35:THR:OG1	10:k:40:ASN:O	2.11	0.68
22:0:4:GLN:NE2	28:A:2056:G:O2'	2.26	0.68
28:A:118:A:H3'	28:A:119:A:H5''	1.75	0.68
28:A:2352:A:C6	50:W:30:VAL:HG11	2.29	0.68
35:H:67:ALA:HB3	35:H:68:ARG:CA	2.19	0.68
46:S:13:SER:O	46:S:15:GLN:N	2.26	0.68
56:8:51:C:O2'	56:8:52:G:H5'	1.92	0.68
1:a:211:G:C6	1:a:212:G:H1'	2.28	0.68
3:d:35:GLU:HG3	3:d:36:GLN:N	2.08	0.68
11:l:32:GLY:HA3	11:l:55:VAL:CG1	2.23	0.68
11:l:48:ALA:O	11:l:49:LEU:HD12	1.93	0.68
15:p:36:VAL:HG21	15:p:57:ILE:CG1	2.23	0.68
18:s:18:LYS:HB3	18:s:31:LEU:HD23	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:0:42:ILE:CG2	22:0:46:GLY:HA2	2.24	0.68
26:4:1:MET:HE2	26:4:36:ARG:HB2	1.75	0.68
28:A:321:U:O3'	32:E:162:ARG:NH1	2.26	0.68
36:I:29:GLN:HG2	57:x:434:TYR:CE1	2.29	0.68
43:P:91:VAL:O	43:P:92:ARG:HG2	1.93	0.68
57:x:217:LEU:HD21	57:x:258:LEU:HD13	1.75	0.68
1:a:250:A:H1'	1:a:251:G:OP2	1.94	0.68
5:f:11:HIS:CG	5:f:12:PRO:HD2	2.29	0.68
13:n:21:PHE:HA	13:n:25:ALA:HB3	1.76	0.68
23:1:39:ASP:O	23:1:43:ARG:N	2.25	0.68
27:5:47:ASN:HB2	27:5:210:LYS:HB2	1.76	0.68
28:A:139:U:H5	47:T:1:MET:HG2	1.58	0.68
37:J:4:PHE:N	37:J:44:TYR:OH	2.27	0.68
37:J:17:VAL:HG12	37:J:55:ILE:HD11	1.75	0.68
40:M:31:PHE:CE2	40:M:110:GLU:HA	2.27	0.68
41:N:73:ASN:HA	41:N:76:VAL:CG1	2.23	0.68
42:O:76:LYS:HB2	42:O:109:ALA:HB1	1.74	0.68
49:V:24:ASN:O	49:V:25:LYS:HD2	1.93	0.68
1:a:890:G:O2'	1:a:906:A:N6	2.27	0.68
1:a:1224:U:H3'	1:a:1225:A:H5'	1.75	0.68
8:i:84:THR:HG21	8:i:103:PHE:CB	2.21	0.68
9:j:5:ARG:NE	9:j:79:PRO:HG3	2.07	0.68
19:t:3:ASN:OD1	19:t:4:ILE:HD12	1.94	0.68
20:u:34:ARG:NH1	20:u:35:ARG:HG2	2.07	0.68
27:5:42:VAL:HG22	27:5:176:GLY:O	1.92	0.68
28:A:1019:U:H3	28:A:1142:A:H62	1.42	0.68
35:H:72:ILE:HG21	35:H:132:PHE:HA	1.74	0.68
49:V:80:HIS:HD2	49:V:83:LYS:HB2	1.59	0.68
51:X:16:ASN:HD21	51:X:26:ARG:HD3	1.58	0.68
1:a:1174:G:O2'	1:a:1175:G:H5'	1.93	0.68
27:5:48:LEU:HD11	27:5:171:ILE:N	2.07	0.68
28:A:445:C:C2'	28:A:446:G:H5'	2.23	0.68
28:A:1870:C:H2'	28:A:1871:A:C5	2.29	0.68
34:G:22:VAL:HG12	34:G:36:LEU:CD2	2.23	0.68
35:H:104:THR:HA	35:H:109:GLU:HA	1.76	0.68
56:8:61:C:H2'	56:8:62:C:C6	2.28	0.68
57:x:314:LEU:HD12	57:x:338:PHE:CD2	2.29	0.68
1:a:844:G:H3'	1:a:844:G:N3	2.08	0.68
1:a:1165:U:H2'	1:a:1166:G:H5'	1.76	0.68
28:A:266:G:H2'	28:A:267:C:H5''	1.76	0.68
28:A:634:C:H2'	28:A:635:C:H6	1.59	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1494:A:H2'	28:A:1495:A:H8	1.59	0.68
28:A:2171:A:N3	28:A:2172:U:N3	2.42	0.68
30:C:90:ILE:HD12	30:C:102:TYR:CD1	2.28	0.68
32:E:56:GLY:CA	32:E:73:ILE:HG22	2.23	0.68
35:H:54:LEU:HA	35:H:57:LYS:NZ	2.08	0.68
35:H:146:VAL:HA	35:H:149:GLU:CG	2.24	0.68
37:J:17:VAL:HG12	37:J:55:ILE:CG1	2.24	0.68
43:P:4:ILE:HG22	43:P:5:LYS:N	2.06	0.68
47:T:65:GLY:O	47:T:76:ARG:NH1	2.27	0.68
4:e:65:GLU:OE2	4:e:69:ARG:NH2	2.27	0.68
24:2:3:ARG:NH2	28:A:1613:G:HO2'	1.92	0.68
26:4:4:ARG:HG3	28:A:2466:C:OP1	1.93	0.68
27:5:134:ARG:HG2	28:A:2125:G:H22	1.57	0.68
28:A:1:G:N1	28:A:2902:C:O2	2.18	0.68
28:A:201:C:O2'	28:A:251:A:N1	2.25	0.68
29:B:114:C:H2'	29:B:115:A:C8	2.28	0.68
32:E:1:MET:O	32:E:13:THR:HA	1.94	0.68
35:H:97:ARG:NE	35:H:114:GLU:OE1	2.21	0.68
36:I:20:SER:HB3	36:I:21:PRO:HD3	1.74	0.68
36:I:100:ILE:CB	36:I:139:VAL:HG23	2.23	0.68
47:T:50:LEU:HD23	52:Y:26:PHE:CE2	2.28	0.68
50:W:49:ASN:HB3	50:W:81:ILE:CD1	2.23	0.68
1:a:476:U:H2'	1:a:477:C:C6	2.29	0.68
13:n:27:LEU:C	13:n:30:ILE:HG13	2.18	0.68
13:n:33:ASP:CA	13:n:34:VAL:HB	2.24	0.68
21:b:72:LYS:NZ	21:b:204:ASP:HB3	2.09	0.68
44:Q:63:ARG:HH22	44:Q:96:ASP:N	1.92	0.68
57:x:9:ILE:HG22	57:x:17:LYS:HG3	1.74	0.68
57:x:14:ASP:O	57:x:15:HIS:ND1	2.26	0.68
57:x:133:ILE:CD1	57:x:160:ARG:HD3	2.24	0.68
1:a:736:C:H2'	1:a:737:C:H6	1.59	0.68
2:c:23:PHE:CD2	9:j:97:ASP:HB2	2.29	0.68
4:e:134:ILE:O	4:e:138:ARG:HG2	1.94	0.68
6:g:77:SER:OG	6:g:86:GLN:NE2	2.27	0.68
28:A:1364:G:N2	28:A:1367:A:OP2	2.25	0.68
28:A:2681:C:OP2	31:D:114:LYS:NZ	2.26	0.68
35:H:41:LYS:CA	35:H:44:ILE:HG12	2.23	0.68
52:Y:16:THR:O	52:Y:20:ASN:ND2	2.27	0.68
56:8:52:G:O2'	56:8:53:G:O5'	2.11	0.68
1:a:159:G:N2	1:a:162:A:OP2	2.28	0.67
16:q:21:ILE:O	16:q:46:VAL:N	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:526:A:N6	28:A:2626:C:H4'	2.09	0.67
32:E:4:VAL:HG13	32:E:9:GLN:HG3	1.76	0.67
34:G:132:LEU:O	34:G:132:LEU:HD12	1.94	0.67
48:U:37:GLY:N	48:U:61:GLU:OE2	2.20	0.67
53:Z:3:THR:HA	53:Z:38:GLU:HA	1.75	0.67
1:a:81:A:H2'	1:a:81:A:N3	2.10	0.67
1:a:165:G:H2'	1:a:166:U:C6	2.29	0.67
1:a:1086:U:O2'	1:a:1087:G:O5'	2.11	0.67
2:c:32:ASN:HA	2:c:59:ARG:NH1	2.09	0.67
5:f:3:HIS:N	5:f:92:THR:HG23	2.08	0.67
11:l:46:ASN:ND2	11:l:89:ASP:OD2	2.24	0.67
15:p:6:LEU:CD1	15:p:71:VAL:HG22	2.24	0.67
28:A:2142:A:H2'	28:A:2143:C:H6	1.59	0.67
53:Z:4:ILE:N	53:Z:37:ARG:O	2.26	0.67
57:x:65:ALA:HB2	57:x:71:TYR:CD2	2.28	0.67
57:x:481:VAL:HG21	57:x:532:ILE:HD13	1.76	0.67
57:x:499:THR:HG21	57:x:507:ARG:HD3	1.76	0.67
13:n:48:LEU:O	13:n:50:THR:HG23	1.95	0.67
19:t:5:LYS:HD2	19:t:6:SER:H	1.59	0.67
19:t:67:ILE:HG22	19:t:71:LYS:HB3	1.76	0.67
27:5:105:LYS:HB2	28:A:2163:A:O4'	1.95	0.67
27:5:136:LEU:HB3	28:A:2125:G:O6	1.95	0.67
35:H:146:VAL:HA	35:H:149:GLU:HB2	1.75	0.67
39:L:82:LEU:HD12	39:L:83:ALA:N	2.08	0.67
40:M:2:LEU:O	40:M:69:PRO:HG2	1.94	0.67
47:T:32:LEU:N	47:T:83:ALA:HB3	2.09	0.67
50:W:39:GLN:NE2	50:W:43:LYS:HB2	2.10	0.67
54:9:14:A:C2	54:9:22:G:H1'	2.29	0.67
1:a:412:A:H4'	1:a:413:G:O5'	1.93	0.67
4:e:97:GLN:HB3	4:e:124:LEU:HB2	1.77	0.67
21:b:88:GLN:NE2	21:b:220:VAL:HG21	2.09	0.67
27:5:139:ASN:HB2	27:5:164:ARG:HD3	1.76	0.67
28:A:2355:G:H4'	50:W:20:LEU:CD1	2.24	0.67
1:a:1112:C:H1'	2:c:179:ARG:NH1	2.09	0.67
3:d:132:ILE:CD1	3:d:135:TYR:HB2	2.24	0.67
6:g:28:ASN:OD1	6:g:36:LYS:NZ	2.27	0.67
7:h:85:ILE:HG21	7:h:125:ILE:HD11	1.76	0.67
11:l:82:ILE:HD11	11:l:95:TYR:CG	2.29	0.67
27:5:4:LEU:CD1	28:A:2106:U:H3'	2.25	0.67
28:A:58:G:OP1	47:T:78:SER:OG	2.13	0.67
28:A:1089:A:H4'	28:A:1090:A:OP1	1.93	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1614:A:H61	46:S:88:ARG:H	1.40	0.67
28:A:2114:A:H2'	28:A:2167:U:O2'	1.95	0.67
28:A:2561:U:O2	38:K:23:LYS:NZ	2.27	0.67
34:G:8:VAL:HG12	34:G:49:LEU:HB2	1.76	0.67
36:I:96:LYS:CG	36:I:138:VAL:HG23	2.22	0.67
47:T:14:PRO:HD3	52:Y:30:MET:CE	2.25	0.67
57:x:192:GLN:NE2	57:x:283:LYS:HD2	2.05	0.67
1:a:511:C:O2'	1:a:512:U:OP2	2.12	0.67
5:f:3:HIS:CE1	5:f:95:ALA:HB2	2.30	0.67
12:m:13:LYS:HD2	12:m:17:ILE:HG22	1.76	0.67
13:n:40:ASP:C	13:n:41:ARG:HG3	2.20	0.67
27:5:116:ALA:HB1	27:5:121:MET:HB2	1.76	0.67
27:5:182:ALA:HB1	27:5:234:ASN:H	1.60	0.67
27:5:186:LYS:CD	27:5:189:LEU:HD12	2.24	0.67
28:A:2111:U:C1'	28:A:2117:A:H5''	2.25	0.67
28:A:2600:A:C2'	28:A:2601:C:H5'	2.25	0.67
29:B:66:A:H61	29:B:107:G:H2'	1.59	0.67
43:P:50:ARG:HD2	43:P:56:SER:CB	2.25	0.67
49:V:9:ARG:NH2	49:V:12:GLN:HA	2.09	0.67
21:b:216:VAL:O	21:b:219:THR:HG22	1.95	0.67
27:5:54:LYS:HD3	54:9:63:G:C4'	2.24	0.67
28:A:1533:C:H1'	28:A:1534:U:C5	2.29	0.67
28:A:2146:C:H4'	28:A:2148:G:C4	2.30	0.67
31:D:119:ALA:HB1	31:D:124:ARG:CB	2.15	0.67
35:H:116:ARG:HE	35:H:122:LEU:HD13	1.60	0.67
36:I:4:VAL:HG11	36:I:7:TYR:HB3	1.77	0.67
36:I:135:MET:HG2	36:I:137:LEU:HD23	1.76	0.67
37:J:35:ARG:HA	37:J:40:HIS:HD2	1.59	0.67
2:c:186:THR:HG22	2:c:187:SER:H	1.60	0.67
8:i:17:ALA:HB2	8:i:67:VAL:CG2	2.24	0.67
8:i:130:ARG:HH12	56:8:35:A:P	2.18	0.67
21:b:19:THR:HG23	21:b:20:ARG:H	1.57	0.67
28:A:279:A:N6	28:A:361:G:H1'	2.09	0.67
28:A:322:A:P	32:E:162:ARG:HH11	2.16	0.67
28:A:1725:U:H2'	28:A:1726:C:H6	1.59	0.67
34:G:44:HIS:HA	34:G:49:LEU:CD2	2.25	0.67
37:J:32:LEU:HD22	37:J:54:ILE:HD13	1.77	0.67
54:9:24:G:C2	54:9:25:C:H1'	2.30	0.67
1:a:413:G:H1'	1:a:428:G:N2	2.10	0.67
1:a:723:U:H5''	20:u:49:LYS:HG3	1.77	0.67
1:a:836:G:H2'	1:a:837:U:H5'	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:142:MET:HG3	2:c:170:GLU:CD	2.20	0.67
27:5:71:ARG:CA	27:5:177:LYS:HB2	2.14	0.67
28:A:807:U:OP2	39:L:41:ARG:NH1	2.27	0.67
28:A:879:G:H2'	28:A:880:G:H4'	1.76	0.67
32:E:147:LEU:HB3	32:E:186:VAL:HG23	1.76	0.67
34:G:24:THR:CG2	34:G:32:LEU:HD23	2.24	0.67
35:H:104:THR:CG2	35:H:109:GLU:HA	2.23	0.67
38:K:71:ARG:HB3	38:K:72:PRO:CD	2.25	0.67
54:9:59:U:C2'	54:9:60:U:H5'	2.25	0.67
1:a:1000:A:H2'	1:a:1001:C:H6	1.59	0.67
1:a:1351:U:O2'	1:a:1352:C:H5'	1.95	0.67
18:s:13:LEU:HD21	18:s:17:LYS:HE3	1.77	0.67
20:u:24:GLU:HG2	20:u:28:VAL:HG21	1.77	0.67
27:5:69:THR:HG22	27:5:73:VAL:CG1	2.20	0.67
28:A:2657:A:O2'	34:G:159:LYS:NZ	2.28	0.67
36:I:56:VAL:HG23	36:I:70:THR:HA	1.75	0.67
37:J:114:LEU:HD23	37:J:118:MET:HE3	1.76	0.67
42:O:105:ALA:O	42:O:106:LEU:HG	1.94	0.67
3:d:124:MET:HE3	3:d:146:ARG:CD	2.25	0.66
13:n:32:SER:C	13:n:34:VAL:HG12	2.20	0.66
21:b:195:VAL:HG11	21:b:198:VAL:HA	1.77	0.66
28:A:141:G:H2'	28:A:141:G:N3	2.09	0.66
28:A:1047:G:O2'	28:A:1109:C:N4	2.27	0.66
28:A:1064:C:H5'	36:I:88:GLY:N	2.09	0.66
28:A:1069:A:N3	28:A:1073:A:N6	2.43	0.66
28:A:1827:U:O2'	28:A:1970:A:N3	2.24	0.66
41:N:72:ASP:HB3	41:N:75:ILE:HG12	1.76	0.66
57:x:71:TYR:CE2	57:x:177:VAL:HG11	2.31	0.66
12:m:11:ASP:OD1	12:m:12:HIS:N	2.27	0.66
27:5:215:SER:HB2	28:A:2175:C:O2'	1.95	0.66
30:C:154:ALA:HB2	30:C:161:VAL:HG23	1.77	0.66
38:K:47:ILE:HG22	38:K:49:ARG:H	1.60	0.66
41:N:20:MET:HE1	41:N:40:LYS:HE3	1.76	0.66
47:T:76:ARG:HH11	47:T:76:ARG:HG3	1.59	0.66
50:W:18:LYS:H	50:W:35:ILE:HG22	1.60	0.66
1:a:184:G:H2'	1:a:185:U:H6	1.60	0.66
6:g:129:GLU:CD	6:g:131:LYS:HE2	2.19	0.66
7:h:55:THR:HG23	7:h:56:LYS:HG3	1.77	0.66
14:o:82:ILE:HG13	14:o:83:GLU:HG3	1.77	0.66
28:A:327:G:H2'	28:A:328:U:H6	1.60	0.66
30:C:124:LYS:CG	30:C:125:PRO:HD2	2.25	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:G:22:VAL:HA	34:G:36:LEU:HD23	1.78	0.66
54:6:36:A:O2'	54:6:37:A:O5'	2.12	0.66
5:f:38:ARG:HD3	5:f:98:GLU:N	2.10	0.66
6:g:12:ILE:CD1	6:g:25:LYS:HD3	2.24	0.66
28:A:188:G:H2'	28:A:189:G:H5'	1.76	0.66
28:A:994:C:O2'	45:R:10:LYS:HE2	1.95	0.66
28:A:1002:G:C2	28:A:1003:G:H1'	2.30	0.66
28:A:2849:U:H4'	28:A:2868:A:C2	2.30	0.66
32:E:31:VAL:HG21	32:E:104:ALA:CB	2.25	0.66
34:G:82:PHE:CZ	34:G:137:LYS:HB2	2.29	0.66
35:H:64:ALA:CA	35:H:71:LYS:HE3	2.25	0.66
40:M:40:ARG:C	40:M:41:LEU:HD12	2.21	0.66
50:W:19:ARG:HH11	50:W:22:VAL:CB	2.09	0.66
57:x:512:VAL:CG1	57:x:540:SER:HB2	2.26	0.66
3:d:72:PHE:CZ	3:d:200:ILE:HD11	2.30	0.66
6:g:23:LEU:HD11	6:g:59:LEU:CD2	2.24	0.66
27:5:60:ARG:HB3	27:5:164:ARG:HG3	1.76	0.66
28:A:2123:G:N2	28:A:2175:C:N3	2.43	0.66
34:G:15:ASP:CB	34:G:26:LYS:HB3	2.24	0.66
38:K:18:ARG:HB3	38:K:45:GLU:CG	2.26	0.66
47:T:68:LYS:HD3	47:T:69:ARG:H	1.60	0.66
57:x:191:LEU:HD22	57:x:276:LEU:HG	1.78	0.66
57:x:549:VAL:HG23	57:x:550:LEU:HD12	1.76	0.66
1:a:474:G:O2'	1:a:475:C:H5'	1.96	0.66
4:e:37:THR:HG21	4:e:64:MET:HE2	1.78	0.66
19:t:79:LEU:O	19:t:83:ILE:HG23	1.96	0.66
28:A:547:A:H8	28:A:548:G:H5'	1.61	0.66
28:A:2140:G:H2'	28:A:2141:G:H8	1.58	0.66
29:B:66:A:O4'	29:B:108:A:N6	2.27	0.66
31:D:107:VAL:HG21	31:D:203:VAL:CG2	2.26	0.66
45:R:68:ARG:HG2	45:R:90:ARG:HB3	1.77	0.66
56:8:17:C:H5''	56:8:17(A):U:C5	2.31	0.66
57:x:583:LEU:HD11	57:x:586:GLU:HB2	1.76	0.66
1:a:439:U:C2'	1:a:440:C:H5'	2.25	0.66
1:a:774:G:H2'	1:a:775:G:H5'	1.78	0.66
1:a:840:C:O2	1:a:846:G:N2	2.20	0.66
1:a:875:U:O2'	7:h:15:ARG:NH1	2.28	0.66
4:e:156:LYS:O	4:e:159:LYS:NZ	2.22	0.66
5:f:100:SER:HB2	5:f:101:PRO:HA	1.78	0.66
28:A:170:U:H2'	28:A:171:U:H6	1.61	0.66
28:A:619:G:OP2	28:A:620:G:N2	2.27	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1567:G:H5'	30:C:57:HIS:CD2	2.27	0.66
35:H:32:PRO:HB3	51:X:38:TRP:CG	2.30	0.66
57:x:162:SER:OG	57:x:164:LYS:HG2	1.96	0.66
1:a:309:A:O2'	1:a:310:G:H5'	1.96	0.66
1:a:1133:G:N2	1:a:1141:C:O2	2.19	0.66
6:g:15:ASP:OD1	6:g:44:TYR:OH	2.13	0.66
13:n:26:GLU:O	13:n:30:ILE:CG1	2.43	0.66
28:A:84:A:H4'	28:A:85:G:O5'	1.96	0.66
28:A:992:C:O2'	28:A:993:G:H5'	1.95	0.66
40:M:134:THR:HG22	40:M:136:MET:N	2.10	0.66
47:T:35:ALA:C	47:T:36:LYS:HD2	2.21	0.66
56:8:19:G:OP1	56:8:60:U:N3	2.28	0.66
2:c:7:PRO:HG2	2:c:184:TYR:CD2	2.30	0.66
2:c:40:ARG:HG2	2:c:55:ILE:HD11	1.78	0.66
13:n:28:LYS:HG2	13:n:49:GLN:HE22	1.60	0.66
14:o:45:GLU:HG3	14:o:46:HIS:CD2	2.31	0.66
18:s:32:ARG:HA	18:s:50:ALA:HB3	1.78	0.66
18:s:63:THR:HG22	18:s:65:GLU:H	1.61	0.66
28:A:1548:A:H2'	28:A:1549:A:C8	2.31	0.66
28:A:2426:A:H3'	28:A:2427:C:H5'	1.77	0.66
29:B:49:C:OP1	42:O:102:ARG:HG2	1.96	0.66
45:R:49:ILE:HG21	45:R:53:PHE:H	1.61	0.66
47:T:32:LEU:HB2	47:T:83:ALA:HB2	1.77	0.66
47:T:57:VAL:O	47:T:86:THR:OG1	2.13	0.66
50:W:17:ALA:HA	50:W:35:ILE:HG23	1.76	0.66
55:7:14:A:N3	55:7:14:A:H2'	2.10	0.66
54:9:18:G:HO2'	54:9:57:G:H1	1.42	0.66
1:a:496:A:H5'	1:a:497:G:OP2	1.96	0.66
1:a:932:C:H4'	6:g:4:ARG:NH2	2.10	0.66
5:f:12:PRO:CG	5:f:54:LEU:HD11	2.24	0.66
13:n:51:LEU:HD12	13:n:51:LEU:O	1.96	0.66
27:5:131:LEU:CD1	27:5:138:PRO:HG2	2.20	0.66
28:A:27:G:N2	28:A:512:G:H1'	2.11	0.66
29:B:2:G:H22	29:B:119:A:H1'	1.59	0.66
43:P:6:GLN:OE1	43:P:9:GLN:NE2	2.28	0.66
55:7:27:A:H3'	55:7:27:A:N3	2.11	0.66
56:8:17:C:H5''	56:8:17(A):U:H6	1.59	0.66
54:9:74:C:H4'	54:9:75:C:OP1	1.96	0.66
1:a:766:A:OP2	1:a:812:G:N2	2.29	0.65
5:f:29:ILE:CD1	5:f:64:VAL:HG21	2.25	0.65
11:l:30:LYS:HB2	11:l:57:LEU:HD22	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:31:ILE:O	13:n:34:VAL:HG11	1.96	0.65
16:q:53:CYS:HA	16:q:81:LYS:NZ	2.10	0.65
21:b:56:LEU:HD12	21:b:183:PHE:CD2	2.31	0.65
28:A:833:A:H2'	28:A:834:G:C8	2.31	0.65
28:A:1176:U:H2'	28:A:1177:G:C8	2.31	0.65
28:A:2287:A:O2'	28:A:2288:A:H2'	1.96	0.65
31:D:53:GLY:O	31:D:76:GLY:HA2	1.95	0.65
35:H:26:ALA:O	35:H:28:ASN:N	2.26	0.65
49:V:80:HIS:CD2	49:V:83:LYS:HB2	2.31	0.65
54:9:16:U:C5	54:9:18:G:H3'	2.31	0.65
2:c:64:ILE:HG12	2:c:66:VAL:HG23	1.78	0.65
7:h:3:MET:CE	7:h:6:PRO:HA	2.26	0.65
27:5:107:GLY:HA2	27:5:134:ARG:NH2	2.12	0.65
28:A:1209:U:O2	28:A:1210:G:N2	2.29	0.65
33:F:53:ALA:HB1	33:F:64:PRO:HG2	1.78	0.65
38:K:2:ILE:HD12	38:K:8:LEU:HD21	1.77	0.65
46:S:73:LYS:HE2	46:S:75:PHE:HE2	1.60	0.65
57:x:373:GLU:HG3	57:x:381:VAL:CG1	2.27	0.65
57:x:373:GLU:HG3	57:x:381:VAL:HG13	1.78	0.65
54:9:52:G:H3'	54:9:53:G:H8	1.59	0.65
1:a:992:U:H4'	1:a:993:G:C5'	2.26	0.65
13:n:46:LEU:HB2	13:n:47:LYS:NZ	2.03	0.65
25:3:21:PHE:O	25:3:22:LYS:HG2	1.95	0.65
27:5:46:VAL:HG22	27:5:212:VAL:HA	1.78	0.65
28:A:707:G:C2'	28:A:708:G:H5'	2.26	0.65
28:A:1301:A:O2'	28:A:1302:A:H5''	1.97	0.65
28:A:2098:U:H2'	28:A:2099:U:O4'	1.96	0.65
31:D:11:MET:HE1	31:D:192:ALA:H	1.60	0.65
34:G:88:LEU:CD2	34:G:161:VAL:HG22	2.26	0.65
42:O:7:ARG:HA	42:O:10:ARG:HE	1.61	0.65
45:R:61:ALA:CB	45:R:98:ILE:HD13	2.26	0.65
47:T:29:THR:CB	47:T:86:THR:HA	2.26	0.65
57:x:120:MET:HE1	57:x:153:ILE:CD1	2.26	0.65
1:a:1004:A:H1'	1:a:1026:G:O6	1.96	0.65
23:1:29:LYS:NZ	28:A:2287:A:OP1	2.20	0.65
28:A:2818:U:O2'	28:A:2819:G:H5'	1.96	0.65
34:G:35:THR:HG21	34:G:70:LEU:HD13	1.76	0.65
40:M:28:PHE:HB2	40:M:104:GLU:OE1	1.97	0.65
49:V:4:ILE:CG2	49:V:42:LEU:HD22	2.26	0.65
57:x:169:VAL:C	57:x:171:ASP:HA	2.21	0.65
57:x:433:VAL:HG23	57:x:434:TYR:CB	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:119:ARG:HH21	8:i:123:ARG:HE	1.43	0.65
17:r:38:LYS:HZ2	20:u:24:GLU:HG3	1.61	0.65
27:5:21:TYR:CE2	27:5:222:VAL:HB	2.32	0.65
27:5:44:VAL:CG2	27:5:46:VAL:HG23	2.27	0.65
27:5:226:GLN:OE1	27:5:229:LEU:HD12	1.97	0.65
28:A:163:C:H3'	28:A:163:C:OP2	1.95	0.65
28:A:1474:U:C2'	28:A:1475:G:H5'	2.26	0.65
28:A:2510:C:H2'	28:A:2511:U:H6	1.61	0.65
57:x:159:VAL:HG23	57:x:175:ARG:HE	1.62	0.65
57:x:285:LEU:HB3	57:x:286:PRO:HD2	1.77	0.65
1:a:443:C:O2'	1:a:444:G:H5'	1.96	0.65
1:a:952:U:H2'	1:a:953:G:H8	1.60	0.65
1:a:1004:A:H1'	1:a:1026:G:C6	2.32	0.65
12:m:90:ARG:CG	12:m:97:VAL:HG22	2.27	0.65
21:b:72:LYS:HZ2	21:b:204:ASP:HB3	1.60	0.65
21:b:163:ILE:HG23	21:b:164:ASP:N	2.03	0.65
27:5:64:VAL:HG21	27:5:155:ASN:HB3	1.77	0.65
28:A:276:U:H2'	28:A:277:G:O4'	1.96	0.65
28:A:2748:A:H1'	34:G:66:THR:HG22	1.78	0.65
31:D:129:THR:HG23	31:D:140:HIS:O	1.95	0.65
44:Q:16:ILE:HD13	44:Q:35:PHE:HD1	1.60	0.65
46:S:73:LYS:HE2	46:S:75:PHE:CE2	2.32	0.65
54:9:57:G:H2'	54:9:58:A:H5'	1.77	0.65
1:a:68:G:C6	1:a:69:G:H1'	2.32	0.65
1:a:202:G:N2	1:a:216:U:O2	2.29	0.65
1:a:421:U:H5'	1:a:422:C:H5	1.60	0.65
1:a:1227:A:OP1	18:s:80:TYR:OH	2.12	0.65
6:g:70:ARG:HB3	6:g:96:ARG:HD3	1.79	0.65
13:n:34:VAL:O	13:n:36:ALA:N	2.24	0.65
14:o:3:LEU:HD23	14:o:8:THR:HG22	1.79	0.65
27:5:19:LYS:HB3	27:5:21:TYR:CZ	2.32	0.65
27:5:30:LEU:HD11	27:5:216:THR:N	2.10	0.65
28:A:707:G:H2'	28:A:708:G:H5'	1.77	0.65
28:A:1535:A:H5''	28:A:1536:C:H5	1.62	0.65
28:A:1723:G:C2	28:A:1724:G:H1'	2.31	0.65
28:A:2140:G:N1	28:A:2151:U:O2	2.18	0.65
28:A:2156:G:H4'	28:A:2158:A:H62	1.61	0.65
28:A:2178:C:H2'	28:A:2179:C:H5	1.61	0.65
46:S:69:LEU:HG	46:S:107:VAL:CG2	2.26	0.65
50:W:48:ALA:O	50:W:61:LYS:HB3	1.97	0.65
3:d:168:PRO:HB3	3:d:170:TRP:CZ3	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:3:27:ASN:O	25:3:35:LYS:NZ	2.30	0.65
28:A:2386:A:H2	50:W:38:ARG:HG2	1.62	0.65
28:A:2485:G:OP1	40:M:45:GLN:NE2	2.26	0.65
31:D:136:ASN:OD1	31:D:137:SER:N	2.29	0.65
33:F:113:PHE:CZ	33:F:115:GLY:HA2	2.31	0.65
35:H:47:PHE:HB2	35:H:50:ARG:HH21	1.62	0.65
35:H:113:SER:HA	35:H:133:GLN:NE2	2.12	0.65
36:I:45:THR:HA	36:I:48:ILE:HG12	1.79	0.65
39:L:78:ARG:HB3	39:L:113:ALA:CB	2.25	0.65
48:U:86:PHE:CE2	48:U:92:VAL:HG11	2.32	0.65
56:8:74:C:OP1	57:x:563:LYS:NZ	2.28	0.65
54:9:16:U:H5'	54:9:17:C:OP2	1.96	0.65
54:9:32:U:H2'	54:9:33:U:O4'	1.97	0.65
1:a:518:C:H2'	1:a:530:G:C8	2.31	0.65
3:d:35:GLU:O	3:d:37:ALA:N	2.30	0.65
27:5:64:VAL:HG22	27:5:160:GLN:HB2	1.79	0.65
28:A:2146:C:H5''	28:A:2147:A:C2	2.31	0.65
41:N:2:ARG:HG2	41:N:2:ARG:O	1.96	0.65
44:Q:91:ARG:CD	45:R:11:GLN:HB2	2.25	0.65
1:a:193:C:H2'	1:a:194:C:C6	2.32	0.65
1:a:212:G:C2'	1:a:213:G:H5'	2.27	0.65
1:a:844:G:N2	1:a:844:G:OP2	2.30	0.65
1:a:1149:C:OP1	8:i:11:ARG:NH1	2.30	0.65
1:a:1237:C:O2'	1:a:1300:G:N2	2.23	0.65
6:g:47:LEU:HB3	6:g:58:GLU:OE2	1.96	0.65
9:j:84:VAL:O	9:j:88:MET:HG2	1.97	0.65
27:5:68:GLY:HA2	27:5:159:GLY:HA3	1.79	0.65
27:5:175:ILE:CG2	27:5:185:LEU:HB3	2.26	0.65
28:A:1437:C:H2'	28:A:1438:U:H6	1.62	0.65
28:A:2132:U:H6	28:A:2157:G:H21	1.43	0.65
28:A:2189:U:H2'	28:A:2190:G:H5'	1.77	0.65
28:A:2311:A:N3	33:F:84:ILE:HD11	2.11	0.65
28:A:2326:C:O2'	28:A:2327:A:OP1	2.11	0.65
29:B:2:G:N2	29:B:119:A:O2'	2.30	0.65
30:C:244:VAL:HG12	30:C:250:GLN:HA	1.78	0.65
33:F:74:ALA:N	56:8:56:C:O2'	2.30	0.65
35:H:67:ALA:CB	35:H:68:ARG:HA	2.21	0.65
54:9:57:G:H2'	54:9:58:A:C5'	2.27	0.65
1:a:75:G:H2'	1:a:76:G:O4'	1.97	0.64
1:a:1316:G:N1	1:a:1319:A:OP2	2.30	0.64
4:e:149:SER:HB2	4:e:150:PRO:HD2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:879:G:H2'	28:A:880:G:C4'	2.27	0.64
28:A:1405:U:H2'	28:A:1406:U:C6	2.32	0.64
28:A:2311:A:C2	33:F:84:ILE:HD11	2.33	0.64
28:A:2312:U:H5'	33:F:84:ILE:HG21	1.78	0.64
29:B:36:C:H5'	29:B:37:C:OP2	1.97	0.64
37:J:3:THR:HG21	44:Q:60:TRP:HE1	1.62	0.64
39:L:122:VAL:HG13	39:L:142:ILE:HG23	1.79	0.64
57:x:184:GLU:O	57:x:213:LYS:NZ	2.22	0.64
57:x:301:PRO:HA	57:x:363:LEU:HD23	1.79	0.64
54:9:9:A:O2'	54:9:11:C:N4	2.30	0.64
1:a:463:U:C2'	1:a:464:U:H5'	2.27	0.64
1:a:992:U:H4'	1:a:993:G:H5''	1.78	0.64
1:a:1032:G:N2	1:a:1033:G:N7	2.45	0.64
7:h:15:ARG:HG3	7:h:75:ILE:CG2	2.27	0.64
12:m:2:ALA:HB3	12:m:9:ILE:CD1	2.27	0.64
14:o:3:LEU:H	14:o:35:GLN:HE22	1.46	0.64
28:A:629:G:H1'	28:A:639:U:H1'	1.80	0.64
28:A:2571:U:O2'	31:D:151:THR:HG21	1.97	0.64
30:C:124:LYS:C	30:C:191:LEU:HD23	2.22	0.64
39:L:101:ILE:HG22	39:L:105:ILE:HB	1.79	0.64
42:O:35:ILE:HB	42:O:102:ARG:HH11	1.61	0.64
42:O:62:LEU:HD13	42:O:70:ALA:HB1	1.79	0.64
57:x:83:ASP:OD1	57:x:344:GLY:HA3	1.98	0.64
57:x:109:GLU:HG2	57:x:110:ALA:N	2.12	0.64
57:x:211:ARG:NH2	57:x:253:GLY:HA2	2.12	0.64
1:a:78:A:N6	1:a:93:U:O4'	2.25	0.64
1:a:143:A:H2	1:a:220:G:H1	1.45	0.64
1:a:719:C:H3'	1:a:720:C:C6	2.31	0.64
1:a:1014:A:H4'	18:s:14:HIS:CD2	2.32	0.64
1:a:1296:C:C4'	1:a:1302:C:H42	2.10	0.64
13:n:33:ASP:HB2	13:n:34:VAL:CB	2.27	0.64
21:b:14:HIS:HB2	21:b:202:ASN:CB	2.27	0.64
27:5:210:LYS:O	27:5:226:GLN:NE2	2.24	0.64
28:A:662:G:H2'	28:A:663:G:H5'	1.79	0.64
28:A:2112:G:N3	54:9:19:G:N1	2.45	0.64
34:G:88:LEU:HD22	34:G:161:VAL:HG22	1.78	0.64
35:H:116:ARG:NE	35:H:122:LEU:HD13	2.12	0.64
40:M:42:THR:HG22	40:M:93:VAL:HG12	1.80	0.64
57:x:433:VAL:HA	57:x:434:TYR:HB2	1.79	0.64
1:a:1406:U:C2'	1:a:1407:C:H5'	2.26	0.64
5:f:21:MET:HG2	5:f:24:ARG:HH21	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:p:54:LEU:HD22	15:p:80:LYS:CD	2.22	0.64
28:A:845:A:H3'	28:A:845:A:N3	2.12	0.64
28:A:1154:G:OP2	44:Q:57:ARG:NH1	2.30	0.64
28:A:1413:A:C2'	28:A:1414:C:H5'	2.28	0.64
28:A:2581:G:N2	28:A:2581:G:OP2	2.30	0.64
31:D:110:THR:OG1	31:D:171:THR:HG22	1.97	0.64
34:G:51:PHE:CE2	34:G:68:ARG:HA	2.33	0.64
35:H:129:GLU:OE1	35:H:142:VAL:HG13	1.97	0.64
36:I:98:GLY:H	36:I:137:LEU:HB3	1.61	0.64
57:x:233:ASN:ND2	57:x:235:ASP:OD1	2.31	0.64
5:f:6:ILE:HD11	5:f:71:ILE:CD1	2.27	0.64
8:i:17:ALA:HB2	8:i:67:VAL:HG23	1.78	0.64
13:n:16:LEU:CD1	13:n:54:ASP:HB2	2.27	0.64
26:4:3:VAL:HG23	26:4:4:ARG:N	2.08	0.64
28:A:370:G:O2'	28:A:424:G:OP1	2.12	0.64
28:A:1062:G:O2'	28:A:1063:G:H5'	1.98	0.64
28:A:1496:A:O2'	28:A:1577:C:O2'	2.16	0.64
28:A:1568:G:H4'	30:C:58:LYS:CB	2.26	0.64
28:A:2059:A:H5'	28:A:2060:A:OP2	1.98	0.64
28:A:2480:C:H2'	28:A:2481:G:H5'	1.78	0.64
28:A:2886:A:C2	28:A:2887:A:H1'	2.32	0.64
31:D:172:VAL:HG23	31:D:194:PRO:HD3	1.79	0.64
35:H:115:VAL:HG11	35:H:137:GLU:N	2.12	0.64
36:I:96:LYS:HE2	36:I:138:VAL:CG2	2.28	0.64
57:x:384:VAL:HG21	57:x:390:LEU:HD23	1.79	0.64
1:a:8:A:N6	3:d:206:LYS:HB3	2.13	0.64
1:a:996:A:H2'	1:a:997:U:C6	2.33	0.64
8:i:42:GLU:O	8:i:45:ARG:NH1	2.31	0.64
28:A:2119:A:N1	28:A:2171:A:H5'	2.12	0.64
38:K:9:ASN:O	38:K:83:ALA:HA	1.97	0.64
39:L:57:LEU:HD13	39:L:60:ARG:HH11	1.62	0.64
50:W:51:GLY:HA2	50:W:59:PHE:CD2	2.32	0.64
57:x:10:ILE:HD11	57:x:92:LEU:CD2	2.24	0.64
57:x:288:PHE:HA	57:x:289:LYS:HB2	1.78	0.64
57:x:342:PHE:CD2	57:x:348:MET:CB	2.74	0.64
57:x:597:ASP:HB2	57:x:598:ASN:HA	1.80	0.64
2:c:64:ILE:HG23	2:c:99:ALA:HB2	1.79	0.64
13:n:42:TRP:HZ3	13:n:43:ASN:HD22	1.45	0.64
14:o:46:HIS:O	14:o:48:LYS:N	2.25	0.64
28:A:916:G:O2'	28:A:917:A:O4'	2.13	0.64
28:A:1584:U:H2'	28:A:1585:C:H5'	1.77	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2788:C:H2'	28:A:2789:C:C6	2.33	0.64
29:B:23:G:O6	29:B:59:A:N6	2.31	0.64
37:J:110:PRO:HB2	37:J:111:LYS:HG2	1.80	0.64
56:8:64:G:H2'	56:8:65:C:C6	2.33	0.64
1:a:107:G:C2'	1:a:108:G:H5'	2.28	0.64
1:a:719:C:H3'	1:a:720:C:H6	1.63	0.64
1:a:849:G:H2'	1:a:850:U:H5'	1.78	0.64
25:3:26:ALA:O	25:3:27:ASN:HB2	1.98	0.64
28:A:1435:G:C2'	28:A:1436:G:H5'	2.28	0.64
28:A:1766:G:O2'	28:A:1767:G:H5'	1.98	0.64
28:A:2683:C:O2	38:K:70:ARG:NH2	2.31	0.64
31:D:25:THR:HG21	31:D:193:VAL:HG22	1.80	0.64
32:E:56:GLY:HA2	32:E:73:ILE:HG22	1.79	0.64
42:O:83:LEU:HD11	42:O:115:LEU:HD12	1.78	0.64
47:T:54:GLU:CG	47:T:88:LYS:HB3	2.25	0.64
53:Z:38:GLU:HG3	53:Z:40:THR:HG23	1.79	0.64
57:x:5:ARG:HB2	57:x:73:LEU:HD23	1.80	0.64
54:9:67:C:H2'	54:9:68:C:H6	1.59	0.64
1:a:634:C:O2'	1:a:635:A:H5'	1.97	0.64
1:a:847:G:H2'	1:a:848:C:H6	1.63	0.64
2:c:55:ILE:HG22	2:c:68:ILE:HA	1.80	0.64
7:h:77:ARG:HH12	7:h:126:ILE:HG23	1.63	0.64
16:q:17:MET:O	16:q:18:GLU:HB3	1.97	0.64
27:5:60:ARG:HG2	27:5:165:ASN:H	1.62	0.64
27:5:107:GLY:HA3	28:A:2162:G:N2	2.12	0.64
32:E:47:LYS:HA	32:E:51:GLU:OE2	1.98	0.64
44:Q:111:LYS:HD3	45:R:48:LYS:CE	2.27	0.64
52:Y:22:LEU:O	52:Y:27:ASN:ND2	2.31	0.64
1:a:723:U:H5'	20:u:49:LYS:CE	2.19	0.64
3:d:4:TYR:CZ	3:d:11:LEU:HD11	2.33	0.64
3:d:107:PHE:HD1	3:d:159:LEU:HD21	1.62	0.64
3:d:172:GLU:HG3	3:d:183:LYS:HE2	1.80	0.64
10:k:52:PHE:HE2	10:k:65:VAL:HG11	1.63	0.64
13:n:39:GLU:HB2	13:n:40:ASP:CA	2.27	0.64
19:t:83:ILE:O	19:t:87:ALA:HB3	1.97	0.64
27:5:65:LEU:CD2	27:5:191:ALA:HB3	2.28	0.64
28:A:198:C:H2'	28:A:199:A:H5''	1.78	0.64
28:A:895:U:O3'	28:A:896:A:H3'	1.98	0.64
31:D:101:PHE:HA	31:D:104:VAL:HG23	1.80	0.64
44:Q:94:LEU:HD21	45:R:4:VAL:HG21	1.78	0.64
49:V:4:ILE:HG21	49:V:42:LEU:HD22	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:404:ALA:HB2	57:x:447:MET:CG	2.26	0.64
54:9:38:A:C2'	54:9:39:U:H5''	2.28	0.64
1:a:76:G:C3'	1:a:77:A:H5''	2.29	0.63
1:a:273:U:H2'	1:a:274:A:H5'	1.80	0.63
1:a:884:U:H4'	1:a:885:G:H5''	1.80	0.63
3:d:198:HIS:CE1	3:d:199:LEU:HG	2.33	0.63
5:f:39:LEU:HD12	5:f:61:LEU:O	1.97	0.63
9:j:11:LYS:HB3	9:j:71:LEU:CD2	2.29	0.63
12:m:22:ILE:HG22	12:m:23:TYR:O	1.99	0.63
14:o:75:VAL:O	14:o:78:TYR:HB3	1.97	0.63
28:A:172:A:H2'	28:A:173:A:C8	2.33	0.63
28:A:1045:C:H4'	28:A:1046:A:H5''	1.80	0.63
28:A:1437:C:H2'	28:A:1438:U:C6	2.34	0.63
28:A:1847:A:H4'	28:A:1848:A:OP2	1.97	0.63
28:A:2783:U:O2'	28:A:2784:U:H5'	1.98	0.63
43:P:17:PRO:CG	43:P:83:ILE:HG23	2.26	0.63
52:Y:24:GLU:O	52:Y:28:LEU:HG	1.98	0.63
57:x:86:TYR:CD1	57:x:291:VAL:HG11	2.32	0.63
57:x:159:VAL:HG21	57:x:170:GLN:HE22	1.63	0.63
1:a:468:A:H3'	1:a:469:C:C6	2.34	0.63
1:a:1227:A:H5'	12:m:110:LYS:NZ	2.13	0.63
4:e:49:GLY:CA	4:e:66:LYS:HB2	2.28	0.63
6:g:4:ARG:HG3	6:g:5:ARG:N	2.13	0.63
7:h:12:THR:HG22	7:h:15:ARG:NH2	2.12	0.63
12:m:37:ALA:CB	12:m:39:ILE:HG12	2.28	0.63
28:A:845:A:H61	28:A:932:U:H3	1.45	0.63
28:A:1064:C:H42	28:A:1074:G:H1	1.45	0.63
28:A:2030:A:C2	28:A:2499:C:H5''	2.33	0.63
28:A:2117:A:H4'	28:A:2145:C:C4'	2.20	0.63
28:A:2277:G:OP2	50:W:8:SER:HB2	1.98	0.63
34:G:98:LYS:HB2	34:G:103:ASN:HD21	1.61	0.63
35:H:7:ASP:OD2	35:H:10:ALA:N	2.24	0.63
57:x:78:THR:HG23	57:x:79:PRO:HD2	1.79	0.63
1:a:362:G:N2	1:a:365:U:OP2	2.31	0.63
2:c:147:LYS:HB2	2:c:203:PHE:CD2	2.33	0.63
3:d:95:GLU:HA	3:d:100:ASN:ND2	2.13	0.63
22:0:9:ARG:HH12	44:Q:29:ARG:CZ	2.11	0.63
27:5:97:MET:HG2	27:5:98:GLU:CD	2.24	0.63
27:5:226:GLN:O	27:5:230:SER:OG	2.17	0.63
28:A:1545:A:H2'	28:A:1546:G:H5'	1.80	0.63
28:A:2210:U:C4'	28:A:2211:A:H5'	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2339:C:H2'	28:A:2340:A:H8	1.63	0.63
29:B:65:U:C2'	29:B:66:A:H5'	2.28	0.63
36:I:4:VAL:HG13	36:I:59:THR:CG2	2.25	0.63
57:x:364:ILE:HG13	57:x:588:PHE:CZ	2.33	0.63
1:a:437:U:H4'	3:d:154:ARG:NH2	2.13	0.63
2:c:114:LYS:HD3	2:c:185:ASN:CG	2.24	0.63
3:d:162:ALA:HB1	3:d:165:ARG:HH21	1.63	0.63
4:e:97:GLN:OE1	4:e:98:PRO:HD2	1.98	0.63
21:b:98:GLY:HA2	21:b:174:GLU:OE2	1.97	0.63
23:1:7:LYS:HG2	23:1:23:THR:CG2	2.28	0.63
28:A:14:A:H5''	28:A:15:G:OP2	1.98	0.63
28:A:215:G:C4'	28:A:216:A:H4'	2.29	0.63
29:B:48:U:OP1	42:O:30:ARG:NH1	2.29	0.63
30:C:33:LEU:CD2	30:C:62:ARG:HG2	2.29	0.63
34:G:1:SER:O	34:G:3:VAL:N	2.31	0.63
35:H:90:LEU:HD11	35:H:146:VAL:CG2	2.16	0.63
35:H:104:THR:HA	35:H:109:GLU:CA	2.28	0.63
57:x:192:GLN:OE1	57:x:214:ASN:ND2	2.31	0.63
57:x:327:GLU:HB2	57:x:328:PRO:HD2	1.79	0.63
4:e:72:ILE:HD11	4:e:145:GLU:HG3	1.80	0.63
5:f:7:VAL:HG12	5:f:88:MET:HB3	1.80	0.63
9:j:15:HIS:O	9:j:18:ILE:HG22	1.98	0.63
9:j:35:GLN:HG2	9:j:77:VAL:N	2.13	0.63
12:m:11:ASP:CA	12:m:45:ILE:HD13	2.28	0.63
13:n:40:ASP:C	13:n:41:ARG:CG	2.71	0.63
28:A:207:A:H2'	28:A:208:C:O4'	1.99	0.63
28:A:860:U:H1'	28:A:2268:A:H5'	1.81	0.63
28:A:879:G:C2	28:A:880:G:H1'	2.32	0.63
28:A:2174:C:H2'	28:A:2175:C:C4	2.33	0.63
28:A:2287:A:O2'	28:A:2288:A:O5'	2.14	0.63
28:A:2562:U:H4'	38:K:25:LEU:CD2	2.28	0.63
33:F:127:TYR:CE2	33:F:129:MET:HB3	2.34	0.63
42:O:66:GLY:HA2	42:O:102:ARG:CZ	2.28	0.63
57:x:364:ILE:HG13	57:x:588:PHE:HZ	1.62	0.63
57:x:531:ALA:HB1	57:x:535:HIS:O	1.98	0.63
1:a:346:G:H5'	1:a:347:G:OP2	1.98	0.63
1:a:744:C:O2'	1:a:745:G:H5'	1.98	0.63
1:a:1007:U:H2'	1:a:1008:U:C5'	2.24	0.63
3:d:72:PHE:HZ	3:d:200:ILE:HD11	1.62	0.63
4:e:24:THR:HA	4:e:29:ARG:HA	1.79	0.63
9:j:35:GLN:HG2	9:j:77:VAL:H	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:j:66:GLU:CG	13:n:99:ALA:HB2	2.29	0.63
11:l:99:ARG:HA	11:l:104:CYS:SG	2.38	0.63
12:m:2:ALA:HB3	12:m:9:ILE:HD12	1.81	0.63
27:5:170:ILE:HD13	28:A:2177:C:O2'	1.98	0.63
28:A:1055:G:H2'	28:A:1056:G:O4'	1.99	0.63
28:A:1248:G:P	32:E:44:ARG:HH12	2.22	0.63
29:B:37:C:H2'	29:B:38:C:O4'	1.99	0.63
45:R:54:VAL:HG23	45:R:57:GLY:HA3	1.80	0.63
48:U:35:VAL:HB	48:U:38:ILE:CG2	2.24	0.63
51:X:69:GLU:O	51:X:71:ARG:N	2.32	0.63
54:6:44:G:H5'	54:6:45:U:H5	1.64	0.63
57:x:327:GLU:OE2	57:x:339:ARG:HD3	1.98	0.63
1:a:88:U:O2'	1:a:89:U:O4'	2.16	0.63
1:a:1190:G:OP1	2:c:5:VAL:N	2.26	0.63
14:o:6:GLU:OE1	14:o:6:GLU:N	2.29	0.63
21:b:48:MET:HG3	21:b:200:PRO:HD2	1.79	0.63
21:b:116:LEU:HD23	21:b:140:LEU:HD11	1.80	0.63
24:2:34:ARG:CZ	24:2:39:ARG:HD2	2.28	0.63
27:5:21:TYR:HE2	27:5:222:VAL:HB	1.62	0.63
28:A:757:G:C2'	28:A:758:C:H5'	2.28	0.63
28:A:881:G:N1	28:A:898:C:H1'	2.13	0.63
28:A:996:A:C5'	44:Q:91:ARG:HH21	2.11	0.63
28:A:1964:G:O2'	28:A:1967:C:OP2	2.11	0.63
28:A:2162:G:H3'	28:A:2162:G:N3	2.12	0.63
28:A:2260:C:H5''	50:W:13:ARG:HH21	1.63	0.63
49:V:44:HIS:HE1	49:V:86:LEU:H	1.47	0.63
1:a:210:C:O2'	1:a:211:G:N2	2.32	0.63
8:i:115:LYS:HB2	8:i:118:LEU:HD12	1.80	0.63
10:k:17:SER:O	10:k:79:ILE:HG23	1.99	0.63
13:n:14:VAL:HA	13:n:60:GLN:NE2	2.14	0.63
21:b:13:VAL:HB	21:b:207:ARG:HD2	1.80	0.63
22:0:42:ILE:HD12	41:N:99:LYS:O	1.97	0.63
23:1:35:LEU:CD1	23:1:37:LYS:HD2	2.28	0.63
27:5:29:LEU:CB	27:5:222:VAL:HG21	2.28	0.63
27:5:101:ALA:O	27:5:104:ILE:HG12	1.99	0.63
28:A:188:G:H5'	51:X:13:THR:CG2	2.29	0.63
28:A:782:A:N7	30:C:219:VAL:HG21	2.14	0.63
28:A:803:U:C2'	28:A:804:A:H5'	2.28	0.63
28:A:1071:G:H1'	28:A:1089:A:C5	2.34	0.63
33:F:122:ASP:OD2	33:F:126:ASN:ND2	2.31	0.63
34:G:1:SER:HA	34:G:4:ALA:CB	2.23	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:I:4:VAL:CG1	36:I:59:THR:HG23	2.26	0.63
37:J:53:TYR:CE1	37:J:121:LYS:HG2	2.32	0.63
45:R:68:ARG:HD2	45:R:90:ARG:HE	1.64	0.63
50:W:24:ARG:NH1	50:W:65:LYS:HG2	2.13	0.63
1:a:1239:A:N6	1:a:1299:A:H62	1.97	0.63
3:d:85:ASN:HB3	3:d:88:GLU:HG2	1.81	0.63
28:A:1173:U:O2	28:A:1176:U:N3	2.32	0.63
30:C:134:ILE:HD13	30:C:140:VAL:CG1	2.29	0.63
34:G:22:VAL:HA	34:G:36:LEU:CD2	2.29	0.63
37:J:32:LEU:HD22	37:J:54:ILE:CD1	2.28	0.63
44:Q:87:VAL:CG1	44:Q:89:ILE:HG23	2.28	0.63
50:W:19:ARG:NH1	50:W:22:VAL:HG11	2.12	0.63
53:Z:6:ILE:O	53:Z:34:THR:HA	1.98	0.63
57:x:78:THR:CG2	57:x:88:VAL:HG22	2.29	0.63
54:9:18:G:H4'	54:9:60:U:C2	2.34	0.63
1:a:1054:C:C5	54:6:34:G:H1'	2.34	0.62
1:a:1159:U:O4'	1:a:1182:G:N2	2.32	0.62
1:a:1439:G:OP2	19:t:33:LYS:HE2	1.99	0.62
28:A:304:U:H2'	28:A:305:C:H6	1.64	0.62
28:A:548:G:H4'	28:A:549:G:C5	2.33	0.62
28:A:1138:G:N2	37:J:108:MET:HE2	2.13	0.62
28:A:2133:G:C2'	28:A:2134:A:H4'	2.28	0.62
32:E:119:ILE:HG13	32:E:119:ILE:O	1.99	0.62
32:E:149:ILE:HD11	32:E:188:MET:CE	2.29	0.62
34:G:24:THR:CG2	34:G:32:LEU:HB3	2.29	0.62
34:G:120:ILE:HD11	34:G:139:VAL:HG12	1.80	0.62
35:H:146:VAL:HA	35:H:149:GLU:CB	2.28	0.62
54:9:35:A:H2'	54:9:36:A:N7	2.14	0.62
1:a:464:U:H2'	1:a:466:A:C8	2.34	0.62
5:f:43:GLY:HA2	5:f:58:HIS:CE1	2.35	0.62
8:i:22:LYS:CG	8:i:23:PRO:HD2	2.29	0.62
18:s:37:ARG:O	18:s:70:LYS:HD2	1.99	0.62
23:1:39:ASP:OD1	23:1:41:VAL:HG12	1.99	0.62
28:A:554:U:C2'	28:A:555:G:H5'	2.29	0.62
28:A:1924:C:C2'	28:A:1925:C:H5'	2.30	0.62
28:A:1937:A:O2'	28:A:1939:U:OP2	2.13	0.62
28:A:2330:G:N2	50:W:38:ARG:HA	2.13	0.62
28:A:2530:A:H62	34:G:171:LYS:NZ	1.97	0.62
28:A:2780:G:OP2	37:J:120:ARG:NE	2.27	0.62
34:G:26:LYS:HB2	34:G:32:LEU:CG	2.23	0.62
35:H:51:ARG:HD3	35:H:55:GLU:OE2	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:H:108:VAL:HG12	35:H:110:VAL:HB	1.80	0.62
36:I:24:GLY:O	36:I:27:LEU:HG	1.99	0.62
42:O:38:GLN:HA	42:O:50:ALA:HB2	1.81	0.62
44:Q:63:ARG:NH1	44:Q:96:ASP:HA	2.14	0.62
49:V:24:ASN:C	49:V:25:LYS:HD2	2.24	0.62
57:x:101:VAL:HG13	57:x:131:ASN:HB2	1.79	0.62
57:x:192:GLN:HB3	57:x:285:LEU:CD1	2.28	0.62
1:a:107:G:H2'	1:a:108:G:H5'	1.81	0.62
1:a:1033:G:H2'	1:a:1034:G:H8	1.63	0.62
1:a:1363:A:N3	1:a:1363:A:H2'	2.13	0.62
7:h:47:GLU:HB2	7:h:62:THR:OG1	1.99	0.62
10:k:108:THR:HG22	10:k:109:ASN:N	2.14	0.62
12:m:11:ASP:HA	12:m:45:ILE:HD13	1.80	0.62
13:n:43:ASN:O	13:n:47:LYS:HG2	1.98	0.62
20:u:4:ILE:HD13	20:u:19:PHE:CE2	2.34	0.62
28:A:291:G:H2'	28:A:292:U:H5'	1.80	0.62
28:A:627:A:H4'	28:A:628:G:OP1	1.98	0.62
28:A:2047:C:O2'	28:A:2048:G:H5'	1.98	0.62
28:A:2125:G:H1'	28:A:2173:A:N6	2.14	0.62
34:G:17:LYS:HB3	34:G:24:THR:HB	1.80	0.62
34:G:112:VAL:HG23	34:G:113:ASP:N	2.15	0.62
42:O:58:ILE:O	42:O:61:GLN:HG2	1.98	0.62
48:U:8:ASP:OD2	48:U:71:ILE:HG13	2.00	0.62
57:x:90:ARG:NH1	57:x:197:ASP:HA	2.14	0.62
54:9:7:A:H3'	54:9:8:U:C5'	2.29	0.62
3:d:190:ASP:OD1	3:d:191:LEU:N	2.32	0.62
16:q:30:LYS:HB3	16:q:37:PHE:HE1	1.62	0.62
19:t:43:ASP:HB3	19:t:46:ALA:CB	2.29	0.62
21:b:72:LYS:NZ	21:b:203:ASP:O	2.25	0.62
27:5:38:PHE:CE2	27:5:218:MET:HB3	2.34	0.62
28:A:30:G:OP1	44:Q:4:LYS:HD2	1.98	0.62
28:A:56:A:C2'	28:A:57:C:H5'	2.29	0.62
28:A:442:G:O4'	32:E:41:GLN:NE2	2.32	0.62
28:A:892:A:H2'	28:A:892:A:N3	2.15	0.62
28:A:1046:A:H3'	28:A:1047:G:H5'	1.81	0.62
28:A:2127:G:O2'	28:A:2128:G:O4'	2.09	0.62
28:A:2298:A:N1	28:A:2321:U:N3	2.47	0.62
34:G:134:GLY:HA3	34:G:140:ILE:HD13	1.80	0.62
35:H:14:SER:HB2	35:H:17:ASP:OD2	1.99	0.62
47:T:69:ARG:HD2	47:T:70:HIS:H	1.62	0.62
57:x:104:ALA:HB1	57:x:138:ALA:HB1	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:147:ILE:HG23	57:x:151:VAL:CB	2.28	0.62
57:x:224:LYS:N	57:x:275:THR:O	2.32	0.62
1:a:1323:G:H2'	1:a:1324:A:C8	2.35	0.62
28:A:281:C:O2'	28:A:282:A:H5'	1.99	0.62
28:A:291:G:C2'	28:A:292:U:H5'	2.30	0.62
28:A:901:C:H2'	28:A:902:C:O4'	2.00	0.62
31:D:52:THR:HG23	31:D:53:GLY:H	1.62	0.62
32:E:21:ARG:NH2	32:E:107:SER:OG	2.32	0.62
33:F:49:LEU:CD2	33:F:83:PRO:HB2	2.30	0.62
33:F:105:ILE:CD1	33:F:138:PRO:HG2	2.25	0.62
35:H:4:ILE:HG12	35:H:18:GLN:HE22	1.63	0.62
38:K:76:VAL:HB	43:P:72:VAL:HG22	1.81	0.62
40:M:79:ALA:HB3	57:x:558:ILE:HD11	1.80	0.62
51:X:48:LEU:CB	51:X:50:VAL:HG23	2.30	0.62
57:x:59:VAL:HG23	57:x:75:PHE:HB3	1.80	0.62
1:a:1317:C:OP1	13:n:21:PHE:HE2	1.82	0.62
2:c:43:LEU:HD23	2:c:68:ILE:CD1	2.30	0.62
3:d:58:LYS:HD3	3:d:203:LEU:CD2	2.27	0.62
19:t:44:LYS:HE2	19:t:87:ALA:OXT	1.99	0.62
28:A:893:C:H2'	28:A:894:U:C6	2.35	0.62
28:A:934:U:H2'	28:A:935:C:C6	2.35	0.62
28:A:1063:G:H2'	28:A:1064:C:O4'	1.99	0.62
28:A:1083:U:H2'	28:A:1085:A:OP2	1.99	0.62
28:A:1968:G:O2'	28:A:1969:A:O4'	2.17	0.62
28:A:2683:C:H4'	31:D:13:ARG:HH11	1.64	0.62
30:C:158:GLY:N	30:C:194:VAL:HG13	2.13	0.62
30:C:203:VAL:O	30:C:205:GLY:N	2.31	0.62
33:F:131:VAL:HG22	33:F:151:LEU:O	1.99	0.62
35:H:46:PHE:HE2	35:H:50:ARG:HD3	1.64	0.62
37:J:120:ARG:O	37:J:123:LYS:NZ	2.33	0.62
39:L:95:LEU:HD22	39:L:100:ILE:HD11	1.81	0.62
40:M:8:LYS:HE3	40:M:9:PHE:HE2	1.65	0.62
42:O:79:ALA:HB3	42:O:113:ALA:CB	2.29	0.62
48:U:6:ARG:NH2	48:U:25:LYS:O	2.33	0.62
57:x:17:LYS:NZ	57:x:80:GLY:HA3	2.15	0.62
57:x:549:VAL:HG23	57:x:550:LEU:CD1	2.30	0.62
54:9:37:A:H3'	54:9:38:A:H8	1.65	0.62
1:a:375:U:H5''	15:p:70:ARG:HD3	1.82	0.62
1:a:471:U:O2'	1:a:472:U:H5'	1.99	0.62
1:a:1106:G:O2'	1:a:1107:C:H5'	2.00	0.62
1:a:1253:G:H2'	1:a:1254:A:H8	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:15:VAL:HG23	2:c:16:LYS:H	1.63	0.62
7:h:121:LEU:HD12	7:h:121:LEU:O	2.00	0.62
9:j:19:ASP:HA	9:j:22:THR:HG22	1.81	0.62
21:b:135:MET:SD	21:b:138:ARG:HD2	2.40	0.62
24:2:35:ARG:HE	24:2:42:LEU:HD13	1.64	0.62
27:5:69:THR:CB	27:5:161:VAL:HG22	2.30	0.62
27:5:148:ASN:HB2	27:5:152:ALA:CB	2.27	0.62
28:A:1097:U:C2'	28:A:1098:A:H5'	2.30	0.62
28:A:1411:U:H2'	28:A:1412:U:H5'	1.82	0.62
28:A:1857:G:N2	28:A:1884:G:O2'	2.27	0.62
29:B:38:C:H2'	29:B:39:A:H8	1.64	0.62
35:H:90:LEU:H	35:H:147:VAL:HG12	1.63	0.62
36:I:27:LEU:HD12	36:I:30:GLN:H	1.63	0.62
42:O:15:ARG:NH2	42:O:95:SER:OG	2.32	0.62
57:x:415:LEU:HD21	57:x:432:MET:HE3	1.81	0.62
1:a:499:A:O4'	1:a:547:A:N6	2.33	0.62
1:a:626:G:H5''	15:p:35:ARG:HH22	1.65	0.62
1:a:1407:C:O2	1:a:1494:G:N2	2.17	0.62
11:l:99:ARG:NE	11:l:104:CYS:SG	2.73	0.62
28:A:745:G:H2'	28:A:746:U:H5'	1.82	0.62
28:A:1130:U:N3	28:A:2025:C:H5''	2.15	0.62
28:A:1130:U:OP2	28:A:2570:G:N2	2.32	0.62
28:A:2111:U:N3	28:A:2145:C:OP1	2.33	0.62
28:A:2116:G:C5	28:A:2117:A:H1'	2.34	0.62
40:M:79:ALA:C	57:x:558:ILE:HD11	2.24	0.62
48:U:15:GLY:O	48:U:17:ASP:N	2.32	0.62
1:a:1294:G:H2'	1:a:1295:U:C6	2.35	0.62
4:e:111:MET:HE1	4:e:125:ALA:HB1	1.81	0.62
10:k:31:ILE:HG22	10:k:46:THR:HG22	1.82	0.62
13:n:41:ARG:NH1	13:n:42:TRP:H	1.69	0.62
26:4:3:VAL:HG11	28:A:2539:C:H5'	1.82	0.62
27:5:87:ALA:HA	27:5:91:GLY:C	2.24	0.62
28:A:1046:A:H3'	28:A:1047:G:C5'	2.29	0.62
28:A:1173:U:O2'	28:A:1177:G:N2	2.33	0.62
29:B:21:G:C2'	29:B:22:U:H5'	2.29	0.62
30:C:2:VAL:HG11	30:C:201:LEU:HD23	1.80	0.62
36:I:72:THR:OG1	36:I:73:PRO:HD2	1.98	0.62
1:a:543:U:P	3:d:14:ARG:HH21	2.21	0.62
5:f:47:LEU:HD12	5:f:55:HIS:HA	1.82	0.62
7:h:106:THR:HG21	7:h:121:LEU:HD11	1.80	0.62
10:k:93:ARG:NH2	20:u:20:LYS:HE2	2.15	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:20:TYR:O	13:n:23:LYS:HB3	2.00	0.62
26:4:16:ILE:HD13	26:4:25:VAL:HG22	1.81	0.62
27:5:1:MET:HB3	28:A:2120:G:N7	2.15	0.62
29:B:48:U:P	42:O:30:ARG:HH22	2.22	0.62
30:C:260:LYS:HA	30:C:263:ASP:OD2	2.00	0.62
47:T:67:VAL:HG23	47:T:76:ARG:HB2	1.81	0.62
57:x:159:VAL:CG2	57:x:175:ARG:HE	2.12	0.62
57:x:402:PRO:HA	57:x:475:PHE:HD1	1.64	0.62
57:x:523:GLN:CG	57:x:575:MET:HE1	2.30	0.62
1:a:1085:U:H3'	1:a:1086:U:O2	2.00	0.61
2:c:28:GLU:N	2:c:28:GLU:OE1	2.32	0.61
4:e:49:GLY:HA3	4:e:66:LYS:HB2	1.82	0.61
12:m:15:ALA:O	12:m:19:LEU:HD13	2.00	0.61
14:o:24:SER:HB3	14:o:27:VAL:HG23	1.82	0.61
22:0:2:VAL:HG22	28:A:2015:A:C2	2.35	0.61
27:5:137:MET:HB3	27:5:138:PRO:HD2	1.81	0.61
28:A:341:C:H2'	28:A:342:A:C8	2.35	0.61
28:A:883:G:N1	28:A:894:U:H1'	2.15	0.61
28:A:2314:A:H2'	28:A:2315:G:H8	1.65	0.61
31:D:148:GLN:OE1	31:D:148:GLN:N	2.33	0.61
34:G:126:THR:HG22	34:G:128:THR:H	1.65	0.61
36:I:79:LEU:HD12	36:I:131:THR:CG2	2.28	0.61
43:P:112:ARG:C	43:P:113:LEU:HG	2.24	0.61
45:R:34:GLU:HG2	45:R:60:LYS:HG2	1.82	0.61
1:a:211:G:C5	1:a:212:G:H1'	2.34	0.61
1:a:333:U:P	19:t:3:ASN:HD22	2.23	0.61
1:a:475:C:H2'	1:a:476:U:H5'	1.82	0.61
1:a:1032:G:H2'	1:a:1033:G:O4'	2.00	0.61
5:f:36:ILE:HG22	5:f:64:VAL:HG22	1.80	0.61
14:o:69:TYR:O	14:o:73:LYS:HG2	2.00	0.61
16:q:30:LYS:HA	16:q:37:PHE:HD1	1.65	0.61
19:t:5:LYS:HZ2	19:t:7:ALA:HB2	1.64	0.61
28:A:144:A:H2'	28:A:145:C:C6	2.35	0.61
28:A:930:G:H1'	53:Z:24:LEU:HD21	1.81	0.61
35:H:104:THR:HG23	35:H:109:GLU:CA	2.29	0.61
36:I:123:ALA:HB1	36:I:126:ARG:NH2	2.14	0.61
38:K:71:ARG:HE	38:K:106:GLU:HG3	1.64	0.61
50:W:68:PHE:CD1	50:W:79:ILE:HG12	2.35	0.61
57:x:63:TYR:OH	57:x:174:GLU:OE2	2.17	0.61
1:a:88:U:H2'	1:a:89:U:C5	2.35	0.61
2:c:39:VAL:O	2:c:43:LEU:HD13	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:68:GLN:HA	5:f:71:ILE:CG2	2.30	0.61
11:l:57:LEU:CD2	11:l:82:ILE:HG21	2.29	0.61
11:l:79:VAL:HG12	11:l:102:LEU:HD23	1.81	0.61
13:n:29:ALA:HA	13:n:32:SER:HB3	1.81	0.61
23:1:4:ILE:HG23	23:1:5:ARG:N	2.16	0.61
28:A:200:U:H2'	28:A:201:C:H5'	1.80	0.61
28:A:549:G:H5''	28:A:550:C:H6	1.64	0.61
28:A:1759:A:O2'	28:A:2714:G:O2'	2.18	0.61
28:A:2745:C:H2'	28:A:2746:U:H6	1.66	0.61
28:A:2758:A:H2'	28:A:2759:G:H5'	1.82	0.61
33:F:102:LEU:O	33:F:107:VAL:HG23	2.00	0.61
35:H:77:THR:CG2	35:H:144:VAL:HB	2.17	0.61
35:H:129:GLU:H	35:H:142:VAL:CG1	2.12	0.61
36:I:72:THR:HG23	36:I:112:LYS:NZ	2.15	0.61
36:I:105:LEU:HA	36:I:108:ILE:CD1	2.22	0.61
44:Q:60:TRP:CZ3	44:Q:93:ILE:HB	2.35	0.61
47:T:15:HIS:HB3	47:T:31:VAL:HG13	1.81	0.61
49:V:75:GLN:HB3	49:V:90:ASP:O	2.00	0.61
57:x:147:ILE:CG2	57:x:151:VAL:HB	2.30	0.61
1:a:197:A:N1	1:a:220:G:O2'	2.29	0.61
1:a:1491:G:H5'	1:a:1492:A:OP1	2.01	0.61
28:A:885:C:C2'	28:A:886:A:H5'	2.31	0.61
28:A:1306:C:N4	28:A:1606:C:H2'	2.16	0.61
28:A:1734:G:H2'	28:A:1735:A:C8	2.34	0.61
28:A:2112:G:O2'	54:9:19:G:N3	2.22	0.61
28:A:2192:U:C2'	28:A:2193:G:H5'	2.28	0.61
28:A:2281:A:O2'	28:A:2282:G:H5'	2.00	0.61
29:B:114:C:H2'	29:B:115:A:H8	1.64	0.61
34:G:167:VAL:O	34:G:168:VAL:HG22	2.00	0.61
57:x:539:ARG:HE	57:x:541:THR:CG2	2.13	0.61
1:a:830:G:O3'	21:b:20:ARG:HD2	2.01	0.61
1:a:1021:A:H2'	1:a:1022:A:C8	2.35	0.61
2:c:147:LYS:HB2	2:c:203:PHE:HD2	1.64	0.61
3:d:124:MET:HG2	3:d:129:VAL:CA	2.31	0.61
10:k:112:ASP:HB3	20:u:4:ILE:HG21	1.81	0.61
17:r:38:LYS:NZ	20:u:24:GLU:HG3	2.15	0.61
19:t:36:TYR:CZ	19:t:79:LEU:HD21	2.35	0.61
27:5:21:TYR:HB2	27:5:26:ALA:HB2	1.83	0.61
27:5:35:THR:OG1	27:5:218:MET:HG2	2.00	0.61
28:A:2066:C:O2	28:A:2445:G:N2	2.34	0.61
28:A:2110:G:C2	28:A:2120:G:H1'	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2164:C:H5''	28:A:2172:U:H5	1.65	0.61
28:A:2813:A:O2'	28:A:2814:A:H5'	1.98	0.61
33:F:141:ASP:OD2	33:F:143:ASP:HB2	2.01	0.61
34:G:120:ILE:CD1	34:G:139:VAL:HG12	2.30	0.61
35:H:71:LYS:HB3	35:H:108:VAL:HG11	1.83	0.61
46:S:59:GLU:HA	46:S:64:ALA:CB	2.30	0.61
50:W:13:ARG:HG2	50:W:14:ASP:N	2.11	0.61
1:a:1239:A:H62	1:a:1299:A:N6	1.99	0.61
7:h:106:THR:HG22	7:h:108:LYS:H	1.66	0.61
13:n:46:LEU:C	13:n:47:LYS:HZ3	2.08	0.61
21:b:207:ARG:O	21:b:211:LEU:HD13	2.01	0.61
27:5:38:PHE:HB3	28:A:2126:A:H5''	1.82	0.61
30:C:80:LEU:HD23	30:C:91:ALA:HB2	1.82	0.61
35:H:146:VAL:HA	35:H:149:GLU:HG2	1.81	0.61
36:I:51:GLY:C	36:I:52:LEU:HD12	2.26	0.61
48:U:47:PRO:HB3	48:U:55:GLY:CA	2.30	0.61
57:x:59:VAL:CG2	57:x:75:PHE:HB3	2.29	0.61
57:x:589:LEU:O	57:x:591:ILE:N	2.31	0.61
57:x:597:ASP:HA	57:x:598:ASN:C	2.26	0.61
54:9:60:U:P	54:9:61:C:H41	2.23	0.61
1:a:629:A:H2'	1:a:630:A:O4'	2.01	0.61
1:a:1008:U:H3	1:a:1021:A:H61	1.48	0.61
4:e:88:VAL:HG12	4:e:93:ARG:HG2	1.81	0.61
5:f:1:MET:CE	5:f:67:PRO:HD3	2.23	0.61
7:h:3:MET:HE1	7:h:9:ASP:HB2	1.82	0.61
18:s:55:ARG:HG3	18:s:56:GLN:N	2.16	0.61
27:5:69:THR:HB	27:5:161:VAL:HG22	1.81	0.61
28:A:843:G:O2'	28:A:844:A:H5'	2.01	0.61
28:A:1082:U:H5'	36:I:117:THR:OG1	2.01	0.61
28:A:1315:C:O2'	28:A:1316:U:H5'	2.01	0.61
28:A:1528:A:H2'	28:A:1529:G:H5'	1.82	0.61
28:A:1936:A:H2	28:A:1943:U:C5	2.19	0.61
30:C:226:PRO:HG3	30:C:233:GLY:CA	2.31	0.61
32:E:25:GLU:OE2	39:L:7:SER:N	2.32	0.61
34:G:86:LEU:HD23	34:G:161:VAL:CG1	2.31	0.61
57:x:288:PHE:CA	57:x:289:LYS:HB2	2.30	0.61
57:x:479:ASP:OD2	57:x:501:ARG:NE	2.30	0.61
1:a:653:U:H5'	7:h:56:LYS:CE	2.27	0.61
1:a:722:G:H3'	1:a:722:G:N3	2.16	0.61
10:k:42:LEU:HD22	10:k:77:TYR:CE2	2.36	0.61
11:l:50:ARG:HB2	11:l:90:LEU:HD21	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:414:C:H2'	28:A:415:A:C8	2.36	0.61
28:A:2336:A:N6	50:W:40:ARG:HD3	2.16	0.61
28:A:2491:U:O2'	28:A:2492:U:H5'	2.01	0.61
41:N:32:GLU:OE1	41:N:118:ARG:HG3	2.00	0.61
44:Q:91:ARG:HB3	44:Q:93:ILE:HG22	1.81	0.61
57:x:593:HIS:CE1	57:x:596:LYS:HE3	2.36	0.61
1:a:590:U:OP1	7:h:31:LYS:HG2	2.01	0.61
1:a:940:C:O2'	1:a:941:G:H5'	2.01	0.61
1:a:976:G:O2'	1:a:977:A:O5'	2.18	0.61
1:a:1004:A:H2'	1:a:1005:A:O4'	2.01	0.61
7:h:14:ILE:O	7:h:18:GLN:HG2	2.01	0.61
9:j:52:LEU:HB2	13:n:81:ARG:NH1	2.15	0.61
21:b:14:HIS:ND1	21:b:14:HIS:O	2.34	0.61
26:4:15:LYS:HE3	26:4:17:VAL:CG2	2.30	0.61
27:5:77:VAL:HA	27:5:115:ILE:O	2.01	0.61
28:A:1813:G:H1'	30:C:49:THR:CG2	2.24	0.61
28:A:2469:A:N6	28:A:2481:G:H1'	2.16	0.61
32:E:91:ASP:OD1	32:E:92:HIS:N	2.34	0.61
32:E:145:ASP:HA	32:E:166:LYS:O	2.00	0.61
40:M:108:VAL:HG13	40:M:112:LEU:HD23	1.82	0.61
41:N:73:ASN:CA	41:N:76:VAL:HG12	2.30	0.61
41:N:103:ARG:HD3	41:N:110:MET:CE	2.30	0.61
42:O:24:THR:OG1	42:O:90:VAL:HG12	2.01	0.61
1:a:429:U:H5'	3:d:9:LEU:HD12	1.81	0.61
4:e:35:ALA:HB2	4:e:60:ILE:HD13	1.83	0.61
5:f:90:MET:HE1	17:r:23:TYR:OH	2.01	0.61
6:g:76:LYS:N	6:g:87:VAL:O	2.33	0.61
13:n:24:ARG:O	13:n:26:GLU:N	2.34	0.61
17:r:34:THR:CG2	17:r:38:LYS:HB2	2.31	0.61
21:b:156:LEU:HD12	21:b:156:LEU:O	2.01	0.61
27:5:133:PRO:HD3	28:A:2171:A:H5'	1.81	0.61
28:A:1178:C:H2'	28:A:1179:G:C8	2.35	0.61
31:D:3:GLY:O	31:D:4:LEU:HD12	2.00	0.61
34:G:19:ASN:HB3	34:G:22:VAL:CG2	2.31	0.61
40:M:35:ALA:O	40:M:128:THR:HA	2.01	0.61
43:P:74:GLN:HB2	43:P:77:SER:HB2	1.82	0.61
57:x:458:LEU:CD1	57:x:468:LEU:HD21	2.31	0.61
1:a:644:U:C2'	1:a:645:G:H5'	2.31	0.60
9:j:5:ARG:HB2	9:j:77:VAL:HG13	1.82	0.60
21:b:83:ALA:HA	21:b:88:GLN:OE1	2.01	0.60
28:A:156:A:H2'	28:A:157:C:O4'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:274:C:H2'	28:A:275:C:O4'	2.00	0.60
28:A:588:U:O2'	28:A:589:U:H5'	2.01	0.60
28:A:728:G:H4'	30:C:12:ARG:HD3	1.83	0.60
28:A:893:C:H2'	28:A:894:U:H6	1.65	0.60
28:A:1173:U:N3	28:A:1174:U:H1'	2.16	0.60
28:A:1759:A:HO2'	28:A:2714:G:HO2'	1.44	0.60
28:A:2116:G:OP1	28:A:2117:A:N6	2.34	0.60
30:C:65:ASP:OD2	30:C:101:ARG:NH1	2.34	0.60
30:C:78:GLU:OE2	30:C:94:LEU:HD22	2.01	0.60
34:G:31:GLU:O	34:G:33:THR:N	2.32	0.60
35:H:94:ILE:HG23	35:H:115:VAL:O	2.01	0.60
39:L:96:LYS:N	39:L:101:ILE:HD12	2.15	0.60
40:M:108:VAL:HG13	40:M:109:PRO:HD2	1.82	0.60
45:R:24:LYS:O	45:R:25:LEU:HD12	2.01	0.60
54:6:44:G:H5'	54:6:45:U:C5	2.36	0.60
57:x:390:LEU:HD11	57:x:498:ILE:HD11	1.81	0.60
1:a:96:U:H2'	1:a:97:G:C8	2.36	0.60
1:a:723:U:C5'	20:u:49:LYS:HG3	2.31	0.60
2:c:130:PHE:CE1	2:c:157:LEU:HD23	2.36	0.60
3:d:23:SER:HB3	3:d:110:THR:HB	1.82	0.60
11:l:82:ILE:HD11	11:l:95:TYR:CB	2.31	0.60
27:5:35:THR:CG2	27:5:219:GLY:HA2	2.30	0.60
28:A:144:A:H2'	28:A:145:C:H6	1.64	0.60
28:A:273:G:H2'	28:A:274:C:H6	1.65	0.60
28:A:404:A:H4'	28:A:405:U:O5'	2.01	0.60
28:A:1509:A:H1'	28:A:1510:G:H5'	1.83	0.60
28:A:1550:C:H2'	28:A:1551:A:C8	2.36	0.60
28:A:2477:U:H4'	28:A:2479:U:O4	2.01	0.60
28:A:2748:A:H1'	34:G:66:THR:HG23	1.83	0.60
31:D:107:VAL:HG21	31:D:203:VAL:HG22	1.81	0.60
32:E:97:ASN:HB2	32:E:100:MET:CG	2.31	0.60
35:H:104:THR:HG23	35:H:109:GLU:HG3	1.83	0.60
37:J:56:VAL:HB	37:J:124:VAL:HA	1.83	0.60
51:X:40:GLU:O	51:X:43:LYS:NZ	2.27	0.60
56:8:47:U:H3'	56:8:48:C:H5'	1.83	0.60
57:x:13:ILE:CG1	57:x:80:GLY:O	2.38	0.60
54:9:7:A:H3'	54:9:8:U:H5''	1.82	0.60
54:9:58:A:H1'	54:9:60:U:C5	2.35	0.60
1:a:802:A:C2'	1:a:803:G:H5'	2.31	0.60
14:o:45:GLU:O	14:o:47:LYS:N	2.33	0.60
19:t:32:ILE:HG12	19:t:54:MET:HE1	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:0:8:THR:CG2	28:A:2020:A:H5'	2.32	0.60
28:A:1655:A:C4'	31:D:118:PHE:HB2	2.32	0.60
28:A:2107:G:H2'	28:A:2108:A:C8	2.37	0.60
34:G:61:TRP:O	34:G:65:GLY:N	2.26	0.60
35:H:82:SER:HB3	35:H:99:ILE:CG2	2.31	0.60
35:H:99:ILE:HD11	35:H:101:ASP:OD2	2.01	0.60
39:L:110:VAL:HB	39:L:127:VAL:HG23	1.83	0.60
48:U:96:LYS:O	48:U:97:SER:OG	2.15	0.60
54:9:19:G:O5'	54:9:57:G:N2	2.34	0.60
1:a:583:A:H2'	1:a:584:G:H5'	1.83	0.60
1:a:1005:A:H2'	1:a:1006:G:O4'	2.02	0.60
2:c:7:PRO:HG2	2:c:184:TYR:CG	2.36	0.60
4:e:103:THR:HG22	4:e:104:GLY:N	2.16	0.60
6:g:18:PHE:CZ	6:g:58:GLU:HG2	2.36	0.60
7:h:86:TYR:CE1	7:h:124:GLU:HB2	2.35	0.60
8:i:15:SER:OG	8:i:70:GLY:HA3	2.01	0.60
9:j:11:LYS:HE2	9:j:71:LEU:CD2	2.30	0.60
12:m:11:ASP:H	12:m:45:ILE:HD13	1.65	0.60
28:A:445:C:O2'	28:A:446:G:H5'	2.01	0.60
28:A:1275:A:N1	28:A:1295:C:O2'	2.32	0.60
28:A:1856:U:H2'	28:A:1857:G:H5'	1.83	0.60
28:A:2179:C:H2'	28:A:2180:U:C6	2.36	0.60
39:L:85:VAL:CG2	39:L:94:THR:HG22	2.31	0.60
44:Q:86:SER:O	44:Q:88:GLU:N	2.34	0.60
47:T:67:VAL:HG22	47:T:67:VAL:O	2.01	0.60
50:W:24:ARG:NE	50:W:65:LYS:HE2	2.16	0.60
52:Y:9:LYS:HZ1	52:Y:11:VAL:HB	1.66	0.60
57:x:103:ASP:OD1	57:x:104:ALA:N	2.35	0.60
54:9:18:G:N2	54:9:55:U:H1'	2.15	0.60
54:9:61:C:H2'	54:9:62:C:C6	2.36	0.60
1:a:1401:G:OP1	55:7:18:G:O2'	2.16	0.60
3:d:125:VAL:HG23	3:d:126:ASN:N	2.16	0.60
9:j:51:VAL:O	9:j:62:ARG:HA	2.02	0.60
13:n:39:GLU:H	13:n:40:ASP:HB3	1.66	0.60
27:5:164:ARG:NH1	27:5:165:ASN:O	2.34	0.60
31:D:120:GLY:HA2	31:D:162:ALA:CB	2.32	0.60
36:I:76:ALA:HA	36:I:131:THR:HG21	1.83	0.60
37:J:117:ALA:HA	37:J:120:ARG:HH21	1.66	0.60
43:P:27:VAL:CG2	43:P:83:ILE:HD13	2.31	0.60
57:x:135:LEU:HD12	57:x:136:PRO:CD	2.27	0.60
54:9:18:G:H1	54:9:55:U:C1'	2.14	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:27:LEU:O	13:n:30:ILE:HG13	2.01	0.60
19:t:84:ASN:HA	19:t:87:ALA:O	2.02	0.60
21:b:116:LEU:HD23	21:b:140:LEU:HD12	1.83	0.60
22:0:4:GLN:HE22	28:A:2056:G:H4'	1.65	0.60
27:5:3:LYS:NZ	28:A:2109:U:O4	2.35	0.60
28:A:995:C:C2	37:J:3:THR:HG23	2.36	0.60
28:A:2171:A:H1'	28:A:2172:U:C5	2.36	0.60
28:A:2199:A:OP1	51:X:36:ARG:NH1	2.33	0.60
28:A:2446:G:OP1	28:A:2502:G:N2	2.35	0.60
32:E:97:ASN:HB2	32:E:100:MET:HG3	1.83	0.60
32:E:175:ILE:HD11	32:E:180:LEU:HD11	1.83	0.60
35:H:97:ARG:NH2	35:H:114:GLU:HB3	2.17	0.60
38:K:36:GLY:HA2	38:K:62:VAL:O	2.02	0.60
50:W:77:LYS:O	50:W:78:PHE:HB2	2.02	0.60
57:x:196:ILE:O	57:x:198:SER:N	2.35	0.60
1:a:454:G:C2'	1:a:455:G:H5'	2.31	0.60
1:a:923:A:O2'	1:a:1399:C:OP2	2.18	0.60
1:a:1046:A:C2'	1:a:1047:G:H5'	2.31	0.60
1:a:1447:A:H5''	1:a:1448:C:C5	2.29	0.60
6:g:79:ARG:HA	6:g:83:SER:O	2.02	0.60
7:h:49:PHE:HB3	7:h:61:LEU:HD23	1.83	0.60
10:k:49:GLY:O	10:k:69:ARG:NH1	2.34	0.60
17:r:34:THR:HG22	17:r:38:LYS:O	2.01	0.60
18:s:19:VAL:O	18:s:23:VAL:HG23	2.02	0.60
21:b:76:SER:HB2	21:b:92:ASN:O	2.01	0.60
21:b:128:LEU:HB3	21:b:132:GLU:OE1	2.01	0.60
27:5:35:THR:HG21	28:A:2130:U:C5	2.35	0.60
28:A:395:U:O2'	28:A:396:G:N7	2.35	0.60
33:F:36:ASN:HB3	33:F:152:ASP:OD1	2.02	0.60
33:F:128:SER:HA	33:F:154:THR:HA	1.83	0.60
50:W:39:GLN:HG2	50:W:40:ARG:N	2.17	0.60
51:X:33:HIS:O	51:X:34:SER:OG	2.19	0.60
57:x:176:LEU:O	57:x:180:ILE:HG12	2.02	0.60
57:x:288:PHE:CB	57:x:289:LYS:HB2	2.31	0.60
1:a:399:G:O2'	1:a:400:C:H5'	2.02	0.60
10:k:110:ILE:HG22	20:u:17:ARG:HH12	1.66	0.60
12:m:31:LYS:NZ	12:m:41:GLU:OE2	2.27	0.60
14:o:43:PHE:CE1	14:o:53:ARG:HB2	2.36	0.60
22:0:4:GLN:O	22:0:5:ASN:ND2	2.34	0.60
27:5:201:PRO:HG2	27:5:206:GLY:CA	2.32	0.60
28:A:493:G:O2'	28:A:494:G:H5'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1177:G:C3'	28:A:1178:C:H5''	2.32	0.60
28:A:1550:C:H2'	28:A:1551:A:H8	1.65	0.60
28:A:1563:U:H2'	28:A:1564:C:C6	2.36	0.60
28:A:2169:A:N6	28:A:2170:A:N1	2.50	0.60
28:A:2584:U:H2'	28:A:2585:U:H5'	1.83	0.60
28:A:2679:A:O2'	28:A:2680:U:H5'	2.02	0.60
38:K:13:ASN:O	38:K:14:SER:OG	2.15	0.60
38:K:70:ARG:O	38:K:71:ARG:HB2	2.00	0.60
42:O:79:ALA:HB3	42:O:113:ALA:HB3	1.83	0.60
43:P:30:TRP:CE3	43:P:37:LYS:HG2	2.37	0.60
53:Z:19:HIS:O	53:Z:23:LEU:HD13	2.02	0.60
53:Z:23:LEU:HD11	53:Z:50:VAL:HG11	1.84	0.60
57:x:225:VAL:HA	57:x:274:LEU:HD23	1.84	0.60
1:a:1005:A:C2	1:a:1006:G:H1'	2.37	0.60
2:c:162:ILE:HD11	55:7:24:A:N3	2.16	0.60
9:j:77:VAL:O	9:j:77:VAL:HG12	2.01	0.60
11:l:24:LEU:HG	11:l:25:GLU:CG	2.29	0.60
11:l:63:VAL:HG11	11:l:95:TYR:CE2	2.37	0.60
18:s:69:HIS:HB3	18:s:73:GLU:OE1	2.02	0.60
21:b:15:PHE:O	21:b:40:ILE:HG12	2.02	0.60
22:0:8:THR:HG21	28:A:2020:A:H5'	1.82	0.60
28:A:364:C:O2'	28:A:365:U:H5'	2.01	0.60
28:A:1545:A:C2'	28:A:1546:G:H5'	2.32	0.60
28:A:1592:C:H2'	28:A:1593:A:C8	2.37	0.60
28:A:1924:C:H2'	28:A:1925:C:H5'	1.84	0.60
28:A:2059:A:N7	28:A:2503:A:H2'	2.17	0.60
28:A:2298:A:H2'	28:A:2299:U:O4'	2.01	0.60
32:E:134:LEU:HD23	32:E:161:ALA:HB2	1.82	0.60
34:G:101:VAL:CG1	34:G:115:GLN:HG3	2.32	0.60
35:H:129:GLU:H	35:H:142:VAL:HG13	1.67	0.60
40:M:74:THR:HB	40:M:87:GLY:O	2.02	0.60
46:S:3:THR:CG2	46:S:107:VAL:HG13	2.31	0.60
57:x:103:ASP:CG	57:x:105:GLY:H	2.09	0.60
57:x:380:GLU:OE1	57:x:380:GLU:N	2.35	0.60
1:a:427:U:OP1	3:d:13:ARG:NH2	2.27	0.60
1:a:980:C:O2'	13:n:13:ARG:NH1	2.35	0.60
1:a:1006:G:H2'	1:a:1007:U:H6	1.67	0.60
1:a:1220:G:OP1	18:s:37:ARG:NH1	2.31	0.60
1:a:1279:G:H2'	1:a:1279:G:N3	2.15	0.60
12:m:89:LEU:HD23	28:A:887:U:N3	2.17	0.60
13:n:36:ALA:O	13:n:37:SER:HB3	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:79:LEU:HB2	13:n:84:VAL:HG22	1.83	0.60
27:5:35:THR:N	27:5:219:GLY:HA3	2.16	0.60
27:5:65:LEU:CD1	27:5:161:VAL:HG21	2.31	0.60
28:A:197:A:H2'	28:A:198:C:H5'	1.84	0.60
28:A:1779:U:O2	28:A:1783:A:N6	2.35	0.60
28:A:2632:A:H2'	28:A:2633:G:C8	2.37	0.60
35:H:78:VAL:H	35:H:146:VAL:HG12	1.65	0.60
35:H:104:THR:CB	35:H:109:GLU:HA	2.32	0.60
36:I:18:ASN:HB2	36:I:38:CYS:HB3	1.84	0.60
42:O:105:ALA:O	42:O:107:ALA:N	2.30	0.60
46:S:29:VAL:HG23	46:S:69:LEU:O	2.01	0.60
1:a:345:C:O2	1:a:346:G:N1	2.34	0.59
1:a:409:U:OP1	3:d:24:GLY:HA3	2.03	0.59
1:a:547:A:H4'	1:a:548:G:O5'	2.02	0.59
1:a:1047:G:H2'	1:a:1048:G:H5'	1.83	0.59
2:c:77:ILE:HG22	2:c:81:GLY:HA2	1.83	0.59
3:d:50:ASP:HA	3:d:53:VAL:HG22	1.84	0.59
4:e:82:GLN:HG2	4:e:147:MET:CE	2.32	0.59
7:h:9:ASP:O	7:h:13:ARG:HG2	2.02	0.59
9:j:14:ASP:OD2	9:j:17:LEU:HB2	2.01	0.59
9:j:49:PHE:O	9:j:64:GLN:HA	2.01	0.59
16:q:53:CYS:HA	16:q:81:LYS:HZ3	1.66	0.59
27:5:35:THR:HG21	28:A:2130:U:C6	2.36	0.59
28:A:1386:C:H2'	28:A:1387:A:C8	2.37	0.59
28:A:1411:U:C2'	28:A:1412:U:H5'	2.32	0.59
28:A:2636:C:O2'	31:D:45:TYR:OH	2.20	0.59
30:C:20:ASN:OD1	30:C:22:GLU:HG2	2.00	0.59
40:M:42:THR:HG22	40:M:93:VAL:CG1	2.32	0.59
54:6:36:A:H2'	54:6:37:A:C8	2.37	0.59
57:x:99:LEU:HD21	57:x:176:LEU:HD12	1.84	0.59
1:a:6:G:O6	4:e:100:SER:N	2.35	0.59
1:a:80:A:H1'	1:a:90:C:C1'	2.31	0.59
1:a:530:G:H3'	1:a:530:G:N3	2.16	0.59
8:i:23:PRO:HA	8:i:60:LYS:HG2	1.83	0.59
23:1:35:LEU:HD12	23:1:35:LEU:O	2.01	0.59
28:A:1607:C:H4'	28:A:1608:A:O5'	2.02	0.59
31:D:3:GLY:C	31:D:4:LEU:HD12	2.27	0.59
39:L:57:LEU:HD13	39:L:60:ARG:NH1	2.17	0.59
57:x:484:ASP:OD2	57:x:491:ARG:HD2	2.01	0.59
1:a:1114:C:O2'	13:n:100:SER:O	2.19	0.59
8:i:43:THR:O	8:i:47:VAL:HG13	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:b:94:ARG:NH1	21:b:95:TRP:O	2.35	0.59
28:A:188:G:C2'	28:A:189:G:H5'	2.32	0.59
28:A:1112:G:H2'	28:A:1113:U:C6	2.37	0.59
28:A:1207:C:O2'	28:A:1208:C:H5'	2.02	0.59
28:A:2638:G:O2'	28:A:2775:G:N2	2.33	0.59
32:E:58:LYS:HE2	32:E:62:GLN:HA	1.84	0.59
34:G:153:PRO:HA	34:G:159:LYS:O	2.02	0.59
47:T:28:ASN:HB2	47:T:91:GLN:NE2	2.17	0.59
57:x:522:GLN:HB2	57:x:526:ILE:HD11	1.84	0.59
1:a:20:U:H2'	1:a:21:G:O4'	2.02	0.59
1:a:29:U:O2'	1:a:30:U:H5'	2.02	0.59
1:a:571:U:H5''	1:a:572:A:OP2	2.02	0.59
1:a:584:G:H2'	1:a:585:G:H8	1.68	0.59
4:e:56:VAL:O	4:e:60:ILE:HG12	2.03	0.59
5:f:85:ILE:HG13	5:f:86:ARG:H	1.67	0.59
8:i:34:SER:HB3	8:i:37:GLN:CG	2.29	0.59
11:l:72:HIS:ND1	11:l:73:ASN:O	2.29	0.59
27:5:36:ALA:HB1	27:5:38:PHE:H	1.66	0.59
27:5:133:PRO:HG2	28:A:2172:U:C1'	2.32	0.59
28:A:225:C:H2'	28:A:226:A:O4'	2.03	0.59
28:A:782:A:C8	30:C:219:VAL:HG21	2.36	0.59
28:A:881:G:N2	28:A:898:C:O2'	2.35	0.59
28:A:1216:G:H5''	44:Q:10:ARG:NH1	2.18	0.59
34:G:44:HIS:HA	34:G:49:LEU:HD23	1.84	0.59
36:I:4:VAL:CG1	36:I:7:TYR:HB3	2.32	0.59
50:W:36:ILE:HD13	50:W:42:THR:HG21	1.83	0.59
54:6:35:A:C1'	54:6:36:A:H5'	2.28	0.59
1:a:469:C:H2'	1:a:470:C:H6	1.68	0.59
1:a:1314:C:OP2	18:s:6:LYS:HD2	2.02	0.59
2:c:42:TYR:OH	2:c:90:VAL:HG21	2.01	0.59
2:c:77:ILE:CG2	2:c:81:GLY:HA2	2.33	0.59
7:h:54:ASP:CG	7:h:55:THR:H	2.11	0.59
10:k:31:ILE:HG22	10:k:46:THR:CG2	2.33	0.59
11:l:46:ASN:HD22	11:l:89:ASP:CG	2.11	0.59
12:m:3:ARG:HG2	12:m:7:ILE:HD12	1.84	0.59
27:5:44:VAL:HA	27:5:213:SER:O	2.02	0.59
27:5:108:GLU:OE1	28:A:2126:A:O2'	2.14	0.59
29:B:76:G:O2'	29:B:77:U:H5'	2.02	0.59
32:E:32:VAL:CG2	32:E:178:VAL:HG12	2.28	0.59
36:I:102:ARG:CA	36:I:141:ASP:HA	2.32	0.59
38:K:15:GLY:O	38:K:46:ALA:HA	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:O:38:GLN:HG2	42:O:50:ALA:CB	2.33	0.59
47:T:92:ASN:O	47:T:93:LEU:HD12	2.03	0.59
1:a:89:U:O2'	1:a:90:C:O5'	2.20	0.59
1:a:994:A:C8	1:a:1216:A:H4'	2.38	0.59
3:d:7:PRO:O	3:d:11:LEU:HD13	2.02	0.59
16:q:58:VAL:HB	16:q:79:VAL:O	2.03	0.59
27:5:33:LEU:O	27:5:220:ALA:N	2.36	0.59
27:5:36:ALA:HA	27:5:37:LYS:HG3	1.83	0.59
28:A:976:G:O2'	28:A:1155:A:O2'	2.17	0.59
28:A:1055:G:O2'	28:A:1056:G:H5'	2.02	0.59
28:A:1132:U:H3'	28:A:1133:A:H5''	1.85	0.59
28:A:1216:G:OP1	44:Q:10:ARG:NH2	2.36	0.59
28:A:1724:G:H1	28:A:1737:G:H1'	1.66	0.59
28:A:1874:C:H2'	28:A:1875:G:O4'	2.02	0.59
33:F:79:ARG:NH1	56:8:56:C:N3	2.49	0.59
44:Q:97:ILE:HD11	44:Q:108:LEU:HD12	1.85	0.59
45:R:54:VAL:CG2	45:R:57:GLY:HA3	2.32	0.59
50:W:19:ARG:HE	50:W:22:VAL:CG2	2.16	0.59
57:x:12:HIS:HB2	57:x:112:THR:HG1	1.68	0.59
57:x:170:GLN:N	57:x:171:ASP:HA	2.18	0.59
57:x:377:THR:N	57:x:395:ASN:O	2.32	0.59
54:9:9:A:N6	54:9:22:G:H3'	2.18	0.59
1:a:404:G:O2'	1:a:498:A:N1	2.30	0.59
2:c:64:ILE:HG23	2:c:99:ALA:CB	2.33	0.59
4:e:76:LEU:HD22	4:e:120:VAL:HG12	1.84	0.59
6:g:15:ASP:OD1	6:g:16:PRO:HD2	2.03	0.59
21:b:161:PHE:HD1	21:b:183:PHE:HB2	1.66	0.59
26:4:36:ARG:HD3	28:A:2742:G:OP1	2.02	0.59
27:5:4:LEU:HD13	28:A:2106:U:H3'	1.84	0.59
28:A:327:G:H2'	28:A:328:U:C6	2.38	0.59
28:A:1060:U:H4'	28:A:1061:U:C5'	2.33	0.59
28:A:1495:A:C2	28:A:1578:U:H1'	2.33	0.59
28:A:2090:A:H2	51:X:31:ASN:HD21	1.50	0.59
28:A:2108:A:O2'	28:A:2109:U:H5'	2.01	0.59
28:A:2115:G:H4'	28:A:2167:U:C1'	2.33	0.59
28:A:2178:C:H2'	28:A:2179:C:C5	2.37	0.59
28:A:2816:G:O2'	28:A:2817:U:H5'	2.02	0.59
31:D:16:THR:HG22	31:D:20:VAL:HB	1.83	0.59
33:F:88:VAL:HG12	33:F:90:LEU:CD1	2.32	0.59
47:T:35:ALA:O	47:T:36:LYS:HD2	2.02	0.59
57:x:59:VAL:CG2	57:x:75:PHE:HD2	2.14	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:35:G:O2'	11:l:115:SER:O	2.15	0.59
1:a:68:G:C5	1:a:69:G:H1'	2.38	0.59
1:a:144:G:H2'	1:a:145:G:O4'	2.02	0.59
1:a:1032:G:O2'	1:a:1033:G:H5'	2.03	0.59
4:e:34:THR:HG22	4:e:52:LYS:HB3	1.84	0.59
6:g:113:ASP:HB2	6:g:119:ARG:CG	2.32	0.59
8:i:50:GLN:N	8:i:51:PRO:HD2	2.18	0.59
18:s:36:ARG:NH2	18:s:52:HIS:O	2.28	0.59
26:4:1:MET:CE	26:4:36:ARG:HB2	2.32	0.59
27:5:51:ASP:HB2	27:5:204:ALA:CB	2.22	0.59
28:A:854:C:O2'	28:A:855:G:H5'	2.03	0.59
28:A:873:C:O2	28:A:904:G:N2	2.33	0.59
28:A:2210:U:H4'	28:A:2211:A:C5'	2.33	0.59
28:A:2345:G:H4'	28:A:2346:A:C5'	2.31	0.59
39:L:122:VAL:CG1	39:L:142:ILE:HG23	2.33	0.59
43:P:28:LYS:O	43:P:81:ASP:HB3	2.03	0.59
48:U:73:ASN:ND2	48:U:80:ASP:OD2	2.36	0.59
57:x:295:VAL:CG2	57:x:342:PHE:HB2	2.31	0.59
1:a:818:G:O2'	1:a:819:A:H5'	2.02	0.59
1:a:1347:G:C8	8:i:109:ARG:HB3	2.38	0.59
4:e:99:ALA:HB3	4:e:123:VAL:HA	1.83	0.59
7:h:96:MET:CE	7:h:99:LEU:HD11	2.32	0.59
15:p:54:LEU:HB3	15:p:80:LYS:CE	2.25	0.59
26:4:2:LYS:HD3	26:4:4:ARG:HH22	1.67	0.59
28:A:633:A:OP1	39:L:71:ALA:HB2	2.03	0.59
28:A:956:G:O2'	40:M:82:MET:HE1	2.03	0.59
32:E:68:ALA:O	32:E:70:SER:N	2.36	0.59
35:H:71:LYS:HB3	35:H:108:VAL:CG1	2.33	0.59
54:6:64:A:H2'	54:6:65:G:O4'	2.03	0.59
57:x:478:SER:HB3	57:x:480:MET:HE2	1.85	0.59
1:a:184:G:H2'	1:a:185:U:C6	2.37	0.59
1:a:214:C:H2'	1:a:215:C:H6	1.68	0.59
1:a:513:C:H2'	1:a:514:C:H6	1.68	0.59
1:a:676:A:H1'	10:k:117:PRO:HB3	1.85	0.59
1:a:782:A:C3'	1:a:783:C:H5'	2.33	0.59
12:m:64:VAL:O	12:m:69:LEU:HB2	2.03	0.59
21:b:27:LYS:HB3	21:b:28:PRO:HD3	1.85	0.59
21:b:185:ILE:HD11	21:b:212:TYR:CE2	2.38	0.59
27:5:27:ILE:CD1	27:5:214:ILE:HG12	2.33	0.59
27:5:141:LYS:HB2	27:5:164:ARG:HH21	1.68	0.59
28:A:558:U:C5'	37:J:111:LYS:HE3	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1007:C:H5''	37:J:37:ARG:HH21	1.68	0.59
30:C:124:LYS:HG3	30:C:125:PRO:HD2	1.85	0.59
31:D:200:ASP:O	31:D:201:LEU:HD12	2.03	0.59
34:G:32:LEU:O	34:G:33:THR:OG1	2.19	0.59
37:J:17:VAL:HG12	37:J:55:ILE:CD1	2.32	0.59
46:S:27:LYS:O	46:S:71:VAL:HG12	2.02	0.59
55:7:23:A:H1'	55:7:24:A:N7	2.17	0.59
57:x:133:ILE:HD12	57:x:160:ARG:HD3	1.84	0.59
57:x:159:VAL:HG23	57:x:175:ARG:NE	2.17	0.59
57:x:373:GLU:HB2	57:x:383:TYR:HE1	1.68	0.59
54:9:65:G:H2'	54:9:66:U:C6	2.38	0.59
1:a:159:G:H21	1:a:161:A:H3'	1.67	0.58
1:a:162:A:H3'	1:a:163:C:C4'	2.34	0.58
1:a:633:G:O2'	1:a:634:C:H5'	2.02	0.58
1:a:849:G:C2'	1:a:850:U:H5'	2.33	0.58
1:a:936:C:H2'	1:a:937:A:O4'	2.02	0.58
1:a:1039:G:O2'	1:a:1040:U:H5'	2.03	0.58
1:a:1458:G:H2'	1:a:1459:G:H8	1.67	0.58
2:c:121:THR:OG1	2:c:189:ALA:HB2	2.03	0.58
3:d:60:LYS:CE	3:d:195:ILE:HG22	2.28	0.58
3:d:145:ILE:HD11	3:d:155:VAL:HG21	1.85	0.58
3:d:161:LEU:HD12	3:d:162:ALA:N	2.18	0.58
4:e:35:ALA:CB	4:e:60:ILE:HD13	2.32	0.58
6:g:23:LEU:CD1	6:g:59:LEU:HD21	2.30	0.58
7:h:47:GLU:HG3	7:h:64:LYS:HG2	1.85	0.58
12:m:37:ALA:HB3	12:m:39:ILE:HG12	1.85	0.58
13:n:31:ILE:O	13:n:31:ILE:HG22	2.01	0.58
14:o:26:GLU:OE2	14:o:77:ARG:NE	2.35	0.58
28:A:59:U:O2'	28:A:74:A:OP2	2.17	0.58
28:A:228:C:H4'	28:A:229:C:H5''	1.85	0.58
28:A:880:G:H1	28:A:897:C:N4	2.01	0.58
28:A:888:C:H5'	28:A:889:C:H5	1.68	0.58
28:A:2841:C:H2'	28:A:2842:G:C8	2.38	0.58
31:D:52:THR:HG23	31:D:53:GLY:N	2.16	0.58
35:H:72:ILE:HG12	35:H:130:VAL:HG22	1.85	0.58
35:H:75:LEU:CD2	35:H:103:VAL:HG22	2.32	0.58
37:J:16:TYR:CG	37:J:140:LEU:HD23	2.37	0.58
49:V:2:PHE:HB3	49:V:50:MET:CE	2.33	0.58
57:x:482:ARG:NH1	57:x:484:ASP:OD1	2.36	0.58
1:a:996:A:H2'	1:a:997:U:H6	1.68	0.58
5:f:21:MET:HG2	5:f:24:ARG:NH2	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:11:ASP:N	12:m:45:ILE:HD13	2.17	0.58
28:A:188:G:H5'	51:X:13:THR:HG21	1.85	0.58
28:A:263:G:H2'	28:A:264:C:O4'	2.03	0.58
28:A:285:G:H3'	28:A:286:U:C5	2.37	0.58
28:A:777:G:O2'	28:A:778:G:H5'	2.03	0.58
28:A:2000:C:O2'	28:A:2001:C:H5'	2.02	0.58
32:E:147:LEU:HD22	32:E:149:ILE:HG23	1.84	0.58
35:H:131:SER:OG	35:H:140:ALA:N	2.24	0.58
37:J:140:LEU:HD12	37:J:140:LEU:O	2.02	0.58
46:S:7:HIS:ND1	46:S:10:ALA:HB2	2.19	0.58
47:T:28:ASN:O	47:T:29:THR:HG22	2.03	0.58
57:x:480:MET:HG2	57:x:500:HIS:HA	1.84	0.58
1:a:474:G:H2'	1:a:475:C:O4'	2.04	0.58
1:a:726:C:O2'	1:a:727:G:H5'	2.03	0.58
1:a:1025:U:H5''	1:a:1026:G:OP1	2.03	0.58
8:i:13:LYS:O	8:i:14:SER:OG	2.21	0.58
8:i:58:VAL:HG12	8:i:59:GLU:H	1.69	0.58
10:k:127:ARG:HB3	10:k:129:VAL:HG23	1.84	0.58
11:l:24:LEU:CG	11:l:25:GLU:HG3	2.30	0.58
14:o:3:LEU:N	14:o:35:GLN:HE22	2.01	0.58
16:q:13:VAL:HA	16:q:55:ILE:HD11	1.85	0.58
26:4:7:VAL:HG23	26:4:8:LYS:N	2.12	0.58
27:5:54:LYS:HD3	54:9:63:G:O4'	2.03	0.58
28:A:1365:A:O2'	51:X:10:ARG:NH1	2.35	0.58
28:A:2430:A:H5'	28:A:2431:U:OP2	2.03	0.58
29:B:21:G:H2'	29:B:22:U:H5'	1.86	0.58
34:G:101:VAL:CG1	34:G:115:GLN:HA	2.34	0.58
50:W:23:LYS:O	50:W:66:VAL:HB	2.03	0.58
56:8:5:G:O2'	56:8:6:G:H5'	2.03	0.58
57:x:387:PRO:O	57:x:482:ARG:NH2	2.36	0.58
1:a:864:A:N1	1:a:917:G:O2'	2.27	0.58
1:a:947:G:O3'	12:m:108:THR:OG1	2.20	0.58
1:a:1138:G:H3'	1:a:1138:G:N3	2.18	0.58
1:a:1492:A:O2'	1:a:1493:A:O4'	2.16	0.58
2:c:58:GLU:OE2	2:c:65:ARG:NH1	2.25	0.58
6:g:69:VAL:HG22	6:g:135:VAL:HG12	1.84	0.58
11:l:48:ALA:C	11:l:49:LEU:HD12	2.28	0.58
12:m:94:GLY:O	12:m:109:ARG:HG3	2.03	0.58
27:5:130:VAL:HG11	28:A:2119:A:C2	2.39	0.58
28:A:196:A:N3	28:A:196:A:H2'	2.17	0.58
28:A:322:A:H4'	28:A:323:C:OP2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1404:C:O2'	28:A:1405:U:H5'	2.03	0.58
28:A:1548:A:H2'	28:A:1549:A:H8	1.67	0.58
28:A:1724:G:N1	28:A:1737:G:H1'	2.18	0.58
35:H:94:ILE:O	35:H:114:GLU:HG3	2.03	0.58
43:P:48:ALA:O	43:P:49:ILE:HG13	2.04	0.58
46:S:83:LYS:HD3	46:S:95:ARG:HH11	1.68	0.58
57:x:16:GLY:HA3	57:x:131:ASN:HD21	1.68	0.58
1:a:543:U:H2'	1:a:544:G:O4'	2.02	0.58
1:a:1117:A:N6	1:a:1156:G:H22	2.02	0.58
1:a:1260:G:H21	1:a:1275:A:H62	1.51	0.58
2:c:17:PRO:HG2	2:c:54:ARG:HH22	1.67	0.58
2:c:134:MET:SD	2:c:153:VAL:HG22	2.43	0.58
5:f:62:MET:CG	5:f:64:VAL:HG23	2.29	0.58
7:h:11:LEU:HD22	7:h:75:ILE:HG12	1.85	0.58
13:n:21:PHE:C	13:n:23:LYS:H	2.11	0.58
13:n:91:GLY:O	13:n:93:ILE:N	2.36	0.58
20:u:25:LYS:HG2	20:u:26:ALA:N	2.09	0.58
20:u:40:LYS:H	20:u:41:PRO:CD	2.12	0.58
21:b:103:TRP:O	21:b:107:ARG:HB2	2.02	0.58
27:5:19:LYS:HE3	27:5:20:GLN:HG2	1.85	0.58
28:A:710:U:C3'	28:A:711:G:H5''	2.32	0.58
28:A:864:G:P	29:B:100:G:H21	2.26	0.58
28:A:954:G:H4'	40:M:13:HIS:CE1	2.38	0.58
28:A:1071:G:H1'	28:A:1089:A:N7	2.18	0.58
28:A:1227:G:OP2	44:Q:15:LYS:NZ	2.34	0.58
28:A:2076:U:OP2	28:A:2238:G:N2	2.33	0.58
28:A:2328:A:H2'	28:A:2329:U:C6	2.39	0.58
28:A:2358:A:H61	39:L:54:GLN:NE2	2.01	0.58
28:A:2562:U:H4'	38:K:25:LEU:HD22	1.85	0.58
29:B:2:G:N2	29:B:119:A:H1'	2.18	0.58
29:B:94:A:C2'	29:B:95:U:H5'	2.33	0.58
32:E:56:GLY:HA2	32:E:73:ILE:CG2	2.34	0.58
36:I:101:SER:HB3	36:I:104:GLN:HG3	1.86	0.58
43:P:62:LYS:HB3	43:P:69:VAL:CG2	2.33	0.58
44:Q:46:TYR:O	44:Q:50:ARG:NH1	2.37	0.58
44:Q:94:LEU:C	44:Q:96:ASP:H	2.09	0.58
57:x:206:VAL:HB	57:x:262:ILE:HB	1.85	0.58
1:a:1185:G:O2'	1:a:1186:G:H5'	2.03	0.58
1:a:1381:U:H2'	1:a:1382:C:H6	1.69	0.58
1:a:1465:A:H2'	1:a:1466:C:C6	2.38	0.58
2:c:116:VAL:O	2:c:120:ILE:HG12	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:18:ASP:C	3:d:19:LEU:HD12	2.29	0.58
7:h:10:MET:CE	7:h:33:LYS:HB3	2.33	0.58
8:i:33:ARG:HD2	8:i:38:TYR:HD1	1.69	0.58
12:m:34:LEU:CD1	12:m:41:GLU:HG2	2.33	0.58
27:5:212:VAL:C	27:5:224:VAL:HB	2.28	0.58
28:A:350:G:H2'	28:A:351:C:C6	2.39	0.58
28:A:359:G:H2'	28:A:360:U:O4'	2.03	0.58
28:A:1497:U:N3	28:A:1578:U:OP1	2.36	0.58
28:A:2061:G:H21	28:A:2062:A:H8	1.51	0.58
28:A:2065:C:H2'	28:A:2066:C:O4'	2.04	0.58
28:A:2094:A:H5'	35:H:25:TYR:HD1	1.69	0.58
28:A:2602:A:C2	57:x:553:CYS:HA	2.39	0.58
28:A:2842:G:O2'	28:A:2843:G:H5'	2.04	0.58
34:G:85:LYS:HA	34:G:131:VAL:HG12	1.85	0.58
40:M:35:ALA:O	40:M:36:VAL:HB	2.04	0.58
41:N:67:PHE:O	41:N:71:ARG:HD2	2.03	0.58
1:a:411:A:N6	1:a:413:G:N3	2.52	0.58
1:a:432:A:C2'	1:a:433:G:H5'	2.34	0.58
1:a:1234:C:O2'	1:a:1235:U:H5'	2.04	0.58
1:a:1458:G:O2'	1:a:1459:G:H5'	2.04	0.58
12:m:34:LEU:HD13	12:m:41:GLU:HA	1.85	0.58
12:m:90:ARG:HH11	12:m:95:LEU:CB	2.17	0.58
15:p:12:LYS:HG2	15:p:13:LYS:HG2	1.86	0.58
27:5:1:MET:N	28:A:2109:U:O4	2.30	0.58
28:A:635:C:P	39:L:126:ARG:HH11	2.27	0.58
28:A:978:G:O2'	28:A:979:A:H5'	2.03	0.58
28:A:2353:G:N3	50:W:30:VAL:HG13	2.19	0.58
28:A:2393:U:H5'	39:L:60:ARG:O	2.04	0.58
33:F:39:VAL:O	33:F:41:GLU:N	2.37	0.58
36:I:40:ALA:HB1	36:I:68:PHE:CZ	2.38	0.58
49:V:6:ALA:CB	49:V:42:LEU:HD23	2.33	0.58
50:W:30:VAL:HG23	50:W:59:PHE:HD1	1.68	0.58
57:x:276:LEU:CD1	57:x:278:ARG:HE	2.16	0.58
57:x:588:PHE:O	57:x:592:LEU:N	2.34	0.58
54:9:19:G:O4'	54:9:57:G:N2	2.36	0.58
1:a:482:A:H2'	1:a:483:C:C5'	2.34	0.58
3:d:172:GLU:CD	3:d:183:LYS:HD3	2.29	0.58
12:m:60:VAL:HG22	12:m:65:VAL:HG21	1.85	0.58
13:n:38:ASP:HB2	13:n:39:GLU:CB	2.34	0.58
21:b:185:ILE:HG12	21:b:199:ILE:CD1	2.33	0.58
27:5:23:ILE:HD13	27:5:227:ALA:HB2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:198:C:H42	28:A:248:G:H1	1.52	0.58
28:A:1198:U:H4'	44:Q:8:ILE:HG21	1.84	0.58
28:A:2193:G:H2'	28:A:2194:U:C6	2.39	0.58
28:A:2570:G:H2'	28:A:2571:U:O4'	2.03	0.58
31:D:80:TRP:CD1	31:D:202:ILE:HD11	2.37	0.58
35:H:43:ASN:HA	35:H:46:PHE:CB	2.33	0.58
36:I:58:ILE:HD12	36:I:68:PHE:CB	2.33	0.58
36:I:120:ASP:O	36:I:124:MET:HG3	2.03	0.58
37:J:54:ILE:HD11	37:J:122:LEU:CD1	2.34	0.58
39:L:122:VAL:HG12	39:L:142:ILE:HG12	1.85	0.58
44:Q:97:ILE:HD12	44:Q:105:PHE:HB2	1.86	0.58
47:T:10:VAL:HG11	47:T:42:GLU:HG2	1.86	0.58
50:W:39:GLN:HE21	50:W:43:LYS:N	2.01	0.58
57:x:308:GLU:OE2	57:x:311:ARG:NH1	2.36	0.58
54:9:34:G:H2'	54:9:34:G:N3	2.17	0.58
1:a:374:A:H5''	1:a:452:A:C2	2.39	0.58
1:a:578:C:H2'	1:a:579:A:O4'	2.03	0.58
1:a:837:U:H2'	1:a:838:G:C8	2.39	0.58
1:a:1201:A:H1'	1:a:1202:U:OP2	2.04	0.58
2:c:57:ILE:HG12	2:c:66:VAL:HG22	1.85	0.58
2:c:114:LYS:HD3	2:c:185:ASN:ND2	2.19	0.58
2:c:123:GLN:HB3	2:c:128:VAL:CG1	2.34	0.58
11:l:25:GLU:HB2	11:l:27:CYS:SG	2.44	0.58
13:n:28:LYS:CE	13:n:48:LEU:CD2	2.81	0.58
25:3:15:LYS:HG2	25:3:16:THR:O	2.04	0.58
28:A:266:G:H2'	28:A:267:C:C5'	2.33	0.58
28:A:308:G:C8	28:A:501:A:H1'	2.39	0.58
28:A:629:G:N3	28:A:639:U:O2'	2.35	0.58
28:A:1129:A:O2'	28:A:2515:C:O2	2.14	0.58
28:A:1416:G:O2'	28:A:1417:C:OP2	2.16	0.58
28:A:1655:A:H5'	31:D:118:PHE:CG	2.38	0.58
28:A:1869:G:N2	28:A:1871:A:O2'	2.37	0.58
28:A:2135:A:H3'	28:A:2136:G:C8	2.36	0.58
32:E:147:LEU:HB2	32:E:183:PHE:HD2	1.69	0.58
33:F:132:ARG:O	33:F:133:GLU:HB3	2.03	0.58
34:G:112:VAL:HG23	34:G:113:ASP:H	1.68	0.58
37:J:4:PHE:HB3	37:J:44:TYR:HE2	1.68	0.58
43:P:105:LYS:HE3	43:P:108:ARG:NH2	2.15	0.58
54:9:5:G:H2'	54:9:6:G:H5'	1.85	0.58
1:a:632:U:H5'	1:a:633:G:C8	2.39	0.58
6:g:51:ALA:HB1	6:g:57:SER:O	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:t:5:LYS:HZ2	19:t:7:ALA:CB	2.17	0.58
26:4:6:SER:HB2	28:A:1031:G:H4'	1.85	0.58
27:5:7:ARG:HH12	27:5:219:GLY:CA	2.16	0.58
27:5:43:ASP:OD1	27:5:215:SER:N	2.37	0.58
27:5:175:ILE:HG22	27:5:185:LEU:CD2	2.28	0.58
28:A:2533:U:H2'	28:A:2534:A:H5'	1.86	0.58
33:F:72:SER:OG	33:F:78:ILE:O	2.22	0.58
33:F:99:PHE:CZ	33:F:103:ILE:HD11	2.38	0.58
35:H:21:VAL:HG22	35:H:22:LYS:N	2.18	0.58
40:M:79:ALA:CA	57:x:558:ILE:HD11	2.34	0.58
48:U:60:LYS:HD2	48:U:61:GLU:H	1.68	0.58
50:W:28:GLU:O	50:W:31:LEU:HG	2.04	0.58
54:9:29:G:H2'	54:9:30:G:C8	2.34	0.58
1:a:1011:C:N4	1:a:1012:A:H62	2.02	0.57
1:a:1333:A:H2'	1:a:1334:G:O4'	2.04	0.57
8:i:9:THR:HG22	8:i:10:GLY:N	2.19	0.57
11:l:24:LEU:HG	11:l:25:GLU:N	2.19	0.57
13:n:35:ASN:OD1	13:n:42:TRP:NE1	2.36	0.57
26:4:14:CYS:N	26:4:27:CYS:SG	2.76	0.57
27:5:140:PRO:CG	28:A:2122:U:H5''	2.33	0.57
28:A:809:G:C2'	28:A:810:U:H5'	2.34	0.57
28:A:1243:C:H1'	39:L:4:ASN:O	2.04	0.57
28:A:2107:G:H2'	28:A:2108:A:H8	1.68	0.57
28:A:2872:A:O2'	28:A:2873:A:H5'	2.04	0.57
31:D:107:VAL:CG2	31:D:203:VAL:HG22	2.33	0.57
32:E:16:GLU:O	32:E:20:GLY:N	2.33	0.57
34:G:84:LYS:HD2	34:G:132:LEU:N	2.19	0.57
38:K:61:VAL:HG23	38:K:87:LEU:HD11	1.86	0.57
57:x:130:LEU:HD12	57:x:160:ARG:CG	2.30	0.57
57:x:219:LYS:HE2	57:x:248:THR:HA	1.86	0.57
57:x:586:GLU:O	57:x:591:ILE:HD13	2.04	0.57
54:9:29:G:H1	54:9:41:C:N4	2.02	0.57
8:i:34:SER:O	8:i:37:GLN:HB2	2.04	0.57
10:k:108:THR:HG22	10:k:109:ASN:H	1.69	0.57
20:u:28:VAL:O	20:u:31:GLU:HB3	2.04	0.57
21:b:49:PHE:HA	21:b:52:ALA:CB	2.28	0.57
27:5:80:GLN:N	27:5:120:ALA:HB2	2.19	0.57
28:A:394:C:N4	28:A:395:U:O4	2.37	0.57
28:A:402:A:H2'	28:A:403:U:O4'	2.04	0.57
28:A:523:C:O2	28:A:554:U:O2'	2.22	0.57
28:A:827:U:O2'	28:A:2068:U:N3	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1129:A:N6	28:A:2491:U:OP1	2.37	0.57
28:A:2132:U:H3	28:A:2159:G:N2	2.01	0.57
32:E:49:ARG:O	32:E:74:LYS:HD3	2.04	0.57
32:E:98:LYS:HB3	32:E:102:ARG:NH2	2.18	0.57
32:E:168:ASP:OD1	32:E:169:VAL:N	2.38	0.57
33:F:124:ARG:HA	33:F:160:LYS:O	2.03	0.57
35:H:4:ILE:CD1	35:H:44:ILE:HG22	2.34	0.57
35:H:59:ALA:O	35:H:62:LEU:HB3	2.03	0.57
35:H:127:GLU:OE1	35:H:147:VAL:HG11	2.04	0.57
36:I:108:ILE:O	36:I:111:THR:OG1	2.21	0.57
37:J:13:ARG:O	37:J:14:ASP:HB2	2.03	0.57
47:T:14:PRO:HD3	52:Y:30:MET:HE3	1.85	0.57
47:T:29:THR:HB	47:T:86:THR:HG22	1.86	0.57
57:x:23:ARG:O	57:x:27:ILE:HG12	2.04	0.57
1:a:339:C:OP2	38:K:98:ARG:NH1	2.36	0.57
1:a:749:A:O2'	1:a:750:C:H5'	2.04	0.57
1:a:769:G:O2'	1:a:770:C:H5'	2.03	0.57
1:a:1000:A:O2'	1:a:1001:C:H5'	2.04	0.57
15:p:20:VAL:HG21	15:p:32:PHE:CD1	2.39	0.57
26:4:1:MET:N	28:A:2526:G:N3	2.51	0.57
27:5:60:ARG:HD3	27:5:164:ARG:CZ	2.34	0.57
28:A:31:C:O2'	28:A:1238:G:OP1	2.22	0.57
28:A:527:C:H4'	28:A:528:A:O5'	2.04	0.57
28:A:1188:U:O2'	28:A:1189:A:H5'	2.04	0.57
28:A:1510:G:H2'	28:A:1511:G:C8	2.39	0.57
28:A:2321:U:H5'	28:A:2322:A:OP2	2.03	0.57
28:A:2841:C:N4	28:A:2842:G:O6	2.38	0.57
35:H:44:ILE:HG13	35:H:45:GLU:N	2.18	0.57
35:H:103:VAL:CG1	35:H:110:VAL:HG12	2.34	0.57
36:I:104:GLN:O	36:I:105:LEU:HB2	2.04	0.57
53:Z:50:VAL:O	53:Z:54:VAL:HG22	2.04	0.57
57:x:495:LEU:HD13	57:x:515:MET:HE3	1.84	0.57
54:9:58:A:C1'	54:9:60:U:H5	2.17	0.57
54:9:64:A:H2'	54:9:65:G:O4'	2.04	0.57
1:a:276:G:H5'	16:q:17:MET:CE	2.34	0.57
1:a:1175:G:H2'	1:a:1176:A:C8	2.39	0.57
1:a:1451:U:OP2	1:a:1452:C:N4	2.38	0.57
3:d:99:ASP:OD2	3:d:115:ARG:NH2	2.38	0.57
3:d:145:ILE:HG22	3:d:146:ARG:O	2.03	0.57
10:k:64:GLN:HG3	10:k:99:ALA:HB2	1.86	0.57
15:p:51:ARG:O	15:p:52:LEU:HD12	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:u:32:VAL:O	20:u:32:VAL:HG12	2.05	0.57
27:5:214:ILE:HG22	27:5:224:VAL:N	2.20	0.57
28:A:1301:A:O2'	28:A:1302:A:H3'	2.04	0.57
28:A:1419:A:N6	28:A:1421:G:N3	2.52	0.57
28:A:1526:C:H2'	28:A:1527:G:H5'	1.87	0.57
28:A:1893:C:H2'	28:A:1894:C:C5'	2.35	0.57
28:A:2112:G:H2'	28:A:2113:U:H3'	1.86	0.57
28:A:2729:G:H5'	31:D:190:LYS:NZ	2.19	0.57
37:J:55:ILE:HG22	37:J:123:LYS:CB	2.33	0.57
47:T:69:ARG:HH11	47:T:69:ARG:HG3	1.69	0.57
1:a:774:G:C2'	1:a:775:G:H5'	2.34	0.57
10:k:112:ASP:CB	20:u:4:ILE:HG21	2.33	0.57
21:b:125:PHE:HA	21:b:136:ARG:CZ	2.35	0.57
27:5:21:TYR:CB	27:5:26:ALA:HB2	2.34	0.57
28:A:119:A:H1'	28:A:120:U:OP2	2.05	0.57
28:A:1534:U:H2'	28:A:1536:C:C4	2.39	0.57
28:A:2757:A:N1	34:G:66:THR:HG21	2.19	0.57
29:B:86:G:C2'	29:B:87:U:H5''	2.30	0.57
31:D:121:THR:HB	31:D:127:PHE:CD2	2.39	0.57
34:G:75:VAL:O	34:G:78:VAL:HG12	2.05	0.57
34:G:86:LEU:HD23	34:G:161:VAL:HG11	1.86	0.57
36:I:27:LEU:HD13	36:I:32:VAL:HG23	1.85	0.57
36:I:27:LEU:HD22	36:I:32:VAL:CB	2.34	0.57
54:6:44:G:H4'	54:6:45:U:O5'	2.04	0.57
57:x:206:VAL:HB	57:x:262:ILE:CB	2.35	0.57
57:x:266:HIS:CE1	57:x:269:PRO:HB3	2.39	0.57
57:x:445:ILE:HG23	57:x:446:PRO:HD2	1.85	0.57
2:c:154:SER:HB3	2:c:165:THR:HG23	1.85	0.57
7:h:15:ARG:HG3	7:h:75:ILE:HG22	1.86	0.57
13:n:42:TRP:CE3	13:n:43:ASN:N	2.73	0.57
19:t:67:ILE:O	19:t:68:HIS:HB2	2.04	0.57
28:A:227:A:O2'	28:A:228:C:OP2	2.21	0.57
28:A:237:C:O2'	28:A:609:A:O2'	2.20	0.57
28:A:699:A:H2'	28:A:700:G:H5'	1.87	0.57
28:A:1790:C:O2'	30:C:207:ALA:HB2	2.05	0.57
31:D:181:ASP:OD2	31:D:184:ARG:HD2	2.04	0.57
35:H:75:LEU:O	35:H:76:GLU:HG2	2.04	0.57
41:N:55:ALA:HA	41:N:80:PHE:CE1	2.39	0.57
57:x:434:TYR:CE2	57:x:436:GLY:HA2	2.40	0.57
1:a:198:G:O2'	1:a:199:A:H5'	2.03	0.57
1:a:1087:G:O2'	1:a:1088:G:H5'	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1143:G:O2'	1:a:1144:G:H5'	2.04	0.57
1:a:1239:A:H4'	1:a:1240:U:C5'	2.33	0.57
1:a:1329:A:H5''	12:m:25:VAL:HA	1.86	0.57
9:j:91:ASP:OD1	9:j:92:LEU:N	2.34	0.57
14:o:70:LEU:CD2	14:o:78:TYR:HB2	2.34	0.57
21:b:18:GLN:O	21:b:37:VAL:HG23	2.05	0.57
28:A:1130:U:C2	28:A:2025:C:H5''	2.40	0.57
28:A:2809:A:OP2	28:A:2890:G:N1	2.25	0.57
31:D:9:VAL:CG2	31:D:26:VAL:HB	2.34	0.57
31:D:120:GLY:HA2	31:D:162:ALA:HB2	1.87	0.57
35:H:43:ASN:HA	35:H:46:PHE:HB3	1.85	0.57
36:I:98:GLY:HA3	36:I:137:LEU:CD2	2.31	0.57
40:M:71:LYS:HB3	40:M:93:VAL:O	2.04	0.57
42:O:31:THR:HG23	42:O:32:PRO:HD2	1.86	0.57
47:T:44:LYS:O	47:T:48:GLN:HG2	2.05	0.57
48:U:47:PRO:HD3	48:U:55:GLY:HA2	1.86	0.57
49:V:72:VAL:CG1	49:V:93:ARG:HA	2.29	0.57
57:x:49:GLU:O	57:x:50:ARG:HB2	2.04	0.57
57:x:83:ASP:OD2	57:x:346:LEU:HB2	2.05	0.57
57:x:523:GLN:HG3	57:x:575:MET:HE1	1.85	0.57
57:x:596:LYS:O	57:x:599:LYS:HB3	2.05	0.57
1:a:1202:U:C2'	1:a:1203:C:H5'	2.34	0.57
1:a:1297:G:O2'	1:a:1298:U:OP2	2.23	0.57
1:a:1377:A:C6	6:g:7:ILE:HD11	2.39	0.57
12:m:60:VAL:CG2	12:m:65:VAL:HG21	2.34	0.57
13:n:28:LYS:CD	13:n:48:LEU:HB3	2.31	0.57
21:b:187:ASP:CG	21:b:188:THR:H	2.12	0.57
27:5:48:LEU:HD11	27:5:171:ILE:HG13	1.87	0.57
27:5:117:SER:OG	27:5:149:VAL:O	2.23	0.57
28:A:905:A:C2'	28:A:906:U:H5'	2.33	0.57
28:A:1055:G:H1	28:A:1104:C:N4	1.97	0.57
28:A:2115:G:H5'	28:A:2167:U:C4'	2.35	0.57
28:A:2316:G:O2'	28:A:2317:A:H5'	2.05	0.57
28:A:2745:C:H2'	28:A:2746:U:C6	2.40	0.57
30:C:154:ALA:CB	30:C:161:VAL:HG23	2.35	0.57
33:F:142:TYR:O	33:F:145:VAL:HG22	2.04	0.57
36:I:27:LEU:CD1	36:I:30:GLN:H	2.18	0.57
36:I:109:ALA:HA	36:I:116:MET:SD	2.45	0.57
39:L:95:LEU:HB2	39:L:101:ILE:CD1	2.27	0.57
43:P:24:THR:O	43:P:86:LYS:HB2	2.05	0.57
54:9:24:G:H2'	54:9:25:C:O4'	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:9:35:A:H2'	54:9:36:A:C5	2.39	0.57
1:a:258:G:H5''	19:t:82:GLN:NE2	2.19	0.57
1:a:332:G:O2'	1:a:333:U:H5'	2.04	0.57
3:d:85:ASN:O	3:d:88:GLU:HG2	2.05	0.57
9:j:11:LYS:HA	9:j:70:HIS:O	2.05	0.57
9:j:57:VAL:CG1	9:j:58:ASN:H	2.06	0.57
13:n:24:ARG:C	13:n:26:GLU:N	2.63	0.57
13:n:28:LYS:NZ	13:n:48:LEU:HD22	2.20	0.57
22:0:21:LEU:HD21	46:S:41:LYS:HE3	1.86	0.57
27:5:27:ILE:O	27:5:31:LYS:HG3	2.05	0.57
27:5:81:GLY:H	27:5:84:ALA:CB	2.16	0.57
28:A:541:A:H2'	28:A:542:C:O4'	2.05	0.57
28:A:587:C:O2'	39:L:19:LEU:HD22	2.04	0.57
28:A:760:G:H2'	28:A:761:A:H5'	1.86	0.57
28:A:885:C:H2'	28:A:886:A:H5'	1.86	0.57
28:A:978:G:C2'	28:A:979:A:H5'	2.34	0.57
28:A:2315:G:H2'	28:A:2316:G:H8	1.70	0.57
28:A:2438:U:O2'	28:A:2439:A:H5''	2.05	0.57
28:A:2822:G:O6	41:N:2:ARG:HD3	2.04	0.57
32:E:111:GLU:HG2	39:L:2:ARG:NH2	2.20	0.57
33:F:66:ILE:O	33:F:66:ILE:HG13	2.05	0.57
37:J:96:ARG:HE	37:J:99:ARG:HG3	1.70	0.57
41:N:24:MET:CE	41:N:36:THR:HG21	2.34	0.57
45:R:58:VAL:HG13	45:R:102:SER:HB2	1.85	0.57
56:8:69:C:O2'	56:8:70:G:H5'	2.05	0.57
57:x:109:GLU:HG2	57:x:111:GLN:H	1.68	0.57
1:a:146:G:O2'	1:a:147:G:H5'	2.03	0.57
1:a:436:C:H2'	1:a:437:U:C6	2.40	0.57
1:a:439:U:O3'	3:d:121:LYS:HE3	2.05	0.57
6:g:75:VAL:HA	6:g:88:PRO:HA	1.87	0.57
7:h:89:LYS:HD2	7:h:120:GLY:O	2.05	0.57
17:r:62:ALA:HB1	17:r:67:LEU:HB2	1.87	0.57
19:t:47:ALA:O	19:t:51:PHE:N	2.28	0.57
27:5:8:MET:O	27:5:12:ARG:HG3	2.05	0.57
28:A:357:C:H2'	28:A:358:U:C6	2.40	0.57
28:A:674:G:H1'	32:E:69:ARG:NH1	2.20	0.57
28:A:869:G:H2'	28:A:870:U:O4'	2.05	0.57
28:A:1138:G:H21	37:J:108:MET:HE2	1.70	0.57
30:C:2:VAL:HG11	30:C:201:LEU:CD2	2.34	0.57
33:F:64:PRO:HA	33:F:88:VAL:HG22	1.87	0.57
35:H:92:GLY:HA2	35:H:116:ARG:CG	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:I:100:ILE:CG2	36:I:139:VAL:HG23	2.35	0.57
37:J:44:TYR:CG	44:Q:63:ARG:HD3	2.39	0.57
38:K:76:VAL:N	43:P:72:VAL:HG22	2.20	0.57
40:M:59:ARG:HD3	54:6:54:U:H4'	1.86	0.57
41:N:1:MET:O	41:N:2:ARG:HB3	2.03	0.57
42:O:26:LEU:HD13	42:O:39:VAL:HG22	1.87	0.57
56:8:1:C:H41	56:8:72:A:H61	1.52	0.57
57:x:99:LEU:HD11	57:x:176:LEU:CD1	2.35	0.57
54:9:51:U:H3	54:9:63:G:H1	1.53	0.57
6:g:15:ASP:O	6:g:19:GLY:N	2.35	0.56
9:j:35:GLN:HG3	9:j:36:VAL:N	2.18	0.56
10:k:112:ASP:H	20:u:4:ILE:CG2	2.16	0.56
21:b:184:ALA:HB3	21:b:195:VAL:HG22	1.86	0.56
24:2:11:LYS:HE3	28:A:686:U:O2	2.05	0.56
27:5:7:ARG:HG3	28:A:2130:U:N3	2.20	0.56
28:A:11:C:H2'	28:A:12:U:H5'	1.86	0.56
28:A:102:U:C2	52:Y:2:LYS:HD2	2.40	0.56
28:A:1702:G:H2'	28:A:1703:G:O4'	2.04	0.56
28:A:2521:C:C2'	28:A:2522:U:H5'	2.34	0.56
33:F:3:LEU:O	33:F:7:TYR:N	2.38	0.56
37:J:16:TYR:HB3	37:J:140:LEU:HD23	1.87	0.56
39:L:93:ASN:O	39:L:95:LEU:N	2.35	0.56
46:S:83:LYS:HD3	46:S:95:ARG:NH1	2.20	0.56
47:T:32:LEU:HB2	47:T:83:ALA:CB	2.34	0.56
1:a:146:G:C2'	1:a:147:G:H5'	2.35	0.56
1:a:1034:G:N2	1:a:1035:A:H1'	2.20	0.56
1:a:1457:G:O2'	1:a:1458:G:H5'	2.05	0.56
2:c:155:GLY:O	2:c:196:ILE:HG12	2.04	0.56
5:f:43:GLY:O	5:f:58:HIS:HA	2.05	0.56
6:g:50:LEU:CD2	6:g:61:ALA:HB1	2.34	0.56
27:5:23:ILE:HG21	27:5:232:SER:O	2.06	0.56
27:5:47:ASN:HB2	27:5:210:LYS:CB	2.35	0.56
27:5:51:ASP:N	27:5:57:GLN:OE1	2.37	0.56
27:5:109:MET:HE3	27:5:111:PHE:HB2	1.87	0.56
27:5:180:PHE:HB3	27:5:184:LYS:HD3	1.87	0.56
28:A:266:G:C2'	28:A:267:C:H5''	2.35	0.56
28:A:426:C:H2'	28:A:427:U:H6	1.70	0.56
28:A:834:G:N3	28:A:2358:A:H1'	2.20	0.56
28:A:881:G:H1	28:A:898:C:H1'	1.69	0.56
28:A:895:U:H5''	28:A:896:A:H5'	1.85	0.56
32:E:155:GLU:HG3	32:E:159:LEU:HD13	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:J:16:TYR:HB2	37:J:54:ILE:HG22	1.87	0.56
37:J:73:VAL:HG21	37:J:75:TYR:CE2	2.40	0.56
41:N:31:HIS:O	41:N:32:GLU:HB2	2.04	0.56
41:N:33:ILE:HD11	41:N:114:GLU:OE1	2.04	0.56
44:Q:16:ILE:HD12	44:Q:31:TYR:CE1	2.36	0.56
47:T:69:ARG:NH1	47:T:70:HIS:CD2	2.73	0.56
50:W:36:ILE:HB	50:W:39:GLN:OE1	2.04	0.56
51:X:38:TRP:NE1	51:X:40:GLU:OE1	2.34	0.56
51:X:70:LEU:O	51:X:73:ARG:HG2	2.05	0.56
57:x:6:ASN:HB3	57:x:95:CYS:CB	2.34	0.56
57:x:433:VAL:CG2	57:x:434:TYR:HB2	2.32	0.56
57:x:539:ARG:HH11	57:x:541:THR:HG21	1.69	0.56
1:a:179:A:H2'	1:a:180:U:O4'	2.05	0.56
1:a:502:A:H2'	1:a:503:C:O4'	2.05	0.56
1:a:707:U:H4'	10:k:22:HIS:CD2	2.40	0.56
1:a:803:G:H2'	1:a:804:U:H6	1.70	0.56
1:a:831:A:OP1	21:b:20:ARG:NE	2.38	0.56
3:d:116:GLN:HE21	3:d:120:HIS:HE1	1.51	0.56
3:d:118:VAL:CG2	3:d:123:ILE:HD12	2.35	0.56
7:h:10:MET:HE1	7:h:33:LYS:HB3	1.87	0.56
9:j:73:LEU:O	9:j:75:ASP:N	2.38	0.56
10:k:64:GLN:HG3	10:k:99:ALA:CB	2.35	0.56
12:m:83:LEU:HD21	18:s:65:GLU:CG	2.33	0.56
12:m:84:GLY:HA2	28:A:887:U:C5	2.40	0.56
13:n:34:VAL:HG13	13:n:35:ASN:HD22	1.69	0.56
15:p:2:VAL:CG2	15:p:65:ALA:HA	2.33	0.56
22:0:9:ARG:HH12	44:Q:29:ARG:NH1	2.02	0.56
27:5:1:MET:N	28:A:2110:G:O6	2.38	0.56
27:5:79:THR:HA	27:5:120:ALA:CB	2.27	0.56
27:5:141:LYS:CB	27:5:164:ARG:HH21	2.18	0.56
28:A:179:C:O2'	28:A:180:G:H5'	2.04	0.56
28:A:189:G:O6	28:A:205:G:O2'	2.21	0.56
28:A:883:G:C6	28:A:894:U:H1'	2.40	0.56
28:A:883:G:O6	28:A:894:U:H1'	2.05	0.56
28:A:1020:A:H1'	28:A:1021:A:OP2	2.04	0.56
28:A:1172:C:H2'	28:A:1173:U:C1'	2.35	0.56
28:A:1628:G:H2'	28:A:1629:U:H6	1.69	0.56
28:A:1864:U:OP1	28:A:2410:G:O2'	2.19	0.56
28:A:2110:G:H5''	28:A:2111:U:C5	2.34	0.56
29:B:110:C:H2'	29:B:111:U:O4'	2.05	0.56
30:C:77:VAL:HG23	30:C:111:ALA:HA	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:D:149:ASN:CG	31:D:150:GLN:H	2.13	0.56
37:J:49:ASP:OD1	37:J:121:LYS:NZ	2.39	0.56
38:K:43:ILE:HD12	38:K:56:ASP:HB2	1.86	0.56
42:O:11:ALA:O	42:O:15:ARG:HG2	2.04	0.56
42:O:79:ALA:CB	42:O:115:LEU:HD13	2.26	0.56
1:a:208:U:H1'	1:a:212:G:N2	2.21	0.56
4:e:105:ILE:H	4:e:123:VAL:N	1.99	0.56
4:e:132:ASN:OD1	4:e:134:ILE:HD12	2.05	0.56
9:j:40:ILE:HB	9:j:73:LEU:HD12	1.87	0.56
10:k:18:ASP:OD2	10:k:37:ARG:NH2	2.38	0.56
13:n:39:GLU:H	13:n:40:ASP:CB	2.19	0.56
27:5:54:LYS:HD3	54:9:63:G:H4'	1.88	0.56
28:A:700:G:O2'	28:A:701:G:H5'	2.05	0.56
28:A:1097:U:H2'	28:A:1098:A:C5'	2.35	0.56
28:A:1191:G:O2'	28:A:1192:G:H5'	2.06	0.56
28:A:2156:G:H4'	28:A:2158:A:N6	2.21	0.56
28:A:2394:C:N3	54:9:76:A:O2'	2.38	0.56
28:A:2705:A:H2'	28:A:2706:A:O4'	2.04	0.56
28:A:2747:G:O2'	34:G:66:THR:HG22	2.04	0.56
34:G:97:VAL:O	34:G:97:VAL:HG12	2.04	0.56
35:H:67:ALA:HB1	35:H:70:GLU:H	1.70	0.56
41:N:69:ARG:O	41:N:70:THR:OG1	2.11	0.56
51:X:48:LEU:HB2	51:X:50:VAL:HG23	1.86	0.56
54:6:57:G:C2'	54:6:58:A:H5'	2.35	0.56
57:x:201:ASP:OD1	57:x:202:ASN:N	2.38	0.56
57:x:276:LEU:HD12	57:x:278:ARG:HE	1.70	0.56
1:a:222:C:O2'	1:a:223:A:H5'	2.05	0.56
1:a:601:G:O2'	1:a:602:A:H5'	2.06	0.56
1:a:708:C:O2'	1:a:709:U:H5'	2.06	0.56
1:a:785:G:O2'	1:a:786:G:H5'	2.05	0.56
1:a:878:A:C5'	7:h:81:PRO:HG2	2.35	0.56
1:a:1279:G:N2	1:a:1279:G:OP2	2.37	0.56
4:e:103:THR:HG22	4:e:104:GLY:H	1.70	0.56
5:f:37:HIS:ND1	5:f:95:ALA:HB1	2.19	0.56
5:f:85:ILE:HG13	5:f:86:ARG:N	2.20	0.56
15:p:74:LEU:O	15:p:78:VAL:HG23	2.06	0.56
18:s:12:ASP:OD2	18:s:35:SER:OG	2.14	0.56
21:b:186:VAL:HB	21:b:190:SER:HB2	1.86	0.56
27:5:133:PRO:HG2	28:A:2172:U:H1'	1.87	0.56
28:A:363:G:H2'	28:A:364:C:C6	2.40	0.56
28:A:873:C:H4'	40:M:64:TRP:HE1	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:H:75:LEU:HD21	35:H:103:VAL:HA	1.88	0.56
36:I:4:VAL:HG22	36:I:59:THR:HG23	1.88	0.56
43:P:50:ARG:HB2	43:P:56:SER:CA	2.36	0.56
50:W:18:LYS:HG3	50:W:19:ARG:N	2.20	0.56
57:x:193:ALA:HB2	57:x:212:ILE:HD13	1.87	0.56
1:a:448:A:H3'	1:a:449:G:H8	1.71	0.56
1:a:1202:U:N3	13:n:82:ILE:HG21	2.20	0.56
2:c:83:ASP:O	2:c:86:LYS:HG2	2.05	0.56
8:i:84:THR:CG2	8:i:103:PHE:HB3	2.26	0.56
21:b:41:ASN:ND2	21:b:44:LYS:HG2	2.20	0.56
27:5:23:ILE:HG13	27:5:233:VAL:HA	1.88	0.56
27:5:221:GLY:HA3	28:A:2176:A:OP1	2.05	0.56
28:A:143:C:H5'	47:T:3:ARG:HH12	1.70	0.56
28:A:329:G:O4'	28:A:477:A:H1'	2.06	0.56
28:A:1055:G:C2'	28:A:1056:G:H5'	2.36	0.56
28:A:1323:C:H2'	28:A:1324:G:H5'	1.87	0.56
28:A:2101:A:H2'	28:A:2102:G:C8	2.40	0.56
28:A:2112:G:H1'	54:9:19:G:C4	2.41	0.56
28:A:2157:G:O2'	28:A:2158:A:OP1	2.23	0.56
28:A:2578:G:H21	31:D:130:GLN:HE22	1.52	0.56
30:C:123:ILE:HG23	30:C:191:LEU:CD2	2.35	0.56
32:E:131:THR:HG22	32:E:161:ALA:H	1.70	0.56
33:F:10:GLU:O	33:F:12:VAL:HG12	2.06	0.56
36:I:89:SER:O	36:I:97:VAL:HG21	2.06	0.56
43:P:63:ILE:HA	43:P:68:GLY:HA2	1.86	0.56
45:R:68:ARG:HD3	45:R:90:ARG:CB	2.35	0.56
57:x:44:MET:HG3	57:x:46:LEU:H	1.70	0.56
57:x:146:GLU:O	57:x:150:ILE:HD12	2.05	0.56
54:9:35:A:H2'	54:9:36:A:C8	2.40	0.56
1:a:77:A:N1	1:a:79:G:H4'	2.20	0.56
1:a:257:G:O2'	1:a:258:G:H5'	2.06	0.56
1:a:432:A:H2'	1:a:433:G:H5'	1.87	0.56
1:a:483:C:H5''	1:a:484:G:OP2	2.05	0.56
2:c:175:LEU:HA	2:c:182:ILE:HD12	1.87	0.56
3:d:152:GLN:OE1	3:d:152:GLN:N	2.38	0.56
28:A:24:G:O2'	28:A:25:U:H5'	2.06	0.56
28:A:228:C:H5''	28:A:229:C:C6	2.40	0.56
28:A:634:C:O2'	28:A:635:C:H5'	2.05	0.56
28:A:768:G:N2	28:A:1379:U:O2'	2.39	0.56
28:A:783:A:H3'	28:A:784:G:H5''	1.88	0.56
28:A:881:G:H22	28:A:898:C:C2'	2.19	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1482:G:H2'	28:A:1483:G:C8	2.28	0.56
28:A:1488:C:O2'	28:A:1489:C:H5'	2.06	0.56
28:A:1870:C:H2'	28:A:1871:A:N7	2.20	0.56
28:A:2124:G:H2'	28:A:2125:G:O4'	2.05	0.56
32:E:147:LEU:CD2	32:E:149:ILE:HG23	2.36	0.56
34:G:98:LYS:H	34:G:103:ASN:ND2	2.03	0.56
35:H:44:ILE:O	35:H:47:PHE:HB3	2.05	0.56
36:I:9:LYS:CB	36:I:57:VAL:HG22	2.36	0.56
42:O:38:GLN:HA	42:O:50:ALA:CB	2.36	0.56
48:U:27:VAL:HG23	48:U:33:VAL:HG12	1.88	0.56
51:X:14:GLY:O	51:X:26:ARG:HB3	2.06	0.56
52:Y:13:GLU:O	52:Y:17:GLU:N	2.37	0.56
57:x:425:LYS:O	57:x:426:ARG:HB2	2.05	0.56
57:x:452:LEU:HD23	57:x:453:ASP:CG	2.31	0.56
54:9:54:U:H3	54:9:58:A:H62	1.53	0.56
1:a:828:U:OP1	7:h:22:LYS:NZ	2.28	0.56
1:a:940:C:C2'	1:a:941:G:H5'	2.36	0.56
1:a:1282:C:H2'	1:a:1283:U:H6	1.67	0.56
3:d:139:PRO:HA	3:d:182:PHE:HD2	1.71	0.56
12:m:92:ARG:HD2	28:A:887:U:O2	2.06	0.56
19:t:55:GLN:N	19:t:56:PRO:HD2	2.21	0.56
21:b:165:ALA:HB3	21:b:190:SER:HB3	1.87	0.56
27:5:62:ALA:N	27:5:144:THR:O	2.26	0.56
27:5:77:VAL:HG22	27:5:115:ILE:CG2	2.35	0.56
28:A:56:A:H2'	28:A:57:C:H5'	1.88	0.56
31:D:16:THR:HG21	31:D:20:VAL:HB	1.86	0.56
34:G:96:ALA:CB	34:G:103:ASN:HB2	2.27	0.56
36:I:23:VAL:C	36:I:25:PRO:HD2	2.30	0.56
42:O:36:TYR:HD1	42:O:52:SER:CB	2.19	0.56
47:T:61:LEU:HD11	47:T:82:LYS:HD3	1.87	0.56
49:V:2:PHE:HB3	49:V:50:MET:HE1	1.88	0.56
53:Z:56:VAL:HG13	53:Z:56:VAL:O	2.06	0.56
56:8:47:U:H3'	56:8:48:C:C5'	2.36	0.56
57:x:170:GLN:N	57:x:171:ASP:CA	2.69	0.56
54:9:48:C:O2'	54:9:49:C:OP1	2.21	0.56
3:d:18:ASP:O	3:d:19:LEU:HD12	2.05	0.56
11:l:74:LEU:HA	11:l:78:SER:OG	2.06	0.56
13:n:21:PHE:O	13:n:22:ALA:HB3	2.05	0.56
17:r:63:ARG:HB3	17:r:70:TYR:CZ	2.41	0.56
25:3:20:GLY:HA3	25:3:48:MET:CE	2.36	0.56
25:3:34:LYS:NZ	28:A:2390:U:OP2	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:638:G:H2'	28:A:639:U:H6	1.70	0.56
28:A:1086:A:H3'	28:A:1086:A:N3	2.21	0.56
28:A:1568:G:H4'	30:C:58:LYS:CG	2.36	0.56
28:A:2044:C:H2'	28:A:2045:C:H5'	1.88	0.56
28:A:2713:U:H3'	28:A:2714:G:C5'	2.36	0.56
34:G:26:LYS:HD2	34:G:32:LEU:CD1	2.33	0.56
35:H:129:GLU:HG2	35:H:144:VAL:CG2	2.36	0.56
40:M:102:LEU:HD21	40:M:126:ILE:HD11	1.87	0.56
41:N:33:ILE:HG12	41:N:118:ARG:CD	2.36	0.56
48:U:92:VAL:HG22	48:U:93:ARG:N	2.16	0.56
57:x:162:SER:HB2	57:x:167:VAL:HG13	1.86	0.56
57:x:327:GLU:OE1	57:x:327:GLU:N	2.39	0.56
57:x:401:GLU:N	57:x:476:GLN:O	2.38	0.56
1:a:115:G:H1'	1:a:116:A:OP2	2.06	0.56
1:a:130:A:O2'	1:a:131:A:O5'	2.22	0.56
1:a:518:C:H5'	1:a:530:G:O4'	2.06	0.56
1:a:1211:U:O2'	1:a:1212:U:OP2	2.14	0.56
3:d:48:LEU:O	3:d:48:LEU:HD12	2.05	0.56
10:k:81:ASN:HB3	10:k:106:ARG:HB3	1.87	0.56
10:k:82:LEU:HD12	10:k:82:LEU:O	2.06	0.56
13:n:40:ASP:O	13:n:41:ARG:CG	2.52	0.56
28:A:275:C:H2'	28:A:276:U:C4'	2.37	0.56
28:A:533:G:H5'	44:Q:23:TYR:CD1	2.40	0.56
28:A:783:A:C8	28:A:784:G:H5''	2.39	0.56
28:A:928:A:C2	53:Z:46:MET:HE1	2.41	0.56
28:A:1208:C:H42	28:A:1238:G:H1	1.51	0.56
28:A:1242:U:H2'	28:A:1243:C:C6	2.41	0.56
28:A:2133:G:O2'	28:A:2134:A:O3'	2.20	0.56
28:A:2147:A:H3'	28:A:2148:G:H8	1.71	0.56
28:A:2211:A:O2'	28:A:2212:A:OP1	2.21	0.56
29:B:32:U:H2'	29:B:33:G:C8	2.40	0.56
34:G:53:PRO:HG3	34:G:61:TRP:NE1	2.21	0.56
34:G:136:ASP:OD2	34:G:138:GLN:HB3	2.06	0.56
37:J:117:ALA:HA	37:J:120:ARG:NH2	2.21	0.56
39:L:19:LEU:HD23	39:L:19:LEU:O	2.06	0.56
41:N:77:ALA:O	41:N:81:ASN:HB2	2.05	0.56
48:U:23:LYS:HB3	48:U:36:GLU:OE2	2.06	0.56
50:W:30:VAL:HG23	50:W:59:PHE:CD1	2.40	0.56
57:x:594:VAL:CG2	57:x:599:LYS:HB2	2.32	0.56
1:a:454:G:H2'	1:a:455:G:H5'	1.87	0.55
1:a:653:U:C6	7:h:56:LYS:HE3	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1227:A:H5'	12:m:110:LYS:CE	2.36	0.55
1:a:1488:G:O2'	1:a:1489:G:H5'	2.06	0.55
6:g:76:LYS:HE3	6:g:89:VAL:HG11	1.86	0.55
7:h:18:GLN:HE21	7:h:70:ALA:HB1	1.69	0.55
8:i:95:ARG:HA	8:i:98:LEU:HB3	1.87	0.55
10:k:126:LYS:O	20:u:34:ARG:NE	2.35	0.55
13:n:22:ALA:N	13:n:26:GLU:OE2	2.39	0.55
19:t:48:GLN:HE21	19:t:52:ASN:ND2	2.03	0.55
21:b:106:VAL:O	21:b:110:ILE:HD12	2.06	0.55
25:3:32:LEU:HD13	28:A:2419:U:OP2	2.05	0.55
25:3:53:ASP:OD2	28:A:2359:C:O2'	2.15	0.55
27:5:194:VAL:O	27:5:197:LYS:HB3	2.06	0.55
28:A:1255:U:H3'	32:E:68:ALA:HB2	1.89	0.55
28:A:1681:G:N2	28:A:1763:G:OP2	2.26	0.55
28:A:1819:A:H5''	30:C:159:THR:HG21	1.87	0.55
28:A:2091:C:H3'	28:A:2092:U:C5'	2.33	0.55
28:A:2705:A:C2	28:A:2706:A:H1'	2.41	0.55
28:A:2726:A:O2'	28:A:2727:A:O5'	2.21	0.55
29:B:35:C:H2'	29:B:36:C:O4'	2.05	0.55
29:B:48:U:OP2	42:O:30:ARG:NH2	2.37	0.55
35:H:7:ASP:OD1	35:H:9:VAL:HB	2.06	0.55
35:H:129:GLU:HG2	35:H:144:VAL:HG23	1.87	0.55
36:I:19:PRO:HG2	36:I:23:VAL:HG22	1.87	0.55
46:S:109:ASP:OD1	46:S:110:ARG:N	2.39	0.55
57:x:90:ARG:NH1	57:x:197:ASP:CA	2.69	0.55
1:a:697:U:C2'	1:a:698:G:H5'	2.35	0.55
1:a:837:U:H2'	1:a:838:G:H8	1.70	0.55
7:h:48:ASP:OD1	7:h:62:THR:OG1	2.22	0.55
10:k:98:ARG:HH12	20:u:14:VAL:HG23	1.70	0.55
16:q:22:VAL:HA	16:q:44:LEU:O	2.07	0.55
27:5:73:VAL:HA	27:5:112:ASP:OD2	2.06	0.55
28:A:84:A:H62	28:A:101:A:H2	1.53	0.55
28:A:801:G:C8	32:E:50:ALA:HB2	2.42	0.55
28:A:2262:U:H5''	50:W:38:ARG:HH21	1.70	0.55
35:H:84:ALA:HA	35:H:149:GLU:OXT	2.06	0.55
38:K:77:ILE:HD11	43:P:71:ARG:HD2	1.88	0.55
52:Y:20:ASN:O	52:Y:24:GLU:HB2	2.05	0.55
52:Y:45:GLN:O	52:Y:47:ARG:N	2.39	0.55
57:x:187:PRO:O	57:x:188:GLU:HB2	2.06	0.55
1:a:1435:G:H2'	1:a:1436:U:C6	2.41	0.55
2:c:191:THR:CG2	2:c:196:ILE:HD12	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:h:41:LYS:CD	7:h:48:ASP:HA	2.32	0.55
7:h:106:THR:HG23	7:h:121:LEU:HD13	1.88	0.55
8:i:57:MET:HG3	8:i:58:VAL:O	2.06	0.55
13:n:30:ILE:O	13:n:34:VAL:CG2	2.55	0.55
18:s:13:LEU:HD21	18:s:17:LYS:CE	2.36	0.55
27:5:212:VAL:CB	27:5:224:VAL:HG11	2.34	0.55
28:A:318:C:O2'	28:A:319:G:H5'	2.07	0.55
28:A:445:C:H2'	28:A:446:G:H5'	1.88	0.55
28:A:783:A:C3'	28:A:784:G:H5''	2.37	0.55
28:A:1543:G:H5''	28:A:1544:A:OP1	2.06	0.55
28:A:2094:A:H4'	35:H:25:TYR:CE1	2.41	0.55
28:A:2861:U:H2'	28:A:2862:G:H8	1.71	0.55
30:C:123:ILE:CG2	30:C:191:LEU:HD21	2.36	0.55
30:C:216:ARG:HB3	30:C:217:PRO:HD2	1.88	0.55
36:I:125:THR:HA	36:I:128:ILE:HG12	1.88	0.55
37:J:53:TYR:HE1	37:J:121:LYS:HG2	1.72	0.55
41:N:38:LEU:HD11	41:N:42:LYS:HE3	1.89	0.55
56:8:51:C:C2'	56:8:52:G:H5'	2.36	0.55
1:a:411:A:O2'	1:a:412:A:O4'	2.25	0.55
1:a:1033:G:H2'	1:a:1034:G:C8	2.41	0.55
7:h:77:ARG:NH1	7:h:126:ILE:HG23	2.22	0.55
8:i:44:ALA:HA	8:i:47:VAL:CG2	2.35	0.55
9:j:24:GLU:O	9:j:28:THR:N	2.40	0.55
11:l:43:LYS:CG	11:l:44:LYS:HG3	2.35	0.55
12:m:81:MET:HB3	12:m:92:ARG:HE	1.71	0.55
13:n:45:VAL:O	13:n:48:LEU:HB2	2.06	0.55
19:t:44:LYS:HG3	19:t:45:ALA:N	2.21	0.55
21:b:82:ALA:HA	21:b:85:SER:OG	2.06	0.55
21:b:114:LYS:HA	21:b:117:GLU:CG	2.36	0.55
28:A:4:U:O2'	28:A:5:A:H5'	2.06	0.55
28:A:229:C:H2'	28:A:230:G:O4'	2.07	0.55
28:A:1178:C:N4	28:A:1179:G:O6	2.39	0.55
28:A:1647:U:P	28:A:1647:U:H3'	2.46	0.55
28:A:2115:G:H4'	28:A:2167:U:O4'	2.06	0.55
28:A:2396:G:O2'	28:A:2397:G:H5'	2.05	0.55
28:A:2481:G:HO2'	28:A:2482:A:P	2.28	0.55
34:G:61:TRP:HA	34:G:64:ALA:HB3	1.89	0.55
34:G:84:LYS:HD3	34:G:132:LEU:C	2.32	0.55
35:H:85:GLY:CA	35:H:90:LEU:HD23	2.35	0.55
35:H:146:VAL:CA	35:H:149:GLU:HB2	2.37	0.55
54:9:44:G:H2'	54:9:45:U:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:181:A:O2'	1:a:194:C:N4	2.36	0.55
1:a:457:G:N2	1:a:476:U:O2	2.40	0.55
1:a:982:U:H4'	1:a:983:A:H5'	1.88	0.55
1:a:1255:G:O2'	1:a:1258:G:H1'	2.07	0.55
7:h:121:LEU:HD12	7:h:121:LEU:C	2.32	0.55
12:m:3:ARG:HG2	12:m:7:ILE:CD1	2.37	0.55
12:m:90:ARG:HG3	12:m:97:VAL:HG22	1.89	0.55
13:n:48:LEU:C	13:n:50:THR:N	2.45	0.55
21:b:185:ILE:HG12	21:b:199:ILE:HD11	1.87	0.55
27:5:211:LYS:HE3	27:5:225:ASP:OD1	2.07	0.55
28:A:198:C:C2'	28:A:199:A:H5''	2.37	0.55
28:A:600:G:H2'	28:A:601:C:O4'	2.06	0.55
28:A:856:G:N9	50:W:23:LYS:HD3	2.22	0.55
28:A:923:G:O2'	28:A:924:G:H5'	2.07	0.55
28:A:2619:C:O2'	28:A:2620:C:H5'	2.06	0.55
28:A:2631:G:O2'	28:A:2632:A:H5'	2.07	0.55
35:H:64:ALA:HA	35:H:71:LYS:CE	2.33	0.55
36:I:4:VAL:HG11	36:I:7:TYR:CA	2.36	0.55
37:J:45:THR:H	37:J:46:PRO:HD3	1.71	0.55
42:O:83:LEU:CD1	42:O:115:LEU:HD12	2.36	0.55
43:P:58:PHE:CE2	43:P:75:THR:HG22	2.41	0.55
47:T:76:ARG:HH11	47:T:76:ARG:CG	2.19	0.55
50:W:74:LYS:O	50:W:76:ARG:HG3	2.07	0.55
55:7:20:U:O2'	55:7:21:C:O5'	2.23	0.55
1:a:83:C:H2'	1:a:85:U:OP2	2.07	0.55
1:a:429:U:OP2	3:d:32:CYS:HA	2.07	0.55
1:a:1227:A:H5'	12:m:110:LYS:HZ1	1.71	0.55
1:a:1251:A:H1'	1:a:1369:C:O2'	2.07	0.55
3:d:181:THR:HG22	3:d:182:PHE:N	2.22	0.55
14:o:3:LEU:CD2	14:o:8:THR:HG22	2.36	0.55
21:b:56:LEU:HD12	21:b:183:PHE:CE2	2.42	0.55
21:b:114:LYS:HA	21:b:117:GLU:OE2	2.07	0.55
22:0:21:LEU:HD11	46:S:41:LYS:HE3	1.88	0.55
27:5:39:VAL:HG23	27:5:177:LYS:HE2	1.88	0.55
27:5:214:ILE:HB	27:5:224:VAL:HG23	1.89	0.55
28:A:350:G:H2'	28:A:351:C:H6	1.71	0.55
28:A:1244:A:C2'	28:A:1245:G:H5'	2.37	0.55
28:A:1804:C:O2'	28:A:1805:A:H5'	2.07	0.55
28:A:2118:U:H5	28:A:2145:C:H1'	1.71	0.55
28:A:2128:G:H5''	28:A:2129:C:OP2	2.07	0.55
28:A:2645:G:OP2	28:A:2645:G:N2	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:J:71:ASP:O	37:J:73:VAL:HG13	2.07	0.55
52:Y:8:GLU:O	52:Y:12:GLU:HB2	2.07	0.55
56:8:17:C:OP1	56:8:60:U:O2'	2.19	0.55
57:x:412:GLN:OE1	57:x:412:GLN:N	2.31	0.55
1:a:212:G:O2'	1:a:213:G:H5'	2.06	0.55
1:a:342:C:O2'	1:a:343:U:H5'	2.06	0.55
1:a:375:U:OP1	15:p:70:ARG:HD2	2.07	0.55
1:a:1120:C:H2'	1:a:1121:U:C6	2.41	0.55
1:a:1508:A:H2'	1:a:1509:C:O4'	2.06	0.55
1:a:1524:C:P	10:k:125:LYS:HE3	2.47	0.55
2:c:132:ARG:HB3	2:c:136:ARG:HH12	1.67	0.55
7:h:26:THR:HG22	7:h:60:GLU:HB2	1.88	0.55
25:3:22:LYS:HA	25:3:47:ALA:O	2.07	0.55
27:5:134:ARG:HD3	28:A:2125:G:N1	2.22	0.55
28:A:279:A:H2'	28:A:280:U:C5'	2.31	0.55
28:A:895:U:H4'	28:A:896:A:C5	2.41	0.55
28:A:1080:A:H4'	36:I:126:ARG:HB3	1.88	0.55
28:A:1353:A:O3'	30:C:35:LYS:NZ	2.39	0.55
28:A:1584:U:H2'	28:A:1585:C:C4'	2.35	0.55
29:B:11:C:H2'	29:B:12:C:H5'	1.89	0.55
30:C:159:THR:O	30:C:194:VAL:HG12	2.07	0.55
31:D:119:ALA:HB2	31:D:165:MET:HB2	1.89	0.55
35:H:25:TYR:CE2	35:H:30:LEU:HD11	2.42	0.55
36:I:27:LEU:HD13	36:I:32:VAL:CG2	2.37	0.55
40:M:1:MET:O	40:M:2:LEU:HB3	2.06	0.55
40:M:40:ARG:O	40:M:41:LEU:HD12	2.06	0.55
47:T:29:THR:OG1	47:T:86:THR:N	2.34	0.55
47:T:83:ALA:O	47:T:84:TYR:HB2	2.07	0.55
55:7:13:C:H3'	55:7:14:A:C5'	2.36	0.55
57:x:99:LEU:HD11	57:x:176:LEU:HD12	1.89	0.55
1:a:581:G:N1	1:a:759:A:OP2	2.35	0.55
1:a:952:U:H2'	1:a:953:G:C8	2.41	0.55
8:i:6:TYR:CD2	8:i:89:GLU:HG2	2.41	0.55
13:n:31:ILE:HA	13:n:34:VAL:HG21	1.89	0.55
13:n:49:GLN:OE1	13:n:49:GLN:N	2.28	0.55
18:s:12:ASP:HB3	18:s:14:HIS:CE1	2.41	0.55
28:A:857:G:C2'	28:A:858:G:H5'	2.36	0.55
28:A:1076:C:H2'	28:A:1077:A:O4'	2.07	0.55
28:A:1534:U:H3'	28:A:1536:C:N4	2.22	0.55
28:A:2135:A:N6	28:A:2155:U:H1'	2.22	0.55
32:E:45:ALA:O	32:E:46:GLN:HB2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:F:47:LYS:HA	33:F:50:ASP:OD2	2.07	0.55
33:F:126:ASN:OD1	33:F:156:THR:HG23	2.07	0.55
35:H:108:VAL:CG1	35:H:110:VAL:HB	2.36	0.55
36:I:4:VAL:HB	36:I:7:TYR:HD2	1.71	0.55
37:J:11:VAL:HG11	37:J:13:ARG:HE	1.72	0.55
37:J:84:ILE:HG23	37:J:84:ILE:O	2.06	0.55
39:L:79:LEU:N	39:L:113:ALA:HB3	2.22	0.55
40:M:110:GLU:OE2	40:M:114:ARG:NE	2.40	0.55
45:R:15:SER:HB2	45:R:18:GLN:CD	2.32	0.55
45:R:38:VAL:HG13	45:R:54:VAL:CG2	2.32	0.55
57:x:133:ILE:HD11	57:x:160:ARG:HD3	1.88	0.55
57:x:166:GLY:CA	57:x:167:VAL:C	2.80	0.55
57:x:526:ILE:HG22	57:x:527:ALA:N	2.22	0.55
54:9:73:A:H2'	54:9:74:C:C4'	2.37	0.55
1:a:302:G:N3	1:a:556:C:H4'	2.21	0.55
1:a:428:G:H4'	1:a:429:U:O5'	2.07	0.55
4:e:133:PRO:O	4:e:137:VAL:HG12	2.06	0.55
11:l:99:ARG:HB2	11:l:117:TYR:HA	1.89	0.55
11:l:114:ARG:CG	11:l:119:VAL:HB	2.36	0.55
13:n:47:LYS:HB3	18:s:13:LEU:HD12	1.89	0.55
14:o:24:SER:HB3	14:o:27:VAL:CG2	2.35	0.55
14:o:70:LEU:HD22	14:o:78:TYR:HB2	1.89	0.55
21:b:153:MET:SD	21:b:157:PRO:HG3	2.46	0.55
21:b:207:ARG:HG3	21:b:208:ALA:N	2.21	0.55
27:5:215:SER:HB3	28:A:2176:A:H4'	1.87	0.55
28:A:84:A:N1	28:A:98:G:O2'	2.35	0.55
28:A:993:G:OP2	44:Q:50:ARG:NH2	2.40	0.55
28:A:1351:C:O2'	28:A:1571:A:O2'	2.17	0.55
28:A:1800:C:H5'	30:C:145:MET:CE	2.28	0.55
28:A:1977:A:O2'	28:A:1978:A:H5'	2.07	0.55
30:C:62:ARG:NH2	30:C:84:PRO:HD2	2.22	0.55
31:D:118:PHE:O	31:D:120:GLY:N	2.40	0.55
32:E:149:ILE:HD11	32:E:188:MET:CG	2.36	0.55
35:H:4:ILE:HG12	35:H:18:GLN:NE2	2.22	0.55
40:M:20:LEU:HD13	49:V:81:PRO:HG2	1.89	0.55
51:X:39:VAL:HG22	51:X:44:ARG:H	1.70	0.55
52:Y:1:MET:HE1	52:Y:49:ASP:CG	2.32	0.55
57:x:40:VAL:O	57:x:41:LEU:HB2	2.07	0.55
57:x:296:TYR:HE2	57:x:339:ARG:HE	1.54	0.55
1:a:170:U:H2'	1:a:171:A:H8	1.71	0.55
1:a:456:A:H61	1:a:476:U:H3	1.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:869:G:H5''	1:a:870:U:OP1	2.07	0.55
1:a:1250:A:H4'	8:i:70:GLY:N	2.22	0.55
1:a:1376:U:H2'	1:a:1377:A:C8	2.42	0.55
10:k:84:VAL:CG2	10:k:107:ILE:HD11	2.28	0.55
18:s:62:VAL:HA	18:s:66:MET:SD	2.47	0.55
19:t:83:ILE:HD12	19:t:84:ASN:CB	2.37	0.55
27:5:37:LYS:NZ	28:A:2127:G:H1'	2.22	0.55
27:5:75:VAL:HG13	27:5:115:ILE:HG12	1.89	0.55
27:5:140:PRO:HD2	27:5:164:ARG:NH1	2.21	0.55
28:A:548:G:P	28:A:549:G:H5'	2.46	0.55
28:A:2331:G:O2'	50:W:39:GLN:O	2.22	0.55
28:A:2734:A:N6	28:A:2770:G:O2'	2.40	0.55
31:D:110:THR:HG23	31:D:171:THR:HG22	1.88	0.55
33:F:116:LEU:HD21	33:F:129:MET:SD	2.47	0.55
35:H:121:VAL:O	35:H:122:LEU:HB3	2.06	0.55
39:L:121:THR:HG22	39:L:141:LYS:HB3	1.89	0.55
1:a:259:G:N2	1:a:260:G:H1'	2.22	0.54
1:a:792:A:O2'	1:a:794:A:N7	2.30	0.54
1:a:842:U:N3	1:a:843:U:O2'	2.40	0.54
1:a:1052:U:O4	1:a:1200:C:O2'	2.20	0.54
8:i:118:LEU:HD22	8:i:123:ARG:O	2.07	0.54
9:j:35:GLN:CD	9:j:77:VAL:HB	2.32	0.54
12:m:79:ARG:HG3	18:s:65:GLU:OE2	2.08	0.54
21:b:69:VAL:HB	21:b:162:VAL:CG2	2.26	0.54
21:b:139:GLU:O	21:b:142:LYS:HB3	2.06	0.54
27:5:46:VAL:HG22	27:5:212:VAL:CG2	2.38	0.54
27:5:175:ILE:HG21	27:5:185:LEU:HB3	1.89	0.54
28:A:535:G:H2'	28:A:536:G:C8	2.37	0.54
28:A:881:G:N1	28:A:898:C:O2	2.36	0.54
28:A:1182:G:H5''	28:A:1183:U:OP2	2.07	0.54
28:A:1505:A:H2'	28:A:1506:U:O4'	2.07	0.54
28:A:2140:G:N2	28:A:2152:G:H1'	2.23	0.54
28:A:2688:G:N1	28:A:2720:U:OP2	2.31	0.54
28:A:2720:U:H5''	43:P:52:ARG:NH2	2.22	0.54
29:B:20:G:H2'	29:B:21:G:O4'	2.07	0.54
29:B:38:C:H2'	29:B:39:A:C8	2.43	0.54
34:G:101:VAL:HG12	34:G:115:GLN:HG3	1.89	0.54
35:H:144:VAL:CG2	35:H:146:VAL:HG13	2.34	0.54
47:T:29:THR:HB	47:T:86:THR:HA	1.88	0.54
50:W:23:LYS:CG	50:W:24:ARG:H	2.17	0.54
54:6:34:G:C6	54:6:35:A:N6	2.74	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:132:LYS:HA	59:x:701:GNP:O6	2.08	0.54
57:x:429:GLN:NE2	57:x:432:MET:HB2	2.19	0.54
1:a:66:A:H61	1:a:103:U:H3	1.55	0.54
1:a:474:G:C2'	1:a:475:C:H5'	2.37	0.54
1:a:1439:G:P	19:t:33:LYS:HE2	2.46	0.54
11:l:29:GLN:O	11:l:30:LYS:HD2	2.07	0.54
11:l:82:ILE:HD11	11:l:95:TYR:HB3	1.89	0.54
15:p:22:ALA:HB2	15:p:32:PHE:HB2	1.88	0.54
27:5:18:THR:HG23	27:5:223:ALA:H	1.71	0.54
28:A:1501:G:O2'	28:A:1502:A:H5'	2.07	0.54
30:C:64:VAL:HG21	30:C:86:ARG:HH22	1.72	0.54
32:E:48:THR:CG2	32:E:86:ALA:HB3	2.37	0.54
32:E:151:GLY:CA	32:E:192:ALA:HB2	2.37	0.54
33:F:162:ASP:HB3	33:F:166:ARG:NH1	2.22	0.54
36:I:89:SER:O	36:I:91:LYS:N	2.40	0.54
37:J:3:THR:HB	37:J:44:TYR:OH	2.07	0.54
52:Y:41:HIS:CE1	52:Y:42:LEU:HD12	2.42	0.54
1:a:193:C:H2'	1:a:194:C:H6	1.72	0.54
1:a:273:U:C2'	1:a:274:A:H5'	2.37	0.54
1:a:1265:C:O2'	1:a:1266:G:H5'	2.08	0.54
1:a:1296:C:O2'	1:a:1302:C:N4	2.39	0.54
3:d:32:CYS:O	3:d:33:LYS:HB2	2.07	0.54
4:e:106:ILE:HG13	4:e:106:ILE:O	2.07	0.54
7:h:54:ASP:OD1	7:h:55:THR:N	2.40	0.54
20:u:4:ILE:HD13	20:u:19:PHE:HE2	1.72	0.54
28:A:335:C:O2	48:U:67:SER:OG	2.25	0.54
28:A:718:A:H2'	28:A:719:C:H5'	1.89	0.54
28:A:776:G:N2	28:A:2241:A:OP1	2.29	0.54
28:A:2134:A:O4'	28:A:2159:G:N2	2.41	0.54
28:A:2135:A:N7	28:A:2155:U:N3	2.56	0.54
28:A:2406:A:N3	39:L:69:ARG:NH2	2.56	0.54
38:K:98:ARG:O	38:K:99:ILE:HD13	2.08	0.54
40:M:29:GLY:O	40:M:133:LYS:HD2	2.07	0.54
42:O:79:ALA:O	42:O:83:LEU:HD13	2.08	0.54
57:x:162:SER:OG	57:x:163:ALA:N	2.38	0.54
57:x:225:VAL:HG22	57:x:274:LEU:HD21	1.89	0.54
57:x:404:ALA:N	57:x:445:ILE:O	2.34	0.54
57:x:495:LEU:HD21	57:x:591:ILE:HG21	1.88	0.54
1:a:52:C:H2'	1:a:53:A:C8	2.42	0.54
1:a:671:G:HO2'	5:f:79:ARG:NH2	2.05	0.54
1:a:675:A:H1'	10:k:118:HIS:CD2	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1016:A:HO2'	1:a:1217:C:HO2'	1.52	0.54
1:a:1432:G:P	43:P:105:LYS:HG2	2.47	0.54
3:d:172:GLU:HG3	3:d:183:LYS:CE	2.37	0.54
12:m:10:PRO:CG	12:m:18:ALA:HB1	2.37	0.54
13:n:16:LEU:HD12	13:n:54:ASP:CB	2.36	0.54
20:u:41:PRO:O	20:u:45:ARG:HG2	2.07	0.54
26:4:36:ARG:HG2	26:4:37:GLN:N	2.21	0.54
27:5:37:LYS:HD3	27:5:218:MET:SD	2.48	0.54
28:A:543:G:H2'	28:A:544:C:O4'	2.07	0.54
28:A:737:C:O2'	28:A:738:G:H5'	2.07	0.54
28:A:1027:A:C2	28:A:2488:G:H5'	2.42	0.54
28:A:1244:A:H2'	28:A:1245:G:H5'	1.90	0.54
28:A:1271:G:H5''	28:A:1272:A:OP1	2.08	0.54
28:A:1529:G:N7	28:A:1543:G:N2	2.56	0.54
28:A:2166:U:H3'	28:A:2167:U:C6	2.42	0.54
28:A:2286:G:H4'	28:A:2287:A:O4'	2.07	0.54
28:A:2314:A:H2'	28:A:2315:G:C8	2.42	0.54
28:A:2329:U:O2	50:W:38:ARG:HD3	2.07	0.54
28:A:2489:U:O2'	28:A:2490:G:H5'	2.07	0.54
29:B:78:A:H2'	29:B:79:G:O4'	2.07	0.54
32:E:124:PHE:HE2	32:E:148:ILE:HD13	1.72	0.54
35:H:67:ALA:CB	35:H:68:ARG:CA	2.83	0.54
35:H:74:ALA:O	35:H:76:GLU:N	2.40	0.54
44:Q:69:ARG:HE	44:Q:74:SER:HA	1.72	0.54
57:x:374:VAL:HG22	57:x:399:LEU:HD12	1.89	0.54
1:a:558:G:C8	1:a:559:A:H2'	2.43	0.54
1:a:1259:C:O2'	1:a:1283:U:O2	2.21	0.54
7:h:96:MET:O	7:h:99:LEU:HG	2.06	0.54
7:h:106:THR:HG21	7:h:121:LEU:CD1	2.38	0.54
8:i:63:LEU:HD12	8:i:63:LEU:O	2.07	0.54
8:i:123:ARG:HG2	8:i:124:ARG:N	2.21	0.54
12:m:71:ARG:HH12	33:F:114:ARG:HB3	1.72	0.54
13:n:80:SER:O	13:n:84:VAL:HG23	2.07	0.54
21:b:208:ALA:O	21:b:212:TYR:N	2.40	0.54
27:5:141:LYS:CG	27:5:164:ARG:HH21	2.20	0.54
28:A:275:C:C2'	28:A:276:U:H4'	2.37	0.54
28:A:1036:G:O2'	28:A:1037:G:H5'	2.06	0.54
28:A:1642:G:O2'	28:A:1643:G:H5'	2.07	0.54
28:A:1856:U:C2'	28:A:1857:G:H5'	2.37	0.54
28:A:2714:G:C2'	28:A:2715:C:H5'	2.38	0.54
35:H:53:GLU:O	35:H:57:LYS:NZ	2.36	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:P:58:PHE:CD2	43:P:75:THR:HG22	2.43	0.54
48:U:94:PHE:HA	48:U:101:THR:HA	1.88	0.54
51:X:18:SER:O	51:X:21:LEU:N	2.35	0.54
51:X:34:SER:HA	51:X:48:LEU:O	2.08	0.54
54:6:21:A:O2'	54:6:22:G:O4'	2.24	0.54
57:x:299:LEU:N	57:x:338:PHE:O	2.40	0.54
1:a:45:G:H2'	1:a:46:G:H8	1.72	0.54
14:o:27:VAL:O	14:o:31:LEU:HG	2.08	0.54
15:p:6:LEU:HD12	15:p:19:VAL:HG12	1.90	0.54
16:q:20:SER:O	16:q:21:ILE:HD13	2.06	0.54
27:5:130:VAL:HG11	28:A:2119:A:N3	2.22	0.54
28:A:15:G:N2	28:A:16:C:H1'	2.23	0.54
28:A:123:G:H2'	28:A:124:G:H5'	1.89	0.54
28:A:304:U:H2'	28:A:305:C:C6	2.43	0.54
28:A:689:A:N3	28:A:779:U:O2'	2.35	0.54
28:A:1341:G:H5'	47:T:61:LEU:CD2	2.37	0.54
28:A:1466:U:O2'	28:A:1546:G:O2'	2.14	0.54
30:C:144:GLU:HG2	30:C:150:GLY:O	2.08	0.54
30:C:154:ALA:HB2	30:C:161:VAL:CG2	2.37	0.54
35:H:25:TYR:CD2	35:H:30:LEU:HD11	2.43	0.54
36:I:116:MET:CE	36:I:124:MET:HB3	2.36	0.54
42:O:7:ARG:HA	42:O:10:ARG:HH11	1.73	0.54
43:P:49:ILE:CG2	43:P:50:ARG:N	2.69	0.54
43:P:105:LYS:O	43:P:108:ARG:HG3	2.08	0.54
47:T:1:MET:SD	47:T:49:LYS:NZ	2.73	0.54
48:U:8:ASP:O	48:U:10:VAL:HG13	2.08	0.54
51:X:50:VAL:HG12	51:X:51:SER:O	2.07	0.54
54:9:18:G:N1	54:9:55:U:H1'	2.21	0.54
1:a:855:U:O2'	1:a:856:C:H5'	2.08	0.54
4:e:114:VAL:CG1	4:e:137:VAL:HG23	2.35	0.54
5:f:18:VAL:N	5:f:19:PRO:HD2	2.23	0.54
5:f:29:ILE:HD13	5:f:64:VAL:CG2	2.38	0.54
7:h:15:ARG:CG	7:h:75:ILE:HG22	2.37	0.54
10:k:72:ASP:OD1	10:k:73:ALA:N	2.39	0.54
12:m:55:THR:O	12:m:59:GLU:HG2	2.08	0.54
27:5:23:ILE:CG1	27:5:233:VAL:HA	2.38	0.54
27:5:54:LYS:NZ	27:5:56:ASP:OD1	2.38	0.54
27:5:80:GLN:HG2	27:5:120:ALA:HB1	1.85	0.54
28:A:204:A:H4'	28:A:205:G:OP1	2.08	0.54
28:A:882:G:H1'	54:6:17:C:H42	1.72	0.54
28:A:1087:G:H2'	28:A:1088:A:C5'	2.35	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1186:G:O2'	28:A:1187:G:H5'	2.07	0.54
28:A:1867:G:O2'	28:A:1868:C:H5'	2.08	0.54
28:A:1952:A:N3	28:A:2560:A:O2'	2.30	0.54
28:A:2114:A:C2	28:A:2168:G:H4'	2.42	0.54
28:A:2127:G:O6	28:A:2161:C:H2'	2.08	0.54
28:A:2163:A:H5''	28:A:2164:C:OP2	2.08	0.54
29:B:43:C:H4'	33:F:62:GLN:NE2	2.21	0.54
32:E:151:GLY:HA2	32:E:192:ALA:HB2	1.90	0.54
35:H:14:SER:HB2	35:H:17:ASP:HB2	1.90	0.54
36:I:27:LEU:HD22	36:I:32:VAL:HB	1.88	0.54
39:L:79:LEU:HD23	39:L:82:LEU:HD21	1.88	0.54
43:P:62:LYS:CE	43:P:64:SER:HB2	2.34	0.54
46:S:69:LEU:HG	46:S:107:VAL:HG21	1.90	0.54
51:X:32:LEU:O	51:X:33:HIS:ND1	2.41	0.54
54:9:25:C:O2'	54:9:26:A:H5'	2.08	0.54
1:a:406:G:H21	3:d:116:GLN:HE22	1.56	0.54
1:a:451:A:H4'	1:a:452:A:O5'	2.08	0.54
1:a:465:A:H3'	1:a:466:A:H8	1.72	0.54
1:a:671:G:H2'	1:a:672:U:O4'	2.08	0.54
4:e:153:VAL:HA	4:e:156:LYS:HE2	1.89	0.54
11:l:83:ARG:CG	11:l:84:GLY:H	2.12	0.54
21:b:133:ALA:HA	21:b:136:ARG:HB3	1.90	0.54
27:5:35:THR:HG23	27:5:219:GLY:CA	2.37	0.54
28:A:633:A:H5''	28:A:634:C:OP2	2.08	0.54
28:A:1163:G:OP1	45:R:24:LYS:NZ	2.30	0.54
28:A:2137:U:H2'	28:A:2138:G:N9	2.21	0.54
28:A:2158:A:H3'	28:A:2159:G:C4	2.43	0.54
32:E:3:LEU:O	32:E:11:ALA:HA	2.08	0.54
36:I:107:GLU:O	36:I:111:THR:HG23	2.07	0.54
37:J:41:LYS:NZ	37:J:50:THR:O	2.27	0.54
43:P:26:GLU:H	43:P:83:ILE:HD11	1.73	0.54
52:Y:28:LEU:HB3	52:Y:43:LEU:HD21	1.88	0.54
57:x:521:ARG:CB	57:x:545:LEU:HD11	2.33	0.54
57:x:589:LEU:C	57:x:589:LEU:HD22	2.33	0.54
1:a:179:A:O2'	1:a:180:U:H5'	2.07	0.54
1:a:190:A:C4	1:a:191:G:H1'	2.42	0.54
1:a:439:U:H1'	3:d:119:SER:O	2.08	0.54
1:a:1016:A:C8	1:a:1017:U:H1'	2.43	0.54
1:a:1086:U:H5	1:a:1099:G:H22	1.56	0.54
8:i:92:GLU:O	8:i:95:ARG:HB3	2.06	0.54
12:m:80:LEU:HD11	12:m:87:ARG:HH12	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:33:ASP:HB2	13:n:34:VAL:HB	1.83	0.54
16:q:53:CYS:SG	16:q:78:VAL:HG22	2.48	0.54
18:s:55:ARG:HG3	18:s:56:GLN:HB2	1.90	0.54
21:b:95:TRP:CD1	21:b:99:MET:HE3	2.42	0.54
24:2:9:VAL:HG22	28:A:1309:G:OP1	2.08	0.54
27:5:16:ASP:OD2	27:5:29:LEU:HD22	2.08	0.54
28:A:891:G:H4'	28:A:891:G:OP1	2.07	0.54
28:A:1205:A:H2'	32:E:165:HIS:HE1	1.72	0.54
28:A:1567:G:C5'	30:C:57:HIS:HD2	2.18	0.54
28:A:1614:A:N6	46:S:88:ARG:H	2.06	0.54
28:A:1924:C:O2'	28:A:1925:C:H5'	2.08	0.54
28:A:2532:G:N2	28:A:2663:G:O2'	2.41	0.54
30:C:15:VAL:HG22	30:C:204:LEU:O	2.07	0.54
30:C:172:THR:C	30:C:173:LEU:HD12	2.33	0.54
31:D:25:THR:HG21	31:D:193:VAL:CG2	2.37	0.54
33:F:64:PRO:HA	33:F:88:VAL:CG2	2.37	0.54
40:M:21:ALA:HB2	40:M:97:GLN:O	2.08	0.54
40:M:74:THR:OG1	40:M:86:LYS:HE3	2.07	0.54
46:S:36:LEU:HD21	46:S:47:VAL:HG12	1.88	0.54
47:T:28:ASN:CA	47:T:91:GLN:HE22	2.21	0.54
50:W:19:ARG:HA	50:W:34:SER:HA	1.89	0.54
1:a:469:C:H2'	1:a:470:C:C6	2.43	0.54
1:a:599:C:O2'	1:a:600:A:H5'	2.08	0.54
1:a:1145:A:O2'	1:a:1146:A:O5'	2.23	0.54
1:a:1524:C:OP2	10:k:125:LYS:HE3	2.07	0.54
3:d:3:ARG:HB2	3:d:5:LEU:HD13	1.90	0.54
3:d:102:VAL:CG1	3:d:107:PHE:HB2	2.38	0.54
3:d:149:ALA:C	3:d:152:GLN:HE22	2.16	0.54
8:i:51:PRO:HB3	8:i:84:THR:CG2	2.37	0.54
27:5:42:VAL:HA	27:5:214:ILE:CD1	2.34	0.54
27:5:54:LYS:O	27:5:54:LYS:HG2	2.06	0.54
28:A:7:G:H1'	37:J:135:GLN:NE2	2.23	0.54
28:A:791:C:O2'	28:A:792:A:OP2	2.22	0.54
30:C:203:VAL:O	30:C:203:VAL:HG22	2.08	0.54
32:E:5:LEU:O	32:E:5:LEU:HD23	2.08	0.54
37:J:122:LEU:C	37:J:123:LYS:HD2	2.32	0.54
42:O:29:HIS:HB3	42:O:36:TYR:HB2	1.90	0.54
42:O:88:LYS:O	42:O:89:ASP:HB2	2.07	0.54
57:x:7:PHE:N	57:x:95:CYS:HB3	2.23	0.54
57:x:472:PHE:HE1	57:x:475:PHE:CE1	2.26	0.54
1:a:152:A:OP2	1:a:153:C:N4	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:592:G:N2	1:a:593:U:H1'	2.23	0.53
1:a:1371:G:OP1	8:i:14:SER:OG	2.18	0.53
1:a:1461:G:H2'	1:a:1462:C:O4'	2.08	0.53
12:m:18:ALA:HB2	12:m:45:ILE:HD11	1.90	0.53
13:n:46:LEU:C	13:n:47:LYS:NZ	2.67	0.53
21:b:187:ASP:OD1	21:b:188:THR:N	2.37	0.53
27:5:49:GLY:H	27:5:207:VAL:CG2	2.21	0.53
28:A:179:C:C2'	28:A:180:G:H5'	2.38	0.53
28:A:463:G:N2	28:A:466:A:OP2	2.36	0.53
28:A:565:C:C2'	28:A:566:U:H5'	2.38	0.53
28:A:1812:U:O2'	28:A:1813:G:H5'	2.07	0.53
28:A:2631:G:C2'	28:A:2632:A:H5'	2.39	0.53
31:D:58:ASN:OD1	31:D:59:ARG:HG2	2.07	0.53
31:D:61:THR:OG1	31:D:63:PRO:HD2	2.07	0.53
32:E:175:ILE:HD11	32:E:180:LEU:HD21	1.89	0.53
32:E:189:THR:O	32:E:193:VAL:HG23	2.07	0.53
34:G:84:LYS:HD2	34:G:131:VAL:CB	2.35	0.53
34:G:136:ASP:OD1	34:G:137:LYS:N	2.41	0.53
46:S:33:LEU:O	46:S:37:THR:OG1	2.18	0.53
51:X:32:LEU:HA	51:X:51:SER:HA	1.89	0.53
57:x:342:PHE:CE2	57:x:348:MET:HG3	2.43	0.53
1:a:751:U:H1'	14:o:23:GLY:O	2.08	0.53
1:a:847:G:H2'	1:a:848:C:C6	2.41	0.53
4:e:34:THR:HG22	4:e:52:LYS:CB	2.38	0.53
4:e:96:MET:HE3	4:e:140:THR:HG22	1.90	0.53
4:e:104:GLY:HA3	4:e:122:ASN:CB	2.36	0.53
10:k:52:PHE:CE2	10:k:65:VAL:HG11	2.43	0.53
13:n:35:ASN:HD22	13:n:35:ASN:N	2.05	0.53
15:p:6:LEU:HD13	15:p:71:VAL:HG22	1.90	0.53
27:5:68:GLY:HA2	27:5:159:GLY:HA2	1.88	0.53
27:5:170:ILE:HG21	28:A:2177:C:O2'	2.08	0.53
27:5:214:ILE:HG13	27:5:215:SER:N	2.23	0.53
28:A:123:G:C2'	28:A:124:G:H5'	2.38	0.53
28:A:172:A:H2'	28:A:173:A:H8	1.71	0.53
28:A:1553:A:C6	28:A:1555:G:H1'	2.43	0.53
28:A:1606:C:H5''	28:A:1607:C:OP1	2.07	0.53
28:A:2353:G:H1'	50:W:30:VAL:HG12	1.90	0.53
28:A:2662:A:H2'	28:A:2663:G:O4'	2.08	0.53
28:A:2796:U:O2'	28:A:2797:U:H2'	2.08	0.53
34:G:30:GLY:O	34:G:32:LEU:N	2.41	0.53
38:K:68:GLY:HA3	38:K:77:ILE:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:T:29:THR:CA	47:T:86:THR:HA	2.38	0.53
49:V:1:MET:HG3	49:V:2:PHE:N	2.24	0.53
54:6:19:G:H4'	54:6:20:U:OP2	2.08	0.53
57:x:588:PHE:HA	57:x:592:LEU:HD13	1.90	0.53
1:a:357:G:O2'	1:a:368:U:O2	2.20	0.53
1:a:878:A:H5''	7:h:81:PRO:HG2	1.90	0.53
1:a:972:C:OP1	9:j:59:LYS:NZ	2.33	0.53
1:a:1034:G:C2	1:a:1035:A:H1'	2.43	0.53
1:a:1092:A:H5''	6:g:4:ARG:HH12	1.74	0.53
5:f:17:GLN:O	5:f:21:MET:HG3	2.08	0.53
10:k:122:ARG:CZ	20:u:36:GLU:HG3	2.39	0.53
11:l:3:THR:HG22	11:l:5:ASN:H	1.74	0.53
18:s:34:TRP:HD1	18:s:52:HIS:ND1	2.07	0.53
21:b:133:ALA:O	21:b:137:THR:HG23	2.08	0.53
27:5:43:ASP:OD1	27:5:214:ILE:HD12	2.08	0.53
27:5:60:ARG:NE	27:5:165:ASN:HB2	2.23	0.53
28:A:141:G:O2'	28:A:142:A:H4'	2.08	0.53
28:A:2575:C:H2'	28:A:2578:G:O6	2.07	0.53
34:G:100:ASN:OD1	34:G:101:VAL:HG13	2.09	0.53
37:J:56:VAL:C	37:J:57:LEU:HD12	2.33	0.53
54:6:70:G:C2'	54:6:71:G:H5'	2.38	0.53
57:x:196:ILE:HG22	57:x:197:ASP:N	2.18	0.53
57:x:522:GLN:CB	57:x:526:ILE:HD11	2.38	0.53
1:a:162:A:C8	1:a:163:C:H1'	2.43	0.53
1:a:208:U:H1'	1:a:212:G:C2	2.44	0.53
1:a:225:C:C3'	1:a:226:G:H5''	2.37	0.53
1:a:470:C:H2'	1:a:471:U:C6	2.43	0.53
1:a:932:C:H4'	6:g:4:ARG:HH21	1.72	0.53
1:a:1046:A:H2'	1:a:1047:G:O4'	2.09	0.53
1:a:1296:C:H4'	1:a:1302:C:N4	2.22	0.53
3:d:26:ARG:HH12	3:d:30:THR:HG21	1.73	0.53
3:d:48:LEU:CD1	3:d:53:VAL:HG13	2.38	0.53
7:h:12:THR:HG22	7:h:15:ARG:HH22	1.74	0.53
8:i:42:GLU:O	8:i:45:ARG:HG2	2.09	0.53
17:r:71:THR:CG2	17:r:74:HIS:H	2.19	0.53
21:b:107:ARG:O	21:b:110:ILE:HB	2.08	0.53
28:A:1001:A:H2'	28:A:1002:G:O4'	2.08	0.53
28:A:1059:G:H2'	28:A:1060:U:H5	1.72	0.53
28:A:1084:A:H1'	28:A:1105:U:O2'	2.08	0.53
28:A:2267:A:H5''	28:A:2268:A:H5'	1.90	0.53
28:A:2483:C:N3	40:M:123:LYS:NZ	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:F:52:ALA:HA	33:F:149:ARG:NH1	2.24	0.53
37:J:18:VAL:HG22	37:J:140:LEU:HD11	1.91	0.53
38:K:110:GLU:OE1	38:K:110:GLU:N	2.40	0.53
39:L:119:PRO:HG3	39:L:138:ALA:O	2.08	0.53
44:Q:64:ILE:HD11	44:Q:95:ALA:HB3	1.91	0.53
49:V:35:GLU:CG	49:V:93:ARG:HH12	2.22	0.53
50:W:23:LYS:HG2	50:W:24:ARG:N	2.18	0.53
57:x:215:GLY:O	57:x:252:CYS:HB2	2.08	0.53
1:a:85:U:P	1:a:87:C:H42	2.32	0.53
1:a:1034:G:H2'	1:a:1035:A:O4'	2.08	0.53
1:a:1165:U:C2'	1:a:1166:G:H5'	2.39	0.53
1:a:1253:G:H2'	1:a:1254:A:C8	2.44	0.53
1:a:1283:U:O2'	1:a:1284:C:H5'	2.09	0.53
1:a:1402:C:H2'	1:a:1403:C:O4'	2.09	0.53
2:c:154:SER:HA	2:c:157:LEU:HD11	1.90	0.53
5:f:5:GLU:HG3	5:f:63:ASN:ND2	2.24	0.53
8:i:92:GLU:HB3	8:i:95:ARG:HE	1.73	0.53
10:k:110:ILE:HG22	20:u:17:ARG:NH1	2.23	0.53
13:n:47:LYS:HZ3	13:n:47:LYS:N	2.06	0.53
14:o:32:LEU:O	14:o:36:ILE:HG13	2.08	0.53
19:t:67:ILE:CG2	19:t:71:LYS:HB3	2.37	0.53
23:1:38:PHE:CZ	23:1:43:ARG:HA	2.44	0.53
26:4:5:ALA:O	26:4:38:GLY:HA2	2.09	0.53
28:A:171:U:O2'	28:A:172:A:H5'	2.08	0.53
28:A:1517:G:H2'	28:A:1518:C:O4'	2.08	0.53
28:A:1734:G:H2'	28:A:1735:A:H8	1.72	0.53
28:A:1869:G:H2'	28:A:1871:A:N7	2.23	0.53
28:A:2114:A:H2	28:A:2168:G:H4'	1.74	0.53
28:A:2301:C:H2'	28:A:2302:U:H6	1.72	0.53
28:A:2519:U:C6	28:A:2542:A:N6	2.77	0.53
28:A:2618:G:O2'	28:A:2619:C:H5'	2.08	0.53
28:A:2713:U:C3'	28:A:2714:G:H5''	2.39	0.53
30:C:245:THR:C	30:C:247:TRP:H	2.16	0.53
35:H:41:LYS:HA	35:H:44:ILE:CG1	2.34	0.53
35:H:94:ILE:C	35:H:114:GLU:HG3	2.33	0.53
35:H:104:THR:CA	35:H:109:GLU:HA	2.38	0.53
42:O:75:GLY:CA	42:O:106:LEU:HB2	2.35	0.53
47:T:33:LYS:HG3	47:T:80:TRP:CE3	2.44	0.53
47:T:43:ILE:O	47:T:47:VAL:HG23	2.09	0.53
52:Y:9:LYS:HB3	52:Y:12:GLU:CG	2.39	0.53
53:Z:3:THR:HA	53:Z:37:ARG:O	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:644:U:O2'	1:a:645:G:H5'	2.08	0.53
1:a:1016:A:N7	1:a:1017:U:H1'	2.24	0.53
1:a:1251:A:H2'	1:a:1252:A:O4'	2.09	0.53
1:a:1432:G:H1'	1:a:1468:A:H62	1.74	0.53
2:c:87:LEU:HA	2:c:90:VAL:HG22	1.91	0.53
2:c:150:LYS:HG3	2:c:201:TRP:CE3	2.44	0.53
3:d:105:MET:SD	3:d:180:GLY:HA3	2.48	0.53
3:d:171:LEU:HD12	3:d:171:LEU:O	2.08	0.53
11:l:27:CYS:CB	11:l:30:LYS:HD3	2.38	0.53
11:l:44:LYS:CB	11:l:45:PRO:HD2	2.38	0.53
19:t:44:LYS:HB3	19:t:87:ALA:OXT	2.09	0.53
21:b:19:THR:HG23	21:b:20:ARG:N	2.23	0.53
21:b:41:ASN:CG	21:b:44:LYS:HG2	2.34	0.53
26:4:22:VAL:HG21	26:4:36:ARG:CG	2.39	0.53
27:5:134:ARG:HD3	28:A:2125:G:H1	1.73	0.53
28:A:201:C:H2'	28:A:202:U:H6	1.74	0.53
28:A:322:A:OP1	32:E:162:ARG:NE	2.41	0.53
28:A:819:A:OP2	28:A:1187:G:N2	2.29	0.53
29:B:49:C:O2'	29:B:50:A:H5'	2.08	0.53
30:C:79:ARG:NE	30:C:81:GLU:OE2	2.42	0.53
34:G:114:HIS:ND1	34:G:150:TYR:OH	2.39	0.53
39:L:85:VAL:HG22	39:L:94:THR:HG22	1.89	0.53
43:P:50:ARG:HG3	43:P:51:ASN:N	2.23	0.53
43:P:77:SER:OG	43:P:79:VAL:HG22	2.08	0.53
45:R:37:GLU:HB3	45:R:53:PHE:CD1	2.44	0.53
51:X:52:ALA:O	51:X:53:LYS:HB3	2.07	0.53
1:a:265:G:N2	1:a:267:C:O4'	2.41	0.53
1:a:1040:U:O2'	1:a:1041:G:H5'	2.08	0.53
1:a:1212:U:H5''	1:a:1213:A:OP1	2.09	0.53
1:a:1273:C:H2'	1:a:1274:A:O4'	2.08	0.53
1:a:1296:C:HO2'	1:a:1302:C:N4	2.07	0.53
1:a:1305:G:HO2'	1:a:1306:A:H8	1.56	0.53
2:c:15:VAL:HG23	2:c:16:LYS:N	2.23	0.53
3:d:197:GLU:CA	3:d:200:ILE:HG22	2.32	0.53
5:f:97:THR:O	5:f:98:GLU:HB3	2.09	0.53
6:g:146:GLU:HA	6:g:149:LYS:HE2	1.90	0.53
8:i:16:ALA:O	8:i:67:VAL:HG23	2.09	0.53
8:i:30:ILE:HG23	8:i:30:ILE:O	2.08	0.53
9:j:45:ARG:HG2	9:j:46:LYS:N	2.24	0.53
11:l:114:ARG:HD2	11:l:119:VAL:HG12	1.90	0.53
22:0:9:ARG:HH22	44:Q:29:ARG:NE	2.06	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:347:A:O2'	28:A:348:A:H5'	2.09	0.53
28:A:715:A:H2'	28:A:716:A:C8	2.44	0.53
28:A:718:A:C2'	28:A:719:C:H5'	2.39	0.53
28:A:2155:U:H3'	28:A:2156:G:H8	1.74	0.53
33:F:92:GLY:O	33:F:95:MET:HB3	2.09	0.53
33:F:149:ARG:HG2	33:F:150:GLY:N	2.24	0.53
37:J:96:ARG:NE	37:J:99:ARG:HG3	2.24	0.53
39:L:109:LYS:HA	39:L:126:ARG:O	2.08	0.53
48:U:47:PRO:HB3	48:U:55:GLY:N	2.23	0.53
56:8:74:C:OP2	57:x:560:ARG:HG3	2.07	0.53
1:a:74:A:C2'	1:a:75:G:H5''	2.38	0.53
1:a:75:G:H1'	1:a:96:U:O2	2.08	0.53
1:a:76:G:H2'	1:a:77:A:H5''	1.90	0.53
1:a:429:U:H4'	1:a:430:A:O5'	2.08	0.53
1:a:437:U:H4'	3:d:154:ARG:CZ	2.39	0.53
1:a:601:G:H2'	1:a:602:A:O4'	2.08	0.53
1:a:1011:C:H2'	1:a:1012:A:H8	1.74	0.53
6:g:12:ILE:HD13	6:g:25:LYS:HD3	1.90	0.53
8:i:58:VAL:HG12	8:i:59:GLU:N	2.24	0.53
21:b:65:LYS:HD2	21:b:89:PHE:HE2	1.73	0.53
27:5:46:VAL:HG22	27:5:212:VAL:CA	2.39	0.53
28:A:116:C:H2'	28:A:117:G:O4'	2.08	0.53
28:A:1092:C:H2'	28:A:1093:G:H5'	1.89	0.53
28:A:1473:G:H2'	28:A:1474:U:C6	2.44	0.53
28:A:1536:C:H1'	28:A:1537:G:C2	2.43	0.53
28:A:1805:A:N3	30:C:49:THR:OG1	2.42	0.53
28:A:2756:U:H4'	28:A:2757:A:OP1	2.07	0.53
33:F:43:ILE:HG13	33:F:44:ALA:N	2.22	0.53
33:F:131:VAL:HG23	33:F:132:ARG:N	2.23	0.53
39:L:7:SER:HB2	39:L:8:PRO:HD2	1.91	0.53
40:M:68:PHE:CD1	40:M:69:PRO:HD2	2.44	0.53
42:O:2:ASP:CG	42:O:3:LYS:H	2.17	0.53
51:X:36:ARG:CG	51:X:47:THR:HG22	2.33	0.53
1:a:1337:G:H5''	1:a:1338:G:OP1	2.09	0.53
1:a:1427:C:O2'	1:a:1428:A:H5'	2.08	0.53
3:d:105:MET:HE1	3:d:143:VAL:HG22	1.89	0.53
9:j:14:ASP:CG	9:j:17:LEU:HB2	2.34	0.53
21:b:46:VAL:O	21:b:50:ASN:HB2	2.09	0.53
28:A:127:A:H5''	28:A:128:C:O5'	2.08	0.53
28:A:273:G:H2'	28:A:274:C:C6	2.43	0.53
28:A:657:U:H2'	28:A:658:U:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1156:A:C8	44:Q:50:ARG:HD3	2.43	0.53
28:A:1173:U:H1'	28:A:1177:G:H22	1.72	0.53
28:A:1677:A:O5'	28:A:1677:A:H8	1.92	0.53
28:A:2632:A:H2'	28:A:2633:G:H8	1.74	0.53
33:F:27:VAL:CG2	33:F:28:PRO:HD2	2.39	0.53
33:F:79:ARG:CB	33:F:82:TYR:HE2	2.18	0.53
37:J:69:ARG:HD3	37:J:89:PHE:CD2	2.44	0.53
48:U:91:LYS:O	48:U:92:VAL:HG12	2.09	0.53
50:W:70:VAL:O	50:W:70:VAL:HG13	2.08	0.53
51:X:37:PHE:O	51:X:45:PHE:HA	2.09	0.53
1:a:637:C:O2'	1:a:638:U:H5'	2.09	0.53
1:a:999:C:H42	1:a:1042:A:H61	1.57	0.53
1:a:1305:G:O2'	1:a:1306:A:O4'	2.26	0.53
1:a:1444:U:H2'	1:a:1445:U:O4'	2.09	0.53
3:d:17:THR:HG22	3:d:18:ASP:N	2.23	0.53
21:b:9:LEU:HD21	21:b:12:GLY:N	2.24	0.53
27:5:59:VAL:HB	27:5:196:LEU:HD22	1.91	0.53
27:5:83:ASN:OD1	27:5:149:VAL:HG11	2.08	0.53
27:5:181:ASP:HB2	27:5:184:LYS:CB	2.38	0.53
28:A:769:U:O2	28:A:1379:U:H1'	2.09	0.53
28:A:881:G:H2'	28:A:882:G:O4'	2.09	0.53
28:A:1081:U:P	36:I:126:ARG:HE	2.32	0.53
28:A:1092:C:H2'	28:A:1093:G:C5'	2.39	0.53
28:A:2267:A:H5''	28:A:2268:A:C5'	2.39	0.53
29:B:118:C:H2'	29:B:119:A:H4'	1.91	0.53
30:C:16:VAL:CB	30:C:203:VAL:HG12	2.38	0.53
33:F:116:LEU:HD23	33:F:127:TYR:OH	2.09	0.53
36:I:48:ILE:HD12	36:I:54:ILE:CD1	2.38	0.53
36:I:135:MET:HG2	36:I:137:LEU:CD2	2.38	0.53
44:Q:64:ILE:HG12	44:Q:95:ALA:CB	2.39	0.53
44:Q:91:ARG:HH11	45:R:11:GLN:N	2.07	0.53
45:R:68:ARG:CD	45:R:90:ARG:HE	2.21	0.53
49:V:61:LEU:HD12	49:V:61:LEU:O	2.08	0.53
51:X:38:TRP:CZ2	51:X:43:LYS:HA	2.44	0.53
57:x:288:PHE:HB3	57:x:289:LYS:HB2	1.90	0.53
57:x:350:ILE:HG22	57:x:351:ILE:N	2.23	0.53
57:x:588:PHE:O	57:x:592:LEU:HB2	2.09	0.53
54:9:61:C:H2'	54:9:62:C:C5	2.44	0.53
1:a:652:U:O2'	1:a:653:U:OP2	2.23	0.52
1:a:828:U:OP1	1:a:828:U:H4'	2.08	0.52
1:a:1464:U:O2'	1:a:1465:A:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:16:VAL:O	12:m:20:THR:HG23	2.09	0.52
16:q:53:CYS:SG	16:q:75:LEU:HD22	2.49	0.52
19:t:5:LYS:NZ	19:t:7:ALA:HB2	2.23	0.52
27:5:85:GLU:HG2	27:5:88:LYS:CD	2.20	0.52
28:A:320:A:H4'	28:A:322:A:N7	2.24	0.52
28:A:2061:G:H5''	28:A:2503:A:C5'	2.37	0.52
28:A:2247:A:H2'	28:A:2248:C:H6	1.74	0.52
28:A:2786:U:O2'	28:A:2787:C:H5'	2.09	0.52
33:F:149:ARG:HG2	33:F:150:GLY:H	1.74	0.52
35:H:4:ILE:CG1	35:H:18:GLN:HE22	2.22	0.52
35:H:90:LEU:N	35:H:147:VAL:HG12	2.25	0.52
35:H:93:SER:N	35:H:116:ARG:HB3	2.17	0.52
36:I:105:LEU:HD22	36:I:128:ILE:HG22	1.90	0.52
41:N:73:ASN:C	41:N:76:VAL:HG12	2.35	0.52
42:O:26:LEU:HD12	42:O:38:GLN:O	2.09	0.52
42:O:52:SER:OG	42:O:54:VAL:HG12	2.10	0.52
50:W:50:VAL:HB	50:W:61:LYS:CE	2.40	0.52
1:a:969:A:C2'	1:a:970:C:H5'	2.39	0.52
1:a:1029:U:H1'	1:a:1033:G:N1	2.21	0.52
1:a:1376:U:H2'	1:a:1377:A:H8	1.74	0.52
2:c:58:GLU:OE2	2:c:65:ARG:HD2	2.08	0.52
3:d:34:ILE:O	3:d:36:GLN:HG3	2.09	0.52
4:e:105:ILE:O	4:e:112:ARG:NH1	2.42	0.52
7:h:104:VAL:HG22	7:h:111:MET:O	2.09	0.52
11:l:114:ARG:HG2	11:l:119:VAL:O	2.08	0.52
13:n:42:TRP:HE3	13:n:43:ASN:N	2.08	0.52
14:o:87:LEU:C	14:o:89:ARG:H	2.17	0.52
14:o:88:ARG:O	14:o:89:ARG:HB2	2.08	0.52
27:5:23:ILE:HB	27:5:227:ALA:HB2	1.91	0.52
27:5:69:THR:HB	27:5:160:GLN:O	2.09	0.52
28:A:107:G:O2'	28:A:108:G:H5'	2.09	0.52
28:A:108:G:O2'	28:A:109:C:H5'	2.10	0.52
28:A:1590:A:H2'	28:A:1591:A:C8	2.44	0.52
28:A:1745:A:H2'	28:A:1746:A:O4'	2.09	0.52
28:A:1817:G:H5''	30:C:86:ARG:HG2	1.91	0.52
28:A:2323:G:O2'	28:A:2324:U:H5'	2.09	0.52
28:A:2646:C:O5'	28:A:2646:C:H6	1.92	0.52
29:B:42:C:C5	33:F:65:LEU:HD22	2.44	0.52
35:H:129:GLU:HB2	35:H:142:VAL:CG1	2.40	0.52
36:I:79:LEU:HD21	36:I:105:LEU:HD23	1.90	0.52
44:Q:94:LEU:HD21	45:R:4:VAL:CG2	2.38	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:6:34:G:O6	54:6:35:A:N6	2.42	0.52
56:8:9:G:O2'	56:8:10:G:N7	2.41	0.52
57:x:294:GLN:HE22	57:x:468:LEU:HB2	1.74	0.52
57:x:421:LEU:O	57:x:425:LYS:HG2	2.09	0.52
3:d:27:ALA:O	3:d:28:ILE:HB	2.08	0.52
5:f:47:LEU:CD1	5:f:51:ILE:HG22	2.36	0.52
7:h:5:ASP:OD2	7:h:8:ALA:HB2	2.09	0.52
9:j:17:LEU:HD23	9:j:17:LEU:C	2.34	0.52
14:o:26:GLU:HG3	14:o:81:LEU:HD22	1.91	0.52
27:5:24:ASN:ND2	27:5:232:SER:HB2	2.21	0.52
27:5:67:HIS:HB2	27:5:188:ASN:OD1	2.09	0.52
27:5:105:LYS:HB2	28:A:2163:A:C4'	2.40	0.52
28:A:370:G:O2'	28:A:423:A:H3'	2.10	0.52
28:A:889:C:C2'	28:A:890:C:H5'	2.39	0.52
28:A:1186:G:H2'	28:A:1187:G:O4'	2.09	0.52
28:A:1797:G:O3'	30:C:255:LYS:HA	2.10	0.52
28:A:2235:G:H2'	28:A:2236:U:O4'	2.09	0.52
28:A:2333:A:OP1	50:W:76:ARG:NH1	2.42	0.52
32:E:148:ILE:HG22	32:E:148:ILE:O	2.10	0.52
35:H:10:ALA:HB1	35:H:12:LEU:HG	1.91	0.52
37:J:47:HIS:CD2	37:J:48:VAL:HG23	2.44	0.52
42:O:7:ARG:CB	42:O:10:ARG:HH11	2.23	0.52
44:Q:82:LEU:HG	44:Q:88:GLU:OE1	2.09	0.52
44:Q:88:GLU:HA	45:R:49:ILE:CD1	2.38	0.52
50:W:30:VAL:O	50:W:30:VAL:HG22	2.09	0.52
54:9:21:A:H62	54:9:48:C:P	2.31	0.52
1:a:225:C:H2'	1:a:226:G:C5'	2.30	0.52
1:a:990:C:O2'	1:a:991:U:H5'	2.08	0.52
1:a:995:C:C3'	1:a:996:A:H5''	2.39	0.52
1:a:1038:C:H2'	1:a:1039:G:C8	2.45	0.52
1:a:1169:A:H2'	1:a:1170:A:C8	2.45	0.52
1:a:1314:C:C5	18:s:6:LYS:HD3	2.38	0.52
1:a:1372:U:OP1	8:i:73:SER:OG	2.22	0.52
4:e:30:ILE:HD11	4:e:54:ARG:HH21	1.73	0.52
4:e:41:ASP:OD1	4:e:43:ASN:N	2.34	0.52
12:m:90:ARG:HH11	12:m:95:LEU:HB2	1.75	0.52
21:b:75:ALA:O	21:b:79:VAL:HG23	2.10	0.52
27:5:182:ALA:CB	27:5:234:ASN:H	2.21	0.52
28:A:1545:A:H2'	28:A:1546:G:C5'	2.39	0.52
28:A:2131:U:N3	28:A:2157:G:O2'	2.14	0.52
28:A:2564:A:OP1	28:A:2648:G:O2'	2.21	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:B:48:U:P	42:O:30:ARG:HH12	2.31	0.52
31:D:61:THR:CB	31:D:63:PRO:HD2	2.39	0.52
36:I:4:VAL:HB	36:I:7:TYR:CD2	2.45	0.52
41:N:72:ASP:HB3	41:N:75:ILE:CG1	2.38	0.52
57:x:16:GLY:HA3	57:x:131:ASN:ND2	2.24	0.52
54:9:74:C:O2'	54:9:75:C:H5'	2.09	0.52
1:a:310:G:H5''	15:p:31:ARG:HB2	1.91	0.52
1:a:389:A:H2'	1:a:389:A:N3	2.25	0.52
1:a:467:U:H5''	1:a:468:A:OP2	2.10	0.52
1:a:720:C:H5''	17:r:41:PRO:HB3	1.90	0.52
1:a:1046:A:O2'	1:a:1047:G:H5'	2.09	0.52
1:a:1277:C:H2'	1:a:1278:G:H5''	1.90	0.52
1:a:1347:G:O4'	8:i:109:ARG:HD2	2.09	0.52
3:d:55:LEU:O	3:d:59:GLN:HG2	2.10	0.52
3:d:60:LYS:HE3	3:d:195:ILE:CG2	2.30	0.52
3:d:69:GLU:O	3:d:73:ARG:HG2	2.09	0.52
3:d:139:PRO:HA	3:d:182:PHE:CD2	2.44	0.52
4:e:77:ASN:HB2	4:e:82:GLN:NE2	2.24	0.52
6:g:26:PHE:CZ	6:g:120:LEU:HD11	2.45	0.52
7:h:111:MET:HE2	7:h:116:ALA:N	2.25	0.52
7:h:113:ASP:OD1	7:h:114:ARG:N	2.43	0.52
8:i:31:ASN:OD1	8:i:66:THR:HA	2.10	0.52
20:u:10:GLU:HG3	20:u:11:PRO:HD3	1.90	0.52
21:b:69:VAL:CB	21:b:162:VAL:HG23	2.26	0.52
21:b:100:LEU:HD21	21:b:178:LEU:HD23	1.91	0.52
28:A:1060:U:O2	28:A:1062:G:H5'	2.08	0.52
28:A:1081:U:H5'	36:I:126:ARG:HH21	1.75	0.52
28:A:2247:A:H2'	28:A:2248:C:C6	2.45	0.52
29:B:94:A:H2'	29:B:95:U:H5'	1.90	0.52
33:F:169:LEU:HB2	33:F:176:PHE:HZ	1.75	0.52
36:I:58:ILE:CD1	36:I:68:PHE:HB2	2.39	0.52
41:N:73:ASN:O	41:N:76:VAL:HG12	2.10	0.52
42:O:24:THR:CG2	42:O:42:PRO:HG3	2.40	0.52
50:W:64:GLY:HA2	50:W:84:GLU:HG2	1.90	0.52
52:Y:49:ASP:OD1	52:Y:52:ARG:NH2	2.43	0.52
1:a:432:A:H2'	1:a:433:G:C5'	2.39	0.52
1:a:839:C:H2'	1:a:840:C:C6	2.45	0.52
1:a:978:A:O2'	1:a:1322:C:H5	1.91	0.52
1:a:1302:C:O5'	1:a:1302:C:H6	1.92	0.52
1:a:1438:G:C2'	1:a:1439:G:H5'	2.40	0.52
2:c:40:ARG:HG2	2:c:55:ILE:CD1	2.38	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:105:ILE:O	4:e:105:ILE:HG13	2.09	0.52
21:b:195:VAL:HG12	21:b:197:PHE:N	2.24	0.52
27:5:46:VAL:CG1	27:5:210:LYS:H	2.23	0.52
27:5:133:PRO:HG2	28:A:2172:U:O4'	2.10	0.52
27:5:173:THR:HG21	27:5:192:LEU:HD22	1.92	0.52
27:5:181:ASP:O	27:5:184:LYS:HB3	2.10	0.52
28:A:159:G:H1'	28:A:167:A:N6	2.25	0.52
28:A:1533:C:H1'	28:A:1534:U:C6	2.44	0.52
28:A:2796:U:O4	28:A:2801:G:N1	2.43	0.52
32:E:5:LEU:O	32:E:6:LYS:HB3	2.09	0.52
32:E:149:ILE:HD11	32:E:188:MET:HG3	1.91	0.52
35:H:64:ALA:C	35:H:71:LYS:HE3	2.34	0.52
36:I:76:ALA:HA	36:I:131:THR:HG23	1.90	0.52
39:L:29:LYS:HG2	39:L:30:THR:N	2.24	0.52
42:O:31:THR:CG2	42:O:32:PRO:HD2	2.39	0.52
54:6:75:C:O2'	57:x:544:GLN:O	2.20	0.52
57:x:159:VAL:CG2	57:x:170:GLN:HE22	2.21	0.52
57:x:206:VAL:HB	57:x:262:ILE:HG21	1.91	0.52
54:9:49:C:C2'	54:9:50:U:H5'	2.40	0.52
1:a:208:U:O2	1:a:210:C:H1'	2.09	0.52
1:a:254:G:O2'	1:a:255:G:H5'	2.09	0.52
1:a:298:A:H2'	1:a:299:G:O4'	2.09	0.52
1:a:667:G:OP1	1:a:732:C:O2'	2.18	0.52
1:a:785:G:C2'	1:a:786:G:H5'	2.39	0.52
1:a:881:G:OP2	11:l:6:GLN:NE2	2.40	0.52
1:a:1073:U:C2'	1:a:1074:G:H5'	2.39	0.52
1:a:1155:A:C2'	1:a:1156:G:H5'	2.39	0.52
1:a:1202:U:H2'	1:a:1203:C:H5'	1.91	0.52
13:n:35:ASN:C	13:n:37:SER:H	2.17	0.52
23:1:41:VAL:HG13	23:1:42:VAL:HG23	1.91	0.52
28:A:237:C:HO2'	28:A:609:A:HO2'	1.47	0.52
28:A:801:G:N7	32:E:50:ALA:HB2	2.24	0.52
28:A:900:A:O2'	28:A:901:C:H5'	2.09	0.52
28:A:1151:A:H4'	44:Q:80:ASN:ND2	2.25	0.52
28:A:1248:G:N2	32:E:83:VAL:HG22	2.25	0.52
28:A:1435:G:H2'	28:A:1436:G:H5'	1.91	0.52
28:A:2158:A:O2'	28:A:2159:G:O4'	2.24	0.52
36:I:30:GLN:O	36:I:30:GLN:HG3	2.10	0.52
38:K:61:VAL:HG11	38:K:107:LEU:HD11	1.91	0.52
38:K:63:VAL:HG12	38:K:64:ARG:N	2.23	0.52
48:U:47:PRO:HB2	48:U:53:GLN:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:W:49:ASN:HB2	50:W:59:PHE:O	2.09	0.52
51:X:67:LEU:CD2	51:X:70:LEU:HD12	2.39	0.52
54:6:62:C:O2'	54:6:63:G:H5'	2.09	0.52
54:9:29:G:H1	54:9:41:C:H42	1.57	0.52
54:9:31:A:N1	54:9:39:U:N3	2.57	0.52
1:a:878:A:OP1	7:h:80:ARG:NH1	2.43	0.52
1:a:949:A:H2'	1:a:950:U:O4'	2.10	0.52
15:p:67:ILE:HG22	15:p:68:SER:O	2.09	0.52
21:b:44:LYS:O	21:b:48:MET:HG2	2.09	0.52
28:A:536:G:O2'	28:A:537:G:H5'	2.10	0.52
28:A:889:C:H2'	28:A:890:C:O4'	2.09	0.52
28:A:923:G:N3	50:W:23:LYS:NZ	2.58	0.52
28:A:982:C:H5''	28:A:983:A:OP1	2.10	0.52
28:A:1331:G:O2'	28:A:1332:G:H5'	2.10	0.52
28:A:1678:A:O2'	28:A:1679:A:H5'	2.10	0.52
28:A:1720:U:H2'	28:A:1721:G:O4'	2.09	0.52
28:A:1807:G:H5''	28:A:1808:A:OP2	2.09	0.52
28:A:2112:G:O2'	28:A:2113:U:H5'	2.09	0.52
28:A:2112:G:H2'	28:A:2113:U:H5'	1.90	0.52
28:A:2114:A:N3	28:A:2167:U:O2'	2.41	0.52
28:A:2146:C:H4'	28:A:2148:G:N3	2.25	0.52
28:A:2238:G:H2'	28:A:2238:G:N3	2.25	0.52
31:D:107:VAL:HG22	31:D:108:ASP:N	2.21	0.52
34:G:82:PHE:CE2	34:G:137:LYS:HB2	2.45	0.52
34:G:102:ILE:CG2	34:G:104:LEU:HG	2.40	0.52
35:H:75:LEU:CD2	35:H:103:VAL:HG13	2.39	0.52
39:L:100:ILE:HD12	39:L:100:ILE:O	2.09	0.52
43:P:27:VAL:HG22	43:P:83:ILE:HD13	1.92	0.52
51:X:48:LEU:HB3	51:X:50:VAL:HG23	1.92	0.52
57:x:65:ALA:HB2	57:x:71:TYR:HD2	1.71	0.52
57:x:388:SER:HB2	57:x:493:ASP:OD2	2.10	0.52
54:9:24:G:H2'	54:9:25:C:C6	2.45	0.52
54:9:69:G:H2'	54:9:70:G:C8	2.44	0.52
1:a:228:A:H4'	15:p:63:GLN:HG2	1.91	0.52
1:a:262:A:H5'	19:t:68:HIS:ND1	2.25	0.52
1:a:468:A:H3'	1:a:469:C:H6	1.74	0.52
1:a:1060:U:H5'	9:j:53:ILE:HD12	1.90	0.52
1:a:1458:G:H2'	1:a:1459:G:C8	2.44	0.52
4:e:77:ASN:HB2	4:e:82:GLN:CD	2.35	0.52
6:g:3:ARG:O	6:g:3:ARG:HD3	2.10	0.52
6:g:76:LYS:HD3	6:g:78:ARG:HH21	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:h:10:MET:O	7:h:14:ILE:HG13	2.09	0.52
11:l:63:VAL:HG11	11:l:95:TYR:CD2	2.45	0.52
22:0:2:VAL:HG11	28:A:2016:U:C1'	2.38	0.52
28:A:511:U:C2'	28:A:512:G:H5'	2.38	0.52
28:A:997:G:O2'	28:A:998:C:H5'	2.10	0.52
28:A:1064:C:N4	28:A:1074:G:H1	2.08	0.52
28:A:1112:G:H2'	28:A:1113:U:H6	1.74	0.52
28:A:1530:G:H3'	28:A:1531:C:C6	2.45	0.52
28:A:1628:G:H2'	28:A:1629:U:C6	2.44	0.52
31:D:26:VAL:HG22	31:D:188:LEU:CD2	2.40	0.52
32:E:48:THR:HG23	32:E:86:ALA:HB3	1.92	0.52
32:E:167:VAL:HG22	32:E:168:ASP:N	2.23	0.52
34:G:27:GLY:HA3	34:G:78:VAL:HG22	1.91	0.52
34:G:138:GLN:O	34:G:141:GLY:N	2.39	0.52
36:I:135:MET:CG	36:I:137:LEU:HD23	2.40	0.52
37:J:44:TYR:O	37:J:45:THR:HB	2.10	0.52
48:U:26:ASN:OD1	48:U:34:ILE:HB	2.08	0.52
48:U:86:PHE:CD2	48:U:92:VAL:HG11	2.44	0.52
50:W:50:VAL:HB	50:W:61:LYS:HE3	1.92	0.52
50:W:51:GLY:HA2	50:W:59:PHE:CE2	2.45	0.52
54:6:76:A:N1	57:x:545:LEU:HD23	2.24	0.52
57:x:291:VAL:O	57:x:292:LYS:HD3	2.10	0.52
57:x:515:MET:HB3	57:x:528:ILE:HD13	1.90	0.52
1:a:475:C:O2'	1:a:476:U:H5'	2.10	0.52
1:a:820:U:H4'	1:a:821:G:OP2	2.09	0.52
1:a:1081:A:OP2	4:e:52:LYS:NZ	2.43	0.52
1:a:1313:U:O2'	1:a:1314:C:H5'	2.10	0.52
5:f:14:GLN:HB3	5:f:17:GLN:OE1	2.10	0.52
10:k:16:VAL:O	10:k:17:SER:OG	2.27	0.52
11:l:55:VAL:O	11:l:62:GLU:HG3	2.10	0.52
13:n:24:ARG:O	13:n:25:ALA:C	2.53	0.52
19:t:43:ASP:HB3	19:t:46:ALA:HB3	1.91	0.52
27:5:9:ARG:HA	27:5:12:ARG:HH11	1.74	0.52
27:5:155:ASN:O	27:5:158:ALA:HB3	2.09	0.52
28:A:880:G:H4'	28:A:881:G:OP2	2.10	0.52
28:A:1420:A:H5'	28:A:1421:G:OP2	2.10	0.52
28:A:1529:G:H2'	28:A:1530:G:O4'	2.10	0.52
28:A:2801:G:O2'	28:A:2802:G:H5'	2.09	0.52
30:C:76:VAL:O	30:C:76:VAL:HG13	2.10	0.52
31:D:118:PHE:CE1	31:D:123:LYS:HD3	2.44	0.52
32:E:87:ALA:O	32:E:88:ARG:HD3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:F:102:LEU:HA	33:F:106:ALA:HB3	1.92	0.52
34:G:8:VAL:O	34:G:8:VAL:HG13	2.09	0.52
34:G:79:THR:OG1	34:G:80:GLU:N	2.43	0.52
44:Q:111:LYS:HB2	45:R:48:LYS:CE	2.29	0.52
57:x:161:CYS:HB3	57:x:169:VAL:HG13	1.91	0.52
57:x:375:GLU:O	57:x:397:TYR:HB3	2.10	0.52
1:a:44:A:O2'	1:a:45:G:H5'	2.10	0.51
1:a:203:G:H1'	1:a:465:A:N6	2.15	0.51
1:a:317:U:O2'	1:a:318:G:H5'	2.10	0.51
1:a:351:G:H2'	1:a:351:G:N3	2.25	0.51
4:e:90:THR:HG22	4:e:91:GLY:N	2.25	0.51
6:g:147:ALA:O	10:k:56:ARG:NH1	2.42	0.51
21:b:103:TRP:CZ2	21:b:155:GLY:HA2	2.45	0.51
28:A:1013:C:H2'	28:A:1014:A:O4'	2.10	0.51
28:A:1220:G:H2'	28:A:1221:C:O4'	2.10	0.51
28:A:2148:G:H5''	28:A:2149:U:OP2	2.10	0.51
28:A:2739:U:O2'	28:A:2740:A:H5'	2.10	0.51
31:D:184:ARG:HD3	31:D:186:LEU:HD22	1.92	0.51
33:F:11:VAL:HG13	33:F:171:ALA:CB	2.41	0.51
35:H:32:PRO:HB3	51:X:38:TRP:CB	2.40	0.51
46:S:23:LEU:C	46:S:24:ILE:HD13	2.35	0.51
57:x:374:VAL:O	57:x:381:VAL:HA	2.10	0.51
54:9:28:G:H3'	54:9:29:G:C8	2.45	0.51
1:a:76:G:C2'	1:a:77:A:H5''	2.40	0.51
1:a:158:G:H21	1:a:162:A:H62	1.57	0.51
1:a:212:G:H2'	1:a:213:G:H5'	1.92	0.51
1:a:264:C:O2'	16:q:65:ARG:NH1	2.36	0.51
1:a:320:A:H2'	1:a:321:A:O4'	2.10	0.51
1:a:371:A:H2'	1:a:372:C:O4'	2.10	0.51
1:a:476:U:H2'	1:a:477:C:H6	1.71	0.51
1:a:592:G:O2'	1:a:593:U:H5'	2.09	0.51
1:a:815:A:H4'	1:a:817:C:C5	2.45	0.51
1:a:1444:U:O2'	1:a:1445:U:H5'	2.11	0.51
2:c:101:ILE:HG23	2:c:101:ILE:O	2.10	0.51
2:c:185:ASN:OD1	2:c:186:THR:N	2.41	0.51
8:i:41:ARG:O	8:i:45:ARG:NH1	2.42	0.51
10:k:60:PRO:O	10:k:63:ALA:HB3	2.11	0.51
12:m:81:MET:HB3	12:m:92:ARG:NE	2.25	0.51
13:n:87:ALA:HA	13:n:92:GLU:HG3	1.91	0.51
20:u:29:LEU:HD23	20:u:29:LEU:C	2.35	0.51
21:b:56:LEU:HB2	21:b:183:PHE:HE2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:b:165:ALA:HB2	21:b:186:VAL:HG12	1.92	0.51
27:5:19:LYS:HB3	27:5:21:TYR:CE1	2.45	0.51
27:5:171:ILE:CD1	27:5:196:LEU:HD11	2.40	0.51
28:A:71:A:H4'	28:A:72:U:H5''	1.91	0.51
28:A:197:A:C2'	28:A:198:C:H5'	2.40	0.51
28:A:221:A:N1	28:A:265:A:O2'	2.43	0.51
28:A:327:G:H2'	28:A:328:U:O4'	2.09	0.51
28:A:925:A:H2'	28:A:926:G:C8	2.46	0.51
28:A:1590:A:H2'	28:A:1591:A:H8	1.73	0.51
28:A:2070:A:H2'	28:A:2071:A:O4'	2.10	0.51
28:A:2147:A:H2'	28:A:2147:A:N3	2.24	0.51
28:A:2839:G:H4'	41:N:49:GLU:OE1	2.11	0.51
30:C:124:LYS:O	30:C:191:LEU:HD23	2.11	0.51
31:D:157:LYS:O	37:J:81:ILE:HG22	2.10	0.51
35:H:80:ILE:HG22	35:H:99:ILE:HD13	1.91	0.51
37:J:125:TYR:OH	37:J:132:HIS:NE2	2.35	0.51
44:Q:43:GLN:HE22	45:R:77:PHE:HD2	1.58	0.51
44:Q:60:TRP:CH2	44:Q:93:ILE:HB	2.45	0.51
47:T:50:LEU:O	47:T:51:PHE:HB2	2.11	0.51
57:x:78:THR:HG22	57:x:79:PRO:O	2.09	0.51
57:x:300:PHE:CD2	57:x:334:LEU:HD12	2.45	0.51
57:x:373:GLU:HB2	57:x:475:PHE:CE2	2.45	0.51
1:a:6:G:C2'	1:a:7:A:H5''	2.40	0.51
1:a:706:A:H4'	10:k:31:ILE:HD11	1.91	0.51
1:a:1194:U:H5''	1:a:1195:C:OP2	2.09	0.51
4:e:56:VAL:N	4:e:57:PRO:HD2	2.25	0.51
7:h:75:ILE:HG13	7:h:129:VAL:HG22	1.92	0.51
15:p:20:VAL:HG23	15:p:35:ARG:HA	1.91	0.51
16:q:19:LYS:H	16:q:51:ASN:ND2	2.07	0.51
16:q:62:ARG:HD3	16:q:76:VAL:HG11	1.91	0.51
20:u:24:GLU:CG	20:u:28:VAL:HG21	2.39	0.51
28:A:613:A:C3'	28:A:614:A:H5'	2.40	0.51
28:A:974:G:H4'	45:R:78:ARG:NH2	2.25	0.51
28:A:1656:C:H2'	28:A:1657:U:C6	2.45	0.51
28:A:2359:C:O2'	28:A:2360:G:H5'	2.10	0.51
30:C:23:LEU:HD21	30:C:89:ASN:ND2	2.26	0.51
31:D:97:SER:OG	31:D:99:GLU:HG2	2.11	0.51
35:H:33:GLN:HG2	35:H:35:LYS:NZ	2.25	0.51
35:H:75:LEU:HD22	35:H:108:VAL:HG21	1.91	0.51
37:J:26:GLY:O	37:J:29:ALA:N	2.44	0.51
37:J:88:THR:HG22	37:J:91:GLU:CD	2.35	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:O:67:ASN:ND2	42:O:69:ASP:HB2	2.25	0.51
49:V:35:GLU:HG2	49:V:93:ARG:HH12	1.75	0.51
50:W:60:ALA:HA	50:W:81:ILE:CD1	2.41	0.51
51:X:56:ARG:O	51:X:59:ASP:HB2	2.11	0.51
57:x:147:ILE:HG23	57:x:151:VAL:CG2	2.40	0.51
57:x:192:GLN:HG2	57:x:283:LYS:HE3	1.92	0.51
57:x:410:LEU:C	57:x:410:LEU:HD12	2.36	0.51
57:x:433:VAL:CA	57:x:434:TYR:HB2	2.40	0.51
1:a:18:C:OP1	4:e:132:ASN:ND2	2.41	0.51
1:a:85:U:H4'	1:a:87:C:H41	1.75	0.51
1:a:455:G:H2'	1:a:456:A:C1'	2.41	0.51
1:a:623:C:O2'	1:a:624:C:H5'	2.10	0.51
3:d:142:VAL:HA	3:d:180:GLY:O	2.10	0.51
6:g:5:ARG:O	6:g:7:ILE:HG23	2.10	0.51
11:l:79:VAL:HG12	11:l:102:LEU:CD2	2.39	0.51
13:n:46:LEU:C	13:n:48:LEU:H	2.17	0.51
21:b:9:LEU:HD12	21:b:42:LEU:CD2	2.40	0.51
22:0:24:VAL:O	22:0:25:THR:OG1	2.18	0.51
27:5:79:THR:HB	27:5:117:SER:HB2	1.91	0.51
28:A:777:G:C2'	28:A:778:G:H5'	2.41	0.51
28:A:1812:U:O2	30:C:43:ASN:ND2	2.44	0.51
28:A:1932:A:H2'	28:A:1933:G:O4'	2.11	0.51
28:A:2188:U:H2'	28:A:2189:U:O4'	2.10	0.51
28:A:2347:C:H4'	28:A:2347:C:OP1	2.11	0.51
31:D:133:THR:OG1	31:D:134:HIS:N	2.40	0.51
31:D:172:VAL:HG21	31:D:194:PRO:HD3	1.90	0.51
32:E:164:LEU:HB2	32:E:167:VAL:HG12	1.93	0.51
34:G:51:PHE:CD2	34:G:68:ARG:HB2	2.45	0.51
34:G:53:PRO:HD3	34:G:61:TRP:CD2	2.45	0.51
38:K:10:VAL:HG11	38:K:16:ALA:HB1	1.91	0.51
39:L:89:VAL:HG13	39:L:89:VAL:O	2.10	0.51
57:x:7:PHE:HB3	57:x:97:GLY:HA3	1.92	0.51
1:a:2:A:H62	1:a:3:A:N6	2.08	0.51
1:a:477:C:H2'	1:a:478:A:C8	2.46	0.51
1:a:1448:C:H2'	1:a:1449:C:H6	1.75	0.51
1:a:1458:G:H4'	19:t:23:SER:HB2	1.92	0.51
6:g:113:ASP:CG	6:g:122:ASN:HD22	2.19	0.51
12:m:31:LYS:HG2	12:m:41:GLU:OE2	2.10	0.51
12:m:84:GLY:HA2	28:A:887:U:O4	2.11	0.51
21:b:56:LEU:HD21	21:b:220:VAL:CG1	2.40	0.51
27:5:87:ALA:HA	27:5:91:GLY:CA	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:5:131:LEU:HD13	27:5:138:PRO:CG	2.24	0.51
27:5:204:ALA:O	27:5:206:GLY:N	2.35	0.51
28:A:279:A:C6	28:A:361:G:H1'	2.45	0.51
28:A:303:G:H2'	28:A:304:U:O4'	2.10	0.51
28:A:1535:A:H4'	28:A:1536:C:OP2	2.09	0.51
28:A:1568:G:H4'	30:C:58:LYS:HG2	1.92	0.51
28:A:2180:U:H2'	28:A:2181:U:C6	2.46	0.51
28:A:2557:G:H2'	28:A:2558:C:H6	1.73	0.51
30:C:254:LYS:HG2	30:C:254:LYS:O	2.09	0.51
31:D:129:THR:HG22	31:D:130:GLN:O	2.10	0.51
36:I:83:ALA:HB1	36:I:85:ILE:CD1	2.41	0.51
36:I:102:ARG:N	36:I:140:GLU:O	2.43	0.51
37:J:17:VAL:HG12	37:J:55:ILE:HG13	1.91	0.51
37:J:56:VAL:O	37:J:57:LEU:HD12	2.10	0.51
44:Q:35:PHE:HZ	45:R:84:ARG:HH22	1.57	0.51
46:S:18:ARG:O	46:S:19:LEU:CB	2.57	0.51
1:a:73:C:H2'	1:a:74:A:C1'	2.40	0.51
1:a:346:G:H3'	1:a:346:G:N3	2.25	0.51
1:a:1309:G:N7	12:m:98:ARG:NH2	2.59	0.51
1:a:1347:G:H8	8:i:109:ARG:HB3	1.74	0.51
1:a:1494:G:H4'	28:A:1913:A:C8	2.46	0.51
3:d:193:ALA:HB3	3:d:195:ILE:HG12	1.93	0.51
4:e:46:VAL:HG12	4:e:47:GLY:N	2.26	0.51
7:h:3:MET:HE3	7:h:5:ASP:C	2.35	0.51
7:h:30:SER:OG	7:h:33:LYS:HG3	2.09	0.51
7:h:111:MET:HE2	7:h:115:ALA:C	2.35	0.51
9:j:15:HIS:HB3	9:j:70:HIS:CE1	2.46	0.51
11:l:79:VAL:CG1	11:l:102:LEU:HD23	2.40	0.51
13:n:22:ALA:HA	13:n:26:GLU:OE2	2.11	0.51
15:p:38:PHE:CE2	15:p:51:ARG:HB2	2.45	0.51
21:b:56:LEU:HD12	21:b:183:PHE:HD2	1.74	0.51
21:b:145:ASN:OD1	21:b:146:SER:N	2.43	0.51
28:A:361:G:O2'	28:A:362:A:H5'	2.11	0.51
28:A:544:C:H3'	28:A:545:U:C6	2.45	0.51
28:A:548:G:H5''	28:A:549:G:O4'	2.09	0.51
28:A:1062:G:C2'	28:A:1063:G:H5'	2.41	0.51
28:A:1071:G:O2'	28:A:1089:A:H2'	2.11	0.51
28:A:2287:A:H61	28:A:2344:U:H3	1.59	0.51
32:E:146:VAL:HA	32:E:185:LYS:O	2.11	0.51
34:G:15:ASP:HB3	34:G:26:LYS:N	2.23	0.51
34:G:116:LEU:HD12	34:G:116:LEU:N	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:H:85:GLY:CA	35:H:147:VAL:HA	2.41	0.51
35:H:118:PRO:CD	35:H:122:LEU:HD23	2.41	0.51
37:J:44:TYR:HD1	44:Q:59:LEU:CD2	2.23	0.51
57:x:86:TYR:HE2	57:x:322:ALA:CB	2.23	0.51
57:x:170:GLN:OE1	57:x:172:VAL:HG12	2.09	0.51
57:x:539:ARG:HH11	57:x:541:THR:CG2	2.23	0.51
1:a:651:C:O2'	1:a:652:U:H5'	2.11	0.51
1:a:1171:A:H2'	1:a:1172:C:H6	1.75	0.51
2:c:164:ARG:C	2:c:165:THR:HG1	2.16	0.51
14:o:81:LEU:O	14:o:85:LEU:HD13	2.11	0.51
16:q:17:MET:SD	16:q:20:SER:OG	2.69	0.51
19:t:43:ASP:HB3	19:t:46:ALA:HB2	1.91	0.51
21:b:114:LYS:CA	21:b:117:GLU:HG2	2.39	0.51
28:A:1079:C:H2'	28:A:1080:A:H5'	1.92	0.51
28:A:1336:A:O5'	47:T:68:LYS:NZ	2.41	0.51
28:A:1567:G:H2'	30:C:84:PRO:HG3	1.93	0.51
28:A:2130:U:H4'	28:A:2131:U:OP1	2.10	0.51
28:A:2330:G:N3	50:W:38:ARG:HB3	2.26	0.51
30:C:171:VAL:HG12	30:C:173:LEU:CD1	2.40	0.51
30:C:196:ASN:O	30:C:197:ALA:HB3	2.10	0.51
38:K:63:VAL:HG11	38:K:103:VAL:HG12	1.93	0.51
39:L:90:VAL:HB	39:L:122:VAL:HA	1.93	0.51
45:R:66:HIS:CD2	45:R:94:THR:HG22	2.46	0.51
46:S:71:VAL:HG13	46:S:71:VAL:O	2.10	0.51
46:S:76:VAL:O	46:S:76:VAL:HG13	2.10	0.51
50:W:28:GLU:O	50:W:30:VAL:N	2.44	0.51
54:6:11:C:H2'	54:6:12:U:H6	1.75	0.51
1:a:138:G:H2'	1:a:139:A:O4'	2.09	0.51
1:a:466:A:H2'	1:a:468:A:C2	2.46	0.51
1:a:518:C:OP2	1:a:530:G:H1'	2.11	0.51
1:a:1489:G:C2'	1:a:1490:U:H5'	2.41	0.51
15:p:78:VAL:O	15:p:78:VAL:HG12	2.11	0.51
18:s:40:ILE:HD11	18:s:71:LEU:HD23	1.92	0.51
21:b:125:PHE:HA	21:b:136:ARG:NH1	2.25	0.51
23:1:18:HIS:ND1	23:1:40:PRO:HD2	2.25	0.51
27:5:65:LEU:HD12	27:5:161:VAL:CG2	2.39	0.51
28:A:139:U:C5	47:T:1:MET:HA	2.46	0.51
28:A:479:A:H4'	28:A:480:A:OP1	2.11	0.51
28:A:707:G:H2'	28:A:708:G:C5'	2.41	0.51
28:A:842:U:O2'	28:A:843:G:H5'	2.10	0.51
28:A:934:U:H2'	28:A:935:C:H6	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1181:U:H2'	28:A:1182:G:C8	2.46	0.51
28:A:1191:G:C2'	28:A:1192:G:H5'	2.41	0.51
28:A:1533:C:H1'	28:A:1534:U:H5	1.73	0.51
28:A:1847:A:H1'	28:A:1848:A:OP1	2.11	0.51
28:A:2414:G:C2'	28:A:2415:G:H5'	2.41	0.51
31:D:3:GLY:HA3	31:D:204:LYS:HG2	1.92	0.51
32:E:1:MET:HG3	32:E:19:PHE:HB2	1.93	0.51
33:F:131:VAL:O	33:F:132:ARG:HB3	2.11	0.51
36:I:4:VAL:HG11	36:I:7:TYR:CB	2.41	0.51
36:I:101:SER:O	36:I:104:GLN:HB2	2.11	0.51
51:X:16:ASN:ND2	51:X:26:ARG:HD3	2.24	0.51
52:Y:39:GLN:HG3	52:Y:42:LEU:HD13	1.93	0.51
56:8:54:U:C2'	56:8:55:U:H5'	2.40	0.51
1:a:60:A:N1	1:a:107:G:O2'	2.31	0.51
1:a:147:G:H2'	1:a:148:G:C8	2.46	0.51
1:a:414:A:H2'	1:a:415:A:O4'	2.11	0.51
1:a:1185:G:C2'	1:a:1186:G:H5'	2.41	0.51
3:d:12:SER:OG	3:d:17:THR:O	2.26	0.51
12:m:16:VAL:HG11	12:m:41:GLU:CD	2.35	0.51
13:n:42:TRP:O	13:n:45:VAL:N	2.39	0.51
15:p:67:ILE:HG23	15:p:71:VAL:HB	1.93	0.51
21:b:100:LEU:HB3	21:b:174:GLU:OE1	2.10	0.51
23:1:4:ILE:HG23	23:1:5:ARG:H	1.76	0.51
25:3:23:HIS:N	25:3:47:ALA:O	2.43	0.51
28:A:268:C:C2'	28:A:269:C:H5'	2.40	0.51
28:A:783:A:H2'	28:A:784:G:H5''	1.93	0.51
28:A:877:A:O2'	28:A:878:A:O4'	2.29	0.51
28:A:1234:U:H2'	28:A:1235:G:O4'	2.11	0.51
28:A:1332:G:N7	28:A:1609:A:O2'	2.38	0.51
28:A:1576:U:O2'	28:A:1577:C:H5'	2.11	0.51
28:A:2184:A:H2'	28:A:2185:U:C6	2.46	0.51
28:A:2250:G:OP1	28:A:2275:C:O2'	2.29	0.51
28:A:2638:G:N2	28:A:2775:G:H2'	2.26	0.51
29:B:82:U:H2'	29:B:83:G:H8	1.74	0.51
30:C:161:VAL:HG11	30:C:173:LEU:HD23	1.93	0.51
35:H:5:LEU:HD12	35:H:14:SER:OG	2.11	0.51
39:L:77:ILE:HD12	39:L:108:ALA:HB1	1.91	0.51
42:O:15:ARG:HH21	42:O:95:SER:CB	2.23	0.51
42:O:24:THR:HG22	42:O:42:PRO:HD3	1.91	0.51
47:T:39:THR:O	47:T:39:THR:HG22	2.10	0.51
48:U:93:ARG:O	48:U:101:THR:HG23	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:12:HIS:CB	57:x:112:THR:OG1	2.56	0.51
57:x:283:LYS:HG3	57:x:284:ALA:O	2.10	0.51
57:x:296:TYR:HE2	57:x:339:ARG:NE	2.09	0.51
57:x:392:ALA:O	57:x:395:ASN:N	2.41	0.51
1:a:350:G:O2'	1:a:351:G:H5'	2.11	0.51
1:a:753:A:H4'	1:a:754:C:O5'	2.10	0.51
1:a:977:A:N3	1:a:977:A:H3'	2.26	0.51
1:a:1023:U:H2'	1:a:1024:G:C8	2.45	0.51
4:e:46:VAL:CG2	4:e:118:ALA:HA	2.41	0.51
4:e:132:ASN:O	4:e:136:VAL:HG23	2.10	0.51
5:f:68:GLN:CA	5:f:71:ILE:HG22	2.40	0.51
16:q:70:THR:O	16:q:70:THR:HG22	2.10	0.51
20:u:14:VAL:HG13	20:u:16:LEU:CD1	2.41	0.51
20:u:41:PRO:HA	20:u:44:GLU:CB	2.39	0.51
21:b:206:ILE:HA	21:b:209:VAL:HG22	1.91	0.51
22:0:3:GLN:O	28:A:2016:U:O2'	2.29	0.51
26:4:22:VAL:HG21	26:4:36:ARG:HG3	1.92	0.51
28:A:139:U:O2'	28:A:140:C:OP1	2.24	0.51
28:A:851:C:H2'	28:A:852:U:C6	2.46	0.51
28:A:855:G:C4	50:W:23:LYS:HD2	2.45	0.51
28:A:1102:C:H2'	28:A:1103:A:O4'	2.11	0.51
28:A:1684:G:H2'	28:A:1685:C:C6	2.46	0.51
28:A:1865:U:OP1	28:A:2409:G:N2	2.31	0.51
28:A:2522:U:O2'	28:A:2647:U:OP1	2.29	0.51
28:A:2751:G:N3	28:A:2751:G:H2'	2.25	0.51
28:A:2758:A:C2'	28:A:2759:G:H5'	2.41	0.51
31:D:92:VAL:O	31:D:94:GLN:N	2.44	0.51
33:F:134:GLN:OE1	33:F:149:ARG:HB3	2.11	0.51
35:H:41:LYS:H	35:H:44:ILE:CG2	2.20	0.51
39:L:82:LEU:O	39:L:85:VAL:HG12	2.11	0.51
39:L:135:ILE:CB	39:L:142:ILE:HD11	2.40	0.51
42:O:105:ALA:C	42:O:107:ALA:H	2.17	0.51
43:P:30:TRP:CD2	43:P:37:LYS:HE2	2.45	0.51
44:Q:88:GLU:HG2	45:R:49:ILE:HG13	1.93	0.51
46:S:69:LEU:CD1	46:S:107:VAL:HG22	2.41	0.51
47:T:50:LEU:C	47:T:52:GLU:H	2.19	0.51
49:V:6:ALA:HB2	49:V:42:LEU:CD2	2.37	0.51
51:X:30:PRO:HB2	51:X:32:LEU:CD1	2.41	0.51
52:Y:9:LYS:HG2	52:Y:12:GLU:HG3	1.93	0.51
54:6:36:A:H2'	54:6:37:A:H8	1.73	0.51
54:9:21:A:N1	54:9:46:G:N2	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:9:54:U:H2'	54:9:55:U:H5'	1.93	0.51
54:9:73:A:H2'	54:9:74:C:O4'	2.11	0.51
1:a:169:C:O2'	1:a:170:U:H5'	2.12	0.50
1:a:346:G:OP1	43:P:38:ARG:NH1	2.45	0.50
1:a:1006:G:H2'	1:a:1007:U:C6	2.46	0.50
1:a:1128:C:O2'	1:a:1129:C:H5'	2.11	0.50
2:c:34:ASP:HB2	13:n:65:ARG:HD2	1.91	0.50
2:c:183:ASP:OD1	2:c:184:TYR:N	2.44	0.50
5:f:29:ILE:HD13	5:f:64:VAL:CG1	2.38	0.50
12:m:39:ILE:HG22	12:m:40:ALA:O	2.11	0.50
13:n:94:PRO:O	13:n:96:LEU:N	2.40	0.50
18:s:63:THR:HG22	18:s:64:ASP:N	2.26	0.50
21:b:58:LYS:O	21:b:61:SER:HB2	2.11	0.50
26:4:25:VAL:O	26:4:26:ILE:HD13	2.10	0.50
27:5:140:PRO:HB2	27:5:164:ARG:HH22	1.73	0.50
28:A:705:A:C2	28:A:727:A:H1'	2.46	0.50
28:A:855:G:C2	50:W:23:LYS:HE2	2.45	0.50
28:A:974:G:N3	28:A:974:G:H2'	2.26	0.50
28:A:1106:G:C2'	28:A:1107:G:H5'	2.41	0.50
28:A:1272:A:C3'	28:A:1273:U:H5''	2.41	0.50
28:A:1710:G:O2'	28:A:1711:A:H5'	2.11	0.50
28:A:2104:C:H2'	28:A:2105:U:C6	2.46	0.50
28:A:2114:A:C4	28:A:2115:G:H1'	2.46	0.50
29:B:25:U:H2'	29:B:26:C:O4'	2.11	0.50
29:B:55:U:H2'	29:B:56:G:C8	2.46	0.50
32:E:58:LYS:HZ1	32:E:60:TRP:CD1	2.29	0.50
36:I:26:ALA:C	36:I:28:GLY:H	2.19	0.50
38:K:73:ASP:OD2	43:P:79:VAL:HG21	2.10	0.50
39:L:68:SER:O	39:L:70:LYS:N	2.43	0.50
42:O:40:ILE:HA	42:O:47:VAL:HA	1.92	0.50
45:R:38:VAL:CG1	45:R:57:GLY:HA3	2.42	0.50
56:8:17(A):U:H5''	56:8:18:G:OP2	2.12	0.50
57:x:23:ARG:HD2	57:x:165:THR:O	2.12	0.50
57:x:226:MET:HG2	57:x:273:THR:O	2.11	0.50
54:9:68:C:C2'	54:9:69:G:H5'	2.41	0.50
1:a:301:G:O2'	1:a:302:G:H5'	2.11	0.50
1:a:432:A:H2'	1:a:433:G:O4'	2.11	0.50
1:a:556:C:H2'	1:a:557:G:O4'	2.11	0.50
3:d:124:MET:HE3	3:d:146:ARG:NE	2.25	0.50
5:f:5:GLU:HB3	5:f:90:MET:HE3	1.94	0.50
6:g:143:ARG:HD3	54:9:41:C:C4'	2.34	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:j:28:THR:HG23	9:j:31:ARG:HH21	1.74	0.50
9:j:75:ASP:C	9:j:76:ILE:HG13	2.36	0.50
21:b:133:ALA:O	21:b:136:ARG:HB3	2.11	0.50
25:3:49:VAL:CG2	25:3:54:LEU:HD13	2.41	0.50
28:A:723:C:H2'	28:A:724:U:O4'	2.11	0.50
28:A:760:G:H2'	28:A:761:A:C5'	2.40	0.50
28:A:1159:U:O2'	28:A:1160:G:H5'	2.10	0.50
28:A:2156:G:C4'	28:A:2158:A:H62	2.22	0.50
31:D:170:VAL:HG13	31:D:170:VAL:O	2.11	0.50
33:F:42:ALA:HA	33:F:45:ASP:O	2.12	0.50
35:H:100:ALA:O	35:H:103:VAL:HB	2.12	0.50
42:O:7:ARG:CA	42:O:10:ARG:HH11	2.23	0.50
57:x:143:VAL:O	57:x:147:ILE:HD12	2.10	0.50
57:x:241:THR:CG2	57:x:242:PRO:CD	2.79	0.50
57:x:342:PHE:HE2	57:x:348:MET:HG3	1.75	0.50
54:9:15:G:O2'	54:9:16:U:OP1	2.28	0.50
54:9:62:C:H6	54:9:62:C:O5'	1.94	0.50
1:a:135:C:C2'	1:a:136:C:H5'	2.36	0.50
1:a:319:G:C2'	1:a:320:A:H5'	2.41	0.50
1:a:1152:A:OP1	9:j:72:ARG:NH2	2.35	0.50
3:d:67:VAL:HG12	3:d:68:LEU:O	2.11	0.50
4:e:137:VAL:O	4:e:141:ILE:HG12	2.12	0.50
5:f:9:MET:HG3	5:f:85:ILE:CG1	2.41	0.50
5:f:92:THR:HG22	5:f:93:LYS:N	2.27	0.50
6:g:5:ARG:HG3	6:g:7:ILE:CG2	2.40	0.50
9:j:42:LEU:HB3	9:j:43:PRO:HD2	1.92	0.50
13:n:79:LEU:HB2	13:n:84:VAL:CG2	2.40	0.50
26:4:36:ARG:HH22	28:A:2539:C:H4'	1.76	0.50
27:5:214:ILE:CG2	27:5:224:VAL:HG23	2.42	0.50
28:A:141:G:HO2'	28:A:142:A:P	2.34	0.50
28:A:536:G:C2'	28:A:537:G:H5'	2.41	0.50
28:A:1487:U:H1'	28:A:1503:A:H2	1.76	0.50
28:A:1766:G:C2'	28:A:1767:G:H5'	2.41	0.50
28:A:2342:C:O2	28:A:2374:C:H4'	2.11	0.50
28:A:2599:G:N7	30:C:235:GLU:HB3	2.26	0.50
28:A:2747:G:O6	28:A:2755:C:H5''	2.10	0.50
30:C:123:ILE:HG23	30:C:191:LEU:HD21	1.92	0.50
32:E:149:ILE:HD11	32:E:188:MET:HB2	1.94	0.50
35:H:89:LYS:HE3	35:H:123:ARG:O	2.12	0.50
36:I:4:VAL:HG12	36:I:6:ALA:N	2.16	0.50
36:I:56:VAL:O	36:I:56:VAL:HG13	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:N:79:LEU:O	41:N:80:PHE:HB2	2.11	0.50
52:Y:46:VAL:O	52:Y:50:VAL:HG23	2.11	0.50
57:x:167:VAL:HG22	57:x:167:VAL:O	2.11	0.50
57:x:170:GLN:OE1	57:x:172:VAL:HA	2.11	0.50
57:x:509:ARG:CZ	57:x:509:ARG:HB2	2.41	0.50
1:a:718:A:C8	10:k:118:HIS:HB3	2.47	0.50
1:a:913:A:OP1	11:l:43:LYS:NZ	2.39	0.50
1:a:939:G:OP1	6:g:95:ARG:NH2	2.31	0.50
3:d:117:LEU:CB	3:d:123:ILE:HD11	2.42	0.50
4:e:14:LYS:NZ	4:e:116:GLU:OE1	2.45	0.50
4:e:104:GLY:O	4:e:105:ILE:HG22	2.11	0.50
12:m:45:ILE:H	12:m:45:ILE:HD12	1.76	0.50
25:3:44:ARG:N	25:3:45:PRO:HD2	2.27	0.50
26:4:23:ILE:HD12	26:4:38:GLY:OXT	2.11	0.50
27:5:47:ASN:CB	27:5:210:LYS:HD2	2.41	0.50
27:5:105:LYS:HE3	28:A:2163:A:C1'	2.42	0.50
28:A:356:G:O2'	28:A:357:C:H5'	2.10	0.50
28:A:570:G:H2'	28:A:2030:A:N7	2.27	0.50
28:A:613:A:H3'	28:A:614:A:C5'	2.39	0.50
28:A:1568:G:OP2	30:C:62:ARG:NH1	2.44	0.50
28:A:1963:U:O5'	28:A:1963:U:H6	1.94	0.50
31:D:62:LYS:HB2	31:D:63:PRO:HD3	1.93	0.50
40:M:31:PHE:CZ	40:M:110:GLU:HA	2.45	0.50
40:M:132:THR:HG22	40:M:133:LYS:N	2.26	0.50
57:x:9:ILE:HG21	57:x:17:LYS:HG3	1.93	0.50
57:x:293:PRO:HB2	57:x:296:TYR:HD1	1.77	0.50
1:a:63:C:O2'	1:a:380:G:H4'	2.11	0.50
1:a:406:G:N2	3:d:116:GLN:HE22	2.09	0.50
1:a:469:C:H2'	1:a:470:C:O4'	2.12	0.50
1:a:1028:C:H3'	1:a:1029:U:C5	2.47	0.50
1:a:1175:G:H2'	1:a:1176:A:H8	1.77	0.50
1:a:1341:U:H2'	1:a:1342:C:C6	2.47	0.50
2:c:55:ILE:O	2:c:55:ILE:HG13	2.11	0.50
8:i:24:GLY:O	8:i:60:LYS:HA	2.11	0.50
11:l:122:PRO:C	11:l:123:LYS:HG2	2.36	0.50
13:n:38:ASP:CB	13:n:39:GLU:HG2	2.34	0.50
18:s:32:ARG:HH11	18:s:57:HIS:HD2	1.54	0.50
21:b:68:PHE:CD2	21:b:83:ALA:HB2	2.47	0.50
23:1:5:ARG:NH1	28:A:2285:C:OP2	2.45	0.50
23:1:33:LEU:HD21	23:1:35:LEU:CD2	2.41	0.50
27:5:6:LYS:HE3	28:A:2151:U:P	2.51	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:5:60:ARG:HG3	27:5:165:ASN:HD22	1.77	0.50
28:A:322:A:OP2	32:E:163:ASN:HB2	2.11	0.50
28:A:404:A:OP1	28:A:404:A:H3'	2.11	0.50
28:A:473:G:O2'	28:A:474:G:H5'	2.11	0.50
28:A:1079:C:C2'	28:A:1080:A:H5'	2.42	0.50
28:A:1171:G:H2'	28:A:1172:C:O4'	2.11	0.50
28:A:1348:C:H2'	28:A:1349:C:H5'	1.93	0.50
28:A:1657:U:O2'	31:D:138:LEU:HD22	2.12	0.50
28:A:1719:G:O2'	28:A:1720:U:H5'	2.12	0.50
28:A:2660:A:H2'	28:A:2661:G:O4'	2.11	0.50
34:G:126:THR:HG22	34:G:127:GLN:N	2.26	0.50
35:H:33:GLN:HG2	35:H:35:LYS:HZ3	1.75	0.50
35:H:129:GLU:HG2	35:H:146:VAL:HG22	1.91	0.50
37:J:45:THR:HG23	37:J:45:THR:O	2.11	0.50
38:K:61:VAL:HG12	38:K:62:VAL:O	2.11	0.50
39:L:101:ILE:CG2	39:L:105:ILE:HB	2.41	0.50
42:O:38:GLN:HG2	42:O:50:ALA:HB1	1.93	0.50
45:R:29:THR:HG23	45:R:65:ALA:H	1.74	0.50
47:T:54:GLU:H	47:T:54:GLU:CD	2.18	0.50
54:6:1:G:H2'	54:6:2:C:C6	2.47	0.50
54:6:31:A:H2'	54:6:32:U:H5'	1.92	0.50
57:x:17:LYS:HZ1	57:x:80:GLY:HA3	1.76	0.50
57:x:153:ILE:HG22	57:x:154:ASP:O	2.12	0.50
57:x:162:SER:HB3	57:x:167:VAL:O	2.11	0.50
57:x:365:THR:HG23	57:x:593:HIS:HD2	1.76	0.50
1:a:107:G:H2'	1:a:108:G:C5'	2.41	0.50
1:a:178:C:O2'	1:a:179:A:H5'	2.11	0.50
1:a:635:A:H2'	1:a:636:U:C6	2.47	0.50
1:a:1096:C:O2	1:a:1170:A:O2'	2.30	0.50
2:c:175:LEU:HA	2:c:182:ILE:CD1	2.42	0.50
3:d:97:ARG:O	3:d:101:VAL:HG23	2.12	0.50
4:e:39:VAL:CG2	4:e:67:ALA:HB1	2.35	0.50
4:e:114:VAL:HG23	4:e:115:LEU:CD1	2.42	0.50
5:f:44:ARG:HA	5:f:57:ALA:O	2.11	0.50
8:i:73:SER:O	8:i:76:ALA:HB3	2.11	0.50
21:b:112:ARG:O	21:b:116:LEU:HD13	2.11	0.50
27:5:61:GLY:HA3	27:5:144:THR:HB	1.93	0.50
27:5:77:VAL:HG22	27:5:115:ILE:CB	2.40	0.50
28:A:873:C:H4'	40:M:64:TRP:NE1	2.26	0.50
28:A:1013:C:O2'	28:A:1014:A:H5'	2.11	0.50
28:A:1216:G:H5''	44:Q:10:ARG:HH12	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1248:G:P	32:E:44:ARG:NH1	2.84	0.50
28:A:1661:G:O2'	28:A:1662:U:H5'	2.10	0.50
28:A:1787:A:H2'	28:A:1787:A:N3	2.25	0.50
28:A:2291:U:O2'	28:A:2374:C:O2	2.30	0.50
29:B:19:C:C2'	29:B:20:G:H5'	2.42	0.50
29:B:80:U:O4	49:V:14:LYS:NZ	2.32	0.50
30:C:134:ILE:O	30:C:166:ARG:NH1	2.45	0.50
30:C:196:ASN:C	30:C:198:GLU:H	2.20	0.50
38:K:20:MET:O	38:K:42:THR:HG22	2.12	0.50
41:N:103:ARG:HD3	41:N:110:MET:HE3	1.92	0.50
53:Z:5:LYS:O	53:Z:57:GLU:HB2	2.10	0.50
1:a:149:A:H2'	1:a:150:U:O4'	2.11	0.50
1:a:1184:G:N3	1:a:1184:G:H2'	2.26	0.50
1:a:1196:A:O2'	1:a:1197:A:OP1	2.30	0.50
1:a:1253:G:O2'	1:a:1254:A:H5'	2.12	0.50
1:a:1381:U:O2'	1:a:1382:C:H5'	2.12	0.50
5:f:35:LYS:HG3	5:f:35:LYS:O	2.11	0.50
5:f:88:MET:HG2	5:f:89:VAL:N	2.27	0.50
9:j:25:ILE:HG21	9:j:74:VAL:HG11	1.94	0.50
9:j:40:ILE:HD12	9:j:73:LEU:HD12	1.93	0.50
27:5:43:ASP:OD2	27:5:215:SER:OG	2.26	0.50
28:A:285:G:H2'	28:A:285:G:N3	2.26	0.50
28:A:635:C:O2'	28:A:639:U:H5'	2.10	0.50
28:A:842:U:C2'	28:A:843:G:H5'	2.42	0.50
28:A:889:C:H2'	28:A:890:C:H5'	1.94	0.50
31:D:177:VAL:O	31:D:177:VAL:HG13	2.12	0.50
32:E:5:LEU:HB3	32:E:8:ALA:O	2.12	0.50
35:H:146:VAL:C	35:H:149:GLU:H	2.20	0.50
41:N:72:ASP:HB3	41:N:75:ILE:CD1	2.42	0.50
49:V:55:GLU:OE1	49:V:55:GLU:N	2.39	0.50
57:x:131:ASN:OD1	57:x:163:ALA:HB2	2.12	0.50
57:x:192:GLN:O	57:x:213:LYS:HB3	2.12	0.50
57:x:329:GLU:OE2	57:x:369:THR:HG21	2.11	0.50
57:x:372:TYR:CE1	57:x:402:PRO:HD2	2.47	0.50
1:a:280:C:H4'	1:a:281:G:OP2	2.11	0.50
1:a:413:G:O5'	1:a:414:A:H5'	2.12	0.50
1:a:833:G:H2'	1:a:834:U:O4'	2.12	0.50
1:a:882:C:O2'	1:a:883:C:H5'	2.12	0.50
1:a:1250:A:H4'	8:i:69:GLY:HA2	1.94	0.50
1:a:1472:U:C2'	1:a:1473:G:H5'	2.42	0.50
1:a:1513:A:H2'	1:a:1514:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:36:ASP:HA	2:c:39:VAL:HG12	1.94	0.50
3:d:188:ARG:O	3:d:188:ARG:NH1	2.40	0.50
4:e:38:VAL:HG11	4:e:114:VAL:HA	1.94	0.50
20:u:38:TYR:O	20:u:41:PRO:HD2	2.12	0.50
21:b:209:VAL:HG23	21:b:210:THR:N	2.27	0.50
26:4:16:ILE:CD1	26:4:25:VAL:HG22	2.41	0.50
27:5:21:TYR:H	27:5:225:ASP:N	2.09	0.50
28:A:491:G:O6	46:S:49:LYS:HE2	2.11	0.50
28:A:1614:A:N6	46:S:92:ARG:O	2.45	0.50
28:A:1814:G:OP2	28:A:1815:A:O2'	2.25	0.50
28:A:2060:A:N3	28:A:2502:G:H5'	2.27	0.50
28:A:2329:U:O2'	28:A:2330:G:H5'	2.12	0.50
30:C:134:ILE:CD1	30:C:140:VAL:HG11	2.35	0.50
30:C:211:ARG:HD2	30:C:215:VAL:O	2.12	0.50
33:F:147:ARG:HG3	33:F:149:ARG:N	2.15	0.50
36:I:58:ILE:HD12	36:I:68:PHE:HB2	1.93	0.50
50:W:33:GLY:O	50:W:34:SER:HB3	2.12	0.50
51:X:58:ILE:CG2	51:X:63:ILE:HG12	2.42	0.50
51:X:70:LEU:HA	51:X:73:ARG:HG2	1.93	0.50
52:Y:9:LYS:HD2	52:Y:10:SER:H	1.77	0.50
55:7:21:C:C2'	55:7:22:A:H5'	2.40	0.50
57:x:103:ASP:OD2	57:x:106:GLN:HG2	2.12	0.50
57:x:523:GLN:HG2	57:x:575:MET:HE1	1.94	0.50
57:x:589:LEU:O	57:x:589:LEU:HD22	2.10	0.50
57:x:594:VAL:HG22	57:x:599:LYS:CB	2.38	0.50
54:9:20:U:C2	54:9:21:A:H4'	2.47	0.50
1:a:45:G:H2'	1:a:46:G:C8	2.47	0.50
1:a:88:U:O2'	1:a:89:U:O5'	2.29	0.50
1:a:442:G:C2'	1:a:443:C:H5'	2.38	0.50
1:a:980:C:H2'	1:a:981:U:H5'	1.94	0.50
1:a:1171:A:H2'	1:a:1172:C:C6	2.47	0.50
3:d:145:ILE:HD12	3:d:178:MET:HB3	1.93	0.50
12:m:77:ILE:HG22	12:m:81:MET:HE2	1.94	0.50
13:n:32:SER:C	13:n:34:VAL:CG1	2.85	0.50
14:o:81:LEU:HD12	14:o:85:LEU:HD13	1.92	0.50
21:b:26:MET:HE3	21:b:192:PRO:HD3	1.94	0.50
22:0:31:LYS:HE2	22:0:49:ARG:O	2.12	0.50
27:5:34:ALA:CB	27:5:216:THR:HG21	2.42	0.50
27:5:141:LYS:HG3	27:5:164:ARG:HH21	1.77	0.50
27:5:185:LEU:O	27:5:188:ASN:HB2	2.11	0.50
28:A:37:C:O2'	28:A:38:A:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:435:C:H2'	28:A:436:C:H5'	1.94	0.50
28:A:1893:C:C2'	28:A:1894:C:H5'	2.40	0.50
28:A:2281:A:C2'	28:A:2282:G:H5'	2.42	0.50
30:C:16:VAL:HB	30:C:203:VAL:CG1	2.39	0.50
31:D:109:VAL:HG11	31:D:193:VAL:CG1	2.41	0.50
32:E:56:GLY:C	32:E:73:ILE:HG22	2.37	0.50
35:H:47:PHE:CB	35:H:50:ARG:HH21	2.23	0.50
36:I:98:GLY:C	36:I:137:LEU:HB2	2.37	0.50
37:J:56:VAL:N	37:J:123:LYS:O	2.44	0.50
43:P:50:ARG:CG	43:P:51:ASN:H	2.16	0.50
47:T:7:LEU:HD11	47:T:42:GLU:OE2	2.12	0.50
57:x:409:LEU:HD12	57:x:439:VAL:O	2.11	0.50
1:a:204:G:H1'	1:a:465:A:C2	2.47	0.49
1:a:836:G:C2'	1:a:837:U:H5'	2.42	0.49
1:a:1489:G:O2'	1:a:1490:U:H5'	2.12	0.49
2:c:111:LEU:HD11	2:c:144:LEU:O	2.12	0.49
6:g:43:VAL:HG12	6:g:47:LEU:HD13	1.94	0.49
12:m:84:GLY:HA2	28:A:887:U:C4	2.47	0.49
12:m:90:ARG:HD3	12:m:95:LEU:HB2	1.92	0.49
13:n:20:TYR:O	13:n:24:ARG:N	2.36	0.49
21:b:89:PHE:CE2	21:b:153:MET:HB2	2.47	0.49
21:b:95:TRP:CG	21:b:99:MET:HE3	2.46	0.49
25:3:29:ARG:HH12	39:L:62:PRO:HB2	1.77	0.49
28:A:193:U:O2'	28:A:194:G:H5'	2.12	0.49
28:A:718:A:H2'	28:A:719:C:C5'	2.42	0.49
28:A:874:G:C2'	28:A:875:G:H5'	2.41	0.49
28:A:895:U:H4'	28:A:896:A:C8	2.47	0.49
28:A:966:G:O4'	28:A:2267:A:N6	2.45	0.49
28:A:1163:G:P	45:R:24:LYS:HZ1	2.33	0.49
28:A:2286:G:H5'	28:A:2287:A:O5'	2.12	0.49
28:A:2364:C:H2'	28:A:2365:G:O4'	2.12	0.49
32:E:6:LYS:HG2	32:E:7:ASP:N	2.27	0.49
32:E:58:LYS:HD2	32:E:70:SER:O	2.12	0.49
34:G:60:GLY:O	34:G:62:ALA:N	2.44	0.49
36:I:45:THR:HA	36:I:48:ILE:CG1	2.41	0.49
37:J:45:THR:OG1	37:J:48:VAL:HB	2.12	0.49
45:R:6:GLN:HG3	45:R:10:LYS:O	2.12	0.49
45:R:42:ALA:HA	45:R:46:GLU:HA	1.94	0.49
57:x:211:ARG:NH2	57:x:212:ILE:O	2.44	0.49
1:a:68:G:C4'	1:a:171:A:H1'	2.37	0.49
1:a:175:C:O2'	1:a:176:C:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:976:G:HO2'	1:a:977:A:P	2.35	0.49
3:d:191:LEU:C	3:d:191:LEU:HD12	2.37	0.49
4:e:106:ILE:HD11	4:e:124:LEU:HD23	1.91	0.49
13:n:47:LYS:NZ	13:n:47:LYS:N	2.60	0.49
26:4:2:LYS:HZ1	28:A:2478:A:P	2.34	0.49
27:5:167:LYS:NZ	28:A:2120:G:H21	2.10	0.49
28:A:1413:A:N6	28:A:1589:U:H3	2.08	0.49
28:A:1414:C:H2'	28:A:1415:U:C6	2.47	0.49
28:A:1526:C:C2'	28:A:1527:G:H5'	2.41	0.49
28:A:1859:U:O2'	28:A:1860:G:H5'	2.12	0.49
28:A:2350:C:H2'	28:A:2351:G:O4'	2.12	0.49
31:D:1:MET:HG2	31:D:205:PRO:HG3	1.95	0.49
37:J:96:ARG:N	37:J:97:PRO:HD3	2.27	0.49
38:K:79:PHE:CD1	43:P:69:VAL:HG12	2.47	0.49
45:R:49:ILE:HD12	45:R:52:PRO:CA	2.36	0.49
48:U:49:PRO:HA	48:U:53:GLN:OE1	2.12	0.49
56:8:58:A:H1'	56:8:60:U:OP2	2.12	0.49
57:x:40:VAL:HG12	57:x:41:LEU:CD2	2.39	0.49
57:x:434:TYR:HE2	57:x:436:GLY:HA2	1.75	0.49
54:9:5:G:N1	54:9:68:C:N3	2.56	0.49
1:a:223:A:H2'	1:a:224:U:C6	2.46	0.49
1:a:287:U:O2'	1:a:288:A:H5'	2.12	0.49
1:a:517:G:H4'	1:a:519:C:C2	2.47	0.49
1:a:975:A:H4'	1:a:976:G:H5'	1.93	0.49
1:a:993:G:H2'	1:a:993:G:N3	2.27	0.49
1:a:1344:C:O2'	1:a:1345:U:H5'	2.10	0.49
2:c:42:TYR:CZ	2:c:46:GLU:HG3	2.47	0.49
2:c:170:GLU:HG2	2:c:171:GLY:N	2.28	0.49
5:f:37:HIS:HB3	5:f:97:THR:OG1	2.11	0.49
11:l:89:ASP:C	11:l:90:LEU:HD12	2.37	0.49
13:n:33:ASP:N	13:n:33:ASP:OD2	2.35	0.49
13:n:33:ASP:N	13:n:34:VAL:CB	2.72	0.49
18:s:11:ILE:HG13	18:s:38:SER:HB3	1.94	0.49
20:u:25:LYS:CG	20:u:26:ALA:N	2.73	0.49
21:b:116:LEU:CB	21:b:140:LEU:HD11	2.34	0.49
21:b:160:LEU:O	21:b:160:LEU:HG	2.12	0.49
21:b:174:GLU:O	21:b:177:ASN:N	2.45	0.49
28:A:28:A:C2'	28:A:29:U:H5'	2.42	0.49
28:A:500:G:N1	28:A:503:A:OP2	2.45	0.49
28:A:545:U:H6	28:A:545:U:O5'	1.94	0.49
28:A:1070:A:C2	28:A:1097:U:H4'	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1600:C:O2'	28:A:1601:G:H5'	2.12	0.49
28:A:2297:A:N7	28:A:2320:U:N3	2.60	0.49
29:B:2:G:H2'	29:B:3:C:C6	2.47	0.49
30:C:33:LEU:HD23	30:C:62:ARG:HG2	1.95	0.49
30:C:124:LYS:HG2	30:C:125:PRO:HD2	1.92	0.49
31:D:52:THR:CG2	31:D:53:GLY:H	2.23	0.49
31:D:65:ALA:O	31:D:69:ALA:HB2	2.12	0.49
33:F:35:LEU:HD22	33:F:153:ILE:HG22	1.92	0.49
39:L:78:ARG:HB3	39:L:113:ALA:HB1	1.94	0.49
42:O:89:ASP:OD1	42:O:116:GLN:HB3	2.12	0.49
46:S:4:ILE:HG22	46:S:106:VAL:HG22	1.93	0.49
49:V:75:GLN:HG2	49:V:92:VAL:HG23	1.94	0.49
54:9:9:A:H61	54:9:22:G:H3'	1.75	0.49
54:9:53:G:N3	54:9:53:G:H2'	2.27	0.49
1:a:6:G:H3'	1:a:6:G:N3	2.27	0.49
1:a:747:A:H2'	1:a:748:G:O4'	2.12	0.49
2:c:186:THR:CG2	2:c:187:SER:N	2.74	0.49
3:d:62:ARG:NH1	3:d:69:GLU:HG2	2.27	0.49
3:d:161:LEU:O	3:d:164:GLN:N	2.43	0.49
7:h:78:VAL:O	7:h:80:ARG:HG3	2.12	0.49
14:o:8:THR:O	14:o:12:VAL:HG23	2.13	0.49
15:p:54:LEU:HD11	15:p:78:VAL:HG11	1.94	0.49
27:5:57:GLN:OE1	27:5:204:ALA:HB3	2.12	0.49
28:A:135:U:O2'	28:A:136:G:H5'	2.11	0.49
28:A:656:G:H2'	28:A:657:U:O4'	2.12	0.49
28:A:1538:G:O2'	28:A:1539:U:H5'	2.12	0.49
28:A:1779:U:H5	28:A:1784:A:N7	2.11	0.49
28:A:1792:G:H5''	30:C:203:VAL:HG23	1.93	0.49
28:A:2116:G:OP2	28:A:2166:U:H1'	2.12	0.49
28:A:2834:G:H2'	28:A:2879:A:N6	2.26	0.49
29:B:43:C:O2	33:F:91:ARG:NH2	2.45	0.49
33:F:89:THR:C	33:F:90:LEU:HD12	2.36	0.49
35:H:12:LEU:C	35:H:12:LEU:HD12	2.37	0.49
39:L:135:ILE:HD12	39:L:142:ILE:HD11	1.95	0.49
42:O:76:LYS:CB	42:O:109:ALA:HB1	2.43	0.49
46:S:3:THR:HG21	46:S:107:VAL:HG13	1.94	0.49
47:T:44:LYS:HG3	47:T:55:VAL:HG11	1.94	0.49
50:W:9:THR:HG23	50:W:10:ARG:N	2.25	0.49
57:x:6:ASN:HD21	57:x:211:ARG:HH11	1.61	0.49
57:x:22:ASP:OD1	57:x:23:ARG:N	2.45	0.49
57:x:40:VAL:HG12	57:x:41:LEU:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:221:ASP:OD1	57:x:222:LYS:N	2.45	0.49
57:x:373:GLU:HA	57:x:383:TYR:CD1	2.48	0.49
1:a:1290:G:O2'	1:a:1291:U:H5'	2.13	0.49
2:c:42:TYR:HD2	2:c:43:LEU:CD1	2.23	0.49
3:d:105:MET:CE	3:d:180:GLY:HA3	2.41	0.49
3:d:117:LEU:HB2	3:d:123:ILE:HD11	1.94	0.49
8:i:52:LEU:O	8:i:57:MET:N	2.46	0.49
11:l:42:PRO:HB3	11:l:89:ASP:HB3	1.95	0.49
12:m:29:ARG:O	12:m:33:ILE:HG12	2.12	0.49
17:r:34:THR:HG21	17:r:38:LYS:HB2	1.94	0.49
19:t:28:MET:SD	19:t:67:ILE:HD11	2.52	0.49
22:0:52:LYS:O	22:0:52:LYS:HG3	2.13	0.49
23:1:34:GLU:OE2	23:1:49:LYS:HD3	2.12	0.49
26:4:3:VAL:HG12	26:4:36:ARG:NH2	2.28	0.49
27:5:5:THR:O	27:5:8:MET:HB2	2.12	0.49
27:5:38:PHE:HE2	27:5:218:MET:HB3	1.74	0.49
27:5:50:ILE:HA	27:5:57:GLN:OE1	2.13	0.49
28:A:85:G:P	48:U:6:ARG:HB2	2.52	0.49
28:A:167:A:H2'	28:A:168:G:O4'	2.12	0.49
28:A:476:G:N2	28:A:479:A:OP2	2.45	0.49
28:A:1041:G:O2'	28:A:1042:G:H5'	2.12	0.49
28:A:1177:G:H2'	28:A:1178:C:C5'	2.43	0.49
28:A:1179:G:H5''	28:A:1180:U:OP2	2.12	0.49
28:A:2135:A:H5'	28:A:2136:G:OP2	2.13	0.49
28:A:2154:A:N7	28:A:2155:U:H5	2.11	0.49
28:A:2411:A:O2'	28:A:2412:A:H5'	2.12	0.49
28:A:2586:U:O2'	28:A:2587:A:H5'	2.13	0.49
28:A:2600:A:H2'	28:A:2601:C:H5'	1.93	0.49
30:C:7:PRO:HB3	30:C:13:ARG:HG3	1.94	0.49
34:G:46:ASP:OD1	34:G:47:ASN:N	2.40	0.49
34:G:118:ALA:O	34:G:120:ILE:N	2.39	0.49
36:I:123:ALA:HA	36:I:126:ARG:NH1	2.27	0.49
37:J:4:PHE:HB3	37:J:44:TYR:CE2	2.47	0.49
49:V:62:THR:HA	49:V:71:LYS:HA	1.95	0.49
55:7:15:U:H2'	55:7:16:A:C8	2.47	0.49
57:x:104:ALA:CB	57:x:138:ALA:HB1	2.42	0.49
54:9:49:C:O2'	54:9:50:U:H5'	2.13	0.49
1:a:231:U:O2'	1:a:232:G:H5'	2.12	0.49
1:a:1221:G:O2'	1:a:1222:G:H5'	2.12	0.49
2:c:186:THR:CG2	2:c:187:SER:H	2.25	0.49
5:f:67:PRO:HG2	5:f:70:VAL:HG22	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:119:ARG:NH2	8:i:123:ARG:HH21	2.09	0.49
9:j:71:LEU:O	9:j:72:ARG:NH1	2.34	0.49
12:m:92:ARG:HD2	28:A:887:U:C2	2.48	0.49
13:n:35:ASN:N	13:n:35:ASN:ND2	2.60	0.49
13:n:89:MET:HE1	13:n:98:LYS:HD2	1.94	0.49
27:5:70:GLY:N	27:5:176:GLY:HA2	2.27	0.49
28:A:528:A:C2	28:A:2043:C:H5'	2.47	0.49
28:A:614:A:O2'	28:A:615:U:OP2	2.29	0.49
28:A:792:A:H3'	28:A:793:A:H5'	1.94	0.49
28:A:864:G:O2'	28:A:865:C:H5'	2.12	0.49
28:A:1237:A:H4'	28:A:1238:G:OP1	2.12	0.49
28:A:1652:A:H5'	28:A:1653:G:OP2	2.12	0.49
28:A:2075:U:OP2	28:A:2238:G:O2'	2.20	0.49
28:A:2271:G:H8	28:A:2271:G:O5'	1.96	0.49
28:A:2292:U:O2'	28:A:2293:G:H5'	2.12	0.49
28:A:2343:U:O2'	28:A:2373:G:O2'	2.24	0.49
28:A:2581:G:H2'	28:A:2581:G:N3	2.27	0.49
29:B:93:C:O2'	29:B:94:A:H5'	2.13	0.49
31:D:49:GLN:HA	31:D:80:TRP:O	2.13	0.49
35:H:83:LYS:HD3	35:H:95:GLY:HA3	1.94	0.49
36:I:105:LEU:HD22	36:I:128:ILE:CG2	2.43	0.49
47:T:29:THR:HA	47:T:86:THR:HA	1.94	0.49
47:T:50:LEU:N	47:T:50:LEU:HD12	2.27	0.49
50:W:37:VAL:O	50:W:38:ARG:HB2	2.13	0.49
54:6:50:U:C2'	54:6:51:U:H5'	2.43	0.49
57:x:8:SER:OG	57:x:92:LEU:HD23	2.11	0.49
57:x:322:ALA:C	57:x:324:LEU:N	2.57	0.49
54:9:14:A:N6	54:9:15:G:N3	2.60	0.49
1:a:553:A:O2'	11:l:26:ALA:O	2.29	0.49
1:a:859:G:OP2	1:a:869:G:N1	2.33	0.49
1:a:958:A:C2	18:s:55:ARG:HB3	2.48	0.49
1:a:1293:C:O2'	1:a:1294:G:H5'	2.12	0.49
1:a:1310:G:O2'	1:a:1311:A:H5'	2.13	0.49
2:c:112:ASP:O	2:c:116:VAL:HG23	2.13	0.49
6:g:23:LEU:O	6:g:27:VAL:HG22	2.12	0.49
7:h:106:THR:CG2	7:h:121:LEU:HD13	2.43	0.49
10:k:36:ASP:OD1	10:k:40:ASN:N	2.45	0.49
10:k:109:ASN:OD1	20:u:7:ARG:HD3	2.13	0.49
10:k:115:PRO:O	10:k:116:ILE:HD13	2.13	0.49
12:m:44:LYS:O	12:m:47:GLU:HB3	2.13	0.49
15:p:6:LEU:CD1	15:p:19:VAL:HG12	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:699:A:H2'	28:A:700:G:C5'	2.42	0.49
28:A:881:G:C2	28:A:898:C:H1'	2.48	0.49
28:A:1428:C:C5	28:A:1569:A:H5''	2.47	0.49
28:A:1517:G:H2'	28:A:1518:C:H6	1.77	0.49
28:A:1684:G:H2'	28:A:1685:C:H6	1.76	0.49
28:A:1794:A:H2'	28:A:1795:C:C6	2.47	0.49
28:A:2304:G:H22	28:A:2312:U:H3	1.59	0.49
28:A:2492:U:O2'	28:A:2493:U:H5'	2.12	0.49
28:A:2657:A:H2'	28:A:2658:C:H5'	1.95	0.49
30:C:143:VAL:HG12	30:C:144:GLU:N	2.27	0.49
33:F:121:PHE:HB3	33:F:162:ASP:OD1	2.11	0.49
35:H:10:ALA:C	35:H:13:GLY:H	2.20	0.49
36:I:72:THR:HG23	36:I:112:LYS:HZ2	1.77	0.49
39:L:81:ASP:C	39:L:82:LEU:HG	2.38	0.49
40:M:68:PHE:O	40:M:94:ALA:HB2	2.12	0.49
43:P:30:TRP:CZ3	43:P:37:LYS:HE2	2.47	0.49
57:x:300:PHE:HD2	57:x:334:LEU:HD12	1.78	0.49
57:x:552:LYS:O	57:x:554:TYR:HD2	1.95	0.49
1:a:653:U:H5	7:h:56:LYS:HG2	1.75	0.49
1:a:1238:A:H2'	1:a:1238:A:N3	2.27	0.49
1:a:1494:G:O2'	28:A:1912:A:O2'	2.26	0.49
2:c:150:LYS:HG3	2:c:201:TRP:HE3	1.78	0.49
13:n:42:TRP:O	13:n:45:VAL:HB	2.13	0.49
13:n:73:PHE:CZ	13:n:78:GLY:HA2	2.48	0.49
15:p:67:ILE:CG2	15:p:71:VAL:HB	2.43	0.49
18:s:53:ASN:ND2	18:s:56:GLN:O	2.46	0.49
21:b:185:ILE:CG1	21:b:199:ILE:HD11	2.43	0.49
28:A:467:G:H4'	28:A:796:C:O2'	2.13	0.49
28:A:996:A:O2'	44:Q:91:ARG:HG2	2.12	0.49
28:A:1172:C:H2'	28:A:1173:U:O4'	2.13	0.49
28:A:1726:C:O2'	28:A:1727:C:H5'	2.13	0.49
28:A:1845:G:H2'	28:A:1846:G:C5'	2.42	0.49
28:A:2130:U:O2'	28:A:2131:U:OP1	2.25	0.49
28:A:2158:A:H2'	28:A:2159:G:N3	2.28	0.49
28:A:2433:A:H5''	28:A:2434:A:P	2.52	0.49
30:C:172:THR:HA	30:C:181:ARG:O	2.12	0.49
31:D:116:LYS:HD3	41:N:1:MET:SD	2.52	0.49
32:E:149:ILE:HD11	32:E:188:MET:HE3	1.94	0.49
32:E:188:MET:HG2	32:E:193:VAL:HG22	1.94	0.49
33:F:72:SER:HB2	33:F:80:GLN:N	2.27	0.49
33:F:102:LEU:O	33:F:106:ALA:HB3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:G:26:LYS:HA	34:G:32:LEU:HA	1.93	0.49
35:H:76:GLU:HG3	35:H:77:THR:O	2.13	0.49
37:J:124:VAL:HG23	37:J:125:TYR:H	1.78	0.49
38:K:87:LEU:HD23	38:K:94:PRO:HA	1.94	0.49
38:K:103:VAL:O	38:K:122:VAL:HB	2.12	0.49
40:M:79:ALA:CB	57:x:558:ILE:HD11	2.42	0.49
50:W:21:GLY:HA2	50:W:25:PHE:CE1	2.48	0.49
52:Y:56:LEU:HA	52:Y:59:GLU:HG2	1.94	0.49
54:6:15:G:H2'	54:6:16:U:C6	2.48	0.49
57:x:11:ALA:HB3	57:x:17:LYS:HD3	1.95	0.49
57:x:433:VAL:HA	57:x:434:TYR:CB	2.38	0.49
57:x:458:LEU:HD11	57:x:468:LEU:HD21	1.94	0.49
57:x:499:THR:HG21	57:x:507:ARG:HE	1.77	0.49
57:x:524:PHE:CZ	57:x:579:GLY:HA2	2.47	0.49
1:a:78:A:H61	1:a:93:U:C1'	2.25	0.49
1:a:797:C:OP1	10:k:127:ARG:HG3	2.13	0.49
1:a:844:G:C2'	1:a:845:A:H5''	2.40	0.49
1:a:981:U:OP1	13:n:6:MET:HE1	2.12	0.49
6:g:18:PHE:HB3	6:g:59:LEU:HD11	1.95	0.49
7:h:18:GLN:OE1	7:h:63:LEU:HB3	2.12	0.49
8:i:34:SER:O	8:i:37:GLN:N	2.46	0.49
11:l:63:VAL:HG21	11:l:95:TYR:CE2	2.47	0.49
17:r:62:ALA:O	17:r:67:LEU:N	2.41	0.49
21:b:127:LYS:HD2	21:b:127:LYS:N	2.26	0.49
28:A:276:U:O2	28:A:277:G:H1'	2.13	0.49
28:A:378:C:O2'	28:A:379:G:H5'	2.13	0.49
28:A:966:G:H2'	28:A:967:U:O4'	2.12	0.49
28:A:1404:C:C2'	28:A:1405:U:H5'	2.42	0.49
28:A:1433:A:H2'	28:A:1434:A:C1'	2.43	0.49
28:A:2134:A:C8	28:A:2135:A:H1'	2.47	0.49
29:B:35:C:H2'	29:B:36:C:C4'	2.43	0.49
32:E:45:ALA:O	32:E:46:GLN:CB	2.61	0.49
32:E:164:LEU:HB2	32:E:167:VAL:CG1	2.43	0.49
35:H:125:THR:O	35:H:125:THR:HG22	2.13	0.49
35:H:131:SER:HG	35:H:140:ALA:H	1.53	0.49
36:I:27:LEU:HD21	36:I:34:ILE:HD11	1.94	0.49
43:P:50:ARG:N	43:P:57:ALA:O	2.46	0.49
44:Q:94:LEU:C	44:Q:96:ASP:N	2.71	0.49
52:Y:9:LYS:CB	52:Y:12:GLU:HG3	2.43	0.49
54:6:35:A:O2'	54:6:36:A:O5'	2.30	0.49
57:x:375:GLU:HA	57:x:380:GLU:O	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:415:LEU:HD11	57:x:419:ILE:HD11	1.95	0.49
57:x:531:ALA:CB	57:x:536:ILE:HG12	2.39	0.49
54:9:70:G:OP1	54:9:70:G:H4'	2.13	0.49
1:a:876:C:H1'	7:h:12:THR:HG21	1.95	0.49
1:a:1145:A:O2'	1:a:1146:A:P	2.71	0.49
2:c:142:MET:HG3	2:c:170:GLU:OE1	2.12	0.49
4:e:149:SER:OG	4:e:151:GLU:HG2	2.12	0.49
7:h:75:ILE:HG23	7:h:75:ILE:O	2.12	0.49
7:h:86:TYR:HE1	7:h:124:GLU:HB2	1.77	0.49
7:h:106:THR:CG2	7:h:121:LEU:CD1	2.91	0.49
9:j:35:GLN:CG	9:j:77:VAL:HB	2.42	0.49
10:k:112:ASP:OD1	10:k:114:THR:HG23	2.13	0.49
12:m:4:ILE:HG13	12:m:4:ILE:O	2.12	0.49
18:s:50:ALA:O	18:s:57:HIS:ND1	2.46	0.49
21:b:67:LEU:CD2	21:b:160:LEU:HD13	2.42	0.49
21:b:114:LYS:O	21:b:118:THR:OG1	2.24	0.49
27:5:110:ASN:HD22	28:A:2126:A:P	2.36	0.49
27:5:135:GLY:N	28:A:2124:G:O6	2.31	0.49
28:A:136:G:H1	28:A:143:C:H42	1.61	0.49
28:A:528:A:N1	28:A:2042:A:H2'	2.27	0.49
28:A:587:C:O2	39:L:33:ARG:NH2	2.46	0.49
28:A:1095:A:OP1	57:x:416:GLY:HA3	2.13	0.49
28:A:1432:G:O2'	28:A:1433:A:H5'	2.12	0.49
28:A:1516:G:C2'	28:A:1517:G:H5'	2.43	0.49
28:A:1533:C:H2'	28:A:1533:C:O2	2.13	0.49
28:A:2171:A:H4'	28:A:2172:U:O4'	2.13	0.49
28:A:2178:C:O5'	28:A:2178:C:H6	1.95	0.49
28:A:2311:A:C2	33:F:40:GLY:HA2	2.48	0.49
28:A:2600:A:O2'	28:A:2601:C:H5'	2.13	0.49
29:B:5:U:O2	29:B:116:G:N2	2.46	0.49
34:G:46:ASP:CG	34:G:47:ASN:H	2.20	0.49
39:L:77:ILE:HG22	39:L:78:ARG:N	2.27	0.49
45:R:37:GLU:HB3	45:R:53:PHE:CE1	2.48	0.49
46:S:29:VAL:CG1	46:S:55:ILE:HD11	2.43	0.49
53:Z:16:LEU:HB2	53:Z:19:HIS:CD2	2.48	0.49
57:x:19:THR:N	59:x:701:GNP:O1A	2.46	0.49
57:x:411:PRO:HG3	57:x:438:GLN:OE1	2.13	0.49
57:x:425:LYS:O	57:x:426:ARG:CB	2.61	0.49
57:x:593:HIS:HE1	57:x:596:LYS:HE3	1.78	0.49
54:9:10:G:H3'	54:9:11:C:C6	2.48	0.49
1:a:519:C:O2'	1:a:520:A:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:554:A:H5'	11:l:26:ALA:HB1	1.95	0.48
1:a:797:C:OP1	10:k:126:LYS:HB2	2.13	0.48
1:a:948:C:OP2	12:m:107:ARG:N	2.46	0.48
1:a:1119:C:H2'	1:a:1120:C:H6	1.78	0.48
1:a:1165:U:H2'	1:a:1166:G:C5'	2.43	0.48
1:a:1201:A:H4'	1:a:1202:U:O5'	2.13	0.48
2:c:79:LYS:C	2:c:81:GLY:H	2.21	0.48
3:d:57:GLU:OE2	3:d:195:ILE:HA	2.13	0.48
3:d:95:GLU:HA	3:d:100:ASN:HD22	1.77	0.48
3:d:142:VAL:HG23	3:d:142:VAL:O	2.12	0.48
13:n:21:PHE:C	13:n:23:LYS:N	2.71	0.48
13:n:27:LEU:C	13:n:27:LEU:CD2	2.85	0.48
13:n:27:LEU:HD23	13:n:30:ILE:HD12	1.95	0.48
16:q:75:LEU:C	16:q:75:LEU:HD12	2.38	0.48
25:3:49:VAL:HG21	25:3:54:LEU:HD13	1.94	0.48
27:5:4:LEU:HD12	28:A:2107:G:H5''	1.95	0.48
28:A:327:G:H1	28:A:335:C:H42	1.59	0.48
28:A:1417:C:O2'	28:A:1587:G:O2'	2.31	0.48
28:A:1511:G:H2'	28:A:1512:C:C6	2.48	0.48
28:A:1794:A:H2'	28:A:1795:C:H6	1.78	0.48
28:A:2297:A:O2'	28:A:2298:A:H5'	2.13	0.48
28:A:2576:G:O2'	28:A:2579:C:OP2	2.27	0.48
28:A:2757:A:H2'	28:A:2758:A:H5'	1.95	0.48
28:A:2839:G:H2'	28:A:2840:C:O4'	2.13	0.48
29:B:109:A:H2'	29:B:110:C:H6	1.77	0.48
36:I:31:GLY:HA3	36:I:64:ARG:CZ	2.43	0.48
39:L:85:VAL:O	39:L:86:GLU:HB3	2.13	0.48
48:U:47:PRO:CD	48:U:55:GLY:HA2	2.43	0.48
52:Y:17:GLU:HA	52:Y:20:ASN:HD22	1.78	0.48
57:x:531:ALA:CB	57:x:536:ILE:HA	2.43	0.48
57:x:586:GLU:O	57:x:588:PHE:N	2.46	0.48
1:a:63:C:H42	1:a:104:G:H1	1.61	0.48
1:a:115:G:H4'	1:a:116:A:O5'	2.12	0.48
1:a:233:C:O2'	1:a:234:C:H5'	2.13	0.48
1:a:334:C:O2'	1:a:335:C:H5'	2.13	0.48
1:a:448:A:H3'	1:a:449:G:C8	2.47	0.48
1:a:1432:G:H1'	1:a:1468:A:N6	2.29	0.48
2:c:120:ILE:HD11	2:c:137:ALA:CB	2.43	0.48
4:e:15:LEU:HD12	4:e:36:LEU:O	2.13	0.48
4:e:83:HIS:CE1	7:h:96:MET:HE3	2.48	0.48
5:f:9:MET:HB3	5:f:59:TYR:CD1	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:h:60:GLU:HG2	7:h:61:LEU:N	2.27	0.48
12:m:54:ASP:OD1	12:m:55:THR:N	2.47	0.48
14:o:18:ASP:OD1	14:o:21:ASP:HB2	2.13	0.48
26:4:1:MET:HE2	26:4:36:ARG:CB	2.43	0.48
27:5:37:LYS:O	27:5:38:PHE:HB3	2.13	0.48
28:A:372:G:C8	51:X:60:LYS:HE2	2.47	0.48
28:A:634:C:H2'	28:A:635:C:C6	2.43	0.48
28:A:833:A:P	39:L:39:LYS:HZ1	2.35	0.48
28:A:1173:U:O2	28:A:1174:U:H4'	2.14	0.48
28:A:1589:U:H2'	28:A:1590:A:C8	2.48	0.48
29:B:11:C:C2'	29:B:12:C:H5'	2.43	0.48
29:B:104:A:H2'	29:B:105:G:O4'	2.13	0.48
33:F:151:LEU:HD12	33:F:152:ASP:N	2.27	0.48
33:F:162:ASP:HB3	33:F:166:ARG:HH12	1.77	0.48
35:H:72:ILE:HG21	35:H:132:PHE:CA	2.42	0.48
36:I:83:ALA:HB1	36:I:85:ILE:HD12	1.96	0.48
36:I:102:ARG:HA	36:I:141:ASP:HA	1.93	0.48
45:R:46:GLU:OE1	45:R:46:GLU:N	2.29	0.48
56:8:14:A:H2'	56:8:15:G:H5'	1.95	0.48
57:x:7:PHE:CZ	57:x:75:PHE:HD1	2.30	0.48
1:a:202:G:O2'	1:a:468:A:H2'	2.14	0.48
1:a:939:G:H2'	1:a:940:C:C6	2.48	0.48
1:a:1052:U:O2'	1:a:1055:A:OP2	2.15	0.48
1:a:1127:G:N3	1:a:1127:G:H2'	2.27	0.48
1:a:1206:G:H4'	2:c:192:THR:O	2.13	0.48
4:e:11:LEU:HD13	4:e:68:ARG:HH12	1.78	0.48
4:e:82:GLN:N	4:e:147:MET:HE3	2.13	0.48
8:i:12:ARG:HH11	8:i:13:LYS:HB2	1.78	0.48
20:u:10:GLU:HG3	20:u:11:PRO:CD	2.43	0.48
21:b:156:LEU:CD2	21:b:178:LEU:HD21	2.31	0.48
21:b:162:VAL:HG11	21:b:172:ILE:HD11	1.95	0.48
27:5:7:ARG:NH1	27:5:219:GLY:H	2.06	0.48
27:5:23:ILE:CG1	27:5:227:ALA:HB2	2.43	0.48
28:A:170:U:H2'	28:A:171:U:C6	2.45	0.48
28:A:874:G:H2'	28:A:875:G:H5'	1.94	0.48
28:A:1188:U:C2'	28:A:1189:A:H5'	2.43	0.48
28:A:1534:U:H2'	28:A:1536:C:N3	2.28	0.48
28:A:1559:U:H4'	28:A:1560:G:OP2	2.13	0.48
28:A:1799:G:N2	28:A:1819:A:OP2	2.42	0.48
28:A:2567:G:H2'	28:A:2568:U:C6	2.48	0.48
28:A:2602:A:H4'	28:A:2603:G:H5''	1.91	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2671:G:O2'	28:A:2672:U:H5'	2.14	0.48
29:B:36:C:H41	29:B:49:C:H1'	1.77	0.48
30:C:16:VAL:O	30:C:16:VAL:HG12	2.12	0.48
33:F:27:VAL:HG23	33:F:28:PRO:HD2	1.95	0.48
37:J:12:LYS:O	37:J:13:ARG:HB2	2.13	0.48
37:J:89:PHE:HE1	37:J:100:VAL:HG11	1.79	0.48
38:K:118:LEU:O	38:K:119:ALA:HB3	2.13	0.48
45:R:4:VAL:HG23	45:R:12:HIS:O	2.14	0.48
52:Y:13:GLU:HA	52:Y:16:THR:OG1	2.14	0.48
57:x:12:HIS:ND1	57:x:13:ILE:N	2.58	0.48
57:x:103:ASP:CG	57:x:106:GLN:H	2.21	0.48
57:x:373:GLU:HA	57:x:383:TYR:HD1	1.79	0.48
57:x:432:MET:HG2	57:x:432:MET:O	2.13	0.48
1:a:471:U:C2'	1:a:472:U:H5'	2.43	0.48
1:a:1008:U:H3	1:a:1021:A:N6	2.10	0.48
1:a:1009:U:O2'	1:a:1010:U:H5'	2.13	0.48
1:a:1250:A:H4'	8:i:70:GLY:H	1.79	0.48
7:h:113:ASP:HA	7:h:116:ALA:HB3	1.95	0.48
10:k:67:ALA:HB2	10:k:96:THR:OG1	2.12	0.48
11:l:43:LYS:HG2	11:l:44:LYS:CG	2.38	0.48
22:0:39:ARG:O	22:0:40:HIS:HB2	2.13	0.48
27:5:48:LEU:HD11	27:5:171:ILE:CG1	2.43	0.48
27:5:86:ALA:O	27:5:90:ALA:N	2.46	0.48
27:5:146:THR:CG2	27:5:152:ALA:HB1	2.39	0.48
28:A:1120:G:O2'	28:A:1121:C:H5'	2.13	0.48
28:A:1533:C:C2'	28:A:1534:U:H5''	2.30	0.48
28:A:2264:C:O2'	28:A:2265:U:H5'	2.13	0.48
31:D:117:GLY:HA2	31:D:164:GLN:CD	2.38	0.48
33:F:112:ASP:CG	33:F:113:PHE:H	2.20	0.48
35:H:37:VAL:CG1	35:H:38:PRO:CD	2.87	0.48
36:I:56:VAL:HG23	36:I:70:THR:CA	2.41	0.48
48:U:48:VAL:O	48:U:53:GLN:HB3	2.13	0.48
54:6:50:U:H2'	54:6:51:U:H5'	1.95	0.48
57:x:398:GLU:CD	57:x:400:ARG:HH21	2.20	0.48
54:9:49:C:H2'	54:9:50:U:H5'	1.96	0.48
1:a:109:A:H4'	1:a:110:C:OP2	2.14	0.48
1:a:1073:U:H2'	1:a:1074:G:H5'	1.96	0.48
6:g:126:ASP:O	6:g:130:ASN:N	2.47	0.48
8:i:54:LEU:HD23	8:i:97:GLU:OE1	2.13	0.48
9:j:37:ARG:HH12	9:j:77:VAL:HG21	1.78	0.48
13:n:87:ALA:CA	13:n:92:GLU:HG3	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:b:46:VAL:HA	21:b:49:PHE:HE2	1.76	0.48
27:5:211:LYS:HA	27:5:226:GLN:HG2	1.95	0.48
28:A:1128:G:N7	28:A:2489:U:O2'	2.46	0.48
28:A:1176:U:O2'	28:A:1177:G:O4'	2.18	0.48
28:A:1484:U:H2'	28:A:1485:U:C6	2.48	0.48
28:A:1638:C:H5''	28:A:2710:C:O2'	2.14	0.48
28:A:2059:A:C8	28:A:2503:A:N3	2.82	0.48
28:A:2423:U:H4'	28:A:2424:C:O5'	2.13	0.48
28:A:2883:A:H5'	28:A:2884:U:H5'	1.95	0.48
30:C:49:THR:HG23	30:C:50:THR:N	2.29	0.48
31:D:73:VAL:HG23	31:D:74:GLU:N	2.29	0.48
35:H:103:VAL:HA	35:H:106:ALA:HB3	1.95	0.48
36:I:74:PRO:HG2	36:I:77:VAL:CG2	2.44	0.48
37:J:7:LYS:O	37:J:10:THR:OG1	2.28	0.48
37:J:124:VAL:HG23	37:J:125:TYR:N	2.28	0.48
44:Q:91:ARG:CZ	44:Q:93:ILE:HG21	2.44	0.48
47:T:92:ASN:C	47:T:93:LEU:HD12	2.38	0.48
50:W:67:LYS:HG2	50:W:69:GLU:OE2	2.12	0.48
57:x:49:GLU:C	57:x:51:GLY:H	2.21	0.48
57:x:103:ASP:OD2	57:x:106:GLN:CG	2.62	0.48
57:x:206:VAL:HB	57:x:262:ILE:CG2	2.42	0.48
57:x:515:MET:CB	57:x:528:ILE:HD13	2.43	0.48
1:a:14:U:H2'	1:a:16:A:OP2	2.13	0.48
1:a:33:A:H2'	1:a:34:C:C6	2.48	0.48
1:a:84:U:H2'	1:a:88:U:N3	2.28	0.48
1:a:228:A:H2'	1:a:229:U:O4'	2.13	0.48
1:a:601:G:N2	1:a:602:A:H1'	2.28	0.48
1:a:769:G:H4'	1:a:1513:A:H4'	1.95	0.48
1:a:932:C:C5	6:g:3:ARG:NH1	2.82	0.48
1:a:1004:A:O2'	1:a:1005:A:H5'	2.14	0.48
1:a:1453:G:H3'	1:a:1453:G:N3	2.28	0.48
3:d:197:GLU:O	3:d:201:VAL:HG23	2.13	0.48
16:q:14:SER:HB3	16:q:22:VAL:HG11	1.94	0.48
18:s:18:LYS:O	18:s:31:LEU:HD21	2.13	0.48
20:u:29:LEU:HD23	20:u:29:LEU:O	2.13	0.48
21:b:195:VAL:HG11	21:b:198:VAL:CA	2.43	0.48
27:5:35:THR:H	27:5:219:GLY:HA3	1.77	0.48
27:5:190:GLU:O	27:5:194:VAL:HG22	2.14	0.48
28:A:229:C:O2'	28:A:230:G:OP1	2.26	0.48
28:A:273:G:H1	28:A:364:C:H42	1.61	0.48
28:A:536:G:H2'	28:A:537:G:C5'	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:760:G:C2'	28:A:761:A:H5'	2.43	0.48
28:A:1206:G:H2'	28:A:1206:G:N3	2.28	0.48
28:A:1253:A:H4'	28:A:1254:A:OP2	2.12	0.48
28:A:1386:C:H2'	28:A:1387:A:H8	1.78	0.48
28:A:1438:U:O2'	28:A:1439:A:H5'	2.13	0.48
28:A:2164:C:H5''	28:A:2172:U:C5	2.46	0.48
28:A:2236:U:C2'	28:A:2237:G:H5'	2.43	0.48
28:A:2799:A:C2	28:A:2801:G:H1'	2.49	0.48
28:A:2843:G:H2'	28:A:2844:G:O4'	2.14	0.48
33:F:127:TYR:O	33:F:128:SER:HB2	2.13	0.48
34:G:8:VAL:HG13	34:G:49:LEU:HB2	1.94	0.48
38:K:11:ALA:HB3	38:K:85:VAL:HG22	1.95	0.48
43:P:50:ARG:HB3	43:P:57:ALA:N	2.28	0.48
46:S:80:PRO:O	46:S:100:THR:OG1	2.29	0.48
57:x:586:GLU:HA	57:x:589:LEU:CD1	2.43	0.48
5:f:11:HIS:ND1	5:f:12:PRO:HD2	2.29	0.48
7:h:49:PHE:HB2	7:h:59:LEU:HD11	1.94	0.48
7:h:105:SER:N	7:h:124:GLU:O	2.46	0.48
8:i:90:TYR:HD2	8:i:94:LEU:HD21	1.79	0.48
9:j:29:ALA:HB3	9:j:36:VAL:HG21	1.94	0.48
11:l:55:VAL:HG12	11:l:56:ARG:N	2.27	0.48
14:o:35:GLN:O	14:o:39:LEU:HD13	2.13	0.48
16:q:13:VAL:HA	16:q:55:ILE:CD1	2.43	0.48
21:b:138:ARG:O	21:b:141:GLU:HG2	2.14	0.48
25:3:31:ILE:O	25:3:31:ILE:HG13	2.14	0.48
27:5:64:VAL:HG22	27:5:160:GLN:CB	2.43	0.48
27:5:75:VAL:HG13	27:5:115:ILE:CG1	2.44	0.48
28:A:156:A:O2'	28:A:157:C:H5'	2.12	0.48
28:A:405:U:H4'	28:A:406:G:OP2	2.14	0.48
28:A:809:G:O2'	28:A:810:U:H5'	2.13	0.48
28:A:859:G:O2'	28:A:860:U:OP2	2.32	0.48
28:A:1124:G:O2'	28:A:1125:G:H5'	2.13	0.48
28:A:1694:C:H4'	28:A:1695:G:O5'	2.13	0.48
28:A:2151:U:H2'	28:A:2152:G:O4'	2.13	0.48
28:A:2680:U:H5'	31:D:194:PRO:HA	1.96	0.48
29:B:52:A:N7	42:O:64:TYR:OH	2.37	0.48
37:J:18:VAL:CG2	37:J:140:LEU:HD11	2.43	0.48
49:V:65:VAL:O	49:V:65:VAL:HG13	2.13	0.48
54:6:70:G:O2'	54:6:71:G:H5'	2.14	0.48
56:8:73:A:H5'	56:8:74:C:OP1	2.14	0.48
57:x:192:GLN:HG2	57:x:283:LYS:CE	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:239:ILE:HG22	57:x:255:VAL:O	2.13	0.48
57:x:350:ILE:O	57:x:352:GLN:CA	2.61	0.48
57:x:482:ARG:O	57:x:532:ILE:HG12	2.14	0.48
1:a:512:U:P	3:d:44:ARG:HH22	2.37	0.48
1:a:726:C:C2'	1:a:727:G:H5'	2.43	0.48
1:a:1296:C:H4'	1:a:1302:C:N3	2.28	0.48
3:d:44:ARG:C	3:d:46:PRO:HD3	2.38	0.48
4:e:49:GLY:HA2	4:e:66:LYS:HB2	1.93	0.48
4:e:64:MET:O	4:e:68:ARG:HG3	2.14	0.48
4:e:126:LYS:HD2	4:e:128:TYR:CE1	2.49	0.48
16:q:36:LYS:HG2	16:q:37:PHE:O	2.14	0.48
22:0:24:VAL:C	22:0:25:THR:HG1	2.13	0.48
23:1:45:HIS:ND1	28:A:2371:G:O2'	2.40	0.48
28:A:158:U:O2'	28:A:159:G:H5'	2.14	0.48
28:A:1081:U:C5'	36:I:126:ARG:HH21	2.25	0.48
28:A:2366:A:H4'	50:W:61:LYS:NZ	2.29	0.48
29:B:114:C:O2'	29:B:115:A:H5'	2.13	0.48
32:E:164:LEU:CB	32:E:167:VAL:HG12	2.43	0.48
36:I:33:ASN:OD1	36:I:35:MET:HB3	2.14	0.48
37:J:45:THR:N	37:J:46:PRO:HD3	2.28	0.48
39:L:26:GLY:C	39:L:27:LEU:HD12	2.38	0.48
39:L:122:VAL:CG1	39:L:142:ILE:HG12	2.42	0.48
40:M:32:GLY:O	40:M:131:VAL:HG22	2.14	0.48
57:x:398:GLU:OE2	57:x:477:ALA:HB2	2.14	0.48
1:a:191:G:H2'	1:a:192:A:H8	1.78	0.48
1:a:355:C:C2'	1:a:356:A:H5'	2.43	0.48
1:a:635:A:H2'	1:a:636:U:H6	1.79	0.48
1:a:1133:G:H2'	1:a:1134:G:C8	2.49	0.48
1:a:1372:U:H2'	1:a:1373:G:O4'	2.13	0.48
2:c:90:VAL:HG23	2:c:91:VAL:N	2.29	0.48
3:d:62:ARG:O	3:d:66:GLY:N	2.40	0.48
7:h:11:LEU:HD22	7:h:75:ILE:CD1	2.43	0.48
7:h:86:TYR:CD1	7:h:124:GLU:HB2	2.49	0.48
11:l:52:VAL:HG11	11:l:90:LEU:HD23	1.96	0.48
25:3:12:ARG:NE	39:L:61:LEU:O	2.47	0.48
27:5:46:VAL:CG2	27:5:212:VAL:HA	2.43	0.48
27:5:52:ALA:O	27:5:53:ARG:HG3	2.14	0.48
28:A:825:A:O2'	28:A:826:U:H5'	2.13	0.48
28:A:895:U:O2'	28:A:897:C:O4'	2.32	0.48
28:A:1201:U:O2'	28:A:1202:G:H5'	2.14	0.48
28:A:2060:A:C1'	28:A:2502:G:H4'	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2295:C:OP2	42:O:10:ARG:HD3	2.14	0.48
28:A:2822:G:O2'	28:A:2824:C:OP2	2.27	0.48
28:A:2843:G:O2'	28:A:2844:G:H5'	2.13	0.48
29:B:80:U:H2'	29:B:81:G:H8	1.79	0.48
32:E:117:ARG:NH2	32:E:183:PHE:O	2.47	0.48
33:F:102:LEU:C	33:F:102:LEU:HD23	2.39	0.48
36:I:59:THR:O	36:I:66:PHE:HB2	2.14	0.48
37:J:105:VAL:HG21	37:J:122:LEU:HD22	1.95	0.48
39:L:101:ILE:HG22	39:L:105:ILE:CB	2.44	0.48
43:P:49:ILE:HG22	43:P:50:ARG:N	2.28	0.48
44:Q:91:ARG:HG3	45:R:11:GLN:CD	2.39	0.48
49:V:35:GLU:HG2	49:V:93:ARG:NH1	2.29	0.48
50:W:36:ILE:HG22	50:W:36:ILE:O	2.14	0.48
52:Y:3:ALA:O	52:Y:6:LEU:HB3	2.14	0.48
56:8:54:U:O2'	56:8:55:U:H5'	2.14	0.48
57:x:511:LEU:C	57:x:511:LEU:HD23	2.39	0.48
57:x:568:GLN:O	57:x:572:LYS:HG2	2.14	0.48
54:9:61:C:N3	54:9:62:C:N4	2.62	0.48
1:a:39:G:O2'	1:a:40:C:H5'	2.14	0.48
1:a:208:U:H2'	1:a:210:C:C1'	2.44	0.48
1:a:1226:C:N4	12:m:103:LYS:HG3	2.29	0.48
1:a:1260:G:N2	1:a:1275:A:H62	2.12	0.48
2:c:64:ILE:HG12	2:c:66:VAL:CG2	2.42	0.48
3:d:29:ASP:O	3:d:30:THR:HB	2.14	0.48
3:d:155:VAL:O	3:d:159:LEU:HG	2.13	0.48
4:e:38:VAL:CG1	4:e:117:VAL:HG21	2.38	0.48
4:e:52:LYS:O	4:e:62:LYS:NZ	2.33	0.48
4:e:105:ILE:N	4:e:122:ASN:HA	2.29	0.48
19:t:80:THR:O	19:t:83:ILE:HG13	2.14	0.48
21:b:165:ALA:CB	21:b:186:VAL:HG12	2.44	0.48
21:b:206:ILE:HG13	21:b:207:ARG:N	2.29	0.48
28:A:143:C:H5'	47:T:3:ARG:NH1	2.29	0.48
28:A:1398:C:OP1	47:T:59:ASN:ND2	2.47	0.48
28:A:1649:G:O2'	41:N:106:ASP:OD2	2.23	0.48
28:A:2195:U:O2'	28:A:2196:C:H5'	2.13	0.48
28:A:2457:U:O2'	28:A:2458:G:H5'	2.14	0.48
29:B:53:A:H2'	29:B:54:G:O4'	2.13	0.48
29:B:71:C:H2'	29:B:72:G:H5'	1.96	0.48
31:D:46:ARG:NH2	31:D:87:GLY:O	2.47	0.48
32:E:69:ARG:O	32:E:70:SER:OG	2.17	0.48
33:F:1:ALA:N	33:F:93:GLU:OE1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:K:7:MET:HA	38:K:19:VAL:O	2.14	0.48
38:K:76:VAL:HB	43:P:72:VAL:CG2	2.44	0.48
47:T:67:VAL:HA	47:T:76:ARG:HA	1.94	0.48
52:Y:9:LYS:HB3	52:Y:12:GLU:HB2	1.96	0.48
57:x:245:VAL:H	57:x:257:TRP:HH2	1.61	0.48
57:x:585:GLN:OE1	57:x:585:GLN:N	2.39	0.48
54:9:2:C:C4	54:9:3:C:C5	3.02	0.48
1:a:56:U:O2'	1:a:57:G:H5'	2.14	0.47
1:a:80:A:H1'	1:a:90:C:C2	2.49	0.47
1:a:668:G:O2'	1:a:669:G:H5'	2.14	0.47
1:a:1212:U:H3'	1:a:1212:U:H6	1.79	0.47
1:a:1224:U:C3'	1:a:1225:A:H5'	2.42	0.47
1:a:1472:U:O2'	1:a:1473:G:H5'	2.13	0.47
5:f:38:ARG:NE	5:f:98:GLU:H	2.11	0.47
7:h:3:MET:HE2	7:h:6:PRO:HA	1.96	0.47
12:m:64:VAL:O	12:m:64:VAL:HG12	2.14	0.47
21:b:9:LEU:HD23	21:b:9:LEU:O	2.14	0.47
22:0:7:PRO:HD2	28:A:1263:U:O2'	2.14	0.47
28:A:50:U:H3'	28:A:51:G:C5'	2.44	0.47
28:A:266:G:C3'	28:A:267:C:H5''	2.44	0.47
28:A:315:G:H2'	28:A:316:C:O4'	2.13	0.47
28:A:536:G:H2'	28:A:537:G:H5'	1.96	0.47
28:A:1845:G:C2	28:A:1846:G:H1'	2.49	0.47
28:A:2037:A:O2'	28:A:2038:G:H5'	2.14	0.47
28:A:2102:G:C2'	28:A:2103:C:H5'	2.44	0.47
28:A:2115:G:O2'	28:A:2171:A:N6	2.40	0.47
30:C:54:GLY:O	30:C:214:GLY:HA2	2.13	0.47
34:G:97:VAL:HG23	34:G:124:CYS:SG	2.54	0.47
35:H:103:VAL:C	35:H:106:ALA:H	2.21	0.47
35:H:118:PRO:HD3	35:H:122:LEU:HD23	1.96	0.47
36:I:17:ALA:HB3	36:I:38:CYS:HA	1.93	0.47
40:M:53:MET:HE1	40:M:103:TYR:CD1	2.49	0.47
45:R:54:VAL:HG23	45:R:57:GLY:CA	2.42	0.47
51:X:29:LEU:HB2	51:X:30:PRO:HD2	1.96	0.47
57:x:194:LEU:HG	57:x:195:ILE:O	2.14	0.47
57:x:324:LEU:HD12	57:x:325:PHE:H	1.79	0.47
54:9:6:G:O2'	54:9:7:A:H5'	2.13	0.47
1:a:112:G:H21	1:a:354:G:H5'	1.80	0.47
1:a:162:A:H5''	1:a:163:C:OP2	2.13	0.47
1:a:1145:A:HO2'	1:a:1146:A:P	2.36	0.47
1:a:1229:A:OP2	12:m:113:ARG:NH1	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1293:C:C2'	1:a:1294:G:H5'	2.44	0.47
1:a:1305:G:H21	1:a:1332:A:H2	1.60	0.47
1:a:1341:U:H2'	1:a:1342:C:H6	1.78	0.47
21:b:11:ALA:HB1	21:b:13:VAL:CG1	2.40	0.47
21:b:26:MET:HE1	21:b:192:PRO:HB3	1.95	0.47
27:5:141:LYS:HB2	27:5:164:ARG:HE	1.79	0.47
28:A:282:A:H2'	28:A:283:G:C8	2.50	0.47
28:A:1120:G:H2'	28:A:1121:C:O4'	2.14	0.47
28:A:1871:A:H1'	28:A:1872:A:C8	2.49	0.47
28:A:2311:A:O2'	33:F:84:ILE:HG12	2.14	0.47
29:B:27:C:H2'	29:B:28:C:H5'	1.96	0.47
31:D:49:GLN:HE21	31:D:79:LEU:HB3	1.78	0.47
31:D:49:GLN:HE21	31:D:79:LEU:HD13	1.78	0.47
35:H:47:PHE:CA	35:H:50:ARG:HH21	2.27	0.47
35:H:66:ASN:O	35:H:71:LYS:HE2	2.14	0.47
36:I:21:PRO:HB2	36:I:22:PRO:HD3	1.96	0.47
36:I:58:ILE:HD12	36:I:68:PHE:HB3	1.96	0.47
37:J:40:HIS:CE1	37:J:41:LYS:HE3	2.50	0.47
38:K:76:VAL:H	43:P:72:VAL:HG22	1.79	0.47
57:x:14:ASP:OD1	59:x:701:GNP:H5'1	2.14	0.47
57:x:207:VAL:HG22	57:x:259:VAL:HG22	1.96	0.47
57:x:521:ARG:HB3	57:x:545:LEU:CD1	2.37	0.47
1:a:228:A:C4'	15:p:63:GLN:HG2	2.43	0.47
1:a:567:G:H2'	1:a:568:G:O4'	2.14	0.47
1:a:575:G:O2'	1:a:821:G:OP2	2.24	0.47
1:a:682:G:O2'	1:a:683:G:H5'	2.14	0.47
1:a:1253:G:H1'	1:a:1355:G:O2'	2.14	0.47
1:a:1359:C:OP2	13:n:75:ARG:NE	2.45	0.47
9:j:50:THR:HG22	9:j:64:GLN:HG2	1.95	0.47
9:j:88:MET:O	9:j:89:ARG:HB2	2.13	0.47
11:l:42:PRO:CB	11:l:89:ASP:HB3	2.45	0.47
11:l:83:ARG:HG2	11:l:84:GLY:N	2.18	0.47
15:p:22:ALA:HB2	15:p:32:PHE:CB	2.44	0.47
20:u:10:GLU:CG	20:u:11:PRO:CD	2.90	0.47
23:1:25:ASN:ND2	23:1:28:THR:HG23	2.29	0.47
24:2:19:ARG:NH2	28:A:124:G:H2'	2.29	0.47
26:4:3:VAL:CG2	26:4:4:ARG:H	2.14	0.47
27:5:35:THR:HB	28:A:2128:G:O2'	2.15	0.47
28:A:519:U:O2'	28:A:520:G:H5'	2.13	0.47
28:A:1116:G:O2'	28:A:1117:C:H5'	2.14	0.47
28:A:1936:A:H2	28:A:1943:U:H5	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2134:A:H2'	28:A:2160:C:H5'	1.96	0.47
28:A:2425:A:H4'	28:A:2426:A:H5''	1.97	0.47
34:G:102:ILE:O	34:G:113:ASP:HA	2.13	0.47
35:H:66:ASN:O	35:H:67:ALA:HB3	2.14	0.47
35:H:145:ASN:O	35:H:148:ALA:HB3	2.15	0.47
36:I:4:VAL:HB	36:I:7:TYR:HB3	1.94	0.47
36:I:37:PHE:HA	36:I:40:ALA:HB3	1.96	0.47
37:J:16:TYR:CB	37:J:140:LEU:HD23	2.43	0.47
37:J:140:LEU:HD12	37:J:140:LEU:C	2.39	0.47
45:R:101:ILE:HG22	45:R:101:ILE:O	2.14	0.47
48:U:25:LYS:HB3	48:U:34:ILE:O	2.14	0.47
50:W:30:VAL:HA	50:W:60:ALA:O	2.15	0.47
56:8:24:U:H2'	56:8:25:C:O4'	2.13	0.47
57:x:167:VAL:CG2	57:x:169:VAL:HG12	2.45	0.47
57:x:410:LEU:HD12	57:x:410:LEU:O	2.14	0.47
57:x:415:LEU:HD21	57:x:432:MET:CE	2.43	0.47
54:9:1:G:OP3	54:9:1:G:H3'	2.15	0.47
54:9:24:G:H2'	54:9:25:C:H6	1.78	0.47
1:a:767:A:O2'	1:a:768:A:H5'	2.15	0.47
5:f:67:PRO:O	5:f:70:VAL:HG22	2.15	0.47
11:l:30:LYS:O	11:l:81:LEU:HD12	2.13	0.47
22:0:47:TYR:CZ	22:0:52:LYS:HD3	2.49	0.47
25:3:2:LYS:HB2	28:A:242:G:N7	2.29	0.47
27:5:65:LEU:HD22	27:5:188:ASN:O	2.15	0.47
27:5:216:THR:O	28:A:2175:C:H1'	2.15	0.47
27:5:226:GLN:CD	27:5:229:LEU:HD12	2.40	0.47
28:A:493:G:C2'	28:A:494:G:H5'	2.44	0.47
28:A:786:C:O2'	28:A:787:C:H5'	2.14	0.47
28:A:993:G:O2'	28:A:994:C:H5'	2.13	0.47
28:A:1722:A:N6	28:A:1738:G:H1'	2.29	0.47
28:A:2392:A:H2	39:L:55:MET:HE3	1.73	0.47
28:A:2405:G:O2'	28:A:2411:A:N6	2.47	0.47
28:A:2877:G:C2'	28:A:2878:U:H5'	2.45	0.47
32:E:79:ARG:HG2	32:E:80:SER:N	2.29	0.47
32:E:147:LEU:O	32:E:147:LEU:HD23	2.14	0.47
33:F:41:GLU:CG	33:F:48:LEU:HD23	2.44	0.47
34:G:166:GLU:OE1	34:G:168:VAL:HG13	2.15	0.47
37:J:18:VAL:HG22	37:J:140:LEU:CD1	2.45	0.47
38:K:7:MET:HB3	38:K:18:ARG:HD2	1.96	0.47
44:Q:93:ILE:HG23	44:Q:94:LEU:HD12	1.93	0.47
46:S:68:ASP:O	46:S:109:ASP:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:V:75:GLN:CB	49:V:92:VAL:HG23	2.44	0.47
57:x:109:GLU:HB3	57:x:112:THR:N	2.20	0.47
1:a:14:U:O2'	1:a:16:A:N7	2.39	0.47
1:a:130:A:N3	1:a:263:A:O2'	2.30	0.47
1:a:210:C:H4'	1:a:211:G:N3	2.30	0.47
1:a:1152:A:O2'	1:a:1153:G:H5'	2.15	0.47
1:a:1240:U:OP1	6:g:116:MET:N	2.35	0.47
6:g:23:LEU:O	6:g:27:VAL:HG13	2.15	0.47
8:i:114:LYS:HE2	8:i:118:LEU:O	2.14	0.47
9:j:59:LYS:HG3	9:j:60:ASP:OD1	2.14	0.47
12:m:79:ARG:HH12	18:s:69:HIS:HE1	1.62	0.47
27:5:38:PHE:HB3	28:A:2126:A:C5'	2.43	0.47
27:5:201:PRO:HG2	27:5:206:GLY:HA2	1.95	0.47
28:A:135:U:C2'	28:A:136:G:H5'	2.45	0.47
28:A:242:G:O2'	28:A:254:G:O6	2.22	0.47
28:A:256:A:O2'	28:A:257:C:H5'	2.14	0.47
28:A:585:G:OP2	44:Q:5:ARG:NH2	2.48	0.47
28:A:817:C:O2'	28:A:818:G:H5'	2.14	0.47
28:A:1678:A:H2'	28:A:1679:A:C5'	2.44	0.47
28:A:2107:G:H2'	28:A:2108:A:O4'	2.15	0.47
28:A:2841:C:H2'	28:A:2842:G:H8	1.79	0.47
29:B:33:G:O2'	29:B:34:A:H5'	2.14	0.47
29:B:66:A:N6	29:B:107:G:H2'	2.29	0.47
30:C:245:THR:C	30:C:247:TRP:N	2.73	0.47
34:G:134:GLY:CA	34:G:140:ILE:HD13	2.44	0.47
34:G:174:LYS:HG3	34:G:174:LYS:O	2.15	0.47
35:H:129:GLU:HB2	35:H:142:VAL:HG11	1.97	0.47
39:L:142:ILE:HG22	39:L:142:ILE:O	2.14	0.47
47:T:68:LYS:CD	47:T:69:ARG:N	2.73	0.47
50:W:41:GLY:HA2	50:W:44:PHE:CE2	2.50	0.47
57:x:148:GLU:OE2	57:x:155:ALA:N	2.44	0.47
54:9:59:U:H2'	54:9:60:U:C5'	2.41	0.47
1:a:54:C:N4	1:a:353:A:OP2	2.42	0.47
1:a:304:U:H2'	1:a:305:G:H5'	1.97	0.47
1:a:772:U:H2'	1:a:773:G:O4'	2.15	0.47
1:a:803:G:H2'	1:a:804:U:O4'	2.14	0.47
1:a:995:C:H2'	1:a:996:A:H5''	1.95	0.47
1:a:1234:C:C2'	1:a:1235:U:H5'	2.45	0.47
1:a:1371:G:O3'	8:i:71:GLY:HA3	2.14	0.47
13:n:94:PRO:C	13:n:96:LEU:H	2.22	0.47
16:q:54:GLY:O	16:q:57:ASP:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:32:C:O2'	28:A:33:C:H5'	2.14	0.47
28:A:1199:U:O5'	28:A:1199:U:H6	1.98	0.47
28:A:1242:U:H2'	28:A:1243:C:H6	1.79	0.47
28:A:1639:C:O2'	28:A:1640:A:H5'	2.14	0.47
28:A:1765:U:O2'	28:A:1766:G:H5'	2.14	0.47
28:A:2094:A:OP1	35:H:22:LYS:HD3	2.14	0.47
28:A:2111:U:H1'	28:A:2117:A:C5'	2.41	0.47
28:A:2400:G:O2'	28:A:2401:U:H5'	2.14	0.47
28:A:2831:G:N2	28:A:2884:U:OP2	2.47	0.47
31:D:121:THR:O	31:D:122:VAL:HG23	2.14	0.47
32:E:124:PHE:CE2	32:E:148:ILE:HD13	2.50	0.47
43:P:4:ILE:CG2	43:P:5:LYS:H	2.11	0.47
50:W:39:GLN:HG2	50:W:41:GLY:H	1.80	0.47
51:X:68:ALA:HA	51:X:71:ARG:NH2	2.29	0.47
57:x:82:VAL:HG23	57:x:83:ASP:OD1	2.15	0.47
57:x:288:PHE:HB3	57:x:289:LYS:CB	2.44	0.47
57:x:518:LEU:HD21	57:x:591:ILE:CD1	2.43	0.47
57:x:548:ASN:ND2	57:x:551:ALA:HB2	2.30	0.47
1:a:110:C:H2'	1:a:111:G:O4'	2.14	0.47
1:a:214:C:H2'	1:a:215:C:C6	2.50	0.47
1:a:461:A:H3'	1:a:461:A:N3	2.30	0.47
1:a:767:A:H2'	1:a:768:A:O4'	2.13	0.47
2:c:40:ARG:O	2:c:44:THR:HG23	2.15	0.47
2:c:169:ARG:HG2	2:c:170:GLU:N	2.29	0.47
3:d:49:SER:O	3:d:52:GLY:N	2.46	0.47
3:d:124:MET:HE3	3:d:146:ARG:HD2	1.96	0.47
4:e:16:ILE:HD11	4:e:38:VAL:CG2	2.44	0.47
6:g:69:VAL:HG22	6:g:135:VAL:CG1	2.44	0.47
11:l:21:VAL:HG23	11:l:21:VAL:O	2.14	0.47
11:l:54:ARG:HA	11:l:64:THR:HA	1.97	0.47
11:l:79:VAL:O	11:l:103:ASP:HB2	2.14	0.47
12:m:14:HIS:CD2	12:m:42:ASP:HA	2.49	0.47
13:n:28:LYS:CD	13:n:49:GLN:NE2	2.77	0.47
13:n:32:SER:N	13:n:34:VAL:HG11	2.29	0.47
13:n:35:ASN:CB	18:s:7:LYS:CE	2.81	0.47
13:n:46:LEU:CA	13:n:47:LYS:HZ3	2.25	0.47
18:s:15:LEU:CD1	18:s:33:THR:HG21	2.40	0.47
18:s:62:VAL:HG12	18:s:63:THR:N	2.30	0.47
21:b:9:LEU:HD12	21:b:42:LEU:HD22	1.95	0.47
21:b:14:HIS:ND1	21:b:40:ILE:HD11	2.29	0.47
22:0:38:LEU:HB2	22:0:41:HIS:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:1:43:ARG:NH2	28:A:643:A:H1'	2.29	0.47
23:1:44:GLN:O	23:1:46:VAL:HG23	2.14	0.47
26:4:17:VAL:HG12	26:4:18:LYS:N	2.28	0.47
27:5:7:ARG:HD2	28:A:2130:U:C4	2.49	0.47
27:5:69:THR:HB	27:5:161:VAL:CG2	2.44	0.47
27:5:127:LEU:CD2	28:A:2169:A:C4	2.97	0.47
28:A:12:U:O2	28:A:12:U:H2'	2.15	0.47
28:A:308:G:O2'	28:A:329:G:N2	2.47	0.47
28:A:418:C:N3	28:A:419:U:N3	2.63	0.47
28:A:426:C:H2'	28:A:427:U:C6	2.48	0.47
28:A:539:G:O2'	28:A:540:C:H5'	2.14	0.47
28:A:551:G:H2'	28:A:552:U:H5'	1.95	0.47
28:A:579:G:O2'	28:A:2019:A:OP1	2.31	0.47
28:A:707:G:O2'	28:A:708:G:H5'	2.14	0.47
28:A:1058:U:O2'	28:A:1059:G:H5'	2.14	0.47
28:A:1500:G:O2'	28:A:1501:G:H5'	2.14	0.47
28:A:1592:C:H2'	28:A:1593:A:H8	1.79	0.47
28:A:1879:C:H2'	28:A:1880:U:O4'	2.15	0.47
28:A:2092:U:OP1	28:A:2199:A:O2'	2.33	0.47
28:A:2186:G:H2'	28:A:2187:U:H6	1.80	0.47
28:A:2216:G:H2'	28:A:2217:G:H8	1.79	0.47
28:A:2320:U:H4'	28:A:2321:U:H6	1.80	0.47
28:A:2494:G:OP1	57:x:556:GLY:HA2	2.15	0.47
28:A:2783:U:H2'	28:A:2784:U:H6	1.80	0.47
28:A:2822:G:C2'	28:A:2823:A:H5''	2.41	0.47
28:A:2829:A:O2'	28:A:2830:C:H5'	2.15	0.47
28:A:2877:G:O2'	28:A:2878:U:H5'	2.14	0.47
31:D:16:THR:HG23	31:D:18:ASP:OD1	2.15	0.47
32:E:57:LYS:O	32:E:59:PRO:HD3	2.15	0.47
32:E:124:PHE:HE1	32:E:141:MET:SD	2.37	0.47
32:E:150:THR:HG21	32:E:153:LEU:HA	1.95	0.47
33:F:24:VAL:O	33:F:27:VAL:HG12	2.15	0.47
34:G:51:PHE:HE2	34:G:68:ARG:HA	1.77	0.47
34:G:70:LEU:O	34:G:74:MET:HG3	2.15	0.47
35:H:7:ASP:N	35:H:35:LYS:O	2.48	0.47
35:H:118:PRO:HB3	35:H:122:LEU:HB3	1.97	0.47
37:J:16:TYR:HB3	37:J:140:LEU:CD2	2.44	0.47
37:J:38:GLY:HA3	37:J:50:THR:OG1	2.15	0.47
37:J:98:GLU:HB3	37:J:124:VAL:HG21	1.95	0.47
40:M:50:ARG:HD3	40:M:65:ILE:HD11	1.96	0.47
43:P:64:SER:N	43:P:67:GLU:O	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:Z:24:LEU:O	53:Z:24:LEU:HD23	2.14	0.47
57:x:65:ALA:HB2	57:x:71:TYR:CE2	2.49	0.47
57:x:301:PRO:HA	57:x:363:LEU:CD2	2.45	0.47
57:x:411:PRO:HG3	57:x:438:GLN:HE22	1.80	0.47
54:9:20:U:H2'	54:9:21:A:H4'	1.97	0.47
1:a:204:G:H5'	1:a:205:A:OP2	2.14	0.47
1:a:437:U:C2'	1:a:438:U:H5'	2.45	0.47
1:a:451:A:H4'	1:a:452:A:O4'	2.14	0.47
1:a:846:G:H2'	1:a:847:G:O4'	2.14	0.47
1:a:913:A:H1'	1:a:914:A:OP2	2.14	0.47
1:a:1000:A:C2'	1:a:1001:C:H5'	2.45	0.47
1:a:1007:U:C2'	1:a:1008:U:H5'	2.34	0.47
1:a:1155:A:H2'	1:a:1156:G:H5'	1.97	0.47
1:a:1505:G:H4'	1:a:1506:U:H5''	1.96	0.47
1:a:1514:G:N2	1:a:1522:U:O2	2.48	0.47
11:l:32:GLY:HA3	11:l:55:VAL:HG11	1.95	0.47
18:s:55:ARG:HG3	18:s:56:GLN:CB	2.45	0.47
25:3:44:ARG:HD3	28:A:2418:A:OP1	2.14	0.47
28:A:137:U:H3	28:A:142:A:N6	2.12	0.47
28:A:188:G:H5'	51:X:13:THR:HG23	1.97	0.47
28:A:806:C:O2	28:A:2444:G:O2'	2.32	0.47
28:A:912:C:O2'	28:A:913:U:H5'	2.15	0.47
28:A:1777:U:O2'	28:A:1778:U:H5'	2.15	0.47
28:A:2116:G:H3'	28:A:2117:A:C8	2.50	0.47
28:A:2230:G:H5''	51:X:29:LEU:CD1	2.39	0.47
28:A:2234:G:C2'	28:A:2235:G:H5'	2.44	0.47
28:A:2293:G:OP1	42:O:94:ARG:NH1	2.47	0.47
28:A:2428:G:H5''	28:A:2429:G:O5'	2.15	0.47
28:A:2644:G:O2'	28:A:2645:G:H5'	2.14	0.47
28:A:2671:G:H2'	28:A:2672:U:O4'	2.15	0.47
30:C:60:ALA:O	30:C:62:ARG:NH2	2.48	0.47
32:E:12:LEU:O	32:E:12:LEU:HD23	2.15	0.47
34:G:38:ASP:N	34:G:38:ASP:OD1	2.47	0.47
39:L:112:LEU:HD23	39:L:112:LEU:O	2.15	0.47
41:N:57:THR:O	41:N:62:ASN:ND2	2.38	0.47
47:T:61:LEU:C	47:T:61:LEU:HD12	2.39	0.47
57:x:403:ILE:HG22	57:x:404:ALA:N	2.29	0.47
1:a:22:G:O2'	1:a:913:A:N1	2.40	0.47
1:a:212:G:H2'	1:a:213:G:C5'	2.45	0.47
1:a:383:A:H2'	1:a:384:G:H5'	1.96	0.47
1:a:465:A:H3'	1:a:466:A:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:571:U:H5'	1:a:819:A:C5	2.50	0.47
1:a:1018:G:C2'	1:a:1019:A:H5'	2.44	0.47
1:a:1104:G:H2'	1:a:1105:A:O4'	2.14	0.47
1:a:1106:G:C2'	1:a:1107:C:H5'	2.45	0.47
2:c:64:ILE:HG22	2:c:99:ALA:HB2	1.97	0.47
3:d:48:LEU:HD11	3:d:53:VAL:CG1	2.45	0.47
9:j:32:THR:HG21	9:j:86:ALA:HB3	1.96	0.47
12:m:39:ILE:CD1	12:m:52:GLN:HE21	2.28	0.47
13:n:33:ASP:CA	13:n:34:VAL:CB	2.91	0.47
15:p:67:ILE:HG21	15:p:72:ALA:HB2	1.97	0.47
21:b:59:ILE:HD11	21:b:66:ILE:CD1	2.44	0.47
23:1:46:VAL:HG12	23:1:47:ILE:N	2.29	0.47
27:5:133:PRO:HB2	28:A:2172:U:H4'	1.97	0.47
27:5:224:VAL:HG12	27:5:225:ASP:N	2.30	0.47
28:A:156:A:C2'	28:A:157:C:H5'	2.45	0.47
28:A:594:U:H2'	28:A:595:C:C6	2.50	0.47
28:A:628:G:O2'	28:A:629:G:H5'	2.15	0.47
28:A:1060:U:H4'	28:A:1061:U:H5''	1.96	0.47
28:A:1212:G:H1'	28:A:1236:G:N2	2.30	0.47
28:A:1268:A:H2'	28:A:1269:A:O4'	2.15	0.47
28:A:1678:A:C2'	28:A:1679:A:H5'	2.45	0.47
28:A:1924:C:H2'	28:A:1925:C:C5'	2.44	0.47
28:A:2290:G:N1	28:A:2343:U:O2	2.48	0.47
28:A:2765:A:H5'	28:A:2766:A:OP2	2.15	0.47
32:E:129:PRO:HG3	32:E:156:ASN:OD1	2.15	0.47
40:M:41:LEU:CD1	40:M:96:ILE:HG12	2.45	0.47
40:M:59:ARG:HD3	54:6:54:U:C4'	2.45	0.47
45:R:5:PHE:HE2	45:R:14:VAL:HG21	1.80	0.47
48:U:85:ARG:HD3	48:U:86:PHE:N	2.29	0.47
50:W:22:VAL:O	50:W:22:VAL:HG13	2.15	0.47
55:7:14:A:N3	55:7:14:A:C2'	2.77	0.47
54:9:20:U:O2	54:9:21:A:H4'	2.15	0.47
54:9:60:U:H2'	54:9:61:C:C5	2.50	0.47
1:a:77:A:N6	1:a:79:G:O2'	2.48	0.47
1:a:380:G:N2	1:a:383:A:OP2	2.47	0.47
1:a:409:U:C2'	1:a:410:G:H5'	2.45	0.47
1:a:736:C:OP1	17:r:61:ARG:NH2	2.36	0.47
1:a:1047:G:C2'	1:a:1048:G:H5'	2.45	0.47
1:a:1395:C:H5''	1:a:1402:C:H4'	1.97	0.47
1:a:1480:A:O2'	1:a:1481:U:H5'	2.15	0.47
4:e:126:LYS:CD	4:e:128:TYR:CE1	2.98	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:75:MET:O	12:m:78:LYS:HB2	2.15	0.47
18:s:5:LEU:O	18:s:7:LYS:N	2.47	0.47
18:s:69:HIS:HB3	18:s:73:GLU:CD	2.40	0.47
21:b:79:VAL:HA	21:b:213:LEU:HD21	1.95	0.47
21:b:199:ILE:HG13	21:b:199:ILE:O	2.15	0.47
25:3:12:ARG:NH1	28:A:2394:C:H5'	2.30	0.47
27:5:70:GLY:O	27:5:177:LYS:N	2.48	0.47
27:5:74:ARG:NH1	27:5:110:ASN:HB3	2.30	0.47
28:A:329:G:O6	48:U:16:LYS:HB2	2.15	0.47
28:A:497:A:H2'	28:A:498:G:O4'	2.16	0.47
28:A:820:A:N3	28:A:943:A:O2'	2.44	0.47
28:A:903:C:H2'	28:A:904:G:C8	2.50	0.47
28:A:912:C:P	40:M:8:LYS:HZ1	2.38	0.47
28:A:2157:G:O2'	28:A:2158:A:P	2.73	0.47
28:A:2289:G:O2'	28:A:2383:G:O2'	2.32	0.47
28:A:2553:G:H5''	28:A:2554:U:OP2	2.15	0.47
28:A:2654:A:H4'	28:A:2655:G:OP1	2.15	0.47
30:C:120:ASP:O	30:C:121:ALA:HB3	2.15	0.47
30:C:134:ILE:HG22	30:C:135:PRO:O	2.16	0.47
30:C:156:SER:O	30:C:194:VAL:HG11	2.14	0.47
32:E:46:GLN:O	32:E:86:ALA:HB1	2.15	0.47
34:G:53:PRO:HB3	34:G:60:GLY:HA3	1.96	0.47
35:H:40:THR:O	35:H:41:LYS:HB2	2.14	0.47
36:I:63:ASP:O	36:I:64:ARG:HB3	2.15	0.47
39:L:81:ASP:O	39:L:82:LEU:HG	2.15	0.47
40:M:53:MET:HB2	40:M:120:ALA:HB2	1.97	0.47
40:M:106:ASP:O	40:M:108:VAL:N	2.42	0.47
44:Q:64:ILE:HG12	44:Q:95:ALA:HB1	1.95	0.47
45:R:75:VAL:HG12	45:R:76:LYS:N	2.30	0.47
46:S:59:GLU:OE2	46:S:66:ILE:HG23	2.15	0.47
57:x:193:ALA:CB	57:x:212:ILE:HD13	2.45	0.47
1:a:454:G:O2'	1:a:455:G:H5'	2.15	0.46
1:a:634:C:C2'	1:a:635:A:H5'	2.45	0.46
1:a:1242:G:N1	1:a:1296:C:O2	2.48	0.46
4:e:156:LYS:HD2	7:h:71:VAL:HG13	1.97	0.46
6:g:62:PHE:CE2	6:g:66:LEU:HD22	2.50	0.46
13:n:22:ALA:CA	13:n:26:GLU:OE2	2.63	0.46
13:n:28:LYS:HD3	13:n:49:GLN:NE2	2.30	0.46
16:q:25:ILE:HD12	16:q:44:LEU:HD12	1.96	0.46
20:u:41:PRO:O	20:u:45:ARG:N	2.44	0.46
28:A:376:G:N2	28:A:399:U:O2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:783:A:C2'	28:A:784:G:H5''	2.45	0.46
28:A:1047:G:HO2'	28:A:1109:C:N4	2.13	0.46
28:A:1695:G:N7	30:C:13:ARG:NH2	2.63	0.46
28:A:2145:C:O2	28:A:2148:G:H2'	2.15	0.46
28:A:2732:G:P	31:D:208:LYS:HZ3	2.37	0.46
31:D:101:PHE:HA	31:D:104:VAL:CG2	2.45	0.46
34:G:116:LEU:HD21	34:G:122:ALA:CB	2.41	0.46
37:J:129:GLU:N	37:J:129:GLU:OE1	2.49	0.46
39:L:40:SER:O	39:L:41:ARG:HB2	2.15	0.46
40:M:26:VAL:HB	40:M:133:LYS:HA	1.96	0.46
46:S:70:LYS:O	46:S:107:VAL:HG23	2.15	0.46
47:T:85:VAL:O	47:T:86:THR:OG1	2.32	0.46
51:X:36:ARG:HG2	51:X:47:THR:CG2	2.38	0.46
53:Z:8:GLN:HB3	53:Z:32:GLY:H	1.80	0.46
57:x:128:PRO:O	57:x:158:ALA:HB1	2.15	0.46
57:x:373:GLU:OE1	57:x:475:PHE:HD2	1.98	0.46
57:x:402:PRO:HA	57:x:475:PHE:CD1	2.49	0.46
57:x:558:ILE:CG2	57:x:562:LYS:HE2	2.45	0.46
1:a:154:U:O2'	1:a:155:A:H5'	2.15	0.46
1:a:932:C:O3'	6:g:4:ARG:NH2	2.38	0.46
2:c:66:VAL:O	2:c:66:VAL:HG12	2.16	0.46
3:d:45:LYS:N	3:d:46:PRO:HD3	2.29	0.46
4:e:111:MET:HE2	4:e:125:ALA:HB1	1.96	0.46
7:h:10:MET:HG3	7:h:27:MET:SD	2.55	0.46
11:l:30:LYS:O	11:l:82:ILE:HG22	2.15	0.46
13:n:39:GLU:HB2	13:n:41:ARG:HD2	1.97	0.46
21:b:124:THR:O	21:b:136:ARG:NH2	2.49	0.46
21:b:128:LEU:HD13	21:b:132:GLU:OE2	2.16	0.46
27:5:36:ALA:HB2	27:5:38:PHE:CE1	2.50	0.46
27:5:66:PRO:HD3	27:5:191:ALA:HB2	1.97	0.46
28:A:559:G:H2'	28:A:560:C:H6	1.80	0.46
28:A:774:G:O2'	28:A:775:G:OP2	2.27	0.46
28:A:811:U:H2'	39:L:21:ARG:HA	1.97	0.46
28:A:824:U:O2'	28:A:825:A:H5'	2.15	0.46
28:A:886:A:O2'	28:A:887:U:O5'	2.33	0.46
28:A:1478:G:O2'	28:A:1479:G:H5'	2.16	0.46
28:A:1655:A:O4'	31:D:118:PHE:HB2	2.16	0.46
28:A:2343:U:HO2'	28:A:2373:G:HO2'	1.58	0.46
28:A:2655:G:OP1	28:A:2655:G:H4'	2.14	0.46
29:B:78:A:C2	29:B:99:A:C4	3.04	0.46
31:D:98:VAL:HG12	31:D:180:VAL:HG13	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:E:188:MET:CG	32:E:193:VAL:HG22	2.45	0.46
33:F:3:LEU:CA	33:F:6:TYR:HB3	2.43	0.46
33:F:163:GLU:OE1	33:F:166:ARG:NH2	2.44	0.46
34:G:22:VAL:O	34:G:23:ILE:HG13	2.16	0.46
38:K:11:ALA:HB3	38:K:85:VAL:CG2	2.46	0.46
39:L:27:LEU:O	39:L:31:GLY:HA2	2.14	0.46
40:M:71:LYS:HD3	40:M:95:LEU:CD1	2.44	0.46
41:N:1:MET:O	41:N:2:ARG:CB	2.62	0.46
42:O:24:THR:HG22	42:O:42:PRO:CD	2.45	0.46
56:8:25:C:H2'	56:8:26:G:O4'	2.15	0.46
57:x:167:VAL:HG23	57:x:169:VAL:CG1	2.46	0.46
1:a:802:A:H2'	1:a:803:G:C5'	2.44	0.46
5:f:100:SER:CB	5:f:101:PRO:HA	2.41	0.46
15:p:38:PHE:HZ	15:p:51:ARG:HD3	1.80	0.46
21:b:9:LEU:HD11	21:b:12:GLY:CA	2.45	0.46
21:b:99:MET:HA	21:b:106:VAL:HG21	1.96	0.46
22:0:54:ILE:HG22	22:0:56:LYS:OXT	2.15	0.46
24:2:35:ARG:HE	24:2:42:LEU:CD1	2.28	0.46
26:4:11:CYS:HB3	26:4:33:HIS:CE1	2.51	0.46
27:5:37:LYS:HG3	27:5:38:PHE:HD2	1.74	0.46
27:5:150:ALA:HA	27:5:153:VAL:HG23	1.98	0.46
28:A:37:C:O2'	32:E:45:ALA:HB3	2.16	0.46
28:A:266:G:H3'	28:A:267:C:H5''	1.97	0.46
28:A:640:C:H2'	28:A:641:U:C6	2.50	0.46
28:A:719:C:O2'	28:A:720:U:H5'	2.16	0.46
28:A:803:U:H2'	28:A:804:A:H5'	1.96	0.46
28:A:1323:C:C2'	28:A:1324:G:H5'	2.45	0.46
28:A:1742:U:O2'	28:A:1743:G:H5'	2.15	0.46
28:A:1789:A:H2'	28:A:1790:C:C6	2.50	0.46
28:A:2120:G:C2	28:A:2121:G:H1'	2.50	0.46
29:B:118:C:H2'	29:B:119:A:C4'	2.46	0.46
30:C:16:VAL:HG23	30:C:203:VAL:HG11	1.97	0.46
34:G:114:HIS:HB2	34:G:150:TYR:CE2	2.51	0.46
34:G:129:GLU:HG2	34:G:130:ILE:N	2.31	0.46
41:N:26:GLY:HA2	41:N:29:VAL:HG12	1.96	0.46
46:S:3:THR:HG23	46:S:3:THR:O	2.15	0.46
53:Z:50:VAL:HG23	53:Z:54:VAL:HG22	1.97	0.46
57:x:86:TYR:O	57:x:90:ARG:HD3	2.14	0.46
57:x:166:GLY:HA3	57:x:167:VAL:O	2.16	0.46
57:x:509:ARG:NH2	57:x:509:ARG:HB3	2.31	0.46
57:x:558:ILE:HG22	57:x:562:LYS:HE2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:586:GLU:HA	57:x:589:LEU:HD11	1.97	0.46
54:9:69:G:H2'	54:9:70:G:O4'	2.15	0.46
1:a:208:U:H2'	1:a:210:C:N1	2.30	0.46
1:a:459:A:O2'	1:a:460:A:H5'	2.15	0.46
1:a:461:A:O2'	1:a:462:G:H8	1.98	0.46
1:a:1174:G:C2'	1:a:1175:G:H5'	2.45	0.46
1:a:1367:C:O5'	8:i:114:LYS:NZ	2.47	0.46
5:f:51:ILE:HG23	5:f:51:ILE:O	2.15	0.46
11:l:24:LEU:CG	11:l:25:GLU:N	2.77	0.46
17:r:55:LEU:HD11	17:r:59:ILE:HD11	1.98	0.46
23:1:7:LYS:NZ	28:A:2420:C:H5''	2.31	0.46
23:1:13:SER:OG	23:1:47:ILE:HG23	2.16	0.46
27:5:7:ARG:HG3	28:A:2130:U:C2	2.50	0.46
27:5:15:VAL:HG12	27:5:16:ASP:OD1	2.15	0.46
27:5:24:ASN:ND2	27:5:231:ALA:O	2.45	0.46
27:5:34:ALA:HA	27:5:219:GLY:HA3	1.97	0.46
28:A:296:U:H2'	28:A:297:G:C8	2.50	0.46
28:A:412:A:N6	28:A:2411:A:O2'	2.47	0.46
28:A:496:G:H2'	28:A:497:A:H5'	1.98	0.46
28:A:538:A:O2'	28:A:539:G:H5'	2.15	0.46
28:A:990:A:N1	45:R:78:ARG:NH1	2.64	0.46
28:A:1982:U:C2'	28:A:1983:G:H5'	2.46	0.46
28:A:2867:G:O2'	28:A:2868:A:OP2	2.29	0.46
29:B:64:G:H2'	29:B:65:U:C6	2.50	0.46
31:D:14:ILE:HG22	43:P:11:GLN:HE22	1.80	0.46
34:G:29:ASN:ND2	34:G:79:THR:O	2.48	0.46
35:H:104:THR:CG2	35:H:109:GLU:HG3	2.44	0.46
36:I:9:LYS:HB3	36:I:57:VAL:HG22	1.96	0.46
40:M:45:GLN:OE1	40:M:125:PRO:HG3	2.14	0.46
41:N:33:ILE:CD1	41:N:114:GLU:HB3	2.34	0.46
41:N:83:LEU:HD21	41:N:115:LEU:HD11	1.97	0.46
45:R:46:GLU:H	45:R:46:GLU:CD	2.19	0.46
49:V:21:ARG:HH21	49:V:87:GLN:C	2.23	0.46
51:X:39:VAL:HG22	51:X:44:ARG:O	2.16	0.46
51:X:39:VAL:O	51:X:41:SER:N	2.44	0.46
57:x:133:ILE:CD1	57:x:160:ARG:HB3	2.43	0.46
57:x:224:LYS:HG3	57:x:230:GLN:O	2.16	0.46
54:9:45:U:H2'	54:9:46:G:H5'	1.96	0.46
1:a:653:U:C6	7:h:56:LYS:HG2	2.50	0.46
1:a:1060:U:C5	2:c:2:GLY:N	2.84	0.46
4:e:91:GLY:C	4:e:130:SER:HB3	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:33:ASP:CB	13:n:34:VAL:CB	2.85	0.46
16:q:19:LYS:H	16:q:51:ASN:HD21	1.63	0.46
21:b:140:LEU:O	21:b:143:LEU:N	2.43	0.46
27:5:34:ALA:HB2	27:5:216:THR:HG21	1.97	0.46
27:5:163:TYR:HB2	27:5:171:ILE:CG2	2.46	0.46
28:A:1:G:H2'	28:A:2:G:H8	1.80	0.46
28:A:273:G:H1	28:A:364:C:N4	2.14	0.46
28:A:460:A:H2'	28:A:461:C:O4'	2.16	0.46
28:A:1005:C:O2'	37:J:30:THR:HG21	2.16	0.46
28:A:1059:G:H2'	28:A:1060:U:C6	2.48	0.46
28:A:2038:G:O2'	28:A:2039:U:H5'	2.16	0.46
28:A:2133:G:N1	28:A:2159:G:N7	2.63	0.46
28:A:2685:G:O2'	28:A:2686:G:H5'	2.15	0.46
28:A:2758:A:H2'	28:A:2759:G:C5'	2.45	0.46
29:B:13:G:N2	29:B:16:G:N3	2.62	0.46
33:F:59:ILE:HG22	33:F:60:SER:N	2.29	0.46
40:M:73:ILE:HG12	40:M:93:VAL:HG22	1.98	0.46
42:O:26:LEU:HD13	42:O:39:VAL:CG2	2.44	0.46
44:Q:91:ARG:HG3	45:R:11:GLN:OE1	2.15	0.46
45:R:52:PRO:O	45:R:53:PHE:HB2	2.16	0.46
54:6:34:G:H1	55:7:21:C:H5	1.62	0.46
57:x:241:THR:HG22	57:x:242:PRO:N	2.30	0.46
57:x:314:LEU:HD12	57:x:338:PHE:CE2	2.50	0.46
57:x:509:ARG:CZ	57:x:509:ARG:CB	2.93	0.46
57:x:549:VAL:HG23	57:x:550:LEU:N	2.31	0.46
54:9:30:G:O6	54:9:31:A:N6	2.49	0.46
1:a:139:A:C2'	1:a:140:U:H5'	2.46	0.46
1:a:529:G:H4'	1:a:533:A:C6	2.50	0.46
1:a:529:G:O6	11:l:46:ASN:HA	2.16	0.46
1:a:627:G:H2'	1:a:628:G:O4'	2.15	0.46
1:a:932:C:C4'	6:g:4:ARG:HH21	2.29	0.46
1:a:1055:A:C2	1:a:1056:U:H1'	2.51	0.46
1:a:1152:A:OP1	9:j:70:HIS:ND1	2.48	0.46
3:d:27:ALA:HB1	3:d:29:ASP:OD1	2.16	0.46
4:e:13:GLU:HB2	4:e:39:VAL:HG12	1.96	0.46
5:f:68:GLN:O	5:f:71:ILE:HG22	2.16	0.46
5:f:90:MET:HB3	5:f:91:ARG:H	1.58	0.46
8:i:83:ILE:O	8:i:86:ALA:HB3	2.15	0.46
12:m:4:ILE:O	12:m:6:GLY:N	2.49	0.46
21:b:56:LEU:HB2	21:b:183:PHE:CE2	2.49	0.46
21:b:119:GLN:NE2	21:b:136:ARG:HE	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:O:53:VAL:O	22:O:54:ILE:HB	2.16	0.46
28:A:118:A:H3'	28:A:119:A:C5'	2.43	0.46
28:A:495:G:C5'	46:S:4:ILE:HD11	2.41	0.46
28:A:1656:C:H2'	28:A:1657:U:H6	1.80	0.46
28:A:2135:A:N7	28:A:2155:U:C4	2.84	0.46
28:A:2274:A:O2'	28:A:2276:G:OP1	2.24	0.46
28:A:2428:G:H21	39:L:60:ARG:NH2	2.14	0.46
31:D:52:THR:OG1	31:D:53:GLY:N	2.49	0.46
35:H:85:GLY:HA3	35:H:147:VAL:HA	1.97	0.46
36:I:100:ILE:HG23	36:I:104:GLN:HB2	1.98	0.46
39:L:117:THR:HG22	39:L:118:THR:N	2.30	0.46
42:O:33:ARG:O	42:O:34:HIS:ND1	2.49	0.46
43:P:50:ARG:HB3	43:P:57:ALA:O	2.15	0.46
45:R:5:PHE:CE2	45:R:14:VAL:HG21	2.51	0.46
57:x:504:SER:O	57:x:508:GLY:N	2.45	0.46
54:9:37:A:H3'	54:9:38:A:C8	2.49	0.46
1:a:259:G:H2'	1:a:260:G:O4'	2.15	0.46
1:a:446:G:H1	1:a:488:C:N4	2.10	0.46
1:a:701:U:O2	1:a:703:G:N1	2.49	0.46
1:a:863:U:H2'	1:a:865:A:OP2	2.16	0.46
1:a:889:A:H4'	1:a:890:G:OP1	2.15	0.46
8:i:99:ARG:CG	8:i:104:VAL:HG21	2.28	0.46
10:k:111:THR:HG22	20:u:5:LYS:HB3	1.98	0.46
11:l:73:ASN:O	11:l:74:LEU:HB2	2.16	0.46
19:t:32:ILE:HG12	19:t:54:MET:CE	2.46	0.46
28:A:127:A:H5''	28:A:128:C:O4'	2.15	0.46
28:A:1106:G:H2'	28:A:1107:G:H5'	1.98	0.46
28:A:1752:C:O2'	28:A:1753:G:H5'	2.16	0.46
28:A:1847:A:H2'	28:A:1847:A:N3	2.30	0.46
28:A:2029:G:H2'	28:A:2031:A:OP1	2.15	0.46
28:A:2101:A:H2'	28:A:2102:G:H8	1.79	0.46
28:A:2211:A:O2'	28:A:2212:A:P	2.74	0.46
28:A:2364:C:O2'	28:A:2365:G:H5'	2.16	0.46
28:A:2777:G:H5''	28:A:2778:A:H3'	1.97	0.46
29:B:115:A:H2'	29:B:116:G:O4'	2.15	0.46
30:C:108:GLY:C	30:C:109:LEU:HG	2.41	0.46
31:D:26:VAL:HG22	31:D:188:LEU:HD21	1.97	0.46
31:D:108:ASP:O	31:D:109:VAL:HB	2.16	0.46
35:H:142:VAL:HG22	35:H:143:ILE:N	2.31	0.46
38:K:19:VAL:CG1	38:K:20:MET:N	2.79	0.46
38:K:40:LYS:O	38:K:41:ILE:HD13	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:P:20:ARG:HG3	43:P:21:PRO:HD2	1.97	0.46
45:R:4:VAL:HG22	45:R:5:PHE:N	2.30	0.46
47:T:25:GLU:OE1	47:T:30:ILE:HG22	2.15	0.46
47:T:76:ARG:NH1	47:T:76:ARG:CG	2.76	0.46
57:x:408:MET:HE1	57:x:422:CYS:SG	2.55	0.46
57:x:495:LEU:CD1	57:x:515:MET:HE3	2.45	0.46
1:a:482:A:C2'	1:a:483:C:H5'	2.43	0.46
1:a:552:U:H5'	11:l:83:ARG:HH11	1.81	0.46
1:a:690:G:O2'	1:a:691:G:H5'	2.16	0.46
1:a:740:U:O2'	1:a:741:G:H5'	2.16	0.46
1:a:1027:C:N3	1:a:1028:C:N4	2.64	0.46
8:i:15:SER:OG	8:i:69:GLY:O	2.20	0.46
8:i:92:GLU:C	8:i:95:ARG:H	2.23	0.46
12:m:79:ARG:HH12	18:s:69:HIS:CE1	2.34	0.46
19:t:28:MET:O	19:t:32:ILE:HG13	2.15	0.46
28:A:55:G:O2'	28:A:127:A:N1	2.39	0.46
28:A:82:U:O2	28:A:82:U:H2'	2.16	0.46
28:A:193:U:C2'	28:A:194:G:H5'	2.46	0.46
28:A:321:U:C2	32:E:159:LEU:HD23	2.51	0.46
28:A:563:A:OP2	45:R:79:ARG:NH2	2.46	0.46
28:A:988:A:P	53:Z:11:SER:HB3	2.55	0.46
28:A:1043:C:C3'	28:A:1044:C:H5''	2.46	0.46
28:A:1094:U:H2'	28:A:1096:A:OP2	2.15	0.46
28:A:1788:C:H2'	28:A:1789:A:H8	1.79	0.46
28:A:2044:C:C2'	28:A:2045:C:H5'	2.45	0.46
28:A:2426:A:H4'	28:A:2427:C:OP2	2.16	0.46
33:F:113:PHE:HZ	33:F:175:PRO:HB2	1.80	0.46
37:J:32:LEU:CD2	37:J:54:ILE:HD13	2.45	0.46
42:O:74:VAL:O	42:O:78:VAL:HG22	2.15	0.46
42:O:94:ARG:HD2	42:O:97:PHE:O	2.16	0.46
45:R:72:VAL:HG23	45:R:72:VAL:O	2.14	0.46
46:S:9:HIS:O	46:S:11:ARG:NH1	2.49	0.46
51:X:3:VAL:CG2	51:X:10:ARG:HG2	2.37	0.46
54:6:29:G:N2	54:6:42:C:H1'	2.31	0.46
57:x:108:VAL:HG12	57:x:109:GLU:O	2.15	0.46
54:9:48:C:C2	54:9:59:U:H1'	2.51	0.46
1:a:644:U:H2'	1:a:645:G:H5'	1.96	0.46
1:a:1306:A:C2	1:a:1332:A:H1'	2.51	0.46
5:f:9:MET:O	5:f:85:ILE:HG12	2.16	0.46
9:j:5:ARG:HE	9:j:79:PRO:CG	2.18	0.46
9:j:19:ASP:HA	9:j:22:THR:CG2	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:l:4:VAL:O	11:l:8:VAL:HG23	2.16	0.46
15:p:5:ARG:HA	15:p:71:VAL:HG21	1.98	0.46
23:1:10:LEU:HD21	23:1:33:LEU:HD22	1.97	0.46
27:5:48:LEU:CD1	27:5:171:ILE:HG13	2.46	0.46
28:A:209:C:O2'	28:A:210:C:H5'	2.16	0.46
28:A:378:C:C2'	28:A:379:G:H5'	2.46	0.46
28:A:548:G:O2'	28:A:549:G:N1	2.45	0.46
28:A:739:A:H1'	28:A:740:C:H5	1.80	0.46
28:A:784:G:H4'	28:A:785:G:O5'	2.16	0.46
28:A:1175:A:P	28:A:1176:U:H1'	2.55	0.46
28:A:1177:G:H2'	28:A:1178:C:H5''	1.98	0.46
28:A:2060:A:O2'	32:E:63:LYS:NZ	2.49	0.46
28:A:2278:A:OP1	40:M:10:ARG:NH1	2.49	0.46
28:A:2652:C:C2'	28:A:2653:U:H5'	2.46	0.46
30:C:175:LEU:N	30:C:175:LEU:HD12	2.30	0.46
31:D:146:ILE:O	31:D:146:ILE:HG13	2.15	0.46
32:E:47:LYS:HB3	32:E:51:GLU:HG3	1.97	0.46
33:F:109:ARG:HD3	33:F:136:ILE:C	2.40	0.46
35:H:73:ASN:ND2	35:H:132:PHE:HD2	2.14	0.46
35:H:99:ILE:HG12	35:H:101:ASP:H	1.80	0.46
37:J:59:ALA:HB3	37:J:126:ALA:HA	1.98	0.46
37:J:110:PRO:C	37:J:111:LYS:HG2	2.41	0.46
38:K:2:ILE:O	38:K:3:GLN:HB3	2.16	0.46
38:K:19:VAL:HG11	38:K:41:ILE:HG23	1.94	0.46
39:L:22:GLY:O	39:L:28:GLY:HA3	2.16	0.46
39:L:57:LEU:CD1	39:L:60:ARG:HH11	2.26	0.46
40:M:68:PHE:CG	40:M:69:PRO:HD2	2.51	0.46
42:O:83:LEU:C	42:O:86:GLY:H	2.24	0.46
43:P:50:ARG:CB	43:P:57:ALA:H	2.28	0.46
44:Q:97:ILE:HD11	44:Q:108:LEU:CD1	2.45	0.46
57:x:296:TYR:HB3	57:x:451:VAL:HB	1.98	0.46
57:x:421:LEU:HD11	57:x:457:ARG:HD2	1.98	0.46
1:a:248:C:O2'	1:a:249:U:H5'	2.16	0.46
1:a:335:C:O2'	1:a:1433:A:N3	2.42	0.46
1:a:453:G:H2'	1:a:454:G:C8	2.51	0.46
1:a:468:A:H5''	1:a:469:C:H5	1.81	0.46
1:a:736:C:O2'	1:a:737:C:H5'	2.16	0.46
1:a:779:C:H5'	10:k:122:ARG:O	2.16	0.46
1:a:868:C:H2'	1:a:869:G:O4'	2.16	0.46
1:a:1021:A:H3'	1:a:1022:A:H8	1.81	0.46
1:a:1133:G:H2'	1:a:1134:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1152:A:P	9:j:72:ARG:HH22	2.39	0.46
1:a:1330:U:H5''	1:a:1331:G:OP2	2.16	0.46
3:d:73:ARG:O	3:d:76:TYR:HB3	2.16	0.46
4:e:30:ILE:O	4:e:30:ILE:HG23	2.15	0.46
6:g:43:VAL:O	6:g:47:LEU:HD13	2.15	0.46
10:k:23:ILE:HG13	10:k:86:VAL:HA	1.97	0.46
12:m:79:ARG:O	12:m:83:LEU:HG	2.15	0.46
21:b:67:LEU:HD13	21:b:157:PRO:HG2	1.96	0.46
27:5:37:LYS:O	28:A:2126:A:H4'	2.16	0.46
27:5:38:PHE:CB	28:A:2126:A:H5''	2.46	0.46
27:5:109:MET:HG2	28:A:2126:A:N7	2.31	0.46
28:A:50:U:H3'	28:A:51:G:H5'	1.97	0.46
28:A:558:U:P	37:J:113:PRO:HB2	2.56	0.46
28:A:669:G:H2'	28:A:670:A:N7	2.30	0.46
28:A:857:G:O2'	28:A:858:G:H5'	2.17	0.46
28:A:1147:A:H2'	28:A:1148:U:C6	2.50	0.46
28:A:1517:G:H2'	28:A:1518:C:C6	2.50	0.46
28:A:1584:U:C2	28:A:1585:C:H4'	2.51	0.46
28:A:1750:G:O2'	28:A:1751:U:H5'	2.15	0.46
28:A:2062:A:C5	28:A:2503:A:N6	2.83	0.46
28:A:2233:U:H2'	28:A:2234:G:C8	2.51	0.46
30:C:251:THR:CG2	30:C:252:LYS:H	2.18	0.46
35:H:4:ILE:CG1	35:H:44:ILE:HG22	2.46	0.46
36:I:105:LEU:HD12	36:I:139:VAL:HG21	1.95	0.46
37:J:17:VAL:CG1	37:J:55:ILE:HD11	2.45	0.46
45:R:33:VAL:HG22	45:R:61:ALA:O	2.16	0.46
49:V:35:GLU:HG3	49:V:36:ALA:N	2.31	0.46
50:W:74:LYS:O	50:W:74:LYS:HG3	2.16	0.46
57:x:83:ASP:HB3	57:x:347:HIS:HB2	1.97	0.46
57:x:373:GLU:HB2	57:x:475:PHE:CD2	2.50	0.46
1:a:1028:C:H3'	1:a:1029:U:C6	2.51	0.45
1:a:1207:G:O2'	1:a:1208:C:H5'	2.16	0.45
1:a:1239:A:H4'	1:a:1240:U:H5''	1.98	0.45
2:c:7:PRO:CG	2:c:184:TYR:CG	2.99	0.45
2:c:50:ALA:HB1	2:c:76:VAL:CG2	2.45	0.45
3:d:161:LEU:HD12	3:d:161:LEU:C	2.41	0.45
6:g:4:ARG:CG	6:g:5:ARG:N	2.78	0.45
9:j:35:GLN:CB	9:j:78:GLU:HB2	2.44	0.45
13:n:42:TRP:CH2	18:s:8:GLY:CA	2.96	0.45
27:5:141:LYS:H	27:5:164:ARG:NE	2.14	0.45
27:5:207:VAL:HB	27:5:210:LYS:HZ1	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:104:A:H2'	28:A:105:C:O4'	2.16	0.45
28:A:285:G:H1'	28:A:356:G:N2	2.31	0.45
28:A:855:G:H21	50:W:23:LYS:HE2	1.78	0.45
28:A:888:C:H5'	28:A:889:C:C5	2.48	0.45
28:A:1510:G:H2'	28:A:1511:G:H8	1.80	0.45
28:A:1616:A:H4'	28:A:1617:C:OP2	2.16	0.45
28:A:1715:G:O2'	28:A:1743:G:O6	2.35	0.45
28:A:2108:A:H2'	28:A:2109:U:O4'	2.16	0.45
28:A:2356:U:H5''	50:W:16:GLU:HG2	1.97	0.45
28:A:2578:G:H21	31:D:130:GLN:NE2	2.13	0.45
28:A:2760:C:C2'	28:A:2761:A:H5'	2.46	0.45
31:D:12:THR:O	31:D:24:VAL:HG22	2.16	0.45
32:E:160:ALA:O	32:E:161:ALA:HB3	2.16	0.45
33:F:88:VAL:HG12	33:F:90:LEU:HD12	1.97	0.45
34:G:27:GLY:HA3	34:G:78:VAL:CG2	2.46	0.45
34:G:176:LYS:NZ	57:x:456:ASP:OD2	2.34	0.45
40:M:35:ALA:O	40:M:36:VAL:CB	2.64	0.45
50:W:13:ARG:CG	50:W:14:ASP:H	2.15	0.45
52:Y:45:GLN:HG3	52:Y:46:VAL:HG23	1.97	0.45
57:x:53:THR:C	57:x:54:ILE:HG13	2.40	0.45
57:x:210:ILE:HG12	57:x:256:GLY:O	2.16	0.45
57:x:591:ILE:C	57:x:592:LEU:HD12	2.41	0.45
54:9:35:A:C2	54:9:36:A:N6	2.84	0.45
1:a:1229:A:H2'	1:a:1230:C:C6	2.51	0.45
3:d:3:ARG:CB	3:d:5:LEU:HD13	2.46	0.45
3:d:197:GLU:HA	3:d:200:ILE:CG2	2.35	0.45
6:g:113:ASP:OD2	6:g:122:ASN:ND2	2.44	0.45
7:h:83:LEU:C	7:h:83:LEU:HD23	2.42	0.45
10:k:13:ARG:O	10:k:15:GLN:N	2.49	0.45
13:n:52:PRO:O	13:n:53:ARG:HB2	2.16	0.45
19:t:4:ILE:HG22	19:t:5:LYS:N	2.30	0.45
21:b:202:ASN:ND2	21:b:205:ALA:HB2	2.31	0.45
25:3:18:LYS:HB2	28:A:651:G:OP1	2.16	0.45
28:A:285:G:H3'	28:A:286:U:H5	1.77	0.45
28:A:1088:A:H4'	28:A:1089:A:C8	2.51	0.45
28:A:1425:G:H2'	28:A:1426:G:O4'	2.16	0.45
28:A:2236:U:H2'	28:A:2237:G:H5'	1.98	0.45
38:K:79:PHE:HD1	43:P:69:VAL:HG12	1.81	0.45
38:K:92:GLU:O	38:K:93:GLN:HB2	2.15	0.45
41:N:69:ARG:C	41:N:70:THR:HG1	2.13	0.45
47:T:48:GLN:O	47:T:52:GLU:HA	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:U:23:LYS:O	48:U:36:GLU:HG2	2.16	0.45
48:U:100:GLU:O	48:U:101:THR:HB	2.17	0.45
50:W:9:THR:HG23	50:W:10:ARG:CG	2.43	0.45
52:Y:17:GLU:HB2	52:Y:53:VAL:HG11	1.98	0.45
54:6:75:C:C5	57:x:546:ARG:HD3	2.51	0.45
1:a:216:U:H2'	1:a:217:C:H6	1.75	0.45
1:a:891:U:H2'	1:a:892:A:H8	1.81	0.45
1:a:1119:C:O2'	1:a:1120:C:H5'	2.17	0.45
1:a:1292:G:H4'	8:i:41:ARG:HH12	1.81	0.45
2:c:118:ASP:HA	2:c:121:THR:CG2	2.43	0.45
4:e:82:GLN:HG2	4:e:147:MET:HE2	1.97	0.45
8:i:40:GLY:C	8:i:45:ARG:HB3	2.42	0.45
8:i:112:GLU:OE2	8:i:115:LYS:NZ	2.35	0.45
27:5:18:THR:OG1	27:5:221:GLY:O	2.23	0.45
28:A:1490:A:H2'	28:A:1490:A:N3	2.31	0.45
28:A:1727:C:H2'	28:A:1728:C:C6	2.51	0.45
28:A:2111:U:O4'	28:A:2117:A:H5''	2.16	0.45
28:A:2184:A:H2'	28:A:2185:U:H6	1.81	0.45
28:A:2704:C:H2'	28:A:2705:A:O4'	2.16	0.45
30:C:194:VAL:HG22	30:C:195:GLY:N	2.31	0.45
31:D:174:SER:OG	31:D:175:LEU:N	2.49	0.45
32:E:97:ASN:HB2	32:E:100:MET:SD	2.56	0.45
35:H:71:LYS:HD2	35:H:108:VAL:CG1	2.43	0.45
35:H:104:THR:HG23	35:H:109:GLU:CB	2.47	0.45
36:I:87:SER:O	36:I:135:MET:HE1	2.16	0.45
37:J:4:PHE:HD2	37:J:44:TYR:CE2	2.35	0.45
39:L:93:ASN:O	39:L:94:THR:HB	2.16	0.45
40:M:37:GLY:O	40:M:98:PRO:HG3	2.16	0.45
40:M:42:THR:OG1	40:M:45:GLN:HG3	2.17	0.45
50:W:46:ALA:HB3	50:W:80:SER:HA	1.98	0.45
51:X:34:SER:CA	51:X:49:ARG:HA	2.44	0.45
53:Z:5:LYS:HG2	53:Z:36:GLU:HB2	1.97	0.45
54:6:18:G:H1'	54:6:57:G:H22	1.80	0.45
54:6:19:G:H1	54:6:56:C:H42	1.65	0.45
1:a:28:A:C2'	1:a:29:U:H5'	2.46	0.45
1:a:49:U:O2	1:a:362:G:H1'	2.17	0.45
1:a:77:A:C2	1:a:79:G:H4'	2.51	0.45
1:a:932:C:C3'	6:g:4:ARG:HH21	2.28	0.45
1:a:949:A:C4	1:a:1233:G:N2	2.85	0.45
1:a:1237:C:H5''	1:a:1238:A:H1'	1.98	0.45
2:c:22:TRP:CZ2	13:n:94:PRO:HG2	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:42:GLU:OE1	8:i:42:GLU:N	2.46	0.45
13:n:87:ALA:HB1	13:n:92:GLU:CB	2.46	0.45
14:o:36:ILE:HG23	14:o:56:LEU:HD11	1.99	0.45
22:0:18:HIS:CD2	28:A:2046:G:H1'	2.51	0.45
23:1:7:LYS:CG	23:1:23:THR:HG22	2.42	0.45
27:5:15:VAL:HG12	27:5:16:ASP:N	2.31	0.45
28:A:137:U:H3	28:A:142:A:H61	1.64	0.45
28:A:640:C:O2	28:A:649:G:N2	2.50	0.45
28:A:1177:G:C2'	28:A:1178:C:H5''	2.46	0.45
28:A:2094:A:H4'	35:H:25:TYR:HE1	1.81	0.45
28:A:2515:C:O2'	28:A:2516:A:H5'	2.17	0.45
29:B:42:C:H1'	33:F:63:LYS:O	2.16	0.45
31:D:56:LYS:HD3	31:D:58:ASN:HD21	1.82	0.45
31:D:77:ARG:NH2	31:D:200:ASP:OD1	2.50	0.45
32:E:3:LEU:CD1	32:E:14:VAL:HG22	2.46	0.45
36:I:27:LEU:CD2	36:I:32:VAL:HB	2.46	0.45
38:K:71:ARG:HG3	38:K:105:ARG:NH2	2.32	0.45
39:L:37:GLY:O	39:L:40:SER:OG	2.31	0.45
44:Q:59:LEU:HD23	44:Q:59:LEU:C	2.41	0.45
47:T:69:ARG:NH1	47:T:70:HIS:HD2	2.15	0.45
52:Y:45:GLN:O	52:Y:46:VAL:HB	2.17	0.45
57:x:288:PHE:CA	57:x:289:LYS:CB	2.94	0.45
54:9:17:C:O2'	54:9:61:C:OP1	2.35	0.45
1:a:61:G:OP2	19:t:5:LYS:HE2	2.15	0.45
1:a:244:U:O4	1:a:906:A:H1'	2.17	0.45
1:a:513:C:H2'	1:a:514:C:C6	2.50	0.45
1:a:520:A:OP1	11:l:49:LEU:HB2	2.17	0.45
4:e:31:PHE:HE2	55:7:25:G:C6	2.35	0.45
7:h:83:LEU:HD23	7:h:83:LEU:O	2.16	0.45
8:i:115:LYS:O	8:i:118:LEU:HB2	2.17	0.45
9:j:23:ALA:O	9:j:27:GLU:HG3	2.17	0.45
10:k:112:ASP:OD1	10:k:114:THR:N	2.28	0.45
16:q:78:VAL:HG11	16:q:81:LYS:CG	2.47	0.45
21:b:34:ARG:O	21:b:37:VAL:HG12	2.16	0.45
28:A:253:C:H2'	28:A:254:G:H5'	1.99	0.45
28:A:827:U:H4'	28:A:828:U:C6	2.52	0.45
28:A:1178:C:H2'	28:A:1179:G:O4'	2.16	0.45
28:A:1211:C:O2'	28:A:1212:G:OP1	2.26	0.45
28:A:1492:G:H5''	28:A:1493:C:H5'	1.98	0.45
28:A:1719:G:C2'	28:A:1720:U:H5'	2.47	0.45
28:A:2029:G:N1	28:A:2033:A:OP2	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2305:U:O4	33:F:38:GLY:N	2.45	0.45
28:A:2411:A:H2'	28:A:2412:A:C8	2.52	0.45
28:A:2460:U:C2'	28:A:2461:A:H5'	2.46	0.45
28:A:2531:A:N7	34:G:175:LYS:HG2	2.32	0.45
32:E:149:ILE:HD11	32:E:188:MET:CB	2.46	0.45
34:G:24:THR:C	34:G:25:ILE:HG13	2.41	0.45
36:I:100:ILE:HG23	36:I:104:GLN:CB	2.47	0.45
51:X:70:LEU:HB3	51:X:75:GLU:CB	2.46	0.45
52:Y:9:LYS:NZ	52:Y:11:VAL:HB	2.31	0.45
56:8:7:G:O2'	56:8:49:G:O4'	2.33	0.45
57:x:6:ASN:HB3	57:x:95:CYS:HB3	1.99	0.45
57:x:7:PHE:HA	57:x:97:GLY:CA	2.46	0.45
57:x:162:SER:HB3	57:x:166:GLY:HA3	1.98	0.45
57:x:237:LEU:HD12	57:x:237:LEU:C	2.41	0.45
57:x:592:LEU:O	57:x:594:VAL:N	2.45	0.45
1:a:468:A:H5'	1:a:469:C:OP2	2.16	0.45
1:a:707:U:H2'	1:a:708:C:C6	2.51	0.45
1:a:886:G:H2'	1:a:887:G:O4'	2.17	0.45
1:a:995:C:C2'	1:a:996:A:H5''	2.46	0.45
1:a:1147:C:O2'	8:i:18:ARG:HD2	2.17	0.45
1:a:1473:G:H2'	1:a:1474:U:C6	2.52	0.45
3:d:150:LYS:C	3:d:151:LYS:HG2	2.41	0.45
6:g:151:PHE:CE2	10:k:56:ARG:HD3	2.51	0.45
9:j:35:GLN:HG2	9:j:77:VAL:HB	1.97	0.45
13:n:40:ASP:C	13:n:41:ARG:CD	2.89	0.45
14:o:89:ARG:CD	28:A:714:U:H5	2.30	0.45
19:t:35:VAL:O	19:t:39:ILE:HG13	2.17	0.45
20:u:4:ILE:HA	20:u:19:PHE:CD2	2.51	0.45
20:u:40:LYS:N	20:u:41:PRO:HD2	2.21	0.45
21:b:169:HIS:O	21:b:173:LYS:HB2	2.16	0.45
27:5:71:ARG:CB	27:5:177:LYS:HD3	2.47	0.45
28:A:636:G:N7	39:L:109:LYS:HE2	2.30	0.45
28:A:921:C:O2'	28:A:922:C:H5'	2.17	0.45
28:A:1516:G:H2'	28:A:1517:G:H5'	1.99	0.45
28:A:1668:A:H4'	28:A:1669:A:O5'	2.17	0.45
28:A:1823:G:O2'	28:A:1824:G:H5'	2.17	0.45
28:A:1847:A:H2'	28:A:1847:A:P	2.55	0.45
31:D:110:THR:CG2	31:D:171:THR:HG22	2.47	0.45
32:E:18:THR:O	32:E:18:THR:HG22	2.16	0.45
33:F:79:ARG:H	33:F:82:TYR:HE2	1.64	0.45
35:H:11:ASN:OD1	35:H:12:LEU:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:J:49:ASP:CG	37:J:121:LYS:HZ3	2.24	0.45
38:K:3:GLN:HG2	38:K:4:GLU:N	2.32	0.45
52:Y:59:GLU:O	52:Y:63:ALA:HB3	2.16	0.45
53:Z:2:LYS:O	53:Z:3:THR:OG1	2.27	0.45
1:a:2:A:H62	1:a:3:A:H61	1.65	0.45
1:a:327:A:O2'	1:a:328:C:O4'	2.29	0.45
1:a:734:G:H21	17:r:64:TYR:HE1	1.61	0.45
1:a:1448:C:H2'	1:a:1449:C:C6	2.51	0.45
3:d:20:PHE:O	3:d:23:SER:HB2	2.17	0.45
5:f:10:VAL:HG13	5:f:83:ALA:O	2.17	0.45
5:f:29:ILE:CG2	5:f:34:GLY:HA3	2.47	0.45
5:f:38:ARG:CD	5:f:98:GLU:H	2.29	0.45
6:g:25:LYS:O	6:g:29:ILE:HG12	2.17	0.45
11:l:75:GLN:NE2	57:x:336:PHE:HE1	2.09	0.45
12:m:90:ARG:HD2	12:m:96:PRO:O	2.16	0.45
14:o:48:LYS:O	14:o:50:HIS:N	2.45	0.45
20:u:37:PHE:O	20:u:38:TYR:HB2	2.16	0.45
27:5:60:ARG:CG	27:5:164:ARG:HG3	2.47	0.45
28:A:192:C:H2'	28:A:193:U:C5'	2.42	0.45
28:A:253:C:C2'	28:A:254:G:H5'	2.46	0.45
28:A:414:C:H4'	28:A:1879:C:O2	2.16	0.45
28:A:1050:A:C2	28:A:2751:G:C4	3.04	0.45
28:A:1341:G:H5'	47:T:61:LEU:HD23	1.98	0.45
28:A:1409:U:O2'	28:A:1410:G:H5'	2.17	0.45
28:A:1662:U:H2'	28:A:1663:G:O4'	2.16	0.45
28:A:1943:U:P	57:x:568:GLN:HE22	2.39	0.45
30:C:109:LEU:HD12	30:C:110:LYS:N	2.31	0.45
30:C:245:THR:O	30:C:247:TRP:N	2.49	0.45
31:D:169:ARG:C	31:D:170:VAL:HG12	2.42	0.45
32:E:111:GLU:HG2	39:L:2:ARG:HH21	1.81	0.45
32:E:194:LYS:HA	32:E:197:GLU:HB3	1.98	0.45
34:G:102:ILE:HG21	34:G:104:LEU:HG	1.97	0.45
35:H:14:SER:HB2	35:H:17:ASP:CG	2.41	0.45
37:J:55:ILE:HG13	37:J:55:ILE:O	2.17	0.45
41:N:33:ILE:HG12	41:N:118:ARG:HD2	1.98	0.45
50:W:24:ARG:NH1	50:W:25:PHE:O	2.50	0.45
57:x:169:VAL:HA	57:x:170:GLN:HA	1.75	0.45
57:x:187:PRO:O	57:x:188:GLU:CB	2.64	0.45
57:x:196:ILE:HB	57:x:209:LEU:CD2	2.44	0.45
57:x:415:LEU:HD13	57:x:441:LEU:HD11	1.93	0.45
1:a:176:C:H2'	1:a:177:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:211:G:N3	1:a:211:G:H3'	2.31	0.45
1:a:344:A:H4'	1:a:345:C:OP2	2.11	0.45
1:a:1226:C:C5	12:m:103:LYS:HA	2.52	0.45
1:a:1233:G:H5'	8:i:119:ARG:NH1	2.32	0.45
3:d:106:GLY:O	3:d:159:LEU:HD23	2.17	0.45
4:e:11:LEU:HD13	4:e:68:ARG:NH1	2.30	0.45
7:h:22:LYS:O	7:h:63:LEU:HD12	2.16	0.45
11:l:14:ARG:HG3	11:l:15:LYS:O	2.16	0.45
13:n:22:ALA:H	13:n:26:GLU:HB2	1.82	0.45
13:n:26:GLU:O	13:n:30:ILE:HG13	2.16	0.45
13:n:53:ARG:HD2	13:n:59:ARG:HH12	1.82	0.45
13:n:64:CYS:HB3	13:n:68:GLY:H	1.81	0.45
15:p:3:THR:HG23	15:p:66:THR:O	2.17	0.45
19:t:67:ILE:O	19:t:68:HIS:CB	2.65	0.45
21:b:90:PHE:CE2	21:b:149:GLY:HA3	2.51	0.45
23:1:4:ILE:CG2	23:1:5:ARG:N	2.79	0.45
23:1:38:PHE:CE1	23:1:43:ARG:HA	2.51	0.45
27:5:4:LEU:HB3	28:A:2107:G:OP2	2.16	0.45
27:5:124:VAL:HG12	27:5:125:GLY:N	2.32	0.45
27:5:129:GLN:OE1	28:A:2169:A:N6	2.50	0.45
28:A:80:G:C2'	28:A:81:G:H5'	2.46	0.45
28:A:354:A:H2'	28:A:355:U:C6	2.51	0.45
28:A:493:G:H2'	28:A:494:G:O4'	2.16	0.45
28:A:569:U:O2'	28:A:983:A:N1	2.43	0.45
28:A:632:A:H5''	39:L:68:SER:HB2	1.99	0.45
28:A:794:A:H2'	28:A:794:A:N3	2.32	0.45
28:A:1029:A:H5''	28:A:1030:C:OP2	2.17	0.45
28:A:1070:A:N3	28:A:1097:U:H4'	2.31	0.45
28:A:1401:G:H2'	28:A:1402:U:C6	2.52	0.45
28:A:1521:G:H5''	28:A:1522:A:OP2	2.16	0.45
28:A:1695:G:H2'	28:A:1696:G:O4'	2.17	0.45
28:A:2116:G:C6	28:A:2117:A:H1'	2.52	0.45
28:A:2167:U:H2'	28:A:2168:G:C5'	2.47	0.45
28:A:2167:U:C2'	28:A:2168:G:H5'	2.46	0.45
28:A:2397:G:O2'	28:A:2398:U:H5'	2.16	0.45
29:B:11:C:H2'	29:B:12:C:C5'	2.47	0.45
36:I:100:ILE:HG23	36:I:104:GLN:OE1	2.16	0.45
38:K:8:LEU:CD2	38:K:82:ASN:HB3	2.47	0.45
46:S:20:VAL:HG11	46:S:44:ALA:HA	1.99	0.45
47:T:43:ILE:HD11	47:T:58:VAL:HG11	1.98	0.45
50:W:57:THR:C	50:W:58:LEU:HD12	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:6:9:A:OP2	54:6:13:C:N4	2.49	0.45
57:x:505:GLN:OE1	57:x:509:ARG:NH2	2.50	0.45
1:a:413:G:OP2	1:a:414:A:H5''	2.17	0.45
1:a:592:G:H2'	1:a:593:U:O4'	2.17	0.45
1:a:692:U:H5	10:k:28:ASN:OD1	2.00	0.45
1:a:983:A:H2'	1:a:983:A:N3	2.32	0.45
1:a:1367:C:O2'	9:j:50:THR:HG21	2.16	0.45
1:a:1516:G:H2'	1:a:1518:A:OP2	2.16	0.45
3:d:122:ALA:HB1	3:d:149:ALA:HB1	1.98	0.45
8:i:46:MET:HA	8:i:49:ARG:HG3	1.99	0.45
9:j:26:VAL:O	9:j:30:LYS:HG2	2.17	0.45
13:n:29:ALA:O	13:n:30:ILE:C	2.60	0.45
16:q:62:ARG:CD	16:q:76:VAL:HG11	2.47	0.45
16:q:74:THR:HG22	16:q:75:LEU:O	2.16	0.45
21:b:89:PHE:CD2	21:b:153:MET:HB2	2.51	0.45
21:b:187:ASP:HA	21:b:201:GLY:O	2.17	0.45
23:l:8:ILE:CG1	23:l:51:ALA:HB1	2.47	0.45
28:A:940:G:H2'	28:A:941:A:C4'	2.47	0.45
28:A:1411:U:H2'	28:A:1412:U:C5'	2.47	0.45
28:A:1876:A:H2'	28:A:1876:A:N3	2.30	0.45
28:A:2112:G:H4'	54:9:19:G:C8	2.51	0.45
28:A:2152:G:H2'	28:A:2153:C:H5'	1.99	0.45
28:A:2185:U:H2'	28:A:2186:G:O4'	2.17	0.45
28:A:2260:C:H5''	50:W:13:ARG:NH2	2.31	0.45
28:A:2446:G:O6	28:A:2501:C:O2'	2.34	0.45
28:A:2530:A:H62	34:G:171:LYS:HZ1	1.65	0.45
34:G:104:LEU:HB2	34:G:112:VAL:HG22	1.97	0.45
35:H:103:VAL:CA	35:H:106:ALA:HB3	2.47	0.45
43:P:57:ALA:HA	43:P:73:PHE:O	2.16	0.45
45:R:29:THR:O	45:R:63:VAL:HG23	2.17	0.45
46:S:3:THR:HG22	46:S:107:VAL:O	2.17	0.45
47:T:83:ALA:O	47:T:84:TYR:CB	2.64	0.45
51:X:16:ASN:O	51:X:17:ARG:HB2	2.16	0.45
52:Y:8:GLU:O	52:Y:8:GLU:HG3	2.16	0.45
57:x:39:GLN:O	57:x:40:VAL:HB	2.17	0.45
57:x:49:GLU:O	57:x:51:GLY:N	2.45	0.45
57:x:371:VAL:HG12	57:x:372:TYR:N	2.32	0.45
57:x:588:PHE:CA	57:x:592:LEU:HD13	2.47	0.45
1:a:80:A:H1'	1:a:90:C:N1	2.32	0.45
1:a:309:A:O2'	1:a:607:A:N1	2.48	0.45
1:a:443:C:C2'	1:a:444:G:H5'	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:466:A:H2'	1:a:468:A:H2	1.82	0.45
1:a:577:G:O2'	1:a:578:C:H5'	2.17	0.45
1:a:597:G:H2'	1:a:598:U:C5'	2.38	0.45
1:a:620:C:C2	3:d:132:ILE:HG21	2.52	0.45
3:d:85:ASN:OD1	3:d:86:THR:N	2.50	0.45
4:e:99:ALA:CB	4:e:123:VAL:HA	2.46	0.45
7:h:66:PHE:CD2	7:h:67:GLN:HG2	2.52	0.45
11:l:66:TYR:CB	11:l:87:VAL:HG21	2.47	0.45
15:p:20:VAL:HG23	15:p:34:GLU:C	2.42	0.45
23:1:16:THR:HB	23:1:41:VAL:HG11	1.98	0.45
25:3:22:LYS:HA	25:3:48:MET:HA	1.99	0.45
27:5:7:ARG:HD2	28:A:2130:U:O4	2.17	0.45
27:5:37:LYS:HB3	28:A:2128:G:H5'	1.99	0.45
28:A:499:U:C2'	28:A:500:G:H5'	2.47	0.45
28:A:1093:G:O2'	28:A:1098:A:N6	2.50	0.45
28:A:1106:G:O2'	28:A:1107:G:H5'	2.16	0.45
28:A:1139:G:O2'	28:A:1143:A:N1	2.35	0.45
28:A:1936:A:C2	28:A:1943:U:H5	2.35	0.45
28:A:2262:U:H5''	50:W:38:ARG:NH2	2.33	0.45
28:A:2512:C:O2'	31:D:159:LYS:NZ	2.33	0.45
28:A:2644:G:C2'	28:A:2645:G:H5'	2.47	0.45
28:A:2790:U:H5'	28:A:2893:A:N7	2.32	0.45
30:C:246:PRO:HG2	30:C:247:TRP:CZ3	2.52	0.45
33:F:147:ARG:HG3	33:F:148:VAL:N	2.32	0.45
34:G:11:PRO:HD2	34:G:75:VAL:HG13	1.99	0.45
34:G:53:PRO:HG3	34:G:61:TRP:CE2	2.52	0.45
35:H:103:VAL:HG12	35:H:110:VAL:HG12	1.99	0.45
36:I:105:LEU:CA	36:I:108:ILE:HD12	2.25	0.45
37:J:64:VAL:HG22	37:J:68:LYS:HB2	1.99	0.45
37:J:114:LEU:HD21	37:J:118:MET:HE3	1.97	0.45
43:P:30:TRP:CZ3	43:P:39:LEU:HD12	2.52	0.45
48:U:32:LYS:HB3	48:U:63:ALA:HB1	1.99	0.45
49:V:29:ILE:HG13	49:V:38:LEU:O	2.17	0.45
49:V:75:GLN:HB2	49:V:92:VAL:HG23	1.99	0.45
53:Z:4:ILE:O	53:Z:37:ARG:N	2.42	0.45
53:Z:9:THR:O	53:Z:31:ILE:HB	2.17	0.45
57:x:90:ARG:HH12	57:x:197:ASP:HA	1.82	0.45
57:x:154:ASP:OD1	57:x:155:ALA:N	2.50	0.45
57:x:480:MET:HG2	57:x:500:HIS:CA	2.46	0.45
54:9:5:G:C2'	54:9:6:G:H5'	2.47	0.45
1:a:57:G:N2	1:a:388:G:O6	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:60:A:O2'	19:t:5:LYS:HE3	2.16	0.44
1:a:66:A:H2'	1:a:67:C:H5'	1.99	0.44
1:a:77:A:OP2	1:a:79:G:N1	2.49	0.44
1:a:217:C:O2'	1:a:218:U:H5'	2.18	0.44
1:a:319:G:O2'	1:a:320:A:H5'	2.17	0.44
1:a:461:A:C3'	1:a:462:G:H5''	2.48	0.44
2:c:77:ILE:O	2:c:81:GLY:HA2	2.16	0.44
2:c:123:GLN:HB3	2:c:128:VAL:HG11	1.99	0.44
13:n:28:LYS:CG	13:n:49:GLN:HE22	2.30	0.44
14:o:69:TYR:CE1	14:o:73:LYS:HE3	2.53	0.44
14:o:87:LEU:C	14:o:87:LEU:HD12	2.42	0.44
27:5:60:ARG:CB	27:5:164:ARG:HG3	2.45	0.44
28:A:253:C:H2'	28:A:254:G:C5'	2.46	0.44
28:A:933:A:N3	28:A:933:A:H3'	2.32	0.44
28:A:1378:A:O2'	28:A:1379:U:OP2	2.26	0.44
28:A:2405:G:O2'	28:A:2406:A:OP1	2.32	0.44
28:A:2739:U:C2'	28:A:2740:A:H5'	2.47	0.44
29:B:65:U:H2'	29:B:66:A:H5'	1.99	0.44
30:C:4:LYS:HE3	30:C:16:VAL:HG21	1.99	0.44
31:D:107:VAL:CG2	31:D:203:VAL:CG2	2.93	0.44
33:F:12:VAL:HG23	33:F:27:VAL:HG11	1.99	0.44
51:X:52:ALA:O	51:X:53:LYS:CB	2.65	0.44
54:6:27:G:O2'	54:6:28:G:H5'	2.17	0.44
57:x:63:TYR:HB2	57:x:73:LEU:CD1	2.47	0.44
57:x:78:THR:CG2	57:x:79:PRO:HD2	2.46	0.44
57:x:151:VAL:HG12	57:x:153:ILE:CG1	2.41	0.44
57:x:519:ILE:HD12	57:x:528:ILE:CD1	2.36	0.44
54:9:17:C:O2'	54:9:61:C:H5'	2.16	0.44
1:a:67:C:H4'	1:a:172:A:O4'	2.18	0.44
1:a:630:A:H2'	1:a:631:C:O5'	2.17	0.44
1:a:791:G:H2'	1:a:792:A:H5'	1.98	0.44
5:f:6:ILE:HD13	5:f:74:LEU:HD22	1.98	0.44
10:k:122:ARG:NE	20:u:36:GLU:HG3	2.33	0.44
12:m:37:ALA:HB1	12:m:39:ILE:HG12	1.98	0.44
20:u:14:VAL:HG11	20:u:16:LEU:HD21	1.99	0.44
23:1:35:LEU:HD12	23:1:37:LYS:HG3	1.98	0.44
27:5:10:VAL:O	27:5:14:LYS:HG2	2.17	0.44
27:5:36:ALA:HB1	27:5:38:PHE:CA	2.46	0.44
27:5:71:ARG:HA	27:5:177:LYS:HD3	2.00	0.44
27:5:127:LEU:HD22	28:A:2169:A:C4	2.52	0.44
27:5:166:ASP:HA	28:A:2122:U:H4'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:158:U:C2'	28:A:159:G:H5'	2.48	0.44
28:A:365:U:O2'	28:A:366:C:H5'	2.18	0.44
28:A:538:A:C2'	28:A:539:G:H5'	2.48	0.44
28:A:928:A:H2	53:Z:46:MET:HE1	1.80	0.44
28:A:1292:G:O2'	28:A:1293:C:H5'	2.18	0.44
28:A:1408:G:H1	28:A:1594:U:H3	1.63	0.44
28:A:1678:A:H2'	28:A:1679:A:O4'	2.17	0.44
28:A:2573:C:O5'	28:A:2573:C:H6	2.00	0.44
30:C:70:LYS:HD2	30:C:99:GLU:OE1	2.17	0.44
30:C:128:THR:O	30:C:129:LEU:HD12	2.16	0.44
32:E:149:ILE:CD1	32:E:188:MET:HG3	2.47	0.44
33:F:63:LYS:HA	33:F:64:PRO:HD3	1.84	0.44
34:G:41:GLU:HG3	34:G:54:ARG:NH2	2.32	0.44
43:P:61:ARG:HG3	43:P:69:VAL:O	2.17	0.44
47:T:67:VAL:O	47:T:67:VAL:HG13	2.17	0.44
50:W:55:ASP:OD1	50:W:57:THR:OG1	2.30	0.44
56:8:20:U:C3'	56:8:21:A:C5'	2.96	0.44
57:x:526:ILE:HB	57:x:542:VAL:HB	2.00	0.44
1:a:202:G:O2'	1:a:203:G:H5'	2.17	0.44
1:a:649:A:H2'	1:a:650:G:O4'	2.17	0.44
1:a:781:A:H5'	1:a:782:A:OP2	2.16	0.44
1:a:913:A:H4'	1:a:914:A:O5'	2.18	0.44
1:a:1006:G:H2'	1:a:1007:U:O4'	2.17	0.44
1:a:1137:C:O2	1:a:1138:G:N2	2.49	0.44
3:d:118:VAL:HG23	3:d:123:ILE:HD12	1.99	0.44
4:e:96:MET:CE	4:e:140:THR:HG22	2.47	0.44
5:f:16:GLU:O	5:f:19:PRO:HD2	2.17	0.44
6:g:69:VAL:O	6:g:69:VAL:HG12	2.17	0.44
7:h:3:MET:HE3	7:h:6:PRO:N	2.32	0.44
9:j:56:HIS:CG	9:j:57:VAL:HG23	2.53	0.44
10:k:82:LEU:HD12	10:k:82:LEU:C	2.42	0.44
18:s:39:THR:HG22	18:s:40:ILE:N	2.32	0.44
21:b:59:ILE:HD11	21:b:66:ILE:HD11	1.98	0.44
21:b:219:THR:HG23	21:b:220:VAL:N	2.33	0.44
27:5:48:LEU:HD11	27:5:171:ILE:H	1.80	0.44
27:5:48:LEU:C	27:5:48:LEU:HD12	2.43	0.44
27:5:85:GLU:HA	27:5:88:LYS:CG	2.48	0.44
27:5:222:VAL:HG23	27:5:222:VAL:O	2.17	0.44
28:A:83:A:H2'	28:A:84:A:N7	2.32	0.44
28:A:1011:G:OP1	44:Q:76:SER:N	2.50	0.44
28:A:1063:G:O3'	36:I:88:GLY:HA3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1279:G:O2'	28:A:1280:G:H5'	2.17	0.44
28:A:1773:A:H2'	28:A:1774:C:H5'	2.00	0.44
28:A:1966:A:H4'	28:A:1967:C:OP1	2.17	0.44
28:A:2113:U:H2'	28:A:2114:A:C8	2.53	0.44
28:A:2554:U:H2'	28:A:2555:U:C6	2.52	0.44
28:A:2556:C:C2'	28:A:2557:G:H5'	2.47	0.44
28:A:2804:U:H2'	28:A:2805:C:C6	2.52	0.44
30:C:68:ARG:NH2	30:C:126:GLY:O	2.50	0.44
30:C:259:ASN:O	30:C:261:ARG:N	2.43	0.44
31:D:4:LEU:O	31:D:203:VAL:HG12	2.17	0.44
33:F:39:VAL:CB	33:F:49:LEU:HD13	2.47	0.44
34:G:25:ILE:O	34:G:25:ILE:HG22	2.17	0.44
35:H:80:ILE:CD1	35:H:101:ASP:HB3	2.47	0.44
35:H:87:GLU:O	35:H:89:LYS:HG2	2.18	0.44
38:K:47:ILE:CG2	38:K:48:PRO:HD2	2.42	0.44
42:O:37:ALA:O	42:O:50:ALA:HB1	2.18	0.44
45:R:20:VAL:HG13	45:R:20:VAL:O	2.17	0.44
46:S:96:ILE:HG23	46:S:96:ILE:O	2.17	0.44
48:U:78:LYS:HG2	48:U:79:ALA:N	2.32	0.44
50:W:50:VAL:CG2	50:W:61:LYS:HE3	2.47	0.44
54:6:28:G:H2'	54:6:29:G:O4'	2.17	0.44
56:8:73:A:H5'	56:8:74:C:H5'	1.99	0.44
57:x:59:VAL:HG22	57:x:75:PHE:O	2.16	0.44
57:x:130:LEU:CD2	57:x:143:VAL:HG11	2.47	0.44
57:x:372:TYR:HE1	57:x:402:PRO:HD2	1.82	0.44
57:x:373:GLU:CD	57:x:400:ARG:HH11	2.25	0.44
1:a:139:A:H2'	1:a:140:U:H5'	1.98	0.44
1:a:412:A:H4'	1:a:413:G:C5'	2.47	0.44
1:a:436:C:H2'	1:a:437:U:H6	1.80	0.44
1:a:472:U:H2'	1:a:473:U:O4'	2.17	0.44
1:a:958:A:C8	18:s:55:ARG:NH2	2.85	0.44
1:a:1087:G:N2	1:a:1099:G:H1'	2.32	0.44
1:a:1101:A:C2	21:b:98:GLY:HA3	2.52	0.44
1:a:1126:U:N3	1:a:1280:A:OP1	2.46	0.44
1:a:1277:C:C2'	1:a:1278:G:H5''	2.48	0.44
1:a:1329:A:OP1	12:m:26:GLY:N	2.41	0.44
3:d:162:ALA:HB1	3:d:165:ARG:NH2	2.31	0.44
7:h:104:VAL:HG12	7:h:125:ILE:HG22	2.00	0.44
8:i:130:ARG:CZ	56:8:33:U:C5	3.01	0.44
9:j:56:HIS:CD2	9:j:57:VAL:HG23	2.53	0.44
21:b:191:ASP:HA	21:b:192:PRO:HD2	1.73	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:1:3:GLY:O	23:1:4:ILE:HG22	2.18	0.44
25:3:29:ARG:NH1	39:L:62:PRO:HB2	2.32	0.44
27:5:87:ALA:O	27:5:91:GLY:HA2	2.17	0.44
27:5:107:GLY:HA2	27:5:134:ARG:HH21	1.81	0.44
28:A:183:C:N4	28:A:213:A:H61	2.15	0.44
28:A:488:G:H4'	46:S:49:LYS:NZ	2.31	0.44
28:A:662:G:O2'	39:L:14:LYS:HG2	2.17	0.44
28:A:1186:G:C2'	28:A:1187:G:H5'	2.47	0.44
28:A:1472:C:O2'	28:A:1473:G:H5'	2.18	0.44
28:A:2014:A:H5'	46:S:94:ASP:CG	2.42	0.44
28:A:2132:U:H3	28:A:2159:G:H22	1.64	0.44
28:A:2441:U:O2'	28:A:2442:C:H5'	2.18	0.44
28:A:2734:A:H2'	28:A:2735:G:H5'	2.00	0.44
29:B:50:A:OP2	42:O:67:ASN:HA	2.18	0.44
30:C:227:VAL:HG13	30:C:228:ASP:OD1	2.17	0.44
31:D:109:VAL:HG11	31:D:193:VAL:HB	1.99	0.44
32:E:29:HIS:O	32:E:33:VAL:HG23	2.17	0.44
36:I:72:THR:HG23	36:I:112:LYS:HZ1	1.81	0.44
36:I:100:ILE:CG2	36:I:104:GLN:HB2	2.47	0.44
38:K:118:LEU:N	38:K:118:LEU:HD12	2.33	0.44
42:O:30:ARG:HB3	42:O:97:PHE:CE1	2.52	0.44
42:O:43:ASN:OD1	42:O:44:GLY:N	2.50	0.44
42:O:78:VAL:HG23	42:O:79:ALA:N	2.32	0.44
43:P:29:VAL:HG11	43:P:73:PHE:HE1	1.82	0.44
43:P:62:LYS:HB3	43:P:69:VAL:HG23	1.98	0.44
50:W:36:ILE:HD13	50:W:42:THR:CG2	2.47	0.44
52:Y:19:LEU:O	52:Y:23:ARG:HB3	2.17	0.44
53:Z:16:LEU:HB2	53:Z:19:HIS:HD2	1.83	0.44
54:9:10:G:H2'	54:9:11:C:C6	2.51	0.44
54:9:20:U:H2'	54:9:21:A:C5'	2.47	0.44
1:a:22:G:O2'	1:a:23:C:H5'	2.18	0.44
1:a:948:C:P	12:m:108:THR:HG1	2.40	0.44
1:a:1018:G:H2'	1:a:1019:A:H5'	2.00	0.44
1:a:1260:G:H21	1:a:1275:A:N6	2.14	0.44
1:a:1292:G:H5'	8:i:41:ARG:NH1	2.32	0.44
1:a:1519:A:H5''	1:a:1520:C:OP2	2.17	0.44
4:e:76:LEU:CD2	4:e:120:VAL:HG12	2.47	0.44
4:e:97:GLN:CG	4:e:98:PRO:HD2	2.48	0.44
5:f:9:MET:SD	5:f:59:TYR:HE1	2.40	0.44
5:f:38:ARG:O	5:f:63:ASN:HB2	2.17	0.44
8:i:25:ASN:O	8:i:62:ASP:HB2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:109:ASN:OD1	20:u:7:ARG:HB2	2.17	0.44
13:n:21:PHE:CD2	13:n:57:PRO:HD3	2.52	0.44
19:t:5:LYS:HD2	19:t:6:SER:N	2.30	0.44
19:t:26:SER:O	19:t:30:THR:HG23	2.18	0.44
21:b:195:VAL:HG12	21:b:197:PHE:H	1.81	0.44
27:5:30:LEU:HD12	27:5:221:GLY:HA2	2.00	0.44
28:A:288:U:H2'	28:A:289:G:O4'	2.17	0.44
28:A:544:C:H3'	28:A:545:U:C5	2.52	0.44
28:A:590:A:O2'	28:A:591:U:H5'	2.17	0.44
28:A:803:U:O2'	28:A:804:A:H5'	2.18	0.44
28:A:905:A:H2'	28:A:906:U:C5'	2.40	0.44
28:A:959:A:H62	40:M:82:MET:HE1	1.82	0.44
28:A:1102:C:O2'	28:A:1103:A:H5'	2.18	0.44
28:A:1418:G:H5''	28:A:1419:A:OP1	2.18	0.44
28:A:2090:A:H5''	28:A:2091:C:OP2	2.18	0.44
28:A:2670:A:H2'	28:A:2671:G:H8	1.82	0.44
29:B:82:U:O2'	29:B:83:G:H5'	2.17	0.44
32:E:12:LEU:HD23	32:E:12:LEU:C	2.42	0.44
36:I:27:LEU:HD22	36:I:32:VAL:HG21	1.99	0.44
36:I:27:LEU:CD2	36:I:34:ILE:HD11	2.47	0.44
40:M:46:ILE:C	40:M:46:ILE:HD12	2.42	0.44
40:M:59:ARG:NE	54:6:53:G:O2'	2.49	0.44
42:O:43:ASN:OD1	42:O:45:SER:N	2.50	0.44
43:P:48:ALA:C	43:P:49:ILE:HG13	2.43	0.44
43:P:50:ARG:CG	43:P:56:SER:HB3	2.47	0.44
57:x:14:ASP:C	57:x:15:HIS:HD1	2.24	0.44
57:x:59:VAL:CG2	57:x:75:PHE:CD2	2.98	0.44
57:x:526:ILE:CG2	57:x:527:ALA:N	2.80	0.44
1:a:453:G:H2'	1:a:454:G:H8	1.82	0.44
1:a:539:A:N6	1:a:540:G:O6	2.50	0.44
1:a:642:A:N3	7:h:105:SER:OG	2.50	0.44
1:a:816:A:OP1	1:a:1526:G:O2'	2.33	0.44
1:a:1230:C:O2'	1:a:1231:G:H5'	2.18	0.44
1:a:1442:G:N2	1:a:1443:C:H1'	2.32	0.44
3:d:55:LEU:C	3:d:55:LEU:HD23	2.42	0.44
4:e:49:GLY:HA3	4:e:63:ALA:O	2.18	0.44
12:m:14:HIS:HB3	12:m:42:ASP:HA	1.98	0.44
13:n:27:LEU:C	13:n:27:LEU:HD22	2.42	0.44
15:p:42:ILE:O	15:p:44:SER:N	2.50	0.44
19:t:44:LYS:HG3	19:t:45:ALA:H	1.82	0.44
20:u:4:ILE:HD13	20:u:19:PHE:CD2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:b:9:LEU:HD11	21:b:12:GLY:HA2	1.99	0.44
21:b:34:ARG:O	21:b:37:VAL:N	2.45	0.44
22:0:39:ARG:HG2	22:0:40:HIS:ND1	2.32	0.44
27:5:73:VAL:HG21	27:5:156:ALA:O	2.18	0.44
27:5:113:VAL:HG12	27:5:162:ARG:HH12	1.82	0.44
27:5:117:SER:HB3	27:5:118:PRO:HD2	1.99	0.44
27:5:201:PRO:HG2	27:5:206:GLY:N	2.32	0.44
28:A:153:U:O2'	28:A:154:U:H5'	2.17	0.44
28:A:365:U:H2'	28:A:366:C:C6	2.53	0.44
28:A:830:G:H4'	28:A:831:G:OP2	2.17	0.44
28:A:1433:A:H2'	28:A:1434:A:O4'	2.17	0.44
28:A:1522:A:C4'	28:A:1524:G:H1'	2.48	0.44
28:A:1535:A:OP2	28:A:1536:C:N4	2.37	0.44
28:A:1856:U:H2'	28:A:1857:G:C5'	2.46	0.44
28:A:2714:G:H2'	28:A:2715:C:H5'	1.99	0.44
30:C:5:CYS:CB	30:C:12:ARG:HH21	2.29	0.44
33:F:112:ASP:OD1	33:F:113:PHE:N	2.46	0.44
34:G:11:PRO:HD2	34:G:75:VAL:CG1	2.48	0.44
35:H:43:ASN:HA	35:H:46:PHE:HB2	1.99	0.44
35:H:51:ARG:O	35:H:55:GLU:HG3	2.17	0.44
35:H:85:GLY:HA3	35:H:147:VAL:CA	2.48	0.44
35:H:104:THR:HG23	35:H:109:GLU:CG	2.45	0.44
36:I:48:ILE:HD12	36:I:54:ILE:HD11	2.00	0.44
37:J:99:ARG:O	37:J:103:ILE:HG22	2.17	0.44
41:N:28:LEU:HD12	41:N:32:GLU:O	2.17	0.44
42:O:7:ARG:HB2	42:O:10:ARG:HH11	1.83	0.44
43:P:4:ILE:C	43:P:6:GLN:N	2.75	0.44
49:V:48:MET:O	49:V:51:GLN:HG2	2.17	0.44
51:X:29:LEU:HD12	51:X:29:LEU:O	2.17	0.44
54:6:31:A:C2'	54:6:32:U:H5'	2.48	0.44
57:x:211:ARG:HH22	57:x:253:GLY:HA2	1.79	0.44
54:9:18:G:H4'	54:9:60:U:N3	2.33	0.44
54:9:52:G:H1'	54:9:63:G:C2	2.52	0.44
1:a:684:U:O2'	10:k:41:ALA:O	2.32	0.44
1:a:777:A:H2'	1:a:778:G:O4'	2.18	0.44
1:a:1280:A:O2'	1:a:1281:C:H5'	2.18	0.44
1:a:1437:A:H5''	19:t:29:ARG:NH2	2.32	0.44
1:a:1437:A:H5''	19:t:29:ARG:HH22	1.83	0.44
1:a:1480:A:C2'	1:a:1481:U:H5'	2.48	0.44
2:c:118:ASP:CA	2:c:121:THR:HG22	2.44	0.44
3:d:3:ARG:NH2	3:d:115:ARG:NE	2.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:113:GLU:OE2	3:d:154:ARG:HB3	2.18	0.44
8:i:91:ASP:OD2	8:i:93:SER:HB3	2.18	0.44
12:m:12:HIS:HA	12:m:44:LYS:CE	2.46	0.44
16:q:59:VAL:HG12	16:q:60:GLU:N	2.33	0.44
19:t:58:VAL:HG12	19:t:72:ALA:HB1	1.99	0.44
21:b:170:ILE:O	21:b:170:ILE:HG22	2.18	0.44
27:5:31:LYS:HG2	27:5:40:GLU:OE2	2.18	0.44
27:5:69:THR:OG1	27:5:161:VAL:HG22	2.18	0.44
27:5:80:GLN:HG3	27:5:80:GLN:O	2.18	0.44
27:5:212:VAL:HG21	27:5:227:ALA:CB	2.43	0.44
28:A:268:C:O2'	28:A:269:C:H5'	2.18	0.44
28:A:403:U:O2'	28:A:404:A:O5'	2.35	0.44
28:A:549:G:O5'	28:A:550:C:H5'	2.18	0.44
28:A:685:A:H4'	28:A:686:U:O5'	2.17	0.44
28:A:959:A:N6	40:M:82:MET:CE	2.81	0.44
28:A:1124:G:H2'	28:A:1125:G:O4'	2.18	0.44
28:A:1379:U:H5''	28:A:1380:G:P	2.58	0.44
28:A:1883:U:C2'	28:A:1884:G:H5'	2.48	0.44
28:A:2094:A:H5'	35:H:25:TYR:CD1	2.51	0.44
28:A:2179:C:H2'	28:A:2180:U:C5	2.53	0.44
28:A:2245:U:H5''	28:A:2246:G:H5'	1.99	0.44
28:A:2328:A:H2'	28:A:2329:U:H6	1.81	0.44
30:C:67:LYS:HG2	30:C:150:GLY:HA2	2.00	0.44
30:C:124:LYS:HG2	30:C:125:PRO:CD	2.48	0.44
30:C:254:LYS:O	30:C:255:LYS:HB2	2.18	0.44
33:F:37:MET:HE1	33:F:149:ARG:HH11	1.82	0.44
34:G:22:VAL:C	34:G:23:ILE:HD12	2.43	0.44
35:H:59:ALA:HA	35:H:62:LEU:HB2	2.00	0.44
35:H:84:ALA:HA	35:H:149:GLU:C	2.43	0.44
41:N:70:THR:HB	41:N:75:ILE:HD11	2.00	0.44
44:Q:35:PHE:CE2	44:Q:39:ILE:HD11	2.52	0.44
47:T:48:GLN:OE1	47:T:55:VAL:HB	2.17	0.44
50:W:36:ILE:HG22	50:W:39:GLN:HB2	2.00	0.44
57:x:7:PHE:CE1	57:x:75:PHE:HD1	2.35	0.44
54:9:58:A:O2'	54:9:60:U:OP2	2.33	0.44
1:a:72:A:H2'	1:a:72:A:N3	2.33	0.44
1:a:97:G:H2'	1:a:98:A:O4'	2.18	0.44
1:a:464:U:C2	1:a:466:A:H5''	2.52	0.44
1:a:878:A:P	7:h:80:ARG:HH11	2.41	0.44
1:a:931:C:H2'	1:a:932:C:O4'	2.18	0.44
1:a:1007:U:C2'	1:a:1008:U:C5'	2.95	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1166:G:O2'	1:a:1170:A:N6	2.51	0.44
1:a:1497:G:O2'	1:a:1498:U:H5'	2.18	0.44
2:c:114:LYS:NZ	2:c:186:THR:O	2.47	0.44
3:d:144:SER:HB2	3:d:179:GLU:HG2	2.00	0.44
6:g:104:ILE:O	6:g:108:ALA:N	2.45	0.44
11:l:50:ARG:CG	11:l:90:LEU:HD11	2.43	0.44
14:o:37:ASN:HA	14:o:40:GLN:HB2	2.00	0.44
18:s:4:SER:C	18:s:6:LYS:HZ3	2.26	0.44
21:b:13:VAL:HG23	21:b:208:ALA:HB2	2.00	0.44
21:b:56:LEU:C	21:b:56:LEU:HD23	2.43	0.44
21:b:81:ASP:CG	21:b:82:ALA:N	2.74	0.44
21:b:116:LEU:HD12	21:b:116:LEU:N	2.32	0.44
27:5:36:ALA:HB2	27:5:38:PHE:CD1	2.53	0.44
27:5:50:ILE:HG23	27:5:169:GLY:CA	2.47	0.44
27:5:152:ALA:O	27:5:155:ASN:HB2	2.18	0.44
28:A:65:U:O2'	28:A:456:C:N3	2.50	0.44
28:A:652:U:H3'	28:A:653:U:C6	2.52	0.44
28:A:737:C:H2'	28:A:738:G:O4'	2.18	0.44
28:A:1112:G:O2'	28:A:1113:U:H5'	2.17	0.44
28:A:1161:C:O2'	45:R:23:GLU:HG2	2.18	0.44
28:A:1347:A:H2'	28:A:1348:C:H5'	2.00	0.44
28:A:2670:A:H2'	28:A:2671:G:C8	2.53	0.44
28:A:2746:U:H2'	28:A:2747:G:H5'	2.00	0.44
34:G:102:ILE:HG22	34:G:103:ASN:N	2.33	0.44
34:G:148:ARG:HG2	34:G:152:ARG:HG2	1.99	0.44
35:H:72:ILE:CG2	35:H:132:PHE:HB3	2.48	0.44
36:I:100:ILE:HG22	36:I:101:SER:O	2.18	0.44
36:I:100:ILE:HG21	36:I:105:LEU:HG	2.00	0.44
36:I:116:MET:O	36:I:124:MET:HE3	2.17	0.44
38:K:14:SER:HA	38:K:51:LYS:HB3	1.99	0.44
45:R:24:LYS:C	45:R:25:LEU:HD12	2.43	0.44
47:T:34:VAL:HG23	47:T:34:VAL:O	2.17	0.44
48:U:31:GLY:O	48:U:66:VAL:HB	2.17	0.44
51:X:36:ARG:HA	51:X:46:VAL:O	2.18	0.44
57:x:194:LEU:HG	57:x:196:ILE:CD1	2.48	0.44
54:9:33:U:O2'	54:9:35:A:N7	2.43	0.44
1:a:783:C:O2'	1:a:784:A:H5'	2.18	0.44
5:f:6:ILE:HD13	5:f:74:LEU:CD2	2.48	0.44
7:h:11:LEU:CD1	7:h:77:ARG:HB2	2.47	0.44
8:i:44:ALA:CA	8:i:47:VAL:HG22	2.45	0.44
8:i:58:VAL:CG1	8:i:59:GLU:H	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:j:8:ILE:HD11	9:j:76:ILE:CD1	2.47	0.44
10:k:16:VAL:CG1	10:k:79:ILE:HG12	2.48	0.44
11:l:114:ARG:NE	11:l:121:ARG:HA	2.33	0.44
13:n:24:ARG:C	13:n:26:GLU:H	2.25	0.44
22:0:21:LEU:CD2	46:S:41:LYS:HE3	2.48	0.44
25:3:4:LYS:HZ2	28:A:253:C:P	2.36	0.44
25:3:37:THR:HG21	28:A:2348:U:OP1	2.18	0.44
28:A:7:G:H1'	37:J:135:GLN:HE22	1.83	0.44
28:A:855:G:N3	50:W:23:LYS:CD	2.77	0.44
31:D:117:GLY:HA2	31:D:164:GLN:NE2	2.32	0.44
34:G:19:ASN:HB3	34:G:22:VAL:HG21	1.99	0.44
35:H:10:ALA:HB3	35:H:13:GLY:CA	2.48	0.44
35:H:77:THR:HG22	35:H:144:VAL:CB	2.19	0.44
36:I:120:ASP:HB3	36:I:123:ALA:CB	2.47	0.44
38:K:110:GLU:O	38:K:113:MET:HB2	2.17	0.44
40:M:44:ARG:O	40:M:47:GLU:HB3	2.18	0.44
48:U:85:ARG:HG3	48:U:86:PHE:O	2.17	0.44
54:6:1:G:H1	54:6:72:C:N4	2.10	0.44
54:6:36:A:H2	55:7:19:U:H3	1.66	0.44
55:7:15:U:H4'	55:7:15:U:OP1	2.18	0.44
57:x:161:CYS:HA	57:x:169:VAL:CG1	2.48	0.44
57:x:381:VAL:HG12	57:x:382:ILE:N	2.32	0.44
57:x:385:ASP:OD1	57:x:386:SER:N	2.51	0.44
57:x:594:VAL:HG22	57:x:594:VAL:O	2.17	0.44
1:a:28:A:H2'	1:a:29:U:C5'	2.48	0.43
1:a:77:A:H5'	1:a:79:G:N1	2.33	0.43
1:a:223:A:H2'	1:a:224:U:H6	1.83	0.43
1:a:563:A:O2'	1:a:566:G:O2'	2.16	0.43
1:a:1257:A:H4'	1:a:1258:G:OP2	2.17	0.43
1:a:1292:G:H5'	8:i:41:ARG:HH11	1.83	0.43
3:d:89:ASN:O	3:d:92:ALA:HB3	2.18	0.43
7:h:26:THR:HG22	7:h:60:GLU:CB	2.47	0.43
13:n:30:ILE:C	13:n:33:ASP:OD2	2.61	0.43
15:p:8:ARG:HB3	15:p:28:ARG:NH2	2.33	0.43
15:p:23:ASP:OD1	15:p:24:SER:N	2.51	0.43
16:q:78:VAL:HG11	16:q:81:LYS:HG3	1.99	0.43
19:t:59:ASP:CG	19:t:76:LYS:HZ3	2.26	0.43
28:A:323:C:O2'	28:A:1205:A:N6	2.36	0.43
28:A:807:U:O2'	28:A:808:G:H5'	2.17	0.43
28:A:1045:C:H4'	28:A:1046:A:C5'	2.48	0.43
28:A:1315:C:H2'	28:A:1316:U:H6	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1870:C:P	28:A:1871:A:H62	2.41	0.43
28:A:2051:A:H4'	28:A:2052:A:OP1	2.18	0.43
28:A:2682:A:H2'	28:A:2683:C:O4'	2.17	0.43
28:A:2698:U:H2'	28:A:2699:C:H6	1.83	0.43
28:A:2795:C:C2	28:A:2796:U:C5	3.05	0.43
29:B:19:C:H2'	29:B:20:G:H5'	2.00	0.43
31:D:151:THR:CG2	31:D:152:PRO:CD	2.75	0.43
33:F:23:SER:HB3	33:F:26:GLN:HB2	2.00	0.43
33:F:49:LEU:HD23	33:F:83:PRO:HB2	1.98	0.43
37:J:111:LYS:HG3	37:J:112:GLY:N	2.33	0.43
38:K:39:ILE:HD11	38:K:41:ILE:HD11	2.00	0.43
40:M:62:LYS:HG2	40:M:63:ILE:N	2.33	0.43
41:N:33:ILE:HG12	41:N:118:ARG:HD3	2.00	0.43
42:O:26:LEU:HG	42:O:26:LEU:O	2.18	0.43
42:O:36:TYR:CD1	42:O:52:SER:HB2	2.53	0.43
44:Q:64:ILE:CD1	44:Q:95:ALA:HB3	2.48	0.43
56:8:29:G:O2'	56:8:30:G:H5'	2.18	0.43
57:x:199:TRP:HB2	57:x:320:ASN:OD1	2.18	0.43
57:x:296:TYR:CE2	57:x:339:ARG:NE	2.86	0.43
1:a:256:U:H2'	1:a:257:G:C8	2.53	0.43
1:a:618:C:H5''	1:a:619:U:H5''	2.00	0.43
1:a:1009:U:H3	1:a:1020:G:H1	1.64	0.43
1:a:1249:C:O2'	8:i:70:GLY:O	2.30	0.43
1:a:1379:G:O2'	1:a:1380:U:H5'	2.18	0.43
3:d:37:ALA:HA	3:d:42:GLY:HA3	2.00	0.43
4:e:150:PRO:HA	4:e:153:VAL:HG22	1.98	0.43
6:g:69:VAL:O	6:g:138:ARG:HD3	2.18	0.43
8:i:38:TYR:HD2	8:i:39:PHE:HD2	1.62	0.43
8:i:91:ASP:CG	8:i:93:SER:HB3	2.44	0.43
11:l:82:ILE:HD11	11:l:95:TYR:CD2	2.52	0.43
11:l:122:PRO:O	11:l:123:LYS:HG2	2.18	0.43
21:b:67:LEU:O	21:b:67:LEU:HD23	2.18	0.43
21:b:205:ALA:HB3	21:b:208:ALA:CB	2.38	0.43
27:5:15:VAL:HB	27:5:33:LEU:CD1	2.40	0.43
27:5:70:GLY:H	27:5:176:GLY:HA2	1.82	0.43
27:5:81:GLY:O	27:5:85:GLU:HG3	2.18	0.43
28:A:141:G:H2'	28:A:142:A:O4'	2.18	0.43
28:A:524:G:H2'	28:A:525:U:O4'	2.18	0.43
28:A:637:A:H4'	28:A:638:G:O5'	2.18	0.43
28:A:662:G:O2'	28:A:663:G:H5'	2.16	0.43
28:A:1007:C:OP1	37:J:39:LYS:HE3	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1657:U:O2'	28:A:1658:C:H5'	2.19	0.43
28:A:1979:U:O2'	28:A:1980:G:H5'	2.18	0.43
28:A:2570:G:O2'	28:A:2571:U:H5'	2.18	0.43
28:A:2813:A:H2'	28:A:2814:A:O4'	2.18	0.43
28:A:2813:A:H8	28:A:2813:A:O5'	2.00	0.43
29:B:9:G:O2'	29:B:10:G:H5'	2.18	0.43
30:C:68:ARG:HE	30:C:128:THR:HG1	1.65	0.43
31:D:106:LYS:HG2	31:D:176:ASP:OD1	2.17	0.43
31:D:187:LEU:O	31:D:188:LEU:HD23	2.17	0.43
35:H:90:LEU:CG	35:H:147:VAL:HG12	2.30	0.43
36:I:10:LEU:CD2	36:I:23:VAL:HG12	2.33	0.43
40:M:69:PRO:HA	40:M:94:ALA:HB2	2.00	0.43
55:7:13:C:O2	55:7:13:C:H2'	2.17	0.43
57:x:7:PHE:CB	57:x:97:GLY:HA3	2.48	0.43
57:x:120:MET:CE	57:x:153:ILE:HD11	2.42	0.43
1:a:430:A:H2'	1:a:431:A:H5'	2.00	0.43
1:a:568:G:N2	1:a:883:C:C2	2.86	0.43
1:a:612:C:H2'	1:a:613:C:H6	1.82	0.43
1:a:633:G:C2'	1:a:634:C:H5'	2.49	0.43
1:a:715:A:H1'	1:a:777:A:N1	2.33	0.43
1:a:1178:G:C6	8:i:99:ARG:NH2	2.86	0.43
1:a:1438:G:O2'	1:a:1439:G:H5'	2.19	0.43
3:d:26:ARG:HH12	3:d:30:THR:CG2	2.31	0.43
3:d:38:PRO:HD2	3:d:42:GLY:HA2	1.99	0.43
7:h:7:ILE:HG21	7:h:77:ARG:NH1	2.33	0.43
7:h:85:ILE:O	7:h:124:GLU:HG3	2.19	0.43
8:i:12:ARG:NH1	8:i:13:LYS:HB2	2.33	0.43
10:k:31:ILE:CB	10:k:46:THR:HG22	2.49	0.43
11:l:33:VAL:HG22	11:l:56:ARG:HB3	1.99	0.43
19:t:23:SER:HA	19:t:26:SER:HB3	2.00	0.43
21:b:67:LEU:HA	21:b:89:PHE:O	2.18	0.43
23:1:35:LEU:CD1	23:1:37:LYS:HG3	2.48	0.43
24:2:3:ARG:HA	24:2:3:ARG:HD3	1.82	0.43
26:4:15:LYS:O	26:4:16:ILE:HB	2.18	0.43
27:5:33:LEU:HD23	27:5:221:GLY:C	2.43	0.43
27:5:85:GLU:C	27:5:88:LYS:H	2.27	0.43
28:A:49:A:N6	28:A:177:G:C4	2.86	0.43
28:A:201:C:H2'	28:A:202:U:C6	2.51	0.43
28:A:346:A:H2'	28:A:347:A:H5'	2.00	0.43
28:A:962:G:HO2'	28:A:2496:C:HO2'	1.50	0.43
28:A:1181:U:H2'	28:A:1182:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1257:C:H2'	28:A:1258:U:C6	2.54	0.43
28:A:1319:C:O2'	28:A:1320:C:H5'	2.18	0.43
28:A:1368:G:O2'	28:A:1369:G:H5'	2.18	0.43
28:A:1706:C:O2'	28:A:1757:A:OP2	2.29	0.43
28:A:1993:U:H4'	31:D:133:THR:HG22	1.99	0.43
29:B:69:G:H2'	29:B:70:C:H5'	2.00	0.43
30:C:33:LEU:HD21	30:C:62:ARG:HG2	2.00	0.43
31:D:118:PHE:HE1	31:D:123:LYS:HD3	1.83	0.43
37:J:38:GLY:CA	37:J:51:GLY:HA2	2.47	0.43
38:K:65:THR:HA	38:K:82:ASN:OD1	2.18	0.43
42:O:76:LYS:CA	42:O:109:ALA:HB1	2.48	0.43
45:R:61:ALA:HB2	45:R:98:ILE:HA	1.99	0.43
45:R:68:ARG:HD3	45:R:90:ARG:HD3	1.99	0.43
46:S:69:LEU:HD11	46:S:107:VAL:HG22	2.00	0.43
47:T:10:VAL:HG21	47:T:42:GLU:O	2.18	0.43
57:x:550:LEU:O	57:x:552:LYS:N	2.51	0.43
1:a:173:U:H5''	1:a:197:A:O4'	2.17	0.43
1:a:321:A:H2	1:a:333:U:O2	2.02	0.43
1:a:861:G:H2'	1:a:862:C:O4'	2.18	0.43
1:a:1281:C:O2'	1:a:1282:C:O5'	2.33	0.43
1:a:1370:G:O2'	1:a:1371:G:H5'	2.19	0.43
5:f:18:VAL:O	5:f:22:ILE:HG13	2.18	0.43
9:j:32:THR:HG21	9:j:86:ALA:HB2	2.00	0.43
12:m:90:ARG:HB3	12:m:97:VAL:HG22	1.99	0.43
15:p:22:ALA:CB	15:p:32:PHE:HA	2.49	0.43
16:q:14:SER:N	16:q:55:ILE:HD13	2.33	0.43
21:b:161:PHE:HZ	21:b:185:ILE:HD11	1.83	0.43
27:5:132:GLY:HA2	27:5:137:MET:HG3	2.01	0.43
28:A:163:C:H3'	28:A:163:C:P	2.58	0.43
28:A:268:C:H2'	28:A:269:C:H5'	2.01	0.43
28:A:414:C:O2	28:A:1864:U:H4'	2.18	0.43
28:A:614:A:H3'	28:A:614:A:OP2	2.19	0.43
28:A:792:A:C3'	28:A:793:A:H5'	2.46	0.43
28:A:881:G:N2	28:A:898:C:H1'	2.34	0.43
28:A:881:G:H1	28:A:898:C:C1'	2.31	0.43
28:A:1084:A:H2'	28:A:1085:A:O4'	2.19	0.43
28:A:1700:A:H2'	28:A:1701:A:H5'	2.00	0.43
28:A:2134:A:C2'	28:A:2160:C:H5'	2.48	0.43
28:A:2221:G:OP2	35:H:135:HIS:HB3	2.18	0.43
28:A:2821:A:H2'	28:A:2822:G:O4'	2.17	0.43
29:B:97:C:H2'	29:B:97:C:O2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:C:224:MET:O	30:C:232:GLY:HA2	2.18	0.43
33:F:41:GLU:HG2	33:F:48:LEU:HD23	2.00	0.43
34:G:97:VAL:HA	34:G:101:VAL:O	2.18	0.43
35:H:54:LEU:HD12	35:H:57:LYS:HZ3	1.82	0.43
35:H:116:ARG:NH2	35:H:122:LEU:HD13	2.33	0.43
36:I:105:LEU:HD23	36:I:108:ILE:HD12	2.00	0.43
43:P:20:ARG:CG	43:P:21:PRO:HD2	2.48	0.43
47:T:14:PRO:HD3	52:Y:30:MET:HE1	1.99	0.43
48:U:60:LYS:HD2	48:U:61:GLU:N	2.31	0.43
50:W:18:LYS:CG	50:W:19:ARG:N	2.80	0.43
57:x:86:TYR:CD1	57:x:291:VAL:CG1	2.99	0.43
57:x:257:TRP:HD1	57:x:259:VAL:HG23	1.82	0.43
57:x:512:VAL:HG12	57:x:540:SER:HB2	1.96	0.43
1:a:42:G:N3	1:a:622:A:H2	2.15	0.43
1:a:158:G:H21	1:a:162:A:N6	2.16	0.43
1:a:336:A:O2'	1:a:337:G:H5'	2.18	0.43
1:a:425:G:O2'	1:a:426:U:H5'	2.19	0.43
1:a:1516:G:N2	1:a:1519:A:OP2	2.52	0.43
6:g:59:LEU:O	6:g:62:PHE:HB3	2.19	0.43
6:g:76:LYS:CD	6:g:78:ARG:HH21	2.32	0.43
7:h:79:SER:OG	7:h:84:ARG:HA	2.19	0.43
9:j:45:ARG:CG	9:j:46:LYS:N	2.82	0.43
9:j:67:ILE:HG22	9:j:68:ARG:N	2.32	0.43
18:s:13:LEU:HD23	18:s:13:LEU:C	2.43	0.43
21:b:95:TRP:HH2	21:b:174:GLU:CD	2.26	0.43
26:4:11:CYS:HB3	26:4:33:HIS:HE1	1.82	0.43
28:A:613:A:H2'	28:A:613:A:N3	2.32	0.43
28:A:1480:C:H2'	28:A:1481:U:O4'	2.17	0.43
28:A:1790:C:H5''	28:A:1791:A:OP1	2.18	0.43
28:A:2039:U:O2'	28:A:2040:G:H5'	2.19	0.43
28:A:2521:C:O2'	28:A:2522:U:H5'	2.17	0.43
31:D:61:THR:HB	31:D:63:PRO:HD2	1.99	0.43
31:D:174:SER:O	31:D:175:LEU:HB2	2.18	0.43
35:H:80:ILE:HD12	35:H:101:ASP:HB3	1.99	0.43
35:H:90:LEU:H	35:H:147:VAL:CG1	2.29	0.43
35:H:103:VAL:O	35:H:106:ALA:HB3	2.17	0.43
38:K:5:GLN:O	38:K:21:CYS:HB3	2.18	0.43
43:P:37:LYS:HG2	43:P:37:LYS:O	2.18	0.43
49:V:6:ALA:HB1	49:V:40:ILE:HG23	1.99	0.43
57:x:364:ILE:HD12	57:x:594:VAL:HG21	2.00	0.43
57:x:545:LEU:HD12	57:x:545:LEU:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:9:40:C:C3'	54:9:41:C:H5''	2.47	0.43
1:a:311:C:O2'	1:a:312:C:H5'	2.18	0.43
1:a:1170:A:H2'	1:a:1171:A:O4'	2.18	0.43
3:d:195:ILE:HG13	3:d:195:ILE:O	2.19	0.43
5:f:7:VAL:HG13	5:f:88:MET:HB3	1.99	0.43
6:g:151:PHE:CZ	10:k:56:ARG:HD3	2.54	0.43
8:i:6:TYR:CG	8:i:89:GLU:HG2	2.52	0.43
8:i:124:ARG:HG2	8:i:125:PRO:HD2	1.97	0.43
10:k:16:VAL:HG22	10:k:18:ASP:O	2.19	0.43
13:n:87:ALA:HB1	13:n:92:GLU:HG3	2.00	0.43
16:q:4:LYS:O	16:q:5:ILE:HG13	2.19	0.43
18:s:15:LEU:HD23	18:s:38:SER:CB	2.49	0.43
21:b:114:LYS:HG2	21:b:117:GLU:OE2	2.18	0.43
22:0:1:ALA:CB	28:A:2577:A:H2	2.31	0.43
23:1:39:ASP:HA	23:1:40:PRO:HD2	1.88	0.43
27:5:47:ASN:C	27:5:210:LYS:HD2	2.44	0.43
29:B:70:C:O2'	29:B:71:C:H5'	2.18	0.43
31:D:26:VAL:HA	31:D:188:LEU:HD23	1.99	0.43
33:F:79:ARG:NH1	56:8:19:G:O6	2.52	0.43
33:F:113:PHE:CE1	33:F:115:GLY:HA2	2.53	0.43
33:F:133:GLU:OE2	33:F:135:ILE:HB	2.18	0.43
35:H:9:VAL:CG2	35:H:65:ALA:HB1	2.48	0.43
35:H:41:LYS:HD3	35:H:44:ILE:HD13	2.01	0.43
36:I:96:LYS:HE2	36:I:138:VAL:HG22	2.00	0.43
45:R:34:GLU:CD	45:R:60:LYS:HG2	2.44	0.43
52:Y:56:LEU:O	52:Y:57:LEU:HB3	2.18	0.43
56:8:47:U:H3	56:8:50:U:H5'	1.84	0.43
56:8:58:A:H4'	56:8:59:A:OP1	2.19	0.43
57:x:12:HIS:CA	57:x:109:GLU:OE1	2.59	0.43
57:x:78:THR:HG21	57:x:88:VAL:HG22	2.01	0.43
1:a:22:G:H2'	1:a:23:C:H6	1.84	0.43
1:a:69:G:H1	1:a:99:C:H42	1.65	0.43
1:a:212:G:N2	1:a:213:G:H1'	2.33	0.43
1:a:824:G:O4'	7:h:2:SER:HA	2.19	0.43
1:a:983:A:N3	1:a:983:A:C2'	2.81	0.43
1:a:1358:U:OP1	13:n:75:ARG:HG2	2.19	0.43
5:f:1:MET:HG3	5:f:67:PRO:N	2.34	0.43
8:i:7:TYR:CG	8:i:8:GLY:N	2.87	0.43
8:i:28:ILE:HG23	8:i:63:LEU:CD1	2.30	0.43
8:i:44:ALA:O	8:i:47:VAL:HG22	2.19	0.43
12:m:80:LEU:HD11	12:m:87:ARG:NH1	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:o:26:GLU:OE1	14:o:26:GLU:N	2.39	0.43
19:t:54:MET:O	19:t:57:ILE:HB	2.18	0.43
21:b:127:LYS:O	21:b:128:LEU:HB2	2.18	0.43
27:5:35:THR:OG1	27:5:219:GLY:HA2	2.19	0.43
27:5:185:LEU:HD13	27:5:233:VAL:HG11	1.99	0.43
28:A:259:G:O2'	28:A:621:A:O2'	2.26	0.43
28:A:414:C:O2	28:A:1864:U:O2'	2.32	0.43
28:A:693:A:O2'	28:A:1353:A:N3	2.43	0.43
28:A:1060:U:C4'	28:A:1061:U:H5'	2.49	0.43
28:A:1098:A:H2'	28:A:1099:G:C5'	2.49	0.43
28:A:1119:U:OP1	49:V:83:LYS:NZ	2.51	0.43
28:A:2556:C:O2'	28:A:2557:G:H5'	2.18	0.43
29:B:27:C:C4	29:B:28:C:C5	3.07	0.43
30:C:57:HIS:CG	30:C:58:LYS:H	2.37	0.43
32:E:194:LYS:O	32:E:197:GLU:HB3	2.18	0.43
33:F:3:LEU:HA	33:F:6:TYR:CB	2.45	0.43
33:F:89:THR:O	33:F:90:LEU:HD12	2.19	0.43
35:H:8:LYS:CB	35:H:62:LEU:HD11	2.49	0.43
36:I:20:SER:H	36:I:22:PRO:HD2	1.84	0.43
36:I:67:THR:O	36:I:69:VAL:HG23	2.17	0.43
36:I:104:GLN:O	36:I:105:LEU:CB	2.66	0.43
41:N:2:ARG:O	41:N:3:HIS:C	2.62	0.43
44:Q:84:LYS:O	44:Q:86:SER:N	2.50	0.43
49:V:36:ALA:O	49:V:93:ARG:NH2	2.48	0.43
51:X:5:GLN:O	51:X:70:LEU:HD21	2.17	0.43
52:Y:9:LYS:HB3	52:Y:12:GLU:HG3	2.00	0.43
56:8:42:G:H2'	56:8:43:A:O4'	2.18	0.43
56:8:64:G:H2'	56:8:65:C:H6	1.82	0.43
57:x:170:GLN:N	57:x:171:ASP:C	2.77	0.43
1:a:35:G:O2'	11:l:118:GLY:HA2	2.18	0.43
1:a:77:A:C5	1:a:79:G:H1'	2.54	0.43
1:a:1099:G:H2'	1:a:1100:C:O4'	2.19	0.43
1:a:1212:U:H5''	1:a:1213:A:P	2.59	0.43
1:a:1298:U:C5	6:g:114:LYS:HD2	2.53	0.43
1:a:1377:A:N6	6:g:7:ILE:HD11	2.33	0.43
5:f:88:MET:CG	5:f:89:VAL:N	2.82	0.43
7:h:11:LEU:HD22	7:h:75:ILE:CG1	2.48	0.43
7:h:54:ASP:CG	7:h:55:THR:N	2.77	0.43
7:h:91:GLU:O	7:h:91:GLU:HG2	2.19	0.43
12:m:13:LYS:CE	12:m:18:ALA:HA	2.40	0.43
12:m:114:LYS:H	12:m:115:PRO:CD	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:93:ILE:HA	13:n:94:PRO:HD3	1.73	0.43
15:p:38:PHE:CZ	15:p:51:ARG:HB2	2.54	0.43
15:p:54:LEU:HD11	15:p:78:VAL:CG1	2.48	0.43
17:r:40:VAL:HG12	17:r:45:THR:HG23	2.01	0.43
21:b:181:PRO:HA	21:b:196:ASP:OD2	2.19	0.43
23:1:12:SER:HA	23:1:48:TYR:CE1	2.54	0.43
25:3:31:ILE:HD12	28:A:2391:G:OP2	2.19	0.43
27:5:33:LEU:CG	27:5:220:ALA:HB3	2.30	0.43
28:A:28:A:O2'	28:A:583:G:H5'	2.18	0.43
28:A:177:G:H2'	28:A:177:G:N3	2.33	0.43
28:A:368:A:H2'	28:A:369:U:H5'	2.01	0.43
28:A:486:C:H4'	46:S:60:HIS:CD2	2.54	0.43
28:A:1048:A:C6	28:A:1111:A:C2	3.06	0.43
28:A:1099:G:H2'	28:A:1099:G:N3	2.34	0.43
28:A:1176:U:N3	28:A:1177:G:C6	2.87	0.43
28:A:1341:G:H5'	47:T:61:LEU:HB3	1.99	0.43
28:A:1425:G:H8	28:A:1425:G:O5'	2.00	0.43
28:A:1998:A:H4'	28:A:2724:U:O2'	2.18	0.43
29:B:19:C:O2'	29:B:20:G:H5'	2.19	0.43
35:H:55:GLU:O	35:H:59:ALA:HB2	2.18	0.43
35:H:116:ARG:CZ	35:H:122:LEU:HD13	2.47	0.43
36:I:140:GLU:N	36:I:140:GLU:OE1	2.51	0.43
37:J:69:ARG:HD3	37:J:89:PHE:CE2	2.54	0.43
43:P:89:GLY:HA2	43:P:111:GLU:HA	2.01	0.43
44:Q:93:ILE:O	44:Q:96:ASP:HB2	2.19	0.43
46:S:6:LYS:HB2	46:S:103:ILE:O	2.19	0.43
46:S:12:SER:HB3	46:S:17:VAL:CG2	2.48	0.43
47:T:65:GLY:N	47:T:79:ASP:OD1	2.51	0.43
57:x:17:LYS:HE3	57:x:78:THR:O	2.18	0.43
57:x:272:ASP:OD1	57:x:273:THR:N	2.52	0.43
57:x:363:LEU:O	57:x:364:ILE:HD13	2.18	0.43
54:9:53:G:H2'	54:9:54:U:C6	2.54	0.43
1:a:112:G:H5'	1:a:389:A:O2'	2.18	0.43
1:a:161:A:H2'	1:a:162:A:C8	2.53	0.43
1:a:785:G:H2'	1:a:786:G:C5'	2.48	0.43
3:d:101:VAL:HG21	3:d:137:VAL:HG21	2.01	0.43
5:f:38:ARG:HD3	5:f:98:GLU:H	1.83	0.43
8:i:119:ARG:HH21	8:i:123:ARG:HH21	1.67	0.43
12:m:14:HIS:HD2	12:m:42:ASP:HA	1.84	0.43
25:3:21:PHE:O	25:3:22:LYS:CG	2.65	0.43
26:4:3:VAL:HG11	28:A:2539:C:C5'	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:5:83:ASN:HD22	27:5:119:ASP:H	1.67	0.43
27:5:97:MET:HG2	27:5:98:GLU:OE2	2.19	0.43
28:A:186:G:O2'	28:A:187:G:H5'	2.19	0.43
28:A:673:C:H4'	32:E:77:ILE:HD12	2.00	0.43
28:A:855:G:N2	28:A:923:G:C5	2.87	0.43
28:A:1762:A:H8	28:A:1762:A:O5'	2.02	0.43
28:A:1817:G:H5''	30:C:86:ARG:CG	2.49	0.43
28:A:2353:G:N3	50:W:30:VAL:CG1	2.81	0.43
28:A:2630:G:C6	28:A:2894:G:C6	3.07	0.43
28:A:2684:U:H4'	38:K:76:VAL:HG21	2.00	0.43
30:C:255:LYS:O	30:C:256:THR:HG22	2.19	0.43
32:E:1:MET:HB2	32:E:14:VAL:O	2.18	0.43
32:E:32:VAL:HG23	32:E:178:VAL:CG1	2.32	0.43
32:E:68:ALA:O	32:E:69:ARG:C	2.62	0.43
33:F:16:MET:O	33:F:20:ASN:HA	2.17	0.43
33:F:137:PHE:HA	33:F:138:PRO:HD3	1.72	0.43
34:G:21:GLN:O	34:G:23:ILE:HD12	2.19	0.43
34:G:67:ALA:O	34:G:71:LEU:HD13	2.19	0.43
35:H:99:ILE:HG12	35:H:100:ALA:N	2.33	0.43
37:J:88:THR:CG2	37:J:91:GLU:HG3	2.48	0.43
38:K:71:ARG:HH21	38:K:106:GLU:CG	2.32	0.43
44:Q:63:ARG:CZ	44:Q:96:ASP:HA	2.49	0.43
47:T:58:VAL:HG12	47:T:85:VAL:CA	2.40	0.43
57:x:157:ASP:N	57:x:157:ASP:OD1	2.52	0.43
57:x:439:VAL:HG12	57:x:440:ALA:N	2.32	0.43
57:x:593:HIS:C	57:x:595:GLY:H	2.15	0.43
54:9:15:G:H4'	54:9:16:U:OP1	2.19	0.43
1:a:253:A:N6	1:a:274:A:N1	2.67	0.43
1:a:403:C:O2'	1:a:404:G:H5'	2.18	0.43
1:a:594:U:C2'	1:a:595:A:H5'	2.48	0.43
1:a:1038:C:H2'	1:a:1039:G:H8	1.83	0.43
4:e:37:THR:HG21	4:e:64:MET:CE	2.45	0.43
8:i:11:ARG:HG3	8:i:106:ARG:HE	1.83	0.43
8:i:123:ARG:CG	8:i:124:ARG:N	2.82	0.43
13:n:21:PHE:N	13:n:25:ALA:HB3	2.32	0.43
13:n:41:ARG:N	13:n:41:ARG:CD	2.73	0.43
18:s:18:LYS:HB3	18:s:31:LEU:CD2	2.45	0.43
28:A:38:A:O2'	32:E:43:THR:HA	2.17	0.43
28:A:198:C:N4	28:A:248:G:H1	2.16	0.43
28:A:528:A:H2	28:A:2042:A:H2'	1.79	0.43
28:A:532:A:H2'	28:A:532:A:N3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:540:C:O2'	28:A:541:A:H5'	2.19	0.43
28:A:557:C:O2	37:J:47:HIS:HB2	2.18	0.43
28:A:784:G:H5'	30:C:225:ASN:OD1	2.19	0.43
28:A:954:G:H5''	40:M:13:HIS:ND1	2.33	0.43
28:A:1092:C:C2'	28:A:1093:G:H5'	2.48	0.43
28:A:1641:A:H2'	28:A:1642:G:H5'	2.01	0.43
28:A:1671:U:O2'	28:A:1673:G:N7	2.49	0.43
28:A:1733:G:N3	28:A:1733:G:H2'	2.34	0.43
28:A:2108:A:C2'	28:A:2109:U:H5'	2.48	0.43
28:A:2192:U:H2'	28:A:2193:G:C5'	2.36	0.43
28:A:2244:U:O5'	28:A:2244:U:H6	2.02	0.43
30:C:52:HIS:CE1	30:C:218:THR:HG23	2.53	0.43
30:C:259:ASN:ND2	30:C:262:THR:OG1	2.50	0.43
32:E:69:ARG:C	32:E:70:SER:HG	2.16	0.43
36:I:18:ASN:ND2	36:I:34:ILE:HG22	2.34	0.43
36:I:123:ALA:HB1	36:I:126:ARG:HH22	1.82	0.43
39:L:77:ILE:CG2	39:L:78:ARG:N	2.81	0.43
40:M:43:ALA:O	40:M:46:ILE:HG13	2.19	0.43
45:R:68:ARG:CG	45:R:90:ARG:HB3	2.48	0.43
48:U:73:ASN:O	48:U:74:ALA:HB3	2.19	0.43
57:x:21:SER:O	57:x:24:ILE:HB	2.19	0.43
57:x:436:GLY:O	57:x:438:GLN:N	2.50	0.43
1:a:107:G:O2'	1:a:108:G:H5'	2.18	0.42
1:a:191:G:H2'	1:a:192:A:C8	2.53	0.42
1:a:244:U:C6	1:a:894:G:N2	2.87	0.42
1:a:318:G:C2	1:a:336:A:C2	3.06	0.42
1:a:328:C:O2	1:a:328:C:O2'	2.36	0.42
1:a:1227:A:H5'	12:m:110:LYS:HE2	2.01	0.42
1:a:1380:U:C5	6:g:3:ARG:HA	2.54	0.42
7:h:11:LEU:HD12	7:h:77:ARG:HB2	2.01	0.42
9:j:22:THR:OG1	9:j:74:VAL:HG22	2.19	0.42
11:l:44:LYS:HB2	11:l:45:PRO:HD2	2.01	0.42
13:n:38:ASP:C	13:n:39:GLU:HG2	2.43	0.42
15:p:48:GLU:CD	15:p:49:GLY:H	2.27	0.42
22:0:1:ALA:HB2	28:A:2577:A:C2	2.53	0.42
24:2:31:LEU:HD21	24:2:43:THR:CG2	2.49	0.42
27:5:105:LYS:HE3	28:A:2163:A:H1'	2.01	0.42
27:5:134:ARG:CG	28:A:2125:G:H1	2.32	0.42
28:A:196:A:OP2	39:L:47:ARG:NH1	2.33	0.42
28:A:745:G:C2'	28:A:746:U:H5'	2.46	0.42
28:A:768:G:H2'	28:A:769:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1300:G:C2	28:A:1626:A:N6	2.86	0.42
28:A:1323:C:OP1	46:S:84:ARG:NE	2.49	0.42
28:A:1469:A:OP2	28:A:1522:A:N6	2.52	0.42
28:A:1736:U:H2'	28:A:1737:G:O4'	2.19	0.42
28:A:1969:A:H2'	28:A:1972:G:H21	1.84	0.42
28:A:2038:G:H2'	28:A:2039:U:O4'	2.18	0.42
28:A:2115:G:H4'	28:A:2167:U:H1'	2.01	0.42
28:A:2141:G:H2'	28:A:2142:A:H8	1.82	0.42
28:A:2296:U:H4'	28:A:2297:A:OP1	2.19	0.42
28:A:2326:C:HO2'	28:A:2327:A:P	2.36	0.42
28:A:2418:A:C6	28:A:2419:U:N3	2.86	0.42
28:A:2510:C:H2'	28:A:2511:U:C6	2.49	0.42
28:A:2585:U:H3'	28:A:2585:U:H6	1.83	0.42
28:A:2726:A:HO2'	28:A:2727:A:P	2.41	0.42
28:A:2840:C:H4'	41:N:91:ALA:O	2.18	0.42
28:A:2846:G:P	43:P:52:ARG:HH12	2.42	0.42
29:B:68:C:O2'	29:B:69:G:H5'	2.19	0.42
32:E:35:TYR:CE2	32:E:178:VAL:HG22	2.54	0.42
36:I:96:LYS:HG3	36:I:137:LEU:HA	2.01	0.42
40:M:117:PHE:O	40:M:120:ALA:N	2.51	0.42
43:P:45:VAL:HG12	43:P:46:VAL:O	2.18	0.42
45:R:16:GLU:HB3	45:R:101:ILE:HG13	2.01	0.42
46:S:7:HIS:HD1	46:S:10:ALA:HB2	1.84	0.42
47:T:7:LEU:HD21	47:T:42:GLU:OE2	2.19	0.42
48:U:25:LYS:O	48:U:26:ASN:HB3	2.19	0.42
48:U:53:GLN:HG3	48:U:53:GLN:O	2.19	0.42
49:V:48:MET:SD	49:V:51:GLN:NE2	2.92	0.42
50:W:55:ASP:O	50:W:56:HIS:HB2	2.18	0.42
57:x:186:ASP:HA	57:x:187:PRO:HD2	1.78	0.42
57:x:297:ALA:O	57:x:340:CYS:HB2	2.19	0.42
54:9:38:A:C3'	54:9:39:U:H5''	2.48	0.42
1:a:66:A:N6	1:a:103:U:H3	2.17	0.42
1:a:210:C:H5''	1:a:211:G:OP1	2.19	0.42
1:a:470:C:H2'	1:a:471:U:H6	1.83	0.42
1:a:840:C:N3	1:a:846:G:N1	2.49	0.42
1:a:966:G:N3	1:a:966:G:H2'	2.33	0.42
1:a:969:A:H2'	1:a:970:C:H5'	2.00	0.42
1:a:1106:G:H5''	2:c:172:ARG:HB3	2.00	0.42
3:d:118:VAL:HG22	3:d:123:ILE:HD12	2.00	0.42
4:e:49:GLY:H	4:e:67:ALA:HB2	1.83	0.42
7:h:102:ALA:O	7:h:104:VAL:HG13	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:4:ASN:HB3	8:i:6:TYR:CE2	2.54	0.42
8:i:18:ARG:HH12	8:i:20:PHE:HE2	1.66	0.42
8:i:104:VAL:HG23	8:i:105:THR:N	2.33	0.42
12:m:66:GLU:O	12:m:69:LEU:N	2.52	0.42
18:s:55:ARG:CG	18:s:56:GLN:N	2.81	0.42
20:u:14:VAL:CG1	20:u:16:LEU:HD21	2.49	0.42
22:0:21:LEU:CD1	46:S:41:LYS:HE3	2.49	0.42
23:1:51:ALA:O	23:1:52:LYS:HB2	2.19	0.42
26:4:3:VAL:CG2	26:4:4:ARG:N	2.79	0.42
27:5:48:LEU:HD11	27:5:171:ILE:CB	2.49	0.42
27:5:107:GLY:CA	27:5:134:ARG:NH2	2.80	0.42
27:5:141:LYS:NZ	54:9:54:U:O3'	2.37	0.42
28:A:63:A:O2'	28:A:64:A:H5'	2.18	0.42
28:A:220:G:N3	28:A:233:A:H2	2.16	0.42
28:A:825:A:C2'	28:A:826:U:H5'	2.49	0.42
28:A:933:A:H5''	28:A:934:U:H5	1.83	0.42
28:A:1705:A:N6	28:A:1706:C:H42	2.16	0.42
28:A:1812:U:O4'	30:C:44:ASN:ND2	2.52	0.42
28:A:1936:A:C2	28:A:1943:U:C5	3.04	0.42
28:A:1982:U:O2'	28:A:1983:G:H5'	2.19	0.42
28:A:2073:C:O2'	28:A:2074:U:H5'	2.19	0.42
28:A:2094:A:C5'	35:H:25:TYR:CD1	3.02	0.42
28:A:2112:G:C3'	28:A:2113:U:H5'	2.49	0.42
28:A:2189:U:O2'	28:A:2190:G:H5'	2.19	0.42
28:A:2322:A:O2'	28:A:2323:G:H5'	2.19	0.42
28:A:2842:G:C2'	28:A:2843:G:H5'	2.49	0.42
30:C:64:VAL:CG2	30:C:86:ARG:NH2	2.80	0.42
30:C:68:ARG:HH22	30:C:115:ILE:CG2	2.31	0.42
30:C:171:VAL:HG12	30:C:173:LEU:HD12	2.01	0.42
33:F:151:LEU:CD1	33:F:152:ASP:N	2.82	0.42
36:I:96:LYS:HE2	36:I:138:VAL:HG23	1.99	0.42
39:L:20:GLY:O	39:L:21:ARG:NH2	2.37	0.42
39:L:79:LEU:HA	39:L:82:LEU:HD21	2.01	0.42
53:Z:8:GLN:C	53:Z:9:THR:HG1	2.27	0.42
57:x:110:ALA:HB1	57:x:464:GLY:O	2.19	0.42
57:x:372:TYR:CE2	57:x:498:ILE:HG21	2.54	0.42
57:x:374:VAL:HG22	57:x:399:LEU:CD1	2.48	0.42
54:9:3:C:H2'	54:9:4:C:C1'	2.50	0.42
54:9:20:U:H2'	54:9:21:A:C4'	2.49	0.42
54:9:48:C:H6	54:9:48:C:OP1	2.01	0.42
1:a:849:G:H2'	1:a:850:U:C5'	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1027:C:H2'	1:a:1028:C:C6	2.52	0.42
1:a:1098:C:H2'	1:a:1099:G:O4'	2.19	0.42
1:a:1104:G:N2	1:a:1105:A:H1'	2.35	0.42
1:a:1318:A:H5'	18:s:10:PHE:CE1	2.54	0.42
1:a:1346:A:C4	6:g:10:ARG:NH2	2.87	0.42
3:d:17:THR:CG2	3:d:18:ASP:N	2.82	0.42
4:e:16:ILE:CD1	4:e:38:VAL:HG23	2.49	0.42
4:e:94:VAL:CG2	4:e:111:MET:CE	2.98	0.42
6:g:16:PRO:HB2	8:i:46:MET:CE	2.49	0.42
6:g:65:ALA:HB2	6:g:128:ALA:HB2	2.00	0.42
8:i:29:VAL:HG12	8:i:30:ILE:N	2.34	0.42
8:i:31:ASN:OD1	8:i:66:THR:HG23	2.18	0.42
8:i:83:ILE:O	8:i:86:ALA:N	2.49	0.42
12:m:10:PRO:HG3	12:m:18:ALA:HB1	2.01	0.42
13:n:32:SER:CB	13:n:45:VAL:HG12	2.37	0.42
15:p:4:ILE:HD12	15:p:65:ALA:HB1	2.01	0.42
21:b:164:ASP:OD1	21:b:203:ASP:HB2	2.19	0.42
27:5:102:ASP:O	27:5:106:LYS:HG2	2.19	0.42
28:A:179:C:H2'	28:A:180:G:H5'	2.02	0.42
28:A:276:U:H2'	28:A:277:G:C1'	2.50	0.42
28:A:1167:C:H2'	28:A:1168:G:O4'	2.19	0.42
28:A:1270:C:N4	28:A:1648:U:O4	2.52	0.42
28:A:1516:G:O2'	28:A:1517:G:H5'	2.19	0.42
28:A:1568:G:P	30:C:62:ARG:HH12	2.41	0.42
28:A:1727:C:H1'	28:A:1734:G:N2	2.33	0.42
28:A:2646:C:OP2	28:A:2732:G:O2'	2.36	0.42
28:A:2808:G:O2'	28:A:2890:G:O6	2.33	0.42
29:B:43:C:H2'	29:B:44:G:C5'	2.43	0.42
30:C:65:ASP:OD2	30:C:101:ARG:HD3	2.19	0.42
30:C:255:LYS:O	30:C:257:ARG:N	2.52	0.42
31:D:115:GLY:C	31:D:116:LYS:HG2	2.44	0.42
34:G:68:ARG:NH1	34:G:72:ASN:HD22	2.17	0.42
34:G:112:VAL:CG2	34:G:113:ASP:N	2.82	0.42
35:H:118:PRO:CB	35:H:122:LEU:HD23	2.49	0.42
40:M:108:VAL:HG12	40:M:109:PRO:O	2.19	0.42
45:R:38:VAL:CG1	45:R:54:VAL:HG22	2.43	0.42
49:V:75:GLN:CG	49:V:92:VAL:HG23	2.50	0.42
57:x:7:PHE:HA	57:x:97:GLY:C	2.43	0.42
54:9:11:C:C2	54:9:12:U:C5	3.08	0.42
54:9:38:A:H3'	54:9:39:U:C5'	2.49	0.42
1:a:60:A:O3'	19:t:5:LYS:HE2	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:259:G:C4	1:a:260:G:C8	3.07	0.42
1:a:543:U:H5'	3:d:14:ARG:NH2	2.34	0.42
1:a:620:C:H2'	1:a:621:A:O4'	2.19	0.42
1:a:1438:G:H2'	1:a:1439:G:H5'	2.02	0.42
3:d:107:PHE:CD1	3:d:159:LEU:HD21	2.50	0.42
4:e:115:LEU:O	4:e:120:VAL:HG22	2.20	0.42
6:g:126:ASP:HA	6:g:129:GLU:HG2	2.02	0.42
10:k:89:PRO:HG3	20:u:29:LEU:HD22	2.00	0.42
12:m:10:PRO:HG2	12:m:11:ASP:H	1.84	0.42
13:n:28:LYS:HE2	13:n:48:LEU:CD2	2.49	0.42
13:n:87:ALA:CB	13:n:92:GLU:HG3	2.49	0.42
14:o:78:TYR:CZ	14:o:82:ILE:HG21	2.55	0.42
18:s:48:THR:HG22	18:s:49:ILE:N	2.34	0.42
21:b:71:THR:HG23	21:b:93:HIS:O	2.20	0.42
21:b:186:VAL:HG22	21:b:198:VAL:CG2	2.49	0.42
27:5:11:ILE:CG2	27:5:33:LEU:HD12	2.30	0.42
27:5:79:THR:CB	27:5:117:SER:HB2	2.50	0.42
27:5:212:VAL:N	27:5:225:ASP:O	2.51	0.42
28:A:320:A:H4'	28:A:322:A:C8	2.54	0.42
28:A:551:G:C2'	28:A:552:U:H5'	2.50	0.42
28:A:1485:U:H2'	28:A:1486:U:C6	2.54	0.42
28:A:1522:A:H4'	28:A:1524:G:H1'	2.01	0.42
28:A:1535:A:H5''	28:A:1536:C:C5	2.48	0.42
28:A:1631:G:N2	28:A:1634:A:OP2	2.52	0.42
28:A:1936:A:OP1	28:A:1936:A:H3'	2.19	0.42
28:A:2223:G:H2'	28:A:2224:G:C5'	2.50	0.42
28:A:2316:G:H4'	33:F:124:ARG:NH1	2.34	0.42
28:A:2394:C:H6	28:A:2394:C:O5'	2.03	0.42
28:A:2484:G:O2'	28:A:2485:G:H5'	2.19	0.42
28:A:2602:A:H4'	28:A:2603:G:H5'	2.00	0.42
28:A:2647:U:H2'	28:A:2648:G:H8	1.84	0.42
29:B:65:U:O2'	29:B:66:A:H5'	2.18	0.42
30:C:109:LEU:CD1	30:C:110:LYS:N	2.82	0.42
30:C:225:ASN:HB3	30:C:226:PRO:CD	2.48	0.42
35:H:41:LYS:N	35:H:44:ILE:HG23	2.24	0.42
36:I:5:GLN:HB3	36:I:60:VAL:O	2.20	0.42
37:J:105:VAL:HG21	37:J:122:LEU:CD2	2.50	0.42
38:K:77:ILE:CD1	43:P:71:ARG:HD2	2.47	0.42
47:T:54:GLU:OE1	47:T:54:GLU:N	2.39	0.42
52:Y:39:GLN:O	52:Y:42:LEU:HD13	2.19	0.42
57:x:15:HIS:HD2	57:x:103:ASP:H	1.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:x:60:THR:HA	57:x:73:LEU:O	2.19	0.42
57:x:373:GLU:HG3	57:x:381:VAL:HG11	2.02	0.42
57:x:473:LYS:HG3	57:x:474:ARG:HG2	2.01	0.42
54:9:53:G:C2	54:9:62:C:N3	2.87	0.42
1:a:690:G:C2'	1:a:691:G:H5'	2.49	0.42
1:a:835:U:OP1	17:r:53:ARG:NH2	2.34	0.42
1:a:1075:U:H2'	1:a:1076:U:C6	2.55	0.42
1:a:1092:A:H5''	6:g:4:ARG:NH1	2.33	0.42
1:a:1394:A:N6	1:a:1500:A:O2'	2.49	0.42
12:m:9:ILE:HG23	12:m:9:ILE:O	2.19	0.42
12:m:23:TYR:CE2	12:m:69:LEU:HD23	2.54	0.42
12:m:80:LEU:HD22	12:m:85:CYS:SG	2.59	0.42
13:n:34:VAL:HG13	13:n:35:ASN:ND2	2.33	0.42
13:n:39:GLU:CG	13:n:40:ASP:HA	2.48	0.42
15:p:78:VAL:O	15:p:79:ASN:HB2	2.18	0.42
16:q:41:THR:HG22	16:q:42:THR:N	2.34	0.42
23:1:4:ILE:CG2	23:1:5:ARG:H	2.32	0.42
27:5:82:ALA:O	27:5:85:GLU:HB2	2.18	0.42
28:A:108:G:H2'	28:A:109:C:O4'	2.20	0.42
28:A:119:A:O2'	28:A:120:U:OP2	2.31	0.42
28:A:377:G:O2'	28:A:378:C:H5'	2.20	0.42
28:A:574:A:H2	31:D:150:GLN:NE2	2.17	0.42
28:A:825:A:C2	28:A:833:A:C2	3.07	0.42
28:A:1173:U:H3	28:A:1174:U:H1'	1.82	0.42
28:A:1177:G:H2'	28:A:1178:C:C4'	2.49	0.42
28:A:1379:U:H5''	28:A:1380:G:OP2	2.19	0.42
28:A:1411:U:O2'	28:A:1412:U:H5'	2.20	0.42
28:A:1431:A:O2'	28:A:1432:G:H5'	2.20	0.42
28:A:1530:G:N3	28:A:1530:G:H2'	2.34	0.42
28:A:1669:A:C8	38:K:5:GLN:HG3	2.55	0.42
28:A:1877:A:O2'	28:A:1878:G:H5'	2.20	0.42
28:A:2129:C:HO2'	28:A:2131:U:P	2.41	0.42
28:A:2899:A:H5'	37:J:136:GLN:NE2	2.33	0.42
29:B:21:G:O2'	29:B:22:U:H5'	2.19	0.42
29:B:32:U:H2'	29:B:33:G:H8	1.83	0.42
29:B:76:G:OP1	49:V:12:GLN:HB2	2.19	0.42
31:D:121:THR:O	31:D:122:VAL:CB	2.67	0.42
44:Q:88:GLU:HA	45:R:49:ILE:HD11	2.00	0.42
44:Q:97:ILE:CD1	44:Q:105:PHE:HD1	2.32	0.42
57:x:6:ASN:ND2	57:x:211:ARG:HH11	2.17	0.42
1:a:78:A:N6	1:a:93:U:C1'	2.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:113:G:H1'	1:a:354:G:H5'	2.02	0.42
1:a:878:A:H5'	7:h:81:PRO:HG2	2.01	0.42
1:a:1048:G:OP1	13:n:4:GLN:N	2.41	0.42
1:a:1102:A:H2'	1:a:1103:C:C6	2.55	0.42
1:a:1326:U:O2'	1:a:1327:C:H5'	2.18	0.42
2:c:22:TRP:CE2	13:n:94:PRO:HG2	2.55	0.42
2:c:145:GLY:O	2:c:146:ALA:HB3	2.18	0.42
3:d:16:GLY:HA2	3:d:35:GLU:OE1	2.20	0.42
3:d:59:GLN:O	3:d:63:ARG:HG3	2.19	0.42
4:e:82:GLN:CB	4:e:147:MET:HE3	2.50	0.42
5:f:6:ILE:HB	5:f:62:MET:HB3	2.01	0.42
6:g:80:VAL:HG23	6:g:85:TYR:HD2	1.85	0.42
7:h:65:TYR:HD1	7:h:70:ALA:HA	1.84	0.42
8:i:30:ILE:O	8:i:31:ASN:HB2	2.19	0.42
9:j:35:GLN:CG	9:j:36:VAL:H	2.20	0.42
12:m:17:ILE:O	12:m:20:THR:OG1	2.31	0.42
14:o:4:SER:OG	14:o:6:GLU:OE1	2.34	0.42
17:r:55:LEU:O	17:r:59:ILE:HG13	2.19	0.42
18:s:51:VAL:O	18:s:58:VAL:HG22	2.20	0.42
23:1:10:LEU:CD2	23:1:33:LEU:HD22	2.50	0.42
28:A:273:G:H2'	28:A:274:C:O4'	2.20	0.42
28:A:524:G:C2	28:A:525:U:C2	3.08	0.42
28:A:638:G:H2'	28:A:639:U:C6	2.53	0.42
28:A:730:A:C2'	28:A:731:C:H5'	2.49	0.42
28:A:833:A:P	39:L:39:LYS:NZ	2.93	0.42
28:A:885:C:O2'	28:A:886:A:H5'	2.20	0.42
28:A:920:A:O2'	28:A:921:C:H5'	2.18	0.42
28:A:1173:U:H2'	28:A:1174:U:H4'	2.02	0.42
28:A:1384:A:O2'	28:A:1404:C:O2	2.38	0.42
28:A:2142:A:O2'	28:A:2143:C:H5'	2.18	0.42
28:A:2591:C:OP1	30:C:237:ARG:HG3	2.19	0.42
30:C:246:PRO:HG2	30:C:247:TRP:CE3	2.54	0.42
32:E:172:ALA:HB3	32:E:195:GLN:OE1	2.20	0.42
33:F:35:LEU:HD23	33:F:153:ILE:HG22	1.98	0.42
33:F:121:PHE:CZ	33:F:166:ARG:HG2	2.55	0.42
33:F:149:ARG:CG	33:F:150:GLY:H	2.32	0.42
34:G:16:VAL:HG22	34:G:16:VAL:O	2.19	0.42
34:G:130:ILE:HG22	34:G:131:VAL:N	2.33	0.42
35:H:115:VAL:HG21	35:H:138:VAL:O	2.20	0.42
37:J:80:HIS:HB3	37:J:81:ILE:H	1.55	0.42
38:K:10:VAL:HG11	38:K:16:ALA:CB	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:P:26:GLU:H	43:P:83:ILE:CD1	2.33	0.42
45:R:14:VAL:HG11	45:R:98:ILE:HG13	2.01	0.42
45:R:79:ARG:O	45:R:80:ARG:HB2	2.19	0.42
46:S:95:ARG:O	46:S:96:ILE:C	2.63	0.42
52:Y:41:HIS:O	52:Y:44:LYS:HB3	2.19	0.42
57:x:310:PHE:HA	57:x:361:LEU:HD13	2.02	0.42
57:x:384:VAL:HG21	57:x:390:LEU:CD2	2.47	0.42
57:x:386:SER:HA	57:x:387:PRO:HD3	1.89	0.42
57:x:482:ARG:HA	57:x:497:LEU:O	2.19	0.42
57:x:579:GLY:O	57:x:580:ASN:HB3	2.20	0.42
1:a:9:G:H21	1:a:10:A:H1'	1.85	0.42
1:a:144:G:O2'	1:a:145:G:H5'	2.19	0.42
1:a:464:U:N3	1:a:466:A:H5''	2.35	0.42
1:a:684:U:C2'	1:a:685:G:H5'	2.50	0.42
1:a:749:A:H2'	1:a:750:C:O4'	2.19	0.42
2:c:203:PHE:CZ	2:c:205:GLY:HA2	2.54	0.42
6:g:96:ARG:O	6:g:99:LEU:HB2	2.20	0.42
7:h:76:GLN:O	7:h:127:CYS:HB2	2.19	0.42
12:m:92:ARG:HD3	28:A:888:C:C6	2.54	0.42
12:m:114:LYS:H	12:m:115:PRO:HD2	1.84	0.42
19:t:6:SER:C	19:t:8:LYS:H	2.27	0.42
19:t:54:MET:HG3	19:t:55:GLN:N	2.34	0.42
21:b:83:ALA:O	21:b:88:GLN:HB2	2.20	0.42
21:b:206:ILE:HA	21:b:209:VAL:CG2	2.49	0.42
22:0:42:ILE:HD11	41:N:98:LEU:CB	2.27	0.42
27:5:38:PHE:CE1	27:5:217:THR:HG22	2.54	0.42
27:5:60:ARG:HD3	27:5:164:ARG:CG	2.49	0.42
27:5:134:ARG:CD	28:A:2125:G:H1	2.33	0.42
28:A:84:A:N6	28:A:101:A:H2	2.16	0.42
28:A:358:U:H2'	28:A:359:G:O4'	2.20	0.42
28:A:597:G:C2	28:A:661:A:C2	3.07	0.42
28:A:1297:C:OP1	28:A:2710:C:H4'	2.20	0.42
28:A:1514:G:H5''	28:A:1515:A:OP1	2.19	0.42
28:A:2152:G:H2'	28:A:2152:G:N3	2.34	0.42
28:A:2591:C:O5'	28:A:2591:C:H6	2.02	0.42
28:A:2713:U:C3'	28:A:2714:G:C5'	2.96	0.42
29:B:9:G:N2	29:B:10:G:H1'	2.34	0.42
29:B:72:G:O2'	29:B:73:A:O4'	2.32	0.42
32:E:126:VAL:HG22	32:E:128:ALA:H	1.83	0.42
32:E:149:ILE:HG13	32:E:149:ILE:O	2.20	0.42
34:G:40:VAL:HG12	34:G:41:GLU:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:G:146:ASP:O	34:G:149:ALA:HB3	2.20	0.42
43:P:50:ARG:CG	43:P:51:ASN:N	2.82	0.42
45:R:58:VAL:HG22	45:R:59:ILE:N	2.35	0.42
47:T:69:ARG:HH11	47:T:69:ARG:CG	2.32	0.42
48:U:48:VAL:O	48:U:48:VAL:HG23	2.18	0.42
48:U:51:LEU:O	48:U:52:ASN:HB2	2.20	0.42
49:V:40:ILE:HG22	49:V:41:GLU:N	2.33	0.42
52:Y:3:ALA:C	52:Y:6:LEU:H	2.27	0.42
54:6:74:C:O5'	54:6:74:C:H6	2.03	0.42
57:x:405:GLU:HG2	57:x:407:HIS:CE1	2.55	0.42
57:x:583:LEU:CD1	57:x:586:GLU:HB2	2.48	0.42
54:9:44:G:H2'	54:9:44:G:N3	2.34	0.42
1:a:67:C:O2'	1:a:68:G:H5'	2.19	0.42
1:a:398:U:H2'	1:a:399:G:H8	1.84	0.42
1:a:408:A:OP1	3:d:112:ALA:HB3	2.20	0.42
1:a:529:G:H4'	1:a:533:A:C5	2.54	0.42
1:a:1135:U:N3	1:a:1137:C:N3	2.67	0.42
4:e:105:ILE:H	4:e:122:ASN:HA	1.84	0.42
12:m:16:VAL:HG13	12:m:41:GLU:HB3	2.02	0.42
21:b:113:LEU:O	21:b:117:GLU:HG2	2.19	0.42
21:b:205:ALA:O	21:b:209:VAL:HG22	2.19	0.42
25:3:11:LYS:NZ	28:A:249:C:O2	2.52	0.42
26:4:23:ILE:HD13	28:A:1032:A:H1'	2.02	0.42
27:5:84:ALA:O	27:5:87:ALA:HB3	2.20	0.42
27:5:133:PRO:HD3	28:A:2119:A:C2	2.55	0.42
27:5:215:SER:HB2	28:A:2175:C:C2'	2.49	0.42
28:A:68:G:H2'	28:A:69:C:O4'	2.19	0.42
28:A:499:U:H2'	28:A:500:G:H5'	2.01	0.42
28:A:691:C:O5'	28:A:691:C:H6	2.02	0.42
28:A:748:G:O6	28:A:751:A:H5'	2.19	0.42
28:A:869:G:C2'	28:A:870:U:H5'	2.50	0.42
28:A:895:U:H2'	28:A:897:C:N1	2.33	0.42
28:A:978:G:H2'	28:A:979:A:H5'	2.01	0.42
28:A:1216:G:H5''	44:Q:10:ARG:CZ	2.49	0.42
28:A:1418:G:N2	28:A:1579:A:N7	2.68	0.42
28:A:1655:A:H5'	31:D:118:PHE:CD1	2.54	0.42
28:A:2134:A:H2'	28:A:2160:C:C5'	2.50	0.42
28:A:2146:C:H4'	28:A:2148:G:C5	2.54	0.42
28:A:2557:G:H2'	28:A:2558:C:C5	2.51	0.42
28:A:2588:G:C3'	28:A:2589:A:H5'	2.49	0.42
28:A:2734:A:H2'	28:A:2735:G:C5'	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2778:A:H4'	28:A:2779:U:OP2	2.19	0.42
30:C:123:ILE:HG22	30:C:191:LEU:HD21	2.02	0.42
31:D:120:GLY:HA2	31:D:162:ALA:HB1	2.01	0.42
32:E:111:GLU:OE2	32:E:115:GLN:NE2	2.53	0.42
33:F:71:LYS:O	33:F:73:VAL:HG13	2.20	0.42
43:P:62:LYS:HE2	43:P:64:SER:CB	2.39	0.42
46:S:14:ALA:O	46:S:18:ARG:HG3	2.19	0.42
50:W:30:VAL:HG13	50:W:30:VAL:O	2.20	0.42
52:Y:37:LEU:HD21	52:Y:40:SER:HA	2.01	0.42
58:6:101:PHE:HD2	58:6:101:PHE:HA	1.74	0.42
57:x:15:HIS:CD2	57:x:103:ASP:H	2.37	0.42
57:x:125:GLU:OE1	57:x:127:VAL:HG23	2.20	0.42
54:9:20:U:H3'	54:9:21:A:H5''	2.02	0.42
1:a:430:A:C2'	1:a:431:A:H5'	2.50	0.42
1:a:599:C:O5'	1:a:599:C:H6	2.03	0.42
1:a:734:G:C2	1:a:735:C:C2	3.07	0.42
1:a:1155:A:O2'	1:a:1156:G:H5'	2.20	0.42
1:a:1198:G:H2'	1:a:1199:U:C6	2.54	0.42
6:g:26:PHE:CE2	6:g:120:LEU:HD11	2.55	0.42
12:m:16:VAL:HG13	12:m:34:LEU:HD11	2.02	0.42
12:m:16:VAL:HG23	12:m:17:ILE:HG13	2.01	0.42
15:p:47:GLU:O	15:p:47:GLU:HG2	2.20	0.42
20:u:20:LYS:HA	20:u:20:LYS:HD2	1.88	0.42
21:b:187:ASP:CG	21:b:188:THR:N	2.78	0.42
27:5:4:LEU:HD13	28:A:2107:G:P	2.60	0.42
28:A:28:A:O2'	28:A:29:U:H5'	2.19	0.42
28:A:29:U:O5'	28:A:29:U:H6	2.03	0.42
28:A:521:U:H6	28:A:521:U:O5'	2.03	0.42
28:A:998:C:H2'	28:A:999:U:O5'	2.19	0.42
28:A:1272:A:H3'	28:A:1273:U:H5''	2.01	0.42
28:A:1559:U:C3'	28:A:1560:G:H5'	2.50	0.42
28:A:2317:A:O2'	28:A:2318:G:H5'	2.20	0.42
28:A:2456:C:H2'	28:A:2457:U:H5'	2.02	0.42
30:C:63:ILE:O	30:C:64:VAL:HB	2.18	0.42
34:G:98:LYS:CB	34:G:103:ASN:HD21	2.32	0.42
36:I:9:LYS:HA	36:I:57:VAL:HA	2.02	0.42
36:I:93:ASN:OD1	36:I:136:GLY:HA3	2.19	0.42
40:M:4:PRO:HG3	40:M:68:PHE:HE2	1.85	0.42
42:O:36:TYR:HD1	42:O:52:SER:HB2	1.85	0.42
42:O:74:VAL:O	42:O:78:VAL:HG13	2.19	0.42
50:W:18:LYS:H	50:W:35:ILE:CG2	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:7:24:A:O2'	55:7:25:G:H5'	2.19	0.42
57:x:58:SER:OG	57:x:255:VAL:HG11	2.20	0.42
57:x:109:GLU:HG2	57:x:110:ALA:H	1.84	0.42
54:9:50:U:H2'	54:9:51:U:O4'	2.19	0.42
54:9:68:C:H2'	54:9:69:G:O4'	2.20	0.42
1:a:20:U:O5'	1:a:20:U:H6	2.02	0.42
1:a:288:A:H2'	1:a:289:G:H4'	2.01	0.42
1:a:355:C:H2'	1:a:356:A:H5'	2.02	0.42
1:a:384:G:H2'	1:a:385:C:C6	2.55	0.42
1:a:785:G:H2'	1:a:786:G:H5'	2.01	0.42
1:a:1117:A:O3'	8:i:106:ARG:HD3	2.20	0.42
2:c:49:LYS:O	2:c:72:ARG:NH2	2.53	0.42
4:e:37:THR:CG2	4:e:64:MET:HE2	2.48	0.42
7:h:113:ASP:O	7:h:117:ARG:N	2.53	0.42
8:i:63:LEU:HD12	8:i:63:LEU:C	2.45	0.42
9:j:35:GLN:HG2	9:j:77:VAL:CB	2.50	0.42
10:k:126:LYS:O	10:k:127:ARG:HB2	2.20	0.42
12:m:85:CYS:O	12:m:88:GLY:N	2.49	0.42
21:b:96:LEU:H	21:b:99:MET:CE	2.33	0.42
21:b:129:THR:OG1	21:b:132:GLU:HB2	2.20	0.42
23:1:29:LYS:HA	23:1:30:PRO:HD2	1.64	0.42
26:4:3:VAL:O	26:4:4:ARG:HB3	2.19	0.42
27:5:65:LEU:HB3	27:5:66:PRO:HD2	2.02	0.42
27:5:67:HIS:O	27:5:159:GLY:HA3	2.19	0.42
27:5:139:ASN:HB2	27:5:164:ARG:CD	2.48	0.42
28:A:633:A:H1'	28:A:2403:C:O3'	2.19	0.42
28:A:641:U:H5''	28:A:642:U:OP2	2.20	0.42
28:A:873:C:H4'	40:M:64:TRP:CD1	2.55	0.42
28:A:960:A:H5''	28:A:961:C:P	2.60	0.42
28:A:1010:A:H5''	44:Q:65:ASN:ND2	2.35	0.42
28:A:1559:U:H3'	28:A:1560:G:H5'	2.02	0.42
28:A:1574:C:H2'	28:A:1575:C:H5'	2.01	0.42
28:A:2053:G:N2	28:A:2617:U:H1'	2.35	0.42
28:A:2257:U:H6	28:A:2257:U:O5'	2.03	0.42
28:A:2428:G:H21	39:L:60:ARG:HH21	1.66	0.42
28:A:2776:A:H4'	28:A:2777:G:O5'	2.20	0.42
30:C:51:ARG:HG2	30:C:52:HIS:CD2	2.55	0.42
31:D:49:GLN:HE22	31:D:79:LEU:HD13	1.82	0.42
32:E:1:MET:HG2	32:E:16:GLU:HA	2.01	0.42
33:F:134:GLN:OE1	33:F:134:GLN:N	2.41	0.42
35:H:99:ILE:HD11	35:H:101:ASP:CG	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:I:27:LEU:HD22	36:I:32:VAL:CG2	2.50	0.42
37:J:110:PRO:O	37:J:115:GLY:HA3	2.19	0.42
37:J:114:LEU:HD23	37:J:114:LEU:O	2.20	0.42
41:N:75:ILE:HG13	41:N:76:VAL:N	2.35	0.42
42:O:79:ALA:CB	42:O:113:ALA:HB3	2.47	0.42
42:O:106:LEU:C	42:O:106:LEU:HD12	2.45	0.42
49:V:41:GLU:HG3	49:V:41:GLU:O	2.19	0.42
50:W:9:THR:O	50:W:10:ARG:HB2	2.19	0.42
57:x:167:VAL:N	57:x:168:GLY:HA3	2.35	0.42
57:x:356:GLU:HG2	57:x:361:LEU:O	2.19	0.42
57:x:387:PRO:HB2	57:x:496:ALA:HB3	2.02	0.42
57:x:411:PRO:HG3	57:x:438:GLN:NE2	2.35	0.42
57:x:485:VAL:HG22	57:x:511:LEU:HD22	2.02	0.42
1:a:357:G:OP1	1:a:367:U:H2'	2.20	0.41
1:a:408:A:OP1	3:d:110:THR:HG21	2.20	0.41
1:a:467:U:O5'	1:a:467:U:H6	2.03	0.41
1:a:489:C:H2'	1:a:490:C:H5'	2.02	0.41
1:a:960:U:H4'	1:a:961:U:H5''	2.01	0.41
1:a:1499:A:O2'	1:a:1500:A:H5'	2.20	0.41
4:e:53:ALA:HB3	4:e:59:ALA:HB2	2.01	0.41
9:j:17:LEU:HD23	9:j:17:LEU:O	2.20	0.41
9:j:42:LEU:CB	9:j:43:PRO:HD2	2.50	0.41
10:k:16:VAL:C	10:k:17:SER:HG	2.25	0.41
15:p:14:ARG:HA	15:p:15:PRO:HD2	1.79	0.41
15:p:38:PHE:CZ	15:p:51:ARG:HD3	2.55	0.41
21:b:25:LYS:HE3	21:b:193:ASP:OD2	2.20	0.41
21:b:184:ALA:O	21:b:199:ILE:HG12	2.20	0.41
26:4:2:LYS:HE2	28:A:2477:U:H2'	2.01	0.41
27:5:4:LEU:HD12	28:A:2107:G:C5'	2.49	0.41
28:A:100:U:H4'	28:A:101:A:O4'	2.19	0.41
28:A:632:A:H4'	39:L:66:PHE:CE2	2.55	0.41
28:A:896:A:N7	54:6:56:C:C5	2.88	0.41
28:A:1091:G:O2'	28:A:1092:C:H5'	2.20	0.41
28:A:1419:A:N6	28:A:1421:G:C4	2.88	0.41
28:A:1484:U:O2'	28:A:1485:U:H5'	2.19	0.41
28:A:1584:U:O2	28:A:1585:C:H4'	2.20	0.41
28:A:1915:U:H2'	28:A:1916:A:O4'	2.20	0.41
28:A:2164:C:H6	28:A:2172:U:C5	2.38	0.41
28:A:2570:G:C2'	28:A:2571:U:H5'	2.50	0.41
28:A:2680:U:O2'	31:D:11:MET:HE3	2.19	0.41
28:A:2819:G:C6	28:A:2821:A:N3	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2889:C:N4	28:A:2890:G:C6	2.88	0.41
33:F:3:LEU:O	33:F:6:TYR:HB3	2.20	0.41
33:F:122:ASP:CG	33:F:126:ASN:HB2	2.44	0.41
41:N:38:LEU:HD13	41:N:99:LYS:HG2	2.02	0.41
45:R:52:PRO:O	45:R:53:PHE:CB	2.68	0.41
45:R:64:VAL:O	45:R:65:ALA:HB3	2.19	0.41
46:S:84:ARG:HG3	46:S:98:LYS:HE2	2.02	0.41
47:T:74:ILE:O	47:T:74:ILE:HG23	2.20	0.41
48:U:35:VAL:O	48:U:38:ILE:HG22	2.20	0.41
57:x:193:ALA:HB2	57:x:212:ILE:CD1	2.50	0.41
57:x:426:ARG:HG3	57:x:426:ARG:HH21	1.84	0.41
54:9:7:A:H61	54:9:66:U:H3	1.67	0.41
1:a:53:A:N1	1:a:54:C:C2	2.89	0.41
1:a:77:A:H5'	1:a:79:G:N2	2.32	0.41
1:a:658:C:O2'	1:a:659:U:H5'	2.19	0.41
1:a:884:U:H4'	1:a:885:G:C5'	2.49	0.41
1:a:1034:G:C2'	1:a:1035:A:H5'	2.51	0.41
1:a:1141:C:H2'	1:a:1142:G:H8	1.84	0.41
1:a:1372:U:H5''	8:i:73:SER:OG	2.20	0.41
4:e:82:GLN:HG2	4:e:147:MET:HE3	2.01	0.41
6:g:70:ARG:HA	6:g:71:PRO:HD2	1.82	0.41
8:i:91:ASP:H	8:i:94:LEU:HD13	1.84	0.41
8:i:120:LYS:O	8:i:121:ALA:C	2.63	0.41
10:k:24:HIS:HB3	10:k:31:ILE:CG1	2.47	0.41
11:l:83:ARG:CG	11:l:84:GLY:N	2.79	0.41
13:n:46:LEU:O	13:n:48:LEU:N	2.53	0.41
19:t:83:ILE:CD1	19:t:84:ASN:HB3	2.46	0.41
21:b:183:PHE:HE1	21:b:197:PHE:CD2	2.39	0.41
21:b:185:ILE:HD11	21:b:212:TYR:HE2	1.85	0.41
27:5:19:LYS:HD2	27:5:20:GLN:H	1.84	0.41
28:A:89:A:H2'	28:A:90:U:C6	2.55	0.41
28:A:987:C:C2'	28:A:988:A:H5'	2.43	0.41
28:A:1081:U:H5'	36:I:126:ARG:NH2	2.34	0.41
28:A:1088:A:H4'	28:A:1089:A:H8	1.84	0.41
28:A:1551:A:H2'	28:A:1552:A:O4'	2.20	0.41
28:A:1604:C:O2'	28:A:1610:A:N1	2.40	0.41
28:A:2298:A:O2'	28:A:2299:U:H5'	2.20	0.41
28:A:2713:U:H3'	28:A:2714:G:H5''	1.99	0.41
28:A:2721:A:H2'	28:A:2722:G:O4'	2.20	0.41
29:B:2:G:N1	29:B:119:A:N3	2.67	0.41
30:C:166:ARG:O	30:C:166:ARG:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:D:4:LEU:CD1	31:D:100:LEU:HD23	2.50	0.41
34:G:110:HIS:HA	34:G:111:PRO:HD3	1.91	0.41
35:H:72:ILE:HG12	35:H:130:VAL:HG21	2.01	0.41
35:H:89:LYS:HD3	35:H:125:THR:OG1	2.20	0.41
38:K:4:GLU:O	38:K:5:GLN:HB2	2.20	0.41
40:M:41:LEU:HD13	40:M:96:ILE:HG12	2.02	0.41
43:P:50:ARG:CB	43:P:57:ALA:N	2.82	0.41
44:Q:60:TRP:O	44:Q:64:ILE:HG13	2.20	0.41
54:6:70:G:H2'	54:6:71:G:H5'	2.01	0.41
57:x:15:HIS:HD2	57:x:103:ASP:N	2.18	0.41
1:a:251:G:H4'	1:a:252:U:O5'	2.20	0.41
1:a:334:C:H2'	1:a:335:C:H6	1.85	0.41
1:a:1025:U:O3'	1:a:1026:G:H8	2.04	0.41
1:a:1028:C:C4	1:a:1029:U:C2	3.09	0.41
1:a:1216:A:OP1	13:n:5:SER:OG	2.29	0.41
1:a:1299:A:N3	1:a:1299:A:C2'	2.81	0.41
7:h:5:ASP:HB2	7:h:81:PRO:HG3	2.03	0.41
9:j:35:GLN:O	9:j:36:VAL:HB	2.21	0.41
10:k:31:ILE:HA	10:k:46:THR:HG22	2.01	0.41
12:m:66:GLU:HB3	12:m:67:GLY:H	1.58	0.41
14:o:89:ARG:HD3	28:A:714:U:C5	2.55	0.41
15:p:12:LYS:O	15:p:13:LYS:HB2	2.21	0.41
17:r:21:ILE:HD12	17:r:21:ILE:O	2.20	0.41
21:b:206:ILE:CA	21:b:209:VAL:HG22	2.50	0.41
22:0:49:ARG:NH1	28:A:2883:A:OP2	2.53	0.41
23:1:7:LYS:CA	23:1:23:THR:HG22	2.45	0.41
23:1:12:SER:HA	23:1:48:TYR:CD1	2.55	0.41
25:3:34:LYS:NZ	28:A:2390:U:O5'	2.53	0.41
28:A:375:G:C2'	28:A:376:G:H5'	2.50	0.41
28:A:575:A:OP2	28:A:2055:C:N4	2.52	0.41
28:A:874:G:C2	28:A:904:G:C2	3.08	0.41
28:A:1062:G:C2	28:A:1063:G:C8	3.08	0.41
28:A:1347:A:C2'	28:A:1348:C:H5'	2.50	0.41
28:A:1410:G:H2'	28:A:1411:U:C6	2.55	0.41
28:A:1413:A:H2'	28:A:1414:C:C5'	2.46	0.41
28:A:1528:A:H2'	28:A:1529:G:C5'	2.48	0.41
28:A:1810:A:O5'	28:A:1810:A:H8	2.03	0.41
28:A:1916:A:H2'	28:A:1917:U:O4'	2.19	0.41
28:A:2010:G:O2'	28:A:2011:U:H5'	2.20	0.41
28:A:2297:A:C2	28:A:2298:A:C8	3.09	0.41
30:C:93:VAL:CG2	30:C:103:ILE:HG22	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:G:114:HIS:HB2	34:G:150:TYR:HE2	1.86	0.41
35:H:70:GLU:HG2	35:H:74:ALA:CB	2.41	0.41
35:H:78:VAL:HG23	35:H:146:VAL:CG1	2.43	0.41
35:H:93:SER:O	35:H:114:GLU:HA	2.21	0.41
38:K:77:ILE:HG21	38:K:79:PHE:CZ	2.55	0.41
40:M:2:LEU:HD23	40:M:46:ILE:CD1	2.50	0.41
43:P:91:VAL:C	43:P:92:ARG:HG2	2.45	0.41
44:Q:101:ASP:OD1	44:Q:103:VAL:HG22	2.20	0.41
45:R:1:MET:CE	45:R:43:ASN:HD21	2.33	0.41
50:W:9:THR:OG1	50:W:10:ARG:N	2.49	0.41
51:X:17:ARG:CZ	51:X:23:ALA:HB2	2.50	0.41
54:6:51:U:H3	54:6:63:G:H1	1.68	0.41
54:9:21:A:C6	54:9:46:G:C2	3.08	0.41
54:9:28:G:H3'	54:9:29:G:H8	1.84	0.41
1:a:419:C:H2'	1:a:420:U:H5'	2.00	0.41
1:a:858:G:O6	1:a:869:G:H3'	2.20	0.41
1:a:901:A:H5''	1:a:902:G:OP2	2.21	0.41
1:a:948:C:P	12:m:108:THR:H	2.44	0.41
1:a:1022:A:H2'	1:a:1023:U:H5'	2.01	0.41
6:g:80:VAL:HG23	6:g:85:TYR:CD2	2.55	0.41
6:g:127:ALA:C	6:g:130:ASN:H	2.29	0.41
8:i:90:TYR:CD2	8:i:94:LEU:HD21	2.55	0.41
10:k:14:LYS:O	10:k:15:GLN:HB3	2.21	0.41
14:o:26:GLU:H	14:o:26:GLU:CD	2.27	0.41
21:b:27:LYS:N	21:b:28:PRO:CD	2.84	0.41
21:b:30:ILE:HG22	21:b:31:PHE:N	2.35	0.41
27:5:33:LEU:HG	27:5:220:ALA:C	2.45	0.41
28:A:56:A:O2'	28:A:57:C:H5'	2.20	0.41
28:A:190:A:C4	28:A:207:A:C2	3.09	0.41
28:A:209:C:C2'	28:A:210:C:H5'	2.50	0.41
28:A:397:U:O5'	28:A:397:U:H6	2.04	0.41
28:A:637:A:OP1	39:L:130:GLY:HA3	2.21	0.41
28:A:708:G:H2'	28:A:709:U:H6	1.86	0.41
28:A:1009:A:O5'	28:A:1009:A:H8	2.03	0.41
28:A:1533:C:C2'	28:A:1534:U:H6	2.33	0.41
28:A:1661:G:C2'	28:A:1662:U:H5'	2.51	0.41
28:A:1789:A:OP1	30:C:220:ARG:HG2	2.20	0.41
28:A:2030:A:N3	28:A:2499:C:H5''	2.34	0.41
28:A:2183:A:C2	28:A:2184:A:C8	3.08	0.41
28:A:2276:G:O2'	28:A:2277:G:H5'	2.21	0.41
31:D:14:ILE:CD1	31:D:178:VAL:HG11	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:F:55:ASP:O	33:F:58:ALA:HB3	2.21	0.41
34:G:132:LEU:HD12	34:G:140:ILE:HD11	2.02	0.41
35:H:54:LEU:CD1	35:H:57:LYS:HZ3	2.33	0.41
36:I:4:VAL:HG11	36:I:59:THR:HA	2.02	0.41
39:L:93:ASN:C	39:L:95:LEU:N	2.78	0.41
40:M:22:GLN:O	40:M:24:THR:N	2.52	0.41
40:M:108:VAL:CG1	40:M:109:PRO:HD2	2.49	0.41
47:T:28:ASN:HA	47:T:91:GLN:HE22	1.85	0.41
52:Y:9:LYS:HB3	52:Y:12:GLU:CB	2.50	0.41
56:8:54:U:O5'	56:8:54:U:H6	2.01	0.41
56:8:75:C:H5	57:x:560:ARG:NH2	2.19	0.41
57:x:65:ALA:N	57:x:69:GLU:O	2.44	0.41
57:x:76:ILE:HD12	57:x:95:CYS:SG	2.61	0.41
57:x:314:LEU:CD1	57:x:338:PHE:CD2	3.01	0.41
57:x:588:PHE:CD2	57:x:589:LEU:N	2.88	0.41
1:a:35:G:N3	11:l:115:SER:OG	2.54	0.41
1:a:468:A:C8	1:a:469:C:C6	3.08	0.41
1:a:489:C:C2'	1:a:490:C:H5'	2.50	0.41
1:a:502:A:OP1	11:l:115:SER:HB3	2.19	0.41
1:a:932:C:H42	1:a:1385:G:H1	1.67	0.41
1:a:1254:A:O2'	1:a:1255:G:H5'	2.20	0.41
1:a:1343:G:H2'	1:a:1344:C:C6	2.55	0.41
1:a:1498:U:O2'	55:7:17:U:OP1	2.29	0.41
1:a:1510:C:O2'	1:a:1511:G:H5'	2.20	0.41
2:c:16:LYS:HA	2:c:17:PRO:HD2	1.75	0.41
2:c:23:PHE:HD2	9:j:97:ASP:HB2	1.78	0.41
3:d:4:TYR:CE2	3:d:11:LEU:HD11	2.56	0.41
6:g:129:GLU:OE2	6:g:131:LYS:HE2	2.21	0.41
8:i:46:MET:HA	8:i:49:ARG:CG	2.51	0.41
10:k:22:HIS:CD2	10:k:35:THR:HG21	2.55	0.41
10:k:86:VAL:O	10:k:113:VAL:HG22	2.20	0.41
28:A:28:A:H2'	28:A:29:U:H5'	2.02	0.41
28:A:139:U:HO2'	28:A:140:C:P	2.40	0.41
28:A:181:A:H2'	28:A:182:A:C8	2.55	0.41
28:A:368:A:C2'	28:A:369:U:H5'	2.50	0.41
28:A:368:A:O5'	28:A:368:A:H8	2.04	0.41
28:A:671:C:O2'	28:A:672:C:H5'	2.20	0.41
28:A:1045:C:O2	28:A:1047:G:N1	2.53	0.41
28:A:1060:U:C2	28:A:1062:G:H5'	2.56	0.41
28:A:1178:C:N3	28:A:1179:G:C5	2.89	0.41
28:A:1731:G:N3	28:A:1733:G:H1'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1863:G:H4'	28:A:2411:A:H4'	2.02	0.41
28:A:2287:A:N6	28:A:2344:U:H3	2.18	0.41
28:A:2898:U:O5'	28:A:2898:U:H6	2.04	0.41
33:F:49:LEU:HD22	33:F:83:PRO:O	2.20	0.41
34:G:175:LYS:HA	34:G:176:LYS:HA	1.52	0.41
35:H:115:VAL:O	35:H:116:ARG:HB3	2.20	0.41
37:J:132:HIS:O	37:J:135:GLN:HG2	2.20	0.41
42:O:27:VAL:HG13	42:O:95:SER:OG	2.20	0.41
47:T:87:LEU:HD23	47:T:87:LEU:HA	1.86	0.41
56:8:1:C:N4	56:8:72:A:H61	2.16	0.41
57:x:192:GLN:HE21	57:x:283:LYS:CD	2.16	0.41
57:x:589:LEU:CD1	57:x:589:LEU:N	2.84	0.41
57:x:593:HIS:C	57:x:595:GLY:N	2.77	0.41
54:9:10:G:N2	54:9:26:A:H1'	2.36	0.41
1:a:7:A:N7	4:e:124:LEU:HD13	2.34	0.41
1:a:26:A:H62	1:a:558:G:H21	1.69	0.41
1:a:156:C:H2'	1:a:157:U:O4'	2.21	0.41
1:a:604:G:C2	1:a:635:A:C2	3.09	0.41
1:a:900:A:H2'	1:a:901:A:O4'	2.20	0.41
1:a:955:U:C2'	1:a:956:U:H5'	2.50	0.41
1:a:997:U:C2'	1:a:998:C:H5'	2.50	0.41
1:a:1157:A:N6	1:a:1178:G:H1'	2.35	0.41
1:a:1484:C:H2'	1:a:1485:U:C6	2.56	0.41
3:d:177:LYS:O	3:d:179:GLU:HG3	2.20	0.41
4:e:103:THR:CG2	4:e:104:GLY:H	2.30	0.41
5:f:92:THR:C	5:f:93:LYS:HG2	2.46	0.41
6:g:12:ILE:HB	6:g:21:GLU:OE2	2.21	0.41
9:j:17:LEU:HD21	9:j:96:VAL:CG2	2.50	0.41
12:m:7:ILE:HD12	12:m:7:ILE:HA	1.97	0.41
21:b:19:THR:CG2	21:b:20:ARG:H	2.25	0.41
21:b:133:ALA:HA	21:b:136:ARG:CB	2.50	0.41
21:b:205:ALA:O	21:b:209:VAL:HG13	2.21	0.41
27:5:164:ARG:HG2	27:5:165:ASN:O	2.21	0.41
27:5:207:VAL:HB	27:5:210:LYS:NZ	2.35	0.41
28:A:275:C:H3'	28:A:276:U:H5''	2.03	0.41
28:A:941:A:H2'	28:A:942:G:O4'	2.20	0.41
28:A:960:A:N6	40:M:82:MET:HE3	2.18	0.41
28:A:1147:A:O2'	28:A:1148:U:H5'	2.20	0.41
28:A:1299:G:H5''	28:A:1300:G:OP1	2.20	0.41
28:A:1418:G:O2'	28:A:1580:A:N6	2.54	0.41
28:A:1684:G:C2	28:A:1705:A:C2	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2318:G:O5'	28:A:2318:G:H8	2.04	0.41
28:A:2683:C:N3	28:A:2727:A:O2'	2.47	0.41
28:A:2862:G:C2	28:A:2863:C:C2	3.08	0.41
29:B:55:U:H2'	29:B:56:G:H8	1.84	0.41
30:C:134:ILE:HG23	30:C:135:PRO:HD2	2.02	0.41
32:E:147:LEU:CD2	32:E:149:ILE:CG2	2.98	0.41
32:E:164:LEU:HD12	32:E:164:LEU:N	2.36	0.41
35:H:103:VAL:HG11	35:H:110:VAL:HG12	2.02	0.41
37:J:111:LYS:HG3	37:J:112:GLY:H	1.86	0.41
43:P:27:VAL:HG23	43:P:83:ILE:HD13	2.02	0.41
43:P:62:LYS:O	43:P:63:ILE:HB	2.20	0.41
45:R:1:MET:HA	45:R:43:ASN:OD1	2.20	0.41
45:R:68:ARG:HD2	45:R:90:ARG:NE	2.31	0.41
46:S:42:LYS:O	46:S:45:VAL:HG12	2.20	0.41
52:Y:7:ARG:O	52:Y:7:ARG:HG3	2.21	0.41
57:x:200:PHE:HB2	57:x:319:LEU:HD23	2.02	0.41
57:x:289:LYS:O	57:x:290:LYS:HB2	2.20	0.41
1:a:112:G:C2'	1:a:113:G:H5'	2.50	0.41
1:a:191:G:C4	1:a:192:A:C8	3.09	0.41
1:a:757:U:O2'	1:a:879:C:H1'	2.21	0.41
1:a:900:A:H8	1:a:900:A:O5'	2.02	0.41
1:a:1004:A:H8	1:a:1025:U:H1'	1.86	0.41
1:a:1036:A:H2'	1:a:1036:A:N3	2.35	0.41
1:a:1190:G:O2'	2:c:3:GLN:HG3	2.20	0.41
1:a:1218:C:H2'	1:a:1219:A:C8	2.56	0.41
1:a:1351:U:C2'	1:a:1352:C:H5'	2.50	0.41
3:d:91:LEU:HD13	3:d:197:GLU:HG2	2.02	0.41
3:d:98:LEU:CD2	3:d:118:VAL:HG21	2.50	0.41
3:d:104:ARG:HB3	3:d:168:PRO:HG2	2.03	0.41
3:d:144:SER:CB	3:d:179:GLU:HG2	2.50	0.41
4:e:16:ILE:HD11	4:e:38:VAL:HG21	2.01	0.41
6:g:43:VAL:CG1	6:g:47:LEU:HD13	2.50	0.41
7:h:47:GLU:HG3	7:h:64:LYS:CG	2.51	0.41
10:k:31:ILE:CG2	10:k:46:THR:HG22	2.48	0.41
11:l:36:ARG:HG2	11:l:37:VAL:N	2.35	0.41
11:l:67:ILE:HD13	11:l:74:LEU:HD12	2.01	0.41
13:n:40:ASP:C	13:n:41:ARG:HD3	2.46	0.41
13:n:51:LEU:HD12	13:n:51:LEU:C	2.44	0.41
16:q:11:ARG:HA	16:q:58:VAL:HA	2.03	0.41
19:t:22:ALA:O	19:t:26:SER:N	2.43	0.41
21:b:56:LEU:HD23	21:b:56:LEU:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:5:10:VAL:O	27:5:13:GLU:HB3	2.21	0.41
27:5:226:GLN:NE2	27:5:229:LEU:HD12	2.35	0.41
28:A:26:G:C6	28:A:27:G:N1	2.89	0.41
28:A:80:G:H2'	28:A:81:G:H5'	2.03	0.41
28:A:141:G:HO2'	28:A:142:A:C5'	2.31	0.41
28:A:428:A:O2'	28:A:429:A:H5'	2.20	0.41
28:A:851:C:O2'	53:Z:42:ALA:O	2.39	0.41
28:A:855:G:N3	50:W:23:LYS:CE	2.83	0.41
28:A:1256:G:N3	32:E:77:ILE:HG23	2.35	0.41
28:A:2480:C:C2'	28:A:2481:G:H5'	2.47	0.41
28:A:2776:A:N1	28:A:2782:G:H1'	2.35	0.41
30:C:258:SER:O	30:C:258:SER:OG	2.38	0.41
31:D:20:VAL:HG12	31:D:21:SER:N	2.36	0.41
32:E:3:LEU:C	32:E:11:ALA:HA	2.46	0.41
33:F:79:ARG:HG3	33:F:80:GLN:N	2.36	0.41
35:H:15:LEU:HG	35:H:15:LEU:O	2.19	0.41
35:H:97:ARG:O	35:H:112:LYS:HD3	2.20	0.41
36:I:20:SER:HA	36:I:23:VAL:O	2.20	0.41
36:I:100:ILE:HG22	36:I:139:VAL:HG23	2.02	0.41
39:L:95:LEU:O	39:L:100:ILE:HG13	2.21	0.41
45:R:61:ALA:CB	45:R:98:ILE:HA	2.50	0.41
47:T:13:ALA:HB1	52:Y:33:ALA:CB	2.51	0.41
51:X:70:LEU:HB3	51:X:75:GLU:HB3	2.03	0.41
54:6:76:A:C6	57:x:545:LEU:CD2	2.92	0.41
56:8:53:G:H2'	56:8:54:U:C5	2.55	0.41
57:x:180:ILE:HA	57:x:181:PRO:HD2	1.97	0.41
57:x:434:TYR:O	57:x:435:HIS:HB2	2.21	0.41
1:a:112:G:H4'	1:a:389:A:H4'	2.02	0.41
1:a:211:G:N1	1:a:212:G:C4	2.88	0.41
1:a:422:C:H1'	1:a:423:G:H21	1.81	0.41
1:a:767:A:H2'	1:a:768:A:H8	1.85	0.41
1:a:1317:C:H2'	1:a:1318:A:O5'	2.21	0.41
1:a:1421:G:C2	1:a:1480:A:C2	3.08	0.41
1:a:1486:G:H2'	1:a:1487:G:O4'	2.20	0.41
2:c:53:SER:HB3	2:c:115:LEU:HG	2.02	0.41
2:c:140:ASN:O	2:c:144:LEU:HD13	2.20	0.41
3:d:51:TYR:HD1	3:d:206:LYS:HZ1	1.69	0.41
4:e:35:ALA:O	4:e:36:LEU:HB2	2.21	0.41
4:e:113:ALA:O	4:e:117:VAL:HG22	2.21	0.41
5:f:64:VAL:HG12	5:f:65:GLU:N	2.35	0.41
6:g:101:MET:O	6:g:105:VAL:HG23	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:17:ALA:HB2	8:i:67:VAL:CB	2.51	0.41
8:i:17:ALA:HB2	8:i:67:VAL:HB	2.02	0.41
14:o:10:LYS:HE2	14:o:14:GLU:OE2	2.21	0.41
17:r:60:LYS:O	17:r:64:TYR:CD2	2.73	0.41
24:2:19:ARG:HG3	24:2:19:ARG:HH21	1.86	0.41
27:5:37:LYS:HB3	28:A:2128:G:H4'	2.03	0.41
27:5:37:LYS:HB3	28:A:2128:G:C4'	2.50	0.41
27:5:73:VAL:HG21	27:5:157:LYS:HA	2.03	0.41
27:5:189:LEU:O	27:5:192:LEU:HB3	2.20	0.41
28:A:155:A:C2	28:A:156:A:C4	3.08	0.41
28:A:399:U:H3'	51:X:56:ARG:HH12	1.86	0.41
28:A:674:G:H1'	32:E:69:ARG:HH11	1.86	0.41
28:A:853:C:C4	28:A:854:C:C5	3.09	0.41
28:A:1080:A:O2'	36:I:127:SER:N	2.54	0.41
28:A:1845:G:H2'	28:A:1846:G:O4'	2.21	0.41
28:A:2097:A:H2'	28:A:2098:U:N1	2.36	0.41
28:A:2516:A:C5	28:A:2517:C:C4	3.09	0.41
28:A:2785:C:H6	28:A:2785:C:O5'	2.04	0.41
31:D:115:GLY:O	31:D:116:LYS:HG2	2.21	0.41
31:D:200:ASP:C	31:D:201:LEU:HD12	2.46	0.41
32:E:58:LYS:HE2	32:E:62:GLN:CA	2.49	0.41
34:G:40:VAL:CG2	34:G:64:ALA:HA	2.50	0.41
35:H:59:ALA:HA	35:H:62:LEU:CB	2.50	0.41
35:H:124:THR:O	35:H:125:THR:CB	2.68	0.41
40:M:71:LYS:HD3	40:M:95:LEU:HD13	2.01	0.41
40:M:71:LYS:HA	40:M:72:PRO:HD3	1.55	0.41
41:N:96:ARG:CZ	41:N:116:VAL:HG23	2.50	0.41
46:S:104:THR:HG22	46:S:105:VAL:N	2.36	0.41
48:U:35:VAL:CG1	48:U:38:ILE:HB	2.51	0.41
50:W:24:ARG:HE	50:W:65:LYS:HE2	1.85	0.41
50:W:51:GLY:HA3	50:W:58:LEU:HA	2.03	0.41
51:X:62:GLY:O	51:X:66:VAL:HG23	2.21	0.41
52:Y:23:ARG:C	52:Y:27:ASN:HD22	2.28	0.41
56:8:69:C:C2'	56:8:70:G:H5'	2.51	0.41
57:x:485:VAL:CG2	57:x:511:LEU:HD22	2.51	0.41
1:a:16:A:C2'	1:a:17:U:H5'	2.51	0.41
1:a:112:G:O2'	1:a:113:G:H5'	2.21	0.41
1:a:359:G:H2'	1:a:360:G:H5'	2.03	0.41
1:a:386:C:O2'	1:a:387:U:H5'	2.20	0.41
1:a:409:U:O2'	1:a:410:G:H5'	2.21	0.41
1:a:1074:G:H2'	1:a:1075:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:1104:G:C2	1:a:1105:A:H1'	2.55	0.41
1:a:1115:U:H1'	13:n:101:TRP:O	2.21	0.41
1:a:1162:C:O2'	1:a:1163:A:H5'	2.20	0.41
1:a:1202:U:H2'	1:a:1203:C:C5'	2.51	0.41
1:a:1348:U:H5	1:a:1373:G:N2	2.18	0.41
1:a:1402:C:O2'	1:a:1403:C:H5'	2.21	0.41
1:a:1477:U:H2'	1:a:1478:U:O4'	2.21	0.41
1:a:1532:U:H2'	1:a:1534:A:OP2	2.20	0.41
2:c:79:LYS:C	2:c:81:GLY:N	2.78	0.41
3:d:57:GLU:HG2	3:d:199:LEU:HD12	2.02	0.41
3:d:161:LEU:C	3:d:164:GLN:H	2.26	0.41
3:d:194:ASP:O	3:d:196:ASN:N	2.53	0.41
4:e:96:MET:HE2	4:e:111:MET:HE3	2.02	0.41
5:f:9:MET:HB3	5:f:59:TYR:HD1	1.85	0.41
6:g:126:ASP:OD1	6:g:131:LYS:HG2	2.20	0.41
8:i:130:ARG:NH1	56:8:35:A:OP2	2.50	0.41
9:j:14:ASP:HB3	9:j:17:LEU:HB3	2.03	0.41
9:j:78:GLU:C	9:j:80:THR:H	2.28	0.41
10:k:82:LEU:O	10:k:107:ILE:HD12	2.21	0.41
11:l:64:THR:CG2	11:l:93:VAL:HG22	2.50	0.41
12:m:14:HIS:HD2	12:m:42:ASP:CA	2.33	0.41
16:q:23:VAL:N	16:q:44:LEU:O	2.53	0.41
20:u:40:LYS:O	20:u:44:GLU:N	2.47	0.41
21:b:16:GLY:HA3	21:b:40:ILE:HG23	2.02	0.41
24:2:34:ARG:NH2	24:2:39:ARG:HD2	2.35	0.41
25:3:1:PRO:HD2	28:A:667:U:O2	2.20	0.41
27:5:37:LYS:HG3	27:5:38:PHE:CE2	2.54	0.41
27:5:95:VAL:HG12	27:5:96:GLY:N	2.36	0.41
28:A:80:G:O2'	28:A:81:G:H5'	2.21	0.41
28:A:249:C:H5'	28:A:2394:C:O2'	2.20	0.41
28:A:317:G:H1	28:A:334:C:H42	1.67	0.41
28:A:528:A:H2	28:A:2043:C:H5'	1.86	0.41
28:A:565:C:O5'	28:A:565:C:H6	2.04	0.41
28:A:1425:G:O2'	28:A:1426:G:H5'	2.21	0.41
28:A:1750:G:H2'	28:A:1751:U:H6	1.86	0.41
28:A:1869:G:N2	28:A:1871:A:HO2'	2.19	0.41
28:A:1905:C:O2'	28:A:1906:G:OP2	2.23	0.41
28:A:1967:C:H2'	28:A:1968:G:H5'	2.02	0.41
28:A:2059:A:N7	28:A:2503:A:N3	2.68	0.41
28:A:2146:C:H5''	28:A:2147:A:H2	1.82	0.41
28:A:2167:U:H2'	28:A:2168:G:C4'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:2183:A:H2'	28:A:2184:A:H5'	2.02	0.41
28:A:2386:A:N3	50:W:38:ARG:HG2	2.34	0.41
28:A:2428:G:H5''	28:A:2429:G:P	2.61	0.41
29:B:35:C:C2	29:B:36:C:H1'	2.56	0.41
30:C:123:ILE:HG23	30:C:191:LEU:HD22	2.02	0.41
30:C:231:HIS:NE2	30:C:243:PRO:HA	2.36	0.41
30:C:255:LYS:C	30:C:256:THR:HG22	2.46	0.41
31:D:62:LYS:N	31:D:63:PRO:CD	2.83	0.41
31:D:110:THR:CB	31:D:171:THR:HG22	2.51	0.41
33:F:156:THR:HG22	33:F:157:THR:N	2.35	0.41
35:H:31:VAL:HG13	35:H:36:ALA:O	2.21	0.41
35:H:75:LEU:HD23	35:H:103:VAL:CG1	2.46	0.41
35:H:75:LEU:HD23	35:H:103:VAL:CG2	2.47	0.41
35:H:118:PRO:HB3	35:H:122:LEU:HD23	2.01	0.41
36:I:5:GLN:CD	36:I:62:ALA:H	2.29	0.41
36:I:14:ALA:HB1	36:I:48:ILE:HD12	2.03	0.41
39:L:95:LEU:CD2	39:L:100:ILE:HD11	2.51	0.41
41:N:12:ARG:O	41:N:17:ARG:NH2	2.54	0.41
41:N:100:CYS:SG	41:N:101:GLY:N	2.94	0.41
48:U:96:LYS:C	48:U:97:SER:HG	2.20	0.41
50:W:17:ALA:HA	50:W:35:ILE:CG2	2.49	0.41
53:Z:24:LEU:HD23	53:Z:24:LEU:C	2.46	0.41
54:6:3:C:H2'	54:6:4:C:C6	2.55	0.41
56:8:42:G:O2'	56:8:43:A:H5'	2.21	0.41
56:8:67:C:H2'	56:8:68:C:C5'	2.43	0.41
57:x:20:LEU:O	57:x:24:ILE:HG13	2.21	0.41
57:x:90:ARG:HH11	57:x:197:ASP:N	2.19	0.41
57:x:176:LEU:CD2	57:x:180:ILE:HG13	2.49	0.41
1:a:385:C:O5'	1:a:385:C:H6	2.04	0.41
1:a:490:C:O2'	1:a:491:G:O5'	2.34	0.41
1:a:1328:C:H2'	1:a:1329:A:H8	1.86	0.41
2:c:64:ILE:HG23	2:c:64:ILE:O	2.20	0.41
4:e:11:LEU:HD23	4:e:11:LEU:HA	1.82	0.41
7:h:10:MET:HE3	7:h:33:LYS:HB3	2.01	0.41
8:i:80:ARG:HH11	8:i:103:PHE:HD1	1.69	0.41
28:A:100:U:O2	28:A:101:A:N6	2.54	0.41
28:A:301:G:O2'	28:A:302:C:OP2	2.23	0.41
28:A:322:A:H5'	28:A:340:A:H1'	2.02	0.41
28:A:720:U:H2'	28:A:721:A:C8	2.56	0.41
28:A:880:G:O2'	28:A:880:G:N3	2.54	0.41
28:A:1054:A:H61	28:A:1105:U:H3	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A:1149:G:O2'	28:A:1150:C:H5'	2.21	0.41
28:A:1212:G:N3	28:A:1236:G:C2	2.89	0.41
28:A:1324:G:O2'	28:A:1325:U:H5'	2.20	0.41
28:A:1595:C:O2'	28:A:1596:A:H5'	2.20	0.41
28:A:1671:U:H6	28:A:1671:U:O5'	2.03	0.41
28:A:1715:G:O2'	28:A:1716:U:OP2	2.39	0.41
28:A:2162:G:N7	28:A:2173:A:O2'	2.52	0.41
28:A:2287:A:HO2'	28:A:2288:A:H2'	1.86	0.41
29:B:112:G:N2	42:O:45:SER:O	2.54	0.41
31:D:118:PHE:CD1	31:D:119:ALA:N	2.89	0.41
32:E:109:LEU:O	32:E:113:VAL:HG12	2.20	0.41
32:E:200:LEU:HD12	32:E:200:LEU:N	2.36	0.41
34:G:16:VAL:HG21	34:G:44:HIS:CE1	2.56	0.41
35:H:61:VAL:O	35:H:61:VAL:HG12	2.21	0.41
35:H:97:ARG:HB2	35:H:114:GLU:OE1	2.21	0.41
36:I:79:LEU:CD2	36:I:105:LEU:HD23	2.50	0.41
36:I:102:ARG:HB3	36:I:141:ASP:CA	2.41	0.41
41:N:28:LEU:HD23	41:N:48:VAL:HG21	2.03	0.41
42:O:18:LEU:HD12	42:O:18:LEU:N	2.35	0.41
42:O:24:THR:HG22	42:O:42:PRO:HG3	2.03	0.41
43:P:112:ARG:O	43:P:113:LEU:HG	2.21	0.41
45:R:4:VAL:O	45:R:38:VAL:HG23	2.21	0.41
46:S:29:VAL:O	46:S:33:LEU:HD13	2.20	0.41
46:S:59:GLU:HG2	46:S:64:ALA:HB1	2.03	0.41
54:6:18:G:H1'	54:6:57:G:N2	2.36	0.41
57:x:285:LEU:HD12	57:x:285:LEU:N	2.36	0.41
57:x:361:LEU:O	57:x:363:LEU:HG	2.20	0.41
57:x:408:MET:HA	57:x:467:SER:O	2.20	0.41
1:a:210:C:C4'	1:a:211:G:C2	3.00	0.40
1:a:278:G:OP2	16:q:43:LYS:NZ	2.29	0.40
1:a:943:U:O2'	1:a:944:G:H5'	2.21	0.40
1:a:1304:G:N1	1:a:1332:A:OP2	2.48	0.40
2:c:155:GLY:HA2	2:c:163:ALA:HB1	2.03	0.40
3:d:67:VAL:HG13	3:d:71:GLN:HB2	2.03	0.40
3:d:170:TRP:HA	3:d:184:ARG:CZ	2.51	0.40
4:e:137:VAL:O	4:e:137:VAL:HG22	2.20	0.40
5:f:18:VAL:HG12	5:f:22:ILE:HD11	2.02	0.40
6:g:30:LEU:O	6:g:30:LEU:HD23	2.21	0.40
7:h:66:PHE:HD2	7:h:67:GLN:HG2	1.85	0.40
8:i:95:ARG:HD2	8:i:104:VAL:HG11	2.03	0.40
9:j:78:GLU:O	9:j:80:THR:N	2.42	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:p:4:ILE:HG22	15:p:71:VAL:HG11	2.03	0.40
17:r:40:VAL:HG13	17:r:41:PRO:HD2	2.02	0.40
18:s:7:LYS:HE3	18:s:7:LYS:HB3	1.93	0.40
20:u:40:LYS:CG	20:u:41:PRO:CD	2.99	0.40
21:b:81:ASP:CG	21:b:82:ALA:H	2.28	0.40
23:1:22:THR:OG1	23:1:23:THR:N	2.54	0.40
27:5:80:GLN:HA	27:5:84:ALA:HB2	2.03	0.40
27:5:207:VAL:CG2	27:5:210:LYS:HZ3	2.34	0.40
27:5:214:ILE:CB	27:5:224:VAL:HG23	2.50	0.40
28:A:107:G:H2'	28:A:108:G:H8	1.86	0.40
28:A:356:G:C2'	28:A:357:C:H5'	2.51	0.40
28:A:565:C:O2'	28:A:566:U:H5'	2.20	0.40
28:A:758:C:O2	28:A:1981:A:H2	2.03	0.40
28:A:825:A:H2'	28:A:826:U:O4'	2.20	0.40
28:A:1021:A:H3'	28:A:1021:A:N3	2.36	0.40
28:A:1523:U:H3'	28:A:1524:G:C5'	2.50	0.40
28:A:2079:U:O2'	51:X:22:ASN:OD1	2.35	0.40
28:A:2331:G:H4'	50:W:41:GLY:HA3	2.02	0.40
28:A:2391:G:O6	28:A:2425:A:H8	2.04	0.40
28:A:2533:U:C2'	28:A:2534:A:H5'	2.49	0.40
28:A:2662:A:H5'	57:x:346:LEU:HD11	2.03	0.40
30:C:77:VAL:HG23	30:C:112:GLY:H	1.86	0.40
33:F:107:VAL:N	33:F:108:PRO:CD	2.84	0.40
34:G:32:LEU:N	34:G:32:LEU:HD12	2.35	0.40
34:G:86:LEU:O	34:G:129:GLU:HG3	2.21	0.40
35:H:133:GLN:O	35:H:133:GLN:HG3	2.20	0.40
40:M:14:LYS:HE3	40:M:14:LYS:HB2	1.83	0.40
45:R:54:VAL:HG23	45:R:57:GLY:H	1.86	0.40
49:V:16:ALA:O	49:V:20:LEU:HD13	2.22	0.40
50:W:79:ILE:O	50:W:79:ILE:HG22	2.22	0.40
55:7:20:U:H2'	55:7:21:C:O2	2.21	0.40
57:x:15:HIS:CD2	57:x:103:ASP:HB2	2.56	0.40
57:x:15:HIS:O	57:x:131:ASN:ND2	2.47	0.40
57:x:378:SER:HB3	57:x:380:GLU:OE1	2.21	0.40
57:x:458:LEU:O	57:x:462:SER:OG	2.13	0.40
1:a:117:G:H2'	1:a:118:U:H6	1.86	0.40
1:a:329:A:C5	1:a:332:G:C6	3.09	0.40
1:a:540:G:H2'	1:a:541:G:O4'	2.20	0.40
1:a:584:G:H2'	1:a:585:G:C8	2.51	0.40
1:a:621:A:H5''	1:a:622:A:OP2	2.22	0.40
1:a:803:G:H2'	1:a:804:U:C6	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:847:G:O2'	1:a:848:C:H5'	2.22	0.40
1:a:990:C:N3	1:a:991:U:C4	2.89	0.40
1:a:1034:G:O2'	1:a:1035:A:H5'	2.21	0.40
2:c:152:GLU:O	2:c:152:GLU:HG2	2.20	0.40
4:e:88:VAL:CG1	4:e:93:ARG:HG2	2.47	0.40
5:f:38:ARG:CD	5:f:98:GLU:N	2.82	0.40
5:f:68:GLN:C	5:f:71:ILE:HG22	2.47	0.40
7:h:86:TYR:CE2	16:q:37:PHE:HE2	2.39	0.40
12:m:16:VAL:HG13	12:m:34:LEU:CD1	2.50	0.40
22:0:4:GLN:NE2	28:A:2056:G:H4'	2.33	0.40
23:1:8:ILE:HG12	23:1:51:ALA:CB	2.51	0.40
26:4:36:ARG:O	26:4:37:GLN:HB3	2.21	0.40
27:5:23:ILE:CD1	27:5:227:ALA:HB2	2.49	0.40
27:5:129:GLN:HB3	28:A:2113:U:O4	2.21	0.40
27:5:193:LEU:HD22	27:5:209:ILE:HG22	2.03	0.40
28:A:58:G:N2	28:A:70:G:C4	2.90	0.40
28:A:548:G:O5'	28:A:549:G:H5'	2.22	0.40
28:A:878:A:H2'	28:A:879:G:H5'	2.03	0.40
28:A:1175:A:OP1	28:A:1176:U:H1'	2.21	0.40
28:A:1873:G:O2'	28:A:1874:C:H5'	2.22	0.40
28:A:2112:G:H4'	54:9:19:G:N9	2.36	0.40
28:A:2216:G:H2'	28:A:2217:G:C8	2.55	0.40
28:A:2351:G:C2'	28:A:2366:A:H61	2.32	0.40
28:A:2352:A:H2'	28:A:2353:G:H5'	2.03	0.40
28:A:2575:C:H6	28:A:2575:C:O5'	2.03	0.40
28:A:2655:G:O2'	28:A:2656:U:OP2	2.39	0.40
31:D:141:ARG:O	31:D:141:ARG:HG2	2.21	0.40
32:E:131:THR:HB	32:E:164:LEU:HD11	2.03	0.40
34:G:42:VAL:HG22	34:G:43:LYS:N	2.37	0.40
35:H:41:LYS:HD3	35:H:44:ILE:CD1	2.51	0.40
36:I:17:ALA:HB2	36:I:42:ASN:CG	2.46	0.40
36:I:88:GLY:HA2	36:I:135:MET:SD	2.61	0.40
39:L:55:MET:HA	39:L:56:PRO:HD3	1.88	0.40
39:L:123:ARG:NE	39:L:143:GLU:OE2	2.48	0.40
40:M:53:MET:HE3	40:M:63:ILE:CD1	2.29	0.40
44:Q:43:GLN:NE2	45:R:77:PHE:HD2	2.19	0.40
45:R:34:GLU:CG	45:R:60:LYS:HG2	2.48	0.40
54:6:74:C:H2'	54:6:75:C:O5'	2.21	0.40
57:x:49:GLU:C	57:x:51:GLY:N	2.77	0.40
57:x:139:ASP:O	57:x:143:VAL:HG23	2.21	0.40
57:x:446:PRO:O	57:x:450:VAL:HG23	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:91:U:O2'	1:a:92:U:O4'	2.35	0.40
1:a:158:G:N2	1:a:162:A:H62	2.19	0.40
1:a:302:G:H21	1:a:556:C:C4'	2.33	0.40
1:a:332:G:OP2	19:t:5:LYS:HB3	2.20	0.40
1:a:356:A:HO2'	1:a:368:U:HO2'	1.63	0.40
1:a:645:G:O2'	1:a:646:G:H5'	2.21	0.40
1:a:844:G:H2'	1:a:845:A:C5'	2.45	0.40
1:a:1216:A:H5''	13:n:5:SER:OG	2.20	0.40
1:a:1235:U:H2'	1:a:1236:A:O4'	2.22	0.40
1:a:1246:A:C2'	1:a:1247:U:H5'	2.51	0.40
1:a:1294:G:C2	1:a:1295:U:C2	3.10	0.40
1:a:1448:C:O2'	1:a:1449:C:H5'	2.21	0.40
2:c:10:ILE:CG2	2:c:11:ARG:HH11	2.34	0.40
3:d:48:LEU:HD13	3:d:53:VAL:N	2.36	0.40
3:d:73:ARG:O	3:d:76:TYR:N	2.52	0.40
8:i:9:THR:HG22	8:i:10:GLY:H	1.86	0.40
8:i:54:LEU:HD23	8:i:97:GLU:OE2	2.22	0.40
8:i:65:ILE:CG2	8:i:66:THR:N	2.82	0.40
8:i:75:GLN:HA	8:i:78:ALA:HB3	2.03	0.40
11:l:24:LEU:HD12	11:l:25:GLU:H	1.85	0.40
12:m:89:LEU:HD23	28:A:887:U:C2	2.56	0.40
12:m:90:ARG:CB	12:m:97:VAL:HG22	2.50	0.40
16:q:30:LYS:CB	16:q:37:PHE:CE1	3.00	0.40
21:b:63:LYS:NZ	21:b:224:ARG:HD2	2.35	0.40
27:5:107:GLY:CA	27:5:134:ARG:HH22	2.34	0.40
27:5:140:PRO:CG	28:A:2122:U:C5'	3.00	0.40
27:5:168:ASN:CG	28:A:2179:C:H5'	2.47	0.40
28:A:523:C:O2'	28:A:524:G:H5'	2.22	0.40
28:A:983:A:N6	28:A:984:A:C2	2.90	0.40
28:A:1153:C:O2'	28:A:1154:G:H5'	2.22	0.40
28:A:1231:U:H6	28:A:1231:U:O5'	2.04	0.40
28:A:1792:G:O2'	28:A:1793:C:H5'	2.21	0.40
28:A:1819:A:OP1	30:C:154:ALA:HA	2.20	0.40
28:A:2053:G:H2'	28:A:2054:A:O5'	2.20	0.40
28:A:2307:G:H4'	28:A:2308:G:O4'	2.21	0.40
29:B:48:U:H2'	29:B:49:C:C6	2.56	0.40
30:C:19:VAL:HG23	30:C:19:VAL:O	2.22	0.40
30:C:52:HIS:O	30:C:53:ILE:HG13	2.20	0.40
30:C:225:ASN:HB3	30:C:226:PRO:HD2	2.03	0.40
33:F:47:LYS:O	33:F:50:ASP:HB2	2.21	0.40
39:L:110:VAL:O	39:L:111:ILE:HB	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:N:84:GLY:N	41:N:85:PRO:HD2	2.37	0.40
42:O:24:THR:HG23	42:O:42:PRO:HG3	2.03	0.40
46:S:20:VAL:HG21	46:S:43:ALA:HB3	2.03	0.40
47:T:21:SER:O	47:T:24:MET:HB3	2.21	0.40
47:T:51:PHE:O	47:T:52:GLU:HG2	2.21	0.40
57:x:93:ALA:HB3	57:x:288:PHE:HZ	1.86	0.40
54:9:64:A:H2'	54:9:65:G:C8	2.56	0.40
1:a:64:G:C4	1:a:99:C:N4	2.90	0.40
1:a:583:A:C2'	1:a:584:G:H5'	2.50	0.40
1:a:972:C:O5'	9:j:59:LYS:HD3	2.22	0.40
1:a:1082:A:O2'	1:a:1083:U:H5'	2.22	0.40
1:a:1106:G:HO2'	1:a:1107:C:H5'	1.85	0.40
3:d:132:ILE:HD11	3:d:135:TYR:CB	2.45	0.40
7:h:106:THR:HG22	7:h:107:SER:N	2.35	0.40
11:l:116:LYS:O	11:l:117:TYR:HB2	2.21	0.40
12:m:16:VAL:CG1	12:m:41:GLU:HG2	2.52	0.40
13:n:53:ARG:HD2	13:n:59:ARG:NH1	2.35	0.40
14:o:26:GLU:OE2	14:o:70:LEU:HD11	2.22	0.40
22:0:16:ARG:NE	28:A:1266:G:OP2	2.53	0.40
27:5:11:ILE:HG12	28:A:2130:U:O4'	2.22	0.40
27:5:36:ALA:HB1	27:5:38:PHE:C	2.47	0.40
28:A:717:C:H5'	28:A:718:A:OP2	2.21	0.40
28:A:1495:A:O2'	28:A:1496:A:H5'	2.21	0.40
28:A:1501:G:C2'	28:A:1502:A:H5'	2.51	0.40
28:A:1642:G:C2'	28:A:1643:G:H5'	2.51	0.40
28:A:2223:G:H2'	28:A:2224:G:H5'	2.03	0.40
29:B:21:G:H2'	29:B:22:U:C5'	2.50	0.40
30:C:49:THR:CG2	30:C:50:THR:N	2.84	0.40
35:H:64:ALA:O	35:H:71:LYS:HE3	2.20	0.40
35:H:102:ALA:C	35:H:106:ALA:HB2	2.46	0.40
36:I:60:VAL:HG12	36:I:61:TYR:N	2.36	0.40
40:M:133:LYS:O	40:M:134:THR:HB	2.22	0.40
41:N:51:LEU:HD21	41:N:70:THR:HG23	2.03	0.40
41:N:59:SER:O	41:N:63:ARG:HG3	2.21	0.40
42:O:17:LYS:O	42:O:20:GLU:HB3	2.21	0.40
45:R:23:GLU:O	45:R:25:LEU:HD13	2.21	0.40
50:W:22:VAL:O	50:W:23:LYS:HB3	2.21	0.40
51:X:58:ILE:HG23	51:X:63:ILE:HG12	2.01	0.40
57:x:63:TYR:CD1	57:x:173:LEU:HD13	2.56	0.40
57:x:410:LEU:HA	57:x:411:PRO:HD3	1.83	0.40
57:x:589:LEU:CD1	57:x:589:LEU:H	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:9:4:C:OP2	54:9:4:C:H6	2.04	0.40
54:9:37:A:C3'	54:9:38:A:H8	2.34	0.40
54:9:52:G:H1'	54:9:63:G:N2	2.35	0.40
1:a:55:A:C2	57:x:203:TYR:HB3	2.57	0.40
1:a:425:G:C2'	1:a:426:U:H5'	2.51	0.40
1:a:474:G:C2	1:a:475:C:H1'	2.56	0.40
1:a:623:C:H6	1:a:623:C:O5'	2.04	0.40
1:a:652:U:O4	1:a:752:G:H1'	2.22	0.40
1:a:662:U:H2'	1:a:663:A:C8	2.57	0.40
1:a:958:A:O2'	1:a:959:A:H5'	2.22	0.40
3:d:122:ALA:C	3:d:123:ILE:HG13	2.46	0.40
9:j:35:GLN:CG	9:j:77:VAL:H	2.31	0.40
11:l:74:LEU:O	11:l:75:GLN:HB3	2.21	0.40
13:n:33:ASP:H	13:n:34:VAL:HB	1.83	0.40
14:o:19:ALA:O	14:o:20:ASN:HB2	2.21	0.40
15:p:61:VAL:O	15:p:61:VAL:HG12	2.22	0.40
21:b:96:LEU:H	21:b:99:MET:HE2	1.86	0.40
22:0:9:ARG:HH22	44:Q:29:ARG:CD	2.34	0.40
25:3:28:LEU:HG	25:3:28:LEU:O	2.21	0.40
28:A:418:C:H2'	28:A:419:U:O4'	2.21	0.40
28:A:883:G:H1	28:A:894:U:C1'	2.29	0.40
28:A:900:A:C2'	28:A:901:C:H5'	2.51	0.40
28:A:910:A:C4	40:M:13:HIS:CD2	3.10	0.40
28:A:1273:U:H4'	28:A:1275:A:OP1	2.21	0.40
28:A:2134:A:O2'	28:A:2160:C:H5'	2.22	0.40
28:A:2424:C:O2	28:A:2429:G:O2'	2.31	0.40
28:A:2480:C:OP1	28:A:2537:U:H5''	2.22	0.40
28:A:2814:A:H8	28:A:2814:A:O5'	2.04	0.40
28:A:2856:A:O2'	28:A:2857:G:H5'	2.22	0.40
29:B:13:G:O2'	29:B:15:A:OP2	2.38	0.40
29:B:33:G:H2'	29:B:34:A:O4'	2.21	0.40
30:C:64:VAL:CG2	30:C:86:ARG:HH22	2.33	0.40
30:C:235:GLU:HG3	30:C:235:GLU:O	2.22	0.40
31:D:45:TYR:CD2	31:D:45:TYR:N	2.89	0.40
31:D:151:THR:HG22	31:D:152:PRO:HD3	1.94	0.40
33:F:116:LEU:HD22	33:F:174:PHE:CZ	2.57	0.40
33:F:165:GLY:O	33:F:169:LEU:HD13	2.21	0.40
36:I:4:VAL:HG21	36:I:7:TYR:CB	2.42	0.40
38:K:71:ARG:NE	38:K:106:GLU:HG3	2.32	0.40
39:L:135:ILE:O	39:L:138:ALA:HB3	2.22	0.40
41:N:26:GLY:O	41:N:29:VAL:HG12	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:N:72:ASP:CB	41:N:75:ILE:HG12	2.46	0.40
44:Q:16:ILE:CD1	44:Q:31:TYR:CE1	3.04	0.40
53:Z:23:LEU:HD12	53:Z:50:VAL:HG11	1.99	0.40
53:Z:50:VAL:HG23	53:Z:54:VAL:CG2	2.51	0.40
57:x:9:ILE:HD11	57:x:75:PHE:HE1	1.87	0.40
57:x:10:ILE:O	57:x:100:LEU:HD12	2.22	0.40
57:x:237:LEU:HD11	57:x:249:GLU:HA	2.04	0.40
54:9:39:U:H3'	54:9:39:U:O2	2.22	0.40
54:9:55:U:O2'	54:9:57:G:N7	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	c	204/233 (88%)	182 (89%)	16 (8%)	6 (3%)	3	24
3	d	203/206 (98%)	180 (89%)	16 (8%)	7 (3%)	3	20
4	e	148/167 (89%)	125 (84%)	19 (13%)	4 (3%)	4	25
5	f	100/135 (74%)	84 (84%)	9 (9%)	7 (7%)	1	6
6	g	149/179 (83%)	134 (90%)	11 (7%)	4 (3%)	4	25
7	h	127/130 (98%)	114 (90%)	11 (9%)	2 (2%)	7	36
8	i	125/130 (96%)	107 (86%)	14 (11%)	4 (3%)	3	21
9	j	96/103 (93%)	76 (79%)	11 (12%)	9 (9%)	0	3
10	k	115/129 (89%)	102 (89%)	9 (8%)	4 (4%)	3	20
11	l	121/124 (98%)	104 (86%)	12 (10%)	5 (4%)	2	17
12	m	112/118 (95%)	101 (90%)	6 (5%)	5 (4%)	2	15
13	n	98/101 (97%)	70 (71%)	15 (15%)	13 (13%)	0	1
14	o	86/89 (97%)	76 (88%)	9 (10%)	1 (1%)	10	42

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	p	80/82 (98%)	66 (82%)	8 (10%)	6 (8%)	1	5
16	q	78/84 (93%)	62 (80%)	14 (18%)	2 (3%)	4	26
17	r	53/75 (71%)	50 (94%)	2 (4%)	1 (2%)	6	33
18	s	77/92 (84%)	68 (88%)	5 (6%)	4 (5%)	1	12
19	t	83/87 (95%)	78 (94%)	3 (4%)	2 (2%)	4	28
20	u	49/71 (69%)	39 (80%)	7 (14%)	3 (6%)	1	9
21	b	216/241 (90%)	189 (88%)	20 (9%)	7 (3%)	3	21
22	0	54/57 (95%)	51 (94%)	2 (4%)	1 (2%)	6	33
23	1	48/55 (87%)	41 (85%)	6 (12%)	1 (2%)	5	31
24	2	44/46 (96%)	43 (98%)	0	1 (2%)	5	29
25	3	62/65 (95%)	55 (89%)	5 (8%)	2 (3%)	3	21
26	4	36/38 (95%)	25 (69%)	5 (14%)	6 (17%)	0	0
27	5	232/234 (99%)	190 (82%)	34 (15%)	8 (3%)	3	20
30	C	268/273 (98%)	228 (85%)	28 (10%)	12 (4%)	2	15
31	D	207/209 (99%)	169 (82%)	23 (11%)	15 (7%)	1	6
32	E	199/201 (99%)	171 (86%)	14 (7%)	14 (7%)	1	6
33	F	175/179 (98%)	146 (83%)	21 (12%)	8 (5%)	2	15
34	G	174/177 (98%)	140 (80%)	21 (12%)	13 (8%)	1	5
35	H	147/149 (99%)	114 (78%)	22 (15%)	11 (8%)	1	5
36	I	139/142 (98%)	119 (86%)	11 (8%)	9 (6%)	1	8
37	J	140/142 (99%)	121 (86%)	13 (9%)	6 (4%)	2	16
38	K	120/123 (98%)	100 (83%)	14 (12%)	6 (5%)	1	13
39	L	141/144 (98%)	115 (82%)	17 (12%)	9 (6%)	1	8
40	M	134/136 (98%)	112 (84%)	15 (11%)	7 (5%)	1	12
41	N	118/127 (93%)	104 (88%)	10 (8%)	4 (3%)	3	20
42	O	114/117 (97%)	104 (91%)	10 (9%)	0	100	100
43	P	112/115 (97%)	93 (83%)	13 (12%)	6 (5%)	1	12
44	Q	115/118 (98%)	109 (95%)	6 (5%)	0	100	100
45	R	101/103 (98%)	81 (80%)	15 (15%)	5 (5%)	1	13
46	S	108/110 (98%)	94 (87%)	11 (10%)	3 (3%)	4	25
47	T	91/100 (91%)	61 (67%)	18 (20%)	12 (13%)	0	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	U	100/104 (96%)	81 (81%)	11 (11%)	8 (8%)	1	4
49	V	92/94 (98%)	81 (88%)	9 (10%)	2 (2%)	5	29
50	W	77/85 (91%)	49 (64%)	17 (22%)	11 (14%)	0	1
51	X	75/78 (96%)	64 (85%)	7 (9%)	4 (5%)	1	12
52	Y	61/63 (97%)	50 (82%)	11 (18%)	0	100	100
53	Z	56/59 (95%)	51 (91%)	3 (5%)	2 (4%)	2	19
57	x	582/599 (97%)	496 (85%)	58 (10%)	28 (5%)	2	14
All	All	6442/6818 (94%)	5465 (85%)	667 (10%)	310 (5%)	3	14

All (310) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	d	125	VAL
5	f	98	GLU
5	f	101	PRO
9	j	57	VAL
9	j	61	ALA
11	l	44	LYS
12	m	10	PRO
13	n	34	VAL
13	n	35	ASN
13	n	37	SER
13	n	41	ARG
13	n	42	TRP
13	n	49	GLN
13	n	52	PRO
16	q	50	ASN
20	u	9	ASN
20	u	38	TYR
20	u	40	LYS
21	b	150	ILE
21	b	163	ILE
27	5	38	PHE
30	C	59	GLN
30	C	64	VAL
30	C	204	LEU
31	D	11	MET
31	D	73	VAL
31	D	122	VAL
31	D	192	ALA

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Mol	Chain	Res	Type
32	E	69	ARG
32	E	79	ARG
33	F	40	GLY
34	G	2	ARG
34	G	84	LYS
34	G	163	TYR
34	G	168	VAL
35	H	125	THR
36	I	56	VAL
37	J	44	TYR
37	J	45	THR
38	K	13	ASN
39	L	111	ILE
40	M	36	VAL
41	N	106	ASP
43	P	50	ARG
46	S	19	LEU
46	S	96	ILE
47	T	72	GLN
48	U	92	VAL
49	V	65	VAL
50	W	29	SER
50	W	36	ILE
50	W	70	VAL
57	x	40	VAL
57	x	197	ASP
57	x	323	SER
57	x	350	ILE
57	x	351	ILE
57	x	378	SER
57	x	426	ARG
57	x	549	VAL
57	x	584	PRO
57	x	588	PHE
57	x	594	VAL
2	c	15	VAL
2	c	64	ILE
2	c	101	ILE
3	d	24	GLY
3	d	25	VAL
3	d	36	GLN
5	f	85	ILE

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Mol	Chain	Res	Type
5	f	93	LYS
6	g	130	ASN
7	h	67	GLN
7	h	75	ILE
8	i	121	ALA
8	i	129	LYS
9	j	36	VAL
9	j	91	ASP
10	k	119	ASN
11	l	73	ASN
11	l	75	GLN
12	m	4	ILE
12	m	47	GLU
12	m	105	ASN
13	n	25	ALA
13	n	33	ASP
13	n	47	LYS
13	n	53	ARG
13	n	92	GLU
15	p	43	ALA
16	q	15	ASP
18	s	28	LYS
19	t	4	ILE
21	b	19	THR
23	1	4	ILE
25	3	22	LYS
26	4	7	VAL
27	5	124	VAL
27	5	145	VAL
27	5	167	LYS
30	C	185	ALA
30	C	239	PHE
31	D	93	GLY
31	D	170	VAL
31	D	184	ARG
32	E	148	ILE
33	F	176	PHE
34	G	117	PRO
35	H	14	SER
35	H	27	ARG
35	H	75	LEU
35	H	103	VAL

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Mol	Chain	Res	Type
35	H	115	VAL
35	H	137	GLU
36	I	6	ALA
36	I	20	SER
37	J	13	ARG
37	J	82	GLY
37	J	125	TYR
38	K	35	VAL
38	K	50	GLY
39	L	81	ASP
39	L	82	LEU
40	M	73	ILE
41	N	2	ARG
47	T	40	LYS
47	T	69	ARG
47	T	77	ARG
47	T	84	TYR
47	T	89	GLU
48	U	87	GLU
48	U	98	ASN
50	W	17	ALA
50	W	68	PHE
57	x	7	PHE
57	x	163	ALA
57	x	263	LYS
57	x	289	LYS
57	x	379	ARG
57	x	552	LYS
3	d	32	CYS
4	e	12	GLN
4	e	24	THR
4	e	45	ARG
4	e	78	ASN
5	f	54	LEU
5	f	92	THR
5	f	94	HIS
10	k	17	SER
12	m	114	LYS
15	p	49	GLY
18	s	4	SER
18	s	5	LEU
21	b	81	ASP

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Mol	Chain	Res	Type
21	b	125	PHE
25	3	27	ASN
27	5	53	ARG
31	D	119	ALA
32	E	6	LYS
32	E	13	THR
32	E	123	LYS
34	G	31	GLU
34	G	33	THR
34	G	45	ALA
34	G	118	ALA
35	H	30	LEU
35	H	67	ALA
35	H	76	GLU
35	H	114	GLU
39	L	41	ARG
40	M	56	ALA
40	M	69	PRO
40	M	77	PRO
47	T	29	THR
47	T	55	VAL
47	T	70	HIS
48	U	18	LYS
50	W	14	ASP
50	W	41	GLY
50	W	47	GLY
51	X	53	LYS
57	x	429	GLN
57	x	433	VAL
57	x	434	TYR
57	x	435	HIS
6	g	114	LYS
8	i	56	ASP
8	i	58	VAL
9	j	34	ALA
10	k	14	LYS
10	k	15	GLN
11	l	98	VAL
13	n	3	LYS
14	o	46	HIS
15	p	44	SER
15	p	79	ASN

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Mol	Chain	Res	Type
15	p	81	ALA
18	s	6	LYS
21	b	148	GLY
26	4	29	ALA
26	4	37	GLN
27	5	15	VAL
30	C	37	SER
30	C	110	LYS
32	E	10	SER
32	E	42	GLY
32	E	45	ALA
34	G	83	THR
36	I	19	PRO
36	I	27	LEU
38	K	93	GLN
39	L	19	LEU
39	L	40	SER
43	P	81	ASP
45	R	100	GLY
47	T	28	ASN
48	U	52	ASN
49	V	71	LYS
50	W	9	THR
53	Z	3	THR
57	x	188	GLU
57	x	283	LYS
2	c	61	ALA
2	c	66	VAL
3	d	167	LYS
6	g	85	TYR
9	j	89	ARG
9	j	93	ALA
11	l	48	ALA
19	t	68	HIS
24	2	45	SER
26	4	8	LYS
26	4	16	ILE
27	5	150	ALA
30	C	94	LEU
30	C	121	ALA
30	C	231	HIS
30	C	254	LYS

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Mol	Chain	Res	Type
31	D	149	ASN
31	D	152	PRO
31	D	173	GLN
32	E	46	GLN
32	E	83	VAL
32	E	96	VAL
33	F	11	VAL
33	F	128	SER
33	F	133	GLU
33	F	160	LYS
34	G	119	GLY
36	I	90	GLY
36	I	119	ALA
38	K	46	ALA
39	L	36	LYS
39	L	86	GLU
40	M	35	ALA
43	P	63	ILE
45	R	65	ALA
45	R	91	GLN
45	R	98	ILE
46	S	65	ASP
47	T	67	VAL
48	U	85	ARG
50	W	10	ARG
50	W	15	SER
51	X	34	SER
51	X	70	LEU
53	Z	34	THR
57	x	162	SER
57	x	290	LYS
2	c	3	GLN
3	d	195	ILE
9	j	42	LEU
21	b	67	LEU
22	0	54	ILE
31	D	109	VAL
31	D	120	GLY
31	D	175	LEU
32	E	151	GLY
33	F	132	ARG
36	I	22	PRO

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Mol	Chain	Res	Type
37	J	65	THR
38	K	119	ALA
39	L	66	PHE
40	M	134	THR
41	N	32	GLU
41	N	102	PHE
43	P	4	ILE
43	P	25	VAL
43	P	26	GLU
45	R	53	PHE
47	T	16	VAL
48	U	51	LEU
51	X	17	ARG
57	x	551	ALA
30	C	246	PRO
33	F	59	ILE
36	I	31	GLY
15	p	33	ILE
26	4	3	VAL
31	D	107	VAL
34	G	25	ILE
48	U	38	ILE
57	x	167	VAL
6	g	81	GLY
17	r	21	ILE
27	5	233	VAL
34	G	23	ILE
57	x	241	THR
9	j	74	VAL
32	E	129	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	
2	c	170/190 (90%)	170 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	d	172/173 (99%)	172 (100%)	0	100	100
4	e	113/126 (90%)	113 (100%)	0	100	100
5	f	89/116 (77%)	89 (100%)	0	100	100
6	g	124/147 (84%)	124 (100%)	0	100	100
7	h	104/105 (99%)	104 (100%)	0	100	100
8	i	105/107 (98%)	105 (100%)	0	100	100
9	j	86/90 (96%)	86 (100%)	0	100	100
10	k	90/99 (91%)	90 (100%)	0	100	100
11	l	103/104 (99%)	103 (100%)	0	100	100
12	m	92/96 (96%)	92 (100%)	0	100	100
13	n	83/84 (99%)	70 (84%)	13 (16%)	2	13
14	o	76/77 (99%)	76 (100%)	0	100	100
15	p	65/65 (100%)	65 (100%)	0	100	100
16	q	74/78 (95%)	74 (100%)	0	100	100
17	r	48/65 (74%)	48 (100%)	0	100	100
18	s	70/79 (89%)	70 (100%)	0	100	100
19	t	65/66 (98%)	65 (100%)	0	100	100
20	u	44/61 (72%)	44 (100%)	0	100	100
21	b	180/199 (90%)	180 (100%)	0	100	100
22	0	47/48 (98%)	47 (100%)	0	100	100
23	1	45/49 (92%)	44 (98%)	1 (2%)	45	71
24	2	38/38 (100%)	38 (100%)	0	100	100
25	3	51/52 (98%)	51 (100%)	0	100	100
26	4	34/34 (100%)	34 (100%)	0	100	100
27	5	181/181 (100%)	181 (100%)	0	100	100
30	C	215/218 (99%)	215 (100%)	0	100	100
31	D	164/164 (100%)	164 (100%)	0	100	100
32	E	165/165 (100%)	165 (100%)	0	100	100
33	F	148/150 (99%)	148 (100%)	0	100	100
34	G	137/138 (99%)	137 (100%)	0	100	100
35	H	114/114 (100%)	114 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	I	109/110 (99%)	109 (100%)	0	100	100
37	J	116/116 (100%)	116 (100%)	0	100	100
38	K	103/104 (99%)	103 (100%)	0	100	100
39	L	102/103 (99%)	102 (100%)	0	100	100
40	M	109/109 (100%)	109 (100%)	0	100	100
41	N	100/103 (97%)	100 (100%)	0	100	100
42	O	86/87 (99%)	86 (100%)	0	100	100
43	P	99/100 (99%)	99 (100%)	0	100	100
44	Q	89/90 (99%)	89 (100%)	0	100	100
45	R	84/84 (100%)	84 (100%)	0	100	100
46	S	93/93 (100%)	93 (100%)	0	100	100
47	T	80/84 (95%)	74 (92%)	6 (8%)	12	42
48	U	83/85 (98%)	83 (100%)	0	100	100
49	V	78/78 (100%)	78 (100%)	0	100	100
50	W	59/63 (94%)	59 (100%)	0	100	100
51	X	67/68 (98%)	67 (100%)	0	100	100
52	Y	55/55 (100%)	55 (100%)	0	100	100
53	Z	48/49 (98%)	48 (100%)	0	100	100
57	x	500/511 (98%)	495 (99%)	5 (1%)	68	80
All	All	5352/5570 (96%)	5327 (100%)	25 (0%)	78	85

All (25) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
13	n	24	ARG
13	n	26	GLU
13	n	27	LEU
13	n	28	LYS
13	n	30	ILE
13	n	33	ASP
13	n	35	ASN
13	n	38	ASP
13	n	39	GLU
13	n	40	ASP
13	n	41	ARG

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Mol	Chain	Res	Type
13	n	47	LYS
13	n	48	LEU
23	l	8	ILE
47	T	66	LYS
47	T	68	LYS
47	T	69	ARG
47	T	70	HIS
47	T	73	ARG
47	T	77	ARG
57	x	106	GLN
57	x	323	SER
57	x	349	GLU
57	x	509	ARG
57	x	589	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (102) such sidechains are listed below:

Mol	Chain	Res	Type
2	c	69	HIS
2	c	140	ASN
3	d	120	HIS
3	d	131	ASN
4	e	82	GLN
4	e	121	HIS
5	f	46	GLN
5	f	55	HIS
5	f	63	ASN
6	g	86	GLN
7	h	67	GLN
9	j	35	GLN
9	j	56	HIS
10	k	22	HIS
11	l	5	ASN
12	m	14	HIS
13	n	4	GLN
13	n	35	ASN
13	n	43	ASN
14	o	35	GLN
16	q	51	ASN
17	r	52	GLN
18	s	69	HIS
19	t	48	GLN

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Mol	Chain	Res	Type
19	t	70	ASN
21	b	119	GLN
22	0	3	GLN
22	0	4	GLN
22	0	5	ASN
22	0	18	HIS
24	2	6	GLN
24	2	26	ASN
27	5	58	ASN
27	5	83	ASN
27	5	110	ASN
30	C	52	HIS
30	C	57	HIS
30	C	114	GLN
30	C	259	ASN
31	D	49	GLN
31	D	94	GLN
31	D	130	GLN
32	E	62	GLN
32	E	115	GLN
32	E	136	GLN
32	E	165	HIS
34	G	21	GLN
34	G	37	ASN
34	G	44	HIS
34	G	72	ASN
34	G	103	ASN
35	H	2	GLN
35	H	18	GLN
35	H	28	ASN
35	H	145	ASN
37	J	40	HIS
37	J	58	ASN
37	J	135	GLN
38	K	29	HIS
39	L	54	GLN
39	L	104	GLN
40	M	22	GLN
41	N	31	HIS
42	O	100	HIS
43	P	6	GLN
43	P	9	GLN

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Mol	Chain	Res	Type
43	P	11	GLN
43	P	65	ASN
44	Q	43	GLN
44	Q	65	ASN
45	R	66	HIS
46	S	60	HIS
47	T	15	HIS
47	T	70	HIS
47	T	91	GLN
48	U	65	GLN
49	V	44	HIS
49	V	51	GLN
49	V	78	GLN
49	V	80	HIS
49	V	87	GLN
50	W	39	GLN
51	X	16	ASN
51	X	19	HIS
52	Y	15	ASN
52	Y	20	ASN
52	Y	27	ASN
53	Z	8	GLN
53	Z	19	HIS
57	x	81	HIS
57	x	106	GLN
57	x	192	GLN
57	x	214	ASN
57	x	266	HIS
57	x	294	GLN
57	x	407	HIS
57	x	429	GLN
57	x	471	ASN
57	x	503	ASN
57	x	548	ASN
57	x	568	GLN
57	x	593	HIS

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	a	1532/1533 (99%)	302 (19%)	0

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
28	A	2902/2904 (99%)	566 (19%)	24 (0%)
29	B	117/120 (97%)	18 (15%)	0
54	6	75/76 (98%)	16 (21%)	3 (4%)
54	9	75/76 (98%)	24 (32%)	2 (2%)
55	7	14/15 (93%)	7 (50%)	1 (7%)
56	8	76/77 (98%)	20 (26%)	0
All	All	4791/4801 (99%)	953 (19%)	30 (0%)

All (953) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	a	4	U
1	a	5	U
1	a	6	G
1	a	9	G
1	a	13	U
1	a	15	G
1	a	22	G
1	a	31	G
1	a	32	A
1	a	39	G
1	a	48	C
1	a	50	A
1	a	51	A
1	a	52	C
1	a	70	U
1	a	71	A
1	a	74	A
1	a	75	G
1	a	77	A
1	a	78	A
1	a	79	G
1	a	81	A
1	a	83	C
1	a	85	U
1	a	86	G
1	a	87	C
1	a	89	U
1	a	90	C
1	a	91	U
1	a	94	G
1	a	95	C

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Mol	Chain	Res	Type
1	a	99	C
1	a	116	A
1	a	121	U
1	a	130	A
1	a	131	A
1	a	144	G
1	a	146	G
1	a	151	A
1	a	156	C
1	a	163	C
1	a	164	G
1	a	166	U
1	a	182	A
1	a	191	G
1	a	192	A
1	a	197	A
1	a	204	G
1	a	205	A
1	a	209	U
1	a	210	C
1	a	211	G
1	a	226	G
1	a	227	G
1	a	240	G
1	a	245	U
1	a	247	G
1	a	251	G
1	a	262	A
1	a	266	G
1	a	267	C
1	a	283	U
1	a	289	G
1	a	298	A
1	a	299	G
1	a	307	C
1	a	314	C
1	a	321	A
1	a	328	C
1	a	329	A
1	a	330	C
1	a	332	G
1	a	344	A

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Mol	Chain	Res	Type
1	a	345	C
1	a	346	G
1	a	347	G
1	a	352	C
1	a	353	A
1	a	354	G
1	a	357	G
1	a	362	G
1	a	367	U
1	a	368	U
1	a	369	G
1	a	372	C
1	a	373	A
1	a	389	A
1	a	402	G
1	a	406	G
1	a	411	A
1	a	412	A
1	a	413	G
1	a	414	A
1	a	421	U
1	a	422	C
1	a	429	U
1	a	430	A
1	a	440	C
1	a	456	A
1	a	457	G
1	a	458	U
1	a	461	A
1	a	462	G
1	a	463	U
1	a	466	A
1	a	467	U
1	a	468	A
1	a	474	G
1	a	479	U
1	a	481	G
1	a	482	A
1	a	483	C
1	a	484	G
1	a	486	U
1	a	496	A

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Mol	Chain	Res	Type
1	a	497	G
1	a	505	G
1	a	511	C
1	a	518	C
1	a	527	G
1	a	530	G
1	a	531	U
1	a	533	A
1	a	545	C
1	a	547	A
1	a	559	A
1	a	562	U
1	a	564	C
1	a	571	U
1	a	572	A
1	a	573	A
1	a	575	G
1	a	576	C
1	a	577	G
1	a	579	A
1	a	622	A
1	a	628	G
1	a	631	C
1	a	632	U
1	a	653	U
1	a	654	G
1	a	665	A
1	a	670	G
1	a	694	A
1	a	703	G
1	a	706	A
1	a	721	G
1	a	723	U
1	a	731	G
1	a	733	G
1	a	748	G
1	a	755	G
1	a	764	C
1	a	778	G
1	a	783	C
1	a	792	A
1	a	793	U

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Mol	Chain	Res	Type
1	a	794	A
1	a	799	G
1	a	805	C
1	a	810	C
1	a	815	A
1	a	817	C
1	a	828	U
1	a	829	G
1	a	841	C
1	a	843	U
1	a	845	A
1	a	846	G
1	a	871	U
1	a	888	G
1	a	889	A
1	a	895	G
1	a	901	A
1	a	902	G
1	a	913	A
1	a	914	A
1	a	920	U
1	a	922	G
1	a	926	G
1	a	927	G
1	a	933	G
1	a	934	C
1	a	935	A
1	a	943	U
1	a	948	C
1	a	960	U
1	a	966	G
1	a	969	A
1	a	971	G
1	a	972	C
1	a	975	A
1	a	976	G
1	a	977	A
1	a	983	A
1	a	993	G
1	a	996	A
1	a	1001	C
1	a	1004	A

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Mol	Chain	Res	Type
1	a	1008	U
1	a	1011	C
1	a	1018	G
1	a	1026	G
1	a	1027	C
1	a	1028	C
1	a	1029	U
1	a	1030	U
1	a	1031	C
1	a	1032	G
1	a	1036	A
1	a	1037	C
1	a	1043	G
1	a	1050	G
1	a	1054	C
1	a	1055	A
1	a	1056	U
1	a	1060	U
1	a	1065	U
1	a	1070	U
1	a	1086	U
1	a	1087	G
1	a	1094	G
1	a	1095	U
1	a	1101	A
1	a	1124	G
1	a	1130	A
1	a	1136	C
1	a	1137	C
1	a	1138	G
1	a	1139	G
1	a	1146	A
1	a	1159	U
1	a	1167	A
1	a	1168	U
1	a	1192	C
1	a	1194	U
1	a	1196	A
1	a	1197	A
1	a	1200	C
1	a	1202	U
1	a	1212	U

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Mol	Chain	Res	Type
1	a	1213	A
1	a	1225	A
1	a	1226	C
1	a	1227	A
1	a	1238	A
1	a	1240	U
1	a	1241	G
1	a	1256	A
1	a	1257	A
1	a	1260	G
1	a	1261	A
1	a	1267	C
1	a	1279	G
1	a	1280	A
1	a	1282	C
1	a	1287	A
1	a	1297	G
1	a	1298	U
1	a	1300	G
1	a	1302	C
1	a	1303	C
1	a	1305	G
1	a	1312	G
1	a	1317	C
1	a	1318	A
1	a	1320	C
1	a	1331	G
1	a	1332	A
1	a	1337	G
1	a	1357	A
1	a	1363	A
1	a	1364	U
1	a	1379	G
1	a	1381	U
1	a	1395	C
1	a	1401	G
1	a	1406	U
1	a	1419	G
1	a	1429	A
1	a	1441	A
1	a	1446	A
1	a	1449	C

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Mol	Chain	Res	Type
1	a	1451	U
1	a	1452	C
1	a	1469	C
1	a	1487	G
1	a	1492	A
1	a	1493	A
1	a	1494	G
1	a	1497	G
1	a	1503	A
1	a	1506	U
1	a	1507	A
1	a	1513	A
1	a	1517	G
1	a	1519	A
1	a	1520	C
1	a	1529	G
1	a	1530	G
1	a	1533	C
1	a	1534	A
28	A	10	A
28	A	14	A
28	A	15	G
28	A	34	U
28	A	35	G
28	A	46	G
28	A	50	U
28	A	51	G
28	A	63	A
28	A	71	A
28	A	72	U
28	A	74	A
28	A	75	G
28	A	84	A
28	A	92	U
28	A	103	A
28	A	118	A
28	A	120	U
28	A	123	G
28	A	124	G
28	A	138	U
28	A	139	U
28	A	140	C

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Mol	Chain	Res	Type
28	A	141	G
28	A	142	A
28	A	163	C
28	A	164	C
28	A	174	U
28	A	181	A
28	A	185	G
28	A	193	U
28	A	196	A
28	A	199	A
28	A	205	G
28	A	208	C
28	A	216	A
28	A	222	A
28	A	228	C
28	A	230	G
28	A	241	A
28	A	248	G
28	A	249	C
28	A	255	A
28	A	266	G
28	A	267	C
28	A	272	A
28	A	273	G
28	A	276	U
28	A	277	G
28	A	285	G
28	A	293	U
28	A	294	A
28	A	306	U
28	A	311	A
28	A	325	G
28	A	329	G
28	A	330	A
28	A	335	C
28	A	353	C
28	A	361	G
28	A	362	A
28	A	363	G
28	A	371	A
28	A	372	G
28	A	386	G

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Mol	Chain	Res	Type
28	A	389	G
28	A	396	G
28	A	399	U
28	A	404	A
28	A	405	U
28	A	411	G
28	A	412	A
28	A	424	G
28	A	449	A
28	A	451	U
28	A	467	G
28	A	472	A
28	A	481	G
28	A	491	G
28	A	504	A
28	A	505	A
28	A	509	C
28	A	510	C
28	A	528	A
28	A	531	C
28	A	532	A
28	A	533	G
28	A	543	G
28	A	544	C
28	A	546	U
28	A	548	G
28	A	549	G
28	A	550	C
28	A	551	G
28	A	562	U
28	A	563	A
28	A	573	U
28	A	575	A
28	A	580	U
28	A	584	C
28	A	586	A
28	A	588	U
28	A	595	C
28	A	603	A
28	A	604	G
28	A	614	A
28	A	615	U

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Mol	Chain	Res	Type
28	A	627	A
28	A	633	A
28	A	637	A
28	A	647	G
28	A	654	A
28	A	655	A
28	A	656	G
28	A	663	G
28	A	686	U
28	A	696	G
28	A	711	G
28	A	717	C
28	A	724	U
28	A	728	G
28	A	730	A
28	A	733	G
28	A	739	A
28	A	747	U
28	A	750	A
28	A	751	A
28	A	762	U
28	A	764	A
28	A	767	U
28	A	775	G
28	A	776	G
28	A	782	A
28	A	784	G
28	A	785	G
28	A	792	A
28	A	794	A
28	A	801	G
28	A	805	G
28	A	812	C
28	A	819	A
28	A	827	U
28	A	846	U
28	A	847	U
28	A	859	G
28	A	872	U
28	A	873	C
28	A	880	G
28	A	881	G

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Mol	Chain	Res	Type
28	A	887	U
28	A	888	C
28	A	891	G
28	A	895	U
28	A	896	A
28	A	897	C
28	A	899	A
28	A	910	A
28	A	914	G
28	A	915	C
28	A	931	U
28	A	941	A
28	A	945	A
28	A	946	C
28	A	955	U
28	A	961	C
28	A	972	A
28	A	973	A
28	A	974	G
28	A	976	G
28	A	983	A
28	A	984	A
28	A	985	C
28	A	990	A
28	A	995	C
28	A	996	A
28	A	1003	G
28	A	1006	C
28	A	1012	U
28	A	1013	C
28	A	1017	G
28	A	1021	A
28	A	1022	G
28	A	1023	U
28	A	1024	G
28	A	1025	G
28	A	1026	G
28	A	1033	U
28	A	1044	C
28	A	1047	G
28	A	1056	G
28	A	1061	U

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Mol	Chain	Res	Type
28	A	1062	G
28	A	1064	C
28	A	1066	U
28	A	1069	A
28	A	1070	A
28	A	1072	C
28	A	1081	U
28	A	1082	U
28	A	1089	A
28	A	1112	G
28	A	1120	G
28	A	1130	U
28	A	1132	U
28	A	1133	A
28	A	1135	C
28	A	1139	G
28	A	1141	U
28	A	1142	A
28	A	1143	A
28	A	1151	A
28	A	1168	G
28	A	1169	A
28	A	1171	G
28	A	1173	U
28	A	1174	U
28	A	1175	A
28	A	1176	U
28	A	1178	C
28	A	1180	U
28	A	1183	U
28	A	1190	G
28	A	1191	G
28	A	1206	G
28	A	1212	G
28	A	1227	G
28	A	1233	C
28	A	1238	G
28	A	1246	A
28	A	1247	A
28	A	1248	G
28	A	1250	G
28	A	1253	A

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Mol	Chain	Res	Type
28	A	1254	A
28	A	1255	U
28	A	1256	G
28	A	1262	A
28	A	1265	A
28	A	1266	G
28	A	1268	A
28	A	1271	G
28	A	1272	A
28	A	1273	U
28	A	1274	A
28	A	1275	A
28	A	1300	G
28	A	1301	A
28	A	1302	A
28	A	1313	U
28	A	1321	A
28	A	1326	U
28	A	1365	A
28	A	1366	A
28	A	1376	C
28	A	1379	U
28	A	1380	G
28	A	1383	A
28	A	1386	C
28	A	1395	A
28	A	1398	C
28	A	1415	U
28	A	1416	G
28	A	1417	C
28	A	1419	A
28	A	1420	A
28	A	1425	G
28	A	1428	C
28	A	1434	A
28	A	1436	G
28	A	1449	G
28	A	1452	G
28	A	1453	A
28	A	1456	G
28	A	1458	U
28	A	1459	G

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Mol	Chain	Res	Type
28	A	1478	G
28	A	1482	G
28	A	1483	G
28	A	1493	C
28	A	1497	U
28	A	1504	A
28	A	1507	C
28	A	1510	G
28	A	1512	C
28	A	1515	A
28	A	1522	A
28	A	1524	G
28	A	1530	G
28	A	1532	A
28	A	1534	U
28	A	1535	A
28	A	1536	C
28	A	1538	G
28	A	1540	G
28	A	1542	U
28	A	1544	A
28	A	1560	G
28	A	1562	U
28	A	1566	A
28	A	1569	A
28	A	1583	A
28	A	1585	C
28	A	1605	C
28	A	1608	A
28	A	1609	A
28	A	1610	A
28	A	1629	U
28	A	1639	C
28	A	1647	U
28	A	1648	U
28	A	1649	G
28	A	1652	A
28	A	1654	A
28	A	1656	C
28	A	1674	G
28	A	1703	G
28	A	1705	A

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Mol	Chain	Res	Type
28	A	1721	G
28	A	1729	U
28	A	1730	C
28	A	1733	G
28	A	1738	G
28	A	1756	G
28	A	1758	U
28	A	1764	C
28	A	1772	A
28	A	1773	A
28	A	1781	U
28	A	1791	A
28	A	1800	C
28	A	1802	A
28	A	1806	C
28	A	1807	G
28	A	1808	A
28	A	1809	A
28	A	1811	G
28	A	1816	C
28	A	1819	A
28	A	1829	A
28	A	1847	A
28	A	1848	A
28	A	1869	G
28	A	1870	C
28	A	1872	A
28	A	1882	U
28	A	1891	G
28	A	1903	G
28	A	1906	G
28	A	1913	A
28	A	1914	C
28	A	1927	A
28	A	1929	G
28	A	1930	G
28	A	1935	G
28	A	1937	A
28	A	1938	A
28	A	1955	U
28	A	1965	C
28	A	1966	A

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Mol	Chain	Res	Type
28	A	1967	C
28	A	1970	A
28	A	1971	U
28	A	1972	G
28	A	1981	A
28	A	1991	U
28	A	1992	G
28	A	1993	U
28	A	1997	C
28	A	2022	U
28	A	2023	C
28	A	2024	G
28	A	2027	G
28	A	2031	A
28	A	2033	A
28	A	2036	C
28	A	2037	A
28	A	2041	U
28	A	2043	C
28	A	2047	C
28	A	2052	A
28	A	2054	A
28	A	2055	C
28	A	2056	G
28	A	2060	A
28	A	2061	G
28	A	2062	A
28	A	2069	G
28	A	2072	C
28	A	2077	A
28	A	2090	A
28	A	2092	U
28	A	2093	G
28	A	2107	G
28	A	2111	U
28	A	2112	G
28	A	2113	U
28	A	2117	A
28	A	2119	A
28	A	2120	G
28	A	2127	G
28	A	2129	C

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Mol	Chain	Res	Type
28	A	2130	U
28	A	2131	U
28	A	2132	U
28	A	2133	G
28	A	2134	A
28	A	2135	A
28	A	2137	U
28	A	2140	G
28	A	2141	G
28	A	2142	A
28	A	2145	C
28	A	2146	C
28	A	2147	A
28	A	2148	G
28	A	2149	U
28	A	2153	C
28	A	2154	A
28	A	2157	G
28	A	2158	A
28	A	2159	G
28	A	2160	C
28	A	2161	C
28	A	2162	G
28	A	2164	C
28	A	2165	C
28	A	2170	A
28	A	2172	U
28	A	2173	A
28	A	2174	C
28	A	2176	A
28	A	2183	A
28	A	2186	G
28	A	2189	U
28	A	2190	G
28	A	2191	A
28	A	2198	A
28	A	2199	A
28	A	2203	U
28	A	2204	G
28	A	2211	A
28	A	2212	A
28	A	2225	A

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Mol	Chain	Res	Type
28	A	2226	C
28	A	2238	G
28	A	2239	G
28	A	2250	G
28	A	2257	U
28	A	2279	G
28	A	2283	C
28	A	2286	G
28	A	2287	A
28	A	2288	A
28	A	2292	U
28	A	2305	U
28	A	2308	G
28	A	2309	A
28	A	2311	A
28	A	2322	A
28	A	2325	G
28	A	2327	A
28	A	2334	U
28	A	2345	G
28	A	2347	C
28	A	2355	G
28	A	2361	G
28	A	2371	G
28	A	2383	G
28	A	2385	C
28	A	2396	G
28	A	2402	U
28	A	2403	C
28	A	2406	A
28	A	2423	U
28	A	2424	C
28	A	2425	A
28	A	2429	G
28	A	2430	A
28	A	2431	U
28	A	2434	A
28	A	2439	A
28	A	2440	C
28	A	2441	U
28	A	2448	A
28	A	2464	G

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Mol	Chain	Res	Type
28	A	2475	C
28	A	2476	A
28	A	2478	A
28	A	2479	U
28	A	2480	C
28	A	2482	A
28	A	2491	U
28	A	2492	U
28	A	2501	C
28	A	2502	G
28	A	2503	A
28	A	2504	U
28	A	2505	G
28	A	2506	U
28	A	2507	C
28	A	2513	A
28	A	2518	A
28	A	2520	C
28	A	2529	G
28	A	2530	A
28	A	2542	A
28	A	2546	U
28	A	2553	G
28	A	2554	U
28	A	2566	A
28	A	2567	G
28	A	2573	C
28	A	2585	U
28	A	2586	U
28	A	2587	A
28	A	2589	A
28	A	2590	A
28	A	2601	C
28	A	2602	A
28	A	2604	U
28	A	2609	U
28	A	2613	U
28	A	2615	U
28	A	2629	U
28	A	2630	G
28	A	2638	G
28	A	2682	A

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Mol	Chain	Res	Type
28	A	2689	U
28	A	2690	U
28	A	2714	G
28	A	2716	C
28	A	2727	A
28	A	2728	U
28	A	2729	G
28	A	2733	A
28	A	2744	G
28	A	2748	A
28	A	2758	A
28	A	2778	A
28	A	2791	G
28	A	2793	C
28	A	2795	C
28	A	2797	U
28	A	2798	U
28	A	2800	A
28	A	2811	G
28	A	2820	A
28	A	2821	A
28	A	2824	C
28	A	2832	U
28	A	2833	U
28	A	2834	G
28	A	2835	A
28	A	2837	A
28	A	2851	A
28	A	2861	U
28	A	2867	G
28	A	2872	A
28	A	2873	A
28	A	2879	A
28	A	2880	C
28	A	2883	A
28	A	2884	U
28	A	2885	G
28	A	2887	A
28	A	2901	C
29	B	15	A
29	B	16	G
29	B	35	C

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Mol	Chain	Res	Type
29	B	37	C
29	B	44	G
29	B	52	A
29	B	56	G
29	B	66	A
29	B	87	U
29	B	88	C
29	B	89	U
29	B	90	C
29	B	97	C
29	B	99	A
29	B	107	G
29	B	109	A
29	B	116	G
29	B	119	A
54	6	6	G
54	6	9	A
54	6	17	C
54	6	18	G
54	6	19	G
54	6	20	U
54	6	21	A
54	6	22	G
54	6	36	A
54	6	37	A
54	6	44	G
54	6	46	G
54	6	59	U
54	6	65	G
54	6	75	C
54	6	76	A
55	7	14	A
55	7	15	U
55	7	21	C
55	7	23	A
55	7	24	A
55	7	26	A
55	7	27	A
56	8	3	C
56	8	5	G
56	8	17	C
56	8	17(A)	U

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Mol	Chain	Res	Type
56	8	18	G
56	8	19	G
56	8	20	U
56	8	21	A
56	8	47	U
56	8	48	C
56	8	49	G
56	8	52	G
56	8	53	G
56	8	54	U
56	8	61	C
56	8	65	C
56	8	73	A
56	8	74	C
56	8	75	C
56	8	76	A
54	9	3	C
54	9	4	C
54	9	8	U
54	9	15	G
54	9	16	U
54	9	17	C
54	9	18	G
54	9	19	G
54	9	21	A
54	9	23	A
54	9	39	U
54	9	40	C
54	9	41	C
54	9	47	U
54	9	48	C
54	9	50	U
54	9	59	U
54	9	61	C
54	9	70	G
54	9	71	G
54	9	72	C
54	9	74	C
54	9	75	C
54	9	76	A

All (30) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
28	A	119	A
28	A	229	C
28	A	271	G
28	A	328	U
28	A	344	A
28	A	403	U
28	A	404	A
28	A	527	C
28	A	530	G
28	A	784	G
28	A	800	A
28	A	894	U
28	A	976	G
28	A	1020	A
28	A	1331	G
28	A	1584	U
28	A	1847	A
28	A	1905	C
28	A	2119	A
28	A	2130	U
28	A	2326	C
28	A	2423	U
28	A	2481	G
28	A	2820	A
54	6	17	C
54	6	35	A
54	6	36	A
55	7	20	U
54	9	15	G
54	9	74	C

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 3 ligands modelled in this entry, 1 is monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
58	PHE	6	101	54	10,11,12	0.48	0	8,13,15	0.51	0
59	GNP	x	701	60	34,34,34	2.02	7 (20%)	47,54,54	1.22	5 (10%)

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
58	PHE	6	101	54	-	4/5/6/8	0/1/1/1
59	GNP	x	701	60	-	6/18/38/38	0/3/3/3

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	x	701	GNP	PA-O3A	-7.50	1.51	1.59
59	x	701	GNP	PB-O3A	-5.83	1.51	1.59
59	x	701	GNP	PB-O2B	-3.28	1.48	1.56
59	x	701	GNP	PG-O1G	3.28	1.51	1.46
59	x	701	GNP	PG-O2G	-2.30	1.50	1.56
59	x	701	GNP	PG-O3G	-2.28	1.50	1.56
59	x	701	GNP	PB-N3B	-2.06	1.58	1.63

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	x	701	GNP	O2B-PB-O1B	4.13	118.72	109.87
59	x	701	GNP	O1B-PB-N3B	-4.02	105.85	111.77
59	x	701	GNP	O1G-PG-N3B	-3.55	106.54	111.77
59	x	701	GNP	O3G-PG-O1G	-3.09	105.70	113.45
59	x	701	GNP	O2G-PG-O3G	2.62	114.62	107.59

There are no chirality outliers.

All (10) torsion outliers are listed below:

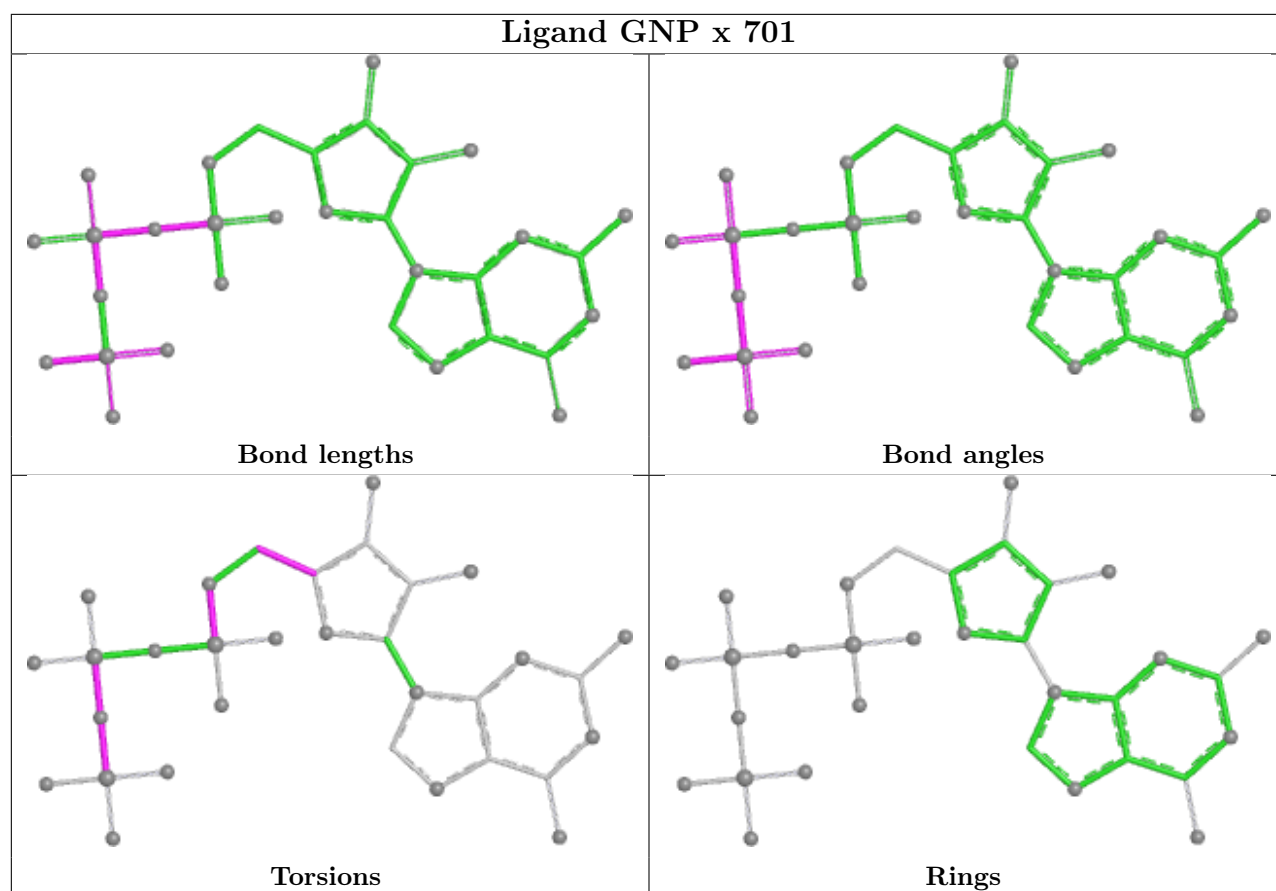
Mol	Chain	Res	Type	Atoms
58	6	101	PHE	C-CA-CB-CG
59	x	701	GNP	PB-N3B-PG-O1G
59	x	701	GNP	PG-N3B-PB-O1B
59	x	701	GNP	PG-N3B-PB-O3A
59	x	701	GNP	O4'-C4'-C5'-O5'
59	x	701	GNP	C3'-C4'-C5'-O5'
58	6	101	PHE	N-CA-CB-CG
58	6	101	PHE	CA-CB-CG-CD2
58	6	101	PHE	CA-CB-CG-CD1
59	x	701	GNP	C5'-O5'-PA-O3A

There are no ring outliers.

2 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	6	101	PHE	1	0
59	x	701	GNP	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

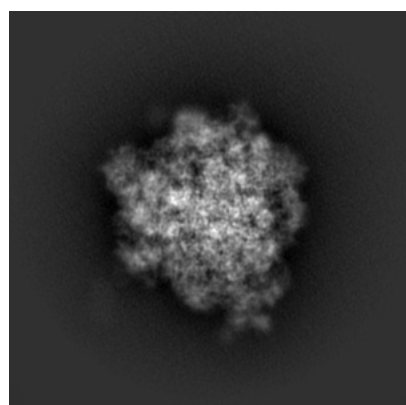
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-6550. These allow visual inspection of the internal detail of the map and identification of artifacts.

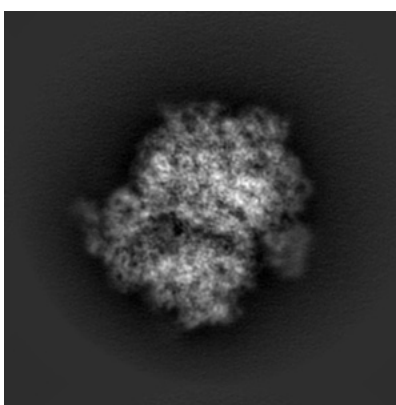
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

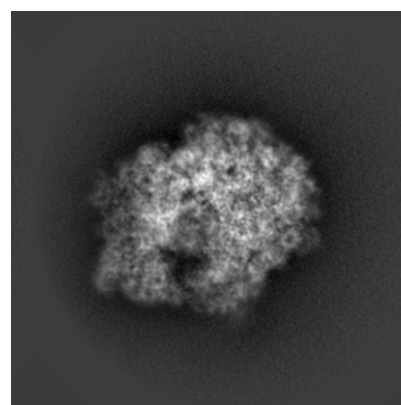
6.1.1 Primary map



X



Y

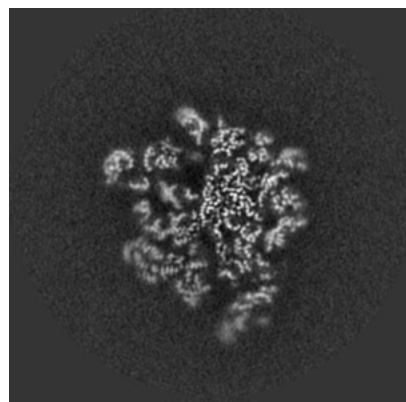


Z

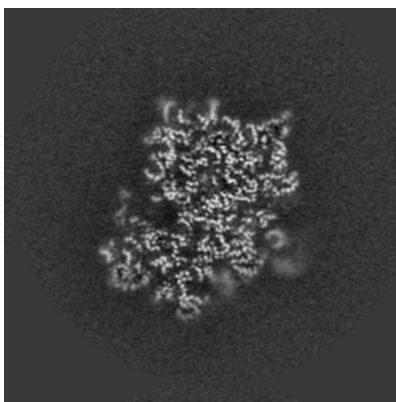
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

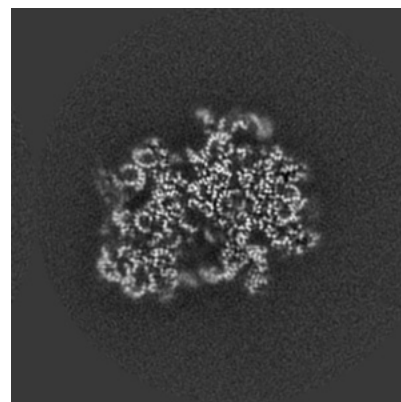
6.2.1 Primary map



X Index: 160



Y Index: 160

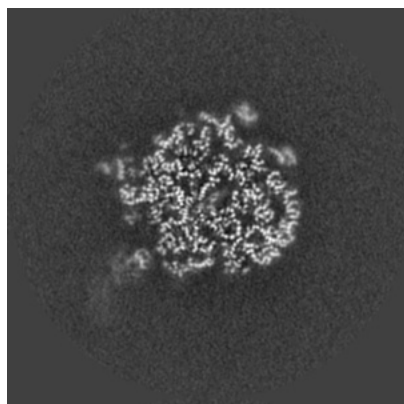


Z Index: 160

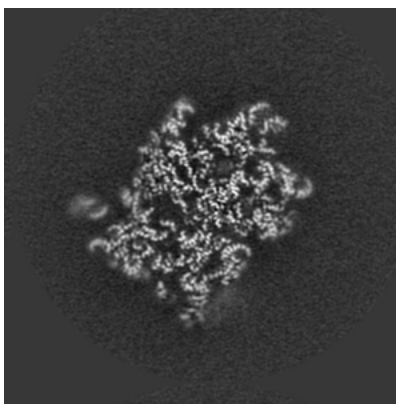
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

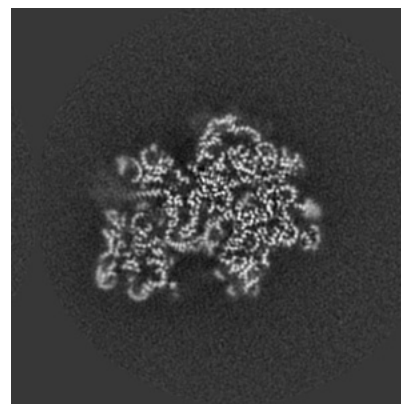
6.3.1 Primary map



X Index: 186



Y Index: 178

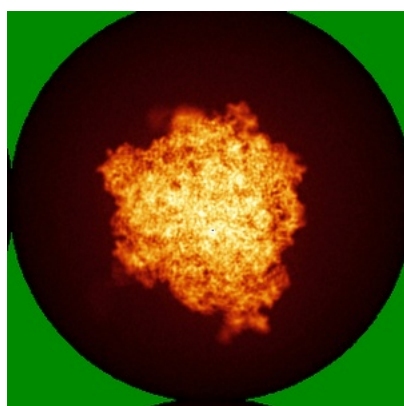


Z Index: 167

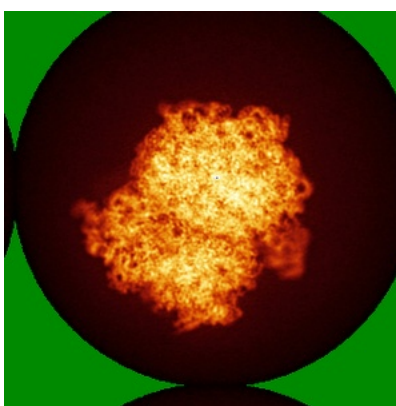
The images above show the largest variance slices of the map in three orthogonal directions.

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

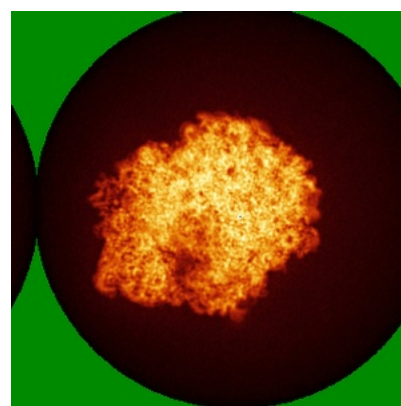
6.4.1 Primary map



X



Y

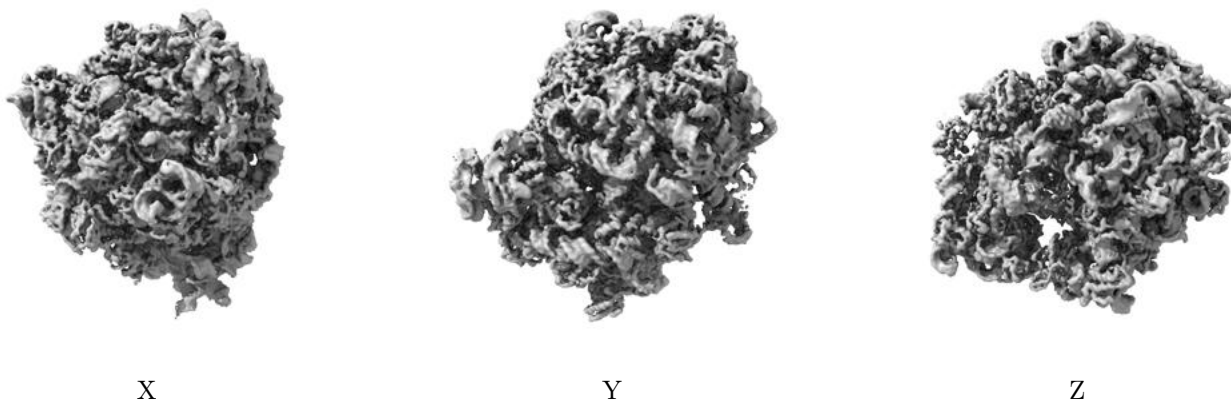


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

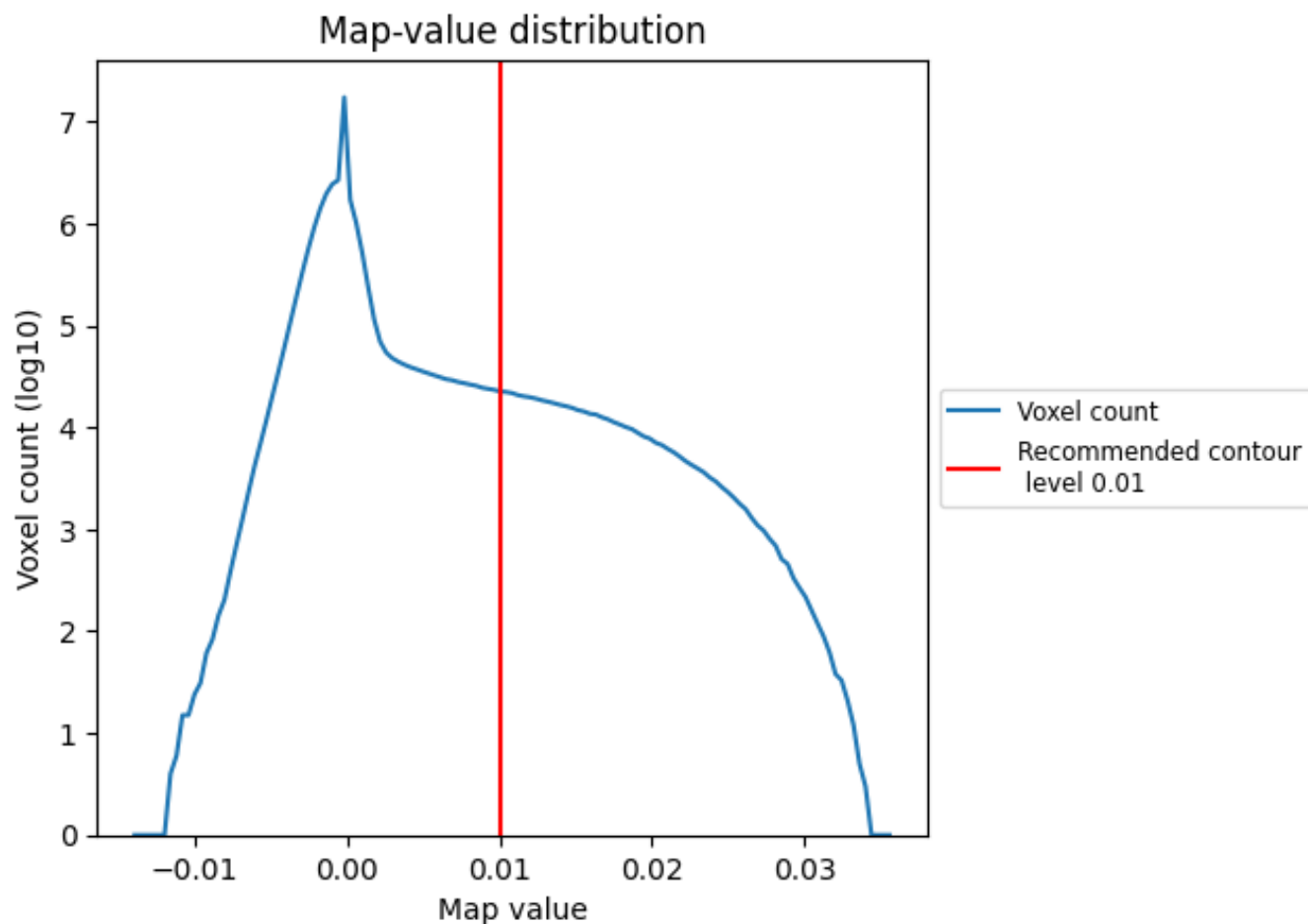
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

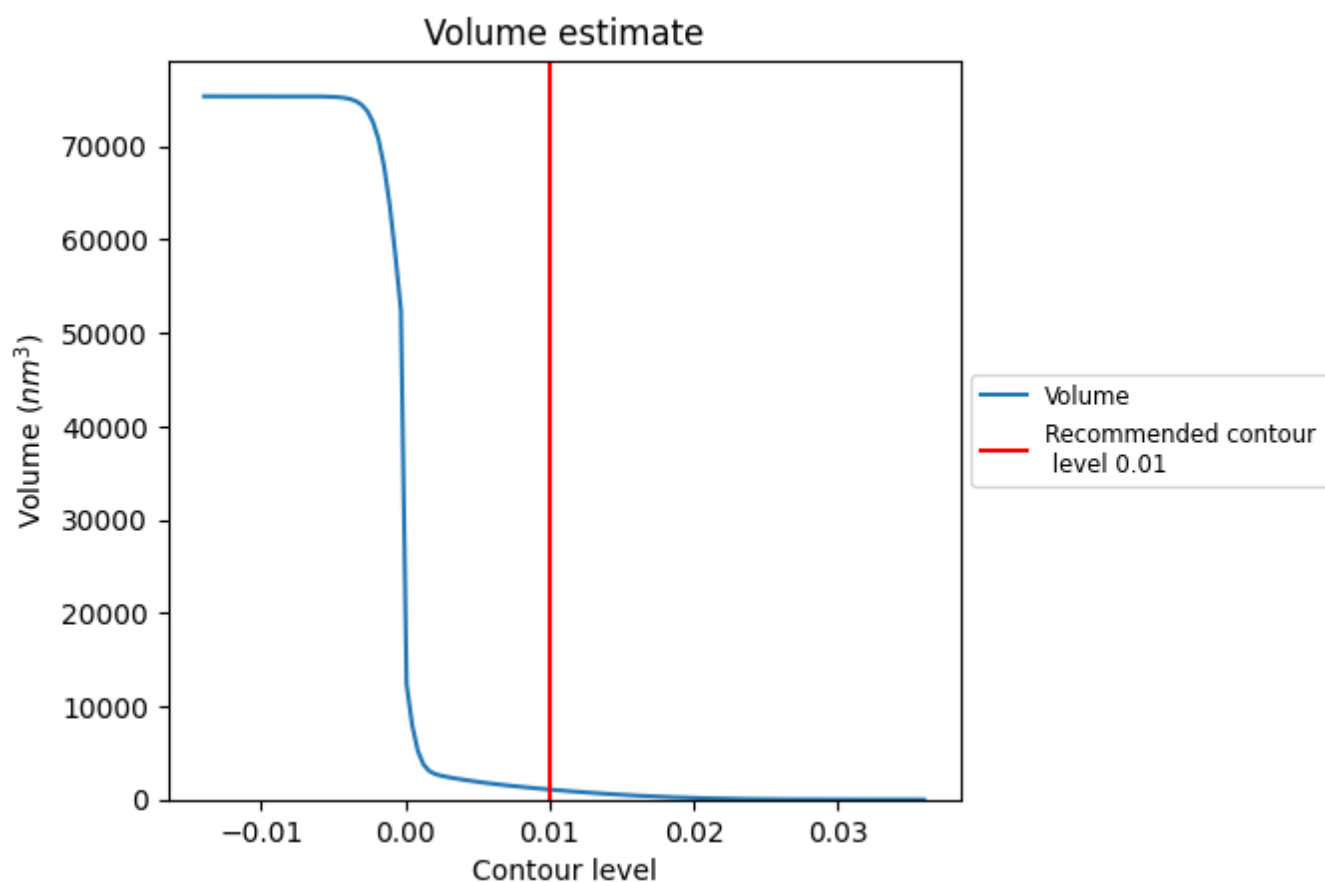
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

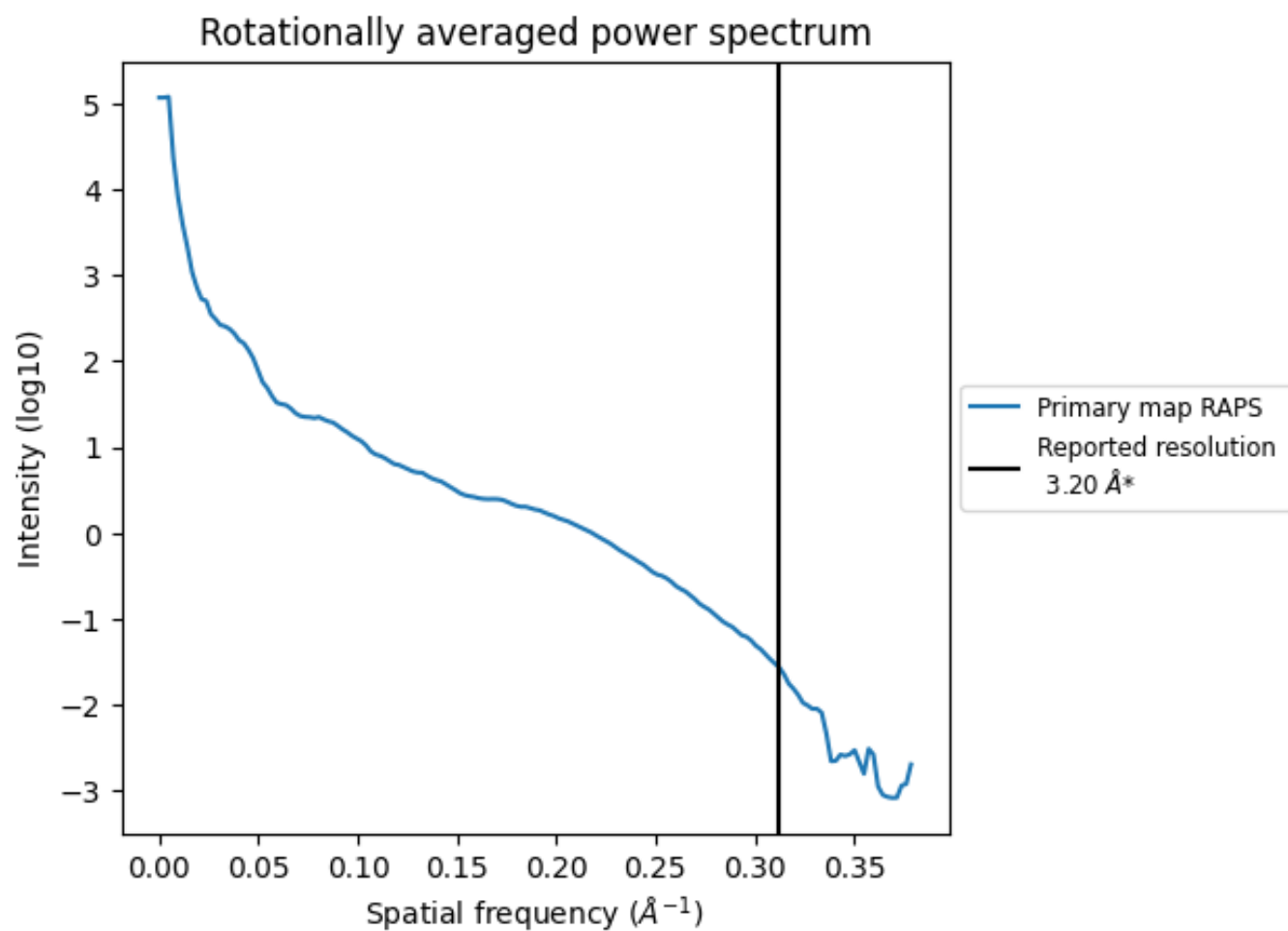
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1075 nm³; this corresponds to an approximate mass of 971 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

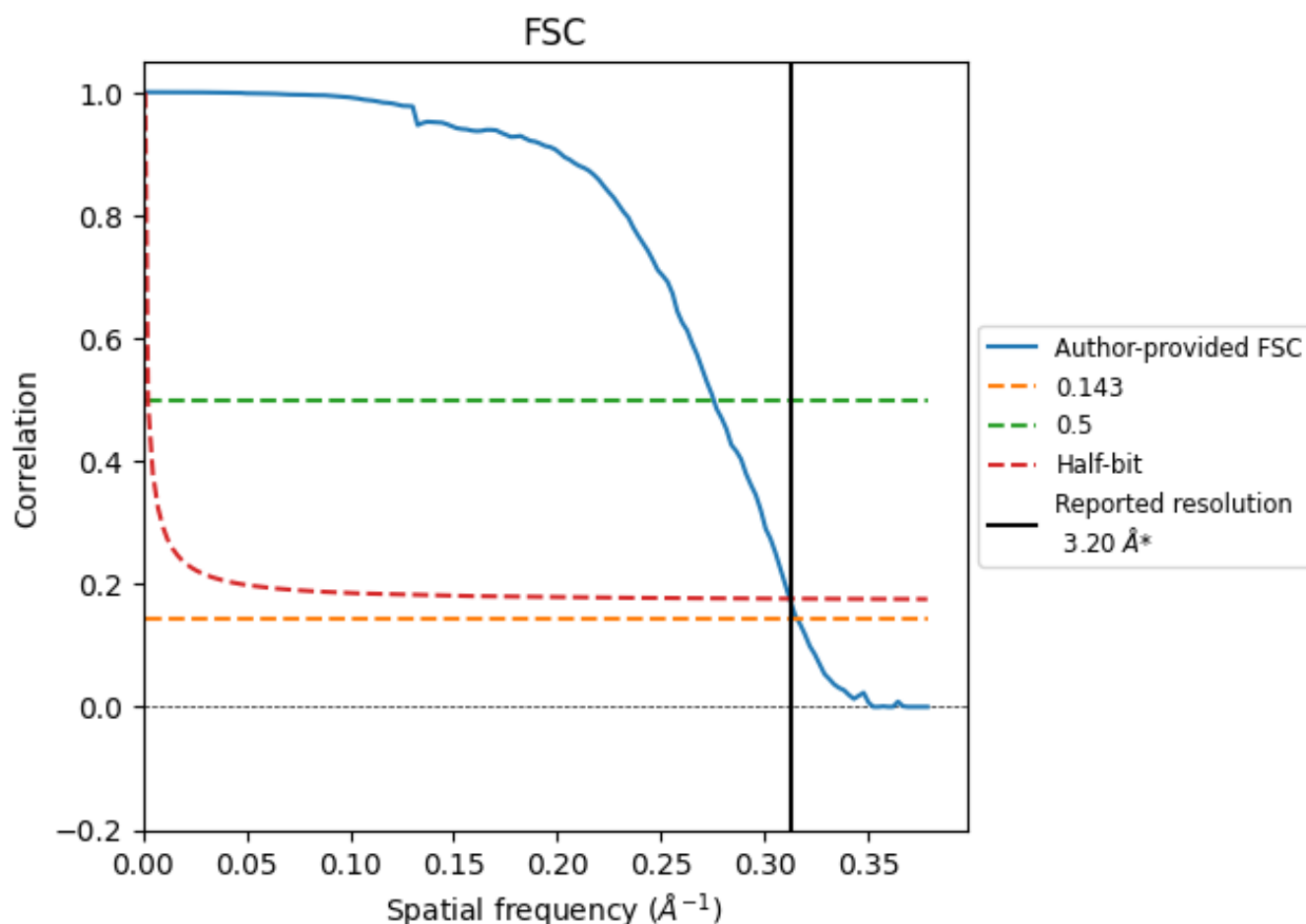


*Reported resolution corresponds to spatial frequency of 0.312 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.312 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

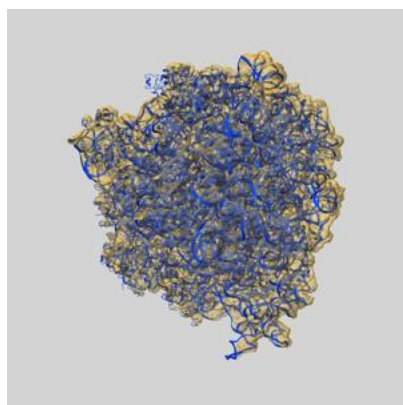
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	-	-	-
Author-provided FSC curve	3.17	3.63	3.20
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

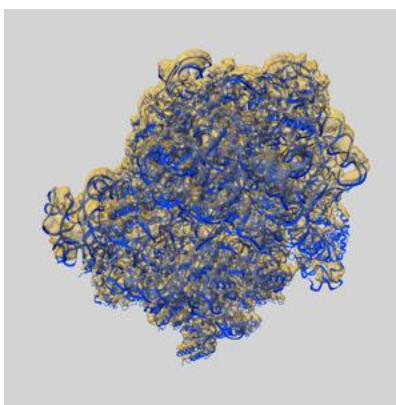
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-6550 and PDB model 3JCE. Per-residue inclusion information can be found in section [3](#) on page [16](#).

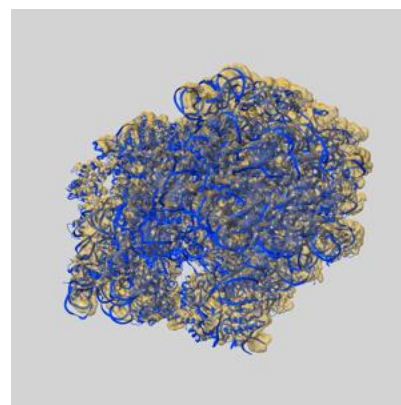
9.1 Map-model overlay [i](#)



X



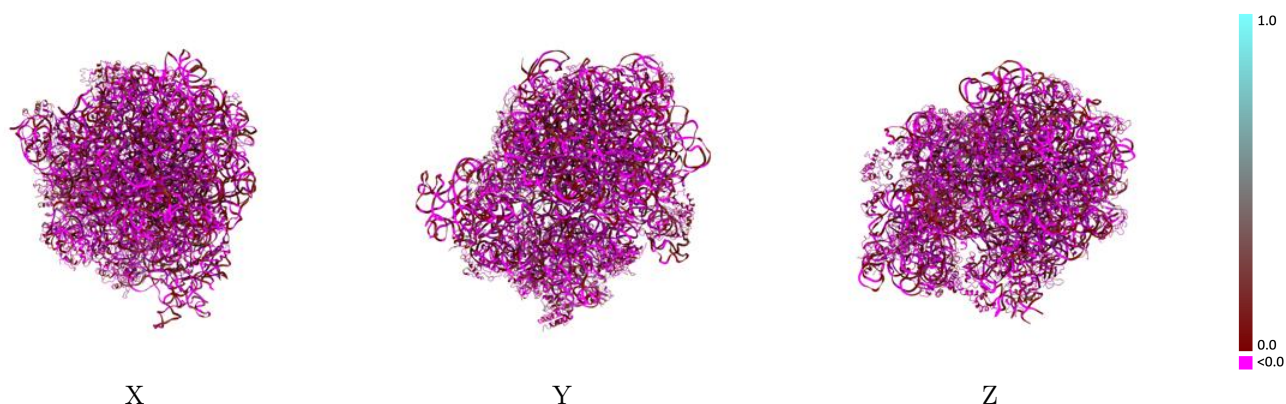
Y



Z

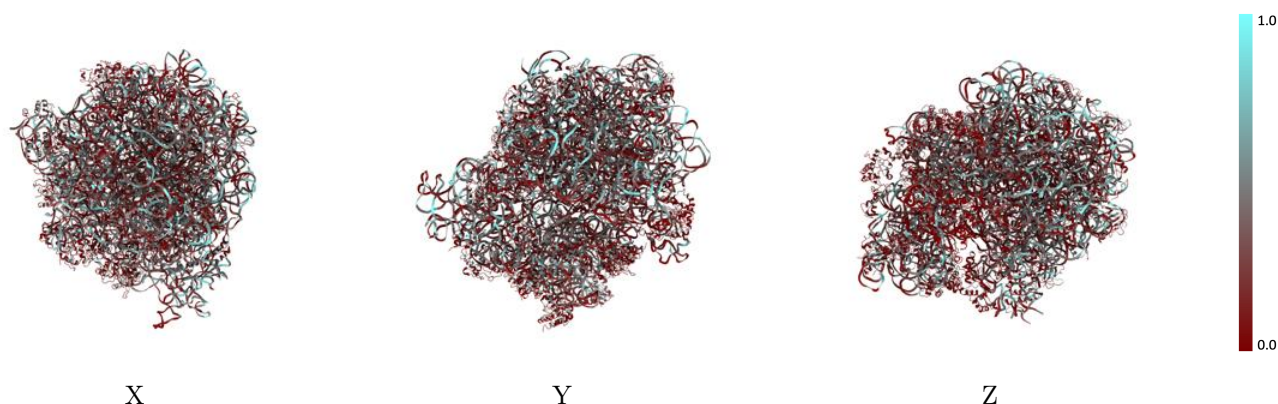
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



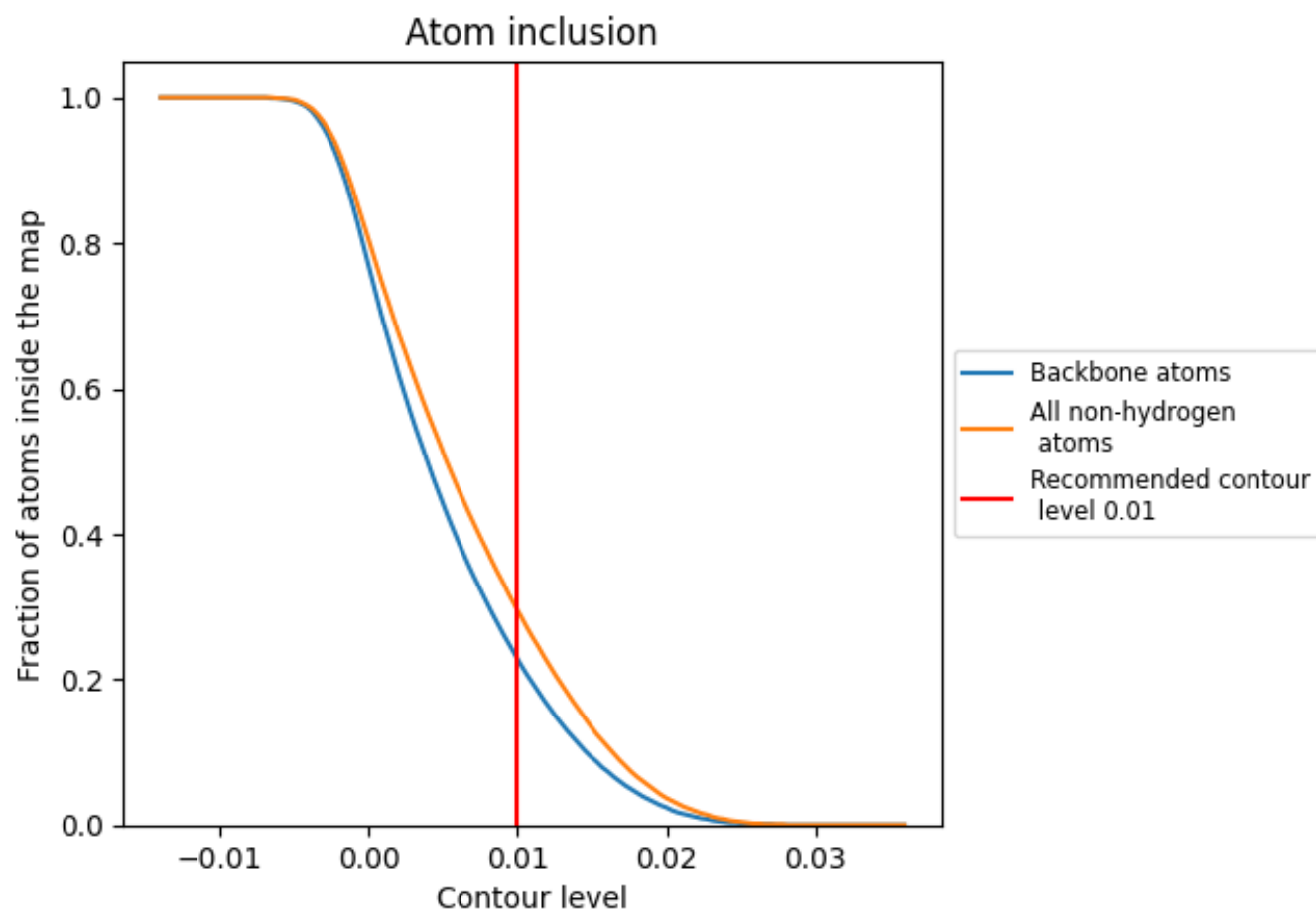
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.01).

9.4 Atom inclusion [i](#)



At the recommended contour level, 23% of all backbone atoms, 30% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.2950	 -0.0160
0	 0.2500	 -0.0710
1	 0.1840	 -0.0080
2	 0.2200	 -0.0580
3	 0.2380	 -0.0330
4	 0.2330	 -0.0340
5	 0.0470	 0.0240
6	 0.2770	 0.0080
7	 0.1380	 -0.0660
8	 0.3170	 0.0250
9	 0.1150	 0.0280
A	 0.3460	 -0.0170
B	 0.3770	 -0.0130
C	 0.1920	 -0.0390
D	 0.2220	 -0.0230
E	 0.2340	 -0.0220
F	 0.1530	 -0.0490
G	 0.1980	 -0.0270
H	 0.0580	 0.0200
I	 0.1050	 -0.0080
J	 0.2370	 -0.0310
K	 0.1990	 -0.0050
L	 0.2880	 -0.0050
M	 0.1760	 -0.0140
N	 0.2550	 -0.0380
O	 0.3460	 0.0420
P	 0.1970	 -0.0010
Q	 0.2670	 -0.0250
R	 0.2520	 -0.0370
S	 0.2430	 -0.0400
T	 0.2780	 -0.0040
U	 0.2880	 -0.0080
V	 0.2760	 0.0170
W	 0.2790	 -0.0120
X	 0.2560	 -0.0360



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Chain	Atom inclusion	Q-score
Y	 0.2030	 -0.0360
Z	 0.2650	 -0.0170
a	 0.3490	 -0.0200
b	 0.1430	 -0.0020
c	 0.1860	 -0.0380
d	 0.1760	 -0.0060
e	 0.1590	 -0.0490
f	 0.2160	 -0.0120
g	 0.1840	 -0.0270
h	 0.2330	 0.0260
i	 0.1990	 -0.0310
j	 0.2310	 0.0510
k	 0.1550	 -0.0580
l	 0.2430	 -0.0190
m	 0.1970	 -0.0140
n	 0.1770	 -0.0250
o	 0.2590	 -0.0290
p	 0.2300	 0.0270
q	 0.2480	 -0.0090
r	 0.1880	 -0.0310
s	 0.2160	 -0.0360
t	 0.2340	 -0.0390
u	 0.1550	 0.0270
x	 0.1390	 -0.0120