



Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 11:48 AM UTC

PDB ID : 8AGV / pdb_00008agv
EMDB ID : EMD-15425
Title : Yeast RQC complex in state H
Authors : Tesina, P.; Buschauer, R.; Beckmann, R.
Deposited on : 2022-07-20
Resolution : 2.60 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

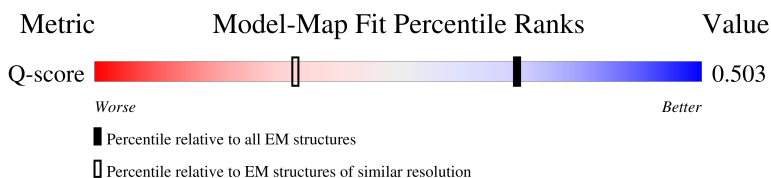
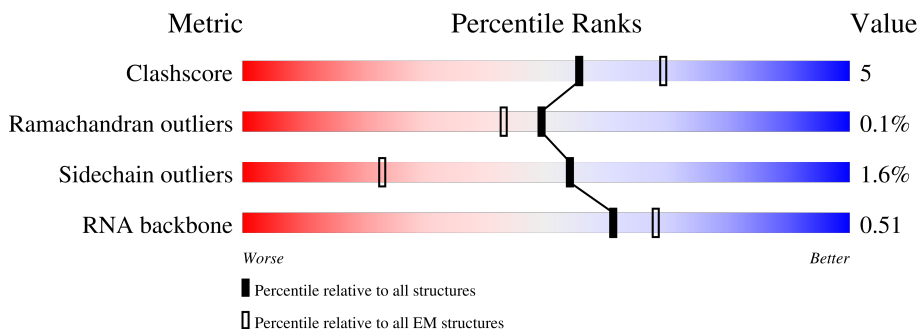
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13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

1 Overall quality at a glance

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

The reported resolution of this entry is 2.60 Å.

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



















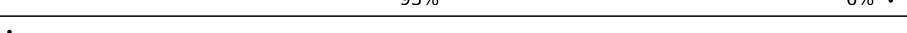








Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	8728 (2.10 - 3.10)

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

Mol	Chain	Length	Quality of chain
1	A	204	
2	B	199	
3	C	184	



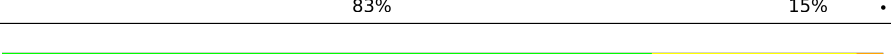
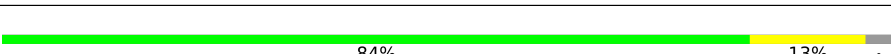
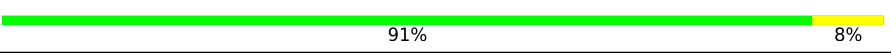
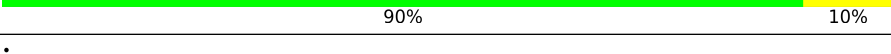


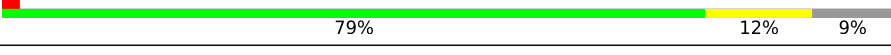
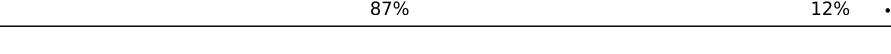
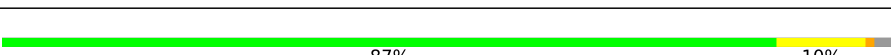












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Mol	Chain	Length	Quality of chain
4	D	186	
5	E	189	
6	F	172	
7	G	160	
8	H	121	
9	I	137	
10	J	155	
11	K	142	
12	L	127	
13	M	136	
14	N	149	
15	O	59	
16	P	105	
17	Q	113	
18	R	130	
19	S	107	
20	T	121	
21	U	120	
22	V	100	
23	W	88	
24	X	78	
25	Y	51	
26	Z	128	
27	b	106	
28	c	92	

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Mol	Chain	Length	Quality of chain
29	d	25	
30	f	3395	
31	h	121	
32	i	158	
33	j	254	
34	k	387	
35	l	362	
36	m	297	
37	n	176	
38	o	244	
39	p	256	
40	q	191	
41	r	221	
42	s	174	
43	t	199	
44	u	138	
45	a	1038	
46	e	1562	
47	g	245	
48	w	217	
49	x	76	
49	y	76	
50	z	165	
51	0	312	
52	1	18	

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Mol	Chain	Length	Quality of chain
53	v	157	 <div style="display: flex; justify-content: space-between; width: 100%;"> 75% 14% 10% </div>

2 Entry composition

There are 55 unique types of molecules in this entry. The entry contains 151349 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 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 2 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	197	Total	C	N	O	S	197	0
			1555	1003	289	262	1		

- Molecule 3 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	183	Total	C	N	O		0	0
			1416	879	284	253			

- Molecule 4 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 5 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	156	Total	C	N	O		0	0
			1258	781	265	212			

- Molecule 6 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

- Molecule 7 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	159	Total	C	N	O	S	0	0
			1272	802	245	221	4		

- Molecule 8 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	100	Total	C	N	O	S	0	0
			796	516	131	149			

- Molecule 9 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 10 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	63	Total	C	N	O	S	0	0
			518	333	102	82	1		

- Molecule 11 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 12 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	125	Total	C	N	O	S	0	0
			984	620	191	173			

- Molecule 13 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	135	Total	C	N	O	S	0	0
			1080	701	199	180			

- Molecule 14 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	148	Total	C	N	O	S	0	0
			1169	747	231	188	3		

- Molecule 15 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	58	Total	C	N	O	S	0	0
			462	289	100	73			

- Molecule 16 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	96	Total	C	N	O	S	0	0
			737	476	123	137	1		

- Molecule 17 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	109	Total	C	N	O	S	0	0
			876	556	167	152	1		

- Molecule 18 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	127	Total	C	N	O	S	0	0
			1013	642	205	165	1		

- Molecule 19 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 20 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 21 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 22 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	99	Total	C	N	O	S	0	0
			766	478	154	132	2		

- Molecule 23 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	81	Total	C	N	O	S	0	0
			645	393	141	106	5		

- Molecule 24 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	77	Total	C	N	O		0	0
			612	391	115	106			

- Molecule 25 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 26 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	52	Total	C	N	O	S	0	0
			410	254	86	65	5		

- Molecule 27 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	b	103	Total	C	N	O	S	0	0
			824	517	167	135	5		

- Molecule 28 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	c	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 29 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	d	22	Total	C	N	O	S	0	0
			207	127	56	23	1		

- Molecule 30 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	f	3216	Total	C	N	O	P	1	0
			68802	30732	12391	22462	3217		

- Molecule 31 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	h	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 32 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	i	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 33 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	j	246	Total	C	N	O	S	0	0
			1874	1168	380	325	1		

- Molecule 34 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	k	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 35 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	l	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 36 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	m	294	Total	C	N	O	S	0	0
			2351	1484	410	455	2		

- Molecule 37 is a protein called 60S ribosomal protein L6-B.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	n	167	Total	C	N	O	0	0
			1307	843	234	230		

- Molecule 38 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	o	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 39 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	p	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 40 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	q	191	Total	C	N	O	S	0	0
			1508	957	274	273	4		

- Molecule 41 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	r	218	Total	C	N	O	S	0	0
			1764	1117	334	306	7		

- Molecule 42 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	s	169	Total	C	N	O	S	0	0
			1346	843	252	247	4		

- Molecule 43 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	t	193	Total	C	N	O	S	0	0
			1543	962	315	266			

- Molecule 44 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	u	136	Total	C	N	O	S	0	0
			1053	675	199	177	2		

- Molecule 45 is a protein called RQC2 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	a	848	Total	C	N	O	S	0	0
			6569	4188	1138	1226	17		

- Molecule 46 is a protein called E3 ubiquitin-protein ligase listerin.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	e	1527	Total	C	N	O	S	0	0
			11516	7358	1937	2183	38		

- Molecule 47 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	g	225	Total	C	N	O	S	0	0
			1651	1030	282	332	7		

- Molecule 48 is a protein called 60S ribosomal protein L1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	w	216	Total	C	N	O	S	0	0
			1709	1092	298	310	9		

- Molecule 49 is a RNA chain called Ala tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	x	74	Total	C	N	O	P	0	0
			1579	702	278	525	74		
49	y	73	Total	C	N	O	P	0	0
			1556	692	273	518	73		

- Molecule 50 is a protein called 60S ribosomal protein L12-B.

Mol	Chain	Residues	Atoms				AltConf	Trace
50	z	148	Total	C	N	O	0	0
			728	432	148	148		

- Molecule 51 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	0	121	Total	C	N	O	S	0	0
			961	618	167	173	3		

- Molecule 52 is a protein called CAT-tailed nascent peptide.

Mol	Chain	Residues	Atoms				AltConf	Trace
52	1	18	Total	C	N	O	0	0
			90	54	18	18		

- Molecule 53 is a protein called Eukaryotic translation initiation factor 5A-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	v	142	Total	C	N	O	S	0	0
			1085	676	183	217	9		

- Molecule 54 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
54	A	1	Total	Mg	0
			1	1	
54	C	1	Total	Mg	0
			1	1	
54	E	1	Total	Mg	0
			1	1	
54	I	1	Total	Mg	0
			1	1	
54	R	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
54	T	1	Total 1	Mg 1	0
54	f	3	Total 3	Mg 3	0
54	h	1	Total 1	Mg 1	0
54	j	2	Total 2	Mg 2	0
54	k	1	Total 1	Mg 1	0

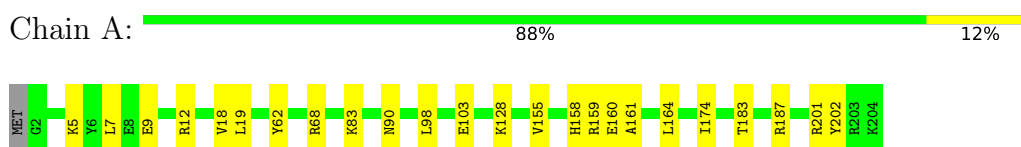
- Molecule 55 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
55	T	1	Total 1	Zn 1	0
55	W	1	Total 1	Zn 1	0
55	Z	1	Total 1	Zn 1	0
55	b	1	Total 1	Zn 1	0
55	c	1	Total 1	Zn 1	0
55	e	2	Total 2	Zn 2	0

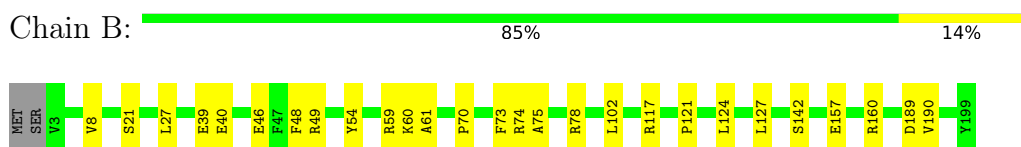
3 Residue-property plots [i](#)

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

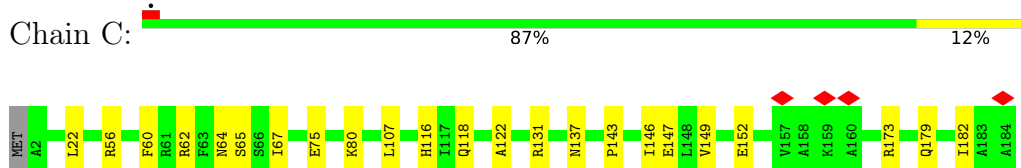
- Molecule 1: 60S ribosomal protein L15-A



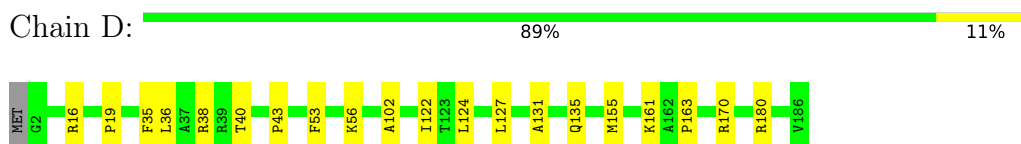
- Molecule 2: 60S ribosomal protein L16-A



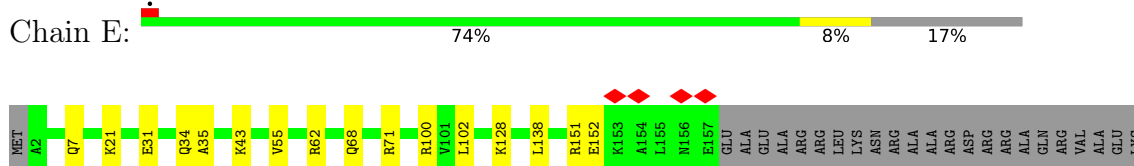
- Molecule 3: 60S ribosomal protein L17-A




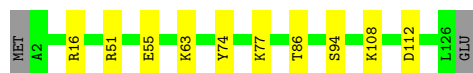
- Molecule 4: 60S ribosomal protein L18-A



- Molecule 5: 60S ribosomal protein L19-A



Chain L:  91% 8% .




- Molecule 13: 60S ribosomal protein L27-A

Chain M:  91% 8% .




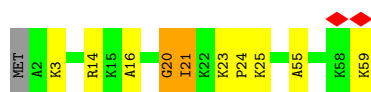
- Molecule 14: 60S ribosomal protein L28

Chain N:  87% 13% .




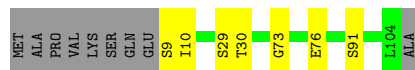
- Molecule 15: 60S ribosomal protein L29

Chain O:  81% 14% . .




- Molecule 16: 60S ribosomal protein L30

Chain P:  85% 7% 9%




- Molecule 17: 60S ribosomal protein L31-A

Chain Q:  80% 17% .



- Molecule 18: 60S ribosomal protein L32

Chain R:  89% 8% .




- Molecule 19: 60S ribosomal protein L33-A

Chain S:  93% 6%



- Molecule 20: 60S ribosomal protein L34-A

Chain T:  85% 7% 7%




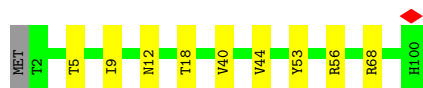
- Molecule 21: 60S ribosomal protein L35-A

Chain U:  92% 7%




- Molecule 22: 60S ribosomal protein L36-A

Chain V:  90% 9%




- Molecule 23: 60S ribosomal protein L37-A

Chain W:  76% 16% 8%



- Molecule 24: 60S ribosomal protein L38

Chain X:  90% 9%

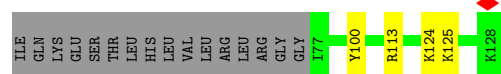


- Molecule 25: 60S ribosomal protein L39

Chain Y:  92% 6%



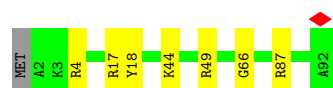
- Molecule 26: Ubiquitin-60S ribosomal protein L40



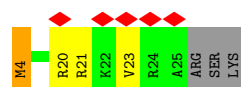
- Chain b: 81% 16% .



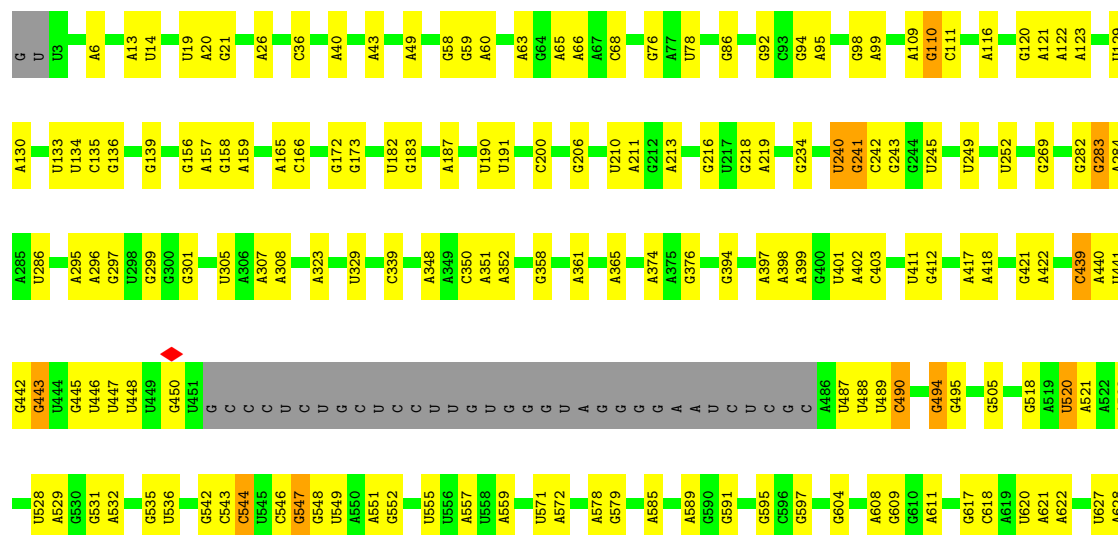
- Chain c: 91% 8%



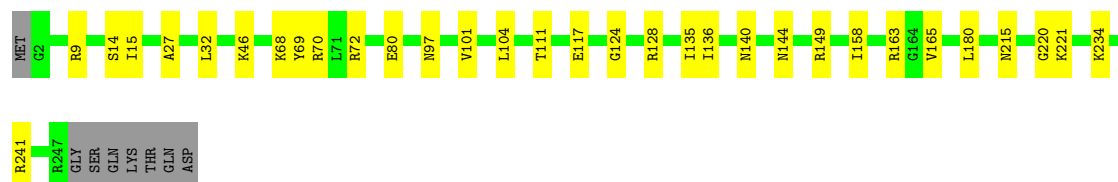
- Chain d: 



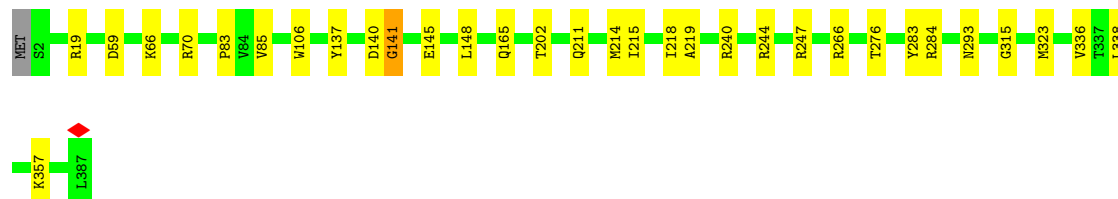
- Chain f: 68% 24% 5%



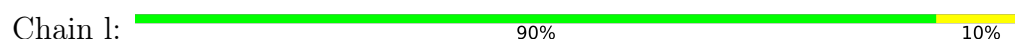
U2368	A2222	G2111	G1736	A1583	G1420	U1266	U1191	A1047	U913	U763	G637
C2392	A2223	U2112	G1741	A1589	G1421	G1268	C1192	A1048	A914	U764	C638
G2393	U2225	A2113	A1741	A1590	G1422	U1269	G1193	C1049	A915	C765	G639
A2397	A2228	G2115	G1747	A1593	G1434	A1271	C1196	G1063	A917	U766	U640
C2402	C2245	G2116	A1750	C1596	C1437	C1272	A1197	A1065	A920	A649	A649
A2404	G2249	A2117	G1751	G1598	A1446	A1277	C1201	G1072	A921	C655	C655
U2411	U2254	U2121	A1760	G1598	G1447	A1278	A1202	U1081	A924	A656	A656
G2412	A	G2122	C1761	U1606	G1450	C1280	A1204	U1082	A937	A660	A660
A2413	C	U2129	U1763	U1607	A1477	G1281	U1208	A1084	C937	U664	U664
G2414	C	A2130	U1764	A1613	G1480	G1282	G1213	G1087	C944	A665	A665
C2415	U	A2131	U1765	U1620	A1481	G1285	A1217	A1093	C945	U673	U673
U2416	A	U2134	G1766	U1629	A1482	U1287	U1218	U1094	U946	G674	G674
U2417	U	G2137	G1770	U1634	G1483	U1288	C1219	U1095	G947	C675	C675
G2418	A2262	A2138	U1771	G1639	G1487	G1289	U1220	U1096	C959	G676	G676
A2419	C2263	A2139	U1772	U1645	G1488	G1295	A1221	G1097	U960	G677	G677
A2424	U2264	U2140	G1775	C1657	C1497	G1295	G1222	A1098	C974	U678	U678
G2437	C2267	U2141	G1778	A1642	A1498	G1307	A1225	A1103	A816	G680	G680
G2442	A2270	G2143	C1779	A1643	C1502	A1308	G1226	G1104	A817	U681	U681
A2443	C2271	A2144	G1780	C1644	C1508	U1309	C1227	A1105	C982	G684	G684
U2446	G2272	G2155	G1786	U1645	C1508	G1313	G1229	G1106	C981	U687	U687
A2447	U2273	G1949	A1787	C1657	G1536	A1330	G1230	U1107	C991	G688	G688
G2450	A2281	U2158	C1793	C1660	A1539	U1348	C1232	G1117	C994	U689	U689
G2451	U2282	G2160	A1797	G1661	U1555	G1349	G1233	C1118	G1001	A690	A690
G2452	G2283	U2162	A1798	G1662	C1556	A1350	U1234	C1119	A1002	A691	A691
C2284	C2284	U1955	A1799	G1666	A1557	U1351	G1236	A1120	U1008	A692	A692
A2461	G2288	U	A1800	A1667	C1560	A1352	G1237	G1131	A1009	C696	C696
G2462	C2307	A	U1801	A1675	G1560	U1353	C1238	G1134	G1010	A705	A705
U2463	C2308	U	C1802	A1676	G1561	A1354	C1239	U1139	U1015	A710	A710
G2465	A2309	C	A1805	A1676	C1562	A1355	U1241	G1139	C1016	A711	A711
G2466	U2310	G	A1806	U1682	C1563	U1356	G1242	G1139	C1017	G712	G712
U2467	C2314	C	G1807	A1683	A1566	G1357	A1243	U1144	G1018	A715	A715
G2468	U2314	C	U1808	C1693	U1567	A1369	A1244	G1145	G1019	A716	A716
G2469	G2315	C	A1813	U1716	U1568	G1383	A1245	G1152	G1021	U719	U719
C2470	C2315	U	U1814	G1717	U1569	G1386	G1249	A1153	G1024	A720	A720
U2471	A2315	C	U1815	G1718	A1571	U1387	A1251	C1156	U879	G728	G728
U2472	U2334	A	A1816	U1721	G1572	G1388	U1252	U1159	A1025	A895	A895
G2474	G2335	C	U1819	U1722	G1573	A1390	C1254	C1160	A1026	A896	A896
C2479	U2336	U	U1820	U1723	A1575	G1391	G1255	G1177	U1028	A904	A904
A2480	A2357	C	U1821	U1724	G1576	G1392	C1257	G1177	U1033	C745	C745
U2484	C2358	C	A1835	U1725	G1577	A1399	U1258	U1181	U1034	A746	A746
A2485	A2373	C	A1839	C1726	C1579	G1400	A1259	A1180	A1036	C752	C752
G2486	C2374	U	U1840	G1727	A1580	A1418	A1263	U1181	U1036	G907	G907
U2487	G2375	C	A1841	U1730	C1581	A1419	G1264	A1190	A1041	G908	G908
A2488	C2385	C	A1842		C1582					C911	C911
C2489		C								G760	G760



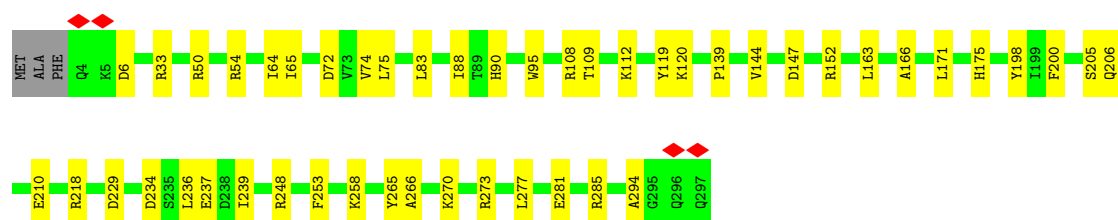
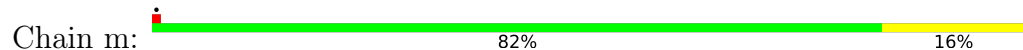
- Molecule 34: 60S ribosomal protein L3



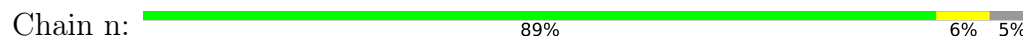
- Molecule 35: 60S ribosomal protein L4-A



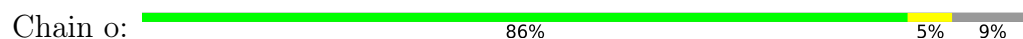
- Molecule 36: 60S ribosomal protein L5



- Molecule 37: 60S ribosomal protein L6-B

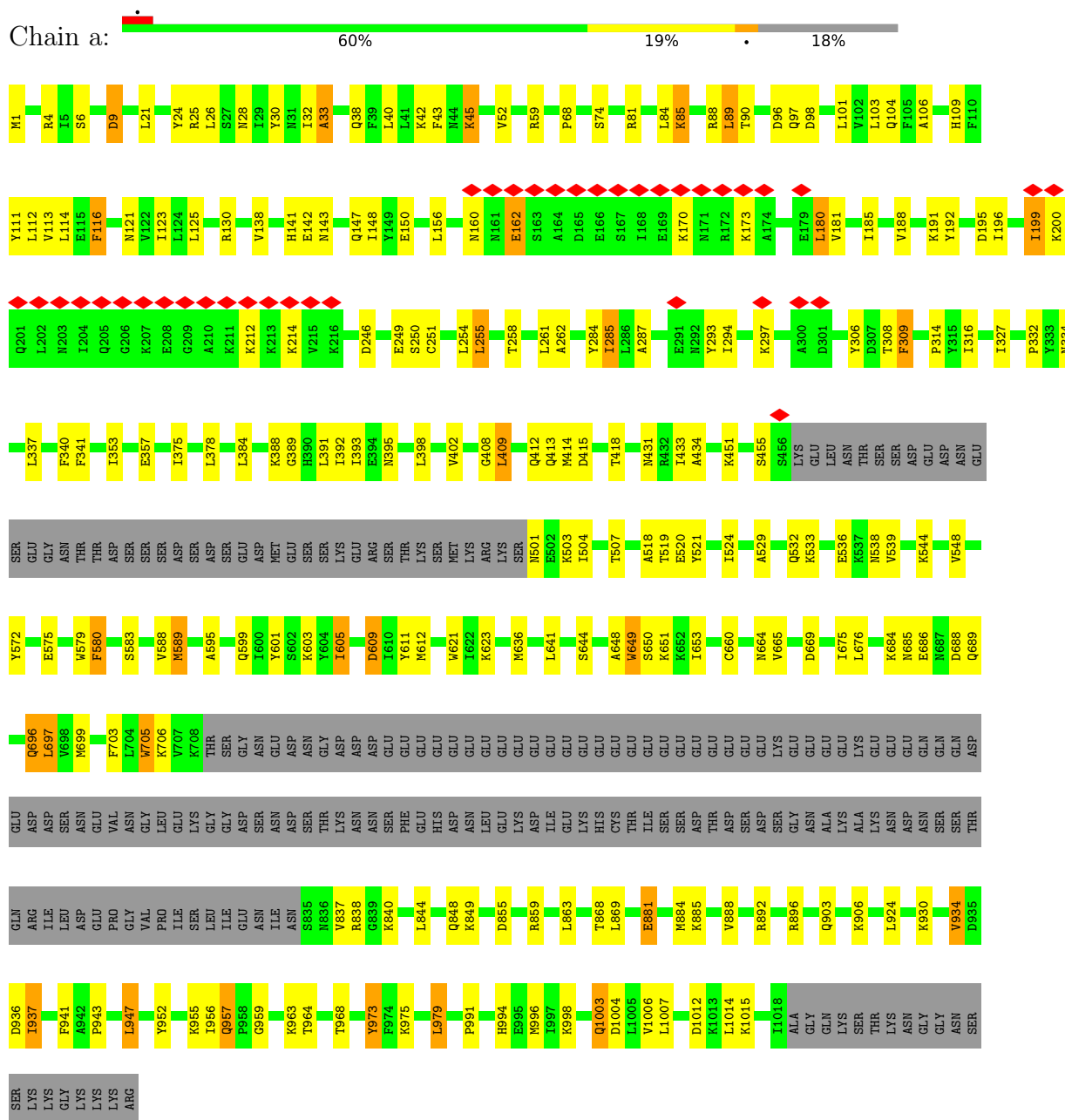


- Molecule 38: 60S ribosomal protein L7-A

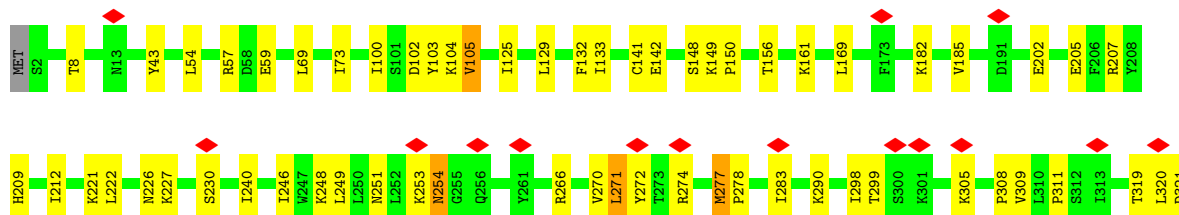
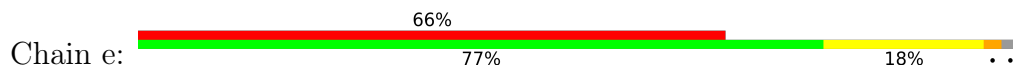


• Molecule 45: RQC2 isoform 1

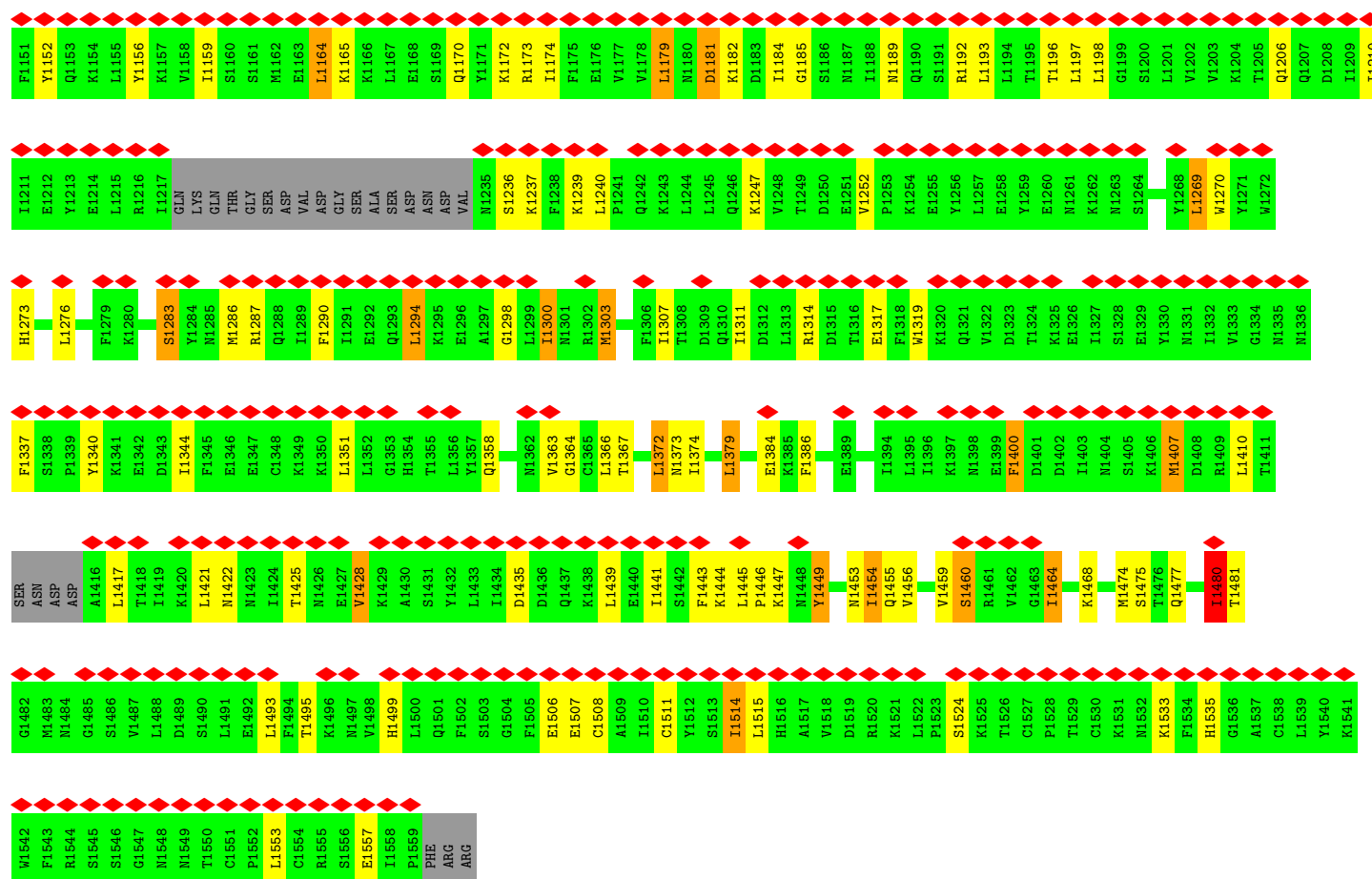
Chain a:



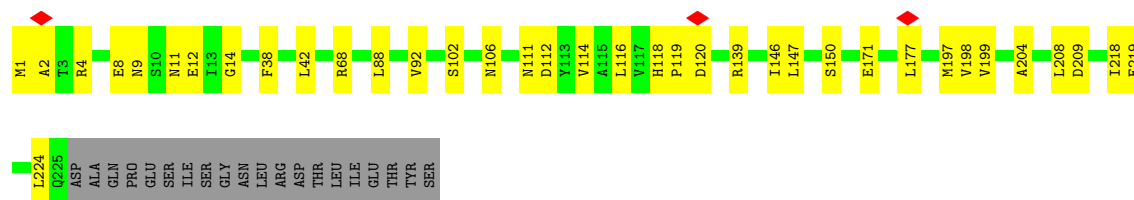
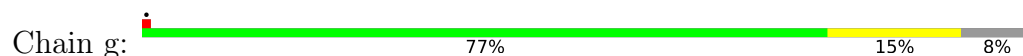
• Molecule 46: E3 ubiquitin-protein ligase listerin



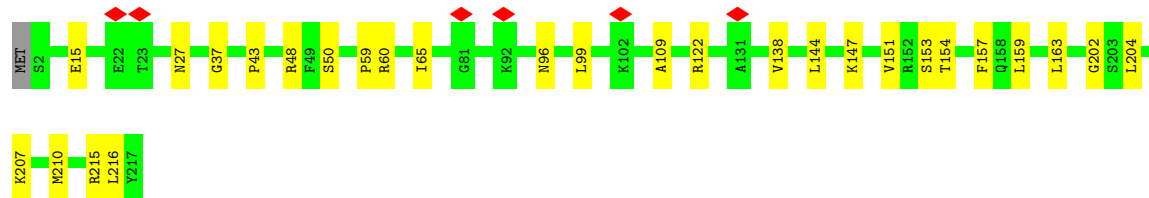
D1091	T1092	L1093	Y1094	L1095	L1096	E1097	L1098	R1099	S1100	S1101	C1102	L1103	N1104	L1105	Y1106	E1107	T1108	L1109	S1110	Q1111	GLY	VAL	SER	LVS	ASN	GLY	GLU	ILE	SER	E1122	Y1123	G1124	D1125	E1126	I1127	Q1128	E1129	M1130	L1131	I1132	E1133	L1134	M1135	F1136	L1137	M1138	F1139	Q1141	E1142	R1143	M1144	N1145	Q1146	V1147	S1148	T1149	L1150			
I1031	L1032	K1033	W1034	L1035	D1036	S1037	D1038	L1039	A1040	Y1041	E1042	P1043	S1044	F1045	S1046	T1047	V1048	R1049	L1050	L1051	L1052	L1053	D1054	F1055	F1056	T1057	K1058	L1059	M1060	R1061	F1062	E1063	G1064	V1065	D1066	L1067	D1068	M1068	G1069	I1070	T1071	A1072	F1073	E1074	L1075	S1076	E1077	L1078	L1079	L1080	A1081	D1082	S1083	L1084	S1085	M1086	C1087	Q1088	I1089	D1090
D971	E972	I973	T974	K975	L976	R977	T978	L979	L980	A981	S982	Q983	L984	I985	G986	I987	R988	E989	V990	E991	L992	V993	D994	Q995	F996	T997	K998	S999	L1000	A1001	L1002	L1003	N1004	N1005	L1006	L1007	D1008	I1009	P1010	Q1011	A1012	D1013	K1014	Q1015	F1016	V1017	P1018	I1019	A1020	P1021	Q1022	R1023	L1024	N1025	M1026	I1027	F1028	N1029	S1030	
R911	V912	L913	Y914	K915	V916	L917	L918	N919	S920	I921	D922	T923	V924	S925	S926	T927	T928	R929	N930	G931	L932	L933	A934	S935	V936	E937	S938	F939	V940	T941	K942	T943	V944	R945	D946	Q947	K948	S949	T950	D951	K952	D953	Y954	L955	L956	C957	A958	I959	L960	L961	L962	N963	F964	N965	R966	S967	N968	S969	K970	
L851	S852	E853	E854	P855	N856	D857	L858	Y859	Y860	D861	F862	G863	H864	T865	F866	F867	K868	H869	G870	K871	H872	N873	L874	N875	F876	S877	D878	I879	V880	G881	N882	N883	H884	Q885	P886	A887	N888	G889	C890	D891	A892	H893	L894	T895	F896	D897	L898	A899	E900	S901	N902	N903	Y904	Y905	F906	F907	Y908	Y909	Q910	
S791	T792	N793	T794	H795	L796	L797	L798	T799	D800	D801	K802	P803	L804	N805	L806	K807	N808	N809	Q810	K811	L812	T813	R814	Y815	A816	L817	F818	L819	D820	A821	L822	N823	D824	A825	L826	P827	E828	R829	W830	N831	N832	H833	L834	R835	A836	F837	L838	T839	V840	W841	S842	E843	L844	Y845	T846	D847	Y848	N849	C850	
F671	C672	A673	V674	L675	S676	K677	L678	D679	E680	T681	F682	F683	S684	T685	L686	L687	L688	N689	T690	D691	F692	L693	S694	C695	A696	L697	Y698	E699	V700	S701	E702	D703	F704	N705	E706	K707	L708	F709	K710	L711	S712	L713	Q714	L715	A716	K717	G718	N719	S720	E721	I722	A723	N724	K725	L726	A727	Q728	V729	I730	
I611	Y612	Q613	Q614	L615	M616	K617	S618	D619	S620	L621	E622	L623	E624	L625	Y626	I627	E628	D629	F630	M631	K632	N633	Y634	K635	F636	D637	D638	S639	G640	E641	I642	F643	K644	G645	N646	N647	K648	F649	L650	N651	Q652	R653	T654	I655	T656	T657	L658	Y659	R660	S661	A662	V663	A664	N665	G666	Q667	V668	E669	Q670	
S490	P491	M492	M493	E494	S495	A496	T497	S498	R499	L500	F501	D502	F503	F504	V505	Q506	L507	I508	E509	T510	P512	S513	N514	V515	F516	N517	K518	Y519	D520	G521	V522	Y523	D524	A525	L526	N527	Y528	F529	L530	D531	S532	D533	M534	I535	F536	L537	N538	G539	K540	I541	G542	K543	F544	I545	N546	E547	T548	P549		
K411	F412	A413	E414	D415	S416	S417	E418	E419	R420	V421	S432	L433	S434	C435	G436	K437	S438	L439	S440	E441	Y442	T443	K444	S450	G451	V452	F453	P454	P455	D456	K457	W458	E459	R460	E461	I462	E463	D464	Y465	F466	T467	S468	D469	E470	D471	I472	R473	K474	I475	K476	V477	E480	L487	V488	T489					
D322	D323	E324	D325	G326	T327	I328	W329	S330	Y331	D332	K333	S334	S335	K336	F342	R347	F354	V358	T365	K366	R367	H368	S369	F370	L371	D372	Y373	Y374	L375	E376	W377	L378	P379	F380	K383	R387	L388	N389	E390	K391	G392	F393	S394	A395	R396	N397	S398	A399	E400	L410										



• Molecule 47: Eukaryotic translation initiation factor 6

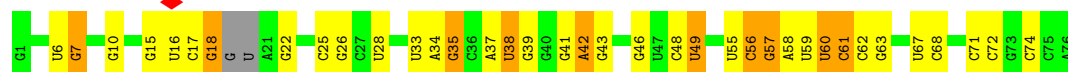


• Molecule 48: 60S ribosomal protein L1-A



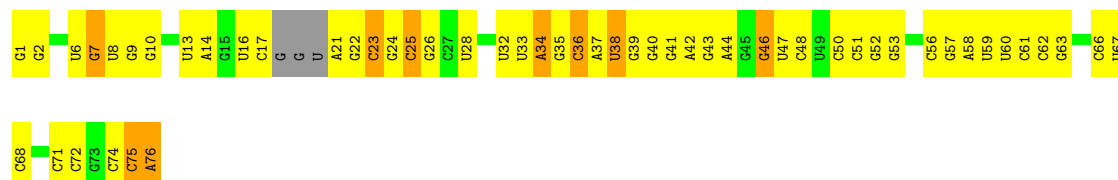
• Molecule 49: Ala tRNA

Chain x: 



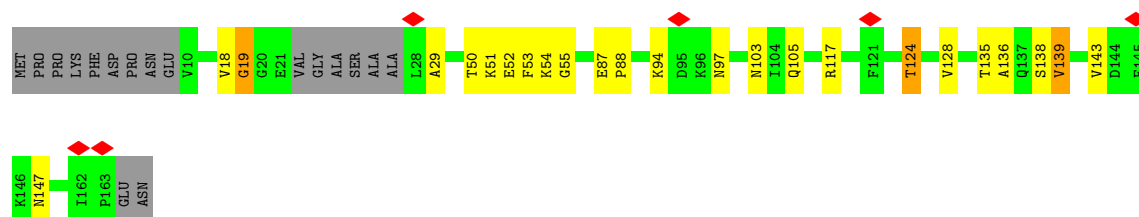
• Molecule 49: Ala tRNA

Chain y: 



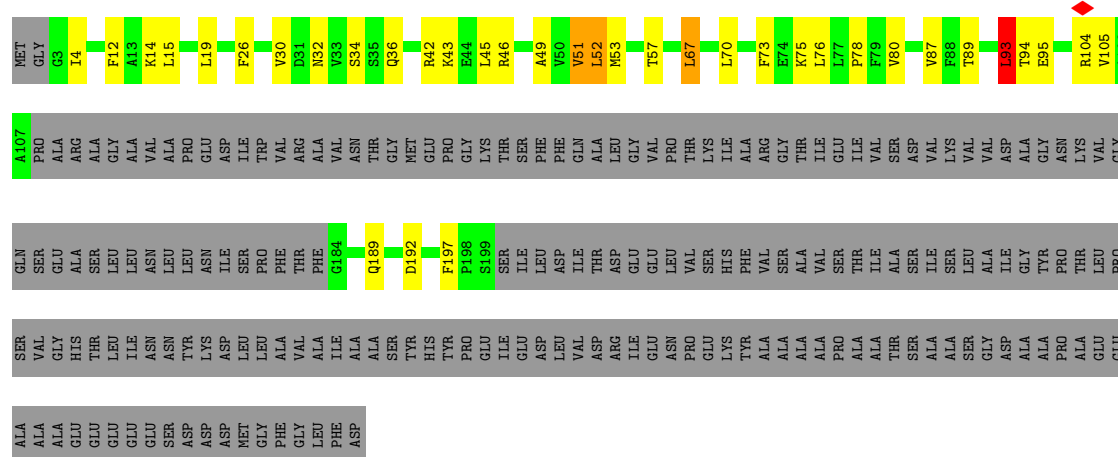
• Molecule 50: 60S ribosomal protein L12-B

Chain z: 




• Molecule 51: 60S acidic ribosomal protein P0

Chain 0: 



• Molecule 52: CAT-tailed nascent peptide

Chain 1: 



• Molecule 53: Eukaryotic translation initiation factor 5A-1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	54175	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 ($e^-/\text{\AA}^2$)	46	Depositor
Minimum defocus (nm)	400	Depositor
Maximum defocus (nm)	4000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	3.799	Depositor
Minimum map value	-0.723	Depositor
Average map value	0.021	Depositor
Map value standard deviation	0.132	Depositor
Recommended contour level	0.4	Depositor
Map size (\AA)	476.55002, 476.55002, 476.55002	wwPDB
Map dimensions	450, 450, 450	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.059, 1.059, 1.059	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, 5CT

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.31	0/1757	0.54	0/2354
2	B	0.31	0/1585	0.54	0/2128
3	C	0.30	0/1439	0.61	0/1938
4	D	0.28	0/1465	0.57	0/1965
5	E	0.29	0/1275	0.56	0/1702
6	F	0.31	0/1473	0.56	0/1980
7	G	0.27	0/1296	0.56	0/1739
8	H	0.29	0/812	0.75	2/1099 (0.2%)
9	I	0.27	0/1018	0.50	0/1369
10	J	0.27	0/530	0.52	0/703
11	K	0.31	0/979	0.57	0/1321
12	L	0.27	0/995	0.53	0/1329
13	M	0.27	0/1106	0.56	0/1485
14	N	0.32	0/1200	0.56	1/1607 (0.1%)
15	O	0.25	0/473	0.62	0/629
16	P	0.26	0/745	0.60	0/1001
17	Q	0.31	0/890	0.68	2/1196 (0.2%)
18	R	0.25	0/1034	0.47	0/1385
19	S	0.30	0/868	0.47	0/1168
20	T	0.29	0/890	0.58	2/1189 (0.2%)
21	U	0.27	0/978	0.53	0/1301
22	V	0.28	0/772	0.57	0/1026
23	W	0.32	0/660	0.60	0/875
24	X	0.29	0/618	0.65	1/826 (0.1%)
25	Y	0.29	0/443	0.46	0/588
26	Z	0.28	0/416	0.60	0/553
27	b	0.28	0/836	0.52	0/1104
28	c	0.27	0/701	0.56	0/934
29	d	0.22	0/208	0.81	2/267 (0.7%)
30	f	0.30	0/77011	0.39	5/120065 (0.0%)
31	h	0.26	0/2883	0.32	0/4491
32	i	0.30	0/3746	0.36	0/5832

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	j	0.35	0/1908	0.54	0/2564
34	k	0.29	0/3146	0.53	0/4228
35	l	0.29	0/2800	0.57	4/3790 (0.1%)
36	m	0.27	0/2400	0.56	0/3239
37	n	0.28	0/1329	0.60	0/1794
38	o	0.31	0/1821	0.58	0/2451
39	p	0.27	0/1836	0.58	1/2481 (0.0%)
40	q	0.30	0/1529	0.63	2/2060 (0.1%)
41	r	0.25	0/1801	0.49	0/2416
42	s	0.26	0/1367	0.69	4/1834 (0.2%)
43	t	0.29	0/1568	0.62	1/2106 (0.0%)
44	u	0.30	0/1068	0.53	0/1438
45	a	0.45	0/6679	0.85	20/9012 (0.2%)
46	e	0.60	0/11715	0.91	53/15908 (0.3%)
47	g	0.24	0/1672	0.59	1/2281 (0.0%)
48	w	0.27	0/1736	0.61	1/2332 (0.0%)
49	x	0.35	0/1761	0.60	0/2742
49	y	0.36	0/1735	0.64	0/2701
50	z	0.67	0/726	1.24	13/1006 (1.3%)
51	0	0.49	0/976	0.95	3/1313 (0.2%)
53	v	0.29	0/1084	0.64	1/1456 (0.1%)
All	All	0.34	0/161759	0.54	119/236301 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
15	O	0	1
21	U	0	1
34	k	0	1
35	l	0	2
39	p	0	3
40	q	0	1
44	u	0	1
47	g	0	1
All	All	0	11

There are no bond length outliers.

All (119) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	e	1364	GLY	N-CA-C	12.23	127.29	112.49
45	a	116	PHE	N-CA-C	-10.36	99.52	112.88
46	e	1460	SER	N-CA-C	10.01	122.27	111.36
46	e	1181	ASP	N-CA-C	8.85	120.93	111.28
46	e	1141	GLN	N-CA-C	8.76	120.83	111.28
46	e	793	ASN	N-CA-C	-8.73	102.63	113.28
46	e	994	ASP	N-CA-C	7.93	119.56	111.07
8	H	51	GLY	CA-C-N	7.86	136.55	121.54
8	H	51	GLY	C-N-CA	7.86	136.55	121.54
46	e	437	LYS	N-CA-C	-7.76	94.26	110.80
53	v	53	GLY	N-CA-C	7.69	124.28	112.51
46	e	901	SER	N-CA-C	7.58	119.54	111.28
46	e	870	GLY	N-CA-C	-7.57	105.37	115.21
46	e	666	GLY	N-CA-C	-7.45	104.92	115.43
46	e	1447	LYS	N-CA-C	-7.38	100.78	110.53
50	z	87	GLU	CA-C-N	-7.35	112.81	120.38
50	z	87	GLU	C-N-CA	-7.35	112.81	120.38
46	e	435	CYS	N-CA-C	-7.29	103.27	111.14
46	e	1298	GLY	N-CA-C	-7.25	105.21	115.43
50	z	138	SER	N-CA-C	-7.24	103.33	111.14
45	a	603	LYS	N-CA-C	7.05	119.05	111.36
46	e	1449	TYR	CA-C-N	-7.05	111.23	119.05
46	e	1449	TYR	C-N-CA	-7.05	111.23	119.05
46	e	434	SER	N-CA-C	6.97	118.67	111.14
50	z	94	LYS	N-CA-C	-6.80	103.95	111.36
45	a	21	LEU	N-CA-C	6.77	118.66	111.28
35	l	4	PRO	CA-C-N	6.74	134.41	121.54
35	l	4	PRO	C-N-CA	6.74	134.41	121.54
45	a	583	SER	N-CA-C	-6.58	104.11	111.28
45	a	84	LEU	N-CA-C	6.50	118.44	111.36
46	e	1182	LYS	N-CA-C	6.50	118.02	111.07
46	e	667	GLN	N-CA-C	-6.39	105.43	112.72
45	a	162	GLU	N-CA-C	-6.37	104.33	111.28
14	N	66	ALA	N-CA-C	-6.36	106.48	114.56
46	e	148	SER	N-CA-C	6.32	117.96	111.14
46	e	1283	SER	N-CA-C	-6.26	99.96	109.85
46	e	132	PHE	N-CA-C	6.25	118.17	111.36
40	q	138	THR	CA-C-N	6.24	133.47	121.54
40	q	138	THR	C-N-CA	6.24	133.47	121.54
29	d	4	MET	CA-C-N	6.22	133.43	121.54
29	d	4	MET	C-N-CA	6.22	133.43	121.54
46	e	1445	LEU	N-CA-C	-6.20	100.62	109.24
46	e	736	VAL	N-CA-C	6.18	116.96	110.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	a	648	ALA	N-CA-C	-5.92	104.82	111.28
46	e	365	THR	N-CA-C	5.91	118.68	111.82
46	e	202	GLU	N-CA-C	-5.89	102.93	110.53
46	e	185	VAL	N-CA-C	5.87	116.04	110.53
46	e	383	LYS	N-CA-C	-5.86	104.89	111.28
50	z	124	THR	N-CA-C	5.85	117.66	111.28
46	e	43	TYR	N-CA-C	5.84	117.64	111.28
46	e	57	ARG	N-CA-C	5.81	117.61	111.28
46	e	1069	GLY	N-CA-C	5.78	118.42	110.56
46	e	1317	GLU	N-CA-C	5.76	117.23	111.07
46	e	787	VAL	N-CA-C	5.74	116.52	110.72
30	f	2541	U	P-O3'-C3'	5.72	128.78	120.20
47	g	171	GLU	N-CA-CB	5.64	119.02	110.28
42	s	114	ILE	CA-C-N	5.62	132.28	121.54
42	s	114	ILE	C-N-CA	5.62	132.28	121.54
45	a	334	ASN	N-CA-C	-5.57	105.28	111.36
45	a	85	LYS	N-CA-C	5.56	117.92	110.35
46	e	490	SER	N-CA-C	5.56	116.70	109.64
45	a	45	LYS	CA-C-N	-5.54	113.84	119.83
45	a	45	LYS	C-N-CA	-5.54	113.84	119.83
42	s	7	ASN	N-CA-C	5.54	117.55	109.30
45	a	539	VAL	N-CA-C	5.53	116.26	110.62
46	e	462	ILE	N-CA-C	-5.53	104.98	110.62
46	e	517	ASN	N-CA-C	5.49	117.07	111.14
45	a	96	ASP	CB-CA-C	-5.48	110.24	116.54
43	t	136	GLU	CA-CB-CG	5.47	125.04	114.10
20	T	94	LEU	CA-C-N	-5.46	112.73	121.35
20	T	94	LEU	C-N-CA	-5.46	112.73	121.35
45	a	957	GLN	CA-C-N	-5.43	113.97	119.83
45	a	957	GLN	C-N-CA	-5.43	113.97	119.83
46	e	788	SER	N-CA-C	5.42	117.08	110.41
42	s	108	GLU	CA-CB-CG	5.42	124.93	114.10
50	z	19	GLY	N-CA-C	5.41	119.46	112.54
46	e	1557	GLU	N-CA-C	5.38	118.09	110.50
30	f	2502	A	P-O3'-C3'	5.38	128.27	120.20
46	e	1480	ILE	N-CA-C	5.36	116.14	110.72
30	f	282	G	C2'-C3'-O3'	5.34	121.71	113.70
46	e	896	PHE	N-CA-C	5.34	117.18	111.36
30	f	1815	U	P-O3'-C3'	5.33	128.20	120.20
46	e	133	ILE	CA-C-N	-5.33	113.13	119.05
46	e	133	ILE	C-N-CA	-5.33	113.13	119.05
51	0	94	THR	N-CA-C	5.33	117.09	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	f	1307	G	P-O3'-C3'	5.33	128.19	120.20
17	Q	83	GLU	CA-C-N	5.32	131.71	121.54
17	Q	83	GLU	C-N-CA	5.32	131.71	121.54
50	z	29	ALA	N-CA-C	-5.32	105.61	113.16
46	e	691	ASP	N-CA-C	-5.29	106.60	113.16
46	e	1314	ARG	N-CA-C	5.28	117.78	111.71
46	e	548	ILE	CB-CA-C	-5.28	108.76	114.35
50	z	117	ARG	N-CA-C	-5.25	105.55	111.28
46	e	142	GLU	N-CA-C	-5.21	101.39	109.72
46	e	1459	VAL	CB-CA-C	-5.20	107.29	111.71
39	p	79	GLN	CA-CB-CG	5.20	124.50	114.10
45	a	849	LYS	N-CA-C	5.18	116.62	111.07
35	l	317	PRO	CA-C-N	5.17	131.42	121.54
35	l	317	PRO	C-N-CA	5.17	131.42	121.54
46	e	1524	SER	N-CA-C	5.17	116.99	111.36
51	0	89	THR	N-CA-C	5.17	117.84	109.06
46	e	450	SER	N-CA-C	5.16	116.59	111.07
50	z	18	VAL	N-CA-C	-5.16	102.92	109.58
50	z	147	ASN	CA-C-N	-5.15	114.27	119.83
50	z	147	ASN	C-N-CA	-5.15	114.27	119.83
46	e	570	SER	N-CA-C	5.15	117.33	110.53
50	z	103	ASN	N-CA-C	5.13	116.98	109.24
46	e	1453	ASN	N-CA-C	5.12	117.72	110.50
46	e	1252	VAL	CA-C-N	-5.10	114.15	120.79
46	e	1252	VAL	C-N-CA	-5.10	114.15	120.79
45	a	33	ALA	CB-CA-C	-5.10	110.67	116.54
45	a	332	PRO	N-CA-C	-5.08	108.00	114.35
50	z	139	VAL	N-CA-C	5.07	115.30	110.53
51	0	104	ARG	N-CA-C	5.07	118.43	111.54
45	a	59	ARG	N-CA-C	5.06	117.08	109.23
24	X	67	GLN	N-CA-CB	5.05	118.63	110.40
46	e	796	LEU	N-CA-C	-5.04	105.78	111.28
45	a	838	ARG	N-CA-C	5.04	117.53	110.23
48	w	15	GLU	N-CA-CB	5.01	118.05	110.28

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
15	O	20	GLY	Peptide
21	U	83	LYS	Peptide
47	g	8	GLU	Peptide

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Mol	Chain	Res	Type	Group
34	k	141	GLY	Peptide
35	l	13	GLY	Peptide
35	l	318	LEU	Peptide
39	p	158	ASP	Peptide
39	p	30	THR	Peptide
39	p	76	ALA	Peptide
40	q	21	LYS	Peptide
44	u	12	TRP	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1720	0	1779	18	0
2	B	1555	0	1659	17	0
3	C	1416	0	1433	14	0
4	D	1441	0	1543	16	0
5	E	1258	0	1342	11	0
6	F	1437	0	1475	20	0
7	G	1272	0	1312	12	0
8	H	796	0	812	6	0
9	I	1003	0	1048	10	0
10	J	518	0	542	6	0
11	K	964	0	1025	1	0
12	L	984	0	1075	7	0
13	M	1080	0	1122	7	0
14	N	1169	0	1211	14	0
15	O	462	0	491	9	0
16	P	737	0	792	4	0
17	Q	876	0	912	10	0
18	R	1013	0	1077	8	0
19	S	850	0	880	4	0
20	T	880	0	942	8	0
21	U	969	0	1078	5	0
22	V	766	0	844	7	0
23	W	645	0	645	12	0
24	X	612	0	682	6	0
25	Y	436	0	475	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	Z	410	0	442	5	0
27	b	824	0	888	11	0
28	c	694	0	734	8	0
29	d	207	0	250	3	0
30	f	68802	0	34573	340	0
31	h	2579	0	1304	9	0
32	i	3353	0	1695	13	0
33	j	1874	0	1943	23	0
34	k	3075	0	3142	20	0
35	l	2748	0	2859	23	0
36	m	2351	0	2294	31	0
37	n	1307	0	1377	8	0
38	o	1784	0	1862	9	0
39	p	1804	0	1877	17	0
40	q	1508	0	1572	16	0
41	r	1764	0	1804	18	0
42	s	1346	0	1370	9	0
43	t	1543	0	1608	14	0
44	u	1053	0	1149	11	0
45	a	6569	0	6460	246	0
46	e	11516	0	10776	279	0
47	g	1651	0	1613	22	0
48	w	1709	0	1799	17	0
49	x	1579	0	799	49	0
49	y	1556	0	789	39	0
50	z	728	0	337	19	0
51	0	961	0	979	45	0
52	1	90	0	21	3	0
53	v	1085	0	1087	15	0
54	A	1	0	0	0	0
54	C	1	0	0	0	0
54	E	1	0	0	0	0
54	I	1	0	0	0	0
54	R	1	0	0	0	0
54	T	1	0	0	0	0
54	f	3	0	0	0	0
54	h	1	0	0	0	0
54	j	2	0	0	0	0
54	k	1	0	0	0	0
55	T	1	0	0	0	0
55	W	1	0	0	0	0
55	Z	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	b	1	0	0	0	0
55	c	1	0	0	0	0
55	e	2	0	0	0	0
All	All	151349	0	113599	1309	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 5.

All (1309) 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)
46:e:272:TYR:HA	46:e:277:MET:SD	1.28	1.66
46:e:277:MET:SD	46:e:278:PRO:HD3	1.34	1.62
46:e:751:VAL:HA	46:e:754:ILE:CD1	1.30	1.59
49:x:67:U:H2'	49:x:68:C:C5	1.26	1.59
45:a:90:THR:HB	45:a:104:GLN:CB	1.35	1.56
49:x:67:U:H2'	49:x:68:C:C6	1.37	1.56
46:e:272:TYR:HD1	46:e:277:MET:CE	1.13	1.56
45:a:185:ILE:CG2	45:a:255:LEU:HA	1.30	1.55
46:e:272:TYR:CD1	46:e:277:MET:HE1	1.39	1.55
46:e:371:LEU:HD12	46:e:377:TRP:CZ2	1.39	1.55
45:a:185:ILE:CG2	45:a:255:LEU:CA	1.89	1.51
46:e:371:LEU:HB2	46:e:377:TRP:NE1	1.19	1.48
30:f:1259:A:C8	51:0:53:MET:HB2	1.51	1.46
49:x:67:U:C2'	49:x:68:C:C6	1.98	1.45
46:e:1303:MET:HA	46:e:1303:MET:CE	1.48	1.42
46:e:277:MET:SD	46:e:278:PRO:CD	2.07	1.42
46:e:1456:VAL:CG2	46:e:1480:ILE:HD11	1.51	1.41
30:f:1258:U:H4'	51:0:42:ARG:NH1	1.26	1.40
46:e:751:VAL:CA	46:e:754:ILE:HD11	1.53	1.37
46:e:323:TYR:CE1	46:e:324:GLU:CG	2.07	1.36
45:a:97:GLN:C	49:x:34:A:N6	1.80	1.36
30:f:1258:U:C4'	51:0:42:ARG:HH12	1.36	1.35
45:a:185:ILE:HG21	45:a:255:LEU:CA	1.48	1.32
46:e:323:TYR:CE1	46:e:324:GLU:HG3	1.61	1.31
46:e:809:MET:CE	46:e:844:LEU:HD21	1.60	1.30
46:e:272:TYR:CA	46:e:277:MET:SD	2.18	1.29
45:a:309:PHE:HD1	45:a:309:PHE:O	1.11	1.28
46:e:751:VAL:O	46:e:754:ILE:HG13	1.29	1.28
45:a:664:ASN:O	45:a:684:LYS:HG3	1.10	1.28
49:x:67:U:C2'	49:x:68:C:C5	2.12	1.27

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:a:1003:GLN:H	45:a:1003:GLN:NE2	1.32	1.26
46:e:371:LEU:HD12	46:e:377:TRP:CE2	1.70	1.26
46:e:371:LEU:CB	46:e:377:TRP:NE1	2.01	1.23
49:x:56:C:O2'	49:x:57:G:H5''	1.37	1.23
45:a:185:ILE:CG2	45:a:255:LEU:N	2.03	1.22
45:a:185:ILE:HD13	45:a:254:LEU:O	1.11	1.21
46:e:1303:MET:HE2	46:e:1303:MET:CA	1.63	1.21
46:e:272:TYR:CD1	46:e:277:MET:CE	2.04	1.20
46:e:750:ALA:O	46:e:754:ILE:HG12	1.37	1.19
30:f:1257:C:H5'	50:z:124:THR:CB	1.74	1.18
45:a:936:ASP:HA	45:a:996:MET:HE1	1.29	1.15
46:e:323:TYR:CE1	46:e:324:GLU:HG2	1.77	1.14
45:a:937:ILE:H	45:a:996:MET:HE2	1.07	1.13
49:y:66:C:O2'	49:y:67:U:H5'	1.49	1.13
30:f:1259:A:C8	51:0:53:MET:CB	2.32	1.12
45:a:90:THR:CB	45:a:104:GLN:CB	2.27	1.12
45:a:664:ASN:O	45:a:684:LYS:CG	1.97	1.11
46:e:1456:VAL:HG23	46:e:1480:ILE:CD1	1.79	1.11
45:a:185:ILE:HG22	45:a:255:LEU:HA	1.17	1.11
45:a:309:PHE:O	45:a:309:PHE:CD1	2.03	1.11
46:e:882:ASN:O	46:e:885:GLN:O	1.69	1.11
46:e:1477:GLN:HE22	46:e:1481:THR:CB	1.65	1.10
45:a:937:ILE:HG13	45:a:996:MET:SD	1.90	1.10
46:e:751:VAL:HA	46:e:754:ILE:CG1	1.80	1.10
46:e:1477:GLN:NE2	46:e:1481:THR:OG1	1.84	1.10
45:a:185:ILE:CD1	45:a:254:LEU:O	1.99	1.09
46:e:1477:GLN:NE2	46:e:1481:THR:CG2	2.15	1.09
30:f:1221:A:C2	51:0:12:PHE:HE2	1.69	1.09
46:e:371:LEU:CD1	46:e:377:TRP:CZ2	2.34	1.09
45:a:185:ILE:HG22	45:a:255:LEU:CA	1.71	1.08
46:e:809:MET:HE3	46:e:844:LEU:HD21	1.19	1.08
46:e:713:LEU:O	46:e:717:LYS:HG3	1.55	1.07
46:e:809:MET:CE	46:e:844:LEU:CD2	2.32	1.07
46:e:371:LEU:CB	46:e:377:TRP:HE1	1.63	1.06
45:a:937:ILE:H	45:a:996:MET:CE	1.68	1.05
46:e:989:GLU:O	46:e:1039:LEU:CD2	2.03	1.05
46:e:1456:VAL:CG2	46:e:1480:ILE:CD1	2.34	1.04
45:a:188:VAL:HG12	45:a:251:CYS:HB3	1.06	1.04
45:a:660:CYS:SG	45:a:688:ASP:OD1	2.15	1.04
45:a:188:VAL:HG12	45:a:251:CYS:CB	1.87	1.04
45:a:306:TYR:CE1	45:a:327:ILE:HD12	1.91	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:a:185:ILE:HG21	45:a:255:LEU:N	1.67	1.03
46:e:989:GLU:C	46:e:1039:LEU:CD2	2.32	1.03
45:a:185:ILE:HD13	45:a:254:LEU:C	1.84	1.02
45:a:97:GLN:C	49:x:34:A:H62	1.52	1.01
49:x:56:C:O2'	49:x:57:G:C5'	2.09	1.01
46:e:731:LEU:HD12	46:e:732:GLN:N	1.73	1.01
45:a:188:VAL:HG13	45:a:251:CYS:SG	2.01	1.01
45:a:26:LEU:HD12	45:a:42:LYS:O	1.61	1.00
46:e:323:TYR:CZ	46:e:324:GLU:CG	2.44	1.00
45:a:188:VAL:CG1	45:a:251:CYS:SG	2.50	1.00
45:a:188:VAL:CG1	45:a:251:CYS:HB3	1.91	0.99
45:a:937:ILE:N	45:a:996:MET:CE	2.25	0.99
45:a:1003:GLN:H	45:a:1003:GLN:HE21	1.04	0.99
30:f:1259:A:N7	51:0:53:MET:CB	2.25	0.98
46:e:323:TYR:CD1	46:e:324:GLU:HG2	1.98	0.98
45:a:98:ASP:N	49:x:34:A:H61	1.60	0.98
46:e:371:LEU:CD1	46:e:377:TRP:CE2	2.46	0.98
45:a:185:ILE:HG21	45:a:254:LEU:C	1.87	0.97
46:e:809:MET:HE2	46:e:844:LEU:HD21	1.42	0.97
45:a:936:ASP:CA	45:a:996:MET:HE1	1.94	0.97
49:y:1:G:O6	49:y:72:C:N3	1.97	0.97
30:f:1259:A:H8	51:0:53:MET:HB2	1.29	0.97
45:a:185:ILE:HG21	45:a:255:LEU:HA	1.01	0.96
46:e:1456:VAL:HG23	46:e:1480:ILE:HD11	0.97	0.96
49:x:67:U:C3'	49:x:68:C:C6	2.49	0.96
45:a:309:PHE:HE2	45:a:341:PHE:CZ	1.84	0.95
30:f:1258:U:P	51:0:46:ARG:HH22	1.89	0.95
45:a:97:GLN:C	49:x:34:A:H61	1.61	0.95
46:e:731:LEU:HD12	46:e:731:LEU:C	1.90	0.95
46:e:989:GLU:O	46:e:1039:LEU:HD21	1.65	0.95
46:e:1477:GLN:NE2	46:e:1481:THR:HG21	1.80	0.94
46:e:1477:GLN:HE22	46:e:1481:THR:CG2	1.77	0.94
46:e:751:VAL:CA	46:e:754:ILE:CG1	2.46	0.93
45:a:98:ASP:N	49:x:34:A:N6	2.16	0.93
30:f:1257:C:O3'	51:0:46:ARG:NH2	2.02	0.93
45:a:1003:GLN:NE2	45:a:1003:GLN:N	2.16	0.93
46:e:751:VAL:C	46:e:754:ILE:HG13	1.93	0.93
46:e:989:GLU:C	46:e:1039:LEU:HD22	1.93	0.93
46:e:323:TYR:CZ	46:e:324:GLU:HG2	2.02	0.92
49:x:67:U:H2'	49:x:68:C:C4	2.03	0.92
45:a:937:ILE:N	45:a:996:MET:HE2	1.83	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:y:66:C:C2'	49:y:67:U:H5'	2.00	0.91
15:O:16:ALA:O	15:O:20:GLY:HA3	1.69	0.90
45:a:188:VAL:CG1	45:a:251:CYS:CB	2.48	0.90
46:e:809:MET:HE3	46:e:844:LEU:CD2	1.99	0.90
46:e:809:MET:HE2	46:e:844:LEU:CD2	2.00	0.90
46:e:751:VAL:O	46:e:754:ILE:CG1	2.19	0.90
30:f:1222:G:OP2	51:0:57:THR:OG1	1.90	0.89
45:a:185:ILE:HG23	45:a:255:LEU:N	1.83	0.89
46:e:277:MET:SD	46:e:278:PRO:HD2	2.12	0.89
30:f:1258:U:O5'	51:0:42:ARG:NH1	2.04	0.89
45:a:249:GLU:CD	45:a:254:LEU:HD23	1.97	0.89
45:a:98:ASP:HA	49:x:35:G:O6	1.73	0.89
45:a:649:TRP:HD1	45:a:650:SER:N	1.71	0.88
45:a:649:TRP:CD1	45:a:649:TRP:C	2.52	0.88
45:a:185:ILE:CG2	45:a:254:LEU:C	2.46	0.87
45:a:685:ASN:HB2	45:a:688:ASP:OD2	1.73	0.87
45:a:185:ILE:HG22	45:a:255:LEU:CB	2.05	0.87
30:f:1258:U:C5'	51:0:42:ARG:HH12	1.86	0.87
45:a:580:PHE:CE1	45:a:588:VAL:HG21	2.10	0.87
49:x:58:A:H8	49:x:58:A:OP2	1.56	0.86
49:y:24:G:H2'	49:y:25:C:C6	2.11	0.85
45:a:160:ASN:HB2	45:a:162:GLU:OE2	1.76	0.85
49:y:1:G:H2'	49:y:2:G:C8	2.12	0.85
30:f:1221:A:C2	51:0:12:PHE:CE2	2.62	0.85
46:e:371:LEU:HB2	46:e:377:TRP:CD1	2.12	0.85
45:a:375:ILE:HG23	45:a:532:GLN:HE21	1.42	0.84
46:e:277:MET:CE	46:e:278:PRO:HD3	2.06	0.84
46:e:804:ILE:HD12	46:e:809:MET:SD	2.17	0.84
30:f:1258:U:C4'	51:0:42:ARG:NH1	2.13	0.84
50:z:19:GLY:HA3	50:z:55:GLY:HA2	1.58	0.84
46:e:323:TYR:CD1	46:e:324:GLU:CG	2.59	0.84
30:f:1259:A:N7	51:0:53:MET:HG3	1.92	0.83
30:f:1258:U:H4'	51:0:42:ARG:HH12	0.66	0.83
46:e:222:LEU:HD12	46:e:226:ASN:ND2	1.94	0.82
46:e:324:GLU:O	46:e:327:THR:OG1	1.93	0.82
45:a:138:VAL:O	45:a:141:HIS:O	1.98	0.82
46:e:751:VAL:C	46:e:754:ILE:CG1	2.53	0.82
46:e:1444:LYS:HD2	46:e:1455:GLN:HE21	1.45	0.82
30:f:1229:G:H4'	51:0:32:ASN:OD1	1.79	0.81
30:f:1222:G:N7	51:0:57:THR:HB	1.96	0.81
45:a:937:ILE:N	45:a:996:MET:HE1	1.97	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:x:67:U:O2'	49:x:68:C:C6	2.34	0.80
46:e:371:LEU:CB	46:e:377:TRP:CD1	2.65	0.80
49:y:14:A:N6	49:y:21:A:H2	1.80	0.80
45:a:89:LEU:HD13	45:a:89:LEU:C	2.06	0.79
49:x:67:U:C3'	49:x:68:C:C5	2.64	0.79
45:a:544:LYS:O	45:a:548:VAL:HG23	1.82	0.79
45:a:415:ASP:HB3	45:a:418:THR:HG23	1.65	0.79
49:x:55:U:O2	49:x:57:G:H3'	1.84	0.78
45:a:580:PHE:HE1	45:a:588:VAL:HG21	1.46	0.78
45:a:649:TRP:CD1	45:a:650:SER:N	2.52	0.78
46:e:222:LEU:CD1	46:e:226:ASN:ND2	2.47	0.78
30:f:1259:A:N7	51:0:53:MET:CG	2.47	0.77
45:a:936:ASP:C	45:a:996:MET:HE1	2.08	0.77
46:e:141:CYS:SG	46:e:221:LYS:HD2	2.24	0.77
30:f:1258:U:C5'	51:0:42:ARG:NH1	2.46	0.77
45:a:451:LYS:HB3	45:a:503:LYS:HB3	1.66	0.77
46:e:937:GLU:HG2	46:e:976:LEU:HG	1.67	0.77
45:a:309:PHE:CE2	45:a:341:PHE:CZ	2.73	0.76
45:a:884:MET:SD	45:a:884:MET:C	2.67	0.76
45:a:388:LYS:O	45:a:392:ILE:HG13	1.85	0.76
46:e:1477:GLN:CD	46:e:1481:THR:OG1	2.28	0.76
45:a:1003:GLN:HE21	45:a:1003:GLN:N	1.78	0.76
45:a:589:MET:CE	45:a:589:MET:HA	2.15	0.76
45:a:185:ILE:HG22	45:a:255:LEU:HB2	1.66	0.75
46:e:272:TYR:CE1	46:e:277:MET:HE1	2.17	0.75
45:a:185:ILE:HG21	45:a:254:LEU:O	1.86	0.75
46:e:272:TYR:CD1	46:e:277:MET:HE3	2.16	0.75
45:a:412:GLN:O	45:a:413:GLN:HB2	1.87	0.74
45:a:306:TYR:HE1	45:a:327:ILE:HD12	1.49	0.74
46:e:272:TYR:HD1	46:e:277:MET:HE1	0.57	0.74
45:a:414:MET:HG2	45:a:418:THR:OG1	1.87	0.73
15:O:16:ALA:O	15:O:20:GLY:CA	2.36	0.73
46:e:149:LYS:HB3	46:e:150:PRO:HD3	1.69	0.73
45:a:936:ASP:HA	45:a:996:MET:CE	2.15	0.73
46:e:266:ARG:O	46:e:270:VAL:HG23	1.88	0.73
23:W:2:GLY:N	30:f:2138:A:HO2'	1.85	0.73
30:f:1242:G:H22	45:a:519:THR:HG22	1.54	0.73
46:e:272:TYR:CB	46:e:277:MET:SD	2.76	0.73
50:z:105:GLN:HA	50:z:143:VAL:HA	1.71	0.73
45:a:703:PHE:HB3	45:a:705:TRP:CZ3	2.24	0.72
46:e:731:LEU:C	46:e:731:LEU:CD1	2.62	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:x:67:U:O3'	49:x:68:C:H6	1.73	0.72
49:y:1:G:N1	49:y:72:C:O2	2.15	0.72
46:e:989:GLU:HB2	46:e:1039:LEU:CD2	2.20	0.72
46:e:1477:GLN:HE21	46:e:1481:THR:HG21	1.54	0.72
46:e:323:TYR:CZ	46:e:324:GLU:HG3	2.16	0.72
46:e:691:ASP:O	46:e:695:CYS:N	2.21	0.72
45:a:703:PHE:CB	45:a:705:TRP:CZ3	2.72	0.72
45:a:392:ILE:HD11	45:a:521:TYR:CE2	2.25	0.71
46:e:365:THR:HB	46:e:370:PHE:HB3	1.72	0.71
46:e:105:VAL:HG22	47:g:1:MET:HE1	1.72	0.71
49:y:24:G:H2'	49:y:25:C:O4'	1.90	0.71
45:a:595:ALA:O	45:a:599:GLN:HG3	1.91	0.71
40:q:92:TYR:HB2	40:q:142:ASP:HB3	1.73	0.71
46:e:1145:ASN:HB2	46:e:1147:VAL:HG22	1.72	0.70
46:e:1508:CYS:HA	46:e:1533:LYS:O	1.92	0.70
45:a:529:ALA:O	45:a:533:LYS:HG2	1.91	0.70
30:f:2416:U:H2'	30:f:2417:U:C6	2.27	0.70
46:e:1456:VAL:HG21	46:e:1480:ILE:HD11	1.64	0.69
30:f:1018:G:H1	30:f:1034:U:H3	1.38	0.69
30:f:1219:C:OP1	51:0:4:ILE:HG21	1.92	0.69
46:e:272:TYR:CD1	46:e:277:MET:SD	2.86	0.69
46:e:272:TYR:HA	46:e:277:MET:CG	2.22	0.69
46:e:323:TYR:HE1	46:e:324:GLU:HG3	1.44	0.69
23:W:21:ARG:HE	23:W:39:TYR:HB2	1.58	0.69
45:a:378:LEU:HD13	45:a:532:GLN:CB	2.22	0.69
49:y:1:G:H2'	49:y:2:G:O4'	1.91	0.69
49:y:36:C:OP2	49:y:37:A:OP2	2.10	0.69
30:f:2193:U:H5'	30:f:2194:G:H5'	1.75	0.69
45:a:97:GLN:CB	49:x:34:A:N6	2.55	0.69
45:a:6:SER:HB3	45:a:9:ASP:OD2	1.92	0.69
45:a:378:LEU:HD13	45:a:532:GLN:HB2	1.73	0.69
45:a:930:LYS:O	45:a:930:LYS:HG3	1.93	0.69
45:a:589:MET:HA	45:a:589:MET:HE2	1.75	0.68
51:0:26:PHE:HB2	51:0:87:VAL:HB	1.73	0.68
2:B:46[A]:GLU:HB3	2:B:49[A]:ARG:HG3	1.75	0.68
45:a:89:LEU:C	45:a:89:LEU:CD1	2.66	0.68
45:a:644:SER:OG	45:a:699:MET:CE	2.41	0.68
45:a:703:PHE:HB2	45:a:705:TRP:CH2	2.29	0.68
46:e:222:LEU:HD12	46:e:226:ASN:HD21	1.57	0.68
46:e:987:ILE:HD13	46:e:996:GLU:HG3	1.75	0.68
30:f:1222:G:C8	51:0:57:THR:HB	2.29	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:w:138:VAL:HG23	48:w:147:LYS:HD2	1.75	0.67
46:e:104:LYS:H	47:g:1:MET:HE3	1.58	0.67
46:e:751:VAL:HA	46:e:754:ILE:HD11	0.68	0.67
30:f:1222:G:C8	51:0:57:THR:CB	2.79	0.66
45:a:580:PHE:CD1	45:a:588:VAL:HB	2.31	0.66
30:f:1240:A:OP1	50:z:97:ASN:O	2.14	0.66
30:f:1222:G:C8	51:0:57:THR:HG21	2.31	0.66
30:f:1254:C:O2	50:z:135:THR:CB	2.43	0.66
30:f:1258:U:P	51:0:46:ARG:NH2	2.64	0.66
45:a:97:GLN:O	49:x:34:A:N6	1.98	0.66
45:a:309:PHE:HE2	45:a:341:PHE:HZ	1.42	0.66
49:y:1:G:H2'	49:y:2:G:H8	1.58	0.66
45:a:249:GLU:CD	45:a:254:LEU:CD2	2.69	0.66
30:f:1940:G:H21	30:f:3362:A:H8	1.44	0.66
45:a:660:CYS:HG	45:a:688:ASP:CG	1.96	0.66
46:e:253:LYS:C	46:e:254:ASN:OD1	2.39	0.66
46:e:989:GLU:HB2	46:e:1039:LEU:HD23	1.77	0.66
30:f:1221:A:N3	51:0:12:PHE:HE2	1.93	0.65
30:f:2969:A:N7	33:j:215:ASN:ND2	2.42	0.65
45:a:306:TYR:CZ	45:a:327:ILE:HD12	2.31	0.65
30:f:1238:C:H4'	50:z:139:VAL:CB	2.27	0.65
45:a:188:VAL:O	45:a:191:LYS:HG2	1.96	0.65
30:f:3018:C:OP1	47:g:9:ASN:ND2	2.29	0.65
46:e:751:VAL:CA	46:e:754:ILE:CD1	2.27	0.65
46:e:1475:SER:OG	46:e:1493:LEU:HD21	1.96	0.65
30:f:687:U:OP2	43:t:36:ARG:NH2	2.30	0.65
46:e:371:LEU:HB3	46:e:377:TRP:CD1	2.32	0.65
46:e:320:LEU:HB3	46:e:328:ILE:HG21	1.79	0.64
7:G:84:TYR:HB2	15:O:24:PRO:HD3	1.78	0.64
46:e:1477:GLN:CD	46:e:1481:THR:HG1	2.04	0.64
5:E:128:LYS:NZ	30:f:1724:U:OP2	2.31	0.64
45:a:141:HIS:HE1	45:a:150:GLU:HB2	1.62	0.64
46:e:1086:MET:HB2	46:e:1092:THR:HG21	1.80	0.64
45:a:378:LEU:HD13	45:a:532:GLN:CA	2.28	0.64
46:e:1236:SER:HA	46:e:1239:LYS:HE3	1.80	0.64
45:a:881:GLU:O	45:a:884:MET:HE3	1.97	0.64
45:a:28:ASN:HB3	45:a:30:TYR:CE2	2.32	0.64
45:a:309:PHE:CD1	45:a:309:PHE:C	2.73	0.64
46:e:1303:MET:HA	46:e:1303:MET:HE2	0.69	0.64
49:y:21:A:OP1	49:y:46:G:N7	2.31	0.64
2:B:27[A]:LEU:HD21	2:B:102[A]:LEU:HB2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:a:703:PHE:HB2	45:a:705:TRP:CZ3	2.33	0.63
9:I:12:ARG:NH1	30:f:3041:U:OP1	2.32	0.63
45:a:138:VAL:HB	45:a:143:ASN:ND2	2.13	0.63
46:e:807:LYS:CE	46:e:808:ASN:OD1	2.47	0.63
47:g:111:ASN:ND2	47:g:114:VAL:O	2.32	0.63
46:e:1477:GLN:NE2	46:e:1481:THR:HG23	2.12	0.63
28:c:87:ARG:NH1	33:j:97:ASN:OD1	2.33	0.62
29:d:4:MET:N	30:f:1802:C:OP1	2.32	0.62
45:a:649:TRP:HA	45:a:697:LEU:HD13	1.80	0.62
46:e:222:LEU:CD1	46:e:226:ASN:HD21	2.08	0.62
45:a:32:ILE:HD12	45:a:38:GLN:HB3	1.80	0.62
13:M:27:LYS:HB3	13:M:42:LEU:HB2	1.81	0.62
45:a:580:PHE:CE1	45:a:588:VAL:CG2	2.82	0.62
49:y:14:A:H61	49:y:21:A:H2	1.39	0.62
30:f:1232:C:O2'	51:0:36:GLN:NE2	2.31	0.62
30:f:2442:G:H1	30:f:2505:U:H3	1.46	0.62
46:e:1192:ARG:HG2	46:e:1270:TRP:CH2	2.34	0.62
5:E:43:LYS:NZ	30:f:1764:U:OP1	2.31	0.62
46:e:989:GLU:OE1	46:e:1039:LEU:HB2	2.00	0.62
46:e:1024:LEU:HD11	46:e:1059:LEU:HD21	1.82	0.62
9:I:14:SER:O	9:I:81:GLN:NE2	2.33	0.62
23:W:21:ARG:HG2	32:i:103:G:H4'	1.82	0.61
46:e:1439:LEU:HA	46:e:1460:SER:HB2	1.83	0.61
30:f:1221:A:N3	51:0:12:PHE:CE2	2.67	0.61
45:a:138:VAL:CB	45:a:143:ASN:HD22	2.13	0.61
46:e:1477:GLN:OE1	46:e:1481:THR:OG1	2.18	0.61
30:f:3348:G:H1	30:f:3357:U:H3	1.48	0.61
46:e:809:MET:CE	46:e:844:LEU:HD23	2.29	0.61
30:f:1348:U:O2	30:f:1349:G:N2	2.34	0.61
45:a:81:ARG:HG2	45:a:85:LYS:HD2	1.82	0.61
46:e:1319:TRP:CD1	46:e:1386:PHE:HE1	2.17	0.61
36:m:50:ARG:NH1	36:m:147:ASP:OD2	2.34	0.61
30:f:1235:U:O4	50:z:136:ALA:HA	2.00	0.61
38:o:87:VAL:HG11	38:o:243:MET:HE1	1.83	0.61
45:a:284:TYR:HB2	45:a:314:PRO:HD3	1.83	0.61
45:a:664:ASN:HA	45:a:684:LYS:HD2	1.82	0.61
45:a:660:CYS:SG	45:a:688:ASP:CG	2.83	0.60
36:m:294:ALA:HB1	41:r:217:PHE:HB3	1.83	0.60
45:a:644:SER:OG	45:a:699:MET:HE2	2.00	0.60
46:e:149:LYS:HB3	46:e:150:PRO:CD	2.30	0.60
46:e:102:ASP:OD1	46:e:207:ARG:HD2	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:e:1340:TYR:O	46:e:1344:ILE:HG12	2.01	0.60
49:x:58:A:OP2	49:x:58:A:C8	2.47	0.60
20:T:74:ARG:NH2	30:f:1639:C:OP2	2.30	0.60
4:D:38:ARG:NH2	30:f:1348:U:OP2	2.34	0.60
14:N:21:ARG:NH2	30:f:640:U:OP1	2.32	0.60
45:a:138:VAL:HB	45:a:143:ASN:HD22	1.67	0.60
3:C:173:ARG:NH2	30:f:618:C:OP1	2.35	0.60
30:f:1253:U:H5''	30:f:1254:C:H5'	1.83	0.60
40:q:89:LYS:HG2	40:q:145:VAL:HG22	1.84	0.60
49:x:18:G:H5'	49:x:60:U:H3	1.66	0.60
1:A:201:ARG:NH2	30:f:692:A:OP1	2.35	0.60
6:F:80:ARG:HH21	6:F:87:THR:HG21	1.66	0.60
46:e:750:ALA:C	46:e:754:ILE:HG12	2.25	0.60
45:a:863:LEU:HB3	45:a:869:LEU:HG	1.84	0.60
23:W:55:ARG:NH2	35:l:59:GLN:OE1	2.34	0.59
46:e:731:LEU:HD12	46:e:732:GLN:CA	2.32	0.59
46:e:807:LYS:NZ	46:e:808:ASN:OD1	2.34	0.59
6:F:8:GLN:HB3	6:F:64:ILE:HD11	1.84	0.59
31:h:31:U:O2'	36:m:218:ARG:NH1	2.35	0.59
43:t:27:ASP:O	43:t:31:LYS:HB2	2.01	0.59
49:x:55:U:H2'	49:x:56:C:H2'	1.84	0.59
53:v:43:ASP:HB3	53:v:60:VAL:HB	1.83	0.59
46:e:990:VAL:N	46:e:1039:LEU:HD22	2.17	0.59
46:e:1477:GLN:NE2	46:e:1481:THR:HG1	1.95	0.59
36:m:277:LEU:HG	36:m:281:GLU:HG3	1.82	0.59
45:a:408:GLY:O	45:a:412:GLN:HG3	2.02	0.59
49:y:62:C:H2'	49:y:63:G:C8	2.37	0.59
51:0:192:ASP:HB2	51:0:197:PHE:HE2	1.67	0.59
1:A:183:THR:HG22	1:A:187:ARG:HB2	1.85	0.59
31:h:52:G:H21	42:s:9:MET:HE1	1.68	0.59
49:x:67:U:C2	49:x:68:C:N4	2.71	0.59
45:a:250:SER:O	45:a:254:LEU:HG	2.03	0.59
49:y:66:C:H2'	49:y:67:U:H5'	1.81	0.59
30:f:439:C:O2'	30:f:494:G:N2	2.34	0.59
33:j:27:ALA:O	33:j:128:ARG:NH2	2.36	0.59
46:e:751:VAL:CB	46:e:754:ILE:HD11	2.29	0.59
46:e:1015:GLN:H	46:e:1063:GLU:HB2	1.67	0.59
30:f:804:C:OP1	35:l:98:ARG:NH2	2.35	0.58
30:f:1268:G:O2'	30:f:1273:A:N6	2.36	0.58
45:a:98:ASP:CA	49:x:34:A:N6	2.66	0.58
21:U:5:LYS:HB2	21:U:8:GLU:HG2	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:100:ARG:NH1	30:f:1722:U:OP1	2.36	0.58
30:f:1354:G:N3	37:n:8:LYS:NZ	2.51	0.58
45:a:181:VAL:HG21	45:a:262:ALA:HA	1.85	0.58
48:w:65:ILE:HG12	48:w:109:ALA:HB3	1.85	0.58
14:N:21:ARG:NH1	30:f:1369:A:OP1	2.36	0.58
30:f:2854:U:OP2	41:r:3:ARG:NH2	2.37	0.58
46:e:100:ILE:HG22	46:e:207:ARG:HH21	1.69	0.58
46:e:277:MET:CG	46:e:278:PRO:HD3	2.31	0.58
49:x:67:U:C3'	49:x:68:C:H6	2.07	0.58
6:F:77:VAL:HG22	6:F:126:VAL:HG23	1.85	0.58
28:c:4:ARG:NH1	30:f:837:A:OP2	2.37	0.58
28:c:17:ARG:NH1	30:f:860:G:OP1	2.36	0.58
46:e:776:TYR:HB2	46:e:812:LEU:HG	1.85	0.58
46:e:1276:LEU:HD13	46:e:1358:GLN:HG2	1.86	0.58
14:N:42:ARG:NH2	30:f:2800:G:O6	2.37	0.58
30:f:1259:A:N7	51:0:53:MET:HB3	2.15	0.58
41:r:205:SER:OG	41:r:208:ASN:OD1	2.21	0.58
49:x:67:U:C2	49:x:68:C:C4	2.91	0.58
32:i:21:C:OP1	35:l:193:LYS:NZ	2.36	0.58
45:a:81:ARG:HB3	45:a:85:LYS:HD3	1.86	0.58
45:a:888:VAL:HG12	45:a:892:ARG:CZ	2.34	0.58
45:a:959:GLY:HA3	45:a:1015:LYS:HB2	1.84	0.58
30:f:3187:A:OP1	40:q:23:ARG:NH1	2.37	0.57
45:a:888:VAL:HG12	45:a:892:ARG:NH2	2.19	0.57
51:0:43:LYS:HA	51:0:46:ARG:HG2	1.87	0.57
11:K:50:ALA:HB1	21:U:66:VAL:HG11	1.86	0.57
26:Z:125:LYS:O	40:q:173:ARG:NH1	2.35	0.57
30:f:2264:U:H2'	30:f:2265:C:C6	2.39	0.57
45:a:903:GLN:HA	45:a:906:LYS:HE2	1.84	0.57
2:B:60[A]:LYS:HE3	30:f:1307:G:H5'	1.86	0.57
36:m:64:ILE:HG13	36:m:109:THR:HG21	1.87	0.57
36:m:166:ALA:HB1	36:m:171:LEU:HD12	1.85	0.57
53:v:59:LEU:HD12	53:v:72:ASP:OD2	2.05	0.57
45:a:375:ILE:HG23	45:a:532:GLN:NE2	2.17	0.57
45:a:644:SER:OG	45:a:699:MET:HE3	2.04	0.57
28:c:4:ARG:NH2	30:f:838:G:O6	2.38	0.57
45:a:249:GLU:OE2	45:a:254:LEU:HD23	2.04	0.57
46:e:156:THR:HG22	46:e:161:LYS:HA	1.86	0.57
46:e:1152:TYR:HD1	46:e:1193:LEU:HD12	1.68	0.57
46:e:1303:MET:CE	46:e:1303:MET:CA	2.30	0.57
30:f:2842:U:OP1	30:f:2844:C:N4	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:a:979:LEU:HD11	45:a:991:PRO:HA	1.87	0.56
4:D:43:PRO:HB2	30:f:728:G:H5''	1.86	0.56
30:f:1390:A:N6	30:f:1418:A:O2'	2.38	0.56
34:k:59:ASP:HB2	34:k:357:LYS:HE3	1.87	0.56
45:a:686:GLU:O	45:a:689:GLN:HG2	2.05	0.56
22:V:68:ARG:NH2	30:f:2219:A:OP2	2.38	0.56
28:c:49:ARG:NH2	30:f:1793:C:OP2	2.38	0.56
37:n:132:THR:HA	37:n:135:VAL:HG12	1.87	0.56
45:a:97:GLN:CA	49:x:34:A:N6	2.65	0.56
53:v:49:THR:HG22	53:v:56:LYS:HE3	1.87	0.56
13:M:17:ARG:NH1	30:f:1634:G:N7	2.53	0.56
17:Q:4:LEU:O	17:Q:79:ARG:NH2	2.38	0.56
30:f:1231:A:H5''	30:f:1232:C:H5'	1.86	0.56
47:g:118:HIS:HD1	47:g:120:ASP:H	1.52	0.56
26:Z:100:TYR:O	30:f:2895:G:O2'	2.24	0.56
30:f:542:G:H1	30:f:549:U:H3	1.52	0.56
17:Q:55:LEU:HB2	17:Q:95:PRO:HD3	1.86	0.56
45:a:844:LEU:O	45:a:848:GLN:HG3	2.06	0.56
25:Y:5:LYS:HE2	25:Y:13:MET:HE1	1.87	0.56
34:k:66:LYS:O	34:k:70:ARG:NH2	2.39	0.56
45:a:142:GLU:HB3	45:a:147:GLN:HB3	1.88	0.56
46:e:937:GLU:HG2	46:e:976:LEU:CG	2.35	0.56
41:r:143:SER:C	41:r:144:ASN:HD22	2.14	0.55
45:a:884:MET:HE1	45:a:885:LYS:HG3	1.88	0.55
46:e:323:TYR:CG	46:e:324:GLU:HG2	2.40	0.55
49:y:76:A:O2'	52:l:57:UNK:O	2.21	0.55
20:T:87:GLU:OE1	20:T:91:ARG:NH1	2.39	0.55
36:m:75:LEU:O	36:m:112:LYS:NZ	2.40	0.55
45:a:138:VAL:CG2	45:a:143:ASN:ND2	2.68	0.55
45:a:706:LYS:O	45:a:934:VAL:HG23	2.07	0.55
30:f:831:G:O2'	30:f:1864:A:N3	2.39	0.55
50:z:50:THR:C	50:z:52:GLU:H	2.15	0.55
33:j:111:THR:HB	33:j:136:ILE:HD13	1.87	0.55
18:R:19:ARG:HD3	18:R:33:ARG:HB2	1.89	0.55
30:f:2493:U:OP1	48:w:215:ARG:NH2	2.39	0.55
45:a:392:ILE:HD12	45:a:518:ALA:HA	1.89	0.55
46:e:332:ASP:HB3	46:e:335:SER:HB3	1.89	0.55
46:e:980:LEU:O	46:e:984:LEU:HG	2.06	0.55
46:e:1156:TYR:HB2	46:e:1193:LEU:HD21	1.88	0.55
49:y:53:G:N2	49:y:62:C:C2	2.75	0.55
51:0:42:ARG:HG2	51:0:51:VAL:HG11	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:44:ASN:ND2	43:t:4:SER:O	2.40	0.55
30:f:394:G:N1	30:f:397:A:OP2	2.39	0.55
45:a:4:ARG:O	45:a:309:PHE:HZ	1.90	0.55
49:x:7:G:C6	49:x:49:U:C4	2.95	0.55
30:f:3045:G:OP1	34:k:19:ARG:NH2	2.39	0.55
45:a:138:VAL:HG23	45:a:143:ASN:ND2	2.21	0.55
46:e:989:GLU:O	46:e:1039:LEU:HD23	2.03	0.55
46:e:1132:ILE:HG21	46:e:1170:GLN:HG3	1.89	0.55
45:a:589:MET:HA	45:a:589:MET:HE3	1.89	0.55
45:a:705:TRP:HB3	45:a:934:VAL:HG21	1.89	0.55
46:e:104:LYS:N	47:g:1:MET:HE3	2.22	0.55
30:f:3042:U:OP2	30:f:3092:C:N4	2.38	0.55
33:j:70:ARG:HD2	33:j:72:ARG:HE	1.72	0.55
34:k:106:TRP:O	34:k:137:TYR:OH	2.24	0.55
45:a:884:MET:SD	45:a:885:LYS:N	2.79	0.55
46:e:272:TYR:CA	46:e:277:MET:CG	2.85	0.55
46:e:222:LEU:HD11	46:e:226:ASN:ND2	2.21	0.55
48:w:48:ARG:HG2	48:w:159:LEU:HD23	1.89	0.55
2:B:157[A]:GLU:OE1	2:B:160[A]:ARG:NH2	2.40	0.54
30:f:1222:G:C8	51:0:57:THR:CG2	2.90	0.54
30:f:1352:A:H4'	30:f:1353:U:H5'	1.88	0.54
40:q:57:VAL:HG12	40:q:68:LEU:HD22	1.88	0.54
45:a:884:MET:CE	45:a:885:LYS:HG3	2.37	0.54
45:a:964:THR:O	45:a:968:THR:HG23	2.07	0.54
53:v:56:LYS:HD3	53:v:73:LEU:HD12	1.88	0.54
45:a:4:ARG:O	45:a:309:PHE:CZ	2.60	0.54
45:a:309:PHE:HE2	45:a:341:PHE:CE2	2.25	0.54
30:f:3231:U:H2'	30:f:3232:G:H8	1.73	0.54
41:r:61:SER:OG	41:r:63:GLU:OE1	2.25	0.54
45:a:1:MET:N	45:a:309:PHE:CE1	2.68	0.54
45:a:6:SER:HB3	45:a:9:ASP:CG	2.32	0.54
17:Q:9:THR:HG23	17:Q:109:VAL:HG23	1.88	0.54
46:e:365:THR:HB	46:e:370:PHE:CB	2.37	0.54
30:f:1256:G:O2'	50:z:124:THR:CB	2.55	0.54
40:q:23:ARG:HE	40:q:39:LYS:HA	1.71	0.54
8:H:90:ARG:NH1	30:f:1682:U:O4	2.40	0.54
45:a:98:ASP:HA	49:x:34:A:N6	2.22	0.54
45:a:185:ILE:HG23	45:a:254:LEU:C	2.26	0.54
45:a:378:LEU:HD13	45:a:532:GLN:HA	1.89	0.54
46:e:1307:ILE:O	46:e:1311:ILE:HG12	2.06	0.54
30:f:76:G:O2'	43:t:100:ARG:NH1	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2674:A:H5''	42:s:105:GLY:HA3	1.89	0.54
14:N:95:SER:OG	14:N:98:THR:OG1	2.25	0.54
30:f:2162:U:OP1	33:j:234:LYS:NZ	2.39	0.54
36:m:236:LEU:HA	36:m:239:ILE:HG12	1.90	0.54
36:m:270:LYS:HG2	36:m:273:ARG:HE	1.73	0.54
30:f:68:C:OP2	30:f:301:G:N2	2.40	0.54
30:f:1221:A:C4	51:0:12:PHE:CZ	2.95	0.54
30:f:3268:A:OP1	37:n:46:ARG:NH2	2.35	0.54
30:f:1221:A:C4	51:0:12:PHE:CE2	2.96	0.53
45:a:888:VAL:HG12	45:a:892:ARG:NE	2.23	0.53
7:G:17:ARG:HG2	7:G:22:HIS:HA	1.90	0.53
45:a:195:ASP:HB3	45:a:214:LYS:HE2	1.90	0.53
8:H:56:VAL:HG12	8:H:65:VAL:HG22	1.88	0.53
30:f:3115:C:OP1	40:q:62:ARG:NH2	2.41	0.53
46:e:1422:ASN:HB2	46:e:1425:THR:HG22	1.90	0.53
30:f:1256:G:H4'	50:z:128:VAL:CB	2.39	0.53
30:f:3375:A:O2'	30:f:3378:C:OP2	2.26	0.53
34:k:140:ASP:OD1	34:k:141:GLY:N	2.36	0.53
46:e:323:TYR:CE2	46:e:324:GLU:HG2	2.42	0.53
46:e:712:SER:O	46:e:716:ALA:N	2.28	0.53
49:x:38:U:H2'	49:x:39:G:C8	2.43	0.53
10:J:44:LYS:HD2	30:f:2111:G:H1'	1.90	0.53
30:f:1156:C:OP2	38:o:94:LYS:NZ	2.40	0.53
30:f:1270:A:H4'	45:a:519:THR:HG21	1.90	0.53
42:s:32:ARG:HD2	42:s:120:ILE:HA	1.91	0.53
49:x:67:U:H3'	49:x:68:C:C5	2.41	0.53
49:y:14:A:N6	49:y:21:A:C2	2.64	0.53
2:B:75[A]:ALA:HB3	2:B:78[A]:ARG:HG2	1.90	0.53
34:k:284:ARG:NH1	34:k:293:ASN:O	2.42	0.53
45:a:88:ARG:HH12	49:y:34:A:H2'	1.73	0.53
53:v:46:THR:HG22	53:v:57:VAL:HG22	1.90	0.53
2:B:21[A]:SER:OG	30:f:1181:U:O4	2.27	0.53
10:J:6:ASP:OD1	10:J:32:GLN:N	2.40	0.53
23:W:52:LYS:NZ	35:l:59:GLN:O	2.39	0.53
46:e:882:ASN:O	46:e:885:GLN:C	2.50	0.53
8:H:44:GLU:OE2	8:H:49:ASN:ND2	2.41	0.53
36:m:120:LYS:O	36:m:248:ARG:NH2	2.42	0.53
20:T:31:ARG:NH2	30:f:1598:G:OP2	2.42	0.52
30:f:2245:C:O2'	33:j:220:GLY:O	2.26	0.52
45:a:378:LEU:CD1	45:a:532:GLN:HA	2.39	0.52
2:B:61[A]:ALA:HA	2:B:70[A]:PRO:HD2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:96:ASP:OD1	6:F:97:VAL:N	2.38	0.52
10:J:47:ARG:HH21	10:J:58:HIS:HB2	1.73	0.52
30:f:1257:C:C5'	50:z:124:THR:CB	2.68	0.52
30:f:3230:G:H4'	44:u:132:LYS:HD3	1.92	0.52
45:a:25:ARG:HE	45:a:88:ARG:HB3	1.75	0.52
46:e:968:ASN:HA	46:e:973:ILE:HG13	1.91	0.52
46:e:1060:MET:HE1	46:e:1072:ALA:HB1	1.91	0.52
46:e:271:LEU:C	46:e:277:MET:HG3	2.34	0.52
46:e:1495:THR:O	46:e:1499:HIS:CD2	2.63	0.52
6:F:77:VAL:HG11	6:F:106:LEU:HD22	1.92	0.52
7:G:158:THR:OG1	41:r:169:LYS:NZ	2.42	0.52
3:C:118:GLN:NE2	3:C:147:GLU:OE2	2.39	0.52
27:b:2:VAL:N	27:b:90:HIS:O	2.42	0.52
46:e:1511:CYS:SG	46:e:1535:HIS:CE1	3.03	0.52
6:F:80:ARG:HB2	6:F:122:HIS:HB2	1.91	0.52
30:f:1288:U:H2'	30:f:1289:G:H8	1.74	0.52
30:f:2177:G:OP2	33:j:128:ARG:NH1	2.43	0.52
7:G:136:ARG:HD2	7:G:139:ARG:HH12	1.74	0.52
17:Q:102:LYS:NZ	30:f:3373:U:OP2	2.38	0.52
45:a:414:MET:CG	45:a:418:THR:OG1	2.58	0.52
10:J:16:GLY:O	30:f:3050:U:O2'	2.27	0.52
45:a:26:LEU:CD1	45:a:42:LYS:O	2.47	0.52
46:e:209:HIS:HA	46:e:212:ILE:HG22	1.91	0.52
46:e:711:LEU:O	46:e:715:LEU:HG	2.10	0.52
46:e:985:ILE:HD11	46:e:1023:ARG:HG3	1.92	0.52
9:I:94:TYR:OH	10:J:41:LYS:NZ	2.39	0.51
30:f:2557:A:OP1	33:j:69:TYR:OH	2.24	0.51
14:N:100:PRO:HG2	14:N:123:VAL:HG23	1.93	0.51
27:b:41:ARG:NH1	30:f:284:A:OP2	2.40	0.51
30:f:3160:U:H3	30:f:3290:G:H1	1.59	0.51
42:s:49:LYS:HG3	42:s:64:LYS:HD3	1.92	0.51
36:m:54:ARG:NH1	36:m:147:ASP:O	2.42	0.51
45:a:941:PHE:HE1	45:a:956:ILE:HD12	1.76	0.51
50:z:50:THR:C	50:z:52:GLU:N	2.66	0.51
30:f:123:A:OP1	39:p:105:LYS:NZ	2.37	0.51
35:l:266:THR:HG23	35:l:267:VAL:HG13	1.92	0.51
36:m:50:ARG:NH2	36:m:72:ASP:OD2	2.43	0.51
46:e:272:TYR:HB2	46:e:277:MET:HE3	1.92	0.51
46:e:1287:ARG:HA	46:e:1290:PHE:HD2	1.76	0.51
30:f:1234:G:N2	50:z:135:THR:CB	2.73	0.51
30:f:1778:G:O2'	30:f:1780:G:OP2	2.28	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2540:A:N3	30:f:2541:U:N3	2.59	0.51
27:b:75:VAL:HG23	27:b:76:LYS:HD2	1.92	0.51
47:g:68:ARG:NH2	47:g:112:ASP:O	2.44	0.51
20:T:96:GLU:OE2	30:f:2555:G:N1	2.42	0.51
21:U:67:ARG:NH2	32:i:97:A:OP1	2.44	0.51
29:d:20:ARG:HA	29:d:23:VAL:HG12	1.92	0.51
40:q:22:SER:OG	40:q:39:LYS:NZ	2.44	0.51
19:S:70:LYS:HD2	30:f:585:A:H5''	1.91	0.51
45:a:138:VAL:CG2	45:a:143:ASN:HD22	2.23	0.51
49:y:24:G:C2'	49:y:25:C:O4'	2.57	0.51
30:f:544:C:H2'	30:f:547:G:H1	1.76	0.51
30:f:591:G:O2'	37:n:17:ALA:O	2.28	0.51
39:p:207:ASP:OD1	39:p:207:ASP:N	2.44	0.51
1:A:103:GLU:HG3	1:A:160:GLU:HB2	1.93	0.51
30:f:1256:G:O3'	50:z:124:THR:CB	2.59	0.51
30:f:1661:G:H2'	30:f:1662:G:C8	2.46	0.51
30:f:2489:C:O2'	48:w:210:MET:SD	2.69	0.51
35:l:156:LEU:HD12	35:l:159:ILE:HD12	1.93	0.51
15:O:23:LYS:HG3	15:O:24:PRO:HD2	1.93	0.50
39:p:161:GLU:HA	39:p:164:VAL:HG22	1.93	0.50
30:f:2307:G:O2'	30:f:2310:U:OP2	2.28	0.50
30:f:2828:G:OP2	41:r:7:ARG:NH2	2.44	0.50
32:i:29:U:H5''	43:t:27:ASP:HB3	1.92	0.50
36:m:206:GLN:NE2	36:m:210:GLU:OE2	2.44	0.50
39:p:52:TRP:O	39:p:57:ARG:NH1	2.44	0.50
46:e:1179:LEU:HD22	46:e:1247:LYS:HZ3	1.76	0.50
53:v:18:THR:HG22	53:v:83:PRO:HA	1.93	0.50
14:N:26:ARG:NH1	30:f:938:C:OP2	2.44	0.50
21:U:118:ILE:HD11	43:t:145:PHE:HE2	1.76	0.50
35:l:126:ILE:O	35:l:129:THR:OG1	2.30	0.50
46:e:1159:ILE:HG21	46:e:1197:LEU:HD11	1.93	0.50
49:y:38:U:H2'	49:y:39:G:C8	2.46	0.50
3:C:107:LEU:HD12	3:C:152:GLU:HG3	1.92	0.50
30:f:110:G:OP2	43:t:73:ARG:NH2	2.42	0.50
45:a:973:TYR:CD1	45:a:973:TYR:C	2.90	0.50
46:e:371:LEU:HD12	46:e:377:TRP:HZ2	1.49	0.50
48:w:50:SER:HA	48:w:157:PHE:O	2.11	0.50
2:B:74[A]:ARG:O	2:B:142[A]:SER:OG	2.23	0.50
3:C:65:SER:OG	30:f:1447:G:OP1	2.28	0.50
5:E:62:ARG:HH22	30:f:3067:C:H3'	1.77	0.50
30:f:655:C:H2'	30:f:656:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:e:1507:GLU:HG2	46:e:1514:ILE:HG12	1.93	0.50
30:f:664:U:H2'	30:f:665:A:C8	2.47	0.50
30:f:2137:U:OP2	30:f:2142:A:N6	2.40	0.50
30:f:2948:C:OP1	34:k:244:ARG:NH2	2.36	0.50
49:x:6:U:H2'	49:x:7:G:C8	2.46	0.50
28:c:18:TYR:HB3	33:j:180:LEU:HD22	1.93	0.50
49:x:62:C:H2'	49:x:63:G:C8	2.46	0.50
30:f:2897:A:H2'	30:f:2899:C:H5''	1.93	0.50
45:a:138:VAL:HG23	45:a:143:ASN:HD22	1.76	0.50
31:h:44:C:H4'	36:m:152:ARG:HG3	1.93	0.50
48:w:59:PRO:HD2	48:w:153:SER:HA	1.93	0.50
49:y:74:C:O2'	49:y:75:C:H5'	2.12	0.50
30:f:3214:U:OP2	44:u:128:ARG:NH1	2.34	0.49
46:e:753:LEU:HG	46:e:760:THR:HG21	1.94	0.49
49:y:53:G:C2	49:y:62:C:C2	3.00	0.49
3:C:60:PHE:HB3	3:C:64:ASN:HB3	1.93	0.49
45:a:955:LYS:HG2	45:a:957:GLN:HE22	1.77	0.49
46:e:989:GLU:HB2	46:e:1039:LEU:HD22	1.94	0.49
49:y:6:U:H2'	49:y:7:G:C8	2.47	0.49
1:A:83:LYS:NZ	30:f:36:C:OP2	2.42	0.49
3:C:62:ARG:NH1	30:f:412:G:OP1	2.45	0.49
17:Q:77:ARG:HD2	17:Q:89:LEU:HD13	1.94	0.49
32:i:156:U:OP2	39:p:84:ARG:NH2	2.45	0.49
47:g:116:LEU:HG	47:g:177:LEU:HD21	1.94	0.49
2:B:46[A]:GLU:HG3	2:B:48[A]:PHE:H	1.77	0.49
16:P:9:SER:OG	16:P:10:ILE:N	2.38	0.49
24:X:2:ALA:N	30:f:1613:A:OP1	2.46	0.49
45:a:507:THR:O	45:a:521:TYR:OH	2.19	0.49
30:f:348:A:N3	30:f:352:A:O2'	2.46	0.49
35:l:292:SER:OG	35:l:294:GLU:OE1	2.31	0.49
45:a:130:ARG:HA	45:a:148:ILE:HA	1.94	0.49
46:e:1206:GLN:O	46:e:1210:ILE:HG13	2.13	0.49
16:P:30:THR:HG23	16:P:91:SER:HB2	1.95	0.49
30:f:505:G:OP1	35:l:320:ASN:ND2	2.43	0.49
30:f:1019:G:H1	30:f:1033:U:H3	1.59	0.49
30:f:1569:U:H5'	30:f:1570:U:H5''	1.94	0.49
42:s:90:GLN:NE2	42:s:170:ASP:OD1	2.45	0.49
45:a:285:ILE:HG21	45:a:340:PHE:HB2	1.95	0.49
45:a:389:GLY:O	45:a:393:ILE:HG13	2.13	0.49
49:x:67:U:HO2'	49:x:68:C:C1'	2.26	0.49
36:m:90:HIS:NE2	36:m:229:ASP:OD2	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:w:138:VAL:HG21	48:w:144:LEU:HD23	1.94	0.49
49:y:1:G:C2'	49:y:2:G:O4'	2.60	0.49
30:f:1264:G:N2	30:f:1265:U:O4	2.40	0.49
30:f:2185:G:O2'	30:f:2314:U:OP2	2.28	0.49
45:a:589:MET:HE2	45:a:589:MET:CA	2.41	0.49
46:e:212:ILE:HG23	46:e:249:LEU:HD21	1.95	0.49
4:D:56:LYS:NZ	30:f:674:G:O6	2.46	0.49
6:F:155:ARG:HB2	6:F:172:TYR:HD1	1.77	0.49
7:G:108:ARG:O	7:G:112:ASN:HB2	2.12	0.49
27:b:7:THR:OG1	27:b:22:GLN:NE2	2.36	0.49
27:b:30:ALA:O	30:f:2767:U:O2'	2.29	0.49
45:a:392:ILE:HB	45:a:518:ALA:HB2	1.95	0.49
46:e:1373:ASN:O	46:e:1374:ILE:C	2.55	0.49
49:x:34:A:H2'	49:x:35:G:C8	2.47	0.49
46:e:751:VAL:CG2	46:e:754:ILE:HD11	2.42	0.48
47:g:197:MET:HE3	47:g:218:ILE:HD12	1.95	0.48
4:D:131:ALA:HB1	4:D:135:GLN:H	1.78	0.48
18:R:104:ASN:ND2	30:f:1389:G:OP1	2.42	0.48
45:a:575:GLU:HA	45:a:579:TRP:CD1	2.48	0.48
49:x:61:C:H2'	49:x:62:C:C6	2.48	0.48
14:N:94:ALA:HA	14:N:121:VAL:HG23	1.95	0.48
17:Q:80:ASN:OD1	17:Q:81:GLU:N	2.45	0.48
30:f:2901:G:O2'	30:f:3024:A:N1	2.44	0.48
39:p:91:PHE:O	39:p:95:ASN:ND2	2.46	0.48
19:S:49:ILE:HD11	19:S:71:VAL:HG22	1.96	0.48
30:f:1814:A:H4'	30:f:1815:U:H5'	1.95	0.48
30:f:2270:A:H2'	30:f:2271:A:C8	2.47	0.48
34:k:145:GLU:HA	34:k:148:LEU:HB2	1.95	0.48
37:n:92:SER:OG	37:n:148:GLU:OE1	2.30	0.48
45:a:611:TYR:HB2	45:a:621:TRP:CZ3	2.48	0.48
45:a:641:LEU:HA	45:a:699:MET:HE1	1.95	0.48
49:x:41:G:H2'	49:x:42:A:C8	2.48	0.48
15:O:3:LYS:HD3	30:f:2617:U:H3'	1.95	0.48
45:a:649:TRP:HD1	45:a:650:SER:CA	2.26	0.48
46:e:1477:GLN:OE1	46:e:1477:GLN:C	2.57	0.48
30:f:2205:U:C5	45:a:859:ARG:HG3	2.48	0.48
30:f:2568:C:O2'	30:f:2569:A:O4'	2.27	0.48
32:i:9:A:H2'	32:i:10:A:C8	2.49	0.48
45:a:138:VAL:H	45:a:143:ASN:HB2	1.78	0.48
46:e:989:GLU:C	46:e:1039:LEU:HD23	2.30	0.48
50:z:51:LYS:O	50:z:52:GLU:C	2.55	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:93:GLU:HG3	6:F:140:VAL:HG11	1.95	0.48
13:M:133:LYS:HE3	13:M:135:ARG:HD3	1.96	0.48
30:f:3198:U:O2	40:q:21:LYS:N	2.44	0.48
42:s:38:GLU:HB2	42:s:45:PRO:HD3	1.95	0.48
45:a:392:ILE:CD1	45:a:521:TYR:CE2	2.95	0.48
45:a:697:LEU:H	45:a:697:LEU:HG	1.57	0.48
46:e:757:CYS:HB2	46:e:760:THR:HG23	1.95	0.48
4:D:102:ALA:HA	4:D:122:ILE:O	2.14	0.48
30:f:520:U:OP2	38:o:70:LYS:NZ	2.45	0.48
30:f:1383:G:O3'	35:l:138:ARG:NH2	2.47	0.48
30:f:1477:A:OP1	30:f:3075:G:O2'	2.31	0.48
30:f:2606:G:N3	30:f:2606:G:H2'	2.29	0.48
35:l:304:GLN:NE2	35:l:306:THR:O	2.42	0.48
40:q:18:VAL:HG12	40:q:27:VAL:HG22	1.94	0.48
46:e:1174:ILE:HG22	46:e:1198:LEU:HD13	1.95	0.48
30:f:1805:C:H2'	30:f:1806:A:H8	1.79	0.48
47:g:146:ILE:HG13	47:g:147:LEU:HD12	1.96	0.48
50:z:52:GLU:O	50:z:53:PHE:C	2.56	0.48
30:f:2155:G:OP1	33:j:241:ARG:NH1	2.46	0.48
34:k:85:VAL:HG22	34:k:202:THR:HG22	1.95	0.48
40:q:47:LYS:H	44:u:7:VAL:HG21	1.78	0.48
43:t:76:THR:HG22	43:t:78:ALA:H	1.79	0.48
46:e:937:GLU:HA	46:e:976:LEU:HD11	1.95	0.48
46:e:1240:LEU:HG	46:e:1290:PHE:HD1	1.78	0.48
49:y:40:G:H2'	49:y:41:G:C8	2.49	0.48
49:y:62:C:H2'	49:y:63:G:H8	1.76	0.48
17:Q:75:ILE:HG12	17:Q:93:VAL:HG22	1.96	0.47
26:Z:124:LYS:NZ	30:f:2897:A:OP2	2.47	0.47
27:b:45:ARG:NH1	30:f:283:G:OP1	2.45	0.47
30:f:1230:G:H4'	51:0:34:SER:HA	1.96	0.47
30:f:2266:U:H2'	30:f:2267:C:C6	2.49	0.47
33:j:117:GLU:HG2	33:j:124:GLY:H	1.79	0.47
45:a:32:ILE:HG12	45:a:40:LEU:HB2	1.95	0.47
46:e:277:MET:SD	46:e:278:PRO:CG	2.94	0.47
4:D:16:ARG:HB2	30:f:974:G:H5'	1.95	0.47
4:D:19:PRO:HB3	4:D:53:PHE:HA	1.96	0.47
34:k:219:ALA:HB2	34:k:336:VAL:HG23	1.96	0.47
46:e:807:LYS:HE3	46:e:808:ASN:OD1	2.13	0.47
46:e:1443:PHE:HB3	46:e:1454:ILE:HD11	1.94	0.47
46:e:1444:LYS:HD2	46:e:1455:GLN:NE2	2.22	0.47
3:C:22:LEU:HD12	3:C:146:ILE:HD12	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:23:VAL:HG12	13:M:45:GLY:HA3	1.94	0.47
19:S:99:ARG:NH1	30:f:3275:U:O2'	2.48	0.47
47:g:14:GLY:HA2	47:g:198:VAL:HG13	1.96	0.47
51:0:26:PHE:HZ	51:0:93:LEU:HA	1.80	0.47
53:v:48:LYS:HA	53:v:55:ALA:HA	1.96	0.47
30:f:358:G:N2	30:f:361:A:OP2	2.42	0.47
30:f:655:C:H2'	30:f:656:A:C8	2.49	0.47
30:f:829:U:H3	30:f:895:A:H62	1.63	0.47
45:a:705:TRP:HH2	45:a:952:TYR:CG	2.32	0.47
46:e:864:HIS:HA	46:e:869:HIS:HB3	1.96	0.47
46:e:981:ALA:HB1	46:e:1027:ILE:HD11	1.95	0.47
46:e:1477:GLN:NE2	46:e:1481:THR:CB	2.43	0.47
49:y:1:G:C6	49:y:72:C:N3	2.78	0.47
5:E:151:ARG:NH2	5:E:152:GLU:OE2	2.45	0.47
45:a:455:SER:HG	45:a:501:ASN:N	2.13	0.47
49:y:66:C:C2'	49:y:67:U:C5'	2.83	0.47
9:I:18:PRO:HA	9:I:51:ALA:HA	1.97	0.47
23:W:81:GLY:O	32:i:95:G:O2'	2.32	0.47
30:f:411:U:H2'	30:f:412:G:H8	1.79	0.47
32:i:103:G:OP2	32:i:105:A:O2'	2.33	0.47
33:j:32:LEU:HD13	33:j:163:ARG:HD3	1.96	0.47
46:e:59:GLU:HG2	46:e:103:TYR:CD1	2.49	0.47
46:e:797:LEU:HD11	46:e:955:LEU:HD22	1.97	0.47
47:g:88:LEU:HD12	47:g:92:VAL:HG21	1.96	0.47
5:E:21:LYS:HE3	5:E:55:VAL:HA	1.97	0.47
7:G:116:ARG:NH2	30:f:1096:U:OP2	2.48	0.47
30:f:712:G:OP1	43:t:174:ARG:NH1	2.47	0.47
30:f:1480:G:O2'	30:f:1871:U:O4	2.27	0.47
39:p:228:GLU:O	39:p:232:HIS:ND1	2.43	0.47
41:r:54:SER:HB3	41:r:135:ILE:HD11	1.97	0.47
41:r:66:GLU:OE1	41:r:69:ARG:NH2	2.47	0.47
45:a:28:ASN:ND2	45:a:30:TYR:CZ	2.82	0.47
45:a:98:ASP:CA	49:x:35:G:O6	2.56	0.47
49:x:55:U:H6	49:x:55:U:O5'	1.97	0.47
4:D:170:ARG:HD2	14:N:57:GLY:HA3	1.97	0.47
5:E:128:LYS:NZ	30:f:1721:U:O4	2.38	0.47
32:i:126:A:O2'	32:i:129:C:N4	2.48	0.47
34:k:211:GLN:NE2	34:k:283:TYR:O	2.45	0.47
36:m:163:LEU:HD11	36:m:175:HIS:HB3	1.97	0.47
46:e:182:LYS:HE2	46:e:182:LYS:HB3	1.79	0.47
1:A:5:LYS:HE2	22:V:40:VAL:HG21	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:115:LYS:HA	30:f:715:A:H5''	1.97	0.47
30:f:627:U:H2'	30:f:628:A:C8	2.50	0.47
44:u:38:ILE:HA	44:u:44:VAL:HG12	1.96	0.47
44:u:55:ARG:NH2	44:u:76:ALA:O	2.48	0.47
4:D:180:ARG:NH2	30:f:2790:A:OP1	2.42	0.47
5:E:68:GLN:OE1	5:E:71:ARG:NH2	2.43	0.47
30:f:835:G:O2'	30:f:857:G:N2	2.38	0.47
30:f:1907:C:O2	34:k:240:ARG:NH2	2.45	0.47
30:f:2491:A:H1'	48:w:207:LYS:HE2	1.97	0.47
45:a:111:TYR:HB2	45:a:125:LEU:HB2	1.96	0.47
45:a:160:ASN:HB2	45:a:162:GLU:CD	2.37	0.47
46:e:937:GLU:CG	46:e:976:LEU:HG	2.42	0.47
30:f:912:G:OP2	33:j:9:ARG:NH2	2.45	0.46
45:a:138:VAL:CB	45:a:143:ASN:ND2	2.75	0.46
46:e:368:HIS:CE1	46:e:370:PHE:HB2	2.50	0.46
46:e:1083:SER:HA	46:e:1086:MET:HE2	1.96	0.46
47:g:219:GLU:HA	47:g:224:LEU:HD12	1.96	0.46
3:C:67:ILE:HD11	3:C:80:LYS:HB3	1.97	0.46
15:O:55:ALA:O	15:O:59:LYS:HB3	2.16	0.46
30:f:2466:G:H5''	48:w:60:ARG:HH12	1.80	0.46
30:f:2815:G:N2	30:f:2818:U:O2	2.45	0.46
36:m:234:ASP:OD1	36:m:234:ASP:N	2.47	0.46
2:B:59[A]:ARG:NH1	30:f:1307:G:OP1	2.48	0.46
12:L:55:GLU:HB2	12:L:108:LYS:HB3	1.98	0.46
35:l:326:ARG:O	38:o:41:ARG:NH2	2.48	0.46
41:r:54:SER:OG	41:r:130:ASP:O	2.33	0.46
30:f:86:G:O2'	30:f:98:G:O6	2.32	0.46
30:f:297:G:OP2	30:f:297:G:N2	2.41	0.46
12:L:74:TYR:HB3	12:L:77:LYS:HB2	1.98	0.46
13:M:28:PRO:O	13:M:29:HIS:ND1	2.48	0.46
18:R:9:ILE:HG12	18:R:63:THR:HG23	1.97	0.46
30:f:617:G:OP1	37:n:108:LYS:NZ	2.41	0.46
30:f:2416:U:H2'	30:f:2417:U:H6	1.78	0.46
36:m:119:TYR:OH	36:m:139:PRO:O	2.33	0.46
44:u:48:GLY:HA3	44:u:53:VAL:HB	1.98	0.46
49:x:68:C:H6	49:x:68:C:P	2.37	0.46
2:B:39[A]:GLU:HG2	2:B:40[A]:GLU:HG2	1.97	0.46
14:N:96:LYS:HB2	14:N:96:LYS:HE2	1.70	0.46
30:f:1152:G:OP2	30:f:1152:G:N2	2.44	0.46
46:e:804:ILE:CD1	46:e:809:MET:SD	2.97	0.46
49:y:23:C:H2'	49:y:24:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:1949:G:H1	30:f:2097:U:H3	1.63	0.46
45:a:896:ARG:HH12	53:v:130:GLU:HA	1.81	0.46
46:e:254:ASN:OD1	46:e:254:ASN:N	2.49	0.46
46:e:298:ILE:HD13	46:e:342:PHE:CE1	2.51	0.46
46:e:371:LEU:HB2	46:e:377:TRP:HE1	0.66	0.46
47:g:11:ASN:ND2	47:g:209:ASP:OD2	2.49	0.46
49:x:7:G:C5	49:x:49:U:C5	3.04	0.46
49:x:67:U:O3'	49:x:68:C:C6	2.55	0.46
15:O:25:LYS:NZ	30:f:1106:G:O3'	2.44	0.46
20:T:95:ILE:HD11	30:f:2555:G:N7	2.30	0.46
30:f:1717:U:H2'	30:f:1718:G:C8	2.50	0.46
38:o:86:VAL:O	38:o:114:GLY:HA2	2.16	0.46
49:y:66:C:H2'	49:y:67:U:C5'	2.46	0.46
4:D:35:PHE:HE1	30:f:1348:U:H5'	1.81	0.46
18:R:60:ASN:HB3	18:R:63:THR:HB	1.97	0.46
19:S:14:LEU:HD11	19:S:31:LYS:HB2	1.98	0.46
36:m:207:TYR:HA	36:m:210:GLU:HG2	1.97	0.46
39:p:156:ASP:OD1	39:p:156:ASP:N	2.47	0.46
46:e:770:ILE:HD12	46:e:901:SER:HB2	1.98	0.46
46:e:1269:LEU:HD23	46:e:1351:LEU:HB3	1.98	0.46
53:v:104:ASN:OD1	53:v:105:MET:N	2.49	0.46
42:s:131:MET:HE3	42:s:131:MET:HB3	1.81	0.45
45:a:180:LEU:HD12	45:a:180:LEU:HA	1.82	0.45
45:a:706:LYS:O	45:a:934:VAL:HA	2.16	0.45
45:a:937:ILE:CG1	45:a:996:MET:SD	2.83	0.45
46:e:1506:GLU:HB2	46:e:1533:LYS:HD2	1.97	0.45
1:A:159:ARG:HB3	1:A:164:LEU:HB2	1.98	0.45
1:A:202:TYR:HB3	35:l:112:LYS:HG3	1.97	0.45
12:L:16:ARG:NH1	30:f:216:G:OP1	2.45	0.45
13:M:22:LYS:NZ	13:M:132:SER:O	2.47	0.45
13:M:133:LYS:NZ	30:f:1808:G:OP2	2.44	0.45
30:f:2392:C:O2'	34:k:266:ARG:NH2	2.48	0.45
33:j:68:LYS:HE2	33:j:70:ARG:HH21	1.80	0.45
45:a:284:TYR:CB	45:a:314:PRO:HD3	2.46	0.45
46:e:272:TYR:N	46:e:277:MET:CG	2.79	0.45
46:e:1446:PRO:HD3	46:e:1454:ILE:HA	1.98	0.45
30:f:494:G:H2'	30:f:495:G:H8	1.82	0.45
30:f:3022:G:O2'	30:f:3031:G:O6	2.32	0.45
36:m:65:ILE:HG12	36:m:74:VAL:HG22	1.99	0.45
45:a:609:ASP:HB2	45:a:623:LYS:HA	1.97	0.45
46:e:1283:SER:OG	46:e:1286:MET:HG2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:62:TYR:OH	32:i:141:C:O3'	2.34	0.45
17:Q:44:MET:O	17:Q:77:ARG:NH1	2.49	0.45
31:h:7:G:OP1	36:m:33:ARG:NH1	2.48	0.45
46:e:773:PHE:HA	46:e:812:LEU:HD11	1.99	0.45
30:f:307:A:H2'	30:f:308:A:C8	2.51	0.45
30:f:1119:C:H2'	30:f:1120:A:H8	1.81	0.45
30:f:1134:G:O2'	30:f:2642:A:N3	2.44	0.45
30:f:1497:C:H2'	30:f:1498:A:H8	1.81	0.45
30:f:2697:A:H2'	30:f:2698:G:C8	2.52	0.45
30:f:3116:G:OP1	30:f:3116:G:N2	2.43	0.45
36:m:83:LEU:HB3	36:m:88:ILE:HB	1.97	0.45
37:n:175:LYS:O	44:u:117:ARG:NH2	2.50	0.45
46:e:272:TYR:HE1	46:e:323:TYR:HB2	1.81	0.45
46:e:397:ASN:O	46:e:398:SER:C	2.57	0.45
46:e:1079:LEU:HA	46:e:1079:LEU:HD23	1.61	0.45
46:e:1400:PHE:HE1	46:e:1428:VAL:HG22	1.81	0.45
49:x:25:C:H2'	49:x:26:G:H8	1.81	0.45
23:W:30:GLN:NE2	30:f:904:A:OP2	2.50	0.45
30:f:1008:U:O2'	41:r:35:ASP:OD2	2.33	0.45
30:f:1693:C:HO2'	30:f:1772:U:HO2'	1.64	0.45
30:f:2218:G:H2'	30:f:2219:A:H8	1.80	0.45
31:h:62:U:O2'	36:m:285:ARG:NH2	2.50	0.45
33:j:140:ASN:O	33:j:144:ASN:HA	2.16	0.45
6:F:22:PRO:O	7:G:146:ASN:ND2	2.38	0.45
30:f:2205:U:H5	45:a:859:ARG:HG3	1.82	0.45
45:a:246:ASP:HB2	45:a:249:GLU:HB2	1.98	0.45
46:e:393:PHE:O	46:e:394:SER:C	2.59	0.45
46:e:844:LEU:HD23	46:e:844:LEU:O	2.16	0.45
46:e:1057:THR:HG22	46:e:1105:LEU:HA	1.99	0.45
4:D:180:ARG:HH22	30:f:2719:U:H5''	1.82	0.45
30:f:571:U:H2'	30:f:572:A:H8	1.81	0.45
33:j:14:SER:OG	33:j:15:ILE:N	2.50	0.45
33:j:104:LEU:HD12	33:j:158:ILE:HD11	1.98	0.45
35:l:8:VAL:HG23	35:l:151:VAL:HG12	1.97	0.45
45:a:81:ARG:CG	45:a:85:LYS:HD2	2.47	0.45
45:a:185:ILE:HD12	45:a:258:THR:HA	1.98	0.45
46:e:751:VAL:CA	46:e:754:ILE:HG12	2.38	0.45
46:e:992:LEU:HD11	46:e:1000:LEU:HD11	1.99	0.45
38:o:83:LEU:HD11	38:o:116:PHE:HB3	1.99	0.45
46:e:882:ASN:C	46:e:885:GLN:O	2.53	0.45
46:e:968:ASN:HD22	46:e:1009:ILE:HG12	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:e:1477:GLN:CD	46:e:1477:GLN:O	2.59	0.45
22:V:53:TYR:HA	22:V:56:ARG:HG2	1.99	0.45
30:f:528:U:H2'	30:f:529:A:C8	2.51	0.45
38:o:232:ARG:O	38:o:235:PHE:N	2.48	0.45
40:q:41:ILE:HD13	40:q:71:VAL:HB	1.99	0.45
45:a:644:SER:CB	45:a:699:MET:HE3	2.47	0.45
47:g:106:ASN:OD1	47:g:150:SER:OG	2.34	0.45
1:A:7:LEU:HD11	39:p:162:LEU:HA	1.99	0.44
30:f:2094:C:H2'	30:f:2095:G:H8	1.81	0.44
34:k:215:ILE:HD12	34:k:338:LEU:HD12	1.98	0.44
45:a:696:GLN:HE21	45:a:696:GLN:HB2	1.64	0.44
25:Y:37:TYR:O	30:f:351:A:N6	2.48	0.44
30:f:2660:G:OP1	30:f:2750:U:O2'	2.35	0.44
46:e:1008:ASP:HA	46:e:1061:ARG:HH22	1.82	0.44
49:x:25:C:H2'	49:x:26:G:C8	2.52	0.44
29:d:21:ARG:HA	29:d:21:ARG:HD2	1.80	0.44
45:a:601:TYR:O	45:a:605:ILE:HB	2.18	0.44
46:e:272:TYR:CG	46:e:277:MET:CE	2.86	0.44
30:f:19:U:H2'	30:f:20:A:C8	2.52	0.44
30:f:2964:G:N2	30:f:2967:A:OP2	2.41	0.44
39:p:95:ASN:OD1	39:p:98:ARG:NH2	2.51	0.44
45:a:392:ILE:CD1	45:a:521:TYR:CD2	3.00	0.44
45:a:572:TYR:HB2	45:a:575:GLU:HG3	1.99	0.44
46:e:731:LEU:CD1	46:e:732:GLN:N	2.64	0.44
9:I:38:ALA:HB3	9:I:59:MET:HB2	1.99	0.44
9:I:128:ARG:NE	47:g:12:GLU:OE2	2.50	0.44
30:f:520:U:O4	35:l:347:THR:OG1	2.34	0.44
30:f:1786:G:H2'	30:f:1787:A:C8	2.52	0.44
33:j:135:ILE:HD12	33:j:149:ARG:HE	1.82	0.44
4:D:161:LYS:HD3	4:D:161:LYS:HA	1.82	0.44
24:X:10:GLN:HA	24:X:13:GLU:HG2	1.99	0.44
30:f:799:G:O2'	43:t:18:TRP:NE1	2.47	0.44
30:f:1203:A:N3	30:f:2855:U:O2'	2.46	0.44
30:f:1888:U:H5''	34:k:247:ARG:HB2	2.00	0.44
30:f:1899:G:O2'	30:f:2334:U:O4	2.25	0.44
45:a:392:ILE:HD11	45:a:521:TYR:CD2	2.52	0.44
45:a:649:TRP:HH2	45:a:956:ILE:HG22	1.82	0.44
47:g:2:ALA:HA	47:g:204:ALA:O	2.16	0.44
49:y:32:U:H2'	49:y:33:U:C6	2.52	0.44
2:B:74[A]:ARG:NH1	30:f:3008:A:OP2	2.51	0.44
6:F:80:ARG:HG3	6:F:124:LEU:HD21	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2960:C:H2'	30:f:2961:G:C8	2.53	0.44
33:j:101:VAL:HG22	33:j:165:VAL:HG22	2.00	0.44
46:e:1196:THR:CG2	46:e:1197:LEU:N	2.80	0.44
53:v:80:MET:HE3	53:v:80:MET:HB3	1.75	0.44
2:B:127[A]:LEU:HD22	6:F:156:VAL:HG13	2.00	0.44
9:I:129:VAL:O	9:I:133:SER:HB3	2.17	0.44
12:L:112:ASP:OD2	32:i:85:G:N1	2.49	0.44
30:f:1259:A:N3	30:f:1280:C:O2'	2.50	0.44
31:h:38:U:N3	31:h:41:G:OP2	2.41	0.44
39:p:104:GLU:HA	39:p:107:GLU:HG3	2.00	0.44
40:q:120:ASP:OD1	40:q:120:ASP:N	2.44	0.44
45:a:24:TYR:HB3	45:a:43:PHE:HB3	2.00	0.44
49:y:66:C:HO2'	49:y:67:U:H5'	1.75	0.44
6:F:80:ARG:HD2	7:G:155:PRO:HA	2.00	0.44
15:O:14:ARG:NH2	30:f:1139:G:OP2	2.51	0.44
30:f:2284:C:N4	30:f:2308:C:OP2	2.50	0.44
36:m:205:SER:HB3	36:m:236:LEU:HD21	2.00	0.44
46:e:914:TYR:HD1	46:e:959:ILE:HG23	1.82	0.44
46:e:1294:LEU:HB3	46:e:1300:ILE:HG12	1.99	0.44
53:v:30:GLY:H	53:v:41:ILE:HG22	1.83	0.44
15:O:21:ILE:HD12	15:O:21:ILE:HG23	1.83	0.43
17:Q:46:THR:HG22	17:Q:48:ASP:H	1.82	0.43
22:V:9:ILE:HD12	43:t:174:ARG:HB2	1.99	0.43
30:f:710:A:H2'	30:f:711:A:C8	2.53	0.43
30:f:1813:A:O2'	30:f:1816:A:N3	2.46	0.43
30:f:2116:G:OP1	30:f:2118:C:N4	2.51	0.43
30:f:3379:C:H4'	34:k:315:GLY:HA2	1.98	0.43
35:l:74:ILE:HD12	35:l:75:PRO:HD2	2.00	0.43
36:m:258:LYS:O	36:m:265:TYR:OH	2.31	0.43
45:a:529:ALA:O	45:a:533:LYS:NZ	2.36	0.43
46:e:1477:GLN:OE1	46:e:1477:GLN:O	2.36	0.43
49:y:24:G:H2'	49:y:25:C:H6	1.72	0.43
49:y:51:C:H2'	49:y:52:G:C8	2.53	0.43
14:N:36:GLY:HA3	14:N:40:HIS:CE1	2.53	0.43
30:f:1222:G:N2	30:f:1285:G:O2'	2.51	0.43
30:f:2357:A:H2'	30:f:2358:A:C8	2.53	0.43
30:f:3322:A:H2'	30:f:3323:A:C8	2.53	0.43
45:a:306:TYR:HB3	45:a:340:PHE:CD1	2.53	0.43
45:a:532:GLN:O	45:a:536:GLU:HG2	2.18	0.43
45:a:963:LYS:HE2	45:a:1012:ASP:HA	2.00	0.43
48:w:37:GLY:O	48:w:202:GLY:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:0:45:LEU:HB3	51:0:49:ALA:HB3	1.99	0.43
9:I:117:PRO:HA	9:I:135:VAL:HG13	2.00	0.43
30:f:911:C:OP1	33:j:14:SER:OG	2.32	0.43
30:f:1657:C:O2'	30:f:1797:A:OP2	2.30	0.43
30:f:2876:C:H2'	30:f:2877:G:O4'	2.18	0.43
30:f:2965:U:C4	30:f:2966:G:C6	3.06	0.43
30:f:3016:A:H2'	30:f:3017:A:H8	1.83	0.43
39:p:82:LEU:HD13	39:p:222:PHE:HE2	1.84	0.43
41:r:184:LYS:HB2	41:r:184:LYS:HE2	1.86	0.43
46:e:1165:LYS:HB2	46:e:1165:LYS:HE2	1.81	0.43
46:e:1379:LEU:HD22	46:e:1379:LEU:HA	1.72	0.43
48:w:96:ASN:HD21	48:w:99:LEU:HD12	1.84	0.43
49:x:62:C:H2'	49:x:63:G:H8	1.82	0.43
7:G:133:ALA:HB3	38:o:121:LYS:HB2	2.00	0.43
8:H:20:SER:HA	8:H:23:THR:HG22	2.00	0.43
23:W:63:ARG:NH1	32:i:58:G:O6	2.50	0.43
30:f:595:G:OP2	38:o:30:ARG:NH1	2.51	0.43
30:f:2768:U:H2'	30:f:2769:A:H8	1.83	0.43
39:p:239:GLY:O	39:p:243:GLN:HB2	2.19	0.43
45:a:884:MET:HE1	45:a:885:LYS:CG	2.47	0.43
46:e:936:VAL:O	46:e:940:VAL:HG23	2.19	0.43
30:f:1237:G:H22	30:f:1251:A:H2	1.66	0.43
30:f:1666:G:H2'	30:f:1667:A:H8	1.83	0.43
30:f:3295:A:H2'	30:f:3296:A:C8	2.53	0.43
39:p:86:THR:HA	39:p:89:GLU:HG2	2.00	0.43
45:a:636:MET:HE2	45:a:636:MET:HB2	1.93	0.43
45:a:840:LYS:HD3	45:a:840:LYS:HA	1.78	0.43
46:e:396:ARG:C	46:e:398:SER:N	2.75	0.43
46:e:989:GLU:H	46:e:989:GLU:HG3	1.51	0.43
46:e:1164:LEU:HG	46:e:1165:LYS:HD3	2.00	0.43
46:e:1240:LEU:HG	46:e:1290:PHE:CD1	2.54	0.43
47:g:119:PRO:O	47:g:139:ARG:NH1	2.50	0.43
51:0:15:LEU:O	51:0:19:LEU:HG	2.18	0.43
1:A:12:ARG:NH1	30:f:297:G:O6	2.46	0.43
10:J:34:SER:OG	30:f:3085:G:OP1	2.32	0.43
23:W:58:THR:OG1	23:W:59:THR:N	2.51	0.43
30:f:2514:U:H5'	39:p:68:ARG:HG3	2.00	0.43
30:f:2745:G:N2	30:f:2748:A:OP2	2.47	0.43
30:f:2836:C:H5	30:f:2852:C:H42	1.67	0.43
47:g:38:PHE:O	47:g:42:LEU:HB2	2.18	0.43
6:F:70:THR:OG1	44:u:55:ARG:NH1	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:27:PHE:HA	23:W:34:CYS:HA	2.01	0.43
30:f:716:A:OP1	30:f:752:C:O2'	2.37	0.43
30:f:1288:U:H2'	30:f:1289:G:C8	2.54	0.43
30:f:2875[B]:U:O4	52:1:54:UNK:CB	2.66	0.43
45:a:309:PHE:CE2	45:a:341:PHE:HZ	2.26	0.43
45:a:520:GLU:O	45:a:524:ILE:HG13	2.18	0.43
45:a:975:LYS:HE2	45:a:998:LYS:HA	2.01	0.43
46:e:1009:ILE:HB	46:e:1012:ALA:HB2	1.99	0.43
49:x:67:U:N3	49:x:68:C:N4	2.66	0.43
49:y:50:C:H2'	49:y:51:C:C6	2.54	0.43
51:0:75:LYS:O	51:0:78:PRO:HD2	2.19	0.43
1:A:158:HIS:HB3	1:A:161:ALA:HB3	2.00	0.43
4:D:124:LEU:HD13	4:D:127:LEU:HD23	2.01	0.43
24:X:2:ALA:N	24:X:51:LEU:O	2.52	0.43
28:c:66:GLY:HA2	33:j:80:GLU:HG3	2.01	0.43
30:f:2129:U:H2'	30:f:2130:G:C8	2.54	0.43
30:f:2965:U:O4	30:f:2966:G:C6	2.71	0.43
44:u:93:LYS:HE3	44:u:93:LYS:HB2	1.87	0.43
45:a:391:LEU:HA	45:a:391:LEU:HD23	1.81	0.43
46:e:272:TYR:CG	46:e:277:MET:SD	3.12	0.43
46:e:321:ASP:HA	46:e:328:ILE:HG12	1.99	0.43
46:e:704:THR:O	46:e:707:LYS:HG3	2.19	0.43
46:e:1007:LEU:HD13	46:e:1059:LEU:HD13	2.00	0.43
46:e:1456:VAL:HG22	46:e:1480:ILE:CD1	2.42	0.43
1:A:68:ARG:HA	1:A:98:LEU:HD21	2.01	0.43
3:C:56:ARG:NH2	3:C:75:GLU:OE2	2.51	0.43
5:E:102:LEU:HD22	5:E:138:LEU:HD22	2.01	0.43
12:L:86:THR:OG1	12:L:94:SER:OG	2.36	0.43
18:R:3:SER:OG	18:R:4:LEU:N	2.51	0.43
30:f:3121:U:H1'	30:f:3122:A:H5''	2.01	0.43
30:f:3358:U:H2'	30:f:3359:A:H8	1.84	0.43
45:a:580:PHE:CD2	45:a:943:PRO:HD2	2.54	0.43
46:e:305:LYS:HE2	46:e:305:LYS:HB3	1.86	0.43
2:B:54[A]:TYR:OH	2:B:73[A]:PHE:O	2.37	0.43
23:W:45:ARG:NH2	30:f:361:A:O3'	2.52	0.43
30:f:1675:G:H2'	30:f:1676:A:H8	1.83	0.43
30:f:2218:G:H2'	30:f:2219:A:C8	2.54	0.43
30:f:2514:U:OP2	30:f:2586:G:N2	2.50	0.43
46:e:1083:SER:HA	46:e:1086:MET:HG2	2.00	0.43
48:w:43:PRO:HD3	48:w:163:LEU:HD21	2.01	0.43
53:v:59:LEU:HB2	53:v:72:ASP:OD1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2213:A:H2'	30:f:2214:A:C8	2.54	0.42
30:f:2442:G:H2'	30:f:2443:A:H8	1.83	0.42
30:f:2747:A:H2'	30:f:2748:A:C8	2.54	0.42
45:a:431:ASN:HB3	45:a:434:ALA:HB3	2.01	0.42
46:e:69:LEU:O	46:e:73:ILE:HG13	2.19	0.42
46:e:1060:MET:HE3	46:e:1076:SER:HB3	1.99	0.42
46:e:1193:LEU:HD23	46:e:1193:LEU:HA	1.63	0.42
46:e:1366:LEU:HD23	46:e:1366:LEU:HA	1.85	0.42
9:I:80:ARG:HB2	9:I:99:ALA:HB3	2.00	0.42
30:f:2160:G:H2'	30:f:2161:G:H8	1.84	0.42
41:r:72:ALA:HB2	41:r:155:ALA:HB2	2.01	0.42
45:a:395:ASN:O	45:a:398:LEU:HG	2.19	0.42
46:e:129:LEU:HD23	46:e:129:LEU:HA	1.77	0.42
3:C:179:GLN:HA	3:C:182:ILE:HG22	2.00	0.42
6:F:95:ARG:HB2	6:F:140:VAL:HG23	2.00	0.42
30:f:3233:C:H2'	30:f:3234:A:C8	2.55	0.42
45:a:89:LEU:HD13	45:a:90:THR:N	2.31	0.42
46:e:240:ILE:HG22	46:e:246:ILE:HD11	2.00	0.42
46:e:1446:PRO:HD2	46:e:1449:TYR:HD1	1.84	0.42
49:y:24:G:C2'	49:y:25:C:C6	2.94	0.42
51:0:70:LEU:HB3	51:0:73:PHE:CD1	2.55	0.42
18:R:45:ARG:O	30:f:1145:G:O2'	2.36	0.42
22:V:18:THR:HG23	43:t:106:GLN:HB3	2.01	0.42
30:f:417:A:H2'	30:f:418:A:C8	2.54	0.42
36:m:200:PHE:HB3	36:m:237:GLU:HG2	2.01	0.42
45:a:24:TYR:CE1	45:a:45:LYS:HD2	2.54	0.42
46:e:1099:ARG:HE	46:e:1099:ARG:HB3	1.49	0.42
27:b:28:TYR:HB3	27:b:69:VAL:HB	2.01	0.42
30:f:63:A:N3	30:f:78:U:O2'	2.43	0.42
30:f:158:G:H2'	30:f:159:A:H8	1.84	0.42
30:f:673:U:H2'	30:f:674:G:C8	2.55	0.42
44:u:47:ASP:HB2	44:u:55:ARG:HG3	2.02	0.42
45:a:196:ILE:HG22	45:a:200:LYS:HE3	2.01	0.42
46:e:1372:LEU:HD13	46:e:1372:LEU:HA	1.93	0.42
21:U:78:LYS:HA	21:U:81:ARG:HG2	2.00	0.42
24:X:33:LYS:HA	24:X:33:LYS:HD3	1.84	0.42
28:c:44:LYS:NZ	30:f:1727:G:OP1	2.51	0.42
30:f:760:G:O2'	30:f:770:G:N2	2.43	0.42
30:f:1203:A:H2'	30:f:1204:A:C8	2.55	0.42
30:f:1666:G:H2'	30:f:1667:A:C8	2.54	0.42
33:j:46:LYS:HD2	33:j:46:LYS:HA	1.81	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:s:96:PHE:HB2	42:s:156:LYS:HE3	2.01	0.42
46:e:298:ILE:HD13	46:e:342:PHE:HE1	1.85	0.42
46:e:713:LEU:HD12	46:e:713:LEU:HA	1.90	0.42
46:e:735:GLN:HG2	46:e:815:TYR:HB2	2.01	0.42
46:e:1407:MET:HE2	46:e:1407:MET:HB2	1.68	0.42
51:0:14:LYS:HE3	51:0:52:LEU:HD11	2.00	0.42
8:H:41:ILE:HG21	8:H:54:VAL:HG21	2.02	0.42
30:f:1579:C:H2'	30:f:1580:A:C8	2.55	0.42
34:k:83:PRO:O	34:k:165:GLN:NE2	2.47	0.42
35:l:261:VAL:HG23	35:l:262:TRP:CD1	2.55	0.42
45:a:188:VAL:HG11	45:a:251:CYS:SG	2.53	0.42
46:e:272:TYR:CB	46:e:277:MET:CE	2.97	0.42
3:C:182:ILE:HD12	3:C:182:ILE:HA	1.85	0.42
6:F:32:SER:HB2	6:F:36:ILE:HD12	2.01	0.42
6:F:137:ARG:HH21	30:f:1213:G:H5'	1.85	0.42
27:b:10:THR:HG21	27:b:72:LEU:HD13	2.01	0.42
30:f:696:C:OP2	35:l:119:ARG:NH2	2.49	0.42
30:f:3016:A:H2'	30:f:3017:A:C8	2.55	0.42
30:f:3023:U:H2'	30:f:3024:A:H8	1.84	0.42
35:l:6:VAL:N	35:l:20:LEU:O	2.48	0.42
36:m:6:ASP:OD1	36:m:6:ASP:N	2.48	0.42
39:p:183:LYS:HB2	39:p:194:THR:HG23	2.01	0.42
45:a:191:LYS:CG	45:a:192:TYR:N	2.82	0.42
46:e:410:LEU:HD23	46:e:410:LEU:HA	1.91	0.42
46:e:1189:ASN:ND2	46:e:1337:PHE:HB3	2.34	0.42
1:A:90:ASN:ND2	30:f:2424:A:OP1	2.50	0.42
4:D:36:LEU:O	4:D:40:THR:OG1	2.27	0.42
30:f:531:G:H2'	30:f:532:A:C8	2.55	0.42
36:m:95:TRP:CE3	36:m:198:TYR:HB3	2.54	0.42
37:n:112:THR:HG23	37:n:115:GLU:H	1.85	0.42
45:a:287:ALA:HA	45:a:306:TYR:HA	2.01	0.42
46:e:911:ARG:O	46:e:915:LYS:HG2	2.20	0.42
46:e:1196:THR:HG23	46:e:1197:LEU:N	2.35	0.42
47:g:199:VAL:HG23	47:g:204:ALA:HB2	2.02	0.42
50:z:50:THR:O	50:z:52:GLU:N	2.52	0.42
51:0:67:LEU:HD22	51:0:67:LEU:HA	1.85	0.42
16:P:29:SER:OG	30:f:1730:G:O6	2.37	0.42
16:P:73:GLY:N	16:P:76:GLU:OE2	2.42	0.42
30:f:1194:G:H2'	30:f:1195:A:C8	2.55	0.42
30:f:2413:A:H2'	30:f:2414:G:H8	1.85	0.42
30:f:2711:C:O2'	30:f:2744:U:OP1	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2852:C:N3	41:r:158:LYS:NZ	2.68	0.42
36:m:266:ALA:O	36:m:270:LYS:HB2	2.20	0.42
45:a:33:ALA:HB2	45:a:68:PRO:HG2	2.02	0.42
46:e:1237:LYS:HB2	46:e:1237:LYS:HE3	1.76	0.42
46:e:1400:PHE:CE1	46:e:1428:VAL:HG22	2.55	0.42
49:y:36:C:H6	49:y:36:C:H2'	1.67	0.42
3:C:116:HIS:HB3	3:C:149:VAL:HB	2.02	0.41
20:T:95:ILE:HD13	20:T:95:ILE:HG21	1.81	0.41
24:X:44:LYS:NZ	30:f:1750:A:OP1	2.38	0.41
27:b:10:THR:HA	27:b:20:HIS:HD2	1.84	0.41
30:f:296:A:N3	30:f:299:G:O2'	2.53	0.41
30:f:1660:C:H2'	30:f:1661:G:H8	1.85	0.41
30:f:2772:C:H4'	30:f:2773:C:H5'	2.02	0.41
30:f:3163:A:N6	30:f:3288:G:O6	2.53	0.41
53:v:51:5CT:H5	53:v:52:HIS:CE1	2.55	0.41
7:G:88:ARG:O	30:f:2722:U:O2'	2.35	0.41
30:f:129:U:H2'	30:f:130:A:C8	2.55	0.41
30:f:443:G:O6	30:f:490:C:N4	2.53	0.41
30:f:675:C:O2'	30:f:679:U:OP1	2.34	0.41
30:f:2265:C:H2'	30:f:2266:U:C6	2.55	0.41
30:f:3218:A:H5''	30:f:3219:G:C5	2.55	0.41
35:l:276:LEU:HD23	35:l:276:LEU:HA	1.91	0.41
36:m:144:VAL:HG11	36:m:171:LEU:HD13	2.02	0.41
46:e:879:ILE:H	46:e:879:ILE:HG13	1.67	0.41
46:e:1477:GLN:CD	46:e:1477:GLN:C	2.88	0.41
1:A:98:LEU:HD22	1:A:128:LYS:HD2	2.02	0.41
27:b:61:LYS:NZ	27:b:63:LYS:O	2.53	0.41
30:f:20:A:H2'	30:f:21:G:C8	2.56	0.41
45:a:103:LEU:HB2	45:a:112:LEU:HB3	2.02	0.41
45:a:309:PHE:CD2	45:a:337:LEU:CD2	3.03	0.41
46:e:378:LEU:O	46:e:379:PRO:C	2.60	0.41
46:e:1193:LEU:O	46:e:1196:THR:HG22	2.20	0.41
20:T:60:ARG:NH1	30:f:1593:A:OP1	2.53	0.41
30:f:1221:A:C4	51:0:12:PHE:HZ	2.38	0.41
30:f:1577:G:H2'	30:f:1578:C:H6	1.85	0.41
30:f:2451:G:H2'	30:f:2452:G:C8	2.55	0.41
31:h:53:U:O2'	31:h:55:A:N7	2.53	0.41
34:k:214:MET:HE3	34:k:214:MET:HB3	1.94	0.41
34:k:284:ARG:HB3	34:k:323:MET:HB3	2.01	0.41
46:e:759:ASP:O	46:e:762:GLN:HG3	2.21	0.41
46:e:989:GLU:CB	46:e:1039:LEU:HD23	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:1497:C:H2'	30:f:1498:A:C8	2.56	0.41
45:a:963:LYS:HA	45:a:1014:LEU:HD21	2.01	0.41
46:e:251:ASN:HD21	46:e:253:LYS:HB2	1.85	0.41
48:w:122:ARG:HA	48:w:122:ARG:HD2	1.64	0.41
2:B:8[A]:VAL:HG12	2:B:117[A]:ARG:HG3	2.03	0.41
6:F:110:MET:HE3	6:F:110:MET:HB3	1.95	0.41
9:I:135:VAL:HG23	47:g:102:SER:HB3	2.02	0.41
30:f:689:U:O4	35:l:209:TYR:OH	2.35	0.41
30:f:745:C:H2'	30:f:746:A:H8	1.85	0.41
30:f:3198:U:H1'	40:q:21:LYS:HB2	2.01	0.41
35:l:343:LYS:HE2	35:l:343:LYS:HB2	1.92	0.41
45:a:249:GLU:OE1	45:a:254:LEU:CD2	2.68	0.41
46:e:227:LYS:HA	46:e:227:LYS:HD3	1.85	0.41
46:e:248:LYS:HD3	46:e:248:LYS:HA	1.76	0.41
48:w:151:VAL:O	48:w:154:THR:OG1	2.33	0.41
30:f:1421:G:H2'	30:f:1422:G:H8	1.85	0.41
41:r:52:LEU:HB3	41:r:136:PHE:HB2	2.02	0.41
46:e:222:LEU:CD1	46:e:226:ASN:HD22	2.32	0.41
46:e:274:ARG:HA	46:e:274:ARG:HD2	1.83	0.41
1:A:155:VAL:HG12	30:f:58:G:H4'	2.03	0.41
7:G:102:ARG:HD2	7:G:102:ARG:HA	1.76	0.41
8:H:92:TRP:CZ2	46:e:1474:MET:HB2	2.55	0.41
18:R:99:ASN:O	30:f:1388:U:O2'	2.36	0.41
22:V:5:THR:HG23	22:V:12:ASN:HB2	2.03	0.41
30:f:2470:C:OP1	48:w:27:ASN:N	2.47	0.41
35:l:34:ILE:HG21	35:l:120:TYR:HD2	1.85	0.41
41:r:44:ASP:OD1	41:r:44:ASP:N	2.48	0.41
43:t:57:VAL:HG23	43:t:147:ILE:HD12	2.03	0.41
45:a:170:LYS:HA	45:a:173:LYS:HD2	2.02	0.41
45:a:170:LYS:HE3	45:a:170:LYS:HB3	1.72	0.41
45:a:1004:ASP:O	45:a:1007:LEU:HG	2.21	0.41
46:e:1109:LEU:HD23	46:e:1109:LEU:HA	1.89	0.41
3:C:122:ALA:HB3	3:C:143:PRO:HB2	2.02	0.41
3:C:131:ARG:HG3	3:C:137:ASN:ND2	2.36	0.41
5:E:7:GLN:NE2	5:E:35:ALA:O	2.53	0.41
6:F:43:TYR:OH	31:h:96:U:OP1	2.35	0.41
6:F:90:MET:HE3	30:f:1213:G:H4'	2.03	0.41
12:L:63:LYS:HA	12:L:63:LYS:HD3	1.92	0.41
23:W:31:LYS:NZ	30:f:815:G:OP2	2.52	0.41
26:Z:100:TYR:OH	30:f:2848:G:OP1	2.29	0.41
30:f:352:A:H61	30:f:365:A:H5''	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:946:U:H2'	30:f:947:G:H8	1.86	0.41
30:f:1083:G:H2'	30:f:1084:A:C8	2.56	0.41
30:f:1764:U:H3'	30:f:1765:U:H4'	2.03	0.41
30:f:3217:C:C5	30:f:3220:G:H1'	2.56	0.41
40:q:9:GLN:HB3	40:q:52:LEU:HD11	2.01	0.41
42:s:75:LYS:O	42:s:79:ILE:HG13	2.21	0.41
44:u:113:THR:OG1	44:u:114:ASP:N	2.52	0.41
45:a:101:LEU:HG	45:a:116:PHE:HE2	1.86	0.41
45:a:199:ILE:HG12	45:a:212:LYS:HE3	2.02	0.41
46:e:323:TYR:CD1	46:e:323:TYR:C	2.99	0.41
46:e:1070:ILE:HG13	46:e:1074:GLU:HG3	2.03	0.41
46:e:1273:HIS:HA	46:e:1276:LEU:HG	2.02	0.41
48:w:204:LEU:HB2	48:w:216:LEU:O	2.21	0.41
49:x:71:C:H2'	49:x:72:C:C6	2.56	0.41
50:z:51:LYS:O	50:z:54:LYS:N	2.53	0.41
53:v:96:ASP:OD1	53:v:96:ASP:N	2.54	0.41
1:A:9:GLU:HG3	22:V:44:VAL:HG21	2.03	0.41
2:B:189[A]:ASP:OD1	2:B:190[A]:VAL:N	2.53	0.41
14:N:114:GLY:O	14:N:137:LYS:NZ	2.54	0.41
27:b:100:LYS:HE3	27:b:100:LYS:HB3	1.90	0.41
30:f:129:U:H3	30:f:139:G:H1	1.69	0.41
30:f:2875[B]:U:C2	52:1:56:UNK:HA	2.56	0.41
31:h:84:A:H2'	31:h:85:G:C8	2.56	0.41
34:k:218:ILE:HG12	34:k:276:THR:HG23	2.03	0.41
41:r:144:ASN:HD22	41:r:144:ASN:N	2.18	0.41
45:a:113:VAL:HB	45:a:123:ILE:HB	2.02	0.41
45:a:337:LEU:HD23	45:a:337:LEU:HA	1.84	0.41
45:a:353:ILE:O	45:a:357:GLU:HG3	2.21	0.41
45:a:409:LEU:HD13	45:a:409:LEU:HA	1.93	0.41
45:a:580:PHE:CE1	45:a:588:VAL:CB	3.04	0.41
45:a:651:LYS:HB2	45:a:653:ILE:HG12	2.03	0.41
46:e:290:LYS:HA	46:e:290:LYS:HD2	1.86	0.41
46:e:1435:ASP:HB2	46:e:1515:LEU:HD12	2.03	0.41
53:v:48:LYS:HD2	53:v:55:ALA:HB2	2.03	0.41
1:A:18:VAL:HG13	1:A:19:LEU:HD12	2.02	0.40
1:A:174:ILE:HG21	30:f:63:A:H5''	2.04	0.40
2:B:121[A]:PRO:HA	2:B:124[A]:LEU:HD12	2.03	0.40
4:D:155:MET:HE2	4:D:163:PRO:HB3	2.03	0.40
18:R:4:LEU:HD12	18:R:5:PRO:HD2	2.01	0.40
30:f:1249:G:H2'	30:f:1250:G:H8	1.86	0.40
30:f:1660:C:H2'	30:f:1661:G:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2357:A:H2'	30:f:2358:A:H8	1.85	0.40
40:q:90:MET:HE3	40:q:179:ILE:HG22	2.01	0.40
41:r:181:TYR:CE2	41:r:185:ARG:HD2	2.56	0.40
45:a:669:ASP:CB	45:a:676:LEU:HG	2.51	0.40
45:a:947:LEU:HD22	45:a:947:LEU:HA	1.92	0.40
46:e:875:ASN:O	46:e:879:ILE:HG13	2.21	0.40
4:D:180:ARG:HE	4:D:180:ARG:HB2	1.61	0.40
6:F:40:ARG:HA	6:F:40:ARG:HD2	1.84	0.40
14:N:75:LEU:HD23	14:N:75:LEU:HA	1.92	0.40
17:Q:20:LEU:HD11	17:Q:32:ALA:HB2	2.03	0.40
20:T:93:PHE:HD2	20:T:94:LEU:HD22	1.86	0.40
24:X:2:ALA:HB1	30:f:1747:G:H21	1.86	0.40
36:m:108:ARG:CZ	36:m:253:PHE:HB2	2.51	0.40
43:t:189:GLU:HA	43:t:192:GLU:HG3	2.03	0.40
45:a:963:LYS:HD2	45:a:1006:VAL:HG13	2.03	0.40
46:e:1029:ARG:HH22	46:e:1071:THR:HB	1.85	0.40
46:e:1464:ILE:HG22	46:e:1468:LYS:HB3	2.03	0.40
5:E:31:GLU:HA	5:E:34:GLN:HB2	2.03	0.40
12:L:51:ARG:NH2	32:i:83:C:O2	2.54	0.40
26:Z:113:ARG:NH2	30:f:1190:A:H4'	2.37	0.40
30:f:1108:U:H2'	30:f:1109:U:C6	2.56	0.40
30:f:1238:C:C4'	50:z:139:VAL:CB	2.98	0.40
30:f:3092:C:O2'	30:f:3094:A:OP2	2.28	0.40
39:p:178:ALA:HB2	39:p:218:ILE:HG23	2.02	0.40
45:a:106:ALA:HB3	45:a:109:HIS:HB2	2.01	0.40
46:e:54:LEU:HD23	46:e:54:LEU:HA	1.89	0.40
46:e:819:LEU:O	46:e:823:LEU:HG	2.21	0.40
46:e:1172:LYS:HB3	46:e:1173:ARG:NH2	2.35	0.40
46:e:1181:ASP:O	46:e:1185:GLY:N	2.45	0.40
46:e:1410:LEU:HG	46:e:1417:LEU:HD11	2.03	0.40
46:e:1495:THR:O	46:e:1499:HIS:HD2	2.02	0.40
7:G:73:GLY:HA2	7:G:89:LEU:O	2.21	0.40
30:f:94:G:H2'	30:f:95:A:C8	2.57	0.40
30:f:182:U:H2'	30:f:183:G:H8	1.86	0.40
30:f:240:U:H4'	30:f:241:G:H5'	2.02	0.40
30:f:1270:A:C4'	45:a:519:THR:HG21	2.52	0.40
30:f:1799:A:H2'	30:f:1800:A:C8	2.56	0.40
45:a:664:ASN:O	45:a:684:LYS:CB	2.64	0.40
46:e:308:PRO:O	46:e:311:PRO:HD2	2.21	0.40
46:e:367:ARG:H	46:e:367:ARG:HG3	1.54	0.40
46:e:1075:LEU:HD23	46:e:1075:LEU:HA	1.80	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:1596:C:H2'	30:f:1597:C:C6	2.56	0.40
30:f:2536:A:H2'	30:f:2537:U:C4	2.56	0.40
45:a:294:ILE:HB	45:a:297:LYS:HG2	2.03	0.40
45:a:402:VAL:HG22	45:a:433:ILE:HG23	2.02	0.40
46:e:751:VAL:C	46:e:754:ILE:HG12	2.43	0.40
46:e:1053:LEU:O	46:e:1057:THR:HG23	2.22	0.40
47:g:4:ARG:HD2	47:g:208:LEU:HA	2.04	0.40
49:y:1:G:C2'	49:y:2:G:H8	2.32	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	201/204 (98%)	190 (94%)	11 (6%)	0	100	100
2	B	195/199 (98%)	192 (98%)	3 (2%)	0	100	100
3	C	181/184 (98%)	172 (95%)	9 (5%)	0	100	100
4	D	183/186 (98%)	176 (96%)	7 (4%)	0	100	100
5	E	154/189 (82%)	151 (98%)	3 (2%)	0	100	100
6	F	169/172 (98%)	163 (96%)	6 (4%)	0	100	100
7	G	157/160 (98%)	149 (95%)	8 (5%)	0	100	100
8	H	98/121 (81%)	93 (95%)	5 (5%)	0	100	100
9	I	134/137 (98%)	132 (98%)	2 (2%)	0	100	100
10	J	61/155 (39%)	61 (100%)	0	0	100	100
11	K	119/142 (84%)	118 (99%)	1 (1%)	0	100	100
12	L	123/127 (97%)	119 (97%)	4 (3%)	0	100	100
13	M	133/136 (98%)	126 (95%)	7 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	N	146/149 (98%)	136 (93%)	10 (7%)	0	100	100
15	O	56/59 (95%)	52 (93%)	3 (5%)	1 (2%)	6	14
16	P	94/105 (90%)	93 (99%)	1 (1%)	0	100	100
17	Q	107/113 (95%)	98 (92%)	9 (8%)	0	100	100
18	R	125/130 (96%)	123 (98%)	2 (2%)	0	100	100
19	S	104/107 (97%)	101 (97%)	3 (3%)	0	100	100
20	T	110/121 (91%)	108 (98%)	2 (2%)	0	100	100
21	U	117/120 (98%)	112 (96%)	5 (4%)	0	100	100
22	V	97/100 (97%)	93 (96%)	4 (4%)	0	100	100
23	W	79/88 (90%)	75 (95%)	4 (5%)	0	100	100
24	X	75/78 (96%)	74 (99%)	1 (1%)	0	100	100
25	Y	48/51 (94%)	46 (96%)	2 (4%)	0	100	100
26	Z	50/128 (39%)	47 (94%)	3 (6%)	0	100	100
27	b	101/106 (95%)	95 (94%)	6 (6%)	0	100	100
28	c	89/92 (97%)	85 (96%)	4 (4%)	0	100	100
29	d	20/25 (80%)	19 (95%)	1 (5%)	0	100	100
33	j	244/254 (96%)	226 (93%)	18 (7%)	0	100	100
34	k	384/387 (99%)	363 (94%)	21 (6%)	0	100	100
35	l	359/362 (99%)	329 (92%)	29 (8%)	1 (0%)	36	58
36	m	292/297 (98%)	277 (95%)	15 (5%)	0	100	100
37	n	163/176 (93%)	154 (94%)	9 (6%)	0	100	100
38	o	220/244 (90%)	207 (94%)	13 (6%)	0	100	100
39	p	231/256 (90%)	220 (95%)	11 (5%)	0	100	100
40	q	189/191 (99%)	174 (92%)	14 (7%)	1 (0%)	24	46
41	r	216/221 (98%)	206 (95%)	10 (5%)	0	100	100
42	s	167/174 (96%)	161 (96%)	5 (3%)	1 (1%)	21	42
43	t	191/199 (96%)	174 (91%)	16 (8%)	1 (0%)	24	46
44	u	134/138 (97%)	125 (93%)	9 (7%)	0	100	100
45	a	842/1038 (81%)	830 (99%)	12 (1%)	0	100	100
46	e	1519/1562 (97%)	1495 (98%)	22 (1%)	2 (0%)	48	70
47	g	223/245 (91%)	215 (96%)	8 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	w	214/217 (99%)	211 (99%)	3 (1%)	0	100	100
50	z	144/165 (87%)	135 (94%)	8 (6%)	1 (1%)	18	38
51	0	117/312 (38%)	116 (99%)	0	1 (1%)	14	30
53	v	139/157 (88%)	139 (100%)	0	0	100	100
All	All	9314/10279 (91%)	8956 (96%)	349 (4%)	9 (0%)	49	70

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
50	z	88	PRO
46	e	437	LYS
46	e	855	PRO
35	l	4	PRO
40	q	107	ASP
42	s	108	GLU
51	0	93	LEU
15	O	21	ILE
43	t	47	ALA

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	175/176 (99%)	175 (100%)	0	100	100
2	B	160/162 (99%)	160 (100%)	0	100	100
3	C	138/146 (94%)	138 (100%)	0	100	100
4	D	150/151 (99%)	150 (100%)	0	100	100
5	E	129/154 (84%)	129 (100%)	0	100	100
6	F	155/156 (99%)	155 (100%)	0	100	100
7	G	135/137 (98%)	135 (100%)	0	100	100
8	H	87/107 (81%)	87 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	I	104/105 (99%)	104 (100%)	0	100	100
10	J	54/129 (42%)	54 (100%)	0	100	100
11	K	104/118 (88%)	104 (100%)	0	100	100
12	L	108/110 (98%)	108 (100%)	0	100	100
13	M	112/116 (97%)	112 (100%)	0	100	100
14	N	117/119 (98%)	117 (100%)	0	100	100
15	O	46/47 (98%)	46 (100%)	0	100	100
16	P	81/88 (92%)	81 (100%)	0	100	100
17	Q	92/97 (95%)	92 (100%)	0	100	100
18	R	107/111 (96%)	107 (100%)	0	100	100
19	S	90/91 (99%)	90 (100%)	0	100	100
20	T	95/103 (92%)	95 (100%)	0	100	100
21	U	104/105 (99%)	104 (100%)	0	100	100
22	V	80/82 (98%)	80 (100%)	0	100	100
23	W	67/71 (94%)	67 (100%)	0	100	100
24	X	68/69 (99%)	68 (100%)	0	100	100
25	Y	45/46 (98%)	45 (100%)	0	100	100
26	Z	45/116 (39%)	45 (100%)	0	100	100
27	b	87/91 (96%)	87 (100%)	0	100	100
28	c	71/72 (99%)	71 (100%)	0	100	100
29	d	20/23 (87%)	20 (100%)	0	100	100
33	j	189/196 (96%)	188 (100%)	1 (0%)	81	92
34	k	321/323 (99%)	321 (100%)	0	100	100
35	l	288/289 (100%)	288 (100%)	0	100	100
36	m	241/245 (98%)	241 (100%)	0	100	100
37	n	139/155 (90%)	139 (100%)	0	100	100
38	o	186/205 (91%)	186 (100%)	0	100	100
39	p	187/208 (90%)	187 (100%)	0	100	100
40	q	168/171 (98%)	168 (100%)	0	100	100
41	r	185/187 (99%)	184 (100%)	1 (0%)	81	92
42	s	145/150 (97%)	145 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
43	t	154/159 (97%)	154 (100%)	0	100	100
44	u	107/109 (98%)	107 (100%)	0	100	100
45	a	676/949 (71%)	633 (94%)	43 (6%)	16	35
46	e	1152/1451 (79%)	1091 (95%)	61 (5%)	20	43
47	g	180/211 (85%)	180 (100%)	0	100	100
48	w	197/198 (100%)	197 (100%)	0	100	100
51	o	104/254 (41%)	94 (90%)	10 (10%)	8	17
53	v	119/132 (90%)	117 (98%)	2 (2%)	53	78
All	All	7564/8690 (87%)	7446 (98%)	118 (2%)	54	79

All (118) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
33	j	221	LYS
41	r	112	GLN
45	a	9	ASP
45	a	52	VAL
45	a	74	SER
45	a	89	LEU
45	a	114	LEU
45	a	121	ASN
45	a	156	LEU
45	a	180	LEU
45	a	199	ILE
45	a	255	LEU
45	a	261	LEU
45	a	285	ILE
45	a	293	TYR
45	a	308	THR
45	a	309	PHE
45	a	316	ILE
45	a	384	LEU
45	a	409	LEU
45	a	504	ILE
45	a	538	ASN
45	a	580	PHE
45	a	589	MET
45	a	605	ILE
45	a	609	ASP

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Mol	Chain	Res	Type
45	a	612	MET
45	a	649	TRP
45	a	665	VAL
45	a	675	ILE
45	a	696	GLN
45	a	697	LEU
45	a	705	TRP
45	a	837	VAL
45	a	855	ASP
45	a	868	THR
45	a	881	GLU
45	a	924	LEU
45	a	934	VAL
45	a	937	ILE
45	a	947	LEU
45	a	973	TYR
45	a	979	LEU
45	a	994	HIS
45	a	1003	GLN
46	e	8	THR
46	e	105	VAL
46	e	125	ILE
46	e	169	LEU
46	e	205	GLU
46	e	230	SER
46	e	254	ASN
46	e	271	LEU
46	e	277	MET
46	e	283	ILE
46	e	299	THR
46	e	309	VAL
46	e	319	THR
46	e	327	THR
46	e	400	GLU
46	e	731	LEU
46	e	733	HIS
46	e	754	ILE
46	e	763	ILE
46	e	770	ILE
46	e	780	ILE
46	e	797	LEU
46	e	799	THR

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Mol	Chain	Res	Type
46	e	806	LEU
46	e	826	LEU
46	e	853	GLU
46	e	867	PHE
46	e	904	VAL
46	e	910	SER
46	e	924	VAL
46	e	933	LEU
46	e	978	THR
46	e	989	GLU
46	e	1017	VAL
46	e	1032	LEU
46	e	1059	LEU
46	e	1102	CYS
46	e	1142	GLU
46	e	1149	THR
46	e	1164	LEU
46	e	1179	LEU
46	e	1184	ILE
46	e	1269	LEU
46	e	1294	LEU
46	e	1300	ILE
46	e	1303	MET
46	e	1363	VAL
46	e	1367	THR
46	e	1372	LEU
46	e	1379	LEU
46	e	1384	GLU
46	e	1400	PHE
46	e	1407	MET
46	e	1421	LEU
46	e	1428	VAL
46	e	1441	ILE
46	e	1454	ILE
46	e	1464	ILE
46	e	1480	ILE
46	e	1514	ILE
46	e	1553	LEU
51	0	30	VAL
51	0	51	VAL
51	0	52	LEU
51	0	67	LEU

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Mol	Chain	Res	Type
51	0	76	LEU
51	0	80	VAL
51	0	93	LEU
51	0	95	GLU
51	0	105	VAL
51	0	189	GLN
53	v	54	HIS
53	v	73	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (92) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	95	GLN
2	B	193[A]	GLN
3	C	55	GLN
3	C	97	ASN
4	D	5	HIS
4	D	9	GLN
5	E	150	GLN
7	G	66	ASN
7	G	149	GLN
8	H	87	ASN
8	H	101	ASN
11	K	65	GLN
11	K	85	GLN
13	M	122	HIS
13	M	127	ASN
15	O	12	GLN
15	O	17	HIS
17	Q	15	ASN
17	Q	21	HIS
18	R	35	GLN
18	R	49	ASN
20	T	61	GLN
21	U	16	GLN
21	U	59	ASN
21	U	99	GLN
23	W	12	HIS
23	W	13	ASN
25	Y	4	GLN
25	Y	20	ASN
27	b	3	ASN

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Mol	Chain	Res	Type
27	b	22	GLN
27	b	102	GLN
33	j	211	HIS
34	k	139	GLN
34	k	198	HIS
34	k	224	HIS
35	l	5	GLN
35	l	196	ASN
35	l	316	ASN
38	o	64	GLN
38	o	225	GLN
38	o	244	ASN
39	p	77	GLN
40	q	49	ASN
40	q	169	ASN
40	q	183	HIS
41	r	51	HIS
42	s	43	GLN
42	s	62	ASN
42	s	90	GLN
44	u	62	GLN
45	a	31	ASN
45	a	141	HIS
45	a	143	ASN
45	a	382	GLN
45	a	395	ASN
45	a	413	GLN
45	a	417	ASN
45	a	438	ASN
45	a	532	GLN
45	a	562	HIS
45	a	691	HIS
45	a	696	GLN
45	a	957	GLN
45	a	1003	GLN
46	e	79	ASN
46	e	160	ASN
46	e	174	GLN
46	e	189	ASN
46	e	226	ASN
46	e	233	ASN
46	e	251	ASN

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Mol	Chain	Res	Type
46	e	403	ASN
46	e	408	ASN
46	e	805	ASN
46	e	869	HIS
46	e	888	ASN
46	e	902	ASN
46	e	1141	GLN
46	e	1288	GLN
46	e	1455	GLN
46	e	1457	ASN
46	e	1477	GLN
46	e	1478	HIS
46	e	1499	HIS
46	e	1532	ASN
47	g	9	ASN
47	g	75	GLN
48	w	27	ASN
51	0	36	GLN
53	v	52	HIS
53	v	78	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
30	f	3211/3395 (94%)	591 (18%)	0
31	h	120/121 (99%)	12 (10%)	0
32	i	157/158 (99%)	32 (20%)	0
49	x	72/76 (94%)	23 (31%)	0
49	y	71/76 (93%)	32 (45%)	0
All	All	3631/3826 (94%)	690 (19%)	0

All (690) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
30	f	6	A
30	f	13	A
30	f	14	U
30	f	26	A
30	f	40	A
30	f	43	A
30	f	49	A

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Mol	Chain	Res	Type
30	f	59	G
30	f	60	A
30	f	65	A
30	f	66	A
30	f	92	G
30	f	99	A
30	f	109	A
30	f	110	G
30	f	111	C
30	f	116	A
30	f	120	G
30	f	121	A
30	f	122	A
30	f	133	U
30	f	134	U
30	f	135	C
30	f	136	G
30	f	156	G
30	f	157	A
30	f	165	A
30	f	166	C
30	f	172	G
30	f	173	G
30	f	187	A
30	f	190	U
30	f	191	U
30	f	200	C
30	f	206	G
30	f	210	U
30	f	211	A
30	f	213	A
30	f	218	G
30	f	219	A
30	f	234	G
30	f	240	U
30	f	241	G
30	f	242	C
30	f	243	G
30	f	245	U
30	f	249	U
30	f	252	U
30	f	269	G

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Mol	Chain	Res	Type
30	f	283	G
30	f	286	U
30	f	295	A
30	f	305	U
30	f	323	A
30	f	329	U
30	f	339	C
30	f	350	C
30	f	374	A
30	f	376	G
30	f	398	A
30	f	399	A
30	f	401	U
30	f	402	A
30	f	403	C
30	f	421	G
30	f	422	A
30	f	439	C
30	f	440	A
30	f	441	U
30	f	442	G
30	f	443	G
30	f	445	G
30	f	446	U
30	f	447	U
30	f	448	U
30	f	450	G
30	f	487	U
30	f	488	U
30	f	489	U
30	f	490	C
30	f	494	G
30	f	518	G
30	f	520	U
30	f	521	A
30	f	523	A
30	f	535	G
30	f	536	U
30	f	543	C
30	f	544	C
30	f	546	C
30	f	547	G

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Mol	Chain	Res	Type
30	f	548	G
30	f	551	A
30	f	552	G
30	f	555	U
30	f	557	A
30	f	559	A
30	f	578	A
30	f	579	G
30	f	589	A
30	f	597	G
30	f	604	G
30	f	608	A
30	f	609	G
30	f	611	A
30	f	620	U
30	f	621	A
30	f	622	A
30	f	637	C
30	f	638	C
30	f	649	A
30	f	660	A
30	f	677	A
30	f	681	U
30	f	684	G
30	f	690	A
30	f	691	A
30	f	705	A
30	f	712	G
30	f	715	A
30	f	716	A
30	f	719	U
30	f	720	A
30	f	758	C
30	f	763	G
30	f	764	U
30	f	765	C
30	f	766	U
30	f	767	U
30	f	776	U
30	f	777	U
30	f	780	A
30	f	781	G

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Mol	Chain	Res	Type
30	f	785	G
30	f	786	A
30	f	806	A
30	f	817	A
30	f	830	A
30	f	846	A
30	f	849	C
30	f	850	U
30	f	861	C
30	f	874	U
30	f	879	U
30	f	896	A
30	f	907	G
30	f	908	G
30	f	914	A
30	f	916	G
30	f	917	A
30	f	920	A
30	f	921	A
30	f	924	G
30	f	925	A
30	f	937	G
30	f	944	C
30	f	959	C
30	f	960	U
30	f	981	U
30	f	982	C
30	f	991	G
30	f	994	G
30	f	1001	G
30	f	1002	A
30	f	1010	G
30	f	1015	U
30	f	1016	C
30	f	1017	C
30	f	1018	G
30	f	1021	G
30	f	1024	G
30	f	1025	A
30	f	1028	U
30	f	1036	A
30	f	1041	U

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Mol	Chain	Res	Type
30	f	1047	A
30	f	1049	C
30	f	1063	G
30	f	1064	A
30	f	1065	A
30	f	1072	G
30	f	1081	U
30	f	1087	G
30	f	1093	A
30	f	1094	U
30	f	1095	U
30	f	1097	G
30	f	1098	A
30	f	1103	A
30	f	1104	G
30	f	1117	G
30	f	1131	G
30	f	1144	U
30	f	1153	A
30	f	1159	A
30	f	1160	C
30	f	1177	G
30	f	1180	A
30	f	1181	U
30	f	1192	C
30	f	1193	A
30	f	1196	C
30	f	1197	A
30	f	1201	C
30	f	1202	A
30	f	1208	U
30	f	1217	A
30	f	1218	U
30	f	1219	C
30	f	1222	G
30	f	1225	A
30	f	1227	C
30	f	1235	U
30	f	1236	G
30	f	1238	C
30	f	1241	U
30	f	1242	G

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Mol	Chain	Res	Type
30	f	1244	A
30	f	1245	A
30	f	1251	A
30	f	1252	A
30	f	1254	C
30	f	1258	U
30	f	1259	A
30	f	1263	A
30	f	1264	G
30	f	1265	U
30	f	1269	U
30	f	1272	C
30	f	1277	C
30	f	1278	A
30	f	1279	C
30	f	1282	G
30	f	1285	G
30	f	1286	A
30	f	1287	A
30	f	1295	G
30	f	1307	G
30	f	1308	A
30	f	1309	U
30	f	1313	G
30	f	1330	A
30	f	1348	U
30	f	1349	G
30	f	1351	U
30	f	1352	A
30	f	1354	G
30	f	1355	A
30	f	1356	U
30	f	1357	G
30	f	1386	A
30	f	1392	G
30	f	1399	A
30	f	1400	G
30	f	1419	A
30	f	1434	G
30	f	1437	C
30	f	1446	A
30	f	1450	G

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Mol	Chain	Res	Type
30	f	1481	A
30	f	1482	A
30	f	1483	G
30	f	1487	G
30	f	1488	G
30	f	1502	C
30	f	1508	C
30	f	1536	G
30	f	1539	A
30	f	1555	U
30	f	1556	C
30	f	1557	A
30	f	1560	G
30	f	1562	C
30	f	1563	C
30	f	1566	A
30	f	1568	U
30	f	1569	U
30	f	1572	U
30	f	1573	G
30	f	1575	A
30	f	1576	G
30	f	1580	A
30	f	1581	C
30	f	1582	C
30	f	1583	A
30	f	1589	A
30	f	1590	G
30	f	1605	A
30	f	1607	U
30	f	1620	U
30	f	1629	U
30	f	1639	C
30	f	1642	A
30	f	1643	A
30	f	1645	U
30	f	1657	C
30	f	1683	A
30	f	1716	U
30	f	1717	U
30	f	1724	U
30	f	1725	C

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Mol	Chain	Res	Type
30	f	1736	G
30	f	1741	A
30	f	1750	A
30	f	1751	G
30	f	1760	A
30	f	1761	C
30	f	1764	U
30	f	1765	U
30	f	1766	G
30	f	1770	G
30	f	1775	G
30	f	1780	G
30	f	1797	A
30	f	1814	A
30	f	1816	A
30	f	1819	U
30	f	1820	U
30	f	1821	U
30	f	1835	A
30	f	1839	A
30	f	1840	U
30	f	1841	A
30	f	1842	A
30	f	1846	C
30	f	1849	C
30	f	1850	A
30	f	1866	C
30	f	1867	A
30	f	1880	U
30	f	1881	A
30	f	1893	A
30	f	1906	G
30	f	1943	C
30	f	1952	G
30	f	1953	G
30	f	1954	G
30	f	2094	C
30	f	2101	C
30	f	2102	U
30	f	2111	G
30	f	2112	U
30	f	2113	A

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Mol	Chain	Res	Type
30	f	2114	C
30	f	2121	G
30	f	2122	G
30	f	2131	A
30	f	2134	G
30	f	2140	U
30	f	2144	A
30	f	2158	A
30	f	2160	G
30	f	2169	G
30	f	2176	U
30	f	2201	G
30	f	2206	G
30	f	2207	A
30	f	2208	A
30	f	2209	U
30	f	2222	A
30	f	2223	A
30	f	2225	U
30	f	2228	A
30	f	2249	G
30	f	2270	A
30	f	2272	G
30	f	2273	G
30	f	2274	U
30	f	2281	A
30	f	2282	U
30	f	2288	G
30	f	2307	G
30	f	2308	C
30	f	2310	U
30	f	2313	A
30	f	2314	U
30	f	2315	G
30	f	2334	U
30	f	2335	G
30	f	2336	U
30	f	2373	A
30	f	2374	C
30	f	2375	G
30	f	2385	G
30	f	2388	U

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Mol	Chain	Res	Type
30	f	2393	G
30	f	2397	A
30	f	2402	A
30	f	2403	G
30	f	2404	A
30	f	2411	U
30	f	2419	A
30	f	2437	G
30	f	2446	U
30	f	2447	A
30	f	2450	G
30	f	2461	A
30	f	2463	G
30	f	2464	U
30	f	2468	A
30	f	2469	G
30	f	2470	C
30	f	2471	U
30	f	2472	U
30	f	2474	G
30	f	2479	C
30	f	2480	A
30	f	2484	A
30	f	2486	A
30	f	2487	U
30	f	2488	A
30	f	2494	A
30	f	2495	C
30	f	2496	C
30	f	2499	U
30	f	2501	U
30	f	2502	A
30	f	2503	G
30	f	2505	U
30	f	2514	U
30	f	2515	A
30	f	2522	G
30	f	2526	C
30	f	2531	C
30	f	2537	U
30	f	2538	U
30	f	2539	C

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Mol	Chain	Res	Type
30	f	2540	A
30	f	2541	U
30	f	2542	U
30	f	2544	U
30	f	2547	A
30	f	2548	C
30	f	2549	G
30	f	2552	C
30	f	2554	A
30	f	2555	G
30	f	2561	A
30	f	2569	A
30	f	2570	U
30	f	2571	U
30	f	2572	C
30	f	2573	G
30	f	2581	U
30	f	2585	G
30	f	2593	A
30	f	2594	C
30	f	2606	G
30	f	2607	G
30	f	2614	G
30	f	2648	G
30	f	2651	G
30	f	2652	U
30	f	2656	A
30	f	2674	A
30	f	2677	G
30	f	2678	A
30	f	2689	A
30	f	2691	A
30	f	2694	A
30	f	2696	A
30	f	2704	A
30	f	2714	G
30	f	2719	U
30	f	2728	G
30	f	2729	U
30	f	2740	A
30	f	2752	U
30	f	2753	G

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Mol	Chain	Res	Type
30	f	2755	C
30	f	2772	C
30	f	2773	C
30	f	2777	G
30	f	2778	G
30	f	2788	C
30	f	2796	G
30	f	2800	G
30	f	2801	A
30	f	2803	A
30	f	2810	C
30	f	2814	G
30	f	2817	A
30	f	2818	U
30	f	2821	C
30	f	2834	G
30	f	2842	U
30	f	2844	C
30	f	2845	A
30	f	2849	C
30	f	2860	U
30	f	2867	C
30	f	2871	G
30	f	2872	A
30	f	2876	C
30	f	2887	A
30	f	2898	G
30	f	2899	C
30	f	2911	A
30	f	2914	G
30	f	2923	U
30	f	2935	U
30	f	2936	A
30	f	2941	A
30	f	2942	C
30	f	2947	G
30	f	2971	A
30	f	2983	C
30	f	2990	G
30	f	2992	U
30	f	2996	U
30	f	2997	G

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Mol	Chain	Res	Type
30	f	3006	A
30	f	3012	A
30	f	3056	U
30	f	3059	G
30	f	3078	U
30	f	3079	U
30	f	3080	G
30	f	3086	A
30	f	3092	C
30	f	3104	U
30	f	3113	A
30	f	3122	A
30	f	3130	A
30	f	3131	U
30	f	3142	A
30	f	3143	C
30	f	3151	U
30	f	3154	C
30	f	3155	U
30	f	3156	U
30	f	3157	U
30	f	3165	A
30	f	3170	A
30	f	3173	G
30	f	3174	A
30	f	3175	U
30	f	3176	G
30	f	3179	U
30	f	3181	C
30	f	3186	A
30	f	3187	A
30	f	3196	U
30	f	3207	U
30	f	3209	A
30	f	3217	C
30	f	3218	A
30	f	3219	G
30	f	3228	C
30	f	3229	G
30	f	3243	A
30	f	3245	A
30	f	3247	G

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Mol	Chain	Res	Type
30	f	3259	U
30	f	3263	G
30	f	3269	U
30	f	3270	U
30	f	3273	A
30	f	3276	G
30	f	3281	U
30	f	3287	U
30	f	3288	G
30	f	3289	G
30	f	3294	A
30	f	3295	A
30	f	3303	G
30	f	3304	U
30	f	3307	A
30	f	3313	U
30	f	3316	A
30	f	3317	U
30	f	3318	G
30	f	3319	U
30	f	3320	A
30	f	3341	U
30	f	3342	A
30	f	3345	G
30	f	3351	U
30	f	3352	U
30	f	3353	G
30	f	3354	U
30	f	3355	U
30	f	3369	G
30	f	3375	A
30	f	3378	C
30	f	3382	U
30	f	3383	G
30	f	3386	G
30	f	3389	U
30	f	3390	G
30	f	3396	U
31	h	7	G
31	h	29	C
31	h	53	U
31	h	54	U

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Mol	Chain	Res	Type
31	h	55	A
31	h	65	G
31	h	73	C
31	h	74	C
31	h	95	A
31	h	102	A
31	h	112	G
31	h	121	U
32	i	23	U
32	i	34	U
32	i	35	C
32	i	39	G
32	i	48	A
32	i	52	A
32	i	53	A
32	i	59	A
32	i	62	C
32	i	63	G
32	i	80	A
32	i	81	U
32	i	82	U
32	i	83	C
32	i	84	C
32	i	85	G
32	i	86	U
32	i	87	G
32	i	90	U
32	i	95	G
32	i	104	A
32	i	105	A
32	i	106	C
32	i	111	A
32	i	113	U
32	i	125	U
32	i	126	A
32	i	138	A
32	i	151	C
32	i	152	G
32	i	157	U
32	i	158	U
49	x	7	G
49	x	10	G

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Mol	Chain	Res	Type
49	x	15	G
49	x	16	U
49	x	17	C
49	x	18	G
49	x	22	G
49	x	28	U
49	x	33	U
49	x	35	G
49	x	37	A
49	x	38	U
49	x	42	A
49	x	43	G
49	x	46	G
49	x	48	C
49	x	49	U
49	x	56	C
49	x	57	G
49	x	59	U
49	x	60	U
49	x	61	C
49	x	74	C
49	y	7	G
49	y	8	U
49	y	9	G
49	y	10	G
49	y	13	U
49	y	16	U
49	y	17	C
49	y	22	G
49	y	23	C
49	y	25	C
49	y	26	G
49	y	28	U
49	y	34	A
49	y	35	G
49	y	36	C
49	y	38	U
49	y	42	A
49	y	43	G
49	y	44	A
49	y	46	G
49	y	47	U

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Mol	Chain	Res	Type
49	y	48	C
49	y	56	C
49	y	57	G
49	y	58	A
49	y	59	U
49	y	60	U
49	y	61	C
49	y	68	C
49	y	71	C
49	y	75	C
49	y	76	A

There are no RNA pucker outliers to report.

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
53	5CT	v	51	53	13,14,15	0.78	0	8,15,17	1.29	1 (12%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
53	5CT	v	51	53	-	9/13/14/16	-

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	v	51	5CT	C4-C3-C2	-2.20	108.84	113.47

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
53	v	51	5CT	NZ-C1-C2-C3
53	v	51	5CT	O1-C2-C3-C4
53	v	51	5CT	C2-C3-C4-N1
53	v	51	5CT	C-CA-CB-CG
53	v	51	5CT	N-CA-CB-CG
53	v	51	5CT	NZ-C1-C2-O1
53	v	51	5CT	C1-C2-C3-C4
53	v	51	5CT	C2-C1-NZ-CE
53	v	51	5CT	CE-CD-CG-CB

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
53	v	51	5CT	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 20 ligands modelled in this entry, 20 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.

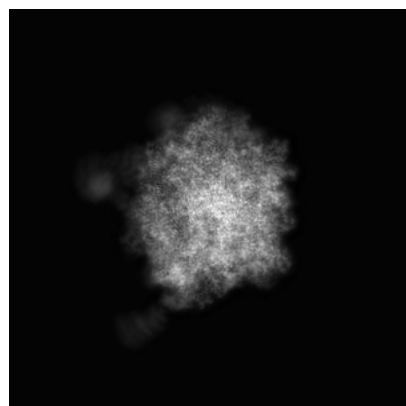
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-15425. These allow visual inspection of the internal detail of the map and identification of artifacts.

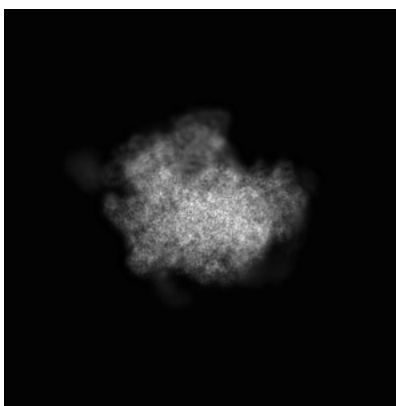
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

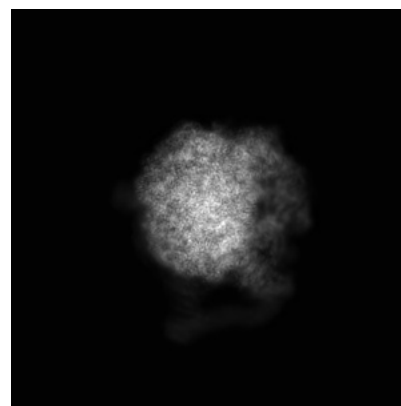
6.1.1 Primary map



X

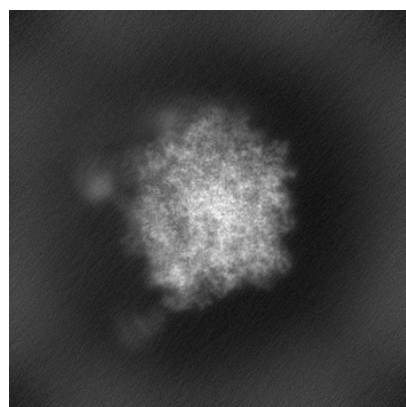


Y

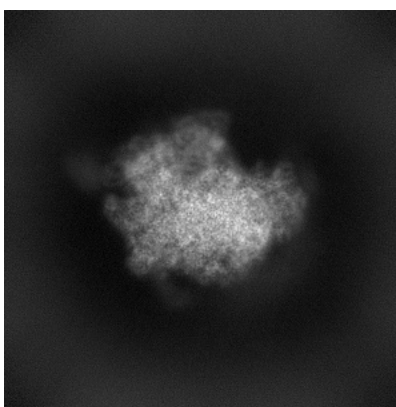


Z

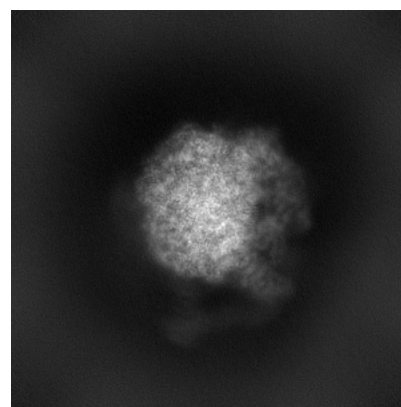
6.1.2 Raw map



X



Y

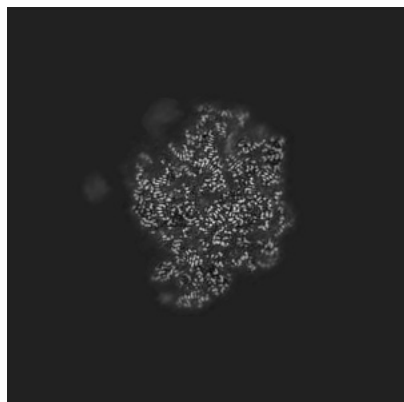


Z

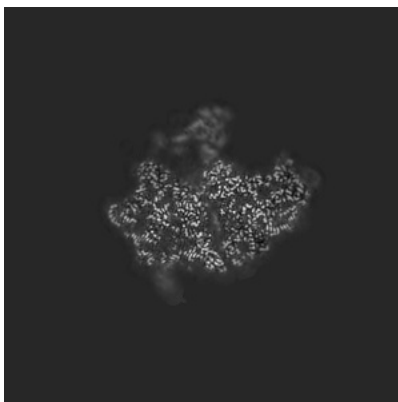
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

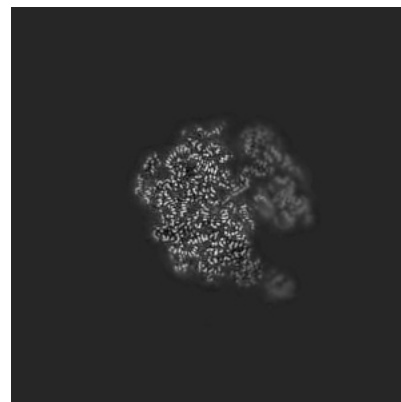
6.2.1 Primary map



X Index: 225

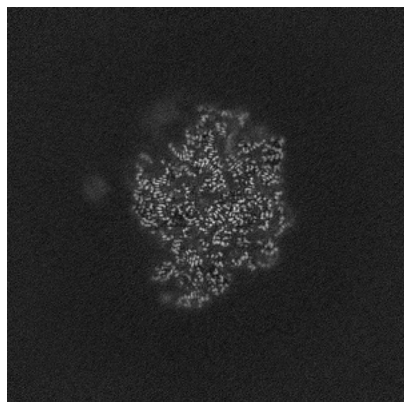


Y Index: 225

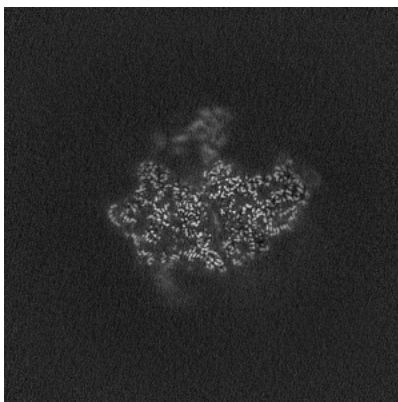


Z Index: 225

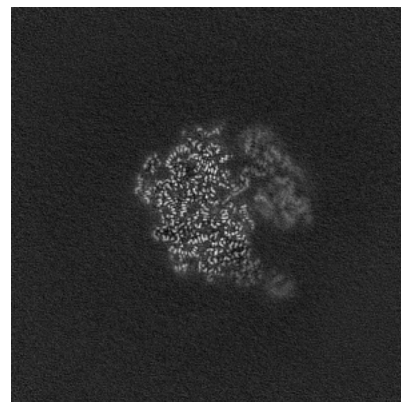
6.2.2 Raw map



X Index: 225



Y Index: 225

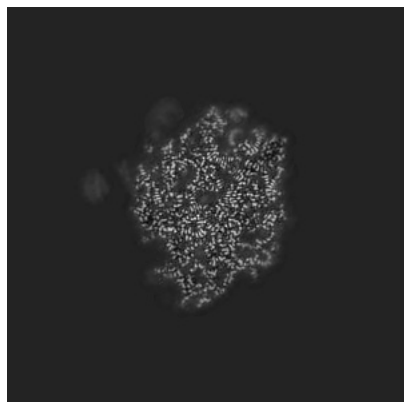


Z Index: 225

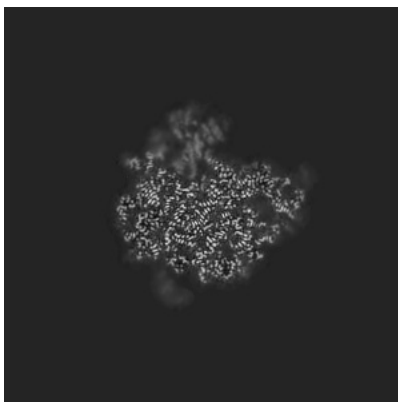
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

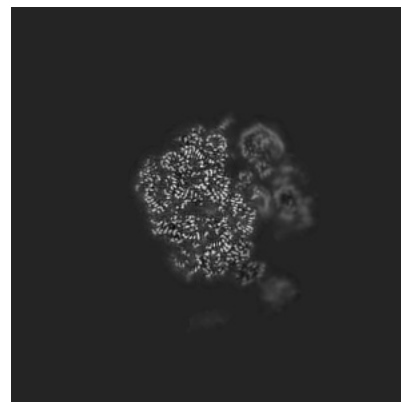
6.3.1 Primary map



X Index: 219

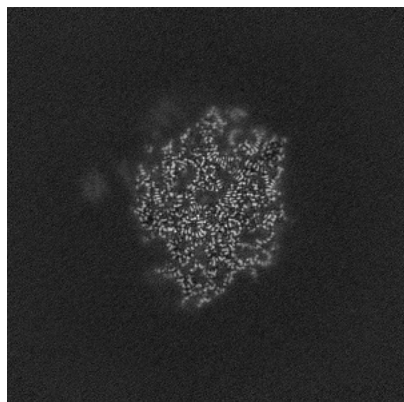


Y Index: 242

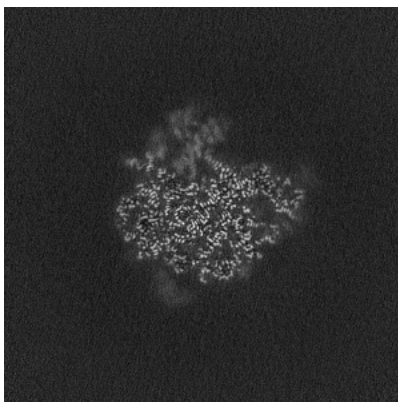


Z Index: 231

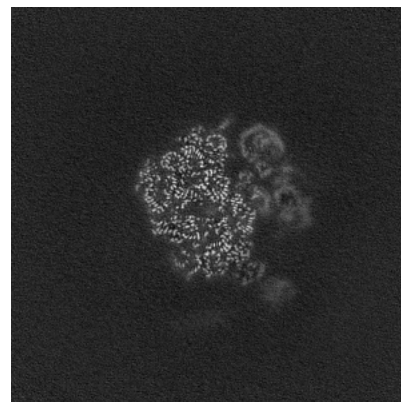
6.3.2 Raw map



X Index: 219



Y Index: 241

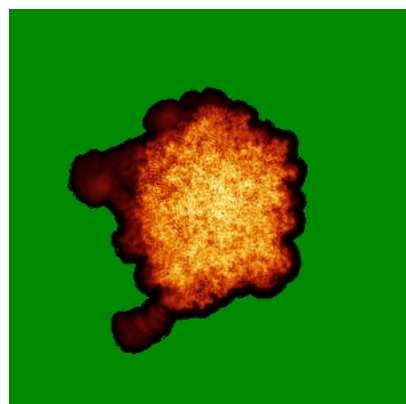


Z Index: 231

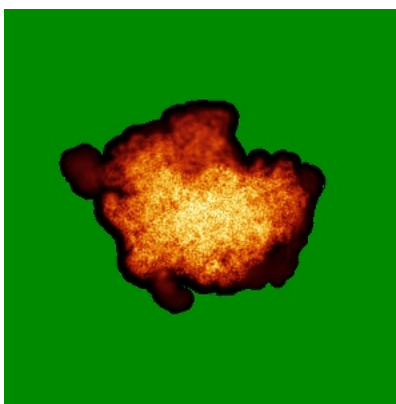
The images above show the largest variance slices of the map in three orthogonal directions.

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

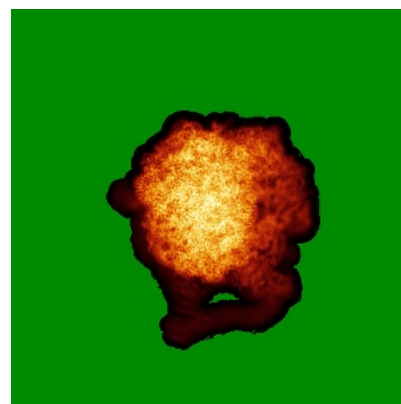
6.4.1 Primary map



X

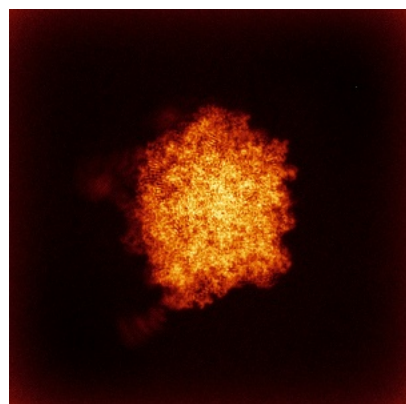


Y

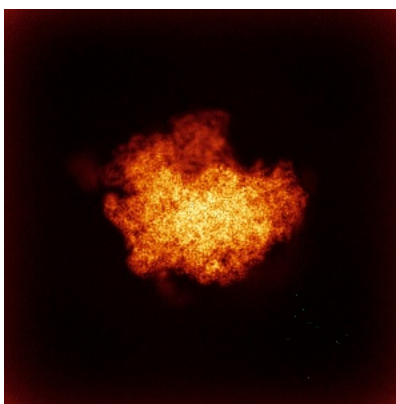


Z

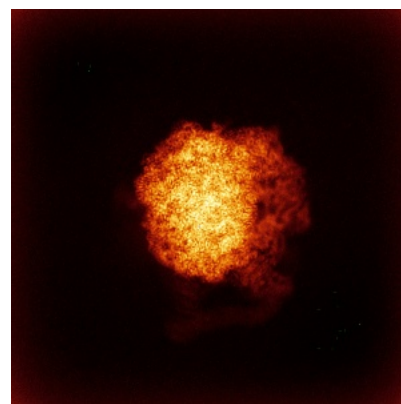
6.4.2 Raw map



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.

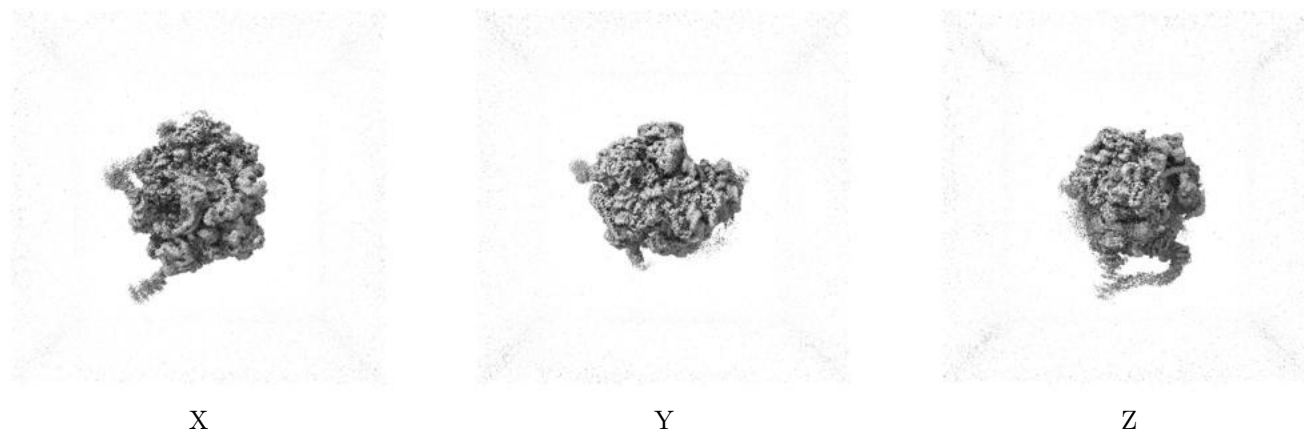
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.4. 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.

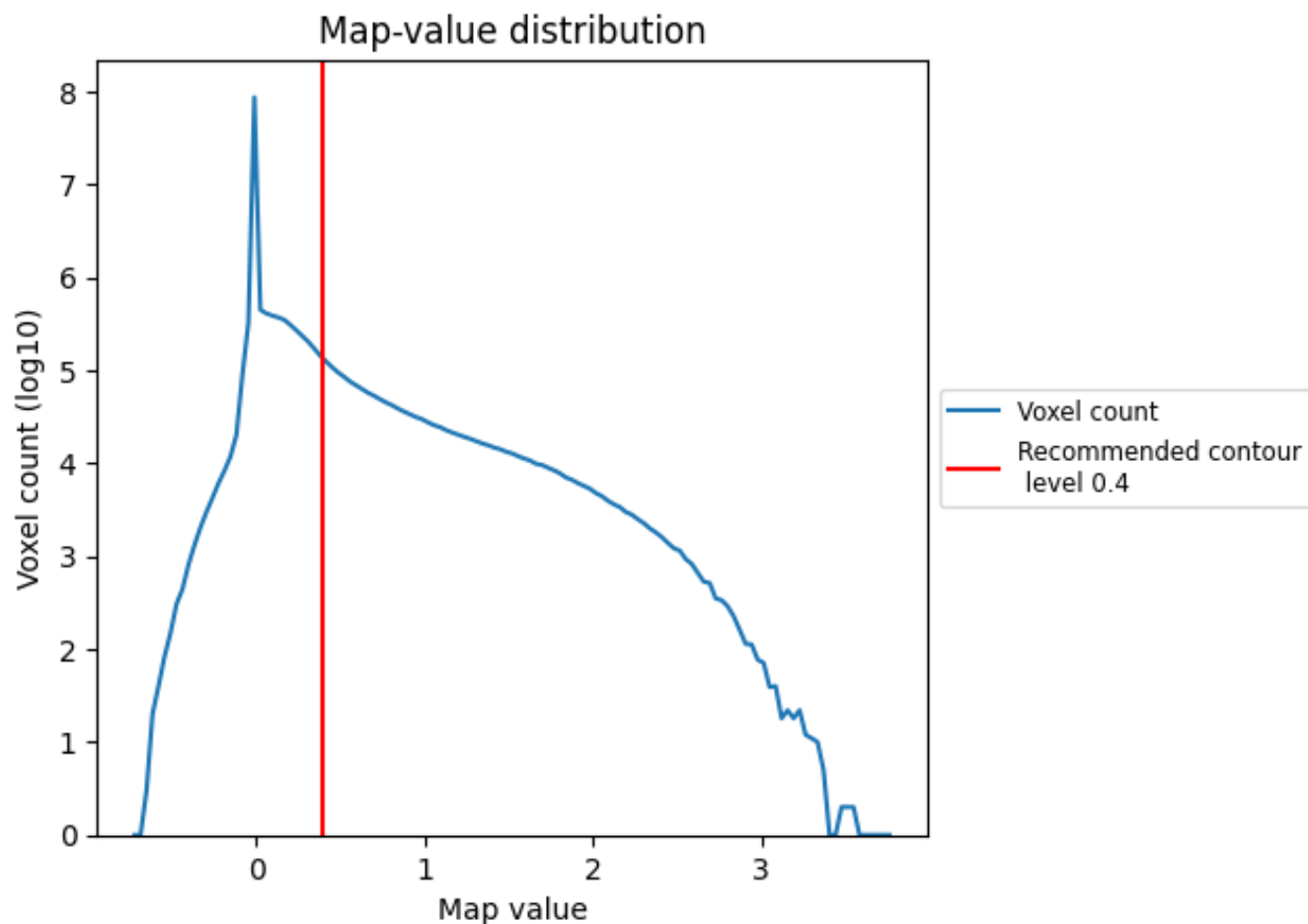
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

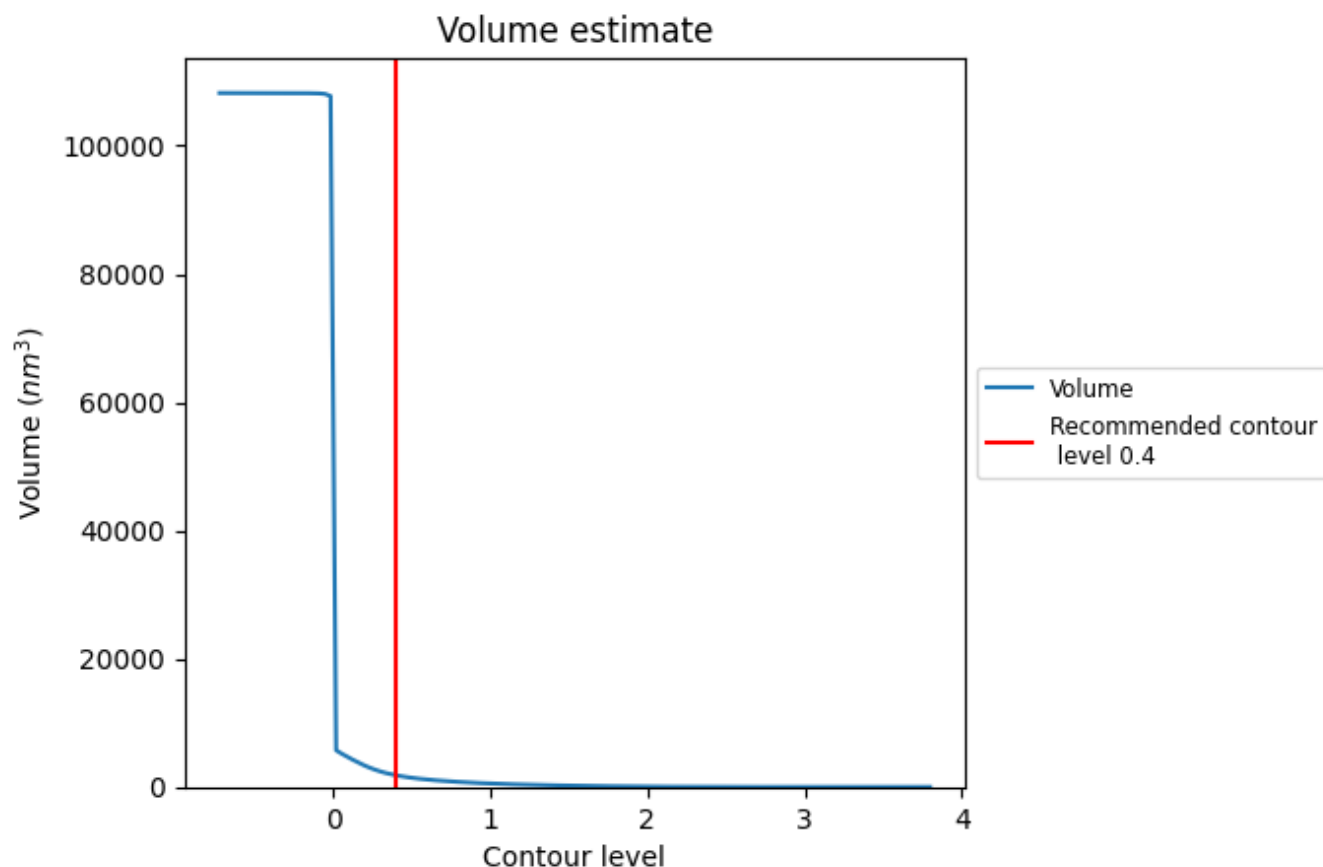
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

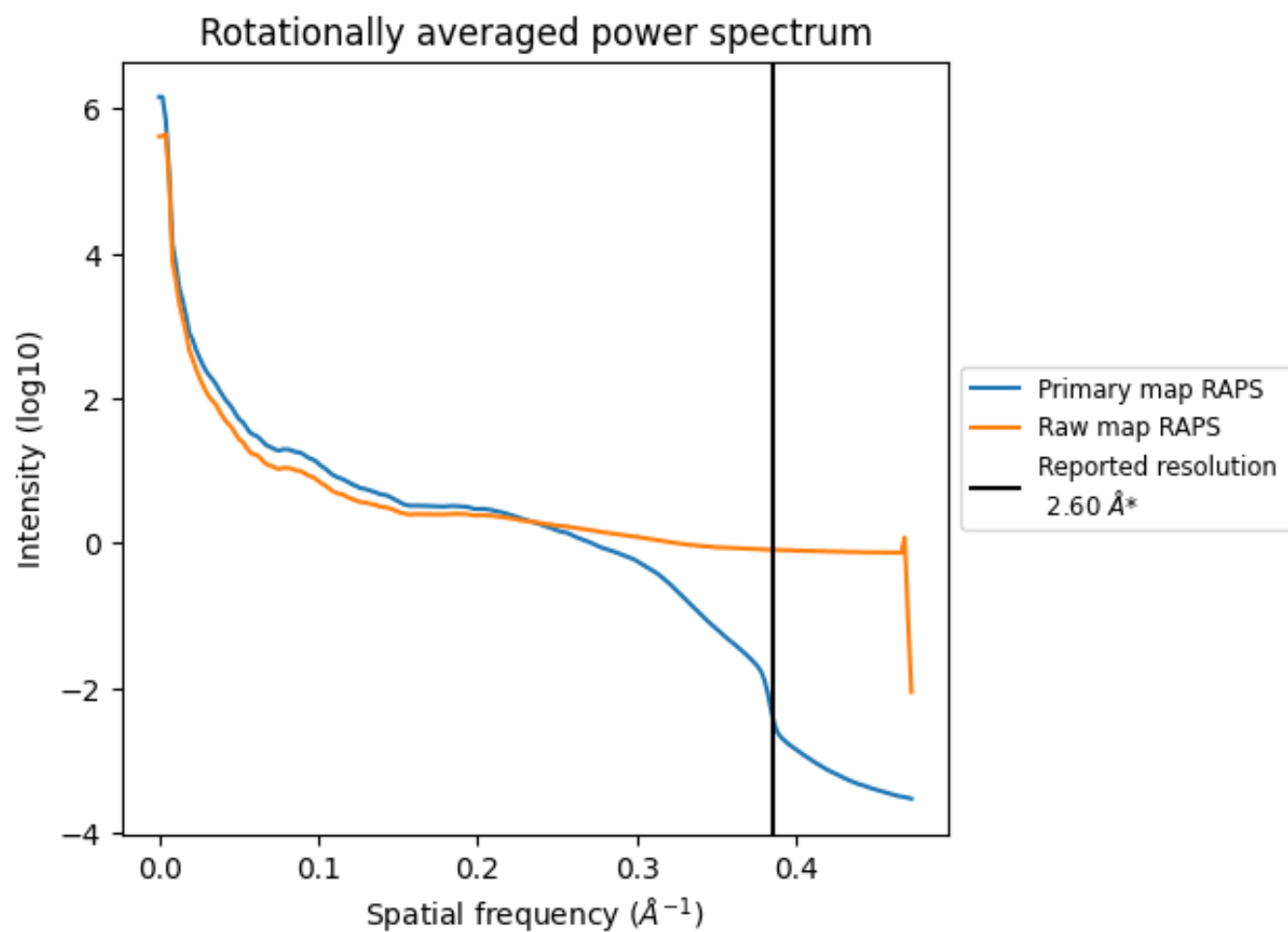
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1819 nm^3 ; this corresponds to an approximate mass of 1643 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

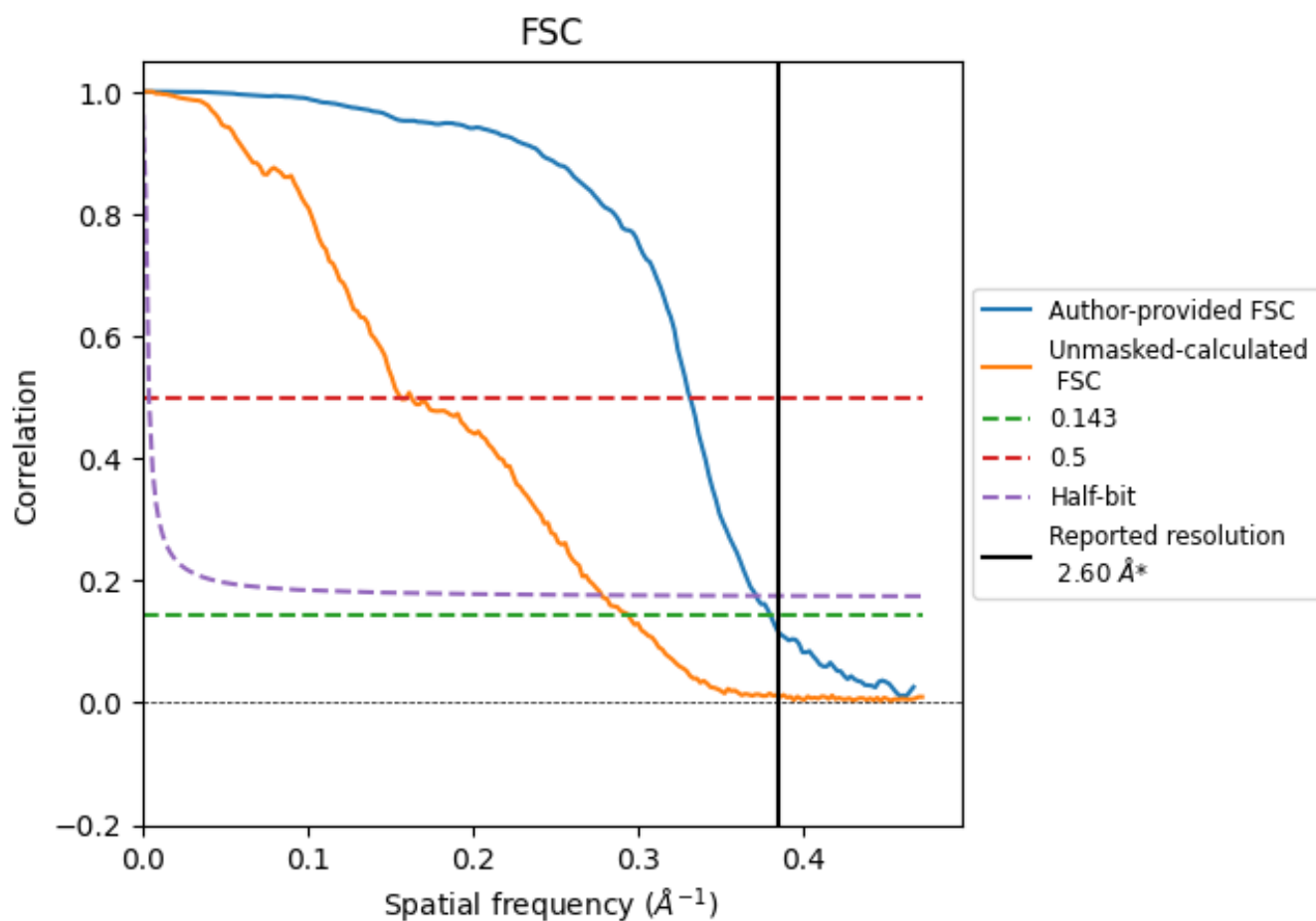


*Reported resolution corresponds to spatial frequency of 0.385 Å⁻¹

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 0.385 \AA^{-1}

8.2 Resolution estimates [i](#)

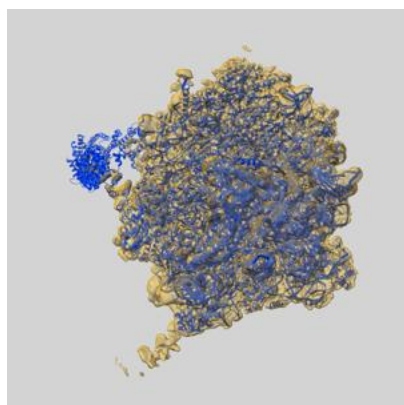
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.60	-	-
Author-provided FSC curve	2.63	3.02	2.69
Unmasked-calculated*	3.40	6.40	3.59

*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 3.40 differs from the reported value 2.6 by more than 10 %

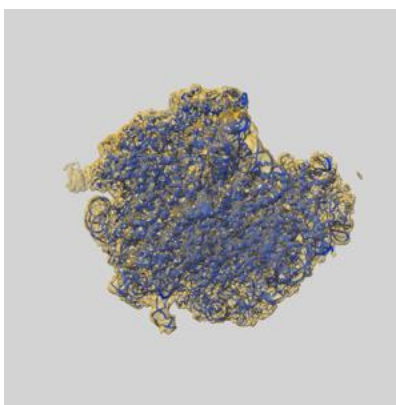
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-15425 and PDB model 8AGV. Per-residue inclusion information can be found in [section 3](#) on [page 15](#).

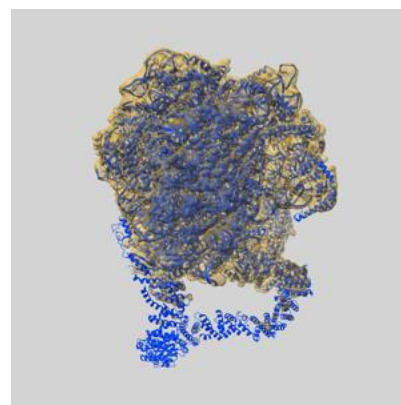
9.1 Map-model overlay [i](#)



X



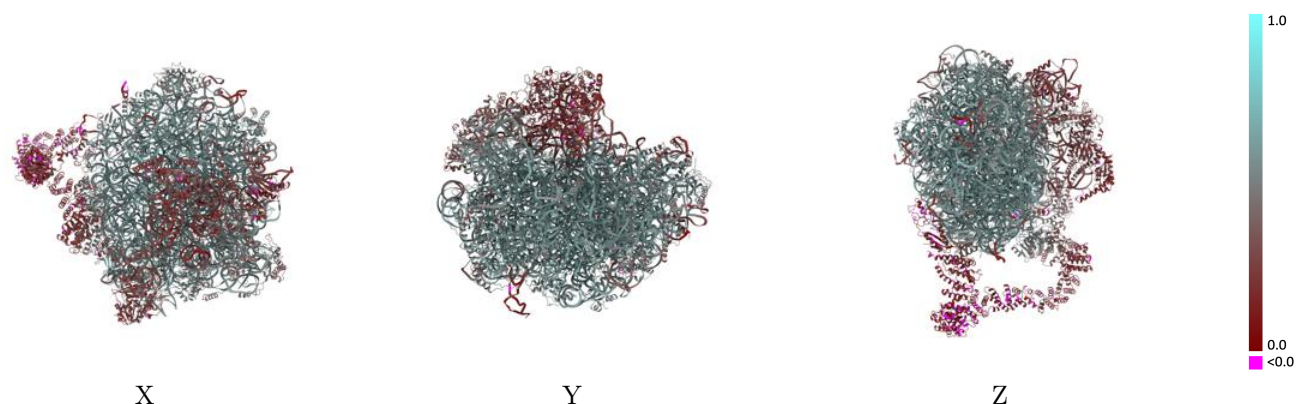
Y



Z

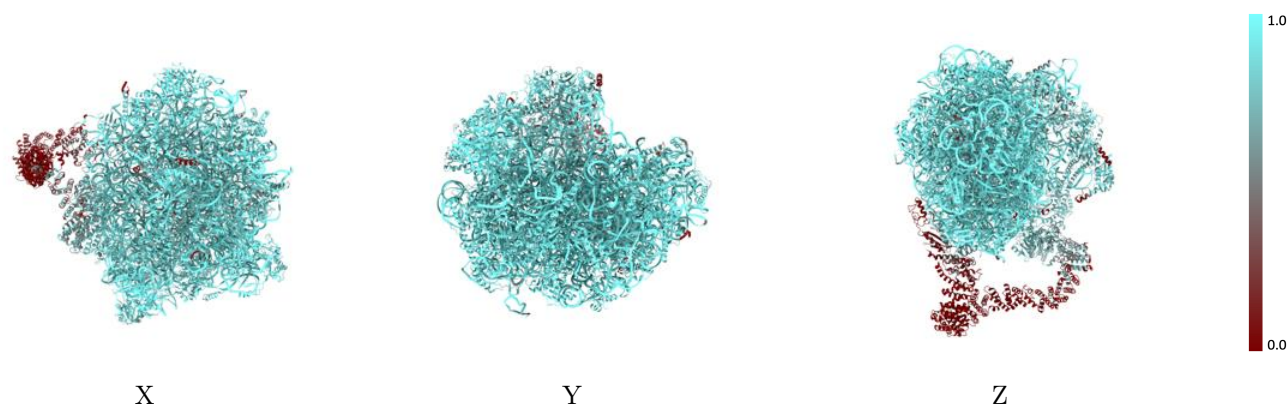
The images above show the 3D surface view of the map at the recommended contour level 0.4 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



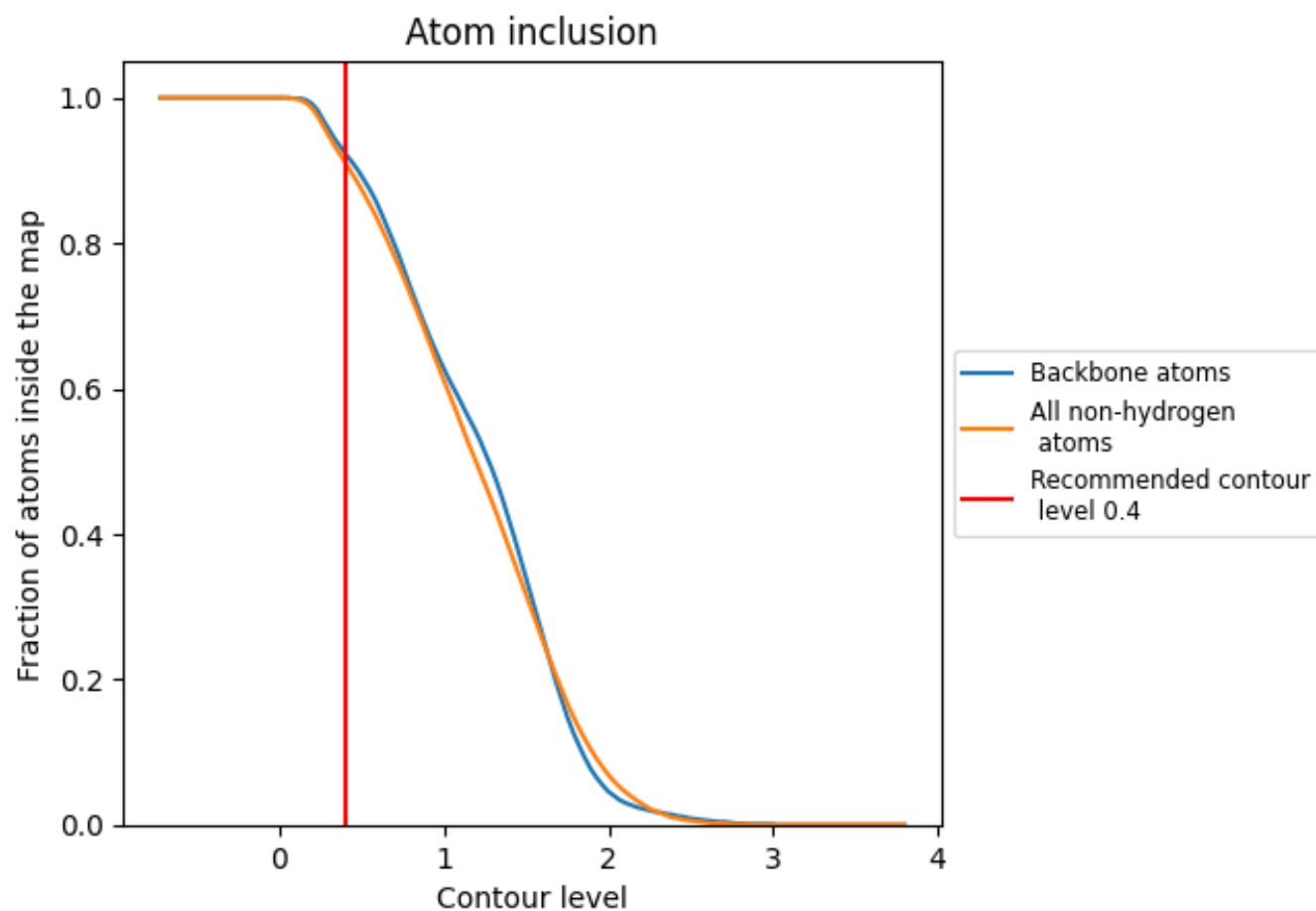
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.4).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 92% of all backbone atoms, 91% 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 (0.4) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9110	 0.5030
0	 0.8290	 0.2900
1	 1.0000	 0.4570
A	 0.9930	 0.6050
B	 0.9760	 0.5790
C	 0.9670	 0.5860
D	 0.9790	 0.5790
E	 0.9420	 0.5390
F	 0.9770	 0.5730
G	 0.9690	 0.5580
H	 0.9310	 0.4750
I	 0.9640	 0.5630
J	 0.9600	 0.5600
K	 0.9660	 0.5650
L	 0.9730	 0.5580
M	 0.9550	 0.5190
N	 0.9800	 0.5870
O	 0.9560	 0.5330
P	 0.9420	 0.5100
Q	 0.9250	 0.5480
R	 0.9810	 0.5950
S	 0.9900	 0.6120
T	 0.9660	 0.5690
U	 0.9670	 0.5480
V	 0.9570	 0.5200
W	 1.0000	 0.6200
X	 0.9200	 0.4970
Y	 0.9950	 0.5950
Z	 0.9670	 0.5650
a	 0.8080	 0.2780
b	 0.9640	 0.5640
c	 0.9720	 0.5620
d	 0.7130	 0.3910
e	 0.2590	 0.1800
f	 0.9910	 0.5650



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Chain	Atom inclusion	Q-score
g	 0.7570	 0.4630
h	 0.9990	 0.5600
i	 0.9950	 0.5920
j	 0.9860	 0.5960
k	 0.9790	 0.5810
l	 0.9760	 0.5680
m	 0.9350	 0.4780
n	 0.9450	 0.5190
o	 0.9690	 0.5640
p	 0.9410	 0.5120
q	 0.9590	 0.5410
r	 0.9530	 0.5300
s	 0.9250	 0.4200
t	 0.9670	 0.5540
u	 0.9680	 0.5400
v	 0.8470	 0.3530
w	 0.7890	 0.2020
x	 0.9770	 0.2800
y	 0.9760	 0.2610
z	 0.9130	 0.2760