



Full wwPDB EM Validation Report ⓘ

Jul 8, 2024 – 01:25 pm BST

PDB ID : 7OOC
EMDB ID : EMD-11998
Title : Mycoplasma pneumoniae 30S subunit of ribosomes in chloramphenicol-treated cells
Authors : Xue, L.; Lenz, S.; Rappsilber, J.; Mahamid, J.
Deposited on : 2021-05-27
Resolution : 3.70 Å (reported)
Based on initial models : 5MMJ, 3J9W, 4YBB

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:

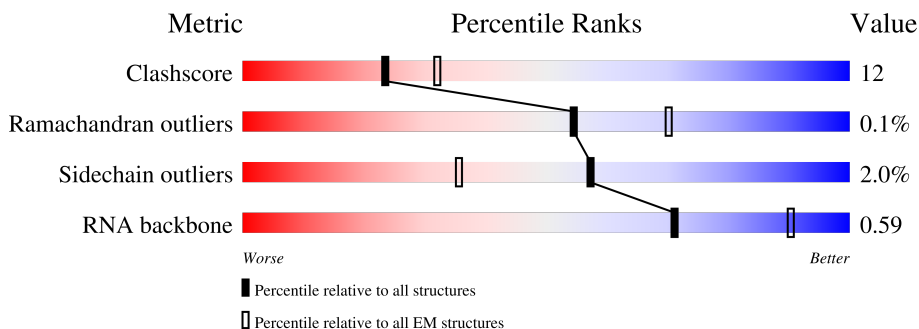
EMDB validation analysis : 0.0.1.dev92
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.37.1

1 Overall quality at a glance

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



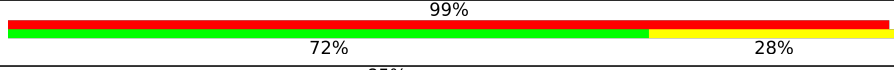
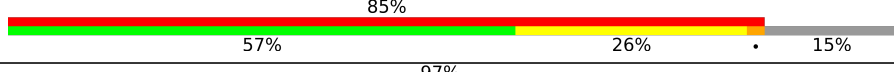
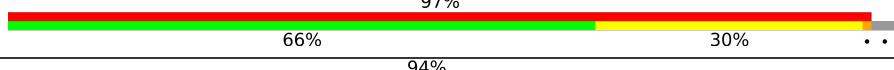
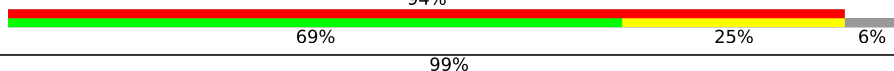

The reported resolution of this entry is 3.70 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	B	273	
2	D	219	
3	F	155	
4	A	294	
5	H	132	
6	J	121	
7	C	205	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
8	S	87	<p>89% 67% 21% 11%</p>
9	O	94	<p>93% 55% 34% 7%</p>
10	K	139	<p>98% 68% 29%</p>
11	M	61	<p>98% 62% 34%</p>
12	I	108	<p>94% 51% 41% 6%</p>
13	L	124	<p>95% 73% 21% 5%</p>
14	N	86	<p>97% 77% 20%</p>
15	R	87	<p>97% 59% 36%</p>
16	T	60	<p>88% 60% 25% 12%</p>
17	G	142	<p>99% 68% 32%</p>
18	Q	104	<p>62% 46% 16% 38%</p>
19	E	215	<p>78% 53% 25% 22%</p>
20	P	85	<p>98% 61% 35%</p>
21	5	1520	<p>98% 47% 46% 6%</p>

2 Entry composition i

There are 22 unique types of molecules in this entry. The entry contains 51225 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 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	B	215	1682	1063	308	306	5	0	0

- Molecule 2 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	D	153	1153	731	222	197	3	0	0

- Molecule 3 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	F	154	1231	777	234	215	5	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	A	249	1917	1224	331	355	7	0	0

- Molecule 5 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	H	128	993	634	184	174	1	0	0

- Molecule 6 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	J	114	828	514	153	155	6	0	0

- Molecule 7 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	C	203	1605	1015	306	280	4	0	0

- Molecule 8 is a protein called 30S ribosomal protein S20.

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

- Molecule 9 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	O	87	690	445	128	115	2	0	0

- Molecule 10 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	K	136	1055	667	209	177	2	0	0

- Molecule 11 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	M	60	473	302	96	71	4	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	I	101	803	518	141	143	1	0	0

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
13	L	118	922	576	186	160	0	0

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

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

- Molecule 15 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	R	84	Total	C	N	O	S	0	0
			654	419	119	114	2		

- Molecule 16 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	T	53	Total	C	N	O	S	0	0
			439	275	93	70	1		

- Molecule 17 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	G	141	Total	C	N	O	S	0	0
			1103	720	192	189	2		

- Molecule 18 is a protein called 30S ribosomal protein S18.

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

- Molecule 19 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	E	167	Total	C	N	O	S	0	0
			1211	762	219	229	1		

- Molecule 20 is a protein called 30S ribosomal protein S17.

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

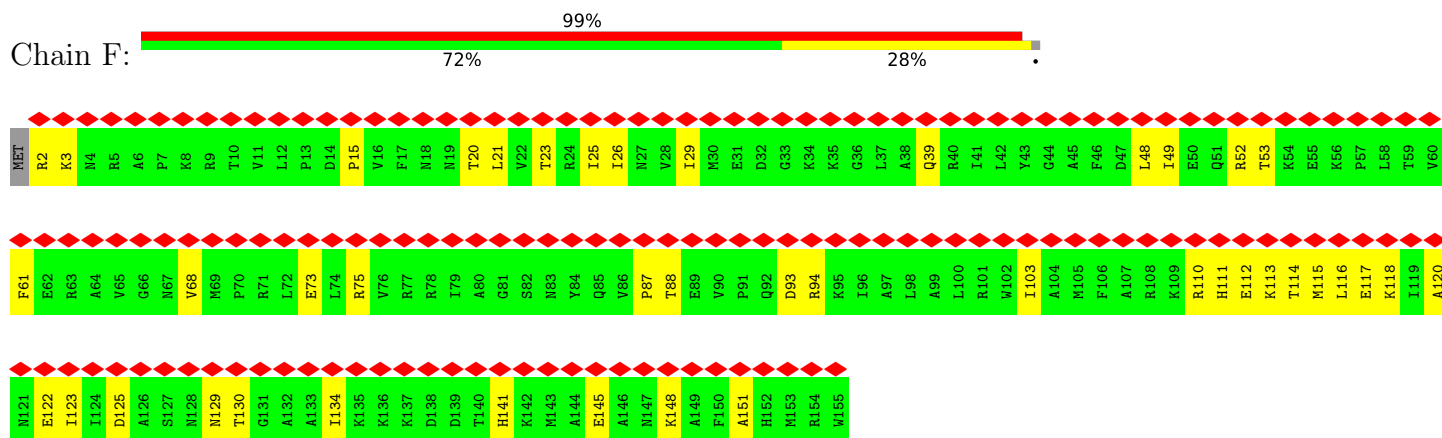
- Molecule 21 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
21	5	1493	31952	14279	5792	10388	1493	0	0

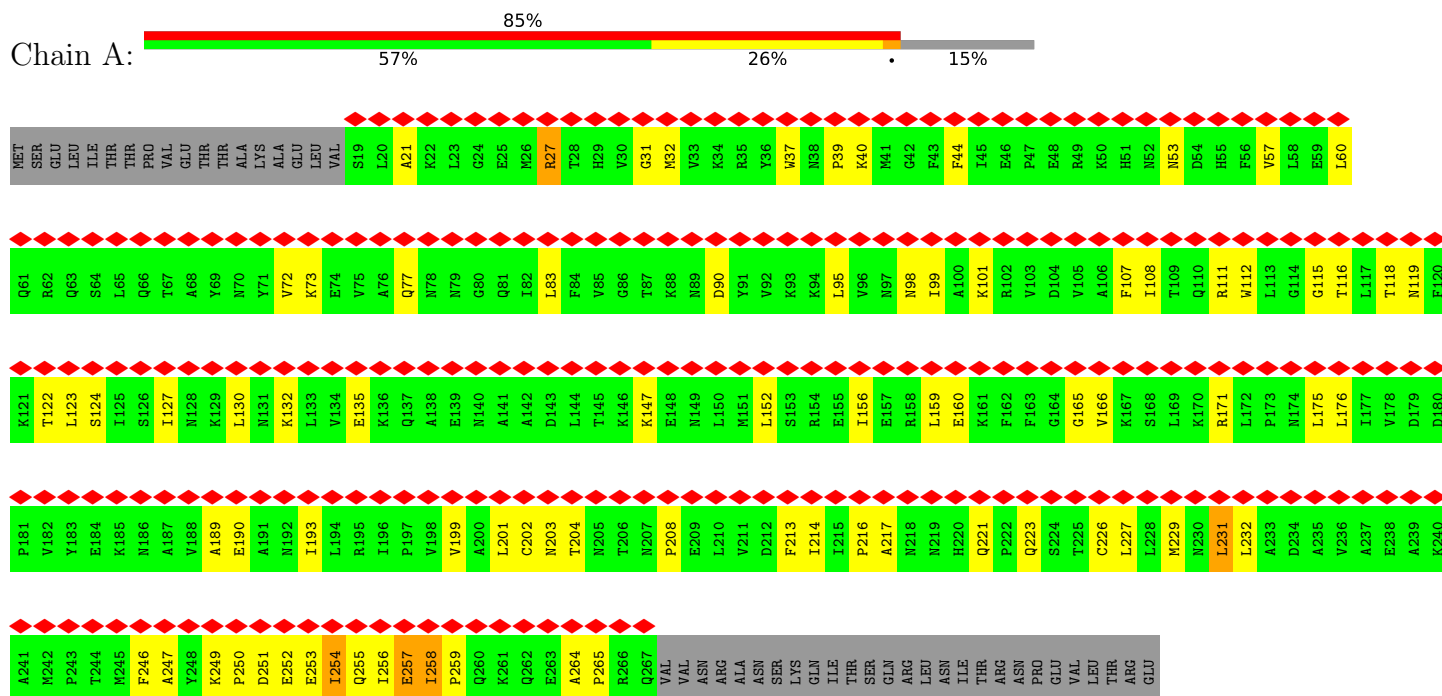
- Molecule 22 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
22	M	1	Total	Zn	0
			1	1	
22	Q	1	Total	Zn	0
			1	1	

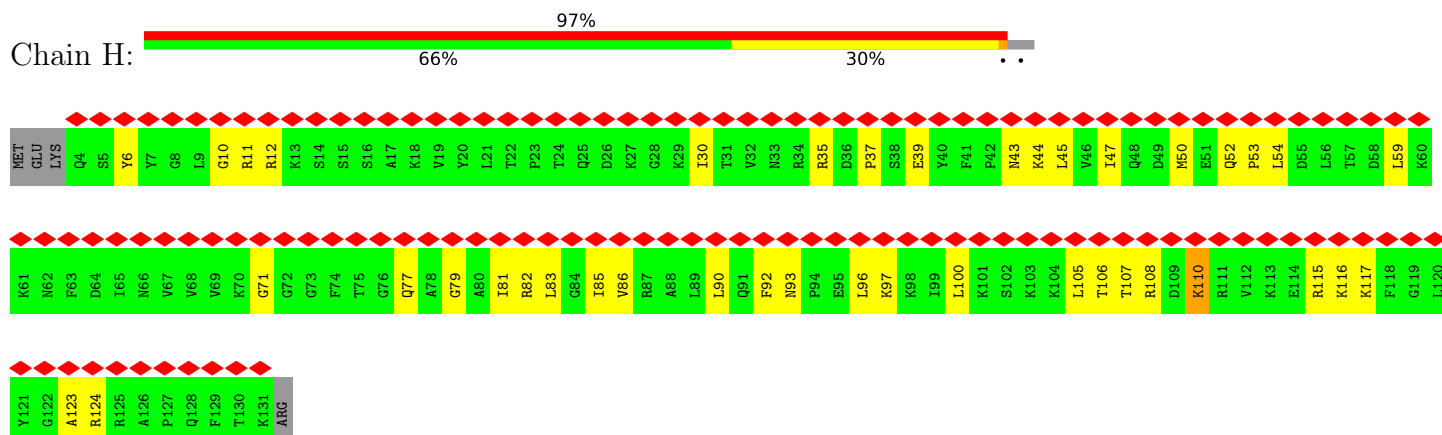
- Molecule 3: 30S ribosomal protein S7



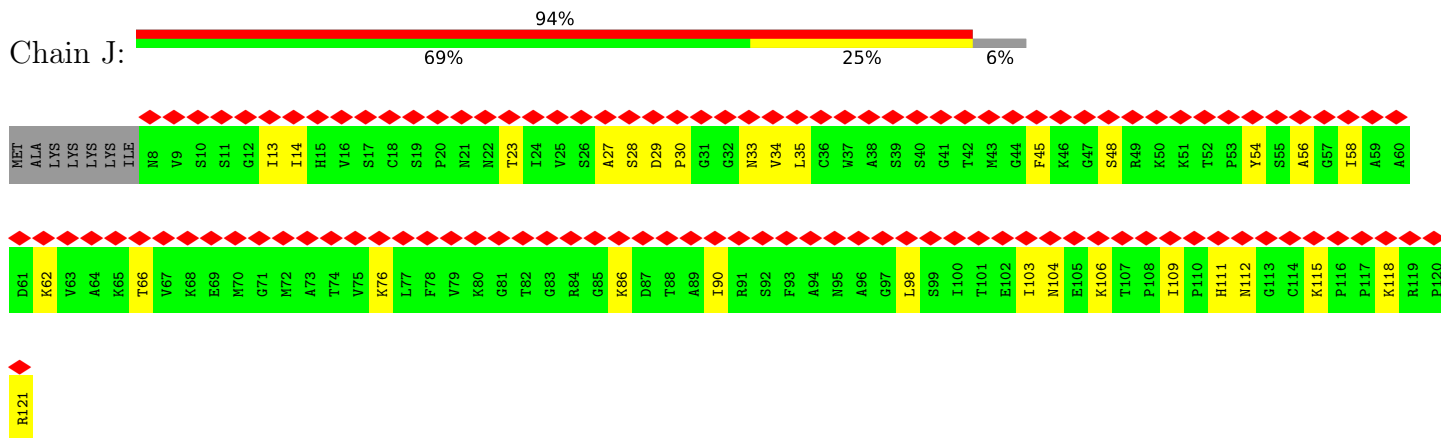
- Molecule 4: 30S ribosomal protein S2



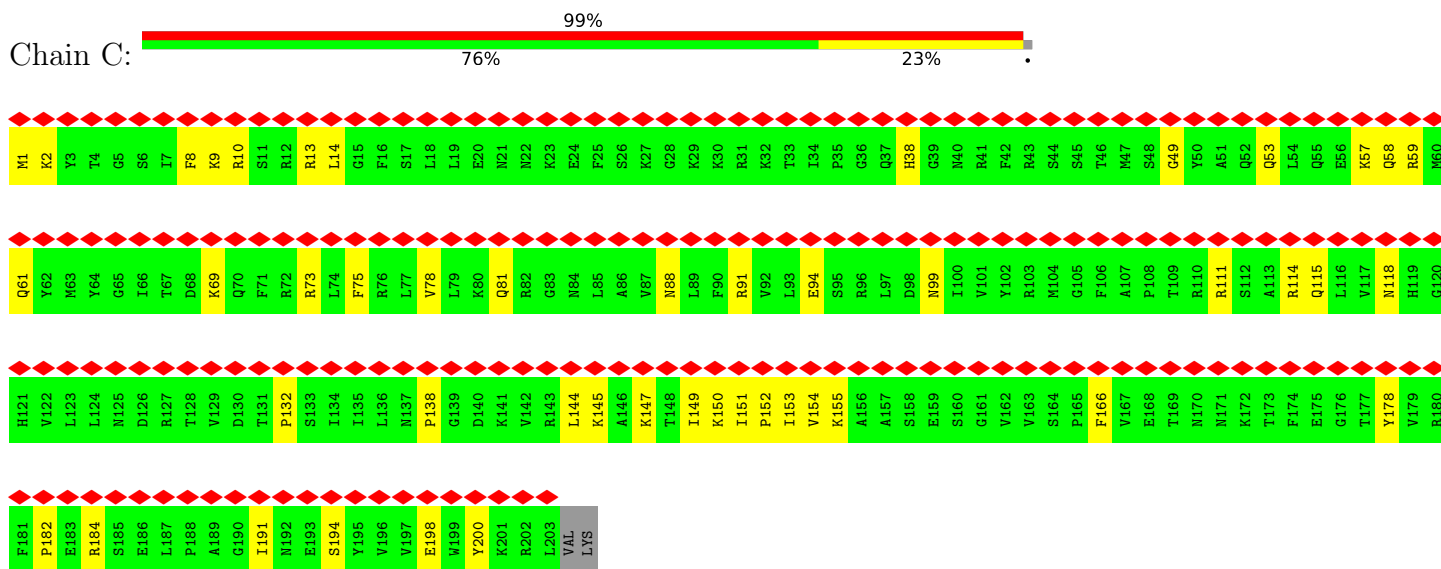
- Molecule 5: 30S ribosomal protein S9



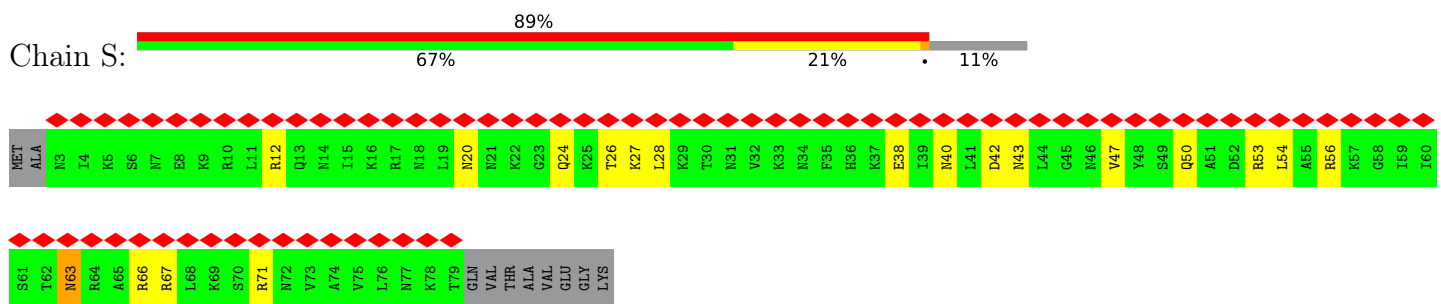
• Molecule 6: 30S ribosomal protein S11



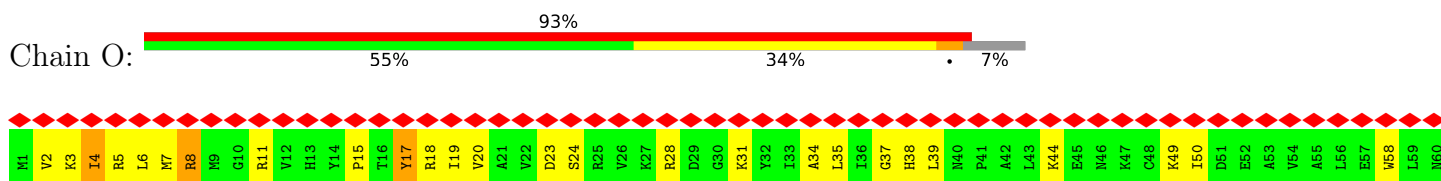
• Molecule 7: 30S ribosomal protein S4

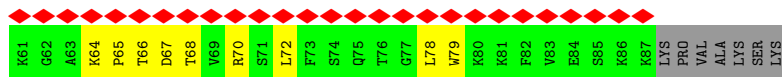


• Molecule 8: 30S ribosomal protein S20

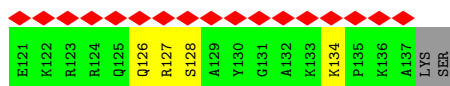


• Molecule 9: 30S ribosomal protein S16





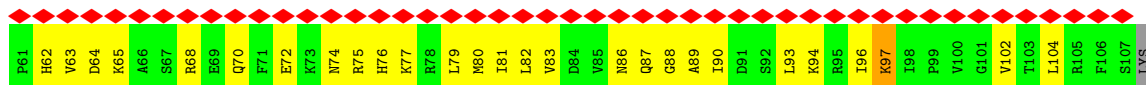
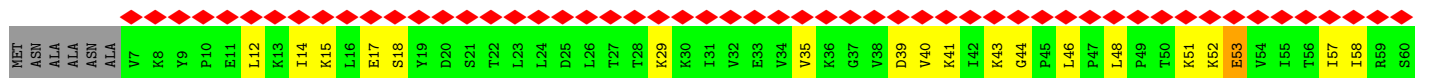
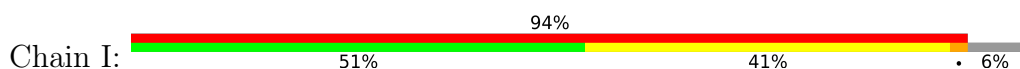
- Molecule 10: 30S ribosomal protein S12



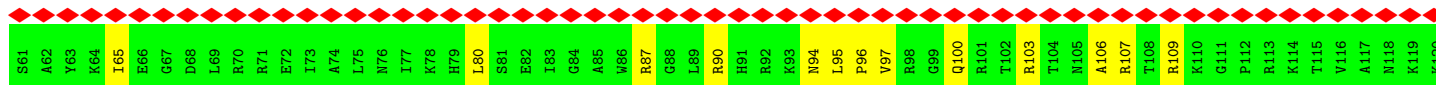
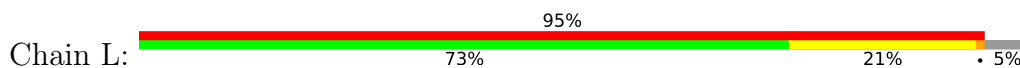
- Molecule 11: 30S ribosomal protein S14 type Z



- Molecule 12: 30S ribosomal protein S10

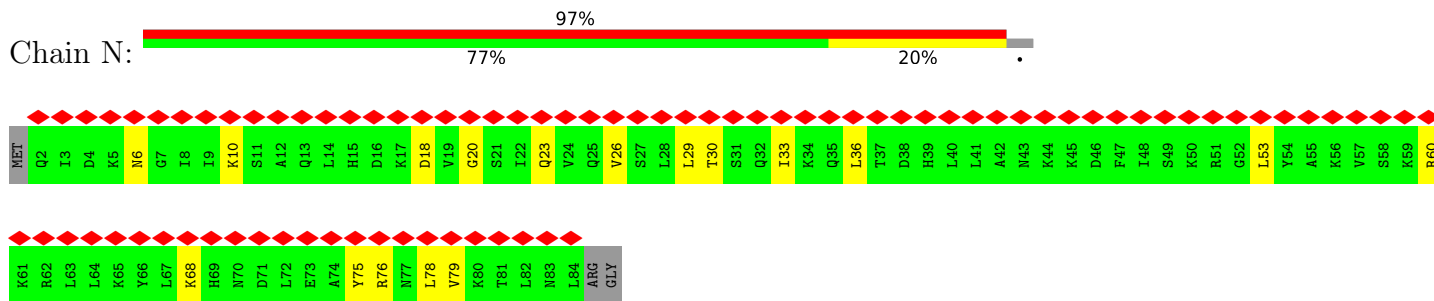


- Molecule 13: 30S ribosomal protein S13

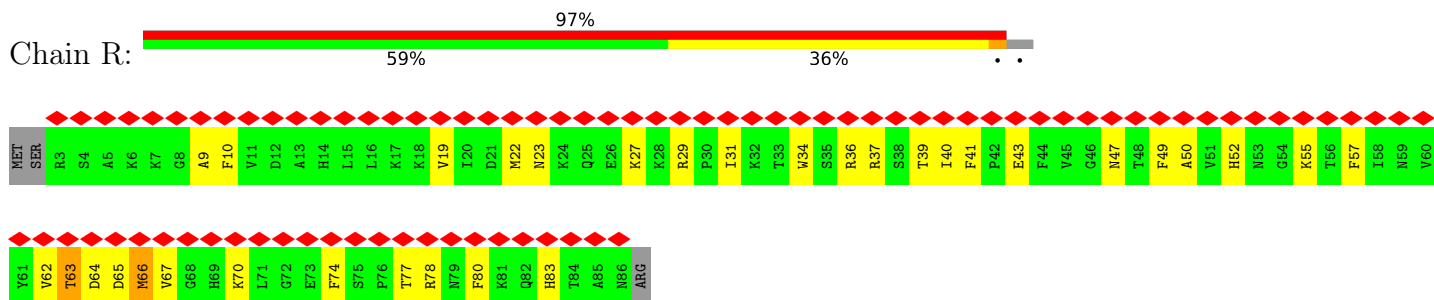




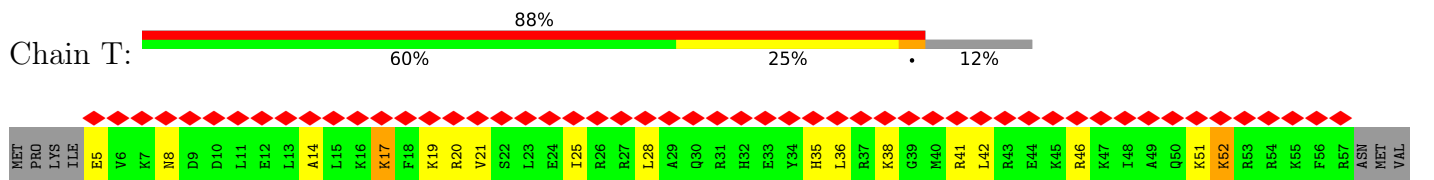
• Molecule 14: 30S ribosomal protein S15



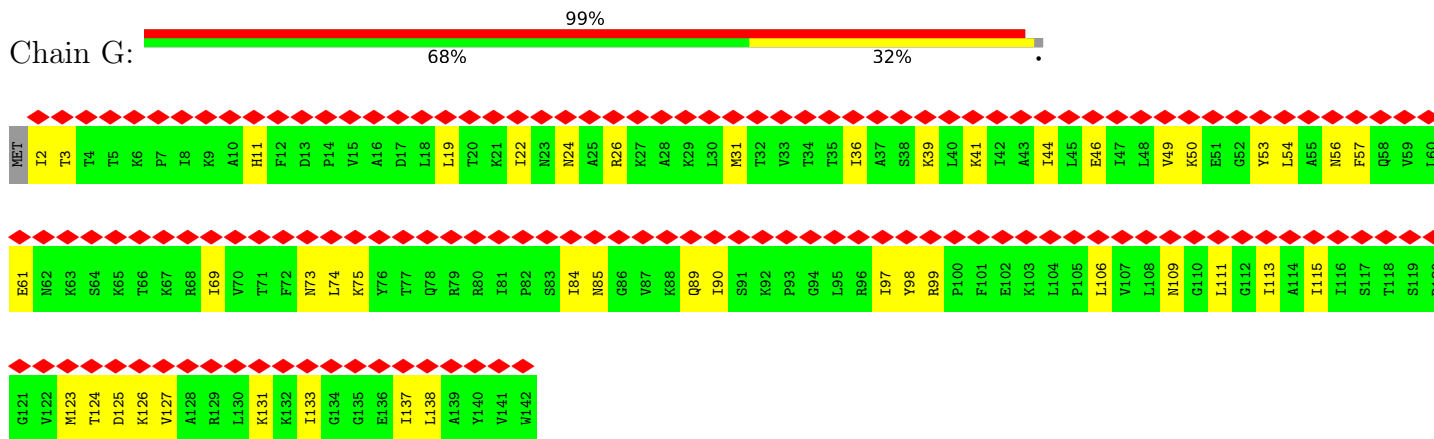
• Molecule 15: 30S ribosomal protein S19



• Molecule 16: 30S ribosomal protein S21

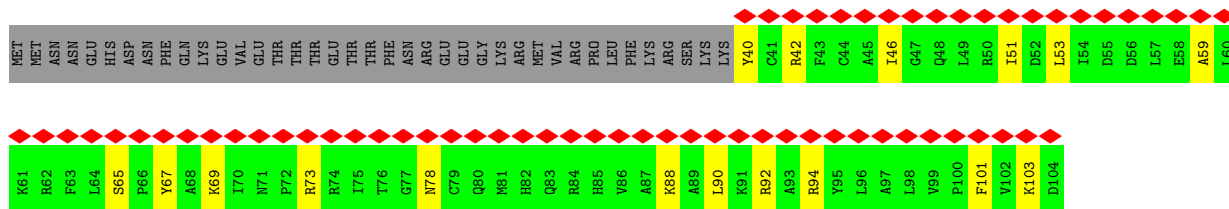


• Molecule 17: 30S ribosomal protein S8

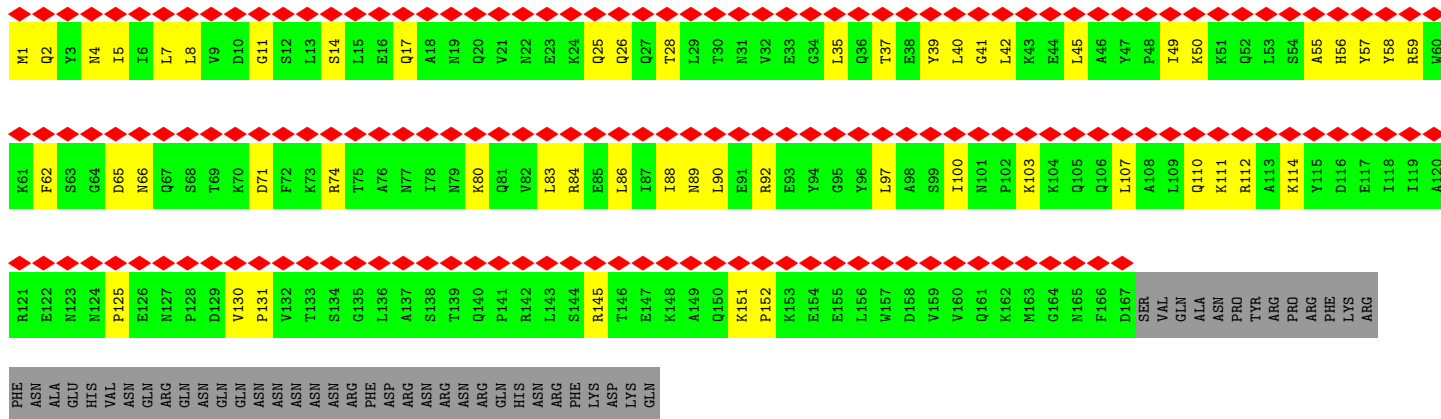
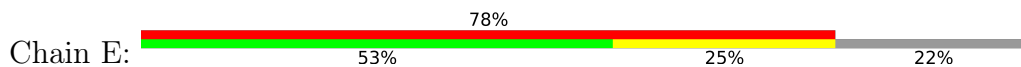


• Molecule 18: 30S ribosomal protein S18

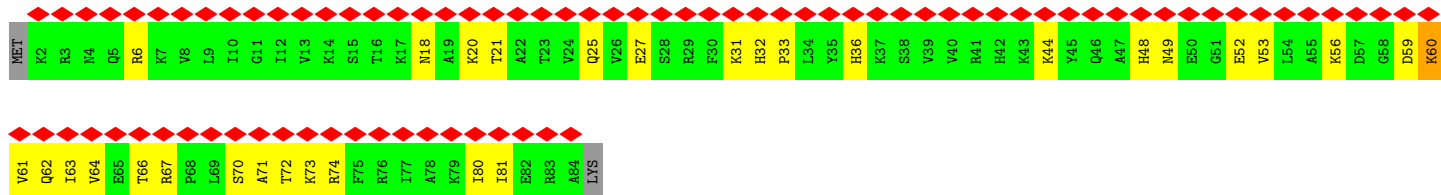




• Molecule 19: 30S ribosomal protein S6



• Molecule 20: 30S ribosomal protein S17



• Molecule 21: 16S rRNA



G	C	A	U	G185	A186	A187	U188	C189	A190	A191	A192	G193	U194	U195	G196	A197	A198	A199	G200	G201	A202	C203	C204	U205	G206	C207	A208	A209	G210	G211	G212	U213	U214	C215	G216	U217	U218	A219	U220	U221	U222	G223	A224	U225	G226	A227	G228	G229	G230	U231	G232	C233	G234	C235	C236	A237	U238	A239	U240	
C241	A242	G243	C244	U245	A246	G247	U248	U249	G250	G251	U252	G253	G254	G255	G256	U257	A258	A259	C260	G261	G262	C263	C264	U265	G266	C267	C268	A269	G270	G271	U272	C273	U274	A275	U276	G277	A278	U279	C280	U281	U282	U283	A284	G285	C286	U287	A288	U289	G290	C291	U292	G293	A294	G295	A296	U297	G298	U299	A300	
G301	A302	A303	U304	A305	G306	C307	C308	A309	C310	A311	A312	U313	G314	G315	G316	A317	C318	U319	G320	A321	G322	A323	C324	U325	A326	G327	G328	C329	C330	C331	A332	U333	A334	C335	U336	C337	U338	U339	A340	C341	G342	G343	G344	A345	G346	U347	U348	C349	A350	C351	A352	G353	U354	A355	G356	G357	U358	A359	A360	
U361	U362	U363	U364	U365	U366	A367	C368	A369	A370	U371	G372	A373	G374	C375	G376	A377	A378	A379	G380	C381	G382	U383	G384	A385	U386	G387	G388	A389	C390	C391	A392	A393	U394	G395	C396	C397	G398	C399	G400	U401	G402	A403	A404	C405	G406	U407	U408	C409	A410	A411	G412	G413	U414	C415	U416	U417	U418	A419	A420	
G421	A422	U423	U424	G425	U426	A427	A428	A429	G430	U431	U432	C433	U434	U435	U436	U437	A438	U439	U440	U441	G442	G443	G444	A445	A446	G447	A448	A449	U450	G451	A452	C453	U454	U455	U456	C457	A458	C459	A460	G461	U462	U463	A464	A465	G466	U467	G468	C469	U470	A471	G472	A473	G474	U475	U476	U477	A478	A479	C480	
U481	G482	U483	A484	C485	C486	A487	U488	U489	U490	U491	A492	A493	A494	U495	A496	A497	G498	U499	G500	A501	C502	G503	A504	C505	U506	A507	A508	C509	U510	A511	U512	C513	U514	U515	G516	C517	C518	U519	G520	A521	U522	U523	C524	U525	G526	U527	G528	U529	U530	A531	U532	A533	C534	U535	A536	U537	G538	U539	G540	
C541	G542	C543	A544	A545	G546	C547	G548	U549	U550	A551	U552	C553	C554	G555	G556	A557	U558	U559	U560	A561	U562	U563	G564	G565	G566	C567	A568	U569	A570	A571	U572	C573	G574	U575	A576	C577	C578	G579	C580	A581	U582	G583	C584	U585	G586	U587	U588	U589	U590	A591	A592	A593	C594	U595	G596	C597	U598	U599	G600	
U601	G602	U603	U604	A605	A606	A607	G608	G609	C610	A611	G612	C613	U614	G615	C616	U617	U618	A619	A620	C621	A622	G623	U624	U625	G626	U627	A628	U629	G630	C631	A632	U633	U634	G635	G636	A637	A638	A639	C640	U641	U642	U643	U644	A645	A646	U647	C648	U649	U650	G651	A652	G653	U654	G655	U656	G657	U658	U659	U660	
G661	G662	G663	A664	G665	U666	U667	U668	U669	G670	A671	A672	A673	U674	U675	U676	C677	A678	U679	G680	G681	G682	G683	A684	G685	G686	G687	G688	U689	G690	A691	A692	A693	U694	G695	C696	G697	A698	A699	G700	U701	U702	A703	U704	A705	U706	G707	A708	A709	U710	U711	A712	A713	C714	A715	C716	C717	U718	G719	U720	
G721	G722	C723	G724	A725	A726	G727	G728	C729	G730	A731	A732	A733	A734	C735	U736	U737	A738	U739	A799	G800	U801	C802	C803	A804	C805	A806	C807	U808	U809	U810	A811	A812	A813	C814	G815	A816	U817	A818	G819	A820	U821	C822	C823	U824	A825	A826	C827	U828	U829	U830	C831	G832	G833	C834	A835	C836	G837	A838	U839	C840
C841	C842	C843	U844	C845	C846	G847	U848	A849	G850	U851	G852	A853	A854	G855	U856	U857	A858	A859	C860	A861	C862	A863	U864	U865	A866	A867	G868	U869	U870	C871	C872	U873	C874	U875	G876	C877	U878	G879	U880	G881	U882	A883	U884	U885	A886	C887	U888	U889	U890	C891	G892	C893	A894	A895	A896	A897	U898	U899	G900	
A901	A902	A903	C904	U905	C906	A907	U908	A909	C910	A911	G912	A913	A914	U915	U916	U917	A918	C919	G920	G921	G922	G923	A924	C925	C926	C927	G928	C929	U930	C931	A932	A933	C934	U935	U936	G937	U938	C939	U940	A941	U942	C943	U944	U945	U946	A947	U948	U949	U950	C951	U952	A953	A954	U955	U956	C957	U958	U959	C960	
G961	G962	U963	A964	C965	A966	C967	G968	A969	U970	A971	A972	A973	C974	C975	U976	U977	A978	C979	C980	U981	A982	G983	A984	C985	U986	U987	G988	U989	C990	A991	U992	C993	C994	U995	U996	G997	U998	C999	A1000	A1001	A1002	G1003	U1004	U1005	A1006	U1007	G1008	G1009	U1010	A1011	A1012	C1013	A1014	U1015	A1016	A1017	U1018	G1019	G	

A	U1081	U1141	C1201	A1261	G1321	U1381	C1441	G1501
G	U1082	G1142	A1202	A1262	U1322	C1382	A1442	G1502
G	A1083	C1143	A1203	A1263	A1323	A1383	A1443	U1503
U	A1084	A1144	A1204	G1264	A1324	A1384	G1444	G1504
U	G1085	A1145	C1205	U1265	C1325	A1385	G1445	G1505
A	U1086	A1146	G1206	U1266	U1326	C1386	A1446	A1506
A	C1028	U1147	U1207	G1267	G1327	U1387	U1447	U1507
	C1029	U1148	G1208	G1268	C1328	A1388	A1448	C1508
	G1030	G1149	C1209	U1269	G1329	U1389	G1449	C
	A1031	G1150	U1210	C1270	A1330	U1390	C1450	C
	G1032	A1151	A1211	U1271	A1331	A1391	A1451	U
	U1033	G1152	C1212	C1272	U1332	A1392	C1452	U
	G1034	A1093	A1213	A1273	C1333	A1393	C1453	C
	A1035	C1094	A1214	G1274	A1334	G1394	G1454	U
	C1036	G1095	U1215	U1275	G1335	C1395	G1455	U
	A1037	A1096	G1216	U1276	C1336	U1396	U1456	U
	G1038	G1097	G1217	C1277	U1337	G1397	G1457	U
	G1039	C1098	A1218	G1278	A1338	A1398	A1458	A
	U1040	G1099	C1219	G1279	U1339	U1399	U1459	
	G1041	C1100	A1220	A1280	G1340	A1400	U1460	
	G1042	A1101	A1221	U1281	U1341	A1401	G1461	
	U1043	A1102	U1222	U1282	A1342	U1402	G1462	
	G1044	C1103	A1223	G1283	G1343	A1403	A1463	
	C1045	C1104	G1224	A1284	C1344	U1404	G1464	
	A1046	U1105	A1225	G1285	U1345	U1405	U1465	
	U1047	C1106	A1226	U1286	G1346	U1406	U1466	
	G1048	U1107	A1227	G1287	U1347	A1407	A1467	
	G1049	A1108	C1228	C1288	G1348	A1408	A1468	
	U1050	U1109	A1229	U1289	A1349	A1409	G1469	
	U1051	C1110	G1230	G1290	A1350	A1410	U1470	
	G1052	G1111	U1231	C1291	U1351	A1411	C1471	
	U1053	U1112	A1232	A1292	A1352	C1412	G1472	
	C1054	U1113	G1233	A1293	C1353	G1413	U1473	
	G1055	U1114	A1173	U1294	G1354	U1414	A1474	
	U1056	G1115	U1174	U1295	U1355	G1415	A1475	
	C1057	G1116	C1235	U1296	U1356	U1416	A1476	
	A1058	U1117	A1236	C1296	U1357	U1417	A1477	
	G1059	U1118	G1237	G1297	U1358	U1418	A1478	
	C1060	A1119	U1238	U1298	U1359	C1419	G1479	
	U1061	C1119	A1120	C1299	C1360	C1420	G1480	
	C1062	U1120	U1180	U1300	U1301	U1421	U1481	
	G1063	U1121	G1181	G1241	G1361	A1422	A1482	
	U1064	U1122	C1182	U1242	G1362	C1423	C1483	
	G1065	G1123	C1183	A1243	U1363	C1424	C1484	
	U1066	U1124	C1184	A1244	C1364	C1425	C1485	
	C1067	C1125	A1185	A1245	U1365	U1426	C1486	
	G1068	U1126	U1186	A1246	U1366	A1427	U1487	
	U1069	A1127	U1187	G1247	G1367	U1428	A1488	
	G1070	G1128	A1188	U1248	U1368	A1429	C1489	
	A1071	C1129	A1189	G1249	U1369	G1430	U1490	
	G1072	U1130	U1190	A1250	C1370	A1431	A1491	
	A1073	A1131	U1191	G1251	A1371	G1432	G1492	
	U1074	G1132	C1192	C1252	C1372	A1433	A1493	
	G1075	A1133	U1193	A1253	A1373	G1434	A1494	
	U1076	C1134	A1194	A1254	C1374	C1435	C1495	
	U1077	U1135	G1195	A1255	C1375	G1436	C1496	
	G1078	G1136	G1196	U1256	U1376	U1437	U1497	
	G1079	C1137	G1197	C1257	C1377	U1438	G1498	
	G1080	U1138	C1198	U1258	C1378	G1439	G1499	
		A1139	U1199	G1259	C1379	U1440	G1500	
		G1200	U1260	U1320	C1380			

4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	17890	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	0.021	Depositor
Minimum map value	-0.011	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.0023	Depositor
Map size (Å)	323.095, 323.095, 323.095	wwPDB
Map dimensions	380, 380, 380	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.85025, 0.85025, 0.85025	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	B	0.25	0/1705	0.48	0/2304
2	D	0.25	0/1168	0.50	0/1568
3	F	0.25	0/1250	0.48	0/1682
4	A	0.31	0/1951	0.59	2/2652 (0.1%)
5	H	0.26	0/1009	0.53	0/1354
6	J	0.25	0/843	0.46	0/1136
7	C	0.25	0/1635	0.48	0/2202
8	S	0.24	0/631	0.46	0/838
9	O	0.32	0/703	0.64	0/945
10	K	0.27	0/1073	0.56	1/1445 (0.1%)
11	M	0.39	0/482	0.67	0/643
12	I	0.27	0/814	0.59	0/1096
13	L	0.30	0/933	0.53	0/1254
14	N	0.25	0/679	0.43	0/907
15	R	0.34	0/670	0.59	0/904
16	T	0.36	0/442	0.60	0/582
17	G	0.25	0/1119	0.53	0/1508
18	Q	0.27	0/545	0.50	0/730
19	E	0.25	0/1229	0.51	0/1670
20	P	0.24	0/684	0.50	0/913
21	5	0.21	0/35777	0.76	6/55776 (0.0%)
All	All	0.23	0/55342	0.69	9/82109 (0.0%)

There are no bond length outliers.

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	A	259	PRO	N-CA-C	-10.87	83.84	112.10
21	5	189	C	N3-C2-O2	-7.88	116.39	121.90
10	K	31	LEU	CA-CB-CG	7.05	131.52	115.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	5	843	C	N3-C2-O2	-6.92	117.06	121.90
21	5	843	C	C6-N1-C2	-6.05	117.88	120.30
21	5	1119	C	O4'-C1'-N1	5.95	112.96	108.20
4	A	231	LEU	CA-CB-CG	5.75	128.53	115.30
21	5	189	C	N1-C2-O2	5.38	122.13	118.90
21	5	1134	C	C2-N1-C1'	5.06	124.37	118.80

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	1682	0	1733	37	0
2	D	1153	0	1231	32	0
3	F	1231	0	1285	34	0
4	A	1917	0	1894	66	0
5	H	993	0	1023	32	0
6	J	828	0	855	23	0
7	C	1605	0	1603	43	0
8	S	629	0	681	21	0
9	O	690	0	726	37	0
10	K	1055	0	1124	28	0
11	M	473	0	505	16	0
12	I	803	0	876	33	0
13	L	922	0	957	20	0
14	N	673	0	730	12	0
15	R	654	0	629	27	0
16	T	439	0	467	11	0
17	G	1103	0	1218	33	0
18	Q	535	0	559	16	0
19	E	1211	0	1108	43	0
20	P	675	0	728	20	0
21	5	31952	0	16055	597	0
22	M	1	0	0	0	0
22	Q	1	0	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	51225	0	35987	1052	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 12.

All (1052) 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)
21:5:1013:C:N4	21:5:1014:A:N6	2.06	1.03
21:5:1331:A:H61	21:5:1340:G:H1	1.02	0.96
21:5:242:A:H62	21:5:277:G:H21	1.13	0.94
21:5:1013:C:N4	21:5:1014:A:H62	1.65	0.94
21:5:242:A:H62	21:5:277:G:N2	1.64	0.94
21:5:136:U:H3	21:5:157:A:H62	1.10	0.93
21:5:833:G:H1	21:5:844:U:H3	1.20	0.85
21:5:1013:C:C4	21:5:1014:A:N6	2.45	0.84
21:5:242:A:N6	21:5:277:G:H21	1.74	0.84
19:E:89:ASN:OD1	19:E:90:LEU:N	2.12	0.82
21:5:1331:A:N6	21:5:1340:G:H1	1.75	0.82
2:D:137:TYR:OH	2:D:203:LEU:O	1.98	0.81
4:A:223:GLN:HE22	4:A:256:ILE:HB	1.46	0.81
4:A:130:LEU:HD12	4:A:159:LEU:HB3	1.65	0.79
9:O:8:ARG:HB2	9:O:28:ARG:NH1	1.97	0.78
18:Q:46:ILE:HD11	19:E:107:LEU:HD13	1.63	0.78
4:A:254:ILE:HG22	4:A:254:ILE:O	1.84	0.77
5:H:52:GLN:HE21	5:H:82:ARG:HD2	1.50	0.77
21:5:1138:U:H3	21:5:1149:G:H1	1.28	0.77
19:E:65:ASP:OD2	19:E:66:ASN:N	2.18	0.76
12:I:63:VAL:HG23	12:I:64:ASP:H	1.50	0.76
21:5:1330:A:H2'	21:5:1331:A:H8	1.50	0.76
11:M:41:ARG:HB2	12:I:57:ILE:HG23	1.66	0.75
21:5:767:U:H1'	21:5:894:A:H2	1.52	0.75
4:A:199:VAL:HG12	4:A:213:PHE:HB2	1.68	0.74
21:5:733:A:H2'	21:5:734:A:H8	1.52	0.74
21:5:1432:A:H2'	21:5:1433:G:H8	1.53	0.74
8:S:67:ARG:NH2	21:5:257:U:OP2	2.20	0.74
9:O:65:PRO:HB2	9:O:70:ARG:HH22	1.53	0.73
10:K:127:ARG:HD2	10:K:134:LYS:HA	1.70	0.72
21:5:136:U:H3	21:5:157:A:N6	1.85	0.72
3:F:68:VAL:HG21	3:F:103:ILE:HD11	1.71	0.72
1:B:159:ARG:NH2	21:5:1046:A:N3	2.37	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:G:31:MET:SD	17:G:73:ASN:ND2	2.63	0.72
20:P:74:ARG:NH2	21:5:230:G:O3'	2.23	0.72
17:G:39:LYS:NZ	21:5:640:C:OP1	2.22	0.72
4:A:227:LEU:HG	4:A:246:PHE:CE1	2.26	0.71
18:Q:88:LYS:NZ	21:5:733:A:OP1	2.23	0.71
4:A:27:ARG:NH1	4:A:223:GLN:CD	2.44	0.71
9:O:70:ARG:HE	9:O:79:TRP:HE1	1.37	0.71
4:A:32:MET:SD	4:A:203:ASN:ND2	2.62	0.71
21:5:1058:A:N1	21:5:1099:G:O2'	2.23	0.71
21:5:1438:U:H2'	21:5:1439:G:H8	1.55	0.70
4:A:221:GLN:NE2	4:A:264:ALA:HA	2.06	0.70
21:5:550:U:H2'	21:5:551:A:H8	1.55	0.70
21:5:358:G:N2	21:5:361:U:OP2	2.24	0.70
21:5:1402:U:H2'	21:5:1403:A:H8	1.56	0.70
15:R:23:ASN:ND2	15:R:43:GLU:OE2	2.24	0.70
9:O:6:LEU:HG	9:O:19:ILE:CD1	2.21	0.70
21:5:902:A:H2'	21:5:903:A:H8	1.57	0.70
21:5:1012:A:O2'	21:5:1192:C:O2'	2.09	0.70
21:5:1384:A:H2'	21:5:1385:A:H8	1.55	0.69
7:C:111:ARG:HG3	21:5:403:A:H5''	1.74	0.69
21:5:1013:C:H42	21:5:1014:A:N6	1.90	0.69
21:5:1062:C:H2'	21:5:1063:G:H8	1.57	0.69
18:Q:51:ILE:O	19:E:92:ARG:NH2	2.26	0.69
21:5:807:C:O2'	21:5:894:A:N6	2.26	0.69
2:D:185:ARG:NH1	21:5:21:U:OP2	2.26	0.68
21:5:1141:U:HO2'	21:5:1142:G:H8	1.39	0.68
21:5:102:G:N2	21:5:309:A:O2'	2.26	0.67
18:Q:53:LEU:HD21	18:Q:92:ARG:HG2	1.76	0.67
5:H:124:ARG:HG3	21:5:1322:U:H4'	1.76	0.67
10:K:56:LYS:HG3	10:K:58:PRO:HD2	1.76	0.67
6:J:109:ILE:HD11	16:T:28:LEU:HD22	1.75	0.67
21:5:1417:U:H2'	21:5:1418:G:H8	1.59	0.67
5:H:93:ASN:HB3	5:H:96:LEU:HD23	1.75	0.67
21:5:179:U:H3	21:5:187:A:H2	1.43	0.67
21:5:1110:C:H2'	21:5:1111:G:H8	1.59	0.67
7:C:147:LYS:HE2	21:5:488:U:H1'	1.77	0.67
21:5:1068:G:N2	21:5:1071:A:OP2	2.23	0.67
15:R:34:TRP:HZ3	21:5:1010:A:C6	2.13	0.67
3:F:110:ARG:NH1	3:F:122:GLU:OE1	2.28	0.66
21:5:1150:G:H2'	21:5:1151:A:H8	1.60	0.66
7:C:94:GLU:HG2	7:C:182:PRO:HG3	1.78	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:189:C:H2'	21:5:190:A:H8	1.59	0.66
21:5:331:C:H2'	21:5:332:A:H8	1.60	0.66
6:J:29:ASP:OD1	6:J:30:PRO:HD2	1.96	0.66
21:5:369:A:O2'	21:5:448:A:N7	2.29	0.65
4:A:221:GLN:HE22	4:A:264:ALA:HA	1.60	0.65
18:Q:92:ARG:NH1	21:5:733:A:OP1	2.30	0.65
21:5:169:G:N2	21:5:219:A:O2'	2.29	0.65
9:O:11:ARG:HD2	21:5:44:C:H4'	1.79	0.65
7:C:198:GLU:O	21:5:9:A:N6	2.29	0.65
14:N:36:LEU:HB3	14:N:53:LEU:HD13	1.79	0.65
21:5:212:G:HO2'	21:5:465:A:N6	1.95	0.65
4:A:246:PHE:CZ	4:A:254:ILE:HG23	2.31	0.65
21:5:803:C:H2'	21:5:804:A:H8	1.61	0.65
5:H:50:MET:HE3	5:H:81:ILE:HD12	1.77	0.65
21:5:710:G:H2'	21:5:711:G:C8	2.32	0.65
9:O:6:LEU:HG	9:O:19:ILE:HD13	1.79	0.64
13:L:34:LEU:HA	13:L:39:ILE:HD12	1.79	0.64
9:O:8:ARG:HB2	9:O:28:ARG:HH12	1.61	0.64
21:5:1086:U:OP1	21:5:1099:G:N2	2.30	0.64
21:5:1330:A:H2'	21:5:1331:A:C8	2.32	0.64
4:A:95:LEU:HD11	4:A:226:CYS:HA	1.78	0.64
4:A:27:ARG:HH12	4:A:223:GLN:NE2	1.94	0.64
4:A:227:LEU:O	4:A:231:LEU:HD12	1.97	0.64
11:M:26:ARG:HH11	11:M:43:CYS:HB3	1.62	0.64
13:L:14:ARG:HH11	21:5:1276:U:H3	1.45	0.64
21:5:76:G:N2	21:5:79:A:OP2	2.30	0.64
7:C:151:ILE:HG22	7:C:153:ILE:H	1.62	0.64
17:G:115:ILE:HB	17:G:138:LEU:HB2	1.79	0.64
11:M:23:ARG:NH2	11:M:28:GLY:O	2.31	0.63
9:O:44:LYS:HE3	21:5:449:A:H5''	1.81	0.63
12:I:76:HIS:ND1	21:5:1128:G:OP1	2.26	0.63
7:C:73:ARG:NE	21:5:619:A:O2'	2.26	0.63
10:K:40:SER:OG	21:5:359:A:N6	2.32	0.63
11:M:35:SER:OG	21:5:1332:U:OP1	2.15	0.63
12:I:48:LEU:HB2	12:I:77:LYS:HB3	1.80	0.63
17:G:125:ASP:OD1	17:G:126:LYS:N	2.32	0.63
21:5:943:C:H2'	21:5:944:A:H8	1.63	0.63
20:P:18:ASN:ND2	21:5:271:G:O3'	2.32	0.63
3:F:145:GLU:HA	3:F:148:LYS:HB2	1.81	0.63
5:H:71:GLY:HA2	21:5:1225:A:H4'	1.79	0.63
2:D:67:GLU:HB2	2:D:172:LEU:HD11	1.81	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:S:71:ARG:NH1	21:5:255:G:OP2	2.30	0.63
21:5:460:A:N1	21:5:467:G:O6	2.32	0.63
3:F:115:MET:HA	3:F:118:LYS:HG2	1.81	0.63
7:C:58:GLN:NE2	21:5:542:G:OP1	2.32	0.63
21:5:133:G:H2'	21:5:134:G:C8	2.35	0.62
1:B:159:ARG:HD3	1:B:196:TYR:HB3	1.81	0.62
8:S:67:ARG:NH1	21:5:259:A:OP1	2.32	0.62
21:5:80:U:H2'	21:5:81:A:H8	1.63	0.62
21:5:834:G:H2'	21:5:835:G:C8	2.34	0.62
11:M:3:LYS:HD2	11:M:28:GLY:HA3	1.81	0.62
4:A:111:ARG:HD3	4:A:112:TRP:N	2.14	0.62
21:5:922:G:H1	21:5:1365:U:H3	1.47	0.62
3:F:112:GLU:HB2	3:F:117:GLU:HG3	1.81	0.62
5:H:107:THR:HA	21:5:1154:A:H4'	1.82	0.62
7:C:73:ARG:HE	21:5:619:A:HO2'	1.45	0.62
18:Q:73:ARG:NE	18:Q:78:ASN:O	2.30	0.62
21:5:671:G:H2'	21:5:672:A:H8	1.63	0.62
12:I:86:ASN:O	12:I:89:ALA:N	2.26	0.62
19:E:49:ILE:HG23	19:E:50:LYS:H	1.64	0.62
21:5:319:U:H3	21:5:323:A:H62	1.47	0.62
20:P:20:LYS:O	20:P:49:ASN:N	2.32	0.62
21:5:206:G:N2	21:5:209:A:OP2	2.32	0.62
21:5:821:U:H2'	21:5:822:A:H8	1.65	0.62
6:J:121:ARG:NH2	21:5:1497:U:OP1	2.32	0.62
21:5:941:A:H2'	21:5:942:G:H8	1.64	0.62
20:P:70:SER:OG	21:5:250:G:OP1	2.17	0.62
9:O:39:LEU:HD22	9:O:72:LEU:HD11	1.82	0.61
14:N:23:GLN:HG3	14:N:78:LEU:HD22	1.82	0.61
21:5:293:G:N2	21:5:296:A:OP2	2.32	0.61
21:5:1214:A:H2'	21:5:1272:C:H41	1.65	0.61
7:C:14:LEU:O	7:C:59:ARG:NH2	2.33	0.61
21:5:1225:A:H2'	21:5:1226:A:C8	2.35	0.61
19:E:4:ASN:HB2	19:E:88:ILE:HB	1.81	0.61
1:B:21:ARG:NH2	1:B:59:GLU:OE1	2.33	0.61
2:D:152:LYS:NZ	21:5:8:G:N7	2.38	0.61
4:A:247:ALA:C	4:A:249:LYS:H	2.04	0.61
21:5:440:U:H3	21:5:489:U:H3	1.48	0.61
21:5:945:U:H2'	21:5:946:G:H8	1.65	0.61
21:5:1448:A:H2'	21:5:1449:G:C8	2.35	0.61
21:5:407:A:H61	21:5:427:A:H62	1.49	0.61
21:5:57:U:H2'	21:5:58:G:H8	1.66	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:H:106:THR:O	5:H:107:THR:OG1	2.19	0.61
21:5:733:A:H2'	21:5:734:A:C8	2.36	0.61
3:F:94:ARG:HH11	21:5:933:A:H4'	1.66	0.61
1:B:192:ALA:HB3	1:B:199:ILE:HB	1.83	0.60
21:5:670:G:H2'	21:5:671:G:C8	2.36	0.60
21:5:896:G:H2'	21:5:897:A:H8	1.65	0.60
2:D:70:ILE:HG22	2:D:92:VAL:HG12	1.81	0.60
7:C:10:ARG:NH1	21:5:541:C:OP1	2.34	0.60
20:P:21:THR:HA	20:P:48:HIS:HA	1.81	0.60
12:I:46:LEU:HB3	12:I:79:LEU:HB3	1.82	0.60
20:P:73:LYS:NZ	21:5:251:G:OP1	2.35	0.60
21:5:460:A:H2'	21:5:461:G:H8	1.65	0.60
21:5:1501:G:H2'	21:5:1502:G:H8	1.67	0.60
17:G:56:ASN:HD21	19:E:152:PRO:HA	1.67	0.60
21:5:448:A:N6	21:5:478:G:OP2	2.30	0.60
1:B:176:MET:SD	1:B:206:ASN:HB2	2.42	0.60
2:D:79:THR:OG1	21:5:916:U:O2	2.20	0.60
15:R:34:TRP:HD1	15:R:52:HIS:HB2	1.65	0.60
15:R:55:LYS:HB2	21:5:953:A:C2	2.37	0.60
21:5:403:A:H2'	21:5:404:A:H8	1.67	0.60
21:5:711:G:H2'	21:5:712:A:C8	2.36	0.60
4:A:203:ASN:OD1	4:A:204:THR:N	2.33	0.60
4:A:254:ILE:O	4:A:254:ILE:CG2	2.50	0.60
10:K:84:GLY:O	10:K:112:ARG:NH1	2.35	0.60
13:L:34:LEU:HD21	13:L:41:PRO:HB3	1.84	0.60
1:B:3:GLN:NE2	21:5:1166:A:OP2	2.34	0.60
4:A:246:PHE:CE2	4:A:254:ILE:HA	2.36	0.60
15:R:27:LYS:O	15:R:29:ARG:NH1	2.35	0.60
21:5:22:G:H2'	21:5:23:G:H8	1.67	0.60
21:5:453:C:H2'	21:5:454:U:C6	2.36	0.60
8:S:42:ASP:OD2	8:S:43:ASN:N	2.34	0.59
7:C:114:ARG:NH2	21:5:400:G:OP1	2.32	0.59
12:I:43:LYS:HD2	12:I:81:ILE:HD11	1.84	0.59
5:H:90:LEU:HD23	5:H:97:LYS:HD3	1.83	0.59
21:5:1472:G:H1'	21:5:1493:A:H2	1.67	0.59
1:B:133:LEU:HD13	1:B:160:LEU:HD22	1.84	0.59
4:A:227:LEU:HG	4:A:246:PHE:CZ	2.37	0.59
6:J:28:SER:HA	6:J:34:VAL:HA	1.82	0.59
17:G:49:VAL:HG13	17:G:50:LYS:HD3	1.83	0.59
17:G:24:ASN:ND2	21:5:823:C:O2	2.35	0.59
21:5:376:G:O2'	21:5:378:A:N6	2.30	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:143:ARG:NH1	21:5:857:U:OP1	2.36	0.59
21:5:711:G:H2'	21:5:712:A:H8	1.67	0.59
10:K:63:ARG:HG3	10:K:103:LEU:HD11	1.85	0.59
1:B:171:TYR:HB3	1:B:173:GLU:OE2	2.03	0.59
9:O:34:ALA:HB3	9:O:58:TRP:HE1	1.68	0.59
18:Q:101:PHE:HD2	21:5:671:G:HO2'	1.51	0.59
21:5:212:G:O2'	21:5:465:A:N6	2.35	0.59
3:F:93:ASP:OD1	3:F:94:ARG:N	2.35	0.59
4:A:118:THR:HG21	21:5:1092:A:H61	1.67	0.59
5:H:52:GLN:HG3	5:H:53:PRO:HD3	1.85	0.59
10:K:94:LEU:HB3	10:K:114:THR:HG21	1.85	0.59
21:5:1193:U:H2'	21:5:1194:A:C8	2.38	0.58
3:F:73:GLU:OE1	3:F:94:ARG:NH2	2.35	0.58
19:E:35:LEU:HB3	19:E:62:PHE:HB3	1.84	0.58
21:5:1031:A:H2'	21:5:1032:G:C8	2.39	0.58
21:5:1290:G:N1	21:5:1293:A:OP2	2.37	0.58
2:D:162:ALA:HB3	2:D:167:ARG:HG3	1.86	0.58
14:N:68:LYS:HG2	14:N:75:TYR:CZ	2.39	0.58
21:5:712:A:H2'	21:5:713:A:C8	2.38	0.58
8:S:56:ARG:NH1	21:5:197:A:O2'	2.36	0.58
2:D:76:ILE:HD12	21:5:1071:A:H5''	1.86	0.58
21:5:1000:A:O2'	21:5:1029:C:O2'	2.22	0.58
21:5:1115:G:N2	21:5:1116:U:O4	2.33	0.57
16:T:42:LEU:O	16:T:46:ARG:HG3	2.04	0.57
19:E:49:ILE:HG21	19:E:83:LEU:HD23	1.86	0.57
21:5:176:G:H2'	21:5:177:G:C8	2.40	0.57
21:5:1130:G:H2'	21:5:1131:A:H8	1.70	0.57
21:5:951:U:O2	21:5:1200:G:C2	2.57	0.57
21:5:409:G:H22	21:5:426:U:P	2.27	0.57
1:B:45:PHE:O	1:B:49:ARG:NH2	2.38	0.57
3:F:125:ASP:HB3	3:F:130:THR:OG1	2.05	0.57
12:I:14:ILE:HD11	12:I:104:LEU:HD13	1.85	0.57
11:M:26:ARG:HH11	11:M:43:CYS:CB	2.17	0.57
21:5:1144:A:H2'	21:5:1145:A:C8	2.39	0.57
5:H:35:ARG:NH1	5:H:39:GLU:OE1	2.34	0.57
9:O:50:ILE:HD11	9:O:78:LEU:HD21	1.86	0.57
21:5:42:G:H2'	21:5:43:G:H8	1.70	0.57
21:5:94:A:N6	21:5:322:G:N7	2.52	0.57
5:H:11:ARG:NH1	21:5:1110:C:OP2	2.38	0.56
10:K:68:VAL:HG11	10:K:95:LEU:HD11	1.87	0.56
7:C:58:GLN:OE1	7:C:61:GLN:NE2	2.39	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:68:C:H2'	21:5:69:G:C8	2.40	0.56
21:5:483:U:H2'	21:5:484:A:C8	2.40	0.56
2:D:208:VAL:HA	2:D:211:LEU:HG	1.86	0.56
1:B:150:ASN:HB2	1:B:206:ASN:HB3	1.86	0.56
5:H:12:ARG:HD3	5:H:79:GLY:HA3	1.88	0.56
18:Q:40:TYR:CE2	18:Q:42:ARG:HB3	2.41	0.56
21:5:941:A:H2'	21:5:942:G:C8	2.40	0.56
21:5:409:G:H21	21:5:425:G:H1'	1.70	0.56
15:R:34:TRP:CD1	15:R:52:HIS:HB2	2.40	0.56
21:5:412:G:H2'	21:5:413:G:H8	1.69	0.56
21:5:510:U:H2'	21:5:511:A:H8	1.71	0.56
5:H:81:ILE:O	5:H:85:ILE:HG12	2.05	0.56
21:5:1432:A:H2'	21:5:1433:G:C8	2.40	0.56
5:H:30:ILE:HG13	5:H:37:PRO:HG3	1.88	0.56
21:5:616:C:H5'	21:5:617:U:H5''	1.88	0.56
21:5:1294:U:H2'	21:5:1295:U:C6	2.41	0.56
10:K:27:ASN:OD1	10:K:36:THR:OG1	2.24	0.56
21:5:333:U:H2'	21:5:334:A:H8	1.71	0.56
21:5:473:A:H2'	21:5:474:G:C8	2.40	0.56
21:5:1065:G:H1	21:5:1074:U:H3	1.52	0.56
21:5:1241:G:N2	21:5:1244:A:OP2	2.28	0.56
5:H:117:LYS:HZ2	21:5:1162:G:H5'	1.70	0.55
19:E:97:LEU:HD13	21:5:658:G:H5''	1.87	0.55
21:5:176:G:O6	21:5:190:A:N6	2.39	0.55
21:5:376:G:N2	21:5:379:A:OP2	2.39	0.55
21:5:1402:U:H2'	21:5:1403:A:C8	2.41	0.55
21:5:213:U:H2'	21:5:214:U:C6	2.40	0.55
21:5:265:U:H2'	21:5:266:A:C8	2.41	0.55
8:S:26:THR:HG23	21:5:1432:A:H5''	1.86	0.55
21:5:152:U:H2'	21:5:153:A:C8	2.40	0.55
21:5:378:A:O2'	21:5:379:A:O4'	2.18	0.55
21:5:658:G:O2'	21:5:834:G:OP1	2.24	0.55
21:5:1113:U:H2'	21:5:1114:A:C8	2.40	0.55
1:B:184:ASP:HB2	1:B:210:ILE:HB	1.88	0.55
7:C:88:ASN:OD1	7:C:91:ARG:NH1	2.29	0.55
21:5:951:U:C2	21:5:1200:G:N1	2.75	0.55
3:F:2:ARG:CZ	21:5:927:C:H41	2.20	0.55
4:A:119:ASN:OD1	4:A:122:THR:OG1	2.25	0.55
14:N:75:TYR:O	14:N:79:VAL:HG13	2.06	0.55
21:5:35:C:H2'	21:5:36:G:H8	1.72	0.55
21:5:80:U:H2'	21:5:81:A:C8	2.41	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:1010:A:H2'	21:5:1011:A:C8	2.42	0.55
10:K:56:LYS:NZ	10:K:101:LYS:O	2.36	0.55
17:G:53:TYR:HB3	17:G:84:ILE:HD11	1.88	0.55
15:R:66:MET:SD	15:R:74:PHE:HZ	2.29	0.55
21:5:253:G:O6	21:5:266:A:N6	2.40	0.55
21:5:1288:C:H2'	21:5:1289:U:C6	2.41	0.55
21:5:18:U:H2'	21:5:19:C:C6	2.42	0.55
21:5:1345:G:H2'	21:5:1346:G:H8	1.72	0.55
5:H:10:GLY:HA2	5:H:83:LEU:HD22	1.89	0.55
7:C:38:HIS:HE1	21:5:509:C:H1'	1.72	0.55
5:H:54:LEU:HB3	5:H:59:LEU:HA	1.89	0.54
7:C:118:ASN:ND2	21:5:400:G:O5'	2.40	0.54
15:R:50:ALA:HB1	15:R:57:PHE:HB3	1.89	0.54
20:P:31:LYS:HE2	20:P:36:HIS:HA	1.90	0.54
21:5:1261:A:H2'	21:5:1262:A:C8	2.41	0.54
13:L:90:ARG:HG3	13:L:97:VAL:HG22	1.88	0.54
17:G:106:LEU:HD13	17:G:109:ASN:HA	1.89	0.54
19:E:39:TYR:HD2	19:E:41:GLY:H	1.55	0.54
17:G:123:MET:SD	17:G:127:VAL:HG13	2.47	0.54
21:5:354:U:H2'	21:5:355:A:C8	2.42	0.54
21:5:662:G:O6	21:5:721:G:O6	2.25	0.54
4:A:40:LYS:HD3	4:A:208:PRO:HD2	1.88	0.54
4:A:156:ILE:O	4:A:160:GLU:HG2	2.08	0.54
17:G:90:ILE:HG22	17:G:97:ILE:HG21	1.90	0.54
18:Q:42:ARG:HH22	18:Q:59:ALA:HB1	1.73	0.54
12:I:51:LYS:HG2	12:I:75:ARG:HH11	1.73	0.54
13:L:80:LEU:HD11	13:L:87:ARG:HE	1.71	0.54
17:G:22:ILE:HG12	17:G:74:LEU:HD21	1.90	0.54
21:5:499:U:H2'	21:5:500:G:C8	2.42	0.54
19:E:110:GLN:NE2	19:E:114:LYS:HE2	2.23	0.54
2:D:101:ILE:HD11	2:D:173:ALA:HA	1.89	0.54
21:5:1009:G:N2	21:5:1012:A:OP2	2.37	0.54
2:D:165:ALA:HB1	2:D:192:ILE:HD11	1.90	0.54
12:I:17:GLU:HB3	12:I:77:LYS:HG3	1.90	0.54
21:5:421:G:H2'	21:5:422:A:H8	1.71	0.54
21:5:992:U:H2'	21:5:993:C:H6	1.72	0.54
10:K:41:PRO:HD2	21:5:359:A:C6	2.42	0.54
21:5:1138:U:H2'	21:5:1139:A:H8	1.72	0.54
21:5:1199:U:O2'	21:5:1296:C:OP1	2.26	0.54
15:R:9:ALA:HB1	15:R:41:PHE:HE1	1.73	0.53
21:5:308:C:H2'	21:5:309:A:C8	2.43	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:316:G:H2'	21:5:317:A:C8	2.43	0.53
12:I:97:LYS:HD2	12:I:97:LYS:O	2.07	0.53
21:5:1316:C:H2'	21:5:1317:A:C8	2.43	0.53
21:5:442:G:H2'	21:5:443:G:C8	2.43	0.53
21:5:1490:G:H2'	21:5:1491:A:C8	2.43	0.53
10:K:126:GLN:O	10:K:128:SER:N	2.41	0.53
21:5:403:A:H2'	21:5:404:A:C8	2.42	0.53
21:5:1497:U:H2'	21:5:1498:G:H8	1.73	0.53
3:F:2:ARG:NH1	21:5:927:C:H41	2.06	0.53
4:A:27:ARG:NH1	4:A:223:GLN:NE2	2.56	0.53
9:O:7:MET:O	9:O:17:TYR:HA	2.09	0.53
21:5:22:G:H2'	21:5:23:G:C8	2.44	0.53
21:5:152:U:H2'	21:5:153:A:H8	1.74	0.53
21:5:621:C:H2'	21:5:622:A:H8	1.74	0.53
21:5:892:G:N2	21:5:895:A:OP2	2.41	0.53
21:5:951:U:N3	21:5:1200:G:N1	2.57	0.53
2:D:117:LYS:NZ	21:5:1064:U:OP2	2.41	0.53
21:5:920:G:O2'	21:5:922:G:OP1	2.24	0.53
3:F:129:ASN:HA	3:F:134:ILE:HG13	1.91	0.53
4:A:201:LEU:HD12	4:A:217:ALA:HB3	1.91	0.53
8:S:12:ARG:HH21	8:S:12:ARG:HG3	1.73	0.53
17:G:11:HIS:NE2	21:5:821:U:O2	2.41	0.53
5:H:83:LEU:HA	5:H:86:VAL:HG22	1.90	0.53
7:C:49:GLY:O	7:C:53:GLN:HG3	2.08	0.53
21:5:1406:U:O4	21:5:1407:A:N6	2.41	0.53
1:B:180:THR:HG22	21:5:1102:A:N1	2.23	0.53
2:D:68:GLU:HG3	2:D:94:VAL:HG22	1.90	0.53
13:L:15:ILE:HG13	13:L:43:LYS:O	2.09	0.53
20:P:62:GLN:NE2	20:P:63:ILE:O	2.42	0.53
21:5:442:G:H2'	21:5:443:G:H8	1.74	0.53
2:D:152:LYS:HB3	2:D:179:TYR:HB2	1.92	0.52
5:H:44:LYS:O	5:H:47:ILE:HG22	2.09	0.52
6:J:13:ILE:HG13	6:J:76:LYS:HB2	1.90	0.52
12:I:35:VAL:HG21	12:I:82:LEU:HD11	1.91	0.52
21:5:57:U:H2'	21:5:58:G:C8	2.43	0.52
21:5:386:U:H2'	21:5:387:G:C8	2.44	0.52
21:5:1062:C:H2'	21:5:1063:G:C8	2.42	0.52
1:B:46:VAL:HA	1:B:49:ARG:HH22	1.74	0.52
21:5:206:G:O2'	21:5:209:A:N6	2.43	0.52
21:5:1212:C:H3'	21:5:1213:A:H5'	1.92	0.52
21:5:70:A:H2'	21:5:71:A:H8	1.74	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:949:G:H21	21:5:1202:A:H62	1.57	0.52
21:5:333:U:H2'	21:5:334:A:C8	2.44	0.52
21:5:1245:A:H2'	21:5:1246:A:C8	2.45	0.52
10:K:66:ALA:HB2	10:K:80:ILE:HD11	1.91	0.52
19:E:2:GLN:HE21	19:E:90:LEU:HA	1.75	0.52
21:5:46:U:H2'	21:5:47:G:H8	1.75	0.52
21:5:682:G:O2'	21:5:683:G:O4'	2.17	0.52
1:B:37:ASP:OD1	1:B:38:GLU:N	2.43	0.52
15:R:66:MET:CE	15:R:74:PHE:HZ	2.23	0.52
21:5:1332:U:H3	21:5:1338:A:N6	2.08	0.52
5:H:117:LYS:NZ	21:5:1161:G:O3'	2.39	0.52
19:E:97:LEU:HB3	19:E:100:ILE:HG22	1.90	0.52
21:5:561:A:O2'	21:5:564:G:O3'	2.27	0.52
5:H:43:ASN:C	5:H:44:LYS:HD2	2.30	0.52
21:5:386:U:H2'	21:5:387:G:H8	1.73	0.52
21:5:918:A:O2'	21:5:1374:C:OP2	2.26	0.52
21:5:945:U:H2'	21:5:946:G:C8	2.42	0.52
21:5:1384:A:H2'	21:5:1385:A:C8	2.41	0.52
7:C:132:PRO:HD2	21:5:399:C:H5''	1.91	0.52
8:S:20:ASN:O	8:S:24:GLN:HG2	2.10	0.51
9:O:70:ARG:HA	9:O:70:ARG:CZ	2.40	0.51
19:E:89:ASN:ND2	21:5:735:C:OP1	2.43	0.51
21:5:881:G:N1	21:5:905:U:N3	2.58	0.51
21:5:973:A:O2'	21:5:1296:C:N3	2.39	0.51
4:A:227:LEU:HG	4:A:246:PHE:HE1	1.70	0.51
11:M:29:ARG:HG2	11:M:31:ARG:H	1.75	0.51
21:5:1013:C:H42	21:5:1014:A:H61	1.57	0.51
21:5:1329:G:H2'	21:5:1330:A:H8	1.74	0.51
4:A:130:LEU:HB2	4:A:159:LEU:HD13	1.92	0.51
8:S:38:GLU:OE1	8:S:40:ASN:ND2	2.42	0.51
20:P:25:GLN:HB2	20:P:44:LYS:HE3	1.92	0.51
4:A:37:TRP:CZ3	4:A:39:PRO:HA	2.45	0.51
12:I:62:HIS:CE1	12:I:63:VAL:HG22	2.45	0.51
17:G:41:LYS:HA	17:G:44:ILE:HG22	1.93	0.51
21:5:1139:A:H2'	21:5:1140:A:H8	1.75	0.51
12:I:39:ASP:OD1	12:I:40:VAL:N	2.44	0.51
12:I:63:VAL:O	12:I:65:LYS:N	2.43	0.51
21:5:8:G:N3	21:5:294:A:N6	2.58	0.51
13:L:5:LEU:HD21	13:L:57:ARG:HD2	1.91	0.51
15:R:83:HIS:HE1	21:5:950:C:O2	1.94	0.51
5:H:116:LYS:HB3	21:5:1343:G:H5''	1.92	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:79:A:C5	21:5:80:U:H1'	2.46	0.51
21:5:951:U:C2	21:5:1200:G:C2	2.99	0.51
21:5:1100:C:C2	21:5:1101:A:C8	2.98	0.51
21:5:1226:A:N3	21:5:1344:C:O2'	2.38	0.51
15:R:40:ILE:HD11	15:R:66:MET:CE	2.41	0.51
21:5:70:A:H2'	21:5:71:A:C8	2.45	0.51
21:5:882:U:H3'	21:5:883:A:H8	1.75	0.51
21:5:1501:G:H2'	21:5:1502:G:C8	2.46	0.51
17:G:98:TYR:C	17:G:99:ARG:HD2	2.31	0.51
21:5:556:G:OP2	21:5:557:A:O2'	2.25	0.51
21:5:821:U:H2'	21:5:822:A:C8	2.46	0.51
6:J:34:VAL:O	21:5:681:U:O2'	2.28	0.51
11:M:24:CYS:HB2	11:M:39:VAL:HA	1.92	0.51
21:5:919:C:H2'	21:5:920:G:H8	1.76	0.51
21:5:631:C:H2'	21:5:632:A:C8	2.46	0.50
21:5:852:G:N1	21:5:864:U:OP2	2.39	0.50
21:5:853:A:H2'	21:5:854:A:C8	2.46	0.50
21:5:590:G:H1	21:5:644:U:H3	1.59	0.50
21:5:905:U:H2'	21:5:906:C:C6	2.46	0.50
21:5:1115:G:HO2'	21:5:1116:U:H6	1.59	0.50
1:B:24:ALA:HB3	1:B:30:THR:HG22	1.92	0.50
3:F:15:PRO:HD2	5:H:45:LEU:HB2	1.93	0.50
14:N:29:LEU:O	14:N:33:ILE:HG12	2.11	0.50
21:5:510:U:H2'	21:5:511:A:C8	2.45	0.50
21:5:598:U:H2'	21:5:599:G:H8	1.76	0.50
21:5:393:A:N7	21:5:545:A:O2'	2.43	0.50
4:A:115:GLY:O	4:A:119:ASN:ND2	2.44	0.50
9:O:23:ASP:OD1	9:O:24:SER:N	2.44	0.50
21:5:308:C:H2'	21:5:309:A:H8	1.76	0.50
21:5:537:A:H2'	21:5:538:G:C8	2.47	0.50
21:5:259:A:H2'	21:5:260:C:C6	2.47	0.50
21:5:644:U:H2'	21:5:645:A:H8	1.77	0.50
21:5:239:A:N6	21:5:277:G:N3	2.59	0.50
4:A:247:ALA:C	4:A:249:LYS:N	2.65	0.50
5:H:43:ASN:O	5:H:44:LYS:HD2	2.12	0.50
20:P:61:VAL:HG12	20:P:80:ILE:HG13	1.94	0.50
21:5:99:U:H2'	21:5:100:G:C8	2.47	0.50
21:5:111:A:OP1	21:5:603:U:O2'	2.19	0.50
4:A:189:ALA:O	4:A:193:ILE:HG12	2.12	0.49
19:E:37:THR:HG22	19:E:37:THR:O	2.12	0.49
19:E:74:ARG:HG3	19:E:74:ARG:HH11	1.77	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:23:THR:O	3:F:26:ILE:HG22	2.12	0.49
8:S:56:ARG:HH12	21:5:197:A:HO2'	1.60	0.49
21:5:474:G:H2'	21:5:475:U:C6	2.47	0.49
21:5:1417:U:H3	21:5:1435:G:H22	1.59	0.49
7:C:1:MET:N	21:5:545:A:OP2	2.45	0.49
21:5:1379:C:H2'	21:5:1380:G:C8	2.46	0.49
8:S:53:ARG:NH2	21:5:164:C:OP2	2.45	0.49
21:5:33:A:H2'	21:5:34:A:C8	2.47	0.49
21:5:108:C:H2'	21:5:109:G:H8	1.77	0.49
21:5:573:G:H4'	21:5:574:C:H5''	1.92	0.49
1:B:34:LEU:HD11	11:M:53:ILE:HG13	1.94	0.49
15:R:36:ARG:HH12	21:5:1196:G:H5'	1.78	0.49
21:5:46:U:H2'	21:5:47:G:C8	2.47	0.49
21:5:1157:G:H4'	21:5:1158:A:H5'	1.95	0.49
21:5:1438:U:H2'	21:5:1439:G:C8	2.43	0.49
11:M:14:PRO:HG3	11:M:20:ALA:HB2	1.93	0.49
21:5:1472:G:H1'	21:5:1493:A:C2	2.48	0.49
4:A:90:ASP:OD1	4:A:90:ASP:N	2.44	0.49
7:C:8:PHE:CD2	21:5:426:U:H5'	2.47	0.49
8:S:24:GLN:HB3	8:S:54:LEU:HD21	1.95	0.49
15:R:63:THR:C	15:R:65:ASP:H	2.15	0.49
19:E:42:LEU:HB2	19:E:56:HIS:CE1	2.47	0.49
21:5:1225:A:H2	21:5:1345:G:H1'	1.77	0.49
21:5:1278:G:N2	21:5:1308:G:C6	2.80	0.49
9:O:15:PRO:HB2	9:O:17:TYR:CE1	2.48	0.49
9:O:28:ARG:NH2	21:5:386:U:O3'	2.46	0.49
21:5:511:A:H2'	21:5:512:U:C6	2.47	0.49
21:5:770:G:O6	21:5:804:A:N6	2.45	0.49
17:G:46:GLU:O	17:G:50:LYS:HG2	2.13	0.49
21:5:205:U:H3	21:5:210:G:H1	1.59	0.49
21:5:354:U:H2'	21:5:355:A:H8	1.77	0.49
1:B:88:ILE:O	1:B:92:ILE:HG12	2.12	0.48
5:H:6:TYR:HE2	5:H:92:PHE:HD1	1.61	0.48
6:J:34:VAL:HG22	21:5:681:U:O2	2.13	0.48
13:L:23:PHE:CE1	21:5:1304:U:H4'	2.48	0.48
21:5:1070:G:O2'	21:5:1071:A:O4'	2.22	0.48
21:5:1463:A:H2'	21:5:1464:G:C8	2.48	0.48
10:K:110:ILE:HG21	10:K:117:THR:HG21	1.94	0.48
12:I:62:HIS:ND1	12:I:63:VAL:HG22	2.29	0.48
15:R:66:MET:C	15:R:66:MET:HE2	2.34	0.48
21:5:1051:U:H2'	21:5:1052:G:H8	1.78	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:1196:G:H5''	21:5:1295:U:O2	2.12	0.48
19:E:125:PRO:O	21:5:838:A:N6	2.40	0.48
21:5:918:A:H2'	21:5:919:C:C6	2.48	0.48
21:5:934:G:H2'	21:5:935:U:C6	2.48	0.48
21:5:1301:U:H2'	21:5:1302:C:C6	2.48	0.48
15:R:66:MET:SD	15:R:74:PHE:CZ	3.06	0.48
21:5:1229:A:H2'	21:5:1230:G:C8	2.48	0.48
7:C:152:PRO:HD2	21:5:433:C:H4'	1.96	0.48
21:5:577:G:H5'	21:5:725:A:H1'	1.94	0.48
21:5:596:U:H2'	21:5:597:C:C6	2.48	0.48
21:5:621:C:H2'	21:5:622:A:C8	2.47	0.48
1:B:17:ASN:OD1	1:B:18:TRP:N	2.46	0.48
2:D:91:LEU:HD13	2:D:105:ILE:HB	1.95	0.48
13:L:100:GLN:N	13:L:100:GLN:OE1	2.46	0.48
13:L:103:ARG:NH2	21:5:948:U:O4	2.46	0.48
18:Q:40:TYR:HE2	18:Q:42:ARG:HB3	1.78	0.48
21:5:553:C:H2'	21:5:554:C:C6	2.49	0.48
21:5:763:A:N7	21:5:810:U:O4	2.47	0.48
21:5:1245:A:H2'	21:5:1246:A:H8	1.78	0.48
21:5:1359:C:H2'	21:5:1360:G:H8	1.78	0.48
3:F:113:LYS:NZ	21:5:1271:U:O2'	2.46	0.48
6:J:103:ILE:HG22	16:T:8:ASN:HB2	1.95	0.48
15:R:63:THR:C	15:R:65:ASP:N	2.66	0.48
20:P:67:ARG:HH22	21:5:116:A:H5'	1.79	0.48
21:5:447:G:OP2	21:5:448:A:O2'	2.29	0.48
6:J:104:ASN:HD21	6:J:106:LYS:NZ	2.11	0.48
21:5:324:C:H4'	21:5:325:A:H5''	1.96	0.48
1:B:60:ARG:HH12	1:B:96:ILE:HD11	1.77	0.48
3:F:75:ARG:HH11	3:F:88:THR:HG21	1.78	0.48
7:C:184:ARG:NH1	7:C:191:ILE:O	2.45	0.48
15:R:78:ARG:HD3	21:5:955:U:H5	1.78	0.48
19:E:8:LEU:HD23	19:E:84:ARG:HB2	1.96	0.48
21:5:66:A:N7	21:5:377:A:N6	2.61	0.48
21:5:1065:G:H2'	21:5:1066:U:C6	2.49	0.48
2:D:181:LYS:NZ	21:5:557:A:OP2	2.47	0.47
20:P:20:LYS:HD3	21:5:251:G:H4'	1.96	0.47
21:5:1464:G:H2'	21:5:1465:U:C6	2.48	0.47
4:A:44:PHE:HE2	4:A:214:ILE:HG21	1.79	0.47
21:5:161:C:H2'	21:5:162:C:C6	2.49	0.47
21:5:242:A:N6	21:5:277:G:N2	2.41	0.47
21:5:305:A:O2'	21:5:605:A:N1	2.43	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:87:PRO:HD2	3:F:151:ALA:HB2	1.96	0.47
21:5:513:G:H2'	21:5:514:U:H6	1.79	0.47
21:5:553:C:H2'	21:5:554:C:H6	1.79	0.47
21:5:625:U:H2'	21:5:626:G:C8	2.49	0.47
21:5:1208:G:H2'	21:5:1209:C:C6	2.49	0.47
3:F:25:ILE:O	3:F:29:ILE:HG12	2.14	0.47
6:J:14:ILE:HG13	6:J:27:ALA:HA	1.95	0.47
9:O:4:ILE:H	9:O:4:ILE:HG12	1.47	0.47
10:K:48:THR:OG1	10:K:67:LYS:O	2.23	0.47
21:5:709:A:H2'	21:5:710:G:C8	2.49	0.47
21:5:972:A:H2'	21:5:973:A:H5''	1.97	0.47
21:5:1193:U:H2'	21:5:1194:A:H8	1.80	0.47
3:F:49:ILE:HD11	3:F:123:ILE:HG21	1.97	0.47
9:O:23:ASP:OD2	21:5:225:U:O2'	2.31	0.47
9:O:66:THR:HG22	9:O:67:ASP:H	1.79	0.47
12:I:12:LEU:HB3	12:I:82:LEU:HB2	1.97	0.47
21:5:433:C:H2'	21:5:434:U:C6	2.49	0.47
21:5:536:U:H2'	21:5:537:A:C8	2.49	0.47
2:D:127:HIS:NE2	2:D:196:MET:SD	2.83	0.47
17:G:26:ARG:NH2	17:G:85:ASN:O	2.45	0.47
17:G:54:LEU:HA	17:G:75:LYS:H	1.78	0.47
19:E:100:ILE:O	19:E:103:LYS:HG2	2.14	0.47
21:5:631:C:H2'	21:5:632:A:H8	1.79	0.47
1:B:65:VAL:HG21	1:B:96:ILE:HD11	1.95	0.47
1:B:176:MET:HG3	1:B:178:LEU:HD12	1.96	0.47
4:A:229:MET:HE2	4:A:232:LEU:HD12	1.97	0.47
7:C:10:ARG:O	7:C:14:LEU:HB2	2.15	0.47
12:I:62:HIS:CG	12:I:63:VAL:H	2.32	0.47
12:I:63:VAL:HG23	12:I:64:ASP:N	2.26	0.47
15:R:22:MET:HG3	15:R:31:ILE:HG21	1.96	0.47
17:G:49:VAL:HG11	17:G:57:PHE:HE1	1.79	0.47
19:E:8:LEU:HB3	19:E:83:LEU:HB2	1.96	0.47
21:5:331:C:H2'	21:5:332:A:C8	2.44	0.47
21:5:376:G:HO2'	21:5:378:A:H62	1.55	0.47
21:5:1216:G:H2'	21:5:1217:G:H8	1.79	0.47
1:B:116:ALA:HB2	1:B:205:ILE:HG22	1.97	0.47
13:L:94:ASN:ND2	13:L:109:ARG:O	2.48	0.47
21:5:18:U:H2'	21:5:19:C:H6	1.77	0.47
21:5:37:C:O2'	21:5:499:U:OP1	2.32	0.47
21:5:1351:U:H2'	21:5:1352:A:C8	2.50	0.47
2:D:154:ALA:HB1	2:D:158:THR:HG21	1.97	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:M:34:LEU:O	11:M:38:GLY:N	2.46	0.47
14:N:26:VAL:O	14:N:30:THR:HG23	2.15	0.47
15:R:37:ARG:HE	21:5:1292:A:H1'	1.80	0.47
16:T:5:GLU:HA	18:Q:67:TYR:CZ	2.50	0.47
18:Q:94:ARG:HB3	18:Q:101:PHE:CE1	2.49	0.47
21:5:872:C:H2'	21:5:873:U:C6	2.50	0.47
21:5:881:G:N1	21:5:905:U:C2	2.83	0.47
6:J:48:SER:HB3	21:5:689:U:H3	1.80	0.47
21:5:132:G:H2'	21:5:133:G:C8	2.50	0.47
21:5:236:C:H2'	21:5:237:A:C8	2.50	0.47
21:5:380:G:H2'	21:5:381:C:C6	2.50	0.47
21:5:470:U:H2'	21:5:471:A:H8	1.81	0.47
21:5:1136:G:O6	21:5:1157:G:O6	2.33	0.47
21:5:1487:U:H2'	21:5:1488:A:C8	2.50	0.47
11:M:14:PRO:HB2	11:M:19:ARG:HB3	1.97	0.46
13:L:107:ARG:HH22	21:5:1203:A:P	2.38	0.46
21:5:259:A:H2'	21:5:260:C:H6	1.80	0.46
4:A:246:PHE:CZ	4:A:256:ILE:HD11	2.50	0.46
7:C:151:ILE:HB	7:C:154:VAL:HG12	1.97	0.46
8:S:24:GLN:HA	8:S:27:LYS:HZ2	1.80	0.46
10:K:80:ILE:HG12	10:K:110:ILE:HD13	1.97	0.46
21:5:137:A:N7	21:5:157:A:N6	2.64	0.46
21:5:294:A:N1	21:5:295:G:N2	2.64	0.46
21:5:511:A:H2'	21:5:512:U:H6	1.81	0.46
21:5:1426:U:O2'	21:5:1428:A:N6	2.47	0.46
9:O:28:ARG:HH21	21:5:386:U:H4'	1.79	0.46
21:5:132:G:H2'	21:5:133:G:H8	1.80	0.46
21:5:441:U:H2'	21:5:442:G:C8	2.51	0.46
21:5:1389:U:H2'	21:5:1390:G:H8	1.78	0.46
2:D:163:GLY:O	2:D:167:ARG:HB2	2.15	0.46
4:A:227:LEU:HD23	4:A:231:LEU:HD11	1.98	0.46
10:K:107:ARG:NH1	21:5:905:U:OP2	2.48	0.46
13:L:103:ARG:HG3	21:5:1201:C:N4	2.31	0.46
19:E:11:GLY:HA2	19:E:55:ALA:HA	1.98	0.46
20:P:52:GLU:HG3	20:P:53:VAL:HG13	1.97	0.46
21:5:310:C:H2'	21:5:311:A:C8	2.50	0.46
21:5:618:U:O2'	21:5:619:A:O4'	2.32	0.46
11:M:59:ALA:HB2	12:I:70:GLN:HG3	1.97	0.46
21:5:116:A:O2'	21:5:117:U:H5''	2.15	0.46
21:5:712:A:H2'	21:5:713:A:H8	1.77	0.46
21:5:1133:A:N7	21:5:1155:A:N6	2.63	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:161:ILE:HD11	2:D:179:TYR:HD1	1.79	0.46
3:F:141:HIS:CE1	3:F:145:GLU:OE2	2.69	0.46
7:C:138:PRO:HA	7:C:178:TYR:HD2	1.79	0.46
19:E:7:LEU:HB2	19:E:58:TYR:HB2	1.97	0.46
21:5:147:A:H2'	21:5:148:A:C8	2.50	0.46
21:5:214:U:H2'	21:5:215:C:C6	2.51	0.46
21:5:692:A:H2'	21:5:693:A:C8	2.51	0.46
21:5:923:G:O6	21:5:924:A:N6	2.49	0.46
19:E:26:GLN:HE22	19:E:35:LEU:HD11	1.81	0.46
19:E:130:VAL:N	19:E:131:PRO:HD3	2.31	0.46
3:F:20:THR:O	3:F:23:THR:OG1	2.20	0.46
4:A:83:LEU:HD21	4:A:108:ILE:HD12	1.98	0.46
4:A:202:CYS:O	4:A:216:PRO:HA	2.16	0.46
9:O:18:ARG:HA	9:O:38:HIS:HA	1.98	0.46
19:E:49:ILE:HD11	19:E:84:ARG:NH2	2.30	0.46
19:E:112:ARG:HD2	19:E:112:ARG:O	2.16	0.46
21:5:120:A:H2'	21:5:121:C:C6	2.51	0.46
21:5:145:G:N2	21:5:147:A:H3'	2.30	0.46
21:5:260:C:H2'	21:5:261:G:O4'	2.16	0.46
21:5:319:U:O4	21:5:323:A:N7	2.48	0.46
5:H:96:LEU:HB3	5:H:100:LEU:HD23	1.98	0.46
11:M:41:ARG:HG3	11:M:42:LEU:N	2.31	0.46
21:5:53:U:H2'	21:5:54:A:C8	2.51	0.46
3:F:110:ARG:HG2	3:F:111:HIS:H	1.81	0.46
6:J:112:ASN:HD21	21:5:715:A:P	2.39	0.46
6:J:115:LYS:HD2	16:T:35:HIS:CE1	2.51	0.46
21:5:329:C:H2'	21:5:330:C:H6	1.81	0.46
21:5:409:G:N2	21:5:425:G:O3'	2.45	0.46
21:5:980:C:N4	21:5:1196:G:O6	2.49	0.46
21:5:1347:U:H2'	21:5:1348:G:O4'	2.16	0.46
15:R:39:THR:HG22	15:R:70:LYS:HD3	1.97	0.45
21:5:915:U:H2'	21:5:916:U:C6	2.51	0.45
21:5:1197:G:H2'	21:5:1198:C:C6	2.51	0.45
1:B:59:GLU:HB2	1:B:66:ASP:HB2	1.98	0.45
4:A:264:ALA:N	4:A:265:PRO:HD2	2.31	0.45
9:O:67:ASP:OD1	9:O:68:THR:N	2.49	0.45
10:K:23:ALA:HB1	10:K:70:LEU:HD11	1.97	0.45
21:5:537:A:H2'	21:5:538:G:H8	1.80	0.45
21:5:980:C:N3	21:5:1196:G:N1	2.64	0.45
21:5:1115:G:O2'	21:5:1116:U:H6	2.00	0.45
21:5:1146:A:H2'	21:5:1147:U:C6	2.51	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:135:SER:HB2	2:D:177:ASP:OD1	2.17	0.45
9:O:6:LEU:HD22	9:O:17:TYR:HD2	1.81	0.45
17:G:131:LYS:O	17:G:133:ILE:HG12	2.17	0.45
21:5:707:G:H2'	21:5:708:A:H8	1.80	0.45
1:B:87:LYS:O	1:B:90:LYS:HG3	2.15	0.45
12:I:41:LYS:HB2	12:I:83:VAL:HG11	1.99	0.45
21:5:29:G:O2'	21:5:292:U:OP1	2.32	0.45
21:5:176:G:C6	21:5:190:A:C6	3.04	0.45
21:5:421:G:H2'	21:5:422:A:C8	2.51	0.45
21:5:1009:G:H21	21:5:1012:A:H2	1.64	0.45
21:5:1266:U:H2'	21:5:1267:G:H8	1.81	0.45
21:5:1415:G:H2'	21:5:1416:U:C6	2.51	0.45
7:C:57:LYS:HE3	7:C:200:TYR:OH	2.17	0.45
16:T:36:LEU:HD23	16:T:41:ARG:HH11	1.80	0.45
21:5:500:G:H2'	21:5:501:A:C8	2.52	0.45
21:5:561:A:H2'	21:5:565:G:C8	2.52	0.45
21:5:1162:G:H2'	21:5:1163:A:C8	2.52	0.45
21:5:1178:C:H2'	21:5:1179:A:C8	2.51	0.45
21:5:1220:A:H2'	21:5:1221:A:C8	2.51	0.45
21:5:1266:U:H2'	21:5:1267:G:C8	2.51	0.45
3:F:26:ILE:HD11	3:F:39:GLN:HA	1.99	0.45
3:F:48:LEU:HD22	3:F:120:ALA:HB1	1.97	0.45
9:O:15:PRO:CB	9:O:17:TYR:HE1	2.29	0.45
21:5:171:A:H2'	21:5:172:C:C6	2.51	0.45
21:5:1496:G:H2'	21:5:1497:U:C6	2.51	0.45
10:K:127:ARG:NH2	21:5:499:U:OP1	2.49	0.45
21:5:137:A:H62	21:5:156:U:H3	1.63	0.45
21:5:300:A:H2'	21:5:301:G:O4'	2.16	0.45
21:5:369:A:C2	21:5:370:A:C8	3.04	0.45
1:B:7:SER:OG	1:B:11:ARG:NH2	2.50	0.45
4:A:152:LEU:O	4:A:156:ILE:HG12	2.17	0.45
5:H:44:LYS:NZ	21:5:1265:U:H5''	2.32	0.45
21:5:407:A:N6	21:5:427:A:H62	2.15	0.45
21:5:1329:G:H2'	21:5:1330:A:C8	2.51	0.45
4:A:226:CYS:SG	4:A:256:ILE:HD13	2.57	0.45
16:T:52:LYS:HA	16:T:52:LYS:HD2	1.50	0.45
4:A:253:GLU:C	4:A:255:GLN:N	2.71	0.45
7:C:78:VAL:O	7:C:81:GLN:NE2	2.47	0.45
9:O:6:LEU:HD23	9:O:17:TYR:HB2	1.98	0.45
9:O:65:PRO:HB2	9:O:70:ARG:NH2	2.27	0.45
17:G:46:GLU:HG2	17:G:50:LYS:NZ	2.32	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:167:A:O2'	21:5:169:G:O6	2.30	0.45
21:5:714:C:O2'	21:5:731:A:O4'	2.32	0.45
5:H:6:TYR:CE2	5:H:92:PHE:HD1	2.34	0.44
9:O:6:LEU:CD1	9:O:68:THR:HB	2.47	0.44
21:5:499:U:H2'	21:5:500:G:H8	1.81	0.44
21:5:862:C:H2'	21:5:863:A:O4'	2.17	0.44
21:5:1110:C:H2'	21:5:1111:G:C8	2.47	0.44
21:5:1220:A:H2'	21:5:1221:A:H8	1.83	0.44
21:5:1491:A:H2'	21:5:1493:A:OP2	2.17	0.44
3:F:113:LYS:HD2	21:5:1272:C:N3	2.32	0.44
21:5:201:G:H1	21:5:214:U:H3	1.65	0.44
21:5:656:U:H2'	21:5:657:G:C8	2.52	0.44
4:A:98:ASN:HA	4:A:101:LYS:HG2	1.99	0.44
4:A:116:THR:HA	4:A:123:LEU:HD22	1.99	0.44
4:A:247:ALA:O	4:A:249:LYS:N	2.46	0.44
9:O:6:LEU:CD2	9:O:17:TYR:HD2	2.31	0.44
9:O:17:TYR:CD1	9:O:17:TYR:N	2.85	0.44
9:O:64:LYS:HA	9:O:64:LYS:HD3	1.73	0.44
14:N:20:GLY:HA3	21:5:747:C:O2	2.17	0.44
19:E:71:ASP:HA	19:E:74:ARG:NE	2.32	0.44
21:5:291:C:H2'	21:5:292:U:C6	2.53	0.44
21:5:675:U:H2'	21:5:676:U:C6	2.53	0.44
12:I:14:ILE:HG23	12:I:80:MET:HB2	1.98	0.44
14:N:18:ASP:OD1	14:N:18:ASP:N	2.46	0.44
21:5:98:G:H2'	21:5:99:U:C6	2.53	0.44
21:5:782:G:H2'	21:5:783:G:H8	1.82	0.44
21:5:833:G:O6	21:5:844:U:O4	2.35	0.44
18:Q:103:LYS:HD3	18:Q:103:LYS:HA	1.80	0.44
19:E:5:ILE:O	19:E:59:ARG:HA	2.17	0.44
21:5:98:G:H2'	21:5:99:U:H6	1.81	0.44
21:5:287:U:H2'	21:5:288:A:C8	2.52	0.44
21:5:992:U:H2'	21:5:993:C:C6	2.50	0.44
1:B:114:LEU:HD13	1:B:207:ARG:HD2	1.99	0.44
6:J:29:ASP:HB2	6:J:35:LEU:HD21	2.00	0.44
10:K:70:LEU:HB2	10:K:72:ASN:OD1	2.18	0.44
19:E:49:ILE:HG23	19:E:50:LYS:N	2.30	0.44
20:P:6:ARG:HG3	20:P:64:VAL:HG23	2.00	0.44
21:5:641:U:H2'	21:5:642:A:H8	1.83	0.44
21:5:798:U:H2'	21:5:799:A:H8	1.82	0.44
21:5:919:C:H2'	21:5:920:G:C8	2.53	0.44
21:5:943:C:H2'	21:5:944:A:C8	2.49	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:1415:G:H2'	21:5:1416:U:H6	1.83	0.44
6:J:45:PHE:HE1	6:J:58:ILE:HD11	1.83	0.44
11:M:47:LEU:HD23	11:M:47:LEU:HA	1.85	0.44
21:5:454:U:H2'	21:5:455:U:H6	1.83	0.44
21:5:568:G:H2'	21:5:569:U:C6	2.52	0.44
21:5:707:G:H2'	21:5:708:A:C8	2.53	0.44
21:5:1226:A:H2'	21:5:1227:A:C8	2.52	0.44
3:F:2:ARG:HG3	21:5:1355:U:C2	2.53	0.44
3:F:110:ARG:HG2	3:F:111:HIS:N	2.32	0.44
8:S:27:LYS:HE2	8:S:50:GLN:HE22	1.83	0.44
10:K:44:ARG:HD3	21:5:359:A:H5''	2.00	0.44
10:K:77:LEU:HB3	10:K:106:VAL:HG22	1.99	0.44
15:R:47:ASN:O	15:R:62:VAL:HG22	2.18	0.44
21:5:35:C:H2'	21:5:36:G:C8	2.51	0.44
21:5:178:U:H2'	21:5:179:U:C6	2.53	0.44
21:5:1414:U:H2'	21:5:1415:G:C8	2.52	0.44
1:B:92:ILE:HA	1:B:95:ILE:HG22	2.00	0.44
1:B:180:THR:OG1	1:B:183:ALA:HB2	2.18	0.44
2:D:188:PRO:O	2:D:192:ILE:HG12	2.16	0.44
7:C:144:LEU:HD23	7:C:149:ILE:HG13	2.00	0.44
7:C:145:LYS:O	7:C:145:LYS:HG2	2.18	0.44
9:O:4:ILE:HA	9:O:20:VAL:O	2.17	0.44
20:P:25:GLN:NE2	20:P:27:GLU:OE1	2.50	0.44
21:5:287:U:H2'	21:5:288:A:H8	1.83	0.44
21:5:753:C:H2'	21:5:754:U:C6	2.53	0.44
5:H:52:GLN:HE22	5:H:105:LEU:HD22	1.83	0.43
9:O:15:PRO:HB2	9:O:17:TYR:HE1	1.82	0.43
9:O:37:GLY:HA3	9:O:50:ILE:HA	1.99	0.43
13:L:29:ARG:HH21	21:5:1303:A:H5'	1.83	0.43
21:5:259:A:C8	21:5:260:C:H5	2.36	0.43
21:5:280:G:H2'	21:5:281:U:C6	2.53	0.43
21:5:309:A:H2'	21:5:310:C:C6	2.53	0.43
6:J:86:LYS:O	6:J:90:ILE:HG12	2.18	0.43
7:C:9:LYS:HD3	21:5:425:G:OP2	2.18	0.43
11:M:45:ARG:NH1	21:5:1051:U:OP1	2.51	0.43
16:T:17:LYS:HD2	16:T:17:LYS:HA	1.43	0.43
18:Q:65:SER:OG	18:Q:69:LYS:O	2.26	0.43
21:5:538:G:H2'	21:5:539:G:C8	2.54	0.43
21:5:1413:G:H1	21:5:1438:U:H3	1.66	0.43
2:D:209:ALA:HB1	2:D:215:ASN:HA	1.99	0.43
5:H:108:ARG:NH2	5:H:110:LYS:H	2.17	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:H:116:LYS:HA	5:H:123:ALA:HB2	2.00	0.43
7:C:13:ARG:NE	21:5:541:C:H5'	2.33	0.43
7:C:150:LYS:HA	7:C:155:LYS:HZ1	1.83	0.43
8:S:43:ASN:O	8:S:47:VAL:HG23	2.19	0.43
10:K:4:ILE:H	10:K:4:ILE:HD12	1.84	0.43
13:L:65:ILE:HD12	13:L:65:ILE:H	1.84	0.43
13:L:106:ALA:HA	21:5:943:C:OP1	2.19	0.43
21:5:536:U:H2'	21:5:537:A:H8	1.82	0.43
21:5:1066:U:H2'	21:5:1067:C:H6	1.83	0.43
21:5:1194:A:H2'	21:5:1195:G:C8	2.53	0.43
21:5:1338:A:H1'	21:5:1340:G:C8	2.53	0.43
21:5:1492:G:H2'	21:5:1493:A:C8	2.53	0.43
3:F:114:THR:HG22	3:F:116:LEU:H	1.83	0.43
15:R:83:HIS:CD2	21:5:1202:A:C8	3.05	0.43
18:Q:90:LEU:O	18:Q:94:ARG:HG3	2.19	0.43
19:E:14:SER:H	19:E:17:GLN:NE2	2.16	0.43
19:E:71:ASP:OD1	19:E:71:ASP:N	2.50	0.43
19:E:107:LEU:O	19:E:111:LYS:HG3	2.18	0.43
21:5:168:A:HO2'	21:5:169:G:P	2.41	0.43
21:5:842:C:H2'	21:5:843:C:C6	2.53	0.43
21:5:1136:G:H1	21:5:1151:A:N6	2.15	0.43
21:5:1140:A:C2'	21:5:1141:U:H5'	2.48	0.43
4:A:253:GLU:C	4:A:255:GLN:H	2.21	0.43
6:J:111:HIS:CE1	21:5:672:A:H1'	2.53	0.43
7:C:2:LYS:O	7:C:2:LYS:HG3	2.18	0.43
17:G:124:THR:HB	17:G:127:VAL:HG12	2.00	0.43
21:5:735:C:H2'	21:5:736:U:C6	2.53	0.43
21:5:1065:G:H2'	21:5:1066:U:H6	1.83	0.43
4:A:39:PRO:HG2	21:5:825:A:N3	2.34	0.43
14:N:36:LEU:HD12	14:N:36:LEU:HA	1.89	0.43
21:5:982:A:H2'	21:5:983:G:C8	2.54	0.43
3:F:130:THR:O	3:F:134:ILE:HB	2.18	0.43
4:A:72:VAL:HG12	4:A:175:LEU:HD21	2.01	0.43
4:A:115:GLY:HA2	4:A:118:THR:HG22	2.00	0.43
4:A:246:PHE:CE2	4:A:256:ILE:HD11	2.53	0.43
8:S:56:ARG:NH1	21:5:197:A:HO2'	2.14	0.43
16:T:21:VAL:O	16:T:25:ILE:HG12	2.18	0.43
21:5:126:U:H2'	21:5:127:A:H8	1.83	0.43
21:5:1125:C:O2'	21:5:1255:A:N1	2.51	0.43
8:S:27:LYS:HG3	8:S:50:GLN:NE2	2.33	0.43
13:L:39:ILE:H	13:L:39:ILE:HG13	1.69	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:T:38:LYS:HB2	16:T:38:LYS:HE3	1.72	0.43
19:E:25:GLN:O	19:E:28:THR:OG1	2.29	0.43
20:P:56:LYS:N	20:P:59:ASP:OD2	2.52	0.43
21:5:185:G:H2'	21:5:186:A:C8	2.54	0.43
21:5:850:G:H2'	21:5:851:U:C6	2.53	0.43
21:5:1111:G:H2'	21:5:1112:U:H6	1.84	0.43
4:A:21:ALA:HB2	4:A:231:LEU:HD21	2.01	0.43
7:C:69:LYS:HZ3	21:5:544:A:P	2.41	0.43
7:C:115:GLN:HE22	21:5:402:G:H21	1.66	0.43
12:I:52:LYS:HE2	12:I:74:ASN:ND2	2.33	0.43
12:I:53:GLU:HB3	21:5:1229:A:OP1	2.19	0.43
17:G:61:GLU:O	19:E:145:ARG:N	2.51	0.43
21:5:82:C:C2	21:5:83:U:C5	3.07	0.43
21:5:708:A:H2'	21:5:709:A:C8	2.54	0.43
1:B:165:ILE:O	1:B:167:ARG:N	2.45	0.43
9:O:6:LEU:HB3	9:O:17:TYR:HB3	2.01	0.43
15:R:10:PHE:CE1	15:R:37:ARG:HD3	2.52	0.43
21:5:142:G:H2'	21:5:143:U:C6	2.54	0.43
21:5:662:G:H1'	21:5:730:G:H5'	2.00	0.43
2:D:87:ARG:HG3	2:D:109:LEU:HD22	2.01	0.42
4:A:124:SER:HA	4:A:127:ILE:HG12	1.99	0.42
4:A:256:ILE:HG22	4:A:257:GLU:O	2.19	0.42
12:I:29:LYS:HD2	12:I:29:LYS:HA	1.80	0.42
16:T:8:ASN:HA	16:T:14:ALA:CB	2.49	0.42
21:5:42:G:H2'	21:5:43:G:C8	2.51	0.42
21:5:820:A:H2'	21:5:821:U:H6	1.84	0.42
21:5:940:G:H2'	21:5:940:G:N3	2.34	0.42
21:5:1139:A:H2'	21:5:1140:A:C8	2.54	0.42
1:B:60:ARG:HA	1:B:64:THR:O	2.19	0.42
12:I:15:LYS:HE3	12:I:77:LYS:HD3	2.00	0.42
20:P:71:ALA:O	20:P:72:THR:OG1	2.32	0.42
21:5:394:U:H2'	21:5:395:G:H8	1.83	0.42
21:5:825:A:H2'	21:5:826:G:O4'	2.19	0.42
21:5:1304:U:H2'	21:5:1305:G:O4'	2.19	0.42
21:5:1377:C:H2'	21:5:1378:C:O4'	2.19	0.42
10:K:26:TYR:HA	10:K:37:ASN:HA	2.01	0.42
21:5:297:A:H2'	21:5:298:G:H8	1.82	0.42
21:5:1273:A:N3	21:5:1273:A:H2'	2.34	0.42
21:5:1410:A:H2'	21:5:1411:A:H8	1.84	0.42
6:J:62:LYS:O	6:J:66:THR:HG22	2.20	0.42
7:C:75:PHE:HA	7:C:78:VAL:HG12	2.01	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:114:ARG:HH22	21:5:400:G:P	2.40	0.42
12:I:58:ILE:HG22	12:I:68:ARG:HE	1.84	0.42
17:G:26:ARG:HH22	17:G:85:ASN:C	2.22	0.42
19:E:39:TYR:HB2	19:E:58:TYR:CD2	2.54	0.42
21:5:1007:U:H2'	21:5:1008:G:C8	2.54	0.42
21:5:1265:U:H2'	21:5:1266:U:C6	2.54	0.42
21:5:1417:U:H3	21:5:1435:G:H1	1.67	0.42
21:5:1488:A:H2'	21:5:1489:C:C6	2.54	0.42
1:B:140:SER:O	1:B:143:LYS:HG2	2.19	0.42
7:C:118:ASN:HD22	21:5:400:G:P	2.41	0.42
21:5:410:A:H62	21:5:428:A:H1'	1.85	0.42
21:5:484:A:H2'	21:5:485:C:O4'	2.19	0.42
9:O:6:LEU:HD11	9:O:68:THR:HB	2.02	0.42
10:K:47:CYS:HA	10:K:68:VAL:HA	2.02	0.42
20:P:66:THR:HG23	20:P:67:ARG:O	2.20	0.42
21:5:87:G:H2'	21:5:88:A:H8	1.84	0.42
21:5:369:A:H61	21:5:387:G:H1'	1.84	0.42
21:5:1156:G:H1'	21:5:1157:G:C5	2.55	0.42
1:B:156:VAL:HG22	1:B:201:VAL:HG12	2.02	0.42
21:5:137:A:N3	21:5:137:A:H2'	2.34	0.42
21:5:860:C:C4	21:5:861:A:H1'	2.55	0.42
2:D:161:ILE:HD11	2:D:179:TYR:CD1	2.54	0.42
4:A:95:LEU:O	4:A:99:ILE:HG12	2.20	0.42
13:L:6:GLY:HA2	13:L:57:ARG:NH1	2.35	0.42
17:G:99:ARG:HG2	17:G:137:ILE:HD12	2.01	0.42
19:E:45:LEU:HD23	19:E:45:LEU:HA	1.91	0.42
21:5:187:A:H2'	21:5:188:U:C6	2.55	0.42
21:5:498:G:H2'	21:5:499:U:H6	1.85	0.42
21:5:938:U:H2'	21:5:939:G:H8	1.85	0.42
1:B:165:ILE:HD12	21:5:1047:U:H4'	2.01	0.42
17:G:36:ILE:HD13	17:G:69:ILE:HG22	2.02	0.42
21:5:429:A:C4	21:5:430:G:C8	3.08	0.42
21:5:453:C:H2'	21:5:454:U:H6	1.84	0.42
21:5:1416:U:H2'	21:5:1417:U:C6	2.55	0.42
4:A:252:GLU:O	4:A:253:GLU:HG3	2.20	0.42
6:J:54:TYR:O	6:J:58:ILE:HG23	2.20	0.42
6:J:118:LYS:HD2	21:5:777:A:H5''	2.01	0.42
17:G:2:ILE:HG22	17:G:3:THR:HG23	2.01	0.42
20:P:32:HIS:CG	20:P:33:PRO:HD2	2.55	0.42
21:5:409:G:H1'	21:5:425:G:H21	1.84	0.42
21:5:410:A:N6	21:5:428:A:H1'	2.35	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:475:U:H3'	21:5:476:U:H5''	2.02	0.42
21:5:1354:G:H2'	21:5:1355:U:C6	2.55	0.42
21:5:1390:G:C6	21:5:1461:G:C6	3.08	0.42
3:F:3:LYS:HB2	3:F:3:LYS:HE3	1.81	0.41
9:O:18:ARG:NH2	9:O:35:LEU:HD11	2.35	0.41
21:5:97:G:H21	21:5:350:G:H5'	1.84	0.41
21:5:331:C:C2	21:5:332:A:C8	3.08	0.41
21:5:483:U:H2'	21:5:484:A:H8	1.83	0.41
21:5:498:G:H2'	21:5:499:U:C6	2.55	0.41
21:5:501:A:H2'	21:5:502:C:C6	2.55	0.41
21:5:1307:A:H2'	21:5:1308:G:O4'	2.19	0.41
21:5:1471:C:H1'	21:5:1492:G:H22	1.85	0.41
2:D:162:ALA:HB1	2:D:166:ILE:HB	2.01	0.41
2:D:208:VAL:HG21	17:G:111:LEU:HD12	2.02	0.41
8:S:24:GLN:O	8:S:27:LYS:HG2	2.20	0.41
12:I:93:LEU:O	12:I:96:ILE:HG23	2.20	0.41
14:N:30:THR:HG22	14:N:60:ARG:NH2	2.35	0.41
17:G:113:ILE:HG23	17:G:124:THR:HG23	2.02	0.41
19:E:125:PRO:HA	21:5:838:A:H61	1.85	0.41
21:5:321:A:H2'	21:5:322:G:O4'	2.19	0.41
21:5:945:U:H3	21:5:1206:G:H1	1.68	0.41
2:D:101:ILE:HD11	2:D:173:ALA:CA	2.49	0.41
4:A:115:GLY:N	4:A:190:GLU:OE2	2.53	0.41
4:A:132:LYS:O	4:A:135:GLU:HG3	2.20	0.41
6:J:98:LEU:HD12	6:J:98:LEU:HA	1.92	0.41
21:5:120:A:C4	21:5:321:A:N1	2.88	0.41
21:5:137:A:N7	21:5:156:U:O4	2.53	0.41
21:5:417:U:O2'	21:5:418:U:H5''	2.20	0.41
21:5:452:A:N3	21:5:452:A:H2'	2.35	0.41
21:5:947:U:H2'	21:5:948:U:H6	1.86	0.41
21:5:1471:C:H2'	21:5:1472:G:C8	2.55	0.41
1:B:112:PRO:O	1:B:118:ILE:HD11	2.20	0.41
4:A:175:LEU:HD12	4:A:176:LEU:H	1.86	0.41
10:K:44:ARG:HA	10:K:94:LEU:HA	2.02	0.41
10:K:89:GLU:O	10:K:90:HIS:HB2	2.19	0.41
19:E:1:MET:SD	19:E:1:MET:N	2.77	0.41
21:5:304:U:H2'	21:5:305:A:C8	2.56	0.41
21:5:458:G:H2'	21:5:459:C:C6	2.55	0.41
21:5:590:G:H2'	21:5:591:A:C8	2.55	0.41
21:5:597:C:H2'	21:5:598:U:C6	2.55	0.41
21:5:674:U:H3	21:5:710:G:H22	1.68	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:1233:G:H2'	21:5:1234:C:C6	2.55	0.41
4:A:107:PHE:CE1	4:A:165:GLY:HA2	2.55	0.41
7:C:38:HIS:CE1	21:5:509:C:H1'	2.54	0.41
12:I:87:GLN:HA	12:I:90:ILE:HG22	2.03	0.41
14:N:76:ARG:CZ	14:N:76:ARG:HA	2.51	0.41
21:5:168:A:O2'	21:5:169:G:OP1	2.33	0.41
21:5:725:A:H2'	21:5:726:A:C8	2.56	0.41
21:5:1239:U:H2'	21:5:1240:U:H6	1.86	0.41
21:5:1409:A:H2'	21:5:1410:A:C8	2.55	0.41
4:A:31:GLY:HA2	4:A:53:ASN:HB3	2.02	0.41
4:A:175:LEU:HD12	4:A:176:LEU:N	2.36	0.41
15:R:31:ILE:HD11	15:R:49:PHE:CE1	2.55	0.41
20:P:60:LYS:HZ1	20:P:81:ILE:HG21	1.85	0.41
21:5:140:U:H2'	21:5:141:A:C8	2.55	0.41
21:5:512:U:H2'	21:5:513:G:H8	1.86	0.41
21:5:940:G:H5'	21:5:1312:G:O6	2.21	0.41
21:5:1403:A:C6	21:5:1448:A:N1	2.89	0.41
2:D:203:LEU:HD23	2:D:203:LEU:H	1.86	0.41
7:C:8:PHE:HD2	21:5:426:U:H5'	1.84	0.41
12:I:86:ASN:O	12:I:88:GLY:N	2.53	0.41
17:G:19:LEU:HD12	17:G:89:GLN:HB3	2.02	0.41
21:5:552:U:C2	21:5:553:C:C5	3.09	0.41
21:5:680:G:C6	21:5:705:A:C6	3.09	0.41
21:5:767:U:H2'	21:5:768:G:H8	1.85	0.41
21:5:1047:U:H2'	21:5:1048:G:H8	1.85	0.41
21:5:1410:A:H2'	21:5:1411:A:C8	2.55	0.41
21:5:1489:C:H2'	21:5:1490:G:C8	2.55	0.41
21:5:20:C:H2'	21:5:21:U:H6	1.85	0.41
21:5:320:G:N2	21:5:323:A:OP2	2.54	0.41
21:5:350:G:H2'	21:5:351:C:C6	2.56	0.41
21:5:470:U:O4	21:5:471:A:N6	2.54	0.41
21:5:734:A:H2'	21:5:735:C:C6	2.56	0.41
21:5:1111:G:H2'	21:5:1112:U:C6	2.56	0.41
21:5:1225:A:C2	21:5:1345:G:H1'	2.55	0.41
21:5:1328:C:H2'	21:5:1329:G:H8	1.84	0.41
21:5:1366:U:H2'	21:5:1367:G:C8	2.56	0.41
21:5:1497:U:H2'	21:5:1498:G:C8	2.54	0.41
8:S:63:ASN:O	8:S:63:ASN:ND2	2.53	0.41
10:K:78:THR:HG21	10:K:95:LEU:HD22	2.01	0.41
13:L:17:ILE:HD11	21:5:1276:U:C2	2.56	0.41
19:E:86:LEU:HD21	19:E:88:ILE:HD11	2.03	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:5:8:G:C4	21:5:294:A:C6	3.08	0.41
21:5:302:A:N6	21:5:303:A:N1	2.68	0.41
21:5:478:G:H21	21:5:479:A:H61	1.67	0.41
21:5:673:A:H2'	21:5:674:U:H6	1.85	0.41
21:5:675:U:H2'	21:5:676:U:H6	1.85	0.41
21:5:747:C:H2'	21:5:748:U:C6	2.56	0.41
21:5:1066:U:H2'	21:5:1067:C:C6	2.55	0.41
21:5:1138:U:H2'	21:5:1139:A:C8	2.53	0.41
21:5:1198:C:H5''	21:5:1199:U:H5''	2.02	0.41
21:5:1265:U:H2'	21:5:1266:U:H6	1.86	0.41
21:5:1502:G:H2'	21:5:1503:U:C6	2.55	0.41
4:A:57:VAL:HG23	4:A:60:LEU:HB3	2.03	0.41
7:C:166:PHE:CD1	7:C:182:PRO:HB3	2.56	0.41
12:I:18:SER:HB2	12:I:102:VAL:HA	2.02	0.41
12:I:94:LYS:HE2	12:I:94:LYS:HB3	1.91	0.41
13:L:95:LEU:HG	13:L:96:PRO:HD2	2.03	0.41
15:R:19:VAL:HG23	15:R:47:ASN:HD21	1.85	0.41
17:G:106:LEU:O	17:G:106:LEU:HD12	2.20	0.41
19:E:40:LEU:HD12	19:E:57:TYR:HB3	2.03	0.41
19:E:151:LYS:HA	19:E:152:PRO:HD2	1.94	0.41
21:5:1097:G:H2'	21:5:1098:C:C6	2.56	0.41
21:5:1463:A:H2'	21:5:1464:G:H8	1.84	0.41
3:F:21:LEU:HB2	3:F:61:PHE:HE2	1.87	0.40
4:A:256:ILE:O	4:A:258:ILE:HG12	2.21	0.40
8:S:66:ARG:NE	21:5:171:A:O3'	2.54	0.40
21:5:53:U:H2'	21:5:54:A:H8	1.86	0.40
21:5:355:A:H2'	21:5:356:G:C8	2.56	0.40
21:5:980:C:H2'	21:5:981:U:C6	2.56	0.40
21:5:1014:A:H2'	21:5:1015:U:O4'	2.21	0.40
1:B:61:THR:O	1:B:64:THR:HG22	2.22	0.40
4:A:112:TRP:NE1	4:A:190:GLU:OE1	2.47	0.40
5:H:77:GLN:O	5:H:81:ILE:HG12	2.21	0.40
6:J:23:THR:HG21	6:J:56:ALA:HA	2.02	0.40
7:C:145:LYS:HD3	7:C:147:LYS:HB3	2.03	0.40
17:G:11:HIS:HB2	21:5:822:A:H1'	2.03	0.40
17:G:89:GLN:HE21	21:5:871:U:H5'	1.86	0.40
21:5:108:C:H2'	21:5:109:G:C8	2.54	0.40
21:5:254:G:H2'	21:5:255:G:H8	1.85	0.40
21:5:906:C:H2'	21:5:907:A:C8	2.57	0.40
21:5:1136:G:H1	21:5:1151:A:H61	1.68	0.40
21:5:1505:G:H2'	21:5:1506:A:C8	2.56	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:26:ILE:HD12	3:F:26:ILE:HA	1.91	0.40
6:J:33:ASN:N	6:J:33:ASN:OD1	2.53	0.40
7:C:194:SER:O	7:C:198:GLU:HG2	2.22	0.40
10:K:44:ARG:HB2	10:K:93:THR:O	2.22	0.40
12:I:44:GLY:HA3	21:5:1114:A:H4'	2.03	0.40
14:N:6:ASN:OD1	14:N:10:LYS:NZ	2.55	0.40
21:5:275:A:H5''	21:5:276:U:H3'	2.02	0.40
21:5:422:A:H2'	21:5:423:U:C6	2.56	0.40
21:5:661:G:H1	21:5:738:A:H61	1.70	0.40
21:5:881:G:C2	21:5:905:U:C2	3.09	0.40
21:5:976:U:OP2	21:5:977:U:O2'	2.33	0.40
21:5:1495:C:H2'	21:5:1496:G:C8	2.56	0.40
1:B:83:LYS:HE3	1:B:83:LYS:HB2	1.84	0.40
1:B:159:ARG:HG3	1:B:165:ILE:HD11	2.02	0.40
2:D:166:ILE:O	2:D:170:ILE:HG12	2.22	0.40
2:D:177:ASP:OD1	2:D:177:ASP:O	2.39	0.40
3:F:113:LYS:HD2	21:5:1272:C:C4	2.57	0.40
4:A:73:LYS:O	4:A:77:GLN:HG2	2.21	0.40
9:O:70:ARG:HA	9:O:70:ARG:NE	2.36	0.40
15:R:10:PHE:CE1	21:5:1292:A:H4'	2.57	0.40
21:5:99:U:H2'	21:5:100:G:H8	1.84	0.40
21:5:136:U:N3	21:5:157:A:N6	2.54	0.40
21:5:739:G:H2'	21:5:740:G:H8	1.86	0.40
21:5:1268:G:H2'	21:5:1269:U:C6	2.56	0.40
3:F:52:ARG:O	3:F:53:THR:OG1	2.35	0.40
4:A:166:VAL:O	4:A:166:VAL:HG23	2.21	0.40
7:C:147:LYS:HA	7:C:147:LYS:HD2	1.91	0.40
8:S:28:LEU:HB2	8:S:50:GLN:HG3	2.03	0.40
18:Q:53:LEU:HD11	18:Q:92:ARG:HG2	2.03	0.40
21:5:470:U:H2'	21:5:471:A:C8	2.57	0.40
21:5:486:C:H2'	21:5:487:A:C8	2.57	0.40
21:5:628:A:H2'	21:5:628:A:N3	2.37	0.40
21:5:1099:G:C2	21:5:1100:C:C6	3.09	0.40
21:5:1227:A:H2'	21:5:1228:C:C6	2.56	0.40
21:5:1236:A:C8	21:5:1250:A:N6	2.89	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	B	213/273 (78%)	202 (95%)	11 (5%)	0	100	100
2	D	151/219 (69%)	141 (93%)	10 (7%)	0	100	100
3	F	152/155 (98%)	135 (89%)	17 (11%)	0	100	100
4	A	247/294 (84%)	227 (92%)	18 (7%)	2 (1%)	19	56
5	H	126/132 (96%)	109 (86%)	17 (14%)	0	100	100
6	J	112/121 (93%)	106 (95%)	6 (5%)	0	100	100
7	C	201/205 (98%)	186 (92%)	15 (8%)	0	100	100
8	S	75/87 (86%)	72 (96%)	3 (4%)	0	100	100
9	O	85/94 (90%)	75 (88%)	10 (12%)	0	100	100
10	K	134/139 (96%)	117 (87%)	17 (13%)	0	100	100
11	M	58/61 (95%)	55 (95%)	3 (5%)	0	100	100
12	I	99/108 (92%)	87 (88%)	12 (12%)	0	100	100
13	L	116/124 (94%)	107 (92%)	9 (8%)	0	100	100
14	N	81/86 (94%)	78 (96%)	3 (4%)	0	100	100
15	R	82/87 (94%)	75 (92%)	7 (8%)	0	100	100
16	T	51/60 (85%)	45 (88%)	6 (12%)	0	100	100
17	G	139/142 (98%)	126 (91%)	13 (9%)	0	100	100
18	Q	63/104 (61%)	57 (90%)	6 (10%)	0	100	100
19	E	165/215 (77%)	146 (88%)	19 (12%)	0	100	100
20	P	81/85 (95%)	72 (89%)	9 (11%)	0	100	100
All	All	2431/2791 (87%)	2218 (91%)	211 (9%)	2 (0%)	54	83

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	A	250	PRO

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	A	254	ILE

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	B	176/232 (76%)	174 (99%)	2 (1%)	73 85
2	D	117/178 (66%)	117 (100%)	0	100 100
3	F	128/132 (97%)	128 (100%)	0	100 100
4	A	200/262 (76%)	194 (97%)	6 (3%)	41 66
5	H	101/115 (88%)	99 (98%)	2 (2%)	55 74
6	J	91/97 (94%)	91 (100%)	0	100 100
7	C	164/183 (90%)	163 (99%)	1 (1%)	86 93
8	S	70/77 (91%)	69 (99%)	1 (1%)	67 82
9	O	71/82 (87%)	63 (89%)	8 (11%)	6 28
10	K	111/120 (92%)	111 (100%)	0	100 100
11	M	47/48 (98%)	45 (96%)	2 (4%)	29 58
12	I	93/99 (94%)	90 (97%)	3 (3%)	39 65
13	L	92/105 (88%)	89 (97%)	3 (3%)	38 64
14	N	76/78 (97%)	76 (100%)	0	100 100
15	R	66/77 (86%)	60 (91%)	6 (9%)	9 36
16	T	43/56 (77%)	38 (88%)	5 (12%)	5 27
17	G	121/124 (98%)	121 (100%)	0	100 100
18	Q	56/94 (60%)	56 (100%)	0	100 100
19	E	107/196 (55%)	106 (99%)	1 (1%)	78 88
20	P	73/75 (97%)	72 (99%)	1 (1%)	67 82
All	All	2003/2430 (82%)	1962 (98%)	41 (2%)	57 74

All (41) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	29	GLN
1	B	90	LYS
4	A	27	ARG
4	A	147	LYS
4	A	171	ARG
4	A	251	ASP
4	A	257	GLU
4	A	258	ILE
5	H	110	LYS
5	H	115	ARG
7	C	99	ASN
8	S	63	ASN
9	O	2	VAL
9	O	3	LYS
9	O	4	ILE
9	O	5	ARG
9	O	8	ARG
9	O	17	TYR
9	O	31	LYS
9	O	49	LYS
11	M	24	CYS
11	M	61	TRP
12	I	53	GLU
12	I	72	GLU
12	I	97	LYS
13	L	39	ILE
13	L	49	THR
13	L	50	GLU
15	R	63	THR
15	R	64	ASP
15	R	66	MET
15	R	67	VAL
15	R	77	THR
15	R	80	PHE
16	T	17	LYS
16	T	19	LYS
16	T	20	ARG
16	T	51	LYS
16	T	52	LYS
19	E	80	LYS
20	P	60	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (12) such sidechains are listed below:

Mol	Chain	Res	Type
4	A	223	GLN
5	H	52	GLN
6	J	104	ASN
7	C	38	HIS
8	S	24	GLN
8	S	50	GLN
15	R	23	ASN
17	G	23	ASN
17	G	56	ASN
19	E	2	GLN
19	E	56	HIS
20	P	62	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
21	5	1490/1520 (98%)	231 (15%)	5 (0%)

All (231) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
21	5	7	U
21	5	10	G
21	5	32	U
21	5	33	A
21	5	40	G
21	5	48	C
21	5	49	C
21	5	52	A
21	5	61	A
21	5	75	A
21	5	85	U
21	5	86	A
21	5	106	C
21	5	114	C
21	5	115	A
21	5	117	U
21	5	127	A
21	5	128	A
21	5	130	G
21	5	149	G
21	5	154	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	5	156	U
21	5	163	G
21	5	167	A
21	5	168	A
21	5	169	G
21	5	170	A
21	5	197	A
21	5	198	A
21	5	208	A
21	5	210	G
21	5	220	U
21	5	223	G
21	5	241	C
21	5	243	G
21	5	247	G
21	5	262	G
21	5	263	C
21	5	269	A
21	5	275	A
21	5	285	G
21	5	294	A
21	5	301	G
21	5	302	A
21	5	323	A
21	5	324	C
21	5	325	A
21	5	326	C
21	5	328	G
21	5	341	C
21	5	342	G
21	5	344	G
21	5	347	G
21	5	348	C
21	5	352	A
21	5	363	U
21	5	368	C
21	5	369	A
21	5	377	A
21	5	378	A
21	5	380	G
21	5	393	A
21	5	402	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	5	408	U
21	5	409	G
21	5	417	U
21	5	418	U
21	5	420	A
21	5	425	G
21	5	426	U
21	5	448	A
21	5	449	A
21	5	450	U
21	5	452	A
21	5	453	C
21	5	465	A
21	5	473	A
21	5	476	U
21	5	478	G
21	5	481	U
21	5	482	G
21	5	483	U
21	5	488	U
21	5	489	U
21	5	493	A
21	5	494	A
21	5	495	U
21	5	509	C
21	5	516	C
21	5	517	C
21	5	519	G
21	5	522	G
21	5	525	G
21	5	530	A
21	5	545	A
21	5	560	U
21	5	562	U
21	5	570	A
21	5	571	A
21	5	574	C
21	5	575	A
21	5	579	G
21	5	586	G
21	5	595	G
21	5	618	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	5	619	A
21	5	628	A
21	5	650	A
21	5	682	G
21	5	694	U
21	5	715	A
21	5	719	G
21	5	720	U
21	5	721	G
21	5	731	A
21	5	745	U
21	5	752	G
21	5	790	U
21	5	791	A
21	5	810	U
21	5	811	A
21	5	812	A
21	5	814	C
21	5	815	G
21	5	818	A
21	5	825	A
21	5	829	G
21	5	838	A
21	5	839	U
21	5	841	C
21	5	842	C
21	5	867	A
21	5	883	A
21	5	895	A
21	5	908	A
21	5	910	C
21	5	911	G
21	5	922	G
21	5	929	C
21	5	930	A
21	5	934	G
21	5	941	A
21	5	955	U
21	5	964	A
21	5	966	A
21	5	970	A
21	5	971	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	5	972	A
21	5	987	U
21	5	988	G
21	5	989	A
21	5	997	G
21	5	1000	A
21	5	1001	A
21	5	1014	A
21	5	1015	U
21	5	1033	U
21	5	1036	C
21	5	1044	G
21	5	1045	C
21	5	1047	U
21	5	1056	U
21	5	1057	C
21	5	1072	G
21	5	1085	G
21	5	1086	U
21	5	1092	A
21	5	1113	U
21	5	1115	G
21	5	1118	A
21	5	1121	U
21	5	1122	U
21	5	1123	G
21	5	1125	C
21	5	1126	U
21	5	1128	G
21	5	1134	C
21	5	1135	U
21	5	1141	U
21	5	1142	G
21	5	1158	A
21	5	1159	A
21	5	1171	A
21	5	1172	A
21	5	1187	U
21	5	1188	A
21	5	1189	U
21	5	1197	G
21	5	1200	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
21	5	1203	A
21	5	1211	A
21	5	1215	U
21	5	1232	C
21	5	1233	G
21	5	1235	C
21	5	1255	A
21	5	1260	U
21	5	1261	A
21	5	1271	U
21	5	1276	U
21	5	1279	G
21	5	1291	C
21	5	1296	C
21	5	1297	G
21	5	1320	A
21	5	1321	G
21	5	1327	G
21	5	1337	U
21	5	1338	A
21	5	1339	U
21	5	1343	G
21	5	1354	G
21	5	1356	U
21	5	1373	A
21	5	1397	G
21	5	1400	A
21	5	1404	U
21	5	1417	U
21	5	1426	U
21	5	1427	U
21	5	1428	A
21	5	1429	G
21	5	1467	A
21	5	1468	A
21	5	1478	A
21	5	1480	G
21	5	1481	U
21	5	1492	G
21	5	1504	G
21	5	1505	G
21	5	1509	A

All (5) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
21	5	168	A
21	5	419	A
21	5	481	U
21	5	838	A
21	5	1338	A

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 2 ligands modelled in this entry, 2 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

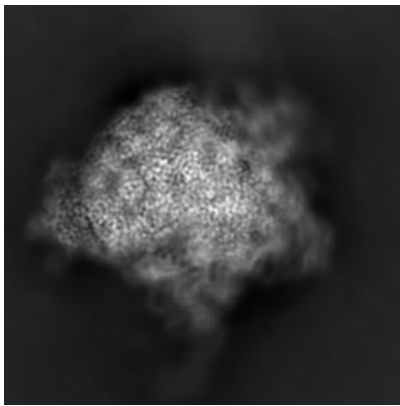
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-11998. These allow visual inspection of the internal detail of the map and identification of artifacts.

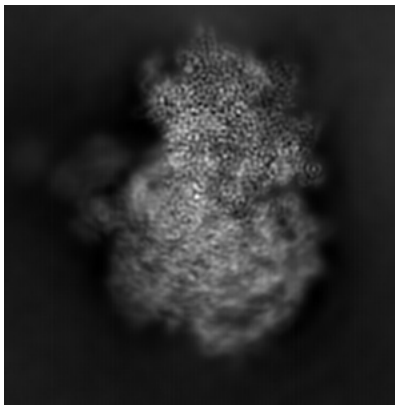
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

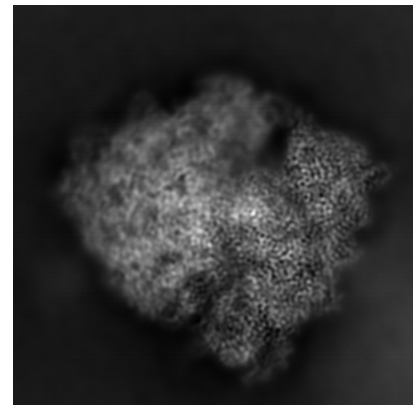
6.1.1 Primary map



X

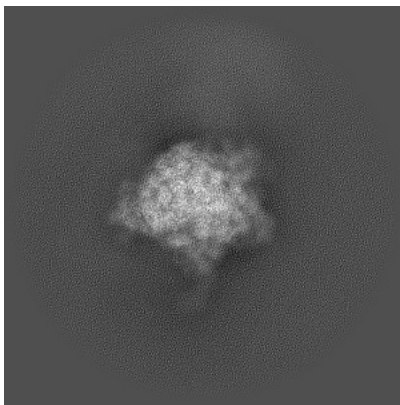


Y

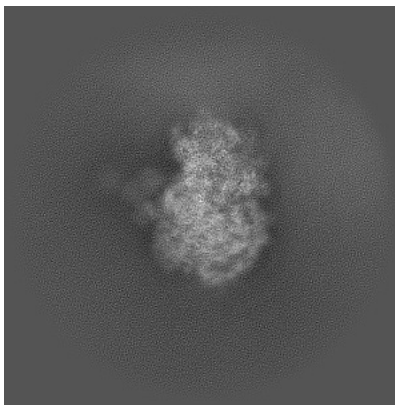


Z

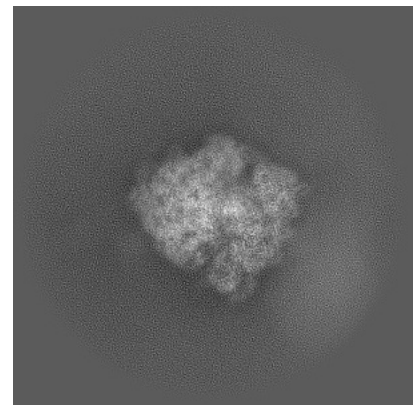
6.1.2 Raw map



X



Y

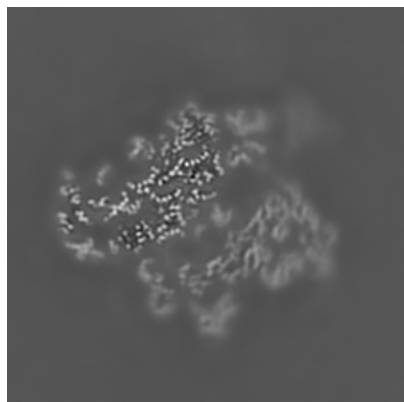


Z

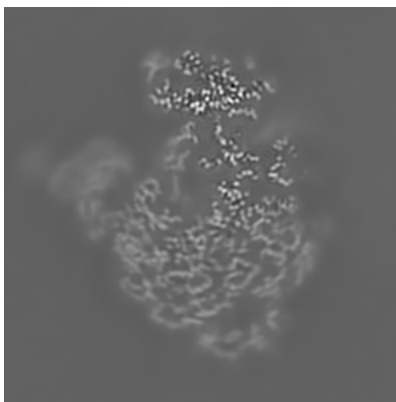
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

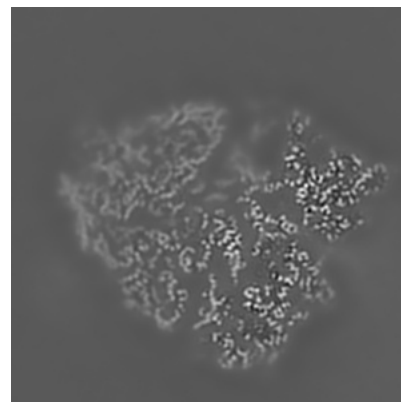
6.2.1 Primary map



X Index: 190

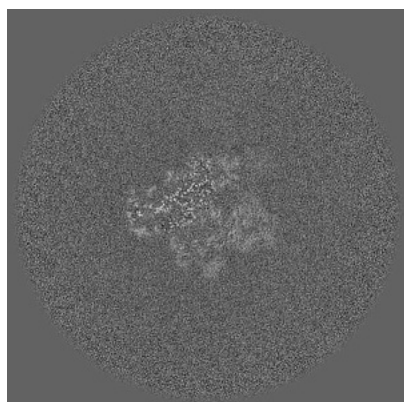


Y Index: 190

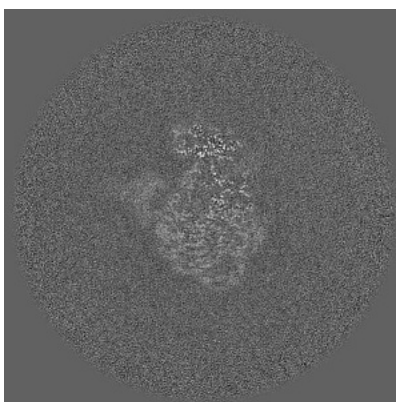


Z Index: 190

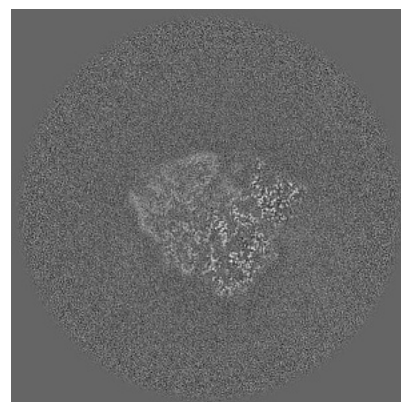
6.2.2 Raw map



X Index: 176



Y Index: 176

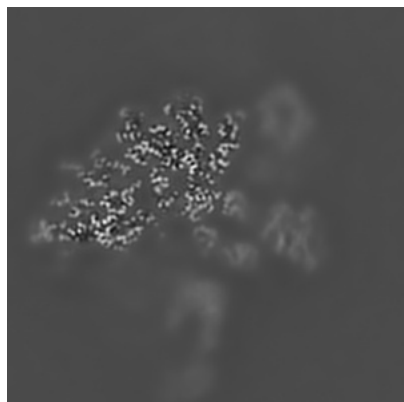


Z Index: 176

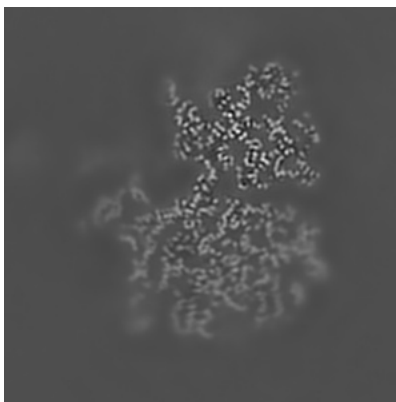
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

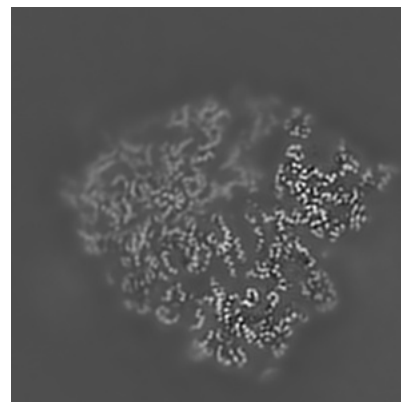
6.3.1 Primary map



X Index: 231

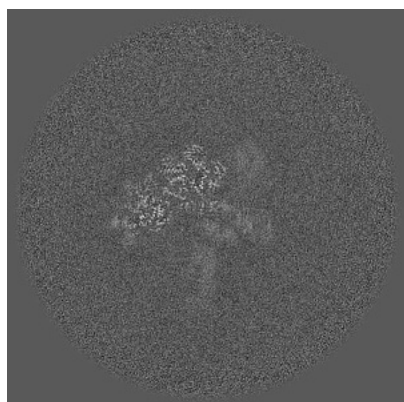


Y Index: 152

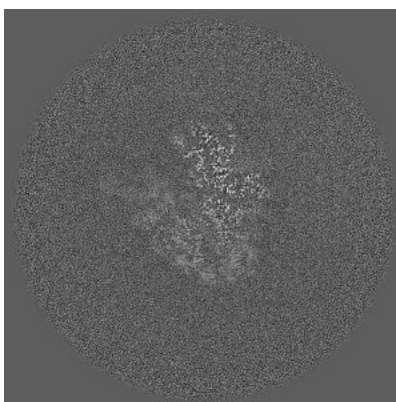


Z Index: 184

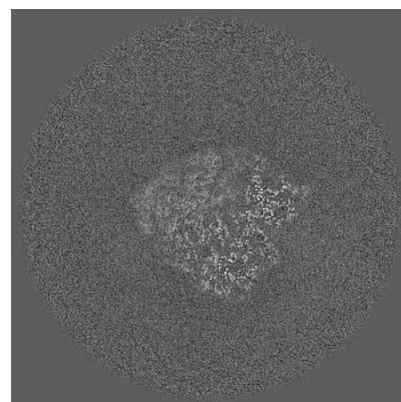
6.3.2 Raw map



X Index: 194



Y Index: 169

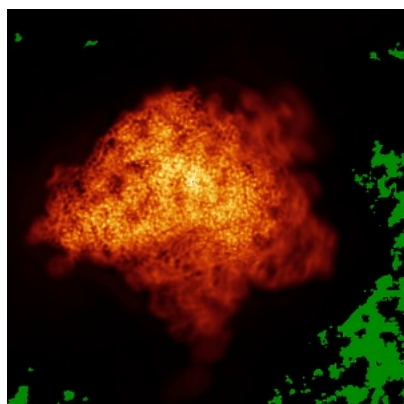


Z Index: 173

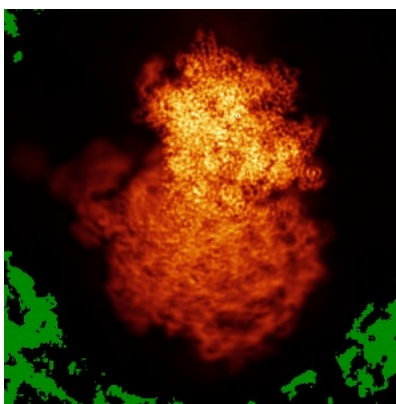
The images above show the largest variance slices of the map in three orthogonal directions.

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

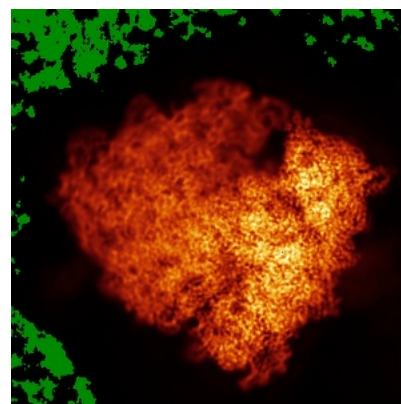
6.4.1 Primary map



X

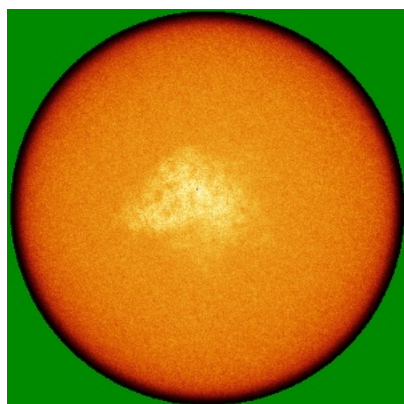


Y

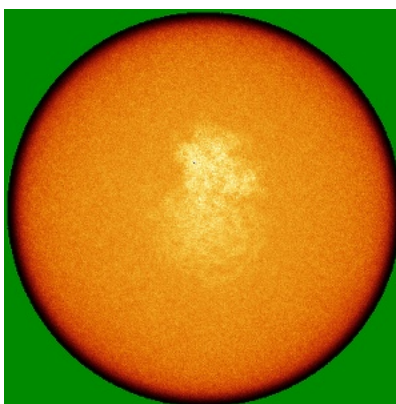


Z

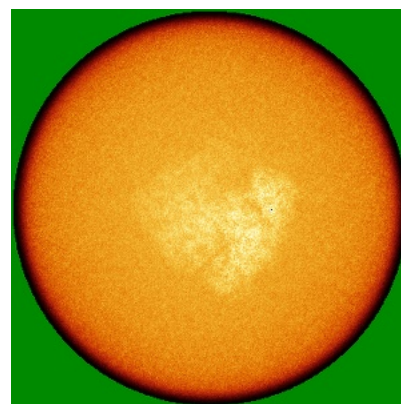
6.4.2 Raw map



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.

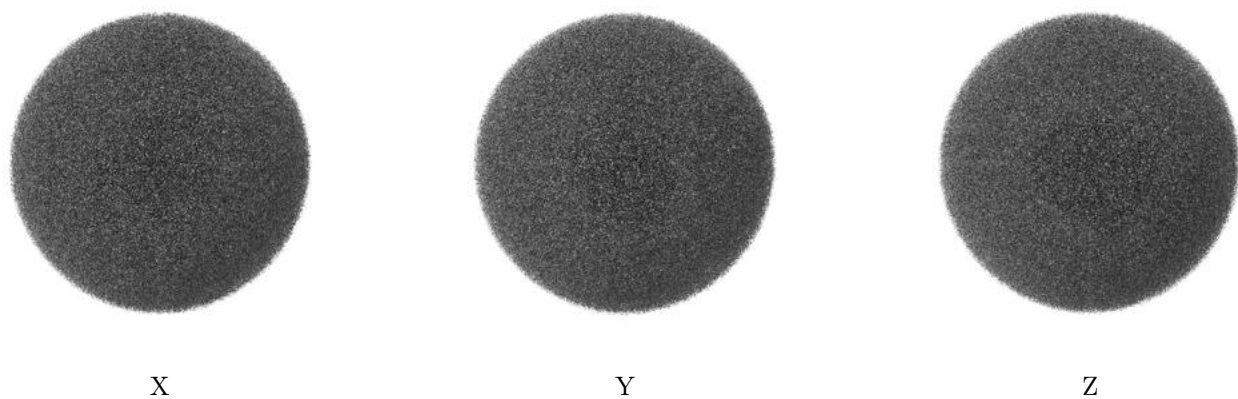
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0023. 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.

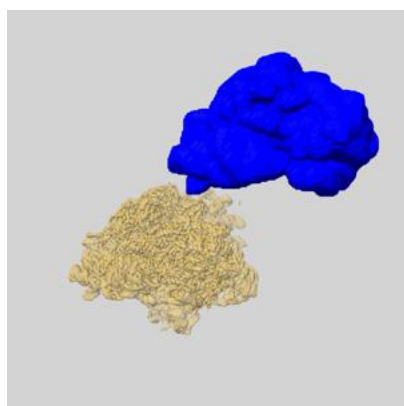
6.6 Mask visualisation [i](#)

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

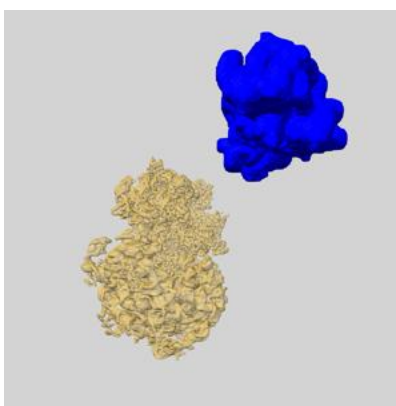
A mask typically either:

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

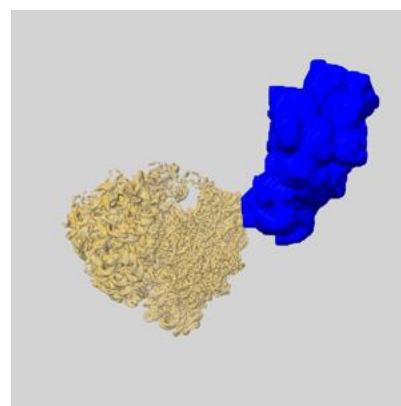
6.6.1 emd_11998_msk_1.map [i](#)



X



Y

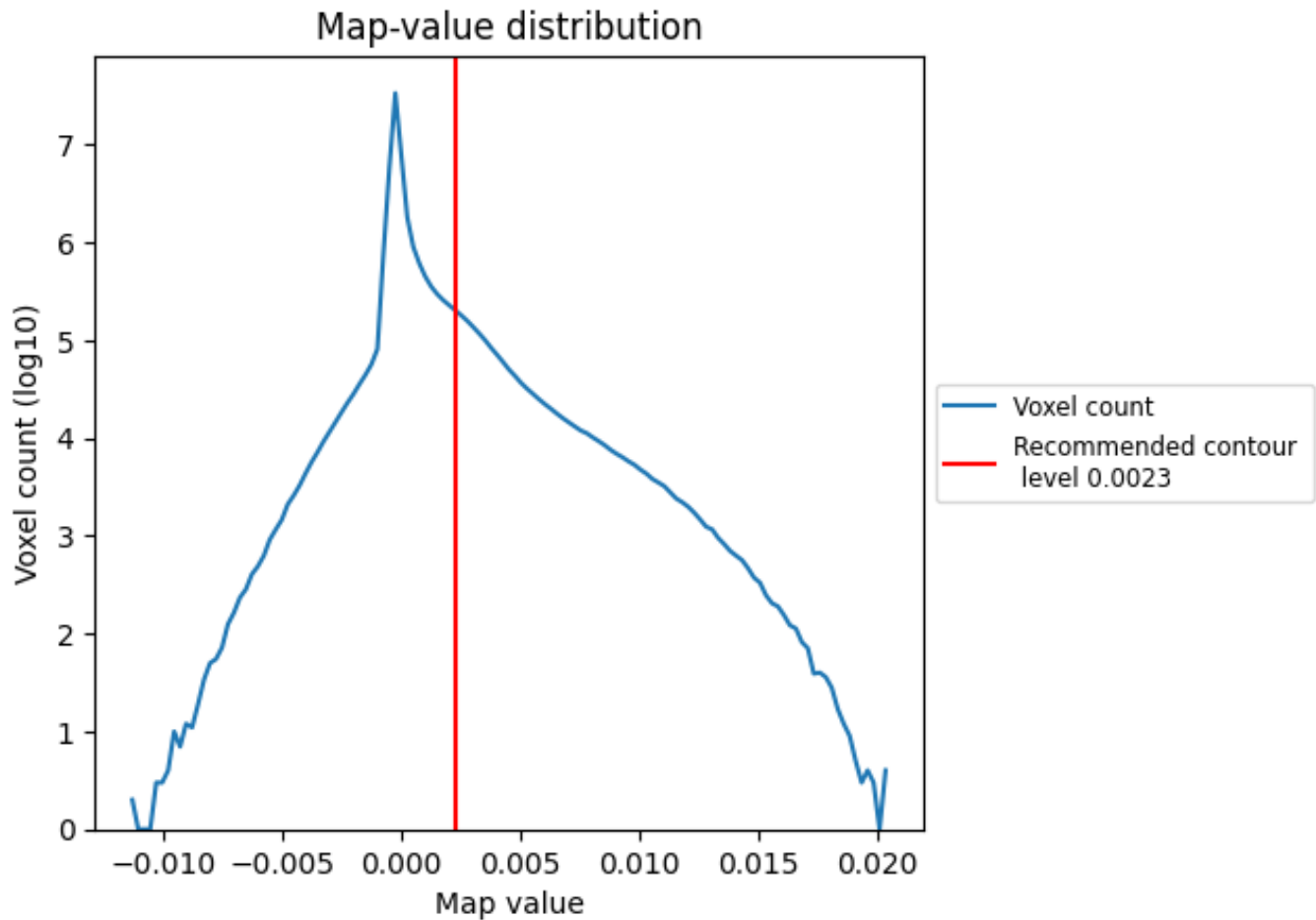


Z

7 Map analysis [i](#)

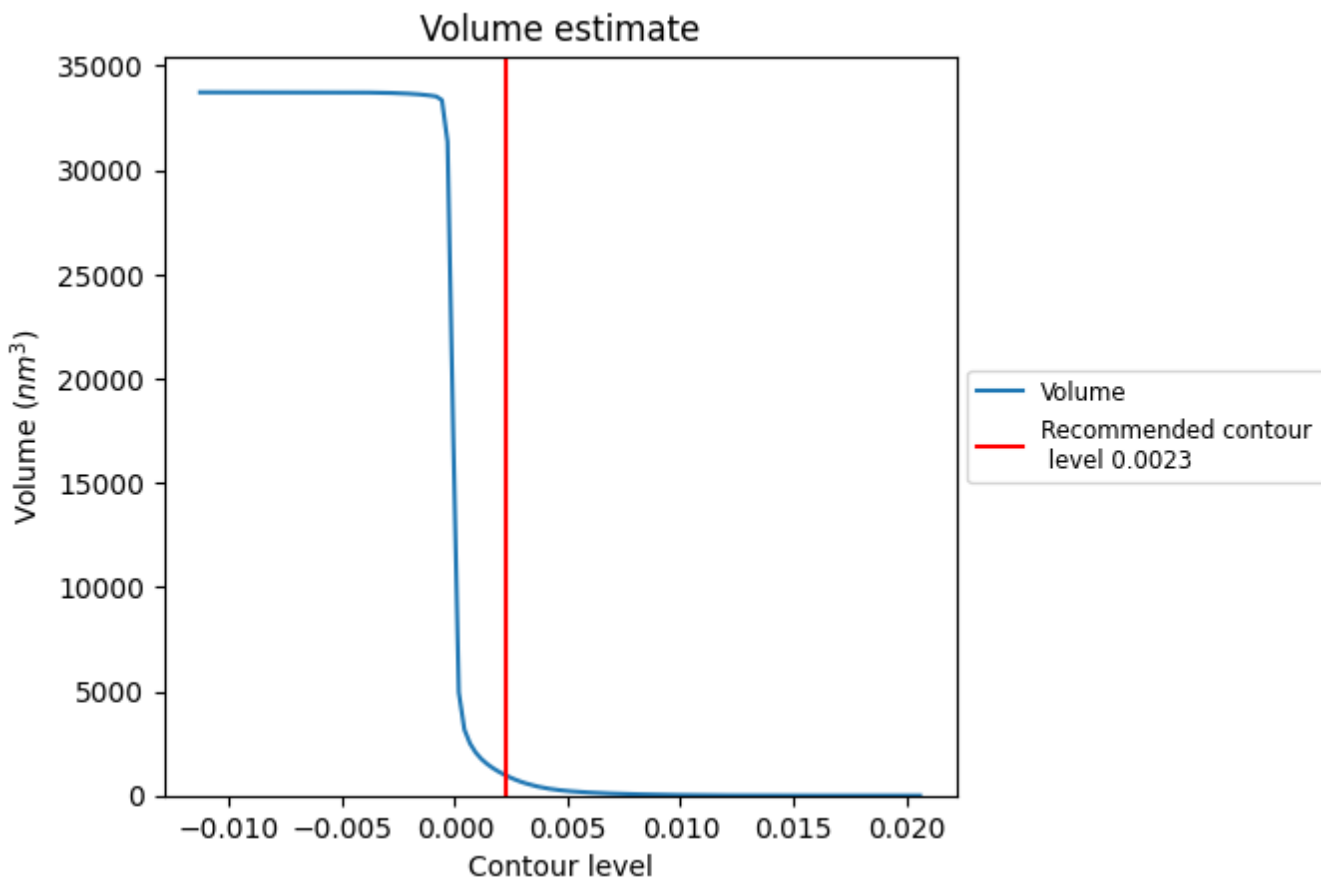
This section contains the results of statistical analysis of the map.

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.

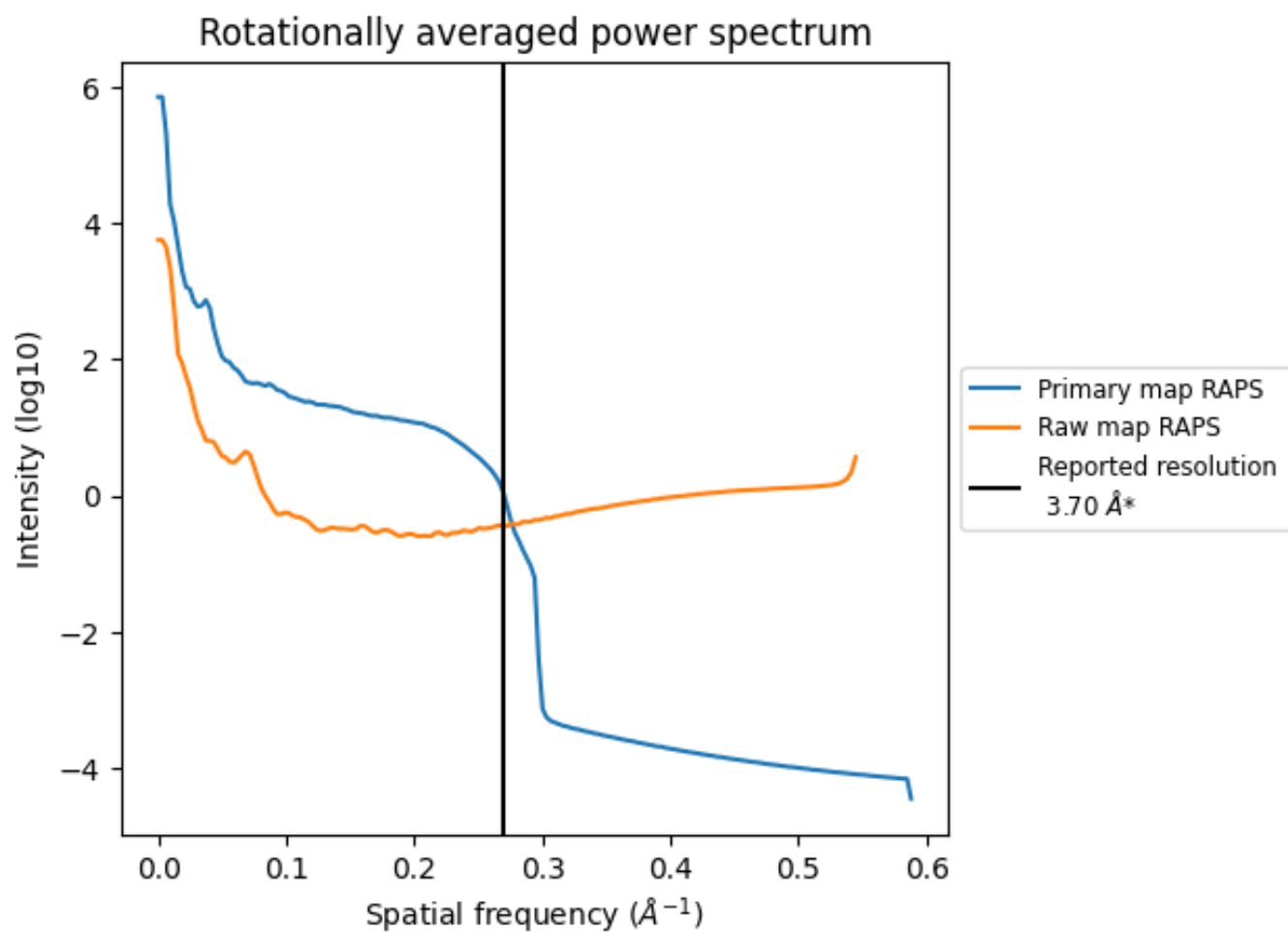
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 952 nm³; this corresponds to an approximate mass of 860 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

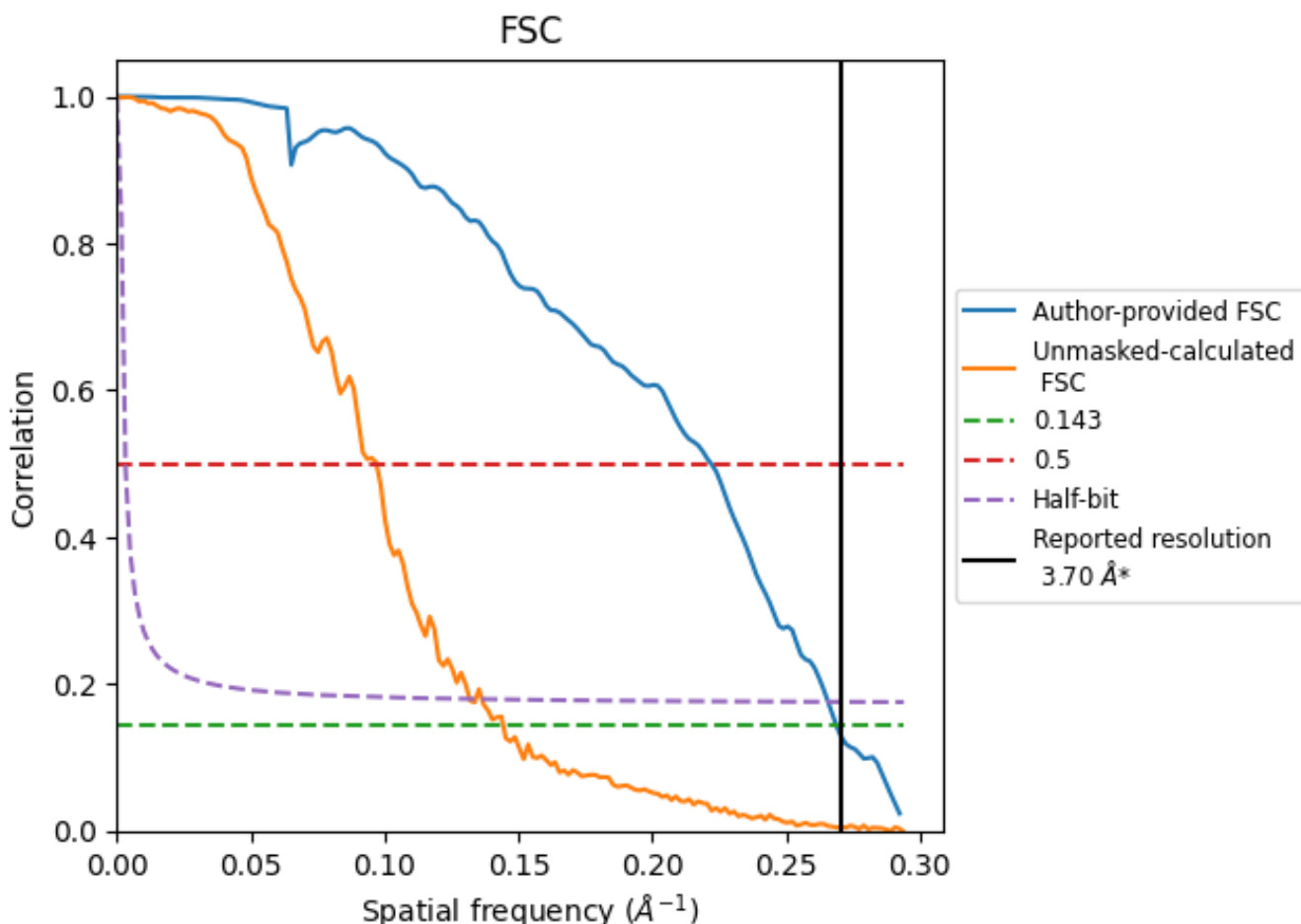


*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

8.2 Resolution estimates [i](#)

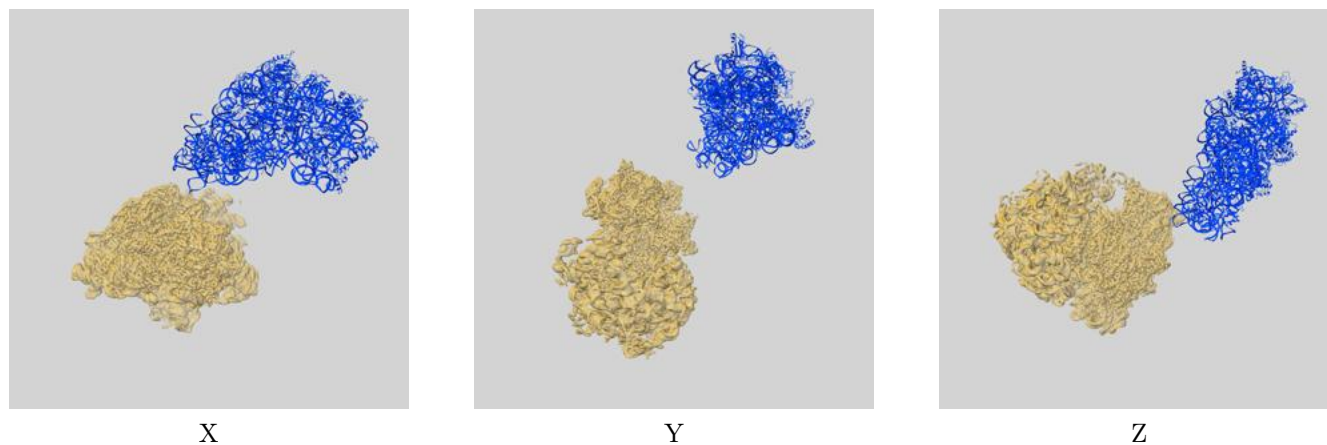
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	3.72	4.51	3.76
Unmasked-calculated*	6.93	10.31	7.59

*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 6.93 differs from the reported value 3.7 by more than 10 %

9 Map-model fit [i](#)

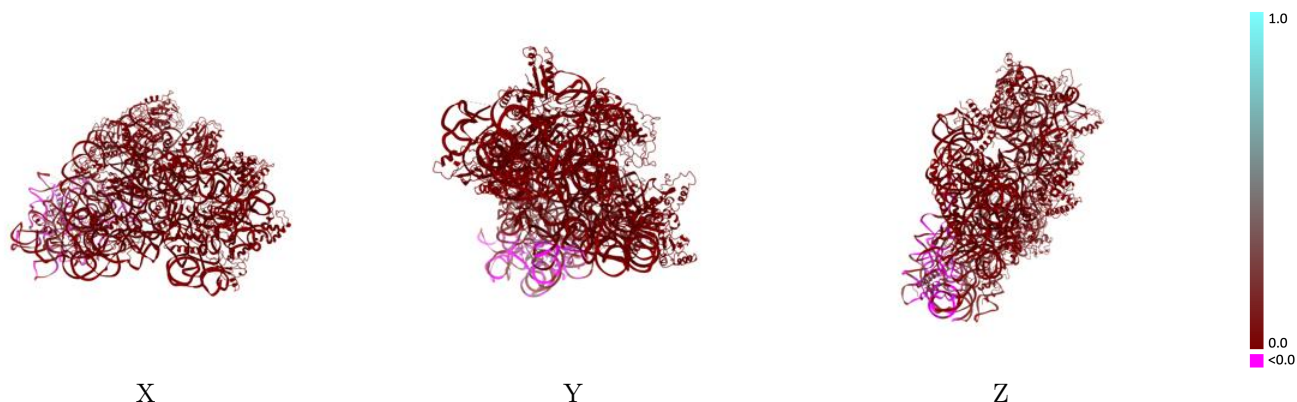
This section contains information regarding the fit between EMDB map EMD-11998 and PDB model 7OOC. Per-residue inclusion information can be found in section [3](#) on page [8](#).

9.1 Map-model overlay [i](#)



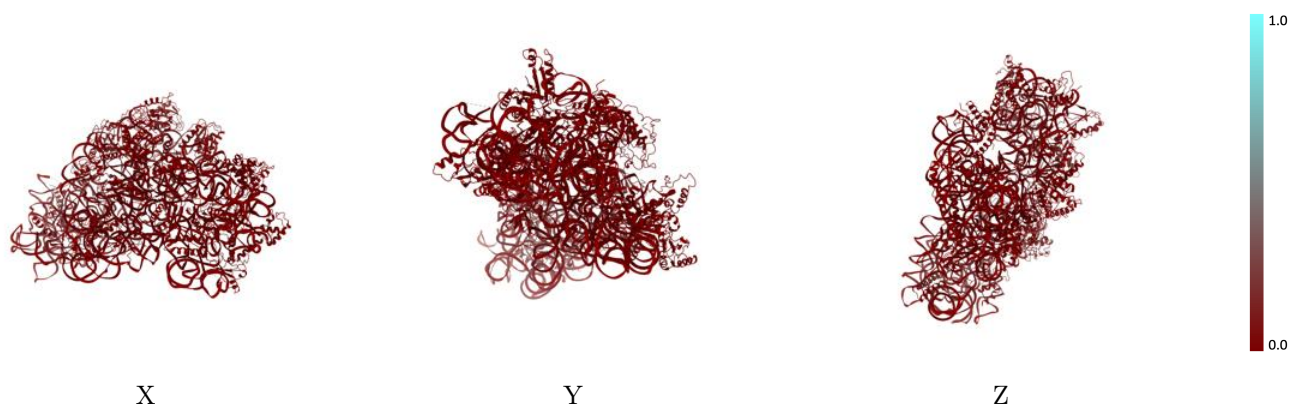
The images above show the 3D surface view of the map at the recommended contour level 0.0023 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



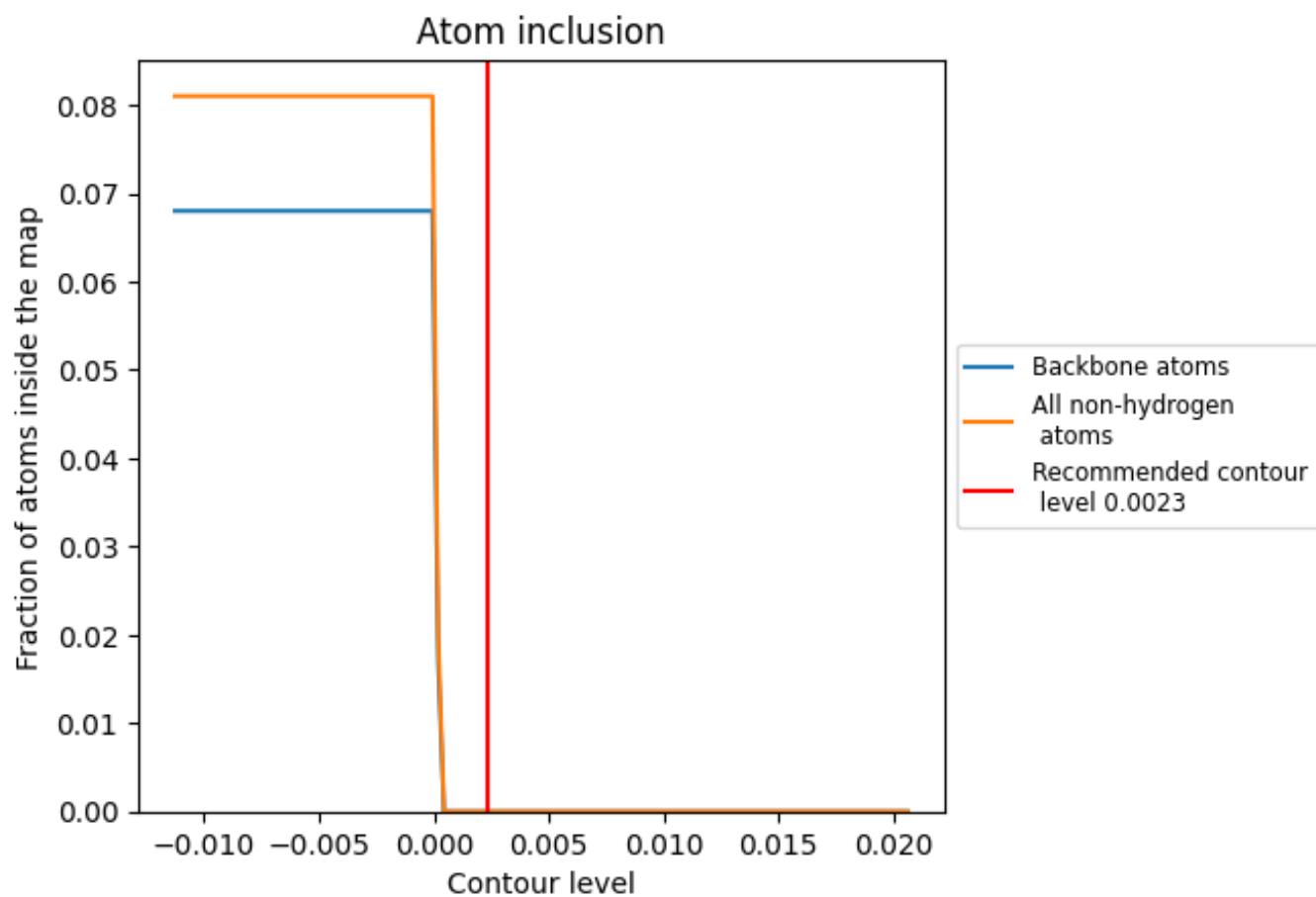
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0023).













































9.4 Atom inclusion [i](#)



At the recommended contour level, 0% of all backbone atoms, 0% 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 (0.0023) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.0000	 -0.0000
5	 0.0000	 -0.0010
A	 0.0000	 0.0000
B	 0.0000	 0.0000
C	 0.0000	 0.0000
D	 0.0000	 0.0000
E	 0.0000	 0.0000
F	 0.0000	 0.0000
G	 0.0000	 0.0000
H	 0.0000	 0.0000
I	 0.0000	 0.0000
J	 0.0000	 0.0000
K	 0.0000	 0.0000
L	 0.0000	 0.0000
M	 0.0000	 0.0000
N	 0.0000	 0.0000
O	 0.0000	 0.0000
P	 0.0000	 -0.0030
Q	 0.0000	 0.0000
R	 0.0000	 0.0000
S	 0.0000	 0.0250
T	 0.0000	 0.0000

