



Full wwPDB EM Validation Report ⓘ

Mar 20, 2026 – 04:54 PM UTC

PDB ID : 7PAU / pdb_00007pau
EMDB ID : EMD-13286
Title : free 50S in complex with ribosome recycling factor in untreated Mycoplasma pneumoniae cells
Authors : Xue, L.; Lenz, S.; Rappsilber, J.; Mahamid, J.
Deposited on : 2021-07-30
Resolution : 8.30 Å (reported)
Based on initial models : 1EH1, 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

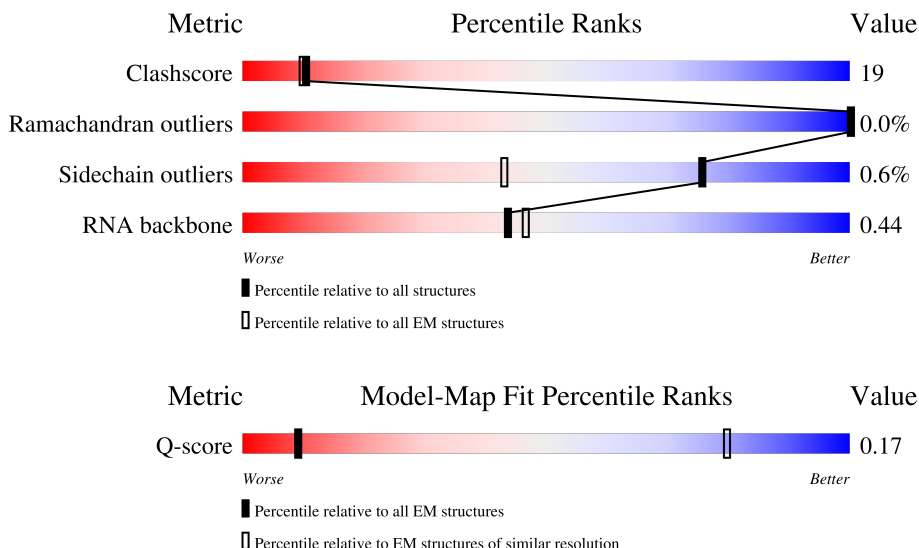
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 8.30 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	280 (7.82 - 8.80)

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	7	184	
5	a	287	
6	b	287	
7	c	212	
8	d	180	
9	e	184	
10	f	149	
11	g	161	
12	h	137	
13	i	146	
14	j	122	
15	k	151	
16	l	139	
17	m	124	
18	n	116	
19	o	119	
20	p	127	
21	q	100	
22	r	159	
23	s	237	
24	t	111	
25	u	104	
26	v	65	
27	w	111	
28	x	97	

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Mol	Chain	Length	Quality of chain
29	y	57	58%37%
30	z	53	51%43%6%
31	3	2907	25%57%17%
32	4	108	32%47%18%

2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 92803 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 Ribosome-recycling factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	7	182	Total	C	N	O	S	0	0
			1510	960	262	283	5		

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	f	145	Total	C	N	O	S	0	0
			1160	746	204	207	3		

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 25 is a protein called 50S ribosomal protein L27.

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

- Molecule 26 is a protein called 50S ribosomal protein L28.

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

- Molecule 27 is a protein called 50S ribosomal protein L29.

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

- Molecule 28 is a protein called 50S ribosomal protein L31.

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

- Molecule 29 is a protein called 50S ribosomal protein L32.

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

- Molecule 30 is a protein called 50S ribosomal protein L33 1.

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

- Molecule 31 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	3	2878	Total	C	N	O	P	0	0
			61664	27558	11236	19995	2875		

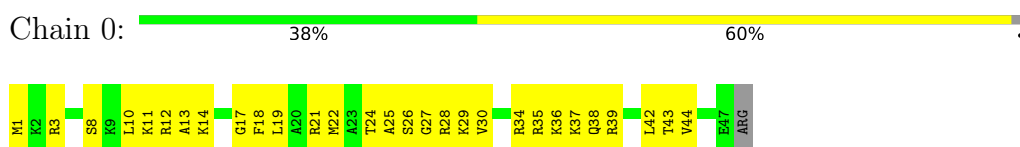
- Molecule 32 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	4	105	Total	C	N	O	P	0	0
			2239	1003	409	724	103		

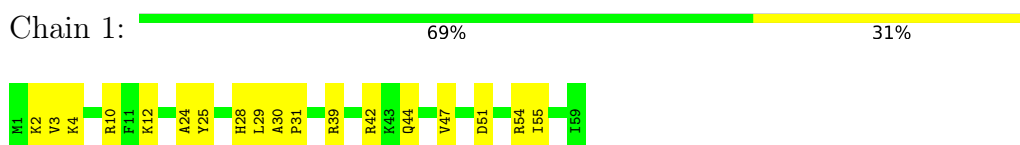
3 Residue-property plots [i](#)

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.

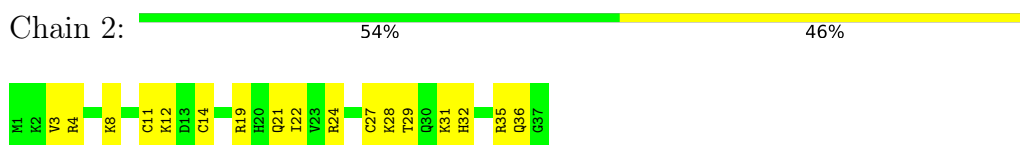
- Molecule 1: 50S ribosomal protein L34



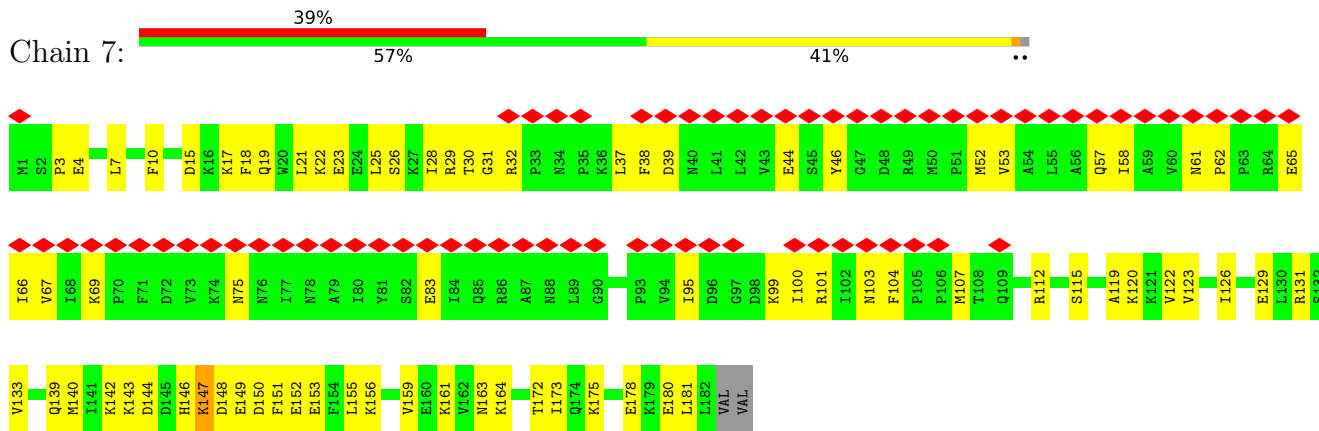
- Molecule 2: 50S ribosomal protein L35



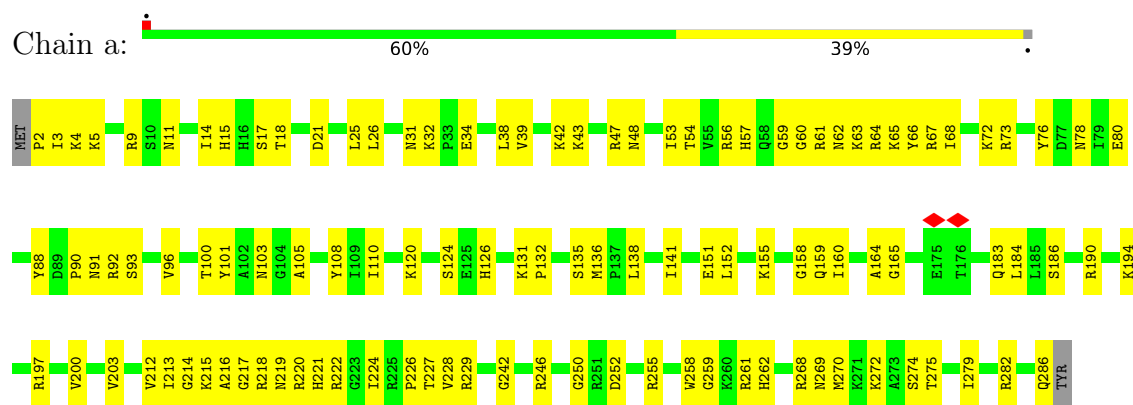
- Molecule 3: 50S ribosomal protein L36



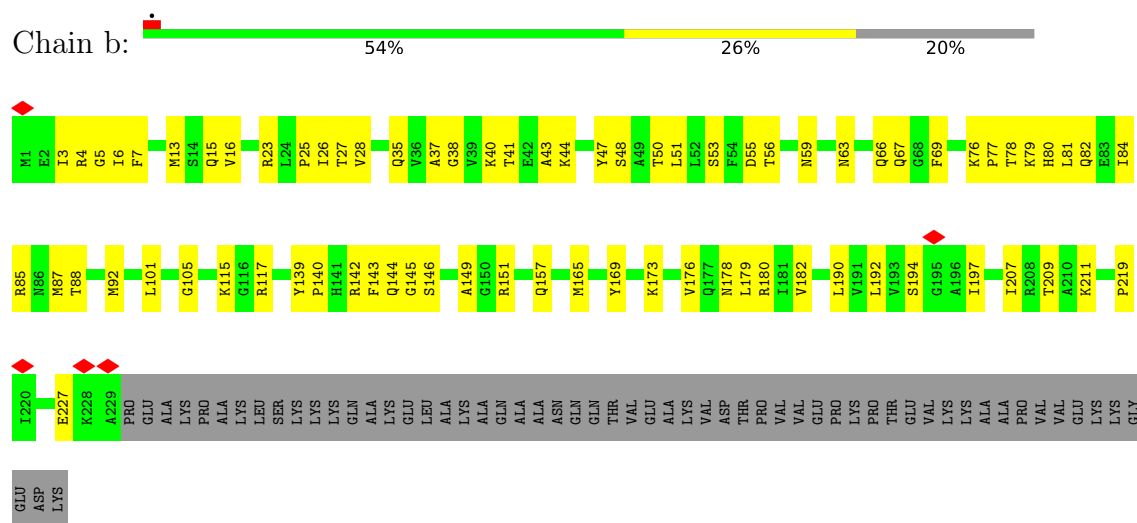
- Molecule 4: Ribosome-recycling factor



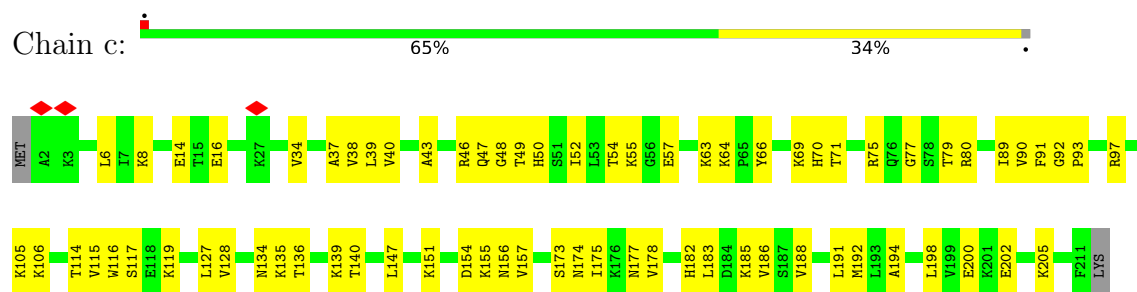
- Molecule 5: 50S ribosomal protein L2



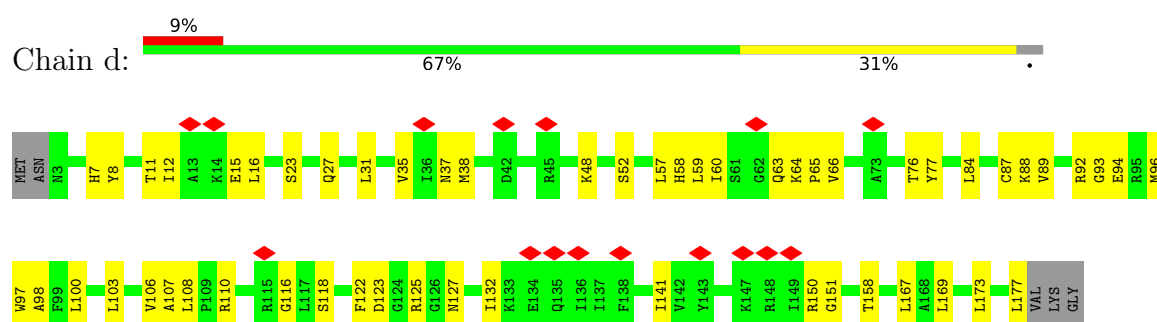
- Molecule 6: 50S ribosomal protein L3



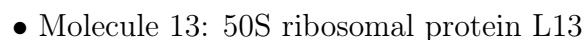
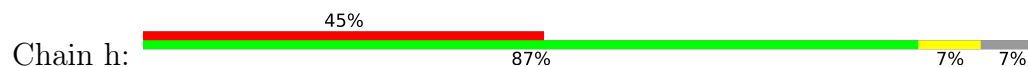
- Molecule 7: 50S ribosomal protein L4



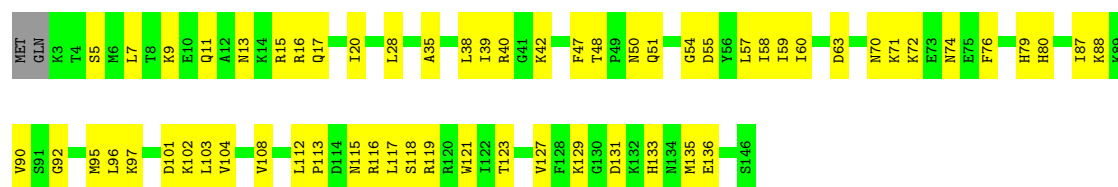
- Molecule 8: 50S ribosomal protein L5



Chain e: 8% 72% 23%

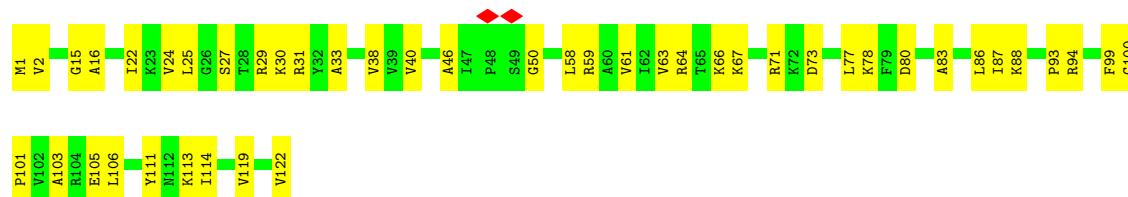


Chain i:  58% 41%



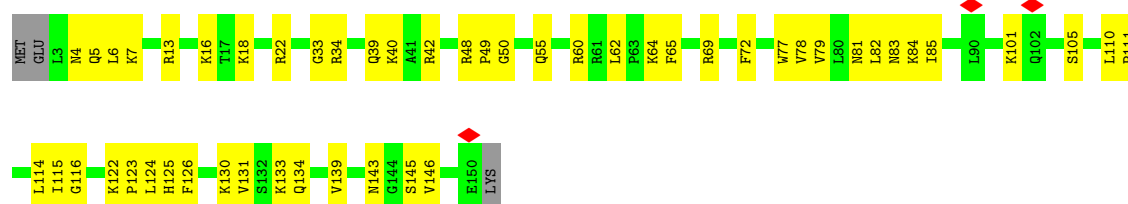
• Molecule 14: 50S ribosomal protein L14

Chain j:  63% 37%



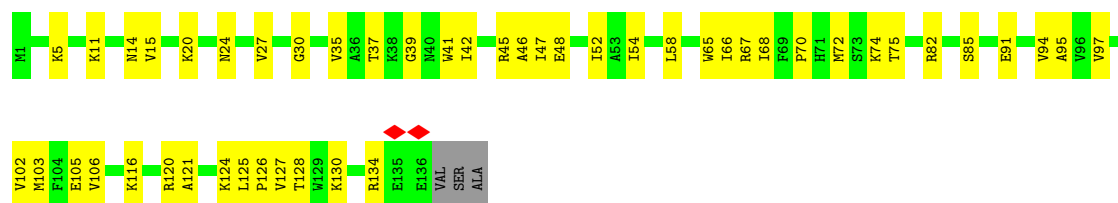
• Molecule 15: 50S ribosomal protein L15

Chain k:  64% 34%



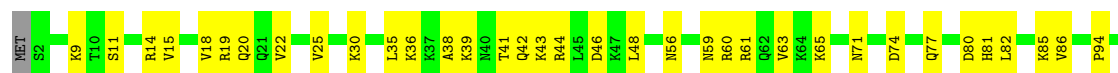
• Molecule 16: 50S ribosomal protein L16

Chain l:  63% 35%



• Molecule 17: 50S ribosomal protein L17

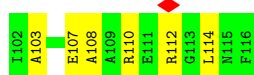
Chain m:  60% 36%





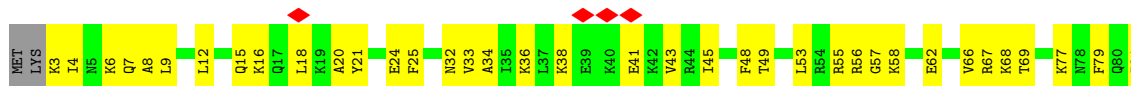
- Molecule 18: 50S ribosomal protein L18

Chain n: 63% 34%



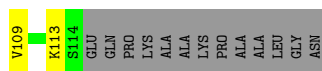
- Molecule 19: 50S ribosomal protein L19

Chain o: 59% 38%



- Molecule 20: 50S ribosomal protein L20

Chain p: 60% 30% 10%



- Molecule 21: 50S ribosomal protein L21

Chain q: 70% 29%



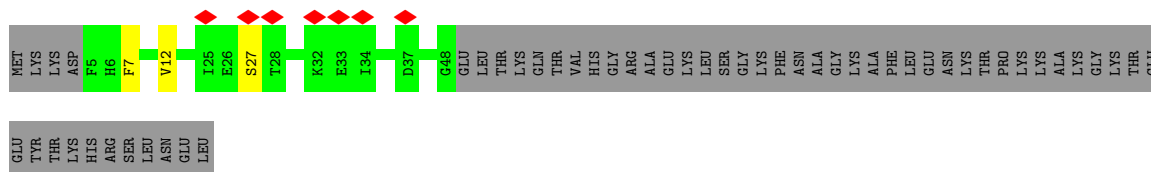
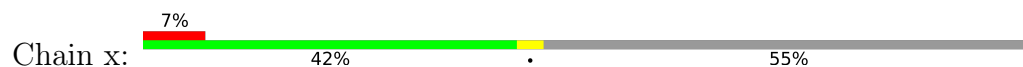
- Molecule 22: 50S ribosomal protein L22

Chain r: 51% 36% 13%

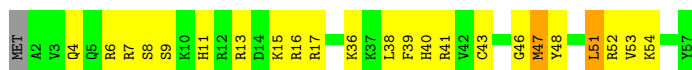




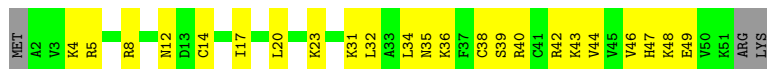
• Molecule 28: 50S ribosomal protein L31



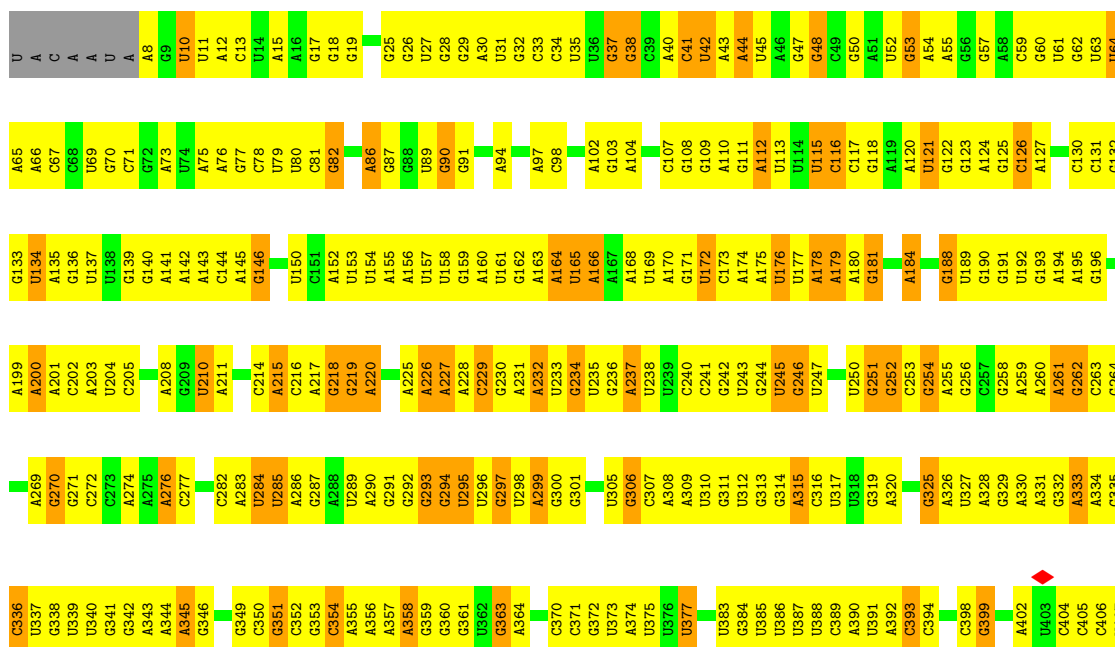
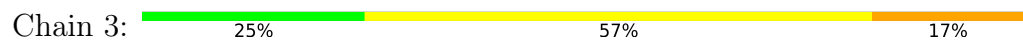
• Molecule 29: 50S ribosomal protein L32



• Molecule 30: 50S ribosomal protein L33 1



• Molecule 31: 23S ribosomal RNA



G1337	G1338	C1342	C1343	U1344	G1345	A1350	G1353	U1354	C1355	G1356	U1357	C1358	G1359	U1360	U1361	C1362	C1363	A1364	G1365	G1366	U1369	A1370	C1371	U1372	G1376	U1380	A1381	A1382	G1383	G1384	U1385	G1386	A1387	G1388	G1389	C1390	U1391	G1392	A1393	A1394	G1397	C1398	G1399	U1400	A1401	G1402	A1406	U1407	G1408	U1409	A1410												
C1139	U1140	U1141	G1142	U1143	A1146	G1147	U1148	G1149	U1150	U1151	U1154	C1155	C1156	G1157	C1158	C1159	G1160	A1161	A1162	G1163	A1164	U1165	G1166	U1167	A1168	A1169	C1170	G1171	G1174	C1175	U1176	A1177	A1178	G1179	A1183	A1186	C1187	C1188	G1189	A1190	A1191	U1192	U1193	U1194	A1195	U1196	G1197	C1198	A1199	U1200	A1201	A1202	C1137	A1204									
U1205	U1206	U1209	A1210	U1211	C1212	U1213	U1214	G1215	U1216	A1217	G1218	U1219	A1220	G1221	A1222	G1228	U1229	U1230	G1231	A1232	U1233	A1234	U1235	U1236	G1237	C1301	C1302	U1303	U1304	G1305	G1306	A1307	A1308	G1309	U1310	C1247	A1248	A1249	A1250	G1251	C1252	G1253	U1254	G1255	A1256	G1257	C1258	A1259	U1260	U1261	G1262	G1263	U1264	C1265	G1266	A1267	U1268	C1269					
C1270	A1271	A1274	C1275	U1278	U1279	G1280	A1281	G1282	A1283	U1284	U1285	G1286	C1287	C1288	A1292	U1293	G1294	A1295	G1296	U1297	A1298	A1299	C1300	U1301	C1302	U1303	U1304	G1305	G1306	A1307	A1308	G1309	U1310	C1311	A1314	A1315	U1316	C1317	U1318	C1321	A1322	C1325	G1326	C1327	A1328	U1329	U1330	G1331	A1332	C1333	U1334	A1335	A1336										
G1065	G1066	U1067	U1068	G1069	U1070	G1071	U1072	A1073	A1074	G1075	U1076	G1077	C1078	A1081	A1082	A1085	G1086	C1087	A1088	A1089	G1090	G1091	A1092	U1093	G1094	U1095	U1096	G1097	G1098	C1099	U1100	U1101	C1102	G1103	A1104	A1105	G1106	C1111	A1112	U1113	C1114	G1115	U1116	A1123	G1124	U1125	G1126	A1131	C1132	A1133	U1136	C1137	A1138										
U999	U1000	C1001	A1002	U1003	U1004	G1005	U1006	C1007	A1008	A1009	U1010	A1011	G1012	G1013	A1016	A1019	G1020	C1021	C1022	A1023	A1024	G1025	A1026	U1027	C1028	A1029	U1030	U1031	A1032	A1033	A1034	U1035	A1036	U1037	G1038	G1039	U1040	A1045	A1046	A1047	A1048	U1049	A1050	U1051	C1052	C1053	U1054	A1055	G999	G990	C1057	U1058	A993	U994	A995	A996	A1061	A1062	A1063	A1064			
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A870	C871	C872	G873	U874	G875	A876	C877	A878	C880	A881	C882	A883	A884	C885	U886	U887	A888	C889	U890	C891	A892	U893	C894	U895	A896	U897	A898	C899	U900	A901	C902	A903	U904	C905	U906	A907	A908	U909	G910	U911	A912	U913	G914	A915	U916	C984	G917	G918	C922	A	U981	C	U982	A	U983	U984	U985	U986	U987	U988	U989	G931	
G805	A806	U807	G810	G811	G812	G813	U814	G815	A816	A817	A818	U819	U820	C821	C822	A823	A824	U825	C826	C827	A828	A829	A830	U831	C832	C833	A834	U835	A836	A837	C840	C841	U842	G843	G844	C847	U848	C849	G850	U851	C852	A853	A854	A855	A856	C860	U861	U862	U863	A864	A865	A866	C867	U868	U869								
G732	C733	G735	U738	G739	A740	G742	U745	G746	A747	G748	C752	A753	U754	C755	A756	A757	U758	C759	A762	G763	A764	U765	C766	A767	C768	G769	A770	A774	C775	U781	U782	G783	A784	G788	A789	U790	G791	C792	G793	G794	U797	C	U798	A799	U800	U801	U802	G803	C865	U804													
A667	A668	C671	G672	A673	G674	U675	U676	U677	U678	A679	A680	A681	A682	A683	A684	G685	U689	U690	C692	A693	U694	U695	A696	A697	A701	C634	A573	C574	A515	A516	C577	A517	A518	A519	C520	A581	A582	U583	G584	U585	G586	U587	G588	U589	A589	G590	G591	C592	G593	U594	U595	G596	C597	G598	U599	G600							
G603	A604	A605	G606	U607	A608	U609	G610	A611	C613	G614	G615	G616	C617	U618	A619	G620	U621	U622	A623	C624	G625	A626	U627	A628	G629	C630	A631	A632	G633	C634	A635	A636	U641	A642	C645	A646	A649	G650	A651	G655	G656	A657	G658	C659	U660	G661	U662	A663	G664	U665	G666												
C480	C481	A482	A483	U484	A485	G486	C487	A488	A489	A490	C491	A492	U493	G494	U495	C498	A499	U500	G501	A502	G503	G504	G505	A506	A507	A508	U509	C510	G511	G512	A513	C514	A515	A516	G517	A518	A519	C520	C521	A522	A523	G524	A525	G526	A527	U528	G529	G530	G531	C532	G533	U534	U535	G536	A537	A538	G478	A540					
G408	A409	G410	U411	A412	G413	C414	G417	G418	A422	C423	G424	U425	A426	A427	U428	U429	U430	U431	A432	A433	G434	U435	A436	A437	C443	C444	C445	A446	A447	A448	A449	C450	A451	U452	G453	G454	G455	G456	A459	G460	A464	A465	A466	U470	G474	A475	A476	A477	A478	A479													



4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	8203	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 K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	1.619	Depositor
Minimum map value	-0.546	Depositor
Average map value	0.016	Depositor
Map value standard deviation	0.104	Depositor
Recommended contour level	0.46	Depositor
Map size (Å)	480.00003, 480.00003, 480.00003	wwPDB
Map dimensions	200, 200, 200	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.4, 2.4, 2.4	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	0.12	0/383	0.37	0/504
2	1	0.11	0/484	0.42	0/637
3	2	0.13	0/306	0.39	0/401
4	7	0.23	0/1535	0.45	0/2061
5	a	0.14	0/2267	0.40	0/3044
6	b	0.16	0/1795	0.43	0/2412
7	c	0.14	0/1671	0.39	0/2246
8	d	0.14	0/1409	0.41	0/1894
9	e	0.15	0/1420	0.41	0/1912
10	f	0.14	0/1183	0.45	0/1587
11	g	0.49	0/969	0.78	0/1295
12	h	0.14	0/968	0.46	1/1298 (0.1%)
13	i	0.13	0/1186	0.34	0/1592
14	j	0.14	0/953	0.40	0/1275
15	k	0.13	0/1170	0.38	0/1559
16	l	0.14	0/1104	0.41	0/1481
17	m	0.13	0/973	0.39	0/1309
18	n	0.14	0/897	0.44	0/1198
19	o	0.15	0/948	0.45	0/1262
20	p	0.13	0/961	0.42	1/1278 (0.1%)
21	q	0.14	0/828	0.41	0/1111
22	r	0.15	0/1077	0.44	0/1441
23	s	0.12	0/732	0.42	0/988
24	t	0.15	0/879	0.38	0/1165
25	u	0.15	0/665	0.40	0/884
26	v	0.13	0/519	0.41	0/695
27	w	0.10	0/826	0.35	0/1104
28	x	0.15	0/353	0.47	0/474
29	y	0.35	0/457	0.61	0/601
30	z	0.13	0/412	0.42	0/547
31	3	0.09	0/69073	0.23	0/107710
32	4	0.09	0/2505	0.26	0/3902
All	All	0.12	0/100908	0.30	2/150867 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
10	f	0	1

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	h	74	ILE	N-CA-C	-7.98	105.71	113.53
20	p	89	ILE	N-CA-C	-5.81	107.10	113.43

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
10	f	11	ASN	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	380	0	429	27	0
2	1	477	0	530	18	0
3	2	304	0	350	18	0
4	7	1510	0	1553	59	0
5	a	2225	0	2301	102	0
6	b	1762	0	1808	63	0
7	c	1644	0	1731	61	0
8	d	1388	0	1469	43	0
9	e	1396	0	1481	31	0
10	f	1160	0	1172	34	0
11	g	960	0	1014	5	0
12	h	959	0	1039	7	0
13	i	1164	0	1192	43	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	j	944	0	1019	37	0
15	k	1153	0	1256	45	0
16	l	1079	0	1134	39	0
17	m	958	0	1011	36	0
18	n	889	0	952	34	0
19	o	938	0	1008	36	0
20	p	947	0	1028	34	0
21	q	811	0	858	19	0
22	r	1068	0	1150	44	0
23	s	720	0	803	31	0
24	t	872	0	972	24	0
25	u	657	0	695	32	0
26	v	513	0	560	23	0
27	w	818	0	870	40	0
28	x	344	0	333	2	0
29	y	452	0	472	21	0
30	z	408	0	440	17	0
31	3	61664	0	30954	1980	0
32	4	2239	0	1137	71	0
All	All	92803	0	62721	2728	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 19.

All (2728) 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)
9:e:16:VAL:HA	9:e:28:LYS:O	1.50	1.10
31:3:900:G:N2	31:3:903:A:H61	1.58	1.01
31:3:1807:C:H42	31:3:1824:G:N2	1.57	1.01
31:3:2299:U:H3	31:3:2349:G:H1	1.03	1.00
31:3:1746:U:H3	31:3:1753:G:H1	1.04	1.00
31:3:1807:C:N4	31:3:1824:G:H22	1.59	0.99
31:3:2143:G:H1	31:3:2162:U:H3	1.01	0.96
31:3:61:U:H3	31:3:70:G:H1	1.02	0.96
31:3:2409:U:H3	31:3:2423:G:H1	1.06	0.96
31:3:1027:U:H3	31:3:1198:G:H1	1.08	0.95
31:3:1803:U:H3	31:3:1830:G:H1	1.10	0.94
31:3:989:G:H1	31:3:1000:U:H3	1.13	0.94
8:d:132:ILE:O	8:d:151:GLY:HA3	1.66	0.94
31:3:2123:A:H62	31:3:2173:G:H21	1.14	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:137:U:H3	31:3:146:G:H1	0.94	0.93
31:3:2059:G:H1	31:3:2625:U:H3	1.10	0.93
31:3:990:G:H1	31:3:999:U:H3	0.99	0.92
31:3:2465:U:H3	31:3:2502:G:H1	1.13	0.92
31:3:1245:G:H1	31:3:1264:U:H3	1.09	0.92
31:3:629:G:H1	31:3:696:U:H3	0.96	0.91
31:3:1914:G:H1	31:3:1930:U:H3	1.00	0.91
31:3:1807:C:H42	31:3:1824:G:H22	0.95	0.90
31:3:569:U:H3	31:3:592:G:H1	1.12	0.90
31:3:748:G:H21	31:3:753:A:H62	1.21	0.88
31:3:900:G:H21	31:3:903:A:H61	1.18	0.88
31:3:900:G:H21	31:3:903:A:N6	1.72	0.87
31:3:2483:C:H42	31:3:2537:G:H22	1.18	0.86
31:3:305:U:H3	31:3:399:G:H1	1.21	0.86
16:l:39:GLY:HA2	16:l:97:VAL:O	1.76	0.86
31:3:2090:G:H1	31:3:2244:U:H3	1.21	0.86
31:3:1772:G:H1	31:3:1994:U:H3	1.23	0.86
18:n:4:ARG:HG3	32:4:44:A:H5''	1.58	0.85
10:f:53:LYS:HE3	31:3:285:U:H1'	1.59	0.84
31:3:329:G:H1	31:3:377:U:H3	0.85	0.84
31:3:742:G:H1	31:3:759:U:H3	0.87	0.84
31:3:144:C:H2'	31:3:145:A:H8	1.43	0.83
31:3:633:G:H1	31:3:692:U:H3	1.25	0.83
31:3:1504:G:H1	31:3:1539:U:H3	1.24	0.83
31:3:2667:G:H2'	31:3:2668:A:H3'	1.61	0.82
31:3:17:G:H1	31:3:560:U:H3	1.24	0.82
31:3:2151:G:H1'	31:3:2154:A:H61	1.45	0.82
8:d:37:ASN:HD22	31:3:2321:C:H1'	1.43	0.82
31:3:641:U:O2	31:3:657:A:N7	2.13	0.81
26:v:12:PRO:HA	26:v:29:TRP:O	1.79	0.81
31:3:89:U:H5''	31:3:90:G:H5''	1.62	0.81
31:3:1743:U:O2	31:3:2863:G:N2	2.14	0.80
30:z:14:CYS:SG	30:z:40:ARG:NH1	2.55	0.79
31:3:230:G:O6	31:3:454:G:N2	2.15	0.79
31:3:712:A:H61	31:3:835:U:H3	1.28	0.79
1:0:34:ARG:HE	1:0:42:LEU:HA	1.48	0.79
31:3:297:G:H1	31:3:440:C:HO2'	1.30	0.79
31:3:2110:U:H3	31:3:2194:G:H1	1.30	0.79
17:m:36:LYS:HG3	31:3:1685:G:H4'	1.65	0.79
31:3:1054:U:O2'	31:3:1056:A:N7	2.16	0.79
31:3:1942:G:H1	31:3:1969:C:HO2'	1.28	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2547:C:H2'	31:3:2548:G:H8	1.47	0.78
31:3:534:U:H3	31:3:538:A:H62	1.31	0.78
31:3:1111:C:N4	31:3:1112:A:N6	2.32	0.78
31:3:730:G:H1	31:3:802:U:H3	1.29	0.78
31:3:2132:G:H21	31:3:2181:A:H62	1.31	0.78
31:3:2458:A:N6	31:3:2509:C:O2	2.17	0.77
31:3:2536:U:H3	31:3:2543:G:H1	1.32	0.77
31:3:906:G:H1	31:3:945:U:H3	1.31	0.77
6:b:4:ARG:HD2	6:b:87:MET:HG3	1.65	0.76
31:3:325:G:H1	31:3:383:U:H3	1.33	0.76
31:3:1457:A:H61	31:3:1598:U:H3	1.34	0.76
31:3:2603:G:N2	31:3:2606:A:OP2	2.17	0.76
31:3:313:G:N1	31:3:394:C:N3	2.34	0.76
31:3:2303:U:H3	31:3:2345:G:H1	1.34	0.76
31:3:200:A:H61	31:3:866:G:N2	1.83	0.75
31:3:748:G:H21	31:3:753:A:N6	1.83	0.75
31:3:2145:A:N6	31:3:2161:G:O6	2.18	0.75
31:3:748:G:N2	31:3:753:A:H62	1.84	0.75
3:2:8:LYS:NZ	31:3:2475:C:OP1	2.19	0.75
31:3:313:G:N2	31:3:394:C:O2	2.20	0.75
31:3:1040:U:H1'	31:3:1046:A:H2'	1.67	0.75
24:t:44:ARG:HB3	24:t:63:VAL:HB	1.69	0.74
31:3:1252:C:N3	31:3:1257:G:N1	2.33	0.74
31:3:1807:C:N3	31:3:1824:G:N1	2.30	0.74
5:a:218:ARG:HH21	5:a:222:ARG:HH12	1.35	0.74
30:z:5:ARG:NH1	31:3:2292:A:OP1	2.21	0.74
31:3:1446:G:O2'	31:3:1613:A:N6	2.21	0.74
31:3:63:U:H3	31:3:97:A:H1'	1.52	0.74
6:b:50:THR:OG1	6:b:87:MET:O	2.04	0.74
31:3:1354:U:O2'	31:3:2017:G:O2'	2.03	0.74
4:7:21:LEU:HD13	4:7:126:ILE:HG13	1.68	0.74
31:3:2549:A:O2'	31:3:2773:A:N1	2.19	0.74
31:3:1071:G:H1	31:3:1154:U:H3	1.34	0.74
31:3:1111:C:N4	31:3:1112:A:H62	1.84	0.74
31:3:2092:U:H3	31:3:2242:G:H1	1.36	0.73
32:4:28:C:H1'	32:4:55:A:H61	1.53	0.73
31:3:418:G:H1	31:3:430:U:H3	1.36	0.73
31:3:47:G:H5''	31:3:48:G:H5'	1.71	0.73
31:3:1067:A:H2	31:3:1157:G:H1	1.34	0.73
24:t:90:LYS:NZ	24:t:104:PHE:O	2.21	0.73
31:3:2458:A:N6	31:3:2509:C:C2	2.57	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2483:C:N4	31:3:2537:G:H22	1.87	0.73
20:p:14:LYS:NZ	31:3:1248:A:OP2	2.22	0.72
31:3:2291:U:O2	31:3:2333:G:O6	2.07	0.72
31:3:2736:U:HO2'	31:3:2737:G:H8	1.37	0.72
32:4:31:G:O6	32:4:48:A:N6	2.21	0.72
11:g:33:SER:HA	31:3:1090:G:H4'	1.71	0.72
18:n:77:ILE:HA	18:n:80:LYS:HD2	1.71	0.72
31:3:2321:C:H2'	31:3:2322:G:H8	1.55	0.72
31:3:513:A:H2'	31:3:514:A:C8	2.23	0.72
31:3:2141:A:OP2	31:3:2164:G:N2	2.22	0.72
31:3:2820:G:N3	31:3:2887:A:O2'	2.23	0.72
31:3:1414:C:H2'	31:3:1415:A:H8	1.55	0.72
31:3:1252:C:O2	31:3:1257:G:N2	2.20	0.72
3:2:36:GLN:OE1	31:3:1159:C:O2'	2.07	0.72
31:3:725:G:N2	31:3:807:U:O2	2.23	0.72
31:3:250:U:H3	31:3:256:G:H1	1.38	0.71
31:3:514:A:H61	31:3:535:G:HO2'	1.39	0.71
31:3:2807:G:O2'	31:3:2809:A:N6	2.21	0.71
6:b:48:SER:HB3	6:b:88:THR:HG21	1.71	0.71
13:i:50:ASN:ND2	13:i:51:GLN:OE1	2.23	0.71
31:3:107:C:O2	31:3:328:A:O2'	2.07	0.71
31:3:2483:C:H42	31:3:2537:G:N2	1.89	0.71
31:3:518:A:O2'	31:3:532:A:N1	2.24	0.71
31:3:2140:G:O2'	31:3:2165:A:N6	2.24	0.71
7:c:77:GLY:H	31:3:709:G:H5''	1.56	0.71
31:3:2696:G:OP1	31:3:2721:C:N4	2.24	0.71
22:r:113:GLU:HA	22:r:116:GLU:HB2	1.72	0.70
31:3:1067:A:N1	31:3:1157:G:O6	2.23	0.70
31:3:1702:A:N3	31:3:1704:C:N4	2.38	0.70
31:3:2106:G:H22	31:3:2198:G:H1	1.37	0.70
10:f:79:PHE:HB2	10:f:142:VAL:HG22	1.74	0.70
31:3:2299:U:H1'	31:3:2382:A:H1'	1.74	0.70
31:3:849:C:H2'	31:3:850:G:H8	1.56	0.70
32:4:8:C:H42	32:4:100:G:H1	1.38	0.70
17:m:71:ASN:HB3	31:3:1321:C:H4'	1.72	0.70
10:f:11:ASN:O	10:f:14:LYS:NZ	2.25	0.70
22:r:7:GLN:HB3	22:r:103:LEU:HB2	1.73	0.70
4:7:69:LYS:HD3	4:7:99:LYS:HB3	1.73	0.70
7:c:52:ILE:HB	7:c:93:PRO:HD2	1.74	0.70
13:i:11:GLN:HB3	31:3:573:A:H4'	1.73	0.70
31:3:293:G:H2'	31:3:294:G:C4	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:a:17:SER:OG	5:a:218:ARG:NH1	2.25	0.69
31:3:856:A:H61	31:3:1008:A:H2'	1.57	0.69
31:3:618:G:H3'	31:3:1281:A:H61	1.58	0.69
27:w:53:THR:O	27:w:56:THR:OG1	2.10	0.69
25:u:53:ARG:NH2	31:3:2363:C:O2'	2.21	0.69
24:t:90:LYS:HZ2	24:t:105:LYS:HA	1.56	0.69
23:s:62:PRO:HD3	23:s:77:LEU:HD13	1.74	0.69
23:s:63:THR:H	23:s:75:SER:HB2	1.58	0.69
31:3:1699:A:H2'	31:3:1700:G:H8	1.58	0.69
5:a:65:LYS:O	5:a:67:ARG:NH2	2.25	0.69
31:3:1558:A:H5''	31:3:1570:A:H61	1.57	0.69
31:3:587:U:H2'	31:3:588:G:C8	2.27	0.69
31:3:2026:A:H61	31:3:2042:A:H61	1.39	0.69
31:3:2129:U:H2'	31:3:2130:A:H8	1.58	0.69
2:l:30:ALA:HB3	30:z:20:LEU:HD22	1.76	0.68
31:3:306:G:N2	31:3:398:C:O2	2.18	0.68
31:3:2299:U:O2'	31:3:2382:A:N3	2.27	0.68
31:3:2533:A:HO2'	31:3:2750:A:HO2'	1.37	0.68
17:m:20:GLN:NE2	31:3:1305:G:N3	2.41	0.68
23:s:62:PRO:HG3	23:s:77:LEU:HB2	1.76	0.68
31:3:2852:G:O2'	31:3:2871:G:N2	2.27	0.68
7:c:49:THR:HG21	31:3:478:G:H1'	1.76	0.68
15:k:64:LYS:NZ	31:3:253:C:O2'	2.27	0.68
31:3:1670:U:H1'	31:3:1768:G:H21	1.58	0.68
7:c:157:VAL:HB	7:c:178:VAL:HG12	1.76	0.68
13:i:7:LEU:H	31:3:1031:U:H3	1.39	0.68
31:3:2306:A:N6	31:3:2326:G:O2'	2.27	0.68
31:3:1020:G:H5''	31:3:1021:C:H5	1.57	0.68
31:3:1976:A:H2'	31:3:1979:G:H21	1.59	0.68
17:m:19:ARG:NH2	17:m:65:LYS:O	2.27	0.68
31:3:1414:C:H2'	31:3:1415:A:C8	2.29	0.68
31:3:864:A:N7	31:3:2255:A:O2'	2.27	0.67
8:d:64:LYS:HB3	32:4:40:U:H4'	1.74	0.67
31:3:200:A:N6	31:3:866:G:N2	2.42	0.67
17:m:106:ARG:NH1	17:m:109:ASP:OD2	2.26	0.67
31:3:585:U:H2'	31:3:586:G:H8	1.60	0.67
31:3:665:C:O2'	31:3:675:U:O2	2.12	0.67
31:3:1328:A:N7	31:3:1660:A:O2'	2.27	0.67
31:3:1446:G:H22	31:3:1612:U:H3'	1.59	0.67
4:7:17:LYS:NZ	4:7:129:GLU:OE2	2.27	0.67
20:p:2:ARG:H	31:3:481:C:H5''	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1137:C:H2'	31:3:1138:A:H8	1.59	0.67
31:3:1422:U:H5''	31:3:1637:A:H4'	1.76	0.67
31:3:2143:G:O6	31:3:2162:U:O4	2.12	0.67
24:t:41:LYS:HE3	24:t:64:GLN:HB3	1.77	0.67
31:3:210:U:H2'	31:3:211:A:H8	1.59	0.67
31:3:1264:U:H3'	31:3:1265:G:H8	1.58	0.67
2:1:10:ARG:HG2	15:k:64:LYS:HA	1.77	0.67
4:7:18:PHE:HZ	4:7:173:ILE:HG13	1.60	0.67
15:k:33:GLY:HA2	31:3:1221:G:H5''	1.77	0.67
30:z:38:CYS:O	30:z:42:ARG:N	2.28	0.67
4:7:31:GLY:H	4:7:181:LEU:HA	1.58	0.67
27:w:102:ARG:NH2	31:3:1626:C:OP1	2.28	0.67
31:3:733:C:O2'	31:3:769:A:N6	2.28	0.67
3:2:19:ARG:HA	31:3:2764:U:H5''	1.76	0.67
8:d:8:TYR:HA	8:d:12:ILE:HD12	1.77	0.67
31:3:2747:U:O2	31:3:2772:A:N7	2.28	0.67
31:3:1099:C:N4	31:3:1105:A:OP1	2.28	0.67
31:3:1092:A:OP2	31:3:1124:G:N2	2.28	0.66
31:3:1200:U:H2'	31:3:1201:A:H8	1.59	0.66
31:3:306:G:N1	31:3:398:C:N3	2.33	0.66
31:3:1206:U:O2	31:3:1210:A:N6	2.28	0.66
31:3:1807:C:O2	31:3:1824:G:O6	2.13	0.66
31:3:2122:G:O2'	31:3:2175:U:O2	2.12	0.66
13:i:59:ILE:HD12	13:i:127:VAL:HG22	1.78	0.66
31:3:1942:G:N2	31:3:1971:G:OP1	2.28	0.66
31:3:2007:U:O2	31:3:2697:C:N4	2.29	0.66
31:3:2104:A:H2'	31:3:2105:G:H8	1.60	0.66
31:3:2810:A:H62	31:3:2896:G:H1	1.41	0.66
31:3:984:C:O2	31:3:1020:G:O2'	2.14	0.66
31:3:1836:A:N6	31:3:1983:U:O2'	2.28	0.66
17:m:82:LEU:HD12	17:m:86:VAL:HB	1.77	0.66
27:w:85:ASN:HA	27:w:88:LYS:HE2	1.77	0.66
31:3:625:G:H1	31:3:700:U:H3	1.44	0.66
31:3:909:U:H2'	31:3:910:G:H8	1.61	0.66
31:3:1801:U:H3	31:3:1832:G:H1	1.44	0.66
2:1:39:ARG:NH2	31:3:2359:G:O6	2.28	0.66
22:r:66:GLY:HA2	22:r:69:LEU:HD12	1.78	0.66
31:3:139:G:O6	31:3:145:A:N6	2.28	0.66
16:l:42:ILE:HD12	16:l:47:ILE:HD11	1.78	0.66
31:3:1261:U:H2'	31:3:1262:G:H8	1.60	0.66
31:3:1164:A:N6	31:3:2499:U:OP1	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:39:ARG:NH2	31:3:504:G:O6	2.30	0.65
13:i:47:PHE:O	20:p:63:ARG:NH1	2.29	0.65
22:r:82:MET:SD	22:r:84:ARG:NH2	2.69	0.65
31:3:300:G:H2'	31:3:301:G:H8	1.60	0.65
31:3:519:A:OP2	31:3:520:C:N4	2.26	0.65
31:3:572:G:N2	31:3:588:G:O2'	2.23	0.65
31:3:615:G:H2'	31:3:616:G:C8	2.31	0.65
31:3:694:U:H2'	31:3:695:G:H8	1.61	0.65
31:3:1039:G:N2	31:3:1046:A:O2'	2.30	0.65
31:3:2849:G:H1	31:3:2875:U:H3	1.42	0.65
3:2:11:CYS:SG	3:2:12:LYS:N	2.67	0.65
13:i:119:ARG:NH1	31:3:564:A:OP2	2.28	0.65
31:3:1536:C:H2'	31:3:1537:A:H8	1.61	0.65
31:3:2376:C:H2'	31:3:2377:A:H8	1.62	0.65
31:3:2867:U:H2'	31:3:2868:G:C8	2.31	0.65
31:3:1442:G:H1	31:3:1622:C:H42	1.45	0.65
31:3:1487:U:O2'	31:3:2710:G:N2	2.30	0.65
31:3:2521:A:H2'	31:3:2522:U:C6	2.32	0.65
31:3:812:G:H2'	31:3:813:G:H8	1.62	0.65
31:3:165:U:O2'	31:3:168:A:N6	2.29	0.65
9:e:104:GLU:HA	9:e:120:ILE:HD12	1.79	0.65
15:k:34:ARG:NH1	15:k:42:ARG:O	2.29	0.65
31:3:1023:C:O2'	31:3:1036:A:N3	2.28	0.65
7:c:66:TYR:HB3	7:c:71:THR:HG21	1.79	0.64
31:3:2383:G:N2	31:3:2386:A:OP2	2.30	0.64
31:3:259:A:O2'	31:3:422:A:OP1	2.14	0.64
31:3:2305:C:H3'	31:3:2326:G:H22	1.63	0.64
31:3:2580:A:H5''	31:3:2582:G:H4'	1.79	0.64
22:r:9:ARG:HG3	22:r:80:PRO:HD2	1.78	0.64
31:3:80:U:H3	31:3:109:G:H1	0.78	0.64
31:3:413:G:H1	31:3:435:U:H3	1.45	0.64
31:3:482:G:H21	31:3:490:A:N6	1.96	0.64
31:3:1027:U:O4	31:3:1198:G:O6	2.14	0.64
31:3:1063:A:OP2	31:3:1161:A:N6	2.30	0.64
5:a:229:ARG:NH1	31:3:1835:G:N7	2.38	0.64
14:j:25:LEU:O	14:j:30:LYS:NZ	2.24	0.64
26:v:2:ALA:N	31:3:1392:G:OP2	2.30	0.64
31:3:865:A:N1	31:3:2453:G:O2'	2.29	0.64
31:3:1306:G:H2'	31:3:1307:G:H8	1.61	0.64
31:3:2764:U:H1'	31:3:2765:A:H5''	1.80	0.64
6:b:56:THR:HA	6:b:78:THR:HA	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:272:C:N4	31:3:295:U:O2'	2.31	0.64
31:3:641:U:C2	31:3:657:A:N7	2.66	0.64
31:3:2057:C:H2'	31:3:2058:G:C8	2.32	0.64
31:3:2829:G:N2	31:3:2829:G:OP2	2.30	0.64
31:3:2879:U:H2'	31:3:2880:A:C8	2.33	0.64
22:r:23:LEU:O	22:r:27:LYS:NZ	2.30	0.64
23:s:25:LYS:HE2	23:s:90:ALA:HB2	1.78	0.64
31:3:2259:G:N1	31:3:2458:A:O2'	2.31	0.64
31:3:1070:U:O2	31:3:1155:G:O6	2.16	0.64
19:o:62:GLU:HB3	19:o:81:ILE:HD12	1.79	0.64
21:q:14:VAL:HG13	21:q:18:ASP:HB2	1.80	0.64
31:3:2321:C:H2'	31:3:2322:G:C8	2.33	0.64
31:3:1495:A:OP2	31:3:1548:A:N6	2.31	0.63
31:3:1999:G:N2	31:3:2003:C:O2'	2.31	0.63
17:m:94:PRO:O	31:3:2843:G:N2	2.26	0.63
31:3:50:G:H1	31:3:179:A:H5''	1.63	0.63
5:a:282:ARG:NH2	31:3:1805:U:OP2	2.32	0.63
12:h:119:ALA:HB1	31:3:1116:U:H4'	1.80	0.63
16:l:35:VAL:HG22	16:l:102:VAL:HG22	1.80	0.63
31:3:2104:A:H2'	31:3:2105:G:C8	2.33	0.63
31:3:2655:U:O2	31:3:2681:G:O6	2.15	0.63
21:q:41:LEU:H	21:q:50:LEU:HD22	1.62	0.63
31:3:433:A:O2'	31:3:2238:G:N2	2.31	0.63
31:3:793:C:H2'	31:3:794:G:H8	1.62	0.63
4:7:30:THR:O	4:7:32:ARG:NH1	2.32	0.63
4:7:65:GLU:HG2	4:7:103:ASN:HA	1.79	0.63
6:b:13:MET:SD	31:3:2688:C:O2'	2.57	0.63
18:n:37:ASN:HD21	32:4:49:G:H3'	1.63	0.63
31:3:450:C:H2'	31:3:451:A:H8	1.62	0.63
31:3:603:G:H1'	31:3:1019:A:N6	2.13	0.63
31:3:609:U:H2'	31:3:610:G:H8	1.64	0.63
31:3:2205:U:O2'	31:3:2207:A:OP2	2.15	0.63
3:2:29:THR:HG22	3:2:31:LYS:H	1.63	0.63
31:3:662:U:H5''	31:3:663:A:H5''	1.79	0.63
31:3:1592:A:H4'	31:3:1593:U:H3'	1.81	0.63
31:3:1754:U:H2'	31:3:1755:A:H8	1.64	0.63
22:r:11:ARG:HH22	31:3:2018:U:H4'	1.64	0.63
31:3:900:G:N2	31:3:903:A:N6	2.34	0.63
31:3:1009:A:O2'	31:3:1217:G:N2	2.32	0.63
31:3:2103:C:H2'	31:3:2104:A:H8	1.64	0.63
31:3:609:U:H2'	31:3:610:G:C8	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:r:92:SER:O	31:3:1648:A:N6	2.31	0.62
13:i:79:HIS:HB3	13:i:88:LYS:HE3	1.80	0.62
31:3:1697:C:H4'	31:3:2694:A:H4'	1.82	0.62
31:3:1786:U:OP2	31:3:1791:A:N6	2.32	0.62
31:3:2068:G:H4'	31:3:2069:A:H5'	1.80	0.62
1:0:37:LYS:HD3	1:0:39:ARG:HD3	1.80	0.62
8:d:150:ARG:NH2	31:3:2315:G:O6	2.31	0.62
25:u:26:ASN:HD21	31:3:2286:A:H5''	1.65	0.62
31:3:2700:C:O2	31:3:2851:U:O2'	2.15	0.62
6:b:151:ARG:NH1	31:3:2583:U:OP1	2.32	0.62
6:b:211:LYS:NZ	31:3:2779:C:OP1	2.26	0.62
8:d:118:SER:HB3	8:d:177:LEU:HB3	1.80	0.62
26:v:23:THR:HG21	31:3:2087:G:H4'	1.81	0.62
31:3:200:A:N6	31:3:866:G:H21	1.96	0.62
31:3:453:U:H2'	31:3:454:G:H8	1.65	0.62
31:3:515:A:H4'	31:3:516:A:H5'	1.80	0.62
5:a:2:PRO:HG2	5:a:25:LEU:HD11	1.82	0.62
7:c:156:ASN:OD1	7:c:177:ASN:ND2	2.31	0.62
14:j:80:ASP:OD2	19:o:67:ARG:NH2	2.32	0.62
16:l:124:LYS:NZ	31:3:2475:C:O2	2.32	0.62
31:3:535:G:N1	31:3:538:A:OP2	2.25	0.62
31:3:892:G:H2'	31:3:893:A:C8	2.35	0.62
14:j:16:ALA:HA	14:j:46:ALA:HA	1.81	0.62
24:t:25:LEU:HD11	24:t:37:GLU:HB3	1.81	0.62
30:z:43:LYS:NZ	30:z:44:VAL:O	2.33	0.62
31:3:383:U:H2'	31:3:384:G:H8	1.63	0.62
31:3:1981:U:H2'	31:3:1982:G:C8	2.35	0.62
22:r:18:ARG:NH1	31:3:553:A:O5'	2.32	0.62
31:3:253:C:OP2	31:3:2402:C:O2'	2.17	0.62
31:3:1171:G:O2'	31:3:2045:C:O2'	2.17	0.62
31:3:2481:U:OP1	31:3:2483:C:N4	2.33	0.62
5:a:268:ARG:NH2	31:3:1807:C:OP1	2.33	0.62
31:3:454:G:H2'	31:3:455:G:C8	2.35	0.62
17:m:61:ARG:HG3	31:3:1482:U:H3	1.65	0.62
20:p:109:VAL:O	20:p:113:LYS:NZ	2.33	0.62
31:3:2168:C:O2'	31:3:2170:A:O2'	2.17	0.62
6:b:69:PHE:HB2	31:3:2794:U:H4'	1.80	0.62
13:i:115:ASN:HD21	31:3:591:G:H5''	1.64	0.62
14:j:2:VAL:HB	14:j:33:ALA:HB3	1.81	0.62
15:k:130:LYS:NZ	31:3:671:C:OP2	2.33	0.62
31:3:133:G:H1	31:3:150:U:H3	1.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:a:261:ARG:NH2	31:3:1849:G:O2'	2.33	0.61
31:3:489:A:N3	31:3:493:A:O2'	2.33	0.61
31:3:622:U:H2'	31:3:623:A:H8	1.65	0.61
31:3:862:U:O2'	31:3:2075:U:N3	2.33	0.61
31:3:1723:A:H2'	31:3:1724:A:H8	1.63	0.61
32:4:6:U:H2'	32:4:7:G:H8	1.64	0.61
5:a:217:GLY:O	5:a:221:HIS:ND1	2.33	0.61
31:3:742:G:N2	31:3:759:U:O2	2.33	0.61
31:3:1803:U:H2'	31:3:1804:A:C8	2.34	0.61
31:3:1803:U:O2	31:3:1830:G:N2	2.28	0.61
31:3:1818:G:H2'	31:3:1819:G:H8	1.65	0.61
31:3:1981:U:H2'	31:3:1982:G:H8	1.65	0.61
31:3:2614:U:H2'	31:3:2615:G:C8	2.36	0.61
5:a:38:LEU:HD22	5:a:67:ARG:HD2	1.82	0.61
4:7:29:ARG:O	4:7:115:SER:OG	2.12	0.61
31:3:534:U:O4	31:3:538:A:N7	2.33	0.61
31:3:1508:G:OP2	31:3:1508:G:H4'	1.98	0.61
31:3:2100:G:H2'	31:3:2101:A:H8	1.64	0.61
16:l:14:ASN:OD1	16:l:75:THR:OG1	2.16	0.61
31:3:1245:G:O6	31:3:1264:U:O4	2.17	0.61
31:3:1776:G:O2'	31:3:1965:C:OP1	2.18	0.61
31:3:2013:C:O2'	31:3:2827:A:N3	2.32	0.61
15:k:78:VAL:HG13	15:k:110:LEU:HD23	1.82	0.61
23:s:9:LYS:HG3	27:w:30:ARG:HG3	1.82	0.61
31:3:1164:A:O2'	31:3:2523:C:O2	2.19	0.61
31:3:1492:G:HO2'	31:3:1579:G:HO2'	1.49	0.61
31:3:2547:C:H2'	31:3:2548:G:C8	2.33	0.61
32:4:104:C:H2'	32:4:105:A:H8	1.66	0.61
5:a:42:LYS:NZ	31:3:1383:G:OP2	2.34	0.61
5:a:215:LYS:HE2	5:a:218:ARG:HG3	1.83	0.61
6:b:35:GLN:HE22	6:b:76:LYS:H	1.48	0.61
16:l:35:VAL:HB	16:l:130:LYS:HB3	1.81	0.61
16:l:124:LYS:O	31:3:2492:G:O2'	2.18	0.61
31:3:276:A:O2'	31:3:405:C:O2	2.19	0.61
31:3:599:U:H4'	31:3:844:G:OP1	2.00	0.61
8:d:116:GLY:HA3	8:d:177:LEU:HA	1.81	0.61
31:3:1463:G:H2'	31:3:1464:G:C8	2.35	0.61
31:3:2117:G:OP1	31:3:2150:C:O2'	2.19	0.61
23:s:13:THR:H	23:s:16:VAL:HB	1.65	0.61
31:3:1113:U:O2'	31:3:1123:A:OP1	2.17	0.61
31:3:1536:C:H2'	31:3:1537:A:C8	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1845:C:H4'	31:3:1846:A:H5'	1.82	0.61
31:3:2704:U:H2'	31:3:2705:G:C8	2.35	0.61
8:d:103:LEU:HA	8:d:107:ALA:HB3	1.83	0.60
31:3:2160:U:H2'	31:3:2161:G:H8	1.66	0.60
32:4:6:U:H3	32:4:102:A:H61	1.48	0.60
15:k:64:LYS:HE3	31:3:2402:C:H5''	1.83	0.60
17:m:99:ARG:HE	31:3:2885:U:H4'	1.65	0.60
19:o:101:ILE:O	19:o:105:ARG:NH1	2.33	0.60
26:v:3:LYS:HG2	26:v:12:PRO:HD3	1.83	0.60
31:3:802:U:H2'	31:3:803:G:H8	1.65	0.60
31:3:2604:U:O2'	31:3:2605:G:O5'	2.17	0.60
5:a:269:ASN:O	5:a:272:LYS:NZ	2.34	0.60
22:r:42:LYS:HD2	31:3:2017:G:H4'	1.83	0.60
22:r:54:ALA:HB1	22:r:107:LEU:HD11	1.83	0.60
31:3:569:U:O4	31:3:592:G:O6	2.18	0.60
31:3:2297:G:N2	31:3:2354:A:OP1	2.33	0.60
31:3:2567:C:H2'	31:3:2568:G:H8	1.66	0.60
31:3:2634:C:H2'	31:3:2635:G:H8	1.67	0.60
17:m:15:VAL:O	17:m:19:ARG:HG3	2.01	0.60
31:3:18:G:H2'	31:3:19:G:H8	1.65	0.60
31:3:450:C:H2'	31:3:451:A:C8	2.35	0.60
9:e:19:ASN:HB2	9:e:26:ALA:HB3	1.82	0.60
15:k:125:HIS:ND1	15:k:145:SER:OG	2.35	0.60
31:3:219:G:H21	31:3:220:A:H1'	1.67	0.60
31:3:1806:G:N1	31:3:1826:A:OP2	2.30	0.60
14:j:64:ARG:NH2	14:j:99:PHE:O	2.35	0.60
20:p:13:ARG:NH1	31:3:616:G:OP2	2.35	0.60
31:3:1789:C:O2	31:3:2616:G:O2'	2.19	0.60
1:0:24:THR:HG23	1:0:27:GLY:H	1.66	0.60
22:r:8:PHE:O	22:r:9:ARG:HD3	2.00	0.60
31:3:828:A:OP1	31:3:2078:A:O2'	2.20	0.60
31:3:2032:G:H2'	31:3:2033:G:H8	1.65	0.60
25:u:31:HIS:ND1	31:3:2269:C:OP2	2.32	0.60
31:3:294:G:O2'	31:3:295:U:O4'	2.17	0.60
31:3:515:A:H1'	31:3:517:G:H5''	1.84	0.60
31:3:632:A:H2'	31:3:633:G:H8	1.66	0.60
1:0:12:ARG:HB2	31:3:721:G:H1	1.67	0.60
16:l:85:SER:OG	31:3:2283:C:O2	2.17	0.60
21:q:34:GLN:HG2	21:q:56:VAL:HG22	1.84	0.60
31:3:450:C:O2'	31:3:1871:U:O2	2.20	0.60
31:3:578:A:H1'	31:3:579:U:H5	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:612:G:O2'	31:3:2026:A:OP1	2.20	0.60
31:3:2084:A:N3	31:3:2442:A:O2'	2.35	0.60
31:3:2132:G:N2	31:3:2181:A:H62	2.00	0.60
7:c:69:LYS:NZ	31:3:2452:G:OP2	2.35	0.60
26:v:17:ASN:HB2	26:v:27:ARG:HB2	1.84	0.60
31:3:2299:U:H2'	31:3:2300:A:C8	2.36	0.60
31:3:2504:C:OP2	31:3:2505:A:N6	2.35	0.60
31:3:591:G:H2'	31:3:592:G:H8	1.67	0.59
9:e:175:LYS:NZ	31:3:2538:A:N7	2.50	0.59
31:3:2759:G:OP2	31:3:2759:G:N2	2.31	0.59
31:3:2849:G:H2'	31:3:2850:G:H8	1.67	0.59
31:3:2190:G:H2'	31:3:2191:G:C8	2.37	0.59
31:3:2745:G:H2'	31:3:2746:A:C8	2.37	0.59
1:0:35:ARG:HG3	1:0:42:LEU:HD11	1.84	0.59
16:l:120:ARG:NE	31:3:2475:C:O2'	2.32	0.59
31:3:904:C:N3	31:3:949:C:O2'	2.34	0.59
31:3:1623:U:H2'	31:3:1624:A:H8	1.67	0.59
8:d:38:MET:H	8:d:88:LYS:HZ3	1.51	0.59
14:j:103:ALA:HA	14:j:122:VAL:HB	1.84	0.59
27:w:40:LYS:HE3	27:w:42:HIS:HE1	1.67	0.59
14:j:22:ILE:HB	14:j:40:VAL:HG13	1.83	0.59
5:a:17:SER:HB2	5:a:214:GLY:HA3	1.85	0.59
31:3:629:G:O6	31:3:696:U:O4	2.21	0.59
31:3:1558:A:OP2	31:3:1570:A:N6	2.36	0.59
31:3:2195:U:H2'	31:3:2196:G:H8	1.67	0.59
4:7:17:LYS:HE2	31:3:1923:A:H1'	1.85	0.59
4:7:17:LYS:HD2	4:7:126:ILE:HG23	1.84	0.59
6:b:40:LYS:O	6:b:48:SER:HA	2.03	0.59
6:b:41:THR:HG22	6:b:43:ALA:H	1.68	0.59
24:t:90:LYS:NZ	24:t:105:LYS:HA	2.17	0.59
31:3:774:A:H1'	31:3:775:C:H5	1.68	0.59
31:3:915:A:N6	31:3:936:G:O2'	2.35	0.59
31:3:1344:U:H2'	31:3:1345:G:H8	1.68	0.59
31:3:2036:G:N1	31:3:2040:A:OP2	2.22	0.59
31:3:1743:U:O2'	31:3:2863:G:N3	2.33	0.59
5:a:183:GLN:NE2	5:a:184:LEU:O	2.36	0.59
19:o:7:GLN:HB2	31:3:2879:U:H4'	1.85	0.59
31:3:35:U:O4	31:3:482:G:O2'	2.21	0.59
31:3:2514:U:OP2	31:3:2584:G:N1	2.35	0.59
31:3:2552:G:H1'	31:3:2654:U:H4'	1.84	0.59
31:3:2664:U:H2'	31:3:2665:A:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:b:157:GLN:NE2	31:3:2041:C:OP2	2.36	0.58
7:c:185:LYS:HD2	31:3:650:G:H1	1.68	0.58
31:3:408:G:OP1	31:3:440:C:N4	2.35	0.58
31:3:892:G:H2'	31:3:893:A:H8	1.67	0.58
31:3:945:U:H2'	31:3:946:A:C8	2.37	0.58
31:3:2100:G:H2'	31:3:2101:A:C8	2.38	0.58
2:1:28:HIS:NE2	31:3:2430:C:OP2	2.36	0.58
7:c:182:HIS:HB3	7:c:185:LYS:HG2	1.85	0.58
20:p:49:ARG:O	20:p:53:LYS:NZ	2.36	0.58
20:p:91:ARG:NH1	31:3:1032:A:O2'	2.30	0.58
31:3:229:C:H3'	31:3:230:G:H8	1.68	0.58
31:3:1262:G:H2'	31:3:1263:G:C8	2.37	0.58
31:3:1950:U:H4'	31:3:1951:A:H2'	1.86	0.58
7:c:174:ASN:ND2	31:3:354:C:O2	2.36	0.58
16:l:45:ARG:NH2	31:3:2493:G:OP1	2.36	0.58
31:3:1923:A:OP2	31:3:1925:A:N6	2.36	0.58
31:3:2189:U:H2'	31:3:2190:G:C8	2.37	0.58
31:3:2266:C:O2'	31:3:2435:C:OP2	2.21	0.58
7:c:49:THR:HB	31:3:478:G:H21	1.68	0.58
15:k:5:GLN:NE2	31:3:1233:A:O2'	2.32	0.58
22:r:83:LYS:HE2	22:r:95:MET:HE3	1.84	0.58
31:3:566:G:OP1	31:3:594:G:N2	2.36	0.58
31:3:697:U:H2'	31:3:698:A:C8	2.39	0.58
31:3:697:U:H2'	31:3:698:A:H8	1.69	0.58
31:3:1123:A:H4'	31:3:1124:G:H8	1.68	0.58
31:3:1572:U:H2'	31:3:1573:A:H8	1.68	0.58
31:3:2538:A:OP2	31:3:2543:G:N2	2.36	0.58
31:3:2879:U:H2'	31:3:2880:A:H8	1.68	0.58
5:a:110:ILE:HD11	5:a:203:VAL:HG13	1.86	0.58
14:j:63:VAL:HG23	14:j:64:ARG:HG3	1.84	0.58
15:k:48:ARG:HH21	15:k:50:GLY:HA3	1.67	0.58
15:k:55:GLN:NE2	31:3:860:C:O2'	2.36	0.58
16:l:20:LYS:HE3	32:4:76:A:H5''	1.85	0.58
31:3:54:A:OP2	31:3:118:G:N1	2.37	0.58
31:3:300:G:H2'	31:3:301:G:C8	2.38	0.58
31:3:313:G:O6	31:3:394:C:N4	2.37	0.58
31:3:1691:U:O4	31:3:1692:A:N6	2.36	0.58
32:4:60:C:H2'	32:4:61:A:H8	1.68	0.58
19:o:94:GLY:HA2	19:o:115:LYS:HD3	1.86	0.58
31:3:2190:G:H2'	31:3:2191:G:H8	1.69	0.58
17:m:14:ARG:NH1	31:3:1687:G:O6	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:n:99:HIS:HB3	32:4:46:C:H4'	1.85	0.58
31:3:29:G:N1	31:3:547:G:O2'	2.27	0.58
31:3:2863:G:H2'	31:3:2864:A:C8	2.38	0.58
32:4:93:U:H2'	32:4:94:A:H8	1.67	0.58
4:7:62:PRO:HG2	4:7:65:GLU:HB2	1.84	0.58
29:y:6:ARG:NH1	31:3:2026:A:N7	2.51	0.58
31:3:517:G:O6	31:3:544:U:O4	2.21	0.58
31:3:1777:G:H1	31:3:1989:U:H3	1.51	0.58
31:3:2197:U:H2'	31:3:2198:G:C8	2.38	0.58
6:b:115:LYS:NZ	31:3:2731:U:OP1	2.33	0.58
31:3:112:A:H2'	31:3:113:U:C6	2.39	0.58
31:3:1297:U:H2'	31:3:1298:A:C8	2.38	0.58
31:3:1837:C:H2'	31:3:1838:A:H8	1.67	0.58
31:3:2654:U:OP2	31:3:2773:A:O2'	2.22	0.58
5:a:101:TYR:N	5:a:105:ALA:O	2.37	0.57
19:o:24:GLU:HG3	19:o:55:ARG:HH12	1.68	0.57
31:3:603:G:H1'	31:3:1019:A:H61	1.69	0.57
31:3:1885:G:H2'	31:3:1886:C:C6	2.39	0.57
31:3:2865:U:H2'	31:3:2866:A:H8	1.69	0.57
6:b:144:GLN:NE2	31:3:2057:C:O2'	2.36	0.57
31:3:161:U:H3	31:3:171:G:H1	1.52	0.57
31:3:998:C:O2'	31:3:2505:A:OP1	2.19	0.57
31:3:2229:C:H2'	31:3:2230:A:H8	1.68	0.57
31:3:2862:U:O2'	31:3:2863:G:OP1	2.21	0.57
5:a:15:HIS:HD2	5:a:215:LYS:HB3	1.70	0.57
8:d:92:ARG:NH2	32:4:41:C:O2	2.38	0.57
13:i:9:LYS:HE3	13:i:48:THR:HG23	1.87	0.57
25:u:22:GLY:HA2	31:3:2263:G:H21	1.68	0.57
31:3:270:G:O2'	31:3:315:A:N6	2.37	0.57
31:3:812:G:H2'	31:3:813:G:C8	2.40	0.57
31:3:963:U:H2'	31:3:964:A:H8	1.70	0.57
31:3:2533:A:H2'	31:3:2534:G:H8	1.70	0.57
31:3:622:U:H2'	31:3:623:A:C8	2.40	0.57
31:3:1460:G:H2'	31:3:1461:A:C8	2.40	0.57
31:3:1475:C:O2'	31:3:1577:A:N3	2.36	0.57
31:3:2336:A:H2'	31:3:2337:U:C6	2.39	0.57
31:3:2471:U:H2'	31:3:2472:G:H8	1.69	0.57
5:a:216:ALA:HB2	31:3:1797:C:H4'	1.87	0.57
31:3:1265:G:H2'	31:3:1266:G:C4	2.40	0.57
31:3:2216:U:H2'	31:3:2217:G:C8	2.39	0.57
32:4:4:G:OP1	32:4:58:C:O2'	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:13:ALA:HA	1:0:44:VAL:HG21	1.86	0.57
15:k:60:ARG:NH1	31:3:2401:U:O2	2.37	0.57
19:o:56:ARG:HG3	31:3:2850:G:H5''	1.86	0.57
31:3:632:A:H2'	31:3:633:G:C8	2.39	0.57
31:3:641:U:O2	31:3:657:A:C5	2.58	0.57
31:3:2093:U:H2'	31:3:2094:A:H8	1.69	0.57
31:3:2451:C:H2'	31:3:2452:G:C8	2.39	0.57
31:3:2828:C:O5'	31:3:2829:G:N2	2.38	0.57
25:u:25:LYS:NZ	31:3:2286:A:OP2	2.38	0.57
31:3:42:U:H2'	31:3:43:A:C8	2.40	0.57
31:3:144:C:H2'	31:3:145:A:C8	2.32	0.57
31:3:174:A:H2'	31:3:175:A:H8	1.69	0.57
31:3:762:A:OP1	31:3:1459:A:O2'	2.19	0.57
31:3:914:G:N2	31:3:937:A:OP2	2.34	0.57
31:3:2458:A:H2'	31:3:2459:A:H8	1.68	0.57
31:3:2469:A:H1'	31:3:2500:U:C2	2.40	0.57
31:3:2587:U:H2'	31:3:2588:U:C6	2.40	0.57
17:m:109:ASP:OD1	31:3:2016:G:N2	2.37	0.57
23:s:50:ILE:HG13	23:s:91:ILE:HG21	1.87	0.57
31:3:12:A:H5''	31:3:13:C:H5	1.69	0.57
31:3:1531:C:H2'	31:3:1532:A:H4'	1.85	0.57
31:3:1947:U:H1'	31:3:1949:C:N4	2.20	0.57
31:3:2451:C:H2'	31:3:2452:G:H8	1.70	0.57
31:3:2740:U:H5''	31:3:2741:A:C8	2.40	0.57
32:4:58:C:H2'	32:4:59:A:C8	2.40	0.57
32:4:79:U:O2	32:4:86:G:N2	2.36	0.57
19:o:92:ARG:HB3	19:o:115:LYS:HD2	1.87	0.57
31:3:229:C:H3'	31:3:230:G:C8	2.40	0.57
31:3:752:C:H3'	31:3:753:A:H8	1.70	0.57
31:3:928:G:H2'	31:3:929:G:C8	2.39	0.57
31:3:1633:C:H2'	31:3:1634:A:H8	1.69	0.57
31:3:1960:A:O2'	31:3:2567:C:O2	2.23	0.57
3:2:24:ARG:HG2	3:2:35:ARG:HG3	1.86	0.56
21:q:56:VAL:HG21	21:q:96:ARG:HH11	1.70	0.56
31:3:291:G:C2	31:3:292:G:N7	2.73	0.56
31:3:524:G:N2	31:3:527:A:OP2	2.33	0.56
31:3:1504:G:N2	31:3:1539:U:O2	2.30	0.56
32:4:31:G:H2'	32:4:32:G:C8	2.40	0.56
4:7:18:PHE:CZ	4:7:173:ILE:HG13	2.40	0.56
12:h:69:THR:HB	12:h:111:ASP:HB2	1.87	0.56
16:l:82:ARG:N	25:u:17:SER:O	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:w:4:ALA:HA	27:w:7:LEU:HD12	1.86	0.56
31:3:627:U:H2'	31:3:628:A:H8	1.70	0.56
31:3:982:G:H2'	31:3:983:A:C8	2.40	0.56
31:3:982:G:H2'	31:3:983:A:H8	1.70	0.56
31:3:1653:C:H2'	31:3:1654:G:C8	2.41	0.56
31:3:1715:A:H4'	31:3:1733:G:H1	1.69	0.56
31:3:2589:G:OP2	31:3:2589:G:N2	2.28	0.56
32:4:60:C:H2'	32:4:61:A:C8	2.39	0.56
4:7:120:LYS:HD3	31:3:1953:U:H4'	1.87	0.56
4:7:152:GLU:O	4:7:156:LYS:HG3	2.04	0.56
6:b:142:ARG:NH1	31:3:1691:U:OP2	2.39	0.56
6:b:151:ARG:NH1	31:3:2514:U:OP1	2.35	0.56
20:p:58:SER:HB3	31:3:1045:A:H1'	1.87	0.56
31:3:190:G:H2'	31:3:191:G:H8	1.69	0.56
31:3:1588:A:O2'	31:3:1589:A:OP1	2.21	0.56
31:3:2793:U:H2'	31:3:2794:U:H6	1.70	0.56
5:a:268:ARG:HH21	31:3:1806:G:H3'	1.70	0.56
31:3:822:C:H5''	31:3:823:A:H5'	1.87	0.56
31:3:1803:U:H2'	31:3:1804:A:H8	1.70	0.56
31:3:2118:U:OP2	31:3:2152:C:N4	2.33	0.56
8:d:16:LEU:HD11	8:d:169:LEU:HD13	1.87	0.56
17:m:30:LYS:NZ	31:3:1308:A:OP1	2.38	0.56
19:o:25:PHE:O	19:o:55:ARG:NH1	2.39	0.56
24:t:90:LYS:HE2	24:t:103:VAL:HG13	1.87	0.56
31:3:80:U:O4	31:3:109:G:O6	2.22	0.56
31:3:243:U:H3	31:3:262:G:H1	1.53	0.56
31:3:329:G:O6	31:3:377:U:O4	2.24	0.56
31:3:1723:A:OP2	31:3:1732:A:N6	2.35	0.56
31:3:2269:C:H1'	31:3:2396:A:H1'	1.87	0.56
31:3:2584:G:OP1	31:3:2584:G:N2	2.38	0.56
7:c:173:SER:OG	31:3:356:A:OP1	2.24	0.56
14:j:1:MET:HG3	31:3:1698:A:H2	1.71	0.56
25:u:28:ARG:NH2	31:3:2288:G:N7	2.53	0.56
31:3:1350:A:N1	31:3:1361:U:O2'	2.37	0.56
31:3:1446:G:N2	31:3:1613:A:OP2	2.39	0.56
31:3:2436:G:O2'	31:3:2437:G:N7	2.37	0.56
31:3:2473:C:H2'	31:3:2474:C:C6	2.41	0.56
31:3:2840:U:H2'	31:3:2841:A:C8	2.41	0.56
32:4:3:U:OP1	32:4:59:A:O2'	2.22	0.56
6:b:173:LYS:O	31:3:2781:C:H5''	2.06	0.56
13:i:63:ASP:HB3	13:i:129:LYS:HD2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:r:88:ARG:NH2	31:3:783:G:OP1	2.39	0.56
31:3:1942:G:N1	31:3:1969:C:O2'	2.32	0.56
31:3:2646:G:H1	31:3:2783:A:H2'	1.71	0.56
31:3:2852:G:HO2'	31:3:2871:G:N2	2.03	0.56
4:7:46:TYR:OH	4:7:75:ASN:O	2.21	0.56
5:a:151:GLU:HB3	5:a:158:GLY:HA2	1.88	0.56
5:a:213:ILE:HB	31:3:1798:A:H4'	1.88	0.56
9:e:93:VAL:HG23	9:e:163:LYS:HA	1.87	0.56
31:3:700:U:H2'	31:3:701:A:H8	1.69	0.56
31:3:756:A:H2'	31:3:757:A:C8	2.40	0.56
31:3:1888:U:H2'	31:3:1889:U:C6	2.41	0.56
31:3:1961:A:O2'	31:3:1963:U:O4	2.19	0.56
31:3:2757:A:OP2	31:3:2758:A:O2'	2.22	0.56
5:a:218:ARG:NH2	5:a:222:ARG:HH12	2.03	0.56
5:a:246:ARG:HG2	31:3:2598:C:H5''	1.88	0.56
6:b:227:GLU:OE2	19:o:21:TYR:N	2.38	0.56
14:j:58:LEU:HD13	14:j:86:LEU:HD21	1.87	0.56
14:j:111:TYR:HB3	14:j:114:ILE:HD13	1.88	0.56
31:3:559:C:O2'	31:3:589:A:OP1	2.23	0.56
31:3:1020:G:H5''	31:3:1021:C:C5	2.39	0.56
31:3:1932:C:O2	31:3:1936:G:O6	2.24	0.56
32:4:22:G:H2'	32:4:25:A:H62	1.71	0.56
9:e:113:SER:OG	31:3:2675:C:N3	2.39	0.56
31:3:678:U:N3	31:3:681:A:OP2	2.38	0.56
31:3:1583:G:O2'	31:3:1584:U:OP1	2.24	0.56
31:3:2706:U:O4	31:3:2707:A:N6	2.39	0.56
9:e:25:ILE:HB	9:e:36:LEU:HB2	1.87	0.55
9:e:71:TYR:O	9:e:75:ILE:HG12	2.05	0.55
31:3:134:U:H2'	31:3:135:A:C8	2.41	0.55
31:3:289:U:H2'	31:3:290:A:C8	2.41	0.55
31:3:2572:A:N6	31:3:2655:U:O2'	2.39	0.55
31:3:2646:G:H22	31:3:2783:A:H2'	1.71	0.55
31:3:2829:G:H3'	31:3:2830:A:H8	1.71	0.55
31:3:2847:C:H2'	31:3:2848:A:H8	1.70	0.55
6:b:180:ARG:HH22	31:3:2738:U:H5'	1.71	0.55
31:3:597:C:H2'	31:3:598:G:C8	2.41	0.55
31:3:1077:G:N7	31:3:1149:G:N1	2.54	0.55
31:3:2126:A:H61	31:3:2176:G:H1'	1.72	0.55
31:3:2205:U:H2'	31:3:2232:G:H1	1.70	0.55
31:3:2819:C:H2'	31:3:2820:G:H8	1.71	0.55
15:k:114:LEU:HD21	15:k:139:VAL:HG11	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:899:A:H2'	31:3:900:G:C8	2.41	0.55
8:d:31:LEU:HA	8:d:158:THR:HA	1.88	0.55
31:3:631:A:H2'	31:3:632:A:H8	1.72	0.55
31:3:683:G:H2'	31:3:684:A:H8	1.72	0.55
31:3:2195:U:H2'	31:3:2196:G:C8	2.42	0.55
31:3:2323:U:H2'	31:3:2324:A:H8	1.71	0.55
5:a:124:SER:OG	5:a:126:HIS:ND1	2.39	0.55
10:f:46:ASP:HA	10:f:49:LEU:HD21	1.88	0.55
13:i:119:ARG:NH2	31:3:563:A:OP2	2.39	0.55
18:n:99:HIS:NE2	32:4:35:C:O2	2.39	0.55
31:3:1296:G:N2	31:3:2020:A:OP2	2.29	0.55
31:3:2054:C:H2'	31:3:2055:A:H8	1.70	0.55
31:3:2231:A:H3'	31:3:2232:G:H8	1.72	0.55
7:c:46:ARG:HH21	31:3:479:A:H2'	1.70	0.55
21:q:95:VAL:HG12	21:q:96:ARG:HG3	1.87	0.55
22:r:77:ASN:OD1	31:3:25:G:N2	2.26	0.55
23:s:58:LEU:HD11	23:s:80:LEU:HD12	1.89	0.55
25:u:86:PHE:HA	32:4:10:C:OP1	2.06	0.55
31:3:341:G:N1	31:3:344:A:OP2	2.28	0.55
31:3:742:G:O6	31:3:759:U:O4	2.24	0.55
31:3:1623:U:H2'	31:3:1624:A:C8	2.42	0.55
31:3:2093:U:H2'	31:3:2094:A:C8	2.41	0.55
3:2:11:CYS:N	3:2:14:CYS:SG	2.72	0.55
10:f:116:ASN:HB3	31:3:2228:U:H5''	1.87	0.55
15:k:83:ASN:OD1	15:k:84:LYS:N	2.39	0.55
18:n:86:LEU:O	18:n:88:ASN:ND2	2.39	0.55
31:3:597:C:H2'	31:3:598:G:H8	1.71	0.55
31:3:759:U:H3'	31:3:760:G:H8	1.72	0.55
31:3:1487:U:H2'	31:3:1488:U:C6	2.41	0.55
31:3:1527:U:H2'	31:3:1528:G:H8	1.72	0.55
31:3:2274:A:N6	31:3:2281:A:OP2	2.40	0.55
31:3:2701:A:H2'	31:3:2702:G:C8	2.41	0.55
32:4:104:C:H2'	32:4:105:A:C8	2.42	0.55
13:i:17:GLN:NE2	13:i:55:ASP:OD1	2.40	0.55
15:k:16:LYS:O	31:3:697:U:O2'	2.23	0.55
16:l:125:LEU:HB3	16:l:127:VAL:HG22	1.88	0.55
31:3:155:A:H2'	31:3:156:A:H8	1.71	0.55
31:3:173:C:H2'	31:3:174:A:C8	2.42	0.55
31:3:306:G:H2'	31:3:307:C:C6	2.42	0.55
4:7:95:ILE:HG12	4:7:100:ILE:HG12	1.88	0.55
7:c:155:LYS:NZ	31:3:1235:U:O5'	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:t:70:PHE:HB2	24:t:73:LYS:HE2	1.88	0.55
31:3:890:U:H2'	31:3:891:G:H8	1.72	0.55
1:0:30:VAL:O	1:0:34:ARG:HG3	2.06	0.55
3:2:21:GLN:NE2	31:3:2765:A:OP2	2.40	0.55
9:e:92:LEU:O	9:e:132:THR:OG1	2.20	0.55
31:3:614:C:H2'	31:3:615:G:H8	1.71	0.55
17:m:38:ALA:HA	17:m:41:THR:HG22	1.89	0.54
19:o:58:LYS:NZ	31:3:2729:A:OP1	2.31	0.54
31:3:406:C:H2'	31:3:407:U:C6	2.41	0.54
31:3:598:G:H1	31:3:609:U:H3	1.54	0.54
31:3:1619:A:H2'	31:3:1620:A:C8	2.42	0.54
31:3:2072:C:H2'	31:3:2073:C:C6	2.42	0.54
31:3:2156:G:H2'	31:3:2157:A:C8	2.42	0.54
31:3:2157:A:H2'	31:3:2158:C:C6	2.42	0.54
31:3:2254:G:H2'	31:3:2255:A:C8	2.42	0.54
23:s:13:THR:HG22	31:3:1366:G:H5'	1.89	0.54
31:3:522:C:H2'	31:3:523:A:H8	1.72	0.54
1:0:25:ALA:HA	1:0:28:ARG:HG3	1.88	0.54
7:c:93:PRO:HA	7:c:97:ARG:HH21	1.72	0.54
31:3:337:U:H2'	31:3:338:G:C8	2.42	0.54
31:3:793:C:H2'	31:3:794:G:C8	2.41	0.54
31:3:840:G:N3	31:3:866:G:H1'	2.23	0.54
10:f:131:PHE:HD2	10:f:134:THR:H	1.56	0.54
16:l:66:ILE:HG22	16:l:68:ILE:H	1.73	0.54
25:u:39:LYS:HD2	25:u:45:ILE:HG21	1.88	0.54
31:3:50:G:H22	31:3:179:A:H5''	1.72	0.54
31:3:234:G:H2'	31:3:235:U:C6	2.42	0.54
31:3:1089:A:H2'	31:3:1090:G:C8	2.43	0.54
31:3:2174:G:H2'	31:3:2175:U:C6	2.43	0.54
31:3:2555:U:OP2	31:3:2574:A:O2'	2.22	0.54
31:3:2645:U:H3'	31:3:2646:G:H8	1.73	0.54
5:a:215:LYS:HD2	31:3:764:G:C8	2.43	0.54
7:c:154:ASP:OD1	7:c:155:LYS:N	2.41	0.54
10:f:84:HIS:N	10:f:87:ARG:O	2.41	0.54
24:t:14:THR:OG1	31:3:344:A:OP1	2.25	0.54
31:3:631:A:H2'	31:3:632:A:C8	2.42	0.54
31:3:984:C:H2'	31:3:985:A:H8	1.72	0.54
31:3:1198:G:H2'	31:3:1199:A:H8	1.73	0.54
31:3:2155:G:H2'	31:3:2156:G:H8	1.70	0.54
31:3:2794:U:H2'	31:3:2795:C:H6	1.72	0.54
31:3:2823:A:O2'	31:3:2825:A:OP2	2.26	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:n:78:ALA:O	18:n:81:LEU:HB3	2.08	0.54
30:z:8:ARG:HB3	30:z:17:ILE:HD12	1.90	0.54
31:3:227:A:O2'	31:3:456:G:N3	2.39	0.54
31:3:1307:G:H2'	31:3:1308:A:C8	2.42	0.54
31:3:1398:C:H2'	31:3:1399:G:O4'	2.07	0.54
31:3:1507:G:O2'	31:3:1508:G:OP1	2.25	0.54
31:3:1526:U:H2'	31:3:1527:U:C6	2.43	0.54
31:3:2032:G:H2'	31:3:2033:G:C8	2.42	0.54
31:3:2529:C:O2'	31:3:2572:A:N3	2.41	0.54
31:3:2808:A:OP2	31:3:2811:G:N1	2.34	0.54
7:c:39:LEU:O	7:c:43:ALA:N	2.36	0.54
14:j:25:LEU:HD13	14:j:59:ARG:HH22	1.73	0.54
17:m:59:ASN:O	17:m:63:VAL:HG22	2.08	0.54
22:r:116:GLU:N	22:r:116:GLU:OE1	2.41	0.54
26:v:29:TRP:HD1	31:3:2239:U:H5''	1.73	0.54
27:w:87:TRP:O	27:w:91:LEU:HG	2.08	0.54
31:3:1140:U:H2'	31:3:1141:U:H6	1.72	0.54
31:3:1416:G:H2'	31:3:1417:G:C8	2.43	0.54
31:3:1454:G:N2	31:3:1607:G:O6	2.40	0.54
31:3:2306:A:OP2	31:3:2326:G:N2	2.39	0.54
31:3:2828:C:H3'	31:3:2829:G:H21	1.73	0.54
1:0:8:SER:OG	31:3:721:G:N2	2.40	0.54
31:3:578:A:O2'	31:3:581:A:N6	2.41	0.54
31:3:1529:U:H2'	31:3:1530:G:H8	1.73	0.54
31:3:152:A:H2'	31:3:153:U:C6	2.43	0.54
31:3:674:G:H2'	31:3:675:U:H6	1.73	0.54
31:3:1020:G:N2	31:3:1020:G:OP2	2.41	0.54
31:3:1818:G:H2'	31:3:1819:G:C8	2.43	0.54
31:3:1994:U:H2'	31:3:1995:G:C8	2.43	0.54
31:3:2880:A:H2'	31:3:2881:A:C8	2.43	0.54
13:i:5:SER:OG	31:3:1031:U:O2	2.26	0.54
31:3:605:A:H61	31:3:2036:G:H21	1.56	0.54
31:3:714:G:H2'	31:3:715:G:C8	2.42	0.54
31:3:725:G:C2	31:3:807:U:O2	2.60	0.54
31:3:1114:C:N4	31:3:1115:G:O6	2.41	0.54
31:3:1230:U:H2'	31:3:1231:G:C8	2.42	0.54
31:3:1816:A:H2'	31:3:1817:A:C8	2.43	0.54
31:3:2094:A:H2'	31:3:2095:A:C8	2.43	0.54
6:b:151:ARG:HG3	31:3:2580:A:C8	2.41	0.53
22:r:42:LYS:HG3	31:3:2017:G:H5''	1.89	0.53
22:r:86:ILE:HD12	22:r:87:PRO:HD2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:387:U:H2'	31:3:388:U:C6	2.43	0.53
31:3:674:G:H2'	31:3:675:U:C6	2.43	0.53
31:3:761:G:H5''	31:3:1460:G:H1'	1.90	0.53
3:2:22:ILE:HG21	3:2:35:ARG:HE	1.74	0.53
21:q:78:HIS:NE2	31:3:599:U:OP1	2.29	0.53
26:v:10:ARG:NH1	31:3:432:G:OP2	2.36	0.53
26:v:31:VAL:HG23	26:v:33:LEU:HG	1.90	0.53
31:3:29:G:O2'	31:3:547:G:N2	2.42	0.53
31:3:2170:A:H5''	31:3:2173:G:H1	1.74	0.53
5:a:26:LEU:HD21	5:a:88:TYR:HB3	1.90	0.53
11:g:48:GLY:HA3	11:g:87:ASN:HB2	1.90	0.53
31:3:190:G:H2'	31:3:191:G:C8	2.43	0.53
31:3:349:G:H2'	31:3:350:C:C6	2.44	0.53
31:3:1268:U:H2'	31:3:1269:C:O4'	2.09	0.53
31:3:2725:G:H2'	31:3:2726:G:O4'	2.07	0.53
5:a:126:HIS:CG	10:f:87:ARG:HE	2.26	0.53
27:w:10:LYS:NZ	27:w:13:GLU:H	2.06	0.53
31:3:40:A:H2'	31:3:41:C:O4'	2.09	0.53
31:3:141:A:H2'	31:3:142:A:C4	2.43	0.53
31:3:173:C:H2'	31:3:174:A:H8	1.73	0.53
31:3:1488:U:H2'	31:3:1489:G:C8	2.42	0.53
31:3:1994:U:H2'	31:3:1995:G:H8	1.73	0.53
31:3:2031:C:H2'	31:3:2032:G:C8	2.43	0.53
31:3:2867:U:H2'	31:3:2868:G:H8	1.73	0.53
5:a:217:GLY:HA3	31:3:799:A:H5''	1.91	0.53
14:j:29:ARG:NH2	31:3:2556:C:OP1	2.41	0.53
29:y:43:CYS:HB2	29:y:47:MET:HG3	1.91	0.53
31:3:816:A:H2'	31:3:1784:U:H1'	1.91	0.53
31:3:1236:G:H2'	31:3:1237:G:C8	2.43	0.53
31:3:1848:U:H2'	31:3:1849:G:H8	1.73	0.53
32:4:78:C:H5	32:4:79:U:H3	1.56	0.53
7:c:34:VAL:HG13	7:c:188:VAL:HG11	1.90	0.53
31:3:1063:A:N6	31:3:1161:A:OP1	2.41	0.53
31:3:1305:G:H2'	31:3:1306:G:H8	1.74	0.53
31:3:1754:U:H2'	31:3:1755:A:C8	2.43	0.53
8:d:60:ILE:HD11	8:d:141:ILE:HB	1.89	0.53
24:t:12:VAL:O	24:t:19:GLY:HA2	2.08	0.53
31:3:345:A:N6	31:3:363:G:OP1	2.41	0.53
31:3:410:G:H4'	31:3:411:U:O5'	2.07	0.53
31:3:1589:A:H2'	31:3:1590:U:C6	2.44	0.53
31:3:2103:C:H2'	31:3:2104:A:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2278:G:H3'	31:3:2279:G:H8	1.74	0.53
31:3:2664:U:H2'	31:3:2665:A:C8	2.44	0.53
31:3:2797:C:H4'	31:3:2813:A:C6	2.44	0.53
31:3:2825:A:H2	31:3:2830:A:H61	1.55	0.53
31:3:2849:G:H2'	31:3:2850:G:C8	2.43	0.53
4:7:62:PRO:HG3	4:7:101:ARG:HH12	1.73	0.53
6:b:28:VAL:HG13	6:b:190:LEU:HD21	1.90	0.53
7:c:115:VAL:HG21	7:c:188:VAL:HG13	1.89	0.53
31:3:355:A:C5	31:3:375:U:H4'	2.43	0.53
31:3:487:C:N4	31:3:490:A:OP2	2.35	0.53
31:3:1490:G:H2'	31:3:1491:G:C8	2.44	0.53
31:3:2436:G:H4'	31:3:2437:G:C4	2.44	0.53
8:d:7:HIS:O	8:d:11:THR:HG22	2.09	0.53
10:f:100:GLN:O	10:f:103:THR:OG1	2.24	0.53
20:p:17:LEU:HD21	20:p:31:TYR:HA	1.89	0.53
26:v:33:LEU:HB3	26:v:49:LEU:HD12	1.91	0.53
31:3:427:A:H1'	31:3:447:G:H1'	1.91	0.53
31:3:442:G:H2'	31:3:443:C:C6	2.44	0.53
31:3:443:C:H2'	31:3:444:C:C6	2.43	0.53
4:7:139:GLN:O	4:7:142:LYS:HG2	2.09	0.53
5:a:73:ARG:NH1	5:a:135:SER:OG	2.42	0.53
7:c:63:LYS:O	7:c:79:THR:OG1	2.27	0.53
8:d:63:GLN:HE21	8:d:89:VAL:HG13	1.74	0.53
22:r:75:VAL:HG23	22:r:104:VAL:HG13	1.91	0.53
22:r:124:LEU:O	22:r:127:LYS:HG2	2.08	0.53
31:3:215:A:H2'	31:3:216:C:C6	2.44	0.53
31:3:450:C:O3'	31:3:1885:G:N2	2.39	0.53
31:3:714:G:H2'	31:3:715:G:H8	1.74	0.53
31:3:774:A:N3	31:3:775:C:N4	2.55	0.53
31:3:2220:A:O2'	31:3:2222:C:N4	2.32	0.53
31:3:2334:U:H3	31:3:2397:G:H1	1.54	0.53
31:3:2495:A:H2'	31:3:2496:G:H8	1.74	0.53
32:4:3:U:H2'	32:4:4:G:H8	1.73	0.53
12:h:10:ALA:HA	31:3:1133:A:H4'	1.90	0.52
20:p:10:ARG:NH2	31:3:548:A:N3	2.47	0.52
20:p:33:VAL:O	20:p:37:THR:HG23	2.08	0.52
20:p:93:VAL:HG13	20:p:94:LEU:HD12	1.91	0.52
31:3:482:G:H21	31:3:490:A:H61	1.55	0.52
31:3:918:G:O6	31:3:932:U:O2'	2.27	0.52
31:3:990:G:O6	31:3:999:U:O4	2.27	0.52
31:3:1307:G:H2'	31:3:1308:A:H8	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1851:U:H2'	31:3:1852:G:H8	1.74	0.52
31:3:2635:G:H22	31:3:2785:G:P	2.32	0.52
31:3:2700:C:O2'	31:3:2851:U:O2	2.27	0.52
3:2:31:LYS:HE3	31:3:2536:U:H4'	1.92	0.52
6:b:41:THR:HB	6:b:44:LYS:HB3	1.91	0.52
6:b:79:LYS:NZ	31:3:2833:A:H5''	2.24	0.52
17:m:22:VAL:HA	17:m:25:VAL:HG12	1.92	0.52
31:3:226:A:N6	31:3:236:G:H1'	2.25	0.52
31:3:561:A:O2'	31:3:2050:G:N3	2.40	0.52
31:3:606:G:O2'	31:3:608:A:OP1	2.27	0.52
31:3:2082:U:OP2	31:3:2246:G:O2'	2.24	0.52
31:3:2683:G:H2'	31:3:2684:G:C8	2.44	0.52
31:3:2736:U:O2'	31:3:2737:G:H8	1.92	0.52
4:7:172:THR:HA	4:7:175:LYS:HD2	1.92	0.52
6:b:143:PHE:HD1	6:b:145:GLY:H	1.56	0.52
13:i:71:LYS:NZ	31:3:1176:U:OP2	2.31	0.52
22:r:94:ASN:HD21	31:3:2021:A:H5'	1.74	0.52
31:3:911:U:H2'	31:3:912:A:H8	1.74	0.52
31:3:1306:G:H2'	31:3:1307:G:C8	2.42	0.52
31:3:1451:A:H2'	31:3:1452:G:H8	1.74	0.52
31:3:1459:A:H61	31:3:1596:U:H3	1.56	0.52
31:3:1466:U:H3'	31:3:1467:U:H5''	1.92	0.52
31:3:2094:A:H2'	31:3:2095:A:H8	1.74	0.52
31:3:2425:C:H2'	31:3:2426:A:H8	1.75	0.52
31:3:2551:G:H2'	31:3:2552:G:C8	2.44	0.52
32:4:29:C:O2'	32:4:51:A:N1	2.43	0.52
2:1:24:ALA:HB2	15:k:62:LEU:HD23	1.91	0.52
31:3:189:U:H2'	31:3:190:G:C8	2.45	0.52
31:3:534:U:H2'	31:3:535:G:O4'	2.08	0.52
31:3:576:A:H2'	31:3:577:C:O4'	2.10	0.52
31:3:639:G:H2'	31:3:640:U:O4'	2.10	0.52
31:3:1162:A:O2'	31:3:2526:A:OP1	2.26	0.52
31:3:1229:U:H2'	31:3:1230:U:H6	1.74	0.52
31:3:2468:U:H2'	31:3:2469:A:H8	1.74	0.52
31:3:2751:C:OP2	31:3:2763:C:N4	2.43	0.52
9:e:142:GLU:OE1	31:3:2767:G:N2	2.31	0.52
14:j:30:LYS:HE3	31:3:2682:A:H4'	1.92	0.52
15:k:122:LYS:HD2	15:k:124:LEU:HD11	1.91	0.52
27:w:55:LEU:O	27:w:59:THR:HG23	2.10	0.52
31:3:1456:C:N4	31:3:1604:A:OP2	2.32	0.52
31:3:1772:G:N2	31:3:1994:U:O2	2.28	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2404:G:H2'	31:3:2405:G:H8	1.75	0.52
4:7:30:THR:HG22	4:7:181:LEU:HD12	1.92	0.52
5:a:242:GLY:HA3	31:3:2606:A:H5''	1.92	0.52
6:b:81:LEU:O	6:b:82:GLN:NE2	2.40	0.52
19:o:3:LYS:NZ	19:o:4:ILE:O	2.43	0.52
31:3:2310:C:H2'	31:3:2311:G:C8	2.44	0.52
5:a:270:MET:HG3	5:a:275:THR:HG21	1.90	0.52
8:d:63:GLN:NE2	32:4:40:U:O2	2.41	0.52
18:n:81:LEU:HD11	18:n:114:LEU:HD11	1.90	0.52
22:r:115:GLN:O	22:r:119:LYS:HG3	2.10	0.52
31:3:289:U:H2'	31:3:290:A:H8	1.74	0.52
31:3:642:A:OP2	31:3:655:G:N2	2.36	0.52
31:3:790:U:H2'	31:3:791:A:H8	1.74	0.52
31:3:2071:C:H2'	31:3:2072:C:H6	1.74	0.52
31:3:2854:A:OP2	31:3:2870:U:N3	2.43	0.52
32:4:11:A:H4'	32:4:13:G:C8	2.44	0.52
10:f:25:TYR:HD1	10:f:29:PHE:HD2	1.58	0.52
18:n:110:ARG:NH2	31:3:2385:A:H1'	2.25	0.52
24:t:93:MET:SD	24:t:101:THR:OG1	2.68	0.52
31:3:42:U:H2'	31:3:43:A:H8	1.74	0.52
31:3:188:G:H2'	31:3:189:U:C6	2.45	0.52
31:3:532:A:H2'	31:3:533:G:H8	1.74	0.52
31:3:701:A:H2'	31:3:702:U:C6	2.45	0.52
31:3:1198:G:H2'	31:3:1199:A:C8	2.44	0.52
31:3:1633:C:H2'	31:3:1634:A:C8	2.45	0.52
32:4:12:U:O2'	32:4:97:A:O2'	2.27	0.52
7:c:128:VAL:HG11	7:c:198:LEU:HD13	1.91	0.52
13:i:38:LEU:HD23	13:i:57:LEU:HD22	1.92	0.52
16:l:65:TRP:HB2	16:l:105:GLU:HG3	1.92	0.52
31:3:155:A:H2'	31:3:156:A:C8	2.44	0.52
31:3:425:U:H4'	31:3:426:U:OP2	2.10	0.52
31:3:730:G:H2'	31:3:731:A:H8	1.75	0.52
31:3:869:U:C2	31:3:870:A:C8	2.98	0.52
31:3:2146:A:H2'	31:3:2147:G:C8	2.45	0.52
31:3:2300:A:H5''	31:3:2386:A:H61	1.75	0.52
31:3:2684:G:H2'	31:3:2685:A:C8	2.44	0.52
31:3:195:A:H2'	31:3:196:G:C8	2.45	0.52
31:3:713:C:H2'	31:3:714:G:C8	2.44	0.52
31:3:829:A:H2'	31:3:830:A:C8	2.45	0.52
31:3:984:C:H2'	31:3:985:A:C8	2.45	0.52
31:3:1229:U:H2'	31:3:1230:U:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1830:G:H2'	31:3:1831:G:H8	1.75	0.52
31:3:1881:C:H2'	31:3:1882:G:O4'	2.10	0.52
31:3:1945:A:C6	31:3:2598:C:H1'	2.45	0.52
31:3:2141:A:N6	31:3:2163:U:O2'	2.43	0.52
31:3:2144:C:N4	31:3:2145:A:H62	2.08	0.52
31:3:2259:G:C5	31:3:2458:A:H4'	2.45	0.52
31:3:2644:U:H2'	31:3:2645:U:C6	2.44	0.52
2:1:42:ARG:O	2:1:44:GLN:NE2	2.43	0.51
13:i:60:ILE:HG23	13:i:131:ASP:HA	1.92	0.51
18:n:57:SER:HA	18:n:61:LYS:HB3	1.91	0.51
23:s:41:LYS:HB2	23:s:52:PRO:HG2	1.92	0.51
24:t:91:TYR:HB2	31:3:331:A:H5''	1.92	0.51
31:3:69:U:H2'	31:3:70:G:H8	1.74	0.51
31:3:343:A:N3	31:3:363:G:O2'	2.42	0.51
31:3:389:C:H2'	31:3:390:A:C8	2.45	0.51
31:3:393:C:H2'	31:3:394:C:C6	2.45	0.51
31:3:428:U:H2'	31:3:429:U:C6	2.44	0.51
31:3:1187:C:H2'	31:3:1188:C:H6	1.74	0.51
31:3:1755:A:H2'	31:3:1756:A:H8	1.74	0.51
31:3:2135:C:H2'	31:3:2136:A:C8	2.44	0.51
31:3:2323:U:H2'	31:3:2324:A:C8	2.44	0.51
4:7:44:GLU:H	4:7:83:GLU:HG3	1.75	0.51
10:f:28:HIS:HA	10:f:34:LYS:HD3	1.92	0.51
15:k:114:LEU:HD23	15:k:131:VAL:HG23	1.91	0.51
26:v:4:LYS:NZ	31:3:1393:A:O3'	2.43	0.51
29:y:13:ARG:NH1	31:3:552:C:OP1	2.43	0.51
31:3:70:G:H21	31:3:76:A:H5''	1.75	0.51
31:3:539:U:O2'	31:3:1265:G:OP1	2.28	0.51
31:3:891:G:H2'	31:3:892:G:H8	1.75	0.51
13:i:118:SER:HA	13:i:121:TRP:HB2	1.91	0.51
18:n:80:LYS:HA	18:n:83:LYS:HD2	1.93	0.51
25:u:50:ILE:HD12	25:u:53:ARG:HH21	1.75	0.51
31:3:606:G:N2	31:3:2038:A:OP1	2.43	0.51
31:3:663:A:O2'	31:3:672:G:N2	2.36	0.51
31:3:997:G:N2	31:3:2037:A:OP2	2.42	0.51
31:3:2072:C:H2'	31:3:2073:C:H6	1.74	0.51
8:d:38:MET:H	8:d:88:LYS:NZ	2.07	0.51
13:i:101:ASP:OD1	13:i:101:ASP:N	2.43	0.51
17:m:42:GLN:OE1	31:3:2842:G:O2'	2.27	0.51
31:3:540:A:HO2'	31:3:544:U:HO2'	1.57	0.51
31:3:1325:C:H2'	31:3:1326:C:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1924:U:H3'	31:3:1925:A:C8	2.45	0.51
31:3:2495:A:H2'	31:3:2496:G:C8	2.46	0.51
31:3:2645:U:H3'	31:3:2646:G:C8	2.45	0.51
17:m:98:SER:HB3	17:m:116:LEU:HD11	1.91	0.51
31:3:509:G:H2'	31:3:510:G:C8	2.46	0.51
31:3:511:U:H2'	31:3:512:G:O4'	2.10	0.51
31:3:1149:G:H2'	31:3:1150:U:C6	2.44	0.51
31:3:1297:U:H2'	31:3:1298:A:H8	1.75	0.51
31:3:2259:G:H1	31:3:2458:A:HO2'	1.49	0.51
31:3:2380:U:H2'	31:3:2381:G:C8	2.45	0.51
31:3:2750:A:H2'	31:3:2751:C:C6	2.46	0.51
32:4:4:G:H2'	32:4:5:G:C8	2.46	0.51
2:1:2:LYS:HA	31:3:246:G:H2'	1.91	0.51
8:d:59:LEU:HD21	8:d:141:ILE:HA	1.93	0.51
18:n:76:ASP:OD1	18:n:77:ILE:N	2.43	0.51
20:p:106:ASN:HA	20:p:109:VAL:HG22	1.93	0.51
25:u:28:ARG:O	31:3:2286:A:N6	2.44	0.51
31:3:444:C:N3	31:3:456:G:N1	2.58	0.51
31:3:513:A:N6	31:3:536:A:N7	2.59	0.51
31:3:684:A:H2'	31:3:685:G:H8	1.76	0.51
31:3:746:G:H2'	31:3:747:A:H8	1.76	0.51
31:3:1007:C:H2'	31:3:1008:A:O4'	2.10	0.51
31:3:1264:U:H3'	31:3:1265:G:C8	2.43	0.51
31:3:2697:C:OP2	31:3:2876:G:N1	2.38	0.51
8:d:76:THR:HG23	8:d:77:TYR:CD2	2.46	0.51
15:k:34:ARG:HH21	31:3:620:G:H1	1.58	0.51
27:w:56:THR:O	27:w:59:THR:OG1	2.18	0.51
31:3:78:C:H2'	31:3:79:U:H6	1.76	0.51
31:3:614:C:H2'	31:3:615:G:C8	2.45	0.51
31:3:802:U:H2'	31:3:803:G:C8	2.46	0.51
31:3:1010:G:O2'	31:3:1011:A:OP2	2.29	0.51
31:3:1311:G:N1	31:3:1314:A:OP2	2.43	0.51
31:3:1385:U:H3	31:3:1402:G:H1	1.57	0.51
31:3:1443:A:O2'	31:3:1445:U:OP2	2.19	0.51
31:3:1848:U:H2'	31:3:1849:G:C8	2.46	0.51
31:3:2264:G:H2'	31:3:2265:U:C6	2.46	0.51
6:b:85:ARG:NH2	31:3:2645:U:OP1	2.34	0.51
7:c:52:ILE:HG21	7:c:92:GLY:HA3	1.92	0.51
7:c:140:THR:HB	7:c:175:ILE:HD11	1.93	0.51
20:p:60:TRP:HH2	31:3:1031:U:H4'	1.75	0.51
22:r:9:ARG:HB3	22:r:102:ASN:OD1	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:r:21:CYS:HA	22:r:24:ILE:HG22	1.92	0.51
31:3:484:U:H3	31:3:616:G:H1'	1.76	0.51
31:3:823:A:OP1	31:3:826:C:N4	2.27	0.51
31:3:1050:A:N6	31:3:1183:A:H61	2.08	0.51
31:3:1293:U:H3'	31:3:1294:G:C8	2.46	0.51
31:3:1861:A:H4'	31:3:2241:A:H4'	1.93	0.51
31:3:2078:A:H2'	31:3:2079:G:C8	2.46	0.51
31:3:2567:C:H2'	31:3:2568:G:C8	2.45	0.51
4:7:3:PRO:O	4:7:7:LEU:HG	2.11	0.51
22:r:133:GLN:NE2	31:3:581:A:OP2	2.42	0.51
27:w:58:LEU:HD21	27:w:64:ASN:HB2	1.93	0.51
31:3:62:G:H1'	31:3:64:U:C4	2.46	0.51
31:3:205:C:O2'	31:3:424:G:O6	2.29	0.51
31:3:546:U:H3'	31:3:547:G:C8	2.46	0.51
31:3:1868:A:H2'	31:3:1869:G:C8	2.46	0.51
31:3:2694:A:H2'	31:3:2695:U:C6	2.46	0.51
31:3:2861:G:N2	31:3:2864:A:OP2	2.29	0.51
5:a:100:THR:HG21	31:3:1526:U:H5''	1.93	0.51
19:o:38:LYS:HA	19:o:43:VAL:HA	1.93	0.51
29:y:16:ARG:HH12	31:3:1294:G:H5''	1.76	0.51
31:3:660:U:N3	31:3:661:G:O6	2.43	0.51
31:3:805:G:H2'	31:3:806:A:H8	1.76	0.51
31:3:1621:U:H2'	31:3:1622:C:H6	1.76	0.51
31:3:2189:U:H2'	31:3:2190:G:H8	1.75	0.51
31:3:2205:U:N3	31:3:2233:A:N7	2.58	0.51
31:3:2384:A:H2'	31:3:2385:A:O4'	2.10	0.51
31:3:2743:U:H2'	31:3:2744:A:H8	1.76	0.51
31:3:2840:U:H2'	31:3:2841:A:H8	1.76	0.51
13:i:76:PHE:HA	13:i:90:VAL:O	2.12	0.50
16:l:46:ALA:HA	31:3:2492:G:H4'	1.93	0.50
18:n:27:ARG:NH2	31:3:2386:A:O2'	2.44	0.50
31:3:142:A:H2	31:3:1628:G:H21	1.57	0.50
31:3:453:U:H2'	31:3:454:G:C8	2.46	0.50
31:3:684:A:H2'	31:3:685:G:C8	2.46	0.50
31:3:1645:C:H2'	31:3:1646:G:C8	2.46	0.50
31:3:1851:U:H2'	31:3:1852:G:C8	2.46	0.50
31:3:2376:C:H2'	31:3:2377:A:C8	2.43	0.50
3:2:27:CYS:SG	3:2:28:LYS:N	2.83	0.50
8:d:84:LEU:HD12	8:d:84:LEU:H	1.76	0.50
9:e:56:THR:HA	9:e:68:HIS:HE1	1.76	0.50
9:e:175:LYS:NZ	31:3:2537:G:OP2	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:j:30:LYS:O	14:j:31:ARG:HG2	2.11	0.50
27:w:7:LEU:HD23	27:w:57:ILE:HG12	1.93	0.50
31:3:142:A:O2'	31:3:143:A:O4'	2.28	0.50
31:3:359:G:H2'	31:3:360:G:H8	1.76	0.50
31:3:418:G:N2	31:3:430:U:O2	2.36	0.50
31:3:675:U:H3	31:3:685:G:H1	1.58	0.50
31:3:1072:A:H2'	31:3:1073:A:H8	1.76	0.50
31:3:1591:C:OP2	31:3:1592:A:O2'	2.25	0.50
5:a:64:ARG:HH22	5:a:222:ARG:HA	1.76	0.50
5:a:138:LEU:HD12	5:a:194:LYS:HA	1.92	0.50
18:n:28:VAL:HG12	18:n:86:LEU:HD23	1.93	0.50
21:q:39:LEU:HA	21:q:50:LEU:HD13	1.92	0.50
26:v:30:ASN:O	31:3:432:G:O2'	2.30	0.50
31:3:633:G:O6	31:3:692:U:O4	2.28	0.50
31:3:877:G:H2'	31:3:878:A:C8	2.45	0.50
31:3:1296:G:O2'	31:3:2019:G:O6	2.26	0.50
31:3:1554:A:N6	31:3:1576:G:O2'	2.44	0.50
19:o:66:VAL:HB	19:o:79:PHE:HE2	1.76	0.50
27:w:13:GLU:OE2	27:w:69:GLN:NE2	2.44	0.50
30:z:12:ASN:HD22	30:z:48:LYS:HE3	1.75	0.50
31:3:299:A:H2'	31:3:300:G:C8	2.46	0.50
31:3:720:A:H1'	31:3:724:A:N6	2.27	0.50
31:3:2705:G:H2'	31:3:2706:U:C6	2.47	0.50
4:7:57:GLN:NE2	4:7:58:ILE:O	2.45	0.50
7:c:54:THR:H	7:c:57:GLU:HB2	1.75	0.50
13:i:116:ARG:NE	31:3:564:A:OP1	2.44	0.50
16:l:58:LEU:HD21	16:l:106:VAL:HG23	1.93	0.50
17:m:14:ARG:NH2	31:3:2009:U:O5'	2.45	0.50
31:3:529:G:H2'	31:3:530:G:H8	1.75	0.50
31:3:1026:A:H5''	31:3:1192:U:H5''	1.93	0.50
31:3:1581:U:H2'	31:3:1582:G:C8	2.47	0.50
31:3:1868:A:H2'	31:3:1869:G:H8	1.76	0.50
4:7:23:GLU:O	4:7:26:SER:OG	2.30	0.50
14:j:88:LYS:HB3	14:j:94:ARG:HH11	1.76	0.50
31:3:174:A:H2'	31:3:175:A:C8	2.46	0.50
31:3:297:G:N1	31:3:440:C:O2'	2.28	0.50
31:3:1111:C:C4	31:3:1112:A:N6	2.80	0.50
31:3:1494:U:H3	31:3:1550:G:H1	1.59	0.50
31:3:2425:C:H2'	31:3:2426:A:C8	2.45	0.50
31:3:2599:C:N4	31:3:2600:G:O6	2.44	0.50
31:3:2784:A:O2'	31:3:2790:A:N7	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:d:35:VAL:HG11	31:3:2322:G:H5''	1.94	0.50
10:f:4:ILE:HA	10:f:18:VAL:HA	1.93	0.50
20:p:104:LYS:O	20:p:108:ILE:HD12	2.11	0.50
23:s:38:THR:HA	23:s:41:LYS:HD3	1.94	0.50
31:3:863:U:H4'	31:3:866:G:C6	2.47	0.50
31:3:1317:C:H2'	31:3:1318:U:C6	2.47	0.50
31:3:1777:G:H2'	31:3:1778:G:C8	2.46	0.50
31:3:1914:G:O6	31:3:1930:U:O4	2.30	0.50
31:3:2374:A:H3'	31:3:2375:A:H8	1.75	0.50
31:3:2709:C:P	31:3:2710:G:H5''	2.51	0.50
5:a:250:GLY:O	31:3:1909:C:O2'	2.28	0.50
22:r:78:GLN:NE2	31:3:552:C:O4'	2.45	0.50
24:t:100:LYS:HE2	31:3:330:A:H4'	1.94	0.50
27:w:63:LEU:O	27:w:66:GLN:NE2	2.44	0.50
31:3:512:G:H1'	31:3:516:A:H61	1.77	0.50
31:3:2820:G:H2'	31:3:2821:U:C6	2.46	0.50
32:4:59:A:O2'	32:4:60:C:OP1	2.30	0.50
1:0:22:MET:HE3	1:0:28:ARG:HD2	1.94	0.50
4:7:25:LEU:HA	4:7:28:ILE:HD12	1.94	0.50
12:h:127:THR:HB	31:3:1094:G:H21	1.77	0.50
29:y:39:PHE:HZ	31:3:2888:U:H2'	1.75	0.50
31:3:512:G:H21	31:3:514:A:H8	1.60	0.50
31:3:820:U:H2'	31:3:821:C:C6	2.47	0.50
31:3:993:A:H61	31:3:2466:G:H4'	1.77	0.50
31:3:1111:C:H42	31:3:1112:A:N6	2.10	0.50
31:3:1270:C:H2'	31:3:1271:A:H8	1.77	0.50
31:3:1451:A:H2'	31:3:1452:G:C8	2.47	0.50
31:3:2249:A:H2'	31:3:2250:G:C8	2.47	0.50
31:3:2315:G:H4'	31:3:2316:G:O4'	2.12	0.50
31:3:2528:C:H2'	31:3:2529:C:C6	2.47	0.50
5:a:4:LYS:HZ1	5:a:21:ASP:HA	1.77	0.49
6:b:53:SER:OG	6:b:78:THR:OG1	2.08	0.49
31:3:769:A:H3'	31:3:770:A:H8	1.77	0.49
31:3:1529:U:H2'	31:3:1530:G:C8	2.47	0.49
31:3:1723:A:H2'	31:3:1724:A:C8	2.44	0.49
31:3:2033:G:H2'	31:3:2034:G:C8	2.47	0.49
31:3:2539:A:H61	31:3:2670:A:H61	1.59	0.49
31:3:2587:U:H2'	31:3:2588:U:H6	1.75	0.49
32:4:4:G:O6	32:4:105:A:N6	2.44	0.49
4:7:139:GLN:O	4:7:143:LYS:HG2	2.12	0.49
5:a:103:ASN:HA	31:3:1515:A:C5	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:b:15:GLN:HA	6:b:25:PRO:HA	1.94	0.49
14:j:15:GLY:HA3	14:j:50:GLY:HA3	1.93	0.49
16:l:37:THR:HG1	16:l:128:THR:HG1	1.59	0.49
19:o:57:GLY:HA3	19:o:62:GLU:HA	1.94	0.49
31:3:235:U:H2'	31:3:236:G:O4'	2.12	0.49
31:3:340:U:H2'	31:3:341:G:O4'	2.12	0.49
31:3:1837:C:H2'	31:3:1838:A:C8	2.46	0.49
31:3:2421:U:H2'	31:3:2422:G:H8	1.77	0.49
31:3:2752:G:H1	31:3:2768:U:H3	1.60	0.49
31:3:2814:A:H2'	31:3:2815:G:O4'	2.12	0.49
31:3:2826:G:O2'	31:3:2828:C:OP2	2.22	0.49
1:0:1:MET:N	31:3:1653:C:O2	2.45	0.49
4:7:107:MET:H	4:7:112:ARG:NH2	2.10	0.49
7:c:115:VAL:HG11	7:c:188:VAL:HG22	1.94	0.49
9:e:155:ARG:HG2	9:e:164:GLY:HA2	1.94	0.49
9:e:159:PRO:O	9:e:174:ARG:NH2	2.45	0.49
19:o:53:LEU:HD11	19:o:67:ARG:HB2	1.95	0.49
31:3:29:G:H1'	31:3:30:A:C8	2.46	0.49
31:3:690:U:O2'	31:3:691:G:O4'	2.27	0.49
31:3:729:U:H3	31:3:803:G:H1	1.60	0.49
31:3:730:G:H2'	31:3:731:A:C8	2.47	0.49
31:3:1019:A:H2'	31:3:1020:G:C4	2.47	0.49
31:3:1069:G:H2'	31:3:1070:U:O4'	2.13	0.49
31:3:1073:A:H2'	31:3:1074:A:C8	2.47	0.49
31:3:1439:U:H2'	31:3:1440:U:C6	2.47	0.49
31:3:1473:C:H2'	31:3:1474:C:H6	1.77	0.49
31:3:1829:U:H2'	31:3:1830:G:H8	1.76	0.49
31:3:2363:C:H2'	31:3:2364:A:C8	2.47	0.49
31:3:2554:U:O2'	31:3:2574:A:N3	2.38	0.49
7:c:156:ASN:HB2	7:c:194:ALA:HA	1.93	0.49
10:f:8:ASP:OD1	10:f:8:ASP:N	2.45	0.49
14:j:71:ARG:HG2	14:j:73:ASP:H	1.77	0.49
17:m:35:LEU:O	17:m:39:LYS:HG2	2.13	0.49
19:o:94:GLY:HA2	19:o:115:LYS:HA	1.94	0.49
31:3:130:C:H2'	31:3:131:C:C6	2.47	0.49
31:3:455:G:H2'	31:3:456:G:C8	2.47	0.49
31:3:627:U:H2'	31:3:628:A:C8	2.48	0.49
31:3:755:C:H2'	31:3:756:A:C8	2.47	0.49
31:3:1007:C:O2'	31:3:1019:A:N3	2.36	0.49
31:3:2034:G:H2'	31:3:2035:U:C6	2.47	0.49
31:3:2242:G:H2'	31:3:2243:G:H8	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:a:80:GLU:HG2	5:a:120:LYS:HE3	1.95	0.49
21:q:27:ALA:H	21:q:62:HIS:CE1	2.29	0.49
23:s:9:LYS:HG2	27:w:34:ALA:HB2	1.94	0.49
29:y:4:GLN:HG3	31:3:2623:U:H1'	1.94	0.49
31:3:1158:C:H2'	31:3:1159:C:H6	1.78	0.49
31:3:1440:U:H2'	31:3:1441:A:C8	2.48	0.49
31:3:2099:U:N3	31:3:2234:C:OP2	2.28	0.49
31:3:2893:C:H2'	31:3:2894:G:O4'	2.13	0.49
4:7:153:GLU:OE2	4:7:156:LYS:NZ	2.38	0.49
8:d:97:TRP:HA	8:d:100:LEU:HG	1.94	0.49
21:q:67:LYS:HA	21:q:86:ARG:HG2	1.95	0.49
25:u:83:TYR:HB2	31:3:892:G:H4'	1.94	0.49
31:3:385:U:H2'	31:3:386:U:H6	1.77	0.49
31:3:389:C:H2'	31:3:390:A:H8	1.77	0.49
31:3:585:U:H2'	31:3:586:G:C8	2.45	0.49
31:3:868:C:H2'	31:3:869:U:H6	1.76	0.49
31:3:1010:G:H22	31:3:1025:G:H1'	1.78	0.49
31:3:2522:U:H2'	31:3:2523:C:C6	2.47	0.49
6:b:227:GLU:HG2	19:o:20:ALA:H	1.77	0.49
16:l:15:VAL:HG13	16:l:41:TRP:CE2	2.47	0.49
17:m:9:LYS:NZ	31:3:1684:A:OP2	2.34	0.49
31:3:634:C:H2'	31:3:635:G:O4'	2.12	0.49
31:3:840:G:OP2	31:3:841:C:N4	2.44	0.49
31:3:1344:U:H2'	31:3:1345:G:C8	2.46	0.49
31:3:1414:C:O2'	31:3:1495:A:N3	2.35	0.49
31:3:2825:A:H3'	31:3:2826:G:H8	1.78	0.49
5:a:213:ILE:HG21	5:a:219:ASN:HB2	1.95	0.49
14:j:24:VAL:HG23	14:j:30:LYS:HB3	1.94	0.49
15:k:6:LEU:HD11	31:3:1235:U:C2	2.47	0.49
18:n:12:HIS:CE1	32:4:6:U:H5''	2.47	0.49
18:n:33:ILE:HD11	18:n:42:GLN:HE21	1.78	0.49
25:u:26:ASN:HB3	31:3:2285:G:C8	2.48	0.49
27:w:40:LYS:HB3	27:w:42:HIS:CE1	2.48	0.49
31:3:189:U:H2'	31:3:190:G:H8	1.77	0.49
31:3:522:C:H2'	31:3:523:A:C8	2.47	0.49
31:3:1543:U:H2'	31:3:1544:G:C8	2.47	0.49
31:3:1700:G:H3'	31:3:1701:G:C8	2.48	0.49
31:3:2088:U:H2'	31:3:2089:A:H8	1.78	0.49
31:3:2244:U:H2'	31:3:2245:G:O4'	2.13	0.49
4:7:61:ASN:HB3	4:7:62:PRO:HD3	1.95	0.49
7:c:90:VAL:HG13	7:c:91:PHE:CD1	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:i:112:LEU:HD13	13:i:118:SER:HB2	1.94	0.49
20:p:10:ARG:NH1	31:3:615:G:H4'	2.28	0.49
23:s:27:TYR:OH	23:s:91:ILE:O	2.27	0.49
25:u:27:GLY:HA2	31:3:2284:G:N7	2.28	0.49
29:y:4:GLN:NE2	29:y:7:ARG:HA	2.27	0.49
31:3:121:U:H5''	31:3:123:G:OP2	2.13	0.49
31:3:784:A:H61	31:3:788:G:H21	1.61	0.49
31:3:1801:U:H2'	31:3:1802:C:H6	1.78	0.49
31:3:2005:G:H2'	31:3:2006:C:C6	2.48	0.49
31:3:2328:A:H5''	31:3:2329:G:C6	2.47	0.49
31:3:2392:U:H5''	31:3:2394:A:OP1	2.12	0.49
32:4:59:A:H2'	32:4:60:C:C6	2.48	0.49
32:4:75:U:H2'	32:4:76:A:H8	1.78	0.49
13:i:40:ARG:NH1	13:i:113:PRO:HD3	2.28	0.49
31:3:225:A:C4	31:3:237:A:H1'	2.47	0.49
31:3:269:A:N6	31:3:315:A:O4'	2.46	0.49
31:3:874:U:H2'	31:3:875:G:C8	2.47	0.49
31:3:1409:G:O6	31:3:1410:A:N6	2.46	0.49
31:3:2025:C:H2'	31:3:2026:A:H8	1.78	0.49
31:3:2154:A:H2'	31:3:2155:G:H8	1.77	0.49
31:3:2820:G:H2'	31:3:2821:U:H6	1.78	0.49
31:3:2851:U:H3	31:3:2873:G:H1	1.59	0.49
32:4:42:G:H1'	32:4:45:C:H42	1.77	0.49
4:7:151:PHE:O	4:7:155:LEU:HG	2.12	0.48
6:b:139:TYR:CD1	6:b:140:PRO:HD3	2.48	0.48
31:3:352:C:H2'	31:3:353:G:C8	2.47	0.48
31:3:640:U:O2	31:3:658:G:O6	2.31	0.48
31:3:756:A:H2'	31:3:757:A:H8	1.76	0.48
31:3:805:G:H2'	31:3:806:A:C8	2.48	0.48
31:3:1085:A:H1'	31:3:2759:G:C2	2.48	0.48
31:3:2053:G:H1	31:3:2630:U:H3	1.60	0.48
31:3:2458:A:N7	31:3:2509:C:C4	2.81	0.48
31:3:2701:A:H2'	31:3:2702:G:H8	1.77	0.48
6:b:3:ILE:HG12	6:b:209:THR:HB	1.95	0.48
6:b:5:GLY:N	6:b:87:MET:SD	2.85	0.48
31:3:177:U:H2'	31:3:178:A:C8	2.47	0.48
31:3:358:A:N6	31:3:373:U:O4'	2.46	0.48
31:3:1049:U:H2'	31:3:1050:A:C8	2.47	0.48
31:3:1305:G:H2'	31:3:1306:G:C8	2.48	0.48
31:3:1587:U:H2'	31:3:1588:A:C8	2.48	0.48
31:3:1841:U:H5''	31:3:1842:G:H5'	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2054:C:HO2'	31:3:2055:A:H5'	1.77	0.48
31:3:2223:C:H2'	31:3:2224:A:C8	2.47	0.48
31:3:2699:C:O2'	31:3:2875:U:O2'	2.24	0.48
31:3:2729:A:H2'	31:3:2730:G:O4'	2.13	0.48
31:3:2892:U:H2'	31:3:2893:C:C6	2.47	0.48
5:a:252:ASP:N	5:a:252:ASP:OD1	2.46	0.48
7:c:48:GLY:O	31:3:40:A:O2'	2.31	0.48
13:i:28:LEU:HD23	31:3:1174:G:H5'	1.95	0.48
19:o:36:LYS:HB2	19:o:85:ASN:HB3	1.96	0.48
20:p:80:ASN:ND2	31:3:1186:A:O3'	2.44	0.48
31:3:333:A:N6	31:3:356:A:O2'	2.41	0.48
31:3:464:A:H3'	31:3:465:A:C8	2.48	0.48
31:3:1045:A:H3'	31:3:1046:A:C8	2.48	0.48
31:3:1218:G:N2	31:3:1219:U:O4	2.46	0.48
31:3:1412:A:H1'	31:3:1433:U:H1'	1.95	0.48
31:3:1462:A:O2'	31:3:1463:G:O5'	2.20	0.48
31:3:2272:C:H2'	31:3:2273:U:O4'	2.13	0.48
31:3:2792:C:H2'	31:3:2793:U:C6	2.48	0.48
31:3:2851:U:H2'	31:3:2852:G:O4'	2.13	0.48
8:d:150:ARG:NH1	31:3:2314:U:H3	2.11	0.48
19:o:9:LEU:HA	19:o:12:LEU:HB3	1.94	0.48
31:3:336:C:H2'	31:3:337:U:C6	2.48	0.48
31:3:337:U:H2'	31:3:338:G:H8	1.78	0.48
31:3:488:G:N2	31:3:493:A:H1'	2.27	0.48
31:3:517:G:H1	31:3:544:U:H3	1.56	0.48
31:3:1246:U:H2'	31:3:1247:C:C6	2.48	0.48
31:3:2054:C:H2'	31:3:2055:A:C8	2.47	0.48
31:3:2405:G:N2	31:3:2427:U:O2	2.43	0.48
31:3:2476:A:OP2	31:3:2484:A:N6	2.47	0.48
31:3:2560:U:C2	31:3:2562:U:H5''	2.48	0.48
5:a:279:ILE:O	5:a:286:GLN:N	2.35	0.48
8:d:92:ARG:NE	32:4:43:A:O4'	2.46	0.48
13:i:133:HIS:CE1	13:i:136:GLU:HG3	2.48	0.48
16:l:30:GLY:N	16:l:105:GLU:OE1	2.45	0.48
19:o:15:GLN:HA	19:o:18:LEU:HD23	1.96	0.48
30:z:8:ARG:HG3	30:z:20:LEU:HG	1.94	0.48
31:3:195:A:H2	31:3:835:U:H5	1.61	0.48
31:3:494:G:H1'	31:3:495:U:H5	1.77	0.48
31:3:800:C:H2'	31:3:801:U:C6	2.49	0.48
31:3:1010:G:N2	31:3:1025:G:H1'	2.29	0.48
31:3:1248:A:O2'	31:3:1249:A:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1476:C:H2'	31:3:1477:A:C8	2.48	0.48
31:3:1756:A:H2'	31:3:1757:G:C8	2.49	0.48
31:3:2536:U:OP2	31:3:2538:A:N6	2.46	0.48
7:c:134:ASN:O	7:c:135:LYS:HG2	2.14	0.48
15:k:105:SER:OG	31:3:657:A:OP2	2.32	0.48
30:z:36:LYS:HB2	30:z:47:HIS:CD2	2.49	0.48
31:3:155:A:N6	31:3:178:A:H61	2.12	0.48
31:3:1490:G:H2'	31:3:1491:G:H8	1.78	0.48
31:3:1692:A:H2'	31:3:1693:U:C6	2.48	0.48
31:3:2223:C:H2'	31:3:2224:A:H8	1.77	0.48
3:2:3:VAL:HG11	31:3:2547:C:H5'	1.95	0.48
5:a:17:SER:OG	5:a:212:VAL:O	2.23	0.48
5:a:126:HIS:CD2	10:f:87:ARG:HE	2.31	0.48
5:a:160:ILE:HG23	31:3:1806:G:C2	2.49	0.48
5:a:186:SER:HB3	31:3:1826:A:O2'	2.14	0.48
18:n:96:SER:OG	32:4:46:C:OP1	2.27	0.48
20:p:76:SER:HA	31:3:1187:C:H4'	1.95	0.48
23:s:26:LYS:HA	23:s:83:ILE:O	2.12	0.48
27:w:96:ALA:O	27:w:100:LYS:HG2	2.14	0.48
31:3:766:C:H2'	31:3:767:C:H6	1.79	0.48
31:3:1459:A:H2'	31:3:1460:G:C8	2.49	0.48
31:3:1544:G:H2'	31:3:1545:A:H8	1.78	0.48
31:3:1617:U:H1'	31:3:1619:A:C6	2.48	0.48
31:3:1662:G:H2'	31:3:1663:G:H8	1.78	0.48
31:3:1871:U:H3	31:3:1885:G:H1	1.61	0.48
31:3:2159:U:H2'	31:3:2160:U:C6	2.49	0.48
31:3:2604:U:HO2'	31:3:2605:G:P	2.37	0.48
5:a:47:ARG:HH21	31:3:814:U:H5''	1.79	0.48
5:a:220:ARG:NH1	31:3:799:A:N3	2.59	0.48
6:b:3:ILE:HG23	6:b:209:THR:H	1.79	0.48
15:k:79:VAL:HB	15:k:115:ILE:HG21	1.96	0.48
18:n:37:ASN:ND2	32:4:50:C:OP2	2.47	0.48
19:o:25:PHE:H	19:o:55:ARG:NH1	2.12	0.48
31:3:226:A:H61	31:3:236:G:H1'	1.77	0.48
31:3:562:C:N4	31:3:2787:U:OP2	2.42	0.48
31:3:629:G:N2	31:3:696:U:O2	2.41	0.48
31:3:1094:G:H2'	31:3:1095:U:C5	2.49	0.48
31:3:2045:C:N4	31:3:2046:G:O6	2.46	0.48
31:3:2420:A:H2'	31:3:2421:U:O4'	2.14	0.48
31:3:2794:U:H2'	31:3:2795:C:C6	2.49	0.48
32:4:95:G:H2'	32:4:96:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:26:SER:O	1:0:29:LYS:HG2	2.14	0.48
22:r:49:LYS:HD3	31:3:527:A:H61	1.78	0.48
31:3:355:A:O2'	31:3:374:A:N3	2.44	0.48
31:3:500:U:O2'	31:3:501:G:OP1	2.31	0.48
31:3:1006:U:H2'	31:3:1007:C:C6	2.48	0.48
31:3:1085:A:H61	31:3:1143:U:H3	1.62	0.48
31:3:1158:C:H2'	31:3:1159:C:C6	2.48	0.48
31:3:1830:G:H2'	31:3:1831:G:C8	2.48	0.48
31:3:1861:A:N6	31:3:1895:G:H1'	2.28	0.48
31:3:2462:G:N2	31:3:2507:C:H41	2.12	0.48
31:3:2533:A:H2'	31:3:2534:G:C8	2.48	0.48
4:7:122:VAL:O	4:7:126:ILE:HG12	2.13	0.48
5:a:138:LEU:HA	5:a:141:ILE:HD12	1.96	0.48
7:c:90:VAL:HG21	31:3:707:C:H5''	1.95	0.48
13:i:13:ASN:O	13:i:15:ARG:NH1	2.46	0.48
31:3:260:A:H2'	31:3:261:A:H8	1.79	0.48
31:3:529:G:H2'	31:3:530:G:C8	2.49	0.48
31:3:790:U:H2'	31:3:791:A:C8	2.49	0.48
31:3:897:A:N3	32:4:77:G:O2'	2.46	0.48
31:3:1166:G:O2'	31:3:2032:G:O2'	2.19	0.48
31:3:1230:U:H2'	31:3:1231:G:H8	1.77	0.48
31:3:1916:C:H2'	31:3:1917:G:C8	2.48	0.48
31:3:2543:G:H2'	31:3:2544:G:C8	2.49	0.48
31:3:2615:G:H2'	31:3:2616:G:O4'	2.13	0.48
3:2:4:ARG:NH1	31:3:2485:U:O2	2.45	0.47
3:2:27:CYS:HB3	3:2:32:HIS:HB3	1.96	0.47
3:2:31:LYS:HE2	31:3:2486:A:H5'	1.96	0.47
3:2:35:ARG:HG2	3:2:36:GLN:H	1.78	0.47
4:7:147:LYS:HZ2	4:7:147:LYS:HG3	1.51	0.47
7:c:47:GLN:OE1	31:3:649:A:N6	2.47	0.47
10:f:39:LEU:HA	10:f:42:LYS:HB2	1.96	0.47
17:m:109:ASP:HB3	31:3:1683:G:H21	1.79	0.47
18:n:5:THR:HG23	18:n:8:ARG:HH11	1.79	0.47
31:3:851:U:H2'	31:3:852:C:C6	2.48	0.47
31:3:2038:A:N3	31:3:2463:G:O2'	2.45	0.47
31:3:2126:A:N6	31:3:2176:G:H1'	2.28	0.47
31:3:2232:G:O2'	31:3:2233:A:O4'	2.30	0.47
31:3:2644:U:H2'	31:3:2645:U:H6	1.79	0.47
31:3:2718:C:H2'	31:3:2719:A:C8	2.49	0.47
5:a:136:MET:N	5:a:136:MET:SD	2.87	0.47
6:b:4:ARG:HG3	6:b:101:LEU:HD22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:b:176:VAL:HG13	6:b:179:LEU:HD11	1.96	0.47
7:c:106:LYS:NZ	31:3:639:G:OP1	2.34	0.47
9:e:77:ASN:HA	9:e:80:ILE:HG12	1.96	0.47
10:f:102:HIS:HB3	31:3:166:A:N7	2.29	0.47
25:u:33:LYS:NZ	31:3:2395:U:O3'	2.47	0.47
31:3:59:C:H2'	31:3:60:G:C8	2.50	0.47
31:3:237:A:H2'	31:3:238:U:O4'	2.14	0.47
31:3:746:G:O6	31:3:756:A:N6	2.47	0.47
31:3:1393:A:H3'	31:3:1394:A:H8	1.79	0.47
31:3:1793:A:O2'	31:3:1945:A:N6	2.47	0.47
31:3:1979:G:H2'	31:3:1980:G:H8	1.79	0.47
31:3:2213:A:H2'	31:3:2214:A:H8	1.79	0.47
31:3:2576:A:H2'	31:3:2577:G:C8	2.50	0.47
31:3:2657:C:H2'	31:3:2658:U:C6	2.50	0.47
5:a:11:ASN:O	31:3:1985:A:O2'	2.25	0.47
5:a:220:ARG:HG2	5:a:226:PRO:HD3	1.95	0.47
5:a:229:ARG:NH2	31:3:1835:G:O6	2.47	0.47
7:c:63:LYS:NZ	31:3:505:G:OP1	2.47	0.47
16:l:5:LYS:NZ	31:3:908:A:OP1	2.38	0.47
31:3:360:G:H2'	31:3:361:G:C8	2.49	0.47
31:3:562:C:N3	31:3:2787:U:H2'	2.29	0.47
31:3:719:G:O2'	31:3:823:A:N7	2.46	0.47
31:3:1416:G:H2'	31:3:1417:G:H8	1.79	0.47
31:3:1512:A:N6	31:3:1513:A:N6	2.62	0.47
31:3:1700:G:H3'	31:3:1701:G:H8	1.80	0.47
31:3:2097:A:N6	31:3:2238:G:O6	2.47	0.47
31:3:2822:C:H2'	31:3:2823:A:C8	2.49	0.47
32:4:77:G:C2	32:4:78:C:H1'	2.49	0.47
4:7:119:ALA:O	4:7:123:VAL:HG23	2.15	0.47
5:a:48:ASN:HB2	5:a:54:THR:HG21	1.95	0.47
5:a:76:TYR:HE1	31:3:1516:G:H4'	1.79	0.47
7:c:79:THR:HG22	7:c:80:ARG:HD2	1.95	0.47
8:d:132:ILE:O	8:d:151:GLY:CA	2.49	0.47
22:r:133:GLN:OE1	22:r:136:LYS:NZ	2.34	0.47
31:3:931:G:H2'	31:3:932:U:H4'	1.96	0.47
31:3:1304:U:H2'	31:3:1305:G:C8	2.50	0.47
31:3:1507:G:O2'	31:3:1508:G:P	2.73	0.47
31:3:1552:C:H2'	31:3:1553:G:O4'	2.14	0.47
31:3:1798:A:N6	31:3:1835:G:H1'	2.29	0.47
31:3:2598:C:H2'	31:3:2599:C:C6	2.49	0.47
31:3:2701:A:H4'	31:3:2852:G:H4'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:4:58:C:H2'	32:4:59:A:H8	1.78	0.47
5:a:78:ASN:HD22	10:f:89:TYR:HE1	1.62	0.47
5:a:165:GLY:HA3	31:3:1827:U:C4	2.50	0.47
7:c:205:LYS:HD3	7:c:205:LYS:N	2.30	0.47
18:n:110:ARG:NH1	31:3:2384:A:N3	2.57	0.47
25:u:46:ARG:NH1	31:3:2361:G:O3'	2.44	0.47
31:3:18:G:H2'	31:3:19:G:C8	2.45	0.47
31:3:694:U:H2'	31:3:695:G:C8	2.47	0.47
31:3:768:G:N2	31:3:769:A:N7	2.62	0.47
31:3:855:A:H2	31:3:979:U:H4'	1.79	0.47
31:3:889:G:H2'	31:3:890:U:C6	2.49	0.47
31:3:1888:U:H2'	31:3:1889:U:C5	2.50	0.47
31:3:2599:C:H2'	31:3:2600:G:C8	2.50	0.47
31:3:2865:U:H2'	31:3:2866:A:C8	2.49	0.47
5:a:152:LEU:HD23	5:a:152:LEU:H	1.79	0.47
21:q:57:CYS:HA	21:q:94:VAL:HA	1.97	0.47
25:u:38:LYS:HD3	25:u:38:LYS:HA	1.67	0.47
31:3:660:U:H2'	31:3:661:G:C8	2.50	0.47
31:3:963:U:H2'	31:3:964:A:C8	2.48	0.47
31:3:1284:A:H5''	31:3:1285:U:H5''	1.95	0.47
31:3:1415:A:H2'	31:3:1416:G:C8	2.49	0.47
31:3:2115:A:O2'	31:3:2149:U:O2	2.24	0.47
31:3:2513:G:O2'	31:3:2514:U:O4'	2.33	0.47
31:3:2737:G:H2'	31:3:2738:U:H6	1.80	0.47
5:a:72:LYS:NZ	5:a:155:LYS:O	2.47	0.47
5:a:92:ARG:NH1	31:3:1825:U:OP2	2.47	0.47
6:b:165:MET:HE1	31:3:2056:A:H2	1.80	0.47
15:k:13:ARG:HH21	31:3:696:U:H5'	1.80	0.47
22:r:102:ASN:ND2	31:3:26:G:O2'	2.47	0.47
24:t:93:MET:HE3	24:t:103:VAL:HB	1.97	0.47
27:w:42:HIS:ND1	31:3:97:A:O2'	2.44	0.47
27:w:50:LEU:O	27:w:53:THR:OG1	2.26	0.47
29:y:36:LYS:HE3	29:y:36:LYS:HB3	1.69	0.47
31:3:172:U:H2'	31:3:173:C:C6	2.49	0.47
31:3:243:U:H2'	31:3:244:G:O4'	2.15	0.47
31:3:263:C:H2'	31:3:264:G:C8	2.50	0.47
31:3:1025:G:H5''	31:3:1192:U:H4'	1.97	0.47
31:3:1137:C:H2'	31:3:1138:A:C8	2.45	0.47
31:3:1299:A:H61	31:3:2018:U:H3	1.61	0.47
31:3:1363:C:H2'	31:3:1364:A:H8	1.80	0.47
31:3:1638:C:H2'	31:3:1639:C:H6	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1844:C:O2'	31:3:1934:A:N3	2.40	0.47
31:3:1886:C:H2'	31:3:1887:U:O4'	2.14	0.47
31:3:1916:C:H2'	31:3:1917:G:H8	1.80	0.47
31:3:2021:A:O2'	31:3:2022:A:O4'	2.30	0.47
31:3:2064:G:C2	31:3:2065:A:C8	3.03	0.47
31:3:2071:C:H2'	31:3:2072:C:C6	2.49	0.47
31:3:2124:A:H8	31:3:2124:A:OP2	1.98	0.47
31:3:2424:C:H2'	31:3:2425:C:C6	2.50	0.47
31:3:2474:C:H2'	31:3:2475:C:C6	2.49	0.47
31:3:2551:G:H4'	31:3:2653:G:C6	2.50	0.47
2:1:51:ASP:OD1	2:1:54:ARG:NH1	2.47	0.47
4:7:67:VAL:HG22	4:7:101:ARG:HG2	1.97	0.47
16:l:30:GLY:HA3	16:l:105:GLU:HB2	1.97	0.47
27:w:18:LEU:O	27:w:22:LEU:HG	2.15	0.47
31:3:8:A:H5''	31:3:2790:A:H5''	1.97	0.47
31:3:293:G:H2'	31:3:294:G:C5	2.49	0.47
31:3:720:A:H1'	31:3:724:A:H61	1.80	0.47
14:j:38:VAL:HG22	14:j:61:VAL:HG22	1.96	0.47
31:3:333:A:H2'	31:3:334:A:C8	2.50	0.47
31:3:485:A:O2'	31:3:1278:G:N2	2.46	0.47
31:3:626:A:H2'	31:3:627:U:C6	2.50	0.47
31:3:747:A:H2'	31:3:748:G:C8	2.50	0.47
31:3:767:C:H2'	31:3:768:G:O4'	2.15	0.47
31:3:1065:G:C6	31:3:1160:G:N2	2.83	0.47
31:3:1088:A:H61	31:3:1141:U:H3	1.63	0.47
31:3:1387:A:OP2	31:3:1399:G:N2	2.26	0.47
31:3:1925:A:H2	31:3:1926:A:H62	1.61	0.47
31:3:1954:C:H2'	31:3:1955:G:C8	2.49	0.47
31:3:2242:G:H2'	31:3:2243:G:C8	2.50	0.47
31:3:2737:G:H2'	31:3:2738:U:C6	2.50	0.47
31:3:2738:U:H2'	31:3:2739:C:C6	2.49	0.47
5:a:93:SER:OG	5:a:164:ALA:N	2.43	0.47
7:c:202:GLU:OE1	7:c:202:GLU:N	2.47	0.47
22:r:9:ARG:HA	22:r:101:SER:O	2.14	0.47
27:w:3:VAL:HG21	31:3:79:U:H5''	1.97	0.47
31:3:124:A:H3'	31:3:125:G:H8	1.80	0.47
31:3:251:G:OP1	31:3:424:G:O2'	2.32	0.47
31:3:329:G:N2	31:3:377:U:O2	2.34	0.47
31:3:340:U:H1'	31:3:1241:U:H5	1.79	0.47
31:3:371:C:H2'	31:3:372:G:O4'	2.15	0.47
31:3:886:U:H2'	31:3:887:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1677:G:H2'	31:3:1678:U:C6	2.50	0.47
31:3:2850:G:H2'	31:3:2851:U:C6	2.50	0.47
4:7:32:ARG:HH22	4:7:107:MET:HG2	1.79	0.46
23:s:59:ILE:HG22	23:s:61:LYS:HD3	1.96	0.46
25:u:52:TYR:HE2	25:u:54:GLN:HB3	1.80	0.46
31:3:154:U:H2'	31:3:155:A:C8	2.50	0.46
31:3:252:G:H5'	31:3:254:G:C5	2.50	0.46
31:3:658:G:H2'	31:3:659:C:C6	2.50	0.46
31:3:1263:G:C2	31:3:1264:U:C5	3.03	0.46
31:3:1730:C:H2'	31:3:1731:G:O4'	2.15	0.46
31:3:2380:U:H2'	31:3:2381:G:H8	1.81	0.46
2:1:30:ALA:HB2	31:3:2427:U:OP1	2.16	0.46
10:f:1:MET:HE2	10:f:22:LYS:HA	1.97	0.46
23:s:9:LYS:HE3	27:w:34:ALA:HB2	1.97	0.46
31:3:260:A:H2'	31:3:261:A:C8	2.50	0.46
31:3:385:U:H2'	31:3:386:U:C6	2.50	0.46
31:3:386:U:H2'	31:3:387:U:C6	2.50	0.46
31:3:696:U:H2'	31:3:697:U:C6	2.49	0.46
31:3:894:G:O2'	31:3:2276:A:H1'	2.14	0.46
31:3:1801:U:H2'	31:3:1802:C:C6	2.50	0.46
31:3:2015:C:H2'	31:3:2016:G:H8	1.79	0.46
31:3:2059:G:O6	31:3:2625:U:O4	2.33	0.46
31:3:2855:A:H3'	31:3:2856:G:H8	1.80	0.46
4:7:161:LYS:HA	4:7:164:LYS:HD2	1.98	0.46
7:c:70:HIS:HA	31:3:2066:A:H4'	1.97	0.46
14:j:77:LEU:HD13	19:o:77:LYS:HD2	1.97	0.46
15:k:116:GLY:HA2	31:3:663:A:H62	1.81	0.46
19:o:34:ALA:HB3	19:o:87:SER:OG	2.16	0.46
31:3:86:A:H2	31:3:104:A:C5	2.33	0.46
31:3:444:C:H2'	31:3:445:C:C6	2.50	0.46
31:3:1499:C:H2'	31:3:1500:A:C8	2.50	0.46
31:3:1545:A:H2'	31:3:1546:U:C6	2.51	0.46
31:3:1638:C:H2'	31:3:1639:C:C6	2.51	0.46
31:3:1819:G:H2'	31:3:1820:U:C6	2.50	0.46
31:3:1828:A:H2'	31:3:1829:U:C6	2.49	0.46
31:3:2897:G:HO2'	31:3:2898:A:P	2.39	0.46
4:7:58:ILE:HD11	4:7:66:ILE:HG12	1.97	0.46
4:7:112:ARG:HD3	4:7:181:LEU:HD21	1.98	0.46
5:a:132:PRO:HA	5:a:200:VAL:HG23	1.97	0.46
9:e:7:ARG:HH11	31:3:2759:G:H8	1.64	0.46
22:r:122:LYS:O	22:r:126:LYS:HG2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:z:39:SER:OG	31:3:2356:U:O2'	2.20	0.46
31:3:86:A:H2	31:3:104:A:C6	2.34	0.46
31:3:1231:G:H2'	31:3:1232:U:C6	2.50	0.46
31:3:1428:U:H2'	31:3:1429:G:C8	2.50	0.46
31:3:1605:A:H2'	31:3:1606:A:H8	1.81	0.46
31:3:1849:G:H2'	31:3:1850:C:H6	1.81	0.46
31:3:2539:A:N6	31:3:2670:A:H61	2.11	0.46
31:3:2678:A:H2'	31:3:2679:G:C8	2.51	0.46
5:a:222:ARG:HE	31:3:1600:A:H5'	1.80	0.46
8:d:11:THR:OG1	8:d:15:GLU:OE2	2.34	0.46
10:f:83:GLU:HG3	10:f:88:PRO:HA	1.97	0.46
15:k:134:GLN:OE1	31:3:672:G:H5''	2.15	0.46
16:l:116:LYS:NZ	16:l:120:ARG:HH12	2.14	0.46
25:u:26:ASN:ND2	31:3:2286:A:H5''	2.30	0.46
26:v:18:ARG:HB2	31:3:418:G:OP1	2.16	0.46
31:3:31:U:C2	31:3:32:G:C8	3.03	0.46
31:3:282:C:C4	31:3:284:U:H5'	2.51	0.46
31:3:539:U:O2	31:3:1264:U:O2'	2.28	0.46
31:3:591:G:H2'	31:3:592:G:C8	2.49	0.46
31:3:902:U:N3	31:3:940:A:OP1	2.47	0.46
31:3:1433:U:H2'	31:3:1434:U:C6	2.50	0.46
31:3:1463:G:N1	31:3:1464:G:O6	2.48	0.46
31:3:1755:A:H2'	31:3:1756:A:C8	2.50	0.46
31:3:1820:U:O2'	31:3:1821:G:OP1	2.30	0.46
10:f:51:LEU:O	10:f:54:GLN:HG2	2.16	0.46
12:h:9:ILE:O	31:3:1133:A:O2'	2.29	0.46
14:j:67:LYS:O	14:j:78:LYS:NZ	2.38	0.46
18:n:103:ALA:O	18:n:107:GLU:HG3	2.16	0.46
21:q:38:VAL:HG21	21:q:41:LEU:HD13	1.97	0.46
26:v:14:TYR:CD1	31:3:192:U:H5''	2.51	0.46
29:y:17:ARG:NE	31:3:1296:G:OP2	2.49	0.46
31:3:259:A:H3'	31:3:260:A:H8	1.80	0.46
31:3:360:G:H2'	31:3:361:G:H8	1.80	0.46
31:3:405:C:H2'	31:3:406:C:C6	2.51	0.46
31:3:758:C:H2'	31:3:759:U:H6	1.81	0.46
31:3:1408:G:H2'	31:3:1409:G:H8	1.81	0.46
31:3:1551:U:H2'	31:3:1552:C:C6	2.51	0.46
31:3:1624:A:H2'	31:3:1625:G:C8	2.51	0.46
31:3:1709:C:H3'	31:3:1710:A:H8	1.79	0.46
31:3:1913:G:O5'	31:3:1936:G:O2'	2.25	0.46
31:3:1961:A:H61	31:3:1993:U:H5''	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2099:U:OP2	31:3:2207:A:O2'	2.29	0.46
1:0:3:ARG:NE	31:3:1646:G:H21	2.14	0.46
9:e:18:LEU:HD13	9:e:27:VAL:HG22	1.97	0.46
18:n:32:VAL:HG22	18:n:93:THR:HA	1.98	0.46
19:o:53:LEU:HB3	19:o:105:ARG:NH1	2.30	0.46
31:3:139:G:H2'	31:3:140:G:C8	2.51	0.46
31:3:639:G:N2	31:3:660:U:O2	2.48	0.46
31:3:645:C:H2'	31:3:646:A:C8	2.50	0.46
31:3:666:G:N2	31:3:668:A:H3'	2.30	0.46
31:3:806:A:O2'	31:3:1383:G:O2'	2.32	0.46
31:3:1300:C:H42	31:3:2017:G:H1	1.64	0.46
31:3:1356:G:H2'	31:3:1358:C:C4	2.51	0.46
31:3:1721:G:H2'	31:3:1722:U:C6	2.51	0.46
31:3:1722:U:O2'	31:3:1734:A:N7	2.43	0.46
31:3:1766:A:H2'	31:3:1767:A:C8	2.50	0.46
31:3:2025:C:H2'	31:3:2026:A:C8	2.51	0.46
31:3:2230:A:H2'	31:3:2231:A:C8	2.50	0.46
31:3:2310:C:H2'	31:3:2311:G:H8	1.80	0.46
31:3:2693:U:H2'	31:3:2694:A:C8	2.50	0.46
5:a:43:LYS:HE3	5:a:60:GLY:H	1.80	0.46
6:b:63:ASN:HB3	6:b:66:GLN:HB2	1.96	0.46
10:f:121:PHE:O	10:f:124:HIS:NE2	2.46	0.46
31:3:246:G:H22	31:3:258:G:H3'	1.79	0.46
31:3:333:A:H61	31:3:356:A:HO2'	1.62	0.46
31:3:338:G:H2'	31:3:339:U:C6	2.51	0.46
31:3:619:A:O2'	31:3:707:C:O4'	2.32	0.46
31:3:1237:G:H2'	31:3:1238:A:H8	1.81	0.46
31:3:1370:A:O2'	31:3:1372:U:OP1	2.33	0.46
31:3:1575:C:H2'	31:3:1576:G:O4'	2.14	0.46
31:3:1777:G:H2'	31:3:1778:G:H8	1.81	0.46
31:3:2076:G:H2'	31:3:2077:A:C8	2.51	0.46
31:3:2249:A:H2'	31:3:2250:G:H8	1.79	0.46
31:3:2422:G:C2	31:3:2423:G:C8	3.04	0.46
31:3:2551:G:H2'	31:3:2552:G:H8	1.79	0.46
31:3:2576:A:H2'	31:3:2577:G:H8	1.80	0.46
5:a:190:ARG:NH2	5:a:274:SER:O	2.48	0.46
6:b:59:ASN:O	6:b:67:GLN:NE2	2.48	0.46
13:i:39:ILE:O	13:i:54:GLY:HA3	2.15	0.46
18:n:34:LYS:NZ	32:4:46:C:O5'	2.49	0.46
20:p:83:LYS:NZ	31:3:1186:A:OP1	2.49	0.46
21:q:42:ASP:O	21:q:43:GLU:HG2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:r:9:ARG:HG2	22:r:9:ARG:O	2.15	0.46
26:v:7:LEU:HG	26:v:50:VAL:HG23	1.98	0.46
27:w:95:LYS:NZ	31:3:1627:U:OP1	2.49	0.46
29:y:38:LEU:HG	29:y:41:ARG:HG3	1.97	0.46
29:y:46:GLY:HA2	29:y:54:LYS:HG3	1.97	0.46
31:3:464:A:H2'	31:3:464:A:N3	2.31	0.46
31:3:869:U:O2'	31:3:2366:A:H1'	2.16	0.46
31:3:1804:A:H2'	31:3:1805:U:C6	2.51	0.46
31:3:2154:A:H2'	31:3:2155:G:C8	2.51	0.46
31:3:2358:U:H2'	31:3:2359:G:O4'	2.16	0.46
31:3:2863:G:O5'	31:3:2863:G:H8	1.99	0.46
17:m:11:SER:HB2	31:3:2698:U:H5	1.80	0.46
31:3:713:C:H2'	31:3:714:G:H8	1.81	0.46
31:3:1035:U:H5''	31:3:1189:G:O6	2.16	0.46
31:3:1355:C:H2'	31:3:1356:G:C4	2.51	0.46
31:3:1422:U:H2'	31:3:1423:A:O4'	2.16	0.46
31:3:1454:G:OP2	31:3:1455:A:O2'	2.27	0.46
31:3:1546:U:H3'	31:3:1547:G:H8	1.81	0.46
31:3:1610:U:H2'	31:3:1611:C:C6	2.51	0.46
31:3:1846:A:C4	31:3:1847:G:C8	3.03	0.46
31:3:2521:A:H2'	31:3:2522:U:H6	1.77	0.46
31:3:2663:G:H22	31:3:2673:A:P	2.39	0.46
31:3:2850:G:H2'	31:3:2851:U:H6	1.81	0.46
1:0:37:LYS:NZ	31:3:504:G:OP2	2.42	0.45
15:k:13:ARG:HE	31:3:696:U:H5'	1.81	0.45
15:k:82:LEU:HA	15:k:85:ILE:HG12	1.97	0.45
17:m:100:VAL:HG22	17:m:116:LEU:HD13	1.98	0.45
18:n:3:THR:C	18:n:5:THR:H	2.24	0.45
22:r:28:LYS:NZ	22:r:67:ASP:O	2.36	0.45
23:s:36:SER:O	23:s:40:VAL:HG23	2.15	0.45
31:3:10:U:H2'	31:3:11:U:C6	2.51	0.45
31:3:117:C:O2'	31:3:127:A:H1'	2.17	0.45
31:3:192:U:H2'	31:3:193:G:O4'	2.16	0.45
31:3:219:G:N2	31:3:220:A:H1'	2.31	0.45
31:3:454:G:N1	31:3:455:G:C6	2.84	0.45
31:3:519:A:P	31:3:520:C:H41	2.37	0.45
31:3:682:A:N3	31:3:682:A:H2'	2.30	0.45
31:3:745:U:H2'	31:3:746:G:C8	2.51	0.45
31:3:880:C:O2'	31:3:881:A:N7	2.45	0.45
31:3:1389:G:H2'	31:3:1390:C:C6	2.50	0.45
31:3:1608:C:H2'	31:3:1609:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2372:C:H2'	31:3:2373:G:O4'	2.15	0.45
31:3:2477:A:H2'	31:3:2478:G:O4'	2.16	0.45
31:3:2516:G:H2'	31:3:2517:A:H8	1.81	0.45
31:3:2584:G:H3'	31:3:2584:G:N3	2.31	0.45
32:4:93:U:H2'	32:4:94:A:C8	2.48	0.45
5:a:131:LYS:HA	5:a:131:LYS:HD3	1.74	0.45
17:m:65:LYS:HD3	31:3:2715:C:H4'	1.97	0.45
31:3:336:C:H2'	31:3:337:U:H6	1.81	0.45
31:3:915:A:OP2	31:3:936:G:N2	2.49	0.45
31:3:1252:C:H2'	31:3:1253:G:O4'	2.17	0.45
31:3:1873:A:C6	31:3:1883:A:N7	2.84	0.45
31:3:2015:C:H2'	31:3:2016:G:C8	2.51	0.45
31:3:2076:G:H2'	31:3:2077:A:H8	1.81	0.45
31:3:2191:G:H2'	31:3:2192:U:O4'	2.16	0.45
31:3:2204:C:H2'	31:3:2205:U:C6	2.51	0.45
31:3:2483:C:O2	31:3:2537:G:O6	2.34	0.45
31:3:2684:G:H2'	31:3:2685:A:H8	1.80	0.45
31:3:2700:C:H2'	31:3:2701:A:H8	1.82	0.45
31:3:2825:A:H2'	31:3:2826:G:O4'	2.17	0.45
9:e:3:LYS:HA	31:3:2759:G:C5	2.52	0.45
19:o:68:LYS:HG2	19:o:69:THR:H	1.81	0.45
31:3:110:A:N6	31:3:111:G:O6	2.49	0.45
31:3:452:U:H3	31:3:2415:A:H61	1.64	0.45
31:3:683:G:H2'	31:3:684:A:C8	2.51	0.45
31:3:1257:G:H2'	31:3:1258:C:C6	2.51	0.45
31:3:1261:U:H2'	31:3:1262:G:C8	2.46	0.45
31:3:1389:G:H2'	31:3:1390:C:H6	1.81	0.45
31:3:1630:A:H2'	31:3:1631:A:H8	1.81	0.45
31:3:2194:G:C2	31:3:2195:U:C4	3.05	0.45
31:3:2695:U:H2'	31:3:2696:G:O4'	2.16	0.45
32:4:32:G:O2'	32:4:42:G:N7	2.49	0.45
32:4:76:A:H1'	32:4:89:A:C6	2.51	0.45
6:b:16:VAL:HB	6:b:26:ILE:HG13	1.97	0.45
21:q:79:HIS:HE2	21:q:81:LYS:HB2	1.82	0.45
29:y:4:GLN:HE21	29:y:7:ARG:HA	1.82	0.45
31:3:307:C:H2'	31:3:308:A:H8	1.82	0.45
31:3:443:C:H2'	31:3:444:C:H6	1.81	0.45
31:3:482:G:N2	31:3:490:A:H61	2.13	0.45
31:3:532:A:H2'	31:3:533:G:C8	2.52	0.45
31:3:865:A:O2'	31:3:866:G:O4'	2.35	0.45
31:3:876:A:H2'	31:3:877:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1308:A:H2'	31:3:1309:G:C8	2.51	0.45
31:3:2221:U:H3'	31:3:2222:C:H5'	1.98	0.45
31:3:2228:U:H2'	31:3:2229:C:C6	2.51	0.45
31:3:2750:A:H2'	31:3:2751:C:H6	1.81	0.45
1:0:17:GLY:HA2	1:0:44:VAL:HG22	1.98	0.45
1:0:36:LYS:NZ	31:3:184:A:OP2	2.50	0.45
5:a:47:ARG:HG2	5:a:53:ILE:HD12	1.97	0.45
5:a:96:VAL:CG1	5:a:108:TYR:HB3	2.47	0.45
7:c:52:ILE:HG12	7:c:89:ILE:HB	1.99	0.45
24:t:102:ARG:O	24:t:111:LEU:N	2.46	0.45
31:3:66:A:H2'	31:3:67:C:C6	2.52	0.45
31:3:851:U:H2'	31:3:852:C:H6	1.82	0.45
31:3:1308:A:H2'	31:3:1309:G:H8	1.81	0.45
31:3:1325:C:H2'	31:3:1326:C:H6	1.82	0.45
31:3:2037:A:N3	31:3:2507:C:H4'	2.31	0.45
31:3:2388:C:H2'	31:3:2389:A:C8	2.52	0.45
31:3:2548:G:H2'	31:3:2549:A:O4'	2.17	0.45
31:3:2568:G:H2'	31:3:2569:A:H8	1.82	0.45
31:3:2608:A:H2'	31:3:2609:C:C6	2.51	0.45
31:3:2862:U:HO2'	31:3:2863:G:P	2.40	0.45
4:7:178:GLU:O	4:7:181:LEU:HB3	2.17	0.45
5:a:57:HIS:CD2	5:a:224:ILE:HG23	2.52	0.45
8:d:57:LEU:HD23	8:d:87:CYS:SG	2.56	0.45
8:d:103:LEU:O	8:d:108:LEU:N	2.33	0.45
9:e:150:GLU:O	9:e:153:LYS:HG2	2.17	0.45
9:e:160:TYR:O	9:e:174:ARG:NH1	2.42	0.45
11:g:49:SER:HB2	11:g:85:GLY:HA2	1.98	0.45
22:r:21:CYS:O	22:r:25:VAL:N	2.50	0.45
26:v:29:TRP:CD1	31:3:2239:U:H5''	2.52	0.45
31:3:204:U:H3	31:3:254:G:H1	1.64	0.45
31:3:228:A:H2'	31:3:229:C:O4'	2.17	0.45
31:3:263:C:H2'	31:3:264:G:H8	1.80	0.45
31:3:680:A:C2	31:3:2377:A:H1'	2.51	0.45
31:3:852:C:H2'	31:3:853:G:O4'	2.17	0.45
31:3:876:A:H2'	31:3:877:G:H8	1.81	0.45
31:3:2176:G:H2'	31:3:2178:A:OP2	2.17	0.45
31:3:2299:U:O2	31:3:2382:A:O2'	2.34	0.45
31:3:2332:U:O4	31:3:2339:G:O6	2.35	0.45
31:3:2400:A:N6	31:3:2432:C:O2	2.49	0.45
31:3:2572:A:N1	31:3:2655:U:H4'	2.31	0.45
1:0:21:ARG:O	1:0:27:GLY:HA3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:7:28:ILE:HG21	4:7:119:ALA:HB2	1.98	0.45
6:b:178:ASN:O	6:b:180:ARG:NH2	2.49	0.45
14:j:77:LEU:HB2	19:o:77:LYS:HZ2	1.82	0.45
16:l:103:MET:SD	16:l:103:MET:N	2.88	0.45
31:3:26:G:H2'	31:3:27:U:H6	1.81	0.45
31:3:454:G:C6	31:3:455:G:C6	3.05	0.45
31:3:569:U:H2'	31:3:570:C:C6	2.52	0.45
31:3:659:C:H2'	31:3:660:U:C6	2.51	0.45
31:3:1806:G:O5'	31:3:1826:A:N6	2.49	0.45
31:3:2251:U:O2'	31:3:2442:A:N1	2.41	0.45
31:3:2300:A:H2'	31:3:2301:C:C6	2.51	0.45
31:3:2308:U:C2	31:3:2309:A:C8	3.04	0.45
31:3:2496:G:H2'	31:3:2497:U:C6	2.52	0.45
31:3:2537:G:H5''	31:3:2538:A:H5''	1.97	0.45
31:3:2810:A:N6	31:3:2896:G:H1	2.12	0.45
2:1:30:ALA:N	2:1:31:PRO:HD2	2.32	0.45
13:i:70:ASN:O	13:i:74:ASN:N	2.45	0.45
23:s:3:VAL:HG13	23:s:5:ASN:H	1.82	0.45
26:v:37:LYS:NZ	26:v:45:THR:OG1	2.28	0.45
31:3:217:A:H2'	31:3:218:G:C8	2.52	0.45
31:3:723:U:O2	31:3:821:C:O2'	2.32	0.45
31:3:804:U:H2'	31:3:805:G:C8	2.51	0.45
31:3:895:G:H1'	31:3:953:G:N1	2.31	0.45
31:3:975:G:H2'	31:3:976:C:C6	2.52	0.45
31:3:1310:U:H3	31:3:1314:A:H62	1.64	0.45
31:3:1382:A:H8	31:3:1383:G:C8	2.35	0.45
31:3:1538:U:H2'	31:3:1539:U:C6	2.52	0.45
31:3:1649:C:OP2	31:3:1651:C:N4	2.30	0.45
31:3:2353:G:H1'	31:3:2389:A:H2'	1.99	0.45
31:3:2523:C:H2'	31:3:2524:U:C6	2.52	0.45
32:4:4:G:H2'	32:4:5:G:H8	1.81	0.45
8:d:150:ARG:CZ	31:3:2314:U:H3	2.30	0.45
9:e:6:ASN:ND2	31:3:1147:G:OP1	2.48	0.45
11:g:62:ALA:O	11:g:66:GLY:N	2.50	0.45
12:h:127:THR:HB	31:3:1094:G:N2	2.31	0.45
15:k:77:TRP:CZ3	15:k:111:PRO:HB2	2.52	0.45
22:r:130:GLU:O	22:r:134:LYS:HG3	2.17	0.45
24:t:92:VAL:HB	31:3:331:A:H4'	1.99	0.45
25:u:25:LYS:O	25:u:26:ASN:ND2	2.50	0.45
25:u:39:LYS:HB2	25:u:51:ILE:HG23	1.99	0.45
25:u:86:PHE:CE1	25:u:94:ARG:HG3	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:x:12:VAL:HB	28:x:27:SER:HB2	1.99	0.45
31:3:202:C:O2'	31:3:203:A:H5'	2.17	0.45
31:3:359:G:H2'	31:3:360:G:C8	2.51	0.45
31:3:501:G:N2	31:3:719:G:H1'	2.32	0.45
31:3:1699:A:H2'	31:3:1700:G:C8	2.44	0.45
31:3:1849:G:H2'	31:3:1850:C:C6	2.52	0.45
31:3:2077:A:H2'	31:3:2078:A:C8	2.52	0.45
31:3:2305:C:H3'	31:3:2326:G:N2	2.31	0.45
6:b:117:ARG:HB2	6:b:169:TYR:HB3	1.99	0.45
15:k:48:ARG:HG2	15:k:49:PRO:HD2	1.98	0.45
15:k:125:HIS:CE1	15:k:145:SER:HG	2.34	0.45
18:n:34:LYS:HD2	18:n:101:ARG:HH21	1.82	0.45
23:s:7:LEU:HD13	23:s:31:VAL:HG12	1.99	0.45
24:t:1:MET:HG2	24:t:2:GLN:H	1.82	0.45
31:3:31:U:O2	31:3:1245:G:O2'	2.35	0.45
31:3:164:A:OP2	31:3:164:A:H8	2.00	0.45
31:3:705:A:H4'	31:3:706:C:H5'	1.99	0.45
31:3:1274:A:H2'	31:3:1275:C:C6	2.52	0.45
31:3:1417:G:H2'	31:3:1418:U:C6	2.52	0.45
31:3:1473:C:H2'	31:3:1474:C:C6	2.51	0.45
31:3:2058:G:H2'	31:3:2622:A:N6	2.32	0.45
31:3:2512:U:H1'	31:3:2580:A:C2	2.51	0.45
31:3:2515:C:H2'	31:3:2516:G:O4'	2.16	0.45
31:3:2746:A:H3'	31:3:2747:U:H5''	1.98	0.45
32:4:74:G:H1	32:4:91:A:N6	2.14	0.45
2:1:4:LYS:HB3	2:1:4:LYS:HE3	1.76	0.44
7:c:14:GLU:HG3	7:c:16:GLU:H	1.82	0.44
10:f:47:ARG:C	10:f:47:ARG:HD3	2.42	0.44
14:j:64:ARG:HH21	14:j:100:GLY:HA3	1.82	0.44
17:m:108:GLY:HA3	31:3:1315:A:N7	2.32	0.44
19:o:101:ILE:HG22	19:o:103:TYR:OH	2.18	0.44
31:3:90:G:H2'	31:3:91:G:H8	1.82	0.44
31:3:155:A:N1	31:3:178:A:N6	2.64	0.44
31:3:252:G:H1'	31:3:2439:U:O2'	2.17	0.44
31:3:386:U:H2'	31:3:387:U:H6	1.81	0.44
31:3:667:A:N3	31:3:2423:G:O2'	2.47	0.44
31:3:870:A:H2'	31:3:871:G:C8	2.52	0.44
31:3:1441:A:H2'	31:3:1442:G:C8	2.51	0.44
31:3:1798:A:H2'	31:3:1799:A:O4'	2.17	0.44
31:3:2255:A:H2'	31:3:2256:C:C6	2.52	0.44
31:3:2259:G:C4	31:3:2458:A:H4'	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2388:C:H2'	31:3:2389:A:H8	1.83	0.44
31:3:2534:G:H2'	31:3:2535:C:C6	2.52	0.44
31:3:2764:U:H4'	31:3:2765:A:OP1	2.15	0.44
31:3:2814:A:N1	31:3:2894:G:O2'	2.38	0.44
9:e:110:LEU:HB3	9:e:155:ARG:NE	2.33	0.44
18:n:79:ASP:O	18:n:82:VAL:HG22	2.18	0.44
21:q:47:ALA:HB3	21:q:48:PRO:HD3	1.98	0.44
21:q:56:VAL:H	21:q:97:PHE:HA	1.81	0.44
22:r:12:ILE:H	22:r:100:SER:HA	1.83	0.44
31:3:234:G:H2'	31:3:235:U:H6	1.80	0.44
31:3:407:U:H3'	31:3:440:C:H42	1.82	0.44
31:3:582:A:H3'	31:3:582:A:N3	2.32	0.44
31:3:638:A:N6	31:3:639:G:O6	2.50	0.44
31:3:702:U:H2'	31:3:703:A:O4'	2.16	0.44
31:3:1012:G:H2'	31:3:1013:G:C8	2.51	0.44
31:3:1056:A:O2'	31:3:1158:C:OP1	2.33	0.44
31:3:1069:G:C6	31:3:1157:G:C5	3.06	0.44
31:3:1942:G:H1'	31:3:1971:G:N2	2.32	0.44
31:3:2424:C:C2	31:3:2425:C:C5	3.05	0.44
31:3:2656:G:H2'	31:3:2657:C:C6	2.52	0.44
31:3:2789:A:H5''	31:3:2790:A:H5'	1.99	0.44
32:4:3:U:H2'	32:4:4:G:C8	2.50	0.44
6:b:15:GLN:OE1	6:b:23:ARG:NH2	2.50	0.44
13:i:72:LYS:HA	13:i:92:GLY:HA3	1.99	0.44
15:k:123:PRO:HB3	15:k:143:ASN:HB2	1.98	0.44
18:n:99:HIS:HE2	32:4:35:C:H2'	1.82	0.44
23:s:10:PRO:HD3	27:w:31:PHE:CD1	2.52	0.44
30:z:23:LYS:HG3	30:z:32:LEU:HD22	1.99	0.44
31:3:326:A:H2'	31:3:327:U:C6	2.52	0.44
31:3:448:A:H2	31:3:1888:U:H5'	1.82	0.44
31:3:465:A:H2'	31:3:466:A:C4	2.52	0.44
31:3:666:G:H22	31:3:668:A:H3'	1.81	0.44
31:3:830:A:H2'	31:3:831:U:C6	2.53	0.44
31:3:983:A:H2'	31:3:984:C:H6	1.82	0.44
31:3:1221:G:H2'	31:3:1222:A:H8	1.83	0.44
31:3:1381:A:H2'	31:3:1382:A:C8	2.52	0.44
5:a:88:TYR:CE2	5:a:90:PRO:HD3	2.52	0.44
6:b:37:ALA:HB2	6:b:53:SER:HB2	1.98	0.44
10:f:72:ILE:O	10:f:139:LYS:NZ	2.32	0.44
20:p:39:ILE:O	20:p:43:LYS:HG3	2.17	0.44
24:t:102:ARG:HB2	24:t:111:LEU:HA	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:u:26:ASN:HB2	31:3:2285:G:OP2	2.17	0.44
25:u:52:TYR:CE2	25:u:54:GLN:HB3	2.53	0.44
31:3:178:A:H2'	31:3:179:A:C8	2.53	0.44
31:3:1248:A:H2'	31:3:1249:A:C8	2.52	0.44
31:3:1253:G:N1	31:3:1255:G:H3'	2.32	0.44
31:3:1326:C:H42	31:3:1677:G:H22	1.66	0.44
31:3:1415:A:H2'	31:3:1416:G:H8	1.82	0.44
31:3:2304:U:OP2	31:3:2342:U:N3	2.27	0.44
6:b:146:SER:HB2	31:3:2520:C:O2	2.17	0.44
7:c:116:TRP:HZ2	7:c:186:VAL:HG21	1.81	0.44
9:e:61:LEU:O	9:e:65:LYS:N	2.39	0.44
16:l:120:ARG:HD3	16:l:124:LYS:HE2	2.00	0.44
20:p:32:LYS:HB3	31:3:1282:G:N2	2.32	0.44
22:r:77:ASN:HB3	31:3:26:G:H1'	2.00	0.44
31:3:159:G:H2'	31:3:160:A:C8	2.53	0.44
31:3:178:A:C6	31:3:179:A:N6	2.85	0.44
31:3:214:C:H2'	31:3:215:A:C8	2.51	0.44
31:3:1200:U:H2'	31:3:1201:A:C8	2.45	0.44
31:3:1299:A:O2'	31:3:1353:G:O6	2.30	0.44
31:3:1304:U:H2'	31:3:1305:G:H8	1.82	0.44
31:3:1488:U:H2'	31:3:1489:G:H8	1.81	0.44
31:3:1654:G:H2'	31:3:1655:U:C6	2.52	0.44
31:3:1672:C:H1'	31:3:2706:U:O2'	2.17	0.44
31:3:1920:A:H4'	31:3:1921:C:H5'	2.00	0.44
31:3:2231:A:H3'	31:3:2232:G:C8	2.52	0.44
31:3:2353:G:O2'	31:3:2389:A:N3	2.37	0.44
31:3:2394:A:H2'	31:3:2395:U:C6	2.53	0.44
31:3:2478:G:O6	31:3:2484:A:O2'	2.28	0.44
31:3:2853:U:N3	31:3:2871:G:O4'	2.50	0.44
32:4:89:A:H2'	32:4:90:G:O4'	2.18	0.44
1:0:11:LYS:HA	1:0:14:LYS:HD2	2.00	0.44
5:a:64:ARG:HG2	31:3:1601:A:H5''	2.00	0.44
12:h:58:TYR:HB3	12:h:61:LYS:HA	1.99	0.44
14:j:88:LYS:NZ	14:j:93:PRO:O	2.47	0.44
15:k:18:LYS:HG3	31:3:698:A:H5''	1.99	0.44
16:l:27:VAL:HG11	16:l:134:ARG:HA	2.00	0.44
18:n:14:ARG:NH1	31:3:2342:U:O2	2.51	0.44
21:q:14:VAL:HG21	21:q:20:PHE:CD1	2.52	0.44
31:3:219:G:H1'	31:3:220:A:H4'	1.99	0.44
31:3:799:A:N7	31:3:1783:G:H1'	2.33	0.44
31:3:1115:G:H2'	31:3:1116:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1335:A:OP2	31:3:1640:G:N1	2.42	0.44
31:3:1780:A:C4	31:3:1836:A:H1'	2.53	0.44
31:3:2054:C:O2'	31:3:2827:A:N1	2.50	0.44
31:3:2155:G:H2'	31:3:2156:G:C8	2.51	0.44
31:3:2291:U:OP2	31:3:2397:G:O2'	2.36	0.44
31:3:2505:A:H2	31:3:2506:C:H41	1.64	0.44
6:b:27:THR:HG21	6:b:197:ILE:H	1.82	0.44
6:b:115:LYS:O	6:b:117:ARG:NE	2.50	0.44
10:f:14:LYS:HB3	10:f:14:LYS:HE3	1.76	0.44
13:i:102:LYS:HB3	13:i:102:LYS:HE2	1.83	0.44
15:k:22:ARG:NH2	31:3:620:G:OP2	2.50	0.44
22:r:29:THR:O	22:r:33:GLN:HG3	2.18	0.44
25:u:58:ARG:HH11	31:3:2338:G:H4'	1.82	0.44
27:w:85:ASN:O	27:w:89:GLN:HG2	2.16	0.44
31:3:41:C:H2'	31:3:42:U:C6	2.53	0.44
31:3:158:U:H2'	31:3:159:G:C8	2.53	0.44
31:3:317:U:N3	31:3:392:A:N7	2.65	0.44
31:3:562:C:H42	31:3:2787:U:P	2.40	0.44
31:3:616:G:H2'	31:3:617:C:O4'	2.17	0.44
31:3:734:A:H2'	31:3:735:G:O4'	2.18	0.44
31:3:1301:G:O2'	31:3:1652:A:OP1	2.36	0.44
31:3:2039:G:OP1	31:3:2507:C:N4	2.51	0.44
5:a:9:ARG:NH2	31:3:1730:C:OP1	2.50	0.44
10:f:62:LYS:O	10:f:66:HIS:ND1	2.27	0.44
15:k:81:ASN:HA	15:k:115:ILE:O	2.17	0.44
20:p:64:LEU:O	20:p:68:LEU:HG	2.17	0.44
20:p:69:ARG:HE	20:p:74:THR:HG22	1.83	0.44
25:u:38:LYS:N	25:u:51:ILE:O	2.39	0.44
31:3:59:C:H2'	31:3:60:G:H8	1.83	0.44
31:3:548:A:C4	31:3:549:A:C8	3.05	0.44
31:3:1217:G:H2'	31:3:1218:G:O4'	2.18	0.44
31:3:1326:C:H2'	31:3:1327:G:O4'	2.18	0.44
31:3:1449:G:H2'	31:3:1450:G:H8	1.82	0.44
31:3:1666:A:H2'	31:3:1667:G:C4	2.53	0.44
31:3:1738:G:H2'	31:3:1739:G:H8	1.83	0.44
31:3:1776:G:H2'	31:3:1777:G:H8	1.83	0.44
31:3:2090:G:O6	31:3:2244:U:O4	2.36	0.44
31:3:2106:G:N2	31:3:2198:G:H1	2.11	0.44
31:3:2325:U:H2'	31:3:2326:G:C8	2.53	0.44
31:3:2469:A:H2'	31:3:2470:C:C6	2.52	0.44
31:3:2488:C:H2'	31:3:2489:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2643:A:H2'	31:3:2644:U:O4'	2.18	0.44
1:0:18:PHE:HB2	1:0:43:THR:HG21	1.99	0.44
10:f:63:ALA:O	10:f:67:LYS:HG3	2.16	0.44
14:j:88:LYS:HB3	14:j:88:LYS:HE3	1.78	0.44
31:3:26:G:H2'	31:3:27:U:C6	2.53	0.44
31:3:270:G:H2'	31:3:271:G:O4'	2.18	0.44
31:3:274:A:OP2	31:3:294:G:N1	2.50	0.44
31:3:370:C:H2'	31:3:371:C:C6	2.53	0.44
31:3:2161:G:C2	31:3:2162:U:C4	3.06	0.44
31:3:2201:G:H2'	31:3:2202:U:H5''	2.00	0.44
31:3:2308:U:H2'	31:3:2309:A:H8	1.82	0.44
32:4:69:C:O2	32:4:96:G:N1	2.51	0.44
2:1:47:VAL:HG21	2:1:55:ILE:HG13	2.00	0.43
27:w:30:ARG:HA	27:w:30:ARG:HD3	1.78	0.43
31:3:143:A:N3	31:3:1436:C:H1'	2.33	0.43
31:3:451:A:H2'	31:3:452:U:C6	2.53	0.43
31:3:719:G:O3'	31:3:823:A:N6	2.50	0.43
31:3:761:G:O5'	31:3:1460:G:O2'	2.35	0.43
31:3:998:C:H2'	31:3:999:U:C6	2.53	0.43
31:3:1036:A:H2'	31:3:1037:A:C8	2.52	0.43
31:3:1821:G:OP2	31:3:1822:A:H3'	2.18	0.43
31:3:2158:C:H2'	31:3:2159:U:C6	2.53	0.43
31:3:2473:C:H2'	31:3:2474:C:H6	1.83	0.43
5:a:42:LYS:NZ	31:3:1382:A:H5''	2.34	0.43
8:d:58:HIS:CE1	28:x:7:PHE:HB2	2.53	0.43
8:d:123:ASP:OD2	8:d:127:ASN:ND2	2.47	0.43
18:n:99:HIS:NE2	32:4:36:C:O4'	2.51	0.43
19:o:33:VAL:HG13	19:o:48:PHE:HB3	2.00	0.43
20:p:10:ARG:HD3	31:3:615:G:O3'	2.18	0.43
21:q:55:VAL:HA	21:q:97:PHE:HA	1.99	0.43
23:s:7:LEU:HB3	27:w:31:PHE:HZ	1.83	0.43
23:s:60:ARG:HD3	23:s:60:ARG:HA	1.83	0.43
25:u:55:ARG:HB3	31:3:2394:A:C2	2.52	0.43
26:v:53:ARG:HH12	31:3:435:U:H5	1.66	0.43
31:3:170:A:C2	31:3:171:G:H1'	2.53	0.43
31:3:242:G:H2'	31:3:243:U:C6	2.53	0.43
31:3:440:C:H2'	31:3:440:C:O2	2.18	0.43
31:3:571:A:H2'	31:3:572:G:O4'	2.18	0.43
31:3:664:G:H2'	31:3:665:C:C6	2.53	0.43
31:3:1446:G:N2	31:3:1612:U:H3'	2.32	0.43
31:3:1458:A:H2'	31:3:1459:A:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1756:A:H2'	31:3:1757:G:H8	1.82	0.43
31:3:2068:G:O4'	31:3:2511:A:N6	2.50	0.43
31:3:2137:A:H5''	31:3:2140:G:OP1	2.18	0.43
31:3:2562:U:H2'	31:3:2563:U:C5	2.54	0.43
31:3:2572:A:C6	31:3:2656:G:H5'	2.54	0.43
32:4:8:C:C4	32:4:9:C:C4	3.06	0.43
4:7:103:ASN:OD1	4:7:104:PHE:N	2.51	0.43
9:e:89:LYS:HE3	9:e:89:LYS:HB2	1.82	0.43
10:f:51:LEU:O	10:f:55:GLN:HG2	2.18	0.43
15:k:4:ASN:HB2	15:k:7:LYS:HG2	2.00	0.43
19:o:32:ASN:HA	19:o:49:THR:HA	1.99	0.43
29:y:8:SER:OG	29:y:9:SER:N	2.51	0.43
31:3:69:U:H2'	31:3:70:G:C8	2.52	0.43
31:3:307:C:H2'	31:3:308:A:C8	2.53	0.43
31:3:509:G:H2'	31:3:510:G:H8	1.82	0.43
31:3:1037:A:H3'	31:3:1038:G:H8	1.82	0.43
31:3:1537:A:H2'	31:3:1538:U:O4'	2.18	0.43
31:3:1918:U:H2'	31:3:1919:A:H5''	2.00	0.43
31:3:2260:G:H2'	31:3:2261:G:C4	2.54	0.43
31:3:2528:C:H2'	31:3:2529:C:H6	1.83	0.43
31:3:2705:G:H2'	31:3:2706:U:H6	1.83	0.43
4:7:129:GLU:O	4:7:133:VAL:HG23	2.18	0.43
5:a:5:LYS:HA	5:a:18:THR:HG22	2.00	0.43
16:l:72:MET:HB2	16:l:94:VAL:HG13	1.99	0.43
17:m:18:VAL:O	17:m:22:VAL:HG13	2.18	0.43
24:t:12:VAL:O	24:t:19:GLY:CA	2.66	0.43
25:u:50:ILE:HA	25:u:74:PHE:HB3	2.00	0.43
31:3:698:A:H2'	31:3:699:U:C6	2.53	0.43
31:3:816:A:H5''	31:3:817:A:N7	2.33	0.43
31:3:868:C:H2'	31:3:869:U:C6	2.53	0.43
31:3:965:U:H2'	31:3:966:U:C6	2.53	0.43
31:3:1924:U:O2	31:3:1924:U:H2'	2.17	0.43
31:3:1986:C:H2'	31:3:1987:C:C6	2.53	0.43
31:3:2278:G:C2	31:3:2279:G:H1'	2.53	0.43
31:3:2486:A:C8	31:3:2537:G:C5	3.06	0.43
31:3:2604:U:H1'	31:3:2605:G:OP1	2.18	0.43
5:a:15:HIS:CE1	31:3:764:G:H5'	2.53	0.43
5:a:222:ARG:NH1	31:3:1600:A:OP1	2.47	0.43
7:c:66:TYR:HB2	7:c:75:ARG:O	2.18	0.43
11:g:118:PHE:HB3	11:g:122:ASP:HB2	2.00	0.43
13:i:35:ALA:O	13:i:39:ILE:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:m:42:GLN:NE2	17:m:46:ASP:OD2	2.51	0.43
20:p:57:ARG:HA	20:p:60:TRP:CE3	2.53	0.43
31:3:172:U:H2'	31:3:173:C:H6	1.83	0.43
31:3:188:G:C5	31:3:217:A:N6	2.87	0.43
31:3:586:G:C5	31:3:587:U:C4	3.06	0.43
31:3:746:G:H2'	31:3:747:A:C8	2.53	0.43
31:3:840:G:N2	31:3:864:A:OP1	2.51	0.43
31:3:937:A:H3'	31:3:938:A:H8	1.84	0.43
31:3:1070:U:H2'	31:3:1071:G:C8	2.53	0.43
31:3:1077:G:H2'	31:3:1078:C:C6	2.53	0.43
31:3:1089:A:H2'	31:3:1090:G:H8	1.82	0.43
31:3:1104:A:C4	31:3:1131:A:H5''	2.53	0.43
31:3:1287:C:H2'	31:3:1288:C:C6	2.54	0.43
31:3:1343:C:H2'	31:3:1344:U:C6	2.54	0.43
31:3:1457:A:H2'	31:3:1458:A:H8	1.83	0.43
31:3:1534:A:O2'	31:3:1535:A:H8	2.02	0.43
31:3:1947:U:H1'	31:3:1949:C:H41	1.83	0.43
31:3:2077:A:H2'	31:3:2078:A:H8	1.84	0.43
31:3:2217:G:OP2	31:3:2218:U:O2'	2.32	0.43
31:3:2424:C:H2'	31:3:2425:C:H6	1.84	0.43
31:3:2472:G:H2'	31:3:2473:C:H6	1.82	0.43
31:3:2856:G:H2'	31:3:2857:C:H6	1.83	0.43
1:0:34:ARG:O	1:0:38:GLN:N	2.51	0.43
2:1:25:TYR:HA	31:3:2400:A:H5''	2.00	0.43
5:a:65:LYS:HG3	31:3:1602:G:H5''	1.99	0.43
7:c:46:ARG:HD2	7:c:50:HIS:HE1	1.83	0.43
9:e:3:LYS:NZ	31:3:2757:A:H5''	2.33	0.43
21:q:24:LYS:HA	21:q:90:THR:OG1	2.19	0.43
31:3:512:G:N2	31:3:514:A:H8	2.16	0.43
31:3:1048:A:H2'	31:3:1049:U:H6	1.82	0.43
31:3:1140:U:H2'	31:3:1141:U:C6	2.51	0.43
31:3:1166:G:H1	31:3:2046:G:H21	1.65	0.43
31:3:1497:A:H2'	31:3:1498:U:C6	2.54	0.43
31:3:1850:C:H2'	31:3:1851:U:C6	2.53	0.43
31:3:2073:C:H2'	31:3:2074:G:C8	2.53	0.43
31:3:2341:G:OP2	31:3:2341:G:N2	2.52	0.43
31:3:2656:G:H2'	31:3:2657:C:H6	1.84	0.43
31:3:2696:G:N1	31:3:2728:U:OP2	2.39	0.43
5:a:39:VAL:HG23	5:a:68:ILE:HD11	2.01	0.43
6:b:144:GLN:OE1	31:3:2057:C:H4'	2.19	0.43
16:l:15:VAL:HG23	16:l:72:MET:HG3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:w:11:SER:HA	27:w:15:LEU:HD13	2.00	0.43
31:3:90:G:H2'	31:3:91:G:C8	2.53	0.43
31:3:137:U:O4	31:3:146:G:O6	2.36	0.43
31:3:195:A:O2'	31:3:713:C:O2	2.27	0.43
31:3:230:G:H1'	31:3:232:A:H61	1.84	0.43
31:3:552:C:H2'	31:3:553:A:C8	2.54	0.43
31:3:683:G:O2'	31:3:2359:G:H4'	2.18	0.43
31:3:764:G:H8	31:3:799:A:H5''	1.84	0.43
31:3:829:A:H2'	31:3:830:A:H8	1.83	0.43
31:3:900:G:C2	31:3:903:A:N6	2.85	0.43
31:3:971:U:H2'	31:3:972:C:C6	2.53	0.43
31:3:1220:A:H3'	31:3:1221:G:H8	1.83	0.43
31:3:1297:U:O2'	31:3:1298:A:OP1	2.31	0.43
31:3:1492:G:O2'	31:3:1579:G:O2'	2.24	0.43
31:3:1843:C:H2'	31:3:1844:C:C6	2.54	0.43
31:3:1862:A:H2'	31:3:1863:G:H8	1.83	0.43
31:3:2196:G:H2'	31:3:2197:U:C6	2.54	0.43
31:3:2229:C:H2'	31:3:2230:A:C8	2.50	0.43
31:3:2462:G:H21	31:3:2507:C:H41	1.66	0.43
31:3:2472:G:H2'	31:3:2473:C:C6	2.54	0.43
31:3:2523:C:H2'	31:3:2524:U:H6	1.83	0.43
3:2:4:ARG:H	3:2:36:GLN:HB3	1.83	0.43
7:c:147:LEU:O	7:c:151:LYS:N	2.51	0.43
13:i:97:LYS:HE3	13:i:97:LYS:HB3	1.79	0.43
17:m:80:ASP:OD1	17:m:81:HIS:N	2.51	0.43
18:n:27:ARG:HH22	31:3:2386:A:H4'	1.84	0.43
26:v:31:VAL:HG12	31:3:432:G:H5''	2.01	0.43
31:3:474:U:H2'	31:3:475:A:C8	2.54	0.43
31:3:720:A:C2	31:3:822:C:H1'	2.54	0.43
31:3:820:U:H4'	31:3:1786:U:H4'	2.00	0.43
31:3:952:U:H3'	31:3:953:G:H8	1.83	0.43
31:3:1086:G:O6	31:3:1143:U:C4	2.72	0.43
31:3:1136:U:H2'	31:3:1137:C:C6	2.54	0.43
31:3:1386:G:N1	31:3:1400:U:OP2	2.41	0.43
31:3:1883:A:C4	31:3:1884:A:C8	3.07	0.43
31:3:1923:A:C8	31:3:1924:U:H6	2.36	0.43
31:3:2000:U:H2'	31:3:2001:C:O4'	2.19	0.43
31:3:2117:G:O2'	31:3:2127:G:OP2	2.32	0.43
31:3:2379:G:H2'	31:3:2380:U:O4'	2.18	0.43
31:3:2647:A:H2'	31:3:2648:A:O4'	2.17	0.43
1:0:3:ARG:NH2	31:3:1647:A:H1'	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:7:19:GLN:HA	4:7:22:LYS:HE2	2.01	0.43
5:a:14:ILE:O	31:3:1780:A:N6	2.28	0.43
5:a:56:ARG:NH2	5:a:228:VAL:H	2.17	0.43
8:d:48:LYS:HB3	8:d:52:SER:HB3	2.01	0.43
9:e:98:ARG:HG2	9:e:131:ASN:HB3	2.00	0.43
9:e:110:LEU:HB3	9:e:155:ARG:HE	1.82	0.43
23:s:38:THR:O	23:s:41:LYS:HG2	2.18	0.43
25:u:87:GLY:O	32:4:10:C:H5''	2.19	0.43
31:3:1176:U:O2	31:3:1177:A:N6	2.52	0.43
31:3:1187:C:H2'	31:3:1188:C:C6	2.53	0.43
31:3:1853:G:H2'	31:3:1854:A:C8	2.53	0.43
31:3:2328:A:H1'	31:3:2330:A:N7	2.34	0.43
31:3:2835:G:H2'	31:3:2888:U:OP1	2.19	0.43
32:4:59:A:H2'	32:4:60:C:H6	1.84	0.43
4:7:131:ARG:HD3	31:3:1949:C:O2	2.19	0.43
6:b:38:GLY:HA2	6:b:92:MET:HE1	2.01	0.43
10:f:114:LYS:HZ1	10:f:129:HIS:H	1.67	0.43
14:j:27:SER:OG	31:3:2682:A:N3	2.51	0.43
14:j:100:GLY:H	14:j:119:VAL:HG21	1.83	0.43
18:n:31:MET:HE1	32:4:6:U:H4'	2.01	0.43
22:r:36:LEU:HD11	22:r:44:ALA:HA	2.01	0.43
31:3:196:G:H4'	31:3:712:A:H2	1.84	0.43
31:3:891:G:H2'	31:3:892:G:C8	2.54	0.43
31:3:896:U:C2	31:3:897:A:C8	3.06	0.43
31:3:1047:A:C6	31:3:1186:A:C5	3.07	0.43
31:3:1077:G:H2'	31:3:1078:C:H6	1.84	0.43
31:3:1664:A:H2'	31:3:1665:G:O4'	2.19	0.43
31:3:1870:G:H2'	31:3:1871:U:C6	2.54	0.43
31:3:2498:G:O3'	31:3:2499:U:H2'	2.18	0.43
31:3:2530:U:N3	31:3:2773:A:N7	2.66	0.43
31:3:2556:C:H2'	31:3:2557:G:H8	1.84	0.43
31:3:2666:C:H2'	31:3:2667:G:O4'	2.19	0.43
1:0:34:ARG:HB2	1:0:42:LEU:HG	2.01	0.42
2:1:4:LYS:NZ	31:3:255:A:OP1	2.43	0.42
4:7:107:MET:HG3	4:7:112:ARG:HH21	1.83	0.42
4:7:153:GLU:HA	4:7:156:LYS:HD2	2.00	0.42
5:a:96:VAL:HG11	5:a:108:TYR:HB3	2.01	0.42
7:c:105:LYS:HZ3	31:3:641:U:P	2.42	0.42
17:m:81:HIS:NE2	17:m:85:LYS:HD2	2.34	0.42
23:s:69:SER:C	23:s:71:PHE:H	2.25	0.42
31:3:12:A:H5''	31:3:13:C:C5	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:108:G:H2'	31:3:109:G:H8	1.84	0.42
31:3:158:U:H2'	31:3:159:G:H8	1.84	0.42
31:3:159:G:H2'	31:3:160:A:H8	1.84	0.42
31:3:971:U:H2'	31:3:972:C:H6	1.84	0.42
31:3:1196:U:H2'	31:3:1197:G:C8	2.54	0.42
31:3:1409:G:O2'	31:3:1455:A:OP1	2.33	0.42
31:3:1433:U:H2'	31:3:1434:U:H6	1.83	0.42
31:3:1758:C:O2'	31:3:2865:U:H4'	2.19	0.42
31:3:1907:A:O2'	31:3:1908:A:OP1	2.32	0.42
31:3:2048:U:H2'	31:3:2049:A:H8	1.84	0.42
31:3:2151:G:H1'	31:3:2154:A:N6	2.23	0.42
31:3:2254:G:H2'	31:3:2255:A:H8	1.84	0.42
31:3:2758:A:H1'	31:3:2760:C:H41	1.84	0.42
31:3:2885:U:H2'	31:3:2886:A:C8	2.53	0.42
32:4:11:A:N6	32:4:67:G:O2'	2.45	0.42
2:1:3:VAL:HG23	31:3:246:G:H3'	2.00	0.42
5:a:65:LYS:HB3	5:a:65:LYS:HE3	1.76	0.42
6:b:59:ASN:HA	6:b:77:PRO:HG3	2.01	0.42
7:c:6:LEU:HA	7:c:127:LEU:HB3	2.01	0.42
7:c:55:LYS:HB3	31:3:836:G:C4	2.54	0.42
17:m:101:LEU:HD12	29:y:53:VAL:HG21	2.01	0.42
26:v:14:TYR:CE1	31:3:192:U:H5''	2.55	0.42
30:z:31:LYS:HE3	30:z:49:GLU:H	1.83	0.42
31:3:175:A:H2'	31:3:176:U:C6	2.55	0.42
31:3:573:A:N6	31:3:588:G:H1'	2.34	0.42
31:3:932:U:H2'	31:3:934:C:N4	2.35	0.42
31:3:1008:A:C8	31:3:1009:A:H2'	2.54	0.42
31:3:1073:A:H2'	31:3:1074:A:H8	1.84	0.42
31:3:1097:G:OP1	31:3:1105:A:H4'	2.19	0.42
31:3:1193:U:H2'	31:3:1194:U:H6	1.84	0.42
31:3:1524:C:C2	31:3:1525:G:C8	3.06	0.42
31:3:1692:A:H2'	31:3:1693:U:H6	1.83	0.42
31:3:2134:G:H2'	31:3:2135:C:C6	2.53	0.42
31:3:2421:U:H2'	31:3:2422:G:C8	2.54	0.42
31:3:2463:G:H2'	31:3:2464:C:C6	2.54	0.42
31:3:2536:U:O4	31:3:2543:G:O6	2.36	0.42
7:c:6:LEU:HB2	7:c:127:LEU:HD23	2.01	0.42
15:k:39:GLN:HB3	31:3:867:G:H5'	2.01	0.42
15:k:40:LYS:HB2	15:k:40:LYS:HE3	1.84	0.42
17:m:74:ASP:OD2	17:m:77:GLN:NE2	2.52	0.42
22:r:8:PHE:C	22:r:9:ARG:HD3	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:341:G:N2	31:3:343:A:H3'	2.34	0.42
31:3:615:G:H2'	31:3:616:G:H8	1.82	0.42
31:3:832:C:H2'	31:3:833:C:C6	2.54	0.42
31:3:1201:A:H2'	31:3:1202:A:H8	1.84	0.42
31:3:1397:G:H21	31:3:1817:A:H2	1.65	0.42
31:3:1711:A:H2'	31:3:1712:A:C8	2.54	0.42
31:3:2169:G:H1'	31:3:2173:G:N2	2.34	0.42
31:3:2524:U:H2'	31:3:2525:C:C6	2.53	0.42
31:3:2663:G:N2	31:3:2673:A:O5'	2.49	0.42
31:3:2681:G:H2'	31:3:2682:A:C8	2.54	0.42
32:4:8:C:N4	32:4:100:G:H1	2.11	0.42
10:f:33:LYS:HD2	10:f:33:LYS:N	2.34	0.42
16:l:11:LYS:HB2	16:l:11:LYS:HE3	1.86	0.42
16:l:70:PRO:HA	16:l:95:ALA:HB2	2.01	0.42
20:p:84:LYS:H	20:p:84:LYS:HG2	1.64	0.42
23:s:9:LYS:O	23:s:30:VAL:HG12	2.19	0.42
26:v:44:LYS:NZ	31:3:170:A:O4'	2.51	0.42
27:w:47:THR:O	27:w:51:LEU:HG	2.20	0.42
27:w:95:LYS:O	27:w:99:LEU:HG	2.19	0.42
30:z:35:ASN:ND2	31:3:2352:U:OP1	2.44	0.42
31:3:240:C:H2'	31:3:241:C:H6	1.84	0.42
31:3:504:G:H2'	31:3:505:G:O4'	2.20	0.42
31:3:576:A:N1	31:3:586:G:C6	2.87	0.42
31:3:603:G:H1	31:3:2507:C:P	2.42	0.42
31:3:870:A:C6	31:3:871:G:C6	3.07	0.42
31:3:1067:A:N1	31:3:1157:G:C6	2.88	0.42
31:3:1441:A:H2'	31:3:1442:G:H8	1.83	0.42
31:3:1512:A:C6	31:3:1513:A:N6	2.88	0.42
31:3:2682:A:H2'	31:3:2683:G:C8	2.54	0.42
5:a:217:GLY:HA3	31:3:799:A:C5'	2.50	0.42
5:a:227:THR:O	31:3:1796:A:H5''	2.19	0.42
5:a:262:HIS:NE2	31:3:1831:G:N3	2.68	0.42
7:c:64:LYS:NZ	31:3:710:A:OP1	2.52	0.42
14:j:106:LEU:HD23	14:j:106:LEU:H	1.84	0.42
16:l:39:GLY:CA	16:l:97:VAL:O	2.57	0.42
17:m:56:ASN:O	17:m:60:ARG:HG2	2.19	0.42
24:t:88:LYS:NZ	31:3:335:G:OP2	2.41	0.42
31:3:81:C:H2'	31:3:82:G:C8	2.54	0.42
31:3:704:G:N3	31:3:704:G:H2'	2.34	0.42
31:3:915:A:H8	31:3:936:G:H21	1.67	0.42
31:3:986:G:H1	31:3:1003:U:H3	1.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:998:C:H2'	31:3:999:U:H6	1.85	0.42
31:3:1021:C:H2'	31:3:1022:C:H6	1.84	0.42
31:3:1219:U:C2	31:3:1220:A:C8	3.07	0.42
31:3:1385:U:H2'	31:3:1386:G:C8	2.55	0.42
31:3:1458:A:H2'	31:3:1459:A:C8	2.55	0.42
31:3:1547:G:H3'	31:3:1548:A:H2'	2.02	0.42
31:3:1588:A:H2'	31:3:1589:A:C8	2.54	0.42
31:3:1591:C:H3'	31:3:1592:A:H2'	2.00	0.42
31:3:1959:A:H3'	31:3:1960:A:C8	2.54	0.42
31:3:1976:A:O2'	31:3:1979:G:N3	2.49	0.42
31:3:2122:G:C6	31:3:2124:A:H2'	2.55	0.42
31:3:2261:G:H2'	31:3:2262:C:C2	2.55	0.42
31:3:2463:G:H2'	31:3:2464:C:H6	1.83	0.42
31:3:2712:C:C2	31:3:2713:A:C8	3.07	0.42
4:7:4:GLU:HA	4:7:7:LEU:HD12	2.01	0.42
10:f:93:ILE:HG12	10:f:95:LYS:H	1.84	0.42
13:i:20:ILE:HD13	13:i:58:ILE:HB	2.00	0.42
13:i:28:LEU:HD13	13:i:104:VAL:HG12	2.02	0.42
13:i:42:LYS:HD2	20:p:62:LEU:HD21	2.01	0.42
16:l:74:LYS:O	16:l:91:GLU:N	2.51	0.42
31:3:82:G:N2	31:3:328:A:O2'	2.52	0.42
31:3:194:A:H5''	31:3:208:A:N1	2.34	0.42
31:3:199:A:H2'	31:3:202:C:N4	2.34	0.42
31:3:1309:G:H2'	31:3:1310:U:C6	2.54	0.42
31:3:1480:A:H3'	31:3:1481:U:H5''	2.02	0.42
31:3:2084:A:H2'	31:3:2085:C:C6	2.55	0.42
31:3:2117:G:P	31:3:2125:U:H3	2.42	0.42
31:3:2163:U:H2'	31:3:2164:G:C4	2.54	0.42
31:3:2366:A:H2'	31:3:2367:C:C6	2.55	0.42
31:3:2565:G:H2'	31:3:2566:C:H6	1.83	0.42
31:3:2667:G:H3'	31:3:2668:A:H5''	2.02	0.42
31:3:2819:C:H2'	31:3:2820:G:C8	2.53	0.42
31:3:2859:U:C2	31:3:2860:A:C8	3.06	0.42
6:b:139:TYR:CG	6:b:140:PRO:HD3	2.54	0.42
7:c:6:LEU:O	7:c:14:GLU:N	2.33	0.42
15:k:130:LYS:HE2	15:k:130:LYS:HB3	1.88	0.42
16:l:48:GLU:O	16:l:52:ILE:HG23	2.19	0.42
20:p:54:ARG:HD3	31:3:1190:A:H5''	2.01	0.42
27:w:68:GLU:HG2	27:w:69:GLN:OE1	2.18	0.42
31:3:61:U:O4	31:3:70:G:O6	2.37	0.42
31:3:156:A:H2'	31:3:157:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:156:A:H2'	31:3:157:U:H6	1.85	0.42
31:3:728:A:N6	31:3:805:G:O6	2.52	0.42
31:3:985:A:N6	31:3:1005:G:O6	2.53	0.42
31:3:1877:C:H3'	31:3:1878:A:C2	2.54	0.42
31:3:2123:A:H5''	31:3:2124:A:OP2	2.20	0.42
31:3:2165:A:H4'	31:3:2166:U:H5'	2.00	0.42
31:3:2745:G:H2'	31:3:2746:A:H8	1.83	0.42
31:3:2752:G:H2'	31:3:2753:C:H6	1.84	0.42
2:1:12:LYS:HG3	15:k:65:PHE:CE2	2.54	0.42
5:a:9:ARG:HA	31:3:1729:G:O2'	2.20	0.42
6:b:55:ASP:OD2	6:b:80:HIS:ND1	2.52	0.42
8:d:93:GLY:O	8:d:96:MET:HB3	2.20	0.42
9:e:80:ILE:HA	9:e:83:THR:HG22	2.02	0.42
22:r:51:LEU:O	22:r:55:ILE:HG12	2.20	0.42
26:v:56:ARG:NH2	31:3:436:G:OP2	2.53	0.42
29:y:4:GLN:O	31:3:2023:U:H1'	2.20	0.42
30:z:34:LEU:O	30:z:46:VAL:HA	2.19	0.42
31:3:344:A:H1'	31:3:346:G:N7	2.35	0.42
31:3:573:A:H2'	31:3:574:G:O4'	2.20	0.42
31:3:622:U:O2'	31:3:623:A:H5'	2.20	0.42
31:3:1538:U:H2'	31:3:1539:U:H6	1.85	0.42
31:3:2471:U:H2'	31:3:2472:G:C8	2.52	0.42
31:3:2617:U:O2'	31:3:2618:C:H5'	2.20	0.42
4:7:39:ASP:OD2	4:7:53:VAL:HG23	2.19	0.42
5:a:226:PRO:HB3	31:3:1797:C:H5'	2.02	0.42
5:a:268:ARG:NH2	31:3:1806:G:H3'	2.35	0.42
6:b:105:GLY:HA3	6:b:219:PRO:HA	2.01	0.42
6:b:149:ALA:O	31:3:2579:U:H2'	2.20	0.42
7:c:155:LYS:HB3	7:c:194:ALA:O	2.20	0.42
8:d:23:SER:N	8:d:27:GLN:OE1	2.53	0.42
13:i:95:MET:SD	13:i:103:LEU:HB2	2.60	0.42
13:i:104:VAL:O	13:i:108:VAL:HG23	2.19	0.42
14:j:87:ILE:HA	14:j:93:PRO:HA	2.02	0.42
18:n:108:ALA:O	18:n:112:ARG:HG2	2.19	0.42
19:o:56:ARG:NE	31:3:2727:G:H5''	2.35	0.42
31:3:1228:G:H1'	31:3:1257:G:OP1	2.19	0.42
31:3:1239:G:O2'	31:3:1267:A:N1	2.38	0.42
31:3:1309:G:H2'	31:3:1310:U:H6	1.84	0.42
31:3:1856:G:H2'	31:3:1857:G:C8	2.55	0.42
31:3:2058:G:H8	31:3:2058:G:OP2	2.03	0.42
31:3:2306:A:H8	31:3:2326:G:H21	1.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2516:G:H2'	31:3:2517:A:C8	2.55	0.42
31:3:2709:C:O5'	31:3:2710:G:H5''	2.19	0.42
5:a:66:TYR:HA	5:a:91:ASN:OD1	2.20	0.42
5:a:159:GLN:OE1	31:3:1807:C:O2'	2.38	0.42
6:b:26:ILE:HG21	6:b:192:LEU:HD12	2.02	0.42
8:d:169:LEU:O	8:d:173:LEU:HG	2.19	0.42
10:f:84:HIS:O	10:f:87:ARG:HG2	2.20	0.42
23:s:5:ASN:HA	27:w:27:LEU:HD12	2.02	0.42
27:w:40:LYS:HE3	27:w:42:HIS:CE1	2.51	0.42
31:3:116:C:H2'	31:3:117:C:H6	1.84	0.42
31:3:231:A:N1	31:3:454:G:H1'	2.34	0.42
31:3:354:C:O2'	31:3:355:A:H5''	2.20	0.42
31:3:410:G:N2	31:3:437:A:OP2	2.50	0.42
31:3:909:U:H2'	31:3:910:G:C8	2.49	0.42
31:3:929:G:H2'	31:3:930:C:C6	2.55	0.42
31:3:972:C:H2'	31:3:973:U:C6	2.55	0.42
31:3:1212:C:H2'	31:3:1213:U:C6	2.55	0.42
31:3:1262:G:C6	31:3:1263:G:C6	3.07	0.42
31:3:1381:A:O2'	31:3:1382:A:O4'	2.28	0.42
31:3:1800:C:H2'	31:3:1801:U:H6	1.85	0.42
31:3:2679:G:H2'	31:3:2680:C:C6	2.54	0.42
31:3:2694:A:H2'	31:3:2695:U:H6	1.83	0.42
31:3:2857:C:H2'	31:3:2858:A:C8	2.55	0.42
31:3:2868:G:H2'	31:3:2869:U:O4'	2.19	0.42
1:0:19:LEU:HB2	31:3:126:C:H5''	2.02	0.41
5:a:135:SER:C	5:a:197:ARG:HH21	2.28	0.41
5:a:255:ARG:NE	5:a:261:ARG:HH11	2.18	0.41
6:b:6:ILE:HG22	6:b:207:ILE:HB	2.02	0.41
9:e:119:LYS:N	9:e:119:LYS:HD2	2.35	0.41
15:k:126:PHE:HB2	15:k:146:VAL:HG22	2.03	0.41
16:l:126:PRO:HD3	31:3:2493:G:H4'	2.02	0.41
17:m:44:ARG:O	17:m:48:LEU:HG	2.20	0.41
19:o:38:LYS:HD2	19:o:41:GLU:C	2.44	0.41
22:r:13:SER:HB3	22:r:16:LYS:HG3	2.02	0.41
29:y:48:TYR:O	29:y:51:LEU:HG	2.20	0.41
31:3:53:G:N1	31:3:121:U:O2'	2.47	0.41
31:3:171:G:H2'	31:3:172:U:C6	2.55	0.41
31:3:299:A:N6	31:3:440:C:H2'	2.35	0.41
31:3:361:G:N1	31:3:370:C:N3	2.68	0.41
31:3:625:G:H2'	31:3:626:A:H8	1.84	0.41
31:3:856:A:N6	31:3:1008:A:H2'	2.31	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1388:G:C5	31:3:1389:G:C8	3.07	0.41
31:3:1491:G:H2'	31:3:1492:G:O4'	2.20	0.41
31:3:1546:U:H3'	31:3:1547:G:C8	2.55	0.41
31:3:1642:G:N2	31:3:1644:A:H2'	2.34	0.41
31:3:1937:G:N2	31:3:1975:G:H2'	2.34	0.41
31:3:2305:C:N4	31:3:2326:G:H2'	2.35	0.41
31:3:2320:U:H2'	31:3:2321:C:C6	2.55	0.41
31:3:2425:C:C2	31:3:2426:A:C8	3.08	0.41
31:3:2476:A:H2	31:3:2489:G:H2'	1.85	0.41
31:3:2570:U:H2'	31:3:2571:U:C6	2.55	0.41
3:2:19:ARG:HE	31:3:2763:C:H3'	1.85	0.41
5:a:255:ARG:NH2	5:a:259:GLY:O	2.53	0.41
6:b:7:PHE:CZ	6:b:84:ILE:HD11	2.55	0.41
6:b:151:ARG:HG3	31:3:2580:A:N7	2.35	0.41
23:s:54:LYS:HG2	23:s:55:VAL:N	2.36	0.41
31:3:111:G:H2'	31:3:112:A:C8	2.55	0.41
31:3:444:C:H2'	31:3:445:C:O4'	2.19	0.41
31:3:498:C:H2'	31:3:499:G:C8	2.55	0.41
31:3:682:A:C4	31:3:683:G:C8	3.08	0.41
31:3:956:U:C2	31:3:957:G:C8	3.08	0.41
31:3:1010:G:OP1	31:3:1218:G:O2'	2.33	0.41
31:3:1456:C:N4	31:3:1603:A:H3'	2.34	0.41
31:3:2634:C:H2'	31:3:2635:G:C8	2.51	0.41
31:3:2695:U:H3	31:3:2730:G:H1	1.68	0.41
32:4:42:G:C1'	32:4:45:C:H42	2.32	0.41
4:7:10:PHE:HE2	4:7:163:ASN:HD21	1.68	0.41
5:a:258:TRP:CD2	31:3:1812:C:H5''	2.56	0.41
6:b:84:ILE:HB	6:b:87:MET:HE2	2.02	0.41
8:d:64:LYS:HA	8:d:65:PRO:HD3	1.93	0.41
13:i:16:ARG:HH22	31:3:10:U:H5'	1.84	0.41
17:m:103:LEU:HD11	17:m:115:ILE:HB	2.02	0.41
27:w:105:ARG:NH1	31:3:1431:A:O3'	2.53	0.41
30:z:31:LYS:NZ	30:z:49:GLU:O	2.45	0.41
31:3:506:A:H2'	31:3:507:A:C8	2.55	0.41
31:3:517:G:N1	31:3:544:U:N3	2.61	0.41
31:3:868:C:C2	31:3:869:U:C5	3.08	0.41
31:3:1057:G:H1'	31:3:1058:U:H5	1.85	0.41
31:3:1445:U:H2'	31:3:1446:G:O4'	2.20	0.41
31:3:1790:U:H1'	31:3:2615:G:H21	1.85	0.41
31:3:1980:G:H2'	31:3:1981:U:C6	2.56	0.41
31:3:2033:G:H2'	31:3:2034:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2048:U:H2'	31:3:2049:A:C8	2.55	0.41
31:3:2088:U:H2'	31:3:2089:A:C8	2.55	0.41
31:3:2132:G:H2'	31:3:2133:A:C2	2.54	0.41
31:3:2264:G:H2'	31:3:2265:U:H6	1.83	0.41
31:3:2575:G:H2'	31:3:2576:A:C8	2.55	0.41
31:3:2752:G:H2'	31:3:2753:C:C6	2.55	0.41
10:f:42:LYS:HG2	10:f:46:ASP:O	2.20	0.41
14:j:64:ARG:HB2	14:j:83:ALA:H	1.85	0.41
18:n:85:LYS:HE3	18:n:85:LYS:HB3	1.95	0.41
19:o:68:LYS:HB3	19:o:68:LYS:HE2	1.88	0.41
22:r:7:GLN:HG3	22:r:10:VAL:HG13	2.02	0.41
22:r:82:MET:HE1	31:3:1350:A:H5''	2.02	0.41
23:s:76:LYS:HD3	31:3:60:G:OP1	2.20	0.41
31:3:306:G:H2'	31:3:307:C:H6	1.83	0.41
31:3:335:G:C6	31:3:351:G:C6	3.08	0.41
31:3:440:C:H1'	31:3:442:G:C4	2.55	0.41
31:3:512:G:H1'	31:3:516:A:N6	2.35	0.41
31:3:632:A:O2'	31:3:633:G:H5'	2.20	0.41
31:3:675:U:H2'	31:3:676:U:C6	2.55	0.41
31:3:1104:A:O5'	31:3:1131:A:H4'	2.20	0.41
31:3:1464:G:N1	31:3:1591:C:O2	2.53	0.41
31:3:1518:C:H41	31:3:2219:U:H5'	1.85	0.41
31:3:1539:U:H2'	31:3:1540:G:C8	2.55	0.41
31:3:1903:A:H2'	31:3:1904:G:C8	2.55	0.41
31:3:2421:U:C2	31:3:2422:G:C8	3.09	0.41
31:3:2496:G:H2'	31:3:2497:U:H6	1.85	0.41
31:3:2589:G:N2	31:3:2618:C:H2'	2.36	0.41
31:3:2589:G:H8	31:3:2590:G:O6	2.04	0.41
5:a:262:HIS:HE1	31:3:1831:G:H21	1.69	0.41
18:n:46:PHE:C	18:n:48:GLN:H	2.28	0.41
20:p:91:ARG:CZ	31:3:1033:A:H5'	2.49	0.41
24:t:5:LYS:HD3	24:t:102:ARG:NH2	2.36	0.41
30:z:23:LYS:HE2	30:z:32:LEU:HD13	2.02	0.41
31:3:79:U:C2	31:3:80:U:C5	3.08	0.41
31:3:180:A:H3'	31:3:181:G:H8	1.85	0.41
31:3:242:G:H2'	31:3:243:U:H6	1.85	0.41
31:3:597:C:O2'	31:3:1283:A:N6	2.37	0.41
31:3:886:U:H2'	31:3:887:A:H8	1.85	0.41
31:3:1333:C:H2'	31:3:1334:U:O4'	2.20	0.41
31:3:1630:A:H2'	31:3:1631:A:C8	2.54	0.41
31:3:1645:C:H2'	31:3:1646:G:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2469:A:H1'	31:3:2500:U:N3	2.35	0.41
31:3:2598:C:H2'	31:3:2599:C:H6	1.86	0.41
31:3:2781:C:H2'	31:3:2782:A:C8	2.55	0.41
2:1:10:ARG:NH1	15:k:62:LEU:O	2.54	0.41
4:7:155:LEU:O	4:7:159:VAL:HG23	2.20	0.41
5:a:31:ASN:OD1	5:a:32:LYS:N	2.53	0.41
7:c:52:ILE:HD12	7:c:52:ILE:HA	1.99	0.41
8:d:77:TYR:OH	31:3:2316:G:O6	2.22	0.41
9:e:129:GLU:OE1	9:e:135:THR:OG1	2.37	0.41
15:k:133:LYS:HB2	15:k:133:LYS:HE2	1.65	0.41
16:l:126:PRO:HB3	31:3:2493:G:O3'	2.21	0.41
23:s:50:ILE:HD12	27:w:83:ALA:HB2	2.02	0.41
26:v:47:ARG:HD2	26:v:47:ARG:C	2.46	0.41
31:3:55:A:H62	31:3:118:G:H21	1.68	0.41
31:3:135:A:H2'	31:3:136:G:H8	1.85	0.41
31:3:387:U:H2'	31:3:388:U:H6	1.84	0.41
31:3:514:A:N1	31:3:535:G:H4'	2.36	0.41
31:3:518:A:N1	31:3:541:G:O2'	2.48	0.41
31:3:526:G:H2'	31:3:527:A:C8	2.56	0.41
31:3:696:U:H2'	31:3:697:U:H6	1.85	0.41
31:3:1237:G:H2'	31:3:1238:A:C8	2.56	0.41
31:3:1779:G:H2'	31:3:1780:A:O3'	2.21	0.41
31:3:2184:A:H2'	31:3:2185:C:C6	2.56	0.41
31:3:2213:A:H2'	31:3:2214:A:C8	2.54	0.41
31:3:2577:G:H2'	31:3:2578:A:C8	2.56	0.41
31:3:2582:G:H2'	31:3:2583:U:O4'	2.21	0.41
31:3:2619:C:H2'	31:3:2620:C:C6	2.56	0.41
4:7:140:MET:N	4:7:140:MET:SD	2.94	0.41
4:7:180:GLU:N	4:7:180:GLU:OE1	2.54	0.41
5:a:43:LYS:HD2	5:a:59:GLY:HA2	2.01	0.41
7:c:200:GLU:H	7:c:200:GLU:HG2	1.69	0.41
8:d:66:VAL:HG11	32:4:40:U:C4	2.55	0.41
10:f:61:ASN:HA	10:f:64:LEU:HG	2.03	0.41
14:j:71:ARG:CZ	14:j:105:GLU:HG3	2.51	0.41
31:3:176:U:H2'	31:3:177:U:C6	2.56	0.41
31:3:244:G:H3'	31:3:245:U:H6	1.84	0.41
31:3:391:U:H2'	31:3:392:A:H8	1.86	0.41
31:3:589:A:H2'	31:3:590:U:O4'	2.20	0.41
31:3:755:C:H2'	31:3:756:A:H8	1.86	0.41
31:3:1507:G:H1'	31:3:1508:G:OP2	2.20	0.41
31:3:1624:A:H2'	31:3:1625:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1934:A:H2'	31:3:1935:A:C8	2.55	0.41
31:3:2134:G:H2'	31:3:2135:C:H6	1.86	0.41
31:3:2224:A:H2'	31:3:2225:G:H8	1.86	0.41
7:c:8:LYS:HE3	7:c:8:LYS:HB2	1.83	0.41
7:c:119:LYS:HE3	7:c:191:LEU:HB3	2.03	0.41
7:c:134:ASN:C	7:c:136:THR:H	2.28	0.41
20:p:91:ARG:HD3	31:3:1032:A:O3'	2.20	0.41
27:w:32:LYS:HB3	27:w:37:GLU:HG2	2.03	0.41
27:w:101:SER:O	27:w:105:ARG:HG2	2.21	0.41
31:3:115:U:H2'	31:3:116:C:C6	2.56	0.41
31:3:409:A:H5''	31:3:459:A:C2	2.56	0.41
31:3:876:A:N6	31:3:974:C:N3	2.68	0.41
31:3:1363:C:H2'	31:3:1364:A:C8	2.55	0.41
31:3:1675:A:H2'	31:3:1676:G:O4'	2.21	0.41
31:3:1889:U:H2'	31:3:1890:U:C6	2.56	0.41
31:3:2220:A:HO2'	31:3:2222:C:H41	1.60	0.41
31:3:2357:G:H2'	31:3:2358:U:O4'	2.20	0.41
31:3:2486:A:H2'	31:3:2487:U:H5'	2.02	0.41
31:3:2541:C:H2'	31:3:2542:A:O4'	2.20	0.41
31:3:2555:U:H2'	31:3:2556:C:C6	2.56	0.41
31:3:2568:G:H2'	31:3:2569:A:C8	2.55	0.41
31:3:2626:A:H2'	31:3:2627:U:O4'	2.20	0.41
31:3:2646:G:H1'	31:3:2786:A:N6	2.36	0.41
31:3:2753:C:H2'	31:3:2754:U:C6	2.56	0.41
32:4:5:G:H2'	32:4:6:U:O4'	2.20	0.41
32:4:45:C:H2'	32:4:46:C:C6	2.55	0.41
4:7:15:ASP:O	4:7:19:GLN:HG2	2.21	0.41
4:7:26:SER:O	4:7:37:LEU:HD12	2.21	0.41
7:c:40:VAL:HA	7:c:43:ALA:HB3	2.02	0.41
8:d:63:GLN:NE2	8:d:89:VAL:HG13	2.35	0.41
13:i:133:HIS:ND1	13:i:135:MET:HB2	2.36	0.41
14:j:100:GLY:HA2	14:j:101:PRO:HD3	1.95	0.41
15:k:6:LEU:HD11	31:3:1235:U:O2	2.21	0.41
16:l:24:ASN:HA	16:l:67:ARG:HH11	1.86	0.41
16:l:54:ILE:HD11	16:l:121:ALA:HB2	2.02	0.41
25:u:85:LYS:NZ	25:u:90:GLN:O	2.53	0.41
29:y:16:ARG:NH2	31:3:1294:G:OP1	2.54	0.41
29:y:39:PHE:O	29:y:41:ARG:NH1	2.54	0.41
31:3:27:U:H3	31:3:550:A:N6	2.19	0.41
31:3:37:G:H2'	31:3:38:G:H8	1.86	0.41
31:3:331:A:H2'	31:3:332:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:338:G:H2'	31:3:339:U:H6	1.86	0.41
31:3:363:G:H21	31:3:513:A:H2	1.69	0.41
31:3:417:G:N1	31:3:432:G:C6	2.89	0.41
31:3:625:G:H2'	31:3:626:A:C8	2.55	0.41
31:3:810:G:C6	31:3:829:A:C8	3.09	0.41
31:3:833:C:H2'	31:3:834:G:C8	2.56	0.41
31:3:1264:U:C2'	31:3:1265:G:H5'	2.51	0.41
31:3:1534:A:C4	31:3:1535:A:C8	3.08	0.41
31:3:1583:G:H2'	31:3:1584:U:C6	2.56	0.41
31:3:1743:U:H2'	31:3:1744:U:C6	2.56	0.41
31:3:2007:U:H2'	31:3:2008:A:C8	2.56	0.41
31:3:2259:G:C2	31:3:2260:G:N7	2.89	0.41
31:3:2295:A:H1'	31:3:2296:A:H2'	2.03	0.41
31:3:2402:C:H2'	31:3:2403:C:O4'	2.20	0.41
31:3:2754:U:H2'	31:3:2755:G:O4'	2.20	0.41
32:4:38:U:O2'	32:4:40:U:H2'	2.20	0.41
6:b:40:LYS:HB3	6:b:47:TYR:O	2.21	0.41
8:d:122:PHE:CZ	8:d:167:LEU:HD12	2.57	0.41
9:e:28:LYS:HA	9:e:28:LYS:HD2	1.82	0.41
19:o:34:ALA:HB1	19:o:45:ILE:HG22	2.03	0.41
20:p:54:ARG:HG3	31:3:1190:A:OP1	2.21	0.41
20:p:80:ASN:O	20:p:84:LYS:HG2	2.21	0.41
23:s:8:LEU:HB2	23:s:30:VAL:HG13	2.03	0.41
24:t:8:ASP:OD1	24:t:8:ASP:N	2.52	0.41
24:t:67:ALA:HB1	31:3:514:A:O2'	2.21	0.41
27:w:48:ARG:NH2	31:3:61:U:O2'	2.51	0.41
31:3:70:G:H2'	31:3:71:C:C6	2.56	0.41
31:3:608:A:H2'	31:3:609:U:C6	2.55	0.41
31:3:626:A:H2'	31:3:627:U:H6	1.86	0.41
31:3:775:C:H5'	31:3:1791:A:H2'	2.03	0.41
31:3:939:U:H2'	31:3:940:A:C8	2.56	0.41
31:3:1232:U:O4	31:3:1233:A:N6	2.54	0.41
31:3:1432:C:H2'	31:3:1433:U:C6	2.56	0.41
31:3:1456:C:C4	31:3:1603:A:H5''	2.56	0.41
31:3:1555:G:H2'	31:3:1556:U:C6	2.56	0.41
31:3:1584:U:H5''	31:3:1585:A:H2	1.86	0.41
31:3:1690:C:H2'	31:3:1691:U:H6	1.86	0.41
31:3:1800:C:H2'	31:3:1801:U:C6	2.56	0.41
31:3:2162:U:H2'	31:3:2163:U:O4'	2.21	0.41
31:3:2185:C:H2'	31:3:2186:C:C6	2.56	0.41
31:3:2265:U:H2'	31:3:2266:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:2589:G:H22	31:3:2618:C:H2'	1.86	0.41
31:3:2857:C:H2'	31:3:2858:A:H8	1.86	0.41
31:3:2861:G:N2	31:3:2863:G:H3'	2.35	0.41
31:3:2864:A:H8	31:3:2864:A:O5'	2.04	0.41
32:4:87:U:H3'	32:4:88:G:C8	2.56	0.41
2:1:29:LEU:HD21	30:z:4:LYS:NZ	2.36	0.40
5:a:61:ARG:HD2	5:a:62:ASN:O	2.21	0.40
7:c:37:ALA:O	7:c:40:VAL:HG12	2.21	0.40
7:c:114:THR:O	7:c:117:SER:OG	2.33	0.40
7:c:139:LYS:HE3	31:3:354:C:H3'	2.03	0.40
13:i:92:GLY:O	13:i:96:LEU:HG	2.21	0.40
15:k:101:LYS:HD3	15:k:101:LYS:HA	1.90	0.40
16:l:24:ASN:N	31:3:944:U:OP1	2.49	0.40
31:3:333:A:C6	31:3:356:A:C4	3.09	0.40
31:3:342:G:H2'	31:3:343:A:O4'	2.21	0.40
31:3:499:G:N1	31:3:502:A:OP2	2.41	0.40
31:3:665:C:H2'	31:3:666:G:C8	2.56	0.40
31:3:699:U:H2'	31:3:700:U:C6	2.55	0.40
31:3:876:A:H61	31:3:973:U:H3	1.68	0.40
31:3:1286:G:H2'	31:3:1286:G:N3	2.36	0.40
31:3:1337:G:H2'	31:3:1338:G:C8	2.57	0.40
31:3:1667:G:N7	31:3:1669:A:N6	2.68	0.40
31:3:2062:C:O2	31:3:2580:A:N6	2.54	0.40
31:3:2104:A:C6	31:3:2201:G:N1	2.89	0.40
31:3:2204:C:H2'	31:3:2205:U:N1	2.36	0.40
31:3:2281:A:H2'	31:3:2282:A:C8	2.57	0.40
5:a:3:ILE:HD12	5:a:18:THR:HB	2.03	0.40
6:b:26:ILE:HD13	6:b:194:SER:HA	2.03	0.40
7:c:38:VAL:HG11	7:c:192:MET:SD	2.61	0.40
17:m:43:LYS:HE3	31:3:2842:G:H4'	2.03	0.40
20:p:62:LEU:HD12	31:3:1045:A:H5'	2.04	0.40
24:t:2:GLN:HG3	31:3:86:A:H4'	2.04	0.40
27:w:19:VAL:O	27:w:23:LYS:HG2	2.22	0.40
31:3:251:G:H2'	31:3:254:G:N7	2.36	0.40
31:3:549:A:C4	31:3:550:A:C8	3.09	0.40
31:3:947:A:H2	31:3:2272:C:O2	2.03	0.40
31:3:1362:C:H2'	31:3:1363:C:H6	1.86	0.40
31:3:1457:A:H2'	31:3:1458:A:C8	2.57	0.40
4:7:28:ILE:HD13	4:7:119:ALA:HA	2.04	0.40
4:7:107:MET:HB2	4:7:112:ARG:HE	1.85	0.40
4:7:147:LYS:HD2	4:7:147:LYS:HA	1.81	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:b:26:ILE:HD11	6:b:182:VAL:HG21	2.03	0.40
7:c:183:LEU:O	7:c:186:VAL:HG22	2.21	0.40
10:f:55:GLN:O	10:f:59:GLU:HG2	2.21	0.40
13:i:63:ASP:OD1	13:i:63:ASP:N	2.54	0.40
14:j:30:LYS:CE	31:3:2682:A:H4'	2.51	0.40
14:j:86:LEU:HD23	14:j:94:ARG:HD3	2.04	0.40
19:o:16:LYS:HD2	19:o:16:LYS:N	2.37	0.40
20:p:73:MET:HE3	20:p:77:VAL:HB	2.01	0.40
26:v:32:ASN:ND2	31:3:2238:G:N3	2.69	0.40
29:y:40:HIS:HE2	31:3:2887:A:H4'	1.86	0.40
31:3:161:U:H2'	31:3:162:G:O4'	2.22	0.40
31:3:536:A:H2'	31:3:537:A:O4'	2.20	0.40
31:3:680:A:H2'	31:3:682:A:H8	1.86	0.40
31:3:788:G:H2'	31:3:789:A:H8	1.86	0.40
31:3:874:U:H3	31:3:975:G:H1	1.70	0.40
31:3:880:C:H4'	31:3:881:A:C4	2.57	0.40
31:3:1150:U:O2'	31:3:1151:U:H5'	2.20	0.40
31:3:1235:U:H3'	31:3:1236:G:H5''	2.03	0.40
31:3:1336:A:H2'	31:3:1337:G:O4'	2.21	0.40
31:3:1444:C:O2'	31:3:1445:U:O5'	2.37	0.40
31:3:1465:U:H5''	31:3:1466:U:OP1	2.21	0.40
31:3:1476:C:H4'	31:3:1554:A:H2	1.85	0.40
31:3:1550:G:H2'	31:3:1551:U:C6	2.57	0.40
31:3:1609:U:H2'	31:3:1610:U:O4'	2.20	0.40
31:3:1690:C:H2'	31:3:1691:U:C6	2.56	0.40
31:3:1896:A:N3	31:3:2093:U:O2'	2.52	0.40
31:3:1899:C:H2'	31:3:1900:C:C6	2.56	0.40
31:3:1930:U:H2'	31:3:1931:C:C6	2.56	0.40
31:3:2239:U:H2'	31:3:2240:U:C6	2.56	0.40
31:3:2330:A:H2'	31:3:2331:G:O4'	2.21	0.40
31:3:2603:G:N2	31:3:2605:G:H8	2.19	0.40
31:3:2665:A:H1'	31:3:2673:A:N6	2.36	0.40
31:3:2687:A:H2'	31:3:2688:C:C6	2.56	0.40
32:4:7:G:C2	32:4:8:C:C5	3.09	0.40
32:4:76:A:C2	32:4:77:G:H1'	2.56	0.40
32:4:91:A:C4	32:4:92:A:C8	3.10	0.40
1:0:3:ARG:HH21	31:3:1647:A:H1'	1.87	0.40
5:a:34:GLU:O	5:a:38:LEU:HG	2.21	0.40
6:b:79:LYS:HZ1	31:3:2833:A:H5''	1.87	0.40
8:d:123:ASP:O	8:d:125:ARG:NH1	2.55	0.40
13:i:80:HIS:ND1	13:i:87:ILE:HG12	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:i:117:LEU:HB3	13:i:121:TRP:CE2	2.56	0.40
14:j:66:LYS:NZ	31:3:1699:A:H5''	2.36	0.40
15:k:69:ARG:HG3	15:k:72:PHE:HB2	2.03	0.40
21:q:84:GLY:H	31:3:1254:U:H4'	1.86	0.40
27:w:10:LYS:NZ	27:w:14:GLU:H	2.19	0.40
29:y:11:HIS:O	29:y:15:LYS:HG3	2.21	0.40
29:y:16:ARG:NH1	31:3:1295:A:OP2	2.48	0.40
31:3:44:A:H2'	31:3:45:U:H6	1.86	0.40
31:3:116:C:H2'	31:3:117:C:C6	2.56	0.40
31:3:556:U:C2	31:3:557:G:C8	3.09	0.40
31:3:692:U:H2'	31:3:693:U:C6	2.56	0.40
31:3:890:U:H2'	31:3:891:G:C8	2.54	0.40
31:3:1337:G:H1	31:3:1639:C:H42	1.69	0.40
31:3:1589:A:H2'	31:3:1590:U:H6	1.86	0.40
31:3:1698:A:H2'	31:3:1699:A:C8	2.56	0.40
31:3:1867:G:H2'	31:3:1868:A:H8	1.86	0.40
31:3:2552:G:H2'	31:3:2553:G:C8	2.56	0.40
31:3:2693:U:N3	31:3:2733:A:N1	2.69	0.40
31:3:2755:G:N2	31:3:2756:A:H62	2.19	0.40
1:0:10:LEU:O	1:0:14:LYS:HG3	2.22	0.40
1:0:34:ARG:NH1	31:3:502:A:OP1	2.55	0.40
4:7:29:ARG:CZ	4:7:107:MET:HE3	2.52	0.40
4:7:38:PHE:HB3	4:7:52:MET:CE	2.52	0.40
5:a:63:LYS:HB3	31:3:1602:G:H4'	2.02	0.40
5:a:190:ARG:NH2	5:a:274:SER:HB2	2.37	0.40
6:b:51:LEU:HD11	31:3:2643:A:H4'	2.04	0.40
8:d:94:GLU:O	8:d:98:ALA:N	2.48	0.40
8:d:106:VAL:O	8:d:110:ARG:HB2	2.20	0.40
13:i:123:THR:OG1	31:3:2788:U:H5''	2.22	0.40
14:j:113:LYS:HE2	14:j:113:LYS:HB2	1.93	0.40
16:l:74:LYS:NZ	31:3:993:A:H4'	2.37	0.40
19:o:6:LYS:C	19:o:8:ALA:H	2.29	0.40
23:s:70:ARG:HD3	23:s:71:PHE:CZ	2.57	0.40
25:u:30:SER:OG	31:3:2270:U:OP2	2.38	0.40
25:u:82:LYS:HD2	25:u:82:LYS:HA	1.96	0.40
31:3:33:C:H2'	31:3:34:C:C6	2.56	0.40
31:3:448:A:H2'	31:3:449:C:O4'	2.20	0.40
31:3:650:G:H2'	31:3:651:A:C8	2.57	0.40
31:3:816:A:H5''	31:3:817:A:C8	2.56	0.40
31:3:1056:A:H2'	31:3:1057:G:H4'	2.02	0.40
31:3:1343:C:H2'	31:3:1344:U:H6	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:1620:A:H2'	31:3:1621:U:N1	2.37	0.40
31:3:1820:U:HO2'	31:3:1821:G:P	2.44	0.40
31:3:1873:A:H2'	31:3:1874:G:O4'	2.21	0.40
31:3:2055:A:O4'	31:3:2827:A:N6	2.54	0.40
31:3:2274:A:H4'	31:3:2275:A:N3	2.36	0.40
31:3:2404:G:H2'	31:3:2405:G:C8	2.56	0.40
31:3:2677:A:H2'	31:3:2678:A:H8	1.87	0.40
32:4:76:A:H1'	32:4:89:A:N6	2.37	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	45/48 (94%)	44 (98%)	1 (2%)	0	100	100
2	1	57/59 (97%)	55 (96%)	2 (4%)	0	100	100
3	2	35/37 (95%)	32 (91%)	3 (9%)	0	100	100
4	7	180/184 (98%)	168 (93%)	12 (7%)	0	100	100
5	a	283/287 (99%)	266 (94%)	17 (6%)	0	100	100
6	b	227/287 (79%)	209 (92%)	18 (8%)	0	100	100
7	c	208/212 (98%)	196 (94%)	12 (6%)	0	100	100
8	d	173/180 (96%)	163 (94%)	10 (6%)	0	100	100
9	e	174/184 (95%)	167 (96%)	7 (4%)	0	100	100
10	f	143/149 (96%)	130 (91%)	13 (9%)	0	100	100
11	g	124/161 (77%)	109 (88%)	14 (11%)	1 (1%)	16	54
12	h	126/137 (92%)	118 (94%)	8 (6%)	0	100	100
13	i	142/146 (97%)	135 (95%)	7 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	j	120/122 (98%)	118 (98%)	2 (2%)	0	100	100
15	k	146/151 (97%)	137 (94%)	9 (6%)	0	100	100
16	l	134/139 (96%)	126 (94%)	8 (6%)	0	100	100
17	m	117/124 (94%)	109 (93%)	8 (7%)	0	100	100
18	n	108/116 (93%)	98 (91%)	10 (9%)	0	100	100
19	o	113/119 (95%)	102 (90%)	11 (10%)	0	100	100
20	p	112/127 (88%)	109 (97%)	3 (3%)	0	100	100
21	q	97/100 (97%)	86 (89%)	11 (11%)	0	100	100
22	r	137/159 (86%)	126 (92%)	11 (8%)	0	100	100
23	s	90/237 (38%)	84 (93%)	6 (7%)	0	100	100
24	t	109/111 (98%)	102 (94%)	7 (6%)	0	100	100
25	u	84/104 (81%)	79 (94%)	5 (6%)	0	100	100
26	v	61/65 (94%)	57 (93%)	4 (7%)	0	100	100
27	w	96/111 (86%)	92 (96%)	4 (4%)	0	100	100
28	x	42/97 (43%)	34 (81%)	8 (19%)	0	100	100
29	y	54/57 (95%)	49 (91%)	5 (9%)	0	100	100
30	z	48/53 (91%)	47 (98%)	1 (2%)	0	100	100
All	All	3585/4063 (88%)	3347 (93%)	237 (7%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	g	45	PHE

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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	1	51/51 (100%)	51 (100%)	0	100	100
3	2	35/35 (100%)	35 (100%)	0	100	100
4	7	170/172 (99%)	164 (96%)	6 (4%)	32	53
5	a	241/243 (99%)	241 (100%)	0	100	100
6	b	186/233 (80%)	186 (100%)	0	100	100
7	c	182/184 (99%)	182 (100%)	0	100	100
8	d	150/154 (97%)	150 (100%)	0	100	100
9	e	153/159 (96%)	153 (100%)	0	100	100
10	f	123/134 (92%)	123 (100%)	0	100	100
11	g	101/129 (78%)	91 (90%)	10 (10%)	7	24
12	h	102/110 (93%)	102 (100%)	0	100	100
13	i	126/128 (98%)	126 (100%)	0	100	100
14	j	103/103 (100%)	103 (100%)	0	100	100
15	k	123/126 (98%)	123 (100%)	0	100	100
16	l	113/115 (98%)	113 (100%)	0	100	100
17	m	105/109 (96%)	105 (100%)	0	100	100
18	n	96/99 (97%)	96 (100%)	0	100	100
19	o	101/105 (96%)	101 (100%)	0	100	100
20	p	100/108 (93%)	100 (100%)	0	100	100
21	q	90/91 (99%)	90 (100%)	0	100	100
22	r	116/132 (88%)	116 (100%)	0	100	100
23	s	82/208 (39%)	82 (100%)	0	100	100
24	t	96/96 (100%)	96 (100%)	0	100	100
25	u	69/85 (81%)	69 (100%)	0	100	100
26	v	58/60 (97%)	58 (100%)	0	100	100
27	w	87/98 (89%)	87 (100%)	0	100	100
28	x	41/86 (48%)	41 (100%)	0	100	100
29	y	48/49 (98%)	45 (94%)	3 (6%)	16	37
30	z	47/50 (94%)	47 (100%)	0	100	100
All	All	3135/3493 (90%)	3116 (99%)	19 (1%)	76	83

All (19) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	7	144	ASP
4	7	146	HIS
4	7	147	LYS
4	7	148	ASP
4	7	149	GLU
4	7	150	ASP
11	g	26	ILE
11	g	28	ASP
11	g	32	MET
11	g	44	LEU
11	g	46	LYS
11	g	47	ASN
11	g	67	LYS
11	g	84	VAL
11	g	88	GLU
11	g	90	VAL
29	y	47	MET
29	y	51	LEU
29	y	52	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	6	GLN
3	2	30	GLN
4	7	61	ASN
5	a	208	HIS
6	b	103	GLN
7	c	31	GLN
7	c	96	ASN
7	c	113	HIS
7	c	167	ASN
8	d	58	HIS
8	d	63	GLN
9	e	21	GLN
10	f	57	HIS
10	f	78	HIS
13	i	17	GLN
13	i	43	ASN
13	i	82	GLN
17	m	81	HIS
18	n	37	ASN
18	n	88	ASN

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Mol	Chain	Res	Type
19	o	5	ASN
19	o	83	ASN
19	o	85	ASN
22	r	22	GLN
22	r	112	ASN
25	u	26	ASN
27	w	64	ASN
29	y	4	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
31	3	2875/2907 (98%)	790 (27%)	28 (0%)
32	4	103/108 (95%)	25 (24%)	4 (3%)
All	All	2978/3015 (98%)	815 (27%)	32 (1%)

All (815) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
31	3	10	U
31	3	15	A
31	3	28	G
31	3	37	G
31	3	38	G
31	3	41	C
31	3	42	U
31	3	44	A
31	3	48	G
31	3	52	U
31	3	53	G
31	3	57	G
31	3	64	U
31	3	65	A
31	3	73	A
31	3	75	A
31	3	77	G
31	3	82	G
31	3	86	A
31	3	87	G
31	3	90	G
31	3	94	A

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Mol	Chain	Res	Type
31	3	98	C
31	3	102	A
31	3	103	G
31	3	112	A
31	3	115	U
31	3	116	C
31	3	120	A
31	3	121	U
31	3	122	G
31	3	126	C
31	3	132	G
31	3	134	U
31	3	146	G
31	3	163	A
31	3	164	A
31	3	165	U
31	3	166	A
31	3	169	U
31	3	172	U
31	3	176	U
31	3	178	A
31	3	179	A
31	3	181	G
31	3	184	A
31	3	188	G
31	3	200	A
31	3	201	A
31	3	210	U
31	3	215	A
31	3	218	G
31	3	219	G
31	3	220	A
31	3	226	A
31	3	227	A
31	3	229	C
31	3	232	A
31	3	233	U
31	3	234	G
31	3	237	A
31	3	245	U
31	3	246	G
31	3	247	U

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Mol	Chain	Res	Type
31	3	251	G
31	3	252	G
31	3	254	G
31	3	261	A
31	3	262	G
31	3	270	G
31	3	276	A
31	3	277	C
31	3	283	A
31	3	284	U
31	3	285	U
31	3	286	A
31	3	287	G
31	3	293	G
31	3	294	G
31	3	295	U
31	3	296	U
31	3	297	G
31	3	298	U
31	3	299	A
31	3	306	G
31	3	309	A
31	3	310	U
31	3	311	G
31	3	312	U
31	3	314	G
31	3	315	A
31	3	316	C
31	3	319	G
31	3	320	A
31	3	325	G
31	3	333	A
31	3	336	C
31	3	345	A
31	3	351	G
31	3	354	C
31	3	357	A
31	3	358	A
31	3	363	G
31	3	364	A
31	3	377	U
31	3	393	C

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Mol	Chain	Res	Type
31	3	399	G
31	3	402	A
31	3	404	C
31	3	408	G
31	3	409	A
31	3	410	G
31	3	411	U
31	3	414	C
31	3	418	G
31	3	422	A
31	3	424	G
31	3	425	U
31	3	426	U
31	3	432	G
31	3	437	A
31	3	440	C
31	3	441	U
31	3	442	G
31	3	447	G
31	3	448	A
31	3	456	G
31	3	460	G
31	3	465	A
31	3	466	A
31	3	470	U
31	3	479	A
31	3	482	G
31	3	483	A
31	3	484	U
31	3	487	C
31	3	491	A
31	3	492	C
31	3	493	A
31	3	500	U
31	3	501	G
31	3	509	G
31	3	511	U
31	3	513	A
31	3	514	A
31	3	515	A
31	3	517	G
31	3	520	C

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Mol	Chain	Res	Type
31	3	531	G
31	3	532	A
31	3	539	U
31	3	543	U
31	3	544	U
31	3	545	C
31	3	553	A
31	3	554	U
31	3	562	C
31	3	563	A
31	3	565	C
31	3	566	G
31	3	567	U
31	3	568	G
31	3	571	A
31	3	581	A
31	3	583	U
31	3	584	G
31	3	587	U
31	3	589	A
31	3	596	G
31	3	603	G
31	3	605	A
31	3	606	G
31	3	607	U
31	3	608	A
31	3	609	U
31	3	620	G
31	3	623	A
31	3	633	G
31	3	636	U
31	3	637	U
31	3	650	G
31	3	656	G
31	3	657	A
31	3	661	G
31	3	663	A
31	3	673	A
31	3	674	G
31	3	681	A
31	3	682	A
31	3	689	U

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Mol	Chain	Res	Type
31	3	691	G
31	3	703	A
31	3	705	A
31	3	706	C
31	3	707	C
31	3	712	A
31	3	716	G
31	3	719	G
31	3	721	G
31	3	722	C
31	3	723	U
31	3	725	G
31	3	730	G
31	3	732	G
31	3	734	A
31	3	738	U
31	3	740	A
31	3	752	C
31	3	760	G
31	3	761	G
31	3	763	G
31	3	764	G
31	3	765	A
31	3	775	C
31	3	781	U
31	3	782	U
31	3	797	U
31	3	799	A
31	3	800	C
31	3	803	G
31	3	810	G
31	3	811	G
31	3	817	A
31	3	818	A
31	3	819	U
31	3	820	U
31	3	824	A
31	3	825	U
31	3	827	G
31	3	828	A
31	3	836	G
31	3	837	A

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Mol	Chain	Res	Type
31	3	840	G
31	3	841	C
31	3	842	U
31	3	847	C
31	3	854	A
31	3	862	U
31	3	864	A
31	3	865	A
31	3	866	G
31	3	871	G
31	3	873	G
31	3	881	A
31	3	882	C
31	3	883	A
31	3	885	A
31	3	886	U
31	3	896	U
31	3	902	U
31	3	903	A
31	3	906	G
31	3	908	A
31	3	917	G
31	3	931	G
31	3	932	U
31	3	933	A
31	3	934	C
31	3	936	G
31	3	944	U
31	3	945	U
31	3	947	A
31	3	949	C
31	3	951	C
31	3	952	U
31	3	953	G
31	3	954	A
31	3	958	C
31	3	968	U
31	3	970	U
31	3	977	A
31	3	981	A
31	3	982	G
31	3	989	G

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Mol	Chain	Res	Type
31	3	993	A
31	3	994	U
31	3	995	A
31	3	997	G
31	3	1001	C
31	3	1009	A
31	3	1011	A
31	3	1016	A
31	3	1019	A
31	3	1021	C
31	3	1026	A
31	3	1027	U
31	3	1029	A
31	3	1031	U
31	3	1032	A
31	3	1035	U
31	3	1047	A
31	3	1048	A
31	3	1049	U
31	3	1052	A
31	3	1055	A
31	3	1057	G
31	3	1061	A
31	3	1068	U
31	3	1075	G
31	3	1081	A
31	3	1082	A
31	3	1086	G
31	3	1095	U
31	3	1097	G
31	3	1100	U
31	3	1102	A
31	3	1104	A
31	3	1105	A
31	3	1106	G
31	3	1112	A
31	3	1123	A
31	3	1125	U
31	3	1126	G
31	3	1131	A
31	3	1132	C
31	3	1146	A

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Mol	Chain	Res	Type
31	3	1147	G
31	3	1151	U
31	3	1157	G
31	3	1163	G
31	3	1165	U
31	3	1167	U
31	3	1168	A
31	3	1170	C
31	3	1176	U
31	3	1177	A
31	3	1178	A
31	3	1179	G
31	3	1183	A
31	3	1186	A
31	3	1189	G
31	3	1191	A
31	3	1203	G
31	3	1204	A
31	3	1209	U
31	3	1210	A
31	3	1215	G
31	3	1217	G
31	3	1234	U
31	3	1235	U
31	3	1236	G
31	3	1243	A
31	3	1249	A
31	3	1250	A
31	3	1251	G
31	3	1253	G
31	3	1255	G
31	3	1257	G
31	3	1259	A
31	3	1265	G
31	3	1266	G
31	3	1268	U
31	3	1278	G
31	3	1279	U
31	3	1281	A
31	3	1283	A
31	3	1285	U
31	3	1286	G

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Mol	Chain	Res	Type
31	3	1287	C
31	3	1292	A
31	3	1295	A
31	3	1297	U
31	3	1298	A
31	3	1301	G
31	3	1302	C
31	3	1303	U
31	3	1304	U
31	3	1308	A
31	3	1315	A
31	3	1317	C
31	3	1322	A
31	3	1328	A
31	3	1329	U
31	3	1330	U
31	3	1331	G
31	3	1342	C
31	3	1353	G
31	3	1356	G
31	3	1357	U
31	3	1360	U
31	3	1361	U
31	3	1369	U
31	3	1371	G
31	3	1376	G
31	3	1380	U
31	3	1393	A
31	3	1402	G
31	3	1406	A
31	3	1407	U
31	3	1412	A
31	3	1414	C
31	3	1422	U
31	3	1423	A
31	3	1424	U
31	3	1426	C
31	3	1431	A
31	3	1435	A
31	3	1439	U
31	3	1444	C
31	3	1445	U

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Mol	Chain	Res	Type
31	3	1456	C
31	3	1463	G
31	3	1466	U
31	3	1467	U
31	3	1479	A
31	3	1480	A
31	3	1481	U
31	3	1483	G
31	3	1486	U
31	3	1487	U
31	3	1493	A
31	3	1495	A
31	3	1502	A
31	3	1507	G
31	3	1508	G
31	3	1510	A
31	3	1518	C
31	3	1523	C
31	3	1526	U
31	3	1532	A
31	3	1533	U
31	3	1534	A
31	3	1541	A
31	3	1543	U
31	3	1546	U
31	3	1548	A
31	3	1550	G
31	3	1555	G
31	3	1558	A
31	3	1571	G
31	3	1579	G
31	3	1581	U
31	3	1584	U
31	3	1585	A
31	3	1587	U
31	3	1588	A
31	3	1589	A
31	3	1594	G
31	3	1600	A
31	3	1601	A
31	3	1603	A
31	3	1612	U

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Mol	Chain	Res	Type
31	3	1615	G
31	3	1618	U
31	3	1619	A
31	3	1636	U
31	3	1641	A
31	3	1642	G
31	3	1643	A
31	3	1644	A
31	3	1647	A
31	3	1648	A
31	3	1650	A
31	3	1651	C
31	3	1652	A
31	3	1668	G
31	3	1679	U
31	3	1680	A
31	3	1681	G
31	3	1682	C
31	3	1683	G
31	3	1694	A
31	3	1695	G
31	3	1698	A
31	3	1701	G
31	3	1707	U
31	3	1708	G
31	3	1715	A
31	3	1716	A
31	3	1721	G
31	3	1727	U
31	3	1728	A
31	3	1736	G
31	3	1747	G
31	3	1748	U
31	3	1751	A
31	3	1759	C
31	3	1761	C
31	3	1763	G
31	3	1764	U
31	3	1765	G
31	3	1767	A
31	3	1768	G
31	3	1769	A

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Mol	Chain	Res	Type
31	3	1770	A
31	3	1771	C
31	3	1780	A
31	3	1784	U
31	3	1789	C
31	3	1791	A
31	3	1794	A
31	3	1807	C
31	3	1809	A
31	3	1812	C
31	3	1821	G
31	3	1822	A
31	3	1823	U
31	3	1828	A
31	3	1832	G
31	3	1835	G
31	3	1836	A
31	3	1842	G
31	3	1843	C
31	3	1849	G
31	3	1855	A
31	3	1856	G
31	3	1865	A
31	3	1871	U
31	3	1876	G
31	3	1889	U
31	3	1890	U
31	3	1891	A
31	3	1907	A
31	3	1910	G
31	3	1913	G
31	3	1919	A
31	3	1920	A
31	3	1921	C
31	3	1925	A
31	3	1926	A
31	3	1934	A
31	3	1936	G
31	3	1937	G
31	3	1938	U
31	3	1943	A
31	3	1944	A

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Mol	Chain	Res	Type
31	3	1945	A
31	3	1951	A
31	3	1952	G
31	3	1953	U
31	3	1962	U
31	3	1969	C
31	3	1971	G
31	3	1974	U
31	3	1977	A
31	3	1978	U
31	3	1979	G
31	3	1982	G
31	3	1984	A
31	3	1988	A
31	3	1989	U
31	3	1998	U
31	3	1999	G
31	3	2000	U
31	3	2004	G
31	3	2009	U
31	3	2011	G
31	3	2020	A
31	3	2025	C
31	3	2028	G
31	3	2030	A
31	3	2037	A
31	3	2038	A
31	3	2040	A
31	3	2041	C
31	3	2046	G
31	3	2050	G
31	3	2055	A
31	3	2057	C
31	3	2059	G
31	3	2062	C
31	3	2063	G
31	3	2067	A
31	3	2068	G
31	3	2069	A
31	3	2070	C
31	3	2071	C
31	3	2075	U

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Mol	Chain	Res	Type
31	3	2076	G
31	3	2083	U
31	3	2084	A
31	3	2099	U
31	3	2100	G
31	3	2106	G
31	3	2107	A
31	3	2109	A
31	3	2110	U
31	3	2111	U
31	3	2112	A
31	3	2114	C
31	3	2115	A
31	3	2117	G
31	3	2123	A
31	3	2124	A
31	3	2125	U
31	3	2127	G
31	3	2131	G
31	3	2132	G
31	3	2133	A
31	3	2139	C
31	3	2145	A
31	3	2153	U
31	3	2154	A
31	3	2167	G
31	3	2171	A
31	3	2173	G
31	3	2180	U
31	3	2183	U
31	3	2184	A
31	3	2193	U
31	3	2194	G
31	3	2195	U
31	3	2198	G
31	3	2199	C
31	3	2200	U
31	3	2202	U
31	3	2203	U
31	3	2205	U
31	3	2206	A
31	3	2207	A

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Mol	Chain	Res	Type
31	3	2211	G
31	3	2212	U
31	3	2220	A
31	3	2222	C
31	3	2231	A
31	3	2232	G
31	3	2233	A
31	3	2246	G
31	3	2247	G
31	3	2257	U
31	3	2258	G
31	3	2260	G
31	3	2261	G
31	3	2276	A
31	3	2280	U
31	3	2281	A
31	3	2286	A
31	3	2290	G
31	3	2291	U
31	3	2294	A
31	3	2295	A
31	3	2296	A
31	3	2297	G
31	3	2305	C
31	3	2310	C
31	3	2313	U
31	3	2316	G
31	3	2317	A
31	3	2319	A
31	3	2322	G
31	3	2327	U
31	3	2328	A
31	3	2331	G
31	3	2333	G
31	3	2334	U
31	3	2335	A
31	3	2338	G
31	3	2341	G
31	3	2342	U
31	3	2343	A
31	3	2353	G
31	3	2355	C

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Mol	Chain	Res	Type
31	3	2358	U
31	3	2362	A
31	3	2364	A
31	3	2365	U
31	3	2369	G
31	3	2380	U
31	3	2391	G
31	3	2393	C
31	3	2396	A
31	3	2399	G
31	3	2401	U
31	3	2410	C
31	3	2414	U
31	3	2415	A
31	3	2418	G
31	3	2431	U
31	3	2435	C
31	3	2436	G
31	3	2437	G
31	3	2438	A
31	3	2439	U
31	3	2443	A
31	3	2448	C
31	3	2449	U
31	3	2455	G
31	3	2456	A
31	3	2457	U
31	3	2458	A
31	3	2459	A
31	3	2477	A
31	3	2481	U
31	3	2483	C
31	3	2484	A
31	3	2487	U
31	3	2495	A
31	3	2499	U
31	3	2500	U
31	3	2503	G
31	3	2505	A
31	3	2506	C
31	3	2507	C
31	3	2509	C

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Mol	Chain	Res	Type
31	3	2510	G
31	3	2511	A
31	3	2512	U
31	3	2513	G
31	3	2521	A
31	3	2526	A
31	3	2528	C
31	3	2538	A
31	3	2539	A
31	3	2543	G
31	3	2550	A
31	3	2562	U
31	3	2563	U
31	3	2571	U
31	3	2572	A
31	3	2574	A
31	3	2575	G
31	3	2576	A
31	3	2580	A
31	3	2581	C
31	3	2584	G
31	3	2586	G
31	3	2589	G
31	3	2590	G
31	3	2593	U
31	3	2604	U
31	3	2605	G
31	3	2606	A
31	3	2608	A
31	3	2610	A
31	3	2611	G
31	3	2618	C
31	3	2619	C
31	3	2622	A
31	3	2636	U
31	3	2637	A
31	3	2638	G
31	3	2647	A
31	3	2649	G
31	3	2653	G
31	3	2654	U
31	3	2663	G

Continued on next page...

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Mol	Chain	Res	Type
31	3	2664	U
31	3	2668	A
31	3	2669	G
31	3	2681	G
31	3	2695	U
31	3	2697	C
31	3	2698	U
31	3	2704	U
31	3	2722	G
31	3	2732	A
31	3	2734	C
31	3	2735	G
31	3	2737	G
31	3	2740	U
31	3	2741	A
31	3	2747	U
31	3	2752	G
31	3	2756	A
31	3	2759	G
31	3	2765	A
31	3	2772	A
31	3	2774	A
31	3	2777	A
31	3	2785	G
31	3	2786	A
31	3	2788	U
31	3	2798	A
31	3	2799	U
31	3	2801	U
31	3	2805	A
31	3	2806	A
31	3	2807	G
31	3	2812	U
31	3	2813	A
31	3	2814	A
31	3	2822	C
31	3	2823	A
31	3	2825	A
31	3	2827	A
31	3	2835	G
31	3	2837	U
31	3	2838	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
31	3	2853	U
31	3	2863	G
31	3	2871	G
31	3	2876	G
31	3	2883	A
31	3	2884	C
31	3	2887	A
31	3	2888	U
31	3	2890	G
31	3	2897	G
31	3	2898	A
31	3	2899	C
32	4	9	C
32	4	11	A
32	4	12	U
32	4	22	G
32	4	23	A
32	4	25	A
32	4	26	C
32	4	28	C
32	4	33	U
32	4	40	U
32	4	41	C
32	4	42	G
32	4	46	C
32	4	48	A
32	4	55	A
32	4	56	A
32	4	60	C
32	4	78	C
32	4	80	G
32	4	88	G
32	4	89	A
32	4	99	A
32	4	102	A
32	4	106	A
32	4	108	C

All (32) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
31	3	295	U

Continued on next page...

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Mol	Chain	Res	Type
31	3	296	U
31	3	311	G
31	3	315	A
31	3	410	G
31	3	425	U
31	3	500	U
31	3	508	A
31	3	513	A
31	3	881	A
31	3	1048	A
31	3	1209	U
31	3	1216	U
31	3	1297	U
31	3	1507	G
31	3	1583	G
31	3	1587	U
31	3	1588	A
31	3	1820	U
31	3	2333	G
31	3	2482	U
31	3	2504	C
31	3	2604	U
31	3	2668	A
31	3	2764	U
31	3	2862	U
31	3	2889	U
31	3	2897	G
32	4	10	C
32	4	54	U
32	4	59	A
32	4	107	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

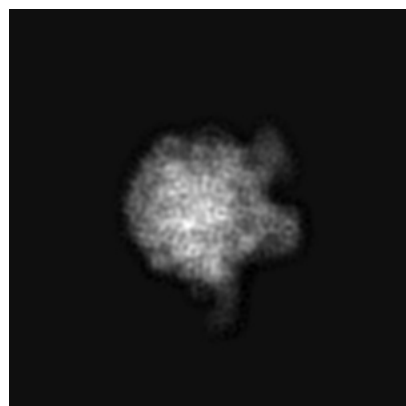
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13286. These allow visual inspection of the internal detail of the map and identification of artifacts.

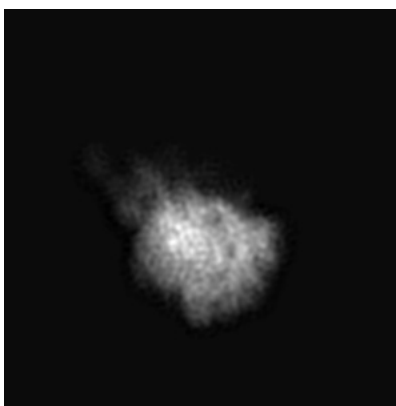
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

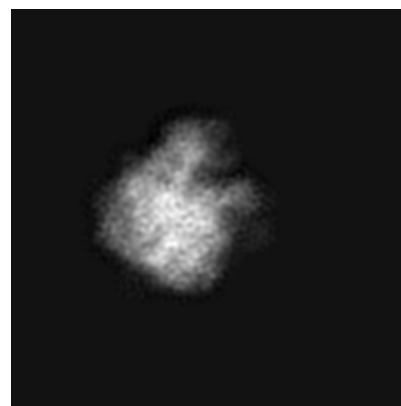
6.1.1 Primary map



X

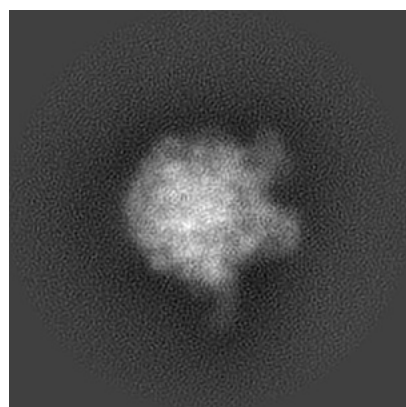


Y

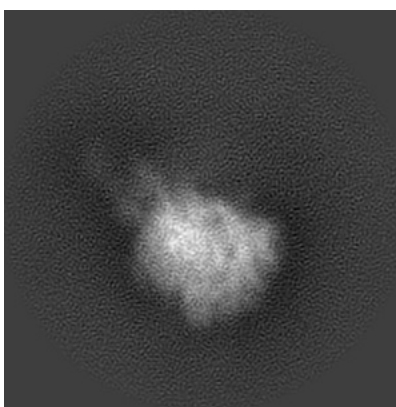


Z

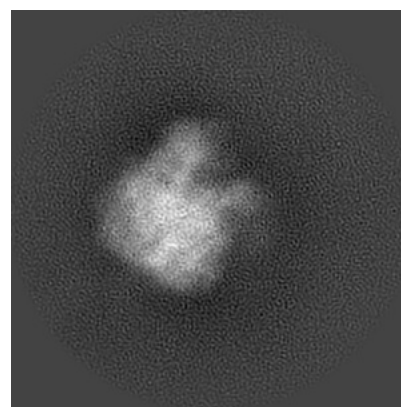
6.1.2 Raw map



X



Y

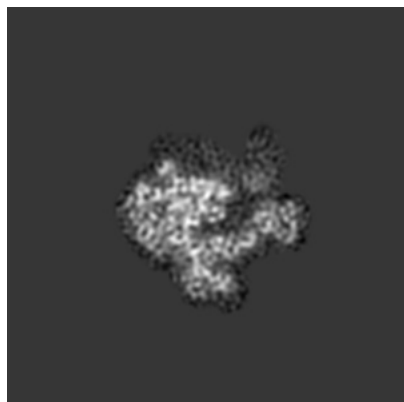


Z

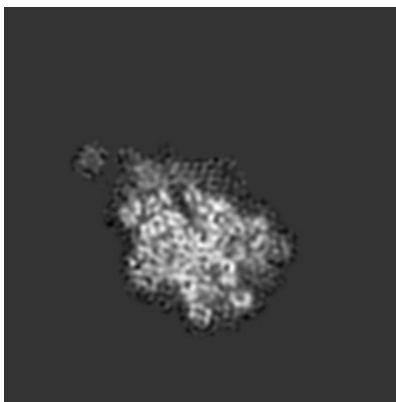
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

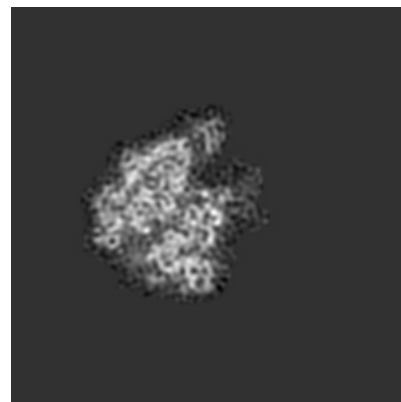
6.2.1 Primary map



X Index: 100

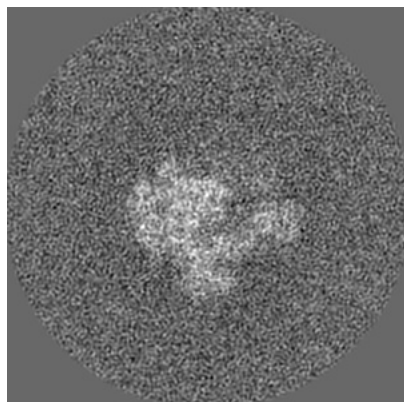


Y Index: 100

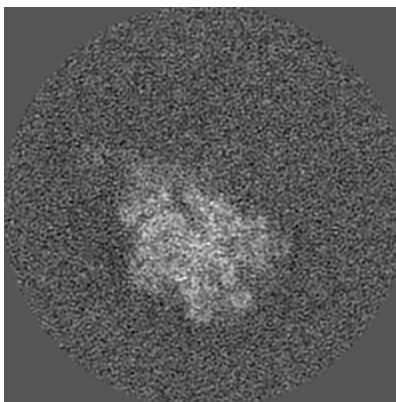


Z Index: 100

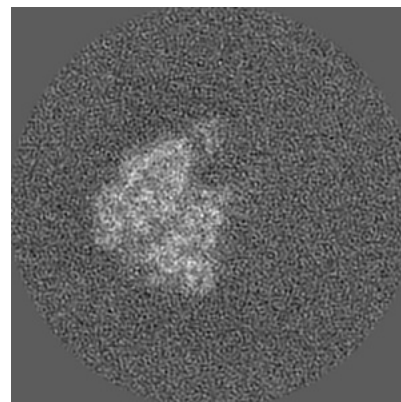
6.2.2 Raw map



X Index: 100



Y Index: 100

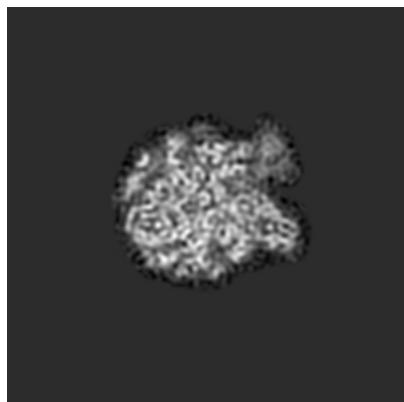


Z Index: 100

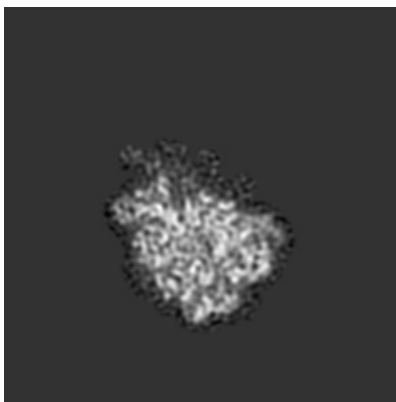
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

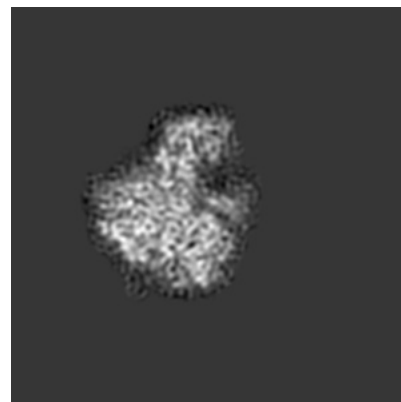
6.3.1 Primary map



X Index: 83

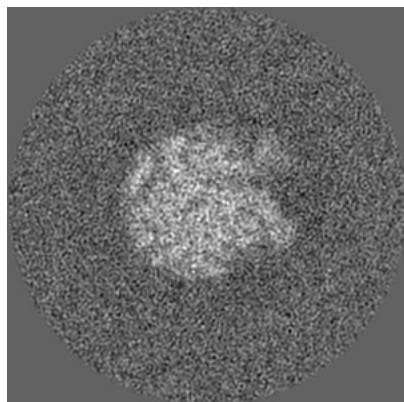


Y Index: 93

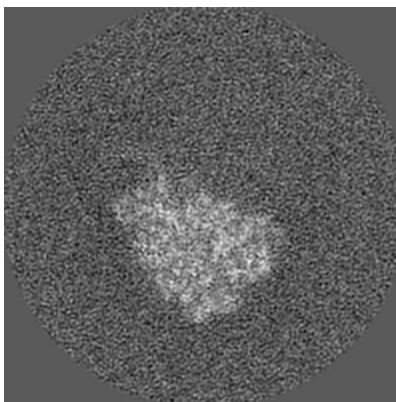


Z Index: 93

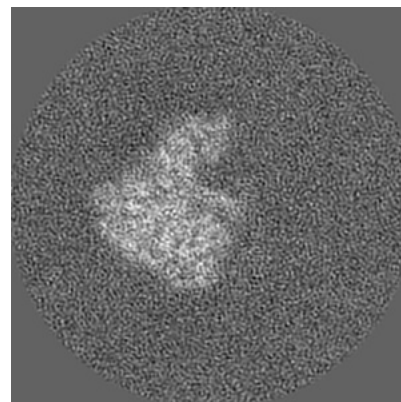
6.3.2 Raw map



X Index: 80



Y Index: 93



Z Index: 94

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

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

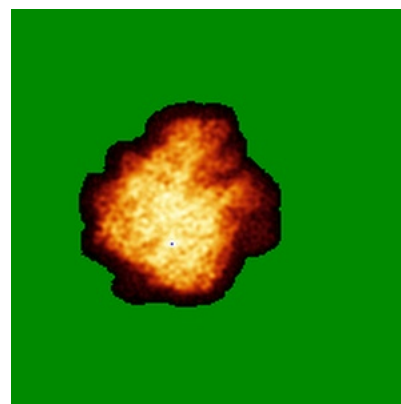
6.4.1 Primary map



X

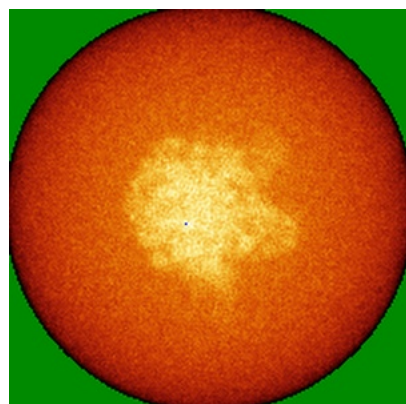


Y

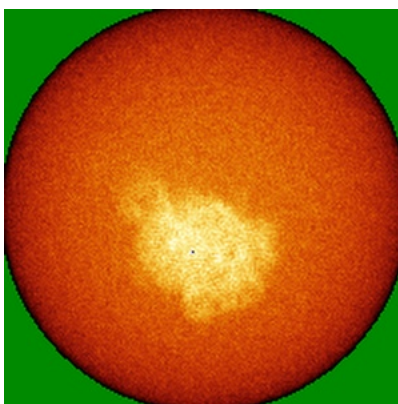


Z

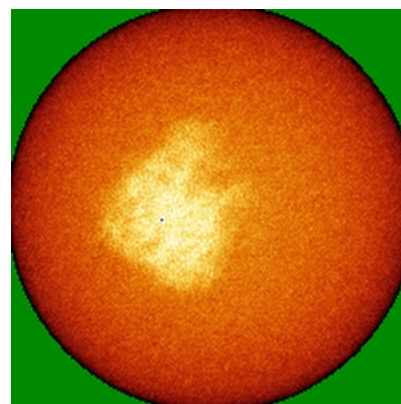
6.4.2 Raw map



X



Y

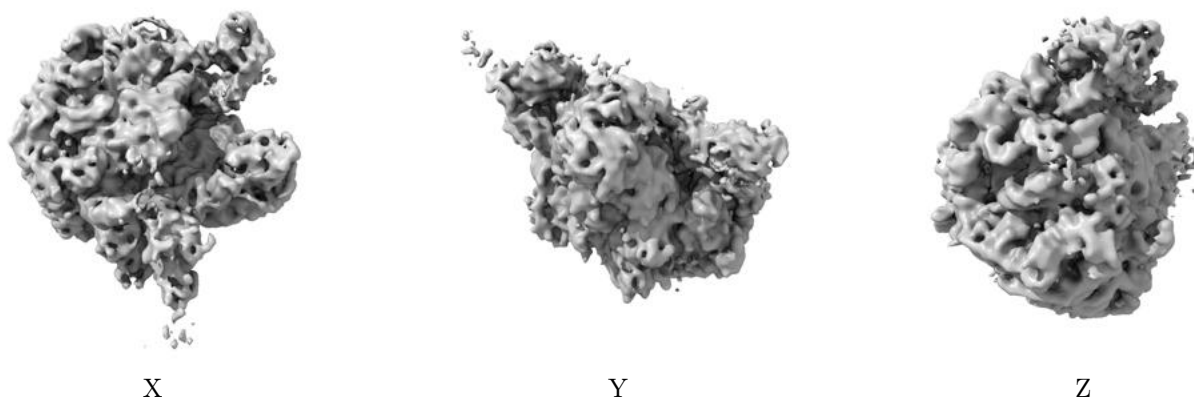


Z

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.

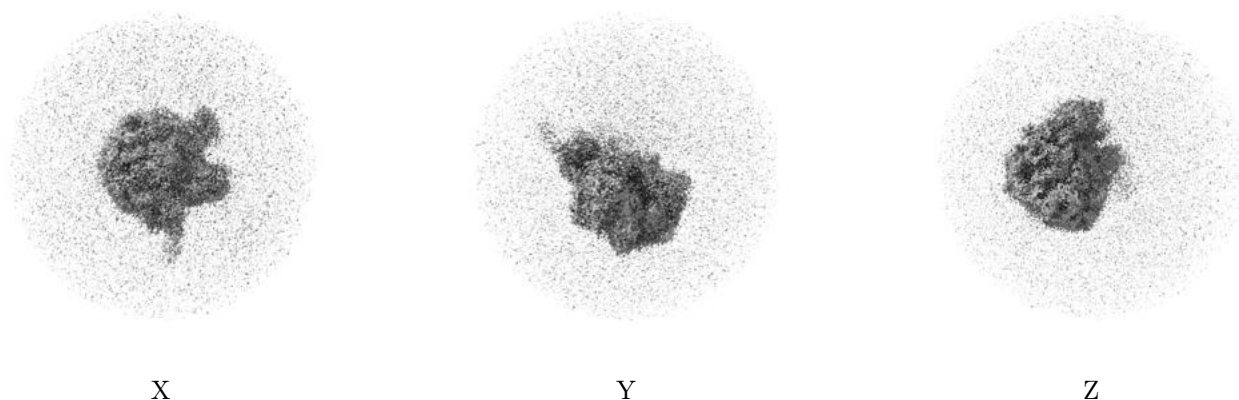
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.46. 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



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.

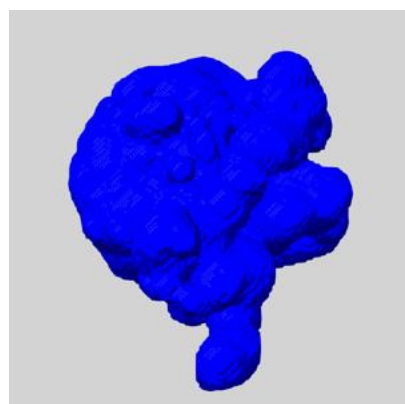
6.6 Mask visualisation [i](#)

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

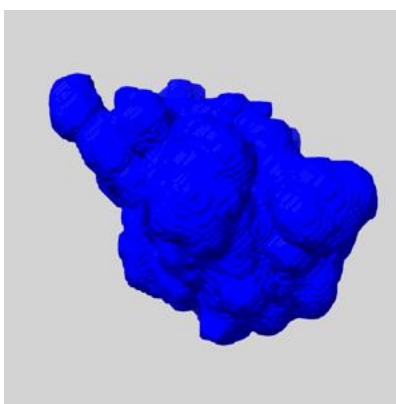
A mask typically either:

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

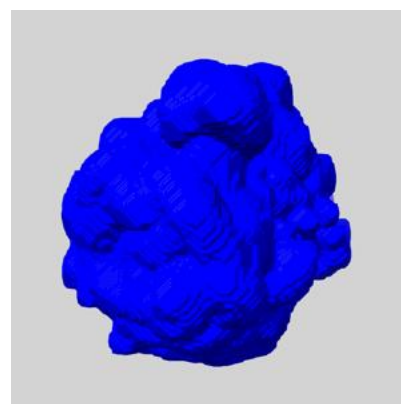
6.6.1 emd_13286_msk_1.map [i](#)



X



Y

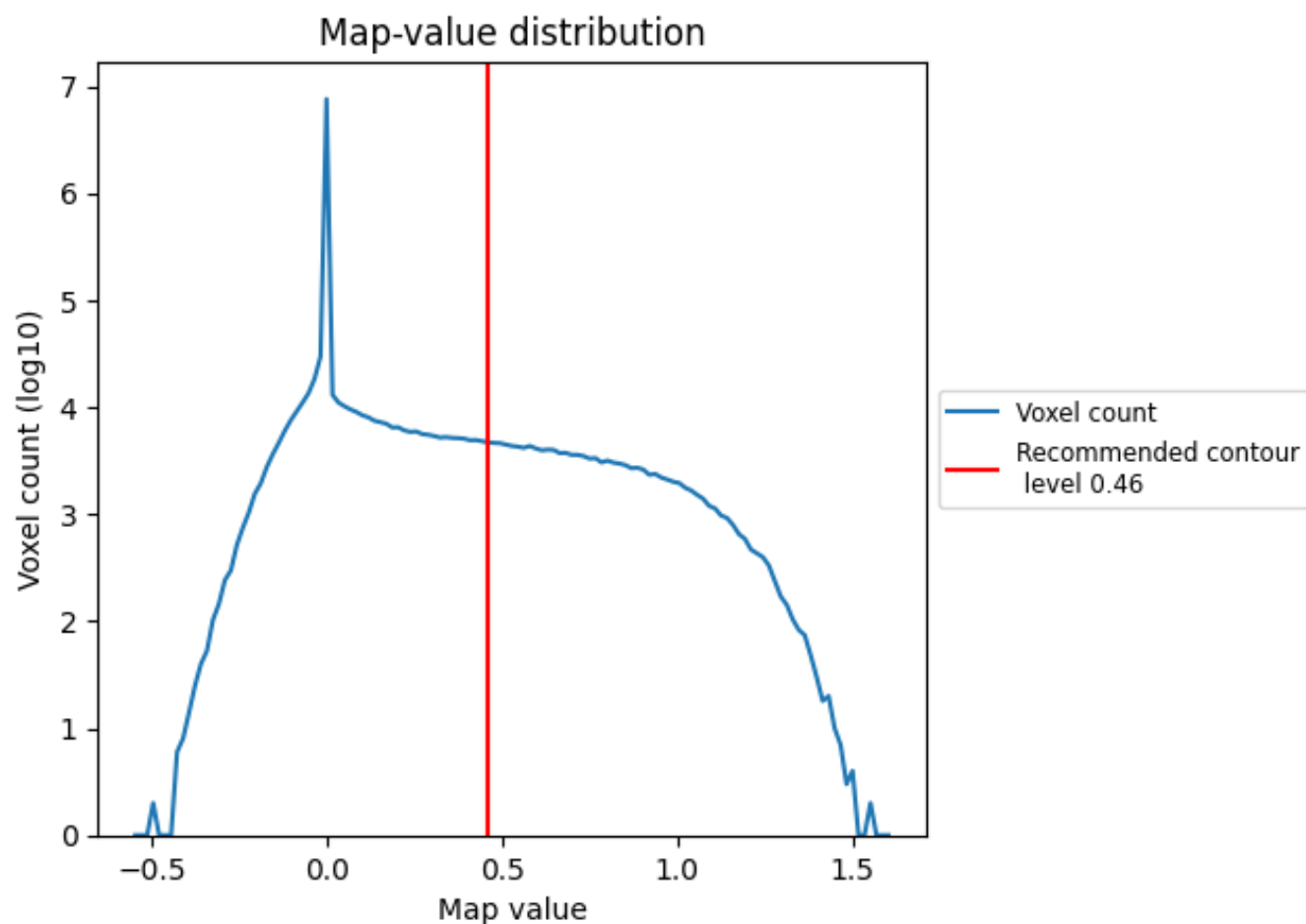


Z

7 Map analysis [i](#)

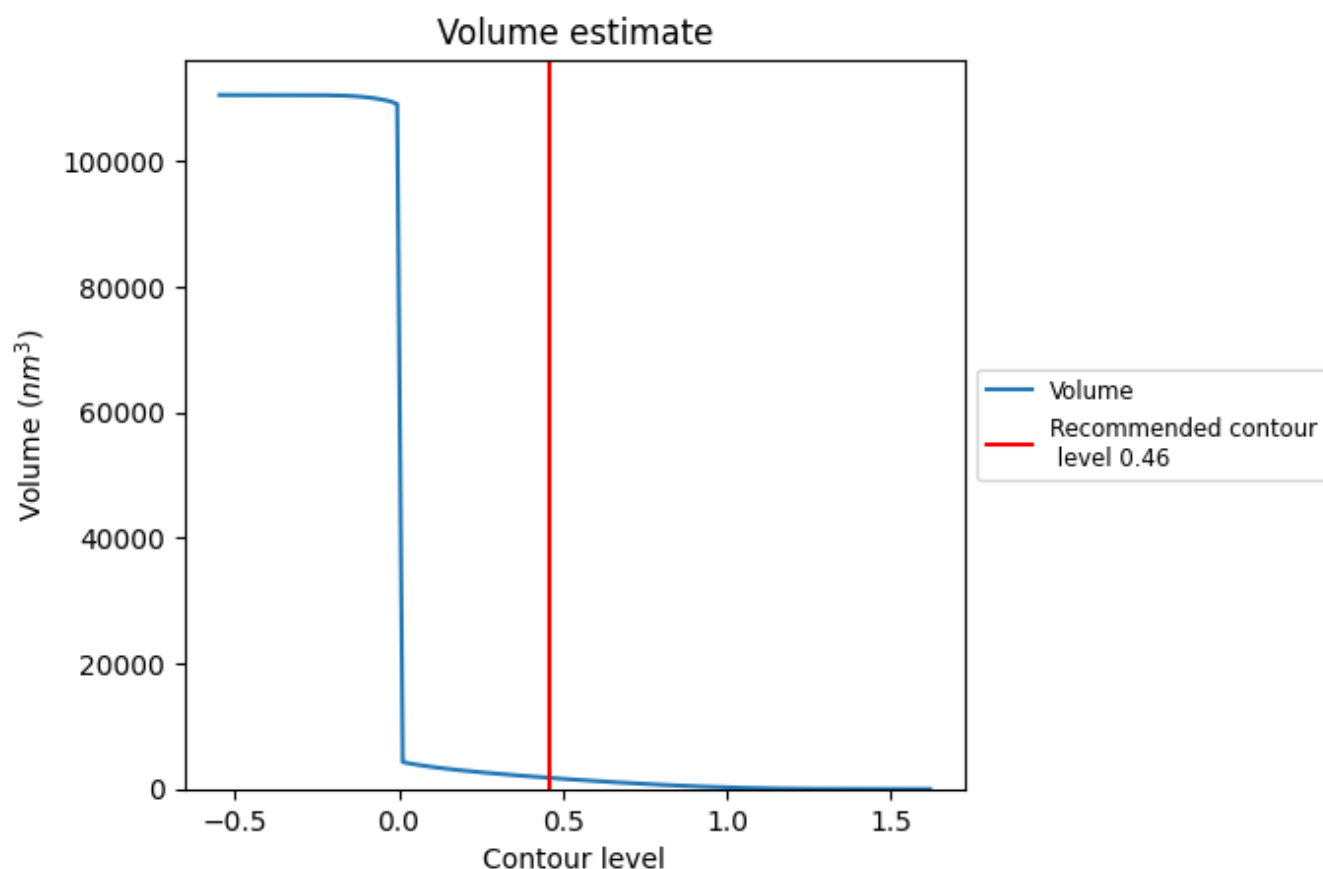
This section contains the results of statistical analysis of the map.

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.

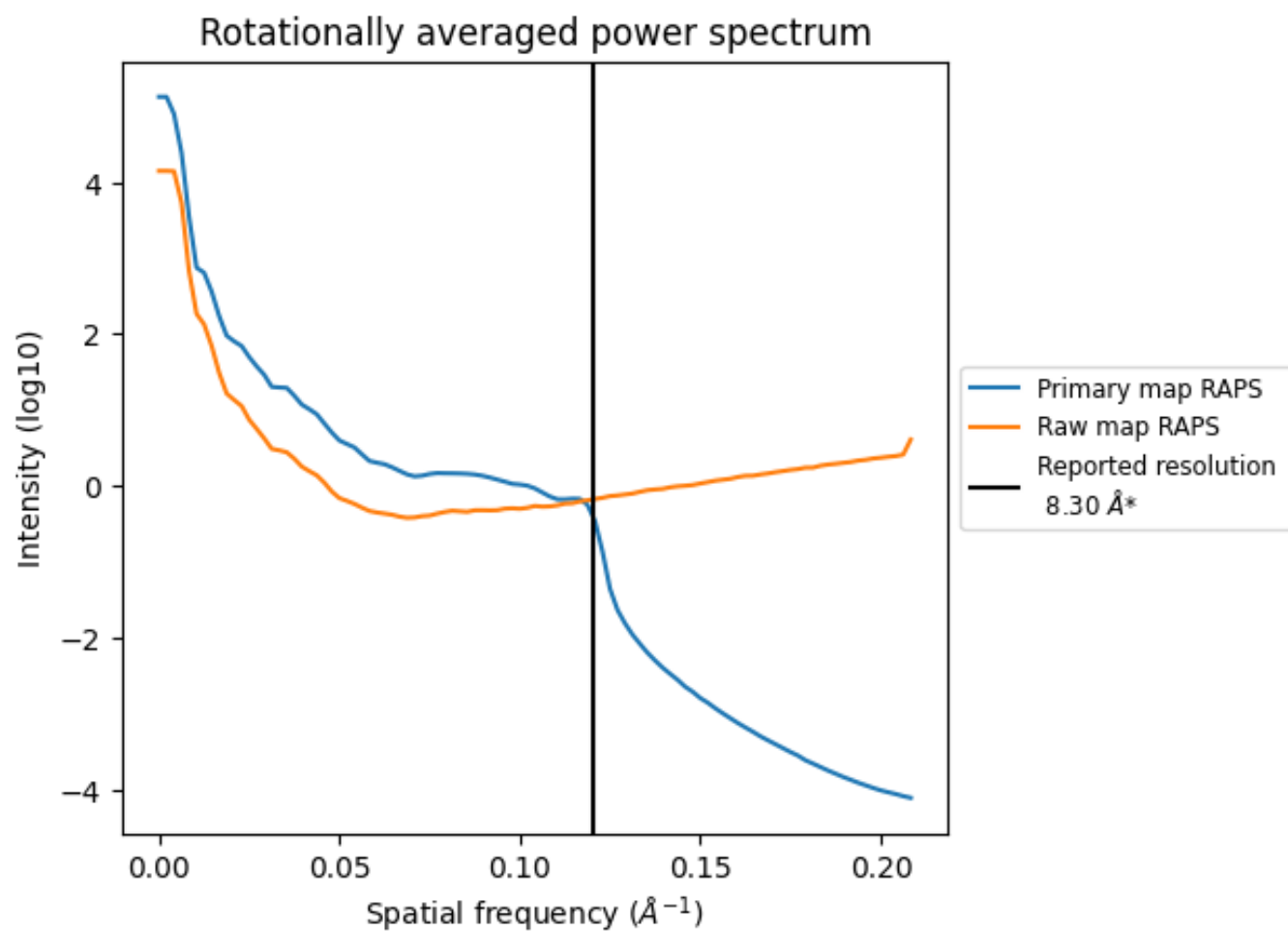
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1764 nm^3 ; this corresponds to an approximate mass of 1593 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)

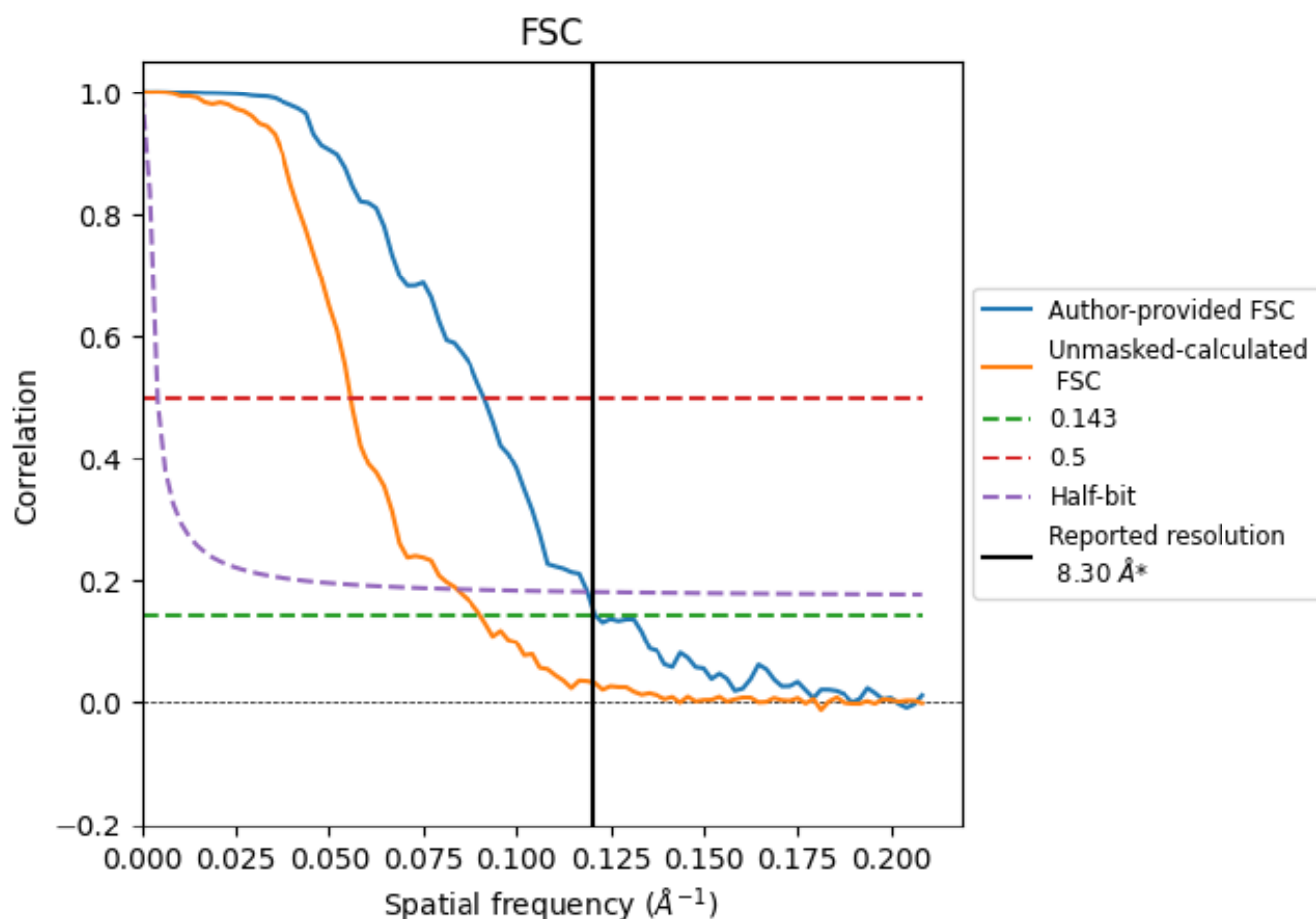


*Reported resolution corresponds to spatial frequency of 0.120 $\text{\AA}^{-1}$

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 0.120 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

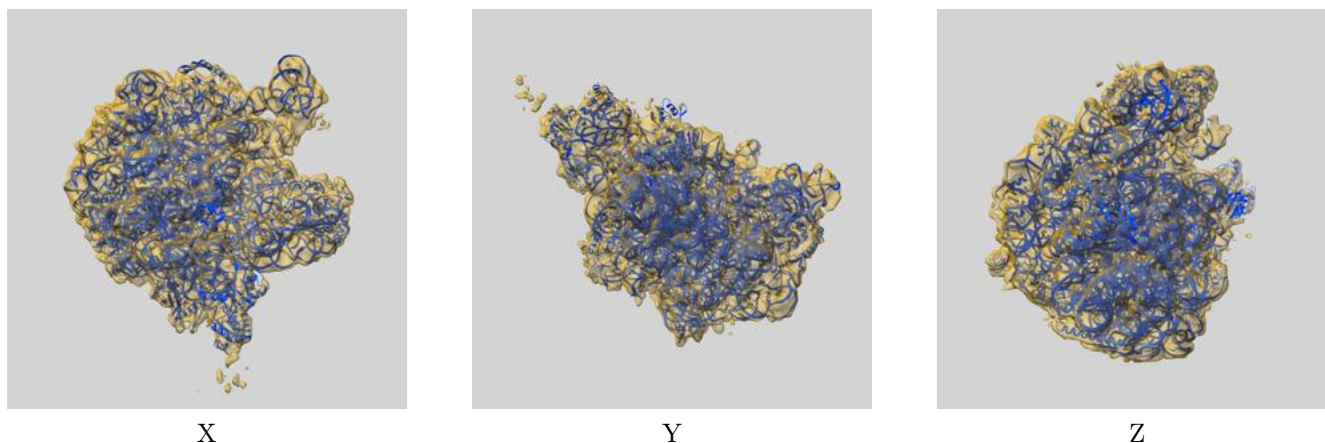
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	8.30	-	-
Author-provided FSC curve	8.26	10.96	8.42
Unmasked-calculated*	11.07	17.95	11.90

*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 11.07 differs from the reported value 8.3 by more than 10 %

9 Map-model fit [i](#)

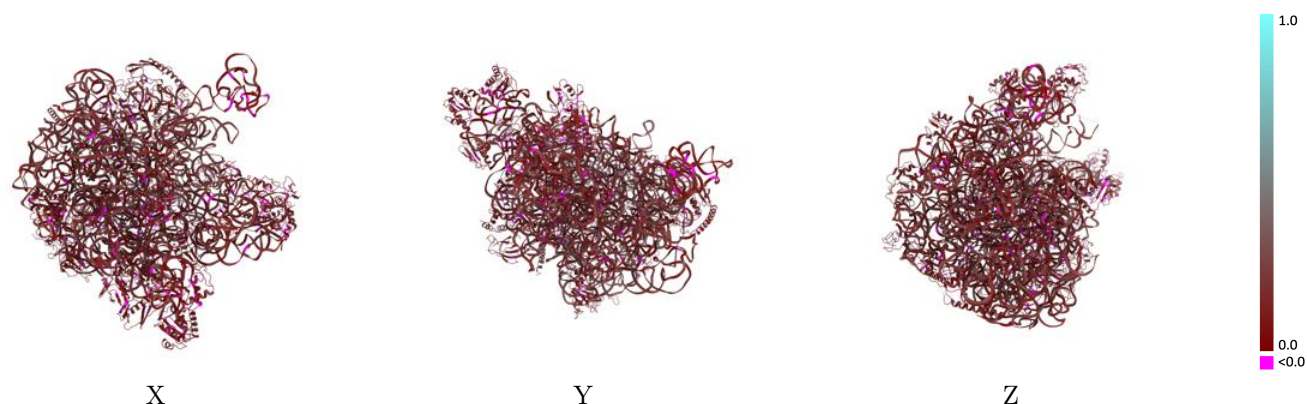
This section contains information regarding the fit between EMDB map EMD-13286 and PDB model 7PAU. Per-residue inclusion information can be found in section 3 on page 10.

9.1 Map-model overlay [i](#)



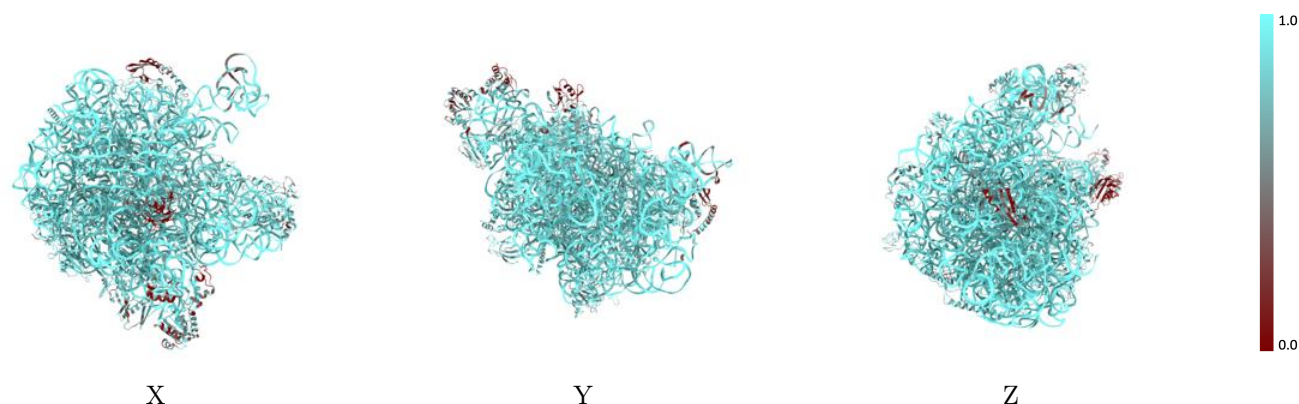
The images above show the 3D surface view of the map at the recommended contour level 0.46 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



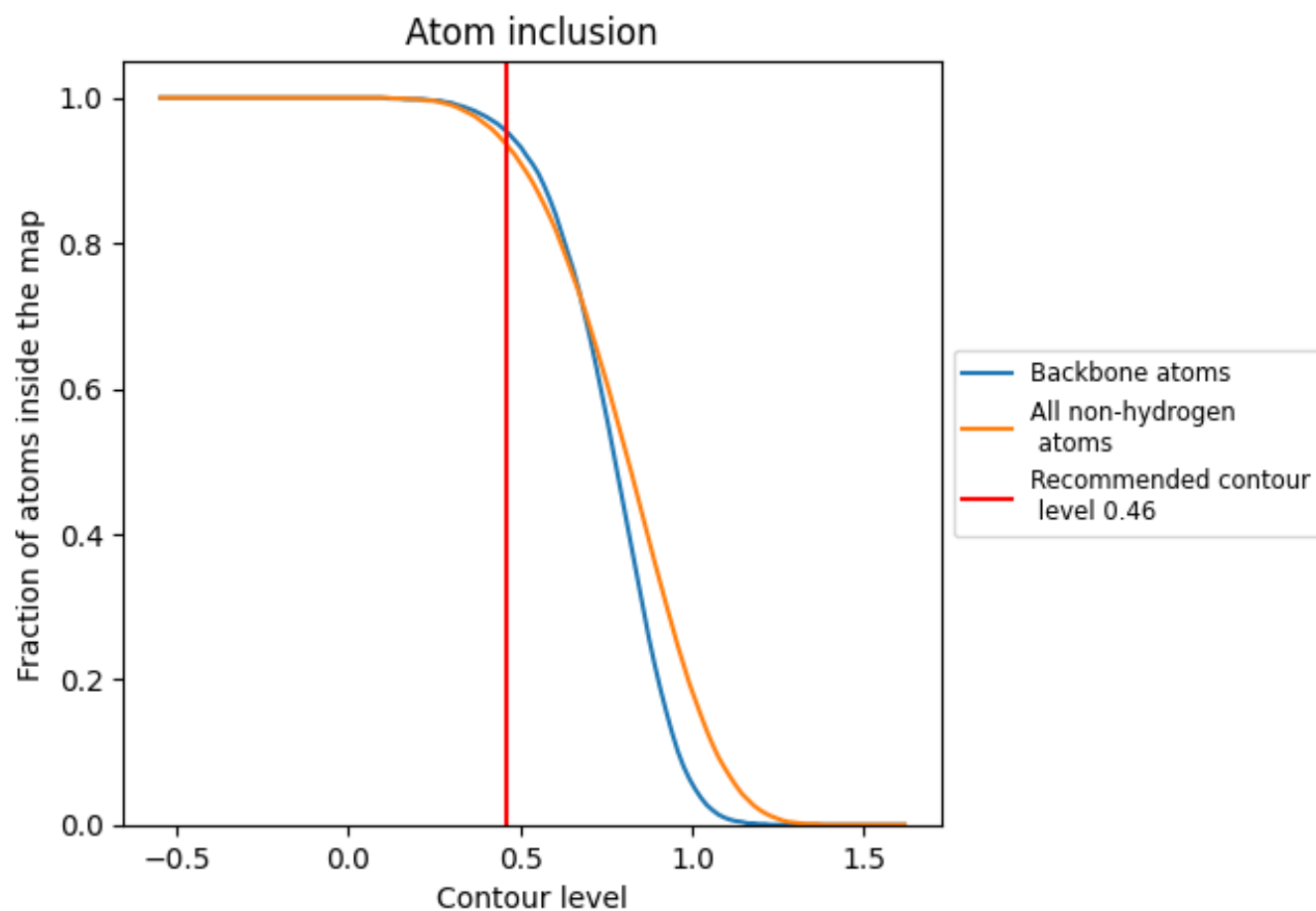
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.46).

9.4 Atom inclusion [i](#)



At the recommended contour level, 95% of all backbone atoms, 94% 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 (0.46) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9360	 0.1700
0	 0.9840	 0.1250
1	 0.9720	 0.1360
2	 0.9320	 0.0950
3	 0.9860	 0.1820
4	 0.9810	 0.1820
7	 0.5420	 0.1310
a	 0.9370	 0.1320
b	 0.8980	 0.1330
c	 0.8780	 0.1540
d	 0.7640	 0.1510
e	 0.7430	 0.1610
f	 0.4950	 0.1440
g	 0.5820	 0.1350
h	 0.4560	 0.1170
i	 0.9370	 0.1510
j	 0.8900	 0.1390
k	 0.9010	 0.1450
l	 0.9210	 0.1460
m	 0.9250	 0.1480
n	 0.8430	 0.1510
o	 0.8550	 0.1580
p	 0.9190	 0.1360
q	 0.8520	 0.1370
r	 0.9540	 0.1610
s	 0.9360	 0.1520
t	 0.7650	 0.1330
u	 0.9420	 0.1330
v	 0.9620	 0.1290
w	 0.8480	 0.1880
x	 0.6300	 0.1540
y	 0.9490	 0.1370
z	 0.9500	 0.1610

