



Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 04:29 PM UTC

PDB ID : 7PIA / pdb_00007pia
EMDB ID : EMD-13434
Title : 70S ribosome with A/P- and P/E-site tRNAs in spectinomycin-treated Mycoplasma pneumoniae cells
Authors : Xue, L.; Lenz, S.; Rappsilber, J.; Mahamid, J.
Deposited on : 2021-08-19
Resolution : 13.60 Å (reported)
Based on initial models : 4V7C, 7OOC, 7OOD

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

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

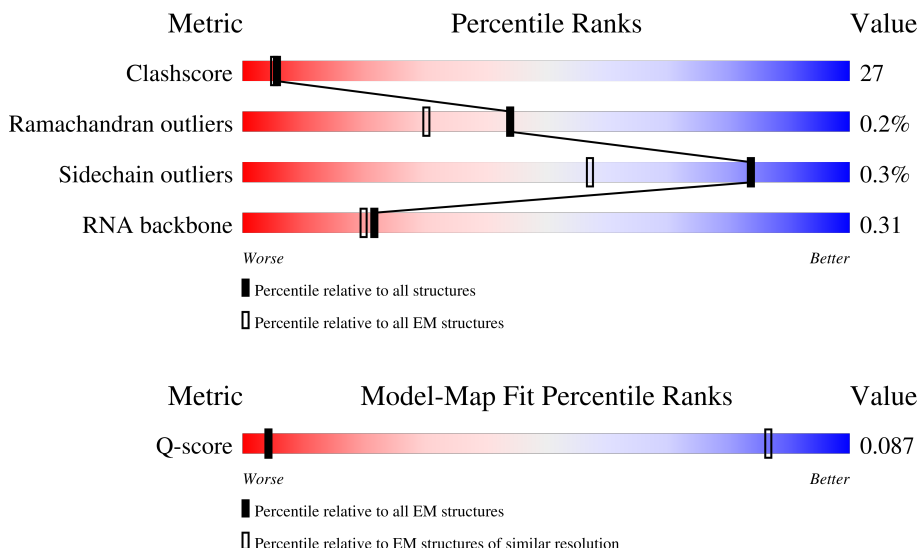
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 13.60 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	66 (13.10 - 14.10)

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

Mol	Chain	Length	Quality of chain
1	0	48	
2	1	59	
3	2	37	

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Mol	Chain	Length	Quality of chain
4	A	294	
5	B	273	
6	C	205	
7	D	219	
8	E	215	
9	F	155	
10	G	142	
11	H	132	
12	I	108	
13	J	121	
14	K	139	
15	L	124	
16	M	61	
17	N	86	
18	O	94	
19	P	85	
20	Q	104	
21	R	87	
22	S	87	
23	T	60	
24	a	287	
25	b	287	
26	c	212	
27	d	180	
28	e	184	

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Mol	Chain	Length	Quality of chain
29	f	149	
30	g	161	
31	h	137	
32	i	146	
33	j	122	
34	k	151	
35	l	139	
36	m	124	
37	n	116	
38	o	119	
39	p	127	
40	q	100	
41	r	159	
42	s	237	
43	t	111	
44	u	104	
45	v	65	
46	w	111	
47	x	97	
48	y	57	
49	z	53	
50	3	2907	
51	4	108	
52	5	1520	
53	7	76	

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Mol	Chain	Length	Quality of chain
53	8	76	28% 51% 21%

2 Entry composition

There are 53 unique types of molecules in this entry. The entry contains 146142 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 protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	47	Total	C	N	O	S	0	0
			380	236	81	61	2		

- Molecule 2 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	59	Total	C	N	O	S	0	0
			477	300	99	77	1		

- Molecule 3 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	37	Total	C	N	O	S	0	0
			304	189	65	46	4		

- Molecule 4 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A	240	Total	C	N	O	S	0	0
			1921	1226	334	352	9		

- Molecule 5 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	215	Total	C	N	O	S	0	0
			1698	1073	313	307	5		

- Molecule 6 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	C	203	Total	C	N	O	S	0	0
			1660	1051	314	290	5		

- Molecule 7 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	153	Total	C	N	O	S	0	0
			1173	742	226	202	3		

- Molecule 8 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	167	Total	C	N	O	S	0	0
			1362	857	240	263	2		

- Molecule 9 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	154	Total	C	N	O	S	0	0
			1246	785	239	216	6		

- Molecule 10 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	141	Total	C	N	O	S	0	0
			1110	723	193	192	2		

- Molecule 11 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	128	Total	C	N	O	S	0	0
			1028	655	191	181	1		

- Molecule 12 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	101	Total	C	N	O	S	0	0
			809	523	142	143	1		

- Molecule 13 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	114	Total	C	N	O	S	0	0
			829	514	153	156	6		

- Molecule 14 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	K	136	Total	C	N	O	S	0	0
			1076	680	213	181	2		

- Molecule 15 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	L	118	Total	C	N	O		0	0
			951	594	191	166			

- Molecule 16 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	M	60	Total	C	N	O	S	0	0
			474	302	96	72	4		

- Molecule 17 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	N	83	Total	C	N	O		0	0
			673	428	125	120			

- Molecule 18 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	O	80	Total	C	N	O	S	0	0
			646	414	119	111	2		

- Molecule 19 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	P	83	Total	C	N	O		0	0
			675	425	135	115			

- Molecule 20 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Q	65	Total	C	N	O	S	0	0
			535	342	103	86	4		

- Molecule 21 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	R	84	Total	C	N	O	S	0	0
			682	435	127	118	2		

- Molecule 22 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	S	77	Total	C	N	O	S	0	0
			629	383	135	111			

- Molecule 23 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	T	53	Total	C	N	O	S	0	0
			471	295	103	72	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
24	a	285	Total	C	N	O	S	0	0
			2225	1385	437	397	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
25	b	229	Total	C	N	O	S	0	0
			1762	1119	318	318	7		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
26	c	210	Total	C	N	O	S	0	0
			1644	1047	297	297	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
27	d	175	Total	C	N	O	S	0	0
			1388	893	245	246	4		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
28	e	176	Total	C	N	O	0	0
			1396	899	247	250		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
29	f	145	Total	C	N	O	S	0
			1182	763	206	210	3	0

- Molecule 30 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	g	126	Total	C	N	O	S	0
			960	612	167	178	3	0

- Molecule 31 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	h	128	Total	C	N	O	S	0
			959	616	160	177	6	0

- Molecule 32 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms				AltConf	Trace
32	i	144	Total	C	N	O	S	0
			1164	737	213	209	5	0

- Molecule 33 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	j	122	Total	C	N	O	S	0
			944	595	178	167	4	0

- Molecule 34 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms				AltConf	Trace
34	k	148	Total	C	N	O	0	0
			1153	731	226	196		

- Molecule 35 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	l	136	Total	C	N	O	S	0	0
			1079	694	196	182	7		

- Molecule 36 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	m	119	Total	C	N	O	S	0	0
			958	609	175	171	3		

- Molecule 37 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	n	112	Total	C	N	O	S	0	0
			889	557	175	155	2		

- Molecule 38 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	o	115	Total	C	N	O	S	0	0
			938	592	180	165	1		

- Molecule 39 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	p	114	Total	C	N	O	S	0	0
			947	603	188	154	2		

- Molecule 40 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	q	99	Total	C	N	O	S	0	0
			811	525	148	134	4		

- Molecule 41 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	r	139	Total	C	N	O	S	0	0
			1068	663	207	191	7		

- Molecule 42 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	s	92	Total	C	N	O	S	0	0
			720	475	122	122	1		

- Molecule 43 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	t	111	Total	C	N	O	S	0	0
			872	550	166	153	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
44	u	86	Total	C	N	O	S	0	0
			657	409	130	117	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
45	v	63	Total	C	N	O	S	0	0
			513	317	108	87	1		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
46	w	100	Total	C	N	O	0	0
			818	517	153	148		

- Molecule 47 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	x	44	Total	C	N	O	S	0	0
			344	221	55	64	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
48	y	56	Total	C	N	O	S	0	0
			452	274	98	75	5		

- Molecule 49 is a protein called 50S ribosomal protein L33 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	z	50	Total	C	N	O	S	0	0
			408	255	81	68	4		

- Molecule 50 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	3	2878	Total	C	N	O	P	0	0
			61664	27558	11236	19995	2875		

- Molecule 51 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	4	105	Total	C	N	O	P	0	0
			2239	1003	409	724	103		

- Molecule 52 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	5	1493	Total	C	N	O	P	0	0
			31943	14279	5792	10382	1490		

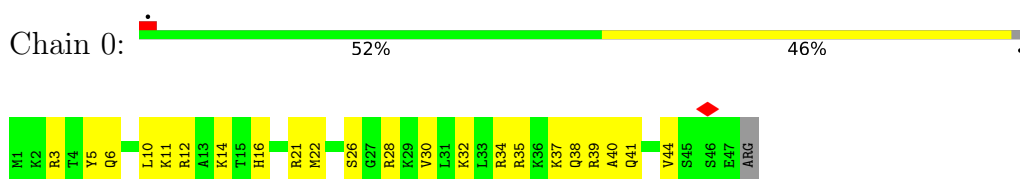
- Molecule 53 is a RNA chain called tRNA-Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	7	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		
53	8	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		

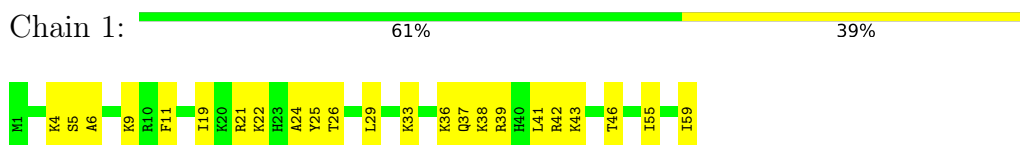
3 Residue-property plots [i](#)

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

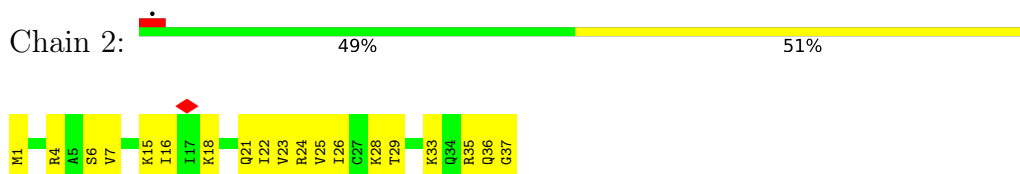
- Molecule 1: 50S ribosomal protein L34



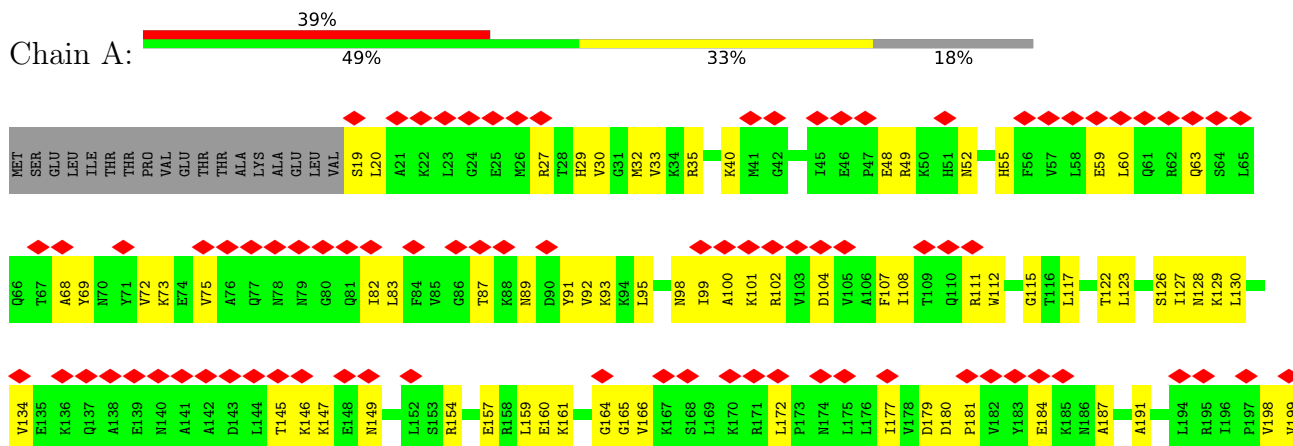
- Molecule 2: 50S ribosomal protein L35

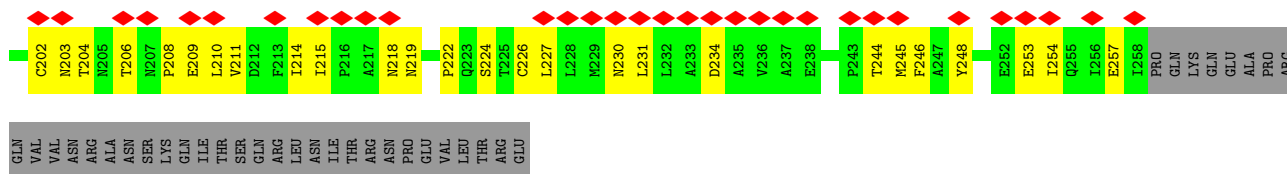


- Molecule 3: 50S ribosomal protein L36

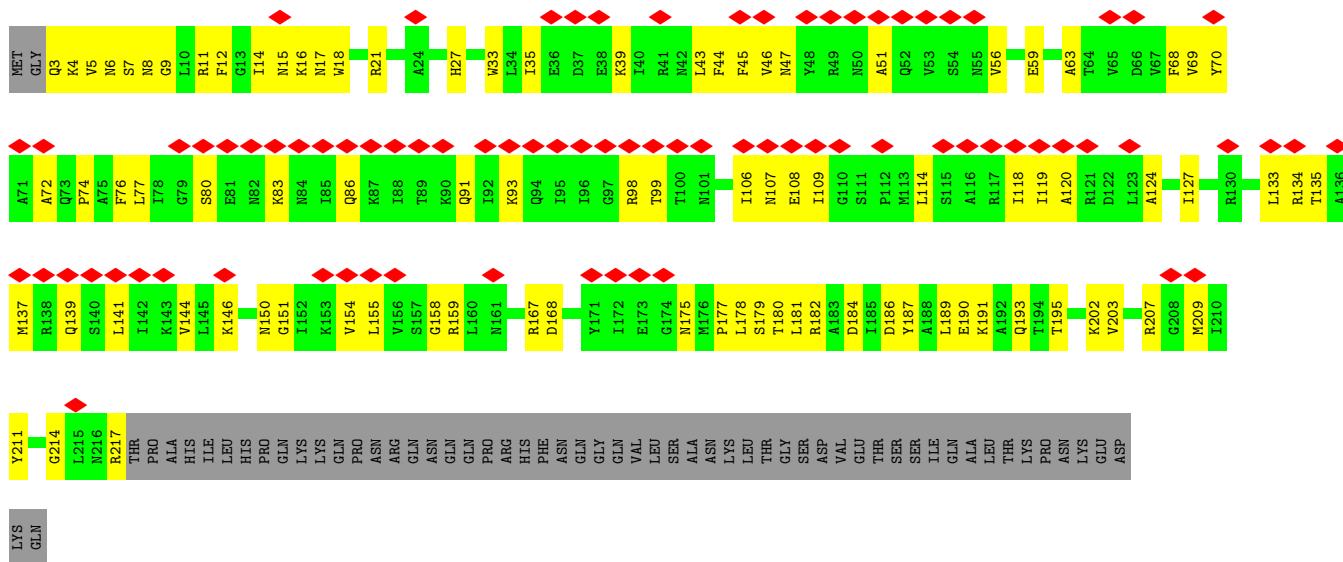


- Molecule 4: 30S ribosomal protein S2

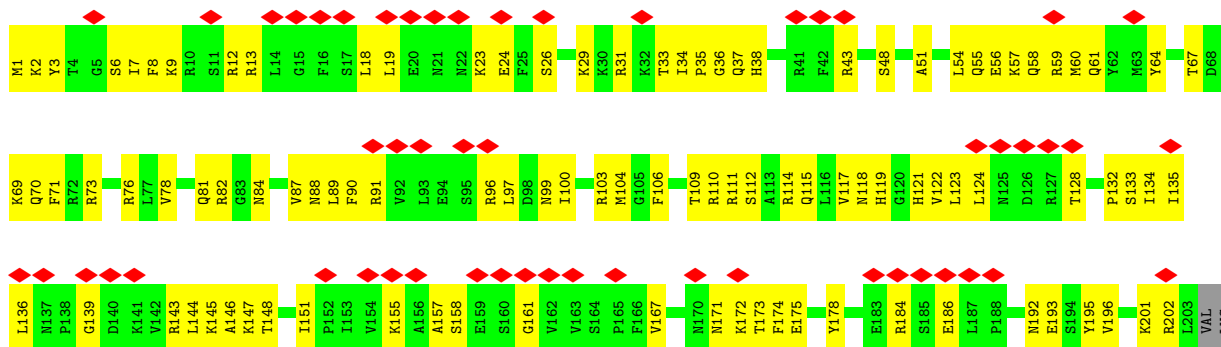




• Molecule 5: 30S ribosomal protein S3

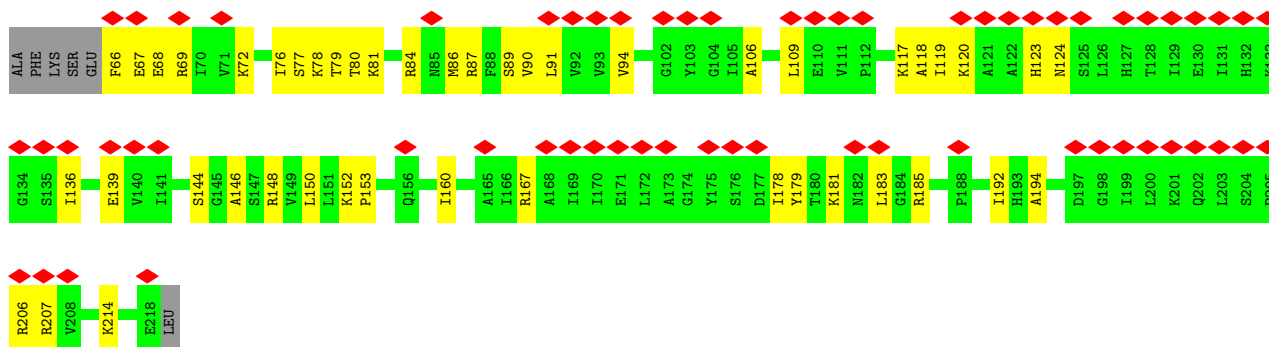


• Molecule 6: 30S ribosomal protein S4

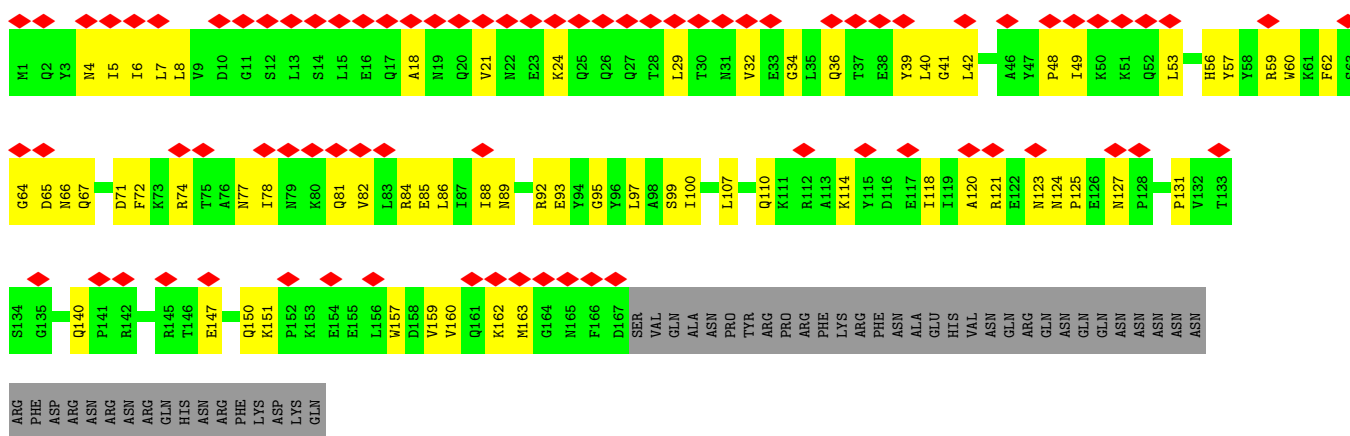


• Molecule 7: 30S ribosomal protein S5

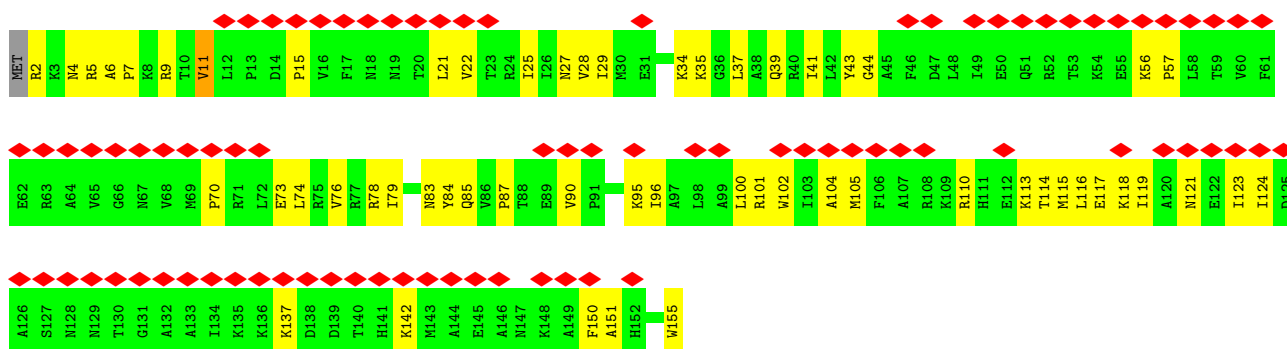




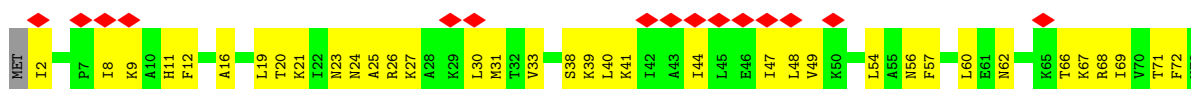
• Molecule 8: 30S ribosomal protein S6

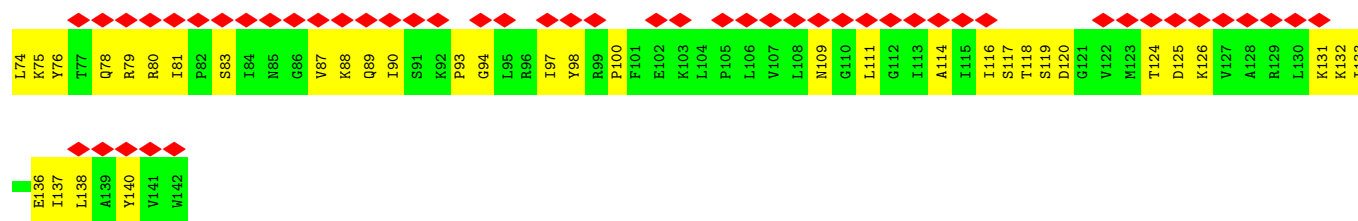


• Molecule 9: 30S ribosomal protein S7

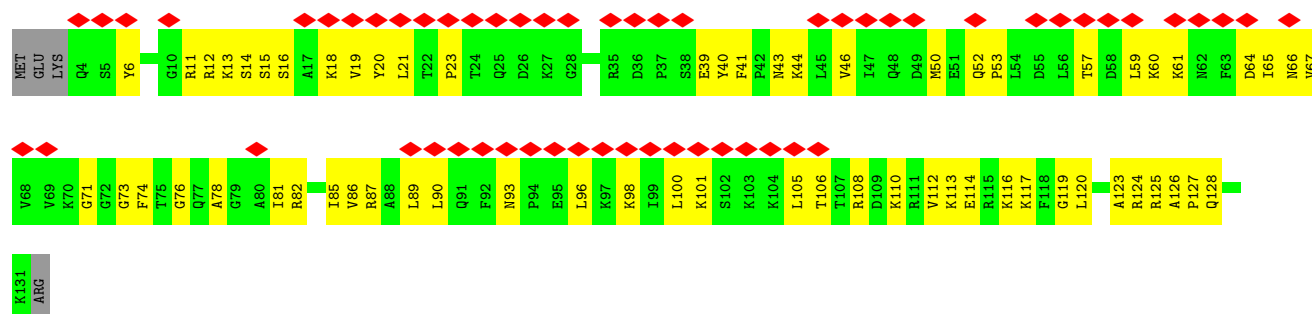
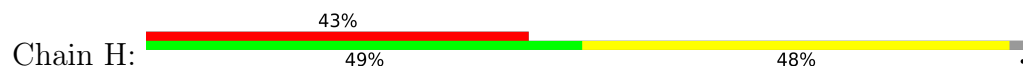


• Molecule 10: 30S ribosomal protein S8

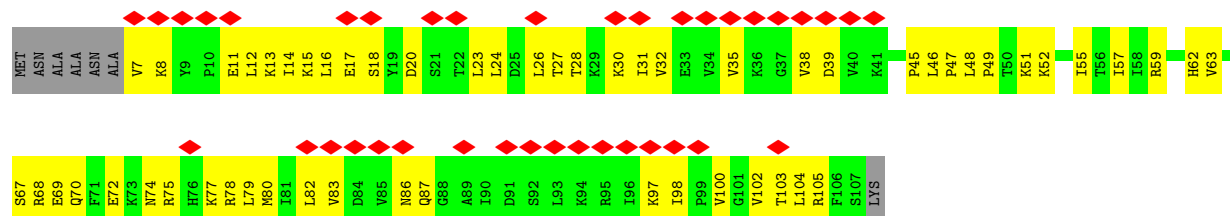




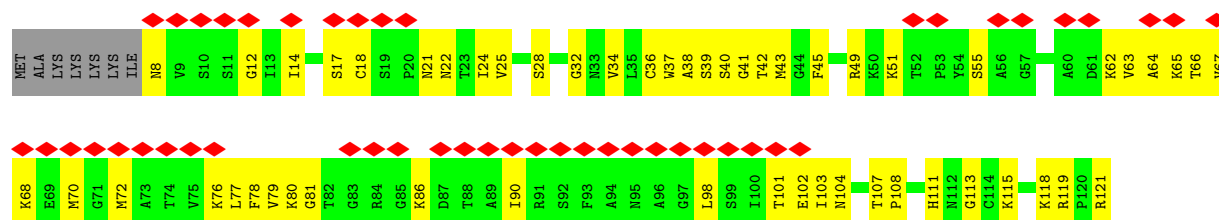
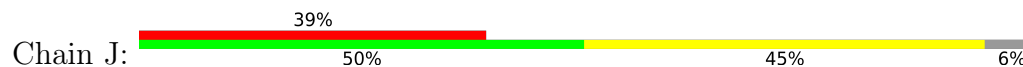
• Molecule 11: 30S ribosomal protein S9



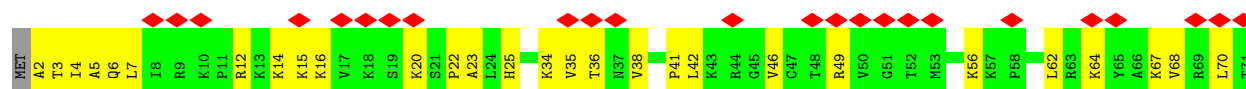
• Molecule 12: 30S ribosomal protein S10

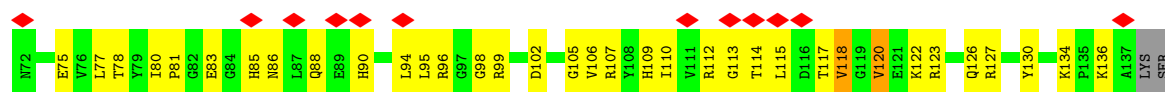


• Molecule 13: 30S ribosomal protein S11

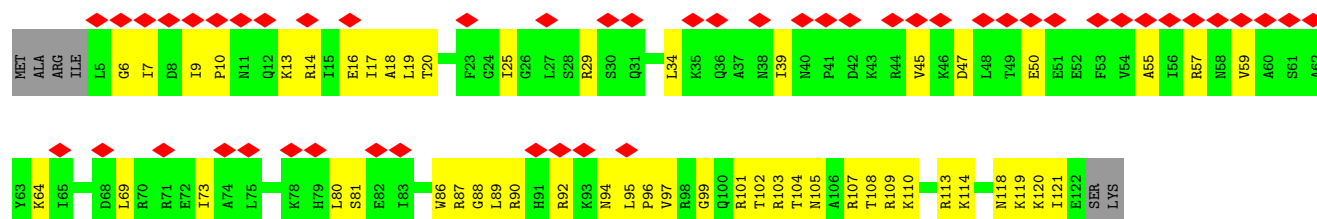


• Molecule 14: 30S ribosomal protein S12





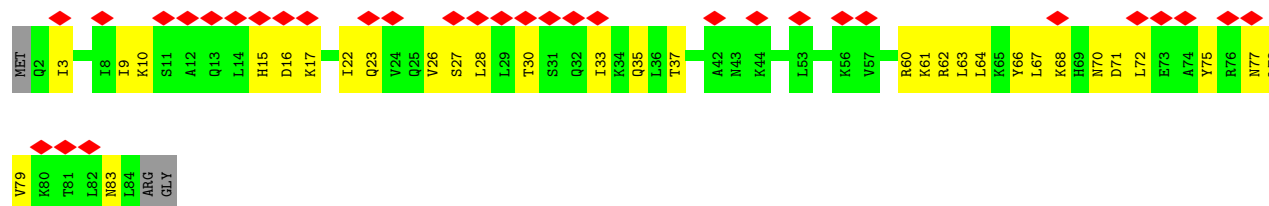
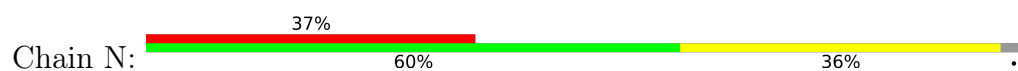
• Molecule 15: 30S ribosomal protein S13



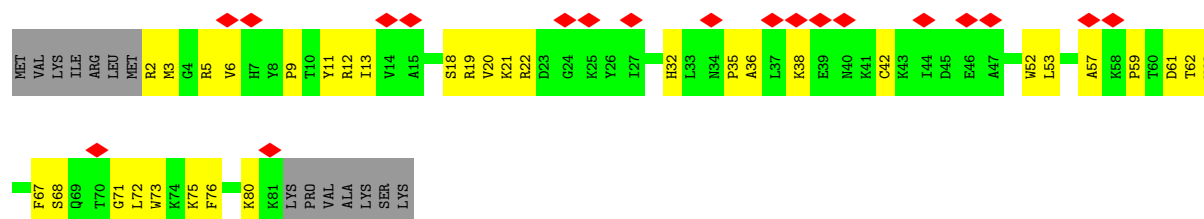
• Molecule 16: 30S ribosomal protein S14 type Z



• Molecule 17: 30S ribosomal protein S15

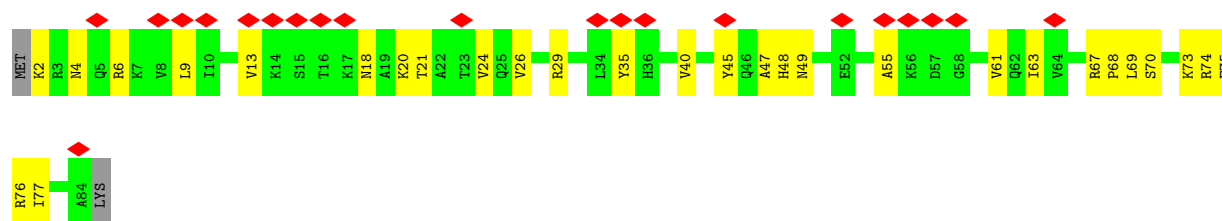


• Molecule 18: 30S ribosomal protein S16

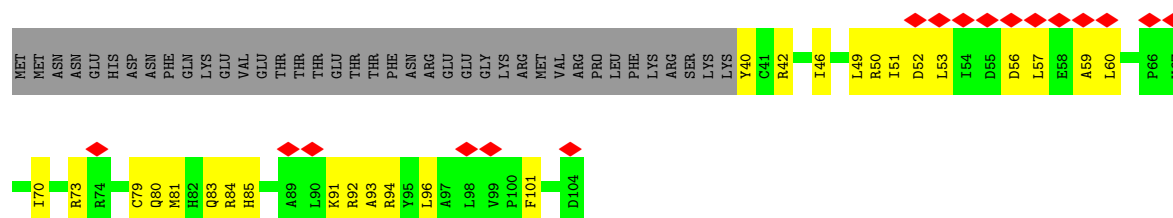


• Molecule 19: 30S ribosomal protein S17

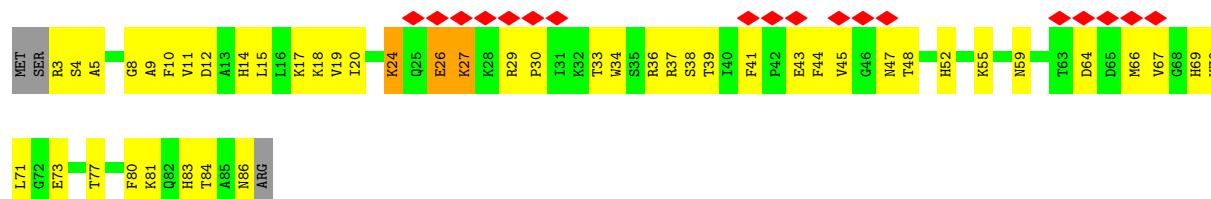
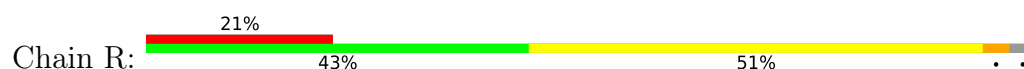




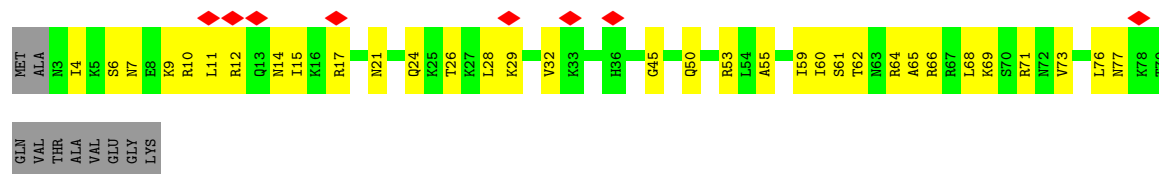
- Molecule 20: 30S ribosomal protein S18



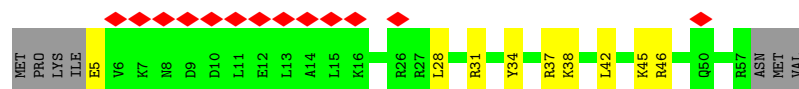
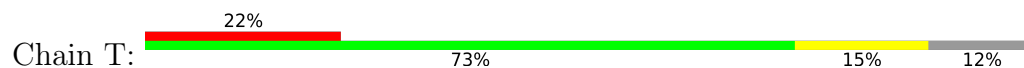
- Molecule 21: 30S ribosomal protein S19



- Molecule 22: 30S ribosomal protein S20

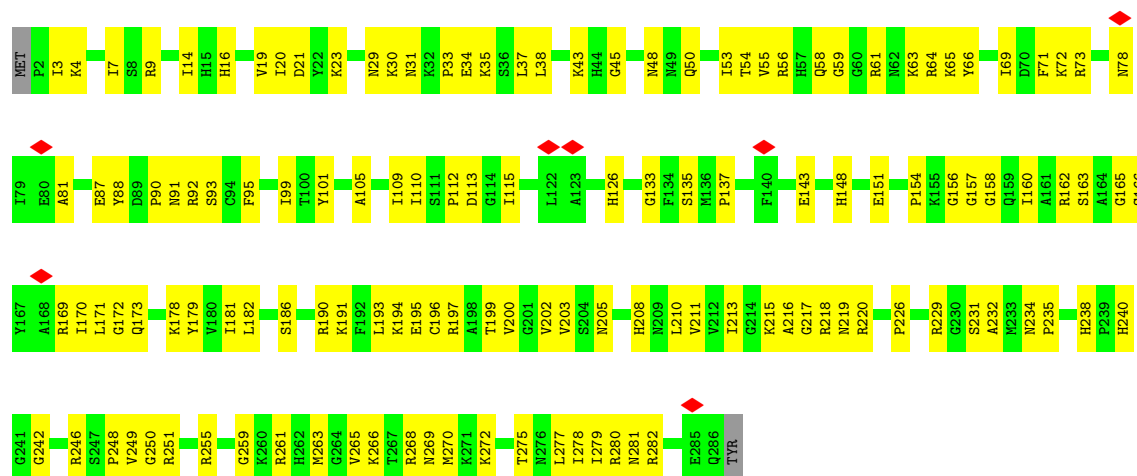


- Molecule 23: 30S ribosomal protein S21

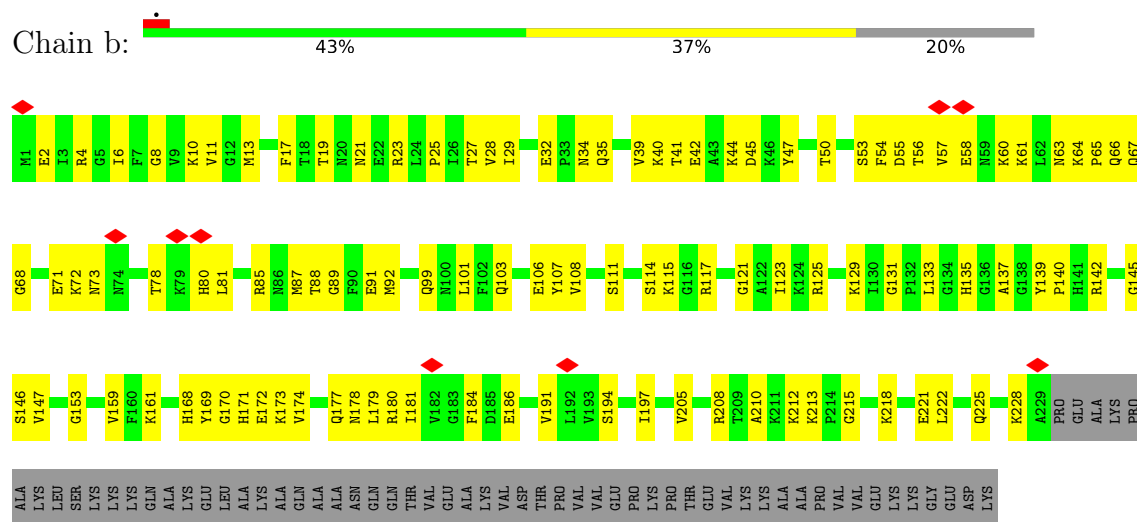


- Molecule 24: 50S ribosomal protein L2





• Molecule 25: 50S ribosomal protein L3

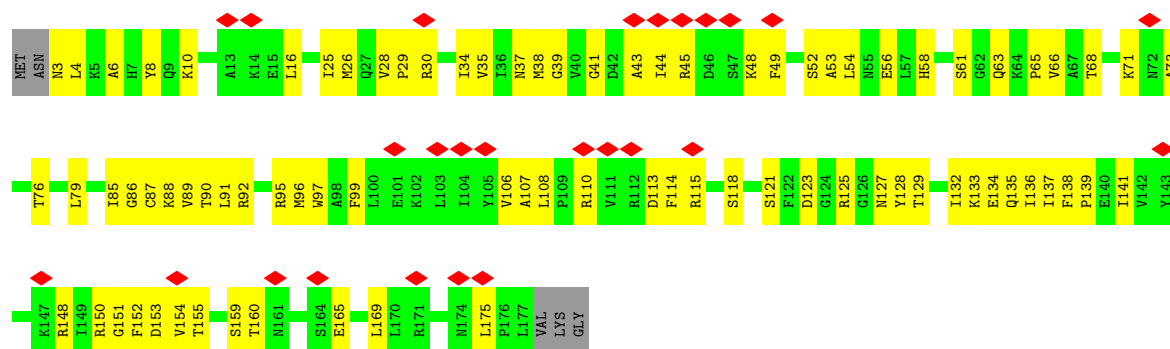


• Molecule 26: 50S ribosomal protein L4

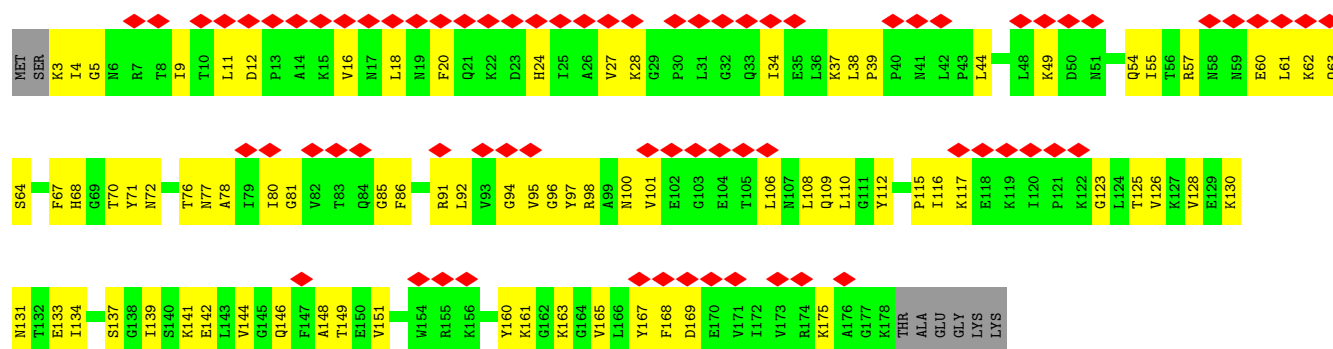
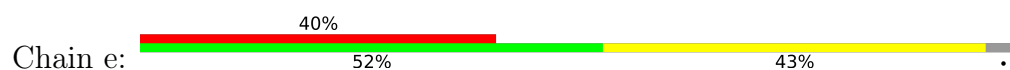


• Molecule 27: 50S ribosomal protein L5

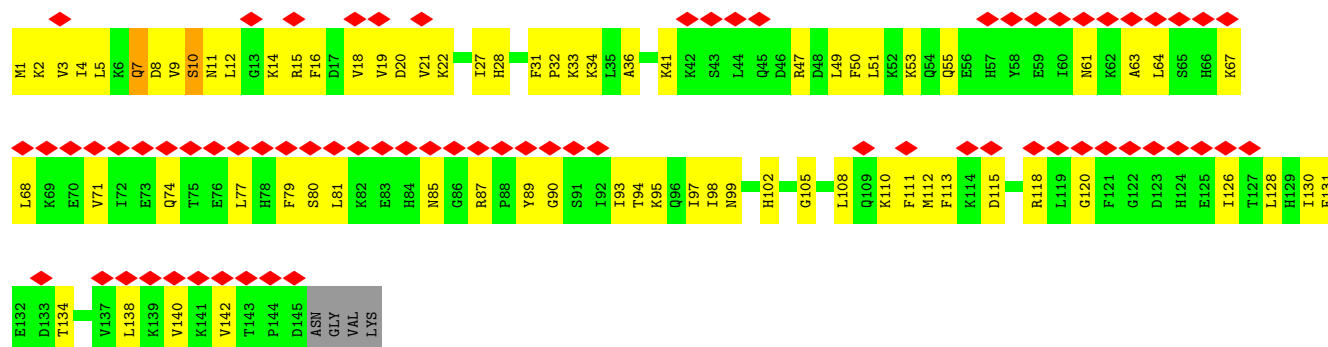




• Molecule 28: 50S ribosomal protein L6

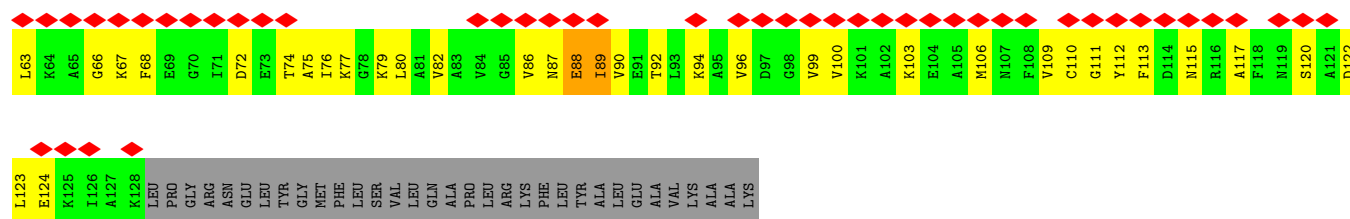


• Molecule 29: 50S ribosomal protein L9

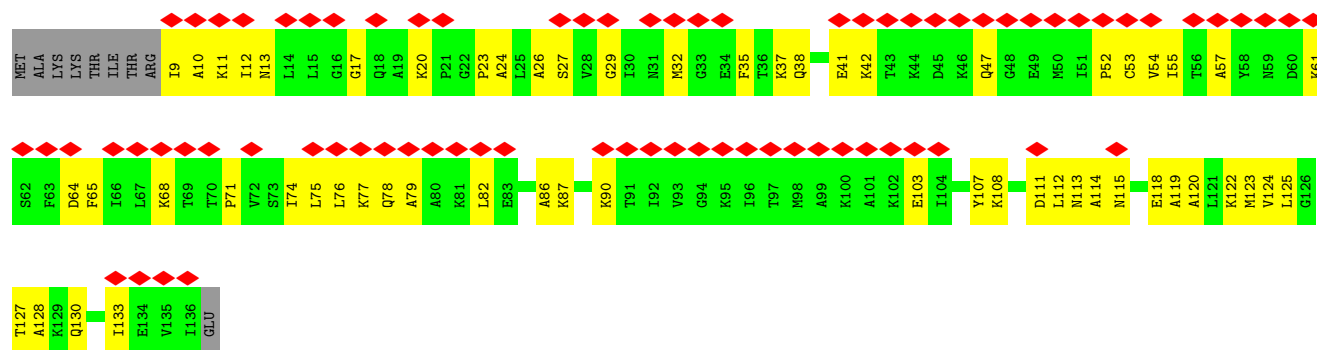


• Molecule 30: 50S ribosomal protein L10

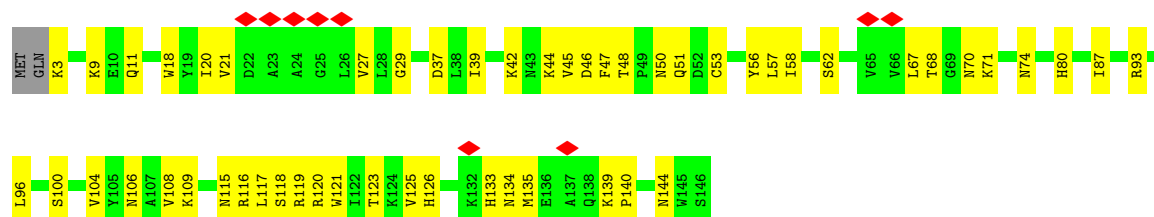




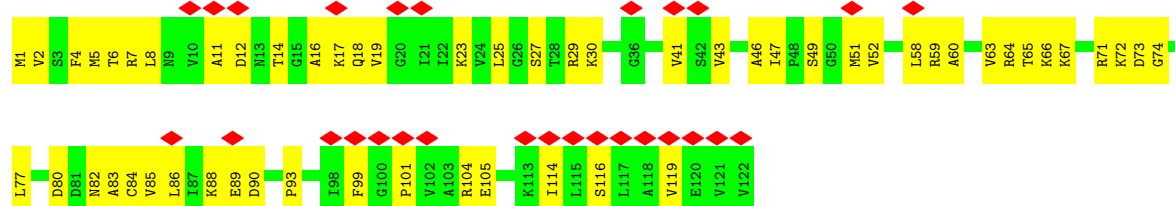
• Molecule 31: 50S ribosomal protein L11



• Molecule 32: 50S ribosomal protein L13

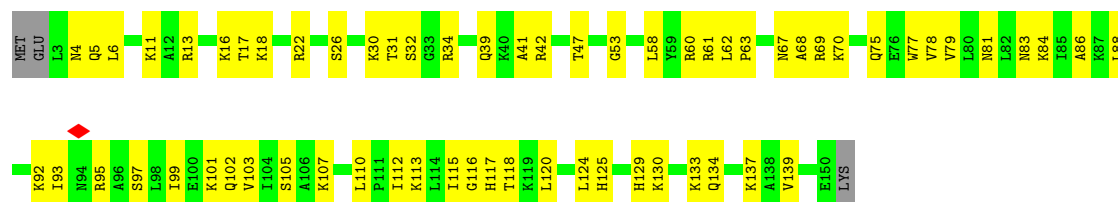


• Molecule 33: 50S ribosomal protein L14

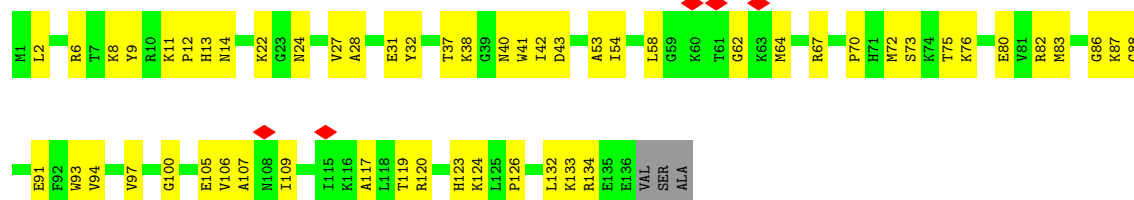


• Molecule 34: 50S ribosomal protein L15

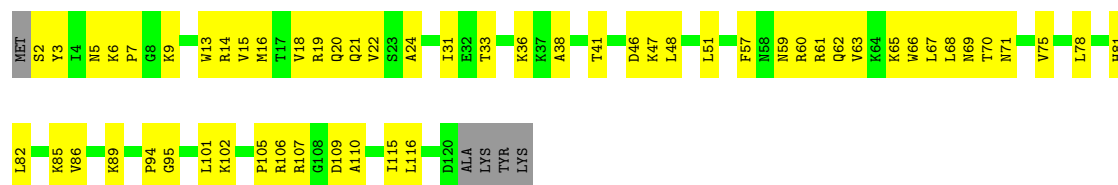




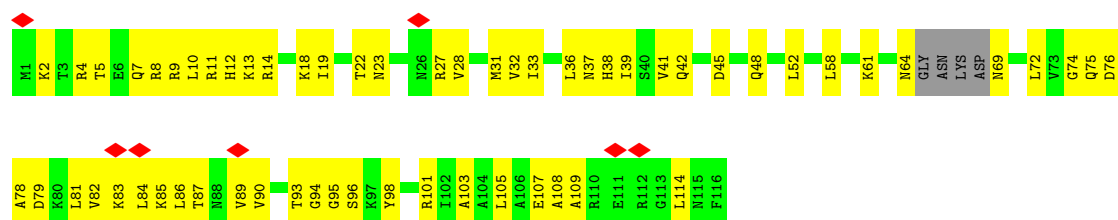
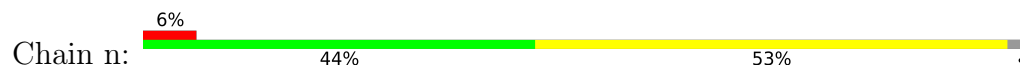
• Molecule 35: 50S ribosomal protein L16



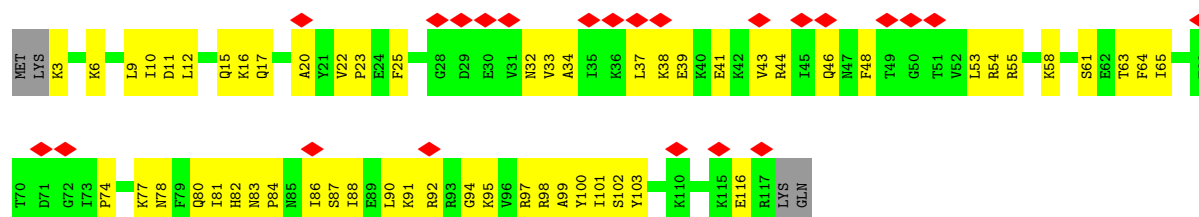
• Molecule 36: 50S ribosomal protein L17



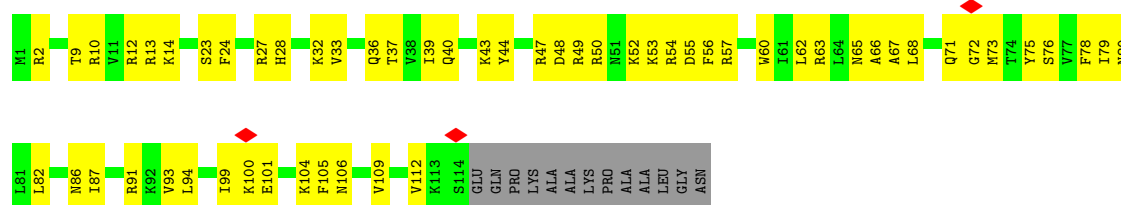
• Molecule 37: 50S ribosomal protein L18



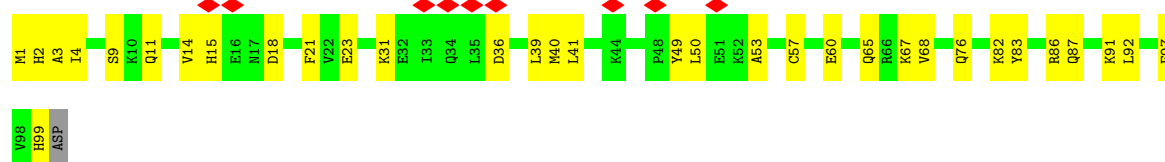
• Molecule 38: 50S ribosomal protein L19



Chain p:



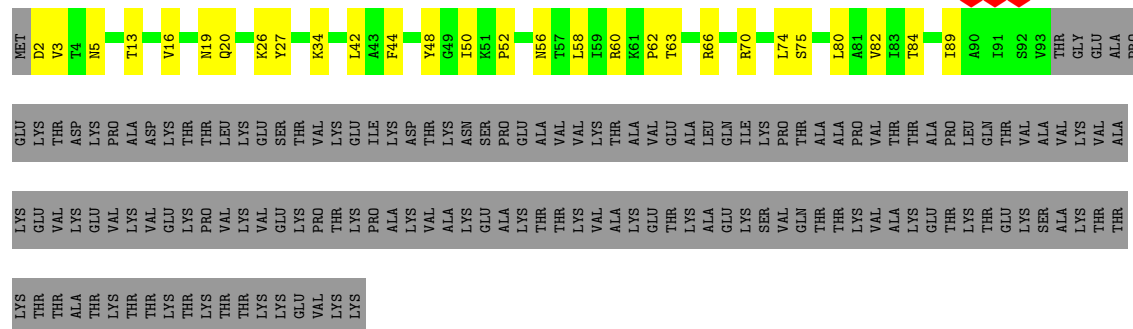
Chain q:



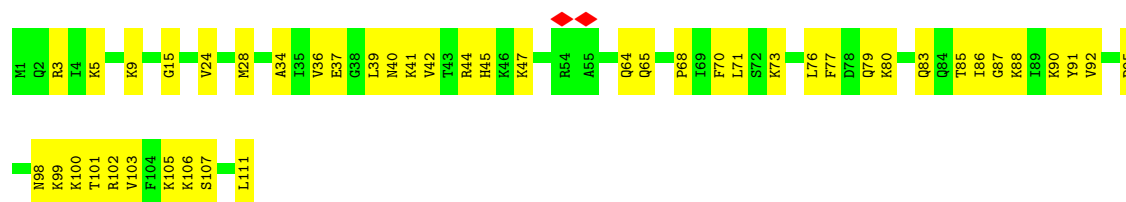
Chain r:



Chain s:



Chain t: 



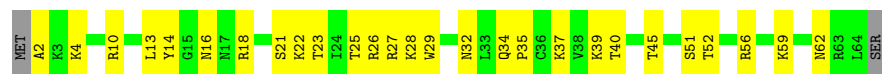
- Molecule 44: 50S ribosomal protein L27

Chain u: 



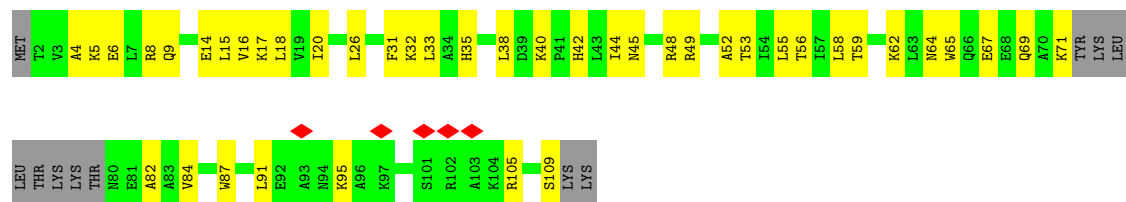
- Molecule 45: 50S ribosomal protein L28

Chain v: 



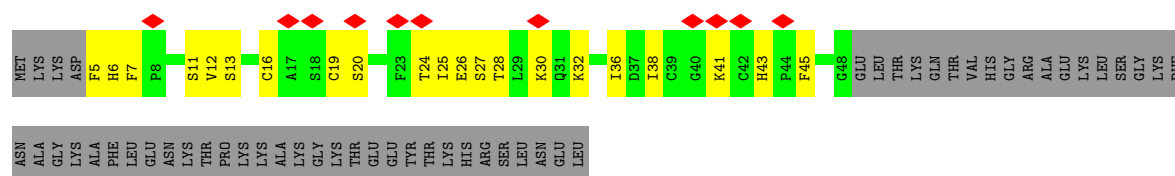
- Molecule 46: 50S ribosomal protein L29

Chain w: 



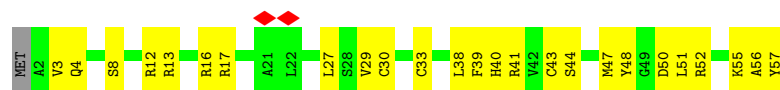
- Molecule 47: 50S ribosomal protein L31

Chain x: 

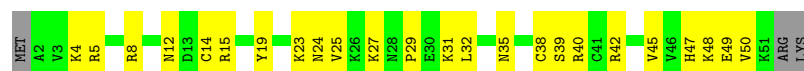


- Molecule 48: 50S ribosomal protein L32

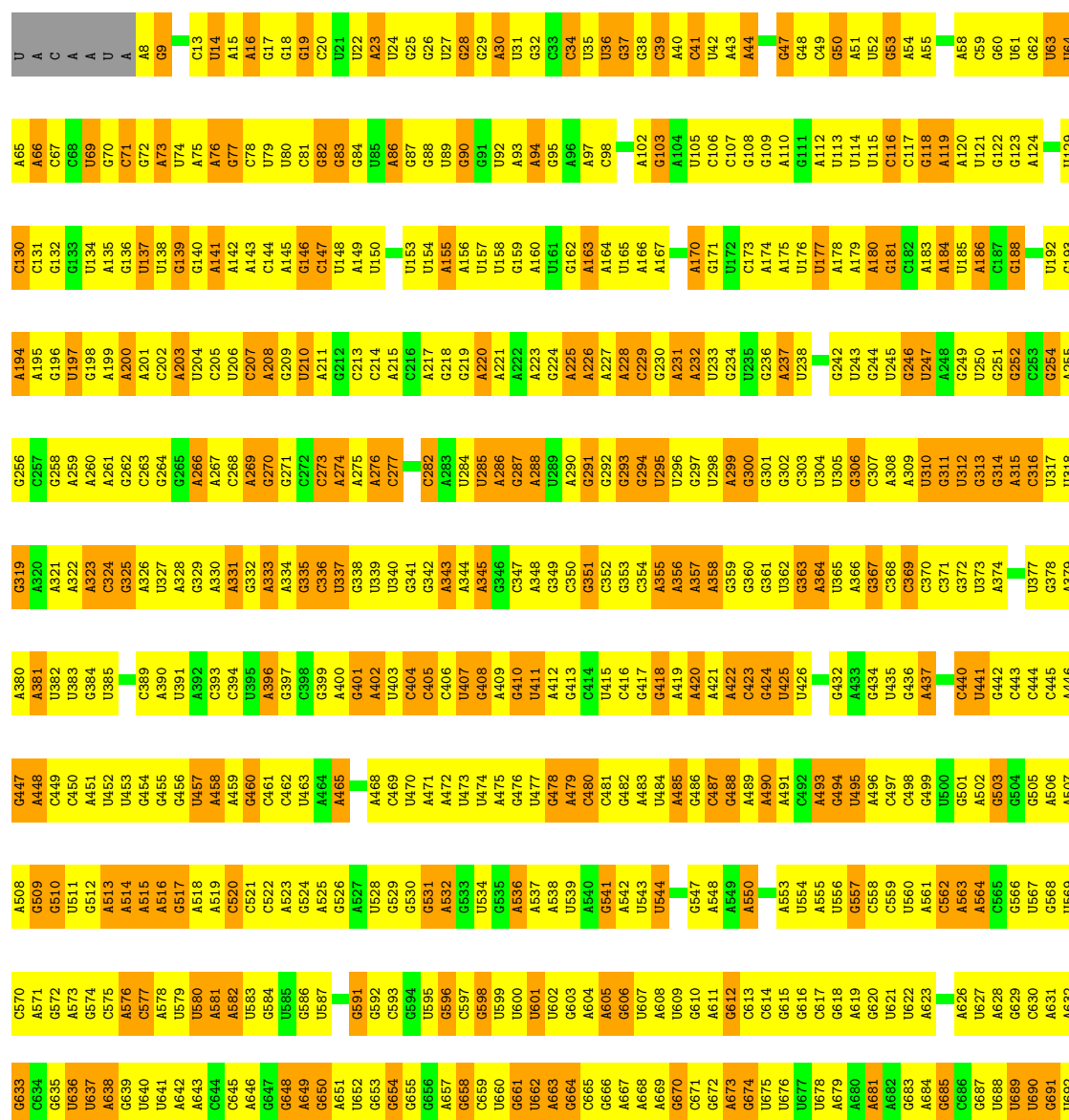
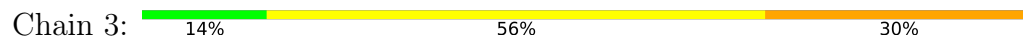
Chain y: 



- Molecule 49: 50S ribosomal protein L33 1

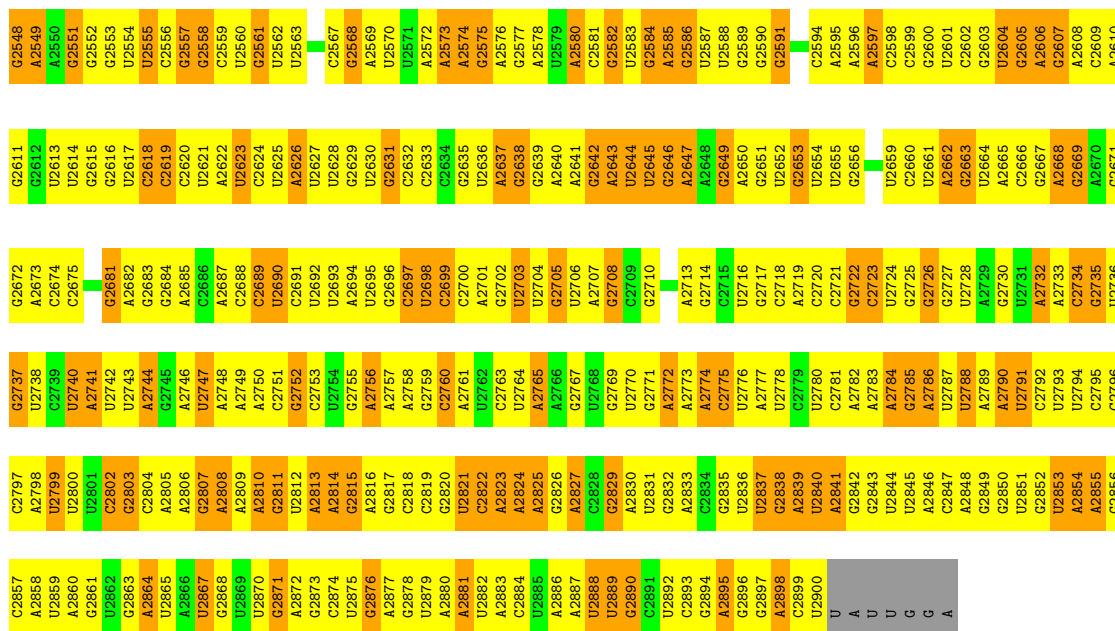


- Molecule 50: 23S ribosomal RNA



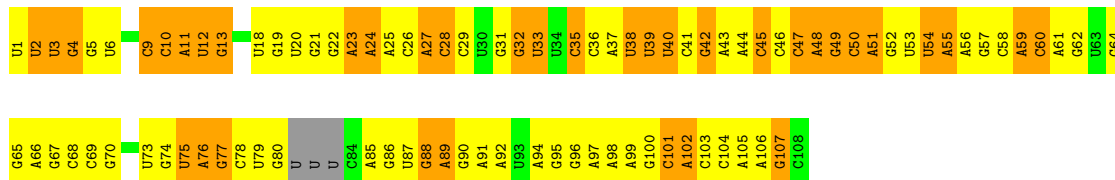
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A1497	C1436	G1375	A1315	G1265	A1195	C1132	G1069	A1009	A948	A885	C822	A767	U694
U1498	A1437	G1376	U1316	A1256	C1133	U1070	U1070	A1010	C949	C891	A823	C772	U695
G1499	G1438	A1377	G1317	G1257	G1197	A1132	G1071	A1011	U950	A887	A824	C773	U696
A1500	U1439	C1378	U1318	C1258	G1198	A1072	A1072	A1012	C951	A888	C825	C774	U697
U1501	G1440	C1379	U1319	A1259	A1199	G1135	A1073	G1013	U952	C889	C826	C775	A698
G1502	G1442	U1380	C1320	U1260	U1200	U1136	A1074	G1014	G953	U890	G827	C776	A699
A1503	A1443	A1381	C1321	U1261	A1201	C1137	G1075	G1015	A954	C892	A828	C777	A701
G1504	C1444	A1382	A1322	G1262	A1202	U1138	U1076	A1016	A955	C893	A829	C778	U702
U1505	U1445	G1383	A1323	G1263	G1203	C1139	G1077	A1017	U956	A894	A830	C779	A703
G1506	G1446	C1384	A1324	U1264	A1204	U1140	C1078	G1018	U957	C895	U831	C780	A704
G1507	U1447	U1385	G1325	G1265	U1205	G1141	U1079	A1019	C958	C896	C832	C781	A705
U1508	U1448	G1386	C1326	G1266	U1206	U1142	A1080	G1020	C959	U896	C833	C782	A706
U1509	G1449	A1387	G1327	A1267	U1207	U1143	A1081	C1021	A960	A897	C783	C783	C707
A1510	G1450	G1388	A1328	U1268	A1208	U1144	A1082	C1022	U961	A898	G836	C772	C708
G1511	A1451	G1389	U1329	C1269	U1209	G1145	A1083	C1023	U962	A899	A837	C772	G709
U1512	G1452	C1390	U1330	C1270	A1210	A1146	C1084	A1024	U963	C901	U838	C773	A710
A1513	U1453	U1391	G1331	A1271	U1211	G1147	A1085	G1025	A964	C900	A839	C774	A711
U1514	G1454	G1392	A1332	A1272	C1212	U1148	G1086	A1026	U965	U902	G840	C775	A712
G1515	A1455	A1393	C1333	U1273	U1213	G1149	C1087	U1027	U966	A903	C841	C776	C713
G1517	C1456	A1394	U1334	A1274	A1214	U1150	A1088	C1028	U967	C904	U842	C777	G714
A1518	A1457	A1395	A1335	C1275	G1215	U1151	A1089	A1029	U968	U905	G843	C778	G715
U1519	A1458	A1396	A1336	A1276	U1216	U1152	G1090	U1030	A969	C906	G844	C779	G716
A1520	G1459	G1397	G1337	A1277	G1217	U1154	G1091	U1031	U970	U909	U846	C780	U717
U1521	A1460	C1398	G1338	G1278	G1218	G1155	A1092	A1032	U971	C910	U847	C781	U718
U1522	A1461	G1399	U1339	U1279	U1219	C1156	U1093	A1033	C974	U911	U848	C782	G719
C1523	A1462	U1400	U1340	G1280	A1220	G1157	U1094	A1034	C975	A912	U849	C783	A720
U1524	G1463	A1401	U1341	A1281	G1221	C1158	U1095	A1035	U976	U913	U850	C784	G721
A1525	G1464	G1402	C1342	G1282	A1222	C1159	U1096	A1036	C976	G914	G851	C785	A722
U1526	U1465	G1403	C1343	A1283	G1223	G1160	G1097	A1037	A977	U915	U852	C786	A723
U1527	U1466	C1404	U1344	U1284	G1224	A1161	G1098	G1038	C978	C920	C853	C787	G731
C1528	U1467	G1405	G1345	U1285	A1225	U1162	C1099	G1039	U979	U916	G854	C788	U726
U1529	U1468	A1406	G1346	G1286	G1226	A1163	U1100	U1040	C980	G917	A854	C789	U727
G1530	A1469	G1407	A1347	C1287	C1227	U1164	U1101	C1041	A981	C918	A855	C790	A728
U1533	C1470	G1408	U1348	C1288	G1228	U1165	A1102	C1042	U982	C919	A856	C791	U729
A1534	A1471	A1409	G1349	G1289	U1229	G1166	G1103	C1043	A983	U921	U857	C792	G730
C1535	G1472	A1410	A1350	G1290	U1230	U1167	A1104	C1044	C984	C922	A858	C793	G732
A1536	C1473	C1411	G1351	C1291	G1231	A1168	A1105	A1045	A985	C923	C859	C794	C733
U1537	C1474	A1412	G1352	A1292	U1232	A1169	G1106	A1046	G986	A	C860	C795	A734
G1540	C1475	C1413	G1353	U1293	A1233	C1170	U1107	A1047	C987	C	U861	C796	G735
A1600	A1476	A1414	U1354	G1294	U1234	G1171	U1108	A1048	C988	U	U862	C797	G736
G1602	C1477	A1415	C1355	A1295	U1235	G1172	U1109	U1049	C989	A	U863	C798	U737
A1603	U1478	G1416	G1356	G1296	G1236	G1173	U1110	A1050	C990	A	A864	C799	U738
A1604	A1479	U1418	U1357	U1297	G1237	G1174	A1111	U1051	C991	G928	A865	C800	A740
A1605	A1480	U1419	C1358	A1298	A1238	C1175	U1112	A1052	C992	G929	C866	C801	A741
G1606	U1481	A1420	U1359	A1299	G1239	U1176	U1113	C1053	A993	C930	C867	C802	G742
G1607	U1482	A1421	U1360	C1300	U1240	G1177	G1115	U1054	U994	U931	A806	C803	G743
U1547	G1483	U1422	U1361	G1301	U1241	A1178	U1116	A1055	A995	U932	U807	C804	U744
C1608	G1484	A1423	C1362	C1302	G1242	G1179	U1117	A1056	A996	A933	U808	C805	U745
A1548	A1485	U1424	U1363	U1303	A1243	U1180	U1118	G1057	C997	C934	C871	C806	U746
U1549	U1486	U1425	A1364	U1304	A1244	A1181	A1119	U1058	C998	U939	C872	C807	G747
G1550	U1487	C1426	G1365	G1305	G1245	A1186	A1120	G1059	U999	G936	U874	C808	A747
U1611	U1488	C1427	G1366	G1306	U1246	U1187	A1121	A1060	U1000	U940	G812	C809	G748
A1612	G1489	U1428	G1367	G1307	C1247	C1187	G1122	A1061	C1001	U941	A816	C810	G811
A1613	G1490	G1429	U1368	A1308	A1248	C1188	A1123	A1062	A1002	U942	U879	C811	U749
G1614	U1491	U1430	U1369	G1309	A1249	G1189	A1124	A1063	A1003	U943	A817	C812	A750
G1615	G1492	A1431	A1370	U1310	A1250	A1190	G1125	A1064	U1004	A944	C816	C813	G751
G1616	U1493	G1432	G1371	G1311	G1251	A1191	G1126	G1065	G1005	U945	A818	C814	A752
U1617	U1494	U1433	U1372	A1312	C1252	A1192	C1127	G1066	U1006	U946	A819	C815	A753
A1558	A1495	U1434	C1373	G1313	G1253	U1193	G1128	A1067	C1007	A947	A883	C816	C755





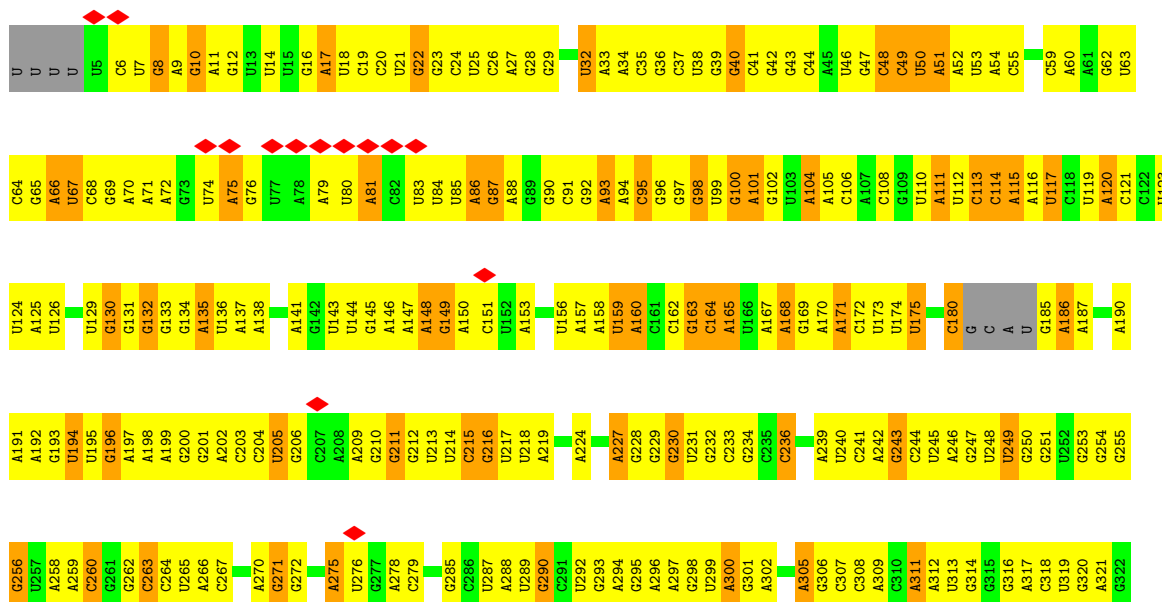
• Molecule 51: 5S ribosomal RNA

Chain 4: 13% 50% 34%

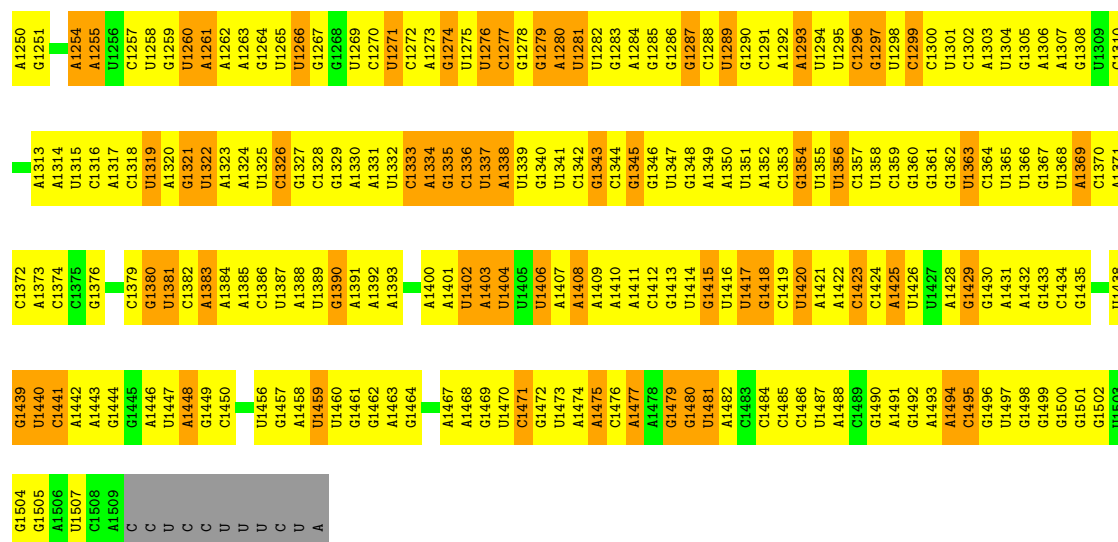


• Molecule 52: 16S ribosomal RNA

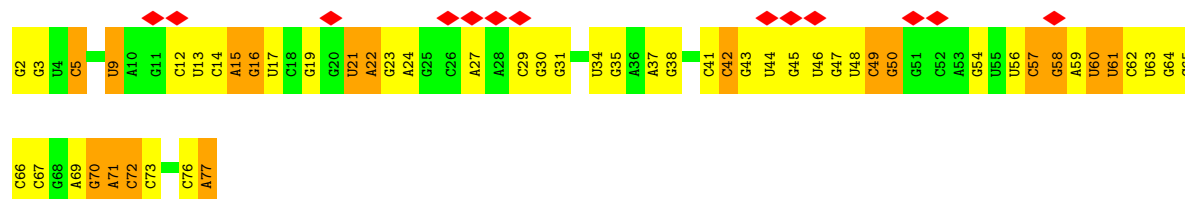
Chain 5: 14% 59% 26%



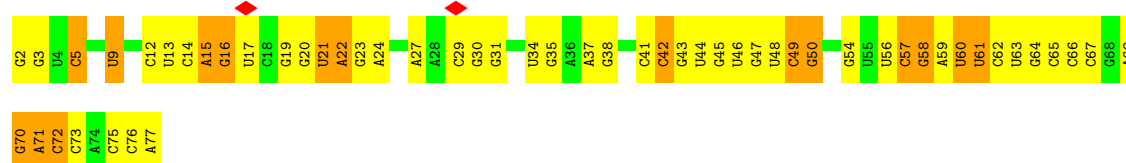
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U1191	G1128	G1065	U1005	C943	G881	A820	A756	C631	A570	C509	A449	U386	C394
C1192	C1129	U1066	A1006	A944	U882	A821	U761	A632	A571	U510	U450	U387	A350
U1193	C1130	C1067	U1007	U945	A883	A822	G762	U633	A572	A511	G451	G388	C396
A1194	A1131	G1068	G1008	G946	G884	C823	A763	G634	C574	U512	U634	A452	G327
G1195	G1132	U1069	G1009	U947	U885	A824	A764	G635	C575	G513	A453	G328	G398
G1196	A1133	U1070	A1010	U948	A886	A825	A765	G636	A576	U514	U454	U394	C329
G1197	C1134	A1071	A1011	G949	C887	A826	A766	A637	A577	U515	U455	C395	C330
C1198	U1072	G1072	A1012	C950	A888	C827	G766	A638	C577	C516	U456	C397	C331
U1199	G1136	A953	A1013	A953	U889	A828	A767	C639	C578	C517	A457	U398	U332
C1200	C1137	U1073	A1014	U954	U890	G829	G768	G640	C579	G518	G458	G398	U333
C1201	U1138	G1075	A1015	A955	C891	U830	G769	U641	C580	G519	C459	C399	A334
A1202	A1139	U1076	A1016	U956	G892	C831	G770	A642	C581	C520	G460	G400	C335
A1203	A1140	U1077	A1017	U957	C893	G832	G771	U643	G882	A521	G461	U401	
C1204	U1141	A957	U1018	C957	A894	G833	G772	U644	G883	G522	C462	G402	
C1205	G1142	G958	G1019	A894	A894	G834	G773	A645	C584	A403	U463	A403	C338
C1206	C1143	A959	A1020	U959	A895	G835	A774	A646	G585	A404	A464	A404	A340
U1207	A1144	C960	A	A960	A897	G836	G775	U647	G586	C405	A465	C405	C341
G1208	A1145	G961	G	A961	A898	C837	G776	G648	A587	G406	U466	G406	G342
C1209	A1146	G962	G	G962	A898	G838	A777	U649		A407	G467	A407	G343
U1210	U1147	U1082	U	U963	A901	A839	A778	A650	G590	U529	G468	U408	G344
A1211	U1148	A1088	U	A964	A902	U839	A779	A651	A591	A530	C469	G409	A345
C1212	G1149	C1089	A	C965	A903	C841	A780	A652	A592	A531	U470	A410	G346
A1213	G1150	A966	A	A966	C904	C842	A781	G653	A593	U532	A471	A411	G347
A1214	A1151	C967	C1028	C967	U905	C843	A782	U654	A594	A533	G472	G412	C348
U1215	G1152	G968	C1029	G968	C906	U844	G783	G655	G595	C534	A473	G413	A349
G1216	G1153	A969	G1030	A969	A907	U845	A784	U656	U596	A535	U414	U414	G350
G1217	A1154	A1093	A1031	A970	A908	G847	A785	G657	C597	U536	U475	C415	C351
C1218	G1155	G1095	A1032	A971	A909	U848	A786	G658	U598	A537	U476	U416	A352
C1219	A1156	A1096	U1033	A972	C910	A849	A787	U659	G599	G538	U477	U417	G353
G1220	G1157	C997	G1034	A973	G911	G850	A788	A660	G600	G539	G478	U418	U354
A1221	A1158	C998	A1035	C974	G912	U851	A789	G661	U601	U540	A479	A419	A355
U1222	A1159	G1099	C1036	C975	U915	G852	A790	G662	G602	C541	A480	A420	G356
C1223	G1160	U976	A1037	U976	U916	A853	A791	G663	U603	G542	U481	G421	G357
A1225	A1163	A1102	G1038	A978	A917	A854	G792	U664	U604	C543	G482	A422	G358
A1226	U1164	C1103	G1039	C979	A918	G855	G793	G665	A605	A544	U483	U423	A359
A1227	G1165	C1104	U1040	C980	C919	U857	A795	U668	A606	G546	A484	U424	A360
C1228	A1166	C1105	G1041	C981	G920	U858	A796	U669	G608	C547	C485	G425	U361
A1229	C1167	U1106	U1042	A982	G921	A859	G797	G670	G609	G548	A487	U426	U362
G1230	G1168	U1107	G1043	G983	G922	A860	A798	G671	C610	U549	U488	A428	U363
U1231	U1169	A1108	G1044	A984	G923	C861	A799	A672	G611	A551	U489	A429	U364
C1232	C1170	U1109	A1045	C985	A924	C862	G800	A673	G612	U552	U490	G430	C366
G1233	A1171	C1110	A1046	U986	C925	U863	A801	U674	C613	C553	U491	U431	A367
C1234	A1172	G1111	U1047	U987	C926	A864	C802	G675	U614	C554	C492	U432	C368
C1235	A1173	U1112	G1048	G988	C927	U865	C803	U676	G615	C554	A493	C433	A369
A1236	U1174	U1113	U1049	G989	C928	A866	A804	C677	C616	G555	A494	U434	A370
G1237	C1175	A1114	U1050	C990	G929	A867	C805	A678	U617	G556	U495	U435	U371
C1238	A1176	G1115	U1051	C991	C930	A868	C806	U679	U618	A557	A496	U436	G372
U1239	U1177	U1116	G1052	A991	A930	G869	A807	G680	A619	U558	A497	U437	A373
U1240	C1178	U1117	U1053	C994	C931	U869	C808	U681	A620	U559	A498	U438	G374
G1241	A1179	A1118	C1054	U995	A932	A870	C809	G682	C621	U560	A499	U439	C375
U1242	U1180	C1119	G1055	U996	A933	U871	U810	G683	A622	A561	U499	U440	G376
A1243	G1181	A1120	U1056	G997	G934	C872	A811	A684	G623	U562	A501	A377	U441
U1244	C1182	U1121	C1057	G998	U935	U873	G748	G685	U624	G563	C502	G442	A378
A1245	U1185	U1122	A1058	C999	G937	C874	A812	G686	U625	G564	G503	G443	A379
A1246	C1186	G1123	G1059	U999	U938	G875	C814	G687	G626	G565	A504	G444	A445
G1247	U1187	U1124	C1060	A1000	G939	C876		G688	A627	G566	C505	A446	A446
A1248	A1188	C1125	U1061	A1001	G940	C877	U817	G689	A628	C567	U506	A447	U382
G1249	U1189	U1126	G1063	G1003	A941	G879	A818	A692	U629	G568	A507	G447	G384



• Molecule 53: tRNA-Phe



• Molecule 53: tRNA-Phe



4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	1119	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	3.2	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3750	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.743	Depositor
Minimum map value	-0.278	Depositor
Average map value	0.015	Depositor
Map value standard deviation	0.069	Depositor
Recommended contour level	0.22	Depositor
Map size (Å)	435.328, 435.328, 435.328	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.7005, 1.7005, 1.7005	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	0	0.16	0/383	0.47	0/504
2	1	0.15	0/484	0.43	0/637
3	2	0.15	0/306	0.48	0/401
4	A	0.17	0/1954	0.43	0/2642
5	B	0.15	0/1721	0.44	0/2323
6	C	0.16	0/1691	0.44	0/2267
7	D	0.17	0/1188	0.40	0/1593
8	E	0.20	0/1384	0.44	0/1867
9	F	0.17	0/1266	0.53	2/1700 (0.1%)
10	G	0.16	0/1126	0.46	0/1517
11	H	0.18	0/1044	0.55	0/1395
12	I	0.17	0/820	0.43	0/1103
13	J	0.17	0/844	0.44	0/1136
14	K	0.25	0/1094	0.54	0/1468
15	L	0.16	0/962	0.44	0/1289
16	M	0.17	0/483	0.45	0/643
17	N	0.16	0/679	0.42	0/907
18	O	0.16	0/659	0.45	0/885
19	P	0.14	0/684	0.40	0/913
20	Q	0.17	0/545	0.44	0/730
21	R	0.27	0/698	0.59	0/936
22	S	0.16	0/631	0.42	0/838
23	T	0.14	0/475	0.38	0/621
24	a	0.18	0/2267	0.46	0/3044
25	b	0.16	0/1795	0.45	1/2412 (0.0%)
26	c	0.16	0/1671	0.42	0/2246
27	d	0.16	0/1409	0.43	0/1894
28	e	0.17	0/1420	0.45	0/1912
29	f	0.25	0/1205	0.59	2/1616 (0.1%)
30	g	0.36	0/969	0.75	0/1295
31	h	0.19	0/968	0.49	1/1298 (0.1%)
32	i	0.16	0/1186	0.41	0/1592
33	j	0.15	0/953	0.44	0/1275
34	k	0.17	0/1170	0.48	0/1559

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	l	0.15	0/1104	0.38	0/1481
36	m	0.16	0/973	0.44	0/1309
37	n	0.16	0/897	0.47	0/1198
38	o	0.15	0/948	0.47	0/1262
39	p	0.18	0/961	0.44	0/1278
40	q	0.18	0/828	0.48	0/1111
41	r	0.17	0/1077	0.46	0/1441
42	s	0.15	0/732	0.46	0/988
43	t	0.18	0/879	0.51	1/1165 (0.1%)
44	u	0.15	0/665	0.42	0/884
45	v	0.27	0/519	0.54	0/695
46	w	0.15	0/826	0.42	0/1104
47	x	0.15	0/353	0.52	1/474 (0.2%)
48	y	0.29	0/457	0.63	0/601
49	z	0.14	0/412	0.48	0/547
50	3	0.13	0/69073	0.32	0/107710
51	4	0.13	0/2505	0.35	0/3902
52	5	0.12	0/35768	0.30	0/55764
53	7	0.14	0/1808	0.33	0/2817
53	8	0.14	0/1808	0.33	0/2817
All	All	0.15	0/158727	0.36	8/237006 (0.0%)

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	F	11	VAL	CA-C-N	8.77	132.94	120.49
9	F	11	VAL	C-N-CA	8.77	132.94	120.49
25	b	147	VAL	N-CA-C	-6.33	106.96	113.10
43	t	87	GLY	N-CA-C	6.26	118.47	110.20
29	f	10	SER	N-CA-C	-5.84	105.93	114.39
31	h	74	ILE	N-CA-C	-5.75	106.70	113.42
47	x	27	SER	N-CA-C	-5.30	108.57	114.62
29	f	7	GLN	N-CA-CB	5.01	118.95	110.49

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	380	0	429	20	0
2	1	477	0	530	25	0
3	2	304	0	350	30	0
4	A	1921	0	1973	78	0
5	B	1698	0	1768	76	0
6	C	1660	0	1719	116	0
7	D	1173	0	1267	37	0
8	E	1362	0	1377	66	0
9	F	1246	0	1308	55	0
10	G	1110	0	1226	59	0
11	H	1028	0	1094	61	0
12	I	809	0	894	59	0
13	J	829	0	855	55	0
14	K	1076	0	1170	63	0
15	L	951	0	1014	57	0
16	M	474	0	509	34	0
17	N	673	0	730	25	0
18	O	646	0	677	38	0
19	P	675	0	728	34	0
20	Q	535	0	562	33	0
21	R	682	0	691	52	0
22	S	629	0	681	41	0
23	T	471	0	522	9	0
24	a	2225	0	2301	134	0
25	b	1762	0	1808	98	0
26	c	1644	0	1731	102	0
27	d	1388	0	1469	78	0
28	e	1396	0	1481	62	0
29	f	1182	0	1228	150	0
30	g	960	0	1014	66	0
31	h	959	0	1039	51	0
32	i	1164	0	1192	50	0
33	j	944	0	1019	51	0
34	k	1153	0	1256	81	0
35	l	1079	0	1134	60	0
36	m	958	0	1011	66	0
37	n	889	0	952	58	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	o	938	0	1008	46	0
39	p	947	0	1028	62	0
40	q	811	0	858	31	0
41	r	1068	0	1150	60	0
42	s	720	0	803	23	0
43	t	872	0	972	45	0
44	u	657	0	695	33	0
45	v	513	0	560	48	0
46	w	818	0	870	36	0
47	x	344	0	333	16	0
48	y	452	0	472	27	0
49	z	408	0	440	29	0
50	3	61664	0	30954	2986	0
51	4	2239	0	1137	100	0
52	5	31943	0	16058	1607	0
53	7	1618	0	821	37	0
53	8	1618	0	821	43	0
All	All	146142	0	99689	6419	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 27.

All (6419) 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)
29:f:2:LYS:CE	29:f:5:LEU:HA	1.16	1.62
29:f:4:ILE:HG21	29:f:16:PHE:CE1	1.52	1.44
29:f:3:VAL:CG2	45:v:62:ASN:CG	1.93	1.40
29:f:4:ILE:CG2	29:f:16:PHE:CD1	2.08	1.37
29:f:4:ILE:CG2	29:f:16:PHE:CE1	2.08	1.36
29:f:4:ILE:CD1	29:f:50:PHE:CE2	2.09	1.33
29:f:11:ASN:ND2	29:f:27:ILE:CD1	1.93	1.31
29:f:11:ASN:ND2	29:f:27:ILE:HG13	1.46	1.29
29:f:2:LYS:CE	29:f:5:LEU:CA	2.10	1.29
29:f:2:LYS:NZ	29:f:5:LEU:HA	1.47	1.25
29:f:5:LEU:HD12	29:f:15:ARG:C	1.61	1.25
29:f:11:ASN:ND2	29:f:27:ILE:CG1	1.99	1.25
29:f:2:LYS:HE2	29:f:5:LEU:HA	1.22	1.21
29:f:4:ILE:HD13	29:f:50:PHE:CE2	1.70	1.21
29:f:3:VAL:HG23	45:v:62:ASN:OD1	1.39	1.21
29:f:2:LYS:HZ3	29:f:5:LEU:CD2	1.53	1.20

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:3:VAL:HG21	45:v:62:ASN:CB	1.71	1.18
29:f:4:ILE:HD13	29:f:50:PHE:CD2	1.77	1.18
29:f:11:ASN:HD21	29:f:27:ILE:CD1	1.55	1.16
29:f:5:LEU:HD12	29:f:15:ARG:CA	1.66	1.15
50:3:1944:A:N6	50:3:1971:G:H21	1.45	1.12
50:3:1762:A:H61	50:3:2702:G:N2	1.48	1.12
29:f:5:LEU:CD2	29:f:14:LYS:HG3	1.78	1.11
29:f:2:LYS:NZ	29:f:5:LEU:CA	2.13	1.10
29:f:2:LYS:CE	29:f:5:LEU:HD23	1.82	1.10
50:3:1085:A:N6	50:3:1144:C:C2	2.19	1.10
50:3:335:G:N2	50:3:350:C:C2	2.18	1.10
29:f:2:LYS:NZ	29:f:5:LEU:CD2	2.15	1.09
29:f:11:ASN:CG	29:f:27:ILE:HD11	1.76	1.09
29:f:5:LEU:HD21	29:f:14:LYS:HG3	1.28	1.08
29:f:4:ILE:HG23	29:f:16:PHE:CD1	1.76	1.08
29:f:2:LYS:HE3	29:f:5:LEU:HA	1.29	1.07
50:3:1944:A:H61	50:3:1971:G:N2	1.53	1.06
29:f:4:ILE:HG23	29:f:16:PHE:HD1	1.10	1.05
29:f:3:VAL:CG2	45:v:62:ASN:OD1	1.94	1.05
29:f:2:LYS:HZ3	29:f:5:LEU:CB	1.70	1.03
29:f:3:VAL:HG22	45:v:62:ASN:CG	1.81	1.03
52:5:1106:U:H3	52:5:1160:G:H1	1.05	1.02
50:3:1762:A:N6	50:3:2702:G:H21	1.56	1.02
50:3:2335:A:N6	50:3:2396:A:C2	2.26	1.01
52:5:1077:U:H3	52:5:1090:G:H1	1.02	1.01
50:3:2335:A:N6	50:3:2396:A:H2	1.59	1.00
50:3:2755:G:H21	50:3:2765:A:N6	1.59	1.00
29:f:2:LYS:NZ	29:f:5:LEU:HD23	1.77	0.99
50:3:308:A:N1	50:3:397:G:C6	2.30	0.99
50:3:2755:G:N2	50:3:2765:A:H62	1.59	0.98
52:5:833:G:H1	52:5:844:U:H3	0.99	0.97
29:f:3:VAL:CG2	45:v:62:ASN:CB	2.37	0.97
29:f:11:ASN:ND2	29:f:27:ILE:HD11	1.72	0.96
50:3:80:U:H3	50:3:109:G:H1	0.96	0.96
29:f:5:LEU:CD1	29:f:15:ARG:CA	2.42	0.95
52:5:1389:U:H3	52:5:1461:G:H1	1.01	0.95
29:f:11:ASN:HD21	29:f:27:ILE:HD12	1.27	0.95
52:5:133:G:H21	52:5:1422:A:H1'	1.31	0.95
52:5:1213:A:N6	52:5:1275:U:C2	2.35	0.94
29:f:2:LYS:HE2	29:f:5:LEU:CA	1.86	0.94
29:f:4:ILE:HG22	29:f:16:PHE:CD1	2.02	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1136:G:O6	52:5:1151:A:C6	2.21	0.94
29:f:5:LEU:HD21	29:f:14:LYS:CG	1.98	0.94
50:3:2534:G:H1	50:3:2545:U:H3	1.06	0.94
50:3:1040:U:H1'	50:3:1046:A:H2'	1.50	0.93
50:3:137:U:H3	50:3:146:G:H1	1.16	0.93
50:3:675:U:H3	50:3:685:G:H1	0.94	0.93
15:L:119:LYS:HD3	53:7:42:C:H5'	1.48	0.93
52:5:590:G:O6	52:5:644:U:C4	2.22	0.93
29:f:11:ASN:HD22	29:f:27:ILE:HG13	1.09	0.92
50:3:67:C:N4	50:3:92:U:H3	1.67	0.92
50:3:900:G:N2	50:3:903:A:N6	2.16	0.92
50:3:2516:G:H1	50:3:2588:U:H3	1.03	0.92
16:M:29:ARG:HG3	52:5:1177:U:H4'	1.52	0.92
50:3:900:G:N2	50:3:903:A:C6	2.38	0.92
50:3:2143:G:H1	50:3:2162:U:H3	0.92	0.92
52:5:655:G:O6	52:5:744:U:C2	2.24	0.91
29:f:4:ILE:HG21	29:f:16:PHE:HE1	0.78	0.91
50:3:2090:G:H1	50:3:2244:U:H3	1.18	0.91
29:f:4:ILE:CG2	29:f:16:PHE:HD1	1.65	0.91
30:g:40:ILE:HD12	30:g:99:VAL:HG11	1.51	0.90
52:5:779:A:H62	52:5:797:G:N2	1.68	0.90
44:u:86:PHE:O	44:u:92:LYS:HB2	1.71	0.90
50:3:2299:U:H3	50:3:2349:G:H1	1.20	0.90
52:5:1136:G:C6	52:5:1151:A:N1	2.39	0.90
52:5:1477:A:N7	52:5:1480:G:C6	2.40	0.90
50:3:2755:G:H21	50:3:2765:A:H62	1.00	0.89
52:5:660:A:H61	52:5:739:G:H1	1.18	0.89
30:g:29:TYR:HD1	30:g:29:TYR:H	1.15	0.89
52:5:1287:G:H1	52:5:1298:U:H3	1.14	0.88
50:3:1509:U:H3	50:3:1530:G:H1	0.93	0.88
29:f:4:ILE:CD1	29:f:50:PHE:CD2	2.47	0.88
27:d:148:ARG:HH11	27:d:150:ARG:HD3	1.39	0.88
50:3:1070:U:H3	50:3:1155:G:H1	0.88	0.88
50:3:1086:G:O6	50:3:1143:U:O2	1.92	0.88
50:3:2156:G:H2'	50:3:2157:A:C8	2.09	0.88
27:d:132:ILE:O	27:d:151:GLY:HA3	1.73	0.87
50:3:1086:G:O6	50:3:1143:U:C2	2.28	0.87
29:f:3:VAL:HG21	45:v:62:ASN:HB3	1.56	0.87
52:5:598:U:H3	52:5:635:G:H1	0.87	0.87
50:3:314:G:N2	50:3:394:C:O2	2.07	0.87
50:3:335:G:N2	50:3:350:C:O2	2.08	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2483:C:H42	50:3:2537:G:N2	1.71	0.86
52:5:63:U:H3	52:5:90:G:H1	1.23	0.86
50:3:1039:G:N2	50:3:1046:A:O2'	2.08	0.86
52:5:779:A:H62	52:5:797:G:H21	0.91	0.86
29:f:5:LEU:CD1	29:f:15:ARG:C	2.48	0.86
32:i:37:ASP:HB3	32:i:42:LYS:HG3	1.58	0.86
50:3:476:G:H21	50:3:649:A:N6	1.74	0.85
34:k:67:ASN:H	50:3:2423:G:H4'	1.41	0.85
50:3:534:U:H3	50:3:538:A:H62	1.18	0.85
29:f:2:LYS:NZ	29:f:5:LEU:CB	2.36	0.85
29:f:2:LYS:HZ3	29:f:5:LEU:CG	1.89	0.85
8:E:86:LEU:HB2	20:Q:96:LEU:HD21	1.58	0.85
50:3:2595:A:H62	50:3:2615:G:N2	1.75	0.85
52:5:1006:A:N7	52:5:1016:A:N6	2.23	0.85
50:3:2483:C:N4	50:3:2537:G:H22	1.73	0.85
50:3:2293:C:H42	50:3:2392:U:H3	1.23	0.85
50:3:2359:G:H2'	50:3:2373:G:H22	1.41	0.85
12:I:59:ARG:HE	12:I:69:GLU:HB3	1.42	0.85
31:h:108:LYS:HA	31:h:111:ASP:HB3	1.59	0.84
50:3:1027:U:H3	50:3:1198:G:H1	0.86	0.84
29:f:4:ILE:HD12	29:f:50:PHE:CE2	2.10	0.84
29:f:11:ASN:ND2	29:f:34:LYS:CD	2.41	0.84
40:q:86:ARG:NH2	50:3:1254:U:OP2	2.10	0.84
50:3:865:A:N6	50:3:2453:G:N3	2.26	0.84
50:3:24:U:H2'	50:3:25:G:H8	1.39	0.84
50:3:1336:A:H61	50:3:1642:G:H1	1.20	0.84
9:F:44:GLY:HA3	9:F:116:LEU:HD22	1.58	0.84
34:k:61:ARG:HH12	50:3:2436:G:H21	1.25	0.84
50:3:1242:G:N2	50:3:1267:A:H62	1.76	0.84
50:3:2458:A:N6	50:3:2509:C:C2	2.45	0.84
50:3:2595:A:N6	50:3:2615:G:H21	1.76	0.84
50:3:82:G:N2	50:3:328:A:O2'	2.11	0.83
52:5:253:G:H1	52:5:265:U:H3	0.86	0.83
50:3:67:C:H42	50:3:92:U:H3	1.24	0.83
9:F:37:LEU:HD12	52:5:1215:U:H4'	1.59	0.83
50:3:37:G:C6	50:3:482:G:N2	2.45	0.83
52:5:879:G:H2'	52:5:880:G:H8	1.42	0.83
52:5:97:G:H5'	52:5:385:A:H4'	1.61	0.83
52:5:413:G:N2	52:5:538:G:O2'	2.11	0.83
50:3:1914:G:H1	50:3:1930:U:H3	0.88	0.83
52:5:136:U:H3	52:5:157:A:H62	1.20	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:144:U:O2	52:5:149:G:N2	2.11	0.83
42:s:42:LEU:HD22	50:3:146:G:H4'	1.61	0.82
52:5:499:U:H3	52:5:542:G:H1	1.27	0.82
29:f:2:LYS:HZ3	29:f:5:LEU:HD22	1.44	0.82
50:3:844:G:H4'	50:3:1283:A:H5'	1.60	0.82
11:H:117:LYS:H	11:H:120:LEU:HD12	1.43	0.82
6:C:54:LEU:HD13	52:5:542:G:H4'	1.62	0.82
52:5:684:A:H62	52:5:700:G:H21	1.27	0.82
52:5:779:A:N6	52:5:797:G:H21	1.75	0.82
48:y:52:ARG:HH12	48:y:56:ALA:HB2	1.44	0.82
50:3:900:G:C2	50:3:903:A:N6	2.48	0.82
6:C:36:GLY:H	52:5:423:U:H4'	1.45	0.81
3:2:1:MET:N	50:3:2534:G:N3	2.28	0.81
22:S:71:ARG:NH2	52:5:256:G:N7	2.27	0.81
29:f:2:LYS:HA	29:f:36:ALA:HB2	1.62	0.81
37:n:12:HIS:NE2	37:n:32:VAL:O	2.14	0.81
39:p:27:ARG:HB3	39:p:37:THR:HG21	1.62	0.81
52:5:288:A:O2'	52:5:607:A:N6	2.13	0.81
52:5:1196:G:H2'	52:5:1197:G:H8	1.46	0.81
52:5:1438:U:H2'	52:5:1439:G:H8	1.44	0.81
50:3:55:A:N6	50:3:118:G:O2'	2.11	0.81
50:3:1536:C:N4	50:3:1537:A:N6	2.29	0.81
52:5:590:G:N1	52:5:644:U:C2	2.48	0.81
50:3:1737:G:H2'	50:3:1738:G:C8	2.16	0.81
50:3:1884:A:H2'	50:3:1885:G:H8	1.44	0.81
6:C:19:LEU:HB2	6:C:23:LYS:HB2	1.61	0.80
50:3:1697:C:H4'	50:3:2694:A:H4'	1.61	0.80
52:5:1222:U:O2	52:5:1264:G:O6	1.99	0.80
50:3:1380:U:H2'	50:3:1406:A:H62	1.45	0.80
50:3:1672:C:O2	50:3:2706:U:O2'	1.97	0.80
36:m:18:VAL:HG11	50:3:2698:U:H3	1.46	0.80
52:5:1408:A:N6	52:5:1442:A:O2'	2.15	0.80
21:R:86:ASN:HB2	52:5:950:C:H5'	1.63	0.80
45:v:18:ARG:HE	45:v:21:SER:HB3	1.47	0.80
50:3:1762:A:H61	50:3:2702:G:H21	0.81	0.80
50:3:1944:A:H61	50:3:1971:G:H21	0.82	0.80
52:5:1075:G:H1'	52:5:1094:C:H41	1.45	0.80
52:5:1136:G:N1	52:5:1151:A:C2	2.50	0.80
2:1:39:ARG:NH2	50:3:2359:G:N7	2.29	0.80
50:3:2304:U:C2	50:3:2343:A:N6	2.49	0.80
50:3:2695:U:H3	50:3:2730:G:H1	0.85	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:772:G:H22	52:5:801:U:H3	1.30	0.80
29:f:5:LEU:HD22	29:f:14:LYS:HG3	1.64	0.79
50:3:2190:G:C6	50:3:2191:G:O6	2.35	0.79
29:f:2:LYS:HD2	29:f:28:HIS:O	1.81	0.79
30:g:29:TYR:N	30:g:29:TYR:CD1	2.48	0.79
50:3:2330:A:H61	50:3:2343:A:H61	1.29	0.79
4:A:91:TYR:HE2	4:A:226:CYS:HB3	1.47	0.79
16:M:2:ALA:HB1	16:M:5:SER:HB2	1.63	0.79
52:5:1320:A:N6	52:5:1350:A:OP2	2.16	0.79
20:Q:84:ARG:HD3	52:5:661:G:H5''	1.64	0.79
50:3:227:A:O2'	50:3:456:G:N2	2.16	0.79
25:b:174:VAL:HG11	50:3:2687:A:H5'	1.64	0.79
50:3:729:U:H3	50:3:803:G:H1	1.31	0.79
52:5:762:G:N2	52:5:810:U:OP2	2.15	0.79
14:K:113:GLY:HA3	52:5:36:G:H4'	1.64	0.79
35:l:32:TYR:HA	35:l:132:LEU:O	1.83	0.79
45:v:35:PRO:HB2	50:3:2208:U:H5''	1.64	0.79
50:3:628:A:H2'	50:3:629:G:H8	1.48	0.79
50:3:746:G:H2'	50:3:747:A:H8	1.47	0.79
50:3:1243:A:H62	50:3:1266:G:H21	1.28	0.79
50:3:2527:U:O2	50:3:2529:C:N4	2.16	0.79
52:5:1225:A:H2'	52:5:1226:A:C8	2.18	0.79
50:3:1974:U:H2'	50:3:1975:G:C8	2.19	0.78
6:C:37:GLN:NE2	52:5:538:G:N3	2.30	0.78
50:3:1085:A:N6	50:3:1144:C:O2	2.17	0.78
52:5:580:C:O2	52:5:756:A:N6	2.16	0.78
12:I:13:LYS:HG2	12:I:79:LEU:HD11	1.64	0.78
50:3:1884:A:H2'	50:3:1885:G:C8	2.18	0.78
52:5:66:A:N1	52:5:201:G:N2	2.27	0.78
52:5:376:G:N2	52:5:379:A:OP2	2.15	0.78
52:5:437:U:O2	52:5:496:A:N6	2.17	0.78
52:5:544:A:H4'	52:5:546:G:H4'	1.65	0.78
52:5:1322:U:O2	52:5:1350:A:N6	2.17	0.78
50:3:340:U:O2'	50:3:1241:U:N3	2.16	0.78
50:3:2638:G:OP2	50:3:2899:C:N4	2.17	0.78
52:5:648:C:N4	52:5:750:A:OP2	2.16	0.78
52:5:1401:A:N1	52:5:1449:G:O6	2.16	0.78
27:d:58:HIS:HB2	27:d:65:PRO:HG3	1.64	0.78
38:o:25:PHE:HB2	38:o:55:ARG:HD2	1.64	0.78
50:3:1461:A:N6	50:3:1594:G:O6	2.14	0.78
32:i:119:ARG:NH2	50:3:564:A:OP2	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:g:26:ILE:HD12	30:g:59:LEU:HD13	1.66	0.77
30:g:38:THR:HG21	31:h:113:ASN:HB2	1.66	0.77
52:5:1224:C:H2'	52:5:1261:A:H62	1.49	0.77
50:3:244:G:H2'	50:3:260:A:H61	1.50	0.77
50:3:638:A:N6	50:3:661:G:C6	2.52	0.77
29:f:4:ILE:HD11	29:f:50:PHE:CE2	2.19	0.77
50:3:2758:A:O2'	50:3:2761:A:N6	2.15	0.77
29:f:11:ASN:ND2	29:f:34:LYS:HD2	1.99	0.77
50:3:1162:A:H61	50:3:2495:A:H2	1.30	0.77
38:o:78:ASN:ND2	50:3:2692:U:OP1	2.17	0.77
50:3:1162:A:N6	50:3:2471:U:O2	2.18	0.77
50:3:1164:A:O2'	50:3:2523:C:O2	2.03	0.77
50:3:1855:A:H61	50:3:1901:C:H1'	1.48	0.77
50:3:1363:C:H2'	50:3:1364:A:C8	2.20	0.77
6:C:7:ILE:HB	6:C:111:ARG:HH12	1.50	0.77
25:b:21:ASN:HB3	33:j:73:ASP:HA	1.65	0.77
50:3:2122:G:N2	50:3:2179:A:H61	1.82	0.77
52:5:702:U:H3'	52:5:703:A:H8	1.49	0.77
52:5:762:G:N1	52:5:809:G:O2'	2.17	0.77
50:3:204:U:O2'	53:8:76:C:N3	2.17	0.77
50:3:1106:G:O2'	50:3:1124:G:OP2	2.02	0.77
50:3:2758:A:HO2'	50:3:2761:A:H61	1.30	0.77
52:5:683:G:N2	52:5:701:A:H62	1.83	0.77
50:3:2747:U:O2	50:3:2772:A:N7	2.18	0.76
52:5:673:A:N1	52:5:711:G:O6	2.17	0.76
9:F:41:ILE:HD12	9:F:116:LEU:HD23	1.65	0.76
14:K:86:ASN:ND2	14:K:88:GLN:OE1	2.19	0.76
50:3:606:G:N2	50:3:2038:A:OP1	2.17	0.76
50:3:2208:U:O2	50:3:2234:C:N4	2.17	0.76
50:3:2466:G:N2	50:3:2501:U:O4	2.18	0.76
4:A:49:ARG:NH2	52:5:842:C:OP1	2.18	0.76
28:e:16:VAL:HA	28:e:28:LYS:O	1.84	0.76
29:f:2:LYS:NZ	29:f:5:LEU:HD22	1.97	0.76
50:3:340:U:HO2'	50:3:1241:U:H3	1.32	0.76
52:5:829:G:H1	52:5:848:U:H3	1.34	0.76
27:d:4:LEU:H	47:x:25:ILE:HD12	1.48	0.76
50:3:2122:G:H21	50:3:2179:A:N6	1.83	0.76
52:5:369:A:H61	52:5:387:G:H1'	1.50	0.76
52:5:1044:G:N2	52:5:1048:G:OP2	2.19	0.76
50:3:2570:U:O2	50:3:2574:A:N7	2.18	0.76
52:5:586:G:O6	52:5:750:A:C8	2.39	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:11:GLU:HG3	12:I:83:VAL:HA	1.68	0.76
50:3:308:A:C2	50:3:397:G:N1	2.54	0.76
50:3:322:A:H2'	50:3:323:A:C8	2.20	0.76
50:3:2110:U:O2	50:3:2194:G:O6	2.04	0.76
1:0:12:ARG:HD2	50:3:721:G:H22	1.50	0.76
10:G:116:ILE:HG12	10:G:137:ILE:HG12	1.68	0.75
29:f:5:LEU:HD12	29:f:15:ARG:HA	1.63	0.75
50:3:1445:U:O2	50:3:1615:G:N2	2.19	0.75
34:k:34:ARG:NH1	34:k:41:ALA:O	2.19	0.75
50:3:1536:C:N4	50:3:1537:A:H62	1.83	0.75
50:3:1806:G:N1	50:3:1826:A:OP2	2.18	0.75
50:3:2483:C:N4	50:3:2537:G:N2	2.32	0.75
52:5:165:A:H61	52:5:198:A:H62	1.34	0.75
9:F:4:ASN:ND2	52:5:1355:U:OP2	2.20	0.75
52:5:659:U:O2	52:5:740:G:O6	2.03	0.75
36:m:14:ARG:NH2	50:3:2009:U:OP1	2.20	0.75
38:o:53:LEU:HB2	38:o:65:ILE:HB	1.68	0.75
49:z:31:LYS:HB2	49:z:48:LYS:HB3	1.69	0.75
52:5:1322:U:H2'	52:5:1323:A:H8	1.49	0.75
5:B:21:ARG:HH11	12:I:23:LEU:HD22	1.51	0.75
52:5:580:C:N3	52:5:756:A:N7	2.34	0.75
31:h:108:LYS:HD3	31:h:124:VAL:HG22	1.68	0.75
36:m:36:LYS:HG3	50:3:1685:G:H4'	1.66	0.75
50:3:2795:C:H2'	50:3:2796:C:C6	2.22	0.75
50:3:1442:G:N2	50:3:1622:C:O2	2.20	0.75
52:5:824:U:H2'	52:5:864:U:H3	1.51	0.75
20:Q:51:ILE:HG12	20:Q:85:HIS:HB3	1.69	0.75
39:p:67:ALA:O	39:p:71:GLN:NE2	2.20	0.75
50:3:1803:U:H3	50:3:1830:G:H1	1.34	0.75
8:E:66:ASN:HB2	52:5:735:C:H5''	1.69	0.74
50:3:2304:U:N3	50:3:2343:A:N6	2.35	0.74
52:5:110:U:O2'	52:5:630:G:N2	2.20	0.74
30:g:54:ILE:HG13	50:3:1119:A:H5'	1.69	0.74
52:5:438:A:N1	52:5:492:G:N2	2.34	0.74
52:5:1058:A:H2'	52:5:1084:A:H4'	1.67	0.74
36:m:65:LYS:HA	50:3:2716:U:H5''	1.69	0.74
37:n:101:ARG:N	51:4:47:C:OP1	2.20	0.74
50:3:2098:U:H1'	50:3:2236:G:H22	1.52	0.74
50:3:2706:U:H2'	50:3:2707:A:C8	2.22	0.74
30:g:29:TYR:HD1	30:g:29:TYR:N	1.85	0.74
50:3:162:G:O2'	50:3:170:A:N6	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1380:U:O2'	50:3:1604:A:N3	2.20	0.74
12:I:46:LEU:HB2	12:I:79:LEU:O	1.87	0.74
29:f:3:VAL:HG21	45:v:62:ASN:CG	1.87	0.74
50:3:840:G:OP2	50:3:841:C:N4	2.20	0.74
11:H:76:GLY:N	52:5:1347:U:OP1	2.19	0.74
18:O:62:THR:HB	52:5:371:U:H5''	1.69	0.74
21:R:70:LYS:HD3	52:5:1293:A:H5''	1.68	0.74
50:3:301:G:H2'	50:3:302:G:C8	2.21	0.74
52:5:959:A:H5''	52:5:1173:A:H5''	1.70	0.74
52:5:1429:G:H2'	52:5:1430:G:H8	1.53	0.74
50:3:733:C:N4	50:3:1459:A:OP1	2.20	0.74
50:3:1608:C:H2'	50:3:1609:U:C6	2.22	0.74
50:3:2139:C:O2'	50:3:2159:U:OP1	2.05	0.74
50:3:2480:G:N2	50:3:2487:U:O4	2.21	0.74
52:5:978:A:OP2	52:5:980:C:N4	2.21	0.74
22:S:10:ARG:NH1	52:5:318:C:O2	2.21	0.74
29:f:2:LYS:HE2	29:f:5:LEU:HD23	1.69	0.74
36:m:106:ARG:NH2	50:3:1354:U:O2	2.21	0.74
50:3:18:G:H2'	50:3:19:G:H8	1.53	0.74
50:3:1861:A:OP2	50:3:1895:G:N2	2.21	0.74
50:3:1999:G:N2	50:3:2003:C:O2	2.21	0.74
45:v:29:TRP:HD1	50:3:2239:U:H5''	1.51	0.73
50:3:2303:U:O2	50:3:2345:G:N2	2.21	0.73
52:5:1237:G:H1	52:5:1248:U:H3	1.35	0.73
29:f:3:VAL:HG23	45:v:62:ASN:CG	1.88	0.73
43:t:90:LYS:N	43:t:103:VAL:O	2.19	0.73
50:3:707:C:H5''	50:3:836:G:H22	1.52	0.73
52:5:1216:G:N2	52:5:1276:U:O2'	2.21	0.73
4:A:145:THR:HG23	52:5:1134:C:H4'	1.69	0.73
50:3:252:G:N3	50:3:2441:A:N6	2.36	0.73
50:3:558:C:O2'	50:3:574:G:N2	2.21	0.73
50:3:1229:U:H2'	50:3:1230:U:C6	2.24	0.73
52:5:503:G:H2'	52:5:504:A:H8	1.53	0.73
7:D:89:SER:HA	7:D:106:ALA:O	1.88	0.73
43:t:68:PRO:HD2	50:3:514:A:H4'	1.70	0.73
43:t:85:THR:HG22	43:t:107:SER:HB2	1.69	0.73
52:5:538:G:H2'	52:5:539:G:C8	2.23	0.73
20:Q:84:ARG:NH1	52:5:721:G:N3	2.35	0.73
27:d:125:ARG:HG3	50:3:2323:U:H1'	1.71	0.73
31:h:90:LYS:HE2	50:3:1112:A:H5''	1.71	0.73
50:3:849:C:O2'	50:3:1255:G:N2	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1396:A:H2'	50:3:1397:G:H8	1.53	0.73
52:5:1393:A:H8	52:5:1457:G:H21	1.36	0.73
50:3:247:U:C2	50:3:259:A:C5	2.76	0.73
28:e:149:THR:HG21	50:3:2753:C:H5'	1.69	0.73
50:3:1345:G:H2'	50:3:1346:G:C8	2.24	0.73
50:3:2843:G:H1	50:3:2882:U:H3	1.34	0.73
52:5:167:A:H61	52:5:196:G:H3'	1.53	0.73
52:5:590:G:C6	52:5:644:U:N3	2.55	0.73
50:3:561:A:H1'	50:3:2050:G:H21	1.53	0.73
50:3:1053:C:H4'	50:3:1155:G:H21	1.54	0.73
52:5:248:U:O2	52:5:271:G:N2	2.22	0.73
50:3:1064:A:N6	50:3:1160:G:O2'	2.22	0.72
52:5:765:A:N3	52:5:1487:U:O2'	2.20	0.72
50:3:740:A:N7	50:3:761:G:N2	2.36	0.72
52:5:136:U:O4	52:5:157:A:N7	2.21	0.72
52:5:671:G:O6	52:5:713:A:N1	2.22	0.72
45:v:56:ARG:NH2	50:3:436:G:N7	2.35	0.72
50:3:275:A:H61	50:3:294:G:H1'	1.54	0.72
50:3:1617:U:H5''	50:3:1618:U:H3'	1.71	0.72
50:3:2332:U:O2'	50:3:2393:C:N4	2.23	0.72
50:3:2706:U:H2'	50:3:2707:A:H8	1.53	0.72
52:5:812:A:O2'	52:5:1501:G:N2	2.22	0.72
50:3:990:G:N2	50:3:999:U:O2	2.18	0.72
50:3:2759:G:OP1	50:3:2759:G:N2	2.22	0.72
50:3:2782:A:H2'	50:3:2783:A:C8	2.25	0.72
5:B:11:ARG:HB2	5:B:15:ASN:HB3	1.70	0.72
6:C:37:GLN:OE1	52:5:414:U:O2'	2.07	0.72
18:O:13:ILE:H	18:O:32:HIS:HA	1.54	0.72
24:a:35:LYS:NZ	50:3:1454:G:OP2	2.21	0.72
49:z:40:ARG:NH1	50:3:2408:G:O2'	2.21	0.72
50:3:1027:U:O4	50:3:1198:G:O6	2.08	0.72
52:5:683:G:H21	52:5:701:A:N6	1.87	0.72
41:r:132:GLN:NE2	50:3:1260:U:O2	2.18	0.72
50:3:476:G:N2	50:3:649:A:N6	2.38	0.72
50:3:2259:G:H2'	50:3:2260:G:C5	2.25	0.72
14:K:127:ARG:HB2	52:5:36:G:H21	1.54	0.72
25:b:85:ARG:NH1	50:3:2645:U:OP1	2.22	0.72
38:o:33:VAL:HG12	38:o:88:ILE:HG13	1.70	0.72
41:r:69:LEU:HB3	41:r:107:LEU:HD22	1.71	0.72
48:y:40:HIS:N	50:3:2888:U:O4	2.16	0.72
50:3:2695:U:O2	50:3:2730:G:N2	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:4:58:C:H2'	51:4:59:A:H8	1.55	0.72
41:r:7:GLN:HB2	41:r:50:LEU:HD22	1.71	0.72
52:5:655:G:C6	52:5:744:U:C2	2.78	0.72
52:5:1367:G:H21	52:5:1477:A:H4'	1.54	0.72
39:p:91:ARG:HD3	40:q:11:GLN:HB2	1.70	0.71
50:3:225:A:N1	50:3:269:A:O2'	2.22	0.71
50:3:600:U:O2'	50:3:2456:A:N6	2.22	0.71
50:3:1371:G:N2	50:3:1433:U:O2	2.22	0.71
50:3:2700:C:H2'	50:3:2701:A:H8	1.54	0.71
50:3:61:U:O2	50:3:70:G:N2	2.21	0.71
50:3:2706:U:H3	50:3:2717:G:H1	1.37	0.71
52:5:1407:A:O2'	52:5:1442:A:N6	2.22	0.71
50:3:230:G:H21	50:3:232:A:H8	1.38	0.71
52:5:1136:G:C6	52:5:1151:A:C2	2.79	0.71
52:5:1477:A:C8	52:5:1480:G:N1	2.57	0.71
24:a:48:ASN:OD1	50:3:1819:G:N2	2.21	0.71
26:c:166:THR:HA	26:c:169:GLU:HG2	1.72	0.71
28:e:125:THR:HG1	28:e:137:SER:HG	1.30	0.71
34:k:68:ALA:O	50:3:2422:G:N2	2.20	0.71
50:3:80:U:O4	50:3:109:G:O6	2.09	0.71
50:3:1999:G:N2	50:3:2003:C:C2	2.57	0.71
52:5:250:G:H2'	52:5:251:G:H8	1.55	0.71
52:5:428:A:H3'	52:5:429:A:H8	1.55	0.71
8:E:147:GLU:OE2	10:G:68:ARG:NH1	2.24	0.71
14:K:96:ARG:NH2	52:5:549:U:O2	2.23	0.71
50:3:242:G:N2	50:3:657:A:O2'	2.20	0.71
8:E:86:LEU:HD22	20:Q:96:LEU:HD11	1.71	0.71
49:z:38:CYS:SG	49:z:47:HIS:NE2	2.61	0.71
50:3:822:C:OP1	50:3:1787:A:N6	2.24	0.71
52:5:754:U:O2'	52:5:873:U:O2	2.09	0.71
4:A:210:LEU:HD12	4:A:211:VAL:HG13	1.72	0.71
35:l:82:ARG:NH1	50:3:2505:A:N7	2.39	0.71
52:5:68:C:H2'	52:5:69:G:C8	2.25	0.71
52:5:1056:U:H1'	52:5:1057:C:H5	1.55	0.71
24:a:112:PRO:HD2	24:a:115:ILE:HD11	1.72	0.71
50:3:865:A:H62	50:3:2452:G:N2	1.89	0.71
52:5:706:U:H2'	52:5:707:G:H8	1.55	0.71
8:E:89:ASN:ND2	52:5:735:C:OP1	2.24	0.71
18:O:19:ARG:NH1	52:5:121:C:N3	2.38	0.71
50:3:1476:C:H2'	50:3:1477:A:H8	1.55	0.71
50:3:1814:G:H2'	50:3:1815:U:H2'	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2597:A:N6	50:3:2614:U:O4	2.24	0.71
50:3:2727:G:H22	50:3:2876:G:H22	1.36	0.71
50:3:2305:C:H3'	50:3:2326:G:H22	1.56	0.71
52:5:920:G:O2'	52:5:1480:G:N2	2.22	0.71
3:2:35:ARG:NH1	50:3:2749:A:O2'	2.23	0.70
5:B:77:LEU:HD13	5:B:106:ILE:HG23	1.73	0.70
12:I:39:ASP:OD1	12:I:86:ASN:ND2	2.24	0.70
38:o:95:LYS:HG2	38:o:116:GLU:HB3	1.73	0.70
52:5:938:U:H2'	52:5:939:G:H8	1.56	0.70
52:5:1193:U:H2'	52:5:1194:A:C8	2.26	0.70
24:a:78:ASN:O	29:f:85:ASN:ND2	2.23	0.70
29:f:2:LYS:HE2	29:f:5:LEU:N	2.06	0.70
29:f:68:LEU:HD11	29:f:134:THR:HB	1.73	0.70
34:k:83:ASN:OD1	34:k:118:THR:OG1	2.09	0.70
50:3:1406:A:O2'	50:3:1408:G:N7	2.24	0.70
52:5:582:G:O6	52:5:754:U:C4	2.45	0.70
24:a:92:ARG:HE	24:a:162:ARG:NH2	1.89	0.70
25:b:114:SER:HB2	25:b:172:GLU:H	1.56	0.70
52:5:19:C:HO2'	52:5:1069:U:H3	1.39	0.70
8:E:77:ASN:HB3	52:5:669:U:H4'	1.73	0.70
13:J:34:VAL:O	52:5:681:U:O2'	2.09	0.70
26:c:144:MET:HG3	26:c:174:ASN:HD22	1.56	0.70
29:f:3:VAL:CG2	45:v:62:ASN:HB3	2.16	0.70
50:3:2589:G:N2	50:3:2589:G:OP2	2.24	0.70
52:5:203:C:H2'	52:5:204:C:H6	1.56	0.70
52:5:660:A:N6	52:5:739:G:H1	1.87	0.70
50:3:898:A:O2'	51:4:76:A:N3	2.23	0.70
52:5:858:A:O2'	52:5:1069:U:O4	2.09	0.70
52:5:950:C:O2	52:5:1200:G:N2	2.24	0.70
4:A:35:ARG:NH2	4:A:48:GLU:O	2.24	0.70
17:N:23:GLN:NE2	17:N:77:ASN:OD1	2.24	0.70
50:3:1137:C:H2'	50:3:1138:A:H8	1.54	0.70
50:3:1845:C:O2	50:3:1908:A:N6	2.24	0.70
52:5:206:G:N2	52:5:209:A:OP2	2.23	0.70
52:5:684:A:H62	52:5:700:G:N2	1.89	0.70
52:5:1133:A:H61	52:5:1153:G:H21	1.40	0.70
53:7:29:C:H2'	53:7:30:G:H8	1.56	0.70
29:f:3:VAL:HG21	45:v:62:ASN:HB2	1.73	0.70
39:p:23:SER:HB3	39:p:28:HIS:HB3	1.73	0.70
22:S:53:ARG:NH1	52:5:198:A:OP1	2.25	0.70
35:l:123:HIS:HD2	50:3:1065:G:H4'	1.57	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:t:41:LYS:HD2	43:t:64:GLN:HB3	1.73	0.70
50:3:301:G:H2'	50:3:302:G:H8	1.56	0.70
22:S:11:LEU:HD12	22:S:14:ASN:HD21	1.56	0.70
25:b:111:SER:HB2	25:b:173:LYS:HD2	1.74	0.70
27:d:39:GLY:O	27:d:148:ARG:NH1	2.25	0.70
28:e:81:GLY:HA2	28:e:85:GLY:HA2	1.73	0.70
29:f:3:VAL:C	29:f:20:ASP:OD2	2.34	0.70
29:f:4:ILE:CA	29:f:20:ASP:OD2	2.40	0.70
52:5:864:U:H5''	52:5:865:U:H3'	1.73	0.70
52:5:1406:U:N3	52:5:1444:G:N1	2.40	0.70
53:8:29:C:H2'	53:8:30:G:H8	1.56	0.70
22:S:77:ASN:ND2	52:5:173:U:OP1	2.24	0.70
50:3:1858:U:O2	50:3:1898:G:N2	2.24	0.70
7:D:152:LYS:O	7:D:179:TYR:HB2	1.91	0.69
43:t:106:LYS:NZ	50:3:368:C:O2'	2.25	0.69
49:z:39:SER:HG	50:3:2356:U:HO2'	1.37	0.69
50:3:992:G:O2'	50:3:995:A:N6	2.21	0.69
29:f:4:ILE:CD1	29:f:50:PHE:HE2	2.00	0.69
29:f:32:PRO:HD2	29:f:111:PHE:HB2	1.73	0.69
31:h:112:LEU:HG	31:h:114:ALA:H	1.56	0.69
39:p:50:ARG:NH2	50:3:1029:A:OP2	2.21	0.69
50:3:612:G:O2'	50:3:2026:A:OP1	2.07	0.69
50:3:674:G:H2'	50:3:675:U:C6	2.26	0.69
50:3:1814:G:N2	50:3:1817:A:OP2	2.25	0.69
52:5:163:G:H4'	52:5:1423:C:H4'	1.74	0.69
11:H:101:LYS:HA	11:H:106:THR:HB	1.74	0.69
50:3:1236:G:H2'	50:3:1237:G:C8	2.27	0.69
50:3:2093:U:H2'	50:3:2094:A:C8	2.28	0.69
52:5:715:A:OP1	52:5:717:C:N4	2.25	0.69
52:5:1136:G:C6	52:5:1151:A:C6	2.78	0.69
13:J:41:GLY:HA2	13:J:45:PHE:HB2	1.73	0.69
25:b:8:GLY:O	25:b:205:VAL:HB	1.92	0.69
34:k:34:ARG:NH2	50:3:845:U:O4	2.25	0.69
50:3:339:U:H2'	50:3:340:U:C6	2.28	0.69
50:3:746:G:H2'	50:3:747:A:C8	2.27	0.69
50:3:2595:A:N6	50:3:2615:G:N2	2.38	0.69
52:5:205:U:O2	52:5:210:G:N2	2.23	0.69
52:5:1382:C:H2'	52:5:1383:A:H8	1.56	0.69
45:v:18:ARG:NH2	45:v:23:THR:O	2.25	0.69
50:3:340:U:H3'	50:3:341:G:C8	2.28	0.69
50:3:442:G:N2	50:3:457:U:O2	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1354:U:OP1	50:3:1355:C:N4	2.24	0.69
52:5:412:G:O6	52:5:424:U:O4	2.11	0.69
52:5:1076:U:H5''	52:5:1077:U:H5	1.57	0.69
1:0:5:TYR:OH	1:0:12:ARG:NH1	2.26	0.69
22:S:21:ASN:ND2	52:5:319:U:OP1	2.25	0.69
50:3:1168:A:HO2'	50:3:2033:G:HO2'	1.38	0.69
50:3:1363:C:H2'	50:3:1364:A:H8	1.56	0.69
50:3:2208:U:O4	50:3:2232:G:N2	2.26	0.69
50:3:2760:C:H2'	50:3:2761:A:C4	2.28	0.69
52:5:1210:U:O2'	52:5:1279:G:OP1	2.11	0.69
19:P:13:VAL:HG13	19:P:61:VAL:HG21	1.75	0.69
24:a:268:ARG:HA	50:3:1810:A:H5''	1.75	0.69
50:3:28:G:N3	50:3:550:A:N6	2.40	0.69
50:3:214:C:H2'	50:3:215:A:C8	2.27	0.69
50:3:476:G:N2	50:3:649:A:C6	2.60	0.69
50:3:1629:U:H2'	50:3:1630:A:H8	1.57	0.69
50:3:1766:A:H5'	50:3:2722:G:H21	1.56	0.69
50:3:1772:G:N2	50:3:1994:U:O2	2.25	0.69
50:3:2069:A:O2'	50:3:2070:C:O4'	2.11	0.69
52:5:254:G:H2'	52:5:255:G:C8	2.27	0.69
52:5:787:A:N6	53:8:38:G:O2'	2.26	0.69
52:5:1236:A:H4'	52:5:1259:G:H5'	1.74	0.69
21:R:34:TRP:HB2	21:R:52:HIS:HB2	1.75	0.69
24:a:270:MET:HA	24:a:275:THR:HG21	1.74	0.69
27:d:153:ASP:OD2	50:3:2312:G:N2	2.25	0.69
32:i:11:GLN:HA	50:3:573:A:H4'	1.73	0.69
44:u:24:THR:OG1	50:3:2263:G:N2	2.25	0.69
50:3:2070:C:O2	53:7:77:A:H5'	1.91	0.69
52:5:1379:C:O2	52:5:1494:A:O2'	2.10	0.69
5:B:184:ASP:OD1	5:B:217:ARG:NH2	2.26	0.69
50:3:748:G:N2	50:3:754:U:O4	2.26	0.69
50:3:1070:U:O4	50:3:1155:G:O6	2.11	0.69
50:3:1960:A:O2'	50:3:2557:G:N2	2.26	0.69
16:M:14:PRO:HA	16:M:19:ARG:HB2	1.74	0.68
52:5:512:U:H2'	52:5:513:G:C8	2.28	0.68
7:D:67:GLU:HG3	7:D:69:ARG:HG2	1.75	0.68
14:K:127:ARG:NH2	52:5:499:U:OP1	2.25	0.68
49:z:39:SER:HA	49:z:42:ARG:HD2	1.74	0.68
50:3:2461:A:H2'	50:3:2462:G:C8	2.28	0.68
51:4:91:A:H2'	51:4:92:A:H8	1.57	0.68
52:5:10:G:O6	52:5:556:G:O2'	2.09	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:515:G:N2	52:5:527:G:O3'	2.26	0.68
52:5:688:G:H4'	52:5:794:C:H4'	1.74	0.68
5:B:70:TYR:HD1	5:B:107:ASN:HB2	1.58	0.68
38:o:22:VAL:HG22	38:o:88:ILE:HB	1.74	0.68
50:3:1858:U:H3	50:3:1898:G:H1	1.40	0.68
50:3:2575:G:H2'	50:3:2576:A:C8	2.29	0.68
50:3:2747:U:N3	50:3:2772:A:C8	2.60	0.68
52:5:1376:G:O6	52:5:1479:G:N2	2.26	0.68
21:R:39:THR:OG1	21:R:70:LYS:NZ	2.18	0.68
40:q:83:TYR:HH	50:3:1199:A:HO2'	1.42	0.68
44:u:48:GLY:O	50:3:2361:G:N2	2.27	0.68
50:3:231:A:H62	50:3:446:A:H1'	1.57	0.68
50:3:1766:A:O2'	50:3:2720:C:OP1	2.12	0.68
18:O:22:ARG:NE	52:5:371:U:O2	2.22	0.68
24:a:251:ARG:HG3	24:a:255:ARG:HD2	1.74	0.68
26:c:140:THR:H	50:3:355:A:H5''	1.58	0.68
47:x:28:THR:HG23	47:x:30:LYS:H	1.58	0.68
50:3:803:G:N2	50:3:1407:U:O2'	2.26	0.68
50:3:1391:U:O2'	50:3:1816:A:N3	2.27	0.68
50:3:2649:G:H2'	50:3:2650:A:C8	2.29	0.68
50:3:2705:G:H2'	50:3:2706:U:C6	2.28	0.68
13:J:32:GLY:O	52:5:680:G:N2	2.26	0.68
50:3:352:C:H2'	50:3:353:G:H8	1.58	0.68
50:3:711:A:N7	50:3:838:U:O2	2.25	0.68
52:5:197:A:H1'	52:5:219:A:H5'	1.76	0.68
52:5:986:U:H1'	52:5:988:G:H8	1.58	0.68
39:p:54:ARG:HD3	50:3:1190:A:H5''	1.76	0.68
24:a:248:PRO:HD2	50:3:2603:G:H1	1.57	0.68
50:3:342:G:N2	50:3:363:G:O2'	2.25	0.68
50:3:1504:G:H21	50:3:1591:C:H4'	1.59	0.68
50:3:1605:A:H2'	50:3:1606:A:H8	1.59	0.68
52:5:962:G:N2	53:8:34:U:OP2	2.27	0.68
52:5:1107:U:H2'	52:5:1108:A:C4	2.28	0.68
4:A:129:LYS:NZ	52:5:1095:G:O5'	2.25	0.68
8:E:97:LEU:HG	8:E:99:SER:H	1.58	0.68
27:d:123:ASP:OD1	50:3:2322:G:N2	2.27	0.68
40:q:60:GLU:HB3	40:q:91:LYS:HG2	1.75	0.68
41:r:114:ARG:HB3	50:3:556:U:H5'	1.75	0.68
50:3:23:A:H2'	50:3:24:U:C6	2.28	0.68
50:3:137:U:O2	50:3:146:G:N2	2.27	0.68
50:3:733:C:O2'	50:3:769:A:N6	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:823:A:OP1	50:3:826:C:N4	2.26	0.68
50:3:1217:G:H2'	50:3:1218:G:C8	2.29	0.68
52:5:325:A:OP2	52:5:329:C:N4	2.26	0.68
52:5:656:U:H2'	52:5:657:G:C8	2.29	0.68
13:J:21:ASN:ND2	52:5:688:G:O5'	2.27	0.68
13:J:102:GLU:OE1	13:J:104:ASN:ND2	2.23	0.68
50:3:851:U:HO2'	50:3:1201:A:HO2'	1.35	0.68
50:3:2063:G:H2'	50:3:2064:G:C8	2.29	0.68
50:3:2189:U:H2'	50:3:2190:G:C8	2.29	0.68
50:3:2819:C:H2'	50:3:2820:G:H8	1.58	0.68
52:5:1211:A:O2'	52:5:1277:C:O2	2.11	0.68
52:5:1330:A:H2'	52:5:1331:A:C8	2.29	0.68
50:3:1358:C:H2'	50:3:1359:C:C6	2.28	0.67
50:3:1451:A:H2'	50:3:1452:G:C8	2.29	0.67
52:5:853:A:H61	52:5:864:U:H5	1.41	0.67
15:L:29:ARG:HE	52:5:1302:C:H4'	1.60	0.67
15:L:90:ARG:HH12	52:5:1200:G:H5''	1.59	0.67
25:b:40:LYS:NZ	50:3:2643:A:O2'	2.27	0.67
26:c:58:VAL:HG12	26:c:80:ARG:HB2	1.75	0.67
50:3:186:A:C2	50:3:219:G:N1	2.62	0.67
50:3:957:G:N2	50:3:2277:A:O5'	2.27	0.67
50:3:2304:U:O4	50:3:2343:A:N7	2.26	0.67
50:3:2819:C:H2'	50:3:2820:G:C8	2.30	0.67
52:5:1017:A:O2'	52:5:1018:U:O5'	2.12	0.67
52:5:1406:U:O2	52:5:1444:G:N2	2.28	0.67
4:A:35:ARG:HB3	52:5:828:U:H5''	1.76	0.67
6:C:55:GLN:NE2	52:5:508:A:OP1	2.27	0.67
13:J:115:LYS:O	52:5:775:G:O2'	2.11	0.67
24:a:61:ARG:NH1	50:3:1823:U:OP1	2.27	0.67
49:z:25:VAL:HG12	49:z:29:PRO:HA	1.76	0.67
50:3:37:G:H2'	50:3:38:G:H8	1.58	0.67
50:3:286:A:N3	50:3:287:G:N2	2.42	0.67
50:3:561:A:O2'	50:3:2050:G:N3	2.26	0.67
50:3:1355:C:H2'	50:3:1356:G:C8	2.29	0.67
52:5:502:C:H2'	52:5:509:C:C6	2.28	0.67
17:N:3:ILE:HG12	17:N:35:GLN:HG2	1.76	0.67
50:3:2853:U:OP2	50:3:2871:G:N2	2.28	0.67
9:F:35:LYS:O	9:F:39:GLN:N	2.26	0.67
29:f:22:LYS:HE2	45:v:59:LYS:HE3	1.76	0.67
36:m:94:PRO:O	50:3:2843:G:N2	2.27	0.67
44:u:28:ARG:O	50:3:2286:A:N6	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:20:C:O2'	50:3:587:U:OP1	2.11	0.67
50:3:534:U:H3	50:3:538:A:N6	1.90	0.67
50:3:1737:G:HO2'	52:5:1404:U:HO2'	1.43	0.67
50:3:1857:G:O3'	53:8:5:C:O2'	2.10	0.67
52:5:778:A:OP2	52:5:797:G:N1	2.27	0.67
25:b:212:LYS:HD3	50:3:2740:U:H5'	1.77	0.67
36:m:24:ALA:HB3	36:m:31:ILE:HD11	1.74	0.67
46:w:15:LEU:HD23	46:w:58:LEU:HD13	1.75	0.67
47:x:5:PHE:N	51:4:38:U:O4	2.27	0.67
50:3:141:A:N6	50:3:1628:G:N3	2.43	0.67
50:3:534:U:O4	50:3:538:A:N7	2.27	0.67
50:3:633:G:O6	50:3:692:U:O4	2.12	0.67
50:3:865:A:OP1	50:3:2073:C:O2'	2.11	0.67
50:3:879:U:O4	50:3:968:U:O2'	2.12	0.67
52:5:358:G:N1	52:5:361:U:OP2	2.23	0.67
52:5:593:A:O2'	52:5:637:A:N6	2.26	0.67
52:5:710:G:H2'	52:5:711:G:C8	2.28	0.67
9:F:11:VAL:HG11	52:5:1349:A:H5'	1.77	0.67
12:I:68:ARG:NH1	52:5:970:A:N1	2.43	0.67
50:3:2655:U:O2	50:3:2681:G:N2	2.27	0.67
51:4:31:G:H2'	51:4:32:G:C8	2.30	0.67
50:3:1742:C:O2	50:3:2864:A:O2'	2.13	0.67
52:5:720:U:O3'	52:5:829:G:N2	2.28	0.67
9:F:2:ARG:HH12	52:5:926:C:H3'	1.60	0.67
27:d:54:LEU:HD22	27:d:65:PRO:HB2	1.77	0.67
31:h:77:LYS:NZ	50:3:1098:G:O3'	2.27	0.67
31:h:108:LYS:NZ	50:3:1094:G:O2'	2.21	0.67
50:3:225:A:N7	50:3:463:U:O2	2.28	0.67
50:3:895:G:H1'	50:3:953:G:H1	1.60	0.67
50:3:1375:G:OP1	50:3:1410:A:N6	2.28	0.67
50:3:1446:G:N1	50:3:1612:U:OP2	2.28	0.67
50:3:2206:A:O2'	50:3:2207:A:N7	2.26	0.67
52:5:393:A:N7	52:5:545:A:O2'	2.23	0.67
29:f:11:ASN:OD1	29:f:27:ILE:HD11	1.95	0.67
31:h:119:ALA:HB1	50:3:1116:U:H4'	1.75	0.67
41:r:42:LYS:HB2	50:3:2017:G:H5''	1.77	0.67
50:3:864:A:H8	50:3:2255:A:H4'	1.60	0.67
12:I:14:ILE:HD11	12:I:104:LEU:HD12	1.76	0.66
27:d:35:VAL:HG22	27:d:90:THR:HG23	1.77	0.66
29:f:2:LYS:CD	29:f:5:LEU:HD23	2.24	0.66
34:k:84:LYS:NZ	50:3:662:U:O2	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:77:ASN:OD1	50:3:25:G:N2	2.26	0.66
50:3:2090:G:N2	50:3:2244:U:O2	2.28	0.66
50:3:2486:A:O2'	50:3:2536:U:O2'	2.12	0.66
13:J:25:VAL:HG13	13:J:63:VAL:HG11	1.77	0.66
37:n:39:ILE:H	37:n:61:LYS:HE3	1.60	0.66
50:3:716:G:H1	50:3:831:U:H3	1.43	0.66
50:3:1430:U:O2'	50:3:1496:A:N6	2.26	0.66
50:3:1557:G:O2'	50:3:1573:A:N6	2.29	0.66
51:4:76:A:N7	51:4:88:G:O2'	2.27	0.66
52:5:492:G:O2'	52:5:494:A:OP1	2.12	0.66
52:5:581:A:H3'	52:5:582:G:H8	1.60	0.66
52:5:954:A:H1'	52:5:979:C:H1'	1.76	0.66
52:5:1077:U:O4	52:5:1090:G:O6	2.13	0.66
6:C:1:MET:HB2	52:5:544:A:C5	2.30	0.66
13:J:64:ALA:HB1	13:J:68:LYS:HE2	1.77	0.66
29:f:2:LYS:HZ1	29:f:5:LEU:CA	2.04	0.66
50:3:714:G:H2'	50:3:715:G:C8	2.30	0.66
52:5:499:U:O2	52:5:542:G:N2	2.27	0.66
15:L:101:ARG:NH2	15:L:105:ASN:OD1	2.29	0.66
26:c:161:VAL:HG11	26:c:164:LEU:HD13	1.77	0.66
34:k:77:TRP:NE1	50:3:672:G:O6	2.25	0.66
46:w:48:ARG:NH1	50:3:76:A:OP2	2.28	0.66
49:z:5:ARG:NH2	50:3:2291:U:OP1	2.28	0.66
50:3:714:G:H2'	50:3:715:G:H8	1.59	0.66
50:3:1096:U:O2	50:3:1105:A:O2'	2.13	0.66
50:3:2328:A:O2'	50:3:2331:G:O6	2.14	0.66
50:3:2494:C:H2'	50:3:2495:A:C8	2.30	0.66
52:5:590:G:C6	52:5:644:U:C4	2.83	0.66
52:5:607:A:O2'	52:5:623:G:OP2	2.13	0.66
52:5:997:G:N2	52:5:1029:C:O2	2.24	0.66
9:F:2:ARG:NH1	52:5:927:C:OP2	2.28	0.66
14:K:20:LYS:HB3	14:K:107:ARG:HD2	1.78	0.66
50:3:202:C:O2	50:3:2442:A:N6	2.26	0.66
50:3:1943:A:N3	50:3:1947:U:N3	2.43	0.66
52:5:1180:U:H2'	52:5:1181:G:H8	1.59	0.66
52:5:1477:A:H5'	52:5:1479:G:N7	2.10	0.66
3:2:22:ILE:HD12	50:3:1159:C:H5'	1.75	0.66
48:y:55:LYS:HG2	48:y:57:TYR:H	1.61	0.66
50:3:355:A:O2'	50:3:374:A:N3	2.26	0.66
50:3:2480:G:H2'	50:3:2486:A:H61	1.59	0.66
52:5:582:G:N1	52:5:754:U:N3	2.44	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1056:U:O2	52:5:1057:C:N4	2.28	0.66
52:5:1390:G:H2'	52:5:1391:A:H8	1.61	0.66
12:I:78:ARG:HH11	52:5:1127:A:HI'	1.61	0.66
33:j:58:LEU:HD11	33:j:86:LEU:HD13	1.76	0.66
42:s:26:LYS:HG2	42:s:84:THR:HG22	1.76	0.66
43:t:3:ARG:HB3	43:t:71:LEU:HD12	1.78	0.66
50:3:1141:U:H2'	50:3:1142:G:C8	2.31	0.66
50:3:1158:C:H2'	50:3:1159:C:C6	2.30	0.66
50:3:1521:A:H2'	50:3:1523:C:H41	1.59	0.66
50:3:1670:U:HO2'	50:3:1767:A:HO2'	1.31	0.66
50:3:2701:A:H2'	50:3:2702:G:C8	2.31	0.66
26:c:105:LYS:N	50:3:640:U:OP1	2.29	0.66
26:c:143:MET:HG2	26:c:171:SER:HB3	1.77	0.66
27:d:113:ASP:O	27:d:115:ARG:NH2	2.28	0.66
41:r:58:ALA:HB1	41:r:64:MET:HB2	1.76	0.66
50:3:308:A:N1	50:3:397:G:O6	2.28	0.66
50:3:325:G:O6	50:3:383:U:C4	2.48	0.66
50:3:768:G:H3'	50:3:796:A:H61	1.61	0.66
50:3:1238:A:H2'	50:3:1239:G:C8	2.31	0.66
52:5:672:A:H2'	52:5:673:A:H8	1.61	0.66
52:5:989:A:C5	52:5:1191:U:H4'	2.30	0.66
5:B:155:LEU:HD11	5:B:202:LYS:HE2	1.78	0.66
50:3:258:G:H4'	50:3:422:A:H4'	1.76	0.66
50:3:601:U:O2'	50:3:981:A:N6	2.29	0.66
50:3:2122:G:HO2'	50:3:2175:U:HO2'	1.42	0.66
50:3:2307:G:O6	50:3:2325:U:O2	2.14	0.66
52:5:85:U:O2	52:5:86:A:N6	2.20	0.66
52:5:293:G:O6	52:5:297:A:N6	2.29	0.66
52:5:527:G:HO2'	52:5:531:A:N6	1.94	0.66
3:2:33:LYS:HD2	50:3:2535:C:H5'	1.78	0.66
5:B:14:ILE:HG21	5:B:181:LEU:HD22	1.78	0.66
36:m:5:ASN:OD1	50:3:1652:A:N6	2.29	0.66
48:y:12:ARG:HD3	50:3:2624:C:H5'	1.78	0.66
50:3:454:G:H2'	50:3:455:G:H8	1.61	0.66
50:3:1168:A:O2'	50:3:2033:G:O2'	2.12	0.66
50:3:1396:A:H2'	50:3:1397:G:C8	2.30	0.66
50:3:1735:A:H5''	50:3:1772:G:H5''	1.77	0.66
50:3:2684:G:H2'	50:3:2685:A:C8	2.30	0.66
52:5:661:G:N2	52:5:723:C:O2'	2.26	0.66
52:5:718:A:N6	52:5:730:G:O2'	2.29	0.66
52:5:833:G:O6	52:5:844:U:O4	2.14	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:929:C:O2'	52:5:1318:C:OP2	2.13	0.66
5:B:6:ASN:ND2	16:M:49:TYR:O	2.29	0.65
6:C:114:ARG:NH2	52:5:400:G:OP2	2.30	0.65
7:D:150:LEU:HD11	7:D:152:LYS:HZ3	1.60	0.65
28:e:57:ARG:HE	28:e:60:GLU:HA	1.61	0.65
31:h:13:ASN:HB3	50:3:1096:U:H2'	1.77	0.65
50:3:1481:U:OP2	50:3:1485:A:N6	2.29	0.65
50:3:2458:A:H2'	50:3:2459:A:C8	2.31	0.65
52:5:63:U:O2'	52:5:375:C:O2	2.14	0.65
4:A:234:ASP:HB3	4:A:244:THR:HG23	1.78	0.65
31:h:112:LEU:HB2	31:h:123:MET:HE2	1.78	0.65
43:t:91:TYR:N	50:3:332:G:OP1	2.30	0.65
50:3:609:U:H2'	50:3:610:G:C8	2.32	0.65
50:3:653:G:H2'	50:3:654:G:H8	1.60	0.65
50:3:1230:U:H2'	50:3:1231:G:C8	2.31	0.65
50:3:1609:U:H2'	50:3:1610:U:H6	1.60	0.65
52:5:644:U:N3	52:5:645:A:N7	2.44	0.65
9:F:15:PRO:HG3	11:H:52:GLN:HA	1.78	0.65
11:H:87:ARG:HA	11:H:90:LEU:HD12	1.77	0.65
45:v:27:ARG:NH1	45:v:28:LYS:O	2.29	0.65
50:3:202:C:H4'	50:3:2251:U:H4'	1.78	0.65
50:3:1902:C:H2'	50:3:1903:A:C8	2.31	0.65
50:3:2259:G:N1	50:3:2458:A:O2'	2.28	0.65
50:3:2781:C:H2'	50:3:2782:A:C4	2.32	0.65
52:5:366:C:H2'	52:5:367:A:C8	2.31	0.65
52:5:1297:G:H2'	52:5:1298:U:O4'	1.97	0.65
8:E:97:LEU:HD23	8:E:100:ILE:HB	1.78	0.65
26:c:187:SER:OG	50:3:650:G:N2	2.21	0.65
36:m:22:VAL:HG12	36:m:41:THR:HG23	1.76	0.65
50:3:28:G:H4'	50:3:1290:G:H4'	1.79	0.65
50:3:408:G:O2'	50:3:460:G:OP1	2.14	0.65
52:5:104:A:O2'	52:5:236:C:N4	2.30	0.65
52:5:157:A:H2'	52:5:158:A:C8	2.31	0.65
52:5:656:U:H2'	52:5:657:G:H8	1.59	0.65
50:3:188:G:O2'	50:3:221:A:N3	2.29	0.65
50:3:1778:G:H2'	50:3:1779:G:C8	2.32	0.65
50:3:2614:U:H2'	50:3:2615:G:C8	2.32	0.65
52:5:111:A:H5''	52:5:603:U:H1'	1.78	0.65
52:5:351:C:H1'	52:5:384:G:H1'	1.77	0.65
10:G:23:ASN:ND2	52:5:869:U:O2'	2.28	0.65
29:f:2:LYS:HZ3	29:f:5:LEU:HB3	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:2:LYS:HE3	29:f:4:ILE:O	1.97	0.65
50:3:861:U:O4	50:3:864:A:N6	2.30	0.65
50:3:993:A:C4	50:3:2467:A:H1'	2.32	0.65
50:3:2703:U:H3	50:3:2722:G:H1	1.44	0.65
52:5:22:G:N3	52:5:908:A:N6	2.45	0.65
14:K:34:LYS:NZ	52:5:51:A:OP2	2.24	0.65
31:h:130:GLN:HB3	50:3:1123:A:N6	2.12	0.65
38:o:55:ARG:NH2	50:3:2849:G:OP1	2.30	0.65
50:3:1218:G:N2	50:3:1219:U:O4	2.28	0.65
50:3:1541:A:O2'	50:3:1590:U:O2	2.14	0.65
50:3:1718:C:H2'	50:3:1719:C:C6	2.32	0.65
50:3:2104:A:H2'	50:3:2105:G:C8	2.31	0.65
6:C:31:ARG:HB2	6:C:33:THR:HG23	1.78	0.65
7:D:91:LEU:HD21	7:D:192:ILE:HD12	1.79	0.65
29:f:94:THR:HA	29:f:97:ILE:HG12	1.79	0.65
36:m:7:PRO:HB3	50:3:1303:U:H4'	1.79	0.65
38:o:63:THR:HG22	38:o:80:GLN:HG3	1.77	0.65
50:3:542:A:H4'	50:3:544:U:H5''	1.77	0.65
50:3:2306:A:N6	50:3:2326:G:O2'	2.29	0.65
50:3:2822:C:H2'	50:3:2823:A:C8	2.32	0.65
52:5:98:G:N3	52:5:349:A:O2'	2.25	0.65
52:5:683:G:N2	52:5:701:A:N6	2.44	0.65
52:5:1196:G:H2'	52:5:1197:G:C8	2.28	0.65
52:5:1438:U:H2'	52:5:1439:G:C8	2.29	0.65
13:J:8:ASN:ND2	13:J:70:MET:SD	2.70	0.65
34:k:34:ARG:NH2	50:3:844:G:O6	2.30	0.65
39:p:39:ILE:HG22	39:p:43:LYS:HE2	1.79	0.65
50:3:210:U:H2'	50:3:211:A:H8	1.60	0.65
50:3:1478:U:H2'	50:3:1479:A:C8	2.32	0.65
50:3:2688:C:N3	50:3:2736:U:O4	2.30	0.65
52:5:1009:G:N2	52:5:1012:A:OP2	2.28	0.65
2:1:43:LYS:NZ	50:3:2358:U:OP1	2.29	0.65
25:b:177:GLN:O	50:3:2738:U:O2'	2.15	0.65
33:j:7:ARG:HH12	50:3:1701:G:H3'	1.62	0.65
50:3:1093:U:H3	50:3:1115:G:H1	1.42	0.65
50:3:1790:U:H3	50:3:2596:A:H1'	1.63	0.65
50:3:1885:G:H2'	50:3:1886:C:C6	2.32	0.65
50:3:2859:U:H2'	50:3:2860:A:H8	1.62	0.65
52:5:599:G:N2	52:5:634:U:O2	2.28	0.65
52:5:721:G:H2'	52:5:722:G:C8	2.31	0.65
29:f:11:ASN:ND2	29:f:34:LYS:CE	2.60	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:107:ARG:HE	50:3:1314:A:H4'	1.61	0.64
39:p:68:LEU:O	39:p:72:GLY:N	2.29	0.64
48:y:55:LYS:HE2	48:y:57:TYR:HB3	1.79	0.64
50:3:628:A:H2'	50:3:629:G:C8	2.30	0.64
50:3:2795:C:H2'	50:3:2796:C:H6	1.59	0.64
52:5:687:G:H21	52:5:694:U:H5	1.45	0.64
52:5:1106:U:O4	52:5:1160:G:O6	2.15	0.64
3:2:24:ARG:NH1	50:3:2750:A:OP1	2.30	0.64
5:B:17:ASN:OD1	5:B:21:ARG:NH2	2.30	0.64
6:C:56:GLU:OE2	6:C:192:ASN:N	2.22	0.64
16:M:14:PRO:HB3	16:M:19:ARG:H	1.63	0.64
25:b:56:THR:O	38:o:3:LYS:NZ	2.30	0.64
46:w:67:GLU:OE1	46:w:69:GLN:NE2	2.29	0.64
47:x:6:HIS:HD2	47:x:7:PHE:HD1	1.45	0.64
50:3:511:U:H3'	50:3:512:G:C8	2.32	0.64
50:3:855:A:OP2	50:3:1009:A:N6	2.27	0.64
50:3:1158:C:H2'	50:3:1159:C:H6	1.62	0.64
50:3:2101:A:H1'	50:3:2206:A:H61	1.61	0.64
50:3:2117:G:OP1	50:3:2150:C:O2'	2.14	0.64
50:3:2383:G:N2	50:3:2386:A:OP2	2.30	0.64
52:5:658:G:O2'	52:5:834:G:OP1	2.14	0.64
52:5:680:G:N2	52:5:704:U:O2	2.30	0.64
33:j:5:MET:HB2	50:3:1703:A:C8	2.31	0.64
35:l:67:ARG:NE	35:l:105:GLU:OE2	2.30	0.64
50:3:523:A:H3'	50:3:524:G:H8	1.62	0.64
50:3:2107:A:H2'	50:3:2108:C:C6	2.32	0.64
50:3:2726:G:H2'	50:3:2727:G:H8	1.62	0.64
52:5:1331:A:N1	52:5:1340:G:O6	2.30	0.64
5:B:80:SER:OG	5:B:83:LYS:NZ	2.29	0.64
11:H:125:ARG:HB2	52:5:1323:A:H5''	1.79	0.64
28:e:128:VAL:HG22	28:e:134:ILE:HG12	1.79	0.64
50:3:359:G:H2'	50:3:360:G:C8	2.32	0.64
50:3:481:C:H2'	50:3:482:G:H5'	1.80	0.64
50:3:2531:C:O2	50:3:2772:A:O2'	2.16	0.64
53:8:29:C:H2'	53:8:30:G:C8	2.33	0.64
4:A:146:LYS:HD2	4:A:149:ASN:HD21	1.62	0.64
6:C:132:PRO:HD2	52:5:399:C:H5''	1.79	0.64
14:K:94:LEU:HB2	14:K:115:LEU:HB2	1.79	0.64
25:b:19:THR:OG1	25:b:222:LEU:O	2.16	0.64
28:e:92:LEU:HG	28:e:97:TYR:HB3	1.78	0.64
28:e:151:VAL:HG22	28:e:165:VAL:HG21	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:194:A:N7	50:3:210:U:O2	2.31	0.64
50:3:496:A:N3	50:3:506:A:N6	2.46	0.64
50:3:2509:C:H4'	50:3:2511:A:H4'	1.79	0.64
50:3:2609:C:H2'	50:3:2611:G:C8	2.33	0.64
52:5:317:A:H2'	52:5:318:C:C6	2.33	0.64
52:5:403:A:H2'	52:5:404:A:C8	2.33	0.64
52:5:455:U:O2	52:5:472:G:N2	2.24	0.64
52:5:590:G:N1	52:5:644:U:N3	2.46	0.64
52:5:945:U:OP1	52:5:1199:U:N3	2.24	0.64
18:O:35:PRO:O	52:5:447:G:O2'	2.10	0.64
30:g:62:ALA:O	30:g:66:GLY:N	2.30	0.64
33:j:63:VAL:HG23	33:j:64:ARG:HG3	1.79	0.64
50:3:242:G:H21	50:3:657:A:HO2'	1.46	0.64
50:3:609:U:H2'	50:3:610:G:H8	1.63	0.64
50:3:1519:A:H3'	50:3:1520:A:H8	1.61	0.64
50:3:2293:C:N4	50:3:2392:U:H3	1.93	0.64
50:3:2458:A:C6	50:3:2509:C:C2	2.85	0.64
6:C:13:ARG:HH11	6:C:34:ILE:HD12	1.62	0.64
9:F:21:LEU:HD22	9:F:96:ILE:HG21	1.80	0.64
9:F:37:LEU:HD23	52:5:1264:G:H5''	1.80	0.64
30:g:17:LEU:HD11	30:g:86:VAL:HG11	1.79	0.64
37:n:39:ILE:HD13	37:n:101:ARG:HB3	1.80	0.64
50:3:24:U:H2'	50:3:25:G:C8	2.27	0.64
50:3:1254:U:H2'	50:3:1255:G:C4	2.33	0.64
50:3:1476:C:H2'	50:3:1477:A:C8	2.32	0.64
50:3:2704:U:H2'	50:3:2705:G:C8	2.32	0.64
52:5:605:A:H2'	52:5:606:A:H8	1.63	0.64
52:5:768:G:H1'	52:5:893:C:H42	1.62	0.64
52:5:1330:A:H2'	52:5:1331:A:H8	1.61	0.64
22:S:73:VAL:HG11	52:5:172:C:H4'	1.78	0.64
29:f:11:ASN:HD21	29:f:27:ILE:CG1	1.87	0.64
29:f:115:ASP:HB3	29:f:126:ILE:HD11	1.79	0.64
33:j:80:ASP:HB2	38:o:74:PRO:HG2	1.80	0.64
38:o:83:ASN:HB3	38:o:86:ILE:HG13	1.79	0.64
50:3:864:A:O2'	50:3:2256:C:OP1	2.15	0.64
50:3:1737:G:H2'	50:3:1738:G:H8	1.63	0.64
50:3:1944:A:N6	50:3:1971:G:N2	2.26	0.64
50:3:2238:G:H2'	50:3:2239:U:H6	1.61	0.64
52:5:892:G:N2	52:5:895:A:OP2	2.25	0.64
13:J:115:LYS:HD2	52:5:775:G:H21	1.61	0.64
41:r:124:LEU:HB3	41:r:128:ARG:HH21	1.61	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:841:C:H5'	50:3:865:A:H1'	1.80	0.64
50:3:1454:G:O2'	50:3:1606:A:N6	2.30	0.64
52:5:670:G:H2'	52:5:671:G:C8	2.33	0.64
52:5:1130:G:H2'	52:5:1131:A:C8	2.33	0.64
24:a:263:MET:HE1	50:3:1831:G:H21	1.62	0.64
35:l:42:ILE:HD12	35:l:97:VAL:HG21	1.80	0.64
50:3:142:A:N3	50:3:1436:C:O2'	2.28	0.64
50:3:2299:U:O2	50:3:2349:G:N2	2.24	0.64
50:3:2552:G:H2'	50:3:2553:G:C8	2.32	0.64
52:5:1191:U:H2'	52:5:1192:C:H6	1.62	0.64
7:D:148:ARG:HB2	7:D:183:LEU:HB2	1.79	0.63
29:f:11:ASN:CG	29:f:27:ILE:CD1	2.50	0.63
41:r:82:MET:HB2	41:r:98:LYS:HB2	1.80	0.63
50:3:816:A:H2'	50:3:1784:U:H1'	1.80	0.63
50:3:1203:G:N1	50:3:1213:U:N3	2.45	0.63
50:3:2616:G:H5''	50:3:2617:U:H5'	1.79	0.63
52:5:765:A:H4'	52:5:1498:G:H21	1.62	0.63
10:G:20:THR:HG22	52:5:870:A:H1'	1.79	0.63
10:G:136:GLU:OE2	52:5:595:G:N2	2.30	0.63
23:T:28:LEU:HD13	52:5:715:A:H8	1.64	0.63
26:c:175:ILE:HG23	26:c:177:ASN:H	1.62	0.63
30:g:56:ASN:HD22	50:3:1142:G:H4'	1.64	0.63
41:r:58:ALA:HA	41:r:62:HIS:HB2	1.79	0.63
50:3:247:U:C4	50:3:259:A:C8	2.87	0.63
50:3:322:A:H2'	50:3:323:A:H8	1.63	0.63
50:3:2126:A:N6	50:3:2176:G:O2'	2.31	0.63
50:3:2758:A:HO2'	50:3:2761:A:N6	1.95	0.63
52:5:164:C:N4	52:5:197:A:OP1	2.32	0.63
7:D:72:LYS:HB3	7:D:91:LEU:HB3	1.78	0.63
10:G:16:ALA:O	10:G:20:THR:HG23	1.98	0.63
11:H:119:GLY:N	52:5:1342:C:OP1	2.32	0.63
12:I:16:LEU:HD11	12:I:31:ILE:HD12	1.79	0.63
13:J:111:HIS:HD2	52:5:671:G:H21	1.47	0.63
26:c:75:ARG:NH1	50:3:842:U:O2	2.30	0.63
28:e:62:LYS:HG3	28:e:63:GLN:H	1.63	0.63
32:i:42:LYS:HA	39:p:66:ALA:HB1	1.79	0.63
33:j:29:ARG:HD2	50:3:2555:U:H4'	1.80	0.63
43:t:41:LYS:HG3	43:t:64:GLN:HE21	1.62	0.63
50:3:300:G:H2'	50:3:301:G:C8	2.34	0.63
50:3:405:C:H2'	50:3:406:C:C6	2.34	0.63
50:3:1166:G:O2'	50:3:1168:A:N7	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:649:U:N3	52:5:750:A:C5	2.66	0.63
52:5:763:A:OP2	52:5:809:G:N2	2.29	0.63
2:1:36:LYS:NZ	50:3:2373:G:N7	2.43	0.63
6:C:118:ASN:ND2	52:5:436:U:O4	2.32	0.63
31:h:10:ALA:HB3	31:h:24:ALA:HB2	1.80	0.63
43:t:98:ASN:OD1	43:t:99:LYS:N	2.30	0.63
50:3:343:A:H3'	50:3:364:A:H61	1.63	0.63
50:3:491:A:H1'	50:3:509:G:H5'	1.80	0.63
50:3:2451:C:H2'	50:3:2452:G:C8	2.33	0.63
50:3:2814:A:H61	50:3:2894:G:H2'	1.62	0.63
52:5:1216:G:H2'	52:5:1217:G:C8	2.33	0.63
17:N:22:ILE:HG23	17:N:63:LEU:HD22	1.80	0.63
24:a:238:HIS:CE1	50:3:1832:G:H5''	2.34	0.63
50:3:1818:G:H2'	50:3:1819:G:C8	2.33	0.63
50:3:2413:G:O3'	50:3:2419:A:N6	2.31	0.63
52:5:709:A:H2'	52:5:710:G:C8	2.34	0.63
3:2:15:LYS:HD2	3:2:26:ILE:HD11	1.80	0.63
10:G:25:ALA:HA	10:G:30:LEU:HB2	1.81	0.63
18:O:2:ARG:N	52:5:386:U:HO2'	1.96	0.63
28:e:109:GLN:HE21	28:e:115:PRO:HB3	1.63	0.63
50:3:399:G:O6	50:3:400:A:N6	2.31	0.63
50:3:995:A:H2'	50:3:996:A:C8	2.33	0.63
50:3:1010:G:H5'	50:3:1217:G:H1'	1.80	0.63
50:3:2295:A:N7	50:3:2391:G:N2	2.47	0.63
50:3:2552:G:H2'	50:3:2553:G:H8	1.64	0.63
52:5:1115:G:N2	52:5:1116:U:O4	2.32	0.63
53:7:29:C:H2'	53:7:30:G:C8	2.33	0.63
6:C:34:ILE:HG21	6:C:43:ARG:HA	1.81	0.63
15:L:103:ARG:O	15:L:107:ARG:NH1	2.31	0.63
24:a:72:LYS:NZ	50:3:2214:A:OP1	2.32	0.63
29:f:11:ASN:ND2	29:f:34:LYS:HE2	2.14	0.63
32:i:21:VAL:HG21	32:i:144:ASN:HB3	1.81	0.63
46:w:49:ARG:NH2	50:3:76:A:OP1	2.31	0.63
50:3:88:G:O2'	50:3:105:U:O2'	2.17	0.63
50:3:2448:C:H5''	50:3:2595:A:H4'	1.81	0.63
52:5:146:A:N6	52:5:339:U:O2'	2.32	0.63
52:5:582:G:N2	52:5:873:U:O2'	2.32	0.63
53:7:69:A:H2'	53:7:70:G:H8	1.64	0.63
53:8:69:A:H2'	53:8:70:G:H8	1.64	0.63
6:C:38:HIS:ND1	52:5:509:C:OP1	2.32	0.63
20:Q:92:ARG:O	20:Q:96:LEU:N	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:128:VAL:HG11	26:c:133:PHE:CE1	2.34	0.63
27:d:34:ILE:HG13	27:d:96:MET:HG3	1.80	0.63
34:k:42:ARG:NH2	50:3:843:G:OP2	2.32	0.63
36:m:109:ASP:OD1	50:3:1354:U:O2'	2.15	0.63
41:r:118:ILE:HG13	50:3:556:U:H1'	1.81	0.63
50:3:61:U:H2'	50:3:76:A:H2	1.62	0.63
50:3:379:A:O2'	50:3:381:A:N6	2.32	0.63
50:3:1028:C:H2'	50:3:1029:A:C8	2.34	0.63
50:3:2376:C:H2'	50:3:2377:A:C8	2.34	0.63
52:5:35:C:N4	52:5:394:U:OP2	2.32	0.63
52:5:1065:G:N1	52:5:1074:U:N3	2.46	0.63
2:1:4:LYS:HD2	50:3:256:G:N7	2.14	0.63
4:A:230:ASN:ND2	4:A:253:GLU:OE1	2.31	0.63
31:h:12:ILE:HB	31:h:24:ALA:HB3	1.81	0.63
41:r:87:PRO:HB3	50:3:1648:A:C8	2.33	0.63
43:t:45:HIS:HB3	50:3:518:A:H4'	1.81	0.63
50:3:334:A:O2'	50:3:352:C:O2	2.16	0.63
50:3:638:A:N6	50:3:661:G:C5	2.67	0.63
50:3:1301:G:H4'	50:3:1652:A:H62	1.64	0.63
50:3:1432:C:H2'	50:3:1433:U:C6	2.34	0.63
50:3:1474:C:O2	50:3:1578:A:O2'	2.15	0.63
50:3:2157:A:H2'	50:3:2158:C:C6	2.34	0.63
52:5:1077:U:O2	52:5:1090:G:N2	2.31	0.63
14:K:62:LEU:HG	52:5:517:C:H5'	1.81	0.62
15:L:80:LEU:HD13	52:5:1284:A:H5'	1.81	0.62
17:N:23:GLN:HA	17:N:26:VAL:HG22	1.79	0.62
21:R:69:HIS:NE2	52:5:1284:A:OP1	2.32	0.62
26:c:55:LYS:NZ	50:3:708:C:OP1	2.31	0.62
26:c:147:LEU:HB3	26:c:153:LEU:HD11	1.81	0.62
39:p:62:LEU:HD13	50:3:1045:A:H5'	1.80	0.62
50:3:27:U:H2'	50:3:28:G:C4	2.34	0.62
10:G:19:LEU:HD22	10:G:87:VAL:HG21	1.80	0.62
12:I:70:GLN:NE2	52:5:1343:G:OP1	2.31	0.62
14:K:70:LEU:HD21	14:K:95:LEU:HD12	1.81	0.62
16:M:26:ARG:NH1	16:M:46:GLU:OE2	2.32	0.62
25:b:4:ARG:HB3	25:b:101:LEU:HB3	1.81	0.62
27:d:110:ARG:HA	47:x:38:ILE:HG12	1.80	0.62
50:3:81:C:H2'	50:3:82:G:C8	2.34	0.62
50:3:335:G:N1	50:3:350:C:N3	2.45	0.62
50:3:1408:G:H2'	50:3:1409:G:H8	1.64	0.62
50:3:2701:A:H2'	50:3:2702:G:H8	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:649:U:C4	52:5:750:A:N7	2.66	0.62
11:H:114:GLU:HG3	52:5:1321:G:H3'	1.81	0.62
11:H:116:LYS:NZ	52:5:1342:C:OP2	2.33	0.62
50:3:228:A:OP2	50:3:455:G:N2	2.31	0.62
50:3:247:U:O2	50:3:259:A:C6	2.52	0.62
50:3:454:G:H2'	50:3:455:G:C8	2.34	0.62
50:3:868:C:OP2	50:3:980:C:N4	2.32	0.62
50:3:2306:A:O2'	50:3:2330:A:OP1	2.17	0.62
52:5:119:U:O2'	52:5:121:C:N4	2.27	0.62
52:5:648:C:O2	52:5:750:A:N6	2.31	0.62
4:A:161:LYS:NZ	52:5:1143:C:O2	2.32	0.62
6:C:31:ARG:HE	52:5:422:A:H5''	1.64	0.62
6:C:58:GLN:NE2	52:5:542:G:OP2	2.32	0.62
6:C:106:PHE:HB3	6:C:144:LEU:HD22	1.80	0.62
24:a:95:PHE:HE2	24:a:205:ASN:HD22	1.46	0.62
26:c:174:ASN:ND2	50:3:354:C:O2	2.33	0.62
32:i:56:TYR:HH	32:i:126:HIS:HE2	1.47	0.62
50:3:307:C:N4	50:3:308:A:N6	2.48	0.62
50:3:1504:G:O6	50:3:1540:G:N2	2.31	0.62
50:3:1914:G:O6	50:3:1930:U:O4	2.17	0.62
50:3:1947:U:H4'	50:3:1972:C:H5	1.64	0.62
52:5:144:U:O2	52:5:149:G:C2	2.51	0.62
5:B:211:TYR:HB3	52:5:1103:C:H4'	1.81	0.62
8:E:107:LEU:HD12	8:E:110:GLN:HE21	1.64	0.62
24:a:16:HIS:CE1	50:3:1780:A:H62	2.18	0.62
24:a:186:SER:OG	50:3:1826:A:O2'	2.18	0.62
36:m:48:LEU:HD22	36:m:63:VAL:HG13	1.81	0.62
42:s:48:TYR:HD2	42:s:50:ILE:HG12	1.63	0.62
49:z:40:ARG:HH12	50:3:2408:G:HO2'	1.43	0.62
50:3:889:G:H1	50:3:962:U:H3	1.48	0.62
50:3:2747:U:C2	50:3:2772:A:N7	2.67	0.62
4:A:20:LEU:HG	4:A:231:LEU:HD11	1.80	0.62
12:I:8:LYS:HB2	12:I:87:GLN:HA	1.80	0.62
19:P:13:VAL:HG12	19:P:24:VAL:HG22	1.81	0.62
36:m:6:LYS:NZ	50:3:1301:G:OP2	2.30	0.62
39:p:32:LYS:HB3	50:3:1282:G:N2	2.15	0.62
49:z:15:ARG:HH22	49:z:50:VAL:HG11	1.64	0.62
50:3:18:G:H2'	50:3:19:G:C8	2.35	0.62
50:3:633:G:H1	50:3:692:U:H3	1.48	0.62
50:3:1120:A:O2'	50:3:1139:C:O2	2.16	0.62
50:3:1392:G:H5'	50:3:1816:A:HI'	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2204:C:N4	50:3:2233:A:OP2	2.33	0.62
52:5:297:A:H2'	52:5:298:G:C8	2.35	0.62
52:5:600:G:N2	52:5:633:U:O2	2.32	0.62
52:5:1297:G:O2'	52:5:1336:C:O2	2.17	0.62
24:a:29:ASN:O	50:3:1599:C:N4	2.33	0.62
26:c:173:SER:OG	50:3:356:A:OP1	2.17	0.62
37:n:7:GLN:HE21	37:n:11:ARG:HG3	1.65	0.62
37:n:19:ILE:HG21	37:n:90:VAL:HG11	1.80	0.62
41:r:78:GLN:NE2	50:3:1292:A:OP1	2.32	0.62
50:3:308:A:C2	50:3:397:G:C6	2.88	0.62
50:3:597:C:O2'	50:3:1283:A:N6	2.33	0.62
50:3:1633:C:N3	50:3:1634:A:N6	2.48	0.62
50:3:1937:G:H4'	50:3:1938:U:H5'	1.80	0.62
50:3:2461:A:H4'	50:3:2580:A:H1'	1.82	0.62
50:3:2551:G:H2'	50:3:2552:G:H8	1.64	0.62
50:3:2638:G:H2'	50:3:2639:G:H8	1.65	0.62
50:3:2812:U:H1'	50:3:2813:A:H2'	1.81	0.62
50:3:2849:G:H2'	50:3:2850:G:H8	1.65	0.62
2:1:37:GLN:O	2:1:41:LEU:HG	1.98	0.62
5:B:51:ALA:HA	5:B:76:PHE:HB3	1.82	0.62
6:C:58:GLN:OE1	6:C:61:GLN:NE2	2.32	0.62
10:G:11:HIS:CD2	10:G:12:PHE:H	2.17	0.62
37:n:5:THR:HG21	51:4:27:A:H4'	1.81	0.62
37:n:37:ASN:ND2	51:4:49:G:N7	2.48	0.62
46:w:17:LYS:HA	46:w:20:ILE:HG12	1.81	0.62
48:y:43:CYS:SG	48:y:44:SER:N	2.72	0.62
50:3:170:A:N3	50:3:2217:G:O2'	2.29	0.62
50:3:650:G:H2'	50:3:651:A:H8	1.65	0.62
52:5:944:A:H2'	52:5:945:U:C6	2.34	0.62
27:d:41:GLY:H	27:d:148:ARG:NH2	1.97	0.62
41:r:29:THR:HG23	41:r:70:TYR:HA	1.82	0.62
50:3:382:U:H2'	50:3:383:U:C6	2.35	0.62
50:3:509:G:H2'	50:3:510:G:C8	2.35	0.62
50:3:2081:U:H2'	50:3:2082:U:C6	2.35	0.62
50:3:2108:C:H2'	50:3:2109:A:C8	2.35	0.62
52:5:172:C:H2'	52:5:173:U:C6	2.35	0.62
52:5:694:U:H1'	52:5:782:G:H21	1.64	0.62
52:5:1390:G:H2'	52:5:1391:A:C8	2.34	0.62
52:5:1477:A:C8	52:5:1480:G:C6	2.87	0.62
27:d:43:ALA:HA	27:d:45:ARG:HH21	1.64	0.62
39:p:101:GLU:HB3	39:p:104:LYS:HB2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:955:A:O2'	51:4:78:C:O2'	2.18	0.62
50:3:1495:A:N6	50:3:1547:G:O3'	2.26	0.62
50:3:1634:A:H2'	50:3:1635:G:O4'	2.00	0.62
50:3:1816:A:H2'	50:3:1817:A:C8	2.35	0.62
50:3:1956:G:H2'	50:3:1957:G:C8	2.35	0.62
52:5:546:G:H2'	52:5:547:C:C6	2.35	0.62
52:5:609:G:O6	52:5:627:U:O4	2.18	0.62
52:5:1043:U:O4	52:5:1181:G:O6	2.17	0.62
52:5:1130:G:H2'	52:5:1131:A:H8	1.65	0.62
8:E:32:VAL:HA	8:E:64:GLY:HA3	1.82	0.61
29:f:21:VAL:O	29:f:21:VAL:HG12	1.99	0.61
34:k:53:GLY:HA3	50:3:867:G:H21	1.64	0.61
35:l:87:LYS:NZ	50:3:991:G:OP1	2.29	0.61
50:3:293:G:H2'	50:3:294:G:C4	2.35	0.61
50:3:1107:C:N4	50:3:1133:A:OP2	2.24	0.61
50:3:1227:C:H2'	50:3:1228:G:H8	1.65	0.61
50:3:2110:U:N3	50:3:2193:U:O4	2.33	0.61
52:5:250:G:H2'	52:5:251:G:C8	2.35	0.61
52:5:528:G:N2	52:5:528:G:OP2	2.33	0.61
52:5:831:C:H2'	52:5:832:G:H8	1.64	0.61
52:5:852:G:H1	52:5:864:U:P	2.23	0.61
35:l:14:ASN:ND2	50:3:992:G:N7	2.48	0.61
36:m:19:ARG:NH2	36:m:67:LEU:O	2.32	0.61
50:3:29:G:O2'	50:3:547:G:N2	2.29	0.61
50:3:38:G:H2'	50:3:39:C:C6	2.35	0.61
50:3:70:G:N2	50:3:76:A:O4'	2.33	0.61
50:3:452:U:H3	50:3:2415:A:H61	1.45	0.61
50:3:574:G:O6	50:3:587:U:O2	2.18	0.61
50:3:676:U:N3	50:3:683:G:O6	2.32	0.61
50:3:900:G:OP1	51:4:90:G:N2	2.33	0.61
50:3:1162:A:O2'	50:3:2526:A:OP1	2.17	0.61
50:3:1743:U:O2'	50:3:2863:G:N3	2.33	0.61
52:5:412:G:H1	52:5:424:U:H3	1.48	0.61
52:5:764:A:N6	52:5:809:G:C2	2.68	0.61
15:L:101:ARG:HH11	15:L:103:ARG:HD3	1.64	0.61
37:n:101:ARG:HE	51:4:47:C:H5''	1.65	0.61
50:3:1051:U:H2'	50:3:1052:A:C8	2.35	0.61
3:2:23:VAL:HG11	50:3:1066:G:H21	1.65	0.61
22:S:55:ALA:HB1	22:S:62:THR:HG22	1.80	0.61
25:b:213:LYS:NZ	50:3:2740:U:OP1	2.32	0.61
50:3:88:G:HO2'	50:3:105:U:HO2'	1.46	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:249:G:N2	50:3:422:A:O2'	2.33	0.61
50:3:2092:U:O2	50:3:2242:G:O6	2.18	0.61
50:3:2543:G:H2'	50:3:2544:G:C8	2.36	0.61
52:5:205:U:H3	52:5:210:G:H1	1.47	0.61
52:5:536:U:H2'	52:5:537:A:H8	1.66	0.61
52:5:1322:U:H2'	52:5:1323:A:C8	2.34	0.61
5:B:83:LYS:O	5:B:86:GLN:NE2	2.28	0.61
12:I:72:GLU:N	16:M:57:LYS:O	2.33	0.61
13:J:28:SER:HA	13:J:34:VAL:HA	1.82	0.61
19:P:6:ARG:NH2	52:5:116:A:OP1	2.29	0.61
20:Q:52:ASP:HA	20:Q:92:ARG:HH12	1.63	0.61
34:k:88:LEU:HD22	50:3:637:U:H5'	1.83	0.61
44:u:34:ARG:NH2	44:u:35:LEU:O	2.32	0.61
45:v:32:ASN:OD1	45:v:34:GLN:NE2	2.33	0.61
50:3:1236:G:H2'	50:3:1237:G:H8	1.64	0.61
50:3:1943:A:C8	50:3:1950:U:C2	2.88	0.61
50:3:2353:G:O2'	50:3:2389:A:N3	2.31	0.61
52:5:84:U:H2'	52:5:85:U:C6	2.35	0.61
52:5:1331:A:H2	52:5:1340:G:H1	1.45	0.61
4:A:95:LEU:O	4:A:99:ILE:HG12	2.01	0.61
8:E:95:GLY:H	20:Q:50:ARG:HD2	1.66	0.61
39:p:12:ARG:NH1	50:3:1280:G:N3	2.49	0.61
47:x:43:HIS:NE2	47:x:45:PHE:O	2.34	0.61
50:3:109:G:H1'	50:3:381:A:N3	2.16	0.61
50:3:173:C:H2'	50:3:174:A:C8	2.36	0.61
50:3:363:G:H1'	50:3:513:A:H5'	1.82	0.61
50:3:453:U:H2'	50:3:454:G:H8	1.65	0.61
50:3:954:A:N1	51:4:77:G:O2'	2.30	0.61
50:3:1609:U:H2'	50:3:1610:U:C6	2.34	0.61
50:3:2700:C:H2'	50:3:2701:A:C8	2.35	0.61
52:5:1298:U:H2'	52:5:1299:C:H6	1.65	0.61
5:B:11:ARG:NH1	5:B:182:ARG:O	2.29	0.61
14:K:4:ILE:HD13	52:5:562:U:H5'	1.83	0.61
40:q:87:GLN:OE1	50:3:1197:G:N2	2.33	0.61
50:3:1370:A:N7	50:3:1636:U:N3	2.49	0.61
50:3:1553:G:OP2	50:3:1576:G:N1	2.30	0.61
50:3:1798:A:OP2	50:3:1835:G:N2	2.34	0.61
50:3:2335:A:H3'	50:3:2336:A:H8	1.65	0.61
50:3:2477:A:H2'	50:3:2478:G:O4'	2.00	0.61
50:3:2594:C:N4	50:3:2616:G:O2'	2.30	0.61
52:5:982:A:H2'	52:5:983:G:C8	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:234:ASN:ND2	50:3:819:U:O4'	2.34	0.61
45:v:25:THR:HG22	45:v:26:ARG:H	1.64	0.61
50:3:747:A:H3'	50:3:748:G:H8	1.65	0.61
50:3:1242:G:N2	50:3:1267:A:N6	2.46	0.61
50:3:1316:U:O2	50:3:1355:C:O2'	2.15	0.61
50:3:1587:U:H2'	50:3:1588:A:N7	2.14	0.61
50:3:2053:G:H1	50:3:2630:U:H3	1.49	0.61
52:5:434:U:H2'	52:5:435:U:C6	2.35	0.61
52:5:503:G:H2'	52:5:504:A:C8	2.36	0.61
52:5:669:U:H2'	52:5:670:G:C8	2.36	0.61
10:G:39:LYS:HD2	52:5:639:A:H5''	1.82	0.61
25:b:146:SER:OG	50:3:2519:U:O4	2.19	0.61
50:3:485:A:H4'	50:3:1278:G:H22	1.65	0.61
50:3:598:G:H1	50:3:609:U:H3	1.49	0.61
50:3:738:U:O2	50:3:763:G:O6	2.18	0.61
50:3:823:A:H5''	50:3:825:U:H5	1.66	0.61
50:3:1372:U:O2	50:3:1412:A:O2'	2.19	0.61
50:3:2406:U:H2'	50:3:2407:G:C8	2.36	0.61
50:3:2604:U:O2'	50:3:2605:G:O5'	2.19	0.61
52:5:449:A:H4'	52:5:450:U:H5''	1.83	0.61
52:5:462:G:O2'	52:5:465:A:N6	2.34	0.61
52:5:583:G:N2	52:5:872:C:O2'	2.33	0.61
52:5:1298:U:H2'	52:5:1299:C:C6	2.36	0.61
2:1:5:SER:HB2	2:1:9:LYS:HD2	1.83	0.61
18:O:73:TRP:HA	18:O:76:PHE:HB3	1.82	0.61
24:a:81:ALA:HB1	24:a:99:ILE:HB	1.83	0.61
25:b:129:LYS:O	50:3:2519:U:O2'	2.17	0.61
50:3:38:G:H1'	50:3:486:G:H21	1.66	0.61
50:3:155:A:H2'	50:3:156:A:C8	2.35	0.61
50:3:325:G:N1	50:3:383:U:N3	2.48	0.61
50:3:337:U:H2'	50:3:338:G:H8	1.66	0.61
50:3:638:A:C6	50:3:661:G:C6	2.89	0.61
50:3:1114:C:H2'	50:3:1115:G:C8	2.35	0.61
50:3:2160:U:H2'	50:3:2161:G:C8	2.36	0.61
50:3:2299:U:O2	50:3:2382:A:O2'	2.19	0.61
50:3:2744:A:N6	50:3:2777:A:N3	2.47	0.61
52:5:609:G:H1	52:5:627:U:H3	1.47	0.61
33:j:5:MET:HB2	50:3:1703:A:H8	1.64	0.60
36:m:51:LEU:HD13	36:m:62:GLN:HG3	1.83	0.60
43:t:47:LYS:N	50:3:518:A:OP1	2.27	0.60
45:v:22:LYS:HA	53:8:76:C:H41	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:25:G:H2'	50:3:26:G:C8	2.35	0.60
50:3:420:A:N7	50:3:425:U:O4	2.34	0.60
50:3:461:C:H2'	50:3:462:C:C6	2.36	0.60
50:3:517:G:O4'	50:3:541:G:N2	2.34	0.60
50:3:863:U:C4	50:3:2255:A:H1'	2.36	0.60
50:3:1947:U:O2'	50:3:1950:U:O2	2.19	0.60
50:3:2080:C:H2'	50:3:2081:U:C6	2.36	0.60
50:3:2791:U:H2'	50:3:2792:C:C6	2.34	0.60
52:5:799:A:C5	52:5:800:G:H1'	2.36	0.60
52:5:1214:A:H2'	52:5:1272:C:H41	1.66	0.60
24:a:143:GLU:O	52:5:708:A:O2'	2.18	0.60
37:n:37:ASN:HB2	51:4:50:C:H41	1.65	0.60
50:3:596:G:O6	50:3:611:A:N1	2.34	0.60
50:3:597:C:H2'	50:3:598:G:C8	2.36	0.60
50:3:1389:G:O2'	50:3:2223:C:O2'	2.19	0.60
50:3:2033:G:H2'	50:3:2034:G:C8	2.36	0.60
50:3:2684:G:H2'	50:3:2685:A:H8	1.66	0.60
52:5:1230:G:H2'	52:5:1233:G:H21	1.65	0.60
6:C:69:LYS:NZ	52:5:398:G:N7	2.47	0.60
10:G:60:LEU:HB2	10:G:69:ILE:HG13	1.84	0.60
11:H:52:GLN:HG2	11:H:53:PRO:HD3	1.82	0.60
28:e:106:LEU:HD21	28:e:126:VAL:HG11	1.83	0.60
50:3:86:A:N6	50:3:103:G:O4'	2.34	0.60
50:3:550:A:O2'	50:3:612:G:N2	2.33	0.60
50:3:976:C:O2'	50:3:1221:G:O3'	2.20	0.60
50:3:1662:G:H2'	50:3:1663:G:H8	1.66	0.60
50:3:2498:G:N3	50:3:2499:U:O2'	2.33	0.60
52:5:767:U:H2'	52:5:768:G:C8	2.35	0.60
52:5:1274:G:O2'	52:5:1278:G:N2	2.33	0.60
52:5:1461:G:H2'	52:5:1462:G:C8	2.35	0.60
4:A:147:LYS:H	52:5:1134:C:HO2'	1.48	0.60
14:K:42:LEU:HD13	14:K:94:LEU:HD21	1.81	0.60
24:a:156:GLY:HA2	50:3:2213:A:H5'	1.84	0.60
26:c:189:ARG:HH12	50:3:650:G:H1'	1.65	0.60
35:l:24:ASN:ND2	50:3:944:U:O2'	2.34	0.60
39:p:10:ARG:NH2	50:3:1246:U:OP1	2.34	0.60
50:3:1723:A:H2'	50:3:1724:A:H8	1.66	0.60
50:3:2036:G:N2	50:3:2040:A:OP2	2.31	0.60
50:3:2071:C:H2'	50:3:2072:C:C6	2.36	0.60
35:l:54:ILE:HG12	35:l:117:ALA:HB1	1.84	0.60
45:v:21:SER:HA	50:3:2086:U:O3'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:223:A:N1	50:3:465:A:N6	2.50	0.60
50:3:884:A:H2	50:3:966:U:H3	1.47	0.60
50:3:1639:C:N4	50:3:1640:G:O6	2.34	0.60
50:3:1698:A:H61	50:3:2003:C:H42	1.50	0.60
50:3:2784:A:O2'	50:3:2790:A:N7	2.32	0.60
51:4:102:A:H2'	51:4:103:C:C6	2.36	0.60
52:5:290:G:N1	52:5:299:U:C2	2.70	0.60
52:5:561:A:OP1	52:5:564:G:N2	2.35	0.60
14:K:15:LYS:HG3	14:K:16:LYS:H	1.66	0.60
17:N:67:LEU:HD23	17:N:75:TYR:HB3	1.84	0.60
22:S:4:ILE:HG12	22:S:7:ASN:ND2	2.17	0.60
29:f:93:ILE:HG12	50:3:2228:U:H5'	1.83	0.60
33:j:1:MET:SD	50:3:2003:C:N4	2.72	0.60
34:k:30:LYS:HD2	34:k:31:THR:HG23	1.83	0.60
35:l:8:LYS:NZ	50:3:948:A:OP2	2.35	0.60
36:m:86:VAL:HA	36:m:89:LYS:HD3	1.82	0.60
38:o:32:ASN:HB2	38:o:91:LYS:HE2	1.83	0.60
42:s:66:ARG:HH21	50:3:1364:A:H5''	1.66	0.60
49:z:23:LYS:HD2	49:z:25:VAL:HG22	1.84	0.60
50:3:841:C:O2	50:3:2452:G:O2'	2.19	0.60
50:3:2341:G:H4'	50:3:2342:U:O5'	2.00	0.60
50:3:2824:A:H61	50:3:2840:U:H4'	1.67	0.60
52:5:202:A:H2'	52:5:203:C:C6	2.36	0.60
52:5:1156:G:O2'	52:5:1157:G:N7	2.34	0.60
18:O:12:ARG:NH2	52:5:607:A:O4'	2.34	0.60
25:b:17:PHE:HB3	38:o:84:PRO:HD3	1.84	0.60
39:p:68:LEU:HB3	39:p:73:MET:O	2.01	0.60
50:3:1633:C:H2'	50:3:1634:A:C8	2.35	0.60
50:3:1815:U:O2'	50:3:1816:A:H8	1.84	0.60
50:3:2697:C:OP1	50:3:2699:C:N4	2.34	0.60
52:5:65:G:H4'	52:5:66:A:H3'	1.84	0.60
52:5:764:A:N6	52:5:809:G:N2	2.50	0.60
52:5:1219:C:H2'	52:5:1220:A:C8	2.36	0.60
29:f:4:ILE:HA	29:f:20:ASP:OD2	2.02	0.60
50:3:305:U:H3	50:3:399:G:H1	1.47	0.60
50:3:342:G:H2'	50:3:343:A:O4'	2.02	0.60
50:3:479:A:O2'	50:3:1232:U:O4'	2.20	0.60
50:3:1496:A:N6	50:3:1547:G:O2'	2.30	0.60
50:3:1499:C:H2'	50:3:1500:A:H8	1.67	0.60
50:3:1543:U:H2'	50:3:1544:G:H8	1.66	0.60
50:3:2190:G:N1	50:3:2191:G:C6	2.70	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2351:U:O2'	50:3:2381:G:O2'	2.18	0.60
52:5:87:G:H2'	52:5:88:A:C8	2.37	0.60
52:5:536:U:H2'	52:5:537:A:C8	2.36	0.60
4:A:82:ILE:HD11	4:A:177:ILE:HG23	1.84	0.60
5:B:70:TYR:CD1	5:B:107:ASN:HB2	2.36	0.60
5:B:177:PRO:HG2	5:B:182:ARG:HH22	1.67	0.60
24:a:165:GLY:H	24:a:203:VAL:HB	1.66	0.60
49:z:14:CYS:O	50:3:2407:G:O2'	2.19	0.60
50:3:450:C:H2'	50:3:451:A:H8	1.66	0.60
50:3:818:A:H2'	50:3:819:U:H4'	1.84	0.60
50:3:1850:C:H2'	50:3:1851:U:C6	2.37	0.60
50:3:2071:C:O2'	50:3:2259:G:N2	2.26	0.60
50:3:2540:G:O2'	50:3:2673:A:O2'	2.15	0.60
52:5:831:C:H2'	52:5:832:G:C8	2.37	0.60
3:2:16:ILE:HG21	50:3:1067:A:H4'	1.83	0.60
4:A:146:LYS:HA	4:A:149:ASN:ND2	2.17	0.60
18:O:53:LEU:O	18:O:80:LYS:NZ	2.35	0.60
34:k:22:ARG:NH2	50:3:620:G:OP1	2.35	0.60
36:m:109:ASP:CG	50:3:2016:G:H21	2.10	0.60
44:u:26:ASN:HB2	44:u:28:ARG:HG3	1.82	0.60
45:v:37:LYS:NZ	50:3:2208:U:OP2	2.35	0.60
50:3:211:A:O3'	50:3:833:C:O2'	2.20	0.60
50:3:1362:C:H2'	50:3:1363:C:C6	2.37	0.60
50:3:2126:A:H2	50:3:2176:G:H21	1.48	0.60
50:3:2649:G:H22	50:3:2782:A:H2	1.50	0.60
52:5:317:A:H2'	52:5:318:C:H6	1.66	0.60
52:5:403:A:H2'	52:5:404:A:H8	1.67	0.60
28:e:61:LEU:HB3	28:e:64:SER:HB3	1.84	0.59
30:g:54:ILE:HG12	30:g:58:ILE:HG21	1.84	0.59
34:k:81:ASN:HD22	34:k:84:LYS:HG2	1.67	0.59
45:v:21:SER:HB2	50:3:2087:G:H4'	1.83	0.59
50:3:114:U:H5''	50:3:115:U:H5'	1.84	0.59
50:3:674:G:N2	50:3:687:G:H1'	2.17	0.59
50:3:1017:A:O2'	50:3:2043:C:O2	2.20	0.59
50:3:1587:U:O2'	50:3:1588:A:OP1	2.19	0.59
50:3:1864:A:H2	50:3:1893:C:H42	1.49	0.59
50:3:2077:A:H2'	50:3:2078:A:H8	1.65	0.59
50:3:2425:C:H2'	50:3:2426:A:C8	2.37	0.59
50:3:2557:G:H2'	50:3:2558:G:H8	1.67	0.59
50:3:2625:U:H2'	50:3:2626:A:H8	1.65	0.59
52:5:1139:A:H2'	52:5:1140:A:H5'	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:193:GLN:OE1	52:5:1180:U:O2'	2.17	0.59
30:g:100:VAL:HG22	30:g:106:MET:HB2	1.83	0.59
31:h:108:LYS:HZ3	31:h:127:THR:HG21	1.67	0.59
39:p:50:ARG:HG3	50:3:1191:A:C5	2.36	0.59
47:x:16:CYS:O	47:x:20:SER:N	2.35	0.59
50:3:337:U:H2'	50:3:338:G:C8	2.37	0.59
50:3:1454:G:N2	50:3:1606:A:OP2	2.31	0.59
50:3:1691:U:H2'	50:3:1692:A:C8	2.37	0.59
50:3:2213:A:H2'	50:3:2214:A:H8	1.67	0.59
52:5:147:A:N6	52:5:342:G:N7	2.49	0.59
52:5:1059:G:O5'	52:5:1362:G:O2'	2.21	0.59
6:C:35:PRO:HA	52:5:423:U:H5''	1.83	0.59
25:b:35:GLN:O	25:b:53:SER:OG	2.15	0.59
32:i:71:LYS:NZ	50:3:1175:C:OP1	2.32	0.59
34:k:107:LYS:NZ	50:3:657:A:OP1	2.35	0.59
50:3:186:A:N1	50:3:219:G:O6	2.36	0.59
50:3:947:A:H2'	50:3:948:A:C8	2.37	0.59
50:3:1036:A:H2'	50:3:1037:A:C8	2.37	0.59
50:3:1758:C:H2'	50:3:1759:C:C6	2.37	0.59
50:3:1865:A:N6	50:3:1891:A:O2'	2.31	0.59
50:3:2160:U:H2'	50:3:2161:G:H8	1.66	0.59
50:3:2529:C:H2'	50:3:2530:U:H6	1.67	0.59
50:3:2794:U:H2'	50:3:2795:C:C6	2.36	0.59
51:4:45:C:H2'	51:4:46:C:C6	2.36	0.59
1:0:16:HIS:HB2	1:0:44:VAL:HG22	1.84	0.59
9:F:25:ILE:HB	9:F:100:LEU:HD22	1.84	0.59
9:F:96:ILE:O	9:F:100:LEU:HG	2.02	0.59
26:c:128:VAL:HB	26:c:200:GLU:HA	1.83	0.59
26:c:140:THR:N	50:3:355:A:OP2	2.36	0.59
30:g:88:GLU:C	30:g:90:VAL:H	2.10	0.59
36:m:95:GLY:HA3	50:3:2843:G:H21	1.68	0.59
50:3:1137:C:H2'	50:3:1138:A:C8	2.35	0.59
50:3:1446:G:O2'	50:3:1613:A:N6	2.35	0.59
50:3:1724:A:H3'	50:3:1725:G:H8	1.67	0.59
50:3:1780:A:H5'	50:3:1796:A:H61	1.68	0.59
50:3:2185:C:H2'	50:3:2186:C:C6	2.36	0.59
50:3:2278:G:H2'	50:3:2279:G:H8	1.68	0.59
52:5:670:G:H2'	52:5:671:G:H8	1.67	0.59
52:5:1065:G:O6	52:5:1074:U:O4	2.21	0.59
53:7:69:A:H2'	53:7:70:G:C8	2.38	0.59
4:A:49:ARG:NH1	52:5:828:U:OP1	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:88:ASN:OD1	6:C:91:ARG:NH1	2.35	0.59
6:C:112:SER:OG	52:5:403:A:O2'	2.17	0.59
28:e:91:ARG:HG2	28:e:168:PHE:HB2	1.85	0.59
29:f:77:LEU:HB2	29:f:140:VAL:HG12	1.83	0.59
36:m:106:ARG:HD2	50:3:1315:A:H5''	1.82	0.59
40:q:83:TYR:OH	50:3:1199:A:O2'	2.16	0.59
50:3:576:A:H2'	50:3:577:C:H4'	1.84	0.59
50:3:678:U:H3	50:3:681:A:H5'	1.67	0.59
50:3:1414:C:H2'	50:3:1415:A:C8	2.37	0.59
50:3:2135:C:OP2	50:3:2137:A:N6	2.35	0.59
50:3:2304:U:N3	50:3:2343:A:C6	2.71	0.59
50:3:2693:U:H2'	50:3:2694:A:C8	2.38	0.59
50:3:2721:C:H3'	50:3:2722:G:H5''	1.84	0.59
52:5:97:G:H2'	52:5:98:G:C8	2.38	0.59
52:5:200:G:H2'	52:5:201:G:H8	1.67	0.59
1:0:39:ARG:NE	50:3:505:G:O6	2.35	0.59
7:D:152:LYS:HE3	52:5:8:G:C5	2.38	0.59
50:3:210:U:H2'	50:3:211:A:C8	2.37	0.59
50:3:1247:C:H2'	50:3:1248:A:C8	2.37	0.59
50:3:2829:G:H3'	50:3:2830:A:H8	1.67	0.59
52:5:764:A:H2'	52:5:765:A:H8	1.68	0.59
52:5:1284:A:H2'	52:5:1285:G:C8	2.37	0.59
52:5:1333:C:H1'	52:5:1336:C:H5	1.65	0.59
52:5:1386:C:H2'	52:5:1387:U:C6	2.38	0.59
27:d:76:THR:HG21	50:3:2318:A:H61	1.67	0.59
35:l:27:VAL:O	35:l:134:ARG:NH2	2.35	0.59
36:m:107:ARG:NH2	50:3:1316:U:O2	2.36	0.59
50:3:1806:G:H1'	50:3:1807:C:H5	1.67	0.59
50:3:2113:U:N3	50:3:2191:G:N1	2.51	0.59
52:5:1263:A:H1'	52:5:1326:C:H4'	1.84	0.59
6:C:36:GLY:HA2	52:5:539:G:O2'	2.03	0.59
25:b:85:ARG:NH2	50:3:2646:G:OP2	2.35	0.59
25:b:107:TYR:HD2	25:b:178:ASN:HD22	1.51	0.59
25:b:133:LEU:HB3	25:b:137:ALA:HA	1.84	0.59
33:j:17:LYS:O	33:j:18:GLN:NE2	2.32	0.59
50:3:882:C:H3'	50:3:883:A:H8	1.68	0.59
50:3:1343:C:H2'	50:3:1344:U:C6	2.37	0.59
50:3:1688:A:H3'	50:3:1689:A:H8	1.67	0.59
50:3:2259:G:C5	50:3:2458:A:H4'	2.38	0.59
51:4:26:C:O2'	51:4:57:G:N1	2.36	0.59
52:5:289:U:OP1	52:5:608:G:N2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:371:U:H2'	52:5:372:G:H8	1.68	0.59
8:E:66:ASN:ND2	52:5:736:U:OP1	2.36	0.59
14:K:83:GLU:OE1	14:K:123:ARG:NH2	2.36	0.59
26:c:168:LEU:O	26:c:172:THR:OG1	2.21	0.59
36:m:63:VAL:HG12	36:m:67:LEU:HD21	1.85	0.59
41:r:121:GLN:OE1	50:3:22:U:O2'	2.17	0.59
50:3:60:G:H2'	50:3:61:U:C6	2.36	0.59
50:3:579:U:N3	50:3:582:A:C6	2.71	0.59
50:3:1973:U:H5'	50:3:2601:U:H4'	1.84	0.59
51:4:68:C:H42	51:4:97:A:H2	1.51	0.59
52:5:500:G:H2'	52:5:501:A:C8	2.38	0.59
52:5:649:U:N3	52:5:750:A:N7	2.51	0.59
52:5:649:U:C2	52:5:750:A:C6	2.91	0.59
6:C:115:GLN:HE22	52:5:402:G:H21	1.50	0.59
6:C:139:GLY:N	6:C:178:TYR:O	2.29	0.59
14:K:25:HIS:HE1	52:5:552:U:H5'	1.68	0.59
29:f:27:ILE:HG13	29:f:34:LYS:HD2	1.84	0.59
39:p:60:TRP:CD2	39:p:93:VAL:HB	2.38	0.59
50:3:1242:G:H21	50:3:1267:A:H62	1.50	0.59
50:3:1509:U:O4	50:3:1530:G:O6	2.21	0.59
50:3:1778:G:H2'	50:3:1779:G:H8	1.67	0.59
50:3:2033:G:H2'	50:3:2034:G:H8	1.67	0.59
50:3:2470:C:H1'	50:3:2499:U:H3	1.67	0.59
51:4:95:G:H2'	51:4:96:G:C8	2.37	0.59
52:5:812:A:H1'	52:5:1502:G:H1'	1.84	0.59
52:5:1009:G:O2'	52:5:1012:A:N1	2.36	0.59
17:N:64:LEU:O	17:N:68:LYS:HG2	2.03	0.58
21:R:29:ARG:HA	21:R:47:ASN:HA	1.84	0.58
24:a:31:ASN:ND2	50:3:1601:A:N3	2.51	0.58
24:a:240:HIS:HA	24:a:249:VAL:HB	1.85	0.58
34:k:47:THR:HG21	50:3:867:G:H4'	1.85	0.58
50:3:851:U:H2'	50:3:852:C:C6	2.38	0.58
50:3:1028:C:H2'	50:3:1029:A:H8	1.67	0.58
50:3:1140:U:H2'	50:3:1141:U:H6	1.66	0.58
50:3:1772:G:H2'	50:3:1773:A:H8	1.68	0.58
50:3:2638:G:H2'	50:3:2639:G:C8	2.38	0.58
52:5:582:G:N1	52:5:754:U:C2	2.70	0.58
52:5:780:U:H2'	52:5:781:A:C8	2.38	0.58
52:5:1328:C:H2'	52:5:1329:G:H8	1.68	0.58
8:E:140:GLN:HG3	52:5:743:A:H5''	1.85	0.58
12:I:55:ILE:HG22	12:I:57:ILE:HD11	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:L:90:ARG:NH1	15:L:102:THR:OG1	2.37	0.58
22:S:26:THR:HG22	52:5:1432:A:H5''	1.84	0.58
26:c:191:LEU:HD12	26:c:194:ALA:HB3	1.85	0.58
27:d:91:LEU:HD12	27:d:95:ARG:HB3	1.84	0.58
31:h:26:ALA:HB2	31:h:35:PHE:HD2	1.67	0.58
36:m:81:HIS:NE2	36:m:85:LYS:HD2	2.18	0.58
38:o:102:SER:OG	50:3:2725:G:O3'	2.21	0.58
39:p:79:ILE:HA	39:p:82:LEU:HB2	1.84	0.58
50:3:72:G:N2	50:3:73:A:N1	2.50	0.58
50:3:162:G:N2	50:3:170:A:OP2	2.35	0.58
50:3:343:A:H1'	50:3:363:G:H21	1.68	0.58
50:3:718:U:H2'	50:3:719:G:C8	2.38	0.58
50:3:1053:C:H2'	50:3:1054:U:C6	2.37	0.58
50:3:1076:U:H3	50:3:1150:U:H3	1.52	0.58
50:3:1157:G:H2'	50:3:1158:C:H5''	1.84	0.58
50:3:2534:G:O6	50:3:2545:U:O4	2.21	0.58
50:3:2689:C:O2	50:3:2733:A:N6	2.36	0.58
52:5:598:U:O2	52:5:635:G:N2	2.27	0.58
52:5:818:A:H2'	52:5:819:G:O4'	2.03	0.58
19:P:67:ARG:HB3	52:5:116:A:C4	2.38	0.58
22:S:6:SER:OG	52:5:62:G:N7	2.29	0.58
22:S:17:ARG:NH1	52:5:319:U:O2'	2.37	0.58
25:b:53:SER:HB3	25:b:81:LEU:HD23	1.84	0.58
29:f:105:GLY:HA2	50:3:166:A:H1'	1.86	0.58
50:3:244:G:H2'	50:3:260:A:N6	2.18	0.58
52:5:965:C:N4	52:5:1205:C:O2'	2.36	0.58
5:B:27:HIS:NE2	52:5:1231:U:OP1	2.37	0.58
12:I:12:LEU:HD23	12:I:82:LEU:HD22	1.85	0.58
20:Q:70:ILE:O	52:5:716:C:O2'	2.21	0.58
32:i:80:HIS:HA	32:i:87:ILE:HG23	1.86	0.58
34:k:17:THR:H	50:3:1225:A:H62	1.50	0.58
35:l:76:LYS:HB3	35:l:91:GLU:HG3	1.85	0.58
43:t:76:LEU:O	43:t:86:ILE:HA	2.04	0.58
50:3:418:G:H2'	50:3:419:A:H8	1.67	0.58
50:3:488:G:O2'	50:3:507:A:OP2	2.20	0.58
50:3:1129:U:N3	50:3:1132:C:OP2	2.36	0.58
50:3:1308:A:H2'	50:3:1309:G:C8	2.39	0.58
50:3:1504:G:N3	50:3:1591:C:O2'	2.36	0.58
50:3:1526:U:H2'	50:3:1527:U:C6	2.38	0.58
50:3:2645:U:N3	50:3:2784:A:C8	2.69	0.58
52:5:253:G:O6	52:5:265:U:O4	2.20	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:60:LYS:O	11:H:61:LYS:HD2	2.03	0.58
21:R:18:LYS:NZ	52:5:1009:G:OP1	2.26	0.58
25:b:159:VAL:O	50:3:2626:A:O2'	2.18	0.58
35:l:82:ARG:NH2	50:3:2259:G:N7	2.51	0.58
41:r:82:MET:SD	41:r:84:ARG:NH2	2.65	0.58
50:3:37:G:H2'	50:3:38:G:C8	2.37	0.58
50:3:186:A:N1	50:3:219:G:C6	2.71	0.58
50:3:1766:A:H2'	50:3:1767:A:C8	2.39	0.58
50:3:1836:A:N6	50:3:1984:A:N7	2.52	0.58
50:3:2111:U:H5'	50:3:2112:A:C8	2.39	0.58
50:3:2331:G:H2'	50:3:2332:U:C2	2.39	0.58
52:5:1416:U:H3	52:5:1435:G:H1	1.48	0.58
52:5:1456:U:H2'	52:5:1457:G:C8	2.39	0.58
6:C:100:ILE:HG13	6:C:136:LEU:HD22	1.84	0.58
10:G:60:LEU:HD11	10:G:71:THR:HB	1.86	0.58
38:o:17:GLN:HB3	38:o:82:HIS:HB3	1.86	0.58
40:q:68:VAL:HG11	50:3:1029:A:H5'	1.84	0.58
50:3:841:C:H4'	50:3:865:A:C4	2.38	0.58
50:3:897:A:H62	50:3:953:G:H21	1.51	0.58
50:3:1057:G:N2	50:3:1177:A:N7	2.51	0.58
50:3:2432:C:H2'	50:3:2437:G:H1'	1.86	0.58
50:3:2458:A:N6	50:3:2509:C:N1	2.51	0.58
50:3:2567:C:H2'	50:3:2568:G:H8	1.69	0.58
51:4:53:U:O2'	51:4:55:A:N7	2.36	0.58
8:E:162:LYS:HG2	8:E:163:MET:H	1.69	0.58
10:G:11:HIS:NE2	52:5:821:U:O2	2.32	0.58
14:K:99:ARG:NH2	14:K:106:VAL:O	2.37	0.58
26:c:97:ARG:NH1	50:3:1276:A:O2'	2.36	0.58
33:j:41:VAL:HG21	33:j:60:ALA:HB3	1.85	0.58
36:m:70:THR:O	50:3:1321:C:O2'	2.16	0.58
48:y:16:ARG:HH22	50:3:1294:G:H5''	1.67	0.58
50:3:60:G:H2'	50:3:61:U:H6	1.68	0.58
50:3:276:A:H5'	50:3:277:C:O5'	2.04	0.58
50:3:1229:U:H2'	50:3:1230:U:H6	1.68	0.58
50:3:2321:C:H2'	50:3:2322:G:C8	2.38	0.58
50:3:2852:G:H1'	50:3:2872:A:H61	1.68	0.58
51:4:37:A:O2'	51:4:44:A:N1	2.32	0.58
52:5:922:G:H21	52:5:1507:U:H5''	1.67	0.58
52:5:1089:C:O2'	52:5:1143:C:N4	2.31	0.58
52:5:1191:U:H2'	52:5:1192:C:C6	2.38	0.58
53:8:63:U:H2'	53:8:64:G:H8	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:8:69:A:H2'	53:8:70:G:C8	2.38	0.58
16:M:3:LYS:N	52:5:1040:U:OP1	2.36	0.58
24:a:34:GLU:HG3	24:a:35:LYS:H	1.69	0.58
31:h:113:ASN:OD1	31:h:114:ALA:N	2.37	0.58
39:p:27:ARG:HA	39:p:33:VAL:HG12	1.84	0.58
40:q:3:ALA:N	40:q:14:VAL:O	2.37	0.58
50:3:335:G:C2	50:3:350:C:C2	2.92	0.58
50:3:915:A:N6	50:3:936:G:O2'	2.36	0.58
50:3:1194:U:H2'	50:3:1195:A:C8	2.39	0.58
52:5:150:A:H2'	52:5:151:C:C6	2.38	0.58
52:5:428:A:H3'	52:5:429:A:C8	2.38	0.58
52:5:601:U:H2'	52:5:602:G:C8	2.39	0.58
52:5:795:U:H2'	52:5:796:A:C8	2.39	0.58
52:5:1316:C:H2'	52:5:1317:A:C8	2.38	0.58
5:B:35:ILE:HD11	16:M:24:CYS:HA	1.85	0.58
6:C:29:LYS:HD3	6:C:31:ARG:HB3	1.86	0.58
15:L:86:TRP:HE1	21:R:77:THR:H	1.52	0.58
33:j:16:ALA:HB2	33:j:52:VAL:HG11	1.86	0.58
34:k:26:SER:OG	50:3:849:C:N4	2.36	0.58
38:o:55:ARG:NH1	50:3:2852:G:O6	2.37	0.58
43:t:9:LYS:HB3	43:t:77:PHE:HB3	1.86	0.58
43:t:100:LYS:NZ	50:3:330:A:OP1	2.32	0.58
50:3:59:C:H2'	50:3:60:G:C8	2.38	0.58
50:3:70:G:H2'	50:3:71:C:O4'	2.04	0.58
50:3:1093:U:O2	50:3:1115:G:N2	2.25	0.58
50:3:1354:U:H4'	50:3:2017:G:H1'	1.84	0.58
50:3:1380:U:H2'	50:3:1406:A:N6	2.16	0.58
50:3:2551:G:H2'	50:3:2552:G:C8	2.38	0.58
52:5:649:U:O4	52:5:749:G:O2'	2.21	0.58
52:5:1038:G:O6	52:5:1186:U:O2	2.20	0.58
6:C:18:LEU:HB2	6:C:23:LYS:HG2	1.86	0.58
14:K:16:LYS:HG3	52:5:557:A:H1'	1.86	0.58
24:a:210:LEU:HD21	52:5:770:G:H5''	1.86	0.58
50:3:1089:A:H2'	50:3:1090:G:C8	2.38	0.58
50:3:1140:U:H2'	50:3:1141:U:C6	2.39	0.58
50:3:1806:G:O4'	50:3:1826:A:N6	2.37	0.58
52:5:372:G:H2'	52:5:373:A:C8	2.39	0.58
52:5:660:A:N1	52:5:739:G:N2	2.48	0.58
52:5:702:U:H3'	52:5:703:A:C8	2.36	0.58
52:5:778:A:H3'	52:5:779:A:H8	1.69	0.58
52:5:957:C:H2'	52:5:958:G:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1045:C:O2	52:5:1171:A:N6	2.37	0.58
13:J:81:GLY:H	13:J:107:THR:HG22	1.68	0.57
18:O:61:ASP:OD1	18:O:62:THR:N	2.36	0.57
24:a:65:LYS:HE3	50:3:1602:G:H5''	1.86	0.57
24:a:173:GLN:O	52:5:678:A:O2'	2.19	0.57
24:a:190:ARG:HH21	24:a:277:LEU:HD12	1.68	0.57
24:a:266:LYS:HE3	24:a:281:ASN:HD21	1.69	0.57
26:c:32:GLN:NE2	50:3:695:G:N3	2.52	0.57
29:f:2:LYS:HE2	29:f:4:ILE:C	2.28	0.57
33:j:59:ARG:HD3	33:j:89:GLU:HG3	1.84	0.57
41:r:10:VAL:HB	41:r:46:LEU:HD13	1.85	0.57
50:3:305:U:O2	50:3:399:G:N2	2.28	0.57
50:3:370:C:H2'	50:3:371:C:C6	2.39	0.57
50:3:1304:U:H2'	50:3:1305:G:C8	2.39	0.57
50:3:1860:A:N3	50:3:2241:A:O2'	2.32	0.57
50:3:2256:C:O2'	50:3:2283:C:OP1	2.20	0.57
50:3:2444:G:N2	50:3:2606:A:N3	2.43	0.57
50:3:2726:G:H2'	50:3:2727:G:C8	2.38	0.57
52:5:116:A:O3'	52:5:259:A:O2'	2.21	0.57
52:5:1214:A:C6	52:5:1270:C:H2'	2.39	0.57
52:5:1224:C:C2	52:5:1261:A:N7	2.72	0.57
52:5:1283:G:H2'	52:5:1284:A:C8	2.39	0.57
2:1:24:ALA:HB3	50:3:2369:G:H5'	1.85	0.57
19:P:2:LYS:HD2	52:5:187:A:H5''	1.86	0.57
26:c:69:LYS:HZ1	26:c:70:HIS:CE1	2.21	0.57
40:q:39:LEU:HD12	40:q:40:MET:H	1.68	0.57
46:w:105:ARG:HH22	50:3:1497:A:H2	1.52	0.57
50:3:76:A:H8	50:3:90:G:O6	1.87	0.57
50:3:401:G:O2'	50:3:402:A:OP1	2.21	0.57
50:3:729:U:O4	50:3:803:G:O6	2.21	0.57
50:3:873:G:H21	50:3:1220:A:H2	1.51	0.57
50:3:1469:C:N4	50:3:1583:G:O6	2.37	0.57
50:3:1746:U:O2	50:3:1753:G:C6	2.58	0.57
50:3:2212:U:H3	50:3:2228:U:H3	1.50	0.57
50:3:2372:C:H2'	50:3:2373:G:H8	1.68	0.57
50:3:2494:C:H2'	50:3:2495:A:H8	1.69	0.57
52:5:83:U:H2'	52:5:84:U:C6	2.40	0.57
52:5:1392:A:O2'	52:5:1458:A:N6	2.37	0.57
11:H:113:LYS:HD2	52:5:1347:U:H5	1.70	0.57
12:I:51:LYS:HD2	52:5:1229:A:OP2	2.04	0.57
15:L:96:PRO:HD2	15:L:102:THR:HG22	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:P:76:ARG:NH1	52:5:180:C:O2'	2.37	0.57
21:R:9:ALA:HB1	21:R:39:THR:HG21	1.86	0.57
24:a:162:ARG:NH1	50:3:1825:U:H2'	2.20	0.57
25:b:178:ASN:O	25:b:180:ARG:NH2	2.37	0.57
50:3:650:G:H2'	50:3:651:A:C8	2.39	0.57
50:3:1518:C:H2'	50:3:1519:A:H8	1.69	0.57
52:5:19:C:H2'	52:5:20:C:C6	2.39	0.57
52:5:655:G:C6	52:5:744:U:O2	2.57	0.57
52:5:807:C:O2'	52:5:892:G:O2'	2.13	0.57
15:L:19:LEU:HD22	15:L:25:ILE:HG13	1.85	0.57
16:M:24:CYS:HB2	16:M:39:VAL:HA	1.86	0.57
25:b:66:GLN:HE21	50:3:2642:G:H4'	1.68	0.57
34:k:60:ARG:NH1	50:3:2401:U:O2	2.37	0.57
37:n:9:ARG:NH1	51:4:5:G:OP1	2.37	0.57
37:n:93:THR:OG1	37:n:96:SER:O	2.14	0.57
48:y:40:HIS:HA	48:y:48:TYR:HE1	1.69	0.57
50:3:896:U:C2	50:3:897:A:C8	2.92	0.57
50:3:2038:A:O2'	50:3:2462:G:N2	2.37	0.57
50:3:2825:A:H2	50:3:2830:A:H61	1.50	0.57
51:4:22:G:H2'	51:4:25:A:N1	2.18	0.57
52:5:789:A:O2'	52:5:792:C:N4	2.38	0.57
52:5:1407:A:HO2'	52:5:1442:A:N6	2.01	0.57
31:h:128:ALA:HB1	31:h:133:ILE:HG23	1.86	0.57
32:i:57:LEU:HB3	32:i:125:VAL:HG12	1.85	0.57
41:r:118:ILE:HA	41:r:121:GLN:HE21	1.69	0.57
50:3:225:A:H1'	50:3:237:A:H1'	1.86	0.57
50:3:384:G:H2'	50:3:385:U:C6	2.39	0.57
50:3:519:A:N6	50:3:532:A:O2'	2.37	0.57
50:3:878:A:N6	50:3:969:A:OP2	2.37	0.57
50:3:984:C:H2'	50:3:985:A:C8	2.40	0.57
50:3:1227:C:H2'	50:3:1228:G:C8	2.39	0.57
50:3:1780:A:OP1	50:3:1797:C:N4	2.36	0.57
50:3:1803:U:O2	50:3:1830:G:N2	2.31	0.57
50:3:1828:A:H2'	50:3:1829:U:C6	2.40	0.57
50:3:2323:U:H2'	50:3:2324:A:H8	1.70	0.57
50:3:2694:A:H2'	50:3:2695:U:H6	1.69	0.57
50:3:2855:A:H3'	50:3:2856:G:C8	2.39	0.57
52:5:111:A:H4'	52:5:602:G:H21	1.70	0.57
52:5:169:G:H1	52:5:196:G:H22	1.53	0.57
52:5:442:G:H2'	52:5:443:G:H8	1.70	0.57
52:5:451:G:H3'	52:5:452:A:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:539:G:H2'	52:5:540:U:C6	2.39	0.57
52:5:542:G:N2	52:5:547:C:O2'	2.37	0.57
52:5:664:A:H2'	52:5:665:G:C8	2.39	0.57
52:5:1043:U:N3	52:5:1181:G:N1	2.40	0.57
7:D:80:THR:HA	52:5:917:G:H4'	1.85	0.57
9:F:121:ASN:HA	9:F:124:ILE:HG12	1.87	0.57
11:H:86:VAL:HG11	11:H:105:LEU:HD13	1.86	0.57
24:a:169:ARG:HH21	24:a:171:LEU:HD23	1.69	0.57
34:k:117:HIS:HB3	50:3:673:A:H5''	1.86	0.57
41:r:16:LYS:NZ	50:3:1296:G:N7	2.40	0.57
48:y:3:VAL:HG22	50:3:2063:G:H21	1.69	0.57
48:y:17:ARG:NE	50:3:1296:G:OP2	2.37	0.57
50:3:243:U:H3	50:3:262:G:H1	1.53	0.57
50:3:275:A:N6	50:3:294:G:H1'	2.19	0.57
50:3:712:A:H2'	50:3:713:C:C6	2.39	0.57
50:3:1114:C:H2'	50:3:1115:G:H8	1.67	0.57
50:3:1723:A:H2'	50:3:1724:A:C8	2.40	0.57
10:G:27:LYS:O	52:5:854:A:O2'	2.21	0.57
15:L:110:LYS:O	15:L:114:LYS:NZ	2.35	0.57
19:P:73:LYS:NZ	52:5:251:G:OP1	2.35	0.57
22:S:73:VAL:HG23	22:S:76:LEU:HD23	1.86	0.57
28:e:97:TYR:HA	28:e:109:GLN:O	2.05	0.57
50:3:325:G:C6	50:3:383:U:C4	2.93	0.57
50:3:2879:U:H2'	50:3:2880:A:C8	2.39	0.57
52:5:67:U:H2'	52:5:68:C:C6	2.40	0.57
52:5:591:A:H2'	52:5:592:A:C8	2.40	0.57
52:5:682:G:H2'	52:5:683:G:C4	2.39	0.57
52:5:1069:U:O4	52:5:1070:G:N2	2.37	0.57
53:7:63:U:H2'	53:7:64:G:H8	1.69	0.57
8:E:107:LEU:HA	20:Q:46:ILE:HG22	1.87	0.57
15:L:81:SER:HA	15:L:88:GLY:HA3	1.87	0.57
27:d:25:ILE:O	27:d:30:ARG:NH2	2.38	0.57
28:e:86:PHE:CG	28:e:141:LYS:HB3	2.40	0.57
42:s:19:ASN:HB3	42:s:26:LYS:HB2	1.86	0.57
50:3:1803:U:H2'	50:3:1804:A:C8	2.40	0.57
50:3:1841:U:H5''	50:3:1842:G:H5'	1.87	0.57
50:3:2572:A:C2	50:3:2656:G:H5'	2.40	0.57
52:5:1324:A:H2'	52:5:1325:U:O4'	2.05	0.57
2:l:6:ALA:HB1	50:3:254:G:H5'	1.87	0.57
26:c:104:ASN:HB2	26:c:107:ALA:H	1.69	0.57
50:3:317:U:H2'	50:3:318:U:C6	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1623:U:H2'	50:3:1624:A:H8	1.70	0.57
50:3:1832:G:H2'	50:3:1833:G:C8	2.40	0.57
50:3:1966:G:C6	50:3:1967:U:O4	2.57	0.57
52:5:455:U:H3	52:5:472:G:H1	1.53	0.57
52:5:1441:C:O2'	52:5:1442:A:O4'	2.16	0.57
52:5:1473:U:O2'	52:5:1475:A:N6	2.36	0.57
10:G:38:SER:HB3	10:G:40:LEU:HD23	1.85	0.57
23:T:28:LEU:HD13	52:5:715:A:H2'	1.87	0.57
25:b:168:HIS:NE2	25:b:170:GLY:O	2.38	0.57
30:g:96:VAL:O	30:g:100:VAL:HG23	2.04	0.57
38:o:97:ARG:NH1	50:3:2702:G:O2'	2.38	0.57
41:r:72:PHE:HZ	41:r:108:SER:H	1.51	0.57
41:r:88:ARG:O	50:3:1648:A:N6	2.37	0.57
44:u:28:ARG:NH2	50:3:2288:G:N7	2.53	0.57
48:y:27:LEU:O	50:3:2890:G:N2	2.32	0.57
50:3:39:C:H2'	50:3:40:A:C8	2.40	0.57
50:3:1135:C:H2'	50:3:1136:U:O4'	2.05	0.57
50:3:1627:U:H2'	50:3:1628:G:C8	2.40	0.57
50:3:1663:G:O2'	50:3:2706:U:H5''	2.03	0.57
50:3:1766:A:N6	50:3:2705:G:O2'	2.38	0.57
50:3:1916:C:H2'	50:3:1917:G:C8	2.40	0.57
50:3:2145:A:H2'	50:3:2146:A:C8	2.40	0.57
50:3:2567:C:H2'	50:3:2568:G:C8	2.40	0.57
52:5:245:U:O2	52:5:272:G:C6	2.58	0.57
52:5:573:G:H5'	52:5:875:G:H21	1.70	0.57
52:5:1011:A:N3	52:5:1193:U:O2'	2.35	0.57
52:5:1389:U:H2'	52:5:1390:G:C8	2.39	0.57
52:5:1497:U:H2'	52:5:1498:G:C8	2.40	0.57
8:E:34:GLY:O	8:E:36:GLN:NE2	2.38	0.56
12:I:48:LEU:HD12	12:I:77:LYS:HB3	1.87	0.56
14:K:5:ALA:HB1	52:5:873:U:H3'	1.87	0.56
20:Q:73:ARG:NH2	20:Q:79:CYS:O	2.38	0.56
24:a:217:GLY:HA3	50:3:799:A:H5''	1.87	0.56
31:h:103:GLU:O	31:h:107:TYR:HB2	2.05	0.56
31:h:120:ALA:O	31:h:124:VAL:HG23	2.04	0.56
32:i:80:HIS:ND1	50:3:2047:U:O2'	2.36	0.56
43:t:90:LYS:HA	43:t:105:LYS:HG3	1.85	0.56
50:3:515:A:H4'	50:3:516:A:H5'	1.86	0.56
50:3:1455:A:N6	50:3:1605:A:OP2	2.29	0.56
50:3:1604:A:H2'	50:3:1605:A:C8	2.40	0.56
50:3:1787:A:H2'	50:3:1788:A:H2'	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1943:A:N7	50:3:1950:U:C4	2.73	0.56
50:3:2555:U:H2'	50:3:2556:C:C6	2.39	0.56
52:5:379:A:H5''	52:5:453:C:H5''	1.87	0.56
52:5:761:U:H2'	52:5:762:G:O4'	2.05	0.56
52:5:764:A:H2'	52:5:765:A:C8	2.40	0.56
52:5:764:A:H62	52:5:809:G:N2	2.02	0.56
52:5:794:C:H2'	52:5:795:U:C6	2.40	0.56
52:5:1058:A:H5'	52:5:1361:G:H21	1.70	0.56
52:5:1283:G:H2'	52:5:1284:A:H8	1.70	0.56
2:1:43:LYS:HE3	50:3:683:G:H22	1.70	0.56
11:H:66:ASN:ND2	52:5:1121:U:O2'	2.31	0.56
28:e:95:VAL:HB	50:3:2665:A:H5''	1.87	0.56
38:o:34:ALA:HB3	38:o:87:SER:HB3	1.85	0.56
48:y:40:HIS:HA	48:y:48:TYR:CE1	2.40	0.56
50:3:307:C:H2'	50:3:308:A:C8	2.40	0.56
50:3:317:U:H2'	50:3:318:U:H6	1.69	0.56
50:3:764:G:O6	50:3:1781:C:N4	2.38	0.56
50:3:1077:G:O6	50:3:1148:U:C4	2.58	0.56
50:3:1327:G:O2'	50:3:1674:A:N6	2.36	0.56
50:3:2636:U:O2'	50:3:2790:A:OP1	2.19	0.56
52:5:22:G:H2'	52:5:23:G:C8	2.40	0.56
52:5:190:A:H2'	52:5:191:A:C8	2.39	0.56
52:5:290:G:O6	52:5:300:A:N6	2.38	0.56
52:5:688:G:O2'	52:5:692:A:N6	2.30	0.56
52:5:710:G:N2	52:5:774:A:O2'	2.38	0.56
52:5:897:A:H2'	52:5:898:A:C8	2.40	0.56
52:5:1230:G:H3'	52:5:1254:A:H61	1.69	0.56
52:5:1498:G:H2'	52:5:1499:G:C8	2.41	0.56
4:A:130:LEU:HD13	4:A:159:LEU:HD13	1.87	0.56
7:D:87:ARG:HG3	7:D:109:LEU:HD22	1.88	0.56
24:a:53:ILE:O	50:3:1812:C:O2'	2.22	0.56
25:b:121:GLY:N	50:3:1689:A:H4'	2.20	0.56
26:c:108:HIS:NE2	50:3:652:U:H4'	2.20	0.56
28:e:141:LYS:HA	28:e:144:VAL:HG12	1.86	0.56
50:3:174:A:H2'	50:3:175:A:C8	2.40	0.56
50:3:219:G:H21	50:3:468:A:H2	1.54	0.56
50:3:341:G:N2	50:3:344:A:H8	2.03	0.56
50:3:347:C:H2'	50:3:348:A:C8	2.40	0.56
50:3:360:G:H2'	50:3:361:G:H8	1.71	0.56
50:3:487:C:N4	50:3:490:A:OP2	2.38	0.56
50:3:601:U:H2'	50:3:603:G:N7	2.19	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:740:A:H1'	50:3:762:A:C2	2.40	0.56
50:3:766:C:H2'	50:3:767:C:C6	2.40	0.56
50:3:1086:G:C6	50:3:1143:U:O2	2.59	0.56
50:3:1296:G:N1	50:3:2020:A:OP2	2.30	0.56
50:3:1477:A:H2	50:3:1488:U:H3	1.52	0.56
50:3:1500:A:N6	50:3:1544:G:O6	2.38	0.56
50:3:2186:C:H2'	50:3:2187:C:H4'	1.86	0.56
50:3:2213:A:H2'	50:3:2214:A:C8	2.40	0.56
50:3:2695:U:O4	50:3:2730:G:O6	2.24	0.56
50:3:2704:U:H2'	50:3:2705:G:H8	1.70	0.56
50:3:2720:C:OP1	50:3:2722:G:O2'	2.21	0.56
52:5:97:G:OP1	52:5:385:A:O2'	2.23	0.56
52:5:307:C:H2'	52:5:308:C:H6	1.70	0.56
52:5:316:G:H2'	52:5:317:A:C8	2.40	0.56
52:5:488:U:O2'	52:5:490:U:OP2	2.24	0.56
52:5:1038:G:C6	52:5:1186:U:O2	2.58	0.56
52:5:1167:C:H3'	52:5:1168:G:C8	2.40	0.56
52:5:1258:U:H2'	52:5:1259:G:C8	2.40	0.56
52:5:1278:G:N2	52:5:1306:A:OP2	2.38	0.56
52:5:1279:G:O2'	52:5:1280:A:O4'	2.22	0.56
52:5:1433:G:H2'	52:5:1434:C:C6	2.41	0.56
11:H:43:ASN:O	52:5:1265:U:O2'	2.23	0.56
25:b:125:ARG:HG3	25:b:169:TYR:HB2	1.88	0.56
27:d:28:VAL:O	27:d:159:SER:OG	2.22	0.56
34:k:124:LEU:HB2	34:k:139:VAL:HG13	1.88	0.56
35:l:43:ASP:HA	35:l:94:VAL:HG22	1.87	0.56
39:p:49:ARG:HA	39:p:52:LYS:HE2	1.87	0.56
41:r:16:LYS:NZ	50:3:2019:G:N7	2.48	0.56
50:3:338:G:H2'	50:3:339:U:C6	2.40	0.56
50:3:418:G:H2'	50:3:419:A:C8	2.40	0.56
50:3:1475:C:H2'	50:3:1476:C:C6	2.40	0.56
50:3:1738:G:C6	50:3:1739:G:O6	2.58	0.56
50:3:1777:G:H2'	50:3:1778:G:H8	1.71	0.56
50:3:2196:G:H2'	50:3:2197:U:C6	2.39	0.56
50:3:2727:G:N2	50:3:2876:G:H22	2.03	0.56
5:B:93:LYS:HG2	5:B:98:ARG:HD3	1.86	0.56
12:I:63:VAL:HB	52:5:958:G:H21	1.71	0.56
13:J:79:VAL:HG21	13:J:86:LYS:HE2	1.88	0.56
16:M:7:LYS:NZ	16:M:25:GLN:O	2.30	0.56
22:S:6:SER:HB2	52:5:92:G:H22	1.70	0.56
24:a:7:ILE:HB	50:3:741:A:H5'	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:b:19:THR:N	25:b:221:GLU:O	2.37	0.56
25:b:64:LYS:HG3	50:3:2795:C:H4'	1.87	0.56
27:d:133:LYS:HD3	50:3:2313:U:H1'	1.87	0.56
50:3:186:A:N3	50:3:469:C:O2'	2.37	0.56
50:3:197:U:H2'	50:3:198:G:C8	2.39	0.56
50:3:359:G:H2'	50:3:360:G:H8	1.69	0.56
50:3:501:G:O2'	50:3:718:U:O2'	2.15	0.56
50:3:670:G:H2'	50:3:671:C:C6	2.40	0.56
50:3:777:C:H1'	50:3:1710:A:H1'	1.87	0.56
50:3:900:G:N2	50:3:950:U:O2	2.37	0.56
50:3:2416:U:H2'	50:3:2417:G:C8	2.40	0.56
50:3:2854:A:H5'	50:3:2870:U:H3	1.71	0.56
51:4:60:C:H2'	51:4:61:A:C8	2.40	0.56
52:5:982:A:H2'	52:5:983:G:H8	1.70	0.56
10:G:23:ASN:OD1	10:G:26:ARG:NH1	2.27	0.56
19:P:29:ARG:HB3	19:P:40:VAL:HG22	1.87	0.56
21:R:86:ASN:OD1	53:7:42:C:O2'	2.22	0.56
24:a:160:ILE:HG23	50:3:1806:G:C2	2.41	0.56
37:n:37:ASN:O	37:n:101:ARG:NH1	2.39	0.56
45:v:34:GLN:NE2	50:3:2097:A:N3	2.54	0.56
50:3:59:C:H2'	50:3:60:G:H8	1.71	0.56
50:3:155:A:H2	50:3:177:U:H1'	1.71	0.56
50:3:318:U:H2'	50:3:319:G:C8	2.41	0.56
50:3:663:A:N6	50:3:673:A:O5'	2.39	0.56
50:3:683:G:N2	50:3:2358:U:O3'	2.31	0.56
50:3:1348:C:N4	50:3:1358:C:OP2	2.38	0.56
50:3:1445:U:H2'	50:3:1446:G:C4	2.40	0.56
50:3:1815:U:O2'	50:3:1816:A:O5'	2.21	0.56
50:3:1824:G:N3	50:3:1828:A:O2'	2.38	0.56
50:3:1943:A:O2'	50:3:1950:U:O2	2.20	0.56
50:3:2068:G:N2	50:3:2069:A:N7	2.44	0.56
52:5:319:U:O2	52:5:323:A:N7	2.38	0.56
52:5:614:U:H2'	52:5:615:G:C8	2.40	0.56
52:5:1329:G:H2'	52:5:1330:A:H8	1.71	0.56
5:B:6:ASN:OD1	5:B:7:SER:N	2.39	0.56
9:F:78:ARG:O	9:F:155:TRP:NE1	2.37	0.56
17:N:30:THR:HG21	17:N:78:LEU:HD21	1.86	0.56
24:a:112:PRO:HA	24:a:203:VAL:HA	1.87	0.56
24:a:173:GLN:OE1	24:a:194:LYS:NZ	2.38	0.56
29:f:2:LYS:HZ1	29:f:5:LEU:HA	1.59	0.56
42:s:62:PRO:HB3	42:s:74:LEU:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:579:U:C4	50:3:582:A:N1	2.74	0.56
50:3:974:C:H2'	50:3:975:G:C8	2.41	0.56
50:3:1242:G:H21	50:3:1267:A:N6	2.02	0.56
50:3:1386:G:N2	50:3:1402:G:O6	2.38	0.56
50:3:1663:G:N3	50:3:2706:U:H4'	2.20	0.56
50:3:2073:C:H2'	50:3:2074:G:C8	2.41	0.56
50:3:2543:G:H2'	50:3:2544:G:H8	1.71	0.56
52:5:472:G:H2'	52:5:473:A:C8	2.41	0.56
52:5:672:A:H2'	52:5:673:A:C8	2.39	0.56
52:5:807:C:H2'	52:5:808:C:O4'	2.06	0.56
3:2:18:LYS:HE2	3:2:23:VAL:HB	1.88	0.56
9:F:35:LYS:NZ	52:5:1348:G:OP1	2.39	0.56
10:G:38:SER:HB2	10:G:41:LYS:HD2	1.88	0.56
26:c:55:LYS:HD3	50:3:836:G:C4	2.39	0.56
27:d:38:MET:O	27:d:86:GLY:HA2	2.05	0.56
30:g:74:THR:HA	30:g:110:CYS:HB2	1.86	0.56
43:t:70:PHE:HB2	43:t:73:LYS:HG3	1.87	0.56
50:3:112:A:H2'	50:3:113:U:C6	2.40	0.56
50:3:228:A:N6	50:3:455:G:O2'	2.37	0.56
50:3:231:A:N1	50:3:454:G:H1'	2.21	0.56
50:3:299:A:H2'	50:3:299:A:N3	2.20	0.56
50:3:538:A:H1'	50:3:541:G:H2'	1.87	0.56
50:3:1480:A:O2'	50:3:2710:G:N1	2.37	0.56
50:3:1536:C:H42	50:3:1537:A:N6	2.02	0.56
50:3:1916:C:H2'	50:3:1917:G:H8	1.70	0.56
50:3:2861:G:H21	50:3:2864:A:H8	1.54	0.56
51:4:11:A:C8	51:4:68:C:H4'	2.41	0.56
52:5:41:C:H2'	52:5:42:G:C8	2.41	0.56
52:5:331:C:H2'	52:5:332:A:C8	2.41	0.56
52:5:775:G:H2'	52:5:776:C:C6	2.40	0.56
52:5:1141:U:O2'	52:5:1142:G:H5''	2.06	0.56
52:5:1385:A:H2'	52:5:1386:C:C6	2.40	0.56
17:N:64:LEU:HD13	17:N:79:VAL:HG13	1.87	0.56
29:f:3:VAL:HG22	45:v:62:ASN:ND2	2.19	0.56
50:3:312:U:O4	50:3:394:C:N4	2.38	0.56
50:3:442:G:H2'	50:3:443:C:C6	2.41	0.56
50:3:524:G:N2	50:3:528:U:O4	2.39	0.56
50:3:1600:A:O2'	50:3:1602:G:N2	2.39	0.56
50:3:1680:A:H5'	50:3:1681:G:H4'	1.88	0.56
50:3:1902:C:H2'	50:3:1903:A:H8	1.70	0.56
50:3:2816:A:H2'	50:3:2817:G:H8	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:92:G:C2	52:5:93:A:H1'	2.41	0.56
52:5:316:G:H2'	52:5:317:A:H8	1.71	0.56
52:5:387:G:H21	52:5:479:A:H1'	1.70	0.56
52:5:492:G:H21	52:5:494:A:H1'	1.71	0.56
52:5:1194:A:H2'	52:5:1195:G:C8	2.41	0.56
8:E:86:LEU:HD21	20:Q:92:ARG:HD2	1.87	0.56
11:H:60:LYS:HD3	11:H:65:ILE:HG13	1.86	0.56
11:H:98:LYS:NZ	52:5:1152:G:OP1	2.37	0.56
13:J:34:VAL:HG22	52:5:681:U:O2	2.06	0.56
24:a:163:SER:N	24:a:166:SER:OG	2.39	0.56
25:b:99:GLN:HE22	25:b:184:PHE:HB3	1.71	0.56
27:d:16:LEU:HD13	27:d:29:PRO:HG2	1.87	0.56
30:g:88:GLU:O	30:g:90:VAL:N	2.38	0.56
31:h:23:PRO:O	31:h:27:SER:OG	2.24	0.56
36:m:71:ASN:HB2	50:3:1306:G:H21	1.70	0.56
41:r:70:TYR:OH	41:r:112:ASN:OD1	2.24	0.56
43:t:15:GLY:O	50:3:343:A:O2'	2.16	0.56
50:3:282:C:H42	50:3:288:A:N6	2.04	0.56
50:3:405:C:O2'	50:3:406:C:O4'	2.23	0.56
50:3:2287:G:H21	50:3:2335:A:N6	2.05	0.56
50:3:2406:U:H2'	50:3:2407:G:H8	1.70	0.56
52:5:960:C:OP1	52:5:1172:A:O2'	2.24	0.56
26:c:116:TRP:HZ3	26:c:191:LEU:HD23	1.69	0.55
30:g:86:VAL:HG23	30:g:87:ASN:H	1.71	0.55
31:h:112:LEU:HD13	31:h:123:MET:HG3	1.86	0.55
33:j:8:LEU:HD11	33:j:84:CYS:SG	2.46	0.55
40:q:4:ILE:HG22	40:q:11:GLN:HG2	1.88	0.55
50:3:341:G:H21	50:3:344:A:H8	1.54	0.55
50:3:378:G:N2	50:3:379:A:H62	2.04	0.55
50:3:404:C:H3'	50:3:405:C:C6	2.41	0.55
50:3:1101:U:O4	50:3:1104:A:H2'	2.06	0.55
50:3:1798:A:H3'	50:3:1799:A:H8	1.71	0.55
52:5:29:G:N1	52:5:553:C:N3	2.49	0.55
52:5:375:C:N4	52:5:376:G:O6	2.39	0.55
52:5:433:C:H2'	52:5:434:U:C5	2.40	0.55
52:5:879:G:H2'	52:5:880:G:C8	2.31	0.55
52:5:1282:U:H2'	52:5:1283:G:C8	2.41	0.55
52:5:1328:C:H2'	52:5:1329:G:C8	2.42	0.55
5:B:59:GLU:HB3	12:I:100:VAL:HG21	1.87	0.55
6:C:13:ARG:HB2	6:C:35:PRO:HD2	1.87	0.55
10:G:117:SER:HB3	10:G:138:LEU:HD11	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:60:ILE:HD12	22:S:64:ARG:HE	1.72	0.55
24:a:43:LYS:HG3	24:a:45:GLY:H	1.69	0.55
35:l:82:ARG:NH2	50:3:2459:A:OP1	2.40	0.55
36:m:106:ARG:NE	50:3:1316:U:O4	2.31	0.55
50:3:354:C:H4'	50:3:356:A:C8	2.42	0.55
50:3:616:G:N2	50:3:1288:C:O2	2.39	0.55
50:3:697:U:H2'	50:3:698:A:C8	2.41	0.55
50:3:2155:G:H2'	50:3:2156:G:C8	2.41	0.55
50:3:2182:C:H2'	50:3:2183:U:O4'	2.06	0.55
50:3:2381:G:H2'	50:3:2382:A:H8	1.71	0.55
50:3:2857:C:H2'	50:3:2858:A:H8	1.71	0.55
52:5:421:G:H2'	52:5:422:A:C8	2.41	0.55
52:5:986:U:O2'	52:5:1187:U:O2	2.24	0.55
10:G:66:THR:HB	52:5:648:C:H4'	1.89	0.55
19:P:68:PRO:HA	19:P:74:ARG:HA	1.88	0.55
26:c:101:LEU:HB3	50:3:695:G:H4'	1.88	0.55
27:d:92:ARG:HD2	51:4:42:G:H5'	1.88	0.55
30:g:49:SER:HB3	30:g:86:VAL:HG22	1.88	0.55
33:j:71:ARG:NH2	33:j:104:ARG:HG3	2.21	0.55
35:l:28:ALA:HB3	35:l:67:ARG:HH12	1.70	0.55
42:s:13:THR:HB	50:3:1366:G:H5''	1.87	0.55
50:3:49:C:N4	50:3:181:G:O6	2.39	0.55
50:3:638:A:C6	50:3:661:G:N1	2.74	0.55
50:3:882:C:OP2	50:3:883:A:N6	2.36	0.55
50:3:1677:G:H2'	50:3:1678:U:C6	2.41	0.55
50:3:2190:G:O6	50:3:2191:G:O6	2.24	0.55
50:3:2570:U:C2	50:3:2574:A:N7	2.75	0.55
50:3:2843:G:O6	50:3:2882:U:O4	2.23	0.55
52:5:785:U:H2'	52:5:786:U:O4'	2.06	0.55
52:5:1002:A:N6	52:5:1003:G:O6	2.39	0.55
4:A:159:LEU:O	4:A:164:GLY:N	2.39	0.55
21:R:83:HIS:ND1	21:R:83:HIS:O	2.40	0.55
29:f:11:ASN:CG	29:f:34:LYS:HE2	2.31	0.55
39:p:57:ARG:NH2	50:3:1189:G:OP1	2.39	0.55
39:p:86:ASN:ND2	39:p:112:VAL:O	2.40	0.55
49:z:45:VAL:O	49:z:47:HIS:ND1	2.40	0.55
50:3:293:G:H2'	50:3:294:G:N3	2.21	0.55
50:3:360:G:H2'	50:3:361:G:C8	2.40	0.55
50:3:745:U:H2'	50:3:746:G:C8	2.41	0.55
50:3:1402:G:H2'	50:3:1403:G:C8	2.42	0.55
50:3:2238:G:H2'	50:3:2239:U:C6	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2246:G:OP1	50:3:2246:G:N2	2.39	0.55
50:3:2803:G:H1	50:3:2808:A:H5'	1.72	0.55
52:5:19:C:H2'	52:5:20:C:H6	1.70	0.55
52:5:973:A:H2	52:5:1292:A:H2'	1.72	0.55
12:I:67:SER:OG	52:5:1051:U:O3'	2.24	0.55
13:J:121:ARG:HG2	52:5:792:C:H5''	1.88	0.55
18:O:68:SER:OG	52:5:470:U:OP1	2.25	0.55
26:c:30:LYS:HD2	50:3:633:G:H5''	1.89	0.55
26:c:40:VAL:HG22	26:c:101:LEU:H	1.71	0.55
26:c:64:LYS:HE3	50:3:710:A:H4'	1.87	0.55
27:d:68:THR:HG23	27:d:88:LYS:HG3	1.88	0.55
29:f:4:ILE:N	29:f:20:ASP:OD2	2.40	0.55
32:i:45:VAL:HG21	39:p:100:LYS:HD2	1.88	0.55
33:j:93:PRO:HD3	33:j:114:ILE:HG12	1.87	0.55
34:k:134:GLN:HA	34:k:137:LYS:HG2	1.88	0.55
35:l:106:VAL:HG12	35:l:109:ILE:HG21	1.87	0.55
39:p:52:LYS:HG3	39:p:56:PHE:CD1	2.42	0.55
50:3:67:C:N3	50:3:92:U:O2	2.40	0.55
50:3:684:A:H4'	50:3:2360:A:H5'	1.87	0.55
50:3:1027:U:H2'	50:3:1028:C:O4'	2.06	0.55
50:3:1772:G:H2'	50:3:1773:A:C8	2.41	0.55
50:3:2259:G:H8	50:3:2259:G:OP2	1.89	0.55
50:3:2325:U:H2'	50:3:2326:G:C8	2.40	0.55
50:3:2383:G:N2	50:3:2385:A:H3'	2.21	0.55
50:3:2772:A:C6	50:3:2774:A:H1'	2.41	0.55
52:5:200:G:H2'	52:5:201:G:C8	2.41	0.55
52:5:615:G:H2'	52:5:616:C:H4'	1.89	0.55
1:0:3:ARG:HB2	1:0:6:GLN:HG2	1.88	0.55
7:D:153:PRO:HB2	52:5:7:U:H3	1.72	0.55
25:b:44:LYS:O	50:3:2792:C:O2'	2.19	0.55
30:g:63:LEU:HG	30:g:68:PHE:HB3	1.87	0.55
32:i:80:HIS:HD2	32:i:87:ILE:HG12	1.72	0.55
33:j:71:ARG:HH21	33:j:104:ARG:HG3	1.72	0.55
36:m:46:ASP:OD2	50:3:2843:G:O2'	2.21	0.55
37:n:12:HIS:ND1	37:n:94:GLY:HA3	2.21	0.55
50:3:733:C:H5''	50:3:734:A:H5'	1.87	0.55
50:3:1497:A:H61	50:3:1547:G:H21	1.54	0.55
50:3:2134:G:H2'	50:3:2135:C:H6	1.71	0.55
50:3:2203:U:H2'	50:3:2204:C:H6	1.72	0.55
50:3:2355:C:H2'	50:3:2356:U:C6	2.42	0.55
50:3:2700:C:O2'	50:3:2851:U:O2'	2.19	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:416:U:O2	52:5:421:G:O6	2.24	0.55
52:5:881:G:H21	52:5:1464:G:H4'	1.71	0.55
52:5:1054:C:O2'	52:5:1361:G:O5'	2.25	0.55
24:a:113:ASP:N	24:a:202:VAL:O	2.39	0.55
25:b:4:ARG:HD3	25:b:101:LEU:HA	1.89	0.55
35:l:41:TRP:HB2	35:l:94:VAL:HG11	1.89	0.55
50:3:608:A:H2'	50:3:609:U:H6	1.71	0.55
50:3:1424:U:H5''	50:3:1426:C:H41	1.72	0.55
50:3:1499:C:H2'	50:3:1500:A:C8	2.41	0.55
50:3:1702:A:O2'	50:3:1703:A:OP2	2.22	0.55
50:3:2075:U:H3	50:3:2438:A:H1'	1.70	0.55
50:3:2134:G:H2'	50:3:2135:C:C6	2.42	0.55
52:5:129:U:OP1	52:5:198:A:N6	2.39	0.55
52:5:830:U:H2'	52:5:831:C:H6	1.71	0.55
52:5:1284:A:H2'	52:5:1285:G:H8	1.71	0.55
5:B:177:PRO:HB3	52:5:1102:A:H61	1.72	0.55
8:E:110:GLN:O	8:E:114:LYS:N	2.40	0.55
14:K:7:LEU:HD22	14:K:12:ARG:HE	1.71	0.55
15:L:89:LEU:HA	15:L:92:ARG:HE	1.71	0.55
19:P:76:ARG:NH2	52:5:185:G:O4'	2.40	0.55
24:a:216:ALA:HA	24:a:219:ASN:HD21	1.72	0.55
26:c:47:GLN:HB2	26:c:49:THR:HG23	1.89	0.55
28:e:55:ILE:HG13	28:e:55:ILE:O	2.07	0.55
36:m:57:PHE:HA	36:m:60:ARG:HG3	1.89	0.55
50:3:19:G:H2'	50:3:20:C:H6	1.70	0.55
50:3:313:G:H2'	50:3:314:G:H1'	1.87	0.55
50:3:1087:C:H2'	50:3:1088:A:C8	2.42	0.55
50:3:1302:C:N3	50:3:1680:A:N6	2.55	0.55
50:3:1505:G:H4'	50:3:1594:G:H1'	1.88	0.55
52:5:111:A:H4'	52:5:602:G:N2	2.22	0.55
52:5:132:G:H2'	52:5:133:G:C8	2.42	0.55
52:5:136:U:H5'	52:5:1421:A:H61	1.71	0.55
52:5:290:G:O6	52:5:299:U:C4	2.59	0.55
52:5:370:A:N6	52:5:386:U:O2	2.19	0.55
52:5:684:A:N6	52:5:700:G:H21	2.00	0.55
52:5:1044:G:N2	52:5:1047:U:H3'	2.21	0.55
52:5:1206:G:H2'	52:5:1207:U:C6	2.42	0.55
6:C:23:LYS:HE3	6:C:109:THR:HG22	1.88	0.55
9:F:101:ARG:HD2	52:5:934:G:H4'	1.89	0.55
17:N:70:ASN:HD21	52:5:749:G:H4'	1.70	0.55
19:P:13:VAL:HG11	19:P:55:ALA:HB1	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:39:C:H2'	50:3:40:A:H8	1.71	0.55
50:3:53:G:O6	50:3:121:U:O2'	2.24	0.55
50:3:648:G:OP1	50:3:648:G:N2	2.31	0.55
50:3:759:U:C2'	50:3:760:G:H5'	2.36	0.55
50:3:1235:U:H2'	50:3:1236:G:O4'	2.06	0.55
50:3:1508:G:OP2	50:3:1508:G:H4'	2.06	0.55
50:3:1913:G:P	50:3:1970:C:H42	2.30	0.55
50:3:2561:G:H21	50:3:2590:G:H21	1.53	0.55
52:5:95:C:H41	52:5:326:C:H5''	1.72	0.55
52:5:203:C:H2'	52:5:204:C:C6	2.41	0.55
52:5:374:G:H2'	52:5:375:C:H6	1.71	0.55
52:5:1266:U:H2'	52:5:1267:G:O4'	2.06	0.55
52:5:1424:C:H2'	52:5:1425:A:H5'	1.88	0.55
8:E:84:ARG:NH1	52:5:670:G:O2'	2.40	0.55
10:G:98:TYR:HD1	10:G:136:GLU:HB3	1.72	0.55
11:H:39:GLU:O	52:5:1223:A:O2'	2.19	0.55
14:K:67:LYS:HE2	14:K:75:GLU:HG3	1.87	0.55
15:L:87:ARG:HA	15:L:97:VAL:HG11	1.88	0.55
26:c:31:GLN:HB3	34:k:11:LYS:HB3	1.89	0.55
26:c:97:ARG:HB3	50:3:622:U:H4'	1.89	0.55
38:o:39:GLU:HG2	38:o:41:GLU:H	1.72	0.55
50:3:199:A:H2'	50:3:202:C:H41	1.72	0.55
50:3:633:G:O6	50:3:692:U:C4	2.60	0.55
50:3:854:A:H2'	50:3:855:A:C8	2.41	0.55
50:3:1080:A:H5'	50:3:1081:A:H2'	1.88	0.55
50:3:1443:A:N6	50:3:1619:A:N7	2.55	0.55
50:3:1850:C:H2'	50:3:1851:U:H6	1.71	0.55
50:3:2547:C:H2'	50:3:2548:G:C8	2.42	0.55
50:3:2681:G:H2'	50:3:2682:A:C8	2.42	0.55
50:3:2792:C:H2'	50:3:2793:U:C6	2.42	0.55
50:3:2804:C:H2'	50:3:2806:A:H5'	1.89	0.55
50:3:2821:U:H2'	50:3:2822:C:O4'	2.07	0.55
50:3:2832:G:H2'	50:3:2833:A:C8	2.42	0.55
51:4:54:U:H4'	51:4:55:A:O5'	2.06	0.55
52:5:511:A:H2'	52:5:512:U:C6	2.42	0.55
52:5:549:U:H2'	52:5:550:U:C6	2.42	0.55
52:5:1236:A:H3'	52:5:1237:G:H8	1.72	0.55
52:5:1441:C:H2'	52:5:1442:A:C8	2.42	0.55
6:C:70:GLN:HA	52:5:398:G:OP1	2.07	0.54
18:O:52:TRP:CD1	52:5:224:A:HO2'	2.24	0.54
22:S:28:LEU:HD13	22:S:50:GLN:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:l:54:ILE:O	35:l:58:LEU:N	2.40	0.54
36:m:107:ARG:HH12	50:3:1356:G:H5'	1.72	0.54
41:r:9:ARG:NE	41:r:80:PRO:O	2.38	0.54
46:w:31:PHE:O	46:w:35:HIS:ND1	2.34	0.54
50:3:200:A:H2'	50:3:2075:U:H5	1.71	0.54
50:3:453:U:H2'	50:3:454:G:C8	2.42	0.54
50:3:653:G:H2'	50:3:654:G:C8	2.42	0.54
50:3:848:U:H2'	50:3:849:C:C6	2.42	0.54
50:3:1200:U:O2	50:3:1215:G:C6	2.60	0.54
50:3:1238:A:H2'	50:3:1239:G:H8	1.72	0.54
50:3:1350:A:H61	50:3:1361:U:H1'	1.72	0.54
50:3:1937:G:N1	50:3:1976:A:OP2	2.39	0.54
50:3:2476:A:O2'	50:3:2489:G:N2	2.35	0.54
52:5:202:A:H2'	52:5:203:C:H6	1.71	0.54
52:5:438:A:H61	52:5:492:G:H22	1.55	0.54
52:5:457:A:H2'	52:5:458:G:C8	2.43	0.54
52:5:1138:U:H3	52:5:1139:A:H62	1.55	0.54
6:C:8:PHE:CE1	6:C:24:GLU:HA	2.43	0.54
6:C:115:GLN:HE21	6:C:119:HIS:CE1	2.25	0.54
9:F:2:ARG:HD2	52:5:1355:U:H2'	1.89	0.54
24:a:4:LYS:HE3	24:a:21:ASP:HA	1.89	0.54
26:c:96:ASN:OD1	50:3:622:U:O2'	2.25	0.54
29:f:8:ASP:HB2	29:f:15:ARG:HD3	1.90	0.54
32:i:9:LYS:HD3	32:i:50:ASN:ND2	2.22	0.54
50:3:94:A:H3'	50:3:95:G:H8	1.72	0.54
50:3:229:C:H3'	50:3:230:G:H8	1.71	0.54
50:3:276:A:O2'	50:3:405:C:O2	2.20	0.54
50:3:604:A:N6	50:3:2508:U:OP1	2.37	0.54
50:3:630:C:H2'	50:3:631:A:C8	2.42	0.54
50:3:703:A:N6	50:3:705:A:O2'	2.31	0.54
50:3:990:G:O6	50:3:999:U:O4	2.24	0.54
50:3:1733:G:H3'	50:3:1734:A:H4'	1.89	0.54
50:3:1887:U:H2'	50:3:1888:U:C6	2.42	0.54
50:3:2032:G:H2'	50:3:2033:G:C8	2.43	0.54
50:3:2127:G:H2'	50:3:2128:G:O4'	2.08	0.54
52:5:249:U:H2'	52:5:250:G:C8	2.41	0.54
52:5:618:U:H2'	52:5:619:A:C8	2.42	0.54
4:A:154:ARG:HG2	52:5:1088:C:H4'	1.89	0.54
4:A:184:GLU:HB3	4:A:187:ALA:HB3	1.87	0.54
6:C:2:LYS:HG2	6:C:67:THR:HB	1.88	0.54
9:F:110:ARG:HB2	9:F:118:LYS:HD3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:21:ASN:CG	13:J:51:LYS:HE2	2.33	0.54
14:K:56:LYS:HD3	52:5:906:C:H5''	1.90	0.54
14:K:86:ASN:HB3	14:K:110:ILE:HD13	1.89	0.54
22:S:9:LYS:HG3	22:S:12:ARG:HH11	1.73	0.54
26:c:91:PHE:HB3	26:c:94:LYS:HZ1	1.72	0.54
26:c:191:LEU:HD21	26:c:197:LEU:HD13	1.89	0.54
34:k:22:ARG:NH1	50:3:1279:U:O5'	2.40	0.54
50:3:440:C:H5'	50:3:441:U:H6	1.70	0.54
50:3:779:C:H4'	50:3:1692:A:H5''	1.89	0.54
50:3:1666:A:OP1	50:3:1716:A:O2'	2.16	0.54
50:3:1761:C:H2'	50:3:1762:A:C8	2.41	0.54
50:3:2058:G:N2	50:3:2059:G:N7	2.49	0.54
50:3:2075:U:O4	50:3:2438:A:O2'	2.25	0.54
51:4:23:A:OP1	51:4:25:A:N6	2.40	0.54
52:5:406:G:H1'	52:5:430:G:N2	2.23	0.54
52:5:830:U:H2'	52:5:831:C:C6	2.42	0.54
52:5:1170:C:H2'	52:5:1172:A:H8	1.72	0.54
52:5:1369:A:N6	52:5:1475:A:O2'	2.41	0.54
4:A:91:TYR:CE2	4:A:226:CYS:HB3	2.34	0.54
7:D:106:ALA:HB1	7:D:117:LYS:HB3	1.89	0.54
14:K:20:LYS:HD2	14:K:107:ARG:HD2	1.88	0.54
23:T:31:ARG:HH22	23:T:45:LYS:HB2	1.73	0.54
27:d:127:ASN:HD21	27:d:155:THR:HB	1.72	0.54
33:j:19:VAL:HG12	33:j:43:VAL:HA	1.90	0.54
42:s:13:THR:H	42:s:16:VAL:HB	1.72	0.54
50:3:825:U:H3	50:3:829:A:H4'	1.73	0.54
50:3:1106:G:H5''	50:3:1107:C:OP2	2.07	0.54
50:3:1437:A:H2'	50:3:1438:G:H8	1.72	0.54
50:3:1748:U:N3	50:3:1751:A:OP2	2.40	0.54
50:3:1869:G:H2'	50:3:1870:G:C8	2.43	0.54
50:3:2586:G:H2'	50:3:2587:U:C6	2.43	0.54
50:3:2859:U:H2'	50:3:2860:A:C8	2.42	0.54
52:5:19:C:H1'	52:5:1070:G:H21	1.72	0.54
52:5:331:C:H2'	52:5:332:A:H8	1.73	0.54
52:5:1104:C:H2'	52:5:1105:C:C6	2.41	0.54
52:5:1154:A:H2'	52:5:1155:A:C8	2.42	0.54
53:7:15:A:H61	53:7:22:A:H1'	1.72	0.54
5:B:4:LYS:HD2	5:B:5:VAL:H	1.71	0.54
18:O:22:ARG:HH21	52:5:371:U:H1'	1.72	0.54
24:a:72:LYS:O	24:a:197:ARG:NH1	2.41	0.54
29:f:2:LYS:HD3	29:f:5:LEU:HD23	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:48:G:H2'	50:3:49:C:C6	2.43	0.54
50:3:195:A:O2'	50:3:713:C:O2	2.23	0.54
50:3:641:U:H2'	50:3:642:A:H8	1.71	0.54
50:3:673:A:N3	50:3:688:U:H5''	2.23	0.54
50:3:1237:G:N2	50:3:1270:C:C2	2.75	0.54
50:3:1376:G:OP2	50:3:1379:C:N4	2.24	0.54
50:3:2649:G:N2	50:3:2782:A:H2	2.05	0.54
52:5:915:U:H2'	52:5:916:U:C6	2.42	0.54
52:5:948:U:OP1	52:5:959:A:N6	2.41	0.54
52:5:973:A:N6	52:5:1290:G:O2'	2.36	0.54
52:5:1388:A:H2	52:5:1462:G:H1	1.53	0.54
4:A:177:ILE:HA	4:A:199:VAL:HG13	1.90	0.54
14:K:46:VAL:HG13	14:K:90:HIS:HA	1.90	0.54
16:M:15:LYS:HG3	16:M:16:PHE:CD2	2.42	0.54
25:b:2:GLU:OE2	25:b:88:THR:N	2.35	0.54
29:f:3:VAL:O	29:f:20:ASP:OD2	2.25	0.54
30:g:26:ILE:O	30:g:109:VAL:HB	2.07	0.54
33:j:72:LYS:HB2	33:j:104:ARG:HH12	1.71	0.54
41:r:67:ASP:OD1	41:r:68:ALA:N	2.40	0.54
42:s:5:ASN:CG	50:3:75:A:H62	2.16	0.54
50:3:116:C:H2'	50:3:117:C:C6	2.43	0.54
50:3:251:G:H22	50:3:254:G:H3'	1.72	0.54
50:3:1353:G:O2'	50:3:2017:G:N2	2.40	0.54
50:3:1381:A:H8	50:3:1405:G:N2	2.06	0.54
50:3:1552:C:H42	50:3:1579:G:H1	1.55	0.54
50:3:1777:G:H2'	50:3:1778:G:C8	2.43	0.54
50:3:2660:C:H2'	50:3:2661:U:O4'	2.06	0.54
51:4:29:C:O2'	51:4:51:A:N1	2.41	0.54
52:5:97:G:H21	52:5:350:G:H5'	1.71	0.54
52:5:210:G:H2'	52:5:211:G:C8	2.42	0.54
9:F:2:ARG:HA	52:5:1355:U:C4	2.43	0.54
11:H:19:VAL:HA	11:H:66:ASN:O	2.08	0.54
12:I:52:LYS:O	52:5:1228:C:H5''	2.07	0.54
21:R:19:VAL:HG21	21:R:44:PHE:CE1	2.42	0.54
24:a:268:ARG:NH2	50:3:1807:C:OP1	2.37	0.54
29:f:4:ILE:HG22	29:f:16:PHE:CE1	2.22	0.54
29:f:118:ARG:HG2	29:f:120:GLY:H	1.73	0.54
30:g:32:MET:HE1	30:g:53:VAL:HG11	1.89	0.54
32:i:134:ASN:HB3	50:3:8:A:O2'	2.08	0.54
44:u:47:THR:N	44:u:78:ASP:OD1	2.38	0.54
50:3:1012:G:H21	50:3:1190:A:H1'	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1083:A:N6	50:3:1147:G:H21	2.05	0.54
50:3:1174:G:HO2'	50:3:1178:A:N6	2.05	0.54
50:3:2880:A:H2'	50:3:2881:A:C8	2.43	0.54
51:4:12:U:H3'	51:4:13:G:H21	1.73	0.54
52:5:1480:G:H5'	52:5:1481:U:H6	1.72	0.54
27:d:106:VAL:HG11	27:d:139:PRO:HD3	1.90	0.54
34:k:69:ARG:HH21	50:3:2412:A:H4'	1.73	0.54
50:3:223:A:N3	50:3:238:U:O2'	2.40	0.54
50:3:252:G:C8	50:3:254:G:N1	2.75	0.54
50:3:410:G:H4'	50:3:411:U:O5'	2.07	0.54
50:3:1253:G:N1	50:3:1256:A:OP2	2.36	0.54
50:3:1297:U:O2'	50:3:1298:A:OP1	2.23	0.54
50:3:2094:A:H2'	50:3:2095:A:C8	2.43	0.54
50:3:2416:U:H2'	50:3:2417:G:H8	1.72	0.54
50:3:2577:G:H2'	50:3:2578:A:C8	2.43	0.54
51:4:69:C:H2'	51:4:70:G:C8	2.42	0.54
52:5:402:G:H2'	52:5:403:A:H8	1.73	0.54
52:5:854:A:N6	52:5:863:A:O2'	2.41	0.54
4:A:122:THR:O	4:A:126:SER:OG	2.24	0.54
6:C:73:ARG:HH22	6:C:133:SER:HB3	1.71	0.54
11:H:127:PRO:O	11:H:128:GLN:HG3	2.08	0.54
14:K:15:LYS:HG3	14:K:16:LYS:N	2.22	0.54
24:a:48:ASN:ND2	24:a:50:GLN:OE1	2.41	0.54
25:b:56:THR:HA	25:b:78:THR:HA	1.90	0.54
30:g:42:LYS:HG3	31:h:115:ASN:HB2	1.89	0.54
36:m:16:MET:HE1	50:3:2717:G:H5''	1.89	0.54
37:n:76:ASP:OD1	37:n:77:ILE:N	2.41	0.54
46:w:71:LYS:N	50:3:138:U:O2'	2.37	0.54
50:3:25:G:H2'	50:3:26:G:H8	1.73	0.54
50:3:351:G:H2'	50:3:352:C:C6	2.43	0.54
50:3:512:G:N2	50:3:514:A:H8	2.06	0.54
50:3:860:C:H2'	50:3:861:U:O4'	2.08	0.54
50:3:1350:A:N1	50:3:1361:U:O2'	2.39	0.54
50:3:1699:A:H2'	50:3:1700:G:C8	2.43	0.54
50:3:2072:C:H2'	50:3:2073:C:C6	2.42	0.54
50:3:2694:A:H2'	50:3:2695:U:C6	2.43	0.54
50:3:2836:U:O2	50:3:2838:G:N1	2.41	0.54
51:4:58:C:H2'	51:4:59:A:C8	2.38	0.54
51:4:87:U:H3'	51:4:88:G:C8	2.42	0.54
52:5:110:U:O2	52:5:631:C:O2'	2.22	0.54
52:5:472:G:H2'	52:5:473:A:H8	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:943:C:N3	52:5:944:A:N6	2.56	0.54
52:5:1433:G:H2'	52:5:1434:C:H6	1.73	0.54
6:C:57:LYS:O	6:C:61:GLN:HG2	2.08	0.54
11:H:108:ARG:NE	52:5:1107:U:O2'	2.40	0.54
12:I:98:ILE:HG21	12:I:104:LEU:HD22	1.89	0.54
15:L:90:ARG:HD3	15:L:97:VAL:HA	1.90	0.54
25:b:68:GLY:HA2	25:b:71:GLU:HB2	1.89	0.54
39:p:36:GLN:O	39:p:40:GLN:HG2	2.08	0.54
45:v:13:LEU:O	45:v:29:TRP:N	2.41	0.54
49:z:39:SER:OG	50:3:2356:U:O2'	2.11	0.54
50:3:871:G:O6	50:3:978:G:N1	2.39	0.54
50:3:1511:C:H2'	50:3:1512:A:H8	1.71	0.54
50:3:1695:G:H1'	50:3:2721:C:C5	2.43	0.54
50:3:2532:G:O2'	50:3:2771:G:O2'	2.19	0.54
50:3:2726:G:H21	50:3:2851:U:H5'	1.73	0.54
52:5:348:C:N3	52:5:352:A:N6	2.56	0.54
52:5:882:U:H4'	52:5:1463:A:H4'	1.90	0.54
52:5:1142:G:N2	52:5:1145:A:OP2	2.40	0.54
52:5:1214:A:H1'	52:5:1216:G:C6	2.41	0.54
2:1:42:ARG:HG3	50:3:2425:C:H4'	1.89	0.53
4:A:198:VAL:HG13	4:A:211:VAL:HG12	1.91	0.53
14:K:98:GLY:HA3	14:K:109:HIS:HD2	1.72	0.53
25:b:64:LYS:N	50:3:2815:G:OP1	2.39	0.53
36:m:21:GLN:HE22	36:m:33:THR:HG21	1.73	0.53
50:3:557:G:N2	50:3:587:U:H4'	2.23	0.53
50:3:582:A:H8	50:3:584:G:H1'	1.72	0.53
50:3:713:C:H2'	50:3:714:G:C8	2.42	0.53
50:3:943:A:H3'	50:3:944:U:H5''	1.89	0.53
50:3:1519:A:H3'	50:3:1520:A:C8	2.42	0.53
50:3:1520:A:H2'	50:3:1521:A:C8	2.42	0.53
50:3:1832:G:H2'	50:3:1833:G:H8	1.73	0.53
50:3:2856:G:H2'	50:3:2857:C:H6	1.72	0.53
52:5:271:G:H2'	52:5:272:G:C8	2.42	0.53
52:5:311:A:H4'	52:5:313:U:OP2	2.08	0.53
52:5:938:U:H2'	52:5:939:G:C8	2.40	0.53
52:5:1167:C:H3'	52:5:1168:G:H8	1.73	0.53
3:2:16:ILE:HA	3:2:25:VAL:HG12	1.89	0.53
5:B:33:TRP:HZ2	5:B:63:ALA:HA	1.72	0.53
8:E:65:ASP:OD1	8:E:67:GLN:NE2	2.42	0.53
25:b:11:VAL:HG11	38:o:9:LEU:HD11	1.89	0.53
27:d:134:GLU:HG3	27:d:137:ILE:HB	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:31:THR:O	34:k:32:SER:OG	2.26	0.53
45:v:32:ASN:OD1	45:v:52:THR:OG1	2.24	0.53
50:3:38:G:H2'	50:3:39:C:H6	1.71	0.53
50:3:558:C:HO2'	50:3:574:G:N2	2.06	0.53
50:3:1262:G:H2'	50:3:1263:G:C8	2.43	0.53
50:3:1333:C:H42	50:3:1658:U:H3	1.55	0.53
50:3:2387:U:H2'	50:3:2388:C:C6	2.44	0.53
52:5:773:G:H4'	52:5:774:A:H8	1.72	0.53
52:5:936:G:H1	52:5:1316:C:H42	1.56	0.53
4:A:147:LYS:N	52:5:1134:C:O2'	2.36	0.53
15:L:64:LYS:HB3	15:L:69:LEU:HG	1.89	0.53
29:f:2:LYS:CE	29:f:5:LEU:CD2	2.67	0.53
29:f:47:ARG:HH11	29:f:51:LEU:HB2	1.74	0.53
35:l:67:ARG:HH22	50:3:943:A:H1'	1.72	0.53
43:t:90:LYS:HB2	43:t:103:VAL:HG13	1.91	0.53
50:3:109:G:H2'	50:3:110:A:C8	2.43	0.53
50:3:670:G:H2'	50:3:671:C:H6	1.72	0.53
50:3:760:G:H8	50:3:760:G:OP2	1.91	0.53
50:3:1173:G:H2'	50:3:1174:G:O4'	2.09	0.53
50:3:1543:U:H2'	50:3:1544:G:C8	2.44	0.53
50:3:1955:G:O2'	50:3:1956:G:H5'	2.09	0.53
50:3:2080:C:H2'	50:3:2081:U:H6	1.72	0.53
50:3:2267:G:N2	50:3:2396:A:O2'	2.42	0.53
50:3:2548:G:H2'	50:3:2549:A:C8	2.44	0.53
52:5:593:A:H4'	52:5:594:A:H5'	1.90	0.53
1:0:22:MET:O	1:0:28:ARG:NH1	2.40	0.53
2:1:21:ARG:HD2	34:k:62:LEU:HD22	1.91	0.53
4:A:35:ARG:HG2	4:A:52:ASN:HB3	1.91	0.53
8:E:40:LEU:HD12	8:E:57:TYR:HB3	1.90	0.53
13:J:80:LYS:NZ	52:5:704:U:OP1	2.41	0.53
14:K:34:LYS:HB2	14:K:36:THR:HG23	1.90	0.53
25:b:117:ARG:NH2	50:3:2688:C:OP2	2.42	0.53
26:c:193:LEU:HD12	50:3:1234:U:H4'	1.90	0.53
27:d:56:GLU:HB2	27:d:141:ILE:HD12	1.90	0.53
30:g:50:LYS:NZ	50:3:1117:U:OP1	2.30	0.53
31:h:38:GLN:HA	31:h:41:GLU:HG2	1.90	0.53
32:i:119:ARG:NH1	50:3:563:A:O5'	2.42	0.53
33:j:7:ARG:NH1	50:3:1701:G:O5'	2.42	0.53
46:w:56:THR:HA	50:3:74:U:N3	2.24	0.53
50:3:149:A:H2'	50:3:150:U:O4'	2.09	0.53
50:3:756:A:H2'	50:3:757:A:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1224:G:H2'	50:3:1225:A:O4'	2.08	0.53
50:3:1305:G:H2'	50:3:1306:G:C8	2.44	0.53
50:3:1306:G:H2'	50:3:1307:G:C8	2.43	0.53
50:3:1339:U:H4'	50:3:1340:U:H5'	1.90	0.53
50:3:1547:G:N7	50:3:1548:A:H2'	2.23	0.53
50:3:2288:G:O2'	50:3:2289:C:H5'	2.08	0.53
50:3:2516:G:O6	50:3:2588:U:O4	2.27	0.53
52:5:1432:A:H2'	52:5:1433:G:C8	2.43	0.53
4:A:154:ARG:NH1	52:5:1087:C:O2'	2.41	0.53
25:b:41:THR:HG22	25:b:42:GLU:H	1.74	0.53
33:j:11:ALA:HB3	33:j:85:VAL:HG12	1.91	0.53
37:n:38:HIS:HA	37:n:64:ASN:HD22	1.73	0.53
48:y:4:GLN:HA	50:3:2623:U:C4	2.43	0.53
50:3:154:U:H2'	50:3:155:A:H8	1.73	0.53
50:3:177:U:O2	50:3:178:A:N6	2.41	0.53
50:3:478:G:O2'	50:3:480:C:O4'	2.26	0.53
50:3:734:A:O2'	50:3:1668:G:N7	2.39	0.53
50:3:823:A:H5''	50:3:825:U:C5	2.44	0.53
50:3:2216:U:H2'	50:3:2217:G:C8	2.43	0.53
50:3:2278:G:H2'	50:3:2279:G:C8	2.43	0.53
50:3:2532:G:N2	50:3:2749:A:N3	2.56	0.53
50:3:2696:G:H5''	50:3:2697:C:H2'	1.91	0.53
52:5:1224:C:N4	52:5:1262:A:OP2	2.41	0.53
53:8:15:A:H61	53:8:22:A:H1'	1.72	0.53
1:O:26:SER:OG	50:3:717:U:O3'	2.27	0.53
5:B:17:ASN:HB2	5:B:217:ARG:HB3	1.89	0.53
7:D:136:ILE:HB	7:D:178:ILE:HD13	1.91	0.53
10:G:118:THR:OG1	10:G:119:SER:N	2.42	0.53
14:K:77:LEU:HB2	14:K:105:GLY:C	2.34	0.53
19:P:4:ASN:HB3	52:5:115:A:H2'	1.91	0.53
29:f:99:ASN:HB3	50:3:165:U:H5'	1.90	0.53
36:m:47:LYS:HD2	50:3:2875:U:H5''	1.91	0.53
39:p:48:ASP:O	39:p:52:LYS:CB	2.57	0.53
44:u:51:ILE:HD11	44:u:75:ALA:HB2	1.89	0.53
44:u:58:ARG:NH1	50:3:2339:G:OP1	2.41	0.53
50:3:225:A:N7	50:3:463:U:C2	2.76	0.53
50:3:440:C:H5'	50:3:441:U:C6	2.43	0.53
50:3:641:U:H5''	50:3:655:G:O6	2.09	0.53
50:3:1766:A:H62	50:3:2705:G:H1'	1.73	0.53
50:3:1831:G:H2'	50:3:1832:G:H8	1.72	0.53
50:3:1871:U:O2'	50:3:2417:G:N2	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1941:C:H5'	50:3:1981:U:H4'	1.89	0.53
50:3:2143:G:O6	50:3:2162:U:O4	2.26	0.53
50:3:2380:U:H2'	50:3:2381:G:C8	2.44	0.53
50:3:2852:G:H1'	50:3:2872:A:N6	2.23	0.53
52:5:499:U:H2'	52:5:500:G:C8	2.43	0.53
52:5:920:G:HO2'	52:5:1480:G:N2	2.06	0.53
52:5:1108:A:C6	52:5:1154:A:H2	2.27	0.53
53:7:57:C:O2'	53:7:58:G:OP1	2.26	0.53
6:C:82:ARG:O	6:C:88:ASN:ND2	2.41	0.53
19:P:18:ASN:HB2	19:P:21:THR:HB	1.90	0.53
25:b:208:ARG:NH1	50:3:2781:C:OP1	2.35	0.53
41:r:42:LYS:N	50:3:2017:G:OP1	2.38	0.53
45:v:52:THR:O	45:v:56:ARG:HG3	2.08	0.53
50:3:562:C:C4	50:3:2787:U:H2'	2.43	0.53
50:3:694:U:H2'	50:3:695:G:C8	2.43	0.53
50:3:914:G:H22	50:3:936:G:H2'	1.73	0.53
50:3:1318:U:H2'	50:3:1319:C:C6	2.44	0.53
50:3:1432:C:O2'	50:3:1433:U:O4'	2.24	0.53
50:3:1797:C:H2'	50:3:1798:A:C8	2.44	0.53
50:3:2229:C:H2'	50:3:2230:A:C8	2.43	0.53
52:5:585:G:C5	52:5:642:A:H5''	2.43	0.53
52:5:974:C:H5''	52:5:1196:G:N7	2.24	0.53
52:5:1287:G:N2	52:5:1298:U:O2	2.28	0.53
24:a:268:ARG:HB2	50:3:1805:U:H4'	1.91	0.53
50:3:432:G:N2	50:3:2239:U:O2'	2.32	0.53
50:3:636:U:O2	50:3:661:G:N2	2.42	0.53
50:3:1200:U:O2	50:3:1215:G:O6	2.26	0.53
50:3:1317:C:H4'	50:3:1358:C:H5'	1.91	0.53
50:3:1355:C:O2'	50:3:1356:G:O4'	2.26	0.53
50:3:1893:C:H2'	50:3:1894:U:C6	2.44	0.53
50:3:2404:G:H2'	50:3:2405:G:H8	1.74	0.53
50:3:2652:U:H2'	50:3:2653:G:H5'	1.90	0.53
50:3:2707:A:C4	50:3:2708:G:H1'	2.43	0.53
52:5:87:G:O2'	52:5:137:A:N3	2.41	0.53
52:5:172:C:H2'	52:5:173:U:H6	1.71	0.53
52:5:568:G:H2'	52:5:569:U:C6	2.43	0.53
52:5:598:U:H2'	52:5:599:G:H8	1.73	0.53
52:5:1115:G:O2'	52:5:1116:U:O5'	2.25	0.53
8:E:92:ARG:HH11	20:Q:92:ARG:HH11	1.56	0.53
26:c:183:LEU:HD22	26:c:203:VAL:HG12	1.91	0.53
50:3:178:A:O2'	50:3:179:A:O4'	2.18	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:195:A:H2'	50:3:196:G:C8	2.44	0.53
50:3:319:G:O6	50:3:390:A:N6	2.41	0.53
50:3:1712:A:H2'	50:3:1713:U:C4	2.44	0.53
50:3:2122:G:H21	50:3:2179:A:H61	1.40	0.53
50:3:2176:G:H22	50:3:2179:A:H2'	1.74	0.53
50:3:2630:U:O2'	50:3:2829:G:N7	2.38	0.53
50:3:2687:A:H2'	50:3:2688:C:H6	1.74	0.53
52:5:198:A:H2'	52:5:199:A:H2'	1.91	0.53
52:5:265:U:H2'	52:5:266:A:C8	2.43	0.53
52:5:514:U:O2'	52:5:517:C:N3	2.38	0.53
52:5:659:U:H4'	52:5:833:G:H4'	1.91	0.53
52:5:1123:G:O3'	52:5:1125:C:N4	2.42	0.53
14:K:2:ALA:N	52:5:566:G:O6	2.43	0.53
27:d:85:ILE:HG13	50:3:2320:U:H5''	1.91	0.53
31:h:112:LEU:HD22	31:h:120:ALA:HA	1.91	0.53
50:3:1422:U:O2'	50:3:1637:A:OP1	2.23	0.53
50:3:1490:G:H2'	50:3:1491:G:C8	2.44	0.53
50:3:1758:C:H2'	50:3:1759:C:H6	1.73	0.53
50:3:1822:A:N3	50:3:1823:U:O2'	2.42	0.53
50:3:2235:A:H2'	50:3:2236:G:C8	2.44	0.53
50:3:2451:C:H2'	50:3:2452:G:H8	1.74	0.53
50:3:2516:G:H2'	50:3:2517:A:C8	2.44	0.53
52:5:83:U:H2'	52:5:84:U:H6	1.73	0.53
52:5:243:G:H2'	52:5:244:C:C6	2.44	0.53
52:5:290:G:C6	52:5:299:U:N3	2.77	0.53
52:5:407:A:H8	52:5:409:G:H21	1.56	0.53
52:5:725:A:H61	52:5:761:U:H1'	1.74	0.53
52:5:972:A:O2'	52:5:1198:C:N4	2.42	0.53
52:5:1074:U:H3'	52:5:1075:G:C8	2.43	0.53
53:8:34:U:O2'	53:8:38:G:O6	2.20	0.53
53:8:56:U:N3	53:8:58:G:OP2	2.42	0.53
9:F:76:VAL:HG23	52:5:1356:U:H3	1.74	0.52
18:O:13:ILE:N	18:O:32:HIS:HA	2.23	0.52
23:T:37:ARG:NE	52:5:1501:G:N7	2.57	0.52
25:b:32:GLU:HG2	25:b:55:ASP:H	1.74	0.52
37:n:101:ARG:NE	51:4:47:C:H5''	2.24	0.52
39:p:13:ARG:NH2	50:3:618:G:O6	2.43	0.52
50:3:228:A:H2'	50:3:229:C:C6	2.44	0.52
50:3:236:G:H22	50:3:456:G:H5'	1.74	0.52
50:3:292:G:C6	50:3:293:G:C6	2.96	0.52
50:3:292:G:N2	50:3:302:G:O2'	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:633:G:H21	50:3:639:G:H4'	1.74	0.52
50:3:1214:U:H3'	50:3:1215:G:H4'	1.91	0.52
50:3:1315:A:H5'	50:3:1316:U:C5	2.44	0.52
50:3:1464:G:N2	50:3:1541:A:O2'	2.42	0.52
50:3:2376:C:H2'	50:3:2377:A:H8	1.74	0.52
50:3:2407:G:H2'	50:3:2408:G:C8	2.44	0.52
50:3:2486:A:H4'	50:3:2536:U:H4'	1.92	0.52
50:3:2546:U:H2'	50:3:2547:C:H6	1.74	0.52
51:4:104:C:H2'	51:4:105:A:H8	1.74	0.52
52:5:40:G:H1'	52:5:496:A:N3	2.24	0.52
52:5:388:G:N3	52:5:479:A:O2'	2.42	0.52
52:5:460:A:H2'	52:5:461:G:C8	2.44	0.52
52:5:552:U:H2'	52:5:553:C:C5	2.44	0.52
52:5:683:G:N1	52:5:700:G:N3	2.57	0.52
52:5:832:G:H2'	52:5:833:G:C8	2.44	0.52
52:5:1409:A:N6	52:5:1442:A:H1'	2.24	0.52
4:A:146:LYS:NZ	52:5:1137:C:OP1	2.39	0.52
8:E:118:ILE:HG13	8:E:120:ALA:H	1.75	0.52
10:G:88:LYS:NZ	10:G:89:GLN:O	2.42	0.52
15:L:80:LEU:HD22	21:R:69:HIS:CE1	2.43	0.52
29:f:11:ASN:HD22	29:f:34:LYS:CD	2.20	0.52
32:i:27:VAL:HG12	32:i:68:THR:HG21	1.90	0.52
40:q:76:GLN:H	50:3:598:G:P	2.32	0.52
45:v:29:TRP:CD1	50:3:2239:U:H5''	2.38	0.52
46:w:45:ASN:HD22	50:3:63:U:H5	1.57	0.52
48:y:39:PHE:HD2	50:3:2819:C:HO2'	1.53	0.52
49:z:19:TYR:CZ	50:3:2356:U:H5''	2.44	0.52
50:3:25:G:O6	50:3:553:A:N6	2.42	0.52
50:3:389:C:H2'	50:3:390:A:C8	2.44	0.52
50:3:861:U:H2'	50:3:863:U:O4'	2.09	0.52
50:3:880:C:O2	50:3:881:A:N6	2.42	0.52
50:3:1298:A:H2'	50:3:1299:A:C8	2.45	0.52
50:3:1463:G:H2'	50:3:1464:G:C8	2.45	0.52
50:3:2079:G:H2'	50:3:2080:C:H6	1.73	0.52
50:3:2613:U:H2'	50:3:2614:U:C5	2.44	0.52
50:3:2857:C:H2'	50:3:2858:A:C8	2.44	0.52
52:5:218:U:H2'	52:5:219:A:C8	2.44	0.52
52:5:369:A:O2'	52:5:448:A:N6	2.24	0.52
52:5:727:G:O2'	52:5:811:A:N6	2.43	0.52
52:5:824:U:H2'	52:5:864:U:N3	2.23	0.52
52:5:1105:C:H2'	52:5:1106:U:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:160:ILE:HG13	7:D:167:ARG:HG2	1.90	0.52
10:G:62:ASN:CG	10:G:67:LYS:HD2	2.33	0.52
11:H:14:SER:HB3	52:5:1345:G:H5'	1.91	0.52
13:J:39:SER:O	13:J:42:THR:OG1	2.23	0.52
24:a:69:ILE:HD12	24:a:92:ARG:HH11	1.74	0.52
25:b:121:GLY:H	50:3:1689:A:H4'	1.75	0.52
25:b:153:GLY:HA3	50:3:2039:G:H1'	1.92	0.52
29:f:12:LEU:HD12	50:3:2101:A:H5''	1.89	0.52
35:l:67:ARG:HE	35:l:105:GLU:CD	2.18	0.52
37:n:8:ARG:HG3	37:n:95:GLY:HA3	1.90	0.52
41:r:33:GLN:HE22	41:r:48:ALA:HB1	1.74	0.52
50:3:61:U:O4	50:3:70:G:O6	2.28	0.52
50:3:728:A:H2'	50:3:729:U:C6	2.43	0.52
50:3:1247:C:H2'	50:3:1248:A:H8	1.74	0.52
50:3:1746:U:O2	50:3:1753:G:O6	2.27	0.52
50:3:1989:U:H2'	50:3:1990:C:C6	2.44	0.52
50:3:2471:U:H2'	50:3:2472:G:C8	2.44	0.52
50:3:2536:U:H3	50:3:2543:G:H1	1.55	0.52
52:5:264:C:H2'	52:5:265:U:C6	2.44	0.52
52:5:368:C:O2	52:5:385:A:N6	2.42	0.52
52:5:573:G:C6	52:5:875:G:C6	2.98	0.52
52:5:645:A:H2'	52:5:646:A:O4'	2.09	0.52
52:5:984:A:H2'	52:5:985:C:C6	2.45	0.52
52:5:1223:A:N6	52:5:1263:A:OP2	2.42	0.52
52:5:1294:U:H2'	52:5:1295:U:C6	2.44	0.52
2:1:26:THR:HG22	2:1:41:LEU:HD13	1.91	0.52
9:F:118:LYS:NZ	52:5:1214:A:OP1	2.31	0.52
25:b:10:LYS:HE3	25:b:13:MET:HB2	1.92	0.52
26:c:30:LYS:HD2	50:3:633:G:C5'	2.40	0.52
50:3:308:A:C2	50:3:397:G:C2	2.97	0.52
50:3:612:G:H4'	50:3:2024:C:H2'	1.90	0.52
50:3:759:U:H3'	50:3:760:G:C8	2.45	0.52
50:3:884:A:H2'	50:3:885:A:N7	2.24	0.52
50:3:1100:U:N3	50:3:1101:U:O4	2.42	0.52
50:3:1246:U:H2'	50:3:1247:C:C6	2.45	0.52
50:3:1418:U:H2'	50:3:1419:U:C6	2.44	0.52
50:3:1811:A:N1	50:3:1821:G:H1'	2.25	0.52
50:3:2074:G:H3'	50:3:2075:U:H4'	1.92	0.52
50:3:2699:C:H2'	50:3:2700:C:C6	2.44	0.52
50:3:2735:G:P	50:3:2735:G:H8	2.32	0.52
52:5:148:A:N3	52:5:343:G:O2'	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:717:C:H3'	52:5:718:A:C8	2.45	0.52
52:5:930:A:H2'	52:5:931:C:C6	2.44	0.52
52:5:1194:A:H2'	52:5:1195:G:H8	1.74	0.52
52:5:1217:G:H2'	52:5:1218:C:C6	2.44	0.52
53:7:34:U:O2'	53:7:38:G:O6	2.20	0.52
53:7:56:U:N3	53:7:58:G:OP2	2.42	0.52
9:F:27:ASN:ND2	52:5:1349:A:OP1	2.43	0.52
14:K:38:VAL:O	52:5:359:A:N6	2.43	0.52
24:a:43:LYS:HB2	24:a:61:ARG:HG2	1.91	0.52
24:a:72:LYS:HE3	50:3:2213:A:H5''	1.91	0.52
29:f:4:ILE:HD13	29:f:50:PHE:HE2	1.60	0.52
29:f:68:LEU:HD21	29:f:134:THR:HG21	1.92	0.52
34:k:4:ASN:HB3	34:k:6:LEU:HD23	1.92	0.52
36:m:85:LYS:HG3	36:m:86:VAL:HG13	1.90	0.52
50:3:47:G:H2'	50:3:219:G:C8	2.44	0.52
50:3:513:A:N6	50:3:536:A:N7	2.58	0.52
50:3:727:C:H2'	50:3:728:A:C8	2.44	0.52
50:3:1009:A:N3	50:3:1218:G:N2	2.57	0.52
50:3:1116:U:H2'	50:3:1117:U:C6	2.44	0.52
50:3:1452:G:H2'	50:3:1453:U:O4'	2.09	0.52
50:3:1928:G:H2'	50:3:1929:G:H8	1.74	0.52
50:3:2030:A:OP2	50:3:2624:C:O2'	2.18	0.52
52:5:38:U:H2'	52:5:39:G:H8	1.75	0.52
52:5:271:G:H2'	52:5:272:G:H8	1.72	0.52
52:5:611:A:H2'	52:5:612:G:C8	2.44	0.52
52:5:1140:A:H2	52:5:1147:U:H3	1.57	0.52
52:5:1185:C:O2'	52:5:1188:A:O3'	2.27	0.52
52:5:1490:G:H2'	52:5:1491:A:H8	1.74	0.52
5:B:189:LEU:HD11	52:5:1049:G:H4'	1.92	0.52
13:J:64:ALA:O	13:J:68:LYS:N	2.43	0.52
16:M:2:ALA:N	52:5:1040:U:OP1	2.42	0.52
22:S:26:THR:HA	22:S:29:LYS:HB3	1.91	0.52
28:e:34:ILE:HD13	28:e:78:ALA:HA	1.90	0.52
32:i:93:ARG:HH12	50:3:2746:A:H5''	1.75	0.52
33:j:119:VAL:HA	38:o:44:ARG:HH22	1.73	0.52
35:l:40:ASN:ND2	50:3:994:U:O4	2.43	0.52
50:3:226:A:O2'	50:3:456:G:O2'	2.25	0.52
50:3:1346:G:H2'	50:3:1347:A:C8	2.45	0.52
50:3:1447:A:N1	50:3:1519:A:N6	2.57	0.52
50:3:2412:A:H2	50:3:2421:U:H3	1.56	0.52
50:3:2599:C:H2'	50:3:2600:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:204:C:H2'	52:5:205:U:C6	2.44	0.52
52:5:329:C:H2'	52:5:330:C:H6	1.75	0.52
52:5:402:G:H2'	52:5:403:A:C8	2.45	0.52
52:5:457:A:H2'	52:5:458:G:H8	1.73	0.52
8:E:42:LEU:HD13	8:E:56:HIS:CE1	2.45	0.52
9:F:9:ARG:HD3	52:5:1320:A:C4	2.44	0.52
18:O:59:PRO:HG3	18:O:73:TRP:HH2	1.75	0.52
21:R:70:LYS:HG3	52:5:1294:U:C6	2.45	0.52
24:a:170:ILE:HA	24:a:182:LEU:HD23	1.92	0.52
40:q:21:PHE:CE2	40:q:91:LYS:HD3	2.45	0.52
50:3:164:A:H2	50:3:2225:G:H1'	1.75	0.52
50:3:292:G:N2	50:3:302:G:O3'	2.42	0.52
50:3:894:G:N3	50:3:2276:A:H2'	2.24	0.52
50:3:917:G:H2'	50:3:918:G:H8	1.74	0.52
50:3:1335:A:H2'	50:3:1336:A:C8	2.45	0.52
50:3:1346:G:H2'	50:3:1347:A:H8	1.74	0.52
50:3:1500:A:H2'	50:3:1501:U:O4'	2.10	0.52
50:3:1664:A:H2'	50:3:1665:G:O4'	2.09	0.52
50:3:2093:U:H2'	50:3:2094:A:H8	1.75	0.52
50:3:2703:U:H2'	50:3:2704:U:H6	1.75	0.52
50:3:2752:G:H2'	50:3:2753:C:C6	2.45	0.52
51:4:38:U:O2'	51:4:40:U:O5'	2.27	0.52
52:5:746:A:O2'	52:5:747:C:O4'	2.22	0.52
52:5:941:A:O2'	52:5:1307:A:N3	2.33	0.52
52:5:1142:G:H21	52:5:1145:A:H8	1.57	0.52
52:5:1159:A:H2'	52:5:1160:G:C8	2.45	0.52
4:A:29:HIS:CE1	4:A:224:SER:HB2	2.44	0.52
5:B:202:LYS:HD3	52:5:1049:G:H5''	1.92	0.52
12:I:28:THR:HG21	12:I:78:ARG:HD3	1.92	0.52
24:a:43:LYS:HG2	24:a:59:GLY:HA2	1.91	0.52
24:a:178:LYS:HA	24:a:194:LYS:HE3	1.91	0.52
31:h:118:GLU:OE1	31:h:122:LYS:NZ	2.41	0.52
34:k:83:ASN:ND2	50:3:673:A:H62	2.08	0.52
45:v:16:ASN:HA	45:v:27:ARG:HB3	1.91	0.52
50:3:665:C:O2'	50:3:675:U:O2	2.27	0.52
50:3:939:U:H2'	50:3:940:A:H8	1.75	0.52
50:3:2357:G:H3'	50:3:2358:U:H5''	1.91	0.52
50:3:2663:G:H1'	50:3:2664:U:H5	1.74	0.52
52:5:442:G:H2'	52:5:443:G:C8	2.45	0.52
52:5:880:G:O2'	52:5:909:A:O3'	2.28	0.52
26:c:158:LEU:HB3	26:c:191:LEU:HD13	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:o:98:ARG:HB3	50:3:2852:G:OP1	2.10	0.52
39:p:57:ARG:HG2	50:3:1033:A:OP2	2.10	0.52
50:3:79:U:H2'	50:3:80:U:H6	1.74	0.52
50:3:263:C:H2'	50:3:264:G:C8	2.45	0.52
50:3:290:A:H2'	50:3:291:G:H8	1.75	0.52
50:3:563:A:N6	50:3:2050:G:OP2	2.41	0.52
50:3:735:G:H2'	50:3:736:G:C8	2.45	0.52
50:3:998:C:H2'	50:3:999:U:C6	2.45	0.52
50:3:1010:G:N2	50:3:1026:A:H5'	2.24	0.52
50:3:1781:C:H41	50:3:1797:C:H1'	1.75	0.52
50:3:2323:U:H2'	50:3:2324:A:C8	2.45	0.52
50:3:2570:U:O2	50:3:2574:A:C5	2.63	0.52
50:3:2852:G:O2'	50:3:2871:G:N2	2.42	0.52
52:5:92:G:OP2	52:5:120:A:N6	2.43	0.52
52:5:425:G:H4'	52:5:426:U:OP1	2.08	0.52
52:5:426:U:C2	52:5:429:A:N6	2.78	0.52
52:5:671:G:H1	52:5:713:A:H2	1.58	0.52
52:5:1490:G:H2'	52:5:1491:A:C8	2.45	0.52
10:G:124:THR:HG22	10:G:126:LYS:H	1.74	0.52
18:O:32:HIS:CD2	18:O:42:CYS:HB3	2.44	0.52
20:Q:50:ARG:HA	20:Q:85:HIS:CD2	2.45	0.52
46:w:84:VAL:HA	46:w:87:TRP:CD1	2.45	0.52
50:3:43:A:H2	50:3:474:U:H3	1.58	0.52
50:3:529:G:H2'	50:3:530:G:C8	2.44	0.52
50:3:597:C:H2'	50:3:598:G:H8	1.75	0.52
50:3:1220:A:H3'	50:3:1221:G:H8	1.75	0.52
50:3:1501:U:H2'	50:3:1502:A:C8	2.44	0.52
50:3:1824:G:H21	50:3:1828:A:H1'	1.75	0.52
50:3:2163:U:O2'	50:3:2164:G:O4'	2.21	0.52
50:3:2297:G:O6	50:3:2351:U:O2	2.28	0.52
50:3:2687:A:H2'	50:3:2688:C:C6	2.44	0.52
52:5:37:C:H2'	52:5:38:U:O4'	2.10	0.52
52:5:100:G:O2'	52:5:102:G:O6	2.28	0.52
52:5:313:U:H2'	52:5:314:G:C8	2.45	0.52
52:5:329:C:H2'	52:5:330:C:C6	2.44	0.52
52:5:444:G:H1	52:5:482:G:H4'	1.75	0.52
52:5:614:U:H2'	52:5:615:G:H8	1.75	0.52
52:5:682:G:N1	52:5:700:G:O2'	2.43	0.52
52:5:717:C:P	52:5:718:A:H2'	2.50	0.52
52:5:1225:A:H2'	52:5:1226:A:H8	1.74	0.52
7:D:146:ALA:HB3	52:5:20:C:H4'	1.90	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:97:LYS:HE3	12:I:98:ILE:HG22	1.91	0.51
13:J:64:ALA:O	13:J:68:LYS:HG2	2.10	0.51
25:b:63:ASN:HB3	25:b:65:PRO:HD2	1.93	0.51
29:f:2:LYS:HE3	29:f:5:LEU:CA	2.11	0.51
35:l:53:ALA:HB1	35:l:120:ARG:HD3	1.91	0.51
35:l:86:GLY:N	50:3:2284:G:OP2	2.42	0.51
44:u:48:GLY:C	50:3:2361:G:H21	2.19	0.51
50:3:164:A:C2	50:3:2225:G:H1'	2.46	0.51
50:3:639:G:H2'	50:3:640:U:O4'	2.09	0.51
50:3:715:G:H2'	50:3:716:G:H8	1.75	0.51
50:3:747:A:H3'	50:3:748:G:C8	2.45	0.51
50:3:785:A:H5''	50:3:1649:C:N4	2.25	0.51
50:3:1150:U:H1'	50:3:1151:U:H5	1.75	0.51
50:3:1310:U:H3	50:3:1314:A:H62	1.58	0.51
50:3:1335:A:N6	50:3:1640:G:O2'	2.32	0.51
50:3:1694:A:H2'	50:3:1695:G:C8	2.45	0.51
50:3:2212:U:H2'	50:3:2213:A:C8	2.44	0.51
50:3:2807:G:N1	50:3:2896:G:N7	2.57	0.51
52:5:20:C:H2'	52:5:21:U:O4'	2.10	0.51
52:5:249:U:H2'	52:5:250:G:H8	1.75	0.51
52:5:375:C:H2'	52:5:376:G:C8	2.45	0.51
52:5:1056:U:H1'	52:5:1057:C:C5	2.39	0.51
52:5:1316:C:H2'	52:5:1317:A:H8	1.75	0.51
11:H:60:LYS:C	11:H:61:LYS:HD2	2.35	0.51
11:H:78:ALA:O	11:H:82:ARG:HG3	2.10	0.51
25:b:103:GLN:HB2	25:b:106:GLU:HB3	1.93	0.51
38:o:12:LEU:HD23	38:o:16:LYS:HZ1	1.75	0.51
50:3:67:C:N4	50:3:92:U:N3	2.40	0.51
50:3:73:A:H5''	50:3:75:A:C8	2.45	0.51
50:3:124:A:OP1	50:3:1402:G:N2	2.39	0.51
50:3:1444:C:O2	50:3:1616:G:N2	2.43	0.51
50:3:1529:U:H2'	50:3:1530:G:H8	1.75	0.51
50:3:1827:U:H4'	50:3:1828:A:OP2	2.10	0.51
51:4:100:G:H2'	51:4:101:C:C6	2.45	0.51
52:5:576:A:H2'	52:5:577:G:C8	2.45	0.51
2:1:21:ARG:HH11	34:k:62:LEU:HD22	1.74	0.51
5:B:134:ARG:HA	5:B:137:MET:HE2	1.91	0.51
9:F:115:MET:O	9:F:119:ILE:HD12	2.10	0.51
13:J:17:SER:HA	13:J:80:LYS:HB2	1.93	0.51
24:a:151:GLU:HG3	24:a:197:ARG:O	2.10	0.51
28:e:151:VAL:HG13	28:e:165:VAL:HG11	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:112:ILE:H	34:k:129:HIS:HB2	1.75	0.51
36:m:2:SER:OG	36:m:3:TYR:N	2.43	0.51
41:r:28:LYS:HA	41:r:70:TYR:HB2	1.91	0.51
43:t:70:PHE:CD2	43:t:73:LYS:HE3	2.46	0.51
46:w:91:LEU:HD11	50:3:1628:G:H5''	1.91	0.51
50:3:1434:U:N3	50:3:1630:A:N1	2.58	0.51
50:3:1955:G:O2'	52:5:1393:A:N1	2.43	0.51
50:3:2810:A:H5'	50:3:2811:G:OP2	2.10	0.51
51:4:22:G:O6	51:4:56:A:N6	2.41	0.51
51:4:79:U:H2'	51:4:80:G:H3'	1.92	0.51
52:5:424:U:H3'	52:5:425:G:H8	1.75	0.51
52:5:427:A:C6	52:5:428:A:H1'	2.45	0.51
52:5:432:U:H2'	52:5:433:C:C6	2.44	0.51
4:A:32:MET:HE3	4:A:203:ASN:HB3	1.93	0.51
41:r:29:THR:O	41:r:33:GLN:N	2.37	0.51
41:r:124:LEU:HB3	41:r:128:ARG:NH2	2.26	0.51
45:v:18:ARG:HE	45:v:21:SER:CB	2.18	0.51
50:3:432:G:O2'	50:3:2238:G:O2'	2.29	0.51
50:3:1093:U:H2'	50:3:1094:G:C8	2.45	0.51
50:3:1243:A:H62	50:3:1266:G:N2	2.01	0.51
50:3:1278:G:H3'	50:3:1279:U:H5''	1.90	0.51
50:3:1280:G:OP1	50:3:1281:A:N6	2.43	0.51
50:3:1665:G:O2'	50:3:1769:A:N6	2.43	0.51
50:3:2436:G:H5''	50:3:2437:G:C2	2.45	0.51
50:3:2531:C:H2'	50:3:2532:G:H8	1.76	0.51
50:3:2732:A:H2'	50:3:2733:A:H8	1.74	0.51
52:5:313:U:H2'	52:5:314:G:H8	1.75	0.51
52:5:561:A:H5''	52:5:562:U:OP1	2.10	0.51
52:5:1049:G:H2'	52:5:1050:U:O4'	2.10	0.51
52:5:1337:U:H4'	52:5:1338:A:H5'	1.91	0.51
52:5:1389:U:H2'	52:5:1390:G:H8	1.75	0.51
6:C:9:LYS:HA	6:C:12:ARG:NH1	2.26	0.51
8:E:84:ARG:HG2	20:Q:96:LEU:HA	1.93	0.51
9:F:74:LEU:HD11	9:F:85:GLN:HB2	1.91	0.51
22:S:7:ASN:HB3	52:5:328:G:O4'	2.10	0.51
27:d:107:ALA:HB2	27:d:138:PHE:CE1	2.46	0.51
41:r:39:THR:HG22	41:r:41:LYS:H	1.75	0.51
50:3:31:U:C2	50:3:32:G:C8	2.99	0.51
50:3:112:A:O2'	50:3:113:U:O4'	2.29	0.51
50:3:192:U:H2'	50:3:193:G:C8	2.45	0.51
50:3:269:A:N6	50:3:316:C:OP1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:629:G:H2'	50:3:630:C:C6	2.46	0.51
50:3:659:C:O2'	50:3:660:U:O4'	2.17	0.51
50:3:763:G:O2'	50:3:765:A:O4'	2.27	0.51
50:3:1061:A:OP2	50:3:1061:A:H4'	2.10	0.51
50:3:1164:A:H1'	50:3:2577:G:H21	1.76	0.51
50:3:1327:G:N1	50:3:1674:A:OP2	2.20	0.51
50:3:1460:G:H2'	50:3:1461:A:C8	2.46	0.51
50:3:1591:C:H2'	50:3:1592:A:N7	2.26	0.51
50:3:1809:A:OP2	50:3:1822:A:N6	2.44	0.51
50:3:2044:C:H2'	50:3:2045:C:C6	2.44	0.51
50:3:2084:A:O2'	50:3:2442:A:H4'	2.10	0.51
50:3:2480:G:N2	50:3:2485:U:OP1	2.41	0.51
50:3:2820:G:H2'	50:3:2821:U:C5	2.44	0.51
52:5:794:C:H2'	52:5:795:U:H6	1.74	0.51
5:B:135:THR:O	5:B:139:GLN:HG2	2.10	0.51
8:E:5:ILE:HG22	8:E:7:LEU:HD22	1.92	0.51
12:I:49:PRO:HA	52:5:1126:U:H4'	1.92	0.51
17:N:60:ARG:HA	17:N:63:LEU:HD12	1.93	0.51
18:O:36:ALA:O	52:5:446:A:O2'	2.16	0.51
19:P:6:ARG:HH21	52:5:114:C:H5'	1.76	0.51
22:S:11:LEU:HD12	22:S:14:ASN:ND2	2.23	0.51
24:a:38:LEU:HD13	24:a:65:LYS:HZ3	1.75	0.51
25:b:2:GLU:OE2	25:b:89:GLY:N	2.36	0.51
27:d:38:MET:HB2	27:d:87:CYS:HB2	1.93	0.51
29:f:108:LEU:HD22	29:f:112:MET:HE1	1.93	0.51
33:j:67:LYS:HZ2	50:3:2693:U:C5'	2.24	0.51
42:s:70:ARG:HB3	50:3:67:C:H1'	1.92	0.51
50:3:53:G:O4'	50:3:119:A:N6	2.43	0.51
50:3:231:A:N7	50:3:446:A:O2'	2.38	0.51
50:3:250:U:H2'	50:3:251:G:C8	2.46	0.51
50:3:1211:U:H2'	50:3:1212:C:C5	2.46	0.51
50:3:1449:G:H5'	50:3:2219:U:H3	1.75	0.51
50:3:2208:U:H2'	50:3:2209:U:C6	2.46	0.51
50:3:2251:U:H2'	50:3:2252:U:C2	2.46	0.51
50:3:2352:U:H5'	50:3:2381:G:H4'	1.92	0.51
50:3:2432:C:H1'	50:3:2440:A:H4'	1.91	0.51
50:3:2607:G:H2'	50:3:2608:A:H8	1.76	0.51
50:3:2832:G:H2'	50:3:2833:A:H8	1.74	0.51
51:4:3:U:O3'	51:4:22:G:N2	2.44	0.51
52:5:108:C:OP1	52:5:307:C:O2'	2.29	0.51
52:5:215:C:H4'	52:5:377:A:H5'	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:751:C:H5'	52:5:752:G:C8	2.46	0.51
52:5:788:G:N2	52:5:1472:G:O2'	2.44	0.51
52:5:1367:G:O2'	52:5:1477:A:OP1	2.28	0.51
52:5:1387:U:H2'	52:5:1388:A:O4'	2.11	0.51
52:5:1413:G:H2'	52:5:1414:U:C6	2.45	0.51
5:B:39:LYS:HD2	16:M:25:GLN:HB2	1.91	0.51
6:C:78:VAL:HA	6:C:81:GLN:HB3	1.92	0.51
6:C:82:ARG:NH1	52:5:611:A:OP1	2.44	0.51
7:D:76:ILE:HA	52:5:17:A:H4'	1.92	0.51
11:H:19:VAL:HG11	11:H:85:ILE:HA	1.93	0.51
12:I:45:PRO:HA	12:I:80:MET:HE1	1.92	0.51
21:R:81:LYS:O	21:R:84:THR:OG1	2.22	0.51
24:a:69:ILE:HD12	24:a:92:ARG:NH1	2.25	0.51
25:b:39:VAL:HG23	25:b:91:GLU:HA	1.93	0.51
29:f:2:LYS:NZ	29:f:5:LEU:HB3	2.18	0.51
29:f:11:ASN:HB2	29:f:28:HIS:NE2	2.26	0.51
29:f:79:PHE:HB2	29:f:142:VAL:HG22	1.93	0.51
32:i:48:THR:HB	32:i:53:CYS:HB3	1.91	0.51
38:o:33:VAL:HG23	38:o:48:PHE:HB3	1.93	0.51
44:u:22:GLY:HA2	50:3:2263:G:N3	2.26	0.51
46:w:6:GLU:HA	46:w:9:GLN:HG2	1.93	0.51
50:3:627:U:O4	50:3:628:A:N6	2.44	0.51
50:3:645:C:H2'	50:3:646:A:C8	2.46	0.51
50:3:758:C:H2'	50:3:759:U:C6	2.46	0.51
50:3:1951:A:H2	50:3:1962:U:H5''	1.75	0.51
50:3:2079:G:H2'	50:3:2080:C:C6	2.45	0.51
50:3:2539:A:H2	50:3:2666:C:O2	1.94	0.51
50:3:2855:A:H3'	50:3:2856:G:H8	1.76	0.51
51:4:28:C:H3'	51:4:29:C:H6	1.74	0.51
52:5:158:A:C6	52:5:160:A:H1'	2.46	0.51
52:5:582:G:O6	52:5:754:U:O4	2.29	0.51
52:5:773:G:H4'	52:5:774:A:C8	2.46	0.51
52:5:996:U:H3'	52:5:997:G:H4'	1.93	0.51
52:5:1209:C:H2'	52:5:1210:U:C6	2.46	0.51
8:E:150:GLN:O	10:G:56:ASN:ND2	2.43	0.51
13:J:121:ARG:HG3	52:5:1497:U:H5''	1.93	0.51
19:P:74:ARG:HB3	52:5:230:G:H4'	1.93	0.51
25:b:4:ARG:HH11	25:b:87:MET:HE2	1.75	0.51
30:g:31:SER:HA	50:3:1089:A:O2'	2.11	0.51
39:p:106:ASN:HA	39:p:109:VAL:HG22	1.93	0.51
40:q:41:LEU:HD11	40:q:97:PHE:HB2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:69:LEU:HD22	41:r:107:LEU:HB3	1.92	0.51
46:w:109:SER:HA	50:3:1499:C:H1'	1.91	0.51
50:3:79:U:H2'	50:3:80:U:C6	2.45	0.51
50:3:1687:G:N1	50:3:2010:A:OP2	2.44	0.51
50:3:1795:C:H2'	50:3:1796:A:H8	1.76	0.51
50:3:2112:A:H2'	50:3:2113:U:C6	2.46	0.51
50:3:2802:C:O2	50:3:2803:G:N2	2.44	0.51
51:4:9:C:H2'	51:4:13:G:N7	2.26	0.51
51:4:96:G:H2'	51:4:97:A:O4'	2.11	0.51
52:5:41:C:H2'	52:5:42:G:H8	1.76	0.51
52:5:770:G:O6	52:5:804:A:N6	2.43	0.51
52:5:1462:G:H2'	52:5:1463:A:H8	1.76	0.51
6:C:1:MET:HB2	52:5:544:A:N7	2.26	0.51
6:C:103:ARG:NH1	6:C:186:GLU:HB3	2.26	0.51
8:E:40:LEU:HD21	8:E:59:ARG:HB2	1.92	0.51
10:G:19:LEU:HD12	10:G:89:GLN:HE21	1.76	0.51
10:G:44:ILE:HA	10:G:47:ILE:HG22	1.93	0.51
11:H:53:PRO:O	11:H:57:THR:OG1	2.15	0.51
13:J:68:LYS:HZ2	13:J:98:LEU:HD13	1.75	0.51
20:Q:42:ARG:O	20:Q:46:ILE:HG23	2.11	0.51
21:R:37:ARG:NH2	52:5:1291:C:N3	2.59	0.51
24:a:78:ASN:HD22	29:f:89:TYR:HE2	1.59	0.51
25:b:27:THR:HG21	25:b:197:ILE:HB	1.93	0.51
26:c:60:GLY:HA2	50:3:832:C:H5''	1.92	0.51
26:c:185:LYS:HA	50:3:651:A:H61	1.74	0.51
27:d:135:GLN:HG3	27:d:150:ARG:O	2.10	0.51
28:e:3:LYS:HE2	50:3:1084:C:H42	1.75	0.51
42:s:44:PHE:HD2	42:s:52:PRO:HD3	1.76	0.51
50:3:9:G:H1	50:3:2900:U:H1'	1.76	0.51
50:3:851:U:O2'	50:3:1201:A:O2'	2.10	0.51
50:3:1055:A:N3	50:3:1056:A:N6	2.59	0.51
50:3:1061:A:N6	50:3:1162:A:OP2	2.28	0.51
50:3:1626:C:H2'	50:3:1627:U:C6	2.46	0.51
50:3:1641:A:H1'	50:3:1642:G:N7	2.25	0.51
50:3:2038:A:C4	50:3:2506:C:H1'	2.46	0.51
50:3:2521:A:H2'	50:3:2522:U:C6	2.46	0.51
50:3:2636:U:H5''	50:3:2637:A:C4	2.45	0.51
52:5:37:C:O2'	52:5:499:U:OP1	2.29	0.51
52:5:229:G:O2'	52:5:260:C:O2	2.29	0.51
52:5:560:U:OP1	52:5:878:U:O2'	2.28	0.51
52:5:590:G:O6	52:5:644:U:O4	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:616:C:O2	52:5:620:A:N6	2.44	0.51
52:5:749:G:O2'	52:5:750:A:OP2	2.27	0.51
52:5:955:U:H5'	52:5:956:U:H5'	1.92	0.51
52:5:1043:U:O2	52:5:1181:G:N2	2.42	0.51
52:5:1082:U:N3	52:5:1084:A:OP2	2.29	0.51
2:1:22:LYS:HD2	34:k:63:PRO:HB2	1.92	0.51
12:I:62:HIS:HA	16:M:41:ARG:HH12	1.76	0.51
15:L:86:TRP:H	21:R:73:GLU:HG2	1.75	0.51
29:f:3:VAL:HG22	45:v:62:ASN:OD1	1.87	0.51
29:f:81:LEU:HD22	29:f:90:GLY:HA3	1.93	0.51
37:n:78:ALA:HB2	37:n:109:ALA:HA	1.92	0.51
45:v:14:TYR:CD2	50:3:192:U:H5''	2.46	0.51
48:y:30:CYS:SG	48:y:33:CYS:HB3	2.51	0.51
50:3:299:A:N1	50:3:300:G:C5	2.80	0.51
50:3:702:U:H2'	50:3:703:A:C8	2.45	0.51
50:3:863:U:H5	50:3:2254:G:H21	1.58	0.51
50:3:1290:G:H2'	50:3:1291:C:C6	2.46	0.51
50:3:1304:U:H2'	50:3:1305:G:H8	1.76	0.51
50:3:1374:U:H2'	50:3:1375:G:C8	2.46	0.51
50:3:2140:G:H2'	50:3:2165:A:H61	1.76	0.51
50:3:2249:A:H2'	50:3:2250:G:C8	2.46	0.51
50:3:2740:U:H5''	50:3:2741:A:C8	2.46	0.51
50:3:2759:G:P	50:3:2760:C:H41	2.34	0.51
50:3:2775:C:H2'	50:3:2776:U:C6	2.46	0.51
52:5:616:C:H5'	52:5:618:U:OP2	2.11	0.51
52:5:795:U:H2'	52:5:796:A:H8	1.75	0.51
52:5:1131:A:H3'	52:5:1132:G:H8	1.75	0.51
52:5:1274:G:HO2'	52:5:1278:G:H22	1.57	0.51
3:2:1:MET:HE3	50:3:2534:G:H1'	1.94	0.50
6:C:2:LYS:NZ	52:5:400:G:N7	2.58	0.50
8:E:123:ASN:OD1	8:E:124:ASN:N	2.45	0.50
10:G:132:LYS:O	52:5:598:U:H5''	2.11	0.50
13:J:45:PHE:HB3	13:J:49:ARG:HG2	1.93	0.50
16:M:45:ARG:HH12	52:5:1050:U:H4'	1.77	0.50
19:P:70:SER:HB3	19:P:73:LYS:HD3	1.93	0.50
20:Q:49:LEU:HD22	52:5:833:G:OP1	2.12	0.50
31:h:75:LEU:O	31:h:78:GLN:HG3	2.11	0.50
33:j:66:LYS:HE2	50:3:1699:A:H5''	1.94	0.50
50:3:603:G:O2'	50:3:1019:A:H1'	2.12	0.50
50:3:675:U:O4	50:3:685:G:O6	2.29	0.50
50:3:739:G:N2	50:3:761:G:N3	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1052:A:H2'	50:3:1053:C:C6	2.46	0.50
50:3:1484:G:H2'	50:3:1485:A:O4'	2.11	0.50
50:3:2225:G:H2'	50:3:2226:U:C6	2.46	0.50
50:3:2483:C:N3	50:3:2537:G:N1	2.56	0.50
50:3:2561:G:H21	50:3:2590:G:N2	2.09	0.50
50:3:2796:C:H2'	50:3:2797:C:C6	2.46	0.50
50:3:2809:A:H62	50:3:2811:G:H22	1.59	0.50
52:5:379:A:H5''	52:5:453:C:C5'	2.41	0.50
52:5:1065:G:O6	52:5:1074:U:C4	2.64	0.50
52:5:1217:G:H2'	52:5:1218:C:H6	1.75	0.50
52:5:1226:A:N3	52:5:1344:C:O2'	2.38	0.50
52:5:1283:G:O6	52:5:1303:A:N6	2.44	0.50
6:C:148:THR:O	6:C:151:ILE:HG12	2.11	0.50
8:E:32:VAL:HG12	8:E:62:PHE:CE1	2.46	0.50
16:M:3:LYS:O	16:M:7:LYS:HG3	2.11	0.50
25:b:29:ILE:HG21	25:b:205:VAL:HG11	1.93	0.50
28:e:72:ASN:O	28:e:76:THR:HG23	2.10	0.50
30:g:60:ARG:HB2	30:g:75:ALA:HB3	1.93	0.50
36:m:65:LYS:NZ	50:3:2700:C:OP1	2.43	0.50
41:r:100:SER:OG	41:r:101:SER:N	2.45	0.50
50:3:502:A:C5	50:3:503:G:H1'	2.46	0.50
50:3:638:A:H2	50:3:639:G:C8	2.28	0.50
50:3:769:A:O2'	50:3:1669:A:H5''	2.12	0.50
50:3:917:G:N1	50:3:935:U:O4	2.44	0.50
50:3:988:G:H2'	50:3:989:G:O4'	2.11	0.50
50:3:1111:C:H2'	50:3:1112:A:C8	2.46	0.50
50:3:1242:G:C2	50:3:1267:A:N6	2.80	0.50
50:3:1408:G:H2'	50:3:1409:G:C8	2.46	0.50
50:3:1473:C:O2'	50:3:1474:C:H5'	2.11	0.50
50:3:2105:G:H2'	50:3:2106:G:C8	2.45	0.50
50:3:2559:C:H2'	50:3:2560:U:O4'	2.10	0.50
50:3:2619:C:H2'	50:3:2620:C:C6	2.46	0.50
52:5:405:C:H2'	52:5:406:G:O4'	2.10	0.50
52:5:469:C:H2'	52:5:470:U:C6	2.45	0.50
52:5:579:G:H3'	52:5:755:U:O4	2.11	0.50
52:5:1212:C:HO2'	52:5:1274:G:H1	1.58	0.50
52:5:1289:U:H2'	52:5:1290:G:C8	2.46	0.50
52:5:1477:A:N7	52:5:1480:G:O6	2.42	0.50
6:C:157:ALA:O	6:C:161:GLY:N	2.44	0.50
26:c:181:LYS:HD2	50:3:648:G:N2	2.26	0.50
29:f:63:ALA:O	29:f:67:LYS:HG2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:j:6:THR:OG1	50:3:1700:G:O2'	2.27	0.50
33:j:27:SER:OG	50:3:2572:A:N7	2.42	0.50
34:k:42:ARG:HH21	50:3:842:U:H5'	1.77	0.50
34:k:95:ARG:HD3	34:k:112:ILE:HD11	1.94	0.50
35:l:37:THR:HA	35:l:100:GLY:H	1.77	0.50
38:o:44:ARG:NH1	38:o:46:GLN:OE1	2.45	0.50
50:3:37:G:C5	50:3:482:G:N2	2.78	0.50
50:3:401:G:HO2'	50:3:402:A:P	2.34	0.50
50:3:422:A:H3'	50:3:423:C:C5	2.46	0.50
50:3:602:U:C1'	50:3:982:G:H21	2.24	0.50
50:3:1737:G:N1	50:3:1738:G:C6	2.80	0.50
50:3:1798:A:H62	50:3:1835:G:H1'	1.76	0.50
50:3:2683:G:H2'	50:3:2684:G:C8	2.46	0.50
50:3:2867:U:H2'	50:3:2868:G:C8	2.45	0.50
52:5:520:C:O2'	52:5:534:C:OP1	2.24	0.50
52:5:721:G:H2'	52:5:722:G:H8	1.72	0.50
52:5:1446:A:H2'	52:5:1447:U:C6	2.47	0.50
53:7:66:C:H2'	53:7:67:C:C6	2.47	0.50
53:8:57:C:O2'	53:8:58:G:OP1	2.26	0.50
53:8:71:A:O2'	53:8:72:C:OP1	2.27	0.50
4:A:108:ILE:HA	4:A:165:GLY:HA3	1.94	0.50
4:A:111:ARG:NH1	52:5:1092:A:OP1	2.43	0.50
8:E:6:ILE:HB	8:E:86:LEU:HB3	1.94	0.50
10:G:90:ILE:HG22	10:G:97:ILE:HG21	1.92	0.50
15:L:9:ILE:HD12	15:L:10:PRO:HD2	1.94	0.50
25:b:115:LYS:NZ	50:3:2689:C:OP1	2.44	0.50
32:i:20:ILE:HB	32:i:140:PRO:HB2	1.93	0.50
34:k:113:LYS:HB3	34:k:115:ILE:HD11	1.94	0.50
44:u:17:SER:OG	44:u:18:LYS:N	2.44	0.50
44:u:34:ARG:NH1	50:3:2277:A:N3	2.59	0.50
50:3:343:A:N6	50:3:1240:U:O2'	2.44	0.50
50:3:691:G:H2'	50:3:692:U:C6	2.47	0.50
50:3:1318:U:H2'	50:3:1319:C:H6	1.74	0.50
50:3:1356:G:O3'	50:3:1357:U:H6	1.95	0.50
50:3:1704:C:N4	50:3:1708:G:OP2	2.45	0.50
50:3:2103:C:H2'	50:3:2104:A:C8	2.46	0.50
50:3:2363:C:H2'	50:3:2364:A:O4'	2.11	0.50
50:3:2856:G:H2'	50:3:2857:C:C6	2.46	0.50
52:5:36:G:N2	52:5:499:U:O3'	2.44	0.50
52:5:134:G:H2'	52:5:135:A:O4'	2.11	0.50
3:2:7:VAL:HG13	3:2:37:GLY:HA2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:40:LYS:HG3	52:5:825:A:H2	1.77	0.50
6:C:115:GLN:HE22	52:5:402:G:N2	2.08	0.50
10:G:67:LYS:HE3	52:5:649:U:H4'	1.93	0.50
15:L:103:ARG:HA	52:5:1201:C:C4	2.47	0.50
22:S:21:ASN:ND2	22:S:59:ILE:HG12	2.26	0.50
24:a:135:SER:HA	24:a:199:THR:HA	1.93	0.50
26:c:132:LEU:HA	26:c:135:LYS:HD2	1.93	0.50
34:k:16:LYS:HG2	50:3:1225:A:N6	2.26	0.50
34:k:34:ARG:HH21	50:3:706:C:N4	2.09	0.50
35:l:76:LYS:NZ	50:3:2467:A:O2'	2.36	0.50
35:l:120:ARG:NH1	50:3:2476:A:H4'	2.27	0.50
50:3:606:G:O2'	50:3:608:A:OP1	2.18	0.50
50:3:619:A:O2'	50:3:706:C:O2	2.24	0.50
50:3:1737:G:O2'	52:5:1404:U:O2'	2.19	0.50
50:3:1741:G:H2'	50:3:1742:C:H6	1.76	0.50
50:3:2163:U:H2'	50:3:2164:G:C8	2.46	0.50
50:3:2332:U:H5''	50:3:2333:G:O3'	2.12	0.50
50:3:2888:U:H1'	50:3:2889:U:C5	2.46	0.50
52:5:243:G:H2'	52:5:244:C:H6	1.75	0.50
52:5:473:A:H2'	52:5:474:G:C8	2.46	0.50
52:5:747:C:H2'	52:5:748:U:C5	2.47	0.50
52:5:1096:A:H2'	52:5:1097:G:H8	1.76	0.50
52:5:1151:A:H2'	52:5:1152:G:H8	1.77	0.50
52:5:1167:C:H2'	52:5:1168:G:O4'	2.12	0.50
52:5:1364:C:H2'	52:5:1365:U:C6	2.46	0.50
1:0:40:ALA:N	50:3:495:U:OP1	2.34	0.50
6:C:71:PHE:CZ	6:C:89:LEU:HD21	2.46	0.50
13:J:111:HIS:CG	52:5:672:A:HO2'	2.29	0.50
21:R:10:PHE:HB3	52:5:1292:A:H5''	1.92	0.50
21:R:55:LYS:O	52:5:981:U:O2'	2.29	0.50
26:c:112:LEU:HG	26:c:116:TRP:CD1	2.46	0.50
26:c:128:VAL:O	26:c:201:LYS:N	2.45	0.50
29:f:2:LYS:CE	29:f:4:ILE:O	2.60	0.50
34:k:68:ALA:HA	50:3:2423:G:H1'	1.93	0.50
34:k:79:VAL:HG13	34:k:115:ILE:HD12	1.92	0.50
37:n:27:ARG:NH2	50:3:2386:A:O2'	2.45	0.50
39:p:60:TRP:HZ2	50:3:1031:U:H1'	1.76	0.50
46:w:52:ALA:O	46:w:56:THR:OG1	2.28	0.50
50:3:64:U:O2'	50:3:66:A:N6	2.42	0.50
50:3:327:U:OP2	50:3:378:G:N2	2.44	0.50
50:3:519:A:H62	50:3:532:A:H1'	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:605:A:H61	50:3:2036:G:H21	1.59	0.50
50:3:1035:U:N3	50:3:1036:A:N7	2.60	0.50
50:3:2225:G:H2'	50:3:2226:U:H6	1.75	0.50
50:3:2538:A:H1'	50:3:2543:G:H1	1.77	0.50
50:3:2809:A:N7	50:3:2811:G:N1	2.59	0.50
52:5:24:C:H2'	52:5:25:U:C6	2.47	0.50
52:5:938:U:O2'	52:5:1207:U:OP2	2.18	0.50
52:5:940:G:H2'	52:5:941:A:H8	1.77	0.50
52:5:1055:G:N2	52:5:1166:A:H5'	2.26	0.50
52:5:1173:A:H2'	52:5:1174:U:C6	2.47	0.50
52:5:1380:G:H1'	52:5:1494:A:H4'	1.92	0.50
52:5:1413:G:H1	52:5:1438:U:H3	1.59	0.50
5:B:43:LEU:HA	5:B:46:VAL:HG22	1.94	0.50
5:B:159:ARG:NH2	52:5:1046:A:N3	2.56	0.50
9:F:56:LYS:NZ	9:F:57:PRO:HD2	2.27	0.50
17:N:9:ILE:HD11	17:N:28:LEU:HD13	1.93	0.50
24:a:251:ARG:NH1	50:3:2082:U:H5''	2.26	0.50
25:b:64:LYS:HD2	25:b:67:GLN:CD	2.36	0.50
27:d:61:SER:HB2	27:d:89:VAL:HG11	1.92	0.50
29:f:18:VAL:HG13	29:f:19:VAL:HG23	1.94	0.50
38:o:22:VAL:HG11	38:o:81:ILE:HG23	1.93	0.50
46:w:15:LEU:HD12	46:w:18:LEU:HD23	1.93	0.50
50:3:1294:G:N2	50:3:2023:U:O4	2.44	0.50
50:3:1483:G:O2'	50:3:2857:C:H5'	2.12	0.50
51:4:60:C:H2'	51:4:61:A:H8	1.75	0.50
51:4:79:U:O2'	51:4:85:A:N6	2.40	0.50
52:5:129:U:H5'	52:5:130:G:H5''	1.92	0.50
52:5:194:U:H2'	52:5:195:U:C6	2.47	0.50
52:5:290:G:OP1	52:5:609:G:H5'	2.12	0.50
52:5:407:A:O2'	52:5:409:G:OP1	2.29	0.50
52:5:754:U:H1'	52:5:873:U:H1'	1.94	0.50
52:5:876:C:H2'	52:5:877:C:C6	2.47	0.50
52:5:1118:A:H1'	52:5:1255:A:C4	2.46	0.50
52:5:1227:A:H2'	52:5:1228:C:O4'	2.11	0.50
6:C:6:SER:OG	52:5:426:U:OP1	2.28	0.50
15:L:87:ARG:HG3	52:5:1294:U:H4'	1.93	0.50
21:R:48:THR:OG1	21:R:59:ASN:OD1	2.27	0.50
21:R:80:PHE:HB3	52:5:1201:C:OP1	2.12	0.50
22:S:73:VAL:HG21	52:5:172:C:O2'	2.12	0.50
24:a:231:SER:HB2	24:a:246:ARG:NH1	2.26	0.50
27:d:38:MET:HE3	27:d:150:ARG:HE	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:d:123:ASP:HA	50:3:2311:G:H1'	1.94	0.50
27:d:129:THR:O	50:3:2312:G:O2'	2.27	0.50
29:f:110:LYS:HD2	50:3:2227:U:H5''	1.94	0.50
30:g:76:ILE:HG22	30:g:77:LYS:H	1.76	0.50
31:h:90:LYS:HG2	50:3:1112:A:H5''	1.94	0.50
34:k:102:GLN:HB3	50:3:639:G:O6	2.12	0.50
50:3:44:A:N1	50:3:474:U:C4	2.80	0.50
50:3:716:G:N2	50:3:831:U:O2	2.43	0.50
50:3:843:G:O2'	50:3:2067:A:N6	2.45	0.50
50:3:993:A:H61	50:3:2502:G:H21	1.58	0.50
50:3:1059:G:C8	50:3:1060:G:H2'	2.46	0.50
50:3:1073:A:H2'	50:3:1074:A:H8	1.77	0.50
50:3:1168:A:N6	50:3:2032:G:H1'	2.27	0.50
50:3:1710:A:H2'	50:3:1711:A:C8	2.47	0.50
50:3:2057:C:H2'	50:3:2058:G:C4	2.46	0.50
50:3:2334:U:O2'	50:3:2336:A:N6	2.40	0.50
52:5:1007:U:H2'	52:5:1008:G:H8	1.76	0.50
52:5:1039:G:H1'	52:5:1190:G:H5''	1.92	0.50
52:5:1112:U:O2	52:5:1128:G:N2	2.43	0.50
52:5:1241:G:O2'	52:5:1243:A:N6	2.45	0.50
52:5:1290:G:N2	52:5:1293:A:OP2	2.45	0.50
52:5:1367:G:H2'	52:5:1368:U:C6	2.47	0.50
52:5:1477:A:C8	52:5:1480:G:C2	3.00	0.50
3:2:22:ILE:HG23	50:3:1159:C:H4'	1.93	0.50
12:I:51:LYS:HB2	12:I:75:ARG:HB3	1.93	0.50
24:a:259:GLY:HA3	50:3:2247:G:H8	1.76	0.50
28:e:49:LYS:HZ1	28:e:54:GLN:HG3	1.76	0.50
31:h:76:LEU:HD12	31:h:79:ALA:HB3	1.94	0.50
34:k:58:LEU:O	34:k:62:LEU:HG	2.12	0.50
34:k:115:ILE:HD13	50:3:672:G:C6	2.47	0.50
36:m:9:LYS:HB2	50:3:2009:U:H5'	1.94	0.50
40:q:82:LYS:N	50:3:849:C:OP1	2.45	0.50
46:w:4:ALA:O	46:w:8:ARG:HD3	2.11	0.50
50:3:766:C:H2'	50:3:767:C:H6	1.77	0.50
50:3:865:A:N7	50:3:2452:G:N2	2.59	0.50
50:3:963:U:H2'	50:3:964:A:H8	1.77	0.50
50:3:1006:U:H2'	50:3:1007:C:C6	2.47	0.50
50:3:1133:A:H2'	50:3:1134:G:O4'	2.12	0.50
50:3:1467:U:H2'	50:3:1468:U:C5	2.47	0.50
50:3:2664:U:N3	50:3:2673:A:C8	2.78	0.50
51:4:73:U:H2'	51:4:74:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:406:G:H1'	52:5:430:G:H22	1.76	0.50
52:5:1222:U:O2	52:5:1264:G:C6	2.64	0.50
5:B:8:ASN:HB2	16:M:49:TYR:O	2.12	0.49
5:B:191:LYS:HD3	52:5:1048:G:H21	1.77	0.49
15:L:86:TRP:CZ3	15:L:90:ARG:HD2	2.47	0.49
20:Q:101:PHE:O	52:5:715:A:N6	2.45	0.49
24:a:34:GLU:H	24:a:38:LEU:HD21	1.77	0.49
26:c:104:ASN:OD1	50:3:693:U:O2'	2.17	0.49
31:h:37:LYS:NZ	31:h:41:GLU:OE1	2.45	0.49
50:3:529:G:H2'	50:3:530:G:H8	1.77	0.49
50:3:580:U:H3'	50:3:581:A:H5''	1.94	0.49
50:3:1474:C:H2'	50:3:1475:C:C6	2.47	0.49
50:3:1856:G:H2'	50:3:1857:G:C8	2.48	0.49
50:3:1871:U:H4'	50:3:2417:G:H21	1.77	0.49
51:4:61:A:H2'	51:4:62:G:C8	2.47	0.49
52:5:256:G:H21	52:5:263:C:H41	1.59	0.49
52:5:669:U:H2'	52:5:670:G:H8	1.76	0.49
53:7:63:U:H2'	53:7:64:G:C8	2.47	0.49
9:F:34:LYS:NZ	52:5:1263:A:N3	2.56	0.49
24:a:133:GLY:N	24:a:200:VAL:O	2.36	0.49
24:a:190:ARG:HG2	24:a:191:LYS:H	1.77	0.49
34:k:16:LYS:HD3	34:k:18:LYS:HE3	1.93	0.49
37:n:28:VAL:HG23	37:n:86:LEU:HD22	1.94	0.49
38:o:23:PRO:HG2	38:o:90:LEU:HB2	1.94	0.49
41:r:66:GLY:HA2	41:r:69:LEU:HD12	1.95	0.49
50:3:119:A:N3	50:3:181:G:H1'	2.27	0.49
50:3:213:C:H5'	50:3:716:G:H4'	1.93	0.49
50:3:606:G:O6	50:3:2036:G:O2'	2.28	0.49
50:3:885:A:H2'	50:3:886:U:C6	2.47	0.49
50:3:894:G:N1	50:3:956:U:O4	2.43	0.49
50:3:1230:U:H2'	50:3:1231:G:N7	2.27	0.49
50:3:1495:A:OP2	50:3:1548:A:N6	2.45	0.49
50:3:2151:G:H2'	50:3:2153:U:O2	2.12	0.49
50:3:2257:U:H5''	50:3:2258:G:H4'	1.94	0.49
50:3:2667:G:H2'	50:3:2668:A:H2'	1.94	0.49
52:5:34:A:H2'	52:5:35:C:O4'	2.12	0.49
52:5:69:G:H2'	52:5:70:A:O4'	2.12	0.49
52:5:113:C:O2'	52:5:114:C:OP1	2.24	0.49
52:5:1055:G:H22	52:5:1166:A:H5'	1.77	0.49
52:5:1119:C:H3'	52:5:1120:A:H8	1.77	0.49
52:5:1212:C:H5''	52:5:1213:A:H8	1.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1245:A:H2'	52:5:1246:A:C8	2.47	0.49
52:5:1367:G:H21	52:5:1477:A:C4'	2.23	0.49
52:5:1429:G:H2'	52:5:1430:G:C8	2.41	0.49
52:5:1499:G:H2'	52:5:1500:G:C8	2.47	0.49
53:7:45:G:H2'	53:7:46:U:C6	2.48	0.49
3:2:1:MET:HE2	3:2:35:ARG:HH11	1.76	0.49
4:A:30:VAL:HA	4:A:218:ASN:HD21	1.77	0.49
9:F:119:ILE:O	9:F:123:ILE:HG13	2.12	0.49
10:G:31:MET:SD	10:G:80:ARG:NH2	2.79	0.49
14:K:12:ARG:HH12	52:5:877:C:N4	2.09	0.49
14:K:41:PRO:HB3	52:5:550:U:O2	2.11	0.49
15:L:86:TRP:HZ3	15:L:90:ARG:HD2	1.77	0.49
50:3:591:G:H2'	50:3:592:G:C8	2.47	0.49
50:3:1005:G:H2'	50:3:1006:U:C6	2.47	0.49
50:3:1064:A:H3'	50:3:1065:G:H8	1.77	0.49
50:3:2095:A:H2'	50:3:2096:U:O4'	2.12	0.49
50:3:2459:A:H1'	53:7:76:C:O4'	2.12	0.49
50:3:2464:C:H2'	50:3:2465:U:O4'	2.11	0.49
50:3:2589:G:N2	50:3:2618:C:OP1	2.45	0.49
52:5:566:G:H21	52:5:572:A:H1'	1.77	0.49
52:5:694:U:H3	52:5:795:U:H1'	1.77	0.49
53:8:66:C:H2'	53:8:67:C:C6	2.47	0.49
19:P:74:ARG:HG2	52:5:230:G:H5''	1.93	0.49
31:h:11:LYS:HG2	31:h:54:VAL:HG22	1.94	0.49
35:l:42:ILE:C	35:l:94:VAL:HG13	2.38	0.49
46:w:32:LYS:HD2	46:w:38:LEU:HD13	1.94	0.49
50:3:1242:G:N2	50:3:1266:G:C4	2.81	0.49
50:3:1501:U:H2'	50:3:1502:A:H8	1.75	0.49
50:3:1966:G:N1	50:3:1967:U:C4	2.81	0.49
50:3:2116:U:OP1	50:3:2125:U:N3	2.31	0.49
50:3:2268:C:H2'	50:3:2269:C:H6	1.78	0.49
50:3:2271:C:H5'	50:3:2337:U:H4'	1.95	0.49
50:3:2523:C:H2'	50:3:2524:U:C6	2.48	0.49
50:3:2607:G:H2'	50:3:2608:A:C8	2.47	0.49
50:3:2823:A:H4'	50:3:2824:A:OP1	2.12	0.49
52:5:123:U:H2'	52:5:124:U:C5	2.47	0.49
52:5:664:A:OP1	52:5:729:C:O2'	2.21	0.49
52:5:722:G:H2'	52:5:723:C:H6	1.77	0.49
52:5:765:A:O2'	52:5:1498:G:N2	2.45	0.49
52:5:787:A:N6	52:5:788:G:O6	2.45	0.49
52:5:1041:G:H2'	52:5:1042:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1265:U:H2'	52:5:1266:U:C5	2.47	0.49
5:B:47:ASN:ND2	5:B:91:GLN:OE1	2.45	0.49
12:I:12:LEU:HB3	12:I:82:LEU:HB2	1.95	0.49
15:L:55:ALA:O	15:L:59:VAL:HG12	2.12	0.49
26:c:200:GLU:HG3	26:c:202:GLU:H	1.77	0.49
27:d:135:GLN:HE21	27:d:150:ARG:HG3	1.78	0.49
29:f:41:LYS:HG2	50:3:287:G:H5''	1.94	0.49
31:h:10:ALA:H	31:h:55:ILE:HG22	1.78	0.49
35:l:83:MET:SD	50:3:995:A:N6	2.85	0.49
50:3:363:G:OP1	50:3:366:A:N6	2.44	0.49
50:3:1120:A:H2'	50:3:1121:A:C4	2.48	0.49
50:3:1972:C:H3'	50:3:1973:U:H3'	1.94	0.49
50:3:2472:G:H2'	50:3:2473:C:O4'	2.13	0.49
50:3:2531:C:H2'	50:3:2532:G:C8	2.47	0.49
50:3:2601:U:H2'	50:3:2602:C:H6	1.78	0.49
52:5:46:U:H2'	52:5:47:G:O4'	2.12	0.49
52:5:1057:C:O2'	52:5:1361:G:N3	2.46	0.49
5:B:9:GLY:HA2	5:B:12:PHE:HB2	1.95	0.49
10:G:131:LYS:O	10:G:133:ILE:HG12	2.13	0.49
13:J:108:PRO:HB2	52:5:673:A:H5''	1.94	0.49
15:L:94:ASN:HD21	15:L:109:ARG:HH21	1.60	0.49
24:a:229:ARG:NH2	50:3:1835:G:OP2	2.40	0.49
27:d:132:ILE:HG23	27:d:152:PHE:H	1.78	0.49
34:k:81:ASN:HD21	34:k:83:ASN:HB2	1.77	0.49
37:n:45:ASP:OD2	37:n:48:GLN:NE2	2.46	0.49
43:t:95:PRO:HD3	43:t:101:THR:N	2.28	0.49
50:3:246:G:N2	50:3:259:A:O5'	2.43	0.49
50:3:294:G:H2'	50:3:295:U:C6	2.47	0.49
50:3:335:G:O2'	50:3:369:C:OP2	2.29	0.49
50:3:460:G:H2'	50:3:461:C:C6	2.48	0.49
50:3:974:C:H2'	50:3:975:G:H8	1.77	0.49
50:3:1053:C:O2'	50:3:1054:U:H5'	2.11	0.49
50:3:1069:G:H2'	50:3:1070:U:C6	2.48	0.49
50:3:1117:U:H2'	50:3:1118:U:O4'	2.12	0.49
50:3:1125:U:H2'	50:3:1126:G:C8	2.48	0.49
50:3:1174:G:H21	50:3:1178:A:H2	1.59	0.49
50:3:1198:G:H2'	50:3:1199:A:C8	2.47	0.49
50:3:1232:U:H3'	50:3:1233:A:H8	1.77	0.49
50:3:1437:A:H2'	50:3:1438:G:C8	2.48	0.49
51:4:35:C:H42	51:4:47:C:H1'	1.77	0.49
52:5:438:A:H2'	52:5:439:U:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:594:A:N6	52:5:642:A:H61	2.10	0.49
52:5:659:U:O2	52:5:740:G:C6	2.66	0.49
52:5:1238:C:H2'	52:5:1239:U:C6	2.48	0.49
52:5:1299:C:H2'	52:5:1300:C:C6	2.48	0.49
53:7:21:U:OP1	53:7:58:G:N2	2.46	0.49
4:A:199:VAL:HG23	4:A:215:ILE:HD13	1.95	0.49
6:C:13:ARG:HD2	52:5:541:C:H5'	1.95	0.49
9:F:87:PRO:HD2	9:F:151:ALA:HB2	1.95	0.49
12:I:35:VAL:HG22	12:I:39:ASP:HB2	1.95	0.49
15:L:86:TRP:CZ3	52:5:1295:U:H4'	2.48	0.49
22:S:73:VAL:HA	22:S:76:LEU:HB3	1.95	0.49
25:b:29:ILE:HD13	25:b:205:VAL:HG11	1.94	0.49
37:n:61:LYS:HA	37:n:72:LEU:HB2	1.94	0.49
41:r:47:ILE:HD11	41:r:103:LEU:HD13	1.95	0.49
50:3:184:A:H2'	50:3:186:A:N6	2.27	0.49
50:3:243:U:H2'	50:3:244:G:C8	2.48	0.49
50:3:330:A:H2'	50:3:331:A:H8	1.78	0.49
50:3:342:G:C8	50:3:536:A:C8	3.00	0.49
50:3:435:U:H2'	50:3:436:G:C8	2.48	0.49
50:3:608:A:H2'	50:3:609:U:C6	2.47	0.49
50:3:1011:A:H1'	50:3:1026:A:C8	2.47	0.49
50:3:1033:A:H2'	50:3:1034:A:H8	1.76	0.49
50:3:1451:A:O2'	50:3:1524:C:O2'	2.21	0.49
50:3:2190:G:C6	50:3:2191:G:C6	3.00	0.49
50:3:2557:G:H2'	50:3:2558:G:C8	2.47	0.49
50:3:2812:U:O2'	50:3:2813:A:H5''	2.13	0.49
50:3:2853:U:H4'	50:3:2854:A:H5''	1.94	0.49
52:5:502:C:H2'	52:5:509:C:H6	1.73	0.49
52:5:973:A:O2'	52:5:1295:U:O4	2.26	0.49
52:5:1338:A:H2'	52:5:1340:G:C8	2.48	0.49
52:5:1363:U:H2'	52:5:1364:C:C6	2.47	0.49
52:5:1381:U:H1'	52:5:1493:A:H1'	1.94	0.49
52:5:1406:U:O4	52:5:1444:G:O6	2.31	0.49
53:8:21:U:OP1	53:8:58:G:N2	2.46	0.49
4:A:100:ALA:HA	4:A:104:ASP:HB3	1.95	0.49
5:B:178:LEU:O	52:5:1164:U:O2'	2.26	0.49
6:C:13:ARG:NH2	52:5:508:A:H5''	2.28	0.49
6:C:97:LEU:HD22	6:C:134:ILE:HG12	1.95	0.49
6:C:184:ARG:HH11	6:C:193:GLU:HB2	1.77	0.49
7:D:120:LYS:HA	7:D:123:HIS:NE2	2.28	0.49
14:K:80:ILE:HA	14:K:110:ILE:HD12	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:M:19:ARG:HH22	52:5:974:C:H2'	1.77	0.49
18:O:53:LEU:HD23	18:O:57:ALA:HB3	1.95	0.49
24:a:19:VAL:HG23	24:a:218:ARG:HH22	1.77	0.49
25:b:35:GLN:N	25:b:53:SER:O	2.45	0.49
35:l:22:LYS:HG3	50:3:899:A:O5'	2.12	0.49
37:n:86:LEU:O	37:n:87:THR:HG22	2.13	0.49
40:q:9:SER:HB3	50:3:1195:A:H1'	1.93	0.49
50:3:667:A:H1'	50:3:2424:C:H5'	1.94	0.49
50:3:762:A:H2'	50:3:763:G:C8	2.48	0.49
50:3:881:A:H4'	50:3:882:C:O5'	2.13	0.49
50:3:1035:U:H5'	50:3:1189:G:O6	2.12	0.49
50:3:1381:A:H8	50:3:1405:G:H21	1.61	0.49
50:3:1414:C:H2'	50:3:1415:A:H8	1.78	0.49
50:3:1511:C:H2'	50:3:1512:A:C8	2.48	0.49
50:3:1810:A:N1	50:3:1821:G:O2'	2.45	0.49
50:3:2113:U:O2	50:3:2191:G:N2	2.45	0.49
50:3:2172:A:H2'	50:3:2173:G:H5'	1.93	0.49
50:3:2189:U:H2'	50:3:2190:G:H8	1.78	0.49
50:3:2749:A:H2'	50:3:2750:A:O4'	2.12	0.49
51:4:13:G:P	51:4:97:A:H4'	2.53	0.49
52:5:48:C:H4'	52:5:49:C:H5'	1.95	0.49
52:5:288:A:H2'	52:5:289:U:O4'	2.12	0.49
52:5:616:C:C2	52:5:620:A:N6	2.81	0.49
52:5:1065:G:H2'	52:5:1066:U:C6	2.47	0.49
52:5:1136:G:O6	52:5:1151:A:C5	2.63	0.49
6:C:56:GLU:HA	6:C:59:ARG:HD3	1.95	0.49
6:C:82:ARG:CZ	52:5:611:A:H5''	2.42	0.49
9:F:43:TYR:HE2	11:H:44:LYS:NZ	2.11	0.49
24:a:154:PRO:HB3	24:a:195:GLU:HB3	1.94	0.49
28:e:101:VAL:HG13	28:e:128:VAL:HG23	1.95	0.49
32:i:47:PHE:H	39:p:63:ARG:HG2	1.77	0.49
34:k:13:ARG:HE	50:3:695:G:H21	1.61	0.49
50:3:380:A:H3'	50:3:381:A:C8	2.48	0.49
50:3:596:G:H2'	50:3:597:C:C6	2.48	0.49
50:3:616:G:H2'	50:3:617:C:C6	2.48	0.49
50:3:1092:A:N6	50:3:1122:G:OP1	2.45	0.49
50:3:1237:G:C2	50:3:1270:C:O2	2.65	0.49
50:3:1311:G:N1	50:3:1314:A:OP2	2.40	0.49
50:3:1389:G:H2'	50:3:1390:C:C6	2.48	0.49
50:3:1662:G:H2'	50:3:1663:G:C8	2.46	0.49
50:3:2067:A:O5'	50:3:2510:G:O2'	2.31	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2481:U:OP1	50:3:2483:C:N4	2.46	0.49
50:3:2561:G:H2'	50:3:2562:U:O4'	2.13	0.49
50:3:2643:A:H2'	50:3:2644:U:O4'	2.12	0.49
50:3:2732:A:H2'	50:3:2733:A:C8	2.47	0.49
52:5:110:U:H2'	52:5:111:A:C8	2.47	0.49
52:5:429:A:C4	52:5:430:G:H1'	2.48	0.49
52:5:1049:G:O6	52:5:1174:U:C2	2.65	0.49
4:A:123:LEU:HD13	4:A:166:VAL:HG11	1.94	0.49
5:B:16:LYS:NZ	5:B:186:ASP:OD1	2.46	0.49
11:H:110:LYS:HE2	52:5:1160:G:N2	2.27	0.49
14:K:23:ALA:HB1	14:K:70:LEU:HD22	1.94	0.49
16:M:2:ALA:O	16:M:6:LEU:N	2.32	0.49
21:R:12:ASP:HB3	21:R:15:LEU:HB3	1.94	0.49
21:R:24:LYS:HA	21:R:24:LYS:HE3	1.95	0.49
22:S:24:GLN:CD	52:5:162:C:H5''	2.38	0.49
24:a:279:ILE:HG22	24:a:280:ARG:HD3	1.95	0.49
30:g:61:ARG:HD2	50:3:1081:A:C8	2.47	0.49
50:3:122:G:H2'	50:3:123:G:H8	1.78	0.49
50:3:259:A:O2'	50:3:422:A:OP1	2.28	0.49
50:3:757:A:H2'	50:3:758:C:H6	1.77	0.49
50:3:1265:G:H2'	50:3:1266:G:C4	2.48	0.49
50:3:1475:C:H2'	50:3:1476:C:H6	1.77	0.49
50:3:1554:A:H3'	50:3:1555:G:H8	1.76	0.49
50:3:1653:C:H2'	50:3:1654:G:C8	2.47	0.49
50:3:1793:A:OP2	50:3:1794:A:N6	2.38	0.49
50:3:1873:A:C6	50:3:1883:A:C8	3.01	0.49
50:3:2032:G:H2'	50:3:2033:G:H8	1.78	0.49
52:5:54:A:H2'	52:5:55:C:O4'	2.13	0.49
52:5:346:G:H2'	52:5:347:G:C8	2.48	0.49
52:5:511:A:N1	52:5:537:A:N6	2.61	0.49
8:E:4:ASN:HD22	8:E:88:ILE:HG13	1.78	0.48
19:P:67:ARG:HH11	52:5:185:G:H5''	1.78	0.48
21:R:17:LYS:NZ	52:5:1008:G:OP2	2.32	0.48
25:b:50:THR:OG1	25:b:87:MET:O	2.23	0.48
26:c:27:LYS:HD2	26:c:28:GLU:HG3	1.95	0.48
27:d:151:GLY:H	50:3:2313:U:H3	1.60	0.48
34:k:115:ILE:HG21	50:3:672:G:C2	2.48	0.48
35:l:24:ASN:OD1	35:l:67:ARG:NH2	2.40	0.48
41:r:125:VAL:HA	41:r:128:ARG:HG2	1.94	0.48
44:u:54:GLN:HE22	44:u:59:VAL:H	1.60	0.48
50:3:134:U:H2'	50:3:135:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:440:C:N4	50:3:458:A:OP2	2.44	0.48
50:3:874:U:H1'	50:3:1221:G:H21	1.76	0.48
50:3:1116:U:C2	50:3:1117:U:C5	3.01	0.48
50:3:1430:U:H1'	50:3:1495:A:H61	1.79	0.48
50:3:2007:U:HO2'	50:3:2697:C:HO2'	1.57	0.48
50:3:2350:C:H2'	50:3:2351:U:O4'	2.13	0.48
50:3:2555:U:OP2	50:3:2574:A:O2'	2.31	0.48
52:5:1105:C:H2'	52:5:1106:U:H6	1.77	0.48
5:B:167:ARG:NH2	5:B:168:ASP:O	2.46	0.48
6:C:118:ASN:ND2	52:5:400:G:H4'	2.28	0.48
15:L:7:ILE:HG22	15:L:9:ILE:HG22	1.94	0.48
35:l:2:LEU:HB2	35:l:70:PRO:HD2	1.95	0.48
35:l:119:THR:O	35:l:123:HIS:ND1	2.46	0.48
41:r:12:ILE:HG23	41:r:17:ALA:HB2	1.95	0.48
50:3:78:C:H2'	50:3:79:U:H6	1.78	0.48
50:3:214:C:H2'	50:3:215:A:H8	1.75	0.48
50:3:421:A:N6	50:3:423:C:H2'	2.28	0.48
50:3:512:G:H21	50:3:514:A:H8	1.61	0.48
50:3:522:C:H2'	50:3:523:A:C8	2.48	0.48
50:3:559:C:H2'	50:3:560:U:O4'	2.13	0.48
50:3:591:G:H2'	50:3:592:G:H8	1.78	0.48
50:3:662:U:O2'	50:3:689:U:O2	2.20	0.48
50:3:900:G:H2'	50:3:901:C:C6	2.48	0.48
50:3:1353:G:OP1	50:3:1681:G:H3'	2.13	0.48
50:3:1507:G:O2'	50:3:1508:G:OP1	2.27	0.48
50:3:1846:A:H2'	50:3:1847:G:C8	2.49	0.48
50:3:1851:U:H2'	50:3:1852:G:C8	2.48	0.48
50:3:2054:C:H2'	50:3:2055:A:C8	2.48	0.48
50:3:2303:U:O2	50:3:2345:G:C2	2.66	0.48
50:3:2413:G:O2'	50:3:2419:A:N7	2.43	0.48
50:3:2461:A:H2'	50:3:2462:G:H8	1.76	0.48
50:3:2614:U:H2'	50:3:2615:G:H8	1.78	0.48
52:5:130:G:H2'	52:5:131:G:H8	1.78	0.48
52:5:319:U:C2	52:5:323:A:N7	2.80	0.48
52:5:520:C:H2'	52:5:521:A:H8	1.78	0.48
52:5:812:A:N7	52:5:1484:C:O2'	2.42	0.48
52:5:934:G:H2'	52:5:935:U:C6	2.48	0.48
53:7:71:A:O2'	53:7:72:C:OP1	2.27	0.48
53:8:45:G:H2'	53:8:46:U:C6	2.48	0.48
53:8:60:U:H2'	53:8:61:U:C4	2.48	0.48
5:B:72:ALA:HA	5:B:109:ILE:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:48:PRO:HB3	8:E:53:LEU:HD22	1.94	0.48
11:H:44:LYS:HD2	11:H:44:LYS:HA	1.65	0.48
14:K:112:ARG:NH2	14:K:117:THR:OG1	2.47	0.48
24:a:63:LYS:HB3	50:3:728:A:OP1	2.12	0.48
24:a:229:ARG:HB2	50:3:1795:C:H5''	1.95	0.48
26:c:193:LEU:HD21	34:k:5:GLN:H	1.78	0.48
30:g:72:ASP:C	30:g:74:THR:H	2.22	0.48
50:3:178:A:H2'	50:3:179:A:C4	2.48	0.48
50:3:420:A:N7	50:3:425:U:C4	2.81	0.48
50:3:555:A:H2'	50:3:556:U:C5	2.48	0.48
50:3:977:A:C4	50:3:978:G:C8	3.02	0.48
50:3:1085:A:N3	50:3:1085:A:H2'	2.28	0.48
50:3:1281:A:H8	50:3:1281:A:OP2	1.96	0.48
50:3:1306:G:H2'	50:3:1307:G:H8	1.78	0.48
50:3:1414:C:H3'	50:3:1424:U:H3	1.79	0.48
50:3:1518:C:O2	50:3:1520:A:N6	2.46	0.48
50:3:1819:G:H2'	50:3:1820:U:H6	1.78	0.48
50:3:2071:C:H2'	50:3:2072:C:H6	1.78	0.48
50:3:2470:C:H2'	50:3:2471:U:C6	2.48	0.48
50:3:2586:G:H2'	50:3:2587:U:H6	1.77	0.48
50:3:2705:G:H2'	50:3:2706:U:H6	1.73	0.48
50:3:2758:A:O3'	50:3:2760:C:N4	2.44	0.48
50:3:2861:G:H22	50:3:2864:A:P	2.36	0.48
52:5:130:G:H2'	52:5:131:G:C8	2.48	0.48
52:5:573:G:H1'	52:5:818:A:H5'	1.94	0.48
52:5:598:U:H2'	52:5:599:G:C8	2.48	0.48
52:5:866:A:O2'	52:5:867:A:H3'	2.14	0.48
52:5:1031:A:H2'	52:5:1032:G:C8	2.48	0.48
52:5:1062:C:H2'	52:5:1063:G:H8	1.79	0.48
52:5:1297:G:N2	52:5:1335:G:O2'	2.43	0.48
8:E:131:PRO:HD2	52:5:840:C:N4	2.28	0.48
26:c:182:HIS:O	26:c:186:VAL:HG23	2.13	0.48
27:d:4:LEU:HB3	27:d:97:TRP:HB3	1.94	0.48
28:e:98:ARG:HD2	28:e:131:ASN:HB3	1.95	0.48
29:f:12:LEU:CD1	50:3:2101:A:H5''	2.44	0.48
30:g:99:VAL:HG13	30:g:106:MET:SD	2.54	0.48
37:n:74:GLY:HA3	37:n:105:LEU:HG	1.95	0.48
39:p:9:THR:HG22	50:3:1281:A:OP2	2.12	0.48
39:p:52:LYS:HA	39:p:55:ASP:HB3	1.95	0.48
47:x:6:HIS:CD2	47:x:7:PHE:H	2.31	0.48
50:3:70:G:N2	50:3:76:A:O5'	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:730:G:H1	50:3:802:U:H3	1.60	0.48
50:3:790:U:H2'	50:3:791:A:C8	2.48	0.48
50:3:847:C:OP1	50:3:1280:G:O2'	2.32	0.48
50:3:881:A:H1'	50:3:882:C:OP2	2.12	0.48
50:3:2632:C:H2'	50:3:2633:C:C6	2.48	0.48
51:4:43:A:C4	51:4:44:A:C8	3.02	0.48
52:5:38:U:H2'	52:5:39:G:C8	2.48	0.48
52:5:675:U:H2'	52:5:676:U:O4'	2.13	0.48
53:8:63:U:H2'	53:8:64:G:C8	2.47	0.48
8:E:32:VAL:HG12	8:E:62:PHE:CD1	2.49	0.48
11:H:19:VAL:HG22	11:H:67:VAL:HG22	1.95	0.48
12:I:20:ASP:HB3	12:I:23:LEU:HB2	1.95	0.48
20:Q:91:LYS:HB3	52:5:732:A:H5'	1.95	0.48
40:q:4:ILE:HB	40:q:39:LEU:O	2.13	0.48
50:3:264:G:H21	50:3:643:A:H1'	1.78	0.48
50:3:381:A:H2'	50:3:382:U:C6	2.49	0.48
50:3:639:G:N2	50:3:660:U:O2	2.47	0.48
50:3:1438:G:H2'	50:3:1439:U:O4'	2.12	0.48
50:3:1507:G:O2'	50:3:1508:G:P	2.72	0.48
50:3:1534:A:H1'	50:3:1536:C:C4	2.49	0.48
50:3:1536:C:C4	50:3:1537:A:N6	2.82	0.48
50:3:1734:A:N6	52:5:1449:G:H4'	2.27	0.48
50:3:1744:U:H5'	50:3:2863:G:H1'	1.95	0.48
50:3:1942:G:O2'	50:3:1943:A:H4'	2.13	0.48
50:3:2553:G:N2	50:3:2573:A:N3	2.43	0.48
52:5:51:A:O2'	52:5:356:G:N2	2.45	0.48
52:5:90:G:N2	52:5:375:C:O2'	2.46	0.48
52:5:171:A:H2'	52:5:172:C:C2	2.49	0.48
52:5:333:U:O4	52:5:334:A:N6	2.46	0.48
52:5:400:G:H3'	52:5:401:U:C6	2.48	0.48
52:5:499:U:O2	52:5:547:C:O2'	2.30	0.48
52:5:507:A:H2'	52:5:542:G:H5'	1.95	0.48
52:5:1354:G:H21	52:5:1357:C:H42	1.62	0.48
2:1:22:LYS:HB2	34:k:63:PRO:HD2	1.95	0.48
5:B:8:ASN:ND2	5:B:187:TYR:HB3	2.29	0.48
9:F:70:PRO:HA	9:F:137:LYS:HB2	1.95	0.48
11:H:73:GLY:N	52:5:1346:G:OP1	2.47	0.48
15:L:103:ARG:HH11	52:5:948:U:H5	1.61	0.48
18:O:19:ARG:HH12	52:5:321:A:H61	1.61	0.48
24:a:151:GLU:HB2	24:a:196:CYS:HB3	1.95	0.48
24:a:246:ARG:NH1	50:3:2598:C:OP1	2.39	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:251:ARG:HH11	50:3:2082:U:H5''	1.79	0.48
29:f:68:LEU:HA	29:f:71:VAL:HG12	1.94	0.48
34:k:93:ILE:HD12	34:k:93:ILE:H	1.78	0.48
50:3:657:A:H62	50:3:658:G:N2	2.12	0.48
50:3:866:G:H2'	50:3:867:G:O4'	2.13	0.48
50:3:891:G:H2'	50:3:892:G:O4'	2.13	0.48
50:3:1064:A:H3'	50:3:1065:G:C8	2.49	0.48
50:3:1197:G:H2'	50:3:1198:G:H8	1.79	0.48
50:3:1241:U:H5''	50:3:1242:G:C5	2.48	0.48
50:3:1309:G:H2'	50:3:1310:U:H6	1.79	0.48
50:3:1610:U:H2'	50:3:1611:C:C6	2.48	0.48
50:3:1670:U:O2'	50:3:1767:A:O2'	2.13	0.48
50:3:1711:A:H2'	50:3:1712:A:C4	2.49	0.48
50:3:2240:U:H2'	50:3:2241:A:O4'	2.14	0.48
50:3:2681:G:H2'	50:3:2682:A:H8	1.78	0.48
50:3:2722:G:H2'	50:3:2723:C:C6	2.48	0.48
52:5:213:U:H2'	52:5:214:U:O4'	2.12	0.48
52:5:228:G:H2'	52:5:229:G:C8	2.49	0.48
52:5:735:C:H2'	52:5:736:U:O4'	2.14	0.48
52:5:943:C:H2'	52:5:944:A:C5	2.48	0.48
52:5:1074:U:H3'	52:5:1075:G:H8	1.79	0.48
2:1:55:ILE:HG23	2:1:59:ILE:HB	1.96	0.48
6:C:158:SER:OG	6:C:171:ASN:OD1	2.30	0.48
9:F:73:GLU:HB2	9:F:90:VAL:CG2	2.44	0.48
14:K:6:GLN:NE2	52:5:875:G:N7	2.59	0.48
21:R:64:ASP:OD1	21:R:64:ASP:N	2.46	0.48
26:c:192:MET:HG3	26:c:193:LEU:HD23	1.94	0.48
35:l:133:LYS:HG2	35:l:134:ARG:H	1.79	0.48
36:m:69:ASN:ND2	36:m:75:VAL:HG23	2.29	0.48
39:p:33:VAL:HG22	50:3:2025:C:O2'	2.14	0.48
39:p:76:SER:OG	50:3:1047:A:O4'	2.32	0.48
50:3:89:U:H5''	50:3:90:G:H5''	1.96	0.48
50:3:108:G:N2	50:3:380:A:N1	2.61	0.48
50:3:154:U:H2'	50:3:155:A:C8	2.48	0.48
50:3:247:U:N3	50:3:259:A:C8	2.81	0.48
50:3:335:G:C6	50:3:351:G:C6	3.01	0.48
50:3:883:A:H2'	50:3:884:A:O4'	2.13	0.48
50:3:1348:C:H5''	50:3:1357:U:OP2	2.14	0.48
50:3:2007:U:O2'	50:3:2697:C:O2'	2.29	0.48
50:3:2118:U:O2'	53:8:20:G:N2	2.46	0.48
50:3:2256:C:H3'	50:3:2257:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2839:A:H61	50:3:2882:U:H3'	1.79	0.48
50:3:2854:A:N7	50:3:2872:A:O2'	2.44	0.48
51:4:59:A:O2'	51:4:60:C:OP1	2.28	0.48
52:5:40:G:H2'	52:5:41:C:C6	2.49	0.48
52:5:55:C:H2'	52:5:348:C:H41	1.79	0.48
52:5:338:C:H2'	52:5:339:U:O4'	2.13	0.48
52:5:369:A:H1'	52:5:478:G:N3	2.29	0.48
52:5:649:U:C2	52:5:750:A:C5	3.02	0.48
52:5:661:G:H21	52:5:723:C:HO2'	1.54	0.48
52:5:766:G:H4'	52:5:1488:A:H4'	1.96	0.48
52:5:889:U:H2'	52:5:890:U:C6	2.48	0.48
52:5:947:U:H2'	52:5:948:U:C6	2.48	0.48
52:5:1068:G:N2	52:5:1071:A:OP2	2.31	0.48
52:5:1100:C:H2'	52:5:1101:A:C8	2.48	0.48
2:1:39:ARG:HD2	50:3:2358:U:H5'	1.95	0.48
8:E:107:LEU:O	8:E:110:GLN:HG3	2.13	0.48
10:G:131:LYS:O	10:G:132:LYS:HG2	2.14	0.48
14:K:126:GLN:HG2	52:5:501:A:OP1	2.13	0.48
19:P:24:VAL:HG21	19:P:63:ILE:HD11	1.96	0.48
21:R:3:ARG:NH1	52:5:1287:G:OP2	2.46	0.48
24:a:3:ILE:HA	24:a:20:ILE:HA	1.95	0.48
26:c:92:GLY:O	26:c:94:LYS:NZ	2.37	0.48
27:d:108:LEU:HD13	27:d:114:PHE:HZ	1.78	0.48
28:e:160:TYR:HD1	28:e:175:LYS:HB2	1.78	0.48
29:f:4:ILE:HD11	29:f:50:PHE:CD2	2.43	0.48
29:f:130:ILE:H	29:f:130:ILE:HD12	1.78	0.48
35:l:62:GLY:HA3	35:l:109:ILE:HB	1.95	0.48
35:l:124:LYS:NZ	50:3:2475:C:O2'	2.42	0.48
39:p:93:VAL:HG13	39:p:94:LEU:HD22	1.94	0.48
45:v:26:ARG:NH1	50:3:194:A:OP2	2.47	0.48
50:3:333:A:H1'	50:3:353:G:O2'	2.13	0.48
50:3:664:G:H2'	50:3:665:C:C6	2.48	0.48
50:3:895:G:H1'	50:3:953:G:N1	2.27	0.48
50:3:1383:G:C6	50:3:1405:G:C2	3.02	0.48
50:3:1651:C:O2'	50:3:1653:C:N4	2.46	0.48
50:3:1958:U:O2'	50:3:1960:A:H5''	2.13	0.48
52:5:578:C:H3'	52:5:579:G:H8	1.79	0.48
52:5:813:A:OP1	52:5:1501:G:O2'	2.31	0.48
52:5:832:G:H2'	52:5:833:G:H8	1.79	0.48
52:5:1329:G:H2'	52:5:1330:A:C8	2.47	0.48
52:5:1498:G:H2'	52:5:1499:G:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:7:70:G:H2'	53:7:70:G:N3	2.29	0.48
53:8:70:G:N3	53:8:70:G:H2'	2.29	0.48
6:C:144:LEU:HB3	6:C:174:PHE:CB	2.43	0.48
6:C:202:ARG:O	52:5:28:G:O2'	2.31	0.48
7:D:109:LEU:HD23	52:5:1062:C:OP1	2.13	0.48
7:D:185:ARG:HH22	52:5:559:U:H5	1.61	0.48
9:F:114:THR:HG22	9:F:117:GLU:H	1.78	0.48
20:Q:40:TYR:OH	52:5:839:U:O2	2.27	0.48
22:S:6:SER:HB2	52:5:92:G:N2	2.28	0.48
28:e:9:ILE:HD11	28:e:72:ASN:HA	1.96	0.48
32:i:116:ARG:NH1	50:3:591:G:OP2	2.46	0.48
50:3:139:G:H3'	50:3:140:G:H8	1.78	0.48
50:3:164:A:O2'	50:3:2225:G:N2	2.47	0.48
50:3:451:A:N6	50:3:2417:G:C6	2.82	0.48
50:3:586:G:H2'	50:3:587:U:O4'	2.13	0.48
50:3:976:C:H2'	50:3:977:A:O4'	2.13	0.48
50:3:1967:U:H2'	50:3:1968:C:C5	2.49	0.48
50:3:2098:U:H3'	50:3:2099:U:H5''	1.96	0.48
50:3:2164:G:H2'	50:3:2165:A:C8	2.49	0.48
50:3:2350:C:O2'	50:3:2382:A:H5''	2.13	0.48
50:3:2514:U:O5'	50:3:2580:A:O2'	2.30	0.48
50:3:2631:G:H2'	50:3:2632:C:C6	2.49	0.48
52:5:498:G:H2'	52:5:499:U:C6	2.49	0.48
52:5:499:U:H2'	52:5:500:G:H8	1.79	0.48
52:5:780:U:H2'	52:5:781:A:H8	1.78	0.48
52:5:926:C:H42	52:5:1362:G:H1	1.62	0.48
52:5:1053:U:OP2	52:5:1165:G:N2	2.40	0.48
6:C:143:ARG:HG3	6:C:175:GLU:HG3	1.96	0.48
13:J:115:LYS:HD3	13:J:118:LYS:HE2	1.95	0.48
18:O:63:VAL:O	18:O:67:PHE:N	2.46	0.48
21:R:18:LYS:HG3	21:R:33:THR:HG21	1.96	0.48
25:b:53:SER:HB2	25:b:78:THR:OG1	2.14	0.48
27:d:38:MET:HE1	27:d:53:ALA:HB1	1.95	0.48
29:f:33:LYS:NZ	29:f:111:PHE:O	2.46	0.48
29:f:95:LYS:HD2	50:3:2227:U:H1'	1.96	0.48
30:g:41:ARG:HG2	50:3:1117:U:H4'	1.96	0.48
34:k:6:LEU:HB3	50:3:1234:U:H2'	1.96	0.48
36:m:21:GLN:NE2	36:m:33:THR:HG21	2.29	0.48
41:r:128:ARG:HH12	50:3:1262:G:N2	2.11	0.48
45:v:4:LYS:NZ	50:3:1393:A:OP2	2.47	0.48
45:v:18:ARG:NE	45:v:21:SER:HB3	2.25	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:w:26:LEU:HD11	46:w:44:ILE:HG23	1.96	0.48
50:3:77:G:H2'	50:3:78:C:H6	1.79	0.48
50:3:473:U:C4	50:3:474:U:O4	2.67	0.48
50:3:820:U:H2'	50:3:821:C:C6	2.49	0.48
50:3:919:C:H2'	50:3:920:G:H8	1.78	0.48
50:3:1105:A:OP1	50:3:1110:C:N4	2.47	0.48
50:3:1231:G:H2'	50:3:1232:U:H6	1.79	0.48
50:3:1262:G:H2'	50:3:1263:G:N9	2.29	0.48
50:3:1271:A:H2'	50:3:1272:A:C8	2.49	0.48
50:3:1721:G:H2'	50:3:1722:U:C6	2.49	0.48
50:3:1801:U:H2'	50:3:1802:C:C6	2.48	0.48
50:3:1990:C:H2'	50:3:1991:U:O4'	2.14	0.48
50:3:2110:U:O2	50:3:2194:G:C6	2.67	0.48
50:3:2725:G:H2'	50:3:2726:G:O4'	2.13	0.48
50:3:2844:U:H2'	50:3:2845:U:H6	1.77	0.48
52:5:158:A:H2'	52:5:159:U:H3'	1.96	0.48
52:5:563:U:OP2	52:5:564:G:O2'	2.25	0.48
52:5:1031:A:H2'	52:5:1032:G:H8	1.79	0.48
52:5:1280:A:H3'	52:5:1281:U:H6	1.79	0.48
2:1:29:LEU:HD13	49:z:4:LYS:NZ	2.28	0.47
6:C:13:ARG:HH22	52:5:508:A:H5''	1.78	0.47
6:C:97:LEU:HD23	6:C:132:PRO:HA	1.95	0.47
12:I:18:SER:HB2	12:I:102:VAL:HG22	1.96	0.47
14:K:64:LYS:NZ	52:5:519:G:OP2	2.27	0.47
24:a:193:LEU:HD22	50:3:2230:A:H4'	1.95	0.47
25:b:34:ASN:HD22	25:b:54:PHE:HB3	1.79	0.47
26:c:48:GLY:O	50:3:40:A:O2'	2.32	0.47
38:o:54:ARG:O	38:o:64:PHE:HA	2.14	0.47
50:3:17:G:H2'	50:3:18:G:C8	2.49	0.47
50:3:512:G:H2'	50:3:513:A:H3'	1.95	0.47
50:3:557:G:H2'	50:3:558:C:O4'	2.14	0.47
50:3:713:C:H2'	50:3:714:G:H8	1.79	0.47
50:3:769:A:H2'	50:3:769:A:N3	2.29	0.47
50:3:1194:U:H2'	50:3:1195:A:H8	1.79	0.47
50:3:1280:G:H3'	50:3:1281:A:C8	2.49	0.47
50:3:1845:C:C2	50:3:1908:A:N6	2.79	0.47
50:3:2148:U:O2	50:3:2148:U:H2'	2.13	0.47
50:3:2514:U:H2'	50:3:2515:C:H5'	1.96	0.47
50:3:2735:G:H2'	50:3:2736:U:H6	1.78	0.47
52:5:26:C:H2'	52:5:27:A:C8	2.50	0.47
52:5:130:G:N1	52:5:165:A:N7	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:143:U:H2'	52:5:144:U:O4'	2.13	0.47
52:5:356:G:H2'	52:5:357:G:C8	2.49	0.47
52:5:366:C:H2'	52:5:367:A:N7	2.28	0.47
52:5:422:A:H2'	52:5:423:U:O4'	2.14	0.47
52:5:1263:A:C8	52:5:1264:G:C8	3.02	0.47
4:A:69:TYR:CZ	4:A:73:LYS:HD2	2.48	0.47
6:C:29:LYS:HD2	52:5:422:A:H5'	1.96	0.47
10:G:8:ILE:H	10:G:8:ILE:HD12	1.79	0.47
12:I:52:LYS:HG2	12:I:74:ASN:HD22	1.78	0.47
24:a:50:GLN:HE22	50:3:1817:A:H61	1.60	0.47
24:a:90:PRO:HG3	50:3:1601:A:H2'	1.96	0.47
24:a:282:ARG:NH2	50:3:1805:U:H3'	2.29	0.47
26:c:174:ASN:HA	50:3:356:A:H3'	1.96	0.47
32:i:9:LYS:HB3	32:i:51:GLN:HE21	1.78	0.47
39:p:75:TYR:CE1	39:p:79:ILE:HG13	2.49	0.47
43:t:5:LYS:NZ	50:3:87:G:OP1	2.47	0.47
44:u:57:THR:H	50:3:2338:G:H21	1.62	0.47
46:w:55:LEU:HA	46:w:58:LEU:HB3	1.96	0.47
50:3:287:G:O2'	50:3:288:A:H5'	2.15	0.47
50:3:338:G:H2'	50:3:339:U:H6	1.79	0.47
50:3:468:A:H2'	50:3:469:C:H5'	1.95	0.47
50:3:862:U:O2'	50:3:2254:G:H1'	2.14	0.47
50:3:1320:C:H2'	50:3:1321:C:C6	2.49	0.47
50:3:1522:U:O2'	50:3:1611:C:H4'	2.14	0.47
50:3:1888:U:H2'	50:3:1889:U:C6	2.49	0.47
50:3:2356:U:H2'	50:3:2357:G:C8	2.48	0.47
52:5:93:A:H5''	52:5:94:A:H5''	1.95	0.47
52:5:877:C:H2'	52:5:878:U:C6	2.49	0.47
52:5:942:G:O3'	52:5:1280:A:O2'	2.30	0.47
52:5:1051:U:H3'	52:5:1052:G:H8	1.79	0.47
52:5:1133:A:N6	52:5:1153:G:H21	2.09	0.47
52:5:1313:A:OP2	52:5:1314:A:N6	2.47	0.47
52:5:1314:A:H2'	52:5:1315:U:O4'	2.15	0.47
52:5:1402:U:H2'	52:5:1403:A:C8	2.48	0.47
52:5:1471:C:H1'	52:5:1492:G:N2	2.29	0.47
52:5:1471:C:H1'	52:5:1492:G:H22	1.79	0.47
4:A:32:MET:HG3	4:A:33:VAL:H	1.79	0.47
10:G:109:ASN:HB3	10:G:111:LEU:HD13	1.96	0.47
16:M:58:LYS:NZ	52:5:1163:A:O2'	2.42	0.47
19:P:20:LYS:O	19:P:49:ASN:N	2.41	0.47
26:c:138:GLY:HA2	26:c:167:ASN:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:f:102:HIS:ND1	50:3:166:A:N7	2.57	0.47
34:k:6:LEU:HB2	50:3:1272:A:H2	1.79	0.47
50:3:83:G:H2'	50:3:84:G:C8	2.49	0.47
50:3:122:G:H2'	50:3:123:G:C8	2.49	0.47
50:3:201:A:H2'	50:3:202:C:O4'	2.14	0.47
50:3:511:U:H3'	50:3:512:G:H8	1.78	0.47
50:3:596:G:C6	50:3:2025:C:C2	3.02	0.47
50:3:604:A:O2'	50:3:606:G:O5'	2.31	0.47
50:3:622:U:H2'	50:3:623:A:C8	2.49	0.47
50:3:1697:C:C4	50:3:1999:G:C8	3.02	0.47
50:3:2455:G:H5''	50:3:2508:U:OP2	2.14	0.47
50:3:2893:C:H2'	50:3:2894:G:O4'	2.14	0.47
52:5:230:G:H2'	52:5:231:U:C6	2.49	0.47
52:5:657:G:H2'	52:5:658:G:H8	1.80	0.47
52:5:779:A:C4	52:5:780:U:H1'	2.49	0.47
52:5:803:C:H2'	52:5:804:A:C8	2.50	0.47
52:5:945:U:H2'	52:5:946:G:H8	1.79	0.47
52:5:1096:A:H2'	52:5:1097:G:C8	2.49	0.47
52:5:1321:G:HO2'	52:5:1348:G:H1	1.61	0.47
21:R:20:ILE:O	21:R:24:LYS:HB2	2.14	0.47
21:R:81:LYS:HE2	52:5:1200:G:H21	1.80	0.47
37:n:12:HIS:CE1	37:n:95:GLY:H	2.32	0.47
41:r:50:LEU:HD21	41:r:104:VAL:HG23	1.96	0.47
50:3:18:G:O2'	50:3:19:G:H5'	2.15	0.47
50:3:243:U:H2'	50:3:244:G:H8	1.78	0.47
50:3:335:G:C2	50:3:350:C:O2	2.65	0.47
50:3:411:U:O2'	50:3:459:A:N3	2.45	0.47
50:3:984:C:H2'	50:3:985:A:H8	1.76	0.47
50:3:1234:U:H5'	50:3:1235:U:OP2	2.14	0.47
50:3:1336:A:H2'	50:3:1337:G:O4'	2.14	0.47
50:3:1381:A:H62	50:3:1405:G:H2'	1.80	0.47
50:3:1414:C:C5	50:3:1424:U:H1'	2.49	0.47
50:3:2380:U:H2'	50:3:2381:G:H8	1.79	0.47
50:3:2495:A:H2'	50:3:2496:G:C8	2.49	0.47
52:5:470:U:H2'	52:5:471:A:H8	1.80	0.47
52:5:533:A:H5''	52:5:534:C:OP2	2.14	0.47
52:5:1228:C:H2'	52:5:1229:A:C8	2.49	0.47
52:5:1300:C:H2'	52:5:1301:U:C6	2.49	0.47
4:A:181:PRO:HG3	4:A:206:THR:HG21	1.96	0.47
17:N:10:LYS:HE2	52:5:655:G:O2'	2.14	0.47
18:O:73:TRP:HB2	52:5:470:U:H5'	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:45:GLY:O	52:5:195:U:O2'	2.32	0.47
24:a:7:ILE:O	50:3:740:A:O2'	2.30	0.47
24:a:38:LEU:HD22	24:a:65:LYS:HG3	1.97	0.47
25:b:13:MET:HE1	50:3:2689:C:H4'	1.96	0.47
28:e:57:ARG:HB2	28:e:64:SER:OG	2.14	0.47
31:h:17:GLY:HA3	31:h:47:GLN:HB2	1.96	0.47
35:l:38:LYS:HZ2	35:l:40:ASN:HB3	1.79	0.47
39:p:23:SER:OG	39:p:24:PHE:N	2.47	0.47
40:q:41:LEU:HB3	40:q:50:LEU:HD23	1.97	0.47
50:3:138:U:H2'	50:3:139:G:C8	2.49	0.47
50:3:573:A:H2'	50:3:574:G:O4'	2.15	0.47
50:3:579:U:C4	50:3:582:A:C6	3.02	0.47
50:3:914:G:H1	50:3:936:G:H2'	1.79	0.47
50:3:1351:G:O2'	50:3:1352:G:H5'	2.15	0.47
50:3:1449:G:H21	50:3:1521:A:H2	1.63	0.47
50:3:2515:C:H5	50:3:2584:G:H1	1.61	0.47
50:3:2568:G:H2'	50:3:2569:A:H8	1.78	0.47
50:3:2608:A:H2'	50:3:2609:C:C6	2.49	0.47
52:5:96:G:H3'	52:5:97:G:H8	1.80	0.47
52:5:191:A:H2'	52:5:192:A:H8	1.79	0.47
52:5:831:C:C2	52:5:832:G:N7	2.82	0.47
52:5:947:U:H2'	52:5:948:U:H6	1.79	0.47
52:5:1214:A:H61	52:5:1271:U:H5'	1.79	0.47
52:5:1319:U:O2'	52:5:1352:A:N1	2.45	0.47
53:7:60:U:H2'	53:7:61:U:C4	2.48	0.47
8:E:74:ARG:HG3	52:5:668:U:H4'	1.97	0.47
17:N:16:ASP:OD1	17:N:17:LYS:N	2.46	0.47
24:a:87:GLU:HG3	24:a:88:TYR:H	1.80	0.47
25:b:65:PRO:HB3	50:3:2794:U:O2	2.15	0.47
29:f:53:LYS:HD2	50:3:285:U:C2	2.49	0.47
35:l:87:LYS:HD2	50:3:991:G:H5''	1.96	0.47
37:n:64:ASN:HD21	37:n:101:ARG:HD3	1.80	0.47
42:s:58:LEU:HD23	42:s:80:LEU:O	2.15	0.47
50:3:116:C:H2'	50:3:117:C:H6	1.78	0.47
50:3:519:A:OP2	50:3:520:C:N4	2.29	0.47
50:3:1187:C:H2'	50:3:1188:C:C6	2.50	0.47
50:3:1386:G:N1	50:3:1400:U:OP2	2.42	0.47
50:3:1419:U:N3	50:3:1422:U:OP2	2.37	0.47
50:3:1536:C:H2'	50:3:1537:A:C8	2.50	0.47
50:3:2176:G:N2	50:3:2179:A:H2'	2.30	0.47
50:3:2274:A:H5'	50:3:2275:A:C4	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2413:G:H3'	50:3:2417:G:OP2	2.15	0.47
50:3:2568:G:H2'	50:3:2569:A:C8	2.50	0.47
50:3:2735:G:H2'	50:3:2736:U:C6	2.49	0.47
51:4:23:A:H2'	51:4:24:A:H5'	1.96	0.47
52:5:249:U:H5''	52:5:272:G:H1'	1.96	0.47
52:5:394:U:H2'	52:5:395:G:C8	2.49	0.47
52:5:409:G:H4'	52:5:410:A:H5''	1.95	0.47
52:5:549:U:O2'	52:5:550:U:O5'	2.26	0.47
52:5:1105:C:C2	52:5:1106:U:C5	3.02	0.47
52:5:1107:U:H2'	52:5:1108:A:C5	2.50	0.47
52:5:1180:U:H2'	52:5:1181:G:C8	2.44	0.47
52:5:1200:G:H2'	52:5:1200:G:N3	2.29	0.47
1:0:16:HIS:HA	1:0:21:ARG:HG2	1.97	0.47
4:A:68:ALA:O	4:A:72:VAL:HG13	2.14	0.47
4:A:117:LEU:HD21	4:A:191:ALA:HB2	1.97	0.47
4:A:214:ILE:HG21	8:E:159:VAL:HG22	1.96	0.47
5:B:124:ALA:HA	5:B:127:ILE:HG22	1.95	0.47
6:C:145:LYS:O	6:C:147:LYS:N	2.48	0.47
7:D:68:GLU:HG2	7:D:119:ILE:HG12	1.96	0.47
7:D:144:SER:HB3	7:D:194:ALA:HA	1.97	0.47
10:G:67:LYS:CE	52:5:649:U:H4'	2.45	0.47
11:H:71:GLY:HA2	52:5:1225:A:O2'	2.15	0.47
13:J:18:CYS:SG	13:J:79:VAL:HG23	2.54	0.47
15:L:104:THR:HB	52:5:1204:A:H62	1.80	0.47
18:O:53:LEU:HA	18:O:57:ALA:HB3	1.97	0.47
19:P:35:TYR:HA	52:5:562:U:C4	2.50	0.47
24:a:81:ALA:HB2	24:a:101:TYR:CE1	2.50	0.47
24:a:281:ASN:ND2	50:3:1805:U:OP1	2.48	0.47
25:b:161:LYS:HA	50:3:2627:U:H5''	1.96	0.47
25:b:177:GLN:OE1	25:b:212:LYS:NZ	2.43	0.47
26:c:160:VAL:HB	26:c:199:VAL:HG12	1.97	0.47
27:d:6:ALA:O	27:d:10:LYS:HG2	2.15	0.47
27:d:37:ASN:HB2	27:d:153:ASP:HB3	1.95	0.47
27:d:92:ARG:NH2	51:4:43:A:O4'	2.48	0.47
27:d:108:LEU:HD13	27:d:114:PHE:CZ	2.49	0.47
33:j:2:VAL:HG22	33:j:82:ASN:HB3	1.96	0.47
33:j:12:ASP:N	33:j:12:ASP:OD1	2.48	0.47
34:k:39:GLN:HA	50:3:840:G:H4'	1.96	0.47
34:k:61:ARG:HG2	50:3:2400:A:O2'	2.15	0.47
39:p:48:ASP:O	39:p:52:LYS:HB2	2.15	0.47
41:r:12:ILE:HD12	41:r:42:LYS:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:231:A:H1'	50:3:232:A:H2'	1.96	0.47
50:3:357:A:OP1	50:3:358:A:H8	1.97	0.47
50:3:480:C:H2'	50:3:481:C:C6	2.50	0.47
50:3:489:A:N3	50:3:493:A:O2'	2.46	0.47
50:3:521:C:H2'	50:3:522:C:H6	1.80	0.47
50:3:626:A:H2'	50:3:627:U:C6	2.50	0.47
50:3:701:A:H2'	50:3:702:U:C6	2.50	0.47
50:3:851:U:H2'	50:3:852:C:H6	1.78	0.47
50:3:1007:C:OP1	50:3:1025:G:N2	2.46	0.47
50:3:1009:A:O2'	50:3:1217:G:N2	2.47	0.47
50:3:1070:U:C2	50:3:1071:G:C8	3.03	0.47
50:3:1070:U:H3'	50:3:1071:G:H8	1.79	0.47
50:3:1085:A:C6	50:3:1086:G:N7	2.82	0.47
50:3:1611:C:H2'	50:3:1612:U:C2	2.49	0.47
50:3:1628:G:H2'	50:3:1629:U:O4'	2.14	0.47
50:3:1835:G:O2'	50:3:1836:A:OP2	2.29	0.47
50:3:1906:G:H5''	50:3:1907:A:H5'	1.97	0.47
50:3:1943:A:C8	50:3:1950:U:N3	2.82	0.47
50:3:2272:C:H2'	50:3:2273:U:O4'	2.15	0.47
50:3:2309:A:H2'	50:3:2310:C:C6	2.50	0.47
50:3:2367:C:H2'	50:3:2368:A:C8	2.50	0.47
50:3:2374:A:H2'	50:3:2375:A:O4'	2.15	0.47
50:3:2460:C:H2'	50:3:2461:A:O4'	2.14	0.47
50:3:2502:G:H2'	50:3:2503:G:C8	2.50	0.47
50:3:2517:A:H2'	50:3:2518:C:O4'	2.15	0.47
50:3:2572:A:N1	50:3:2655:U:O2'	2.36	0.47
50:3:2725:G:C6	50:3:2726:G:C6	3.03	0.47
50:3:2759:G:H5''	50:3:2760:C:H5	1.80	0.47
50:3:2836:U:O2'	50:3:2837:U:OP1	2.28	0.47
50:3:2844:U:H2'	50:3:2845:U:C6	2.50	0.47
50:3:2851:U:H2'	50:3:2852:G:O4'	2.14	0.47
51:4:69:C:H2'	51:4:70:G:H8	1.79	0.47
52:5:308:C:H2'	52:5:309:A:C8	2.50	0.47
52:5:357:G:H2'	52:5:358:G:C8	2.50	0.47
52:5:433:C:H2'	52:5:434:U:C6	2.49	0.47
52:5:578:C:H2'	52:5:579:G:O4'	2.15	0.47
52:5:711:G:N2	52:5:774:A:N3	2.52	0.47
52:5:778:A:O3'	52:5:1497:U:O2'	2.32	0.47
52:5:854:A:H3'	52:5:855:G:H8	1.79	0.47
52:5:880:G:H2'	52:5:881:G:C8	2.50	0.47
52:5:1138:U:H2'	52:5:1139:A:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1496:G:H2'	52:5:1497:U:O4'	2.15	0.47
53:7:12:C:H3'	53:7:13:U:C6	2.50	0.47
53:8:71:A:P	53:8:71:A:H8	2.38	0.47
12:I:48:LEU:O	52:5:1126:U:O2'	2.31	0.47
19:P:21:THR:HA	19:P:48:HIS:HA	1.97	0.47
21:R:81:LYS:NZ	52:5:1201:C:O4'	2.34	0.47
25:b:117:ARG:NH1	50:3:2732:A:OP2	2.48	0.47
30:g:7:LYS:O	30:g:10:GLN:HG2	2.14	0.47
34:k:53:GLY:HA3	50:3:867:G:N2	2.29	0.47
34:k:113:LYS:HZ3	34:k:130:LYS:HB3	1.79	0.47
35:l:11:LYS:HD3	35:l:87:LYS:HB3	1.97	0.47
41:r:139:ARG:NH2	50:3:1260:U:O4'	2.48	0.47
43:t:80:LYS:HB2	43:t:83:GLN:HB3	1.97	0.47
45:v:10:ARG:NH2	45:v:51:SER:OG	2.48	0.47
48:y:29:VAL:HG13	50:3:2890:G:O2'	2.14	0.47
50:3:410:G:N2	50:3:411:U:O4	2.38	0.47
50:3:767:C:H2'	50:3:768:G:O4'	2.14	0.47
50:3:1033:A:H2'	50:3:1034:A:C8	2.49	0.47
50:3:2231:A:H2'	50:3:2232:G:O4'	2.13	0.47
51:4:22:G:H2'	51:4:25:A:C2	2.50	0.47
52:5:40:G:O6	52:5:545:A:H5''	2.15	0.47
52:5:497:A:N6	52:5:545:A:O5'	2.47	0.47
52:5:527:G:O2'	52:5:531:A:N6	2.47	0.47
4:A:27:ARG:HH11	4:A:254:ILE:HA	1.80	0.47
4:A:130:LEU:O	4:A:134:VAL:HG23	2.15	0.47
5:B:179:SER:OG	52:5:1101:A:OP2	2.30	0.47
6:C:61:GLN:HE22	52:5:543:C:H5''	1.79	0.47
6:C:117:VAL:HG22	6:C:122:VAL:HG11	1.97	0.47
17:N:66:TYR:CE1	52:5:750:A:H5''	2.50	0.47
22:S:14:ASN:HD22	52:5:328:G:H21	1.63	0.47
37:n:32:VAL:HG12	37:n:41:VAL:HG12	1.96	0.47
39:p:54:ARG:HH11	50:3:1190:A:H5''	1.78	0.47
41:r:64:MET:HB3	41:r:69:LEU:HD11	1.97	0.47
43:t:88:LYS:HG2	50:3:370:C:OP1	2.15	0.47
50:3:143:A:H2'	50:3:144:C:O4'	2.15	0.47
50:3:217:A:H2'	50:3:218:G:C8	2.50	0.47
50:3:380:A:N3	50:3:380:A:H2'	2.30	0.47
50:3:640:U:O5'	50:3:640:U:H6	1.98	0.47
50:3:932:U:O2'	50:3:934:C:N4	2.48	0.47
50:3:963:U:H2'	50:3:964:A:C8	2.50	0.47
50:3:1206:U:H1'	50:3:1208:A:H61	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1689:A:H2'	50:3:1690:C:O4'	2.14	0.47
52:5:149:G:H2'	52:5:150:A:C8	2.50	0.47
52:5:857:U:O2'	52:5:859:A:N7	2.47	0.47
52:5:903:A:H2'	52:5:904:C:O4'	2.15	0.47
52:5:919:C:N4	52:5:1366:U:O4	2.46	0.47
52:5:1099:G:H1'	52:5:1166:A:H1'	1.96	0.47
52:5:1104:C:H2'	52:5:1105:C:H6	1.78	0.47
52:5:1150:G:H2'	52:5:1151:A:H8	1.80	0.47
53:8:12:C:H3'	53:8:13:U:C6	2.50	0.47
5:B:18:TRP:HE3	5:B:21:ARG:HH22	1.63	0.47
6:C:34:ILE:HD11	6:C:38:HIS:HB2	1.97	0.47
6:C:56:GLU:HG2	6:C:195:TYR:HB2	1.97	0.47
8:E:29:LEU:HB3	8:E:32:VAL:HB	1.96	0.47
10:G:137:ILE:HG21	10:G:140:TYR:HE1	1.80	0.47
11:H:126:ALA:N	52:5:1317:A:O2'	2.48	0.47
14:K:123:ARG:HE	52:5:535:A:H5''	1.79	0.47
14:K:127:ARG:HB2	52:5:36:G:N2	2.27	0.47
24:a:265:VAL:N	50:3:1850:C:H4'	2.30	0.47
27:d:45:ARG:HD2	27:d:45:ARG:N	2.30	0.47
30:g:52:LYS:HB2	50:3:1119:A:OP1	2.15	0.47
33:j:4:PHE:CD2	50:3:1703:A:H1'	2.50	0.47
36:m:15:VAL:HA	36:m:18:VAL:HG12	1.96	0.47
40:q:57:CYS:SG	40:q:92:LEU:HD13	2.55	0.47
45:v:26:ARG:HH12	50:3:209:G:H1	1.63	0.47
45:v:56:ARG:NH1	50:3:436:G:O6	2.45	0.47
50:3:50:G:N3	50:3:50:G:H2'	2.30	0.47
50:3:243:U:O2'	50:3:658:G:O5'	2.33	0.47
50:3:443:C:H2'	50:3:444:C:C6	2.50	0.47
50:3:659:C:H2'	50:3:660:U:C6	2.49	0.47
50:3:894:G:H22	50:3:956:U:H3	1.61	0.47
50:3:1015:G:H3'	50:3:1016:A:H5''	1.97	0.47
50:3:1057:G:H1'	50:3:1059:G:O6	2.15	0.47
50:3:1174:G:H2'	50:3:1175:C:C6	2.50	0.47
50:3:1923:A:OP1	50:3:1925:A:N6	2.48	0.47
50:3:2293:C:H1'	50:3:2296:A:C4	2.50	0.47
50:3:2533:A:H2'	50:3:2534:G:C8	2.49	0.47
50:3:2601:U:H2'	50:3:2602:C:C6	2.50	0.47
50:3:2898:A:N3	50:3:2898:A:H2'	2.30	0.47
51:4:90:G:H2'	51:4:91:A:O4'	2.15	0.47
52:5:248:U:H2'	52:5:249:U:H5'	1.96	0.47
52:5:365:U:H2'	52:5:366:C:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:519:G:O2'	52:5:534:C:O2'	2.30	0.47
52:5:878:U:H4'	52:5:879:G:H5''	1.97	0.47
52:5:1045:C:N4	52:5:1372:C:H42	2.13	0.47
52:5:1491:A:N6	52:5:1494:A:OP2	2.28	0.47
3:2:24:ARG:HG2	3:2:36:GLN:H	1.80	0.46
6:C:121:HIS:CE1	52:5:434:U:H1'	2.50	0.46
11:H:40:TYR:O	52:5:1224:C:H5'	2.16	0.46
11:H:53:PRO:HD3	11:H:82:ARG:HD2	1.97	0.46
13:J:77:LEU:HD22	13:J:90:ILE:HD11	1.96	0.46
14:K:127:ARG:N	52:5:500:G:OP1	2.46	0.46
15:L:101:ARG:NH1	15:L:103:ARG:HD3	2.29	0.46
16:M:28:GLY:H	52:5:1178:C:H5'	1.80	0.46
25:b:34:ASN:HA	25:b:54:PHE:HB3	1.97	0.46
29:f:71:VAL:HA	29:f:74:GLN:HG2	1.98	0.46
48:y:13:ARG:O	48:y:17:ARG:HG3	2.15	0.46
50:3:54:A:P	50:3:118:G:H22	2.37	0.46
50:3:130:C:H2'	50:3:131:C:C6	2.50	0.46
50:3:247:U:C2	50:3:259:A:C6	3.03	0.46
50:3:343:A:H2'	50:3:364:A:N1	2.29	0.46
50:3:910:G:H2'	50:3:911:U:C6	2.50	0.46
50:3:1019:A:C2	50:3:2037:A:H5'	2.50	0.46
50:3:1155:G:H2'	50:3:1156:C:O4'	2.15	0.46
50:3:1588:A:H2'	50:3:1589:A:C8	2.50	0.46
50:3:1756:A:H2'	50:3:1757:G:H8	1.80	0.46
50:3:1957:G:H3'	50:3:1958:U:H5'	1.97	0.46
50:3:2327:U:H4'	50:3:2328:A:H5'	1.96	0.46
50:3:2458:A:N7	50:3:2509:C:C4	2.83	0.46
50:3:2613:U:H2'	50:3:2614:U:H5	1.80	0.46
50:3:2717:G:H2'	50:3:2718:C:O4'	2.15	0.46
52:5:64:C:H4'	52:5:376:G:H1'	1.96	0.46
52:5:290:G:C6	52:5:299:U:C4	3.02	0.46
52:5:573:G:O2'	52:5:817:U:H4'	2.15	0.46
52:5:742:C:O2'	52:5:833:G:N2	2.42	0.46
52:5:825:A:H2'	52:5:826:G:O4'	2.15	0.46
52:5:1170:C:H2'	52:5:1172:A:C8	2.49	0.46
52:5:1280:A:H3'	52:5:1281:U:C6	2.50	0.46
52:5:1484:C:H2'	52:5:1485:C:C6	2.50	0.46
5:B:154:VAL:HG12	5:B:203:VAL:HG23	1.96	0.46
13:J:111:HIS:ND1	52:5:672:A:O2'	2.43	0.46
15:L:101:ARG:NH2	52:5:946:G:O6	2.34	0.46
17:N:27:SER:HA	17:N:78:LEU:HD13	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:R:36:ARG:NH2	52:5:1295:U:O2	2.49	0.46
25:b:108:VAL:HA	25:b:210:ALA:H	1.80	0.46
28:e:16:VAL:HG13	28:e:27:VAL:HG13	1.97	0.46
30:g:96:VAL:O	30:g:99:VAL:HG12	2.16	0.46
34:k:34:ARG:HH21	50:3:706:C:H42	1.62	0.46
49:z:24:ASN:HD22	50:3:2292:A:P	2.38	0.46
50:3:16:A:H1'	50:3:2633:C:H1'	1.97	0.46
50:3:179:A:HO2'	50:3:180:A:H8	1.63	0.46
50:3:223:A:H2'	50:3:224:G:C8	2.50	0.46
50:3:617:C:N4	50:3:618:G:O6	2.49	0.46
50:3:957:G:H2'	50:3:958:C:C6	2.50	0.46
50:3:1056:A:O2'	50:3:1158:C:OP1	2.25	0.46
50:3:1217:G:H2'	50:3:1218:G:H8	1.74	0.46
50:3:1781:C:OP2	50:3:1796:A:N6	2.47	0.46
50:3:1788:A:OP2	50:3:1791:A:N6	2.45	0.46
50:3:2035:U:H2'	50:3:2036:G:O4'	2.16	0.46
50:3:2635:G:N2	50:3:2785:G:OP2	2.48	0.46
51:4:2:U:O2'	51:4:21:G:O2'	2.26	0.46
51:4:36:C:H2'	51:4:37:A:C8	2.50	0.46
52:5:21:U:H2'	52:5:22:G:C8	2.49	0.46
52:5:21:U:O2'	52:5:22:G:H5'	2.15	0.46
52:5:87:G:N3	52:5:137:A:H2	2.11	0.46
52:5:116:A:O2'	52:5:117:U:O5'	2.34	0.46
52:5:319:U:H3'	52:5:320:G:C8	2.50	0.46
52:5:332:A:O2'	52:5:1443:A:N3	2.44	0.46
52:5:412:G:O6	52:5:424:U:C4	2.68	0.46
52:5:636:G:H2'	52:5:637:A:C8	2.50	0.46
52:5:1068:G:N2	52:5:1070:G:H8	2.13	0.46
52:5:1226:A:H2'	52:5:1227:A:C8	2.50	0.46
52:5:1354:G:N2	52:5:1357:C:H42	2.12	0.46
8:E:71:ASP:OD1	8:E:72:PHE:N	2.48	0.46
9:F:2:ARG:HG3	52:5:1355:U:C6	2.51	0.46
16:M:31:ARG:HH21	52:5:977:U:H5	1.62	0.46
16:M:34:LEU:O	16:M:38:GLY:N	2.45	0.46
18:O:5:ARG:NH2	52:5:621:C:O2	2.48	0.46
18:O:72:LEU:O	18:O:76:PHE:N	2.45	0.46
20:Q:80:GLN:HB2	52:5:831:C:H4'	1.97	0.46
22:S:77:ASN:OD1	52:5:173:U:H5''	2.15	0.46
24:a:215:LYS:NZ	50:3:799:A:OP1	2.24	0.46
25:b:23:ARG:HB2	33:j:74:GLY:HA2	1.97	0.46
27:d:48:LYS:HB3	27:d:52:SER:HB3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:d:106:VAL:HG13	47:x:36:ILE:HG12	1.97	0.46
27:d:136:ILE:HA	27:d:141:ILE:HG21	1.98	0.46
28:e:39:PRO:HD2	28:e:71:TYR:CE1	2.50	0.46
28:e:44:LEU:HD11	28:e:68:HIS:CG	2.50	0.46
28:e:57:ARG:HH21	28:e:60:GLU:HB2	1.81	0.46
28:e:100:ASN:OD1	28:e:101:VAL:N	2.47	0.46
28:e:116:ILE:HG22	28:e:117:LYS:H	1.80	0.46
34:k:95:ARG:O	34:k:99:ILE:HG23	2.15	0.46
41:r:29:THR:HB	41:r:51:LEU:HD21	1.96	0.46
45:v:22:LYS:N	50:3:2086:U:O2'	2.37	0.46
50:3:30:A:C5	50:3:31:U:C5	3.03	0.46
50:3:728:A:H2'	50:3:729:U:H6	1.80	0.46
50:3:793:C:H2'	50:3:794:G:C8	2.50	0.46
50:3:1047:A:OP1	50:3:1187:C:H1'	2.15	0.46
50:3:1723:A:H61	50:3:1731:G:H2'	1.79	0.46
50:3:1741:G:H2'	50:3:1742:C:C6	2.49	0.46
50:3:2060:G:N7	50:3:2585:A:N6	2.63	0.46
50:3:2230:A:H2'	50:3:2231:A:C8	2.50	0.46
51:4:70:G:N2	51:4:94:A:OP2	2.37	0.46
52:5:66:A:C5	52:5:202:A:H1'	2.49	0.46
52:5:74:U:H3	52:5:81:A:H61	1.61	0.46
52:5:582:G:N2	52:5:754:U:O2	2.49	0.46
52:5:705:A:H2'	52:5:706:U:C6	2.50	0.46
52:5:1068:G:O2'	52:5:1070:G:O6	2.26	0.46
52:5:1289:U:O2'	52:5:1334:A:N3	2.38	0.46
4:A:30:VAL:HG23	4:A:55:HIS:ND1	2.31	0.46
15:L:13:LYS:HD3	15:L:18:ALA:HB2	1.96	0.46
17:N:33:ILE:O	17:N:37:THR:HG23	2.15	0.46
21:R:5:ALA:N	52:5:1290:G:O6	2.45	0.46
22:S:10:ARG:NH2	22:S:14:ASN:HB3	2.31	0.46
24:a:250:GLY:N	50:3:2605:G:H5'	2.31	0.46
26:c:101:LEU:HB3	50:3:695:G:C5'	2.45	0.46
30:g:120:SER:O	30:g:124:GLU:HG2	2.15	0.46
37:n:11:ARG:HD2	37:n:95:GLY:HA2	1.98	0.46
39:p:76:SER:OG	50:3:1047:A:OP1	2.24	0.46
50:3:220:A:H2'	50:3:221:A:O4'	2.15	0.46
50:3:461:C:H2'	50:3:462:C:H6	1.81	0.46
50:3:668:A:O2'	50:3:2411:C:O2'	2.28	0.46
50:3:757:A:H2'	50:3:758:C:C6	2.50	0.46
50:3:785:A:H5''	50:3:1649:C:C4	2.51	0.46
50:3:845:U:H5''	50:3:846:U:H5'	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:873:G:H2'	50:3:874:U:C6	2.51	0.46
50:3:1012:G:H4'	50:3:1191:A:C5	2.50	0.46
50:3:1227:C:O2	50:3:1256:A:H2'	2.15	0.46
50:3:1291:C:H2'	50:3:1292:A:C8	2.50	0.46
50:3:1398:C:H2'	50:3:1399:G:C8	2.50	0.46
50:3:1671:C:O2'	50:3:1672:C:H5'	2.15	0.46
50:3:2472:G:C2	50:3:2495:A:C2	3.04	0.46
50:3:2838:G:H1'	50:3:2887:A:N6	2.30	0.46
52:5:171:A:H2'	52:5:172:C:N1	2.30	0.46
52:5:175:U:O4	52:5:191:A:N6	2.49	0.46
52:5:290:G:N1	52:5:299:U:N3	2.62	0.46
52:5:367:A:H2'	52:5:368:C:O4'	2.15	0.46
52:5:414:U:H2'	52:5:415:C:C6	2.50	0.46
52:5:721:G:OP1	52:5:847:G:N2	2.49	0.46
52:5:804:A:H2'	52:5:805:C:C6	2.50	0.46
2:1:33:LYS:HB2	2:1:37:GLN:HB2	1.97	0.46
4:A:98:ASN:HA	4:A:101:LYS:HG2	1.98	0.46
5:B:3:GLN:NE2	52:5:1052:G:O6	2.46	0.46
5:B:56:VAL:HA	5:B:68:PHE:O	2.15	0.46
6:C:61:GLN:HE22	52:5:543:C:C5'	2.29	0.46
6:C:124:LEU:HD21	6:C:134:ILE:HG21	1.98	0.46
8:E:60:TRP:HB3	8:E:62:PHE:CE2	2.50	0.46
12:I:59:ARG:HG2	16:M:45:ARG:HE	1.81	0.46
18:O:71:GLY:O	18:O:75:LYS:NZ	2.47	0.46
20:Q:93:ALA:HA	20:Q:96:LEU:HB2	1.98	0.46
24:a:56:ARG:HB2	50:3:1831:G:OP1	2.15	0.46
25:b:73:ASN:OD1	25:b:92:MET:HB2	2.16	0.46
28:e:4:ILE:HD12	50:3:2757:A:OP1	2.16	0.46
28:e:146:GLN:CD	50:3:2752:G:H21	2.24	0.46
29:f:2:LYS:CE	29:f:4:ILE:C	2.87	0.46
31:h:38:GLN:O	31:h:42:LYS:N	2.47	0.46
37:n:11:ARG:HA	37:n:14:ARG:HG2	1.97	0.46
39:p:50:ARG:NH1	39:p:53:LYS:HD2	2.29	0.46
42:s:63:THR:N	42:s:75:SER:OG	2.46	0.46
47:x:19:CYS:SG	47:x:41:LYS:HB3	2.55	0.46
50:3:307:C:C4	50:3:308:A:N6	2.83	0.46
50:3:734:A:H2'	50:3:735:G:O4'	2.15	0.46
50:3:1018:G:O4'	50:3:2035:U:O2'	2.25	0.46
50:3:1328:A:C5	50:3:1660:A:H1'	2.50	0.46
50:3:1615:G:N2	50:3:1620:A:N1	2.59	0.46
50:3:2089:A:H2'	50:3:2090:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2529:C:O2'	50:3:2572:A:H1'	2.16	0.46
50:3:2703:U:H2'	50:3:2704:U:C6	2.51	0.46
50:3:2707:A:C6	50:3:2708:G:C4	3.03	0.46
50:3:2750:A:H2'	50:3:2751:C:C6	2.50	0.46
50:3:2798:A:H3'	50:3:2799:U:H5'	1.98	0.46
51:4:91:A:H2'	51:4:92:A:C8	2.45	0.46
52:5:66:A:O2'	52:5:67:U:OP2	2.30	0.46
52:5:1413:G:H2'	52:5:1414:U:H6	1.81	0.46
52:5:1463:A:H2'	52:5:1464:G:C8	2.50	0.46
53:7:16:G:N2	53:7:49:C:O2'	2.48	0.46
53:7:71:A:P	53:7:71:A:H8	2.38	0.46
2:1:29:LEU:HB3	49:z:4:LYS:HE2	1.97	0.46
3:2:18:LYS:HG2	3:2:23:VAL:HA	1.97	0.46
11:H:20:TYR:HB2	11:H:66:ASN:HB3	1.98	0.46
15:L:73:ILE:HG21	52:5:1303:A:N3	2.30	0.46
15:L:88:GLY:O	15:L:92:ARG:HG3	2.16	0.46
26:c:49:THR:HA	50:3:40:A:H1'	1.98	0.46
31:h:9:ILE:HD11	31:h:57:ALA:HB2	1.98	0.46
34:k:79:VAL:HG13	34:k:115:ILE:HB	1.98	0.46
37:n:2:LYS:HB3	37:n:7:GLN:HB2	1.98	0.46
38:o:58:LYS:N	38:o:61:SER:OG	2.49	0.46
39:p:60:TRP:CE2	39:p:93:VAL:HB	2.50	0.46
50:3:36:U:H3'	50:3:37:G:H8	1.81	0.46
50:3:40:A:H2'	50:3:41:C:C6	2.50	0.46
50:3:58:A:H2'	50:3:59:C:C6	2.51	0.46
50:3:192:U:O2'	50:3:1393:A:N6	2.49	0.46
50:3:603:G:N2	50:3:2507:C:OP2	2.29	0.46
50:3:1293:U:H3'	50:3:1294:G:C8	2.51	0.46
50:3:1702:A:N7	50:3:2000:U:C4	2.83	0.46
50:3:1910:G:N1	50:3:1911:G:C6	2.83	0.46
50:3:2301:C:H2'	50:3:2302:C:C6	2.51	0.46
50:3:2443:A:H2'	50:3:2444:G:C8	2.51	0.46
50:3:2575:G:H2'	50:3:2576:A:H8	1.78	0.46
52:5:438:A:N6	52:5:495:U:O4	2.48	0.46
52:5:443:G:H2'	52:5:444:G:O4'	2.15	0.46
52:5:722:G:H2'	52:5:723:C:C6	2.50	0.46
52:5:811:A:N6	52:5:813:A:N3	2.63	0.46
52:5:919:C:H2'	52:5:920:G:C8	2.51	0.46
52:5:1259:G:N2	52:5:1329:G:H4'	2.30	0.46
4:A:59:GLU:O	4:A:63:GLN:HG2	2.16	0.46
4:A:245:MET:HG3	4:A:246:PHE:CD1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:37:LEU:HD22	52:5:1265:U:P	2.56	0.46
10:G:38:SER:HA	52:5:587:A:H4'	1.98	0.46
11:H:13:LYS:NZ	11:H:113:LYS:HG3	2.30	0.46
11:H:106:THR:HG22	52:5:1154:A:H4'	1.97	0.46
12:I:52:LYS:HG2	12:I:74:ASN:ND2	2.31	0.46
13:J:111:HIS:CD2	52:5:671:G:H21	2.29	0.46
15:L:50:GLU:OE1	15:L:50:GLU:N	2.49	0.46
25:b:135:HIS:HE1	50:3:1704:C:N3	2.13	0.46
26:c:192:MET:HE3	26:c:193:LEU:HD23	1.98	0.46
27:d:99:PHE:HE2	27:d:154:VAL:HG11	1.81	0.46
28:e:67:PHE:HA	28:e:70:THR:HG22	1.96	0.46
32:i:18:TRP:CD1	32:i:18:TRP:H	2.33	0.46
37:n:42:GLN:NE2	51:4:4:G:H21	2.13	0.46
41:r:9:ARG:HG3	41:r:80:PRO:HD2	1.97	0.46
42:s:34:LYS:NZ	50:3:73:A:N7	2.64	0.46
46:w:33:LEU:HD22	46:w:44:ILE:HD11	1.97	0.46
50:3:137:U:H2'	50:3:138:U:C6	2.50	0.46
50:3:311:G:N1	50:3:396:A:N7	2.63	0.46
50:3:351:G:H2'	50:3:352:C:H6	1.81	0.46
50:3:557:G:O2'	50:3:575:C:O2'	2.16	0.46
50:3:732:G:H2'	50:3:733:C:C6	2.50	0.46
50:3:1016:A:P	50:3:1016:A:H8	2.38	0.46
50:3:1498:U:H2'	50:3:1499:C:C6	2.51	0.46
50:3:1967:U:O2'	52:5:1459:U:H4'	2.16	0.46
50:3:2706:U:O4	50:3:2717:G:O6	2.33	0.46
51:4:94:A:H2'	51:4:95:G:O4'	2.16	0.46
52:5:779:A:C5	52:5:780:U:H1'	2.50	0.46
52:5:973:A:C8	52:5:974:C:H5	2.33	0.46
3:2:23:VAL:O	3:2:37:GLY:N	2.48	0.46
3:2:28:LYS:HG3	3:2:29:THR:N	2.30	0.46
10:G:74:LEU:O	10:G:76:TYR:HD1	1.99	0.46
25:b:115:LYS:HB3	25:b:115:LYS:HE2	1.75	0.46
30:g:76:ILE:HG22	30:g:77:LYS:N	2.30	0.46
32:i:3:LYS:HD3	40:q:65:GLN:NE2	2.30	0.46
32:i:67:LEU:HB3	32:i:71:LYS:HE3	1.97	0.46
43:t:73:LYS:HG2	50:3:362:U:O3'	2.16	0.46
44:u:86:PHE:CE1	44:u:94:ARG:HB2	2.50	0.46
50:3:180:A:H3'	50:3:181:G:H8	1.81	0.46
50:3:597:C:N4	50:3:606:G:OP1	2.48	0.46
50:3:628:A:H4'	50:3:974:C:O2'	2.16	0.46
50:3:1079:U:O2'	50:3:1146:A:N6	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1723:A:N6	50:3:1731:G:H2'	2.31	0.46
50:3:1939:A:H2'	50:3:1940:G:O4'	2.16	0.46
50:3:2595:A:H8	50:3:2595:A:O5'	1.99	0.46
52:5:26:C:H5'	52:5:522:G:H1'	1.98	0.46
52:5:42:G:H2'	52:5:43:G:C8	2.51	0.46
52:5:124:U:H2'	52:5:125:A:O4'	2.15	0.46
52:5:191:A:H2'	52:5:192:A:C8	2.50	0.46
52:5:242:A:O2'	52:5:275:A:N6	2.48	0.46
52:5:398:G:H4'	52:5:619:A:H2	1.81	0.46
52:5:533:A:P	52:5:535:A:H62	2.38	0.46
52:5:574:C:N4	52:5:755:U:OP1	2.48	0.46
52:5:1217:G:H1	52:5:1269:U:H3	1.62	0.46
5:B:118:ILE:HG13	5:B:119:ILE:N	2.31	0.46
6:C:118:ASN:OD1	52:5:436:U:N3	2.49	0.46
12:I:48:LEU:HD13	52:5:1255:A:H5''	1.98	0.46
15:L:113:ARG:NE	52:5:941:A:OP1	2.29	0.46
15:L:118:ASN:ND2	52:5:1202:A:N1	2.64	0.46
17:N:22:ILE:O	17:N:26:VAL:HG13	2.16	0.46
23:T:42:LEU:O	23:T:46:ARG:HG2	2.15	0.46
24:a:110:ILE:HD13	24:a:162:ARG:HG3	1.98	0.46
26:c:20:LEU:HD13	26:c:120:LEU:HG	1.98	0.46
27:d:106:VAL:HG13	47:x:36:ILE:HG21	1.98	0.46
28:e:12:ASP:OD1	28:e:12:ASP:N	2.47	0.46
29:f:131:PHE:HB2	29:f:134:THR:HG23	1.97	0.46
31:h:52:PRO:HG2	31:h:68:LYS:HZ1	1.80	0.46
32:i:44:LYS:NZ	32:i:53:CYS:O	2.40	0.46
33:j:19:VAL:HG11	33:j:86:LEU:HD21	1.96	0.46
36:m:110:ALA:HB2	41:r:40:PRO:HB2	1.97	0.46
37:n:69:ASN:N	51:4:48:A:OP1	2.48	0.46
39:p:10:ARG:O	39:p:14:LYS:HB3	2.16	0.46
44:u:47:THR:HG23	50:3:2360:A:N1	2.31	0.46
50:3:64:U:H4'	50:3:93:A:C6	2.50	0.46
50:3:107:C:N4	50:3:108:G:O6	2.49	0.46
50:3:601:U:N3	50:3:604:A:OP2	2.40	0.46
50:3:613:C:H2'	50:3:614:C:C6	2.51	0.46
50:3:882:C:H3'	50:3:883:A:C8	2.47	0.46
50:3:1450:G:O2'	50:3:1517:G:N3	2.49	0.46
50:3:1665:G:H2'	50:3:1669:A:H61	1.80	0.46
50:3:1677:G:O2'	50:3:1678:U:H5'	2.16	0.46
50:3:1837:C:H2'	50:3:1838:A:C8	2.51	0.46
50:3:2300:A:N6	50:3:2349:G:O6	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2536:U:H3'	50:3:2538:A:C8	2.51	0.46
50:3:2777:A:C4	50:3:2778:U:H5	2.34	0.46
50:3:2877:A:O2'	50:3:2878:G:O4'	2.34	0.46
51:4:47:C:N4	51:4:48:A:H62	2.14	0.46
52:5:371:U:H2'	52:5:372:G:C8	2.50	0.46
52:5:501:A:O2'	52:5:502:C:H5'	2.15	0.46
52:5:1062:C:H2'	52:5:1063:G:C8	2.51	0.46
52:5:1226:A:H2'	52:5:1227:A:O4'	2.16	0.46
52:5:1477:A:C5	52:5:1480:G:O6	2.68	0.46
6:C:51:ALA:HB2	52:5:507:A:H4'	1.98	0.46
6:C:148:THR:O	6:C:155:LYS:NZ	2.48	0.46
11:H:13:LYS:HA	11:H:112:VAL:HG13	1.97	0.46
23:T:38:LYS:HE2	52:5:1500:G:H5''	1.98	0.46
24:a:66:TYR:OH	24:a:92:ARG:NH2	2.48	0.46
24:a:162:ARG:HG2	24:a:162:ARG:O	2.16	0.46
39:p:44:TYR:HA	39:p:47:ARG:HE	1.80	0.46
42:s:2:ASP:OD1	42:s:3:VAL:N	2.49	0.46
50:3:163:A:H2	50:3:2216:U:O2	1.99	0.46
50:3:452:U:H2'	50:3:453:U:O4'	2.16	0.46
50:3:563:A:C5	50:3:2049:A:H2'	2.51	0.46
50:3:610:G:H2'	50:3:611:A:C8	2.51	0.46
50:3:1138:A:OP2	50:3:1139:C:N4	2.42	0.46
50:3:1645:C:H2'	50:3:1646:G:O4'	2.15	0.46
50:3:1804:A:H2'	50:3:1805:U:O4'	2.16	0.46
50:3:1920:A:H3'	50:3:1922:U:C5	2.51	0.46
50:3:2809:A:H2'	50:3:2810:A:H5''	1.97	0.46
51:4:77:G:H2'	51:4:78:C:O4'	2.15	0.46
52:5:87:G:OP2	52:5:87:G:H8	1.99	0.46
52:5:331:C:O2	52:5:1408:A:H2	1.99	0.46
52:5:585:G:H1'	52:5:752:G:H22	1.79	0.46
52:5:847:G:H2'	52:5:848:U:C6	2.51	0.46
52:5:1074:U:OP1	52:5:1076:U:O2'	2.26	0.46
52:5:1228:C:O2'	52:5:1229:A:H5'	2.16	0.46
52:5:1234:C:H3'	52:5:1235:C:H5''	1.98	0.46
52:5:1287:G:H2'	52:5:1288:C:C5	2.51	0.46
52:5:1327:G:H2'	52:5:1328:C:C6	2.51	0.46
52:5:1479:G:H4'	52:5:1480:G:O4'	2.15	0.46
11:H:116:LYS:HB3	11:H:123:ALA:HA	1.98	0.45
24:a:9:ARG:HB2	50:3:1730:C:P	2.56	0.45
24:a:282:ARG:NH2	50:3:1806:G:OP2	2.33	0.45
25:b:145:GLY:HA3	50:3:2519:U:H3	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:184:ASP:C	26:c:185:LYS:HD2	2.41	0.45
28:e:62:LYS:HG3	28:e:63:GLN:N	2.31	0.45
28:e:94:GLY:HA3	28:e:97:TYR:HD2	1.80	0.45
28:e:142:GLU:O	50:3:2753:C:O2'	2.27	0.45
33:j:11:ALA:HB1	33:j:99:PHE:O	2.16	0.45
35:l:13:HIS:N	50:3:947:A:H62	2.14	0.45
39:p:2:ARG:HG3	50:3:1278:G:C8	2.51	0.45
48:y:8:SER:OG	50:3:1293:U:O3'	2.33	0.45
50:3:488:G:H2'	50:3:489:A:C8	2.50	0.45
50:3:1023:C:H2'	50:3:1024:A:O4'	2.17	0.45
50:3:1546:U:H3'	50:3:1547:G:C8	2.51	0.45
50:3:1552:C:H2'	50:3:1553:G:O4'	2.16	0.45
50:3:1844:C:C4	50:3:1906:G:C8	3.04	0.45
50:3:1846:A:C8	50:3:1934:A:C8	3.04	0.45
50:3:1868:A:H2	50:3:1888:U:H3	1.63	0.45
50:3:2096:U:H2'	50:3:2097:A:C8	2.51	0.45
50:3:2411:C:H2'	50:3:2412:A:C8	2.51	0.45
50:3:2646:G:H4'	50:3:2647:A:H5'	1.98	0.45
52:5:558:U:O4'	52:5:564:G:N2	2.48	0.45
52:5:616:C:H3'	52:5:618:U:H5	1.81	0.45
52:5:777:A:N6	52:5:798:U:OP2	2.48	0.45
52:5:1238:C:H2'	52:5:1239:U:H6	1.81	0.45
52:5:1262:A:C2	52:5:1327:G:H1'	2.50	0.45
6:C:13:ARG:HH11	6:C:34:ILE:CD1	2.29	0.45
7:D:214:LYS:HE2	7:D:214:LYS:HB3	1.82	0.45
12:I:47:PRO:HA	12:I:78:ARG:HG2	1.98	0.45
13:J:103:ILE:HD11	23:T:5:GLU:HB2	1.98	0.45
14:K:105:GLY:H	52:5:905:U:H5''	1.80	0.45
15:L:86:TRP:HH2	15:L:90:ARG:HH21	1.64	0.45
21:R:41:PHE:C	21:R:43:GLU:H	2.23	0.45
24:a:255:ARG:HG3	24:a:261:ARG:NH2	2.31	0.45
29:f:49:LEU:HD22	50:3:285:U:O2'	2.16	0.45
31:h:20:LYS:HG2	31:h:32:MET:HB3	1.97	0.45
36:m:48:LEU:HD23	36:m:51:LEU:HD12	1.97	0.45
37:n:18:LYS:O	37:n:22:THR:HG22	2.15	0.45
37:n:89:VAL:HG23	37:n:114:LEU:HD11	1.98	0.45
42:s:89:ILE:HD13	46:w:82:ALA:HB3	1.98	0.45
43:t:88:LYS:N	50:3:370:C:H5''	2.32	0.45
50:3:28:G:H1'	50:3:550:A:H61	1.81	0.45
50:3:344:A:C5	50:3:364:A:N7	2.84	0.45
50:3:553:A:H2'	50:3:554:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:615:G:C2	50:3:1289:G:O6	2.69	0.45
50:3:780:G:C2	50:3:788:G:C6	3.04	0.45
50:3:2085:C:H2'	50:3:2086:U:O4'	2.16	0.45
50:3:2334:U:O2	50:3:2397:G:N2	2.49	0.45
50:3:2381:G:H2'	50:3:2382:A:C8	2.49	0.45
52:5:95:C:N4	52:5:96:G:O6	2.49	0.45
52:5:821:U:H2'	52:5:822:A:C8	2.51	0.45
52:5:1094:C:H2'	52:5:1095:G:O4'	2.16	0.45
52:5:1261:A:O2'	52:5:1262:A:O4'	2.21	0.45
52:5:1307:A:H2'	52:5:1308:G:C8	2.51	0.45
2:1:21:ARG:HE	2:1:46:THR:C	2.25	0.45
5:B:168:ASP:N	5:B:168:ASP:OD1	2.50	0.45
11:H:110:LYS:HE2	52:5:1160:G:H21	1.81	0.45
11:H:119:GLY:O	11:H:127:PRO:HD3	2.16	0.45
14:K:88:GLN:OE1	14:K:117:THR:HB	2.16	0.45
20:Q:81:MET:HE3	20:Q:81:MET:HB3	1.84	0.45
20:Q:94:ARG:NE	52:5:716:C:N3	2.64	0.45
24:a:33:PRO:HB2	24:a:38:LEU:HD11	1.99	0.45
30:g:10:GLN:O	30:g:14:VAL:HG12	2.16	0.45
33:j:65:THR:HG22	33:j:67:LYS:H	1.80	0.45
46:w:55:LEU:HD23	46:w:58:LEU:HD23	1.98	0.45
48:y:3:VAL:HG22	50:3:2063:G:N2	2.31	0.45
50:3:71:C:H2'	50:3:72:G:C8	2.51	0.45
50:3:518:A:OP2	50:3:542:A:N6	2.40	0.45
50:3:537:A:C2	50:3:1266:G:H5''	2.51	0.45
50:3:1136:U:H2'	50:3:1137:C:C6	2.50	0.45
50:3:1738:G:C6	50:3:1739:G:C6	3.04	0.45
50:3:2080:C:O2	50:3:2606:A:O2'	2.27	0.45
52:5:565:G:N1	52:5:878:U:O4	2.49	0.45
52:5:657:G:H2'	52:5:658:G:C8	2.51	0.45
52:5:1474:A:O2'	52:5:1495:C:H4'	2.16	0.45
52:5:1497:U:H2'	52:5:1498:G:H8	1.80	0.45
3:2:6:SER:N	50:3:2474:C:OP1	2.48	0.45
6:C:128:THR:HB	52:5:487:A:OP1	2.16	0.45
8:E:60:TRP:HB3	8:E:62:PHE:HE2	1.82	0.45
15:L:95:LEU:HG	15:L:110:LYS:HD3	1.98	0.45
23:T:31:ARG:NH1	52:5:716:C:OP1	2.47	0.45
26:c:56:GLY:HA3	50:3:704:G:O6	2.17	0.45
26:c:64:LYS:HG3	26:c:76:GLN:HG2	1.97	0.45
33:j:116:SER:O	52:5:342:G:N2	2.49	0.45
36:m:85:LYS:HE2	36:m:85:LYS:HB3	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:n:19:ILE:O	37:n:23:ASN:HB2	2.17	0.45
46:w:91:LEU:HD21	50:3:1628:G:H5''	1.99	0.45
50:3:237:A:H62	50:3:268:C:H1'	1.81	0.45
50:3:330:A:H2'	50:3:331:A:C8	2.51	0.45
50:3:663:A:O2'	50:3:672:G:N2	2.48	0.45
50:3:1167:U:O2	50:3:2046:G:O2'	2.27	0.45
50:3:1257:G:H2'	50:3:1258:C:C6	2.52	0.45
50:3:1338:G:N7	50:3:1339:U:N3	2.64	0.45
50:3:1714:U:O2'	50:3:1715:A:O4'	2.23	0.45
50:3:2003:C:C4	50:3:2734:C:H5'	2.51	0.45
50:3:2231:A:H3'	50:3:2232:G:C8	2.52	0.45
50:3:2547:C:H2'	50:3:2548:G:H8	1.80	0.45
50:3:2674:C:H2'	50:3:2675:C:C6	2.52	0.45
50:3:2847:C:H2'	50:3:2848:A:H8	1.80	0.45
52:5:29:G:H2'	52:5:29:G:N3	2.32	0.45
52:5:298:G:N2	52:5:553:C:O2'	2.50	0.45
52:5:1430:G:C4	52:5:1431:A:C8	3.03	0.45
52:5:1476:C:OP2	52:5:1479:G:H5''	2.16	0.45
6:C:119:HIS:HD2	52:5:436:U:O4	1.99	0.45
10:G:54:LEU:HD11	10:G:72:PHE:CD2	2.52	0.45
12:I:27:THR:HG21	12:I:102:VAL:HG21	1.97	0.45
13:J:113:GLY:HA3	52:5:673:A:N3	2.31	0.45
21:R:38:SER:O	21:R:71:LEU:N	2.43	0.45
25:b:57:VAL:HG22	25:b:58:GLU:H	1.81	0.45
26:c:160:VAL:HG13	26:c:186:VAL:HG21	1.98	0.45
30:g:59:LEU:O	30:g:59:LEU:HD23	2.16	0.45
30:g:112:TYR:OH	30:g:122:ASP:O	2.30	0.45
31:h:12:ILE:HD13	31:h:24:ALA:H	1.81	0.45
43:t:24:VAL:HG21	43:t:34:ALA:HB1	1.97	0.45
47:x:12:VAL:HB	47:x:32:LYS:HA	1.98	0.45
48:y:13:ARG:HA	48:y:16:ARG:HB3	1.98	0.45
50:3:336:C:H2'	50:3:337:U:C5	2.51	0.45
50:3:404:C:H3'	50:3:405:C:H6	1.78	0.45
50:3:669:A:C5	50:3:670:G:H1'	2.52	0.45
50:3:920:G:H22	50:3:930:C:H2'	1.82	0.45
50:3:1042:C:H2'	50:3:1043:C:C6	2.52	0.45
50:3:1174:G:H8	50:3:1174:G:OP2	1.99	0.45
50:3:1215:G:N3	50:3:1215:G:H2'	2.32	0.45
50:3:1834:U:H4'	50:3:1978:U:H5'	1.99	0.45
50:3:2064:G:OP2	50:3:2064:G:H8	2.00	0.45
50:3:2427:U:H2'	50:3:2428:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2447:A:H1'	50:3:2595:A:H5'	1.98	0.45
50:3:2518:C:H2'	50:3:2519:U:C6	2.52	0.45
50:3:2580:A:OP1	50:3:2582:G:H4'	2.16	0.45
50:3:2843:G:H2'	50:3:2844:U:C6	2.52	0.45
52:5:725:A:N3	52:5:725:A:H2'	2.32	0.45
52:5:778:A:H2'	52:5:778:A:N3	2.32	0.45
52:5:857:U:H2'	52:5:859:A:OP2	2.17	0.45
52:5:1417:U:N3	52:5:1418:G:O6	2.47	0.45
14:K:127:ARG:NH2	52:5:37:C:O2'	2.50	0.45
29:f:27:ILE:O	29:f:34:LYS:HG3	2.16	0.45
37:n:79:ASP:HA	37:n:82:VAL:HG22	1.97	0.45
50:3:357:A:H1'	50:3:367:G:N7	2.31	0.45
50:3:596:G:H1	50:3:611:A:H2	1.59	0.45
50:3:828:A:C5	50:3:2079:G:H5''	2.52	0.45
50:3:1115:G:H2'	50:3:1116:U:H6	1.82	0.45
50:3:1449:G:H2'	50:3:1450:G:C8	2.52	0.45
50:3:1496:A:H62	50:3:1547:G:HO2'	1.61	0.45
50:3:1671:C:H1'	50:3:1766:A:H2	1.81	0.45
50:3:2420:A:H2'	50:3:2421:U:O4'	2.16	0.45
50:3:2639:G:H2'	50:3:2640:A:C8	2.51	0.45
50:3:2814:A:H61	50:3:2894:G:C2'	2.29	0.45
52:5:91:C:H1'	52:5:375:C:H5''	1.98	0.45
52:5:135:A:O2'	52:5:1421:A:N6	2.50	0.45
52:5:212:G:O3'	52:5:461:G:N2	2.50	0.45
52:5:416:U:O2	52:5:421:G:C6	2.70	0.45
52:5:682:G:N2	52:5:701:A:OP2	2.43	0.45
52:5:808:C:HO2'	52:5:809:G:P	2.38	0.45
52:5:973:A:H62	52:5:1334:A:N6	2.14	0.45
52:5:1139:A:N6	52:5:1149:G:C6	2.84	0.45
52:5:1299:C:C2	52:5:1300:C:C5	3.05	0.45
52:5:1323:A:C6	52:5:1324:A:C6	3.04	0.45
52:5:1371:A:H4'	52:5:1372:C:H5''	1.99	0.45
6:C:70:GLN:HE22	6:C:96:ARG:HH12	1.65	0.45
6:C:123:LEU:HB3	6:C:143:ARG:HB2	1.97	0.45
11:H:124:ARG:NH1	52:5:1322:U:OP1	2.49	0.45
18:O:18:SER:HA	52:5:373:A:H5''	1.98	0.45
24:a:99:ILE:HD13	24:a:109:ILE:HD13	1.99	0.45
25:b:180:ARG:HG2	25:b:218:LYS:HD3	1.98	0.45
30:g:60:ARG:NH2	50:3:1082:A:OP2	2.50	0.45
31:h:87:LYS:HE2	31:h:87:LYS:HB2	1.72	0.45
32:i:58:ILE:HD12	32:i:140:PRO:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:61:ARG:NH2	50:3:1482:U:O2	2.47	0.45
39:p:87:ILE:H	39:p:87:ILE:HD12	1.82	0.45
43:t:5:LYS:HE3	43:t:5:LYS:HB3	1.79	0.45
43:t:92:VAL:HA	50:3:331:A:H4'	1.99	0.45
50:3:81:C:H2'	50:3:82:G:H8	1.81	0.45
50:3:134:U:H2'	50:3:135:A:H8	1.81	0.45
50:3:321:A:H2'	50:3:322:A:C8	2.51	0.45
50:3:422:A:H2'	50:3:422:A:N3	2.32	0.45
50:3:660:U:H2'	50:3:661:G:H8	1.81	0.45
50:3:827:G:O2'	50:3:2448:C:N3	2.42	0.45
50:3:1474:C:H2'	50:3:1475:C:H6	1.81	0.45
50:3:1483:G:N3	50:3:1483:G:H2'	2.32	0.45
50:3:2072:C:H2'	50:3:2073:C:H6	1.80	0.45
50:3:2122:G:N1	50:3:2124:A:O2'	2.44	0.45
51:4:28:C:H3'	51:4:29:C:C6	2.51	0.45
52:5:53:U:H2'	52:5:54:A:C8	2.51	0.45
52:5:828:U:C2	52:5:850:G:N2	2.84	0.45
52:5:933:A:H2'	52:5:934:G:C8	2.51	0.45
52:5:1034:G:H2'	52:5:1035:A:C8	2.52	0.45
52:5:1219:C:H2'	52:5:1220:A:H8	1.79	0.45
52:5:1499:G:H2'	52:5:1500:G:H8	1.80	0.45
5:B:99:THR:O	5:B:99:THR:HG22	2.17	0.45
5:B:146:LYS:HB3	5:B:146:LYS:HE2	1.69	0.45
5:B:182:ARG:HE	52:5:1103:C:HI'	1.82	0.45
7:D:120:LYS:HA	7:D:123:HIS:CE1	2.51	0.45
9:F:101:ARG:NH1	52:5:1350:A:O2'	2.34	0.45
10:G:120:ASP:N	10:G:120:ASP:OD1	2.47	0.45
12:I:13:LYS:HB3	12:I:13:LYS:HE2	1.73	0.45
12:I:17:GLU:HG3	12:I:103:THR:HB	1.99	0.45
12:I:28:THR:HG21	12:I:78:ARG:CD	2.47	0.45
20:Q:57:LEU:HD12	20:Q:60:LEU:HD13	1.98	0.45
20:Q:91:LYS:CB	52:5:732:A:H5'	2.47	0.45
28:e:18:LEU:HD12	28:e:20:PHE:HE2	1.82	0.45
32:i:39:ILE:HG21	32:i:121:TRP:CG	2.52	0.45
33:j:71:ARG:HH12	33:j:105:GLU:HG2	1.81	0.45
38:o:99:ALA:HB3	50:3:2852:G:C8	2.52	0.45
44:u:57:THR:N	50:3:2338:G:H21	2.15	0.45
50:3:8:A:H2'	50:3:9:G:C8	2.52	0.45
50:3:25:G:C2	50:3:26:G:C5	3.05	0.45
50:3:141:A:H8	50:3:142:A:C8	2.34	0.45
50:3:276:A:H62	50:3:294:G:N2	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1053:C:H4'	50:3:1155:G:N2	2.27	0.45
50:3:1060:G:H1'	50:3:1170:C:OP2	2.17	0.45
50:3:1125:U:C4	50:3:1137:C:C2	3.04	0.45
50:3:1896:A:H2'	50:3:1897:A:O4'	2.17	0.45
50:3:2006:C:H2'	50:3:2007:U:O4'	2.16	0.45
50:3:2816:A:H2'	50:3:2817:G:C8	2.52	0.45
51:4:4:G:H2'	51:4:5:G:C8	2.51	0.45
52:5:43:G:H22	52:5:397:C:H1'	1.81	0.45
52:5:427:A:C5	52:5:428:A:H1'	2.52	0.45
52:5:576:A:H2'	52:5:577:G:H8	1.82	0.45
52:5:1119:C:H3'	52:5:1120:A:C8	2.52	0.45
52:5:1129:C:H2'	52:5:1130:G:H8	1.81	0.45
5:B:175:ASN:ND2	5:B:209:MET:SD	2.89	0.45
9:F:5:ARG:HE	9:F:6:ALA:N	2.15	0.45
10:G:49:VAL:HG21	10:G:57:PHE:CD1	2.51	0.45
11:H:11:ARG:HA	11:H:15:SER:O	2.17	0.45
12:I:16:LEU:HD12	12:I:28:THR:HG22	1.98	0.45
13:J:81:GLY:N	13:J:107:THR:HG22	2.32	0.45
21:R:29:ARG:HB3	21:R:30:PRO:HD3	1.98	0.45
24:a:171:LEU:HD12	24:a:181:ILE:HG22	1.99	0.45
25:b:139:TYR:HB2	25:b:140:PRO:HD3	1.99	0.45
35:l:120:ARG:O	35:l:124:LYS:HG2	2.17	0.45
37:n:58:LEU:HD21	51:4:25:A:O2'	2.17	0.45
40:q:1:MET:HB3	40:q:2:HIS:H	1.61	0.45
43:t:99:LYS:HG2	43:t:100:LYS:HG3	1.98	0.45
43:t:100:LYS:HD3	50:3:330:A:H5''	1.99	0.45
48:y:12:ARG:NH1	50:3:2029:U:H2'	2.32	0.45
50:3:405:C:H6	50:3:405:C:OP2	2.00	0.45
50:3:412:A:H1'	50:3:437:A:N6	2.32	0.45
50:3:564:A:O2'	50:3:2030:A:N7	2.32	0.45
50:3:715:G:H2'	50:3:716:G:C8	2.52	0.45
50:3:962:U:H2'	50:3:963:U:C6	2.52	0.45
50:3:1094:G:C6	50:3:1095:U:C4	3.05	0.45
50:3:1271:A:H2'	50:3:1272:A:N7	2.32	0.45
50:3:1544:G:H2'	50:3:1545:A:H8	1.81	0.45
50:3:1669:A:H2'	50:3:1670:U:O4'	2.17	0.45
50:3:1903:A:H2'	50:3:1904:G:C8	2.52	0.45
50:3:2116:U:O4	50:3:2187:C:N4	2.50	0.45
50:3:2300:A:C6	50:3:2349:G:C6	3.05	0.45
50:3:2338:G:H3'	50:3:2339:G:C8	2.52	0.45
50:3:2486:A:O2'	50:3:2538:A:OP1	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2584:G:O2'	50:3:2587:U:OP2	2.21	0.45
50:3:2701:A:C6	50:3:2725:G:C6	3.05	0.45
50:3:2839:A:N6	50:3:2883:A:OP2	2.50	0.45
52:5:99:U:H2'	52:5:100:G:C8	2.52	0.45
52:5:255:G:H2'	52:5:256:G:H5'	1.98	0.45
52:5:500:G:H21	52:5:507:A:H62	1.65	0.45
52:5:552:U:H2'	52:5:553:C:H5	1.78	0.45
52:5:884:G:N2	52:5:901:A:O5'	2.47	0.45
52:5:1154:A:P	52:5:1154:A:H8	2.40	0.45
52:5:1216:G:H2'	52:5:1217:G:H8	1.79	0.45
52:5:1460:U:H2'	52:5:1461:G:C8	2.52	0.45
15:L:14:ARG:HB2	15:L:17:ILE:HG12	1.99	0.45
15:L:87:ARG:HD3	52:5:1283:G:OP1	2.17	0.45
24:a:278:ILE:HD11	50:3:1806:G:H5''	1.98	0.45
29:f:4:ILE:CD1	29:f:50:PHE:CZ	2.89	0.45
29:f:11:ASN:HD22	29:f:34:LYS:HD2	1.78	0.45
30:g:46:LYS:HE3	30:g:46:LYS:HB3	1.72	0.45
32:i:115:ASN:HB2	32:i:118:SER:OG	2.17	0.45
34:k:105:SER:OG	50:3:658:G:H3'	2.17	0.45
37:n:10:LEU:HG	37:n:14:ARG:HH11	1.82	0.45
40:q:23:GLU:OE2	40:q:87:GLN:NE2	2.50	0.45
43:t:95:PRO:HG2	43:t:98:ASN:HB3	1.99	0.45
50:3:231:A:O2'	50:3:232:A:H5''	2.16	0.45
50:3:612:G:C5	50:3:1292:A:C6	3.05	0.45
50:3:720:A:H4'	50:3:721:G:H5''	1.99	0.45
50:3:839:A:P	50:3:839:A:H8	2.40	0.45
50:3:1150:U:H1'	50:3:1151:U:C5	2.52	0.45
50:3:1231:G:H2'	50:3:1232:U:C6	2.52	0.45
50:3:1426:C:H2'	50:3:1427:C:H6	1.82	0.45
50:3:1623:U:H2'	50:3:1624:A:C8	2.52	0.45
50:3:2668:A:O2'	50:3:2669:G:H8	1.99	0.45
50:3:2892:U:H2'	50:3:2893:C:C6	2.52	0.45
51:4:67:G:H2'	51:4:68:C:C6	2.52	0.45
52:5:101:A:H2'	52:5:102:G:O4'	2.16	0.45
52:5:407:A:C2	52:5:410:A:H5'	2.52	0.45
52:5:594:A:H2'	52:5:594:A:N3	2.31	0.45
52:5:935:U:O2	52:5:1323:A:O2'	2.23	0.45
52:5:956:U:P	52:5:1197:G:H21	2.39	0.45
52:5:1274:G:O2'	52:5:1306:A:OP2	2.21	0.45
53:7:9:U:H4'	53:7:50:G:H5''	1.99	0.45
3:2:6:SER:HB3	50:3:2474:C:H5''	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:195:THR:O	52:5:1181:G:H4'	2.18	0.44
7:D:79:THR:HG23	7:D:84:ARG:HG2	1.99	0.44
16:M:8:VAL:HG12	16:M:12:ARG:HE	1.83	0.44
17:N:63:LEU:HG	52:5:752:G:OP2	2.16	0.44
21:R:14:HIS:O	21:R:17:LYS:HB3	2.17	0.44
24:a:220:ARG:HG2	24:a:226:PRO:HD3	1.97	0.44
25:b:99:GLN:HG3	25:b:186:GLU:HB3	1.99	0.44
26:c:66:TYR:HB2	26:c:76:GLN:HE22	1.81	0.44
37:n:22:THR:O	50:3:2387:U:O2'	2.35	0.44
39:p:54:ARG:NH2	50:3:1013:G:H5'	2.32	0.44
39:p:75:TYR:HA	39:p:78:PHE:HB3	1.99	0.44
44:u:87:GLY:O	51:4:10:C:H5''	2.17	0.44
47:x:11:SER:HA	47:x:26:GLU:HB3	1.99	0.44
50:3:58:A:H2'	50:3:59:C:H6	1.81	0.44
50:3:69:U:H2'	50:3:70:G:C8	2.52	0.44
50:3:144:C:H2'	50:3:145:A:C8	2.52	0.44
50:3:194:A:N7	50:3:210:U:C2	2.86	0.44
50:3:406:C:H2'	50:3:407:U:C6	2.53	0.44
50:3:477:U:H2'	50:3:478:G:C8	2.52	0.44
50:3:499:G:N2	50:3:502:A:OP2	2.39	0.44
50:3:507:A:H2'	50:3:508:A:C4	2.51	0.44
50:3:603:G:N1	50:3:2456:A:OP1	2.46	0.44
50:3:749:U:H1'	50:3:752:C:H5	1.81	0.44
50:3:854:A:O2'	50:3:872:C:O2'	2.20	0.44
50:3:856:A:O2'	50:3:982:G:OP2	2.31	0.44
50:3:1383:G:H2'	50:3:1384:C:H6	1.81	0.44
50:3:1473:C:H2'	50:3:1474:C:H6	1.82	0.44
50:3:1502:A:O2'	50:3:1541:A:N6	2.50	0.44
50:3:1546:U:H3'	50:3:1547:G:H8	1.82	0.44
50:3:1555:G:N1	50:3:1575:C:O2	2.43	0.44
50:3:1961:A:H4'	50:3:2559:C:H1'	1.99	0.44
50:3:2191:G:H2'	50:3:2192:U:C6	2.53	0.44
50:3:2252:U:H2'	50:3:2253:U:C2	2.52	0.44
50:3:2873:G:H2'	50:3:2874:C:C6	2.52	0.44
52:5:71:A:H2'	52:5:72:A:C8	2.52	0.44
52:5:173:U:H2'	52:5:174:U:O4'	2.17	0.44
52:5:545:A:H4'	52:5:546:G:O5'	2.17	0.44
52:5:782:G:C4	52:5:783:G:C8	3.05	0.44
52:5:1118:A:H1'	52:5:1255:A:C5	2.52	0.44
52:5:1129:C:H2'	52:5:1130:G:C8	2.51	0.44
52:5:1209:C:H1'	52:5:1339:U:H1'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1280:A:N3	52:5:1280:A:H2'	2.32	0.44
52:5:1386:C:H2'	52:5:1387:U:H6	1.80	0.44
52:5:1403:A:N6	52:5:1448:A:N1	2.64	0.44
52:5:1428:A:H2'	52:5:1429:G:H4'	1.99	0.44
4:A:19:SER:HA	4:A:248:TYR:HD1	1.82	0.44
5:B:114:LEU:HD23	5:B:207:ARG:HA	1.99	0.44
6:C:54:LEU:HB3	52:5:542:G:H5''	1.97	0.44
12:I:28:THR:O	12:I:32:VAL:HG23	2.17	0.44
24:a:137:PRO:HA	24:a:196:CYS:O	2.17	0.44
25:b:139:TYR:HE1	50:3:781:U:C5	2.36	0.44
26:c:116:TRP:CZ3	26:c:191:LEU:HD23	2.50	0.44
35:l:73:SER:HA	35:l:93:TRP:HA	1.99	0.44
37:n:79:ASP:O	37:n:83:LYS:HG3	2.17	0.44
42:s:56:ASN:HB3	50:3:1369:U:O3'	2.18	0.44
50:3:531:G:H3'	50:3:532:A:C8	2.52	0.44
50:3:710:A:N7	50:3:838:U:H2'	2.32	0.44
50:3:758:C:H2'	50:3:759:U:H6	1.82	0.44
50:3:1017:A:N1	50:3:2034:G:O2'	2.49	0.44
50:3:1314:A:O2'	50:3:1316:U:OP2	2.26	0.44
50:3:1348:C:H5	50:3:1357:U:H3'	1.82	0.44
50:3:1761:C:N3	50:3:2724:U:O2'	2.49	0.44
50:3:2120:G:OP1	53:8:20:G:N1	2.50	0.44
50:3:2741:A:H2'	50:3:2742:U:O4'	2.17	0.44
51:4:32:G:H4'	51:4:33:U:OP1	2.16	0.44
52:5:117:U:H3	52:5:227:A:H2	1.63	0.44
52:5:508:A:O2'	52:5:540:U:O2	2.29	0.44
52:5:582:G:C6	52:5:754:U:C4	3.05	0.44
52:5:1428:A:C5	52:5:1429:G:H1'	2.52	0.44
52:5:1431:A:H2'	52:5:1432:A:C8	2.52	0.44
52:5:1474:A:H5''	52:5:1480:G:OP1	2.17	0.44
6:C:167:VAL:HG12	6:C:178:TYR:HA	2.00	0.44
8:E:125:PRO:HA	52:5:838:A:H61	1.82	0.44
10:G:49:VAL:HG23	10:G:54:LEU:HD23	1.99	0.44
13:J:76:LYS:HB2	13:J:76:LYS:HE3	1.74	0.44
14:K:134:LYS:HD2	14:K:136:LYS:HB2	1.99	0.44
31:h:127:THR:HB	50:3:1094:G:N3	2.32	0.44
34:k:17:THR:OG1	50:3:1226:G:O6	2.35	0.44
34:k:84:LYS:HA	34:k:84:LYS:HD2	1.79	0.44
41:r:32:ALA:HA	41:r:35:ILE:HG22	1.99	0.44
46:w:55:LEU:HD21	46:w:64:ASN:HB2	1.98	0.44
50:3:78:C:H2'	50:3:79:U:C6	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:203:A:N6	50:3:2442:A:OP2	2.51	0.44
50:3:352:C:H2'	50:3:353:G:C8	2.45	0.44
50:3:1028:C:C2	50:3:1029:A:N7	2.85	0.44
50:3:1046:A:H8	50:3:1046:A:O5'	2.00	0.44
50:3:1212:C:H2'	50:3:1213:U:C6	2.52	0.44
50:3:1296:G:N2	50:3:1297:U:O4	2.31	0.44
50:3:1354:U:O3'	50:3:2017:G:O2'	2.27	0.44
50:3:2453:G:N2	50:3:2457:U:O4	2.51	0.44
50:3:2470:C:H2'	50:3:2471:U:H6	1.81	0.44
52:5:40:G:N7	52:5:545:A:H8	2.16	0.44
52:5:167:A:O2'	52:5:168:A:N7	2.49	0.44
52:5:374:G:H2'	52:5:375:C:C6	2.52	0.44
52:5:859:A:H5'	52:5:1069:U:H5	1.83	0.44
52:5:866:A:C4	52:5:868:G:C8	3.05	0.44
52:5:879:G:H1'	52:5:908:A:N1	2.32	0.44
52:5:978:A:N1	52:5:1197:G:N2	2.50	0.44
53:8:21:U:H5	53:8:61:U:H3	1.65	0.44
4:A:72:VAL:HA	4:A:75:VAL:HG22	1.98	0.44
11:H:16:SER:HB3	52:5:1124:U:O2'	2.17	0.44
13:J:119:ARG:HB3	23:T:34:TYR:HD2	1.83	0.44
15:L:45:VAL:HG12	15:L:47:ASP:H	1.83	0.44
16:M:34:LEU:HB2	16:M:37:PHE:HB2	1.99	0.44
24:a:151:GLU:HG2	24:a:158:GLY:N	2.31	0.44
26:c:112:LEU:HA	26:c:115:VAL:HG12	1.98	0.44
30:g:89:ILE:O	30:g:89:ILE:HG13	2.16	0.44
33:j:71:ARG:HG3	38:o:77:LYS:HZ3	1.82	0.44
39:p:80:ASN:CG	50:3:1186:A:H4'	2.43	0.44
39:p:99:ILE:HA	39:p:105:PHE:HB2	1.99	0.44
41:r:57:ASN:C	41:r:62:HIS:HD1	2.24	0.44
44:u:39:LYS:HB3	44:u:43:GLN:HB2	2.00	0.44
46:w:95:LYS:HE3	50:3:1628:G:OP1	2.17	0.44
50:3:225:A:H8	50:3:463:U:H3	1.60	0.44
50:3:342:G:C5	50:3:536:A:N7	2.86	0.44
50:3:622:U:H2'	50:3:623:A:H8	1.83	0.44
50:3:1274:A:H2'	50:3:1275:C:C6	2.53	0.44
50:3:1290:G:O2'	50:3:1291:C:H5'	2.17	0.44
50:3:2114:C:H2'	50:3:2115:A:C8	2.52	0.44
50:3:2237:U:H2'	50:3:2238:G:H8	1.82	0.44
50:3:2294:A:O4'	50:3:2354:A:N6	2.51	0.44
50:3:2585:A:H4'	50:3:2620:C:C5	2.53	0.44
50:3:2596:A:N6	50:3:2597:A:H62	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2812:U:H5'	50:3:2895:A:C5	2.53	0.44
50:3:2849:G:O6	50:3:2875:U:O4	2.34	0.44
52:5:200:G:C6	52:5:216:G:C2	3.05	0.44
52:5:600:G:C2	52:5:633:U:O2	2.71	0.44
52:5:954:A:H2'	52:5:956:U:OP2	2.17	0.44
4:A:227:LEU:HD21	4:A:253:GLU:H	1.82	0.44
5:B:120:ALA:HB1	5:B:190:GLU:HG3	2.00	0.44
6:C:90:PHE:HZ	6:C:196:VAL:HB	1.83	0.44
6:C:96:ARG:NH1	6:C:114:ARG:HH11	2.15	0.44
9:F:2:ARG:O	52:5:927:C:H5''	2.18	0.44
17:N:71:ASP:OD1	17:N:72:LEU:N	2.50	0.44
24:a:171:LEU:O	52:5:677:C:O2'	2.26	0.44
30:g:10:GLN:HG3	30:g:58:ILE:HD12	2.00	0.44
30:g:32:MET:HE3	30:g:37:ALA:HB2	1.99	0.44
31:h:52:PRO:HD2	31:h:71:PRO:HD2	1.98	0.44
32:i:115:ASN:HD21	50:3:592:G:P	2.41	0.44
32:i:126:HIS:H	32:i:126:HIS:CD2	2.35	0.44
50:3:224:G:O2'	50:3:237:A:O2'	2.26	0.44
50:3:270:G:H2'	50:3:271:G:H8	1.82	0.44
50:3:290:A:H2'	50:3:291:G:C8	2.53	0.44
50:3:735:G:O2'	50:3:1667:G:H1'	2.18	0.44
50:3:1163:G:H1'	50:3:1164:A:C4	2.52	0.44
50:3:1575:C:H2'	50:3:1576:G:O4'	2.16	0.44
50:3:1937:G:O2'	50:3:1975:G:O6	2.26	0.44
50:3:2474:C:H2'	50:3:2475:C:C6	2.53	0.44
51:4:21:G:H2'	51:4:22:G:C8	2.52	0.44
52:5:373:A:H2'	52:5:374:G:C8	2.52	0.44
52:5:551:A:H2'	52:5:552:U:C6	2.52	0.44
52:5:709:A:H2'	52:5:710:G:N7	2.32	0.44
52:5:730:G:O2'	52:5:731:A:OP2	2.32	0.44
52:5:802:C:H2'	52:5:803:C:C6	2.53	0.44
52:5:808:C:O2'	52:5:809:G:OP1	2.26	0.44
52:5:876:C:O2'	52:5:877:C:O5'	2.23	0.44
52:5:884:G:H1'	52:5:885:U:H5	1.81	0.44
52:5:1053:U:H5''	52:5:1054:C:OP2	2.18	0.44
52:5:1203:A:H2'	52:5:1204:A:C8	2.52	0.44
53:7:66:C:H2'	53:7:67:C:H6	1.83	0.44
4:A:115:GLY:H	52:5:1092:A:H2	1.66	0.44
4:A:122:THR:HB	52:5:1094:C:H1'	2.00	0.44
6:C:2:LYS:HD2	6:C:114:ARG:NH2	2.33	0.44
6:C:90:PHE:CE2	6:C:193:GLU:HA	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:60:LEU:HD21	10:G:71:THR:HG22	1.99	0.44
24:a:64:ARG:HB3	24:a:90:PRO:HB2	2.00	0.44
33:j:23:LYS:NZ	50:3:2556:C:O2	2.34	0.44
36:m:18:VAL:O	36:m:22:VAL:HG13	2.18	0.44
37:n:7:GLN:NE2	37:n:11:ARG:HG3	2.30	0.44
37:n:75:GLN:HG3	37:n:108:ALA:HB1	2.00	0.44
38:o:54:ARG:HA	38:o:100:TYR:CE1	2.52	0.44
41:r:107:LEU:HD23	41:r:107:LEU:HA	1.83	0.44
46:w:5:LYS:O	46:w:9:GLN:HG2	2.17	0.44
49:z:35:ASN:OD1	50:3:2352:U:H5''	2.18	0.44
50:3:325:G:H2'	50:3:326:A:C8	2.52	0.44
50:3:855:A:H2'	50:3:856:A:C8	2.53	0.44
50:3:1054:U:H2'	50:3:1055:A:C4	2.53	0.44
50:3:1202:A:H2'	50:3:1203:G:C8	2.53	0.44
50:3:1698:A:C5	50:3:2734:C:H1'	2.52	0.44
50:3:2202:U:H2'	50:3:2203:U:C6	2.52	0.44
50:3:2258:G:C5	50:3:2504:C:H5''	2.53	0.44
50:3:2353:G:H1'	50:3:2390:G:H5'	1.99	0.44
52:5:206:G:H1'	52:5:209:A:H62	1.82	0.44
52:5:557:A:H5'	52:5:559:U:N3	2.32	0.44
52:5:584:C:H2'	52:5:585:G:O4'	2.17	0.44
52:5:1414:U:H2'	52:5:1415:G:O4'	2.17	0.44
52:5:1456:U:H2'	52:5:1457:G:H8	1.80	0.44
4:A:87:THR:HG23	4:A:93:LYS:HB2	2.00	0.44
6:C:1:MET:HG3	6:C:3:TYR:H	1.83	0.44
6:C:135:ILE:H	52:5:618:U:H4'	1.82	0.44
6:C:202:ARG:NH2	52:5:27:A:O3'	2.51	0.44
9:F:78:ARG:HB2	52:5:1356:U:O2'	2.16	0.44
14:K:49:ARG:HB3	14:K:67:LYS:HB3	2.00	0.44
14:K:68:VAL:HG11	14:K:95:LEU:HD11	1.99	0.44
22:S:14:ASN:OD1	22:S:15:ILE:N	2.51	0.44
25:b:41:THR:HG22	25:b:42:GLU:N	2.31	0.44
25:b:145:GLY:HA3	50:3:2519:U:N3	2.33	0.44
28:e:44:LEU:HD11	28:e:68:HIS:CD2	2.53	0.44
28:e:167:TYR:C	28:e:169:ASP:H	2.23	0.44
32:i:139:LYS:HB2	32:i:139:LYS:HE3	1.66	0.44
38:o:94:GLY:HA2	38:o:116:GLU:H	1.83	0.44
40:q:31:LYS:HA	40:q:31:LYS:HD3	1.84	0.44
50:3:42:U:H2'	50:3:43:A:O4'	2.18	0.44
50:3:207:C:H5''	50:3:208:A:H2'	1.99	0.44
50:3:524:G:N2	50:3:526:G:H3'	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:869:U:H2'	50:3:870:A:C8	2.53	0.44
50:3:1051:U:H2'	50:3:1052:A:H8	1.81	0.44
50:3:1071:G:H1'	50:3:1155:G:N2	2.33	0.44
50:3:1312:A:H2'	50:3:1313:G:O4'	2.18	0.44
50:3:1422:U:H4'	50:3:1637:A:O3'	2.18	0.44
50:3:1476:C:C2	50:3:1477:A:C8	3.06	0.44
50:3:1503:A:N6	50:3:1540:G:O2'	2.51	0.44
50:3:1738:G:H2'	50:3:1739:G:C8	2.52	0.44
50:3:1812:C:H2'	50:3:1813:C:C6	2.53	0.44
52:5:416:U:H5''	52:5:417:U:O5'	2.17	0.44
52:5:499:U:C2	52:5:500:G:N7	2.85	0.44
52:5:598:U:O4	52:5:635:G:O6	2.35	0.44
52:5:702:U:H2'	52:5:703:A:O4'	2.18	0.44
52:5:949:G:H21	52:5:1202:A:N6	2.16	0.44
53:8:66:C:H2'	53:8:67:C:H6	1.83	0.44
5:B:3:GLN:N	52:5:1051:U:OP2	2.51	0.44
8:E:5:ILE:HA	8:E:86:LEU:O	2.18	0.44
10:G:114:ALA:HB3	10:G:125:ASP:CG	2.43	0.44
13:J:62:LYS:O	13:J:66:THR:HG23	2.18	0.44
20:Q:57:LEU:O	20:Q:60:LEU:HB3	2.17	0.44
25:b:180:ARG:HH12	50:3:2738:U:H5'	1.82	0.44
26:c:36:ASP:O	26:c:40:VAL:HG23	2.18	0.44
27:d:44:ILE:HA	27:d:49:PHE:CE1	2.52	0.44
29:f:5:LEU:HD21	29:f:14:LYS:CB	2.46	0.44
31:h:130:GLN:NE2	50:3:1097:G:O2'	2.51	0.44
32:i:58:ILE:HG23	32:i:133:HIS:HE2	1.82	0.44
32:i:119:ARG:HH22	50:3:563:A:H3'	1.82	0.44
36:m:59:ASN:O	36:m:63:VAL:HG23	2.17	0.44
41:r:21:CYS:HB3	41:r:74:CYS:HB3	1.55	0.44
45:v:22:LYS:HE2	53:8:75:C:O2	2.17	0.44
50:3:197:U:H5'	50:3:837:A:C2	2.53	0.44
50:3:344:A:H4'	50:3:345:A:H5'	2.00	0.44
50:3:1276:A:H2'	50:3:1277:A:O4'	2.17	0.44
50:3:1315:A:N1	50:3:1681:G:N2	2.66	0.44
50:3:1436:C:H2'	50:3:1437:A:C8	2.52	0.44
50:3:1450:G:H1	50:3:1610:U:H3	1.66	0.44
50:3:1780:A:H5'	50:3:1796:A:N6	2.31	0.44
50:3:2540:G:N2	50:3:2671:G:O2'	2.51	0.44
50:3:2546:U:H2'	50:3:2547:C:C6	2.52	0.44
52:5:6:C:H2'	52:5:7:U:O4'	2.18	0.44
52:5:334:A:H2'	52:5:335:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1156:G:H4'	52:5:1157:G:OP1	2.16	0.44
52:5:1245:A:H4'	52:5:1287:G:O2'	2.18	0.44
6:C:31:ARG:NE	52:5:422:A:H5''	2.32	0.44
6:C:144:LEU:HB3	6:C:174:PHE:HB3	1.99	0.44
6:C:201:LYS:HD2	52:5:555:G:N2	2.32	0.44
8:E:95:GLY:N	20:Q:50:ARG:HB3	2.33	0.44
8:E:97:LEU:HD13	52:5:658:G:H5''	2.00	0.44
9:F:142:LYS:C	9:F:142:LYS:HD3	2.43	0.44
11:H:6:TYR:HE2	11:H:23:PRO:HD3	1.82	0.44
11:H:93:ASN:HB3	11:H:96:LEU:HD13	2.00	0.44
14:K:35:VAL:O	14:K:35:VAL:HG12	2.18	0.44
14:K:112:ARG:HG2	14:K:117:THR:HG23	1.99	0.44
15:L:99:GLY:O	52:5:1337:U:O2'	2.34	0.44
17:N:61:LYS:HA	17:N:61:LYS:HD3	1.75	0.44
21:R:12:ASP:OD1	21:R:14:HIS:NE2	2.51	0.44
27:d:4:LEU:HD23	27:d:97:TRP:HB3	1.99	0.44
34:k:92:LYS:HD2	34:k:125:HIS:HB2	2.00	0.44
49:z:5:ARG:HA	49:z:5:ARG:HD3	1.79	0.44
50:3:290:A:N1	50:3:291:G:O6	2.51	0.44
50:3:422:A:H3'	50:3:423:C:H5	1.82	0.44
50:3:493:A:N6	50:3:507:A:OP2	2.50	0.44
50:3:511:U:C4	50:3:515:A:C8	3.06	0.44
50:3:547:G:O2'	50:3:548:A:OP2	2.32	0.44
50:3:633:G:N1	50:3:692:U:N3	2.57	0.44
50:3:827:G:H22	50:3:2079:G:H21	1.65	0.44
50:3:858:A:H2'	50:3:859:G:C8	2.53	0.44
50:3:1003:U:H2'	50:3:1004:U:C6	2.53	0.44
50:3:1014:G:O2'	50:3:1038:G:O2'	2.33	0.44
50:3:1045:A:H3'	50:3:1046:A:C8	2.52	0.44
50:3:1174:G:O2'	50:3:1178:A:N6	2.50	0.44
50:3:1886:C:H2'	50:3:1887:U:O4'	2.17	0.44
50:3:2045:C:H2'	50:3:2046:G:O4'	2.18	0.44
50:3:2231:A:H3'	50:3:2232:G:H8	1.83	0.44
50:3:2462:G:H2'	50:3:2463:G:H8	1.82	0.44
50:3:2551:G:H4'	50:3:2653:G:C5	2.53	0.44
50:3:2590:G:H3'	50:3:2591:G:H8	1.83	0.44
50:3:2841:A:H2'	50:3:2842:G:H8	1.82	0.44
50:3:2849:G:H2'	50:3:2850:G:C8	2.50	0.44
51:4:74:G:C5	51:4:75:U:H1'	2.52	0.44
52:5:7:U:H4'	52:5:294:A:H1'	2.00	0.44
52:5:97:G:H2'	52:5:98:G:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:292:U:O2'	52:5:554:C:O2'	2.21	0.44
52:5:412:G:C2	52:5:413:G:N7	2.86	0.44
52:5:616:C:H5	52:5:621:C:N3	2.15	0.44
52:5:796:A:H2'	52:5:797:G:O4'	2.18	0.44
52:5:949:G:H21	52:5:1202:A:H62	1.66	0.44
52:5:973:A:H62	52:5:1334:A:H61	1.66	0.44
52:5:1151:A:H2'	52:5:1152:G:C8	2.53	0.44
53:7:21:U:H5	53:7:61:U:H3	1.65	0.44
13:J:101:THR:OG1	13:J:102:GLU:HG2	2.18	0.43
14:K:83:GLU:OE1	14:K:83:GLU:N	2.51	0.43
18:O:5:ARG:HH12	52:5:620:A:H62	1.65	0.43
18:O:20:VAL:HB	52:5:96:G:OP1	2.17	0.43
21:R:27:LYS:O	21:R:27:LYS:HG3	2.17	0.43
24:a:231:SER:HB2	24:a:246:ARG:CZ	2.48	0.43
25:b:2:GLU:CD	25:b:4:ARG:HH12	2.25	0.43
29:f:79:PHE:CZ	29:f:97:ILE:HG22	2.53	0.43
31:h:23:PRO:C	31:h:27:SER:HG	2.25	0.43
33:j:25:LEU:O	33:j:30:LYS:HD3	2.18	0.43
50:3:124:A:H5''	50:3:1403:G:H21	1.82	0.43
50:3:203:A:N7	50:3:2439:U:N3	2.66	0.43
50:3:638:A:N6	50:3:661:G:N1	2.65	0.43
50:3:683:G:H2'	50:3:684:A:C8	2.53	0.43
50:3:1166:G:O2'	50:3:2032:G:O2'	2.35	0.43
50:3:1685:G:C2	50:3:2014:U:C2	3.05	0.43
50:3:1712:A:O2'	50:3:1998:U:OP1	2.36	0.43
50:3:1767:A:H2'	50:3:1768:G:C4	2.52	0.43
50:3:2073:C:H2'	50:3:2074:G:H8	1.81	0.43
50:3:2126:A:H61	50:3:2176:G:H1'	1.82	0.43
50:3:2799:U:H6	50:3:2799:U:H2'	1.61	0.43
52:5:437:U:H1'	52:5:496:A:H61	1.82	0.43
52:5:572:A:O2'	52:5:876:C:O2	2.35	0.43
52:5:738:A:H2'	52:5:739:G:C8	2.53	0.43
52:5:767:U:H2'	52:5:768:G:H8	1.79	0.43
52:5:1300:C:H2'	52:5:1301:U:H6	1.81	0.43
52:5:1303:A:H2'	52:5:1304:U:O4'	2.18	0.43
53:8:9:U:H4'	53:8:50:G:H5''	1.99	0.43
53:8:59:A:H4'	53:8:60:U:H5	1.83	0.43
3:2:1:MET:O	50:3:2534:G:N2	2.49	0.43
3:2:6:SER:CB	50:3:2474:C:H5''	2.48	0.43
4:A:35:ARG:HB3	52:5:828:U:C5'	2.48	0.43
6:C:84:ASN:HB3	6:C:87:VAL:HG22	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:78:LYS:HD2	52:5:916:U:H1'	2.00	0.43
10:G:78:GLN:C	10:G:79:ARG:HD2	2.43	0.43
11:H:41:PHE:HB3	11:H:74:PHE:HB2	1.99	0.43
12:I:78:ARG:NH1	52:5:1127:A:N3	2.66	0.43
15:L:108:THR:HG21	52:5:1306:A:C8	2.52	0.43
21:R:15:LEU:O	21:R:18:LYS:HB2	2.17	0.43
24:a:213:ILE:HG23	24:a:218:ARG:HG2	1.98	0.43
24:a:266:LYS:HE3	24:a:281:ASN:ND2	2.33	0.43
25:b:28:VAL:HG11	38:o:10:ILE:HD11	2.00	0.43
25:b:159:VAL:HB	50:3:2626:A:N3	2.33	0.43
26:c:105:LYS:HG3	50:3:641:U:OP2	2.18	0.43
26:c:171:SER:O	26:c:172:THR:OG1	2.36	0.43
27:d:66:VAL:O	51:4:40:U:N3	2.51	0.43
29:f:31:PHE:CD1	29:f:111:PHE:HB3	2.53	0.43
30:g:94:LYS:HE3	30:g:94:LYS:HB3	1.86	0.43
35:l:123:HIS:CD2	50:3:1065:G:H4'	2.46	0.43
36:m:68:LEU:HD23	36:m:68:LEU:HA	1.84	0.43
39:p:32:LYS:HB3	50:3:1282:G:C2	2.53	0.43
40:q:39:LEU:HD12	40:q:40:MET:N	2.33	0.43
50:3:335:G:O2'	50:3:336:C:O5'	2.36	0.43
50:3:571:A:H2'	50:3:572:G:O4'	2.19	0.43
50:3:719:G:O2'	50:3:823:A:N7	2.46	0.43
50:3:852:C:H42	50:3:1221:G:H1	1.66	0.43
50:3:853:G:H3'	50:3:1218:G:O6	2.18	0.43
50:3:1310:U:H3'	50:3:1311:G:H8	1.83	0.43
50:3:1319:C:H2'	50:3:1320:C:C6	2.52	0.43
50:3:1620:A:H3'	50:3:1621:U:H6	1.82	0.43
50:3:1676:G:H2'	50:3:1677:G:C8	2.53	0.43
50:3:1698:A:N6	50:3:2003:C:H42	2.13	0.43
50:3:2215:C:H2'	50:3:2216:U:O4'	2.17	0.43
50:3:2377:A:H2'	50:3:2378:G:C8	2.53	0.43
50:3:2605:G:H2'	50:3:2606:A:C4	2.53	0.43
50:3:2655:U:H3	50:3:2681:G:H1	1.66	0.43
50:3:2764:U:H4'	50:3:2765:A:OP1	2.17	0.43
51:4:26:C:H2'	51:4:27:A:N9	2.33	0.43
51:4:49:G:H2'	51:4:50:C:C6	2.53	0.43
51:4:95:G:H2'	51:4:96:G:H8	1.83	0.43
52:5:32:U:N3	52:5:49:C:O4'	2.49	0.43
52:5:92:G:N1	52:5:93:A:H1'	2.33	0.43
52:5:201:G:H2'	52:5:202:A:C8	2.53	0.43
52:5:575:A:H2'	52:5:576:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:595:G:H2'	52:5:596:U:H6	1.83	0.43
52:5:1115:G:HO2'	52:5:1116:U:P	2.39	0.43
2:1:25:TYR:HA	50:3:2400:A:H4'	2.01	0.43
4:A:99:ILE:HA	4:A:102:ARG:HG2	1.99	0.43
6:C:12:ARG:NE	52:5:423:U:OP1	2.51	0.43
13:J:43:MET:HB2	13:J:45:PHE:HE2	1.83	0.43
18:O:32:HIS:CD2	52:5:624:U:H5''	2.53	0.43
26:c:45:TRP:O	50:3:479:A:H5''	2.18	0.43
26:c:75:ARG:NH2	50:3:708:C:O2	2.51	0.43
27:d:30:ARG:O	27:d:159:SER:N	2.52	0.43
30:g:36:GLU:OE2	30:g:103:LYS:HD3	2.18	0.43
32:i:46:ASP:HB2	39:p:63:ARG:HB3	2.00	0.43
32:i:62:SER:O	32:i:100:SER:OG	2.30	0.43
36:m:9:LYS:HA	36:m:13:TRP:CZ3	2.54	0.43
41:r:77:ASN:CG	50:3:25:G:H21	2.22	0.43
44:u:69:SER:HB2	50:3:2392:U:OP1	2.19	0.43
44:u:80:LEU:N	44:u:98:VAL:O	2.51	0.43
50:3:204:U:H3'	50:3:205:C:H6	1.82	0.43
50:3:292:G:H3'	50:3:293:G:H8	1.83	0.43
50:3:513:A:H4'	50:3:514:A:OP1	2.18	0.43
50:3:772:C:H2'	50:3:773:G:C8	2.53	0.43
50:3:868:C:H2'	50:3:869:U:C6	2.54	0.43
50:3:1038:G:H21	50:3:1045:A:H61	1.67	0.43
50:3:1317:C:H2'	50:3:1318:U:C6	2.52	0.43
50:3:1597:U:H2'	50:3:1598:U:C5	2.53	0.43
50:3:1896:A:P	50:3:1896:A:H8	2.41	0.43
50:3:2529:C:H2'	50:3:2530:U:C6	2.51	0.43
50:3:2784:A:H4'	50:3:2785:G:O5'	2.18	0.43
50:3:2838:G:H1'	50:3:2887:A:H61	1.83	0.43
51:4:104:C:H2'	51:4:105:A:C8	2.53	0.43
52:5:39:G:H1'	52:5:393:A:N6	2.34	0.43
52:5:76:G:N2	52:5:79:A:OP2	2.41	0.43
52:5:125:A:H2'	52:5:126:U:O4'	2.17	0.43
52:5:320:G:N2	52:5:323:A:OP2	2.48	0.43
52:5:855:G:HO2'	52:5:868:G:HO2'	1.65	0.43
52:5:974:C:C4	52:5:975:C:H5	2.36	0.43
52:5:1197:G:OP1	52:5:1295:U:H2'	2.18	0.43
52:5:1245:A:H5'	52:5:1288:C:H5'	2.00	0.43
52:5:1486:C:H2'	52:5:1487:U:O4'	2.19	0.43
2:1:11:PHE:CD1	2:1:19:ILE:HB	2.53	0.43
4:A:117:LEU:HD12	4:A:172:LEU:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:187:TYR:HE1	5:B:202:LYS:HB3	1.84	0.43
7:D:136:ILE:HD12	7:D:178:ILE:HG12	1.99	0.43
8:E:24:LYS:HE3	8:E:24:LYS:HB3	1.91	0.43
8:E:118:ILE:HG23	8:E:121:ARG:H	1.83	0.43
18:O:6:VAL:HG13	52:5:44:C:OP1	2.17	0.43
19:P:20:LYS:HB2	19:P:49:ASN:HB2	2.01	0.43
25:b:107:TYR:H	25:b:215:GLY:HA2	1.82	0.43
27:d:63:GLN:HG2	27:d:89:VAL:HG13	2.00	0.43
30:g:89:ILE:HD12	30:g:92:THR:HB	2.01	0.43
31:h:55:ILE:HG13	31:h:65:PHE:HD1	1.83	0.43
32:i:29:GLY:HA3	50:3:1174:G:O2'	2.18	0.43
34:k:97:SER:O	34:k:101:LYS:HG2	2.18	0.43
35:l:82:ARG:HD3	50:3:2503:G:H5''	2.01	0.43
36:m:7:PRO:HD3	50:3:1303:U:H5''	1.98	0.43
37:n:98:TYR:CE1	37:n:103:ALA:HA	2.53	0.43
40:q:2:HIS:HA	40:q:15:HIS:HA	2.00	0.43
41:r:2:ILE:HB	41:r:4:PHE:CD1	2.52	0.43
45:v:39:LYS:HE2	45:v:39:LYS:HB2	1.83	0.43
49:z:19:TYR:CE2	50:3:2356:U:H5''	2.54	0.43
50:3:82:G:H2'	50:3:83:G:C8	2.53	0.43
50:3:166:A:C4	50:3:167:A:C8	3.06	0.43
50:3:274:A:H2'	50:3:275:A:C8	2.53	0.43
50:3:449:C:O2'	50:3:1886:C:O2	2.34	0.43
50:3:618:G:H3'	50:3:1281:A:H61	1.83	0.43
50:3:708:C:H2'	50:3:709:G:H8	1.83	0.43
50:3:1112:A:N6	50:3:1123:A:O2'	2.43	0.43
50:3:1199:A:C2	50:3:1200:U:H1'	2.54	0.43
50:3:1201:A:C2'	50:3:1202:A:H5'	2.48	0.43
50:3:1298:A:H61	50:3:2019:G:H2'	1.82	0.43
50:3:1389:G:H2'	50:3:1390:C:H6	1.83	0.43
50:3:1428:U:H2'	50:3:1429:G:C8	2.54	0.43
50:3:1510:A:H2'	50:3:1511:C:H6	1.82	0.43
50:3:1928:G:H2'	50:3:1929:G:C8	2.54	0.43
50:3:1940:G:H2'	50:3:1941:C:C6	2.54	0.43
50:3:1970:C:O3'	50:3:1971:G:H8	2.01	0.43
50:3:1987:C:H3'	50:3:1988:A:H5''	2.01	0.43
50:3:2172:A:N7	50:3:2173:G:H8	2.16	0.43
50:3:2259:G:C2	50:3:2458:A:O2'	2.70	0.43
50:3:2361:G:H2'	50:3:2362:A:O4'	2.17	0.43
50:3:2553:G:H2'	50:3:2554:U:C6	2.53	0.43
50:3:2572:A:H2'	50:3:2573:A:C4	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2662:A:H62	50:3:2674:C:H41	1.66	0.43
52:5:354:U:H2'	52:5:355:A:O4'	2.18	0.43
52:5:368:C:N4	52:5:386:U:C4	2.86	0.43
52:5:710:G:H21	52:5:774:A:C1'	2.31	0.43
52:5:783:G:C2	52:5:784:A:N7	2.87	0.43
52:5:856:U:H2'	52:5:857:U:C6	2.52	0.43
52:5:988:G:H21	52:5:990:C:N4	2.16	0.43
52:5:1059:G:H4'	52:5:1362:G:H4'	2.00	0.43
52:5:1400:A:H2'	52:5:1401:A:C8	2.53	0.43
53:8:16:G:N2	53:8:49:C:O2'	2.48	0.43
53:8:30:G:H2'	53:8:31:G:C8	2.54	0.43
4:A:127:ILE:HG22	4:A:166:VAL:O	2.19	0.43
6:C:100:ILE:O	6:C:104:MET:HG2	2.19	0.43
13:J:14:ILE:O	13:J:78:PHE:HB2	2.18	0.43
16:M:30:ALA:O	16:M:33:VAL:HG22	2.19	0.43
21:R:81:LYS:NZ	52:5:1202:A:N7	2.66	0.43
24:a:232:ALA:HA	24:a:242:GLY:H	1.83	0.43
28:e:70:THR:HG23	28:e:71:TYR:HD1	1.84	0.43
30:g:41:ARG:CZ	30:g:50:LYS:HG2	2.48	0.43
32:i:74:ASN:OD1	50:3:1057:G:H5'	2.19	0.43
32:i:104:VAL:O	32:i:108:VAL:HG23	2.19	0.43
34:k:86:ALA:HA	34:k:120:LEU:HD21	1.99	0.43
36:m:71:ASN:HA	50:3:1321:C:H1'	2.01	0.43
46:w:14:GLU:O	46:w:17:LYS:HG3	2.18	0.43
49:z:48:LYS:HB2	49:z:48:LYS:HE3	1.73	0.43
50:3:14:U:O2	50:3:2635:G:H5'	2.18	0.43
50:3:26:G:C5	50:3:27:U:C4	3.07	0.43
50:3:71:C:O2	50:3:75:A:O2'	2.37	0.43
50:3:115:U:C2	50:3:116:C:C5	3.07	0.43
50:3:602:U:H1'	50:3:982:G:H21	1.83	0.43
50:3:710:A:P	50:3:710:A:H8	2.42	0.43
50:3:1014:G:H2'	50:3:1015:G:C8	2.54	0.43
50:3:1052:A:H2'	50:3:1053:C:H6	1.83	0.43
50:3:1089:A:H2'	50:3:1090:G:H8	1.81	0.43
50:3:1331:G:O4'	50:3:1676:G:N2	2.51	0.43
50:3:1906:G:H2'	50:3:1910:G:O6	2.18	0.43
50:3:2117:G:P	50:3:2152:C:H41	2.41	0.43
50:3:2306:A:H8	50:3:2326:G:H21	1.66	0.43
52:5:42:G:C6	52:5:398:G:C2	3.06	0.43
52:5:245:U:O2	52:5:272:G:O6	2.37	0.43
52:5:503:G:H5'	52:5:532:U:C2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:948:U:P	52:5:959:A:H61	2.41	0.43
52:5:970:A:O3'	52:5:1332:U:O2'	2.36	0.43
52:5:1018:U:H5''	52:5:1019:G:OP2	2.18	0.43
52:5:1439:G:H2'	52:5:1440:U:C6	2.53	0.43
9:F:2:ARG:HB3	52:5:927:C:C5	2.54	0.43
9:F:79:ILE:H	9:F:83:ASN:HA	1.83	0.43
11:H:125:ARG:HD3	52:5:1324:A:OP1	2.18	0.43
12:I:11:GLU:HA	12:I:82:LEU:O	2.18	0.43
14:K:49:ARG:O	14:K:67:LYS:N	2.39	0.43
17:N:30:THR:HA	17:N:33:ILE:HD12	2.00	0.43
17:N:62:ARG:NH2	52:5:580:C:OP1	2.51	0.43
19:P:18:ASN:HB3	52:5:250:G:O2'	2.18	0.43
22:S:50:GLN:NE2	52:5:163:G:OP1	2.52	0.43
22:S:66:ARG:HA	22:S:69:LYS:HG2	2.01	0.43
25:b:131:GLY:HA2	50:3:2518:C:O2'	2.19	0.43
25:b:179:LEU:HD22	25:b:194:SER:HB3	1.99	0.43
27:d:3:ASN:N	47:x:24:THR:O	2.52	0.43
27:d:29:PRO:HB3	27:d:165:GLU:HG3	1.99	0.43
27:d:91:LEU:H	27:d:91:LEU:HD23	1.84	0.43
27:d:138:PHE:HE2	27:d:152:PHE:HE2	1.67	0.43
34:k:103:VAL:HG22	50:3:637:U:C4	2.53	0.43
36:m:15:VAL:O	36:m:18:VAL:HG12	2.18	0.43
43:t:95:PRO:HD3	43:t:101:THR:H	1.84	0.43
50:3:39:C:C2	50:3:40:A:C8	3.07	0.43
50:3:113:U:H2'	50:3:114:U:H5'	2.01	0.43
50:3:489:A:H5''	50:3:491:A:H62	1.83	0.43
50:3:879:U:O2	50:3:879:U:H2'	2.18	0.43
50:3:1311:G:H1'	50:3:1357:U:O2	2.18	0.43
50:3:1333:C:N4	50:3:1657:G:O6	2.51	0.43
50:3:1961:A:H1'	50:3:1963:U:C5	2.54	0.43
50:3:2149:U:H2'	50:3:2150:C:O2	2.19	0.43
50:3:2304:U:OP2	50:3:2342:U:N3	2.52	0.43
50:3:2490:A:H2'	50:3:2491:C:O4'	2.17	0.43
52:5:401:U:OP1	52:5:493:A:N6	2.31	0.43
52:5:522:G:H8	52:5:522:G:OP1	2.00	0.43
52:5:582:G:C6	52:5:754:U:N3	2.86	0.43
52:5:629:U:H3'	52:5:630:G:H8	1.84	0.43
52:5:1049:G:C6	52:5:1174:U:O2	2.72	0.43
52:5:1127:A:O2'	52:5:1128:G:H8	2.01	0.43
52:5:1260:U:OP2	52:5:1260:U:H4'	2.18	0.43
52:5:1289:U:H2'	52:5:1290:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1289:U:O2	52:5:1334:A:H2	2.01	0.43
1:0:10:LEU:HD23	1:0:10:LEU:HA	1.86	0.43
4:A:157:GLU:O	4:A:161:LYS:HG2	2.19	0.43
8:E:78:ILE:HD11	52:5:669:U:OP1	2.19	0.43
8:E:93:GLU:HB3	52:5:661:G:OP2	2.18	0.43
12:I:18:SER:HB3	12:I:24:LEU:HB2	1.99	0.43
15:L:34:LEU:HD12	15:L:39:ILE:HB	2.01	0.43
19:P:48:HIS:ND1	19:P:69:LEU:HG	2.34	0.43
22:S:50:GLN:HE22	52:5:163:G:P	2.42	0.43
24:a:64:ARG:HD3	24:a:91:ASN:HA	2.00	0.43
26:c:165:ASN:OD1	26:c:166:THR:N	2.52	0.43
27:d:138:PHE:CE2	27:d:152:PHE:HE2	2.37	0.43
27:d:160:THR:HG21	27:d:165:GLU:HG2	1.99	0.43
29:f:1:MET:HG3	29:f:2:LYS:H	1.84	0.43
30:g:112:TYR:HB2	30:g:117:ALA:HA	2.00	0.43
35:l:75:THR:O	50:3:993:A:H5''	2.18	0.43
36:m:19:ARG:HH12	50:3:2717:G:P	2.42	0.43
50:3:37:G:H21	50:3:486:G:N2	2.16	0.43
50:3:73:A:H4'	50:3:74:U:H5''	2.01	0.43
50:3:204:U:H3'	50:3:205:C:C6	2.53	0.43
50:3:247:U:C2	50:3:259:A:N7	2.86	0.43
50:3:299:A:C2	50:3:300:G:C4	3.06	0.43
50:3:341:G:N2	50:3:344:A:OP2	2.50	0.43
50:3:555:A:H2'	50:3:556:U:C6	2.54	0.43
50:3:664:G:C6	50:3:672:G:C2	3.06	0.43
50:3:774:A:H1'	50:3:775:C:H5	1.82	0.43
50:3:998:C:H2'	50:3:999:U:C5	2.53	0.43
50:3:1088:A:H2'	50:3:1089:A:O4'	2.19	0.43
50:3:1197:G:H2'	50:3:1198:G:C8	2.53	0.43
50:3:1245:G:O6	50:3:1265:G:C2	2.71	0.43
50:3:1253:G:N2	50:3:1256:A:N7	2.66	0.43
50:3:1605:A:H2'	50:3:1606:A:C8	2.46	0.43
50:3:1682:C:H2'	50:3:1683:G:C8	2.54	0.43
50:3:1713:U:C2	50:3:1996:A:H2	2.37	0.43
50:3:1836:A:H3'	50:3:1837:C:C6	2.54	0.43
50:3:2388:C:H2'	50:3:2389:A:C8	2.54	0.43
50:3:2538:A:H1'	50:3:2543:G:N1	2.34	0.43
52:5:59:C:H2'	52:5:60:A:O4'	2.19	0.43
52:5:74:U:C4	52:5:75:A:N6	2.87	0.43
52:5:410:A:H3'	52:5:410:A:N3	2.34	0.43
52:5:485:C:H2'	52:5:486:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1106:U:C4	52:5:1107:U:C4	3.06	0.43
5:B:133:LEU:O	5:B:137:MET:HG2	2.18	0.43
7:D:120:LYS:HG3	7:D:124:ASN:ND2	2.33	0.43
8:E:85:GLU:O	8:E:85:GLU:HG2	2.18	0.43
18:O:19:ARG:HH22	52:5:321:A:H61	1.67	0.43
29:f:80:SER:O	29:f:81:LEU:HD23	2.19	0.43
30:g:112:TYR:CG	30:g:113:PHE:N	2.86	0.43
33:j:88:LYS:NZ	33:j:90:ASP:OD2	2.50	0.43
35:l:80:GLU:H	50:3:2502:G:H4'	1.83	0.43
36:m:65:LYS:HB2	36:m:66:TRP:CD1	2.53	0.43
39:p:91:ARG:HH21	40:q:9:SER:HA	1.83	0.43
40:q:76:GLN:N	50:3:598:G:OP2	2.39	0.43
45:v:2:ALA:HB1	45:v:4:LYS:HG2	2.01	0.43
50:3:615:G:C6	50:3:616:G:C6	3.07	0.43
50:3:662:U:H4'	50:3:689:U:H1'	2.00	0.43
50:3:671:C:H2'	50:3:672:G:O4'	2.18	0.43
50:3:761:G:O5'	50:3:1460:G:O2'	2.29	0.43
50:3:1019:A:H2	50:3:2037:A:H5'	1.83	0.43
50:3:1030:U:O4	50:3:1032:A:N6	2.51	0.43
50:3:1188:C:H2'	50:3:1189:G:C8	2.54	0.43
50:3:1206:U:O2'	50:3:1207:U:O4'	2.33	0.43
50:3:1678:U:H2'	50:3:1679:U:C4	2.54	0.43
50:3:1806:G:N2	50:3:1825:U:O2'	2.52	0.43
50:3:1970:C:O2'	50:3:1971:G:H5''	2.19	0.43
50:3:2018:U:H2'	50:3:2019:G:O4'	2.19	0.43
50:3:2263:G:H2'	50:3:2264:G:O4'	2.18	0.43
50:3:2317:A:N1	53:7:57:C:H1'	2.33	0.43
50:3:2516:G:H2'	50:3:2517:A:H8	1.83	0.43
52:5:413:G:N2	52:5:538:G:HO2'	2.11	0.43
52:5:639:A:H2'	52:5:640:C:C6	2.53	0.43
52:5:886:A:H2'	52:5:887:C:H6	1.84	0.43
52:5:924:A:H2'	52:5:925:C:O4'	2.19	0.43
52:5:997:G:H2'	52:5:997:G:N3	2.34	0.43
52:5:1007:U:H2'	52:5:1008:G:C8	2.53	0.43
52:5:1186:U:O2'	52:5:1187:U:H5''	2.19	0.43
52:5:1360:G:H2'	52:5:1361:G:C8	2.54	0.43
52:5:1388:A:H2'	52:5:1389:U:C6	2.54	0.43
1:0:12:ARG:HG2	1:0:44:VAL:HG21	2.00	0.43
5:B:45:PHE:CE1	5:B:56:VAL:HG22	2.54	0.43
6:C:18:LEU:HD22	6:C:109:THR:HB	2.01	0.43
7:D:206:ARG:HG3	7:D:207:ARG:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:89:LEU:HD11	11:H:100:LEU:HD11	2.00	0.43
14:K:14:LYS:HG3	52:5:560:U:H3'	2.01	0.43
14:K:80:ILE:HG21	14:K:85:HIS:HB2	2.01	0.43
17:N:70:ASN:ND2	52:5:749:G:H4'	2.34	0.43
18:O:5:ARG:H	52:5:622:A:H4'	1.84	0.43
18:O:21:LYS:HB3	52:5:96:G:H5''	2.01	0.43
26:c:42:GLN:HB3	50:3:479:A:C2	2.53	0.43
28:e:112:TYR:CD2	50:3:2675:C:H1'	2.54	0.43
33:j:64:ARG:HH21	33:j:101:PRO:HD2	1.84	0.43
34:k:6:LEU:HB2	50:3:1272:A:C2	2.54	0.43
35:l:12:PRO:HG3	35:l:72:MET:HA	2.01	0.43
35:l:76:LYS:HD2	50:3:993:A:H5'	2.00	0.43
35:l:120:ARG:HH11	50:3:2476:A:H4'	1.83	0.43
36:m:101:LEU:HB2	36:m:115:ILE:HG23	2.01	0.43
37:n:36:LEU:O	51:4:29:C:N4	2.51	0.43
38:o:37:LEU:HD11	38:o:44:ARG:HG3	2.01	0.43
42:s:3:VAL:HG21	50:3:73:A:H1'	2.00	0.43
43:t:28:MET:N	43:t:28:MET:SD	2.92	0.43
48:y:38:LEU:HB3	48:y:41:ARG:HB2	2.00	0.43
50:3:602:U:H1'	50:3:983:A:H1'	2.00	0.43
50:3:1445:U:H2'	50:3:1446:G:N9	2.34	0.43
50:3:1682:C:N4	50:3:2017:G:O6	2.52	0.43
50:3:2674:C:H2'	50:3:2675:C:H6	1.84	0.43
50:3:2689:C:H1'	50:3:2690:U:H5	1.83	0.43
50:3:2755:G:H1	50:3:2756:A:H62	1.66	0.43
52:5:297:A:H2'	52:5:298:G:H8	1.80	0.43
52:5:405:C:H3'	52:5:406:G:H8	1.84	0.43
52:5:580:C:N3	52:5:581:A:C8	2.87	0.43
52:5:637:A:N7	52:5:638:A:N6	2.67	0.43
52:5:765:A:H61	52:5:808:C:H2'	1.83	0.43
52:5:1225:A:C2	52:5:1261:A:C2	3.07	0.43
52:5:1302:C:N4	52:5:1303:A:H62	2.16	0.43
53:7:15:A:N6	53:7:49:C:N3	2.67	0.43
53:7:59:A:H4'	53:7:60:U:H5	1.83	0.43
1:0:14:LYS:NZ	50:3:806:A:OP1	2.27	0.43
1:0:34:ARG:NH2	1:0:41:GLN:OE1	2.52	0.43
4:A:89:ASN:OD1	4:A:92:VAL:HG23	2.19	0.43
6:C:64:TYR:CG	6:C:110:ARG:HD2	2.54	0.43
7:D:77:SER:HB3	7:D:86:MET:SD	2.58	0.43
14:K:3:THR:HG21	52:5:874:C:H5	1.84	0.43
19:P:29:ARG:HA	19:P:40:VAL:HA	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:a:73:ARG:NH2	24:a:135:SER:OG	2.52	0.43
26:c:144:MET:HE2	50:3:357:A:H62	1.84	0.43
28:e:5:GLY:HA2	28:e:68:HIS:CD2	2.54	0.43
28:e:148:ALA:HB1	28:e:167:TYR:CE1	2.54	0.43
42:s:13:THR:OG1	50:3:1367:G:OP1	2.37	0.43
43:t:36:VAL:HG13	43:t:39:LEU:HB2	2.00	0.43
49:z:32:LEU:HD13	50:3:2294:A:H2'	2.01	0.43
50:3:17:G:H2'	50:3:18:G:H8	1.84	0.43
50:3:201:A:N7	50:3:2438:A:H2'	2.34	0.43
50:3:205:C:O2'	50:3:424:G:N1	2.52	0.43
50:3:335:G:H1'	50:3:336:C:O4'	2.18	0.43
50:3:629:G:H1	50:3:696:U:H3	1.67	0.43
50:3:718:U:H2'	50:3:719:G:H8	1.83	0.43
50:3:989:G:H21	50:3:2281:A:H2	1.66	0.43
50:3:1005:G:H2'	50:3:1006:U:H6	1.84	0.43
50:3:1063:A:H3'	50:3:1160:G:H22	1.83	0.43
50:3:1161:A:H5'	50:3:1162:A:H2	1.84	0.43
50:3:1339:U:H1'	50:3:1340:U:C5	2.54	0.43
50:3:1505:G:H2'	50:3:1506:U:H6	1.83	0.43
50:3:2070:C:H2'	53:7:77:A:OP1	2.18	0.43
50:3:2070:C:OP1	50:3:2451:C:N4	2.43	0.43
50:3:2120:G:H2'	50:3:2121:A:O4'	2.19	0.43
50:3:2188:U:H2'	50:3:2189:U:C6	2.54	0.43
50:3:2331:G:H21	50:3:2345:G:C1'	2.31	0.43
50:3:2409:U:O2	50:3:2424:C:N4	2.50	0.43
50:3:2460:C:O2'	50:3:2514:U:H1'	2.19	0.43
50:3:2878:G:H2'	50:3:2878:G:N3	2.34	0.43
52:5:132:G:C2	52:5:133:G:C5	3.06	0.43
52:5:885:U:N3	52:5:886:A:N7	2.67	0.43
52:5:972:A:H1'	52:5:977:U:H3	1.83	0.43
52:5:1008:G:O6	52:5:1014:A:N6	2.52	0.43
52:5:1104:C:C2	52:5:1105:C:C5	3.07	0.43
52:5:1226:A:C5	52:5:1227:A:C5	3.07	0.43
52:5:1347:U:H2'	52:5:1348:G:O4'	2.19	0.43
52:5:1358:U:H2'	52:5:1359:C:C6	2.54	0.43
6:C:48:SER:OG	52:5:507:A:OP1	2.36	0.42
6:C:118:ASN:HD21	52:5:400:G:H4'	1.83	0.42
8:E:123:ASN:OD1	8:E:127:ASN:ND2	2.48	0.42
9:F:73:GLU:HB2	9:F:90:VAL:HG22	2.01	0.42
10:G:23:ASN:HD22	52:5:869:U:HO2'	1.65	0.42
12:I:105:ARG:HG3	52:5:1254:A:OP1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:O:5:ARG:N	52:5:622:A:H4'	2.33	0.42
22:S:28:LEU:O	22:S:32:VAL:HG23	2.18	0.42
24:a:30:LYS:NZ	50:3:1458:A:H62	2.17	0.42
25:b:45:ASP:OD1	50:3:2792:C:O2'	2.37	0.42
26:c:198:LEU:HD23	26:c:198:LEU:HA	1.90	0.42
27:d:34:ILE:O	27:d:91:LEU:HD23	2.18	0.42
32:i:96:LEU:HA	32:i:100:SER:HB3	2.01	0.42
34:k:113:LYS:HA	34:k:130:LYS:O	2.19	0.42
36:m:19:ARG:HA	36:m:22:VAL:HG22	2.01	0.42
43:t:88:LYS:O	43:t:105:LYS:N	2.52	0.42
48:y:40:HIS:NE2	50:3:2820:G:O2'	2.50	0.42
50:3:497:C:H2'	50:3:498:C:O4'	2.19	0.42
50:3:673:A:C2	50:3:688:U:H5''	2.54	0.42
50:3:760:G:O2'	50:3:761:G:O4'	2.28	0.42
50:3:785:A:H4'	50:3:1651:C:C4	2.54	0.42
50:3:847:C:O2	50:3:1256:A:O2'	2.31	0.42
50:3:992:G:C6	50:3:994:U:H4'	2.53	0.42
50:3:1321:C:H2'	50:3:1322:A:O4'	2.19	0.42
50:3:1749:A:H2'	50:3:1750:A:C4	2.54	0.42
50:3:1970:C:H1'	50:3:1971:G:C8	2.54	0.42
50:3:2021:A:H2'	50:3:2022:A:C8	2.54	0.42
50:3:2268:C:H2'	50:3:2269:C:C6	2.54	0.42
50:3:2460:C:C4	50:3:2461:A:C5	3.06	0.42
50:3:2737:G:H2'	50:3:2738:U:C6	2.54	0.42
50:3:2775:C:H2'	50:3:2776:U:C5	2.54	0.42
52:5:415:C:N3	52:5:422:A:N1	2.67	0.42
52:5:1074:U:H2'	52:5:1093:A:N7	2.34	0.42
3:2:21:GLN:O	50:3:1158:C:O2'	2.31	0.42
4:A:108:ILE:HG12	4:A:166:VAL:HG13	2.02	0.42
5:B:141:LEU:HA	5:B:144:VAL:HG12	2.00	0.42
7:D:139:GLU:OE1	7:D:139:GLU:N	2.48	0.42
10:G:21:LYS:HD2	10:G:33:VAL:HB	1.99	0.42
14:K:22:PRO:O	14:K:25:HIS:HB2	2.19	0.42
19:P:21:THR:OG1	19:P:73:LYS:NZ	2.52	0.42
19:P:49:ASN:HA	19:P:77:ILE:HG23	2.01	0.42
21:R:11:VAL:HG12	21:R:12:ASP:N	2.34	0.42
26:c:128:VAL:HG13	26:c:132:LEU:HD21	2.01	0.42
28:e:130:LYS:HE2	28:e:133:GLU:OE1	2.19	0.42
30:g:56:ASN:HA	30:g:80:LEU:HD23	2.01	0.42
33:j:64:ARG:HH11	33:j:83:ALA:CB	2.32	0.42
37:n:41:VAL:HG11	37:n:105:LEU:HD21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:p:60:TRP:HZ2	50:3:1031:U:C1'	2.32	0.42
50:3:194:A:H3'	50:3:208:A:H61	1.85	0.42
50:3:291:G:H2'	50:3:292:G:H8	1.84	0.42
50:3:308:A:N6	50:3:309:A:N1	2.67	0.42
50:3:485:A:H2'	50:3:486:G:C8	2.54	0.42
50:3:580:U:OP1	50:3:1250:A:H2'	2.18	0.42
50:3:608:A:O4'	50:3:2508:U:H5''	2.20	0.42
50:3:692:U:H2'	50:3:693:U:O4'	2.20	0.42
50:3:730:G:H2'	50:3:731:A:C8	2.53	0.42
50:3:1190:A:C8	50:3:1192:U:C4	3.08	0.42
50:3:1326:C:O2'	50:3:1330:U:OP1	2.35	0.42
50:3:1355:C:H2'	50:3:1356:G:N9	2.33	0.42
50:3:1887:U:H2'	50:3:1888:U:H6	1.84	0.42
50:3:2005:G:H4'	50:3:2732:A:O2'	2.20	0.42
50:3:2130:A:N6	50:3:2180:U:OP1	2.52	0.42
50:3:2145:A:N6	50:3:2161:G:C6	2.87	0.42
50:3:2836:U:H3'	50:3:2837:U:H2'	2.01	0.42
51:4:31:G:H1'	51:4:33:U:C5	2.54	0.42
51:4:32:G:N2	51:4:35:C:H41	2.17	0.42
52:5:788:G:C2	52:5:1472:G:H4'	2.54	0.42
52:5:1103:C:H2'	52:5:1104:C:H6	1.83	0.42
52:5:1113:U:O4	52:5:1114:A:N6	2.52	0.42
52:5:1204:A:H2'	52:5:1205:C:O4'	2.19	0.42
2:1:4:LYS:HD3	2:1:4:LYS:HA	1.82	0.42
4:A:126:SER:HA	4:A:129:LYS:HD3	2.01	0.42
6:C:64:TYR:CD1	6:C:110:ARG:HD2	2.54	0.42
9:F:102:TRP:HA	9:F:105:MET:HG2	2.00	0.42
14:K:102:ASP:CG	52:5:521:A:H61	2.27	0.42
19:P:2:LYS:HD3	19:P:2:LYS:HA	1.77	0.42
21:R:36:ARG:NH2	21:R:77:THR:OG1	2.47	0.42
21:R:37:ARG:HA	52:5:1294:U:O4	2.20	0.42
27:d:132:ILE:O	27:d:151:GLY:CA	2.57	0.42
30:g:33:SER:HA	50:3:1090:G:O3'	2.19	0.42
33:j:23:LYS:HE2	50:3:2569:A:C2	2.54	0.42
38:o:44:ARG:HD2	52:5:342:G:H4'	2.02	0.42
42:s:56:ASN:HB2	42:s:82:VAL:CG1	2.50	0.42
44:u:88:PRO:HD2	44:u:92:LYS:HG3	2.01	0.42
50:3:186:A:H2	50:3:219:G:N1	2.15	0.42
50:3:604:A:OP2	50:3:2037:A:N6	2.48	0.42
50:3:607:U:H4'	50:3:608:A:H5''	2.01	0.42
50:3:687:G:H2'	50:3:687:G:N3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:997:G:H2'	50:3:2038:A:N6	2.34	0.42
50:3:1226:G:H2'	50:3:1227:C:H6	1.84	0.42
50:3:2346:G:H2'	50:3:2347:G:C8	2.54	0.42
50:3:2532:G:O2'	50:3:2748:A:N6	2.52	0.42
50:3:2649:G:N1	50:3:2782:A:C2	2.85	0.42
52:5:169:G:H1	52:5:196:G:N2	2.16	0.42
52:5:502:C:O2	52:5:508:A:O2'	2.37	0.42
52:5:512:U:H2'	52:5:513:G:N7	2.34	0.42
52:5:1250:A:H3'	52:5:1251:G:H8	1.85	0.42
52:5:1366:U:H2'	52:5:1367:G:N7	2.34	0.42
52:5:1410:A:H2'	52:5:1411:A:C8	2.53	0.42
2:1:38:LYS:HD3	49:z:19:TYR:CE1	2.54	0.42
5:B:44:PHE:CD2	5:B:56:VAL:HG11	2.55	0.42
6:C:70:GLN:NE2	6:C:96:ARG:HH22	2.16	0.42
8:E:49:ILE:HD12	52:5:671:G:H5''	2.01	0.42
13:J:76:LYS:HB3	13:J:104:ASN:OD1	2.19	0.42
19:P:9:LEU:HD21	19:P:26:VAL:HG11	2.02	0.42
21:R:45:VAL:HG12	21:R:64:ASP:HB3	2.02	0.42
24:a:71:PHE:HB3	24:a:158:GLY:N	2.35	0.42
25:b:25:PRO:HB3	50:3:2690:U:H3	1.84	0.42
25:b:181:ILE:HD12	25:b:191:VAL:HG21	2.01	0.42
26:c:31:GLN:O	26:c:34:VAL:HG12	2.20	0.42
26:c:91:PHE:HB3	26:c:94:LYS:NZ	2.34	0.42
26:c:185:LYS:HA	50:3:651:A:N6	2.34	0.42
27:d:54:LEU:HD23	27:d:54:LEU:HA	1.92	0.42
36:m:71:ASN:HB2	50:3:1306:G:N2	2.34	0.42
37:n:27:ARG:HA	37:n:86:LEU:HD21	2.01	0.42
39:p:65:ASN:HA	39:p:68:LEU:HD12	2.01	0.42
43:t:42:VAL:HG23	43:t:65:GLN:HG3	2.00	0.42
44:u:35:LEU:HB2	50:3:2278:G:H4'	2.01	0.42
47:x:13:SER:HB3	47:x:32:LYS:HE2	2.02	0.42
50:3:292:G:H3'	50:3:293:G:C8	2.55	0.42
50:3:301:G:C6	50:3:302:G:C6	3.07	0.42
50:3:829:A:H2'	50:3:830:A:C8	2.54	0.42
50:3:853:G:H21	50:3:1220:A:H62	1.66	0.42
50:3:993:A:C5	50:3:2467:A:H1'	2.54	0.42
50:3:1477:A:H2	50:3:1488:U:N3	2.17	0.42
50:3:1671:C:H2'	50:3:1672:C:C6	2.55	0.42
50:3:1762:A:N6	50:3:2702:G:N2	2.32	0.42
50:3:1820:U:H3'	50:3:1821:G:H8	1.84	0.42
50:3:1897:A:H3'	50:3:1898:G:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2092:U:H2'	50:3:2093:U:C6	2.54	0.42
50:3:2217:G:H3'	50:3:2218:U:H3'	2.00	0.42
50:3:2525:C:O2'	50:3:2527:U:OP2	2.37	0.42
50:3:2889:U:H6	50:3:2889:U:H2'	1.67	0.42
51:4:1:U:N3	51:4:107:G:N7	2.68	0.42
52:5:68:C:H2'	52:5:69:G:H8	1.78	0.42
52:5:365:U:O2	52:5:388:G:O6	2.36	0.42
52:5:648:C:N3	52:5:750:A:N7	2.67	0.42
52:5:649:U:H1'	52:5:650:A:C8	2.54	0.42
52:5:920:G:O2'	52:5:922:G:OP1	2.29	0.42
52:5:994:C:H2'	52:5:995:U:C5	2.54	0.42
52:5:1124:U:H3'	52:5:1125:C:C5	2.54	0.42
52:5:1317:A:H2'	52:5:1318:C:O4'	2.20	0.42
52:5:1419:C:H2'	52:5:1420:U:C2	2.54	0.42
53:7:30:G:H2'	53:7:31:G:C8	2.54	0.42
53:8:5:C:O2	53:8:5:C:H2'	2.19	0.42
4:A:60:LEU:HD21	8:E:157:TRP:HZ3	1.83	0.42
4:A:83:LEU:HG	4:A:107:PHE:HA	2.02	0.42
5:B:3:GLN:NE2	52:5:1051:U:O4	2.52	0.42
5:B:4:LYS:HD2	5:B:5:VAL:N	2.33	0.42
7:D:81:LYS:HB3	52:5:918:A:OP1	2.20	0.42
8:E:162:LYS:HG2	8:E:163:MET:N	2.33	0.42
11:H:21:LEU:HA	11:H:64:ASP:O	2.19	0.42
12:I:38:VAL:HG22	12:I:86:ASN:HD21	1.84	0.42
15:L:101:ARG:N	52:5:945:U:OP2	2.51	0.42
17:N:15:HIS:NE2	52:5:749:G:OP1	2.52	0.42
20:Q:53:LEU:HD23	20:Q:53:LEU:HA	1.93	0.42
22:S:10:ARG:HE	52:5:325:A:H61	1.66	0.42
24:a:93:SER:OG	50:3:1825:U:OP1	2.29	0.42
29:f:14:LYS:HD2	29:f:28:HIS:CG	2.54	0.42
30:g:14:VAL:HG11	30:g:58:ILE:HG12	2.01	0.42
34:k:101:LYS:HD3	34:k:101:LYS:HA	1.74	0.42
34:k:117:HIS:CB	50:3:673:A:H5''	2.48	0.42
35:l:64:MET:HA	35:l:105:GLU:O	2.20	0.42
36:m:82:LEU:HA	36:m:86:VAL:HG22	2.01	0.42
36:m:105:PRO:HB2	36:m:110:ALA:HA	2.02	0.42
37:n:4:ARG:HB3	51:4:28:C:OP1	2.19	0.42
37:n:42:GLN:HE22	51:4:4:G:H21	1.67	0.42
40:q:14:VAL:HG13	40:q:18:ASP:HB2	2.01	0.42
44:u:24:THR:N	50:3:2263:G:H21	2.18	0.42
48:y:40:HIS:HE1	50:3:2887:A:H4'	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:79:U:C2	50:3:80:U:C5	3.07	0.42
50:3:124:A:H4'	50:3:1404:C:H1'	2.01	0.42
50:3:361:G:H2'	50:3:362:U:O4'	2.20	0.42
50:3:371:C:H2'	50:3:372:G:O4'	2.19	0.42
50:3:454:G:C2	50:3:455:G:C5	3.08	0.42
50:3:576:A:C5	50:3:577:C:H1'	2.55	0.42
50:3:608:A:O2'	50:3:2509:C:OP1	2.25	0.42
50:3:610:G:H4'	50:3:1285:U:O2'	2.19	0.42
50:3:1073:A:H2'	50:3:1074:A:C8	2.52	0.42
50:3:1297:U:HO2'	50:3:1298:A:P	2.40	0.42
50:3:1301:G:N7	50:3:1353:G:H5''	2.35	0.42
50:3:1360:U:O2'	50:3:1643:A:N1	2.51	0.42
50:3:1496:A:C4	50:3:1497:A:C8	3.07	0.42
50:3:1776:G:O2'	50:3:1965:C:H5''	2.20	0.42
50:3:2025:C:H2'	50:3:2026:A:H5'	2.02	0.42
50:3:2208:U:H1'	50:3:2234:C:N4	2.34	0.42
50:3:2297:G:H2'	50:3:2298:G:H8	1.84	0.42
50:3:2469:A:H2'	50:3:2470:C:C6	2.54	0.42
50:3:2640:A:H2'	50:3:2641:A:C8	2.54	0.42
50:3:2646:G:N2	50:3:2786:A:H62	2.17	0.42
50:3:2843:G:H2'	50:3:2844:U:H6	1.83	0.42
52:5:440:U:H2'	52:5:441:U:H5	1.84	0.42
52:5:578:C:C4	52:5:579:G:C4	3.07	0.42
52:5:1153:G:N2	52:5:1156:G:OP2	2.53	0.42
52:5:1370:C:H5'	52:5:1376:G:H21	1.85	0.42
4:A:202:CYS:SG	4:A:208:PRO:HA	2.60	0.42
6:C:13:ARG:NH1	6:C:43:ARG:O	2.53	0.42
10:G:40:LEU:O	10:G:44:ILE:HG23	2.19	0.42
11:H:50:MET:HE3	11:H:81:ILE:HD12	2.01	0.42
24:a:69:ILE:HG21	24:a:110:ILE:HG13	2.01	0.42
24:a:148:HIS:CE1	24:a:199:THR:HB	2.54	0.42
25:b:45:ASP:HB3	25:b:47:TYR:CZ	2.54	0.42
25:b:53:SER:HA	25:b:80:HIS:O	2.19	0.42
28:e:117:LYS:HE3	28:e:117:LYS:HB3	1.82	0.42
29:f:61:ASN:HA	29:f:64:LEU:HG	2.01	0.42
35:l:31:GLU:HB2	35:l:107:ALA:HA	2.01	0.42
36:m:3:TYR:HE1	50:3:788:G:H21	1.68	0.42
36:m:38:ALA:HB1	36:m:116:LEU:HB2	2.01	0.42
37:n:103:ALA:O	37:n:107:GLU:HG2	2.20	0.42
41:r:9:ARG:HG2	41:r:100:SER:OG	2.20	0.42
46:w:105:ARG:HH21	50:3:1498:U:H1'	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:y:48:TYR:CD2	48:y:48:TYR:C	2.97	0.42
50:3:518:A:H5''	50:3:519:A:H5'	2.01	0.42
50:3:620:G:H4'	50:3:621:U:C6	2.55	0.42
50:3:667:A:N3	50:3:2423:G:O2'	2.45	0.42
50:3:763:G:H2'	50:3:798:G:OP1	2.20	0.42
50:3:1085:A:C6	50:3:1086:G:C8	3.08	0.42
50:3:1646:G:OP2	50:3:1646:G:H8	2.03	0.42
50:3:1720:C:N4	50:3:1737:G:O6	2.53	0.42
50:3:2224:A:H2'	50:3:2225:G:H8	1.85	0.42
50:3:2332:U:H1'	50:3:2393:C:H41	1.84	0.42
50:3:2372:C:H2'	50:3:2373:G:C8	2.52	0.42
50:3:2702:G:H2'	50:3:2703:U:C6	2.55	0.42
51:4:1:U:H2'	51:4:107:G:N1	2.34	0.42
52:5:138:A:N7	52:5:156:U:N3	2.68	0.42
52:5:185:G:C8	52:5:186:A:H2	2.36	0.42
52:5:294:A:H2'	52:5:295:G:C8	2.55	0.42
52:5:350:G:H2'	52:5:351:C:C6	2.55	0.42
52:5:426:U:N3	52:5:429:A:N6	2.67	0.42
52:5:537:A:C6	52:5:538:G:C6	3.07	0.42
52:5:585:G:OP1	52:5:641:U:H5''	2.20	0.42
52:5:887:C:H2'	52:5:888:A:O4'	2.19	0.42
52:5:917:G:H2'	52:5:918:A:C8	2.55	0.42
52:5:1075:G:H1'	52:5:1094:C:N4	2.24	0.42
52:5:1086:U:H2'	52:5:1087:C:O4'	2.19	0.42
4:A:180:ASP:OD1	4:A:203:ASN:ND2	2.53	0.42
6:C:123:LEU:N	6:C:143:ARG:O	2.35	0.42
8:E:95:GLY:HA2	52:5:660:A:P	2.60	0.42
11:H:59:LEU:HD13	11:H:61:LYS:HD3	2.00	0.42
12:I:27:THR:O	12:I:30:LYS:HG2	2.20	0.42
16:M:3:LYS:H	52:5:1040:U:P	2.42	0.42
20:Q:73:ARG:HD3	20:Q:83:GLN:HG2	2.02	0.42
26:c:185:LYS:HD2	26:c:185:LYS:N	2.35	0.42
27:d:29:PRO:HB2	27:d:169:LEU:HB2	2.02	0.42
28:e:38:LEU:HB3	28:e:71:TYR:CE1	2.55	0.42
28:e:142:GLU:CD	50:3:2767:G:H21	2.28	0.42
30:g:17:LEU:HD23	30:g:52:LYS:HZ1	1.84	0.42
31:h:53:CYS:HB2	31:h:65:PHE:CZ	2.55	0.42
34:k:69:ARG:HH12	34:k:75:GLN:HG2	1.85	0.42
34:k:70:LYS:HB3	50:3:2414:U:O4	2.20	0.42
41:r:88:ARG:O	50:3:1649:C:N4	2.52	0.42
43:t:102:ARG:O	43:t:111:LEU:HA	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:y:4:GLN:H	48:y:4:GLN:HG2	1.69	0.42
50:3:156:A:H2'	50:3:157:U:C6	2.54	0.42
50:3:276:A:H62	50:3:294:G:H21	1.68	0.42
50:3:599:U:H4'	50:3:844:G:OP2	2.20	0.42
50:3:780:G:O2'	50:3:783:G:H1'	2.19	0.42
50:3:1212:C:H2'	50:3:1213:U:H6	1.85	0.42
50:3:1305:G:H2'	50:3:1306:G:H8	1.85	0.42
50:3:1381:A:OP1	50:3:1405:G:N2	2.53	0.42
50:3:1400:U:H2'	50:3:1401:A:O4'	2.20	0.42
50:3:1694:A:H2'	50:3:1695:G:H8	1.82	0.42
50:3:1752:A:H3'	50:3:1753:G:H8	1.84	0.42
50:3:1897:A:H2'	50:3:1898:G:O4'	2.19	0.42
50:3:2254:G:C2	50:3:2255:A:C8	3.07	0.42
50:3:2299:U:H2'	50:3:2300:A:C8	2.55	0.42
50:3:2368:A:H3'	50:3:2369:G:H8	1.84	0.42
50:3:2524:U:H2'	50:3:2525:C:C6	2.55	0.42
50:3:2659:U:H2'	50:3:2660:C:C6	2.54	0.42
52:5:451:G:OP2	52:5:452:A:N6	2.42	0.42
52:5:636:G:H2'	52:5:637:A:H8	1.85	0.42
52:5:774:A:H2'	52:5:775:G:C8	2.55	0.42
52:5:1284:A:C2	52:5:1285:G:C5	3.08	0.42
52:5:1351:U:H2'	52:5:1352:A:H8	1.83	0.42
53:7:65:C:H2'	53:7:66:C:C6	2.55	0.42
4:A:222:PRO:HB3	4:A:257:GLU:HG2	2.02	0.42
7:D:87:ARG:CG	7:D:109:LEU:HD22	2.49	0.42
8:E:81:GLN:OE1	8:E:82:VAL:HG23	2.20	0.42
9:F:84:TYR:HB3	9:F:150:PHE:CG	2.55	0.42
10:G:100:PRO:HA	52:5:597:C:H5''	2.01	0.42
12:I:48:LEU:HD12	12:I:77:LYS:HE2	2.00	0.42
13:J:64:ALA:C	13:J:68:LYS:HG2	2.44	0.42
15:L:94:ASN:OD1	15:L:109:ARG:HD3	2.20	0.42
21:R:66:MET:HG2	21:R:67:VAL:N	2.35	0.42
24:a:179:TYR:HB3	24:a:191:LYS:HB3	2.02	0.42
24:a:261:ARG:NE	50:3:1849:G:H4'	2.34	0.42
25:b:171:HIS:CG	50:3:2825:A:H5'	2.54	0.42
26:c:71:THR:O	50:3:1285:U:N3	2.37	0.42
26:c:148:LYS:HD3	26:c:153:LEU:HD12	2.01	0.42
27:d:121:SER:HB2	27:d:128:TYR:CZ	2.54	0.42
28:e:96:GLY:H	50:3:2665:A:H4'	1.84	0.42
29:f:51:LEU:O	29:f:55:GLN:HG2	2.19	0.42
30:g:57:ASN:OD1	50:3:1081:A:H1'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:i:118:SER:HA	32:i:121:TRP:HB2	2.01	0.42
36:m:102:LYS:H	36:m:102:LYS:HD2	1.84	0.42
39:p:75:TYR:HB3	50:3:1047:A:OP2	2.19	0.42
43:t:15:GLY:O	50:3:363:G:N2	2.53	0.42
50:3:53:G:O2'	50:3:118:G:O6	2.29	0.42
50:3:314:G:O2'	50:3:315:A:H5'	2.20	0.42
50:3:842:U:O2'	50:3:2453:G:O5'	2.37	0.42
50:3:891:G:O6	50:3:960:A:N6	2.53	0.42
50:3:1199:A:H2'	50:3:1200:U:O4'	2.19	0.42
50:3:1347:A:N6	50:3:1359:C:OP2	2.52	0.42
50:3:1504:G:N2	50:3:1591:C:H4'	2.31	0.42
50:3:1521:A:H2'	50:3:1523:C:N4	2.31	0.42
50:3:1799:A:H2'	50:3:1800:C:C6	2.54	0.42
50:3:1846:A:H2'	50:3:1847:G:H8	1.85	0.42
50:3:2134:G:O2'	50:3:2181:A:N3	2.53	0.42
50:3:2576:A:H2'	50:3:2577:G:C8	2.54	0.42
50:3:2649:G:H2'	50:3:2650:A:H8	1.82	0.42
50:3:2814:A:H2'	50:3:2815:G:O4'	2.20	0.42
50:3:2899:C:H2'	50:3:2900:U:O4'	2.20	0.42
52:5:98:G:H2'	52:5:99:U:C6	2.55	0.42
52:5:150:A:H2'	52:5:151:C:H6	1.82	0.42
52:5:438:A:N6	52:5:492:G:H22	2.17	0.42
52:5:1045:C:H42	52:5:1372:C:H42	1.68	0.42
52:5:1131:A:H3'	52:5:1132:G:C8	2.54	0.42
52:5:1254:A:O2'	52:5:1257:C:N4	2.53	0.42
52:5:1382:C:H2'	52:5:1383:A:C8	2.46	0.42
53:7:5:C:O2	53:7:5:C:H2'	2.19	0.42
53:8:2:G:H2'	53:8:3:G:C8	2.55	0.42
3:2:35:ARG:HH12	50:3:2547:C:H1'	1.85	0.42
6:C:73:ARG:O	6:C:76:ARG:HG2	2.20	0.42
6:C:90:PHE:HB3	6:C:184:ARG:HD3	2.01	0.42
6:C:117:VAL:HA	6:C:122:VAL:HG22	2.01	0.42
7:D:181:LYS:HD3	52:5:8:G:H1'	2.02	0.42
12:I:15:LYS:HD3	52:5:1255:A:OP1	2.20	0.42
13:J:86:LYS:O	13:J:90:ILE:HG12	2.20	0.42
14:K:3:THR:HG21	52:5:874:C:C5	2.55	0.42
15:L:16:GLU:O	15:L:20:THR:HG23	2.20	0.42
15:L:86:TRP:N	21:R:73:GLU:O	2.53	0.42
24:a:23:LYS:HD2	24:a:23:LYS:HA	1.74	0.42
25:b:72:LYS:HD3	25:b:72:LYS:HA	1.85	0.42
26:c:61:GLY:HA2	50:3:833:C:OP2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:97:ARG:HH12	50:3:1276:A:HO2'	1.67	0.42
28:e:24:HIS:CE1	28:e:37:LYS:HD3	2.54	0.42
28:e:108:LEU:HD23	28:e:110:LEU:HD21	2.01	0.42
29:f:94:THR:HG21	29:f:110:LYS:HE3	2.01	0.42
30:g:56:ASN:HB3	50:3:1142:G:H4'	2.02	0.42
30:g:88:GLU:C	30:g:90:VAL:N	2.74	0.42
31:h:61:LYS:NZ	31:h:64:ASP:O	2.53	0.42
32:i:70:ASN:H	50:3:1176:U:H5	1.68	0.42
33:j:6:THR:HG22	33:j:8:LEU:HB3	2.02	0.42
33:j:27:SER:O	50:3:2682:A:O2'	2.23	0.42
37:n:10:LEU:HD21	50:3:2342:U:C4	2.55	0.42
39:p:62:LEU:HB2	50:3:1045:A:H4'	2.02	0.42
43:t:37:GLU:H	43:t:37:GLU:HG2	1.69	0.42
43:t:99:LYS:HB3	43:t:100:LYS:HE2	2.02	0.42
44:u:55:ARG:HD2	50:3:2395:U:H1'	2.02	0.42
46:w:42:HIS:ND1	50:3:97:A:O2'	2.50	0.42
49:z:27:LYS:HB3	50:3:2294:A:OP2	2.20	0.42
50:3:61:U:H2'	50:3:76:A:C2	2.49	0.42
50:3:451:A:H61	50:3:2416:U:H3	1.68	0.42
50:3:896:U:C4	50:3:2276:A:C4	3.08	0.42
50:3:911:U:N3	50:3:940:A:N1	2.68	0.42
50:3:987:U:H2'	50:3:988:G:C8	2.55	0.42
50:3:1228:G:C4	50:3:1229:U:C5	3.07	0.42
50:3:1326:C:H3'	50:3:1327:G:H8	1.85	0.42
50:3:1343:C:H2'	50:3:1344:U:H6	1.82	0.42
50:3:1458:A:C2	50:3:1459:A:H1'	2.54	0.42
50:3:1575:C:H3'	50:3:1576:G:C8	2.54	0.42
50:3:1584:U:O3'	50:3:1749:A:N6	2.53	0.42
50:3:1609:U:C2	50:3:1610:U:C5	3.08	0.42
50:3:1861:A:H3'	50:3:1862:A:C8	2.55	0.42
50:3:2149:U:H5''	50:3:2190:G:N3	2.35	0.42
50:3:2281:A:H2'	50:3:2282:A:C8	2.54	0.42
50:3:2515:C:H2'	50:3:2516:G:O4'	2.19	0.42
50:3:2718:C:H2'	50:3:2719:A:C8	2.55	0.42
50:3:2849:G:O6	50:3:2875:U:C4	2.73	0.42
52:5:697:G:N2	52:5:698:U:O4	2.52	0.42
52:5:971:A:H2'	52:5:1336:C:N4	2.35	0.42
52:5:1234:C:H3'	52:5:1235:C:C5'	2.50	0.42
4:A:209:GLU:HG2	8:E:159:VAL:HG23	2.01	0.42
5:B:56:VAL:HG12	5:B:69:VAL:HG22	2.02	0.42
6:C:172:LYS:HD2	6:C:173:THR:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:110:GLN:HG2	20:Q:46:ILE:HG22	2.02	0.42
12:I:24:LEU:O	12:I:28:THR:HG23	2.20	0.42
19:P:45:TYR:HB3	19:P:75:PHE:CE2	2.55	0.42
27:d:121:SER:HB3	27:d:129:THR:O	2.20	0.42
29:f:41:LYS:HB2	29:f:41:LYS:HE3	1.85	0.42
32:i:135:MET:HE1	50:3:9:G:H5'	2.01	0.42
42:s:34:LYS:NZ	50:3:115:U:O2'	2.27	0.42
44:u:26:ASN:HD22	44:u:28:ARG:HE	1.67	0.42
44:u:88:PRO:HA	51:4:10:C:H3'	2.01	0.42
45:v:27:ARG:NH2	50:3:2240:U:OP2	2.53	0.42
50:3:158:U:H2'	50:3:159:G:C8	2.55	0.42
50:3:170:A:C5	50:3:171:G:C8	3.08	0.42
50:3:197:U:H3	50:3:206:U:H3	1.68	0.42
50:3:373:U:C2	50:3:374:A:C8	3.07	0.42
50:3:519:A:H2'	50:3:519:A:N3	2.34	0.42
50:3:528:U:H2'	50:3:529:G:C8	2.54	0.42
50:3:730:G:H2'	50:3:731:A:H8	1.85	0.42
50:3:903:A:N6	50:3:904:C:H41	2.18	0.42
50:3:1034:A:N6	50:3:1190:A:OP2	2.52	0.42
50:3:1498:U:H2'	50:3:1499:C:H6	1.85	0.42
50:3:1500:A:C6	50:3:1544:G:C6	3.08	0.42
50:3:1556:U:H2'	50:3:1557:G:C8	2.55	0.42
50:3:1757:G:H2'	50:3:1758:C:C6	2.55	0.42
50:3:1863:G:H1	50:3:1894:U:H3	1.68	0.42
50:3:2170:A:OP2	50:3:2174:G:N2	2.51	0.42
50:3:2287:G:H2'	50:3:2288:G:O4'	2.19	0.42
50:3:2696:G:N1	50:3:2728:U:OP2	2.50	0.42
50:3:2835:G:O2'	50:3:2888:U:OP1	2.21	0.42
51:4:5:G:H2'	51:4:6:U:O4'	2.20	0.42
52:5:42:G:H21	52:5:620:A:H2	1.67	0.42
52:5:75:A:H2'	52:5:76:G:O4'	2.19	0.42
52:5:213:U:O3'	52:5:467:G:O2'	2.36	0.42
52:5:983:G:H21	52:5:1012:A:H8	1.65	0.42
52:5:1220:A:H2'	52:5:1221:A:O4'	2.20	0.42
52:5:1344:C:H2'	52:5:1345:G:C8	2.55	0.42
53:8:65:C:H2'	53:8:66:C:C6	2.55	0.42
1:0:39:ARG:NH1	50:3:503:G:N7	2.68	0.41
4:A:127:ILE:HG13	4:A:128:ASN:N	2.33	0.41
6:C:99:ASN:HA	6:C:110:ARG:HE	1.85	0.41
6:C:103:ARG:NH2	6:C:110:ARG:HH12	2.18	0.41
8:E:18:ALA:HA	8:E:21:VAL:HG12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:92:ARG:HH11	20:Q:92:ARG:NH1	2.17	0.41
10:G:20:THR:O	10:G:24:ASN:ND2	2.53	0.41
12:I:51:LYS:HG3	12:I:75:ARG:HH11	1.84	0.41
13:J:22:ASN:OD1	52:5:686:C:H5''	2.20	0.41
24:a:48:ASN:ND2	50:3:1813:C:O2	2.53	0.41
24:a:143:GLU:CD	52:5:707:G:H21	2.28	0.41
24:a:265:VAL:HB	50:3:1850:C:H5''	2.02	0.41
25:b:228:LYS:HA	38:o:20:ALA:HB3	2.01	0.41
26:c:24:LEU:HD23	26:c:113:HIS:HD1	1.85	0.41
27:d:26:MET:HE1	51:4:52:G:N2	2.34	0.41
32:i:109:LYS:NZ	50:3:2047:U:OP1	2.47	0.41
32:i:119:ARG:NH1	50:3:563:A:N3	2.68	0.41
35:l:75:THR:HB	35:l:88:GLY:HA3	2.02	0.41
37:n:12:HIS:CD2	37:n:31:MET:HE3	2.54	0.41
37:n:52:LEU:HD22	37:n:84:LEU:HD11	2.00	0.41
40:q:53:ALA:HA	40:q:99:HIS:HE1	1.85	0.41
41:r:126:LYS:HD2	41:r:126:LYS:HA	1.85	0.41
44:u:18:LYS:HB3	50:3:2259:G:N7	2.35	0.41
46:w:38:LEU:O	46:w:40:LYS:HG2	2.20	0.41
50:3:19:G:H2'	50:3:20:C:C6	2.53	0.41
50:3:30:A:H2'	50:3:31:U:H6	1.85	0.41
50:3:62:G:C4	50:3:64:U:H2'	2.54	0.41
50:3:444:C:H2'	50:3:445:C:O4'	2.19	0.41
50:3:447:G:H4'	50:3:448:A:OP1	2.20	0.41
50:3:523:A:H3'	50:3:524:G:C8	2.50	0.41
50:3:685:G:OP2	50:3:2360:A:H4'	2.20	0.41
50:3:751:A:C2	50:3:752:C:H1'	2.55	0.41
50:3:900:G:C2	50:3:903:A:C6	3.02	0.41
50:3:1218:G:H2'	50:3:1219:U:H5	1.85	0.41
50:3:1251:G:H2'	50:3:1252:C:C6	2.55	0.41
50:3:1273:U:H2'	50:3:1274:A:C8	2.55	0.41
50:3:1482:U:H1'	50:3:1483:G:C8	2.55	0.41
50:3:1909:C:C5	50:3:1910:G:C8	3.08	0.41
50:3:1961:A:H1'	50:3:1963:U:C4	2.55	0.41
50:3:1980:G:H2'	50:3:1981:U:C6	2.55	0.41
50:3:2117:G:OP1	50:3:2152:C:N4	2.49	0.41
50:3:2142:U:H5''	50:3:2157:A:OP1	2.20	0.41
50:3:2743:U:C2	50:3:2778:U:H1'	2.55	0.41
50:3:2786:A:O2'	50:3:2788:U:O2'	2.38	0.41
52:5:50:U:O2	52:5:358:G:O2'	2.36	0.41
52:5:410:A:O3'	52:5:411:A:H8	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:653:G:H2'	52:5:654:U:O4'	2.20	0.41
52:5:1110:C:H2'	52:5:1111:G:C8	2.55	0.41
52:5:1199:U:H5	52:5:1296:C:C2	2.37	0.41
53:8:15:A:N6	53:8:49:C:N3	2.67	0.41
3:2:4:ARG:HD2	50:3:2474:C:P	2.60	0.41
5:B:214:GLY:HA3	52:5:1104:C:O3'	2.20	0.41
8:E:151:LYS:HG2	10:G:49:VAL:HG13	2.01	0.41
9:F:70:PRO:O	9:F:95:LYS:HE2	2.19	0.41
9:F:115:MET:SD	9:F:118:LYS:HD2	2.59	0.41
10:G:81:ILE:O	10:G:81:ILE:HG13	2.20	0.41
10:G:93:PRO:O	52:5:584:C:H5''	2.19	0.41
11:H:18:LYS:HG3	52:5:1124:U:H1'	2.01	0.41
12:I:13:LYS:HD2	52:5:1117:U:O4	2.21	0.41
12:I:23:LEU:HD12	12:I:26:LEU:HD21	2.01	0.41
13:J:68:LYS:NZ	13:J:98:LEU:HD13	2.35	0.41
18:O:5:ARG:HH12	52:5:620:A:N6	2.16	0.41
20:Q:56:ASP:OD2	20:Q:59:ALA:HB3	2.19	0.41
24:a:151:GLU:HG2	24:a:157:GLY:C	2.45	0.41
28:e:161:LYS:HG2	28:e:163:LYS:HG3	2.02	0.41
30:g:120:SER:HA	30:g:123:LEU:HB3	2.01	0.41
33:j:43:VAL:HG21	33:j:46:ALA:HB2	2.01	0.41
34:k:81:ASN:ND2	34:k:84:LYS:HG2	2.33	0.41
37:n:8:ARG:HD2	37:n:33:ILE:HA	2.01	0.41
38:o:91:LYS:O	38:o:92:ARG:HG3	2.20	0.41
43:t:40:ASN:ND2	50:3:513:A:N3	2.67	0.41
46:w:16:VAL:O	46:w:20:ILE:HG23	2.19	0.41
46:w:59:THR:HA	46:w:62:LYS:O	2.19	0.41
50:3:40:A:H2'	50:3:41:C:H6	1.84	0.41
50:3:337:U:C2	50:3:349:G:N2	2.88	0.41
50:3:741:A:N6	50:3:760:G:N2	2.67	0.41
50:3:998:C:H4'	50:3:2505:A:OP1	2.20	0.41
50:3:1006:U:H2'	50:3:1007:C:H6	1.85	0.41
50:3:1085:A:C2	50:3:2759:G:H2'	2.54	0.41
50:3:1213:U:H2'	50:3:1214:U:C5	2.54	0.41
50:3:1218:G:H2'	50:3:1219:U:C5	2.55	0.41
50:3:1665:G:C2'	50:3:1669:A:H61	2.32	0.41
50:3:2057:C:H3'	50:3:2058:G:C8	2.55	0.41
50:3:2193:U:H5'	50:3:2194:G:OP2	2.19	0.41
50:3:2387:U:H2'	50:3:2388:C:H6	1.84	0.41
50:3:2647:A:H1'	50:3:2786:A:C6	2.55	0.41
50:3:2769:G:H2'	50:3:2770:U:H6	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2845:U:H2'	50:3:2846:A:C8	2.56	0.41
50:3:2861:G:N2	50:3:2864:A:OP2	2.46	0.41
51:4:10:C:O2	51:4:13:G:O2'	2.38	0.41
52:5:561:A:H4'	52:5:562:U:O5'	2.19	0.41
52:5:1041:G:H2'	52:5:1042:G:H8	1.85	0.41
52:5:1138:U:H3	52:5:1139:A:N6	2.18	0.41
52:5:1341:U:H2'	52:5:1342:C:C6	2.55	0.41
52:5:1393:A:P	52:5:1457:G:H22	2.43	0.41
12:I:7:VAL:HA	12:I:86:ASN:HA	2.03	0.41
15:L:6:GLY:C	15:L:57:ARG:HH11	2.28	0.41
16:M:3:LYS:HB3	52:5:1039:G:OP1	2.21	0.41
16:M:5:SER:OG	52:5:1191:U:H5''	2.19	0.41
21:R:4:SER:OG	21:R:5:ALA:N	2.52	0.41
24:a:34:GLU:HG2	24:a:37:LEU:HB2	2.02	0.41
24:a:72:LYS:O	24:a:73:ARG:HG2	2.21	0.41
28:e:101:VAL:HG13	28:e:128:VAL:CG2	2.50	0.41
28:e:112:TYR:CG	50:3:2675:C:H1'	2.56	0.41
30:g:17:LEU:CD1	30:g:86:VAL:HG11	2.49	0.41
30:g:79:LYS:HA	50:3:1141:U:O2	2.21	0.41
31:h:13:ASN:ND2	50:3:1097:G:H5''	2.36	0.41
33:j:7:ARG:HB2	33:j:18:GLN:HB3	2.02	0.41
34:k:69:ARG:NH1	50:3:669:A:OP1	2.53	0.41
34:k:116:GLY:H	50:3:663:A:H62	1.67	0.41
50:3:247:U:O2	50:3:259:A:C5	2.73	0.41
50:3:282:C:H42	50:3:288:A:H61	1.67	0.41
50:3:415:U:H2'	50:3:416:C:C6	2.54	0.41
50:3:734:A:H3'	50:3:735:G:H8	1.85	0.41
50:3:897:A:C4	50:3:898:A:C8	3.09	0.41
50:3:990:G:O2'	50:3:2284:G:H1'	2.20	0.41
50:3:1201:A:N6	50:3:1215:G:C4	2.89	0.41
50:3:1317:C:H5''	50:3:1358:C:C6	2.55	0.41
50:3:1395:A:C5	50:3:1396:A:H1'	2.55	0.41
50:3:1966:G:O2'	52:5:1393:A:O2'	2.17	0.41
50:3:2009:U:H3'	50:3:2010:A:H8	1.85	0.41
50:3:2224:A:H2'	50:3:2225:G:C8	2.56	0.41
50:3:2364:A:H2'	50:3:2365:U:C6	2.55	0.41
50:3:2412:A:N6	50:3:2422:G:O6	2.52	0.41
50:3:2547:C:O2'	50:3:2548:G:H5'	2.20	0.41
50:3:2780:U:H2'	50:3:2781:C:C6	2.56	0.41
50:3:2844:U:C2	50:3:2845:U:C5	3.08	0.41
51:4:2:U:H2'	51:4:22:G:H1'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:4:25:A:C5	51:4:26:C:C4	3.09	0.41
51:4:26:C:N3	51:4:54:U:O4	2.53	0.41
52:5:141:A:N1	52:5:153:A:N6	2.67	0.41
52:5:356:G:H2'	52:5:357:G:H8	1.85	0.41
52:5:398:G:H2'	52:5:399:C:C6	2.54	0.41
52:5:438:A:H3'	52:5:438:A:OP2	2.20	0.41
52:5:593:A:HO2'	52:5:637:A:N6	2.17	0.41
52:5:713:A:H2'	52:5:714:C:C6	2.55	0.41
52:5:718:A:H4'	52:5:719:G:C4	2.55	0.41
52:5:1015:U:C2	52:5:1016:A:N6	2.86	0.41
53:8:30:G:H2'	53:8:31:G:H8	1.85	0.41
1:0:38:GLN:HG3	50:3:494:G:H5''	2.03	0.41
5:B:177:PRO:HB2	5:B:180:THR:OG1	2.21	0.41
6:C:58:GLN:HA	6:C:61:GLN:HE21	1.85	0.41
10:G:94:GLY:HA2	52:5:584:C:H5'	2.02	0.41
11:H:113:LYS:HD2	52:5:1347:U:C5	2.52	0.41
18:O:9:PRO:HG2	18:O:36:ALA:HB2	2.02	0.41
24:a:30:LYS:HB2	50:3:1597:U:O4	2.20	0.41
27:d:4:LEU:O	27:d:8:TYR:CB	2.68	0.41
27:d:71:LYS:HZ1	50:3:2305:C:H5'	1.85	0.41
36:m:78:LEU:O	36:m:82:LEU:HG	2.20	0.41
37:n:77:ILE:O	37:n:81:LEU:HD23	2.20	0.41
38:o:6:LYS:HD2	50:3:2880:A:O3'	2.21	0.41
39:p:79:ILE:HD13	39:p:82:LEU:HD12	2.03	0.41
41:r:43:ALA:HA	41:r:46:LEU:HD12	2.03	0.41
44:u:101:LYS:HA	44:u:101:LYS:HD3	1.86	0.41
49:z:12:ASN:HA	49:z:15:ARG:HH11	1.85	0.41
50:3:35:U:H1'	50:3:36:U:C5	2.56	0.41
50:3:60:G:H1'	50:3:75:A:C2	2.55	0.41
50:3:304:U:H2'	50:3:305:U:H6	1.85	0.41
50:3:377:U:H2'	50:3:378:G:C8	2.55	0.41
50:3:852:C:H2'	50:3:853:G:O4'	2.20	0.41
50:3:853:G:N2	50:3:1220:A:H62	2.18	0.41
50:3:878:A:N6	50:3:969:A:H5''	2.35	0.41
50:3:1164:A:N6	50:3:2499:U:O5'	2.53	0.41
50:3:1171:G:H2'	50:3:1172:G:C8	2.55	0.41
50:3:1287:C:H2'	50:3:1288:C:N1	2.35	0.41
50:3:1370:A:H1'	50:3:1372:U:OP2	2.19	0.41
50:3:1826:A:H4'	50:3:1827:U:H3'	2.03	0.41
50:3:2159:U:H2'	50:3:2160:U:C6	2.56	0.41
50:3:2258:G:C6	50:3:2504:C:H5''	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2288:G:H2'	50:3:2289:C:C6	2.56	0.41
50:3:2357:G:N1	50:3:2377:A:C6	2.88	0.41
50:3:2536:U:O2'	50:3:2538:A:OP1	2.37	0.41
50:3:2650:A:H2'	50:3:2651:G:H8	1.85	0.41
50:3:2699:C:HO2'	50:3:2850:G:H21	1.68	0.41
50:3:2846:A:N1	50:3:2880:A:N6	2.69	0.41
51:4:39:U:O2'	51:4:40:U:OP1	2.38	0.41
51:4:64:G:N1	51:4:97:A:H3'	2.36	0.41
52:5:387:G:H2'	52:5:388:G:O4'	2.20	0.41
52:5:791:A:O2'	52:5:1496:G:H4'	2.21	0.41
52:5:881:G:H2'	52:5:882:U:O4'	2.20	0.41
52:5:941:A:H1'	52:5:1308:G:H1'	2.03	0.41
52:5:1109:U:H1'	52:5:1154:A:OP1	2.20	0.41
52:5:1248:U:H2'	52:5:1249:G:O4'	2.20	0.41
52:5:1484:C:H2'	52:5:1485:C:H6	1.84	0.41
1:0:26:SER:O	1:0:30:VAL:HG23	2.20	0.41
3:2:24:ARG:HH11	3:2:35:ARG:HG2	1.84	0.41
9:F:29:ILE:HG22	9:F:104:ALA:HA	2.01	0.41
9:F:113:LYS:HG3	9:F:114:THR:H	1.85	0.41
11:H:44:LYS:HG2	52:5:1265:U:H4'	2.01	0.41
13:J:63:VAL:O	13:J:67:VAL:HG22	2.20	0.41
24:a:208:HIS:HA	24:a:211:VAL:HG23	2.02	0.41
27:d:113:ASP:HA	47:x:43:HIS:HE1	1.85	0.41
27:d:118:SER:HB3	27:d:175:LEU:HG	2.02	0.41
34:k:78:VAL:HG13	34:k:110:LEU:HB3	2.01	0.41
34:k:116:GLY:N	50:3:663:A:H62	2.18	0.41
36:m:61:ARG:HH22	50:3:2713:A:H2	1.66	0.41
41:r:14:PRO:O	41:r:18:ARG:HG3	2.20	0.41
46:w:49:ARG:O	46:w:53:THR:HG23	2.20	0.41
50:3:59:C:C2	50:3:60:G:C8	3.09	0.41
50:3:269:A:N3	50:3:270:G:H1'	2.36	0.41
50:3:631:A:H2'	50:3:632:A:O4'	2.20	0.41
50:3:648:G:H21	50:3:648:G:P	2.42	0.41
50:3:859:G:H2'	50:3:860:C:C6	2.56	0.41
50:3:881:A:H2	50:3:882:C:H41	1.69	0.41
50:3:945:U:H2'	50:3:946:A:C8	2.56	0.41
50:3:1747:G:O2'	50:3:1751:A:N6	2.41	0.41
50:3:2104:A:H2'	50:3:2105:G:H8	1.83	0.41
52:5:509:C:H1'	52:5:510:U:C5	2.56	0.41
52:5:593:A:C4	52:5:638:A:C6	3.08	0.41
52:5:615:G:C2	52:5:616:C:H6	2.37	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:648:C:O2	52:5:650:A:N6	2.54	0.41
52:5:674:U:H2'	52:5:675:U:C6	2.55	0.41
52:5:742:C:HO2'	52:5:833:G:H21	1.63	0.41
52:5:1049:G:O6	52:5:1174:U:O2	2.39	0.41
52:5:1085:G:O5'	52:5:1087:C:N4	2.54	0.41
52:5:1477:A:C5	52:5:1480:G:C6	3.08	0.41
1:0:11:LYS:NZ	50:3:720:A:OP1	2.43	0.41
6:C:7:ILE:HG23	6:C:8:PHE:CD1	2.56	0.41
13:J:12:GLY:H	13:J:72:MET:HE2	1.85	0.41
15:L:120:LYS:NZ	52:5:1204:A:N3	2.68	0.41
18:O:3:MET:HG2	18:O:11:TYR:HA	2.03	0.41
19:P:68:PRO:HB3	19:P:74:ARG:NH2	2.36	0.41
24:a:235:PRO:HG2	50:3:819:U:H5	1.86	0.41
26:c:112:LEU:HG	26:c:116:TRP:NE1	2.35	0.41
26:c:167:ASN:O	26:c:171:SER:HB2	2.21	0.41
30:g:115:ASN:O	30:g:115:ASN:ND2	2.54	0.41
32:i:106:ASN:HA	32:i:109:LYS:HG3	2.01	0.41
36:m:102:LYS:HD3	48:y:40:HIS:CD2	2.56	0.41
37:n:78:ALA:CB	37:n:109:ALA:HA	2.51	0.41
41:r:88:ARG:HB3	41:r:89:ALA:H	1.77	0.41
50:3:255:A:H61	50:3:424:G:H1	1.67	0.41
50:3:720:A:H5'	50:3:809:A:N6	2.36	0.41
50:3:873:G:O2'	50:3:874:U:O4'	2.22	0.41
50:3:1408:G:C2	50:3:1409:G:C5	3.08	0.41
50:3:1709:C:O2	50:3:1709:C:H2'	2.20	0.41
50:3:1737:G:C6	50:3:1738:G:C6	3.09	0.41
50:3:1857:G:N2	53:8:71:A:O2'	2.54	0.41
50:3:1937:G:N2	50:3:1938:U:O4	2.53	0.41
50:3:1939:A:H1'	50:3:1976:A:N6	2.36	0.41
50:3:2191:G:H2'	50:3:2192:U:N1	2.36	0.41
50:3:2407:G:O6	50:3:2426:A:N6	2.54	0.41
50:3:2534:G:N1	50:3:2546:U:C2	2.88	0.41
50:3:2803:G:H5''	50:3:2805:A:OP2	2.21	0.41
52:5:704:U:H2'	52:5:705:A:C8	2.56	0.41
52:5:810:U:OP1	52:5:897:A:H4'	2.20	0.41
52:5:836:C:H3'	52:5:837:G:H8	1.86	0.41
52:5:1298:U:H5''	52:5:1337:U:H6	1.85	0.41
52:5:1471:C:H2'	52:5:1472:G:C8	2.55	0.41
4:A:112:TRP:CE2	4:A:117:LEU:HD13	2.56	0.41
13:J:24:ILE:HD13	52:5:702:U:O2'	2.20	0.41
15:L:86:TRP:NE1	21:R:77:THR:H	2.16	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:M:23:ARG:O	16:M:25:GLN:NE2	2.51	0.41
19:P:47:ALA:HB1	19:P:76:ARG:HA	2.02	0.41
21:R:3:ARG:NH2	21:R:8:GLY:O	2.53	0.41
21:R:70:LYS:HB2	21:R:73:GLU:HB2	2.03	0.41
22:S:11:LEU:HA	22:S:14:ASN:ND2	2.35	0.41
22:S:65:ALA:O	22:S:68:LEU:HG	2.20	0.41
22:S:77:ASN:HD21	52:5:173:U:H5''	1.86	0.41
25:b:123:ILE:HG13	25:b:142:ARG:HB3	2.02	0.41
30:g:110:CYS:SG	30:g:111:GLY:N	2.89	0.41
31:h:29:GLY:HA3	31:h:61:LYS:HG2	2.02	0.41
38:o:38:LYS:HG3	38:o:43:VAL:HG22	2.02	0.41
42:s:60:ARG:HD2	50:3:1367:G:C6	2.55	0.41
50:3:209:G:H1'	50:3:210:U:H5	1.86	0.41
50:3:214:C:O2'	50:3:1394:A:H2'	2.21	0.41
50:3:311:G:O2'	50:3:312:U:OP1	2.35	0.41
50:3:521:C:H2'	50:3:522:C:C6	2.56	0.41
50:3:561:A:H1'	50:3:2050:G:N2	2.27	0.41
50:3:563:A:C8	50:3:2050:G:H4'	2.56	0.41
50:3:774:A:H1'	50:3:775:C:C5	2.55	0.41
50:3:1326:C:H2'	50:3:1327:G:O4'	2.21	0.41
50:3:1576:G:O2'	50:3:1577:A:N7	2.44	0.41
50:3:1588:A:O2'	50:3:1589:A:O4'	2.30	0.41
50:3:1779:G:H4'	50:3:1794:A:P	2.60	0.41
50:3:1967:U:H2'	50:3:1968:C:H5	1.85	0.41
50:3:2121:A:H3'	50:3:2122:G:H8	1.86	0.41
50:3:2177:G:H22	53:8:57:C:C4'	2.34	0.41
50:3:2325:U:O2'	50:3:2326:G:H5'	2.21	0.41
50:3:2750:A:H2'	50:3:2751:C:H6	1.85	0.41
52:5:136:U:C2	52:5:137:A:C8	3.09	0.41
52:5:157:A:H2'	52:5:158:A:H8	1.85	0.41
52:5:298:G:H21	52:5:553:C:H1'	1.86	0.41
52:5:1274:G:H4'	52:5:1275:U:H5'	2.02	0.41
3:2:1:MET:HG3	3:2:35:ARG:NE	2.36	0.41
3:2:23:VAL:HG12	50:3:1159:C:H1'	2.01	0.41
6:C:96:ARG:O	6:C:100:ILE:HG12	2.21	0.41
8:E:8:LEU:HB2	8:E:84:ARG:H	1.84	0.41
9:F:37:LEU:HD22	52:5:1265:U:OP1	2.21	0.41
13:J:62:LYS:O	13:J:65:LYS:HG2	2.21	0.41
22:S:4:ILE:HB	52:5:327:G:C6	2.56	0.41
24:a:126:HIS:HB2	29:f:87:ARG:HE	1.86	0.41
24:a:269:ASN:HB3	24:a:272:LYS:HE2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:c:34:VAL:O	26:c:38:VAL:HG23	2.19	0.41
27:d:73:ALA:HB1	27:d:79:LEU:HG	2.02	0.41
31:h:86:ALA:HB2	31:h:130:GLN:O	2.21	0.41
33:j:14:THR:HA	33:j:51:MET:HG2	2.02	0.41
33:j:71:ARG:HH11	33:j:77:LEU:HD22	1.85	0.41
34:k:17:THR:N	50:3:1225:A:H62	2.16	0.41
34:k:95:ARG:HH22	34:k:110:LEU:H	1.68	0.41
35:l:126:PRO:HB3	50:3:2494:C:OP1	2.20	0.41
36:m:9:LYS:HD3	50:3:1685:G:OP2	2.21	0.41
45:v:40:THR:H	45:v:45:THR:HG22	1.85	0.41
50:3:531:G:OP2	50:3:531:G:H8	2.04	0.41
50:3:846:U:O2'	50:3:847:C:H5''	2.21	0.41
50:3:847:C:H2'	50:3:848:U:O4'	2.20	0.41
50:3:894:G:H21	50:3:2276:A:H3'	1.84	0.41
50:3:1212:C:C2	50:3:1213:U:C5	3.09	0.41
50:3:1227:C:C2	50:3:1228:G:C8	3.08	0.41
50:3:1676:G:C6	50:3:1677:G:C6	3.08	0.41
50:3:1690:C:H2'	50:3:1691:U:C6	2.56	0.41
50:3:1709:C:H2'	50:3:1710:A:C8	2.55	0.41
50:3:1722:U:O3'	50:3:1723:A:H8	2.04	0.41
50:3:1883:A:H2'	50:3:1883:A:N3	2.36	0.41
50:3:1919:A:H4'	52:5:1469:G:O2'	2.20	0.41
50:3:2136:A:O2'	50:3:2140:G:O2'	2.33	0.41
50:3:2394:A:H2'	50:3:2395:U:C6	2.56	0.41
50:3:2819:C:C2	50:3:2820:G:C8	3.08	0.41
51:4:24:A:H2'	51:4:25:A:O4'	2.20	0.41
52:5:66:A:C6	52:5:377:A:N7	2.89	0.41
52:5:287:U:O4	52:5:301:G:O2'	2.38	0.41
52:5:340:A:H4'	52:5:341:C:O5'	2.20	0.41
52:5:451:G:H2'	52:5:451:G:N3	2.36	0.41
52:5:662:G:OP2	52:5:662:G:H8	2.04	0.41
52:5:737:U:H2'	52:5:738:A:C8	2.56	0.41
52:5:825:A:N6	52:5:853:A:N7	2.69	0.41
52:5:1043:U:C5	52:5:1175:C:H1'	2.56	0.41
52:5:1124:U:P	52:5:1125:C:H41	2.44	0.41
52:5:1264:G:C2	52:5:1265:U:C6	3.09	0.41
1:0:6:GLN:OE1	50:3:1646:G:O2'	2.34	0.41
1:0:32:LYS:HA	1:0:35:ARG:HD3	2.01	0.41
1:0:34:ARG:HA	1:0:37:LYS:HB2	2.02	0.41
3:2:16:ILE:HG12	3:2:25:VAL:HG12	2.03	0.41
4:A:32:MET:HG2	4:A:204:THR:HB	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:69:TYR:HA	4:A:72:VAL:HG22	2.02	0.41
4:A:209:GLU:OE1	8:E:160:VAL:N	2.53	0.41
6:C:51:ALA:CB	52:5:507:A:H4'	2.51	0.41
7:D:66:PHE:HB2	7:D:94:VAL:HB	2.02	0.41
11:H:13:LYS:HZ2	11:H:113:LYS:HG3	1.85	0.41
13:J:49:ARG:H	13:J:49:ARG:HD3	1.86	0.41
14:K:81:PRO:HB2	14:K:130:TYR:CE2	2.55	0.41
19:P:67:ARG:NH2	19:P:69:LEU:HD13	2.36	0.41
26:c:4:LEU:HD22	26:c:20:LEU:HD11	2.02	0.41
26:c:26:ALA:HB1	26:c:29:LEU:HD21	2.03	0.41
26:c:99:TYR:O	26:c:101:LEU:HG	2.21	0.41
26:c:107:ALA:HB2	50:3:633:G:H1'	2.03	0.41
26:c:108:HIS:CD2	50:3:652:U:H4'	2.56	0.41
28:e:123:GLY:HA2	28:e:139:ILE:HD12	2.02	0.41
29:f:1:MET:HG2	29:f:22:LYS:HB2	2.03	0.41
30:g:67:LYS:HD3	30:g:67:LYS:O	2.21	0.41
31:h:9:ILE:O	50:3:1133:A:O2'	2.39	0.41
32:i:120:ARG:HA	32:i:123:THR:OG1	2.21	0.41
35:l:9:TYR:HE1	50:3:948:A:H2'	1.85	0.41
35:l:38:LYS:O	35:l:97:VAL:HG12	2.20	0.41
35:l:41:TRP:HB2	35:l:94:VAL:CG1	2.50	0.41
38:o:95:LYS:NZ	50:3:2867:U:H5''	2.35	0.41
39:p:65:ASN:OD1	39:p:75:TYR:HB2	2.20	0.41
40:q:36:ASP:O	40:q:49:TYR:OH	2.36	0.41
40:q:86:ARG:HD2	50:3:1254:U:OP2	2.19	0.41
42:s:20:GLN:HG2	42:s:27:TYR:CD1	2.56	0.41
43:t:44:ARG:HA	43:t:44:ARG:HD2	1.89	0.41
44:u:38:LYS:HB2	44:u:39:LYS:HE2	2.02	0.41
49:z:15:ARG:NH2	49:z:50:VAL:HG11	2.34	0.41
50:3:207:C:H3'	50:3:208:A:H8	1.86	0.41
50:3:291:G:C2	50:3:292:G:N7	2.89	0.41
50:3:305:U:N3	50:3:306:G:N7	2.69	0.41
50:3:309:A:H2'	50:3:310:U:C2	2.56	0.41
50:3:323:A:O2'	50:3:324:C:H5'	2.21	0.41
50:3:480:C:H2'	50:3:481:C:H6	1.85	0.41
50:3:569:U:H2'	50:3:570:C:C6	2.56	0.41
50:3:737:U:H2'	50:3:738:U:O4'	2.21	0.41
50:3:780:G:N2	50:3:787:C:O2	2.54	0.41
50:3:788:G:H2'	50:3:789:A:H8	1.85	0.41
50:3:793:C:H2'	50:3:794:G:H8	1.86	0.41
50:3:997:G:O6	50:3:2463:G:O2'	2.23	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1027:U:H2'	50:3:1028:C:C6	2.56	0.41
50:3:1210:A:H8	50:3:1210:A:OP2	2.04	0.41
50:3:1214:U:C5	50:3:1215:G:H1'	2.56	0.41
50:3:1385:U:H2'	50:3:1386:G:O4'	2.21	0.41
50:3:1473:C:H2'	50:3:1474:C:C6	2.56	0.41
50:3:1497:A:N6	50:3:1547:G:H21	2.17	0.41
50:3:1576:G:O3'	50:3:1577:A:H8	2.03	0.41
50:3:1692:A:H2'	50:3:1693:U:C6	2.56	0.41
50:3:1746:U:C2	50:3:1753:G:O6	2.74	0.41
50:3:1766:A:N6	50:3:2705:G:H1'	2.36	0.41
50:3:1820:U:H3'	50:3:1821:G:C8	2.56	0.41
50:3:1856:G:H2'	50:3:1857:G:H8	1.85	0.41
50:3:2036:G:H22	50:3:2040:A:P	2.41	0.41
50:3:2181:A:N3	50:3:2181:A:H2'	2.36	0.41
50:3:2238:G:HO2'	50:3:2239:U:H5'	1.86	0.41
50:3:2304:U:C4	50:3:2343:A:N7	2.89	0.41
50:3:2663:G:N2	50:3:2672:G:H2'	2.36	0.41
50:3:2693:U:O4	50:3:2694:A:N6	2.54	0.41
50:3:2749:A:H3'	50:3:2750:A:H8	1.85	0.41
50:3:2757:A:OP1	50:3:2759:G:H5'	2.21	0.41
51:4:67:G:H2'	51:4:68:C:H6	1.85	0.41
52:5:11:A:H2'	52:5:12:G:C8	2.55	0.41
52:5:114:C:H2'	52:5:117:U:C6	2.56	0.41
52:5:216:G:C6	52:5:217:U:C4	3.09	0.41
52:5:278:A:H3'	52:5:279:C:C6	2.55	0.41
52:5:436:U:H2'	52:5:437:U:C6	2.56	0.41
52:5:440:U:H2'	52:5:441:U:C5	2.56	0.41
52:5:446:A:H3'	52:5:447:G:C8	2.56	0.41
52:5:780:U:C2	52:5:781:A:N7	2.89	0.41
52:5:917:G:H2'	52:5:918:A:H8	1.86	0.41
52:5:956:U:OP1	52:5:1197:G:N2	2.53	0.41
52:5:989:A:H2'	52:5:990:C:O4'	2.21	0.41
52:5:1061:U:H2'	52:5:1062:C:C6	2.55	0.41
52:5:1074:U:H2'	52:5:1093:A:C8	2.56	0.41
52:5:1212:C:H3'	52:5:1310:C:H41	1.86	0.41
52:5:1218:C:H2'	52:5:1219:C:H6	1.86	0.41
52:5:1298:U:C2	52:5:1299:C:C5	3.09	0.41
52:5:1307:A:H2'	52:5:1308:G:H8	1.86	0.41
52:5:1352:A:H5''	52:5:1353:C:C6	2.56	0.41
52:5:1379:C:O2'	52:5:1494:A:O3'	2.38	0.41
52:5:1389:U:O4	52:5:1461:G:O6	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:1418:G:H8	52:5:1418:G:O5'	2.03	0.41
53:7:2:G:H2'	53:7:3:G:C8	2.55	0.41
53:7:42:C:H2'	53:7:43:G:C8	2.56	0.41
53:8:42:C:H2'	53:8:43:G:C8	2.56	0.41
5:B:27:HIS:CE1	52:5:1230:G:H5''	2.56	0.41
7:D:81:LYS:HD2	52:5:1363:U:OP2	2.20	0.41
9:F:28:VAL:HG13	9:F:104:ALA:HB2	2.03	0.41
10:G:48:LEU:HG	10:G:54:LEU:HB2	2.03	0.41
11:H:18:LYS:HD2	52:5:1124:U:C2	2.56	0.41
11:H:44:LYS:HB2	11:H:46:VAL:HG23	2.03	0.41
14:K:120:VAL:O	14:K:120:VAL:HG12	2.20	0.41
14:K:120:VAL:HG11	14:K:130:TYR:HD2	1.86	0.41
16:M:3:LYS:NZ	16:M:28:GLY:HA3	2.36	0.41
24:a:14:ILE:HG12	50:3:1780:A:N1	2.36	0.41
24:a:170:ILE:HG22	24:a:172:GLY:H	1.85	0.41
25:b:60:LYS:HG3	25:b:61:LYS:HD3	2.03	0.41
25:b:64:LYS:H	50:3:2815:G:P	2.44	0.41
25:b:64:LYS:HA	25:b:67:GLN:HG2	2.03	0.41
28:e:77:ASN:HA	28:e:80:ILE:HG22	2.02	0.41
30:g:29:TYR:HA	30:g:106:MET:HG2	2.02	0.41
30:g:44:LEU:O	30:g:45:PHE:C	2.64	0.41
31:h:122:LYS:HA	31:h:125:LEU:HD12	2.03	0.41
33:j:47:ILE:HG22	33:j:49:SER:H	1.86	0.41
33:j:71:ARG:NH1	33:j:77:LEU:HD22	2.35	0.41
35:l:9:TYR:CE1	50:3:948:A:H2'	2.56	0.41
38:o:11:ASP:O	38:o:15:GLN:HG3	2.20	0.41
38:o:98:ARG:HB3	38:o:98:ARG:HE	1.70	0.41
45:v:25:THR:HG22	45:v:26:ARG:N	2.31	0.41
49:z:8:ARG:HG2	50:3:2427:U:H4'	2.03	0.41
50:3:206:U:H4'	50:3:256:G:O2'	2.21	0.41
50:3:267:A:H2'	50:3:268:C:C6	2.56	0.41
50:3:352:C:C2	50:3:353:G:C8	3.09	0.41
50:3:449:C:H4'	50:3:1886:C:O2'	2.21	0.41
50:3:619:A:N1	50:3:844:G:O2'	2.48	0.41
50:3:664:G:H2'	50:3:665:C:H6	1.85	0.41
50:3:1261:U:H2'	50:3:1262:G:C8	2.55	0.41
50:3:1289:G:C6	50:3:1290:G:N1	2.89	0.41
50:3:1504:G:H21	50:3:1591:C:C4'	2.31	0.41
50:3:1584:U:H4'	50:3:1749:A:N6	2.36	0.41
50:3:1588:A:H4'	50:3:1589:A:OP1	2.21	0.41
50:3:1766:A:N3	50:3:2719:A:O2'	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2066:A:H8	50:3:2511:A:OP2	2.04	0.41
50:3:2647:A:N6	50:3:2783:A:O2'	2.53	0.41
52:5:305:A:H2'	52:5:306:G:C8	2.55	0.41
52:5:513:G:C6	52:5:514:U:C4	3.09	0.41
52:5:703:A:H2'	52:5:704:U:C6	2.56	0.41
52:5:847:G:H2'	52:5:848:U:H6	1.86	0.41
52:5:1166:A:N3	52:5:1166:A:H2'	2.36	0.41
52:5:1278:G:H21	52:5:1307:A:H62	1.68	0.41
4:A:160:GLU:HA	4:A:164:GLY:HA3	2.04	0.40
5:B:77:LEU:HD22	5:B:106:ILE:HD12	2.04	0.40
6:C:31:ARG:NH1	52:5:409:G:H5'	2.36	0.40
8:E:39:TYR:HD2	8:E:41:GLY:H	1.69	0.40
9:F:5:ARG:HE	9:F:6:ALA:H	1.68	0.40
9:F:7:PRO:O	52:5:1352:A:N6	2.54	0.40
11:H:12:ARG:O	11:H:15:SER:HB3	2.20	0.40
11:H:117:LYS:N	11:H:120:LEU:HD12	2.24	0.40
13:J:38:ALA:HB3	13:J:63:VAL:HG13	2.03	0.40
15:L:86:TRP:N	21:R:73:GLU:HG2	2.37	0.40
15:L:101:ARG:HD3	15:L:105:ASN:HB2	2.03	0.40
15:L:113:ARG:HD2	52:5:1204:A:OP1	2.20	0.40
17:N:10:LYS:HA	17:N:10:LYS:HD3	1.83	0.40
22:S:61:SER:HB2	52:5:258:A:H5'	2.03	0.40
24:a:272:LYS:HE3	24:a:272:LYS:HB2	1.72	0.40
27:d:88:LYS:HZ3	50:3:2321:C:H4'	1.86	0.40
29:f:93:ILE:HG13	29:f:94:THR:N	2.36	0.40
29:f:113:PHE:HA	29:f:128:LEU:HD13	2.03	0.40
30:g:53:VAL:HA	30:g:82:VAL:H	1.86	0.40
31:h:77:LYS:O	31:h:82:LEU:N	2.47	0.40
32:i:117:LEU:N	50:3:591:G:OP1	2.43	0.40
35:l:6:ARG:HB2	50:3:906:G:O2'	2.20	0.40
36:m:20:GLN:NE2	50:3:1323:A:O4'	2.54	0.40
38:o:101:ILE:HG22	38:o:103:TYR:CE1	2.56	0.40
39:p:13:ARG:CZ	50:3:617:C:H41	2.34	0.40
40:q:67:LYS:HG2	50:3:1254:U:H5''	2.03	0.40
41:r:10:VAL:HG11	41:r:46:LEU:HB3	2.03	0.40
44:u:46:ARG:HH22	50:3:2360:A:H2'	1.87	0.40
50:3:303:C:H2'	50:3:304:U:N1	2.37	0.40
50:3:325:G:N1	50:3:383:U:C2	2.87	0.40
50:3:614:C:C2	50:3:615:G:C8	3.09	0.40
50:3:856:A:H61	50:3:1008:A:C2'	2.34	0.40
50:3:898:A:H2'	50:3:899:A:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1036:A:OP2	50:3:1189:G:N1	2.42	0.40
50:3:1071:G:C2	50:3:1154:U:O2	2.74	0.40
50:3:1299:A:H2'	50:3:1300:C:C6	2.56	0.40
50:3:1502:A:C5	50:3:1540:G:C6	3.09	0.40
50:3:1607:G:C4	50:3:1608:C:C5	3.09	0.40
50:3:1673:U:O2'	50:3:2707:A:H4'	2.21	0.40
50:3:1697:C:C2	50:3:2005:G:C2	3.08	0.40
50:3:1756:A:H2'	50:3:1757:G:C8	2.56	0.40
50:3:1819:G:H2'	50:3:1820:U:C6	2.56	0.40
50:3:1821:G:C8	50:3:1822:A:H2'	2.57	0.40
50:3:1865:A:C5	50:3:1866:G:C8	3.09	0.40
50:3:2122:G:H5''	50:3:2123:A:OP2	2.21	0.40
50:3:2142:U:OP2	50:3:2143:G:H8	2.04	0.40
50:3:2297:G:H2'	50:3:2298:G:C8	2.56	0.40
50:3:2399:G:O6	50:3:2433:A:H8	2.04	0.40
50:3:2497:U:H3'	50:3:2498:G:C8	2.56	0.40
50:3:2599:C:H2'	50:3:2600:G:H8	1.85	0.40
50:3:2747:U:H5'	50:3:2771:G:O6	2.20	0.40
52:5:29:G:O2'	52:5:292:U:H5'	2.20	0.40
52:5:230:G:H2'	52:5:231:U:H6	1.86	0.40
52:5:451:G:H3'	52:5:452:A:C8	2.53	0.40
52:5:590:G:C2	52:5:644:U:C2	3.08	0.40
52:5:771:G:H2'	52:5:772:G:H8	1.85	0.40
52:5:1059:G:N7	52:5:1085:G:C8	2.89	0.40
52:5:1089:C:H4'	52:5:1143:C:N3	2.37	0.40
52:5:1213:A:H62	52:5:1277:C:H5	1.68	0.40
52:5:1293:A:C8	52:5:1297:G:O6	2.74	0.40
52:5:1475:A:OP1	52:5:1479:G:H3'	2.20	0.40
4:A:27:ARG:NH1	4:A:254:ILE:HA	2.36	0.40
5:B:7:SER:O	5:B:11:ARG:HG2	2.21	0.40
5:B:158:GLY:HA2	52:5:1048:G:H5'	2.03	0.40
6:C:60:MET:HE3	6:C:60:MET:HB3	1.89	0.40
7:D:90:VAL:HG13	7:D:118:ALA:HB2	2.03	0.40
8:E:97:LEU:HB2	52:5:659:U:OP1	2.22	0.40
10:G:9:LYS:HD3	52:5:651:G:H4'	2.03	0.40
13:J:36:CYS:SG	13:J:37:TRP:N	2.94	0.40
15:L:121:ILE:HG21	53:7:41:C:H2'	2.02	0.40
22:S:17:ARG:HE	52:5:319:U:H4'	1.86	0.40
25:b:6:ILE:HB	25:b:101:LEU:CD1	2.52	0.40
32:i:67:LEU:HB3	32:i:71:LYS:HB2	2.03	0.40
33:j:14:THR:O	33:j:52:VAL:HG12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:k:133:LYS:HG3	34:k:134:GLN:HG3	2.02	0.40
35:l:12:PRO:C	35:l:87:LYS:HZ1	2.29	0.40
46:w:65:TRP:O	50:3:147:C:O2'	2.37	0.40
50:3:641:U:H3'	50:3:655:G:H1	1.85	0.40
50:3:662:U:H5'	50:3:690:U:H5'	2.03	0.40
50:3:726:U:H2'	50:3:727:C:C6	2.56	0.40
50:3:901:C:H1'	50:3:903:A:C8	2.56	0.40
50:3:1052:A:N6	50:3:1181:A:N1	2.69	0.40
50:3:1243:A:N6	50:3:1266:G:H21	2.07	0.40
50:3:1390:C:H2'	50:3:1391:U:O4'	2.21	0.40
50:3:1409:G:C2'	50:3:1410:A:H5'	2.51	0.40
50:3:1471:A:H2'	50:3:1472:C:H6	1.86	0.40
50:3:1665:G:H2'	50:3:1667:G:OP2	2.21	0.40
50:3:1690:C:H2'	50:3:1691:U:H6	1.85	0.40
50:3:1762:A:N1	50:3:2724:U:H1'	2.36	0.40
50:3:1949:C:H2'	50:3:1950:U:C5	2.56	0.40
50:3:1966:G:C6	50:3:1967:U:C4	3.09	0.40
50:3:2013:C:H1'	50:3:2827:A:H1'	2.03	0.40
50:3:2082:U:O2'	50:3:2084:A:OP2	2.30	0.40
50:3:2119:A:H2'	50:3:2120:G:C8	2.56	0.40
50:3:2122:G:O2'	50:3:2175:U:O2'	2.15	0.40
50:3:2274:A:N6	50:3:2281:A:OP2	2.54	0.40
50:3:2298:G:H2'	50:3:2299:U:C6	2.57	0.40
50:3:2582:G:H2'	50:3:2583:U:O4'	2.21	0.40
50:3:2652:U:OP2	50:3:2653:G:N1	2.55	0.40
50:3:2790:A:P	50:3:2790:A:C8	3.15	0.40
50:3:2849:G:C4	50:3:2850:G:C8	3.10	0.40
52:5:232:G:H2'	52:5:233:C:O4'	2.22	0.40
52:5:253:G:N1	52:5:266:A:N6	2.69	0.40
52:5:585:G:H1'	52:5:752:G:H1	1.87	0.40
52:5:586:G:O6	52:5:750:A:N7	2.55	0.40
52:5:776:C:H2'	52:5:777:A:C8	2.56	0.40
52:5:852:G:N2	52:5:864:U:OP2	2.35	0.40
52:5:1017:A:O2'	52:5:1018:U:O4'	2.39	0.40
52:5:1145:A:H3'	52:5:1146:A:C8	2.56	0.40
52:5:1176:A:H4'	52:5:1178:C:OP2	2.21	0.40
52:5:1213:A:C6	52:5:1275:U:C2	3.06	0.40
52:5:1302:C:H2'	52:5:1303:A:C8	2.55	0.40
53:7:56:U:H3'	53:7:57:C:H5''	2.04	0.40
4:A:179:ASP:HB2	4:A:219:ASN:ND2	2.36	0.40
10:G:2:ILE:N	10:G:60:LEU:HD13	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:75:LYS:HB3	10:G:83:SER:OG	2.21	0.40
13:J:22:ASN:HA	13:J:40:SER:OG	2.21	0.40
14:K:78:THR:HG21	14:K:95:LEU:HD22	2.03	0.40
24:a:54:THR:HB	50:3:1820:U:O2	2.21	0.40
24:a:101:TYR:HB2	24:a:105:ALA:HB3	2.04	0.40
25:b:225:GLN:HE21	38:o:82:HIS:HA	1.87	0.40
26:c:71:THR:OG1	50:3:1285:U:O4	2.27	0.40
26:c:174:ASN:O	50:3:357:A:H3'	2.22	0.40
27:d:53:ALA:O	27:d:56:GLU:HG2	2.22	0.40
29:f:126:ILE:HG23	29:f:138:LEU:HB2	2.02	0.40
30:g:46:LYS:H	30:g:46:LYS:HG2	1.51	0.40
38:o:78:ASN:HD22	50:3:2692:U:H5''	1.87	0.40
41:r:9:ARG:NH1	41:r:82:MET:HG2	2.36	0.40
43:t:44:ARG:NH2	43:t:45:HIS:O	2.55	0.40
50:3:34:C:H2'	50:3:35:U:C6	2.56	0.40
50:3:378:G:H21	50:3:379:A:H62	1.68	0.40
50:3:462:C:H2'	50:3:463:U:C6	2.56	0.40
50:3:681:A:H3'	50:3:681:A:N3	2.36	0.40
50:3:965:U:H2'	50:3:966:U:C6	2.56	0.40
50:3:989:G:H2'	50:3:990:G:H8	1.86	0.40
50:3:1029:A:O2'	50:3:1030:U:H5'	2.22	0.40
50:3:1287:C:H2'	50:3:1288:C:C2	2.57	0.40
50:3:1337:G:H2'	50:3:1338:G:C8	2.56	0.40
50:3:1799:A:H2'	50:3:1800:C:H6	1.87	0.40
50:3:1834:U:O2'	50:3:1977:A:N3	2.43	0.40
50:3:1867:G:H22	50:3:1889:U:H2'	1.86	0.40
50:3:2010:A:H2'	50:3:2011:G:O4'	2.22	0.40
50:3:2166:U:H2'	50:3:2167:G:C8	2.56	0.40
50:3:2433:A:OP2	50:3:2434:A:O2'	2.29	0.40
51:4:61:A:H2'	51:4:62:G:H8	1.87	0.40
52:5:90:G:N2	52:5:375:C:H4'	2.35	0.40
52:5:135:A:N6	52:5:157:A:N7	2.70	0.40
52:5:266:A:C6	52:5:267:C:C4	3.10	0.40
52:5:658:G:C2	52:5:659:U:H1'	2.56	0.40
52:5:926:C:H2'	52:5:927:C:C6	2.57	0.40
52:5:947:U:H5''	52:5:967:C:N4	2.36	0.40
52:5:1269:U:H2'	52:5:1270:C:C6	2.56	0.40
52:5:1285:G:C6	52:5:1286:G:C6	3.09	0.40
52:5:1439:G:O2'	52:5:1440:U:H5'	2.21	0.40
52:5:1480:G:H4'	52:5:1481:U:H2'	2.03	0.40
3:2:23:VAL:HG11	50:3:1066:G:N2	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:6:ASN:HD22	16:M:49:TYR:C	2.28	0.40
5:B:150:ASN:OD1	5:B:151:GLY:N	2.52	0.40
5:B:179:SER:HB3	52:5:1100:C:OP1	2.22	0.40
7:D:152:LYS:HB3	7:D:179:TYR:HB2	2.02	0.40
13:J:41:GLY:N	13:J:55:SER:OG	2.54	0.40
14:K:94:LEU:HD22	14:K:114:THR:HB	2.04	0.40
18:O:38:LYS:HE3	52:5:447:G:H5''	2.03	0.40
24:a:238:HIS:HE1	50:3:1832:G:H5''	1.86	0.40
26:c:108:HIS:CE1	26:c:112:LEU:HD22	2.56	0.40
28:e:163:LYS:HD2	50:3:2666:C:H4'	2.04	0.40
29:f:98:ILE:HD13	29:f:98:ILE:HA	1.91	0.40
32:i:116:ARG:HG3	50:3:564:A:OP2	2.21	0.40
36:m:33:THR:HB	50:3:1306:G:OP1	2.22	0.40
37:n:10:LEU:HA	37:n:13:LYS:HD2	2.03	0.40
37:n:85:LYS:HA	37:n:85:LYS:HD3	1.87	0.40
41:r:125:VAL:O	41:r:129:VAL:HG13	2.22	0.40
49:z:32:LEU:H	49:z:49:GLU:HG3	1.86	0.40
50:3:37:G:C6	50:3:482:G:C2	3.09	0.40
50:3:62:G:H1	50:3:67:C:H41	1.68	0.40
50:3:266:A:H2'	50:3:267:A:O4'	2.22	0.40
50:3:273:C:N4	50:3:295:U:C2	2.89	0.40
50:3:286:A:O2'	50:3:288:A:N6	2.48	0.40
50:3:299:A:N1	50:3:300:G:C4	2.89	0.40
50:3:336:C:H2'	50:3:337:U:C6	2.57	0.40
50:3:367:G:H2'	50:3:368:C:C6	2.57	0.40
50:3:483:A:C5	50:3:509:G:C5	3.09	0.40
50:3:592:G:H2'	50:3:593:C:O4'	2.21	0.40
50:3:600:U:HO2'	50:3:2456:A:N6	2.18	0.40
50:3:664:G:H4'	50:3:687:G:H4'	2.03	0.40
50:3:704:G:H5''	50:3:705:A:N7	2.36	0.40
50:3:1140:U:C2	50:3:1141:U:C5	3.10	0.40
50:3:1149:G:H2'	50:3:1150:U:C2	2.56	0.40
50:3:1265:G:H2'	50:3:1266:G:N3	2.36	0.40
50:3:1572:U:H2'	50:3:1573:A:H8	1.87	0.40
50:3:1869:G:H2'	50:3:1870:G:H8	1.86	0.40
50:3:1944:A:C6	50:3:1971:G:N2	2.72	0.40
50:3:2246:G:O4'	50:3:2248:C:N4	2.55	0.40
50:3:2367:C:H2'	50:3:2368:A:H8	1.86	0.40
50:3:2699:C:H2'	50:3:2700:C:O4'	2.20	0.40
50:3:2769:G:H2'	50:3:2770:U:C6	2.56	0.40
51:4:88:G:O3'	51:4:89:A:H8	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:5:193:G:C2'	52:5:194:U:H5'	2.51	0.40
52:5:590:G:C2'	52:5:591:A:H5'	2.52	0.40
52:5:883:A:N6	52:5:902:A:OP2	2.54	0.40
52:5:1223:A:C6	52:5:1264:G:C5	3.09	0.40
52:5:1241:G:N2	52:5:1243:A:H8	2.20	0.40
52:5:1313:A:O2'	53:8:41:C:O2	2.36	0.40
53:8:45:G:O2'	53:8:46:U:O4'	2.30	0.40
5:B:74:PRO:HG3	5:B:108:GLU:OE1	2.21	0.40
6:C:26:SER:HA	52:5:409:G:C6	2.57	0.40
9:F:22:VAL:HA	9:F:25:ILE:HG22	2.04	0.40
12:I:47:PRO:O	12:I:48:LEU:HD23	2.22	0.40
12:I:62:HIS:CD2	52:5:1177:U:H5'	2.56	0.40
14:K:117:THR:OG1	14:K:118:VAL:N	2.54	0.40
21:R:11:VAL:O	52:5:1291:C:O2'	2.40	0.40
24:a:55:VAL:HG13	24:a:58:GLN:HB2	2.04	0.40
26:c:6:LEU:HB3	26:c:14:GLU:HB2	2.02	0.40
26:c:30:LYS:HB3	26:c:33:PRO:HD2	2.02	0.40
26:c:69:LYS:HD3	50:3:2069:A:H5''	2.04	0.40
27:d:26:MET:HB2	51:4:55:A:C2	2.57	0.40
28:e:11:LEU:HD11	28:e:18:LEU:HD13	2.04	0.40
29:f:11:ASN:HD21	29:f:34:LYS:HD2	1.80	0.40
34:k:6:LEU:HD23	34:k:6:LEU:H	1.86	0.40
35:l:12:PRO:HB2	35:l:72:MET:HE3	2.03	0.40
39:p:50:ARG:NH2	50:3:1028:C:H3'	2.37	0.40
43:t:77:PHE:CE1	43:t:79:GLN:HB2	2.57	0.40
43:t:106:LYS:HA	43:t:106:LYS:HD2	1.96	0.40
45:v:22:LYS:HA	53:8:76:C:N4	2.34	0.40
46:w:95:LYS:NZ	50:3:1627:U:OP1	2.54	0.40
49:z:23:LYS:HG3	50:3:2354:A:C2	2.57	0.40
50:3:159:G:H2'	50:3:160:A:O4'	2.21	0.40
50:3:175:A:H2'	50:3:176:U:O4'	2.21	0.40
50:3:339:U:H2'	50:3:340:U:H6	1.82	0.40
50:3:471:A:H2'	50:3:472:A:C8	2.56	0.40
50:3:633:G:N2	50:3:639:G:H4'	2.35	0.40
50:3:1554:A:H3'	50:3:1555:G:C8	2.55	0.40
50:3:1606:A:C5	50:3:1607:G:C8	3.08	0.40
50:3:1836:A:H3'	50:3:1837:C:H6	1.85	0.40
50:3:1884:A:C2	50:3:1885:G:C5	3.10	0.40
50:3:2172:A:C5	50:3:2173:G:H8	2.40	0.40
50:3:2226:U:H2'	50:3:2227:U:O4'	2.22	0.40
50:3:2818:C:C5	50:3:2819:C:C5	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:2845:U:O4	50:3:2846:A:N6	2.55	0.40
51:4:3:U:H4'	51:4:22:G:N3	2.37	0.40
52:5:444:G:H21	52:5:484:A:H62	1.70	0.40
52:5:1114:A:H2'	52:5:1115:G:O4'	2.21	0.40
52:5:1214:A:N6	52:5:1270:C:H2'	2.36	0.40
52:5:1281:U:H3'	52:5:1281:U:OP2	2.21	0.40
52:5:1495:C:H2'	52:5:1496:G:C8	2.57	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	45/48 (94%)	43 (96%)	2 (4%)	0	100	100
2	1	57/59 (97%)	55 (96%)	2 (4%)	0	100	100
3	2	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
4	A	238/294 (81%)	218 (92%)	20 (8%)	0	100	100
5	B	213/273 (78%)	195 (92%)	18 (8%)	0	100	100
6	C	201/205 (98%)	187 (93%)	13 (6%)	1 (0%)	24	63
7	D	151/219 (69%)	137 (91%)	14 (9%)	0	100	100
8	E	165/215 (77%)	142 (86%)	23 (14%)	0	100	100
9	F	152/155 (98%)	142 (93%)	10 (7%)	0	100	100
10	G	139/142 (98%)	120 (86%)	19 (14%)	0	100	100
11	H	126/132 (96%)	109 (86%)	17 (14%)	0	100	100
12	I	99/108 (92%)	88 (89%)	11 (11%)	0	100	100
13	J	112/121 (93%)	104 (93%)	8 (7%)	0	100	100
14	K	134/139 (96%)	116 (87%)	17 (13%)	1 (1%)	18	56

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	L	116/124 (94%)	104 (90%)	12 (10%)	0	100	100
16	M	58/61 (95%)	51 (88%)	7 (12%)	0	100	100
17	N	81/86 (94%)	71 (88%)	10 (12%)	0	100	100
18	O	78/94 (83%)	68 (87%)	10 (13%)	0	100	100
19	P	81/85 (95%)	76 (94%)	5 (6%)	0	100	100
20	Q	63/104 (61%)	54 (86%)	9 (14%)	0	100	100
21	R	82/87 (94%)	73 (89%)	7 (8%)	2 (2%)	4	27
22	S	75/87 (86%)	75 (100%)	0	0	100	100
23	T	51/60 (85%)	49 (96%)	2 (4%)	0	100	100
24	a	283/287 (99%)	252 (89%)	31 (11%)	0	100	100
25	b	227/287 (79%)	212 (93%)	15 (7%)	0	100	100
26	c	208/212 (98%)	193 (93%)	15 (7%)	0	100	100
27	d	173/180 (96%)	160 (92%)	13 (8%)	0	100	100
28	e	174/184 (95%)	161 (92%)	13 (8%)	0	100	100
29	f	143/149 (96%)	132 (92%)	9 (6%)	2 (1%)	9	40
30	g	124/161 (77%)	106 (86%)	16 (13%)	2 (2%)	7	38
31	h	126/137 (92%)	116 (92%)	10 (8%)	0	100	100
32	i	142/146 (97%)	131 (92%)	11 (8%)	0	100	100
33	j	120/122 (98%)	113 (94%)	7 (6%)	0	100	100
34	k	146/151 (97%)	127 (87%)	19 (13%)	0	100	100
35	l	134/139 (96%)	127 (95%)	7 (5%)	0	100	100
36	m	117/124 (94%)	106 (91%)	11 (9%)	0	100	100
37	n	108/116 (93%)	99 (92%)	9 (8%)	0	100	100
38	o	113/119 (95%)	103 (91%)	10 (9%)	0	100	100
39	p	112/127 (88%)	107 (96%)	5 (4%)	0	100	100
40	q	97/100 (97%)	89 (92%)	8 (8%)	0	100	100
41	r	137/159 (86%)	132 (96%)	5 (4%)	0	100	100
42	s	90/237 (38%)	84 (93%)	6 (7%)	0	100	100
43	t	109/111 (98%)	98 (90%)	11 (10%)	0	100	100
44	u	84/104 (81%)	75 (89%)	9 (11%)	0	100	100
45	v	61/65 (94%)	58 (95%)	3 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
46	w	96/111 (86%)	91 (95%)	5 (5%)	0	100	100
47	x	42/97 (43%)	34 (81%)	8 (19%)	0	100	100
48	y	54/57 (95%)	46 (85%)	7 (13%)	1 (2%)	6	32
49	z	48/53 (91%)	47 (98%)	1 (2%)	0	100	100
All	All	5820/6670 (87%)	5310 (91%)	501 (9%)	9 (0%)	44	78

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
29	f	9	VAL
30	g	89	ILE
48	y	50	ASP
21	R	27	LYS
30	g	45	PHE
14	K	120	VAL
29	f	7	GLN
6	C	146	ALA
21	R	26	GLU

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	
1	0	40/41 (98%)	40 (100%)	0	100	100
2	1	51/51 (100%)	51 (100%)	0	100	100
3	2	35/35 (100%)	35 (100%)	0	100	100
4	A	212/262 (81%)	212 (100%)	0	100	100
5	B	180/232 (78%)	180 (100%)	0	100	100
6	C	181/183 (99%)	181 (100%)	0	100	100
7	D	123/178 (69%)	123 (100%)	0	100	100
8	E	150/196 (76%)	150 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	F	131/132 (99%)	131 (100%)	0	100	100
10	G	123/124 (99%)	123 (100%)	0	100	100
11	H	111/115 (96%)	111 (100%)	0	100	100
12	I	95/99 (96%)	95 (100%)	0	100	100
13	J	91/97 (94%)	91 (100%)	0	100	100
14	K	117/120 (98%)	115 (98%)	2 (2%)	53	69
15	L	100/105 (95%)	100 (100%)	0	100	100
16	M	47/48 (98%)	46 (98%)	1 (2%)	47	65
17	N	76/78 (97%)	75 (99%)	1 (1%)	61	74
18	O	69/82 (84%)	69 (100%)	0	100	100
19	P	73/75 (97%)	73 (100%)	0	100	100
20	Q	56/94 (60%)	56 (100%)	0	100	100
21	R	74/77 (96%)	72 (97%)	2 (3%)	39	61
22	S	70/77 (91%)	70 (100%)	0	100	100
23	T	49/56 (88%)	49 (100%)	0	100	100
24	a	241/243 (99%)	241 (100%)	0	100	100
25	b	186/233 (80%)	186 (100%)	0	100	100
26	c	182/184 (99%)	182 (100%)	0	100	100
27	d	150/154 (97%)	150 (100%)	0	100	100
28	e	153/159 (96%)	153 (100%)	0	100	100
29	f	131/134 (98%)	130 (99%)	1 (1%)	73	80
30	g	101/129 (78%)	95 (94%)	6 (6%)	18	39
31	h	102/110 (93%)	102 (100%)	0	100	100
32	i	126/128 (98%)	126 (100%)	0	100	100
33	j	103/103 (100%)	103 (100%)	0	100	100
34	k	123/126 (98%)	123 (100%)	0	100	100
35	l	113/115 (98%)	113 (100%)	0	100	100
36	m	105/109 (96%)	105 (100%)	0	100	100
37	n	96/99 (97%)	96 (100%)	0	100	100
38	o	101/105 (96%)	101 (100%)	0	100	100
39	p	100/108 (93%)	100 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
40	q	90/91 (99%)	90 (100%)	0	100	100
41	r	116/132 (88%)	116 (100%)	0	100	100
42	s	82/208 (39%)	82 (100%)	0	100	100
43	t	96/96 (100%)	96 (100%)	0	100	100
44	u	69/85 (81%)	69 (100%)	0	100	100
45	v	58/60 (97%)	58 (100%)	0	100	100
46	w	87/98 (89%)	87 (100%)	0	100	100
47	x	41/86 (48%)	41 (100%)	0	100	100
48	y	48/49 (98%)	46 (96%)	2 (4%)	26	48
49	z	47/50 (94%)	47 (100%)	0	100	100
All	All	5101/5751 (89%)	5086 (100%)	15 (0%)	84	86

All (15) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
14	K	118	VAL
14	K	122	LYS
16	M	10	GLN
17	N	83	ASN
21	R	24	LYS
21	R	26	GLU
29	f	10	SER
30	g	29	TYR
30	g	30	THR
30	g	44	LEU
30	g	46	LYS
30	g	47	ASN
30	g	88	GLU
48	y	47	MET
48	y	51	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (85) such sidechains are listed below:

Mol	Chain	Res	Type
4	A	51	HIS
4	A	63	GLN
4	A	66	GLN

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Mol	Chain	Res	Type
4	A	70	ASN
4	A	77	GLN
4	A	137	GLN
4	A	140	ASN
4	A	149	ASN
4	A	186	ASN
5	B	8	ASN
5	B	47	ASN
5	B	91	GLN
6	C	61	GLN
6	C	70	GLN
6	C	115	GLN
6	C	118	ASN
7	D	156	GLN
7	D	193	HIS
7	D	213	ASN
8	E	25	GLN
8	E	106	GLN
8	E	110	GLN
8	E	161	GLN
9	F	141	HIS
10	G	78	GLN
10	G	109	ASN
13	J	112	ASN
14	K	109	HIS
14	K	125	GLN
19	P	18	ASN
19	P	25	GLN
21	R	23	ASN
21	R	25	GLN
22	S	7	ASN
22	S	24	GLN
22	S	72	ASN
23	T	35	HIS
24	a	11	ASN
24	a	78	ASN
24	a	126	HIS
24	a	205	ASN
24	a	238	HIS
25	b	20	ASN
25	b	66	GLN
25	b	94	GLN

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Mol	Chain	Res	Type
26	c	31	GLN
26	c	70	HIS
26	c	76	GLN
26	c	177	ASN
27	d	27	GLN
27	d	135	GLN
28	e	77	ASN
29	f	11	ASN
29	f	55	GLN
30	g	56	ASN
30	g	87	ASN
31	h	13	ASN
32	i	11	GLN
32	i	64	GLN
32	i	70	ASN
32	i	82	GLN
33	j	56	GLN
33	j	70	GLN
33	j	112	ASN
34	k	5	GLN
34	k	141	ASN
34	k	143	ASN
35	l	13	HIS
35	l	24	ASN
35	l	40	ASN
37	n	38	HIS
37	n	42	GLN
37	n	64	ASN
37	n	69	ASN
41	r	15	GLN
41	r	110	ASN
41	r	133	GLN
43	t	33	GLN
44	u	31	HIS
44	u	54	GLN
46	w	9	GLN
46	w	45	ASN
46	w	66	GLN
49	z	24	ASN
49	z	28	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
50	3	2875/2907 (98%)	1078 (37%)	34 (1%)
51	4	103/108 (95%)	44 (42%)	5 (4%)
52	5	1490/1520 (98%)	496 (33%)	19 (1%)
53	7	75/76 (98%)	30 (40%)	3 (4%)
53	8	75/76 (98%)	30 (40%)	3 (4%)
All	All	4618/4687 (98%)	1678 (36%)	64 (1%)

All (1678) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
50	3	9	G
50	3	13	C
50	3	14	U
50	3	15	A
50	3	16	A
50	3	19	G
50	3	23	A
50	3	28	G
50	3	30	A
50	3	34	C
50	3	36	U
50	3	37	G
50	3	39	C
50	3	41	C
50	3	44	A
50	3	47	G
50	3	50	G
50	3	51	A
50	3	52	U
50	3	53	G
50	3	63	U
50	3	64	U
50	3	65	A
50	3	66	A
50	3	69	U
50	3	71	C
50	3	73	A
50	3	76	A
50	3	77	G
50	3	82	G
50	3	83	G
50	3	86	A
50	3	90	G

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Mol	Chain	Res	Type
50	3	94	A
50	3	98	C
50	3	102	A
50	3	103	G
50	3	106	C
50	3	116	C
50	3	118	G
50	3	119	A
50	3	120	A
50	3	129	U
50	3	130	C
50	3	132	G
50	3	136	G
50	3	137	U
50	3	139	G
50	3	141	A
50	3	146	G
50	3	147	C
50	3	148	U
50	3	153	U
50	3	155	A
50	3	163	A
50	3	170	A
50	3	177	U
50	3	180	A
50	3	181	G
50	3	183	A
50	3	184	A
50	3	185	U
50	3	186	A
50	3	188	G
50	3	194	A
50	3	197	U
50	3	200	A
50	3	203	A
50	3	207	C
50	3	208	A
50	3	210	U
50	3	220	A
50	3	225	A
50	3	226	A
50	3	228	A

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Mol	Chain	Res	Type
50	3	229	C
50	3	231	A
50	3	232	A
50	3	233	U
50	3	234	G
50	3	237	A
50	3	245	U
50	3	246	G
50	3	247	U
50	3	252	G
50	3	254	G
50	3	261	A
50	3	266	A
50	3	269	A
50	3	270	G
50	3	273	C
50	3	274	A
50	3	276	A
50	3	277	C
50	3	282	C
50	3	284	U
50	3	285	U
50	3	286	A
50	3	287	G
50	3	288	A
50	3	291	G
50	3	293	G
50	3	294	G
50	3	295	U
50	3	296	U
50	3	297	G
50	3	298	U
50	3	299	A
50	3	300	G
50	3	306	G
50	3	310	U
50	3	312	U
50	3	313	G
50	3	314	G
50	3	315	A
50	3	316	C
50	3	319	G

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Mol	Chain	Res	Type
50	3	323	A
50	3	324	C
50	3	325	G
50	3	329	G
50	3	331	A
50	3	333	A
50	3	335	G
50	3	336	C
50	3	337	U
50	3	343	A
50	3	345	A
50	3	351	G
50	3	355	A
50	3	356	A
50	3	357	A
50	3	358	A
50	3	363	G
50	3	364	A
50	3	365	U
50	3	367	G
50	3	369	C
50	3	381	A
50	3	391	U
50	3	393	C
50	3	396	A
50	3	401	G
50	3	402	A
50	3	403	U
50	3	404	C
50	3	405	C
50	3	407	U
50	3	408	G
50	3	409	A
50	3	410	G
50	3	411	U
50	3	413	G
50	3	417	G
50	3	418	G
50	3	420	A
50	3	422	A
50	3	423	C
50	3	424	G

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Mol	Chain	Res	Type
50	3	425	U
50	3	426	U
50	3	434	G
50	3	437	A
50	3	440	C
50	3	441	U
50	3	447	G
50	3	448	A
50	3	457	U
50	3	458	A
50	3	460	G
50	3	465	A
50	3	470	U
50	3	475	A
50	3	478	G
50	3	479	A
50	3	480	C
50	3	484	U
50	3	485	A
50	3	487	C
50	3	488	G
50	3	490	A
50	3	493	A
50	3	494	G
50	3	495	U
50	3	503	G
50	3	509	G
50	3	510	G
50	3	513	A
50	3	514	A
50	3	515	A
50	3	516	A
50	3	517	G
50	3	520	C
50	3	525	A
50	3	531	G
50	3	532	A
50	3	536	A
50	3	539	U
50	3	541	G
50	3	543	U
50	3	544	U

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Mol	Chain	Res	Type
50	3	550	A
50	3	557	G
50	3	563	A
50	3	564	A
50	3	566	G
50	3	567	U
50	3	568	G
50	3	576	A
50	3	577	C
50	3	578	A
50	3	580	U
50	3	581	A
50	3	582	A
50	3	583	U
50	3	591	G
50	3	595	U
50	3	596	G
50	3	598	G
50	3	601	U
50	3	605	A
50	3	606	G
50	3	612	G
50	3	633	G
50	3	636	U
50	3	637	U
50	3	638	A
50	3	648	G
50	3	649	A
50	3	650	G
50	3	654	G
50	3	658	G
50	3	661	G
50	3	662	U
50	3	663	A
50	3	664	G
50	3	666	G
50	3	670	G
50	3	673	A
50	3	674	G
50	3	679	A
50	3	681	A
50	3	685	G

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Mol	Chain	Res	Type
50	3	689	U
50	3	690	U
50	3	691	G
50	3	694	U
50	3	697	U
50	3	704	G
50	3	705	A
50	3	706	C
50	3	710	A
50	3	711	A
50	3	712	A
50	3	713	C
50	3	715	G
50	3	720	A
50	3	721	G
50	3	722	C
50	3	728	A
50	3	730	G
50	3	733	C
50	3	739	G
50	3	743	G
50	3	748	G
50	3	752	C
50	3	756	A
50	3	760	G
50	3	761	G
50	3	762	A
50	3	764	G
50	3	765	A
50	3	766	C
50	3	778	U
50	3	782	U
50	3	783	G
50	3	787	C
50	3	792	G
50	3	795	G
50	3	796	A
50	3	797	U
50	3	798	G
50	3	808	U
50	3	810	G
50	3	811	G

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Mol	Chain	Res	Type
50	3	812	G
50	3	816	A
50	3	817	A
50	3	818	A
50	3	819	U
50	3	820	U
50	3	823	A
50	3	824	A
50	3	825	U
50	3	827	G
50	3	828	A
50	3	829	A
50	3	836	G
50	3	837	A
50	3	839	A
50	3	840	G
50	3	841	C
50	3	842	U
50	3	843	G
50	3	847	C
50	3	860	C
50	3	862	U
50	3	863	U
50	3	865	A
50	3	866	G
50	3	867	G
50	3	880	C
50	3	881	A
50	3	882	C
50	3	883	A
50	3	887	A
50	3	888	A
50	3	889	G
50	3	891	G
50	3	892	G
50	3	893	A
50	3	894	G
50	3	900	G
50	3	901	C
50	3	902	U
50	3	903	A
50	3	904	C

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Mol	Chain	Res	Type
50	3	906	G
50	3	909	U
50	3	910	G
50	3	913	U
50	3	914	G
50	3	917	G
50	3	931	G
50	3	932	U
50	3	933	A
50	3	934	C
50	3	936	G
50	3	940	A
50	3	943	A
50	3	944	U
50	3	947	A
50	3	949	C
50	3	951	C
50	3	952	U
50	3	953	G
50	3	957	G
50	3	959	C
50	3	960	A
50	3	966	U
50	3	968	U
50	3	971	U
50	3	976	C
50	3	979	U
50	3	981	A
50	3	982	G
50	3	984	C
50	3	989	G
50	3	990	G
50	3	993	A
50	3	997	G
50	3	998	C
50	3	1001	C
50	3	1008	A
50	3	1009	A
50	3	1010	G
50	3	1012	G
50	3	1016	A
50	3	1018	G

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Mol	Chain	Res	Type
50	3	1019	A
50	3	1021	C
50	3	1024	A
50	3	1025	G
50	3	1026	A
50	3	1027	U
50	3	1029	A
50	3	1031	U
50	3	1032	A
50	3	1035	U
50	3	1039	G
50	3	1041	C
50	3	1045	A
50	3	1047	A
50	3	1049	U
50	3	1054	U
50	3	1055	A
50	3	1060	G
50	3	1061	A
50	3	1068	U
50	3	1069	G
50	3	1073	A
50	3	1075	G
50	3	1076	U
50	3	1080	A
50	3	1081	A
50	3	1082	A
50	3	1083	A
50	3	1084	C
50	3	1088	A
50	3	1095	U
50	3	1096	U
50	3	1097	G
50	3	1101	U
50	3	1103	G
50	3	1104	A
50	3	1105	A
50	3	1106	G
50	3	1107	C
50	3	1113	U
50	3	1115	G
50	3	1122	G

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Mol	Chain	Res	Type
50	3	1123	A
50	3	1124	G
50	3	1125	U
50	3	1128	G
50	3	1132	C
50	3	1137	C
50	3	1139	C
50	3	1142	G
50	3	1145	G
50	3	1147	G
50	3	1149	G
50	3	1150	U
50	3	1154	U
50	3	1155	G
50	3	1158	C
50	3	1162	A
50	3	1163	G
50	3	1165	U
50	3	1166	G
50	3	1167	U
50	3	1168	A
50	3	1169	A
50	3	1170	C
50	3	1171	G
50	3	1174	G
50	3	1175	C
50	3	1176	U
50	3	1177	A
50	3	1179	G
50	3	1180	U
50	3	1181	A
50	3	1189	G
50	3	1191	A
50	3	1192	U
50	3	1196	U
50	3	1202	A
50	3	1203	G
50	3	1204	A
50	3	1205	U
50	3	1206	U
50	3	1209	U
50	3	1210	A

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Mol	Chain	Res	Type
50	3	1215	G
50	3	1216	U
50	3	1217	G
50	3	1219	U
50	3	1221	G
50	3	1222	A
50	3	1225	A
50	3	1226	G
50	3	1229	U
50	3	1234	U
50	3	1235	U
50	3	1236	G
50	3	1240	U
50	3	1241	U
50	3	1242	G
50	3	1245	G
50	3	1246	U
50	3	1250	A
50	3	1251	G
50	3	1253	G
50	3	1255	G
50	3	1256	A
50	3	1257	G
50	3	1259	A
50	3	1265	G
50	3	1266	G
50	3	1267	A
50	3	1268	U
50	3	1274	A
50	3	1277	A
50	3	1278	G
50	3	1279	U
50	3	1281	A
50	3	1282	G
50	3	1283	A
50	3	1285	U
50	3	1286	G
50	3	1287	C
50	3	1291	C
50	3	1292	A
50	3	1295	A
50	3	1296	G

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Mol	Chain	Res	Type
50	3	1298	A
50	3	1300	C
50	3	1301	G
50	3	1302	C
50	3	1304	U
50	3	1305	G
50	3	1307	G
50	3	1315	A
50	3	1316	U
50	3	1317	C
50	3	1322	A
50	3	1323	A
50	3	1325	C
50	3	1328	A
50	3	1329	U
50	3	1331	G
50	3	1332	A
50	3	1334	U
50	3	1335	A
50	3	1340	U
50	3	1342	C
50	3	1350	A
50	3	1353	G
50	3	1354	U
50	3	1355	C
50	3	1357	U
50	3	1359	C
50	3	1360	U
50	3	1361	U
50	3	1368	U
50	3	1369	U
50	3	1370	A
50	3	1371	G
50	3	1375	G
50	3	1377	A
50	3	1378	C
50	3	1381	A
50	3	1387	A
50	3	1388	G
50	3	1393	A
50	3	1396	A
50	3	1406	A

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Mol	Chain	Res	Type
50	3	1407	U
50	3	1408	G
50	3	1410	A
50	3	1412	A
50	3	1414	C
50	3	1415	A
50	3	1420	A
50	3	1422	U
50	3	1423	A
50	3	1424	U
50	3	1425	U
50	3	1426	C
50	3	1427	C
50	3	1432	C
50	3	1435	A
50	3	1444	C
50	3	1445	U
50	3	1447	A
50	3	1455	A
50	3	1456	C
50	3	1457	A
50	3	1458	A
50	3	1459	A
50	3	1463	G
50	3	1466	U
50	3	1467	U
50	3	1474	C
50	3	1478	U
50	3	1480	A
50	3	1481	U
50	3	1482	U
50	3	1484	G
50	3	1486	U
50	3	1487	U
50	3	1489	G
50	3	1493	A
50	3	1494	U
50	3	1497	A
50	3	1507	G
50	3	1508	G
50	3	1510	A
50	3	1514	U

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Mol	Chain	Res	Type
50	3	1520	A
50	3	1522	U
50	3	1528	G
50	3	1533	U
50	3	1534	A
50	3	1535	A
50	3	1541	A
50	3	1548	A
50	3	1549	U
50	3	1550	G
50	3	1555	G
50	3	1558	A
50	3	1579	G
50	3	1580	G
50	3	1584	U
50	3	1585	A
50	3	1587	U
50	3	1588	A
50	3	1589	A
50	3	1592	A
50	3	1593	U
50	3	1595	C
50	3	1598	U
50	3	1600	A
50	3	1601	A
50	3	1603	A
50	3	1608	C
50	3	1611	C
50	3	1612	U
50	3	1615	G
50	3	1616	G
50	3	1618	U
50	3	1619	A
50	3	1641	A
50	3	1642	G
50	3	1644	A
50	3	1645	C
50	3	1646	G
50	3	1648	A
50	3	1649	C
50	3	1651	C
50	3	1653	C

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Mol	Chain	Res	Type
50	3	1655	U
50	3	1656	A
50	3	1660	A
50	3	1661	A
50	3	1668	G
50	3	1669	A
50	3	1671	C
50	3	1672	C
50	3	1674	A
50	3	1678	U
50	3	1679	U
50	3	1680	A
50	3	1681	G
50	3	1682	C
50	3	1683	G
50	3	1687	G
50	3	1688	A
50	3	1694	A
50	3	1695	G
50	3	1698	A
50	3	1701	G
50	3	1704	C
50	3	1705	U
50	3	1706	C
50	3	1707	U
50	3	1708	G
50	3	1709	C
50	3	1710	A
50	3	1712	A
50	3	1713	U
50	3	1714	U
50	3	1716	A
50	3	1717	C
50	3	1721	G
50	3	1727	U
50	3	1728	A
50	3	1730	C
50	3	1733	G
50	3	1734	A
50	3	1741	G
50	3	1747	G
50	3	1750	A

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Mol	Chain	Res	Type
50	3	1751	A
50	3	1761	C
50	3	1764	U
50	3	1765	G
50	3	1766	A
50	3	1768	G
50	3	1769	A
50	3	1770	A
50	3	1780	A
50	3	1784	U
50	3	1788	A
50	3	1789	C
50	3	1791	A
50	3	1794	A
50	3	1797	C
50	3	1806	G
50	3	1807	C
50	3	1809	A
50	3	1814	G
50	3	1816	A
50	3	1821	G
50	3	1822	A
50	3	1823	U
50	3	1826	A
50	3	1827	U
50	3	1828	A
50	3	1831	G
50	3	1836	A
50	3	1842	G
50	3	1868	A
50	3	1870	G
50	3	1872	U
50	3	1873	A
50	3	1876	G
50	3	1884	A
50	3	1900	C
50	3	1907	A
50	3	1910	G
50	3	1911	G
50	3	1913	G
50	3	1914	G
50	3	1919	A

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Mol	Chain	Res	Type
50	3	1920	A
50	3	1921	C
50	3	1923	A
50	3	1925	A
50	3	1928	G
50	3	1936	G
50	3	1937	G
50	3	1938	U
50	3	1945	A
50	3	1946	U
50	3	1949	C
50	3	1950	U
50	3	1951	A
50	3	1952	G
50	3	1953	U
50	3	1956	G
50	3	1958	U
50	3	1959	A
50	3	1960	A
50	3	1961	A
50	3	1962	U
50	3	1963	U
50	3	1966	G
50	3	1969	C
50	3	1970	C
50	3	1971	G
50	3	1972	C
50	3	1974	U
50	3	1977	A
50	3	1978	U
50	3	1979	G
50	3	1980	G
50	3	1982	G
50	3	1984	A
50	3	1998	U
50	3	2000	U
50	3	2001	C
50	3	2004	G
50	3	2005	G
50	3	2008	A
50	3	2011	G
50	3	2016	G

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Mol	Chain	Res	Type
50	3	2020	A
50	3	2023	U
50	3	2025	C
50	3	2026	A
50	3	2028	G
50	3	2029	U
50	3	2030	A
50	3	2033	G
50	3	2037	A
50	3	2038	A
50	3	2039	G
50	3	2040	A
50	3	2041	C
50	3	2043	C
50	3	2050	G
50	3	2053	G
50	3	2056	A
50	3	2058	G
50	3	2059	G
50	3	2062	C
50	3	2063	G
50	3	2064	G
50	3	2067	A
50	3	2068	G
50	3	2069	A
50	3	2070	C
50	3	2071	C
50	3	2075	U
50	3	2076	G
50	3	2084	A
50	3	2087	G
50	3	2094	A
50	3	2099	U
50	3	2100	G
50	3	2106	G
50	3	2107	A
50	3	2110	U
50	3	2111	U
50	3	2112	A
50	3	2114	C
50	3	2117	G
50	3	2119	A

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Mol	Chain	Res	Type
50	3	2123	A
50	3	2124	A
50	3	2127	G
50	3	2134	G
50	3	2138	U
50	3	2139	C
50	3	2140	G
50	3	2142	U
50	3	2143	G
50	3	2144	C
50	3	2145	A
50	3	2149	U
50	3	2150	C
50	3	2151	G
50	3	2152	C
50	3	2153	U
50	3	2163	U
50	3	2167	G
50	3	2169	G
50	3	2170	A
50	3	2173	G
50	3	2178	A
50	3	2180	U
50	3	2184	A
50	3	2185	C
50	3	2187	C
50	3	2188	U
50	3	2191	G
50	3	2193	U
50	3	2194	G
50	3	2195	U
50	3	2198	G
50	3	2199	C
50	3	2200	U
50	3	2202	U
50	3	2203	U
50	3	2206	A
50	3	2211	G
50	3	2212	U
50	3	2217	G
50	3	2219	U
50	3	2220	A

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Mol	Chain	Res	Type
50	3	2221	U
50	3	2222	C
50	3	2229	C
50	3	2231	A
50	3	2233	A
50	3	2234	C
50	3	2235	A
50	3	2242	G
50	3	2246	G
50	3	2247	G
50	3	2248	C
50	3	2253	U
50	3	2254	G
50	3	2258	G
50	3	2259	G
50	3	2260	G
50	3	2274	A
50	3	2275	A
50	3	2276	A
50	3	2277	A
50	3	2280	U
50	3	2281	A
50	3	2282	A
50	3	2286	A
50	3	2287	G
50	3	2289	C
50	3	2291	U
50	3	2293	C
50	3	2294	A
50	3	2295	A
50	3	2300	A
50	3	2304	U
50	3	2312	G
50	3	2313	U
50	3	2315	G
50	3	2316	G
50	3	2317	A
50	3	2318	A
50	3	2319	A
50	3	2320	U
50	3	2326	G
50	3	2330	A

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Mol	Chain	Res	Type
50	3	2332	U
50	3	2333	G
50	3	2334	U
50	3	2335	A
50	3	2338	G
50	3	2341	G
50	3	2342	U
50	3	2343	A
50	3	2349	G
50	3	2352	U
50	3	2353	G
50	3	2354	A
50	3	2355	C
50	3	2358	U
50	3	2362	A
50	3	2363	C
50	3	2377	A
50	3	2381	G
50	3	2387	U
50	3	2391	G
50	3	2393	C
50	3	2394	A
50	3	2396	A
50	3	2397	G
50	3	2404	G
50	3	2409	U
50	3	2410	C
50	3	2411	C
50	3	2414	U
50	3	2415	A
50	3	2418	G
50	3	2422	G
50	3	2431	U
50	3	2433	A
50	3	2434	A
50	3	2435	C
50	3	2436	G
50	3	2438	A
50	3	2439	U
50	3	2440	A
50	3	2442	A
50	3	2443	A

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Mol	Chain	Res	Type
50	3	2449	U
50	3	2450	C
50	3	2453	G
50	3	2455	G
50	3	2456	A
50	3	2457	U
50	3	2458	A
50	3	2464	C
50	3	2466	G
50	3	2468	U
50	3	2474	C
50	3	2477	A
50	3	2481	U
50	3	2484	A
50	3	2486	A
50	3	2489	G
50	3	2492	G
50	3	2498	G
50	3	2499	U
50	3	2505	A
50	3	2506	C
50	3	2507	C
50	3	2509	C
50	3	2511	A
50	3	2512	U
50	3	2513	G
50	3	2514	U
50	3	2517	A
50	3	2521	A
50	3	2526	A
50	3	2527	U
50	3	2528	C
50	3	2537	G
50	3	2539	A
50	3	2540	G
50	3	2543	G
50	3	2548	G
50	3	2549	A
50	3	2551	G
50	3	2555	U
50	3	2557	G
50	3	2558	G

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Mol	Chain	Res	Type
50	3	2561	G
50	3	2563	U
50	3	2568	G
50	3	2573	A
50	3	2574	A
50	3	2575	G
50	3	2580	A
50	3	2581	C
50	3	2582	G
50	3	2584	G
50	3	2585	A
50	3	2586	G
50	3	2591	G
50	3	2597	A
50	3	2604	U
50	3	2605	G
50	3	2606	A
50	3	2607	G
50	3	2610	A
50	3	2618	C
50	3	2619	C
50	3	2621	U
50	3	2622	A
50	3	2623	U
50	3	2626	A
50	3	2628	U
50	3	2629	G
50	3	2631	G
50	3	2637	A
50	3	2638	G
50	3	2642	G
50	3	2643	A
50	3	2644	U
50	3	2646	G
50	3	2647	A
50	3	2649	G
50	3	2653	G
50	3	2654	U
50	3	2662	A
50	3	2663	G
50	3	2668	A
50	3	2669	G

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Mol	Chain	Res	Type
50	3	2681	G
50	3	2689	C
50	3	2690	U
50	3	2691	C
50	3	2697	C
50	3	2698	U
50	3	2699	C
50	3	2703	U
50	3	2705	G
50	3	2708	G
50	3	2714	G
50	3	2722	G
50	3	2723	C
50	3	2726	G
50	3	2732	A
50	3	2734	C
50	3	2735	G
50	3	2737	G
50	3	2740	U
50	3	2741	A
50	3	2744	A
50	3	2747	U
50	3	2752	G
50	3	2756	A
50	3	2760	C
50	3	2763	C
50	3	2765	A
50	3	2772	A
50	3	2773	A
50	3	2774	A
50	3	2775	C
50	3	2784	A
50	3	2785	G
50	3	2786	A
50	3	2788	U
50	3	2789	A
50	3	2790	A
50	3	2791	U
50	3	2799	U
50	3	2800	U
50	3	2802	C
50	3	2803	G

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Mol	Chain	Res	Type
50	3	2807	G
50	3	2808	A
50	3	2810	A
50	3	2811	G
50	3	2813	A
50	3	2814	A
50	3	2815	G
50	3	2821	U
50	3	2822	C
50	3	2824	A
50	3	2825	A
50	3	2826	G
50	3	2827	A
50	3	2829	G
50	3	2831	U
50	3	2837	U
50	3	2838	G
50	3	2839	A
50	3	2840	U
50	3	2841	A
50	3	2853	U
50	3	2854	A
50	3	2855	A
50	3	2864	A
50	3	2865	U
50	3	2867	U
50	3	2871	G
50	3	2876	G
50	3	2881	A
50	3	2884	C
50	3	2886	A
50	3	2888	U
50	3	2889	U
50	3	2890	G
50	3	2895	A
50	3	2897	G
50	3	2898	A
51	4	2	U
51	4	3	U
51	4	4	G
51	4	9	C
51	4	10	C

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Mol	Chain	Res	Type
51	4	11	A
51	4	12	U
51	4	13	G
51	4	18	U
51	4	19	G
51	4	20	U
51	4	23	A
51	4	24	A
51	4	27	A
51	4	28	C
51	4	33	U
51	4	35	C
51	4	38	U
51	4	39	U
51	4	40	U
51	4	41	C
51	4	42	G
51	4	45	C
51	4	47	C
51	4	48	A
51	4	49	G
51	4	50	C
51	4	51	A
51	4	54	U
51	4	55	A
51	4	60	C
51	4	65	G
51	4	66	A
51	4	75	U
51	4	76	A
51	4	77	G
51	4	86	G
51	4	88	G
51	4	89	A
51	4	98	A
51	4	99	A
51	4	102	A
51	4	106	A
51	4	107	G
52	5	8	G
52	5	9	A
52	5	10	G

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Mol	Chain	Res	Type
52	5	14	U
52	5	16	G
52	5	17	A
52	5	18	U
52	5	22	G
52	5	32	U
52	5	33	A
52	5	40	G
52	5	48	C
52	5	49	C
52	5	50	U
52	5	51	A
52	5	52	A
52	5	66	A
52	5	67	U
52	5	75	A
52	5	80	U
52	5	81	A
52	5	86	A
52	5	87	G
52	5	93	A
52	5	95	C
52	5	98	G
52	5	100	G
52	5	101	A
52	5	104	A
52	5	105	A
52	5	106	C
52	5	111	A
52	5	112	U
52	5	113	C
52	5	114	C
52	5	115	A
52	5	117	U
52	5	120	A
52	5	130	G
52	5	132	G
52	5	135	A
52	5	145	G
52	5	148	A
52	5	149	G
52	5	160	A

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Mol	Chain	Res	Type
52	5	163	G
52	5	164	C
52	5	165	A
52	5	168	A
52	5	170	A
52	5	171	A
52	5	175	U
52	5	180	C
52	5	186	A
52	5	194	U
52	5	196	G
52	5	205	U
52	5	211	G
52	5	215	C
52	5	216	G
52	5	227	A
52	5	230	G
52	5	234	G
52	5	236	C
52	5	239	A
52	5	240	U
52	5	241	C
52	5	243	G
52	5	246	A
52	5	247	G
52	5	249	U
52	5	256	G
52	5	260	C
52	5	262	G
52	5	263	C
52	5	271	G
52	5	275	A
52	5	276	U
52	5	285	G
52	5	290	G
52	5	296	A
52	5	300	A
52	5	302	A
52	5	305	A
52	5	311	A
52	5	312	A
52	5	323	A

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Mol	Chain	Res	Type
52	5	324	C
52	5	326	C
52	5	328	G
52	5	334	A
52	5	341	C
52	5	342	G
52	5	344	G
52	5	347	G
52	5	348	C
52	5	353	G
52	5	361	U
52	5	363	U
52	5	364	U
52	5	365	U
52	5	367	A
52	5	368	C
52	5	369	A
52	5	378	A
52	5	379	A
52	5	382	U
52	5	384	G
52	5	385	A
52	5	388	G
52	5	393	A
52	5	394	U
52	5	400	G
52	5	402	G
52	5	407	A
52	5	408	U
52	5	409	G
52	5	410	A
52	5	411	A
52	5	414	U
52	5	416	U
52	5	417	U
52	5	418	U
52	5	419	A
52	5	420	A
52	5	425	G
52	5	426	U
52	5	428	A
52	5	429	A

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Mol	Chain	Res	Type
52	5	430	G
52	5	432	U
52	5	438	A
52	5	440	U
52	5	441	U
52	5	445	A
52	5	451	G
52	5	452	A
52	5	456	U
52	5	457	A
52	5	464	A
52	5	467	G
52	5	476	U
52	5	477	U
52	5	478	G
52	5	480	C
52	5	481	U
52	5	482	G
52	5	483	U
52	5	484	A
52	5	485	C
52	5	488	U
52	5	489	U
52	5	493	A
52	5	494	A
52	5	495	U
52	5	497	A
52	5	498	G
52	5	506	U
52	5	507	A
52	5	508	A
52	5	509	C
52	5	513	G
52	5	515	G
52	5	516	C
52	5	519	G
52	5	525	G
52	5	529	U
52	5	530	A
52	5	531	A
52	5	532	U
52	5	534	C

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Mol	Chain	Res	Type
52	5	535	A
52	5	538	G
52	5	543	C
52	5	545	A
52	5	548	G
52	5	550	U
52	5	551	A
52	5	553	C
52	5	556	G
52	5	559	U
52	5	560	U
52	5	561	A
52	5	562	U
52	5	565	G
52	5	568	G
52	5	570	A
52	5	571	A
52	5	572	A
52	5	573	G
52	5	574	C
52	5	575	A
52	5	577	G
52	5	582	G
52	5	591	A
52	5	593	A
52	5	594	A
52	5	595	G
52	5	604	U
52	5	615	G
52	5	616	C
52	5	618	U
52	5	623	G
52	5	624	U
52	5	626	G
52	5	628	A
52	5	632	A
52	5	635	G
52	5	636	G
52	5	638	A
52	5	643	U
52	5	645	A
52	5	647	U

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Mol	Chain	Res	Type
52	5	648	C
52	5	650	A
52	5	651	G
52	5	652	A
52	5	653	G
52	5	656	U
52	5	662	G
52	5	671	G
52	5	672	A
52	5	676	U
52	5	682	G
52	5	683	G
52	5	684	A
52	5	687	G
52	5	703	A
52	5	708	A
52	5	715	A
52	5	718	A
52	5	719	G
52	5	720	U
52	5	721	G
52	5	724	G
52	5	725	A
52	5	728	G
52	5	731	A
52	5	741	C
52	5	743	A
52	5	744	U
52	5	745	U
52	5	746	A
52	5	749	G
52	5	750	A
52	5	752	G
52	5	753	C
52	5	754	U
52	5	774	A
52	5	778	A
52	5	780	U
52	5	784	A
52	5	787	A
52	5	796	A
52	5	802	C

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Mol	Chain	Res	Type
52	5	809	G
52	5	812	A
52	5	813	A
52	5	814	C
52	5	817	U
52	5	818	A
52	5	819	G
52	5	825	A
52	5	829	G
52	5	834	G
52	5	835	G
52	5	838	A
52	5	840	C
52	5	842	C
52	5	844	U
52	5	849	A
52	5	852	G
52	5	861	A
52	5	865	U
52	5	866	A
52	5	867	A
52	5	871	U
52	5	874	C
52	5	877	C
52	5	879	G
52	5	883	A
52	5	884	G
52	5	885	U
52	5	894	A
52	5	897	A
52	5	905	U
52	5	908	A
52	5	909	A
52	5	910	C
52	5	911	G
52	5	912	G
52	5	915	U
52	5	921	G
52	5	922	G
52	5	929	C
52	5	930	A
52	5	932	A

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Mol	Chain	Res	Type
52	5	940	G
52	5	944	A
52	5	953	A
52	5	954	A
52	5	955	U
52	5	956	U
52	5	960	C
52	5	961	G
52	5	963	U
52	5	964	A
52	5	966	A
52	5	967	C
52	5	969	A
52	5	970	A
52	5	971	A
52	5	972	A
52	5	973	A
52	5	977	U
52	5	979	C
52	5	984	A
52	5	985	C
52	5	986	U
52	5	987	U
52	5	988	G
52	5	989	A
52	5	991	A
52	5	997	G
52	5	998	G
52	5	1000	A
52	5	1001	A
52	5	1003	G
52	5	1004	U
52	5	1005	U
52	5	1006	A
52	5	1010	A
52	5	1012	A
52	5	1013	C
52	5	1014	A
52	5	1015	U
52	5	1016	A
52	5	1017	A
52	5	1018	U

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Mol	Chain	Res	Type
52	5	1019	G
52	5	1037	A
52	5	1041	G
52	5	1044	G
52	5	1045	C
52	5	1047	U
52	5	1048	G
52	5	1053	U
52	5	1054	C
52	5	1055	G
52	5	1056	U
52	5	1060	C
52	5	1061	U
52	5	1070	G
52	5	1073	A
52	5	1075	G
52	5	1077	U
52	5	1083	A
52	5	1084	A
52	5	1085	G
52	5	1086	U
52	5	1088	C
52	5	1089	C
52	5	1092	A
52	5	1095	G
52	5	1099	G
52	5	1102	A
52	5	1108	A
52	5	1109	U
52	5	1113	U
52	5	1116	U
52	5	1117	U
52	5	1118	A
52	5	1121	U
52	5	1122	U
52	5	1124	U
52	5	1125	C
52	5	1128	G
52	5	1134	C
52	5	1135	U
52	5	1136	G
52	5	1139	A

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Mol	Chain	Res	Type
52	5	1140	A
52	5	1141	U
52	5	1142	G
52	5	1145	A
52	5	1157	G
52	5	1158	A
52	5	1159	A
52	5	1164	U
52	5	1166	A
52	5	1168	G
52	5	1170	C
52	5	1171	A
52	5	1173	A
52	5	1175	C
52	5	1176	A
52	5	1177	U
52	5	1181	G
52	5	1186	U
52	5	1188	A
52	5	1189	U
52	5	1194	A
52	5	1199	U
52	5	1200	G
52	5	1202	A
52	5	1203	A
52	5	1208	G
52	5	1211	A
52	5	1213	A
52	5	1215	U
52	5	1216	G
52	5	1220	A
52	5	1225	A
52	5	1229	A
52	5	1232	C
52	5	1233	G
52	5	1235	C
52	5	1236	A
52	5	1243	A
52	5	1254	A
52	5	1255	A
52	5	1260	U
52	5	1261	A

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Mol	Chain	Res	Type
52	5	1266	U
52	5	1271	U
52	5	1273	A
52	5	1274	G
52	5	1276	U
52	5	1277	C
52	5	1279	G
52	5	1280	A
52	5	1281	U
52	5	1287	G
52	5	1289	U
52	5	1293	A
52	5	1296	C
52	5	1297	G
52	5	1299	C
52	5	1305	G
52	5	1319	U
52	5	1321	G
52	5	1322	U
52	5	1326	C
52	5	1333	C
52	5	1334	A
52	5	1335	G
52	5	1336	C
52	5	1337	U
52	5	1338	A
52	5	1343	G
52	5	1345	G
52	5	1354	G
52	5	1356	U
52	5	1363	U
52	5	1369	A
52	5	1373	A
52	5	1374	C
52	5	1380	G
52	5	1381	U
52	5	1383	A
52	5	1384	A
52	5	1390	G
52	5	1402	U
52	5	1403	A
52	5	1404	U

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Mol	Chain	Res	Type
52	5	1406	U
52	5	1408	A
52	5	1412	C
52	5	1415	G
52	5	1417	U
52	5	1418	G
52	5	1420	U
52	5	1423	C
52	5	1425	A
52	5	1426	U
52	5	1429	G
52	5	1439	G
52	5	1440	U
52	5	1441	C
52	5	1448	A
52	5	1450	C
52	5	1459	U
52	5	1467	A
52	5	1468	A
52	5	1470	U
52	5	1471	C
52	5	1475	A
52	5	1477	A
52	5	1479	G
52	5	1480	G
52	5	1481	U
52	5	1482	A
52	5	1494	A
52	5	1495	C
52	5	1504	G
52	5	1505	G
53	7	5	C
53	7	9	U
53	7	14	C
53	7	15	A
53	7	17	U
53	7	19	G
53	7	21	U
53	7	22	A
53	7	23	G
53	7	24	A
53	7	27	A

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Mol	Chain	Res	Type
53	7	35	G
53	7	37	A
53	7	42	C
53	7	44	U
53	7	47	G
53	7	48	U
53	7	49	C
53	7	50	G
53	7	54	G
53	7	57	C
53	7	58	G
53	7	60	U
53	7	61	U
53	7	62	C
53	7	70	G
53	7	71	A
53	7	72	C
53	7	73	C
53	7	77	A
53	8	5	C
53	8	9	U
53	8	14	C
53	8	15	A
53	8	17	U
53	8	19	G
53	8	21	U
53	8	22	A
53	8	23	G
53	8	24	A
53	8	27	A
53	8	35	G
53	8	37	A
53	8	42	C
53	8	44	U
53	8	47	G
53	8	48	U
53	8	49	C
53	8	50	G
53	8	54	G
53	8	57	C
53	8	58	G
53	8	60	U

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Mol	Chain	Res	Type
53	8	61	U
53	8	62	C
53	8	70	G
53	8	71	A
53	8	72	C
53	8	73	C
53	8	77	A

All (64) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
50	3	232	A
50	3	276	A
50	3	296	U
50	3	311	G
50	3	410	G
50	3	425	U
50	3	513	A
50	3	515	A
50	3	562	C
50	3	635	G
50	3	663	A
50	3	881	A
50	3	952	U
50	3	1124	G
50	3	1209	U
50	3	1216	U
50	3	1297	U
50	3	1386	G
50	3	1465	U
50	3	1507	G
50	3	1587	U
50	3	1588	A
50	3	1687	G
50	3	1703	A
50	3	1749	A
50	3	1827	U
50	3	2318	A
50	3	2341	G
50	3	2506	C
50	3	2604	U
50	3	2645	U

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Mol	Chain	Res	Type
50	3	2668	A
50	3	2823	A
50	3	2897	G
51	4	32	G
51	4	50	C
51	4	54	U
51	4	59	A
51	4	101	C
52	5	113	C
52	5	159	U
52	5	270	A
52	5	340	A
52	5	410	A
52	5	419	A
52	5	425	G
52	5	493	A
52	5	561	A
52	5	808	C
52	5	893	C
52	5	1017	A
52	5	1083	A
52	5	1115	G
52	5	1133	A
52	5	1135	U
52	5	1156	G
52	5	1336	C
52	5	1480	G
53	7	16	G
53	7	57	C
53	7	71	A
53	8	16	G
53	8	57	C
53	8	71	A

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

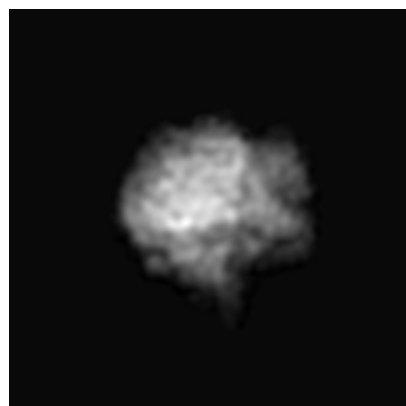
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13434. These allow visual inspection of the internal detail of the map and identification of artifacts.

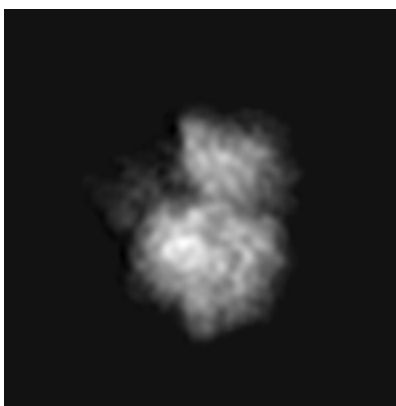
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

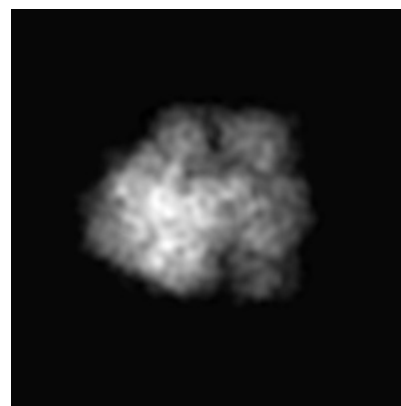
6.1.1 Primary map



X

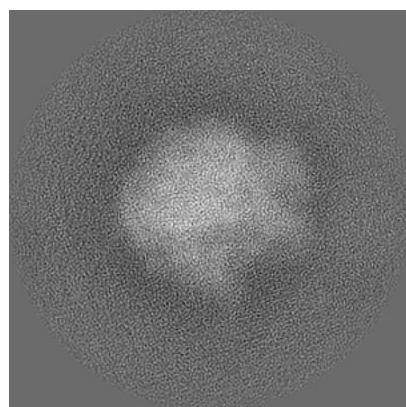


Y

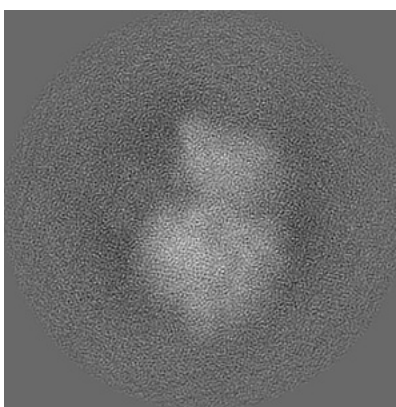


Z

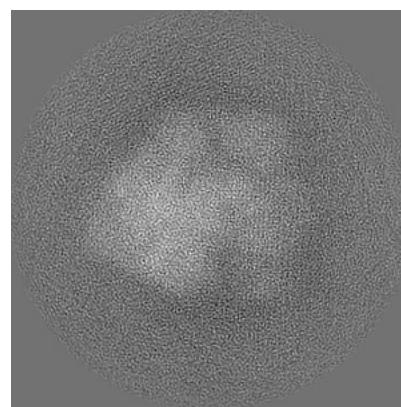
6.1.2 Raw map



X



Y

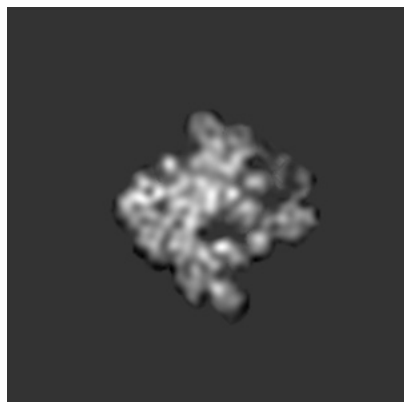


Z

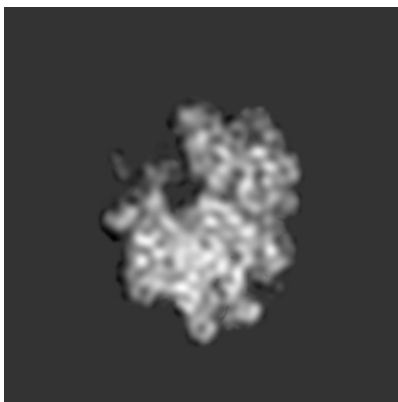
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

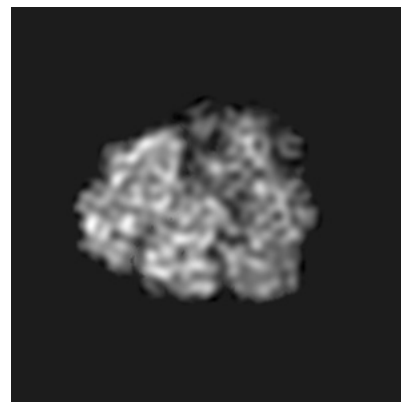
6.2.1 Primary map



X Index: 128

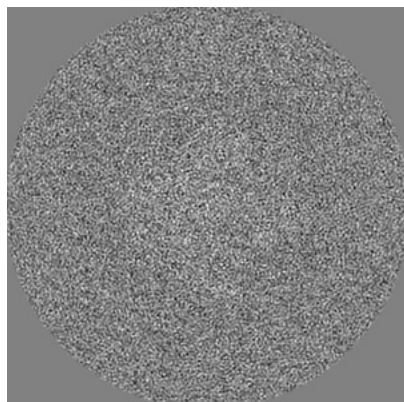


Y Index: 128

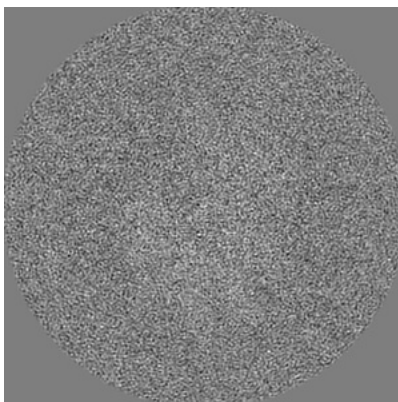


Z Index: 128

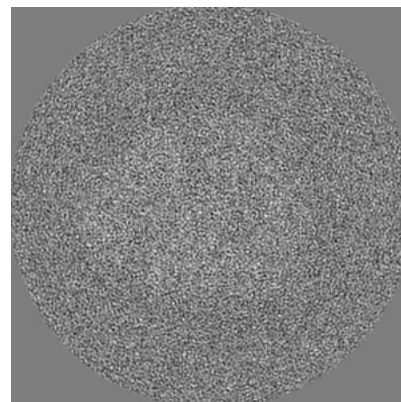
6.2.2 Raw map



X Index: 128



Y Index: 128



Z Index: 128

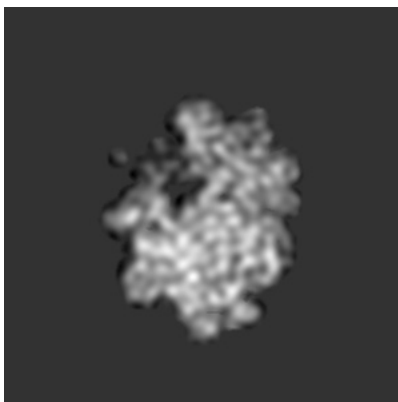
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

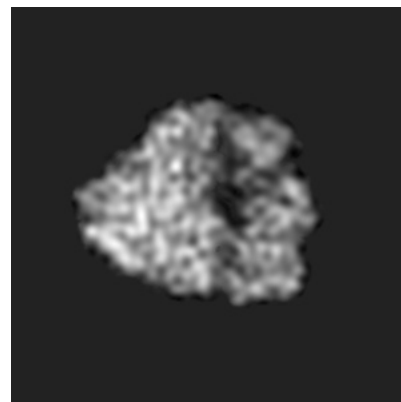
6.3.1 Primary map



X Index: 102

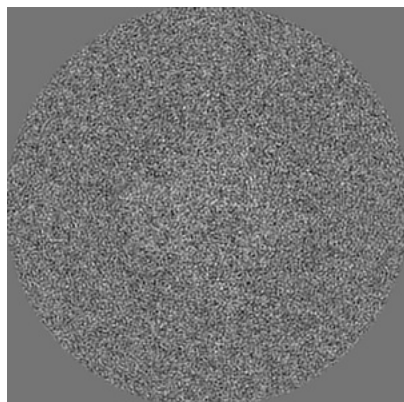


Y Index: 124

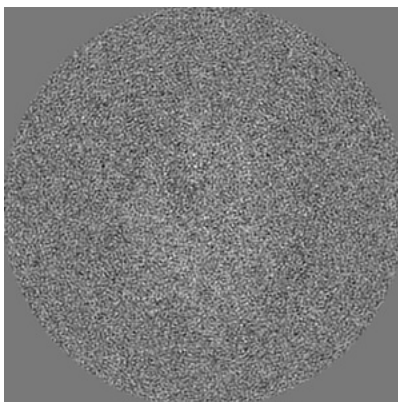


Z Index: 121

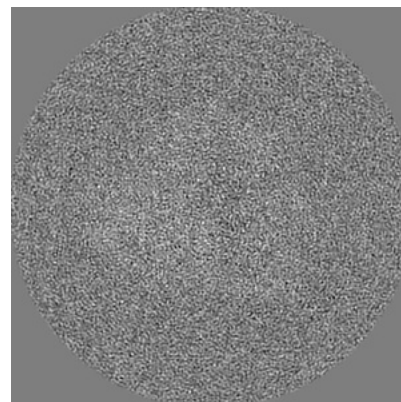
6.3.2 Raw map



X Index: 130



Y Index: 124



Z Index: 120

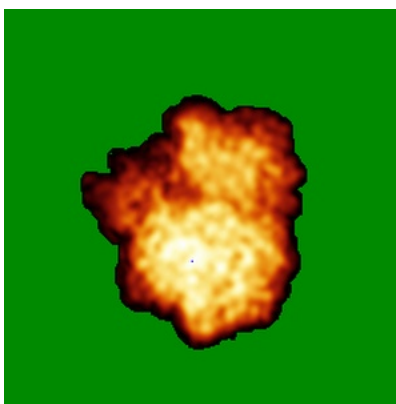
The images above show the largest variance slices of the map in three orthogonal directions.

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

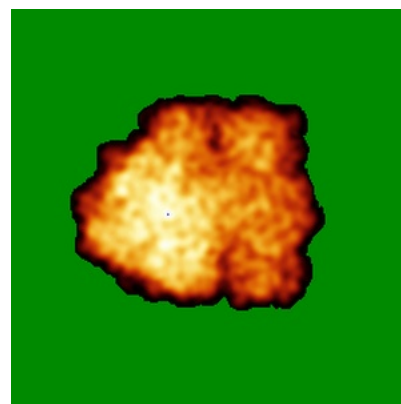
6.4.1 Primary map



X

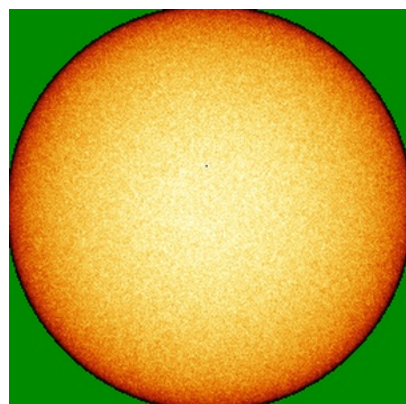


Y

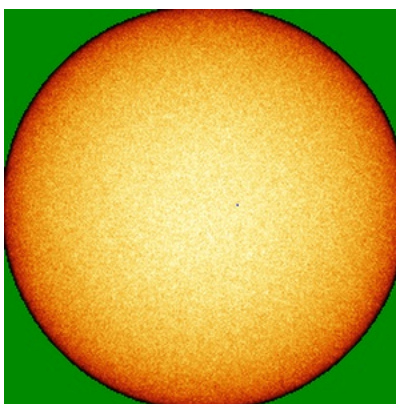


Z

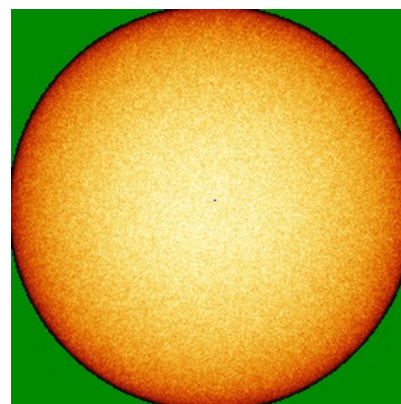
6.4.2 Raw map



X



Y

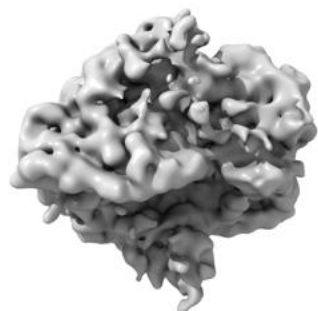


Z

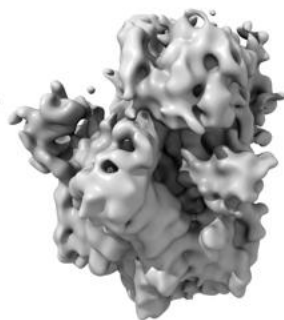
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

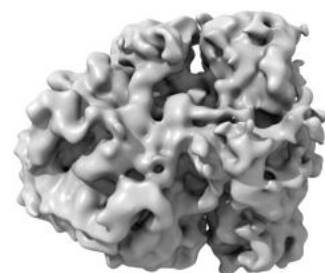
6.5.1 Primary map



X



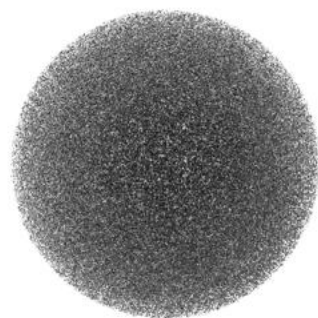
Y



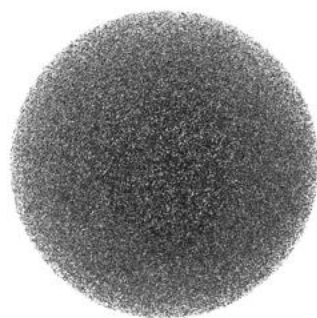
Z

The images above show the 3D surface view of the map at the recommended contour level 0.22. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

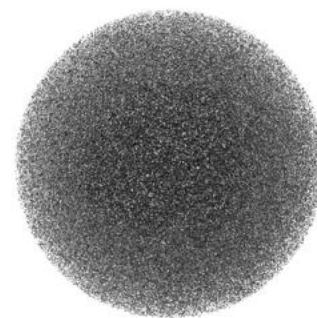
6.5.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

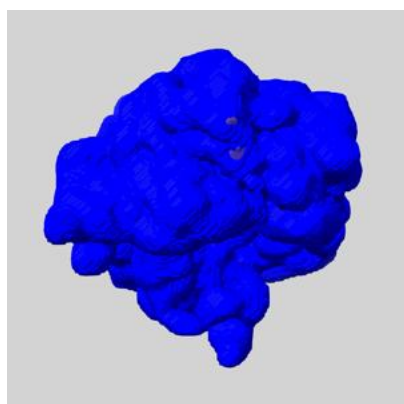
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

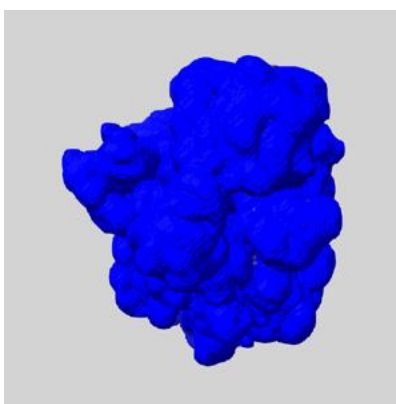
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

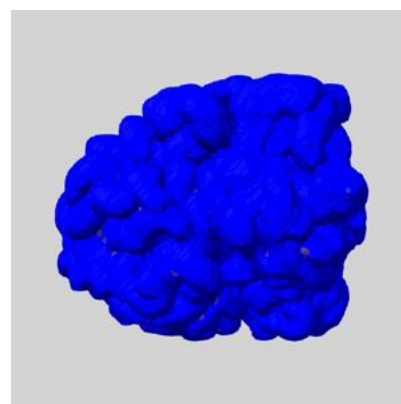
6.6.1 emd_13434_msk_1.map [i](#)



X



Y

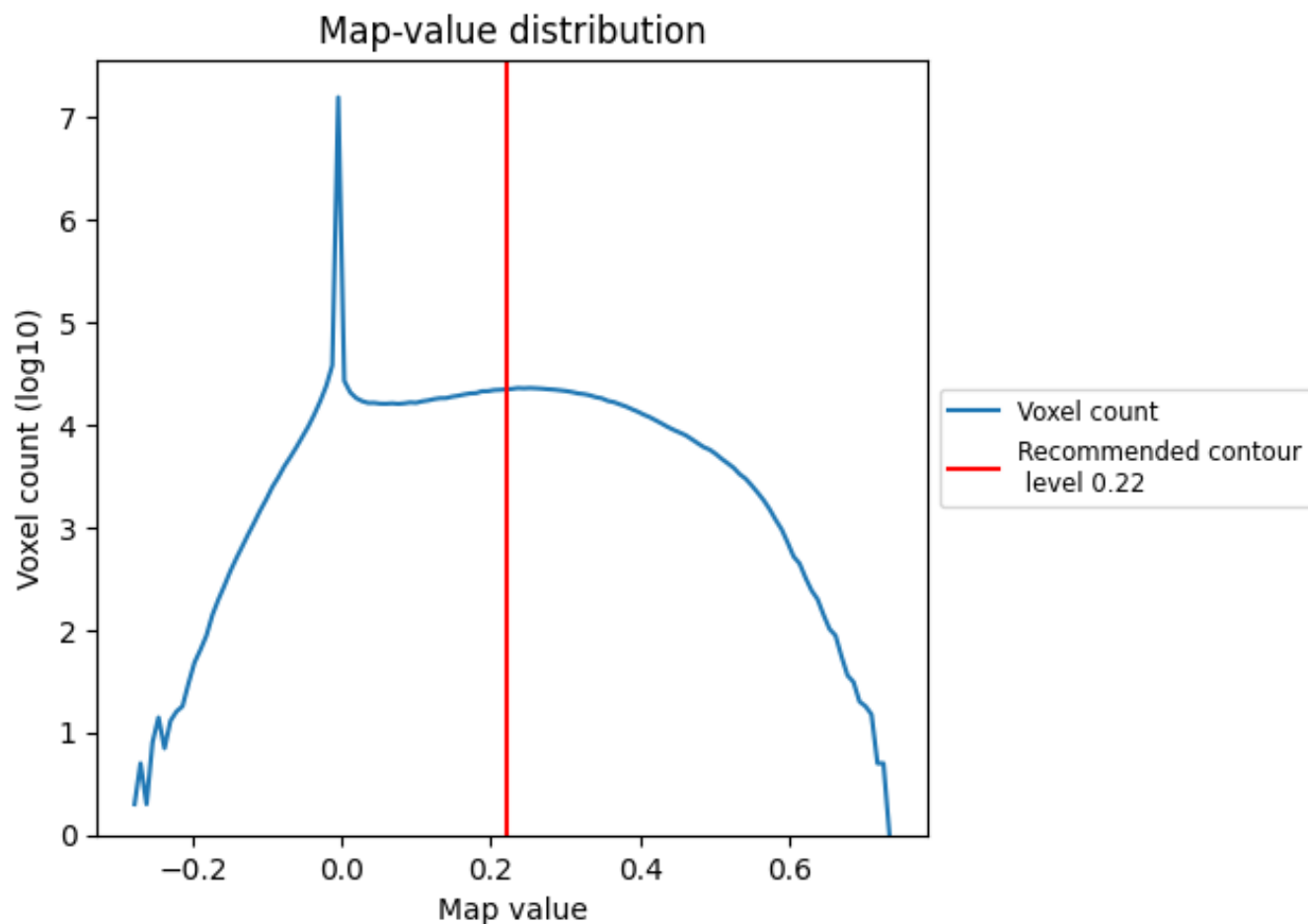


Z

7 Map analysis [i](#)

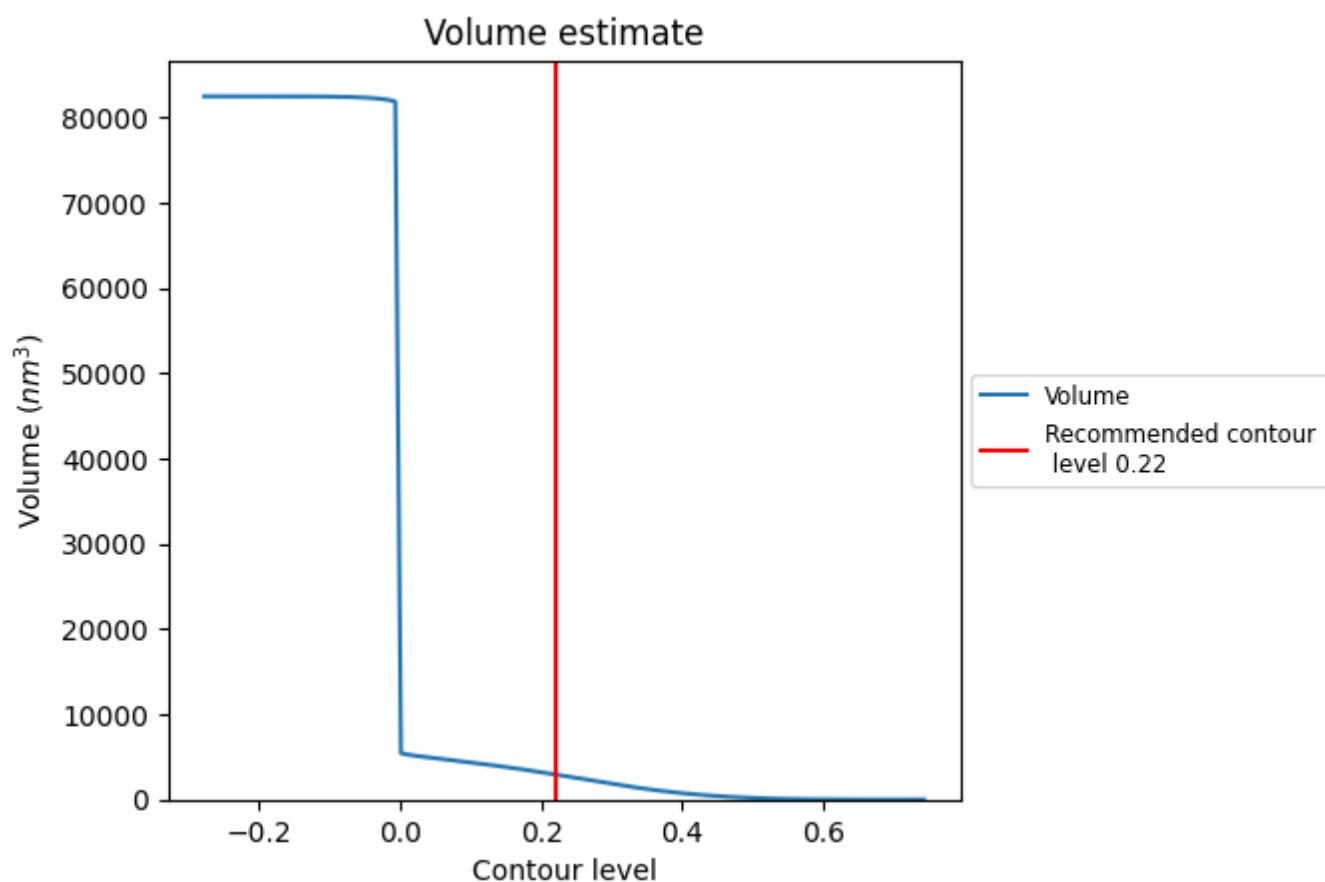
This section contains the results of statistical analysis of the map.

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.

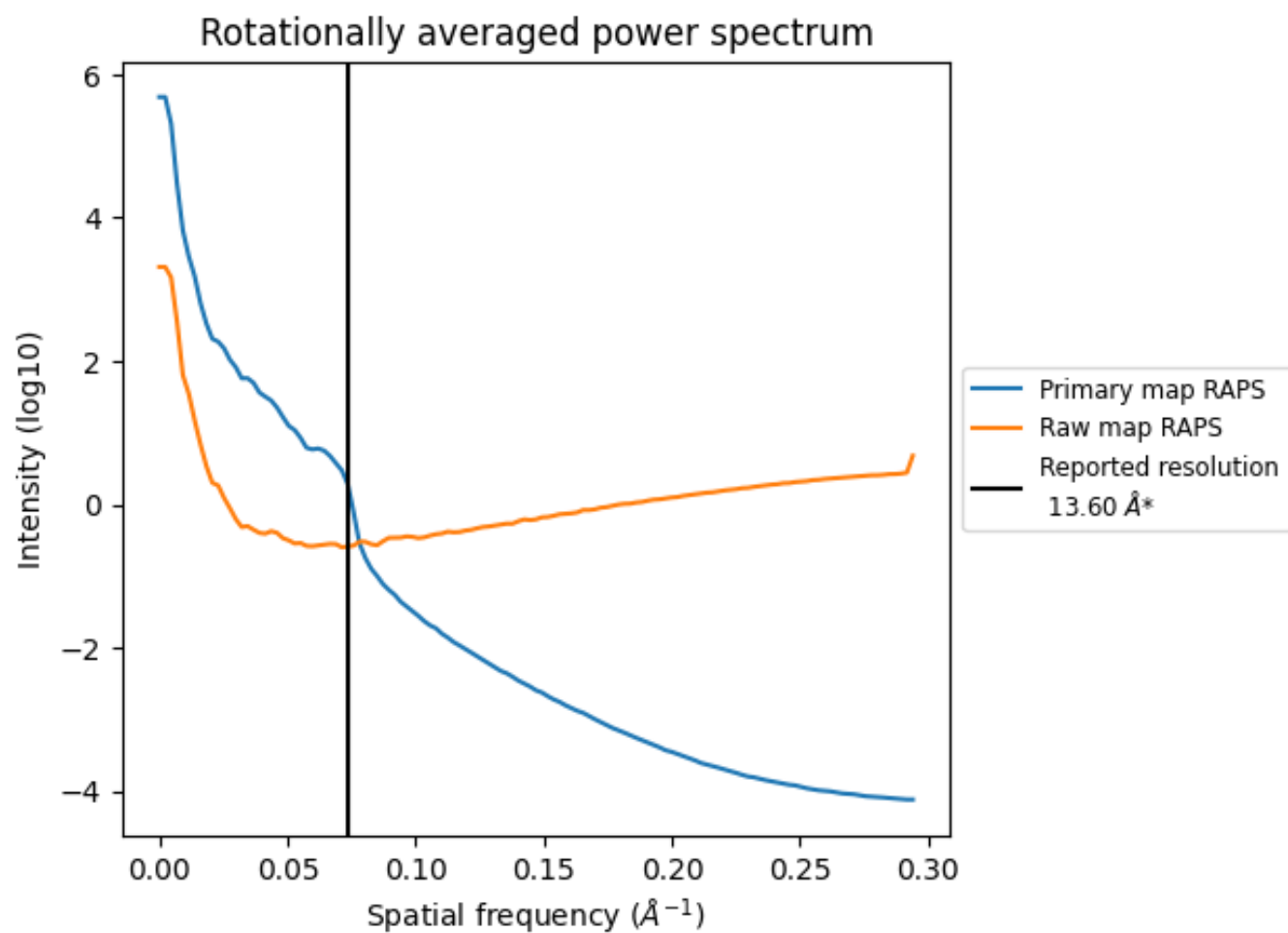
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2941 nm³; this corresponds to an approximate mass of 2657 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 ⓘ

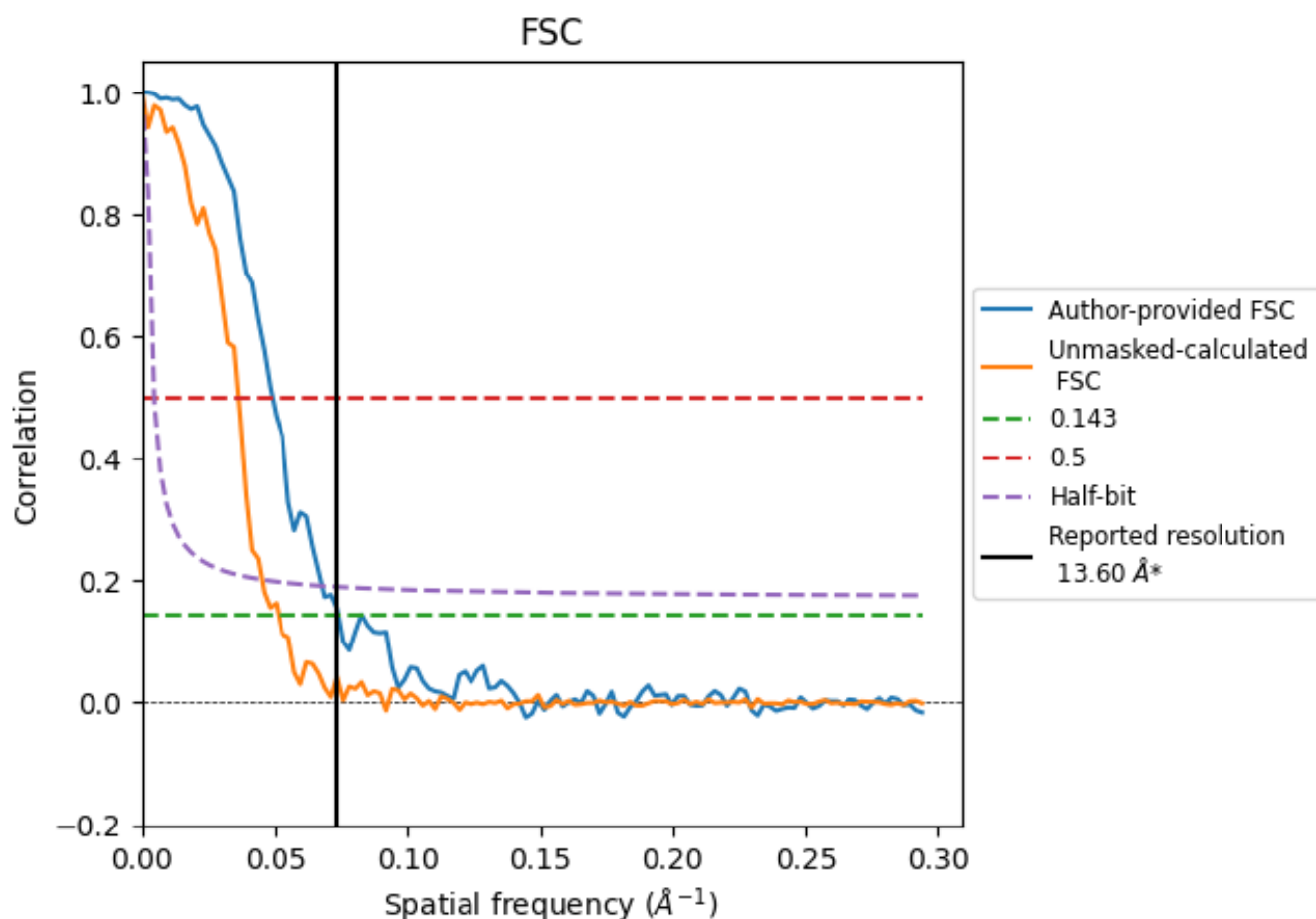


*Reported resolution corresponds to spatial frequency of 0.074 $\text{\AA}^{-1}$

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 0.074 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

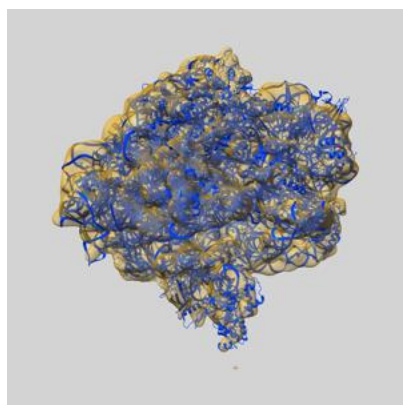
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	13.60	-	-
Author-provided FSC curve	13.51	20.37	14.73
Unmasked-calculated*	19.46	27.70	22.17

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 19.46 differs from the reported value 13.6 by more than 10 %

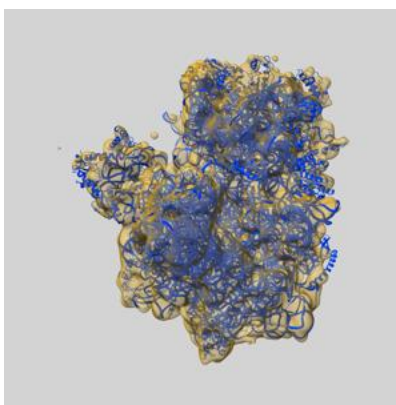
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-13434 and PDB model 7PIA. Per-residue inclusion information can be found in section [3](#) on page [14](#).

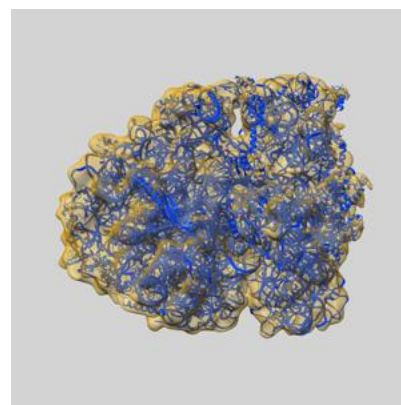
9.1 Map-model overlay [i](#)



X



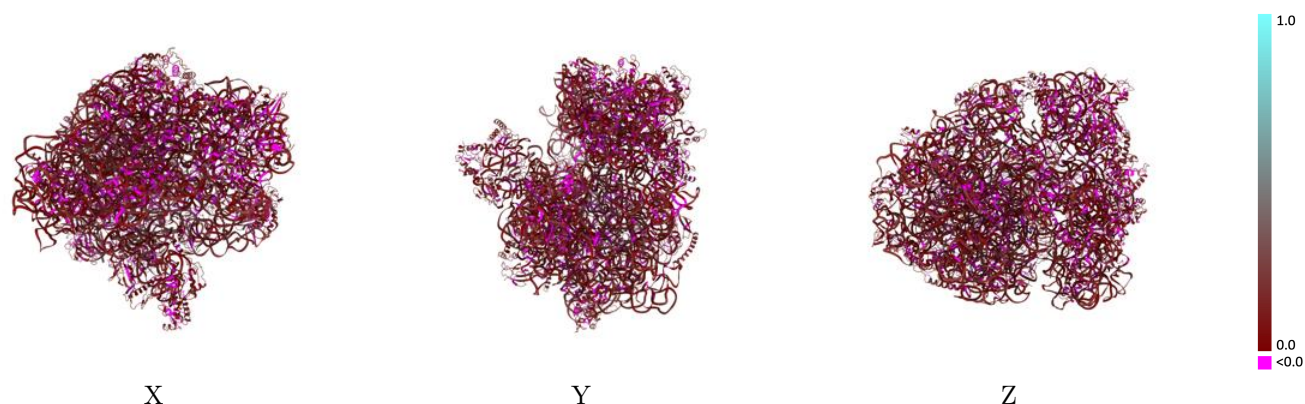
Y



Z

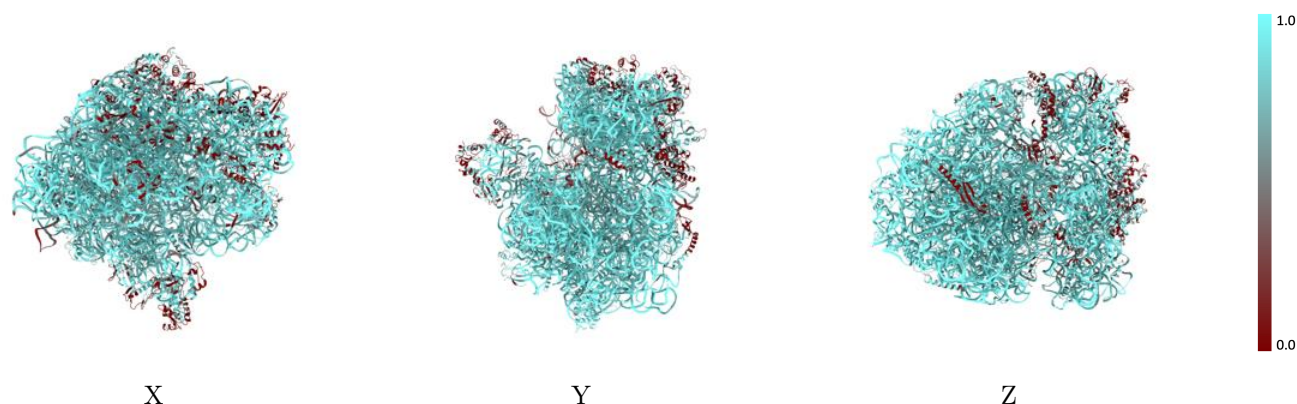
The images above show the 3D surface view of the map at the recommended contour level 0.22 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



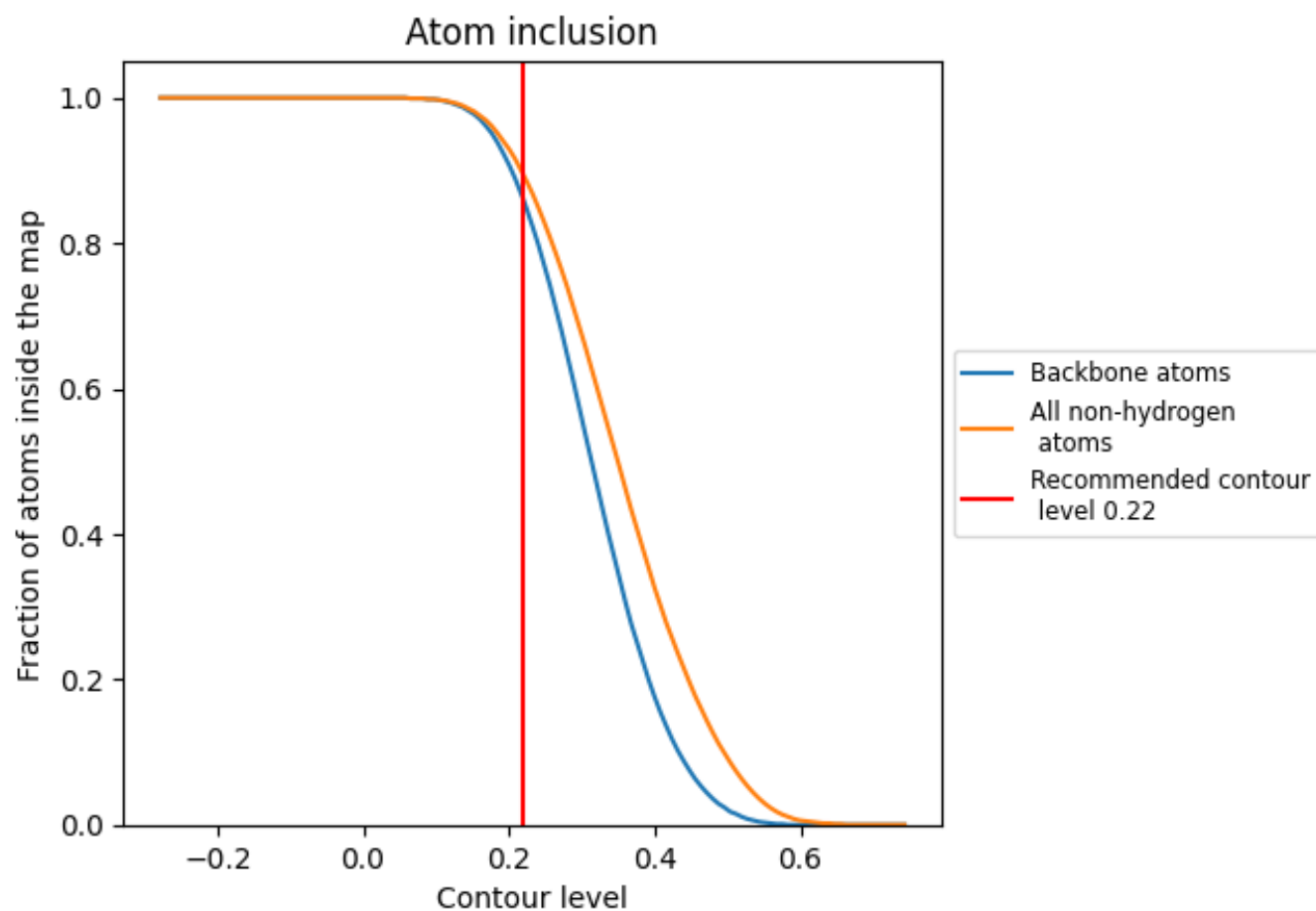
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.22).

9.4 Atom inclusion [i](#)



At the recommended contour level, 86% of all backbone atoms, 89% 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 (0.22) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8940	 0.0870
0	 0.9810	 0.0300
1	 1.0000	 0.0060
2	 0.9430	 0.0510
3	 0.9820	 0.1010
4	 0.9670	 0.1070
5	 0.9460	 0.0960
7	 0.7850	 0.0600
8	 0.9130	 0.1020
A	 0.4830	 0.0800
B	 0.5680	 0.0600
C	 0.6780	 0.0520
D	 0.5400	 0.0560
E	 0.4790	 0.1070
F	 0.4200	 0.0660
G	 0.5100	 0.0510
H	 0.5350	 0.0430
I	 0.6350	 0.0390
J	 0.5470	 0.0530
K	 0.7070	 0.0370
L	 0.5180	 0.0550
M	 0.9670	 0.0460
N	 0.5790	 0.0620
O	 0.7200	 0.0290
P	 0.6560	 0.0700
Q	 0.7040	 0.0290
R	 0.7520	 0.0580
S	 0.8340	 0.0550
T	 0.6790	 0.1220
a	 0.9600	 0.0510
b	 0.9290	 0.0500
c	 0.9750	 0.0580
d	 0.7950	 0.0780
e	 0.5140	 0.0830
f	 0.4870	 0.0920



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Chain	Atom inclusion	Q-score
g	 0.4190	 0.0810
h	 0.3630	 0.0820
i	 0.9300	 0.0490
j	 0.7150	 0.0640
k	 0.9760	 0.0540
l	 0.9330	 0.0530
m	 0.9850	 0.0500
n	 0.9110	 0.0630
o	 0.7270	 0.0480
p	 0.9490	 0.0590
q	 0.8950	 0.0780
r	 0.9940	 0.0750
s	 0.9650	 0.0740
t	 0.9610	 0.0770
u	 0.9830	 0.0480
v	 0.9960	 0.0550
w	 0.9180	 0.0840
x	 0.7170	 0.1250
y	 0.9540	 0.0400
z	 0.9980	 0.0340