



Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 04:52 AM UTC

PDB ID : 8BJQ / pdb_00008bjq
EMDB ID : EMD-16090
Title : Structure of a yeast 80S ribosome-bound N-Acetyltransferase B complex
Authors : Knorr, A.G.; Mackens-Kiani, T.; Musial, J.; Berninghausen, O.; Becker, T.;
Beatrix, B.; Beckmann, R.
Deposited on : 2022-11-05
Resolution : 3.80 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:

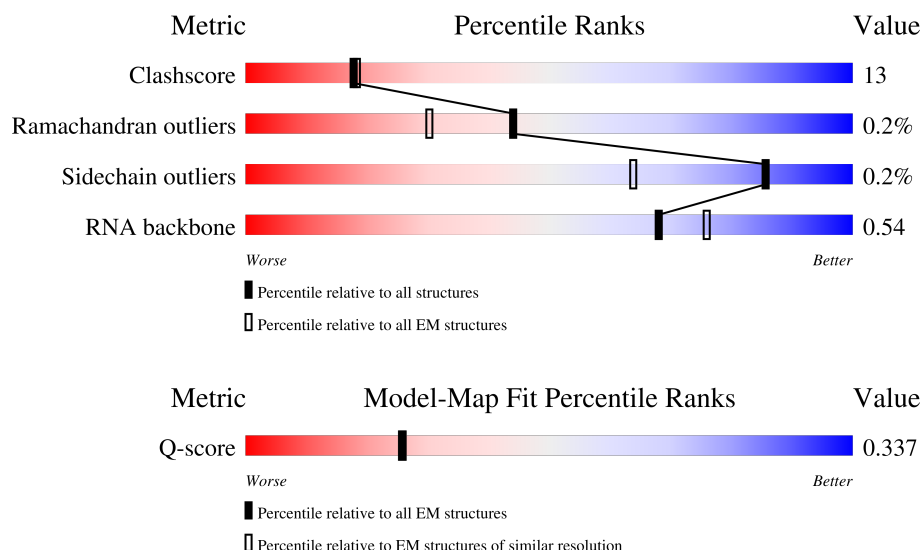
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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 3.80 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	10198 (3.30 - 4.30)

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	195	82% 65% 35%
1	C	195	29% 26% 8% 65%
2	B	796	41% 68% 31%

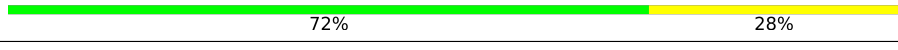
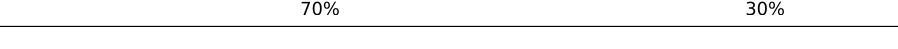
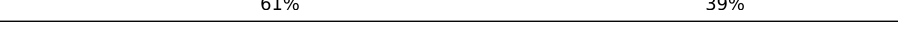
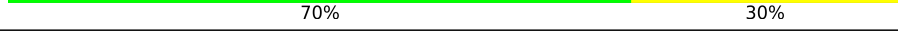
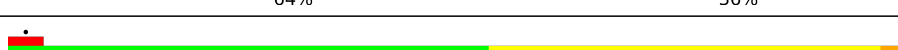
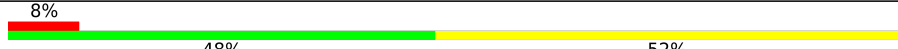
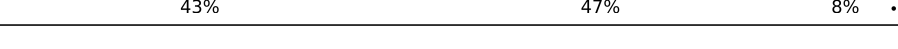
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Mol	Chain	Length	Quality of chain
2	D	796	
3	C4	121	
4	C3	158	
5	LA	251	
6	LB	386	
7	LC	361	
8	LD	294	
9	LE	175	
10	LF	222	
11	LG	233	
12	LH	191	
13	LI	218	
14	LJ	169	
15	LL	193	
16	LM	136	
17	LN	203	
18	LO	197	
19	LP	183	
20	LQ	185	
21	LR	188	
22	LS	171	
23	LT	159	
24	LU	100	
25	LV	136	
26	LW	126	

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Mol	Chain	Length	Quality of chain
27	LX	121	 75%25%
28	LY	125	 72%28%
29	LZ	135	 70%30%
30	La	148	 61%39%
31	Lb	58	 83%17%
32	Lc	96	 67%33%
33	Ld	109	 83%15%.
34	Le	127	 66%34%
35	Lf	106	 61%39%
36	Lg	112	 69%31%
37	Lh	119	 76%24%
38	Li	99	 77%23%
39	Lj	85	 79%21%
40	Lk	77	 70%30%
41	Ll	50	 64%36%
42	Lm	52	 54%44%.
43	Ln	25	 8%48%52%
44	Lo	103	 70%30%
45	Lp	91	 65%35%
46	1	3395	 43%47%8%.

2 Entry composition [i](#)

There are 48 unique types of molecules in this entry. The entry contains 141384 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 N-terminal acetyltransferase B complex catalytic subunit NAT3.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	195	Total	C	N	O	S	0	0
			1612	1030	273	297	12		
1	C	68	Total	C	N	O	S	0	0
			571	378	81	107	5		

- Molecule 2 is a protein called N-terminal acetyltransferase B complex subunit MDM20.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	796	Total	C	N	O	S	0	0
			6536	4195	1080	1231	30		
2	D	796	Total	C	N	O	S	0	0
			6536	4195	1080	1231	30		

- Molecule 3 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C4	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 4 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	C3	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 5 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	LA	251	Total	C	N	O	S	0	0
			1899	1182	385	331	1		

- Molecule 6 is a protein called 60S ribosomal protein L3.

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

- Molecule 7 is a protein called 60S ribosomal protein L4-A.

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

- Molecule 8 is a protein called 60S ribosomal protein L5.

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

- Molecule 9 is a protein called 60S ribosomal protein L6-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	LE	167	Total	C	N	O	S	0	0
			1305	841	234	229	1		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LE	132	ALA	THR	conflict	UNP P05739
LE	146	ILE	LEU	conflict	UNP P05739
LE	173	MET	LEU	conflict	UNP P05739

- Molecule 10 is a protein called 60S ribosomal protein L7-A.

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

- Molecule 11 is a protein called 60S ribosomal protein L8-A.

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

- Molecule 12 is a protein called 60S ribosomal protein L9-A.

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

- Molecule 13 is a protein called 60S ribosomal protein L10.

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

- Molecule 14 is a protein called 60S ribosomal protein L11-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	LJ	169	Total	C	N	O	S	0	0
			1350	846	253	247	4		

- Molecule 15 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	LL	193	Total	C	N	O		0	0
			1543	962	315	266			

- Molecule 16 is a protein called 60S ribosomal protein L14-A.

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

- Molecule 17 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 18 is a protein called 60S ribosomal protein L16-A.

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

- Molecule 19 is a protein called 60S ribosomal protein L17-A.

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

- Molecule 20 is a protein called 60S ribosomal protein L18-A.

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

- Molecule 21 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	LR	171	Total	C	N	O	0	0
			1378	850	294	234		

- Molecule 22 is a protein called 60S ribosomal protein L20-A.

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

- Molecule 23 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	LT	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 24 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	LU	100	Total	C	N	O	0	0
			796	516	131	149		

- Molecule 25 is a protein called 60S ribosomal protein L23-A.

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

- Molecule 26 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	LW	67	Total	C	N	O	S	0	0
			538	345	106	86	1		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LW	104	GLN	ASN	conflict	UNP P04449
LW	109	GLN	LEU	conflict	UNP P04449
LW	112	ASP	ASN	conflict	UNP P04449
LW	119	ALA	GLU	conflict	UNP P04449

- Molecule 27 is a protein called 60S ribosomal protein L25.

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

- Molecule 28 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	LY	125	Total	C	N	O		0	0
			984	620	191	173			

- Molecule 29 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	LZ	135	Total	C	N	O		0	0
			1092	710	202	180			

- Molecule 30 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	La	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 31 is a protein called 60S ribosomal protein L29.

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

- Molecule 32 is a protein called 60S ribosomal protein L30.

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

- Molecule 33 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Ld	109	Total	C	N	O	S	0	0
			880	559	168	152	1		

- Molecule 34 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Le	127	Total	C	N	O	S	0	0
			1017	644	205	167	1		

- Molecule 35 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 36 is a protein called 60S ribosomal protein L34-A.

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

- Molecule 37 is a protein called 60S ribosomal protein L35-A.

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

- Molecule 38 is a protein called 60S ribosomal protein L36-A.

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

- Molecule 39 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Lj	85	Total	C	N	O	S	0	0
			670	408	146	111	5		

- Molecule 40 is a protein called 60S ribosomal protein L38.

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

- Molecule 41 is a protein called 60S ribosomal protein L39.

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

- Molecule 42 is a protein called 60S ribosomal protein L40-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Lm	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 43 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Ln	25	Total	C	N	O	S	0	0
			229	139	62	27	1		

- Molecule 44 is a protein called 60S ribosomal protein L42-A.

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

- Molecule 45 is a protein called 60S ribosomal protein L43-A.

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

- Molecule 46 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	1	3301	Total	C	N	O	P	0	0
			70586	31525	12690	23070	3301		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1	?	-	G	deletion	GB 1262303
1	1962	A	G	conflict	GB 1262303

- Molecule 47 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
47	C4	1	Total	Mg	0
			1	1	
47	C3	1	Total	Mg	0
			1	1	
47	LA	2	Total	Mg	0
			2	2	
47	LB	1	Total	Mg	0
			1	1	
47	LN	1	Total	Mg	0
			1	1	
47	LP	1	Total	Mg	0
			1	1	
47	LR	1	Total	Mg	0
			1	1	
47	LV	1	Total	Mg	0
			1	1	
47	La	1	Total	Mg	0
			1	1	
47	Le	1	Total	Mg	0
			1	1	
47	1	195	Total	Mg	0
			195	195	

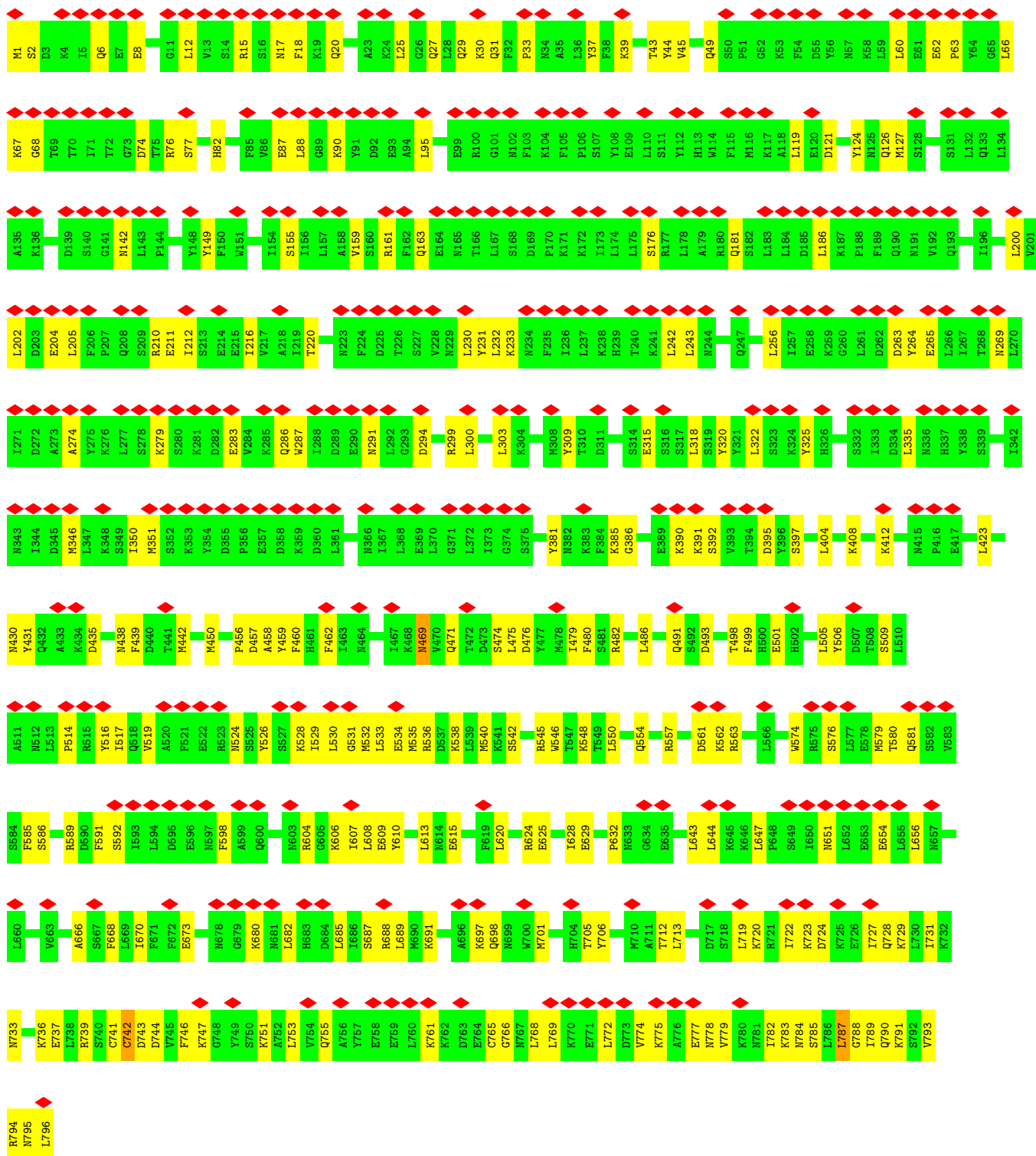
- Molecule 48 is ZINC ION (CCD ID: ZN) (formula: Zn).

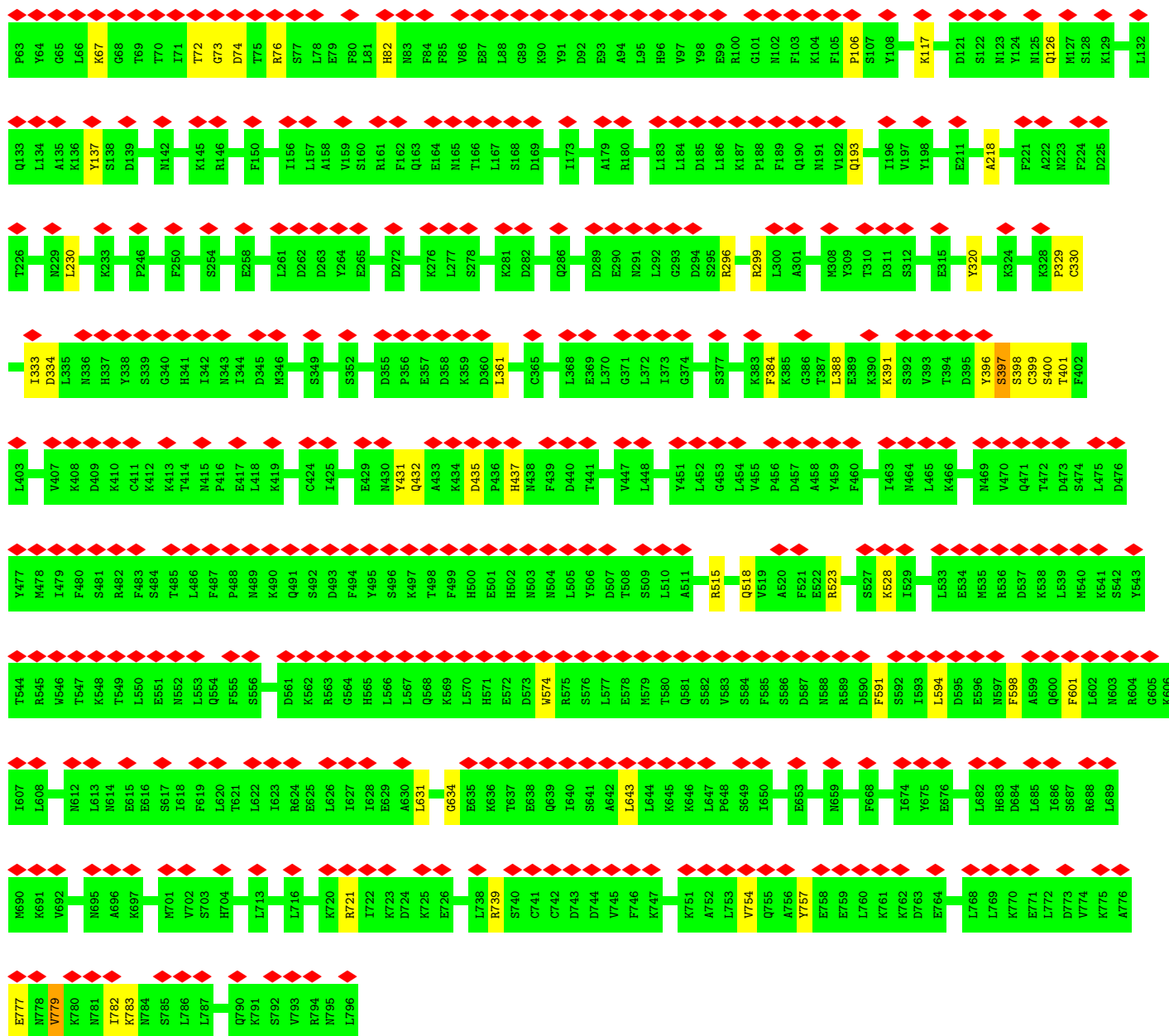
Mol	Chain	Residues	Atoms		AltConf
48	Lg	1	Total	Zn	0
			1	1	
48	Lj	1	Total	Zn	0
			1	1	

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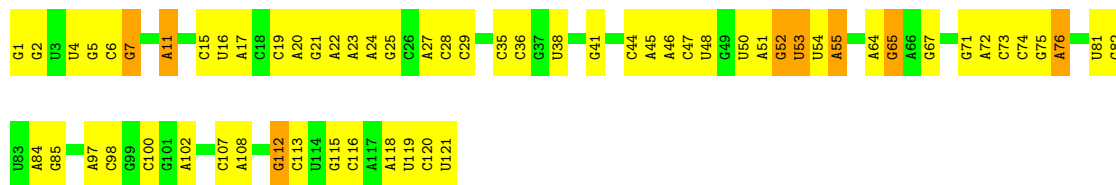
Mol	Chain	Residues	Atoms		AltConf
48	Lm	1	Total 1	Zn 1	0
48	Lo	1	Total 1	Zn 1	0
48	Lp	1	Total 1	Zn 1	0





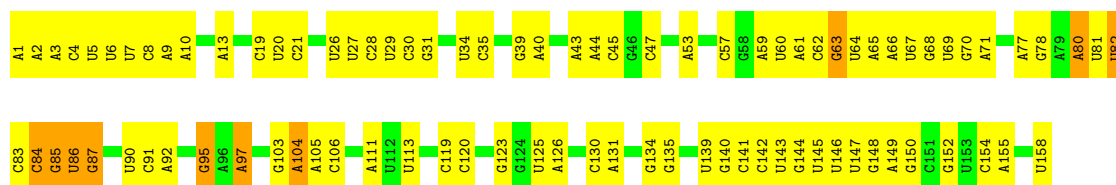
• Molecule 3: 5S rRNA

Chain C4: 49% 45% 7%

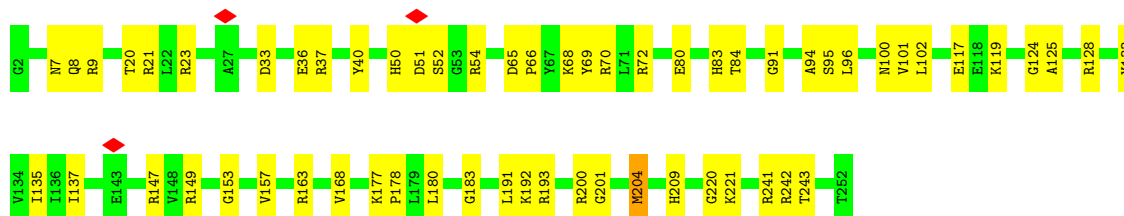
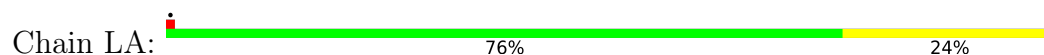


• Molecule 4: 5.8S rRNA

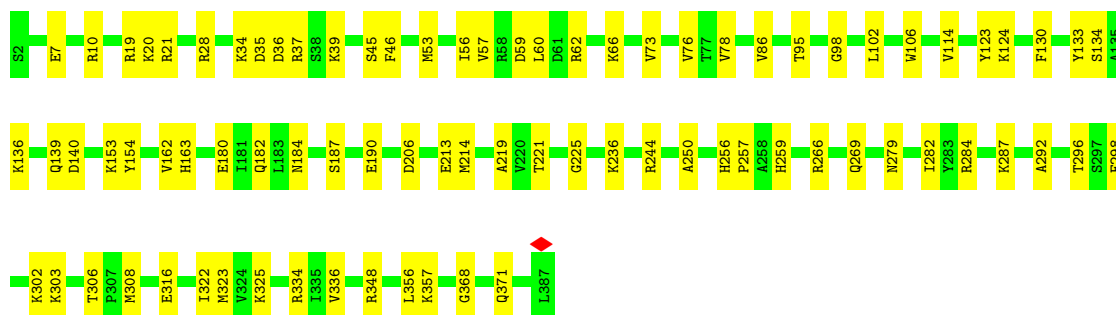
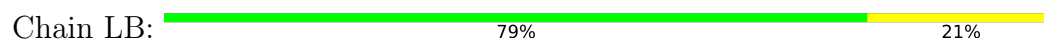
Chain C3: 44% 50% 6%



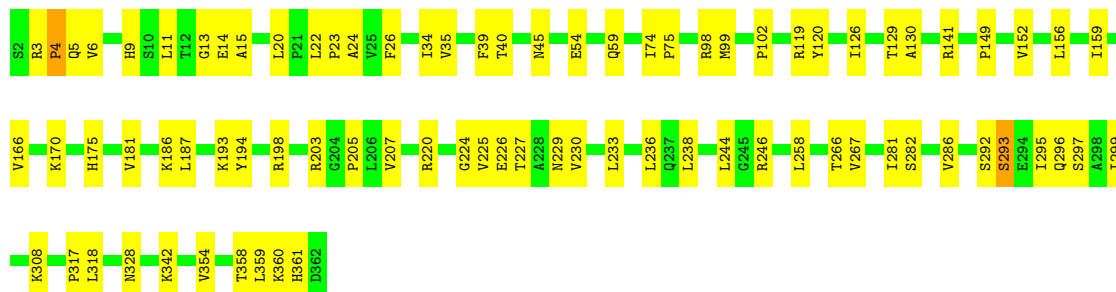
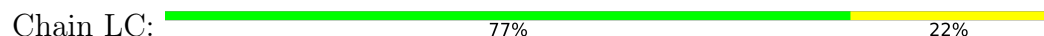
• Molecule 5: 60S ribosomal protein L2-A



• Molecule 6: 60S ribosomal protein L3

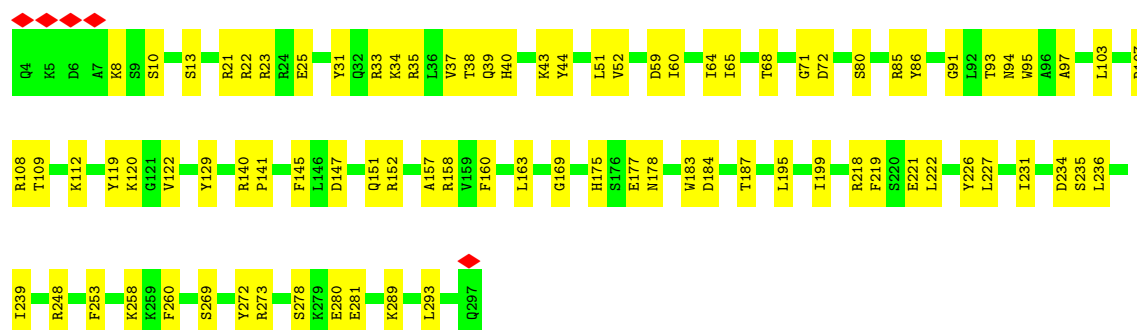


• Molecule 7: 60S ribosomal protein L4-A

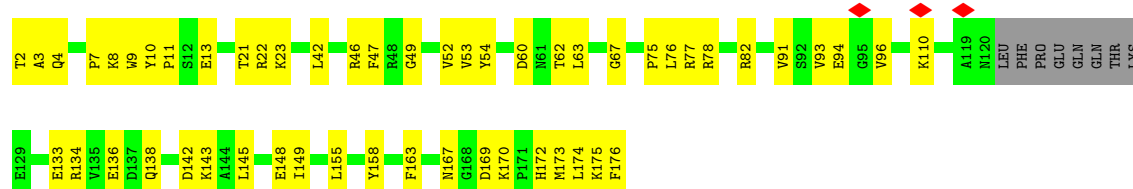


• Molecule 8: 60S ribosomal protein L5

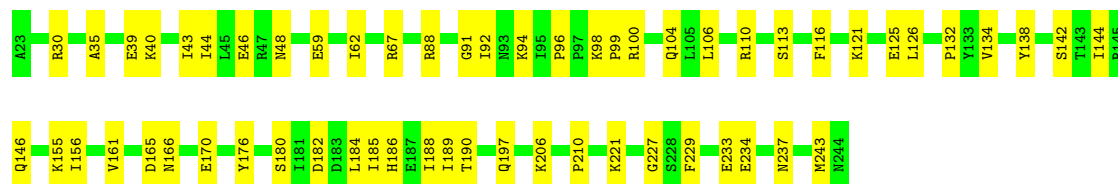




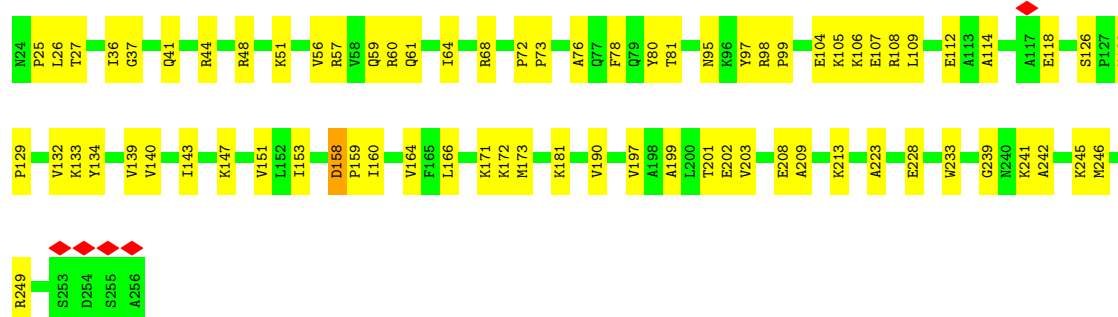
• Molecule 9: 60S ribosomal protein L6-B



• Molecule 10: 60S ribosomal protein L7-A

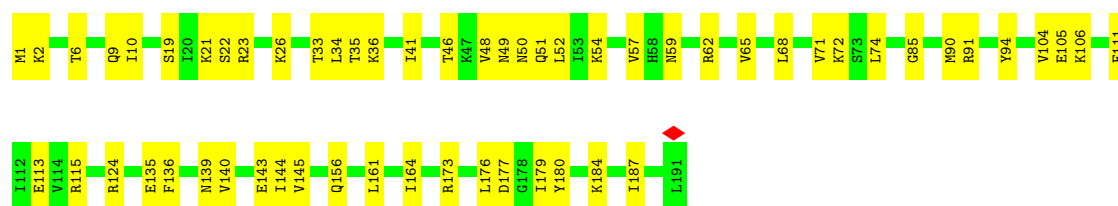


• Molecule 11: 60S ribosomal protein L8-A

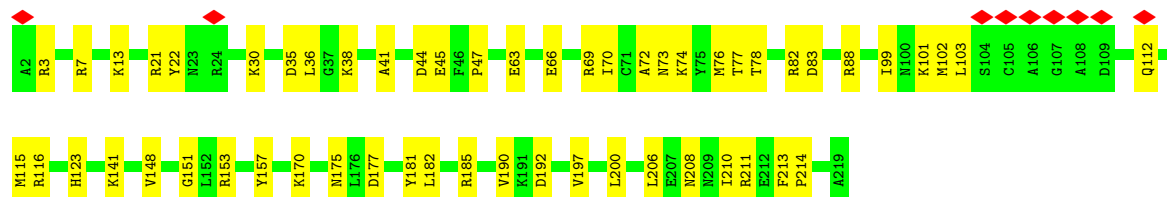
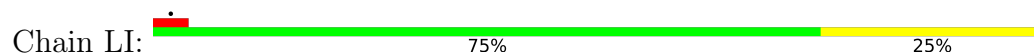


• Molecule 12: 60S ribosomal protein L9-A

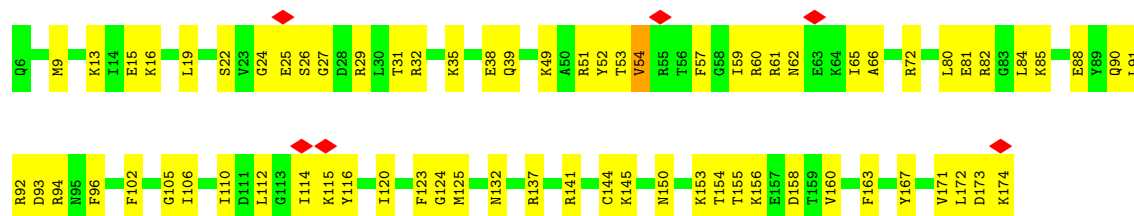




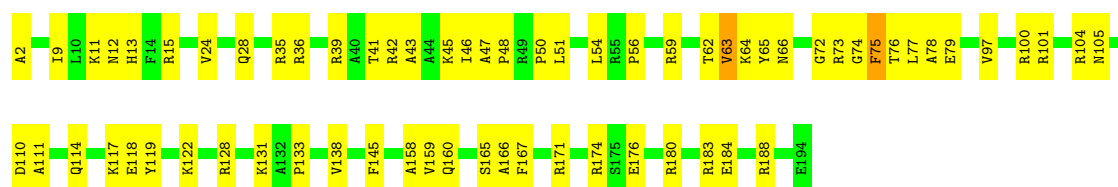
- Molecule 13: 60S ribosomal protein L10



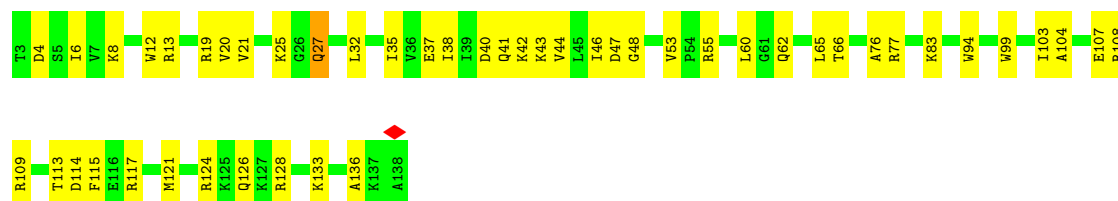
- Molecule 14: 60S ribosomal protein L11-B



- Molecule 15: 60S ribosomal protein L13-A

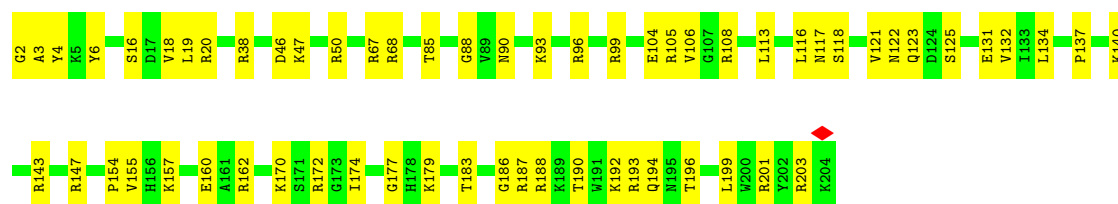


- Molecule 16: 60S ribosomal protein L14-A



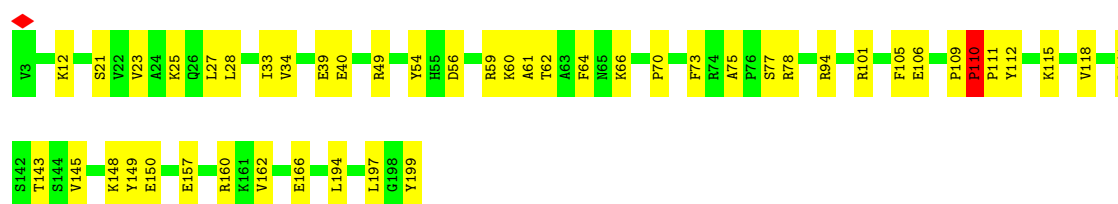
- Molecule 17: 60S ribosomal protein L15-A

Chain LN:  70% 30%



- Molecule 18: 60S ribosomal protein L16-A

Chain LO:  76% 23%



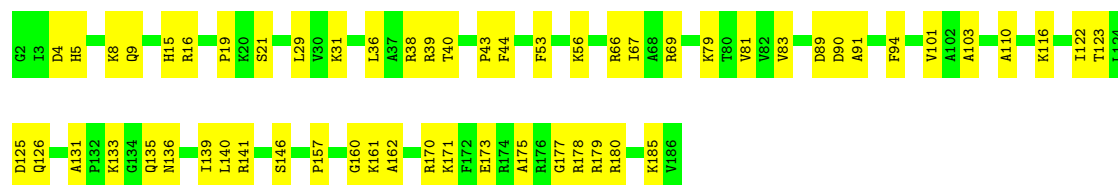
- Molecule 19: 60S ribosomal protein L17-A

Chain LP:  7% 85% 15%



- Molecule 20: 60S ribosomal protein L18-A

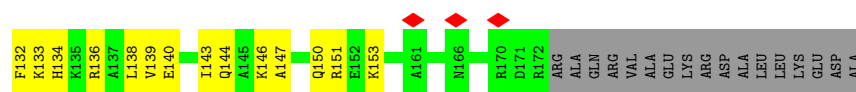
Chain LQ:  69% 31%



- Molecule 21: 60S ribosomal protein L19-A

Chain LR:  66% 25% 9%





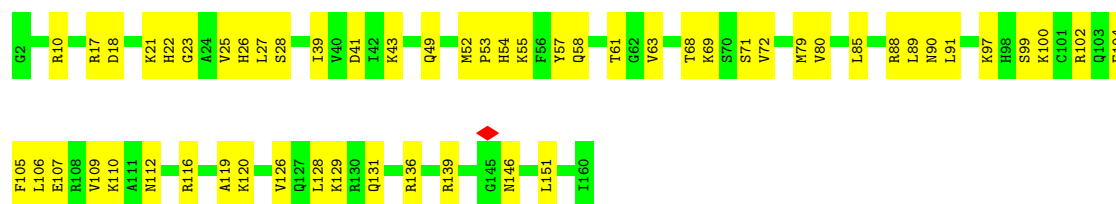
- Molecule 22: 60S ribosomal protein L20-A

Chain LS: 76% 24%



- Molecule 23: 60S ribosomal protein L21-A

Chain LT: 65% 35%



- Molecule 24: 60S ribosomal protein L22-A

Chain LU: 70% 30%



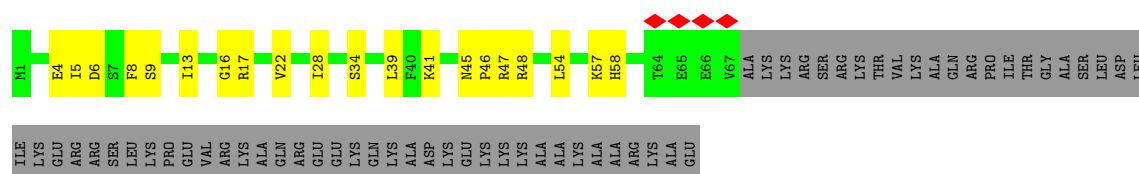
- Molecule 25: 60S ribosomal protein L23-A

Chain LV: 82% 18%



- Molecule 26: 60S ribosomal protein L24-A

Chain LW: 37% 16% 47%



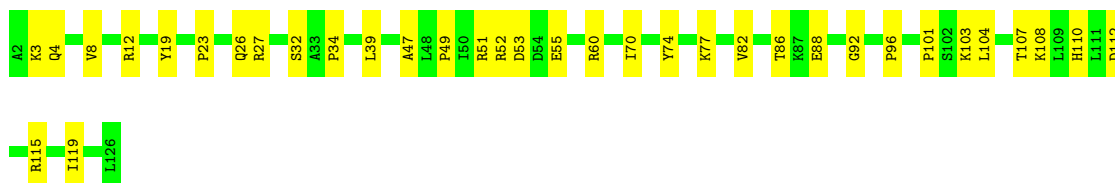
- Molecule 27: 60S ribosomal protein L25

Chain LX:  75% 25%



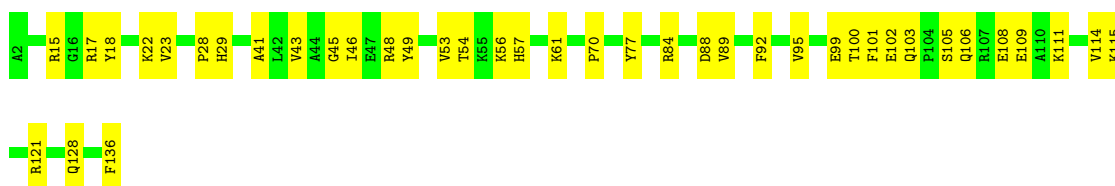
- Molecule 28: 60S ribosomal protein L26-A

Chain LY:  72% 28%



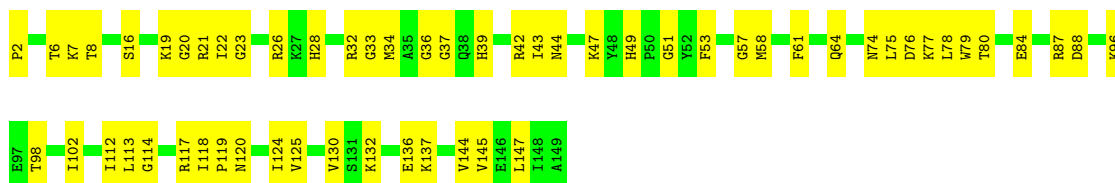
- Molecule 29: 60S ribosomal protein L27-A

Chain LZ:  70% 30%



- Molecule 30: 60S ribosomal protein L28

Chain La:  61% 39%



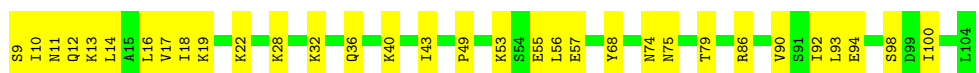
- Molecule 31: 60S ribosomal protein L29

Chain Lb:  83% 17%



- Molecule 32: 60S ribosomal protein L30

Chain Lc:  67% 33%



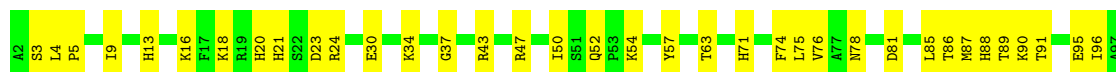
- Molecule 33: 60S ribosomal protein L31-A

Chain Ld:  83% 15%



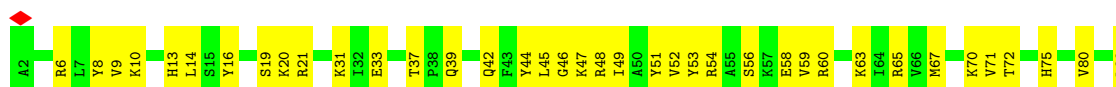
- Molecule 34: 60S ribosomal protein L32

Chain Le:  66% 34%



- Molecule 35: 60S ribosomal protein L33-A

Chain Lf:  61% 39%



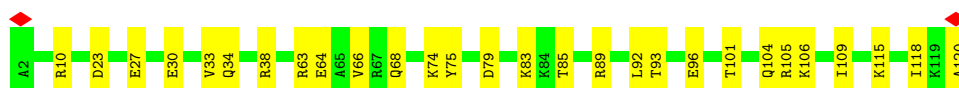
- Molecule 36: 60S ribosomal protein L34-A

Chain Lg:  69% 31%



- Molecule 37: 60S ribosomal protein L35-A

Chain Lh:  76% 24%

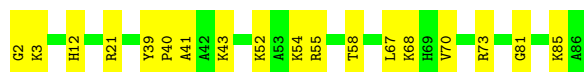
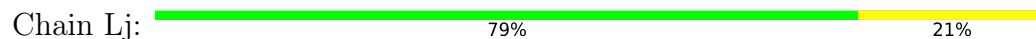


- Molecule 38: 60S ribosomal protein L36-A

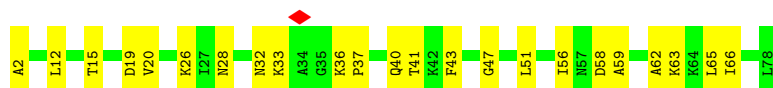
Chain Li:  77% 23%



- Molecule 39: 60S ribosomal protein L37-A



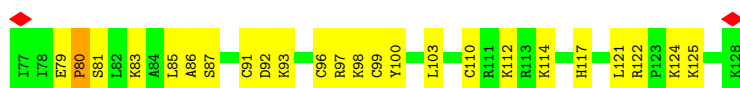
- Molecule 40: 60S ribosomal protein L38



- Molecule 41: 60S ribosomal protein L39



- Molecule 42: 60S ribosomal protein L40-A



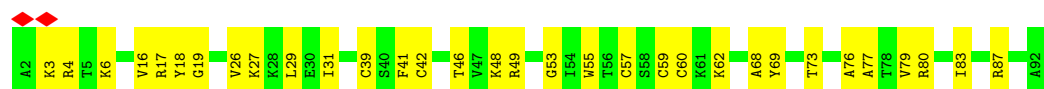
- Molecule 43: 60S ribosomal protein L41-A



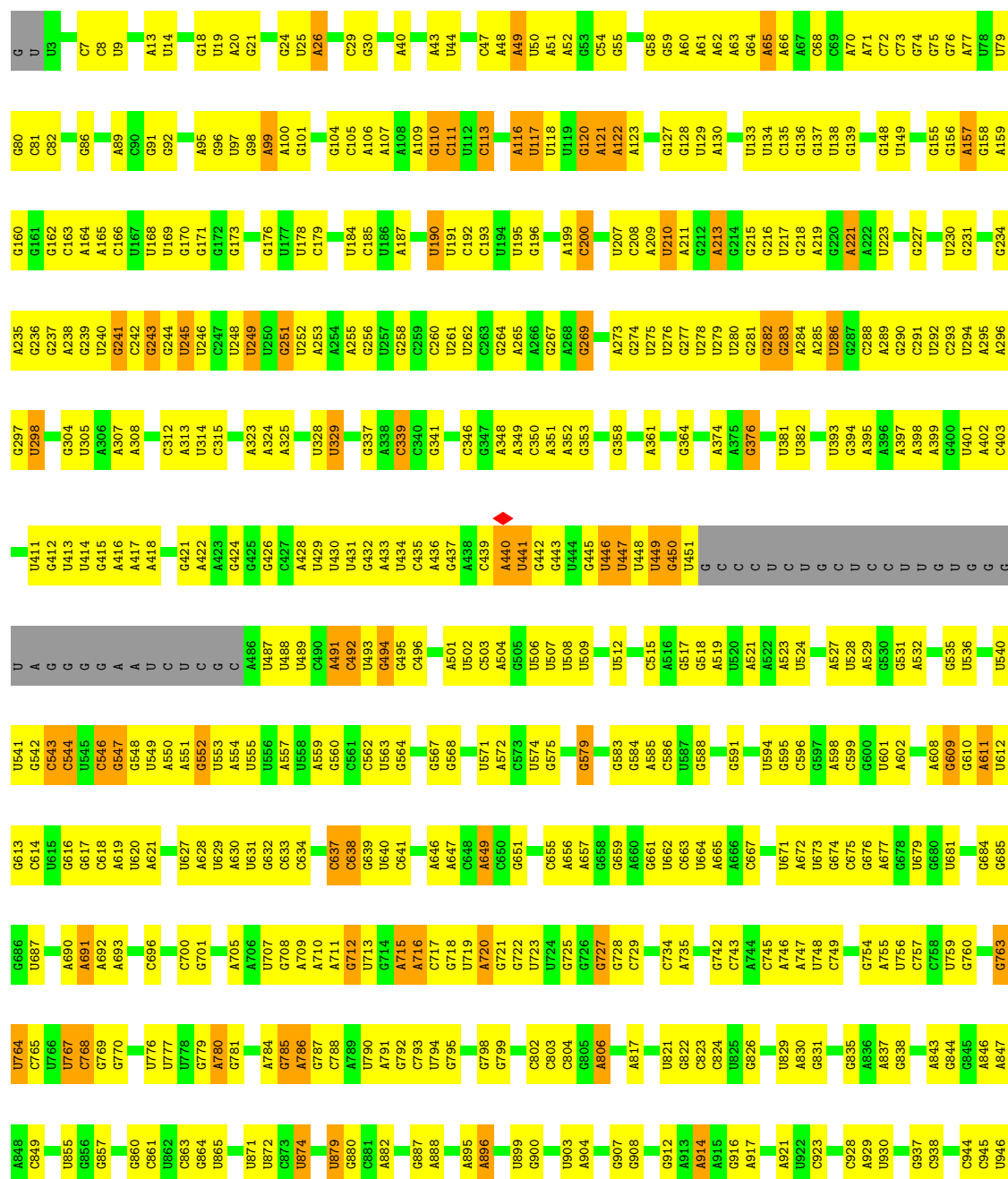
- Molecule 44: 60S ribosomal protein L42-A



- Molecule 45: 60S ribosomal protein L43-A



• Molecule 46: 25S rRNA



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G2003	G1935	U1834	C1761	G1677	U1501	G1413	G1333	G1256	C1183	A1105	A1030	C948
U2004	A1835	A1835	C1762	G1678	C1596	G1414	U1335	A1184	C1185	C1107	C1031	C949
G2005	U1938	G1838	U1763	A1679	C1505	U1415	U1336	U1257	G1189	U1108	U1033	G950
G2006	G1939	A1839	U1764	U1681	A1506	G1416	A1337	G1261	U1191	U1109	U1034	A951
G2007	G1940	U1765	U1765	U1682	G1507	G1417	C1338	G1262	A1190	U1110	G1035	A952
G2008	C1941	A1841	G1766	A1683	C1508	A1418	G1339	A1263	U1191	U1111	A1036	G953
C2009	U1942	A1842	U1766	U1684	G1509	A1419	G1340	U1264	C1192	U1112	A1037	U954
U2010	A1945	A1846	G1770	U1685	G1517	G1420	U1341	U1265	A1193	G1113	C1038	U955
C2013	A1946	C1846	G1775	U1686	U1522	G1421	C1342	G1266	A1195	U1114	U1039	U956
U2014	A1947	A1847	U1778	U1688	U1523	G1422	A1343	U1269	C1196	G1115	A1040	C959
C2015	G1948	C1848	G1779	U1689	U1524	C1426	U1348	A1270	U1196	G1116	U1060	U960
U2016	G1949	A1850	C1778	U1690	G1525	C1432	C1349	A1271	C1201	G1117	C1043	U966
G2017	U1950	G1851	G1780	U1694	C1532	A1433	A1350	C1272	A1202	C1118	A1046	A967
C2018	U1855	U1781	C1781	U1695	U1533	G1434	A1351	A1273	A1203	C1119	A1047	G968
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G2020	G1953	U1783	U1783	A1697	U1535	U1436	U1353	G1281	G1208	G1130	U1060	A970
A2020	G1954	U1784	U1784	C1698	U1536	G1437	G1354	G1282	A1212	A1131	A1061	G971
G2021	C1857	U1785	U1785	C1699	G1544	G1443	A1355	A1277	G1209	G1127	A1062	U981
G2022	U1862	G1786	G1786	G1700	G1545	G1444	U1356	C1279	U1210	U1128	A1054	G974
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G2025	A1865	U1789	C1789	C1703	U1553	U1447	G1362	G1282	U1214	C1132	A1061	U981
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G1963	G1878	G1792	G1792	U1717	C1556	G1452	U1368	U1288	A1217	A1135	A1064	A989
C1964	U1795	U1718	U1718	A1557	A1558	A1460	A1369	U1289	G1222	G1139	U1070	U990
G2033	U1879	G1719	G1719	A1559	A1560	A1461	A1370	A1290	A1225	U1143	U1071	G991
U1966	U1880	U1797	U1797	A1561	C1562	U1472	G1371	A1291	C1226	U1144	G1072	A992
U1967	A1881	U1798	U1798	C1563	U1564	U1473	G1372	U1293	C1227	U1145	U1073	G993
G2035	G1882	C1725	C1725	C1564	U1565	G1474	G1373	U1294	C1228	G1152	U1074	G994
C1971	A1893	A1729	A1729	A1566	G1567	A1477	U1378	A1302	G1230	A1153	U1077	U995
A1972	U1894	G1730	G1730	A1568	U1568	U1478	G1379	A1303	A1231	A1154	A1080	G999
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G1979	G1906	A1810	A1810	U1572	U1572	G1482	G1383	A1302	U1235	A1158	A1086	A1003
U2046	A1909	U1814	U1814	U1573	U1573	A1483	A1386	G1306	G1236	A1159	U1087	U1008
A2047	A1910	U1815	U1815	G1574	G1574	U1484	G1387	G1307	G1237	G1160	C1086	U1009
G2048	G1983	A1816	A1816	A1575	A1575	G1485	U1388	A1308	C1238	U1161	U1088	G1010
A2049	C1984	G1817	G1817	G1576	G1576	G1486	G1389	U1309	G1239	U1162	G1089	G1011
C2050	G1913	U1818	U1818	G1577	G1577	G1487	A1390	U1315	U1240	U1167	G1090	U1015
G2051	G1914	U1819	U1819	U1578	U1578	G1488	A1391	U1322	U1241	U1168	A1091	C1016
U1986	A1915	U1820	U1820	A1580	A1580	A1489	A1399	U1323	G1242	A1169	C1092	C1017
G1967	U1916	C1821	C1821	C1581	C1581	A1490	G1400	G1324	A1243	G1174	A1093	G1018
C1988	U1920	U1822	U1822	C1582	C1582	A1491	U1401	U1325	A1244	G1175	U1094	G1019
U1989	A1921	G1751	G1751	A1583	A1583	G1492	G1404	U1326	G1245	C1176	U1095	G1020
U1990	A1922	A1752	A1752	C1579	C1579	U1494	A1407	A1327	U1247	U1177	G1097	G1024
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U1998	A1933	G1675	G1675	G1591	G1591	C1499						
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G												
A												
G												
U												
C												
U												
C												
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G												

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	G3075	C3002		G2828	C2742	G2671		A2439	C2279		
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								G			
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								A			
								G			
								A			
								A			

C3379	U3380	G3386	U3387	C3388	U3389	G3390	C3391	U3392	U3393	U3394	G3395	U3396	A3299	U3300	U3301	U3302	U3303	U3304	A3305	U3306	A3310	U3311	U3312	U3313	A3316	U3317	G3318	U3319	A3320	C3321	A3322	A3323	U3329	U3330	U3331	U3332	G3333	U3334	A3335	A3336	G3337	C3338	U3341	A3342	G3343	A3344	G3345	G3348	C3349	U3350	U3351	U3352	G3353	U3354	U3355	G3356	U3357	U3358	A3359	C3360	G3361	A3362	U3369	A3370	G3371	A3372	U3373	U3374	U3375	U3376	U3377	U3378	U3379	U3380	U3381	U3382	U3383	U3384	U3385	U3386	U3387	U3388	U3389	U3390	U3391	U3392	U3393	U3394	U3395	U3396	G3229	U3230	U3231	G3232	C3233	A3234	U3239	G3242	A3243	A3244	A3245	G3246	G3247	U3251	G3252	G3253	G3254	U3255	G3256	C3257	U3258	U3259	G3260	C3261	U3262	G3263	A3267	A3268	U3269	U3270	A3273	A3274	U3275	G3276	A3279	U3280	U3281	U3282	U3283	G3284	C3285	G3286	U3287	G3288	G3289	G3290	G3291	A3292	U3293	A3294	A3295	A3296	U3297	C3298	C3162	A3163	C3164	A3165	C3166	A3167	A3168	U3169	A3170	G3173	A3174	U3175	G3176	G3177	A3178	U3179	A3180	C3181	G3182	A3183	A3184	U3185	A3186	A3187	G3188	G3189	C3190	G3191	U3192	C3193	C3194	U3195	U3196	G3197	U3198	G3199	G3200	C3201	G3202	U3203	C3204	G3205	C3206	U3207	G3208	A3209	A3210	G3211	A3212	U3213	U3214	A3215	G3216	C3217	A3218	G3219	G3220	A3227	C3228
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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	9645	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 ($e^-/\text{\AA}^2$)	45.2	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	1.382	Depositor
Minimum map value	-0.498	Depositor
Average map value	0.011	Depositor
Map value standard deviation	0.093	Depositor
Recommended contour level	0.2	Depositor
Map size (Å)	417.99997, 417.99997, 417.99997	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.045, 1.045, 1.045	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.15	0/1654	0.40	0/2237
1	C	0.67	0/589	1.09	0/800
2	B	0.14	0/6665	0.39	1/8979 (0.0%)
2	D	0.70	0/6665	1.20	9/8979 (0.1%)
3	C4	0.18	0/2883	0.22	0/4491
4	C3	0.21	0/3746	0.28	0/5832
5	LA	0.23	0/1933	0.42	2/2598 (0.1%)
6	LB	0.21	0/3146	0.36	0/4228
7	LC	0.20	0/2800	0.39	0/3790
8	LD	0.17	0/2400	0.38	0/3239
9	LE	0.18	0/1327	0.38	0/1790
10	LF	0.21	0/1821	0.37	0/2451
11	LG	0.21	0/1836	0.46	0/2481
12	LH	0.21	0/1529	0.43	0/2060
13	LI	0.19	0/1801	0.37	0/2416
14	LJ	0.18	0/1371	0.50	1/1838 (0.1%)
15	LL	0.21	0/1568	0.50	0/2106
16	LM	0.20	0/1068	0.41	0/1438
17	LN	0.21	0/1757	0.39	0/2354
18	LO	0.21	0/1585	0.39	0/2128
19	LP	0.21	0/1439	0.35	0/1938
20	LQ	0.20	0/1465	0.36	0/1965
21	LR	0.21	0/1395	0.36	0/1861
22	LS	0.23	0/1473	0.45	0/1980
23	LT	0.21	0/1300	0.40	0/1743
24	LU	0.19	0/812	0.46	0/1099
25	LV	0.21	0/1018	0.37	0/1369
26	LW	0.21	0/550	0.37	0/731
27	LX	0.21	0/979	0.34	0/1321
28	LY	0.23	0/995	0.46	0/1329
29	LZ	0.22	0/1118	0.46	0/1497
30	La	0.22	0/1204	0.47	0/1612

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
31	Lb	0.19	0/473	0.38	0/629
32	Lc	0.22	0/745	0.47	0/1001
33	Ld	0.23	0/894	0.46	2/1200 (0.2%)
34	Le	0.20	0/1038	0.40	0/1390
35	Lf	0.23	0/868	0.41	0/1168
36	Lg	0.22	0/890	0.41	0/1189
37	Lh	0.19	0/978	0.37	0/1301
38	Li	0.18	0/772	0.37	0/1026
39	Lj	0.22	0/685	0.37	0/908
40	Lk	0.18	0/618	0.35	0/826
41	Ll	0.25	0/443	0.51	0/588
42	Lm	0.23	0/423	0.54	0/562
43	Ln	0.18	0/230	0.56	0/296
44	Lo	0.20	0/836	0.44	0/1104
45	Lp	0.23	0/701	0.49	0/934
46	1	0.21	2/79000 (0.0%)	0.31	5/123166 (0.0%)
All	All	0.25	2/151486 (0.0%)	0.42	20/221968 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
7	LC	0	1
11	LG	0	2
15	LL	0	1
18	LO	0	1
All	All	0	5

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	1	2094	C	O3'-P	-13.53	1.40	1.61
46	1	1950	U	O3'-P	-11.87	1.43	1.61

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	1	1950	U	O3'-P-O5'	34.87	156.31	104.00
46	1	1950	U	OP2-P-O3'	-10.33	77.02	108.00
46	1	1950	U	P-O3'-C3'	-9.44	106.03	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	15	ARG	CA-C-N	7.40	135.67	121.54
2	D	15	ARG	C-N-CA	7.40	135.67	121.54
46	1	1950	U	OP1-P-O3'	-6.77	87.69	108.00
33	Ld	5	LYS	CA-C-N	6.01	133.02	121.54
33	Ld	5	LYS	C-N-CA	6.01	133.02	121.54
2	D	397	SER	N-CA-C	5.93	118.93	110.10
2	D	518	GLN	OE1-CD-NE2	-5.80	116.80	122.60
2	D	11	GLY	N-CA-C	-5.38	106.26	112.50
2	D	126	GLN	OE1-CD-NE2	-5.38	117.22	122.60
2	D	67	LYS	CA-C-N	5.26	124.97	119.92
2	D	67	LYS	C-N-CA	5.26	124.97	119.92
2	B	469	ASN	CB-CA-C	-5.26	110.49	116.54
5	LA	204	MET	CA-C-N	-5.21	110.85	121.48
5	LA	204	MET	C-N-CA	-5.21	110.85	121.48
14	LJ	54	VAL	N-CA-C	-5.10	108.53	113.53
2	D	432	GLN	OE1-CD-NE2	-5.07	117.53	122.60
46	1	1982	G	O3'-P-O5'	-5.01	96.49	104.00

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
7	LC	13	GLY	Peptide
11	LG	158	ASP	Peptide
11	LG	76	ALA	Peptide
15	LL	75	PHE	Peptide
18	LO	110[A]	PRO	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1612	0	1577	97	0
1	C	571	0	549	159	0
2	B	6536	0	6587	273	0
2	D	6536	0	6587	284	0
3	C4	2579	0	1304	54	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	C3	3353	0	1695	73	0
5	LA	1899	0	1956	55	0
6	LB	3075	0	3142	66	0
7	LC	2748	0	2859	70	0
8	LD	2351	0	2294	74	0
9	LE	1305	0	1373	70	0
10	LF	1784	0	1862	45	0
11	LG	1804	0	1877	54	0
12	LH	1508	0	1572	43	0
13	LI	1764	0	1804	37	0
14	LJ	1350	0	1381	63	0
15	LL	1543	0	1608	75	0
16	LM	1053	0	1149	64	0
17	LN	1720	0	1779	52	0
18	LO	1555	0	1659	35	0
19	LP	1416	0	1433	23	0
20	LQ	1441	0	1543	68	0
21	LR	1378	0	1462	63	0
22	LS	1437	0	1475	41	0
23	LT	1276	0	1323	50	0
24	LU	796	0	812	21	0
25	LV	1003	0	1048	17	0
26	LW	538	0	550	18	0
27	LX	964	0	1025	30	0
28	LY	984	0	1075	30	0
29	LZ	1092	0	1155	32	0
30	La	1173	0	1215	72	0
31	Lb	462	0	491	10	0
32	Lc	737	0	792	23	0
33	Ld	880	0	923	17	0
34	Le	1017	0	1081	37	0
35	Lf	850	0	880	33	0
36	Lg	880	0	942	30	0
37	Lh	969	0	1078	30	0
38	Li	766	0	844	26	0
39	Lj	670	0	673	15	0
40	Lk	612	0	682	24	0
41	Ll	436	0	475	26	0
42	Lm	417	0	455	23	0
43	Ln	229	0	273	8	0
44	Lo	824	0	888	21	0
45	Lp	694	0	736	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	1	70586	0	35465	1569	0
47	1	195	0	0	0	0
47	C3	1	0	0	0	0
47	C4	1	0	0	0	0
47	LA	2	0	0	0	0
47	LB	1	0	0	0	0
47	LN	1	0	0	0	0
47	LP	1	0	0	0	0
47	LR	1	0	0	0	0
47	LV	1	0	0	0	0
47	La	1	0	0	0	0
47	Le	1	0	0	0	0
48	Lg	1	0	0	0	0
48	Lj	1	0	0	0	0
48	Lm	1	0	0	0	0
48	Lo	1	0	0	0	0
48	Lp	1	0	0	0	0
All	All	141384	0	105408	3260	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 13.

All (3260) 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)
1:C:50:THR:CA	2:D:333:ILE:HB	1.20	1.62
1:C:42:LEU:CD2	2:D:528:LYS:HE2	1.15	1.57
1:C:42:LEU:HD23	2:D:528:LYS:CE	1.30	1.55
1:C:48:GLU:CD	2:D:296:ARG:HH12	1.04	1.54
1:C:51:VAL:CG2	2:D:330:CYS:CB	1.85	1.50
46:1:1760:A:C2'	2:D:34:ASN:HD21	1.24	1.47
1:C:48:GLU:CD	2:D:296:ARG:NH1	1.73	1.42
1:C:50:THR:HA	2:D:333:ILE:CB	0.94	1.40
1:C:50:THR:HG22	2:D:334:ASP:N	1.38	1.39
1:C:51:VAL:CG2	2:D:330:CYS:HB3	0.89	1.37
1:C:50:THR:C	2:D:330:CYS:HA	1.50	1.36
1:C:51:VAL:HG22	2:D:330:CYS:CB	1.49	1.33
1:C:49:MET:C	2:D:333:ILE:HG21	1.55	1.31
21:LR:143:ILE:CD1	46:1:2092:A:O5'	1.78	1.30
1:C:48:GLU:CG	2:D:296:ARG:NH1	1.94	1.30
46:1:1761:C:O5'	2:D:34:ASN:HB2	1.17	1.29

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:42:LEU:CD2	2:D:528:LYS:CE	1.88	1.28
1:C:50:THR:O	2:D:330:CYS:HA	1.19	1.28
1:C:42:LEU:HD23	2:D:528:LYS:NZ	1.49	1.27
2:B:1:MET:HB3	2:D:523:ARG:NH1	1.50	1.26
1:C:48:GLU:CG	2:D:296:ARG:HH12	1.46	1.25
46:1:1760:A:C2'	2:D:34:ASN:ND2	1.98	1.24
1:C:50:THR:HA	2:D:333:ILE:CG2	1.67	1.23
1:C:50:THR:HG22	2:D:333:ILE:C	1.61	1.22
1:C:50:THR:HB	2:D:330:CYS:O	1.34	1.22
1:C:50:THR:N	2:D:333:ILE:HG21	1.52	1.22
1:C:51:VAL:HG23	2:D:330:CYS:CB	1.56	1.20
1:C:50:THR:CA	2:D:333:ILE:CB	1.91	1.19
1:C:41:ASP:CB	2:D:528:LYS:HD2	1.72	1.18
2:D:18:PHE:CD1	2:D:49:GLN:OE1	1.96	1.17
1:C:50:THR:OG1	2:D:296:ARG:NH2	1.79	1.15
1:C:48:GLU:OE1	2:D:296:ARG:NH1	1.70	1.14
46:1:1257:C:H42	46:1:1261:G:N2	1.44	1.14
21:LR:143:ILE:HG13	46:1:2093:A:O5'	1.18	1.13
46:1:1760:A:H2'	2:D:34:ASN:HD21	1.02	1.13
1:C:41:ASP:HB3	2:D:528:LYS:HD2	1.23	1.12
2:B:736:LYS:NZ	46:1:3317:U:P	2.23	1.11
46:1:1257:C:N4	46:1:1261:G:H22	1.47	1.10
15:LL:36:ARG:NH2	46:1:687:U:OP2	1.85	1.10
1:C:50:THR:O	2:D:330:CYS:CA	1.99	1.10
1:C:50:THR:CG2	2:D:334:ASP:N	2.14	1.10
40:Lk:63:LYS:HZ1	46:1:1975:C:H4'	1.18	1.08
1:C:50:THR:HG21	2:D:334:ASP:CG	1.77	1.08
2:D:18:PHE:CE1	2:D:22:TYR:OH	2.05	1.08
2:B:736:LYS:NZ	46:1:3317:U:OP2	1.87	1.08
21:LR:143:ILE:HD12	46:1:2092:A:O5'	0.90	1.08
1:C:50:THR:CA	2:D:333:ILE:CG2	2.27	1.08
2:B:31:GLN:O	2:D:515:ARG:NH1	1.86	1.07
1:A:9:PRO:HB3	2:B:535:MET:HE2	1.32	1.06
1:A:8:GLU:OE2	2:B:231:TYR:OH	1.72	1.06
15:LL:174:ARG:HG3	38:Li:9:ILE:HD12	1.39	1.05
9:LE:167:ASN:OD1	46:1:3176:G:N7	1.88	1.05
1:C:48:GLU:HG3	2:D:296:ARG:NH1	1.66	1.05
1:A:6:PRO:HG3	2:B:230:LEU:HG	1.33	1.04
2:D:591:PHE:HB3	2:D:598:PHE:CD2	1.91	1.04
21:LR:143:ILE:CG1	46:1:2093:A:O5'	2.05	1.03
46:1:1762:C:N4	2:D:73:GLY:H	1.55	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:720:LYS:HE3	33:Ld:5:LYS:N	1.72	1.03
46:1:1762:C:N4	2:D:72:THR:OG1	1.91	1.03
1:C:50:THR:C	2:D:333:ILE:HD12	1.83	1.03
2:D:18:PHE:CE1	2:D:49:GLN:OE1	2.10	1.03
21:LR:146:LYS:HD3	46:1:2092:A:OP1	1.59	1.02
2:B:1:MET:HB3	2:D:523:ARG:HH12	1.08	1.02
30:La:117:ARG:NH2	46:1:718:G:OP1	1.91	1.01
46:1:1760:A:C3'	2:D:34:ASN:ND2	2.23	1.01
2:D:18:PHE:CD1	2:D:49:GLN:CD	2.38	1.01
42:Lm:112:LYS:NZ	46:1:3107:U:OP1	1.93	1.01
46:1:1760:A:H2'	2:D:34:ASN:ND2	1.66	1.01
2:B:1:MET:CB	2:D:523:ARG:HH12	1.74	1.00
1:C:44:PHE:CZ	2:D:230:LEU:HD12	1.97	1.00
1:C:50:THR:HG21	2:D:334:ASP:OD1	1.63	0.99
1:C:50:THR:HA	2:D:333:ILE:CG1	1.93	0.99
1:C:50:THR:N	2:D:333:ILE:CG2	2.25	0.98
9:LE:8:LYS:NZ	46:1:1353:U:O2'	1.97	0.98
2:D:18:PHE:HE1	2:D:22:TYR:OH	1.40	0.98
46:1:1237:G:H1	46:1:1251:A:N6	1.60	0.98
46:1:1761:C:O5'	2:D:34:ASN:CB	2.11	0.98
1:C:63:MET:HE3	2:D:230:LEU:HG	1.43	0.98
21:LR:143:ILE:HD12	46:1:2092:A:C5'	1.93	0.97
1:A:63:MET:HG2	1:A:100:LEU:HD21	1.46	0.97
2:B:736:LYS:HZ3	46:1:3317:U:P	1.82	0.97
40:Lk:63:LYS:NZ	46:1:1975:C:H4'	1.80	0.97
1:C:50:THR:C	2:D:330:CYS:CA	2.36	0.96
1:C:44:PHE:CZ	2:D:230:LEU:CD1	2.47	0.96
1:C:1:MET:HE3	2:D:333:ILE:HG22	1.46	0.96
2:B:1:MET:HB2	2:D:523:ARG:NH2	1.79	0.96
2:D:18:PHE:HD1	2:D:22:TYR:CE2	1.84	0.95
2:D:18:PHE:CZ	2:D:45:VAL:O	2.19	0.95
1:C:44:PHE:HZ	2:D:230:LEU:HD12	1.30	0.95
1:C:44:PHE:HZ	2:D:230:LEU:CD1	1.80	0.94
46:1:1760:A:O3'	2:D:34:ASN:ND2	2.00	0.93
1:C:42:LEU:HD23	2:D:528:LYS:HZ1	1.30	0.93
2:B:1:MET:CB	2:D:523:ARG:NH1	2.28	0.93
2:B:736:LYS:HZ1	46:1:3317:U:P	1.92	0.93
2:B:787:LEU:CD1	2:B:790:GLN:OE1	2.16	0.93
15:LL:159:VAL:HG22	30:La:124:ILE:HD11	1.49	0.93
1:C:67:THR:CG2	2:D:193:GLN:NE2	2.33	0.92
42:Lm:100:TYR:O	46:1:2895:G:O2'	1.87	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LR:74:ARG:NE	46:1:1942:U:OP2	2.02	0.92
46:1:1565:G:C2	46:1:1575:A:C6	2.58	0.92
1:C:42:LEU:HD21	2:D:528:LYS:HE2	0.94	0.92
1:A:33:PHE:HD2	2:B:516:TYR:CD2	1.88	0.92
21:LR:146:LYS:CD	46:1:2092:A:OP1	2.16	0.92
39:Lj:2:GLY:N	46:1:2138:A:HO2'	1.68	0.92
15:LL:159:VAL:CG2	30:La:124:ILE:HD11	2.00	0.91
30:La:26:ARG:NH1	46:1:938:C:OP2	2.04	0.91
1:C:51:VAL:HG23	2:D:330:CYS:HB3	0.91	0.91
1:C:63:MET:HE3	2:D:230:LEU:CG	2.00	0.91
2:B:787:LEU:HD13	2:B:790:GLN:OE1	1.70	0.91
1:C:50:THR:CB	2:D:333:ILE:HB	1.99	0.91
9:LE:158:TYR:CD1	16:LM:115:PHE:HD1	1.90	0.90
20:LQ:170:ARG:HD2	30:La:57:GLY:HA3	1.54	0.90
1:C:67:THR:HG22	2:D:193:GLN:NE2	1.85	0.90
5:LA:177:LYS:HB2	45:Lp:69:TYR:HE2	1.36	0.90
2:B:1:MET:CB	2:D:523:ARG:HH22	1.84	0.89
46:1:2437:G:H1	46:1:2510:U:H3	1.00	0.89
2:D:8:GLU:O	2:D:12:LEU:HG	1.73	0.89
2:B:1:MET:CB	2:D:523:ARG:NH2	2.36	0.89
46:1:542:G:H1	46:1:549:U:H3	1.15	0.89
1:A:16:ASN:ND2	2:B:474:SER:OG	2.04	0.88
46:1:1761:C:C5'	2:D:34:ASN:HB2	2.04	0.88
46:1:1762:C:N4	2:D:73:GLY:N	2.21	0.87
2:D:10:LEU:HA	2:D:13:VAL:HB	1.56	0.87
46:1:1762:C:H42	2:D:72:THR:HA	1.39	0.87
1:C:1:MET:HE3	1:C:50:THR:HG22	1.52	0.87
9:LE:46:ARG:NH2	46:1:3268:A:OP1	2.08	0.87
46:1:2016:U:H6	46:1:2016:U:H5'	1.38	0.87
1:C:41:ASP:HB2	2:D:528:LYS:HD2	1.55	0.87
2:B:746:PHE:CZ	2:B:793:VAL:HG21	2.08	0.87
13:LI:3:ARG:NH2	46:1:2854:U:OP2	2.06	0.87
1:C:51:VAL:CB	2:D:330:CYS:HB3	2.04	0.87
1:C:51:VAL:N	2:D:330:CYS:HA	1.90	0.86
1:C:41:ASP:CB	2:D:528:LYS:CD	2.53	0.86
1:C:51:VAL:HA	2:D:330:CYS:N	1.90	0.86
5:LA:21:ARG:HD3	46:1:824:C:H5''	1.58	0.86
46:1:3157:U:H5'	46:1:3158:G:H5'	1.56	0.86
14:LJ:52:TYR:HA	14:LJ:61:ARG:HG2	1.58	0.86
46:1:1237:G:N1	46:1:1251:A:N6	2.22	0.85
28:LY:12:ARG:NH1	46:1:215:G:OP1	2.09	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LQ:69:ARG:HD2	46:1:784:A:H8	1.41	0.85
2:B:606:LYS:HA	2:B:609:GLU:HG2	1.58	0.85
23:LT:17:ARG:NH1	23:LT:21:LYS:O	2.09	0.85
2:B:1:MET:HB2	2:D:523:ARG:HH22	1.41	0.85
46:1:443:G:N2	46:1:492:C:O2	2.10	0.85
1:C:50:THR:CG2	2:D:333:ILE:HG22	2.07	0.84
1:A:33:PHE:HD2	2:B:516:TYR:HD2	1.25	0.84
41:LL:22:PRO:HG3	46:1:1517:G:OP1	1.77	0.84
46:1:170:G:H1	46:1:248:U:H3	1.24	0.84
30:La:43:ILE:HD12	46:1:2727:A:N1	1.91	0.84
2:B:1:MET:CA	2:D:523:ARG:HH22	1.89	0.84
14:LJ:31:THR:HG22	14:LJ:35:LYS:HZ3	1.42	0.84
44:Lo:15:LYS:HA	44:Lo:18:ARG:HH21	1.43	0.84
41:LL:13:MET:HE2	46:1:1493:G:C4	2.12	0.84
9:LE:167:ASN:CG	46:1:3176:G:N7	2.36	0.84
9:LE:158:TYR:CD1	16:LM:115:PHE:CD1	2.65	0.83
1:A:9:PRO:CB	2:B:535:MET:HE2	2.07	0.83
1:A:20:LEU:HD11	2:B:475:LEU:HD11	1.59	0.83
1:C:51:VAL:HA	2:D:330:CYS:CA	2.08	0.83
24:LU:42:LYS:NZ	46:1:1686:U:OP1	2.09	0.83
1:C:41:ASP:HB2	2:D:528:LYS:CD	2.08	0.83
1:C:1:MET:HE3	2:D:333:ILE:CG2	2.08	0.83
1:C:51:VAL:HG22	2:D:330:CYS:HB3	0.84	0.83
9:LE:47:PHE:HZ	46:1:3268:A:H4'	1.43	0.83
23:LT:23:GLY:N	46:1:2701:U:OP1	2.11	0.82
15:LL:28:GLN:NE2	46:1:684:G:OP2	2.11	0.82
20:LQ:69:ARG:HH22	46:1:720:A:H3'	1.43	0.82
2:B:482:ARG:HH22	2:B:610:TYR:HB2	1.43	0.82
3:C4:6:C:OP2	8:LD:22:ARG:NH2	2.13	0.82
17:LN:106:VAL:HG11	17:LN:132:VAL:HG21	1.62	0.81
21:LR:139:VAL:CG1	46:1:2093:A:H5''	2.11	0.81
8:LD:44:TYR:CE2	46:1:1084:A:H4'	2.16	0.81
30:La:23:GLY:N	46:1:1114:U:OP1	2.12	0.81
2:D:594:LEU:HB2	2:D:598:PHE:CE1	2.16	0.81
46:1:443:G:N1	46:1:492:C:N3	2.28	0.81
1:A:7:PHE:O	2:B:528:LYS:NZ	2.12	0.80
3:C4:45:A:OP1	8:LD:151:GLN:NE2	2.13	0.80
36:Lg:74:ARG:NH2	46:1:1639:C:OP2	2.14	0.80
1:C:50:THR:CG2	2:D:334:ASP:CA	2.58	0.80
30:La:22:ILE:HG21	46:1:1115:G:OP1	1.82	0.80
9:LE:158:TYR:CE1	16:LM:115:PHE:HD1	1.98	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LR:143:ILE:HD12	46:1:2092:A:P	2.22	0.80
2:D:397:SER:HB3	2:D:431:TYR:OH	1.81	0.80
2:D:361:LEU:HD13	2:D:398:SER:HB2	1.64	0.80
46:1:1958:U:O2	46:1:2083:G:O6	2.01	0.79
30:La:32:ARG:HH11	46:1:799:G:P	2.06	0.79
1:C:50:THR:HG23	2:D:333:ILE:HG22	1.65	0.79
46:1:411:U:H2'	46:1:412:G:H8	1.48	0.79
3:C4:50:U:O2'	8:LD:221:GLU:O	2.01	0.79
1:C:48:GLU:OE1	2:D:296:ARG:CZ	2.31	0.79
1:C:50:THR:HG21	2:D:334:ASP:CA	2.13	0.79
1:C:67:THR:CG2	2:D:193:GLN:CD	2.56	0.79
1:C:42:LEU:CG	2:D:528:LYS:HE2	2.13	0.78
30:La:6:THR:HG23	46:1:794:U:OP1	1.83	0.78
1:C:50:THR:C	2:D:333:ILE:HB	2.05	0.78
3:C4:1:G:O3'	8:LD:273:ARG:NH1	2.15	0.78
28:LY:55:GLU:HB3	28:LY:108:LYS:HB3	1.65	0.78
1:C:49:MET:C	2:D:333:ILE:CG2	2.49	0.78
2:B:785:SER:O	2:B:789:ILE:HG12	1.82	0.78
15:LL:159:VAL:HG22	30:La:124:ILE:CD1	2.13	0.78
46:1:1805:C:H2'	46:1:1806:A:H8	1.49	0.78
9:LE:163:PHE:CD1	16:LM:114:ASP:OD2	2.37	0.77
15:LL:63:VAL:HB	46:1:72:C:H4'	1.66	0.77
27:LX:72:ALA:HB1	27:LX:83:VAL:HG21	1.65	0.77
1:C:51:VAL:HG23	2:D:330:CYS:HB2	1.60	0.77
19:LP:139:TYR:CZ	46:1:2355:G:H4'	2.17	0.77
30:La:6:THR:HG22	30:La:8:THR:H	1.47	0.77
30:La:16:SER:HB2	46:1:1370:G:OP1	1.85	0.77
1:C:51:VAL:CA	2:D:330:CYS:HA	2.14	0.77
16:LM:133:LYS:NZ	46:1:3227:A:O2'	2.18	0.77
1:A:33:PHE:HA	1:A:36:MET:HE2	1.66	0.77
2:B:751:LYS:HE2	2:B:755:GLN:HE22	1.48	0.77
10:LF:94:LYS:NZ	46:1:1156:C:OP2	2.17	0.77
7:LC:193:LYS:HZ2	46:1:1419:A:H5''	1.50	0.77
33:Ld:10:ARG:HH12	46:1:3386:G:H4'	1.50	0.77
2:B:1:MET:CB	2:D:523:ARG:CZ	2.63	0.77
14:LJ:25:GLU:HG2	14:LJ:29:ARG:HH22	1.50	0.77
1:C:42:LEU:CG	2:D:528:LYS:CE	2.62	0.77
46:1:2016:U:H6	46:1:2016:U:C5'	1.97	0.76
1:C:50:THR:O	2:D:330:CYS:C	2.27	0.76
41:Ll:2:ALA:N	46:1:1492:G:N7	2.33	0.76
46:1:1019:G:H1	46:1:1033:U:H3	1.30	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1257:C:H42	46:1:1261:G:H22	0.78	0.76
1:A:30:GLU:HG3	2:B:516:TYR:CE2	2.21	0.76
9:LE:167:ASN:OD1	46:1:3176:G:C8	2.38	0.76
1:A:90:ILE:HG13	1:A:92:LEU:HD23	1.68	0.76
46:1:1762:C:C5	2:D:74:ASP:HB2	2.21	0.76
46:1:3192:U:H3	46:1:3200:G:H1	1.33	0.76
2:D:18:PHE:CD1	2:D:22:TYR:CE2	2.72	0.76
2:D:361:LEU:HG	2:D:384:PHE:CG	2.20	0.76
3:C4:7:G:OP1	8:LD:33:ARG:HD2	1.85	0.76
1:C:67:THR:HG21	2:D:193:GLN:CD	2.11	0.76
1:A:6:PRO:CA	2:B:230:LEU:HD11	2.16	0.76
7:LC:299:ILE:HD11	20:LQ:39:ARG:HB3	1.68	0.76
46:1:2842:U:OP1	46:1:2844:C:N4	2.18	0.76
46:1:2255:A:H5'	46:1:2261:G:H22	1.51	0.75
19:LP:139:TYR:CE1	46:1:2355:G:H4'	2.20	0.75
46:1:1951:C:O2	46:1:2095:G:N2	2.18	0.75
1:C:44:PHE:CZ	2:D:230:LEU:HD13	2.20	0.75
9:LE:167:ASN:OD1	46:1:3176:G:C5	2.39	0.75
1:C:1:MET:CE	2:D:333:ILE:HG22	2.16	0.75
2:B:163:GLN:HG2	2:B:581:GLN:HE21	1.52	0.74
5:LA:177:LYS:HB2	45:Lp:69:TYR:CE2	2.20	0.74
21:LR:143:ILE:CD1	46:1:2092:A:P	2.75	0.74
2:B:698:GLN:HB3	2:B:701:MET:HB2	1.70	0.74
25:LV:81:GLN:O	25:LV:98:ASN:ND2	2.20	0.74
1:A:33:PHE:CD2	2:B:516:TYR:HD2	2.06	0.74
46:1:2008:G:N3	46:1:2008:G:H2'	2.02	0.74
1:C:1:MET:CE	2:D:333:ILE:CG2	2.65	0.74
1:C:63:MET:HG2	2:D:230:LEU:HD12	1.68	0.74
46:1:1352:A:H4'	46:1:1353:U:H5'	1.69	0.74
45:Lp:39:CYS:CB	45:Lp:42:CYS:SG	2.75	0.74
23:LT:43:LYS:HA	23:LT:58:GLN:HE22	1.53	0.74
30:La:21:ARG:HG2	46:1:1369:A:H4'	1.67	0.74
46:1:1955:U:O4	46:1:1956:A:N6	2.20	0.74
2:D:7:GLU:O	2:D:11:GLY:N	2.21	0.74
2:B:720:LYS:HE3	33:Ld:5:LYS:H	1.49	0.74
8:LD:95:TRP:HZ3	8:LD:199:ILE:HD13	1.53	0.74
1:A:29:LEU:HD23	2:B:509:SER:HB3	1.70	0.73
15:LL:159:VAL:HG22	30:La:124:ILE:CG1	2.17	0.73
43:Ln:13:LEU:HD12	43:Ln:16:LYS:HE3	1.70	0.73
1:A:6:PRO:N	2:B:230:LEU:CD1	2.51	0.73
2:B:1:MET:HB3	2:D:523:ARG:CZ	2.18	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Le:18:LYS:NZ	34:Le:30:GLU:OE2	2.18	0.73
46:1:544:C:H2'	46:1:547:G:H1	1.52	0.73
1:C:51:VAL:HG22	2:D:330:CYS:SG	2.28	0.73
2:D:12:LEU:HB3	2:D:17:ASN:HB2	1.69	0.73
3:C4:28:C:OP1	14:LJ:137:ARG:NH1	2.20	0.73
22:LS:8:GLN:HB2	22:LS:64:ILE:HD11	1.70	0.73
46:1:297:G:OP2	46:1:297:G:N2	2.21	0.73
46:1:1565:G:N2	46:1:1575:A:C5	2.57	0.73
46:1:3042:U:OP2	46:1:3092:C:N4	2.20	0.73
1:C:42:LEU:CD2	2:D:528:LYS:HE3	2.14	0.73
1:C:51:VAL:HA	2:D:330:CYS:HA	1.70	0.73
36:Lg:41:ARG:HG2	36:Lg:56:THR:HG21	1.68	0.73
1:A:6:PRO:N	2:B:230:LEU:HD12	2.04	0.73
5:LA:80:GLU:OE1	45:Lp:76:ALA:HB2	1.88	0.73
46:1:1762:C:H5	2:D:74:ASP:HB2	1.53	0.73
46:1:1378:U:H2'	46:1:1379:G:H8	1.54	0.72
1:C:51:VAL:CA	2:D:330:CYS:CA	2.67	0.72
2:B:742:CYS:SG	2:B:793:VAL:HG12	2.29	0.72
15:LL:73:ARG:NH2	46:1:110:G:OP2	2.22	0.72
1:A:6:PRO:HG3	2:B:230:LEU:CG	2.15	0.72
2:B:423:LEU:HD11	2:B:768:LEU:HD11	1.70	0.72
3:C4:44:C:O2'	8:LD:152:ARG:HD2	1.89	0.72
13:LI:208:ASN:HA	13:LI:211:ARG:HE	1.53	0.72
23:LT:112:ASN:ND2	46:1:1063:G:O6	2.22	0.72
1:A:26:ASN:O	2:B:469:ASN:ND2	2.23	0.72
46:1:1348:U:O2	46:1:1349:G:N2	2.23	0.72
30:La:64:GLN:HE22	46:1:70:A:H5'	1.52	0.72
2:D:388:LEU:HD21	2:D:397:SER:OG	1.88	0.72
21:LR:143:ILE:HG21	46:1:2092:A:O3'	1.88	0.72
1:C:42:LEU:HD23	2:D:528:LYS:HE3	1.63	0.72
4:C3:67:U:H5''	39:Lj:85:LYS:HG2	1.72	0.72
21:LR:114:LYS:O	21:LR:146:LYS:NZ	2.23	0.72
40:Lk:59:ALA:CB	46:1:1975:C:O2'	2.38	0.71
2:D:18:PHE:CD1	2:D:22:TYR:CZ	2.77	0.71
4:C3:45:C:O3'	41:LI:11:GLN:NE2	2.23	0.71
46:1:1761:C:OP1	2:D:33:PRO:HD2	1.89	0.71
1:C:1:MET:HE3	1:C:50:THR:CG2	2.20	0.71
12:LH:41:ILE:HD13	12:LH:71:VAL:HG21	1.72	0.71
46:1:524:U:O4	46:1:568:G:N1	2.20	0.71
46:1:655:C:H2'	46:1:656:A:H8	1.54	0.71
29:LZ:88:ASP:OD1	29:LZ:121:ARG:NH2	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Li:34:SER:HB2	46:1:264:G:OP1	1.89	0.71
2:B:33:PRO:O	2:B:39:LYS:NZ	2.23	0.71
46:1:1762:C:N4	2:D:72:THR:CA	2.54	0.71
2:B:1:MET:HA	2:D:523:ARG:HH22	1.54	0.71
9:LE:10:TYR:CD2	34:Le:88:HIS:CG	2.79	0.71
13:LI:76:MET:HE2	13:LI:151:GLY:HA3	1.73	0.71
40:Lk:28:ASN:HB2	40:Lk:40:GLN:HB3	1.73	0.71
15:LL:15:ARG:HH12	46:1:96:G:H5'	1.56	0.71
6:LB:284:ARG:HB3	6:LB:323:MET:HE2	1.71	0.70
20:LQ:81:VAL:HB	20:LQ:101:VAL:HG12	1.72	0.70
23:LT:54:HIS:CD2	46:1:2724:U:H4'	2.26	0.70
46:1:664:U:H2'	46:1:665:A:C8	2.24	0.70
46:1:1762:C:C4	2:D:73:GLY:N	2.59	0.70
21:LR:83:GLY:N	46:1:1864:A:OP1	2.22	0.70
21:LR:13:SER:OG	21:LR:38:ARG:NH2	2.24	0.70
46:1:1762:C:H42	2:D:72:THR:CA	2.02	0.70
1:C:41:ASP:C	2:D:528:LYS:HE3	2.16	0.70
46:1:2745:G:N2	46:1:2748:A:OP2	2.24	0.70
1:C:49:MET:O	2:D:333:ILE:HG21	1.88	0.70
2:D:6:GLN:HG2	2:D:10:LEU:HD12	1.73	0.70
2:B:1:MET:CA	2:D:523:ARG:HH12	2.04	0.70
22:LS:137:ARG:NH2	46:1:1214:U:OP2	2.24	0.70
1:A:10:VAL:HG11	2:B:534:GLU:HB3	1.73	0.70
2:B:576:SER:HA	2:B:579:MET:HE3	1.73	0.70
15:LL:128:ARG:NH1	46:1:169:U:H4'	2.06	0.70
20:LQ:21:SER:OG	46:1:673:U:OP1	2.10	0.70
46:1:1951:C:N3	46:1:2095:G:N1	2.34	0.70
46:1:2305:G:N2	46:1:2305:G:OP2	2.24	0.70
1:A:92:LEU:HD13	1:A:95:LYS:HD2	1.73	0.70
46:1:3166:C:H2'	46:1:3167:A:H8	1.54	0.70
20:LQ:66:ARG:NH1	46:1:785:G:OP2	2.24	0.70
1:A:6:PRO:CD	2:B:230:LEU:HD12	2.22	0.70
46:1:1015:U:O4	46:1:1035:G:N1	2.14	0.70
6:LB:282:ILE:HD13	6:LB:322:ILE:HG23	1.74	0.69
8:LD:34:LYS:HG3	8:LD:35:ARG:HD3	1.74	0.69
41:LI:13:MET:HE1	46:1:1493:G:C8	2.27	0.69
2:B:769:LEU:HD23	2:B:772:LEU:HD12	1.73	0.69
46:1:289:A:H2'	46:1:290:G:H8	1.57	0.69
19:LP:108:ASP:OD2	19:LP:111:LYS:NZ	2.21	0.69
1:A:20:LEU:HD12	2:B:471:GLN:OE1	1.92	0.69
5:LA:37:ARG:NH1	46:1:2526:C:OP1	2.24	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:LL:174:ARG:HG3	38:Li:9:ILE:CD1	2.18	0.69
7:LC:156:LEU:HD12	7:LC:159:ILE:HD12	1.74	0.69
12:LH:113:GLU:OE2	12:LH:115:ARG:NE	2.23	0.69
46:1:312:C:H2'	46:1:313:A:H8	1.58	0.69
46:1:2427:U:H3	46:1:2602:G:H1	1.37	0.69
46:1:3358:U:H2'	46:1:3359:A:H8	1.57	0.69
14:LJ:132:ASN:HA	14:LJ:154:THR:HG21	1.75	0.69
42:Lm:112:LYS:NZ	46:1:3107:U:P	2.65	0.69
46:1:86:G:N2	46:1:99:A:OP2	2.19	0.69
1:A:101:GLU:HG3	1:A:171:MET:HE1	1.75	0.68
2:B:719:LEU:HD22	2:B:722:ILE:HG12	1.73	0.68
46:1:1253:U:N3	46:1:1264:G:OP1	2.25	0.68
46:1:1762:C:H41	2:D:72:THR:HG1	1.40	0.68
46:1:1951:C:C2	46:1:2096:A:C2	2.82	0.68
8:LD:85:ARG:NH2	8:LD:86:TYR:OH	2.25	0.68
12:LH:173:ARG:NH1	42:Lm:125:LYS:O	2.26	0.68
46:1:2221:G:N2	46:1:2224:A:OP2	2.25	0.68
1:A:8:GLU:CD	2:B:231:TYR:HH	1.92	0.68
46:1:2514:U:OP2	46:1:2586:G:N2	2.27	0.68
46:1:3016:A:H2'	46:1:3017:A:H8	1.57	0.68
2:D:18:PHE:CD1	2:D:22:TYR:OH	2.41	0.68
20:LQ:89:ASP:OD1	20:LQ:90:ASP:N	2.27	0.68
2:D:388:LEU:CD2	2:D:397:SER:OG	2.40	0.68
5:LA:54:ARG:NH2	46:1:2176:U:OP1	2.26	0.68
17:LN:90:ASN:ND2	46:1:2424:A:OP1	2.27	0.68
32:Lc:9:SER:O	32:Lc:13:LYS:NZ	2.20	0.68
46:1:1661:G:H2'	46:1:1662:G:C8	2.28	0.68
1:A:30:GLU:HG3	2:B:516:TYR:HE2	1.55	0.68
3:C4:1:G:H4'	8:LD:273:ARG:NH2	2.09	0.68
15:LL:114:GLN:HB2	15:LL:117:LYS:NZ	2.09	0.68
30:La:2:PRO:HD3	46:1:792:G:H5''	1.74	0.68
1:C:67:THR:HG22	2:D:193:GLN:HE21	1.56	0.68
1:A:42:LEU:HD13	1:A:65:ALA:HB3	1.75	0.68
8:LD:43:LYS:HD3	46:1:1077:U:O3'	1.94	0.68
14:LJ:32:ARG:HA	14:LJ:35:LYS:HE2	1.75	0.68
23:LT:49:GLN:HA	23:LT:52:MET:HE2	1.76	0.68
1:C:50:THR:CA	2:D:333:ILE:CD1	2.71	0.68
11:LG:81:THR:HG21	11:LG:181:LYS:HG3	1.76	0.68
46:1:170:G:N2	46:1:248:U:O2	2.24	0.68
46:1:1565:G:N2	46:1:1575:A:C6	2.62	0.68
46:1:3163:A:N6	46:1:3288:G:O6	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:287:TRP:O	2:B:291:ASN:ND2	2.25	0.67
36:Lg:81:CYS:HB3	36:Lg:84:CYS:SG	2.33	0.67
1:C:50:THR:OG1	2:D:330:CYS:HB2	1.94	0.67
35:Lf:49:ILE:HD11	35:Lf:71:VAL:HG13	1.76	0.67
44:Lo:69:VAL:HG22	44:Lo:84:THR:HG22	1.77	0.67
46:1:2568:C:O2'	46:1:2569:A:O4'	2.11	0.67
1:A:6:PRO:HA	2:B:230:LEU:HD11	1.76	0.67
2:B:322:LEU:HD13	2:B:351:MET:HE3	1.77	0.67
17:LN:2:GLY:N	46:1:117:U:OP2	2.28	0.67
9:LE:176:PHE:HA	16:LM:113:THR:OG1	1.95	0.67
14:LJ:65:ILE:HD11	46:1:2681:U:H5'	1.76	0.67
46:1:2185:G:O2'	46:1:2314:U:OP2	2.12	0.67
7:LC:361:HIS:O	22:LS:28:ARG:NH1	2.28	0.67
23:LT:10:ARG:NH2	46:1:2641:U:OP2	2.27	0.67
14:LJ:22:SER:OG	46:1:2675:C:N4	2.28	0.67
27:LX:63:ILE:HD11	27:LX:102:LEU:HD12	1.77	0.67
35:Lf:10:LYS:NZ	46:1:3175:U:OP1	2.23	0.67
2:D:18:PHE:HD1	2:D:22:TYR:HE2	1.41	0.67
2:B:787:LEU:HD11	2:B:790:GLN:OE1	1.95	0.66
17:LN:201:ARG:NH2	46:1:692:A:OP1	2.27	0.66
6:LB:187:SER:O	6:LB:190:GLU:N	2.26	0.66
6:LB:244:ARG:NH2	46:1:2948:C:OP1	2.22	0.66
30:La:32:ARG:NH1	46:1:799:G:OP1	2.28	0.66
46:1:2137:U:OP2	46:1:2142:A:N6	2.25	0.66
1:C:50:THR:C	2:D:333:ILE:CD1	2.65	0.66
13:LI:153:ARG:NH1	13:LI:157:TYR:OH	2.29	0.66
46:1:1762:C:H42	2:D:73:GLY:H	1.40	0.66
46:1:1838:G:H5''	46:1:1839:A:H5'	1.75	0.66
11:LG:249:ARG:HH12	46:1:2512:C:H5''	1.60	0.66
35:Lf:56:SER:O	35:Lf:63:LYS:NZ	2.29	0.66
41:LI:13:MET:CE	46:1:1493:G:C5	2.78	0.66
45:Lp:29:LEU:HD12	45:Lp:69:TYR:HD2	1.60	0.66
46:1:1717:U:H2'	46:1:1718:G:C8	2.31	0.66
2:D:18:PHE:O	2:D:22:TYR:CD2	2.48	0.66
1:A:16:ASN:HD21	2:B:474:SER:CB	2.08	0.66
2:B:124:TYR:HA	2:B:127:MET:HE2	1.76	0.66
13:LI:38:LYS:HD2	13:LI:83:ASP:HB2	1.78	0.66
46:1:1240:A:H61	46:1:1244:A:H5''	1.60	0.66
46:1:2772:C:H4'	46:1:2773:C:H5'	1.78	0.66
3:C4:7:G:OP1	8:LD:33:ARG:NH1	2.29	0.66
45:Lp:4:ARG:NH1	46:1:837:A:OP2	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:542:G:O6	46:1:550:A:N6	2.29	0.66
46:1:2697:A:H2'	46:1:2698:G:H8	1.61	0.66
2:D:18:PHE:CG	2:D:49:GLN:CD	2.73	0.66
5:LA:183:GLY:HA2	46:1:896:A:H5'	1.78	0.66
14:LJ:173:ASP:OD1	14:LJ:174:LYS:N	2.28	0.66
20:LQ:171:LYS:NZ	46:1:89:A:OP2	2.29	0.66
36:Lg:8:ARG:HB2	36:Lg:34:HIS:HE1	1.59	0.66
46:1:282:G:O2'	46:1:283:G:OP2	2.13	0.66
8:LD:122:VAL:O	8:LD:248:ARG:NH2	2.28	0.66
46:1:358:G:N2	46:1:361:A:OP2	2.29	0.66
46:1:1257:C:N3	46:1:1261:G:N1	2.37	0.66
2:B:722:ILE:O	2:B:728:GLN:NE2	2.29	0.66
10:LF:30:ARG:NH1	46:1:595:G:OP2	2.29	0.66
21:LR:146:LYS:HE2	46:1:2091:U:OP1	1.96	0.66
46:1:2085:U:H2'	46:1:2086:A:C8	2.31	0.66
5:LA:50:HIS:NE2	46:1:1795:U:OP2	2.22	0.66
28:LY:12:ARG:HG3	46:1:215:G:H5''	1.78	0.66
30:La:7:LYS:HE2	46:1:1372:C:OP2	1.96	0.66
30:La:32:ARG:NH1	46:1:799:G:P	2.68	0.66
46:1:1039:U:H2'	46:1:1040:A:H8	1.61	0.66
11:LG:105:LYS:NZ	46:1:123:A:OP1	2.25	0.65
18:LO:56[A]:ASP:OD1	18:LO:60[A]:LYS:NZ	2.29	0.65
31:Lb:19:ASN:ND2	46:1:969:C:OP1	2.25	0.65
46:1:1988:C:O3'	2:D:19:LYS:NZ	2.23	0.65
8:LD:35:ARG:HG2	46:1:2749:G:O2'	1.97	0.65
27:LX:139:ILE:HG22	37:Lh:33:VAL:HG21	1.77	0.65
46:1:158:G:H2'	46:1:159:A:H8	1.61	0.65
46:1:1157:G:O2'	46:1:1169:A:N3	2.30	0.65
6:LB:219:ALA:HB2	6:LB:336:VAL:HG23	1.79	0.65
7:LC:4:PRO:O	7:LC:5:GLN:HG2	1.97	0.65
15:LL:105:ASN:N	38:Li:20:MET:HE1	2.12	0.65
46:1:1279:C:H2'	46:1:1280:C:C6	2.31	0.65
2:D:400:SER:HB3	2:D:431:TYR:OH	1.96	0.65
15:LL:174:ARG:CG	38:Li:9:ILE:HD12	2.23	0.65
29:LZ:17:ARG:NH2	29:LZ:18:TYR:OH	2.30	0.65
31:Lb:33:LYS:NZ	46:1:2721:A:O3'	2.28	0.65
32:Lc:16:LEU:HA	32:Lc:19:LYS:HG2	1.77	0.65
34:Le:47:ARG:HH12	46:1:634:C:H4'	1.60	0.65
46:1:2026:A:H4'	2:D:17:ASN:HA	1.79	0.65
46:1:2369:G:H2'	46:1:2370:G:C8	2.30	0.65
2:B:43:THR:HG21	2:B:60:LEU:HD21	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:542:G:H2'	46:1:543:C:C6	2.31	0.65
2:D:397:SER:CB	2:D:435:ASP:OD2	2.45	0.65
2:B:580:THR:O	2:B:581:GLN:HG3	1.97	0.65
6:LB:306:THR:HG21	6:LB:316:GLU:HG3	1.78	0.65
46:1:518:G:N2	46:1:518:G:OP2	2.27	0.65
46:1:1245:A:N6	46:1:1272:C:O2'	2.30	0.65
2:B:66:LEU:HD12	2:B:67:LYS:HG3	1.79	0.65
4:C3:66:A:OP1	37:Lh:10:ARG:NH2	2.30	0.65
46:1:1661:G:H2'	46:1:1662:G:H8	1.61	0.65
46:1:2046:U:H2'	46:1:2047:A:C4	2.32	0.65
2:D:396:TYR:HE1	2:D:437:HIS:CB	2.10	0.65
46:1:1983:G:H8	46:1:1983:G:O5'	1.80	0.65
46:1:2045:G:H2'	46:1:2046:U:C6	2.32	0.65
46:1:2357:A:H2'	46:1:2358:A:H8	1.62	0.65
2:B:739:ARG:NH2	2:B:796:LEU:OXT	2.30	0.64
12:LH:90:MET:HE3	12:LH:179:ILE:HG22	1.79	0.64
14:LJ:53:THR:HG22	14:LJ:60:ARG:HA	1.79	0.64
46:1:1039:U:H2'	46:1:1040:A:C8	2.32	0.64
46:1:3165:A:H2'	46:1:3166:C:C6	2.32	0.64
1:C:63:MET:CE	2:D:230:LEU:HD11	2.27	0.64
5:LA:95:SER:O	5:LA:100:ASN:ND2	2.27	0.64
5:LA:147:ARG:HG2	5:LA:157:VAL:HG22	1.79	0.64
6:LB:214:MET:SD	6:LB:279:ASN:HA	2.37	0.64
9:LE:10:TYR:CD2	34:Le:88:HIS:CD2	2.85	0.64
12:LH:1:MET:HE3	22:LS:138:GLN:OE1	1.97	0.64
2:D:396:TYR:HE1	2:D:437:HIS:HB3	1.62	0.64
2:B:29:GLN:HE22	2:B:39:LYS:HE3	1.62	0.64
5:LA:36:GLU:OE1	5:LA:163:ARG:NH1	2.29	0.64
13:LI:116:ARG:HH22	46:1:2622:C:H42	1.45	0.64
37:Lh:34:GLN:HB3	37:Lh:38:ARG:HH21	1.62	0.64
2:B:644:LEU:HD12	2:B:647:LEU:HD12	1.78	0.64
45:Lp:46:THR:OG1	45:Lp:57:CYS:SG	2.54	0.64
46:1:1244:A:O2'	46:1:1247:U:OP1	2.14	0.64
46:1:1497:C:H2'	46:1:1498:A:H8	1.62	0.64
14:LJ:49:LYS:HB3	14:LJ:62:ASN:HA	1.78	0.64
41:Ll:13:MET:CE	46:1:1493:G:C4	2.80	0.64
46:1:3204:C:H2'	46:1:3205:G:C8	2.33	0.64
1:A:30:GLU:CG	2:B:516:TYR:OH	2.45	0.64
6:LB:76:VAL:HG12	6:LB:325:LYS:HA	1.80	0.64
13:LI:103:LEU:O	13:LI:112:GLN:NE2	2.31	0.64
23:LT:88:ARG:HB2	46:1:2722:U:H4'	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1799:A:H2'	46:1:1800:A:H8	1.63	0.64
46:1:2344:U:H2'	46:1:2345:A:H8	1.63	0.64
10:LF:121:LYS:NZ	10:LF:125:GLU:OE2	2.30	0.64
40:Lk:59:ALA:HB3	46:1:1975:C:O2'	1.98	0.64
5:LA:68:LYS:HD3	5:LA:70:ARG:HE	1.62	0.64
8:LD:34:LYS:HA	23:LT:27:LEU:HD11	1.79	0.64
11:LG:44:ARG:HD2	46:1:2524:A:C2	2.33	0.64
42:Lm:98:LYS:NZ	46:1:2835:U:OP1	2.31	0.64
1:C:42:LEU:N	2:D:528:LYS:HE3	2.13	0.64
4:C3:13:A:O2'	19:LP:121:GLN:O	2.15	0.64
7:LC:22:LEU:HD22	7:LC:26:PHE:HD2	1.61	0.64
36:Lg:11:ASN:O	36:Lg:18:ASN:ND2	2.31	0.64
2:B:720:LYS:O	2:B:723:LYS:NZ	2.25	0.63
8:LD:34:LYS:O	8:LD:38:THR:OG1	2.15	0.63
25:LV:104:ASN:OD1	25:LV:108:GLU:N	2.31	0.63
46:1:1563:C:H2'	46:1:1564:U:C6	2.33	0.63
2:D:361:LEU:HG	2:D:384:PHE:CB	2.29	0.63
10:LF:234:GLU:O	10:LF:237:ASN:ND2	2.31	0.63
12:LH:62:ARG:NH2	46:1:3115:C:OP1	2.31	0.63
16:LM:48:GLY:HA3	16:LM:53:VAL:HB	1.80	0.63
40:Lk:63:LYS:HZ2	46:1:1975:C:C3'	2.11	0.63
46:1:1178:G:N3	46:1:1328:C:O2'	2.31	0.63
7:LC:286:VAL:HG11	20:LQ:31:LYS:HE2	1.78	0.63
21:LR:92:GLN:O	21:LR:96:ILE:HG12	1.98	0.63
29:LZ:103:GLN:NE2	29:LZ:106:GLN:OE1	2.32	0.63
29:LZ:105:SER:O	29:LZ:108:GLU:HG3	1.97	0.63
40:Lk:63:LYS:NZ	46:1:1975:C:C4'	2.59	0.63
1:C:63:MET:HE3	2:D:230:LEU:CD1	2.29	0.63
1:C:63:MET:HG2	2:D:230:LEU:CD1	2.27	0.63
2:B:720:LYS:CE	33:Ld:5:LYS:H	2.10	0.63
6:LB:19:ARG:NH2	46:1:3045:G:OP1	2.30	0.63
40:Lk:63:LYS:NZ	46:1:1975:C:O3'	2.29	0.63
46:1:760:G:O2'	46:1:770:G:N2	2.31	0.63
46:1:1565:G:C2	46:1:1575:A:N6	2.67	0.63
46:1:2429:G:H2'	46:1:2430:A:H8	1.64	0.63
31:Lb:22:LYS:HA	31:Lb:22:LYS:HE3	1.80	0.63
34:Le:54:LYS:NZ	46:1:1161:G:O3'	2.30	0.63
46:1:656:A:H2'	46:1:657:A:H8	1.64	0.63
1:C:48:GLU:HG3	2:D:296:ARG:HH11	1.61	0.63
5:LA:117:GLU:HG2	5:LA:124:GLY:H	1.63	0.63
25:LV:10:LYS:NZ	25:LV:56:ASP:OD1	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:Ll:22:PRO:HG2	46:1:1517:G:H5''	1.80	0.63
11:LG:95:ASN:OD1	11:LG:98:ARG:NH2	2.31	0.63
14:LJ:82:ARG:HB3	14:LJ:112:LEU:HD13	1.79	0.63
18:LO:115[A]:LYS:HD2	46:1:3178:A:H2'	1.81	0.63
46:1:2697:A:H2'	46:1:2698:G:C8	2.34	0.63
46:1:3344:A:N6	46:1:3361:G:O2'	2.32	0.63
1:C:67:THR:HG22	2:D:193:GLN:CD	2.21	0.63
6:LB:303:LYS:NZ	6:LB:371:GLN:OE1	2.30	0.63
9:LE:2:THR:N	46:1:1387:G:HO2'	1.97	0.63
14:LJ:92:ARG:HD2	14:LJ:172:LEU:HG	1.80	0.63
21:LR:126:GLU:HG3	21:LR:132:PHE:HE2	1.64	0.63
22:LS:96:ASP:OD1	22:LS:97:VAL:N	2.30	0.63
39:Lj:12:HIS:O	46:1:1490:A:O2'	2.16	0.63
46:1:1762:C:N4	2:D:72:THR:HA	2.09	0.63
6:LB:95:THR:HG22	46:1:3243:A:H4'	1.80	0.63
14:LJ:155:THR:OG1	14:LJ:158:ASP:OD2	2.17	0.63
42:Lm:112:LYS:HZ1	46:1:3107:U:P	2.16	0.63
46:1:591:G:N2	46:1:612:U:OP1	2.30	0.63
5:LA:69:TYR:OH	46:1:2557:A:OP1	2.15	0.62
14:LJ:32:ARG:HB2	14:LJ:120:ILE:HG23	1.80	0.62
1:C:42:LEU:CG	2:D:528:LYS:HE3	2.28	0.62
1:A:33:PHE:CD2	2:B:516:TYR:CD2	2.79	0.62
9:LE:3:ALA:HB1	34:Le:75:LEU:HD23	1.80	0.62
46:1:494:G:H1	46:1:619:A:H2	1.47	0.62
46:1:1084:A:H2'	46:1:1085:A:C8	2.34	0.62
2:D:591:PHE:HB3	2:D:598:PHE:HD2	1.62	0.62
21:LR:5:ARG:NH1	46:1:1471:U:OP1	2.32	0.62
26:LW:6:ASP:OD2	26:LW:9:SER:N	2.24	0.62
35:Lf:16:TYR:OH	35:Lf:89:LEU:O	2.16	0.62
46:1:493:U:H3'	46:1:494:G:H8	1.63	0.62
6:LB:66:LYS:NZ	25:LV:9:THR:OG1	2.32	0.62
16:LM:19:ARG:HG2	16:LM:65:LEU:HD11	1.82	0.62
22:LS:130:GLU:OE1	22:LS:131:LYS:HD3	2.00	0.62
41:Ll:36:ARG:HA	41:Ll:36:ARG:NH1	2.14	0.62
46:1:1261:G:O2'	46:1:1278:A:N1	2.26	0.62
17:LN:190:THR:O	17:LN:194:GLN:HG2	2.00	0.62
22:LS:22:PRO:O	23:LT:146:ASN:ND2	2.24	0.62
41:Ll:13:MET:HE1	46:1:1493:G:N7	2.14	0.62
46:1:2005:G:H22	2:D:739:ARG:NH1	1.97	0.62
2:B:456:PRO:CD	2:B:789:ILE:HD11	2.30	0.62
16:LM:13:ARG:NH1	16:LM:65:LEU:O	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:655:C:H2'	46:1:656:A:C8	2.34	0.62
46:1:1119:C:H2'	46:1:1120:A:H8	1.64	0.62
46:1:2882:U:H2'	46:1:2883:U:C6	2.35	0.62
46:1:3016:A:H2'	46:1:3017:A:C8	2.35	0.62
3:C4:107:C:H2'	3:C4:108:A:H8	1.64	0.62
32:Lc:43:ILE:HB	32:Lc:90:VAL:HG22	1.82	0.62
34:Le:98:HIS:O	34:Le:125:ARG:NH1	2.32	0.62
46:1:700:C:H2'	46:1:701:G:H8	1.65	0.62
46:1:2883:U:H2'	46:1:2884:C:H6	1.65	0.62
3:C4:22:A:C8	8:LD:272:TYR:CE2	2.88	0.62
41:Ll:36:ARG:HA	41:Ll:36:ARG:HH11	1.65	0.62
46:1:2160:G:H2'	46:1:2161:G:H8	1.63	0.62
2:D:18:PHE:HD1	2:D:22:TYR:CZ	2.17	0.62
46:1:649:A:OP2	46:1:2868:U:O2'	2.18	0.62
1:C:50:THR:HG21	2:D:334:ASP:CB	2.30	0.62
2:D:361:LEU:HD22	2:D:398:SER:HB3	1.81	0.62
2:B:794:ARG:HH22	46:1:3153:U:H2'	1.65	0.61
15:LL:11:LYS:HD3	46:1:86:G:O2'	2.00	0.61
32:Lc:14:LEU:O	32:Lc:18:ILE:HG12	2.00	0.61
3:C4:1:G:H4'	8:LD:273:ARG:CZ	2.31	0.61
9:LE:158:TYR:CE1	16:LM:115:PHE:HA	2.34	0.61
15:LL:171:ARG:NH2	46:1:713:U:OP1	2.33	0.61
46:1:3121:U:H1'	46:1:3122:A:H5''	1.81	0.61
46:1:3233:C:H2'	46:1:3234:A:C8	2.35	0.61
7:LC:282:SER:OG	20:LQ:125:ASP:OD2	2.09	0.61
12:LH:6:THR:HG21	12:LH:65:VAL:HG13	1.82	0.61
25:LV:45:ARG:NE	46:1:3043:C:OP1	2.34	0.61
3:C4:112:G:H2'	3:C4:113:C:C6	2.35	0.61
7:LC:74:ILE:HD12	7:LC:75:PRO:HD2	1.83	0.61
12:LH:180:TYR:HB2	42:Lm:85:LEU:HD21	1.83	0.61
18:LO:27[A]:LEU:O	18:LO:101[A]:ARG:NH1	2.34	0.61
19:LP:131:ARG:HH22	46:1:2356:A:H2	1.48	0.61
29:LZ:101:PHE:O	29:LZ:102:GLU:HG2	2.00	0.61
2:B:585:PHE:HD2	2:B:615:GLU:HG3	1.66	0.61
2:B:736:LYS:NZ	46:1:3317:U:OP1	2.34	0.61
7:LC:193:LYS:HA	7:LC:198:ARG:HA	1.83	0.61
20:LQ:116:LYS:NZ	30:La:88:ASP:OD2	2.33	0.61
1:C:50:THR:CB	2:D:330:CYS:O	2.29	0.61
2:B:624:ARG:HB2	2:B:668:PHE:CE1	2.36	0.61
10:LF:206:LYS:NZ	46:1:1334:U:OP1	2.28	0.61
21:LR:98:ARG:NH2	21:LR:132:PHE:O	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:656:A:H2'	46:1:657:A:C8	2.35	0.61
1:A:64:MET:HE2	1:A:80:ALA:HB3	1.82	0.61
30:La:2:PRO:HD2	46:1:792:G:H4'	1.83	0.61
46:1:1762:C:C5	2:D:74:ASP:N	2.68	0.61
46:1:2351:U:H2'	46:1:2352:A:H8	1.66	0.61
46:1:2960:C:H2'	46:1:2961:G:H8	1.65	0.61
46:1:3252:G:H2'	46:1:3253:G:C8	2.36	0.61
1:C:44:PHE:CE1	2:D:230:LEU:HD13	2.35	0.61
16:LM:109:ARG:HG2	18:LO:199[A]:TYR:HE1	1.66	0.61
35:Lf:19:SER:OG	46:1:1330:A:OP1	2.17	0.61
36:Lg:6:THR:HG22	46:1:1486:G:H21	1.64	0.61
46:1:1302:A:N7	46:1:2857:C:O2'	2.34	0.61
1:C:41:ASP:C	2:D:528:LYS:HZ2	2.08	0.61
46:1:1381:A:H2'	46:1:1382:G:H8	1.65	0.60
1:C:41:ASP:HB3	2:D:528:LYS:CD	2.14	0.60
1:C:48:GLU:OE1	2:D:296:ARG:NH2	2.34	0.60
1:C:51:VAL:N	2:D:333:ILE:HD12	2.16	0.60
13:LI:13:LYS:NZ	46:1:1129:A:OP1	2.24	0.60
41:LI:27:ILE:O	41:LI:33:ASN:ND2	2.34	0.60
1:C:50:THR:HG22	2:D:334:ASP:CA	2.21	0.60
4:C3:71:A:O2'	28:LY:52:ARG:NH2	2.34	0.60
24:LU:74:LYS:NZ	46:1:1678:G:O6	2.35	0.60
24:LU:35:LYS:HA	24:LU:38:ILE:HG12	1.81	0.60
25:LV:28:ASN:ND2	25:LV:112:SER:OG	2.29	0.60
27:LX:121:LYS:NZ	46:1:1522:U:OP2	2.34	0.60
46:1:2016:U:C5'	46:1:2016:U:C6	2.84	0.60
46:1:3322:A:H2'	46:1:3323:A:C8	2.36	0.60
2:D:361:LEU:CD1	2:D:384:PHE:HB3	2.31	0.60
2:B:279:LYS:O	2:B:309:TYR:OH	2.18	0.60
12:LH:90:MET:HB3	12:LH:144:ILE:HG23	1.82	0.60
22:LS:65:ASN:O	46:1:519:A:N6	2.30	0.60
35:Lf:21:ARG:O	46:1:633:C:O2'	2.18	0.60
46:1:835:G:O2'	46:1:857:G:N2	2.31	0.60
46:1:3182:G:H2'	46:1:3183:A:C8	2.37	0.60
2:B:540:MET:O	2:B:546:TRP:NE1	2.34	0.60
10:LF:44:ILE:HD12	10:LF:180:SER:HB3	1.83	0.60
12:LH:124:ARG:NH1	12:LH:164:ILE:O	2.33	0.60
46:1:2527:G:H2'	46:1:2528:G:H8	1.67	0.60
46:1:3281:U:H2'	46:1:3282:U:C6	2.35	0.60
2:D:591:PHE:CD1	2:D:598:PHE:CE2	2.89	0.60
13:LI:76:MET:HE1	13:LI:148:VAL:HA	1.81	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LM:55:ARG:NH2	16:LM:76:ALA:O	2.34	0.60
18:LO:110[A]:PRO:O	18:LO:112[A]:TYR:N	2.33	0.60
21:LR:146:LYS:HD2	46:1:2092:A:OP1	2.00	0.60
46:1:1277:C:O2'	46:1:1278:A:O5'	2.19	0.60
46:1:1635:G:N2	46:1:1638:A:OP2	2.29	0.60
46:1:1778:G:O2'	46:1:1780:G:OP2	2.19	0.60
1:C:42:LEU:HD21	2:D:528:LYS:CE	1.90	0.60
9:LE:158:TYR:HB2	16:LM:115:PHE:HE1	1.67	0.60
11:LG:97:TYR:HE2	11:LG:203:VAL:HG23	1.66	0.60
18:LO:77[A]:SER:N	18:LO:106[A]:GLU:OE2	2.31	0.60
40:Lk:59:ALA:HB1	46:1:1975:C:O2'	2.02	0.60
46:1:2960:C:H2'	46:1:2961:G:C8	2.37	0.60
46:1:2964:G:N2	46:1:2967:A:OP2	2.26	0.60
2:B:532:MET:HG2	2:B:535:MET:HE3	1.84	0.60
26:LW:22:VAL:HG22	26:LW:28:ILE:HG22	1.83	0.60
46:1:503:C:H2'	46:1:504:A:H8	1.66	0.60
46:1:1029:G:H2'	46:1:1030:A:H8	1.65	0.60
46:1:2768:U:H2'	46:1:2769:A:H8	1.66	0.60
17:LN:113:LEU:HB2	17:LN:134:LEU:HD12	1.84	0.60
29:LZ:54:THR:HG23	29:LZ:56:LYS:H	1.67	0.60
46:1:346:C:N4	46:1:349:A:OP2	2.32	0.60
46:1:1152:G:N2	46:1:1152:G:OP2	2.34	0.60
46:1:1203:A:H2'	46:1:1204:A:H8	1.67	0.60
1:C:42:LEU:HG	2:D:528:LYS:HE3	1.83	0.60
15:LL:66:ASN:ND2	46:1:73:C:C5	2.70	0.59
41:Ll:13:MET:HE1	46:1:1493:G:C5	2.37	0.59
46:1:2043:U:O4	46:1:2045:G:N1	2.35	0.59
2:D:17:ASN:O	2:D:21:CYS:SG	2.60	0.59
8:LD:108:ARG:HG2	8:LD:112:LYS:HZ1	1.66	0.59
15:LL:159:VAL:HG23	30:La:124:ILE:HD11	1.84	0.59
17:LN:116:LEU:O	17:LN:117:ASN:ND2	2.35	0.59
30:La:7:LYS:NZ	46:1:1373:A:OP2	2.34	0.59
40:Lk:62:ALA:O	40:Lk:66:ILE:HG12	2.01	0.59
46:1:2129:U:H2'	46:1:2130:G:C8	2.37	0.59
2:B:746:PHE:CE1	2:B:793:VAL:HG21	2.37	0.59
7:LC:54:GLU:OE2	46:1:329:U:N3	2.35	0.59
12:LH:176:LEU:HD12	42:Lm:86:ALA:CB	2.33	0.59
46:1:1108:U:H2'	46:1:1109:U:C6	2.38	0.59
1:C:50:THR:CA	2:D:333:ILE:HD12	2.30	0.59
1:A:6:PRO:HD3	2:B:230:LEU:HD12	1.84	0.59
7:LC:59:GLN:OE1	39:Lj:55:ARG:NH2	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LS:81:TYR:CE1	22:LS:90:MET:HE3	2.38	0.59
28:LY:86:THR:HG22	28:LY:96:PRO:HA	1.84	0.59
1:C:50:THR:HG21	2:D:334:ASP:HA	1.85	0.59
2:B:529:ILE:O	2:B:533:LEU:N	2.33	0.59
46:1:1472:U:H2'	46:1:1473:G:H8	1.68	0.59
46:1:3164:C:O2'	46:1:3165:A:H8	1.85	0.59
1:C:50:THR:CG2	2:D:334:ASP:CG	2.66	0.59
4:C3:40:A:OP2	4:C3:103:G:N1	2.34	0.59
20:LQ:67:ILE:HD12	20:LQ:81:VAL:HG11	1.85	0.59
28:LY:74:TYR:HD2	28:LY:77:LYS:HB2	1.68	0.59
30:La:102:ILE:HB	30:La:125:VAL:HG12	1.84	0.59
36:Lg:96:GLU:O	36:Lg:100:ILE:HD12	2.03	0.59
46:1:307:A:H2'	46:1:308:A:H8	1.67	0.59
46:1:725:G:O6	46:1:746:A:N6	2.36	0.59
46:1:1562:C:H2'	46:1:1563:C:C6	2.37	0.59
1:A:6:PRO:O	1:A:45:LYS:NZ	2.35	0.59
1:A:9:PRO:HB3	2:B:535:MET:CE	2.21	0.59
35:Lf:42:GLN:NE2	35:Lf:45:LEU:HD12	2.18	0.59
46:1:1280:C:H2'	46:1:1281:G:H8	1.66	0.59
6:LB:206:ASP:OD2	6:LB:287:LYS:NZ	2.26	0.59
17:LN:147:ARG:NE	46:1:113:C:OP1	2.35	0.59
18:LO:75[A]:ALA:HB3	18:LO:78[A]:ARG:HG2	1.84	0.59
46:1:415:G:H2'	46:1:416:A:H8	1.67	0.59
46:1:3343:G:O2'	46:1:3362:A:N6	2.36	0.59
1:C:50:THR:CG2	2:D:334:ASP:HA	2.33	0.59
3:C4:84:A:H2'	3:C4:85:G:C8	2.38	0.59
15:LL:13:HIS:HB2	46:1:86:G:O6	2.02	0.59
20:LQ:94:PHE:CZ	30:La:79:TRP:CD1	2.91	0.59
23:LT:54:HIS:NE2	46:1:2724:U:H4'	2.17	0.59
34:Le:89:THR:HG22	34:Le:117:ILE:HD13	1.85	0.59
35:Lf:37:THR:OG1	35:Lf:39:GLN:OE1	2.20	0.59
42:Lm:114:LYS:NZ	46:1:3107:U:OP1	2.34	0.59
46:1:627:U:H2'	46:1:628:A:C8	2.37	0.59
46:1:1762:C:N4	2:D:72:THR:CB	2.66	0.59
46:1:1983:G:H8	46:1:1983:G:C5'	2.16	0.59
46:1:1993:G:O6	46:1:2028:U:O4	2.20	0.59
2:D:18:PHE:CD2	2:D:49:GLN:CG	2.81	0.59
4:C3:142:C:H2'	4:C3:143:U:C6	2.38	0.58
6:LB:20:LYS:NZ	6:LB:21:ARG:O	2.36	0.58
13:LI:30:LYS:NZ	46:1:2852:C:O3'	2.36	0.58
20:LQ:8:LYS:NZ	46:1:971:G:OP1	2.30	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LR:110:ARG:NH1	46:1:1719:G:OP1	2.36	0.58
36:Lg:87:GLU:OE1	36:Lg:91:ARG:NH1	2.36	0.58
46:1:1243:G:O2'	46:1:1271:A:O2'	2.16	0.58
46:1:2437:G:N2	46:1:2510:U:O2	2.27	0.58
5:LA:204:MET:HE2	46:1:914:A:N1	2.17	0.58
7:LC:299:ILE:CD1	20:LQ:39:ARG:HB3	2.33	0.58
8:LD:184:ASP:OD2	8:LD:187:THR:OG1	2.13	0.58
15:LL:114:GLN:O	15:LL:117:LYS:HG2	2.03	0.58
16:LM:109:ARG:NH1	46:1:3210:A:OP1	2.28	0.58
18:LO:25[A]:LYS:NZ	46:1:1178:G:OP2	2.33	0.58
46:1:2417:U:H1'	46:1:2966:G:H21	1.68	0.58
5:LA:149:ARG:NH1	5:LA:153:GLY:O	2.36	0.58
14:LJ:115:LYS:HD2	14:LJ:116:TYR:H	1.68	0.58
46:1:440:A:N7	46:1:441:U:O2'	2.36	0.58
46:1:508:U:H3	46:1:583:G:H1	1.51	0.58
46:1:1411:C:H2'	46:1:1412:G:H8	1.68	0.58
46:1:1493:G:N2	46:1:1493:G:OP2	2.36	0.58
2:B:720:LYS:CE	33:Ld:5:LYS:N	2.58	0.58
3:C4:2:G:H5'	8:LD:273:ARG:HD3	1.83	0.58
5:LA:52:SER:HB3	5:LA:191:LEU:HD23	1.85	0.58
9:LE:22:ARG:CZ	46:1:608:A:C6	2.86	0.58
34:Le:99:ASN:O	46:1:1388:U:O2'	2.21	0.58
45:Lp:39:CYS:HB3	45:Lp:42:CYS:SG	2.43	0.58
2:B:457:ASP:OD1	2:B:458:ALA:N	2.35	0.58
6:LB:57:VAL:HG22	6:LB:73:VAL:HG22	1.86	0.58
26:LW:46:PRO:HB2	26:LW:54:LEU:HD23	1.84	0.58
46:1:242:C:HO2'	46:1:243:G:H8	1.51	0.58
46:1:1404:G:N2	46:1:1407:A:OP2	2.31	0.58
46:1:1762:C:H41	2:D:72:THR:CB	2.16	0.58
46:1:2727:A:OP2	46:1:2728:G:N2	2.35	0.58
46:1:2945:G:O2'	46:1:2948:C:OP2	2.21	0.58
16:LM:47:ASP:HB2	16:LM:55:ARG:HG3	1.86	0.58
17:LN:99:ARG:NH2	17:LN:118:SER:O	2.36	0.58
18:LO:148[A]:LYS:NZ	46:1:3006:A:OP2	2.33	0.58
27:LX:63:ILE:HG22	27:LX:86:VAL:HG12	1.85	0.58
30:La:39:HIS:O	30:La:42:ARG:N	2.37	0.58
34:Le:47:ARG:NH1	46:1:634:C:O2'	2.37	0.58
46:1:200:C:H41	46:1:217:U:H2'	1.68	0.58
46:1:1581:C:C4	46:1:1582:C:H1'	2.38	0.58
6:LB:368:GLY:O	26:LW:17:ARG:NH2	2.37	0.58
46:1:1965:C:N4	46:1:2059:U:O2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:874:U:N3	46:1:2978:U:OP1	2.28	0.58
46:1:2883:U:H2'	46:1:2884:C:C6	2.38	0.58
2:B:777:GLU:CD	2:B:778:ASN:H	2.12	0.58
6:LB:35:ASP:OD2	6:LB:37:ARG:NH1	2.37	0.58
7:LC:359:LEU:HA	22:LS:8:GLN:NE2	2.19	0.58
20:LQ:56:LYS:NZ	46:1:674:G:O6	2.36	0.58
46:1:567:G:H2'	46:1:568:G:C8	2.38	0.58
46:1:1132:C:H2'	46:1:1133:A:H8	1.68	0.58
46:1:2218:G:H2'	46:1:2219:A:H8	1.67	0.58
2:D:18:PHE:CD2	2:D:49:GLN:HG3	2.37	0.58
16:LM:40:ASP:OD1	16:LM:41:GLN:N	2.34	0.58
20:LQ:19:PRO:HB3	20:LQ:53:PHE:HA	1.86	0.58
14:LJ:141:ARG:O	14:LJ:145:LYS:NZ	2.29	0.57
16:LM:35:ILE:HA	16:LM:46:ILE:HG22	1.85	0.57
21:LR:62:ARG:HH22	46:1:3067:C:H3'	1.69	0.57
35:Lf:14:LEU:HD11	35:Lf:31:LYS:HB2	1.86	0.57
2:B:712:THR:HG23	2:B:713:LEU:HD22	1.86	0.57
3:C4:23:A:H2'	3:C4:24:A:C8	2.39	0.57
8:LD:94:ASN:OD1	8:LD:97:ALA:N	2.31	0.57
42:Lm:122:ARG:NH2	46:1:2896:A:O2'	2.37	0.57
46:1:806:A:N3	46:1:2812:C:O2'	2.36	0.57
1:C:50:THR:HB	2:D:330:CYS:C	2.24	0.57
2:B:768:LEU:O	2:B:772:LEU:N	2.27	0.57
7:LC:207:VAL:HB	7:LC:227:THR:HG22	1.85	0.57
46:1:243:G:H2'	46:1:244:G:H8	1.68	0.57
6:LB:59:ASP:HB2	6:LB:357:LYS:HE2	1.87	0.57
46:1:307:A:H2'	46:1:308:A:C8	2.40	0.57
46:1:1194:G:H2'	46:1:1195:A:C8	2.40	0.57
46:1:1340:G:H2'	46:1:1341:U:C6	2.39	0.57
8:LD:226:TYR:HA	8:LD:231:ILE:HD13	1.86	0.57
11:LG:128:LYS:NZ	11:LG:202:GLU:OE1	2.25	0.57
18:LO:12[A]:LYS:NZ	46:1:3184:A:OP2	2.27	0.57
46:1:1798:A:H2'	46:1:1799:A:C8	2.40	0.57
46:1:2222:A:H2'	46:1:2223:A:C8	2.40	0.57
1:A:6:PRO:CD	2:B:230:LEU:CD1	2.82	0.57
2:B:303:LEU:HD21	2:B:318:LEU:HD13	1.87	0.57
17:LN:183:THR:HG22	17:LN:187:ARG:HB2	1.87	0.57
22:LS:161:LYS:NZ	46:1:3209:A:OP2	2.32	0.57
46:1:417:A:H2'	46:1:418:A:C8	2.39	0.57
46:1:2429:G:H2'	46:1:2430:A:C8	2.39	0.57
2:B:15:ARG:HG3	2:B:17:ASN:HB2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LA:220:GLY:O	46:1:2245:C:O2'	2.21	0.57
46:1:612:U:H2'	46:1:613:G:H8	1.70	0.57
46:1:1616:U:H2'	46:1:1617:G:H8	1.69	0.57
5:LA:70:ARG:HH12	5:LA:72:ARG:CZ	2.18	0.57
14:LJ:115:LYS:HD2	14:LJ:116:TYR:N	2.19	0.57
19:LP:64:ASN:O	19:LP:80:LYS:NZ	2.27	0.57
46:1:900:G:H1'	46:1:1589:A:N6	2.19	0.57
46:1:2129:U:H2'	46:1:2130:G:H8	1.70	0.57
1:A:6:PRO:N	2:B:230:LEU:HD11	2.18	0.57
14:LJ:19:LEU:HD22	14:LJ:125:MET:HE2	1.84	0.57
25:LV:94:TYR:OH	26:LW:41:LYS:NZ	2.28	0.57
46:1:1762:C:H42	2:D:73:GLY:N	2.00	0.57
6:LB:78:VAL:HG22	6:LB:323:MET:HG3	1.87	0.57
15:LL:62:THR:O	15:LL:65:TYR:N	2.27	0.57
15:LL:183:ARG:HD3	46:1:765:C:N3	2.20	0.57
20:LQ:5:HIS:CE1	20:LQ:9:GLN:HE21	2.23	0.57
29:LZ:95:VAL:O	29:LZ:100:THR:OG1	2.19	0.57
46:1:1203:A:H2'	46:1:1204:A:C8	2.39	0.57
46:1:1799:A:H2'	46:1:1800:A:C8	2.39	0.57
46:1:1959:G:O6	46:1:2082:U:O2	2.22	0.57
4:C3:8:C:H2'	4:C3:9:A:H8	1.70	0.56
5:LA:9:ARG:NH2	46:1:912:G:OP2	2.37	0.56
11:LG:158:ASP:OD1	11:LG:159:PRO:HD3	2.05	0.56
19:LP:127:ARG:HD3	46:1:1505:C:OP1	2.04	0.56
24:LU:37:LEU:O	24:LU:41:ILE:HG12	2.04	0.56
27:LX:103:TYR:HE2	27:LX:139:ILE:HG12	1.70	0.56
46:1:1154:A:H5''	46:1:1155:C:H5	1.69	0.56
46:1:1596:C:H2'	46:1:1597:C:C6	2.39	0.56
46:1:2661:G:H2'	46:1:2662:G:H8	1.70	0.56
46:1:3166:C:H2'	46:1:3167:A:C8	2.37	0.56
46:1:3203:U:H2'	46:1:3204:C:C6	2.39	0.56
46:1:3251:U:H2'	46:1:3252:G:C8	2.40	0.56
1:C:42:LEU:CD2	2:D:528:LYS:HZ1	2.10	0.56
1:C:50:THR:HA	2:D:333:ILE:HB	0.57	0.56
2:B:720:LYS:HE3	33:Ld:4:LEU:C	2.30	0.56
7:LC:293:SER:O	7:LC:297:SER:N	2.36	0.56
9:LE:46:ARG:CZ	46:1:3268:A:OP1	2.53	0.56
29:LZ:57:HIS:HB3	29:LZ:61:LYS:HB2	1.87	0.56
46:1:595:G:H1	46:1:609:G:H5''	1.69	0.56
46:1:1569:U:H5'	46:1:1570:U:H5''	1.86	0.56
46:1:2005:G:H22	2:D:739:ARG:CZ	2.18	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1:MET:SD	2:D:333:ILE:CG2	2.93	0.56
4:C3:130:C:H2'	4:C3:131:A:H8	1.70	0.56
8:LD:129:TYR:OH	8:LD:175:HIS:O	2.19	0.56
11:LG:143:ILE:HD11	11:LG:151:VAL:HG11	1.86	0.56
11:LG:171:LYS:NZ	11:LG:223:ALA:O	2.36	0.56
14:LJ:53:THR:HG23	14:LJ:61:ARG:HG3	1.86	0.56
17:LN:85:THR:OG1	46:1:44:U:OP1	2.22	0.56
21:LR:146:LYS:HE2	46:1:2091:U:H5''	1.86	0.56
23:LT:54:HIS:CE1	23:LT:55:LYS:HG2	2.40	0.56
33:Ld:13:THR:OG1	33:Ld:72:ARG:NH1	2.35	0.56
35:Lf:51:TYR:HB3	35:Lf:67:MET:HB2	1.87	0.56
43:Ln:23:ARG:NH2	46:1:2278:C:OP1	2.39	0.56
46:1:584:G:H2'	46:1:585:A:H8	1.70	0.56
46:1:1110:U:H2'	46:1:1111:U:C6	2.40	0.56
46:1:1340:G:H2'	46:1:1341:U:H6	1.70	0.56
46:1:1909:A:H2'	46:1:1910:A:C8	2.40	0.56
46:1:2106:A:H2'	46:1:2107:A:C8	2.41	0.56
46:1:2356:A:H61	46:1:2983:C:H5	1.54	0.56
46:1:2441:A:H2'	46:1:2442:G:H8	1.70	0.56
46:1:2930:A:H2'	46:1:2931:C:C6	2.41	0.56
1:C:50:THR:CG2	2:D:333:ILE:CG2	2.80	0.56
4:C3:27:U:H2'	4:C3:28:C:H6	1.70	0.56
7:LC:14:GLU:HG2	7:LC:15:ALA:H	1.70	0.56
7:LC:226:GLU:OE2	7:LC:246:ARG:NH1	2.32	0.56
15:LL:76:THR:O	15:LL:79:GLU:N	2.30	0.56
46:1:20:A:H2'	46:1:21:G:C8	2.41	0.56
46:1:196:G:N1	46:1:199:A:OP2	2.38	0.56
46:1:348:A:N3	46:1:352:A:O2'	2.38	0.56
46:1:1896:A:H61	46:1:2339:C:H42	1.51	0.56
46:1:1945:A:H2'	46:1:1946:A:C8	2.41	0.56
2:B:430:ASN:HD22	2:B:774:VAL:HG13	1.69	0.56
7:LC:220:ARG:NH1	28:LY:4:GLN:CD	2.63	0.56
21:LR:133:LYS:HG3	21:LR:134:HIS:CD2	2.40	0.56
46:1:2193:U:H5'	46:1:2194:G:H5'	1.88	0.56
2:B:561:ASP:O	2:B:563:ARG:NH1	2.39	0.56
15:LL:15:ARG:NH1	46:1:96:G:O3'	2.38	0.56
32:Lc:40:LYS:NZ	32:Lc:93:LEU:O	2.37	0.56
46:1:664:U:H2'	46:1:665:A:H8	1.68	0.56
46:1:1229:G:H2'	46:1:1230:G:C8	2.41	0.56
46:1:2611:U:H2'	46:1:2612:U:C6	2.40	0.56
46:1:2662:G:H2'	46:1:2663:G:H8	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:3160:U:H3	46:1:3290:G:H1	1.54	0.56
16:LM:128:ARG:NH1	46:1:3214:U:OP2	2.36	0.56
38:Li:56:ARG:NH1	46:1:2505:U:OP1	2.39	0.56
46:1:1341:U:H2'	46:1:1342:C:C6	2.40	0.56
46:1:1657:C:N4	46:1:1798:A:OP2	2.32	0.56
46:1:1950:U:O2'	46:1:1951:C:P	2.63	0.56
2:B:746:PHE:HZ	2:B:793:VAL:HG21	1.69	0.56
46:1:54:C:H2'	46:1:55:G:H8	1.70	0.56
46:1:443:G:O6	46:1:492:C:N4	2.39	0.56
46:1:1225:A:H3'	46:1:1226:G:H8	1.70	0.56
1:C:41:ASP:HB2	2:D:528:LYS:CG	2.35	0.56
1:A:63:MET:HE3	1:A:64:MET:C	2.30	0.56
3:C4:15:C:O2'	8:LD:8:LYS:HD2	2.06	0.56
3:C4:67:G:H5'	8:LD:10:SER:HB2	1.88	0.56
8:LD:178:ASN:HA	8:LD:183:TRP:CD2	2.41	0.56
9:LE:52:VAL:HG23	9:LE:67:GLY:HA2	1.88	0.56
14:LJ:19:LEU:HB3	14:LJ:125:MET:HE1	1.87	0.56
22:LS:6:GLU:OE2	22:LS:28:ARG:NH2	2.37	0.56
30:La:84:GLU:OE2	30:La:87:ARG:NH1	2.39	0.56
11:LG:112:GLU:OE2	11:LG:126:SER:HB3	2.05	0.56
11:LG:139:VAL:O	11:LG:143:ILE:HD12	2.05	0.56
13:LI:190:VAL:HG13	13:LI:197:VAL:HG21	1.88	0.56
17:LN:4:TYR:OH	46:1:148:G:OP2	2.19	0.56
17:LN:187:ARG:HH21	17:LN:188:ARG:CZ	2.18	0.56
27:LX:58:ASP:OD1	27:LX:59:SER:N	2.38	0.56
46:1:501:A:H2'	46:1:502:U:C6	2.41	0.56
46:1:3318:G:O2'	46:1:3320:A:OP2	2.24	0.56
2:D:397:SER:HB3	2:D:435:ASP:OD2	2.05	0.56
2:D:397:SER:N	2:D:435:ASP:OD2	2.31	0.56
1:A:151:TYR:OH	1:A:191:HIS:ND1	2.29	0.55
15:LL:165:SER:O	15:LL:167:PHE:N	2.39	0.55
18:LO:61[A]:ALA:HA	18:LO:70[A]:PRO:HD2	1.87	0.55
46:1:2440:G:H2'	46:1:2441:A:C8	2.41	0.55
46:1:3267:A:OP1	46:1:3268:A:N6	2.40	0.55
1:C:50:THR:CA	2:D:333:ILE:CG1	2.70	0.55
2:D:18:PHE:HZ	2:D:45:VAL:O	1.82	0.55
3:C4:19:C:H2'	3:C4:20:A:H8	1.70	0.55
6:LB:60:LEU:HD21	6:LB:62:ARG:HB2	1.89	0.55
12:LH:176:LEU:HD12	42:Lm:86:ALA:HB1	1.88	0.55
15:LL:48:PRO:HG2	37:Lh:115:LYS:HD3	1.88	0.55
24:LU:99:LYS:HG3	24:LU:102:GLU:OE1	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Lo:80:ARG:HE	46:1:2769:A:H5''	1.71	0.55
46:1:1071:U:H3	46:1:1087:G:H1	1.55	0.55
46:1:1571:A:H2'	46:1:1572:U:O4'	2.06	0.55
46:1:2357:A:H2'	46:1:2358:A:C8	2.40	0.55
46:1:2615:G:H2'	46:1:2616:C:H6	1.71	0.55
2:D:13:VAL:HA	2:D:16:SER:HA	1.88	0.55
1:A:30:GLU:HA	2:B:516:TYR:CE2	2.41	0.55
2:B:1:MET:HA	2:D:523:ARG:NH2	2.21	0.55
7:LC:299:ILE:HD11	20:LQ:39:ARG:CB	2.35	0.55
8:LD:278:SER:OG	8:LD:280:GLU:OE1	2.23	0.55
9:LE:47:PHE:CZ	46:1:3268:A:H4'	2.33	0.55
29:LZ:54:THR:HG22	29:LZ:57:HIS:CE1	2.40	0.55
31:Lb:29:TYR:OH	46:1:723:U:O2'	2.21	0.55
46:1:928:C:H2'	46:1:929:A:C8	2.41	0.55
46:1:1615:C:H2'	46:1:1616:U:C6	2.41	0.55
46:1:2915:U:H5''	46:1:2916:U:H5'	1.88	0.55
7:LC:35:VAL:HG21	7:LC:244:LEU:HD21	1.87	0.55
12:LH:36:LYS:HD2	12:LH:74:LEU:HD21	1.88	0.55
13:LI:44:ASP:OD1	13:LI:181:TYR:OH	2.24	0.55
17:LN:3:ALA:HA	17:LN:6:TYR:HD2	1.70	0.55
17:LN:108:ARG:NH2	46:1:1547:G:OP1	2.37	0.55
20:LQ:141:ARG:NH2	46:1:743:C:N3	2.39	0.55
21:LR:139:VAL:HG12	46:1:2093:A:H5''	1.88	0.55
46:1:1827:C:H2'	46:1:1828:A:H8	1.71	0.55
46:1:1956:A:H2'	46:1:1957:G:C8	2.41	0.55
46:1:3348:G:H2'	46:1:3349:C:C6	2.41	0.55
2:B:459:TYR:OH	2:B:493:ASP:OD1	2.24	0.55
21:LR:150:GLN:NE2	21:LR:151:ARG:HG3	2.20	0.55
22:LS:108:GLN:NE2	46:1:1322:U:O2	2.40	0.55
46:1:1597:C:H2'	46:1:1598:G:C8	2.42	0.55
46:1:1621:A:H2'	46:1:1622:U:C6	2.41	0.55
1:A:78:ILE:HB	1:A:116:LEU:HB3	1.87	0.55
7:LC:11:LEU:HD21	7:LC:156:LEU:HB2	1.89	0.55
16:LM:42:LYS:CD	46:1:1185:C:H5''	2.37	0.55
17:LN:179:LYS:O	46:1:286:U:O2'	2.25	0.55
38:Li:70:ARG:HD3	38:Li:84:LYS:HG2	1.88	0.55
40:Lk:2:ALA:N	40:Lk:51:LEU:O	2.39	0.55
45:Lp:41:PHE:HD2	45:Lp:62:LYS:HG3	1.71	0.55
46:1:2527:G:H2'	46:1:2528:G:C8	2.41	0.55
46:1:3183:A:H2'	46:1:3184:A:C8	2.41	0.55
4:C3:103:G:OP2	4:C3:105:A:O2'	2.23	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LH:184:LYS:NZ	46:1:3111:U:OP1	2.40	0.55
46:1:1983:G:C5'	46:1:1983:G:C8	2.90	0.55
4:C3:26:U:H2'	4:C3:27:U:C6	2.42	0.55
6:LB:95:THR:OG1	6:LB:98:GLY:O	2.22	0.55
9:LE:9:TRP:NE1	46:1:1353:U:C4	2.75	0.55
22:LS:154:HIS:ND1	46:1:3186:A:OP1	2.36	0.55
36:Lg:31:ARG:NH2	46:1:1598:G:OP2	2.40	0.55
46:1:2366:C:H2'	46:1:2367:A:H8	1.72	0.55
2:D:384:PHE:HB2	2:D:399:CYS:SG	2.46	0.55
6:LB:250:ALA:HB3	46:1:2880:U:O2	2.07	0.55
8:LD:140:ARG:NH2	46:1:1080:A:P	2.80	0.55
25:LV:57:MET:HE3	25:LV:126:TRP:CH2	2.42	0.55
30:La:113:LEU:HB3	46:1:715:A:OP2	2.07	0.55
35:Lf:6:ARG:NH1	35:Lf:8:TYR:O	2.37	0.55
36:Lg:47:CYS:HB3	36:Lg:84:CYS:SG	2.46	0.55
46:1:449:U:O2'	46:1:450:G:N2	2.39	0.55
46:1:2250:G:O6	46:1:2267:C:N4	2.39	0.55
46:1:3298:C:C2	46:1:3299:A:C8	2.95	0.55
1:C:51:VAL:HG13	2:D:329:PRO:HB2	1.89	0.55
1:A:10:VAL:CG1	2:B:534:GLU:HB3	2.36	0.55
2:B:624:ARG:HB2	2:B:668:PHE:HE1	1.71	0.55
13:LI:82:ARG:NH2	13:LI:83:ASP:HB3	2.22	0.55
20:LQ:125:ASP:OD1	20:LQ:126:GLN:N	2.40	0.55
22:LS:130:GLU:CD	22:LS:131:LYS:HD3	2.32	0.55
26:LW:45:ASN:HB3	26:LW:48:ARG:HG2	1.89	0.55
46:1:207:U:H2'	46:1:208:C:H6	1.72	0.55
46:1:1814:A:H4'	46:1:1815:U:H5'	1.89	0.55
46:1:2107:A:H2	46:1:3344:A:H8	1.53	0.55
46:1:3295:A:H2'	46:1:3296:A:C8	2.42	0.55
8:LD:236:LEU:HD12	8:LD:239:ILE:HD11	1.88	0.54
9:LE:163:PHE:CE1	16:LM:114:ASP:OD2	2.60	0.54
16:LM:77:ARG:NH2	46:1:524:U:OP1	2.36	0.54
17:LN:192:LYS:O	17:LN:196:THR:OG1	2.21	0.54
20:LQ:67:ILE:HD13	20:LQ:140:LEU:HD12	1.88	0.54
29:LZ:103:GLN:N	29:LZ:103:GLN:OE1	2.40	0.54
36:Lg:8:ARG:HB2	36:Lg:34:HIS:CE1	2.41	0.54
46:1:760:G:N2	46:1:770:G:N3	2.55	0.54
46:1:1341:U:H2'	46:1:1342:C:H6	1.71	0.54
46:1:1355:A:H4'	46:1:1356:U:O5'	2.07	0.54
7:LC:342:LYS:O	46:1:515:C:O2'	2.23	0.54
21:LR:109:TYR:HB3	21:LR:115:ILE:HG12	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:LX:64:GLU:HG2	27:LX:65:GLN:HG2	1.88	0.54
41:Ll:23:LEU:HD12	41:Ll:24:PRO:HD2	1.89	0.54
42:Lm:103:LEU:HD21	42:Lm:110:CYS:HA	1.90	0.54
46:1:1280:C:H2'	46:1:1281:G:C8	2.43	0.54
46:1:1762:C:O2	46:1:1762:C:H2'	2.07	0.54
46:1:1827:C:H2'	46:1:1828:A:C8	2.42	0.54
46:1:3107:U:H2'	46:1:3108:G:C8	2.42	0.54
1:A:7:PHE:CD2	1:A:45:LYS:HB3	2.42	0.54
6:LB:86:VAL:HA	6:LB:162:VAL:HG12	1.89	0.54
14:LJ:110:ILE:HB	14:LJ:115:LYS:O	2.07	0.54
32:Lc:9:SER:O	32:Lc:12:GLN:NE2	2.40	0.54
46:1:1717:U:H2'	46:1:1718:G:H8	1.70	0.54
46:1:1807:G:O2'	46:1:2559:U:O4	2.25	0.54
46:1:2102:U:H2'	46:1:2103:U:C6	2.43	0.54
46:1:2344:U:H2'	46:1:2345:A:C8	2.43	0.54
1:C:51:VAL:CG2	2:D:330:CYS:SG	2.91	0.54
2:D:400:SER:HB3	2:D:431:TYR:CZ	2.42	0.54
2:D:591:PHE:CD1	2:D:598:PHE:HE2	2.25	0.54
4:C3:26:U:H3	46:1:337:G:H1	1.55	0.54
10:LF:88:ARG:HA	10:LF:134:VAL:HG12	1.89	0.54
29:LZ:41:ALA:HB2	29:LZ:77:TYR:HE1	1.73	0.54
2:B:791:LYS:HG2	2:B:794:ARG:HH21	1.71	0.54
7:LC:266:THR:HG23	7:LC:267:VAL:HG13	1.88	0.54
46:1:428:A:H2'	46:1:429:U:C6	2.43	0.54
46:1:708:G:N2	46:1:711:A:OP2	2.37	0.54
46:1:2656:A:C8	46:1:2658:G:C8	2.96	0.54
2:B:299:ARG:HD2	2:B:325:TYR:HE2	1.73	0.54
2:B:729:LYS:NZ	46:1:3317:U:H1'	2.23	0.54
3:C4:71:G:H2'	3:C4:72:A:C8	2.43	0.54
5:LA:40:TYR:HA	5:LA:91:GLY:HA3	1.90	0.54
18:LO:105[A]:PHE:CD2	18:LO:109[A]:PRO:HG3	2.43	0.54
29:LZ:48:ARG:NH2	46:1:1631:C:OP2	2.41	0.54
37:Lh:27:GLU:HA	37:Lh:30:GLU:HG2	1.89	0.54
46:1:1390:A:N6	46:1:1418:A:O2'	2.40	0.54
46:1:2016:U:H5'	46:1:2016:U:C6	2.30	0.54
46:1:2916:U:H2'	46:1:2917:G:H8	1.72	0.54
2:D:8:GLU:O	2:D:12:LEU:CG	2.53	0.54
5:LA:65:ASP:OD2	5:LA:68:LYS:N	2.39	0.54
23:LT:88:ARG:O	46:1:2722:U:O2'	2.24	0.54
46:1:26:A:N3	46:1:328:U:O2'	2.37	0.54
46:1:542:G:O6	46:1:549:U:O4	2.26	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:616:G:H2'	46:1:617:G:C8	2.43	0.54
46:1:1569:U:H5''	46:1:1570:U:C6	2.43	0.54
46:1:1985:G:H3'	46:1:1986:U:H6	1.72	0.54
2:B:299:ARG:HG2	2:B:320:TYR:CE2	2.42	0.54
2:B:517:ILE:HD13	2:B:536:ARG:CZ	2.37	0.54
2:B:589:ARG:NH2	2:B:613:LEU:O	2.32	0.54
4:C3:135:G:P	27:LX:56:ARG:HH22	2.31	0.54
7:LC:119:ARG:NH2	46:1:696:C:OP2	2.34	0.54
9:LE:158:TYR:CE1	16:LM:115:PHE:CD1	2.87	0.54
14:LJ:150:ASN:HA	14:LJ:153:LYS:HD2	1.90	0.54
46:1:1562:C:O2'	46:1:1563:C:O5'	2.26	0.54
46:1:1762:C:C5	2:D:74:ASP:CB	2.90	0.54
46:1:1983:G:H3'	46:1:1984:C:H5''	1.89	0.54
46:1:2430:A:H2'	46:1:2431:C:C6	2.42	0.54
2:B:408:LYS:O	2:B:412:LYS:HG2	2.08	0.54
9:LE:158:TYR:CG	16:LM:115:PHE:CE1	2.96	0.54
11:LG:160:ILE:O	11:LG:164:VAL:HG13	2.08	0.54
12:LH:135:GLU:HB2	12:LH:145:VAL:HB	1.89	0.54
16:LM:124:ARG:NH1	46:1:3214:U:O4	2.41	0.54
20:LQ:173:GLU:OE2	30:La:49:HIS:ND1	2.40	0.54
24:LU:90:ARG:NH1	46:1:1682:U:O4	2.40	0.54
29:LZ:99:GLU:H	29:LZ:99:GLU:CD	2.16	0.54
46:1:221:A:O2'	46:1:223:U:OP2	2.23	0.54
46:1:3110:C:H2'	46:1:3111:U:C6	2.43	0.54
46:1:3154:C:H4'	46:1:3154:C:OP1	2.06	0.54
46:1:3190:C:H2'	46:1:3191:G:H8	1.71	0.54
1:A:29:LEU:HG	1:A:33:PHE:CZ	2.42	0.54
2:B:6:GLN:OE1	2:B:37:TYR:OH	2.22	0.54
2:B:736:LYS:CE	46:1:3317:U:OP2	2.55	0.54
5:LA:70:ARG:HG2	46:1:1650:G:H5''	1.90	0.54
6:LB:292:ALA:HB2	6:LB:302:LYS:HD3	1.89	0.54
16:LM:108:ARG:HH21	18:LO:197[A]:LEU:HD23	1.73	0.54
18:LO:59[A]:ARG:NH2	46:1:1307:G:OP1	2.41	0.54
26:LW:4:GLU:HB2	26:LW:13:ILE:HB	1.90	0.54
29:LZ:22:LYS:H	29:LZ:49:TYR:HH	1.53	0.54
46:1:2106:A:H2'	46:1:2107:A:H8	1.72	0.54
46:1:3184:A:N3	46:1:3187:A:O2'	2.39	0.54
10:LF:40:LYS:NZ	10:LF:170:GLU:OE2	2.37	0.53
19:LP:60:PHE:HB3	19:LP:64:ASN:HB3	1.90	0.53
21:LR:146:LYS:CE	46:1:2091:U:H5''	2.38	0.53
36:Lg:104:VAL:HA	36:Lg:107:GLU:OE2	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:49:MET:CE	2:B:264:TYR:HB3	2.39	0.53
2:B:176:SER:HA	2:B:205:LEU:HD13	1.90	0.53
2:B:462:PHE:CE2	2:B:479:ILE:HB	2.43	0.53
7:LC:126:ILE:O	7:LC:129:THR:OG1	2.20	0.53
7:LC:359:LEU:HA	22:LS:8:GLN:HE22	1.72	0.53
12:LH:136:PHE:HE1	12:LH:144:ILE:HD12	1.73	0.53
46:1:571:U:H2'	46:1:572:A:H8	1.73	0.53
46:1:1339:C:H2'	46:1:1340:G:H8	1.73	0.53
1:A:105:ASP:OD1	1:A:173:ARG:NH1	2.42	0.53
2:B:202:LEU:HB3	2:B:212:ILE:HG23	1.90	0.53
13:LI:7:ARG:NH2	46:1:2828:G:OP2	2.41	0.53
13:LI:63:GLU:HG3	46:1:2853:A:H5'	1.90	0.53
21:LR:105:LEU:HD23	21:LR:138:LEU:HD23	1.91	0.53
22:LS:81:TYR:CE1	22:LS:88:HIS:HB2	2.44	0.53
42:Lm:97:ARG:NH1	42:Lm:121:LEU:O	2.42	0.53
46:1:235:A:H2'	46:1:236:G:H8	1.73	0.53
46:1:394:G:N1	46:1:397:A:OP2	2.41	0.53
46:1:632:G:H2'	46:1:633:C:C6	2.44	0.53
46:1:966:U:H2'	46:1:967:A:C8	2.42	0.53
46:1:1621:A:H2'	46:1:1622:U:H6	1.74	0.53
46:1:1659:U:H2'	46:1:1660:C:C6	2.43	0.53
2:B:471:GLN:HB3	2:B:475:LEU:HD12	1.91	0.53
4:C3:145:U:H2'	4:C3:146:U:C6	2.44	0.53
10:LF:138:TYR:CE2	10:LF:233:GLU:HB2	2.44	0.53
14:LJ:26:SER:OG	14:LJ:27:GLY:N	2.41	0.53
21:LR:134:HIS:CE1	21:LR:136:ARG:HB3	2.43	0.53
33:Ld:55:LEU:HB2	33:Ld:95:PRO:HD3	1.89	0.53
46:1:1178:G:N2	46:1:1329:U:O4'	2.41	0.53
46:1:1553:U:H4'	46:1:1554:U:H5'	1.90	0.53
46:1:2116:G:OP1	46:1:2118:C:N4	2.41	0.53
46:1:3065:G:H2'	46:1:3066:U:C6	2.44	0.53
1:C:41:ASP:C	2:D:528:LYS:CE	2.81	0.53
2:D:391:LYS:HE2	2:D:397:SER:HB2	1.91	0.53
4:C3:95:G:O2'	39:Lj:81:GLY:O	2.25	0.53
9:LE:9:TRP:CD1	46:1:1353:U:N3	2.77	0.53
18:LO:21[A]:SER:OG	46:1:1181:U:O4	2.22	0.53
28:LY:51:ARG:HG2	28:LY:52:ARG:H	1.74	0.53
40:Lk:36:LYS:NZ	40:Lk:37:PRO:O	2.40	0.53
46:1:3358:U:H2'	46:1:3359:A:C8	2.41	0.53
4:C3:28:C:H2'	4:C3:29:U:H6	1.74	0.53
11:LG:51:LYS:HA	46:1:2523:A:N7	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1560:G:N2	46:1:1579:C:O2	2.29	0.53
46:1:1760:A:O2'	2:D:34:ASN:ND2	2.24	0.53
2:B:2:SER:HB2	2:B:76:ARG:HH11	1.74	0.53
4:C3:39:G:H1'	4:C3:104:A:N6	2.24	0.53
5:LA:101:VAL:O	5:LA:101:VAL:HG12	2.09	0.53
14:LJ:29:ARG:HA	14:LJ:32:ARG:HD3	1.89	0.53
17:LN:155:VAL:O	17:LN:162:ARG:NH2	2.40	0.53
25:LV:70:ARG:NH1	25:LV:70:ARG:HB2	2.23	0.53
26:LW:8:PHE:HE2	26:LW:39:LEU:HB2	1.74	0.53
46:1:1134:G:O2'	46:1:2642:A:N3	2.36	0.53
46:1:2085:U:H2'	46:1:2086:A:H8	1.73	0.53
46:1:2615:G:H2'	46:1:2616:C:C6	2.44	0.53
46:1:2676:A:H5'	46:1:2677:G:C8	2.44	0.53
1:C:1:MET:SD	2:D:333:ILE:HG23	2.49	0.53
2:D:757:TYR:CD1	2:D:779:VAL:HG22	2.43	0.53
30:La:64:GLN:OE1	46:1:71:A:OP1	2.27	0.53
34:Le:76:VAL:HG23	34:Le:81:ASP:HB2	1.91	0.53
35:Lf:54:ARG:HD3	46:1:3279:A:N6	2.24	0.53
46:1:551:A:O2'	46:1:552:G:H8	1.92	0.53
46:1:2744:U:H2'	46:1:2745:G:C8	2.43	0.53
9:LE:13:GLU:OE1	34:Le:90:LYS:HG3	2.09	0.53
46:1:65:A:H1'	46:1:77:A:H1'	1.89	0.53
46:1:707:U:OP1	46:1:780:A:O2'	2.21	0.53
46:1:1616:U:H2'	46:1:1617:G:C8	2.44	0.53
46:1:2015:C:O2	46:1:2015:C:O2'	2.09	0.53
6:LB:45:SER:OG	6:LB:46:PHE:N	2.42	0.53
6:LB:298:PHE:CD2	6:LB:357:LYS:HG2	2.44	0.53
9:LE:52:VAL:HG22	9:LE:53:VAL:H	1.74	0.53
9:LE:172:HIS:CD2	9:LE:173:MET:HG3	2.44	0.53
11:LG:140:VAL:HG21	17:LN:3:ALA:HB2	1.90	0.53
11:LG:209:ALA:HB1	11:LG:213:LYS:HZ3	1.74	0.53
37:Lh:93:THR:N	37:Lh:96:GLU:OE2	2.27	0.53
39:Lj:52:LYS:NZ	46:1:364:G:OP2	2.32	0.53
46:1:616:G:H2'	46:1:617:G:H8	1.74	0.53
46:1:759:U:H2'	46:1:760:G:O4'	2.09	0.53
46:1:1786:G:H2'	46:1:1787:A:C8	2.44	0.53
46:1:2747:A:H2'	46:1:2748:A:C8	2.44	0.53
2:B:381:TYR:O	2:B:385:LYS:N	2.41	0.52
3:C4:4:U:H2'	3:C4:5:G:C8	2.45	0.52
3:C4:4:U:H2'	3:C4:5:G:H8	1.74	0.52
30:La:112:ILE:HB	30:La:130:VAL:HG23	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Lc:10:ILE:HA	32:Lc:13:LYS:HE2	1.90	0.52
33:Ld:65:LYS:HE2	46:1:3076:C:OP1	2.07	0.52
35:Lf:42:GLN:HE22	35:Lf:45:LEU:HD12	1.74	0.52
44:Lo:26:THR:HA	44:Lo:93:LEU:HD11	1.89	0.52
46:1:1119:C:H2'	46:1:1120:A:C8	2.44	0.52
46:1:1650:G:H2'	46:1:1651:U:C6	2.44	0.52
46:1:3201:C:H2'	46:1:3202:G:H8	1.74	0.52
46:1:3231:U:H2'	46:1:3232:G:H8	1.73	0.52
46:1:3232:G:C6	46:1:3256:G:C6	2.97	0.52
46:1:3371:G:H2'	46:1:3372:A:H8	1.74	0.52
2:B:211:GLU:OE2	2:B:212:ILE:HG12	2.10	0.52
2:B:456:PRO:HD3	2:B:789:ILE:HD11	1.91	0.52
5:LA:168:VAL:HG21	45:Lp:79:VAL:HG21	1.92	0.52
9:LE:175:LYS:O	16:LM:113:THR:HA	2.09	0.52
19:LP:69:ARG:NH2	46:1:2991:A:C2	2.78	0.52
20:LQ:91:ALA:HB1	30:La:80:THR:HG22	1.89	0.52
20:LQ:179:ARG:HH22	46:1:709:A:P	2.32	0.52
22:LS:75:PHE:HA	22:LS:128:GLU:HA	1.91	0.52
27:LX:50:ALA:HB1	37:Lh:66:VAL:HG11	1.91	0.52
37:Lh:93:THR:OG1	46:1:135:C:O2	2.27	0.52
46:1:3107:U:H2'	46:1:3108:G:H8	1.74	0.52
46:1:3228:C:H4'	46:1:3229:G:O5'	2.07	0.52
4:C3:139:U:H2'	4:C3:140:G:H8	1.74	0.52
22:LS:2:ALA:HA	46:1:1324:U:H5'	1.91	0.52
27:LX:111:ASN:HB2	27:LX:123:TYR:HB2	1.90	0.52
46:1:1460:A:H2'	46:1:1461:A:H8	1.75	0.52
46:1:1660:C:H2'	46:1:1661:G:H8	1.75	0.52
46:1:3349:C:H2'	46:1:3350:C:C6	2.44	0.52
1:A:30:GLU:HG2	2:B:516:TYR:OH	2.10	0.52
1:A:134:TYR:CG	1:A:169:LYS:HB2	2.44	0.52
2:B:794:ARG:NH1	2:B:794:ARG:CB	2.73	0.52
7:LC:98:ARG:NH2	46:1:804:C:OP1	2.43	0.52
9:LE:22:ARG:NH1	46:1:608:A:C4	2.78	0.52
11:LG:44:ARG:HD2	46:1:2524:A:N1	2.24	0.52
12:LH:10:ILE:HD11	12:LH:72:LYS:HG2	1.90	0.52
12:LH:91:ARG:HD2	12:LH:143:GLU:HB3	1.92	0.52
20:LQ:69:ARG:HD2	46:1:784:A:C8	2.32	0.52
23:LT:18:ASP:HB3	23:LT:21:LYS:HB2	1.90	0.52
25:LV:43:GLY:HA3	46:1:3041:U:O2'	2.10	0.52
35:Lf:58:GLU:HB2	35:Lf:63:LYS:HZ1	1.75	0.52
41:Ll:2:ALA:N	46:1:1491:A:C5	2.77	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:661:G:OP2	46:1:661:G:N2	2.32	0.52
46:1:952:A:H4'	46:1:968:G:N2	2.25	0.52
46:1:970:A:H2'	46:1:971:G:C8	2.45	0.52
46:1:3116:G:OP1	46:1:3116:G:N2	2.42	0.52
46:1:3322:A:H2'	46:1:3323:A:H8	1.73	0.52
1:A:29:LEU:CD2	2:B:509:SER:HB3	2.39	0.52
3:C4:19:C:H2'	3:C4:20:A:C8	2.45	0.52
19:LP:56:ARG:NH2	19:LP:75:GLU:OE2	2.38	0.52
19:LP:67:ILE:HD11	19:LP:80:LYS:HB3	1.91	0.52
22:LS:42:TRP:O	22:LS:46:GLN:HG2	2.09	0.52
46:1:2295:A:N3	46:1:2929:C:O2'	2.36	0.52
46:1:3064:U:H2'	46:1:3065:G:H8	1.74	0.52
1:C:51:VAL:HA	2:D:329:PRO:C	2.35	0.52
4:C3:67:U:H2'	4:C3:68:G:H8	1.74	0.52
5:LA:168:VAL:CG2	45:Lp:79:VAL:HG21	2.39	0.52
9:LE:54:TYR:CE1	9:LE:63:LEU:HB3	2.43	0.52
16:LM:25:LYS:HE3	16:LM:62:GLN:HG2	1.92	0.52
17:LN:122:ASN:OD1	17:LN:123:GLN:N	2.41	0.52
23:LT:112:ASN:OD1	23:LT:128:LEU:HD22	2.10	0.52
33:Ld:75:ILE:HG12	33:Ld:93:VAL:HG22	1.91	0.52
41:Ll:2:ALA:N	46:1:1491:A:N7	2.58	0.52
46:1:631:U:H2'	46:1:632:G:C8	2.45	0.52
46:1:640:U:H2'	46:1:641:C:C6	2.44	0.52
46:1:1237:G:N2	46:1:1251:A:N1	2.54	0.52
46:1:2057:G:N2	46:1:2058:G:O6	2.34	0.52
7:LC:6:VAL:N	7:LC:20:LEU:O	2.42	0.52
7:LC:181:VAL:HG11	7:LC:224:GLY:HA3	1.90	0.52
21:LR:126:GLU:HG3	21:LR:132:PHE:CE2	2.43	0.52
23:LT:80:VAL:HB	23:LT:85:LEU:HD23	1.92	0.52
23:LT:90:ASN:HD22	46:1:2736:A:H1'	1.75	0.52
24:LU:32:SER:HA	24:LU:35:LYS:HG2	1.92	0.52
46:1:431:U:H2'	46:1:432:G:H8	1.75	0.52
46:1:1109:U:H2'	46:1:1110:U:C6	2.44	0.52
46:1:1290:A:H2'	46:1:1291:A:C8	2.45	0.52
46:1:2223:A:H2'	46:1:2224:A:C8	2.44	0.52
46:1:2495:C:H2'	46:1:2496:C:C6	2.45	0.52
46:1:3065:G:H2'	46:1:3066:U:H6	1.75	0.52
46:1:3105:U:C2	46:1:3106:A:C8	2.98	0.52
8:LD:140:ARG:HH21	46:1:1080:A:P	2.33	0.52
19:LP:47:TYR:OH	19:LP:57:ALA:O	2.26	0.52
24:LU:75:TYR:CE2	24:LU:79:LEU:HD11	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:LW:47:ARG:NH1	26:LW:47:ARG:HB2	2.25	0.52
34:Le:34:LYS:NZ	34:Le:52:GLN:OE1	2.42	0.52
46:1:2866:U:O2	46:1:2867:C:N4	2.41	0.52
1:C:63:MET:HE2	2:D:230:LEU:HD11	1.91	0.52
2:B:95:LEU:HB3	2:B:126:GLN:HE21	1.73	0.52
3:C4:27:A:H2'	3:C4:28:C:C6	2.45	0.52
5:LA:7:ASN:OD1	5:LA:8:GLN:N	2.42	0.52
16:LM:12:TRP:HB2	22:LS:172:TYR:C	2.35	0.52
43:Ln:16:LYS:HA	43:Ln:19:LYS:HG2	1.92	0.52
46:1:1064:A:H4'	46:1:1065:A:O5'	2.10	0.52
46:1:1666:G:H2'	46:1:1667:A:H8	1.74	0.52
46:1:1696:A:H2'	46:1:1697:A:C8	2.45	0.52
2:B:728:GLN:HA	2:B:731:ILE:HG22	1.91	0.52
7:LC:281:ILE:HD12	20:LQ:29:LEU:HG	1.92	0.52
8:LD:68:THR:OG1	8:LD:71:GLY:O	2.21	0.52
15:LL:56:PRO:HG3	15:LL:74:GLY:O	2.09	0.52
16:LM:20:VAL:O	16:LM:66:THR:OG1	2.26	0.52
21:LR:143:ILE:HD13	46:1:2092:A:P	2.51	0.52
46:1:2542:U:O2'	46:1:2543:U:H5''	2.10	0.52
46:1:2835:U:H2'	46:1:2836:C:O2	2.10	0.52
46:1:3218:A:H5''	46:1:3219:G:C5	2.45	0.52
46:1:3295:A:H2'	46:1:3296:A:H8	1.75	0.52
1:A:11:ASP:HA	1:A:14:LYS:HE2	1.92	0.51
2:B:476:ASP:HB3	2:B:480:PHE:HD2	1.75	0.51
26:LW:34:SER:OG	46:1:3085:G:OP1	2.26	0.51
35:Lf:44:TYR:O	35:Lf:47:LYS:HG2	2.10	0.51
41:Ll:10:LYS:HA	41:Ll:13:MET:HG3	1.92	0.51
46:1:162:G:O6	46:1:260:C:N4	2.42	0.51
46:1:1597:C:H2'	46:1:1598:G:H8	1.74	0.51
46:1:1660:C:H2'	46:1:1661:G:C8	2.44	0.51
46:1:2218:G:H2'	46:1:2219:A:C8	2.44	0.51
20:LQ:175:ALA:O	30:La:51:GLY:HA2	2.11	0.51
29:LZ:15:ARG:HG2	46:1:1637:A:H4'	1.92	0.51
45:Lp:27:LYS:O	45:Lp:31:ILE:HG12	2.10	0.51
46:1:269:G:H22	46:1:294:U:H2'	1.75	0.51
46:1:637:C:C2	46:1:638:C:C5	2.98	0.51
46:1:1003:A:N1	46:1:1049:C:O2'	2.39	0.51
46:1:1288:U:H2'	46:1:1289:G:H8	1.76	0.51
46:1:1562:C:HO2'	46:1:1563:C:C5'	2.22	0.51
46:1:2103:U:H2'	46:1:2104:A:C8	2.45	0.51
46:1:2107:A:H2	46:1:3344:A:C8	2.28	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:124:TYR:CE1	2:B:533:LEU:HD11	2.45	0.51
2:B:491:GLN:NE2	46:1:3154:C:C2	2.79	0.51
4:C3:39:G:H1'	4:C3:104:A:H61	1.75	0.51
10:LF:106:LEU:HD21	10:LF:126:LEU:HD23	1.92	0.51
19:LP:75:GLU:OE2	46:1:3392:U:O2'	2.23	0.51
22:LS:66:GLU:OE2	22:LS:99:ARG:N	2.40	0.51
46:1:792:G:H2'	46:1:793:C:H6	1.75	0.51
46:1:2089:A:O2'	46:1:2090:U:O4'	2.19	0.51
46:1:2579:G:H3'	46:1:2580:A:H8	1.75	0.51
2:B:62:GLU:O	2:B:68:GLY:HA2	2.11	0.51
3:C4:71:G:H2'	3:C4:72:A:H8	1.73	0.51
10:LF:100:ARG:O	10:LF:104:GLN:HG3	2.11	0.51
28:LY:60:ARG:NH2	46:1:190:U:H2'	2.26	0.51
28:LY:92:GLY:HA3	2:D:218:ALA:HB2	1.92	0.51
29:LZ:106:GLN:HA	29:LZ:109:GLU:CD	2.35	0.51
44:Lo:99:GLN:HG2	44:Lo:102:GLN:OE1	2.11	0.51
46:1:159:A:H2'	46:1:160:G:H8	1.75	0.51
46:1:631:U:H2'	46:1:632:G:H8	1.76	0.51
46:1:1920:U:O2'	46:1:1932:A:N7	2.40	0.51
46:1:2986:U:C2	46:1:2987:A:C8	2.99	0.51
46:1:3094:A:H2'	46:1:3095:U:C6	2.46	0.51
46:1:3348:G:H1	46:1:3357:U:H3	1.58	0.51
2:B:746:PHE:CD2	2:B:790:GLN:HB2	2.45	0.51
3:C4:52:G:O2'	3:C4:53:U:OP1	2.25	0.51
11:LG:108:ARG:O	11:LG:112:GLU:HG2	2.10	0.51
17:LN:143:ARG:HB3	37:Lh:96:GLU:OE1	2.10	0.51
25:LV:85:TRP:NE1	25:LV:121:GLU:OE2	2.41	0.51
37:Lh:83:LYS:O	39:Lj:73:ARG:NH2	2.43	0.51
38:Li:67:LYS:O	38:Li:71:LYS:HG2	2.11	0.51
44:Lo:47:GLN:NE2	44:Lo:53:GLN:OE1	2.44	0.51
46:1:129:U:H2'	46:1:130:A:C8	2.46	0.51
46:1:277:G:H2'	46:1:278:U:C6	2.46	0.51
46:1:296:A:H2'	46:1:297:G:C4	2.45	0.51
46:1:627:U:H2'	46:1:628:A:H8	1.75	0.51
46:1:1958:U:C2	46:1:2083:G:O6	2.63	0.51
46:1:3007:U:H2'	46:1:3008:A:C8	2.45	0.51
46:1:3015:G:H2'	46:1:3016:A:H8	1.75	0.51
46:1:3297:U:H2'	46:1:3298:C:H6	1.75	0.51
1:C:49:MET:O	2:D:333:ILE:CG2	2.54	0.51
4:C3:149:A:H2'	4:C3:150:G:C8	2.45	0.51
8:LD:43:LYS:HG2	46:1:1077:U:O2'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1177:G:OP1	46:1:1177:G:N2	2.24	0.51
46:1:1762:C:H5	2:D:74:ASP:CB	2.22	0.51
46:1:1881:A:H2'	46:1:1882:G:H8	1.73	0.51
46:1:2017:G:OP2	46:1:2017:G:H4'	2.06	0.51
46:1:3066:U:H2'	46:1:3067:C:C6	2.45	0.51
46:1:3334:U:H4'	46:1:3335:A:H5'	1.91	0.51
9:LE:42:LEU:O	9:LE:49:GLY:N	2.30	0.51
9:LE:142:ASP:OD1	9:LE:143:LYS:N	2.44	0.51
31:Lb:18:ARG:HG2	31:Lb:18:ARG:HH11	1.76	0.51
32:Lc:13:LYS:O	32:Lc:17:VAL:HG23	2.09	0.51
46:1:999:G:H2'	46:1:1000:C:C6	2.46	0.51
46:1:1357:G:H2'	46:1:1358:C:C6	2.46	0.51
2:B:274:ALA:HB1	2:B:279:LYS:HB2	1.93	0.51
2:B:689:LEU:HD21	2:B:712:THR:HG21	1.92	0.51
13:LI:47:PRO:HD2	13:LI:141:LYS:HA	1.93	0.51
14:LJ:124:GLY:HA3	46:1:2674:A:C2	2.45	0.51
23:LT:136:ARG:HB3	23:LT:139:ARG:HH21	1.75	0.51
46:1:1046:A:H2'	46:1:1049:C:C5	2.46	0.51
46:1:2440:G:H2'	46:1:2441:A:H8	1.75	0.51
46:1:2881:C:H2'	46:1:2882:U:C6	2.45	0.51
1:A:91:SER:O	1:A:95:LYS:HG3	2.11	0.51
3:C4:24:A:H2'	3:C4:25:G:C8	2.46	0.51
11:LG:104:GLU:HA	11:LG:107:GLU:HG3	1.92	0.51
15:LL:43:ALA:HB2	15:LL:51:LEU:HD11	1.93	0.51
15:LL:114:GLN:HB2	15:LL:117:LYS:HZ2	1.76	0.51
20:LQ:157:PRO:HD3	30:La:47:LYS:HG3	1.93	0.51
23:LT:68:THR:HG21	46:1:2736:A:O2'	2.11	0.51
46:1:1339:C:H2'	46:1:1340:G:C8	2.46	0.51
46:1:3231:U:H2'	46:1:3232:G:C8	2.46	0.51
4:C3:84:C:C4	28:LY:112:ASP:HA	2.46	0.51
7:LC:3:ARG:HB3	7:LC:22:LEU:HB2	1.92	0.51
7:LC:194:TYR:HE2	46:1:341:G:C6	2.29	0.51
16:LM:13:ARG:HB2	22:LS:172:TYR:C	2.36	0.51
23:LT:68:THR:OG1	46:1:2737:C:H4'	2.10	0.51
23:LT:104:GLU:HA	23:LT:107:GLU:HG3	1.93	0.51
46:1:1667:A:H2'	46:1:1668:G:C8	2.45	0.51
46:1:3113:A:H2'	46:1:3114:A:O4'	2.10	0.51
2:D:594:LEU:CB	2:D:598:PHE:CE1	2.92	0.51
2:B:294:ASP:OD1	2:B:299:ARG:NE	2.43	0.50
4:C3:103:G:P	4:C3:105:A:HO2'	2.34	0.50
11:LG:25:PRO:HG2	11:LG:26:LEU:HD12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:LL:100:ARG:NH1	46:1:76:G:O2'	2.33	0.50
15:LL:176:GLU:OE1	38:Li:11:LEU:HD11	2.12	0.50
21:LR:84:THR:HG23	21:LR:87:ALA:H	1.75	0.50
26:LW:48:ARG:HG3	26:LW:48:ARG:HH11	1.75	0.50
28:LY:70:ILE:HD13	28:LY:82:VAL:HG22	1.92	0.50
40:Lk:20:VAL:HG12	40:Lk:47:GLY:HA2	1.93	0.50
46:1:662:U:H2'	46:1:663:C:C6	2.46	0.50
46:1:1047:A:H2'	46:1:1048:A:C8	2.46	0.50
46:1:1951:C:N3	46:1:2096:A:C6	2.79	0.50
46:1:2696:A:H2'	46:1:2697:A:C8	2.46	0.50
1:C:48:GLU:CB	2:D:296:ARG:NH1	2.73	0.50
7:LC:99:MET:SD	7:LC:102:PRO:HA	2.51	0.50
10:LF:67:ARG:NH2	46:1:517:G:OP1	2.44	0.50
10:LF:176:TYR:HE2	10:LF:197:GLN:HG2	1.75	0.50
14:LJ:82:ARG:HE	14:LJ:112:LEU:HD13	1.75	0.50
15:LL:145:PHE:CE2	37:Lh:118:ILE:HD11	2.46	0.50
22:LS:166:LYS:NZ	22:LS:167:ARG:O	2.45	0.50
23:LT:102:ARG:O	23:LT:106:LEU:HG	2.12	0.50
27:LX:138:ARG:HG2	27:LX:138:ARG:HH11	1.75	0.50
29:LZ:28:PRO:O	29:LZ:29:HIS:ND1	2.44	0.50
41:Ll:28:ARG:NH2	41:Ll:36:ARG:HH12	2.09	0.50
2:D:594:LEU:HD12	2:D:598:PHE:CZ	2.46	0.50
2:D:757:TYR:CD2	2:D:779:VAL:HG13	2.47	0.50
1:A:135:SER:N	1:A:168:ARG:O	2.31	0.50
9:LE:7:PRO:HG2	9:LE:10:TYR:CZ	2.46	0.50
10:LF:98:LYS:HB3	10:LF:99:PRO:HD3	1.93	0.50
11:LG:126:SER:OG	46:1:120:G:N2	2.44	0.50
12:LH:105:GLU:HG2	12:LH:105:GLU:O	2.12	0.50
20:LQ:133:LYS:HB2	20:LQ:135:GLN:OE1	2.11	0.50
20:LQ:178:ARG:HG2	30:La:51:GLY:HA3	1.92	0.50
34:Le:86:THR:HG22	34:Le:115:LEU:HD23	1.94	0.50
46:1:64:G:O2'	46:1:77:A:N3	2.37	0.50
46:1:491:A:H2'	46:1:492:C:C6	2.46	0.50
46:1:671:U:H2'	46:1:672:A:H8	1.77	0.50
46:1:1103:A:O2'	46:1:1104:G:H5'	2.12	0.50
46:1:1460:A:H2'	46:1:1461:A:C8	2.46	0.50
46:1:2008:G:N3	46:1:2008:G:C2'	2.75	0.50
46:1:2103:U:H2'	46:1:2104:A:H8	1.76	0.50
1:A:34:GLU:O	1:A:38:ILE:HG22	2.12	0.50
2:B:220:THR:HG22	2:B:232:LEU:HD22	1.94	0.50
4:C3:141:C:H2'	4:C3:142:C:H6	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C3:146:U:H2'	4:C3:147:U:C6	2.46	0.50
5:LA:119:LYS:NZ	46:1:2159:U:OP2	2.44	0.50
15:LL:12:ASN:ND2	46:1:665:A:H2	2.09	0.50
17:LN:2:GLY:N	46:1:116:A:OP2	2.45	0.50
35:Lf:59:VAL:HG13	35:Lf:60:ARG:H	1.76	0.50
43:Ln:17:ARG:HA	43:Ln:20:VAL:HG12	1.91	0.50
46:1:546:C:H5'	46:1:547:G:C4	2.46	0.50
46:1:1761:C:C4'	2:D:34:ASN:HB2	2.41	0.50
46:1:2266:U:H2'	46:1:2267:C:C6	2.47	0.50
46:1:3319:U:O2'	46:1:3320:A:OP1	2.26	0.50
1:A:7:PHE:HD2	1:A:45:LYS:HB3	1.75	0.50
4:C3:134:G:OP1	27:LX:56:ARG:NH1	2.41	0.50
9:LE:3:ALA:HB1	34:Le:75:LEU:CD2	2.41	0.50
18:LO:118[A]:VAL:HG21	22:LS:163:PHE:HB3	1.92	0.50
20:LQ:94:PHE:HZ	30:La:79:TRP:CD1	2.28	0.50
35:Lf:8:TYR:CE1	35:Lf:99:ARG:HG2	2.46	0.50
38:Li:56:ARG:O	38:Li:60:LEU:HG	2.12	0.50
46:1:243:G:H2'	46:1:244:G:C8	2.46	0.50
46:1:1037:C:H2'	46:1:1038:C:H6	1.77	0.50
46:1:1211:U:H2'	46:1:1212:A:C8	2.45	0.50
46:1:1342:C:H2'	46:1:1343:A:H8	1.75	0.50
46:1:2213:A:H2'	46:1:2214:A:H8	1.76	0.50
46:1:2926:A:H2'	46:1:2927:C:C6	2.47	0.50
46:1:3089:C:H2'	46:1:3090:U:O4'	2.12	0.50
46:1:3160:U:H2'	46:1:3161:C:C6	2.46	0.50
2:B:294:ASP:OD2	2:B:299:ARG:NH2	2.40	0.50
6:LB:348:ARG:HE	46:1:3037:U:H5''	1.76	0.50
14:LJ:94:ARG:NH1	46:1:1016:C:N3	2.58	0.50
23:LT:129:LYS:HA	46:1:1098:A:OP2	2.11	0.50
46:1:871:U:H2'	46:1:872:U:C6	2.47	0.50
46:1:1477:A:OP1	46:1:3075:G:O2'	2.28	0.50
46:1:2154:U:H2'	46:1:2155:G:H8	1.77	0.50
46:1:2225:U:H2'	46:1:2226:U:C6	2.46	0.50
46:1:2413:A:H2'	46:1:2414:G:H8	1.76	0.50
46:1:3007:U:H2'	46:1:3008:A:H8	1.75	0.50
2:B:536:ARG:O	2:B:540:MET:HE3	2.11	0.50
4:C3:8:C:H2'	4:C3:9:A:C8	2.47	0.50
11:LG:241:LYS:NZ	46:1:2586:G:O2'	2.45	0.50
18:LO:62[A]:THR:O	18:LO:66[A]:LYS:NZ	2.44	0.50
21:LR:59:SER:N	46:1:3068:U:OP1	2.35	0.50
24:LU:97:SER:HA	24:LU:103:TYR:HA	1.91	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:LX:105:VAL:HG11	27:LX:126:LEU:HD13	1.93	0.50
46:1:242:C:O2'	46:1:243:G:H8	1.94	0.50
46:1:987:U:H2'	46:1:988:U:C6	2.47	0.50
46:1:1760:A:C3'	2:D:34:ASN:HD22	2.17	0.50
46:1:1797:A:H2'	46:1:1798:A:C8	2.47	0.50
46:1:2618:G:O2'	46:1:2865:U:OP1	2.23	0.50
2:D:106:PRO:HB2	2:D:137:TYR:CZ	2.47	0.50
2:B:202:LEU:HB2	2:B:216:ILE:HD11	1.94	0.50
2:B:404:LEU:O	2:B:408:LYS:HG2	2.12	0.50
2:B:744:ASP:OD1	2:B:747:LYS:NZ	2.28	0.50
3:C4:46:A:OP1	8:LD:157:ALA:HA	2.11	0.50
8:LD:281:GLU:OE1	8:LD:281:GLU:N	2.44	0.50
10:LF:155:LYS:NZ	46:1:1102:A:OP1	2.45	0.50
20:LQ:162:ALA:HA	46:1:780:A:O4'	2.10	0.50
32:Lc:28:LYS:HE2	46:1:1730:G:C8	2.46	0.50
44:Lo:42:ARG:NH1	46:1:91:G:OP2	2.45	0.50
45:Lp:79:VAL:O	45:Lp:83:ILE:HG12	2.11	0.50
46:1:673:U:H2'	46:1:674:G:C8	2.47	0.50
46:1:1255:C:H2'	46:1:1256:G:H8	1.76	0.50
46:1:1866:C:H5'	46:1:1867:A:OP2	2.12	0.50
1:C:42:LEU:HG	2:D:528:LYS:CE	2.38	0.50
15:LL:122:LYS:O	37:Lh:120:ALA:N	2.45	0.50
30:La:96:LYS:C	30:La:98:THR:H	2.20	0.50
35:Lf:72:THR:HG22	46:1:585:A:H4'	1.94	0.50
36:Lg:79:SER:OG	36:Lg:80:ARG:NH1	2.43	0.50
40:Lk:41:THR:HG21	40:Lk:62:ALA:HB2	1.94	0.50
46:1:528:U:H2'	46:1:529:A:C8	2.47	0.50
46:1:1234:G:H1	46:1:1254:C:H42	1.60	0.50
46:1:2291:A:H2'	46:1:2292:U:C6	2.47	0.50
46:1:2426:U:H3	46:1:2603:G:H1	1.57	0.50
46:1:2961:G:H2'	46:1:2962:U:C6	2.47	0.50
17:LN:125:SER:HB3	46:1:2433:U:H1'	1.93	0.49
19:LP:119:VAL:HG22	19:LP:146:ILE:HG12	1.94	0.49
23:LT:57:TYR:CD2	23:LT:89:LEU:HD11	2.47	0.49
35:Lf:20:LYS:HG3	46:1:1178:G:O6	2.11	0.49
36:Lg:37:LYS:NZ	46:1:1656:A:OP2	2.42	0.49
46:1:436:A:H2'	46:1:437:G:C8	2.47	0.49
46:1:1240:A:N1	46:1:1244:A:H8	2.10	0.49
46:1:2016:U:H2'	46:1:2018:C:H5'	1.94	0.49
46:1:2301:U:H2'	46:1:2302:G:H8	1.76	0.49
46:1:2986:U:H2'	46:1:2987:A:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:3189:G:H1	46:1:3203:U:H3	1.60	0.49
2:D:7:GLU:O	2:D:11:GLY:CA	2.59	0.49
9:LE:9:TRP:CD1	46:1:1353:U:C4	3.00	0.49
15:LL:76:THR:OG1	15:LL:101:ARG:NH1	2.45	0.49
15:LL:104:ARG:NH2	46:1:75:G:OP2	2.43	0.49
46:1:1675:G:H2'	46:1:1676:A:H8	1.76	0.49
46:1:2406:C:H2'	46:1:2407:C:C6	2.47	0.49
46:1:3023:U:H2'	46:1:3024:A:H8	1.76	0.49
46:1:3033:A:H2'	46:1:3034:C:H6	1.77	0.49
2:B:142:ASN:CG	1:C:13:PHE:HZ	2.20	0.49
2:B:794:ARG:HB3	2:B:794:ARG:HH11	1.76	0.49
3:C4:119:U:H2'	3:C4:120:C:C6	2.47	0.49
4:C3:2:A:C4	4:C3:3:A:C8	3.00	0.49
5:LA:66:PRO:O	11:LG:41:GLN:N	2.31	0.49
6:LB:292:ALA:HB2	6:LB:302:LYS:HA	1.94	0.49
8:LD:23:ARG:CD	46:1:2703:A:N6	2.75	0.49
10:LF:206:LYS:HB3	46:1:1334:U:H5''	1.94	0.49
22:LS:25:PHE:CD1	23:LT:151:LEU:HD21	2.47	0.49
46:1:767:U:C2	46:1:768:C:C5	3.01	0.49
46:1:1646:G:H1'	46:1:1809:A:N6	2.27	0.49
46:1:2406:C:H2'	46:1:2407:C:H6	1.76	0.49
46:1:2708:C:H2'	46:1:2709:C:C6	2.47	0.49
46:1:3021:A:H61	46:1:3032:A:H3'	1.76	0.49
25:LV:15:LEU:HD13	25:LV:51:ALA:HB3	1.94	0.49
46:1:248:U:H3'	46:1:249:U:H5''	1.94	0.49
46:1:567:G:H2'	46:1:568:G:H8	1.77	0.49
46:1:794:U:C2	46:1:795:G:C8	3.00	0.49
46:1:1244:A:N6	46:1:1271:A:OP1	2.45	0.49
46:1:1597:C:H5'	46:1:1696:A:H1'	1.94	0.49
46:1:2662:G:H2'	46:1:2663:G:C8	2.46	0.49
46:1:2985:C:H2'	46:1:2986:U:H6	1.77	0.49
46:1:3051:U:C2	46:1:3052:G:C8	3.00	0.49
46:1:3255:U:H2'	46:1:3256:G:C8	2.47	0.49
2:B:729:LYS:HZ1	46:1:3317:U:H1'	1.75	0.49
3:C4:22:A:H8	8:LD:272:TYR:CE2	2.29	0.49
6:LB:130:PHE:O	6:LB:134:SER:OG	2.26	0.49
8:LD:35:ARG:HG2	46:1:2749:G:HO2'	1.78	0.49
10:LF:40:LYS:O	10:LF:44:ILE:HG12	2.12	0.49
11:LG:139:VAL:HG21	11:LG:197:VAL:HG21	1.94	0.49
13:LI:206:LEU:O	13:LI:210:ILE:HG12	2.13	0.49
14:LJ:32:ARG:NE	14:LJ:120:ILE:O	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Le:78:ASN:C	34:Le:108:ILE:HD11	2.37	0.49
35:Lf:106:ASN:O	35:Lf:106:ASN:ND2	2.45	0.49
46:1:8:C:H2'	46:1:9:U:C6	2.47	0.49
46:1:1236:G:N1	46:1:1244:A:OP1	2.45	0.49
46:1:1596:C:H2'	46:1:1597:C:H6	1.78	0.49
46:1:1822:C:H2'	46:1:1823:A:H8	1.76	0.49
46:1:1856:C:C2	46:1:1857:C:C5	3.00	0.49
46:1:2219:A:H2'	46:1:2220:A:H8	1.78	0.49
46:1:2696:A:N7	46:1:2758:A:N6	2.60	0.49
46:1:3013:U:H2'	46:1:3014:U:C6	2.48	0.49
46:1:3101:G:H2'	46:1:3102:G:C8	2.48	0.49
46:1:3101:G:H2'	46:1:3102:G:H8	1.77	0.49
1:C:48:GLU:CD	2:D:296:ARG:HH11	2.02	0.49
1:C:67:THR:HG22	2:D:193:GLN:CG	2.42	0.49
1:A:1:MET:SD	2:B:300:LEU:HD13	2.52	0.49
1:A:71:THR:OG1	1:A:72:THR:N	2.45	0.49
2:B:210:ARG:NH2	2:B:243:LEU:HD23	2.28	0.49
7:LC:9:HIS:HA	7:LC:15:ALA:HA	1.95	0.49
15:LL:39:ARG:NH1	46:1:107:A:OP1	2.43	0.49
15:LL:176:GLU:OE2	38:Li:11:LEU:HG	2.12	0.49
17:LN:50:ARG:NH2	46:1:267:G:O3'	2.42	0.49
27:LX:33:ARG:CZ	46:1:1580:A:C2	2.96	0.49
27:LX:57:LEU:HG	27:LX:62:VAL:HG12	1.95	0.49
34:Le:96:ILE:HG21	34:Le:105:ARG:HG2	1.94	0.49
36:Lg:100:ILE:HA	36:Lg:103:LYS:HE3	1.93	0.49
45:Lp:3:LYS:HE2	45:Lp:3:LYS:HA	1.95	0.49
46:1:339:C:OP1	46:1:1380:G:O2'	2.31	0.49
46:1:900:G:H1'	46:1:1589:A:H61	1.75	0.49
46:1:945:C:H2'	46:1:946:U:C6	2.48	0.49
46:1:1831:U:C2	46:1:1832:C:C5	3.01	0.49
1:C:1:MET:SD	2:D:333:ILE:HG22	2.52	0.49
1:C:54:THR:HG22	1:C:55:PHE:CD1	2.48	0.49
4:C3:4:C:H2'	4:C3:5:U:C6	2.48	0.49
5:LA:96:LEU:O	45:Lp:87:ARG:HD3	2.13	0.49
19:LP:171:ARG:HA	46:1:3270:U:O4'	2.12	0.49
20:LQ:38:ARG:NH2	46:1:1348:U:OP2	2.45	0.49
46:1:659:G:H2'	46:1:1432:C:H42	1.78	0.49
46:1:831:G:O2'	46:1:1864:A:N3	2.42	0.49
2:B:17:ASN:HB3	2:B:20:GLN:HE22	1.78	0.49
2:B:538:LYS:HE2	2:B:586:SER:OG	2.12	0.49
3:C4:38:U:N3	3:C4:41:G:OP2	2.35	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C3:57:C:OP2	39:Lj:68:LYS:NZ	2.43	0.49
11:LG:241:LYS:O	11:LG:245:LYS:HD3	2.13	0.49
15:LL:166:ALA:HB1	30:La:147:LEU:HD13	1.93	0.49
24:LU:87:ASN:HB2	24:LU:89:LEU:HD23	1.93	0.49
38:Li:84:LYS:O	38:Li:88:GLU:HG2	2.12	0.49
41:Ll:21:ARG:HD2	41:Ll:22:PRO:O	2.12	0.49
46:1:207:U:H2'	46:1:208:C:C6	2.48	0.49
46:1:324:A:H2'	46:1:325:A:C8	2.48	0.49
46:1:585:A:H2'	46:1:586:C:C6	2.47	0.49
46:1:1211:U:H2'	46:1:1212:A:H8	1.78	0.49
46:1:2743:A:H2'	46:1:2744:U:C6	2.48	0.49
46:1:3038:U:H2'	46:1:3039:C:O4'	2.13	0.49
46:1:3182:G:H2'	46:1:3183:A:H8	1.76	0.49
7:LC:130:ALA:HB2	7:LC:149:PRO:HG3	1.95	0.49
13:LI:73:ASN:O	13:LI:77:THR:HG23	2.12	0.49
25:LV:70:ARG:HG2	25:LV:71:LYS:HG2	1.94	0.49
46:1:1709:C:H2'	46:1:1710:C:H6	1.77	0.49
2:B:794:ARG:HB2	2:B:794:ARG:CZ	2.43	0.49
3:C4:74:C:H2'	3:C4:75:G:C8	2.48	0.49
5:LA:201:GLY:O	5:LA:204:MET:HB2	2.13	0.49
7:LC:45:ASN:ND2	46:1:693:A:OP1	2.46	0.49
8:LD:52:VAL:HA	8:LD:147:ASP:HB3	1.95	0.49
9:LE:91:VAL:HG13	9:LE:148:GLU:OE1	2.12	0.49
9:LE:94:GLU:H	9:LE:94:GLU:CD	2.21	0.49
10:LF:186:HIS:O	10:LF:190:THR:OG1	2.28	0.49
15:LL:114:GLN:HB2	15:LL:117:LYS:HZ3	1.75	0.49
19:LP:122:ALA:HB3	19:LP:143:PRO:HB2	1.94	0.49
24:LU:92:TRP:O	24:LU:93:ILE:HD13	2.13	0.49
46:1:415:G:H2'	46:1:416:A:C8	2.46	0.49
46:1:3337:G:H2'	46:1:3338:C:C6	2.48	0.49
2:D:18:PHE:HE2	2:D:49:GLN:N	2.07	0.49
3:C4:6:C:O2'	8:LD:72:ASP:OD2	2.19	0.48
6:LB:140:ASP:OD1	6:LB:140:ASP:N	2.43	0.48
14:LJ:105:GLY:HA3	46:1:2674:A:H5''	1.95	0.48
16:LM:44:VAL:HG13	16:LM:60:LEU:HD21	1.95	0.48
28:LY:60:ARG:HH22	46:1:190:U:H2'	1.77	0.48
36:Lg:44:CYS:HA	36:Lg:51:LEU:HD23	1.95	0.48
46:1:638:C:H2'	46:1:639:G:H8	1.78	0.48
46:1:710:A:H2'	46:1:711:A:C8	2.48	0.48
46:1:748:U:H2'	46:1:749:C:C6	2.47	0.48
46:1:1072:G:H2'	46:1:1073:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:3190:C:H2'	46:1:3191:G:C8	2.48	0.48
46:1:3371:G:H2'	46:1:3372:A:C8	2.48	0.48
4:C3:4:C:H2'	4:C3:5:U:H6	1.78	0.48
10:LF:88:ARG:NH2	10:LF:91:GLY:O	2.39	0.48
15:LL:111:ALA:O	15:LL:114:GLN:HG3	2.13	0.48
16:LM:32:LEU:HD21	16:LM:94:TRP:CD1	2.48	0.48
20:LQ:180:ARG:NH1	46:1:2720:G:OP2	2.46	0.48
22:LS:88:HIS:NE2	46:1:1293:U:O2'	2.46	0.48
29:LZ:84:ARG:HH11	29:LZ:84:ARG:HG3	1.78	0.48
30:La:114:GLY:O	30:La:137:LYS:NZ	2.46	0.48
46:1:1699:A:C6	46:1:1747:G:C6	3.01	0.48
46:1:3039:C:H2'	46:1:3040:A:H8	1.76	0.48
2:B:784:ASN:O	2:B:788:GLY:N	2.43	0.48
4:C3:57:C:H4'	4:C3:63:G:N7	2.28	0.48
12:LH:26:LYS:HA	12:LH:35:THR:HG22	1.94	0.48
20:LQ:15:HIS:HA	46:1:975:C:OP2	2.13	0.48
33:Ld:10:ARG:NH1	46:1:3386:G:H4'	2.25	0.48
34:Le:54:LYS:NZ	46:1:1161:G:O2'	2.44	0.48
46:1:432:G:H2'	46:1:433:A:H8	1.78	0.48
46:1:651:G:O2'	46:1:1435:A:OP1	2.31	0.48
46:1:2223:A:OP2	46:1:2223:A:H8	1.96	0.48
46:1:2448:G:H2'	46:1:2449:A:H8	1.78	0.48
1:C:51:VAL:N	2:D:330:CYS:CA	2.65	0.48
2:B:722:ILE:HG23	2:B:727:ILE:HD11	1.95	0.48
2:B:753:LEU:HD12	2:B:783:LYS:HZ2	1.79	0.48
8:LD:218:ARG:O	8:LD:222:LEU:HD23	2.13	0.48
32:Lc:49:PRO:HD3	46:1:1729:A:C6	2.48	0.48
46:1:1351:U:O2'	46:1:1352:A:H5'	2.13	0.48
46:1:3258:U:O2'	46:1:3260:G:OP1	2.25	0.48
2:B:412:LYS:O	2:B:604:ARG:NH2	2.45	0.48
2:B:795:ASN:HB2	46:1:3154:C:H5''	1.96	0.48
7:LC:229:ASN:OD1	7:LC:230:VAL:N	2.45	0.48
11:LG:134:TYR:CG	11:LG:190:VAL:HG11	2.48	0.48
19:LP:47:TYR:O	19:LP:51:VAL:HG23	2.12	0.48
24:LU:32:SER:OG	24:LU:83:TYR:OH	2.22	0.48
25:LV:81:GLN:NE2	25:LV:83:LYS:O	2.46	0.48
32:Lc:32:LYS:O	32:Lc:36:GLN:HG3	2.13	0.48
46:1:413:U:H2'	46:1:414:U:H6	1.79	0.48
46:1:727:G:O6	46:1:742:G:O2'	2.32	0.48
46:1:1667:A:H2'	46:1:1668:G:H8	1.78	0.48
46:1:2858:U:H2'	46:1:2859:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:3193:C:H2'	46:1:3194:C:C6	2.47	0.48
4:C3:143:U:OP1	17:LN:38:ARG:NH2	2.37	0.48
8:LD:234:ASP:OD1	8:LD:235:SER:N	2.47	0.48
12:LH:22:SER:O	12:LH:23:ARG:HD3	2.14	0.48
20:LQ:123:THR:OG1	20:LQ:126:GLN:OE1	2.24	0.48
41:Ll:10:LYS:O	41:Ll:13:MET:HB2	2.14	0.48
46:1:1973:G:C2	46:1:2048:G:H2'	2.49	0.48
5:LA:70:ARG:HH22	5:LA:72:ARG:HH21	1.62	0.48
8:LD:60:ILE:HD11	8:LD:93:THR:HA	1.94	0.48
10:LF:125:GLU:OE1	10:LF:125:GLU:N	2.47	0.48
11:LG:97:TYR:CE2	11:LG:203:VAL:HG23	2.47	0.48
18:LO:143[A]:THR:HG21	18:LO:150[A]:GLU:OE1	2.13	0.48
29:LZ:23:VAL:HG12	29:LZ:45:GLY:HA3	1.96	0.48
32:Lc:55:GLU:HB3	36:Lg:94:LEU:HD11	1.95	0.48
45:Lp:19:GLY:HA2	46:1:2188:A:H2	1.79	0.48
46:1:314:U:H2'	46:1:315:C:H6	1.79	0.48
46:1:414:U:C2	46:1:415:G:C8	3.02	0.48
46:1:552:G:H2'	46:1:553:U:C6	2.49	0.48
46:1:721:G:H2'	46:1:722:G:H8	1.79	0.48
46:1:1222:G:C2	46:1:1285:G:C4	3.01	0.48
2:D:388:LEU:HD23	2:D:397:SER:OG	2.13	0.48
3:C4:53:U:O2'	3:C4:55:A:N7	2.44	0.48
4:C3:9:A:H2'	4:C3:10:A:C8	2.49	0.48
9:LE:9:TRP:HD1	46:1:1353:U:C2	2.31	0.48
14:LJ:105:GLY:O	14:LJ:106:ILE:HD13	2.14	0.48
30:La:32:ARG:NH1	46:1:799:G:OP2	2.47	0.48
37:Lh:74:LYS:HE2	37:Lh:75:TYR:CZ	2.48	0.48
46:1:273:A:H2'	46:1:274:G:H8	1.78	0.48
46:1:763:G:O2'	46:1:764:U:OP1	2.29	0.48
46:1:929:A:H2'	46:1:930:U:C6	2.48	0.48
46:1:2160:G:H2'	46:1:2161:G:C8	2.46	0.48
46:1:2611:U:H2'	46:1:2612:U:H6	1.79	0.48
1:A:37:ILE:HD13	2:B:519:VAL:HG13	1.96	0.48
6:LB:21:ARG:HG2	6:LB:269:GLN:NE2	2.28	0.48
8:LD:129:TYR:CG	8:LD:177:GLU:HB3	2.49	0.48
11:LG:114:ALA:O	11:LG:118:GLU:HG3	2.14	0.48
12:LH:33:THR:O	12:LH:34:LEU:HD23	2.13	0.48
16:LM:32:LEU:HD21	16:LM:94:TRP:CG	2.49	0.48
16:LM:42:LYS:HD2	46:1:1185:C:H5''	1.95	0.48
20:LQ:91:ALA:HB1	30:La:80:THR:CG2	2.44	0.48
42:Lm:79:GLU:O	42:Lm:81:SER:N	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:155:G:N1	46:1:265:A:OP2	2.36	0.48
46:1:787:G:H2'	46:1:788:C:C6	2.49	0.48
46:1:1244:A:C2	46:1:1271:A:H5'	2.49	0.48
46:1:2876:C:H2'	46:1:2877:G:O4'	2.13	0.48
1:C:44:PHE:CE1	2:D:230:LEU:CD1	2.96	0.48
4:C3:68:G:H2'	4:C3:69:U:H6	1.78	0.48
6:LB:296:THR:OG1	6:LB:357:LYS:O	2.29	0.48
12:LH:41:ILE:CD1	12:LH:71:VAL:HG21	2.42	0.48
13:LI:21:ARG:NH2	13:LI:22:TYR:OH	2.47	0.48
13:LI:36:LEU:HB3	13:LI:73:ASN:ND2	2.29	0.48
13:LI:170:LYS:HA	13:LI:177:ASP:HA	1.96	0.48
14:LJ:106:ILE:O	14:LJ:125:MET:N	2.40	0.48
16:LM:6:ILE:HD11	46:1:3198:U:O2'	2.13	0.48
25:LV:2:SER:N	25:LV:57:MET:H	2.12	0.48
30:La:28:HIS:CD2	30:La:32:ARG:HG2	2.49	0.48
39:Lj:67:LEU:O	39:Lj:70:VAL:HG12	2.14	0.48
46:1:1378:U:H2'	46:1:1379:G:C8	2.42	0.48
46:1:2112:U:H4'	46:1:2113:A:H5'	1.95	0.48
46:1:2448:G:H2'	46:1:2449:A:C8	2.49	0.48
46:1:2685:C:H2'	46:1:2686:A:H8	1.79	0.48
46:1:3051:U:H2'	46:1:3052:G:H8	1.78	0.48
1:A:37:ILE:HD13	2:B:519:VAL:CG1	2.44	0.47
2:B:540:MET:SD	2:B:580:THR:HG21	2.54	0.47
2:B:591:PHE:HB3	2:B:598:PHE:CD2	2.49	0.47
3:C4:64:A:H5'	3:C4:65:G:H5''	1.94	0.47
6:LB:298:PHE:HD2	6:LB:357:LYS:HG2	1.76	0.47
9:LE:174:LEU:HD22	16:LM:117:ARG:NH1	2.29	0.47
14:LJ:13:LYS:NZ	14:LJ:15:GLU:OE2	2.31	0.47
16:LM:38:ILE:HA	16:LM:44:VAL:HG12	1.96	0.47
31:Lb:46:ALA:HB2	46:1:1074:U:H1'	1.96	0.47
45:Lp:4:ARG:NH2	46:1:838:G:O6	2.47	0.47
46:1:235:A:H2'	46:1:236:G:C8	2.49	0.47
46:1:3284:G:H2'	46:1:3285:C:C6	2.48	0.47
1:C:51:VAL:HG22	2:D:330:CYS:CA	2.31	0.47
2:D:18:PHE:CG	2:D:49:GLN:CG	2.97	0.47
3:C4:112:G:H2'	3:C4:113:C:H6	1.78	0.47
4:C3:60:U:OP1	27:LX:54:TYR:OH	2.28	0.47
6:LB:36:ASP:HB3	6:LB:39:LYS:HZ1	1.78	0.47
7:LC:3:ARG:NH1	7:LC:24:ALA:HA	2.29	0.47
18:LO:157[A]:GLU:OE1	18:LO:160[A]:ARG:NH2	2.38	0.47
20:LQ:19:PRO:HD3	20:LQ:53:PHE:CD1	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LR:52:LYS:O	21:LR:53:LYS:HB2	2.13	0.47
21:LR:147:ALA:O	21:LR:150:GLN:HG3	2.13	0.47
46:1:80:G:H2'	46:1:81:C:H6	1.79	0.47
46:1:507:U:H2'	46:1:508:U:H6	1.79	0.47
46:1:1097:G:H4'	46:1:1098:A:O5'	2.13	0.47
46:1:2992:U:OP1	46:1:3310:A:O2'	2.28	0.47
2:B:624:ARG:O	2:B:628:ILE:HG12	2.15	0.47
14:LJ:91:LEU:C	14:LJ:172:LEU:HD23	2.39	0.47
15:LL:15:ARG:NH1	46:1:97:U:P	2.87	0.47
15:LL:145:PHE:HE2	37:Lh:118:ILE:HD11	1.78	0.47
21:LR:23:TRP:CE3	21:LR:51:VAL:HG22	2.49	0.47
30:La:2:PRO:CD	46:1:792:G:H5''	2.43	0.47
30:La:75:LEU:HG	30:La:114:GLY:HA2	1.95	0.47
38:Li:71:LYS:NZ	46:1:2223:A:OP1	2.38	0.47
45:Lp:16:VAL:HA	46:1:1927:G:C8	2.49	0.47
46:1:312:C:H2'	46:1:313:A:C8	2.43	0.47
46:1:411:U:H2'	46:1:412:G:C8	2.37	0.47
46:1:2407:C:H2'	46:1:2408:U:H6	1.78	0.47
46:1:2767:U:H2'	46:1:2768:U:C6	2.49	0.47
46:1:3132:C:H2'	46:1:3133:C:C6	2.49	0.47
2:D:634:GLY:HA2	2:D:721:ARG:NH1	2.29	0.47
5:LA:33:ASP:O	5:LA:37:ARG:HG2	2.14	0.47
9:LE:158:TYR:CG	16:LM:115:PHE:CD1	3.02	0.47
14:LJ:51:ARG:NH2	46:1:2681:U:OP2	2.47	0.47
16:LM:37:GLU:HG2	22:LS:72:VAL:HG21	1.97	0.47
23:LT:41:ASP:OD1	23:LT:97:LYS:HG3	2.15	0.47
35:Lf:9:VAL:HG23	35:Lf:100:ILE:HB	1.95	0.47
44:Lo:65:THR:HG23	44:Lo:87:ARG:HH11	1.80	0.47
46:1:91:G:N2	46:1:95:A:OP2	2.46	0.47
46:1:138:U:H2'	46:1:139:G:H8	1.79	0.47
46:1:629:U:H2'	46:1:630:A:C8	2.49	0.47
46:1:1277:C:O2'	46:1:1278:A:H8	1.98	0.47
46:1:1488:G:H5''	46:1:1838:G:O6	2.14	0.47
46:1:2423:U:H2'	46:1:2424:A:C8	2.50	0.47
46:1:3201:C:H2'	46:1:3202:G:C8	2.49	0.47
6:LB:221:THR:OG1	46:1:3047:U:OP1	2.31	0.47
7:LC:292:SER:O	7:LC:293:SER:HB3	2.15	0.47
9:LE:158:TYR:CD1	16:LM:115:PHE:CE1	3.02	0.47
15:LL:184:GLU:O	15:LL:188:ARG:HG2	2.15	0.47
20:LQ:133:LYS:H	20:LQ:135:GLN:HE22	1.61	0.47
27:LX:33:ARG:NH1	46:1:1580:A:C2	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Lg:100:ILE:O	36:Lg:104:VAL:HG22	2.14	0.47
37:Lh:105:ARG:HH22	37:Lh:106:LYS:HG3	1.78	0.47
46:1:863:C:H2'	46:1:864:G:O4'	2.15	0.47
46:1:1373:A:H2'	46:1:1374:G:C8	2.50	0.47
46:1:1447:G:O2'	46:1:2355:G:O6	2.25	0.47
46:1:3121:U:H4'	46:1:3122:A:OP1	2.14	0.47
1:A:5:GLN:C	2:B:230:LEU:HD12	2.40	0.47
2:B:744:ASP:HA	2:B:747:LYS:NZ	2.29	0.47
4:C3:21:C:OP1	7:LC:193:LYS:NZ	2.47	0.47
6:LB:136:LYS:O	6:LB:139:GLN:NE2	2.47	0.47
7:LC:40:THR:HG23	46:1:1426:C:H4'	1.97	0.47
7:LC:318:LEU:HD21	10:LF:146:GLN:OE1	2.15	0.47
8:LD:107:ARG:NH1	8:LD:120:LYS:O	2.47	0.47
11:LG:60:ARG:O	11:LG:64:ILE:HG12	2.14	0.47
20:LQ:122:ILE:HG23	20:LQ:126:GLN:HB2	1.96	0.47
27:LX:64:GLU:HG2	27:LX:65:GLN:N	2.30	0.47
27:LX:137:ASN:OD1	27:LX:138:ARG:N	2.47	0.47
35:Lf:48:ARG:HE	35:Lf:70:LYS:HG2	1.79	0.47
44:Lo:71:ARG:HH11	44:Lo:80:ARG:NH2	2.12	0.47
46:1:952:A:C2	46:1:1114:U:H4'	2.50	0.47
46:1:1237:G:C6	46:1:1251:A:N6	2.77	0.47
46:1:1958:U:N3	46:1:1959:G:N7	2.62	0.47
46:1:2086:A:O2'	46:1:2087:C:OP1	2.23	0.47
46:1:2575:G:H2'	46:1:2576:G:H8	1.80	0.47
46:1:3000:A:H2'	46:1:3001:C:C6	2.50	0.47
46:1:3251:U:H2'	46:1:3252:G:H8	1.77	0.47
46:1:3393:U:H2'	46:1:3394:U:C6	2.49	0.47
1:A:30:GLU:HA	2:B:516:TYR:HE2	1.80	0.47
2:B:29:GLN:HE22	2:B:39:LYS:CE	2.26	0.47
3:C4:107:C:H2'	3:C4:108:A:C8	2.48	0.47
8:LD:195:LEU:O	8:LD:199:ILE:HG12	2.14	0.47
10:LF:35:ALA:O	10:LF:39:GLU:HG2	2.14	0.47
12:LH:46:THR:HB	12:LH:54:LYS:HB2	1.95	0.47
14:LJ:24:GLY:HA2	46:1:2680:A:H2	1.80	0.47
20:LQ:185:LYS:NZ	46:1:779:G:OP1	2.35	0.47
28:LY:53:ASP:OD1	28:LY:53:ASP:O	2.32	0.47
36:Lg:57:LEU:HD13	36:Lg:61:GLN:HG2	1.96	0.47
40:Lk:12:LEU:O	40:Lk:15:THR:OG1	2.32	0.47
46:1:101:G:OP2	46:1:101:G:N2	2.46	0.47
46:1:314:U:H2'	46:1:315:C:C6	2.49	0.47
46:1:507:U:H2'	46:1:508:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:542:G:C6	46:1:550:A:C6	3.03	0.47
46:1:663:C:H2'	46:1:664:U:C6	2.50	0.47
46:1:1090:G:H2'	46:1:1091:A:H8	1.79	0.47
46:1:1760:A:O3'	2:D:34:ASN:CG	2.57	0.47
46:1:1974:A:N6	46:1:2049:A:N3	2.62	0.47
46:1:2117:A:O2'	46:1:3080:G:O2'	2.28	0.47
46:1:2213:A:H2'	46:1:2214:A:C8	2.49	0.47
46:1:3379:C:H2'	46:1:3380:U:C6	2.49	0.47
1:C:50:THR:CB	2:D:330:CYS:HB2	2.45	0.47
1:A:1:MET:HE3	2:B:264:TYR:CE2	2.49	0.47
2:B:204:GLU:OE2	2:B:205:LEU:HG	2.15	0.47
2:B:524:ASN:HA	2:B:526:TYR:CE1	2.50	0.47
2:B:728:GLN:O	2:B:731:ILE:HG22	2.14	0.47
3:C4:16:U:H2'	3:C4:17:A:C8	2.50	0.47
8:LD:23:ARG:NE	46:1:2703:A:C5	2.83	0.47
16:LM:99:TRP:CZ2	46:1:3206:C:H2'	2.50	0.47
18:LO:60[A]:LYS:HE3	46:1:1307:G:H5''	1.96	0.47
21:LR:139:VAL:HG11	46:1:2093:A:H5''	1.95	0.47
23:LT:10:ARG:NH1	46:1:2641:U:OP2	2.48	0.47
42:Lm:80:PRO:HB3	42:Lm:83:LYS:HD2	1.97	0.47
44:Lo:41:ARG:NH1	46:1:284:A:C8	2.83	0.47
46:1:47:C:OP2	46:1:48:A:O2'	2.23	0.47
46:1:2219:A:H2'	46:1:2220:A:C8	2.49	0.47
46:1:2661:G:H2'	46:1:2662:G:C8	2.47	0.47
1:C:48:GLU:HB3	2:D:296:ARG:NH2	2.29	0.47
3:C4:44:C:OP2	14:LJ:137:ARG:NH2	2.48	0.47
9:LE:82:ARG:HD2	9:LE:82:ARG:HA	1.71	0.47
14:LJ:15:GLU:HG3	14:LJ:132:ASN:ND2	2.30	0.47
21:LR:38:ARG:NH1	46:1:1603:A:OP1	2.48	0.47
23:LT:105:PHE:O	23:LT:109:VAL:HG23	2.15	0.47
29:LZ:128:GLN:H	29:LZ:128:GLN:CD	2.23	0.47
30:La:23:GLY:H	46:1:1114:U:P	2.30	0.47
31:Lb:47:LEU:HA	31:Lb:50:THR:HG22	1.96	0.47
35:Lf:52:VAL:HG21	35:Lf:99:ARG:NH1	2.30	0.47
46:1:673:U:H2'	46:1:674:G:H8	1.79	0.47
46:1:947:G:H2'	46:1:948:C:C6	2.50	0.47
46:1:1709:C:H2'	46:1:1710:C:C6	2.49	0.47
46:1:1783:U:H2'	46:1:1784:G:C8	2.49	0.47
46:1:1951:C:N3	46:1:2096:A:N1	2.63	0.47
4:C3:27:U:H2'	4:C3:28:C:C6	2.48	0.47
6:LB:266:ARG:HH21	46:1:2392:C:H1'	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LJ:81:GLU:HG2	14:LJ:167:TYR:HE2	1.81	0.47
20:LQ:43:PRO:HB2	46:1:728:G:H5'	1.96	0.47
20:LQ:116:LYS:HZ1	30:La:88:ASP:CG	2.23	0.47
46:1:952:A:H4'	46:1:968:G:H21	1.79	0.47
46:1:1566:A:H2'	46:1:1567:U:C6	2.50	0.47
46:1:1666:G:H2'	46:1:1667:A:C8	2.50	0.47
1:A:117:PHE:HZ	1:A:193:VAL:HG11	1.80	0.46
2:B:351:MET:HE2	2:B:351:MET:HA	1.97	0.46
2:B:620:LEU:HD13	2:B:656:LEU:HD23	1.96	0.46
2:B:629:GLU:O	2:B:632:PRO:HD2	2.16	0.46
9:LE:75:PRO:HG3	46:1:3268:A:H1'	1.97	0.46
9:LE:149:ILE:HG23	9:LE:155:LEU:HD22	1.97	0.46
12:LH:10:ILE:CD1	12:LH:72:LYS:HG2	2.44	0.46
14:LJ:96:PHE:CD2	14:LJ:160:VAL:HG12	2.50	0.46
17:LN:186:GLY:O	17:LN:190:THR:HG23	2.14	0.46
23:LT:53:PRO:HB3	23:LT:91:LEU:HD21	1.97	0.46
30:La:7:LYS:HE2	46:1:1372:C:P	2.55	0.46
33:Ld:5:LYS:O	33:Ld:6:ASP:CG	2.57	0.46
38:Li:68:ARG:HH22	46:1:2219:A:P	2.38	0.46
42:Lm:96:CYS:CB	42:Lm:99:CYS:SG	3.02	0.46
46:1:970:A:H2'	46:1:971:G:H8	1.80	0.46
46:1:1357:G:H2'	46:1:1358:C:H6	1.80	0.46
46:1:1764:U:H3'	46:1:1765:U:H4'	1.97	0.46
46:1:1963:G:H2'	46:1:1964:C:H4'	1.96	0.46
46:1:3066:U:H2'	46:1:3067:C:H6	1.79	0.46
46:1:3332:U:H2'	46:1:3333:G:O4'	2.15	0.46
46:1:3333:G:N2	46:1:3369:G:O2'	2.48	0.46
2:B:456:PRO:CG	2:B:789:ILE:HD11	2.46	0.46
4:C3:26:U:H2'	4:C3:27:U:H6	1.77	0.46
7:LC:308:LYS:NZ	46:1:609:G:O6	2.44	0.46
12:LH:104:VAL:O	12:LH:111:PHE:N	2.49	0.46
23:LT:71:SER:OG	23:LT:72:VAL:N	2.47	0.46
29:LZ:17:ARG:NH1	46:1:1634:G:N7	2.64	0.46
30:La:22:ILE:HG21	46:1:1115:G:P	2.55	0.46
32:Lc:17:VAL:HG11	32:Lc:92:ILE:HD12	1.97	0.46
41:Ll:15:LYS:O	41:Ll:19:GLN:HG2	2.15	0.46
45:Lp:6:LYS:HE3	45:Lp:6:LYS:HB3	1.73	0.46
45:Lp:17:ARG:HG3	45:Lp:18:TYR:CD2	2.50	0.46
46:1:275:U:H2'	46:1:276:U:C6	2.51	0.46
46:1:531:G:H2'	46:1:532:A:C8	2.50	0.46
46:1:1646:G:O2'	46:1:1808:G:N2	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1757:A:H2'	46:1:1758:G:C8	2.50	0.46
46:1:2379:U:H2'	46:1:2380:U:C6	2.49	0.46
46:1:3127:A:H2'	46:1:3128:G:O4'	2.15	0.46
1:C:63:MET:CE	2:D:230:LEU:CD1	2.88	0.46
2:D:16:SER:O	2:D:21:CYS:SG	2.74	0.46
1:A:8:GLU:OE2	2:B:231:TYR:CZ	2.67	0.46
2:B:554:GLN:HG3	2:B:557:ARG:HE	1.81	0.46
7:LC:292:SER:OG	7:LC:293:SER:N	2.48	0.46
8:LD:51:LEU:N	8:LD:145:PHE:O	2.36	0.46
15:LL:122:LYS:C	37:Lh:120:ALA:C	2.82	0.46
24:LU:56:VAL:HG22	24:LU:65:VAL:HG22	1.97	0.46
36:Lg:67:LYS:N	46:1:1821:U:O2'	2.42	0.46
43:Ln:6:ARG:O	43:Ln:10:THR:HG23	2.15	0.46
46:1:434:U:H2'	46:1:435:C:C6	2.49	0.46
46:1:887:G:H2'	46:1:888:A:C8	2.50	0.46
46:1:2430:A:H2'	46:1:2431:C:H6	1.79	0.46
46:1:2842:U:O2	46:1:2842:U:H2'	2.15	0.46
2:B:299:ARG:NH1	2:B:320:TYR:O	2.48	0.46
10:LF:92:ILE:HD11	46:1:1159:A:H5'	1.97	0.46
12:LH:21:LYS:N	46:1:3198:U:O2	2.48	0.46
13:LI:66:GLU:O	13:LI:70:ILE:HG12	2.15	0.46
22:LS:6:GLU:HG2	22:LS:64:ILE:HD13	1.96	0.46
39:Lj:55:ARG:NH1	46:1:353:G:O6	2.48	0.46
40:Lk:63:LYS:NZ	46:1:1975:C:C3'	2.78	0.46
40:Lk:63:LYS:CE	46:1:1975:C:O3'	2.64	0.46
44:Lo:61:LYS:NZ	44:Lo:63:LYS:O	2.42	0.46
46:1:542:G:N2	46:1:549:U:O2	2.44	0.46
46:1:768:C:C2	46:1:769:G:C8	3.03	0.46
46:1:1624:G:C4	46:1:1625:A:C8	3.03	0.46
46:1:1798:A:H2'	46:1:1799:A:H8	1.80	0.46
2:B:233:LYS:HG3	2:B:256:LEU:HD13	1.98	0.46
4:C3:142:C:H2'	4:C3:143:U:H6	1.78	0.46
5:LA:178:PRO:HB2	5:LA:180:LEU:HD12	1.96	0.46
9:LE:9:TRP:CD1	46:1:1353:U:C2	3.03	0.46
9:LE:76:LEU:N	9:LE:138:GLN:OE1	2.48	0.46
10:LF:156:ILE:HD13	10:LF:161:VAL:HB	1.97	0.46
16:LM:8:LYS:NZ	46:1:3199:G:OP1	2.31	0.46
17:LN:18:VAL:HG13	17:LN:19:LEU:HD22	1.97	0.46
29:LZ:22:LYS:N	29:LZ:49:TYR:OH	2.32	0.46
46:1:562:C:H2'	46:1:563:U:C6	2.51	0.46
46:1:860:G:O2'	46:1:895:A:H4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1008:U:O4	46:1:1043:C:N4	2.48	0.46
46:1:2666:C:OP2	46:1:2687:G:N1	2.49	0.46
2:D:754:VAL:HG22	2:D:783:LYS:HE3	1.97	0.46
1:A:103:MET:O	1:A:103:MET:HE3	2.15	0.46
7:LC:205:PRO:HD2	7:LC:225:VAL:HG22	1.96	0.46
22:LS:13:ARG:O	22:LS:22:PRO:HG2	2.14	0.46
24:LU:101:ASN:HA	24:LU:103:TYR:CE1	2.50	0.46
28:LY:39:LEU:HD11	28:LY:107:THR:C	2.41	0.46
30:La:37:GLY:HA3	30:La:53:PHE:HZ	1.80	0.46
30:La:44:ASN:ND2	46:1:966:U:OP1	2.49	0.46
38:Li:60:LEU:O	38:Li:64:SER:N	2.48	0.46
46:1:251:G:H5'	46:1:253:A:H1'	1.96	0.46
46:1:1047:A:N3	46:1:2633:U:O2'	2.48	0.46
46:1:1659:U:H2'	46:1:1660:C:H6	1.79	0.46
46:1:1985:G:H4'	46:1:1985:G:OP1	2.15	0.46
46:1:2709:C:H2'	46:1:2710:C:C6	2.49	0.46
46:1:3163:A:N6	46:1:3288:G:C6	2.84	0.46
2:D:361:LEU:HG	2:D:384:PHE:HB3	1.94	0.46
4:C3:28:C:O2'	46:1:691:A:N1	2.45	0.46
4:C3:69:U:H2'	4:C3:70:G:O4'	2.15	0.46
4:C3:145:U:H2'	4:C3:146:U:H6	1.80	0.46
8:LD:60:ILE:HB	8:LD:80:SER:HB3	1.97	0.46
11:LG:147:LYS:O	11:LG:201:THR:OG1	2.28	0.46
15:LL:15:ARG:HH11	46:1:97:U:P	2.38	0.46
26:LW:47:ARG:HE	26:LW:58:HIS:CD2	2.33	0.46
46:1:395:A:H8	46:1:395:A:O5'	1.99	0.46
46:1:1342:C:H2'	46:1:1343:A:C8	2.51	0.46
46:1:1444:G:H2'	46:1:1445:U:O4'	2.15	0.46
46:1:2232:A:H2'	46:1:2233:A:C8	2.51	0.46
1:A:10:VAL:HG13	2:B:531:GLY:O	2.16	0.46
1:A:129:TYR:O	1:A:132:LEU:HD23	2.16	0.46
2:B:607:ILE:HG23	2:B:608:LEU:HD23	1.98	0.46
7:LC:193:LYS:NZ	46:1:1419:A:H5''	2.25	0.46
11:LG:209:ALA:HB1	11:LG:213:LYS:NZ	2.30	0.46
16:LM:104:ALA:HA	16:LM:107:GLU:OE2	2.15	0.46
17:LN:67:ARG:HE	46:1:1544:G:H5'	1.81	0.46
17:LN:137:PRO:O	17:LN:143:ARG:HD3	2.14	0.46
17:LN:199:LEU:HD23	17:LN:203:ARG:CZ	2.46	0.46
27:LX:105:VAL:HG13	27:LX:130:TYR:CD2	2.51	0.46
28:LY:88:GLU:OE1	28:LY:88:GLU:HA	2.16	0.46
29:LZ:111:LYS:HA	29:LZ:114:VAL:HG22	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Lj:3:LYS:HB3	46:1:2138:A:C4	2.51	0.46
46:1:79:U:N3	46:1:80:G:N7	2.64	0.46
46:1:843:A:H2'	46:1:844:G:H8	1.80	0.46
46:1:1105:A:H2'	46:1:1106:G:H8	1.81	0.46
46:1:1695:U:O2'	46:1:1749:A:N1	2.36	0.46
46:1:2249:G:HO2'	46:1:2250:G:P	2.39	0.46
46:1:2998:U:H2'	46:1:2999:U:C6	2.51	0.46
1:C:51:VAL:HG22	2:D:330:CYS:N	2.30	0.46
1:A:19:ASN:OD1	1:A:62:TYR:OH	2.24	0.46
1:A:112:ASN:O	1:A:171:MET:HB2	2.16	0.46
9:LE:60:ASP:O	9:LE:62:THR:HG23	2.16	0.46
14:LJ:35:LYS:HA	14:LJ:38:GLU:HG3	1.98	0.46
14:LJ:93:ASP:OD1	14:LJ:171:VAL:HB	2.16	0.46
15:LL:159:VAL:HG13	30:La:144:VAL:CG1	2.46	0.46
16:LM:83:LYS:NZ	46:1:560:G:OP1	2.48	0.46
20:LQ:146:SER:HB2	46:1:786:A:OP1	2.16	0.46
23:LT:41:ASP:HA	23:LT:61:THR:HA	1.97	0.46
46:1:162:G:H2'	46:1:163:C:C6	2.50	0.46
46:1:429:U:H2'	46:1:430:U:H6	1.81	0.46
46:1:495:G:H2'	46:1:496:C:C6	2.51	0.46
46:1:1060:U:H2'	46:1:1061:A:C8	2.51	0.46
46:1:1060:U:H2'	46:1:1061:A:H8	1.81	0.46
46:1:1246:G:H2'	46:1:1247:U:C6	2.51	0.46
46:1:1899:G:O2'	46:1:2334:U:O4	2.30	0.46
46:1:2684:C:H2'	46:1:2685:C:C6	2.51	0.46
46:1:3232:G:H2'	46:1:3233:C:C6	2.51	0.46
1:C:48:GLU:CB	2:D:296:ARG:HH12	2.21	0.46
2:B:391:LYS:HE2	2:B:397:SER:HB2	1.98	0.46
2:B:469:ASN:HA	2:B:505:LEU:HD21	1.97	0.46
8:LD:177:GLU:OE1	8:LD:177:GLU:N	2.42	0.46
13:LI:66:GLU:OE1	13:LI:69:ARG:NH2	2.49	0.46
15:LL:24:VAL:HA	17:LN:199:LEU:O	2.16	0.46
22:LS:90:MET:HE1	22:LS:114:HIS:CD2	2.50	0.46
23:LT:100:LYS:HG2	23:LT:104:GLU:OE2	2.16	0.46
28:LY:101:PRO:HA	28:LY:104:LEU:HB3	1.97	0.46
32:Lc:22:LYS:HG2	32:Lc:94:GLU:HB3	1.98	0.46
36:Lg:56:THR:O	36:Lg:57:LEU:HD23	2.15	0.46
37:Lh:101:THR:HG23	37:Lh:104:GLN:H	1.80	0.46
46:1:82:C:N3	46:1:104:G:N1	2.63	0.46
46:1:671:U:H2'	46:1:672:A:C8	2.51	0.46
46:1:745:C:H2'	46:1:746:A:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1333:C:C2	46:1:1334:U:C5	3.04	0.46
46:1:1646:G:H1'	46:1:1809:A:H61	1.81	0.46
46:1:1951:C:C2	46:1:2096:A:N1	2.84	0.46
46:1:2433:U:OP2	46:1:2434:U:O2'	2.24	0.46
46:1:2806:U:H2'	46:1:2807:U:C6	2.50	0.46
46:1:3138:U:H2'	46:1:3139:A:H8	1.80	0.46
2:D:754:VAL:CG2	2:D:783:LYS:CE	2.94	0.46
5:LA:125:ALA:HB1	46:1:2177:G:C6	2.52	0.45
6:LB:7:GLU:HG2	46:1:2915:U:C5	2.51	0.45
8:LD:44:TYR:HE2	46:1:1084:A:H4'	1.75	0.45
11:LG:57:ARG:O	11:LG:61:GLN:HG3	2.16	0.45
11:LG:99:PRO:HD3	11:LG:132:VAL:HG12	1.97	0.45
12:LH:50:ASN:HD21	16:LM:4:ASP:HB2	1.81	0.45
15:LL:56:PRO:O	15:LL:72:GLY:N	2.39	0.45
16:LM:104:ALA:HA	16:LM:107:GLU:CD	2.41	0.45
34:Le:4:LEU:HD12	34:Le:5:PRO:HD2	1.99	0.45
46:1:261:U:H2'	46:1:262:U:C6	2.51	0.45
46:1:1413:G:H2'	46:1:1414:G:H8	1.81	0.45
46:1:1506:A:H1'	46:1:1848:G:O6	2.16	0.45
46:1:1643:A:H2'	46:1:1644:C:C2	2.52	0.45
46:1:1718:G:H2'	46:1:1719:G:H8	1.81	0.45
46:1:2206:G:O2'	46:1:2208:A:N7	2.48	0.45
2:D:7:GLU:O	2:D:11:GLY:HA3	2.16	0.45
1:A:134:TYR:C	1:A:167:MET:HE3	2.42	0.45
2:B:163:GLN:HG2	2:B:581:GLN:NE2	2.26	0.45
2:B:210:ARG:HH22	2:B:242:LEU:C	2.24	0.45
2:B:392:SER:HB3	2:B:395:ASP:HB2	1.98	0.45
4:C3:130:C:H2'	4:C3:131:A:C8	2.51	0.45
7:LC:186:LYS:NZ	46:1:1389:G:O6	2.49	0.45
15:LL:42:ARG:O	15:LL:46:ILE:HG12	2.16	0.45
16:LM:126:GLN:NE2	46:1:3261:C:OP1	2.36	0.45
17:LN:68:ARG:NE	46:1:291:C:OP1	2.44	0.45
23:LT:22:HIS:HB3	46:1:2701:U:OP1	2.17	0.45
31:Lb:14:ARG:NH2	46:1:1139:G:OP2	2.46	0.45
37:Lh:93:THR:OG1	46:1:135:C:H1'	2.16	0.45
45:Lp:17:ARG:HG3	45:Lp:18:TYR:CE2	2.51	0.45
46:1:1027:A:N6	46:1:1029:G:N3	2.65	0.45
46:1:1049:C:H2'	46:1:1050:U:C6	2.51	0.45
46:1:1662:G:H2'	46:1:1663:C:H6	1.81	0.45
46:1:1895:A:O2'	46:1:3053:G:H4'	2.15	0.45
1:C:55:PHE:CE1	2:D:398:SER:HA	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LE:4:GLN:HB2	34:Le:75:LEU:HB3	1.98	0.45
11:LG:73:PRO:HD3	11:LG:233:TRP:CE3	2.51	0.45
15:LL:2:ALA:HB1	30:La:33:GLY:O	2.16	0.45
21:LR:28:GLU:HB3	21:LR:31:GLU:OE2	2.16	0.45
30:La:20:GLY:HA2	46:1:1369:A:O2'	2.17	0.45
46:1:255:A:H2'	46:1:256:G:C8	2.51	0.45
46:1:553:U:H2'	46:1:554:A:O4'	2.17	0.45
46:1:638:C:H2'	46:1:639:G:C8	2.52	0.45
46:1:1120:A:H2'	46:1:1121:U:C6	2.52	0.45
46:1:1299:U:H2'	46:1:1300:G:O4'	2.16	0.45
46:1:1733:G:H2'	46:1:1734:G:H8	1.80	0.45
46:1:1783:U:H2'	46:1:1784:G:H8	1.82	0.45
46:1:1832:C:H2'	46:1:1833:G:H8	1.82	0.45
46:1:2882:U:H2'	46:1:2883:U:H6	1.80	0.45
46:1:3150:A:H2'	46:1:3151:U:O4'	2.16	0.45
4:C3:139:U:H2'	4:C3:140:G:C8	2.51	0.45
9:LE:21:THR:HG22	9:LE:23:LYS:H	1.81	0.45
9:LE:22:ARG:NE	46:1:608:A:C6	2.84	0.45
19:LP:139:TYR:CZ	46:1:2355:G:C4'	2.95	0.45
21:LR:95:TRP:NE1	46:1:855:U:H4'	2.31	0.45
46:1:86:G:O2'	46:1:98:G:O6	2.34	0.45
46:1:503:C:H2'	46:1:504:A:C8	2.51	0.45
46:1:792:G:H2'	46:1:793:C:C6	2.51	0.45
46:1:821:U:H2'	46:1:822:G:H8	1.81	0.45
46:1:1019:G:N2	46:1:1033:U:O2	2.32	0.45
46:1:1532:C:H2'	46:1:1533:U:C6	2.52	0.45
46:1:2086:A:O2'	46:1:2087:C:H5'	2.16	0.45
46:1:2343:C:H2'	46:1:2344:U:H6	1.81	0.45
46:1:2568:C:O2'	46:1:2569:A:O5'	2.34	0.45
46:1:2904:U:H2'	46:1:2905:U:H6	1.82	0.45
46:1:3017:A:H2'	46:1:3018:C:H6	1.82	0.45
1:A:19:ASN:HB3	1:A:26:ASN:HD21	1.80	0.45
4:C3:97:A:OP1	37:Lh:63:ARG:NH2	2.49	0.45
5:LA:180:LEU:HD11	45:Lp:26:VAL:HG21	1.98	0.45
7:LC:296:GLN:O	7:LC:299:ILE:HG22	2.16	0.45
12:LH:94:TYR:HA	12:LH:177:ASP:OD1	2.16	0.45
23:LT:41:ASP:OD2	23:LT:97:LYS:NZ	2.50	0.45
28:LY:103:LYS:HD3	46:1:190:U:O4	2.16	0.45
32:Lc:13:LYS:HB3	32:Lc:100:ILE:CG2	2.46	0.45
33:Ld:10:ARG:NH2	33:Ld:44:MET:HE1	2.32	0.45
34:Le:21:HIS:ND1	34:Le:24:ARG:HD2	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Lh:85:THR:O	37:Lh:89:ARG:HG3	2.16	0.45
40:Lk:43:PHE:CZ	40:Lk:65:LEU:HD23	2.51	0.45
41:Ll:11:GLN:OE1	41:Ll:11:GLN:HA	2.15	0.45
46:1:296:A:H2'	46:1:297:G:N3	2.30	0.45
46:1:712:G:H2'	46:1:713:U:C6	2.51	0.45
46:1:791:A:H2'	46:1:792:G:H8	1.81	0.45
46:1:822:G:H2'	46:1:823:C:H6	1.81	0.45
46:1:1088:U:C2	46:1:1089:G:C8	3.04	0.45
46:1:2049:A:C6	46:1:2051:G:H1'	2.52	0.45
46:1:2526:C:H2'	46:1:2527:G:H8	1.81	0.45
46:1:2683:U:H2'	46:1:2684:C:C6	2.51	0.45
46:1:2768:U:H2'	46:1:2769:A:C8	2.48	0.45
46:1:3159:C:H2'	46:1:3160:U:H6	1.81	0.45
46:1:3176:G:C6	46:1:3213:A:H2	2.34	0.45
1:A:48:GLU:HG3	1:A:87:PHE:CZ	2.52	0.45
1:A:62:TYR:HD1	1:A:64:MET:SD	2.40	0.45
2:B:506:TYR:CD1	2:B:545:ARG:HG3	2.52	0.45
2:B:536:ARG:C	2:B:540:MET:HE3	2.42	0.45
4:C3:43:A:H2'	4:C3:44:A:H8	1.82	0.45
4:C3:77:A:H2'	4:C3:78:G:O4'	2.16	0.45
10:LF:184:LEU:O	10:LF:188:ILE:HG12	2.16	0.45
15:LL:59:ARG:HD2	15:LL:66:ASN:O	2.15	0.45
28:LY:32:SER:HA	28:LY:49:PRO:HA	1.98	0.45
42:Lm:87:SER:HB2	42:Lm:91:CYS:HB3	1.99	0.45
46:1:99:A:H1'	46:1:281:G:N7	2.32	0.45
46:1:164:A:N1	46:1:258:G:C6	2.85	0.45
46:1:1335:C:H2'	46:1:1336:U:C6	2.52	0.45
46:1:1921:A:H2'	46:1:1922:A:C8	2.52	0.45
46:1:2331:C:H2'	46:1:2332:A:C8	2.52	0.45
46:1:2389:C:H2'	46:1:2390:A:H8	1.82	0.45
46:1:3360:C:H2'	46:1:3361:G:O4'	2.16	0.45
2:B:687:SER:O	2:B:691:LYS:HG2	2.17	0.45
3:C4:76:A:H1'	22:LS:50:LYS:NZ	2.32	0.45
9:LE:22:ARG:NH1	46:1:608:A:C5	2.85	0.45
15:LL:165:SER:C	15:LL:167:PHE:H	2.24	0.45
17:LN:88:GLY:HA3	44:Lo:50:PHE:CE2	2.52	0.45
18:LO:23[A]:VAL:HG13	18:LO:33[A]:ILE:HG21	1.99	0.45
19:LP:132:ALA:HB3	46:1:879:U:H4'	1.98	0.45
22:LS:44:PHE:O	22:LS:48:LEU:HD23	2.17	0.45
35:Lf:51:TYR:HD2	35:Lf:67:MET:HG3	1.82	0.45
35:Lf:53:TYR:CZ	35:Lf:65:ARG:HB2	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Li:33:ALA:N	46:1:298:U:OP2	2.44	0.45
40:Lk:28:ASN:O	40:Lk:40:GLN:N	2.39	0.45
46:1:1234:G:OP2	46:1:1235:U:H3'	2.17	0.45
46:1:1362:G:H2'	46:1:1363:A:C8	2.52	0.45
46:1:1680:G:H2'	46:1:1681:U:H6	1.82	0.45
46:1:1711:C:C4	46:1:1712:G:C6	3.05	0.45
46:1:2618:G:C8	46:1:2865:U:H5''	2.52	0.45
46:1:3163:A:H2'	46:1:3164:C:C6	2.51	0.45
1:C:63:MET:HB2	2:D:230:LEU:HD11	1.99	0.45
2:D:18:PHE:CE2	2:D:49:GLN:N	2.57	0.45
2:D:754:VAL:CG2	2:D:783:LYS:HE2	2.46	0.45
6:LB:308:MET:HE2	46:1:3329:U:H5''	1.99	0.45
9:LE:46:ARG:HE	46:1:3268:A:H5''	1.82	0.45
11:LG:203:VAL:HG13	11:LG:208:GLU:HG2	1.98	0.45
11:LG:228:GLU:OE1	11:LG:228:GLU:N	2.48	0.45
14:LJ:9:MET:HG3	14:LJ:9:MET:O	2.16	0.45
17:LN:170:LYS:NZ	46:1:288:C:OP1	2.49	0.45
21:LR:82:LYS:O	46:1:1914:G:O2'	2.30	0.45
23:LT:69:LYS:HB3	46:1:2737:C:OP1	2.17	0.45
23:LT:131:GLN:OE1	23:LT:131:GLN:HA	2.16	0.45
28:LY:53:ASP:O	28:LY:110:HIS:HB2	2.16	0.45
46:1:290:G:H2'	46:1:291:C:C6	2.51	0.45
46:1:1214:U:H2'	46:1:1215:U:C6	2.51	0.45
46:1:1794:G:O2'	46:1:1796:G:N2	2.50	0.45
46:1:2437:G:O6	46:1:2510:U:O4	2.35	0.45
46:1:2600:C:H2'	46:1:2601:A:H8	1.81	0.45
46:1:2824:G:H2'	46:1:2825:C:H6	1.82	0.45
46:1:3320:A:H2'	46:1:3321:C:C6	2.52	0.45
1:A:63:MET:CE	1:A:65:ALA:HB2	2.47	0.45
2:B:149:TYR:HB2	2:B:186:LEU:HD11	1.99	0.45
6:LB:28:ARG:NH2	46:1:3140:G:N7	2.65	0.45
8:LD:25:GLU:O	14:LJ:144:CYS:HA	2.17	0.45
11:LG:190:VAL:O	11:LG:190:VAL:HG12	2.17	0.45
12:LH:139:ASN:OD1	12:LH:140:VAL:HG23	2.17	0.45
16:LM:121:MET:HE1	46:1:3215:A:O5'	2.17	0.45
17:LN:121:VAL:HG11	17:LN:131:GLU:HG3	1.98	0.45
20:LQ:44:PHE:CD1	20:LQ:139:ILE:HD11	2.51	0.45
20:LQ:160:GLY:C	46:1:780:A:H5'	2.42	0.45
21:LR:146:LYS:HD3	46:1:2091:U:H5''	1.99	0.45
27:LX:33:ARG:HE	27:LX:33:ARG:HB3	1.67	0.45
34:Le:98:HIS:ND1	46:1:1411:C:OP1	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Lo:25:VAL:HG22	44:Lo:70:LEU:HD12	1.99	0.45
45:Lp:48:LYS:HB3	45:Lp:48:LYS:HE3	1.77	0.45
46:1:209:A:H4'	46:1:211:A:C8	2.51	0.45
46:1:412:G:H2'	46:1:413:U:H6	1.82	0.45
46:1:992:A:O2'	46:1:993:G:H5'	2.17	0.45
46:1:1034:U:H2'	46:1:1035:G:C8	2.52	0.45
46:1:1615:C:H2'	46:1:1616:U:H6	1.78	0.45
46:1:2660:G:OP1	46:1:2750:U:O2'	2.35	0.45
46:1:2677:G:N3	46:1:2677:G:H2'	2.31	0.45
46:1:2678:A:H2'	46:1:2679:A:C4	2.52	0.45
46:1:2889:C:H2'	46:1:2890:A:H8	1.82	0.45
46:1:2955:U:OP2	46:1:2977:G:N1	2.49	0.45
4:C3:19:C:H2'	4:C3:20:U:C6	2.52	0.45
6:LB:282:ILE:CD1	6:LB:322:ILE:HG23	2.44	0.45
7:LC:14:GLU:HG2	7:LC:15:ALA:N	2.31	0.45
7:LC:226:GLU:HG2	7:LC:246:ARG:HH22	1.81	0.45
9:LE:163:PHE:HD1	16:LM:114:ASP:OD2	1.95	0.45
12:LH:49:ASN:O	12:LH:51:GLN:NE2	2.50	0.45
16:LM:42:LYS:CE	46:1:1185:C:H5''	2.47	0.45
21:LR:23:TRP:HE3	21:LR:51:VAL:HG22	1.81	0.45
29:LZ:136:PHE:O	46:1:2555:G:O2'	2.35	0.45
46:1:24:G:H2'	46:1:25:U:O4'	2.17	0.45
46:1:279:U:H2'	46:1:280:U:C6	2.52	0.45
46:1:675:C:H2'	46:1:676:G:O4'	2.17	0.45
46:1:1243:G:HO2'	46:1:1271:A:HO2'	1.45	0.45
46:1:1658:G:H2'	46:1:1659:U:C6	2.52	0.45
46:1:1982:G:N2	46:1:2040:U:H3	2.14	0.45
46:1:2331:C:H2'	46:1:2332:A:H8	1.81	0.45
46:1:2376:G:H2'	46:1:2377:G:C8	2.52	0.45
46:1:2813:A:H2'	46:1:2814:G:O4'	2.18	0.45
46:1:3356:G:H2'	46:1:3357:U:C6	2.52	0.45
2:D:361:LEU:HD11	2:D:399:CYS:SG	2.57	0.45
1:A:63:MET:HE2	1:A:65:ALA:HB2	1.99	0.44
7:LC:328:ASN:OD1	10:LF:48:ASN:ND2	2.50	0.44
8:LD:23:ARG:HD2	46:1:2703:A:N6	2.32	0.44
15:LL:50:PRO:HB3	37:Lh:118:ILE:CG2	2.47	0.44
26:LW:57:LYS:C	26:LW:57:LYS:HD3	2.42	0.44
28:LY:51:ARG:HG2	28:LY:52:ARG:N	2.32	0.44
29:LZ:23:VAL:HB	29:LZ:43:VAL:HB	1.99	0.44
46:1:612:U:H2'	46:1:613:G:C8	2.50	0.44
46:1:734:C:H2'	46:1:735:A:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:945:C:H2'	46:1:946:U:H6	1.82	0.44
46:1:1105:A:H2'	46:1:1106:G:C8	2.51	0.44
46:1:1414:G:C5	46:1:1415:U:C4	3.05	0.44
46:1:2133:U:O4	46:1:2147:A:H2	1.99	0.44
46:1:2279:A:N7	46:1:2288:G:C8	2.85	0.44
46:1:2291:A:C6	46:1:2302:G:C6	3.05	0.44
46:1:2534:G:H2'	46:1:2535:A:C8	2.52	0.44
46:1:2720:G:C2	46:1:2721:A:C8	3.05	0.44
46:1:2837:A:H2'	46:1:2845:A:C6	2.51	0.44
2:B:119:LEU:HD11	2:B:517:ILE:HG21	1.98	0.44
4:C3:30:C:H2'	4:C3:31:G:H8	1.82	0.44
5:LA:70:ARG:HH22	5:LA:72:ARG:NH2	2.15	0.44
6:LB:221:THR:O	6:LB:334:ARG:NH1	2.50	0.44
8:LD:258:LYS:O	8:LD:260:PHE:N	2.50	0.44
9:LE:169:ASP:HB3	9:LE:174:LEU:HD11	1.98	0.44
13:LI:200:LEU:HB2	13:LI:213:PHE:CD2	2.53	0.44
14:LJ:80:LEU:O	14:LJ:84:LEU:HD23	2.17	0.44
27:LX:64:GLU:N	27:LX:64:GLU:OE1	2.51	0.44
42:Lm:112:LYS:HE3	46:1:3107:U:OP2	2.16	0.44
46:1:168:U:H2'	46:1:169:U:C6	2.51	0.44
46:1:1015:U:O2'	46:1:1017:C:OP2	2.30	0.44
46:1:1072:G:H2'	46:1:1073:U:H6	1.82	0.44
46:1:1237:G:C8	46:1:1263:A:H1'	2.52	0.44
46:1:2985:C:H2'	46:1:2986:U:C6	2.52	0.44
46:1:3183:A:H2'	46:1:3184:A:H8	1.79	0.44
2:B:747:LYS:O	2:B:751:LYS:N	2.40	0.44
3:C4:11:A:N6	8:LD:13:SER:O	2.50	0.44
4:C3:5:U:H2'	4:C3:6:U:C6	2.53	0.44
6:LB:102:LEU:HD23	6:LB:102:LEU:H	1.82	0.44
6:LB:182:GLN:NE2	6:LB:184:ASN:OD1	2.50	0.44
13:LI:41:ALA:HB1	13:LI:45:GLU:OE2	2.17	0.44
21:LR:146:LYS:HD3	46:1:2092:A:P	2.55	0.44
24:LU:94:ARG:NH1	46:1:1679:A:OP1	2.50	0.44
29:LZ:70:PRO:HG3	29:LZ:115:LYS:HB2	1.98	0.44
46:1:158:G:H2'	46:1:159:A:C8	2.47	0.44
46:1:1261:G:H4'	46:1:1278:A:C2	2.52	0.44
46:1:1381:A:H2'	46:1:1382:G:C8	2.50	0.44
46:1:1791:C:H2'	46:1:1792:C:C6	2.52	0.44
46:1:2148:U:H2'	46:1:2149:A:C8	2.52	0.44
46:1:2496:C:H2'	46:1:2497:U:C6	2.53	0.44
46:1:3348:G:H2'	46:1:3349:C:H6	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:3353:G:C6	46:1:3356:G:C6	3.05	0.44
1:A:7:PHE:H	1:A:44:PHE:HA	1.82	0.44
2:B:265:GLU:O	2:B:269:ASN:ND2	2.48	0.44
4:C3:6:U:H2'	4:C3:7:U:C6	2.52	0.44
4:C3:47:C:H1'	4:C3:61:A:H2'	1.98	0.44
5:LA:117:GLU:HG2	5:LA:124:GLY:N	2.31	0.44
9:LE:46:ARG:NE	46:1:3268:A:H5''	2.33	0.44
10:LF:142:SER:O	10:LF:146:GLN:HG2	2.16	0.44
13:LI:192:ASP:HA	13:LI:197:VAL:HG23	1.99	0.44
40:Lk:32:ASN:OD1	40:Lk:33:LYS:N	2.51	0.44
46:1:210:U:C2	46:1:230:U:H4'	2.52	0.44
46:1:276:U:H2'	46:1:277:G:C8	2.53	0.44
46:1:443:G:N2	46:1:492:C:C2	2.84	0.44
46:1:646:A:H2'	46:1:647:A:O4'	2.16	0.44
46:1:798:G:H2'	46:1:799:G:O4'	2.18	0.44
46:1:1257:C:O2	46:1:1261:G:O6	2.35	0.44
46:1:1650:G:H2'	46:1:1651:U:H6	1.81	0.44
46:1:1662:G:H22	46:1:1787:A:H2	1.64	0.44
46:1:1828:A:H2'	46:1:1829:G:C8	2.52	0.44
46:1:1986:U:O2	46:1:1986:U:H2'	2.18	0.44
46:1:2396:G:OP1	46:1:2397:A:O2'	2.26	0.44
1:A:12:LEU:HD11	1:A:32:TYR:CD2	2.52	0.44
2:B:27:GLN:O	2:B:30:LYS:HG2	2.17	0.44
2:B:673:GLU:OE2	2:B:680:LYS:NZ	2.48	0.44
4:C3:19:C:H2'	4:C3:20:U:H6	1.82	0.44
6:LB:348:ARG:HG2	6:LB:348:ARG:O	2.17	0.44
12:LH:19:SER:HB3	12:LH:26:LYS:HB3	1.99	0.44
14:LJ:24:GLY:HA2	46:1:2680:A:C2	2.52	0.44
16:LM:103:ILE:O	16:LM:107:GLU:OE1	2.35	0.44
21:LR:114:LYS:O	21:LR:115:ILE:HD13	2.17	0.44
23:LT:79:MET:HE3	23:LT:79:MET:HB2	1.90	0.44
31:Lb:25:LYS:NZ	46:1:1106:G:O2'	2.51	0.44
44:Lo:21:THR:HG21	44:Lo:76:LYS:HZ3	1.83	0.44
46:1:29:C:H4'	46:1:62:A:H4'	1.98	0.44
46:1:100:A:H2'	46:1:101:G:N3	2.32	0.44
46:1:432:G:H2'	46:1:433:A:C8	2.52	0.44
46:1:1143:A:H5'	46:1:1368:U:H1'	1.98	0.44
46:1:2707:C:H2'	46:1:2708:C:C6	2.53	0.44
46:1:3269:U:H4'	46:1:3270:U:O5'	2.17	0.44
46:1:3294:A:H2'	46:1:3295:A:O4'	2.17	0.44
1:A:56:LYS:HD3	2:B:592:SER:HB2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:12:LEU:HD13	2:B:20:GLN:HE21	1.82	0.44
2:B:450:MET:HE2	2:B:458:ALA:HB3	1.99	0.44
3:C4:11:A:N1	3:C4:67:G:O2'	2.43	0.44
3:C4:44:C:HO2'	8:LD:152:ARG:HD2	1.80	0.44
4:C3:28:C:H2'	4:C3:29:U:C6	2.51	0.44
6:LB:213:GLU:O	6:LB:282:ILE:HG22	2.18	0.44
10:LF:59:GLU:O	10:LF:62:ILE:HG22	2.18	0.44
14:LJ:88:GLU:OE2	14:LJ:90:GLN:HB2	2.18	0.44
17:LN:118:SER:HB3	17:LN:132:VAL:HG12	2.00	0.44
28:LY:92:GLY:HA3	2:D:218:ALA:CB	2.47	0.44
30:La:36:GLY:HA2	30:La:39:HIS:HB2	2.00	0.44
35:Lf:59:VAL:HG13	35:Lf:60:ARG:N	2.33	0.44
46:1:584:G:H2'	46:1:585:A:C8	2.50	0.44
46:1:993:G:N3	46:1:2637:A:H2'	2.33	0.44
46:1:1913:A:N3	46:1:2120:A:H2'	2.32	0.44
46:1:1949:G:H1	46:1:2097:U:H3	1.64	0.44
46:1:3102:G:H2'	46:1:3103:A:H8	1.83	0.44
46:1:3217:C:C5	46:1:3220:G:H1'	2.52	0.44
46:1:3353:G:H3'	46:1:3354:U:O4'	2.18	0.44
2:D:591:PHE:HD1	2:D:598:PHE:CE2	2.35	0.44
1:A:33:PHE:CE1	2:B:535:MET:HE1	2.53	0.44
1:A:134:TYR:CD1	1:A:169:LYS:HB2	2.53	0.44
2:B:741:CYS:O	2:B:743:ASP:N	2.51	0.44
3:C4:118:A:H2'	3:C4:119:U:C6	2.53	0.44
4:C3:85:G:H4'	4:C3:86:U:OP1	2.17	0.44
5:LA:94:ALA:O	5:LA:102:LEU:HD11	2.18	0.44
8:LD:95:TRP:CD1	8:LD:158:ARG:HA	2.53	0.44
9:LE:62:THR:OG1	9:LE:78:ARG:HD2	2.18	0.44
11:LG:37:GLY:HA3	46:1:2550:U:C6	2.53	0.44
12:LH:26:LYS:HB2	46:1:3198:U:O4	2.18	0.44
17:LN:16:SER:O	17:LN:20:ARG:HG2	2.17	0.44
23:LT:119:ALA:HB3	23:LT:126:VAL:HG12	1.99	0.44
26:LW:47:ARG:HE	26:LW:58:HIS:HD2	1.65	0.44
30:La:132:LYS:O	30:La:136:GLU:HG2	2.18	0.44
46:1:1128:U:H2'	46:1:1129:A:O4'	2.18	0.44
46:1:1265:U:H2'	46:1:1266:G:C8	2.53	0.44
46:1:1415:U:O2'	46:1:1416:C:H5'	2.18	0.44
46:1:1590:G:O2'	46:1:1797:A:N6	2.51	0.44
46:1:1616:U:C2	46:1:1617:G:C8	3.06	0.44
46:1:1781:C:H2'	46:1:1782:U:C6	2.53	0.44
1:C:54:THR:HG23	2:D:396:TYR:CB	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:20:LEU:HD11	2:B:475:LEU:CD1	2.39	0.44
2:B:315:GLU:HG2	2:B:350:ILE:HD11	1.99	0.44
3:C4:29:C:H2'	3:C4:51:A:H61	1.83	0.44
14:LJ:35:LYS:O	14:LJ:39:GLN:OE1	2.35	0.44
15:LL:110:ASP:OD1	15:LL:110:ASP:N	2.50	0.44
17:LN:46:ASP:OD1	17:LN:47:LYS:N	2.47	0.44
17:LN:140:LYS:HG3	46:1:127:G:OP1	2.18	0.44
18:LO:39[A]:GLU:CD	18:LO:39[A]:GLU:H	2.24	0.44
19:LP:109:ALA:HA	19:LP:112:LEU:HD13	1.98	0.44
21:LR:21:LYS:HD2	21:LR:53:LYS:HB3	2.00	0.44
23:LT:43:LYS:HA	23:LT:58:GLN:NE2	2.28	0.44
34:Le:13:HIS:HB2	34:Le:57:TYR:HD2	1.81	0.44
35:Lf:67:MET:HE1	46:1:430:U:C5'	2.47	0.44
39:Lj:54:LYS:O	39:Lj:58:THR:HB	2.17	0.44
46:1:105:C:H2'	46:1:106:A:H8	1.83	0.44
46:1:237:G:C2	46:1:238:A:C5	3.06	0.44
46:1:1596:C:O2'	46:1:1696:A:N3	2.46	0.44
46:1:1699:A:H2'	46:1:1700:G:H8	1.81	0.44
46:1:2366:C:H2'	46:1:2367:A:C8	2.51	0.44
46:1:3006:A:H2'	46:1:3007:U:O4'	2.18	0.44
46:1:3073:A:H2'	46:1:3074:G:O4'	2.18	0.44
46:1:3159:C:H2'	46:1:3160:U:C6	2.52	0.44
1:C:41:ASP:HB2	2:D:528:LYS:HG3	2.00	0.44
2:B:517:ILE:HG12	2:B:532:MET:SD	2.57	0.44
4:C3:64:U:C2	4:C3:65:A:C8	3.06	0.44
5:LA:20:THR:HA	5:LA:23:ARG:HD2	2.00	0.44
8:LD:91:GLY:O	8:LD:94:ASN:ND2	2.50	0.44
14:LJ:90:GLN:C	14:LJ:91:LEU:HD12	2.43	0.44
18:LO:194[A]:LEU:O	18:LO:199[A]:TYR:N	2.47	0.44
21:LR:53:LYS:HD2	21:LR:53:LYS:HA	1.86	0.44
22:LS:25:PHE:HD1	23:LT:151:LEU:HD21	1.83	0.44
26:LW:58:HIS:ND1	26:LW:58:HIS:O	2.51	0.44
30:La:79:TRP:HE1	30:La:119:PRO:HD2	1.82	0.44
37:Lh:105:ARG:NH2	37:Lh:106:LYS:HG3	2.33	0.44
46:1:110:G:C2	46:1:111:C:HI'	2.53	0.44
46:1:2315:G:C2	46:1:2316:G:N7	2.85	0.44
46:1:2578:U:H2'	46:1:2579:G:O4'	2.18	0.44
46:1:2669:G:H2'	46:1:2670:G:H8	1.83	0.44
46:1:2723:U:H2'	46:1:2724:U:C6	2.53	0.44
46:1:2970:C:H2'	46:1:2972:G:C8	2.53	0.44
46:1:2978:U:O2'	46:1:2979:U:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:3096:C:H2'	46:1:3097:C:C6	2.53	0.44
2:B:516:TYR:O	2:B:519:VAL:HG12	2.18	0.43
10:LF:132:PRO:HA	10:LF:229:PHE:CD1	2.53	0.43
12:LH:57:VAL:HG23	12:LH:68:LEU:HD12	2.00	0.43
15:LL:41:THR:HB	15:LL:45:LYS:NZ	2.33	0.43
18:LO:34[A]:VAL:HG21	18:LO:112[A]:TYR:CE2	2.53	0.43
18:LO:162[A]:VAL:O	18:LO:166[A]:GLU:OE1	2.36	0.43
28:LY:19:TYR:CE2	46:1:216:G:H4'	2.53	0.43
30:La:19:LYS:C	46:1:1113:G:H5''	2.42	0.43
34:Le:23:ASP:OD2	46:1:424:G:O2'	2.27	0.43
38:Li:98:ARG:HG3	38:Li:99:ARG:HH22	1.82	0.43
46:1:760:G:N2	46:1:770:G:O2'	2.49	0.43
2:B:124:TYR:HA	2:B:127:MET:CE	2.46	0.43
2:B:450:MET:HE2	2:B:458:ALA:CB	2.49	0.43
2:B:794:ARG:NH1	2:B:794:ARG:HB2	2.33	0.43
4:C3:154:C:H2'	4:C3:155:A:C8	2.54	0.43
5:LA:128:ARG:HE	5:LA:128:ARG:HB3	1.67	0.43
5:LA:137:ILE:HD11	5:LA:149:ARG:HB2	2.00	0.43
9:LE:170:LYS:HB3	9:LE:172:HIS:CE1	2.53	0.43
10:LF:100:ARG:HE	10:LF:100:ARG:HB3	1.66	0.43
23:LT:88:ARG:HH11	23:LT:88:ARG:HG3	1.83	0.43
46:1:208:C:H2'	46:1:209:A:O4'	2.19	0.43
46:1:638:C:C2	46:1:639:G:N7	2.86	0.43
46:1:1478:C:H2'	46:1:1479:U:H6	1.83	0.43
46:1:2202:C:H2'	46:1:2203:U:C6	2.53	0.43
46:1:2215:A:C4	46:1:2216:G:C8	3.06	0.43
46:1:2740:A:H2'	46:1:2741:C:C6	2.53	0.43
46:1:3387:U:H2'	46:1:3388:C:C6	2.53	0.43
2:B:517:ILE:HG12	2:B:532:MET:HE1	2.01	0.43
2:B:561:ASP:OD1	2:B:562:LYS:N	2.49	0.43
2:B:666:ALA:O	2:B:670:ILE:HG13	2.19	0.43
2:B:733:ASN:O	2:B:737:GLU:OE1	2.37	0.43
2:B:794:ARG:NH2	46:1:3153:U:H2'	2.29	0.43
3:C4:115:G:H2'	3:C4:116:C:C6	2.53	0.43
12:LH:62:ARG:NH1	46:1:1210:U:OP1	2.51	0.43
14:LJ:32:ARG:HG3	14:LJ:123:PHE:CE2	2.53	0.43
30:La:61:PHE:HB3	46:1:304:G:O2'	2.18	0.43
46:1:61:A:C4	46:1:62:A:C8	3.06	0.43
46:1:540:U:H2'	46:1:541:U:C6	2.53	0.43
46:1:1281:G:C2	46:1:1282:G:C8	3.06	0.43
46:1:1534:A:H2'	46:1:1535:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1544:G:O2'	46:1:2167:A:H1'	2.19	0.43
46:1:2260:U:H2'	46:1:2261:G:O4'	2.18	0.43
46:1:2284:C:N4	46:1:2308:C:O4'	2.51	0.43
46:1:2330:C:H2'	46:1:2331:C:H6	1.83	0.43
46:1:3081:C:H2'	46:1:3082:C:C6	2.53	0.43
1:C:1:MET:CE	2:D:333:ILE:HG23	2.48	0.43
4:C3:141:C:H2'	4:C3:142:C:C6	2.53	0.43
6:LB:7:GLU:HG3	46:1:2915:U:OP2	2.19	0.43
10:LF:146:GLN:OE1	10:LF:146:GLN:HA	2.18	0.43
15:LL:114:GLN:O	15:LL:118:GLU:OE1	2.36	0.43
16:LM:136:ALA:HB1	46:1:3229:G:H5'	2.01	0.43
20:LQ:9:GLN:HA	20:LQ:9:GLN:OE1	2.19	0.43
33:Ld:110:GLU:OE1	33:Ld:110:GLU:HA	2.18	0.43
46:1:255:A:H2'	46:1:256:G:H8	1.83	0.43
46:1:675:C:O2'	46:1:679:U:OP1	2.36	0.43
46:1:967:A:C4	46:1:968:G:C8	3.06	0.43
46:1:1757:A:H2'	46:1:1758:G:H8	1.84	0.43
46:1:1804:A:H2'	46:1:1805:C:C6	2.54	0.43
46:1:1895:A:N6	46:1:2335:G:O2'	2.50	0.43
46:1:1896:A:H61	46:1:2339:C:N4	2.16	0.43
46:1:1974:A:OP1	46:1:2048:G:N2	2.51	0.43
46:1:2217:U:H2'	46:1:2218:G:H8	1.83	0.43
46:1:2767:U:H2'	46:1:2768:U:H6	1.84	0.43
46:1:2984:C:H2'	46:1:2985:C:H6	1.83	0.43
46:1:3044:G:H2'	46:1:3045:G:C8	2.53	0.43
46:1:3092:C:O2'	46:1:3094:A:OP2	2.21	0.43
46:1:3218:A:H5''	46:1:3219:G:C8	2.54	0.43
2:B:45:VAL:O	2:B:49:GLN:HG3	2.18	0.43
7:LC:14:GLU:H	7:LC:14:GLU:CD	2.24	0.43
9:LE:133:GLU:HG2	9:LE:134:ARG:N	2.34	0.43
12:LH:135:GLU:OE1	12:LH:135:GLU:HA	2.18	0.43
13:LI:35:ASP:OD1	13:LI:88:ARG:HG3	2.18	0.43
13:LI:192:ASP:HA	13:LI:197:VAL:HA	2.01	0.43
15:LL:35:ARG:HH21	46:1:685:G:P	2.39	0.43
20:LQ:79:LYS:HA	20:LQ:136:ASN:OD1	2.18	0.43
34:Le:3:SER:HB2	34:Le:71:HIS:CE1	2.54	0.43
36:Lg:11:ASN:HB3	36:Lg:18:ASN:ND2	2.34	0.43
46:1:574:U:C2	46:1:575:G:C8	3.06	0.43
46:1:754:G:H2'	46:1:755:A:H8	1.83	0.43
46:1:802:C:H2'	46:1:803:C:H6	1.83	0.43
46:1:1182:A:H2'	46:1:1183:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1744:G:H2'	46:1:1745:C:C6	2.52	0.43
46:1:1831:U:H2'	46:1:1832:C:H6	1.83	0.43
46:1:2040:U:H2'	46:1:2041:U:C6	2.52	0.43
46:1:3072:C:H2'	46:1:3073:A:O4'	2.18	0.43
46:1:3287:U:H3'	46:1:3288:G:H8	1.83	0.43
2:D:12:LEU:HB3	2:D:17:ASN:CB	2.43	0.43
1:A:129:TYR:O	1:A:134:TYR:HB2	2.18	0.43
3:C4:97:A:H2'	3:C4:98:C:C6	2.54	0.43
7:LC:141:ARG:NH2	46:1:1386:A:H5''	2.33	0.43
11:LG:78:PHE:C	11:LG:80:TYR:H	2.25	0.43
13:LI:115:MET:HE3	13:LI:115:MET:HB3	1.80	0.43
16:LM:121:MET:HE3	46:1:3214:U:C2	2.53	0.43
21:LR:84:THR:HG1	46:1:1916:U:P	2.40	0.43
24:LU:53:ALA:O	24:LU:68:THR:HG22	2.18	0.43
24:LU:97:SER:HB2	24:LU:103:TYR:CD2	2.54	0.43
40:Lk:56:ILE:HG22	40:Lk:58:ASP:H	1.84	0.43
44:Lo:99:GLN:OE1	44:Lo:99:GLN:N	2.51	0.43
45:Lp:49:ARG:HB2	45:Lp:55:TRP:CZ3	2.54	0.43
46:1:51:A:C4	46:1:52:A:C8	3.07	0.43
46:1:245:U:H2'	46:1:246:U:C6	2.53	0.43
46:1:433:A:H2'	46:1:434:U:C6	2.53	0.43
46:1:601:U:H2'	46:1:602:A:C8	2.53	0.43
46:1:955:U:H2'	46:1:956:U:C6	2.52	0.43
46:1:1470:U:H2'	46:1:1471:U:C6	2.53	0.43
46:1:1573:G:H2'	46:1:1574:C:O4'	2.19	0.43
46:1:2571:U:H4'	46:1:2572:C:H5'	1.99	0.43
46:1:2930:A:H2'	46:1:2931:C:H6	1.84	0.43
2:B:82:HIS:NE2	2:B:121:ASP:OD2	2.45	0.43
2:B:322:LEU:HD21	2:B:335:LEU:HD11	2.01	0.43
2:B:482:ARG:HH21	2:B:486:LEU:HD21	1.83	0.43
2:B:724:ASP:HB2	2:B:727:ILE:HG12	2.00	0.43
2:B:782:ILE:H	2:B:782:ILE:HD12	1.84	0.43
5:LA:133:TYR:HE2	5:LA:135:ILE:HD11	1.84	0.43
6:LB:56:ILE:HG21	6:LB:356:LEU:HD22	2.01	0.43
6:LB:259:HIS:CD2	18:LO:64[A]:PHE:CE2	3.06	0.43
11:LG:133:LYS:N	11:LG:199:ALA:O	2.48	0.43
16:LM:40:ASP:OD2	16:LM:42:LYS:HE3	2.18	0.43
21:LR:150:GLN:HA	21:LR:153:LYS:HG2	2.01	0.43
23:LT:26:HIS:ND1	23:LT:28:SER:OG	2.52	0.43
30:La:76:ASP:N	30:La:76:ASP:OD1	2.49	0.43
33:Ld:11:GLU:HG2	33:Ld:74:ARG:HG3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Ld:41:LYS:HG3	33:Ld:47:ASP:HA	2.00	0.43
34:Le:54:LYS:HZ1	46:1:1162:U:P	2.42	0.43
40:Lk:26:LYS:NZ	46:1:1751:G:OP1	2.47	0.43
46:1:414:U:H2'	46:1:415:G:H8	1.84	0.43
46:1:594:U:P	46:1:609:G:H1	2.41	0.43
46:1:612:U:C2	46:1:613:G:C8	3.06	0.43
46:1:802:C:H2'	46:1:803:C:C6	2.54	0.43
46:1:2412:G:H2'	46:1:2413:A:C8	2.53	0.43
46:1:2584:G:H2'	46:1:2585:G:H4'	2.01	0.43
46:1:2651:G:HO2'	46:1:2796:G:H1	1.65	0.43
46:1:2918:G:H2'	46:1:2919:A:H8	1.83	0.43
1:C:51:VAL:HG22	2:D:330:CYS:H	1.83	0.43
1:C:51:VAL:CA	2:D:330:CYS:CB	2.97	0.43
2:B:439:PHE:HA	2:B:442:MET:HB3	2.01	0.43
6:LB:266:ARG:HH11	6:LB:266:ARG:HG3	1.84	0.43
7:LC:22:LEU:HA	7:LC:23:PRO:HD3	1.90	0.43
8:LD:31:TYR:O	8:LD:35:ARG:NH1	2.52	0.43
8:LD:52:VAL:HG11	8:LD:65:ILE:HD12	2.00	0.43
9:LE:22:ARG:HD3	46:1:608:A:N6	2.34	0.43
11:LG:36:ILE:H	11:LG:36:ILE:HD12	1.84	0.43
11:LG:56:VAL:HA	11:LG:59:GLN:HG2	2.00	0.43
12:LH:90:MET:HG2	12:LH:161:LEU:HD11	2.00	0.43
17:LN:174:ILE:HG13	17:LN:174:ILE:O	2.17	0.43
21:LR:134:HIS:HE1	21:LR:136:ARG:HB3	1.83	0.43
23:LT:39:ILE:HD13	23:LT:63:VAL:HG22	2.01	0.43
32:Lc:56:LEU:HD23	32:Lc:56:LEU:HA	1.80	0.43
34:Le:37:GLY:O	34:Le:43:ARG:NE	2.48	0.43
44:Lo:30:ALA:O	46:1:2767:U:O2'	2.33	0.43
46:1:1687:U:H5''	46:1:1688:U:H5'	2.00	0.43
46:1:1762:C:N4	2:D:72:THR:C	2.75	0.43
46:1:2689:A:N3	46:1:2689:A:H2'	2.33	0.43
1:A:93:ALA:O	1:A:96:LEU:HG	2.18	0.43
2:B:431:TYR:O	2:B:435:ASP:N	2.50	0.43
2:B:706:TYR:CE2	2:B:793:VAL:HG13	2.54	0.43
4:C3:9:A:H2'	4:C3:10:A:H8	1.84	0.43
8:LD:59:ASP:OD1	8:LD:80:SER:OG	2.34	0.43
10:LF:96:PRO:HB2	10:LF:99:PRO:HD2	2.01	0.43
16:LM:42:LYS:HE2	46:1:1185:C:O3'	2.19	0.43
21:LR:115:ILE:HG23	21:LR:119:LEU:HD23	2.00	0.43
30:La:7:LYS:HG2	46:1:794:U:C5'	2.49	0.43
35:Lf:44:TYR:O	35:Lf:71:VAL:HG21	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:Lk:43:PHE:CE1	40:Lk:65:LEU:HD23	2.54	0.43
42:Lm:110:CYS:O	42:Lm:117:HIS:HA	2.18	0.43
46:1:7:C:H2'	46:1:8:C:C6	2.54	0.43
46:1:176:G:C2	46:1:243:G:C5	3.07	0.43
46:1:374:A:O2'	46:1:376:G:H5'	2.17	0.43
46:1:381:U:H2'	46:1:382:U:C6	2.54	0.43
46:1:506:U:H2'	46:1:507:U:O4'	2.18	0.43
46:1:543:C:H2'	46:1:544:C:C6	2.53	0.43
46:1:903:U:H2'	46:1:904:A:H8	1.83	0.43
46:1:1120:A:H2'	46:1:1121:U:H6	1.82	0.43
46:1:1194:G:H8	46:1:1194:G:O5'	2.02	0.43
46:1:1306:G:O6	46:1:2366:C:O2'	2.36	0.43
46:1:1680:G:H2'	46:1:1681:U:C6	2.54	0.43
46:1:1921:A:H2'	46:1:1922:A:H8	1.83	0.43
46:1:1940:G:H21	46:1:3362:A:H8	1.67	0.43
46:1:2669:G:H2'	46:1:2670:G:C8	2.54	0.43
46:1:3182:G:C6	46:1:3183:A:C6	3.07	0.43
46:1:3292:A:H2'	46:1:3293:U:C6	2.54	0.43
2:D:18:PHE:CD1	2:D:49:GLN:CG	2.99	0.43
2:B:8:GLU:O	2:B:12:LEU:HG	2.18	0.43
2:B:761:LYS:O	2:B:766:GLY:HA3	2.19	0.43
4:C3:123:G:C6	4:C3:131:A:C6	3.06	0.43
5:LA:128:ARG:HB2	46:1:2177:G:H2'	2.01	0.43
15:LL:47:ALA:HB3	15:LL:48:PRO:HD3	2.01	0.43
21:LR:139:VAL:O	21:LR:143:ILE:HG12	2.19	0.43
45:Lp:68:ALA:C	45:Lp:69:TYR:HD1	2.27	0.43
45:Lp:73:THR:HG23	45:Lp:76:ALA:H	1.84	0.43
46:1:413:U:C2	46:1:414:U:C5	3.07	0.43
46:1:428:A:H2'	46:1:429:U:H6	1.83	0.43
46:1:1252:A:H2'	46:1:1253:U:C6	2.53	0.43
46:1:1497:C:H2'	46:1:1498:A:C8	2.47	0.43
1:C:67:THR:CG2	2:D:193:GLN:CG	2.96	0.43
2:B:12:LEU:HD22	2:B:20:GLN:HE21	1.83	0.42
2:B:404:LEU:HB3	2:B:408:LYS:HZ3	1.83	0.42
2:B:574:TRP:HZ2	2:B:643:LEU:HD21	1.84	0.42
7:LC:220:ARG:HH12	28:LY:4:GLN:CG	2.32	0.42
8:LD:269:SER:O	8:LD:273:ARG:HG3	2.19	0.42
9:LE:13:GLU:OE1	34:Le:90:LYS:CG	2.67	0.42
10:LF:210:PRO:O	46:1:1167:U:O2'	2.37	0.42
13:LI:38:LYS:HG2	13:LI:41:ALA:HB2	2.00	0.42
16:LM:6:ILE:HD12	46:1:3199:G:H5''	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:LO:141[A]:LEU:O	18:LO:145[A]:VAL:HG22	2.19	0.42
20:LQ:131:ALA:HB1	20:LQ:135:GLN:H	1.83	0.42
21:LR:79:GLY:H	46:1:1939:G:P	2.42	0.42
32:Lc:11:ASN:OD1	32:Lc:12:GLN:N	2.52	0.42
45:Lp:77:ALA:HA	45:Lp:80:ARG:HH12	1.84	0.42
46:1:50:U:H2'	46:1:51:A:H8	1.84	0.42
46:1:170:G:H2'	46:1:171:G:C8	2.54	0.42
46:1:184:U:H2'	46:1:185:C:C6	2.54	0.42
46:1:269:G:N2	46:1:294:U:H2'	2.34	0.42
46:1:1478:C:H2'	46:1:1479:U:C6	2.53	0.42
46:1:1657:C:O2'	46:1:1797:A:OP2	2.23	0.42
46:1:3077:A:N6	46:1:3080:G:C5	2.87	0.42
46:1:3102:G:H2'	46:1:3103:A:C8	2.54	0.42
46:1:3344:A:H2	46:1:3361:G:H21	1.65	0.42
3:C4:35:C:H2'	3:C4:36:C:O4'	2.19	0.42
3:C4:47:C:H2'	3:C4:48:U:C6	2.54	0.42
11:LG:99:PRO:HG2	11:LG:190:VAL:HG13	2.02	0.42
26:LW:48:ARG:HG3	26:LW:48:ARG:NH1	2.33	0.42
27:LX:138:ARG:HG2	27:LX:138:ARG:NH1	2.34	0.42
34:Le:20:HIS:CD2	34:Le:21:HIS:CD2	3.07	0.42
38:Li:26:ILE:HG21	46:1:157:A:C8	2.53	0.42
42:Lm:124:LYS:HZ2	46:1:2897:A:P	2.42	0.42
43:Ln:2:ARG:HB3	43:Ln:5:TRP:CD1	2.54	0.42
46:1:412:G:H2'	46:1:413:U:C6	2.55	0.42
46:1:899:U:H2'	46:1:900:G:H8	1.83	0.42
46:1:994:G:N2	46:1:995:U:O4	2.45	0.42
46:1:2097:U:H2'	46:1:2098:C:C6	2.54	0.42
46:1:2432:A:C6	46:1:2598:G:C6	3.07	0.42
46:1:3021:A:N1	46:1:3032:A:H5''	2.34	0.42
1:C:50:THR:CG2	2:D:333:ILE:CB	2.97	0.42
12:LH:9:GLN:NE2	12:LH:52:LEU:HG	2.34	0.42
12:LH:48:VAL:HG21	12:LH:54:LYS:HE2	2.01	0.42
14:LJ:52:TYR:OH	46:1:2679:A:O2'	2.30	0.42
14:LJ:54:VAL:HG21	14:LJ:57:PHE:CD2	2.54	0.42
17:LN:177:GLY:HA2	46:1:68:C:O3'	2.19	0.42
21:LR:68:GLN:OE1	21:LR:68:GLN:HA	2.19	0.42
26:LW:16:GLY:O	46:1:3050:U:O2'	2.37	0.42
27:LX:100:LYS:HE3	27:LX:100:LYS:HB3	1.88	0.42
28:LY:23:PRO:O	28:LY:27:ARG:HG3	2.19	0.42
28:LY:112:ASP:OD1	28:LY:115:ARG:HG2	2.19	0.42
32:Lc:43:ILE:HD13	32:Lc:68:TYR:HB3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Lh:93:THR:HG22	37:Lh:96:GLU:OE2	2.20	0.42
42:Lm:114:LYS:NZ	46:1:3106:A:O3'	2.51	0.42
46:1:527:A:H2'	46:1:528:U:C6	2.54	0.42
46:1:756:U:H2'	46:1:757:C:H6	1.83	0.42
46:1:1619:A:OP2	46:1:1619:A:H8	2.02	0.42
46:1:2193:U:O2'	46:1:2313:A:OP2	2.22	0.42
46:1:2685:C:H2'	46:1:2686:A:C8	2.54	0.42
46:1:3039:C:H2'	46:1:3040:A:C8	2.53	0.42
46:1:3047:U:O2'	46:1:3048:A:H5'	2.18	0.42
1:C:41:ASP:O	2:D:528:LYS:NZ	2.32	0.42
2:B:25:LEU:O	2:B:29:GLN:N	2.43	0.42
2:B:74:ASP:OD2	2:B:77:SER:N	2.47	0.42
2:B:155:SER:O	2:B:159:VAL:HG23	2.19	0.42
2:B:200:LEU:HD13	2:B:530:LEU:HD12	2.01	0.42
7:LC:233:LEU:HD12	7:LC:238:LEU:HD11	2.01	0.42
13:LI:170:LYS:NZ	13:LI:175:ASN:O	2.37	0.42
14:LJ:16:LYS:HB3	14:LJ:72:ARG:NH1	2.34	0.42
15:LL:76:THR:O	15:LL:78:ALA:N	2.52	0.42
15:LL:166:ALA:O	30:La:147:LEU:HD21	2.19	0.42
18:LO:49[A]:ARG:NH2	46:1:1193:A:OP1	2.53	0.42
18:LO:149[A]:TYR:OH	46:1:3006:A:OP1	2.35	0.42
24:LU:89:LEU:HB3	24:LU:93:ILE:HG12	2.01	0.42
30:La:75:LEU:HB3	30:La:118:ILE:HG23	2.01	0.42
36:Lg:6:THR:HG22	46:1:1486:G:N2	2.32	0.42
46:1:951:A:OP2	46:1:1367:G:N2	2.44	0.42
46:1:987:U:H2'	46:1:988:U:H6	1.83	0.42
46:1:1176:C:H2'	46:1:1177:G:N2	2.34	0.42
46:1:1277:C:O2'	46:1:1278:A:C8	2.72	0.42
46:1:1421:G:H2'	46:1:1422:G:H8	1.84	0.42
46:1:1562:C:H4'	46:1:1563:C:OP1	2.19	0.42
46:1:1565:G:C2	46:1:1566:A:C5	3.08	0.42
46:1:1831:U:H2'	46:1:1832:C:C6	2.54	0.42
46:1:1983:G:C8	46:1:1983:G:H5''	2.54	0.42
46:1:2096:A:H2'	46:1:2097:U:C6	2.55	0.42
46:1:2495:C:HO2'	46:1:2496:C:P	2.41	0.42
46:1:2974:U:H2'	46:1:2975:U:C6	2.55	0.42
2:D:2:SER:HB2	2:D:76:ARG:HH11	1.84	0.42
6:LB:10:ARG:HB3	6:LB:10:ARG:NH1	2.33	0.42
6:LB:34:LYS:HE2	6:LB:34:LYS:HB2	1.81	0.42
7:LC:286:VAL:HG11	20:LQ:31:LYS:CE	2.49	0.42
13:LI:182:LEU:HD23	13:LI:185:ARG:HD3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:LL:62:THR:O	15:LL:64:LYS:N	2.52	0.42
16:LM:121:MET:HE3	46:1:3214:U:O2	2.20	0.42
17:LN:172:ARG:HE	46:1:30:G:P	2.43	0.42
20:LQ:173:GLU:HA	30:La:51:GLY:O	2.19	0.42
23:LT:116:ARG:HB2	23:LT:128:LEU:HD11	2.01	0.42
25:LV:30:GLY:HA3	25:LV:66:LYS:HE2	2.01	0.42
34:Le:50:ILE:HG22	46:1:426:G:H5'	2.02	0.42
37:Lh:79:ASP:OD1	37:Lh:79:ASP:N	2.45	0.42
46:1:1132:C:H2'	46:1:1133:A:C8	2.51	0.42
46:1:1443:G:H2'	46:1:1444:G:C8	2.54	0.42
46:1:1555:U:H5	46:1:1559:A:H61	1.66	0.42
46:1:2155:G:H2'	46:1:2156:C:C6	2.54	0.42
2:D:82:HIS:ND1	2:D:117:LYS:HE2	2.34	0.42
2:B:88:LEU:HB2	2:B:90:LYS:HG2	2.00	0.42
2:B:538:LYS:O	2:B:542:SER:N	2.53	0.42
3:C4:81:U:H2'	3:C4:82:G:H8	1.84	0.42
4:C3:119:C:H2'	4:C3:120:C:C6	2.54	0.42
5:LA:135:ILE:HB	5:LA:149:ARG:HB3	2.01	0.42
8:LD:103:LEU:O	8:LD:107:ARG:HG2	2.19	0.42
9:LE:145:LEU:O	9:LE:149:ILE:HD12	2.20	0.42
10:LF:165:ASP:OD1	10:LF:166:ASN:N	2.52	0.42
10:LF:210:PRO:HD3	10:LF:243:MET:HG2	2.01	0.42
17:LN:105:ARG:HG2	17:LN:108:ARG:NH2	2.35	0.42
20:LQ:170:ARG:O	20:LQ:171:LYS:HG2	2.19	0.42
21:LR:59:SER:OG	46:1:1689:U:H4'	2.19	0.42
27:LX:63:ILE:O	27:LX:63:ILE:HG13	2.19	0.42
27:LX:114:VAL:O	41:Ll:10:LYS:NZ	2.52	0.42
35:Lf:75:HIS:N	35:Lf:80:VAL:O	2.52	0.42
46:1:7:C:H2'	46:1:8:C:H6	1.85	0.42
46:1:127:G:H2'	46:1:128:G:H8	1.84	0.42
46:1:508:U:H2'	46:1:509:U:C6	2.55	0.42
46:1:1108:U:H2'	46:1:1109:U:H6	1.80	0.42
46:1:1126:G:H2'	46:1:1127:G:O4'	2.20	0.42
46:1:1498:A:H2'	46:1:1499:C:C6	2.55	0.42
46:1:2407:C:H2'	46:1:2408:U:C6	2.54	0.42
46:1:2683:U:H2'	46:1:2684:C:H6	1.85	0.42
46:1:2778:G:C2	46:1:2779:A:C8	3.07	0.42
2:B:62:GLU:CD	2:B:63:PRO:HD3	2.44	0.42
2:B:200:LEU:O	2:B:204:GLU:HG3	2.20	0.42
5:LA:221:LYS:HB2	5:LA:221:LYS:HE3	1.78	0.42
7:LC:317:PRO:O	7:LC:318:LEU:HB2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LD:108:ARG:CZ	8:LD:253:PHE:HB2	2.50	0.42
13:LI:99:ILE:HB	13:LI:123:HIS:CD2	2.55	0.42
13:LI:213:PHE:N	13:LI:214:PRO:HD3	2.35	0.42
20:LQ:16:ARG:HH22	46:1:671:U:H5''	1.85	0.42
27:LX:86:VAL:HG23	27:LX:120:LYS:HB3	2.00	0.42
32:Lc:75:ASN:O	32:Lc:79:THR:HG23	2.19	0.42
38:Li:60:LEU:HD12	38:Li:72:VAL:HG21	2.01	0.42
38:Li:98:ARG:HG3	38:Li:99:ARG:NH2	2.35	0.42
46:1:72:C:C2	46:1:74:G:H1'	2.54	0.42
46:1:291:C:C2	46:1:292:U:C5	3.07	0.42
46:1:291:C:H2'	46:1:292:U:H6	1.84	0.42
46:1:540:U:H2'	46:1:541:U:H6	1.84	0.42
46:1:1229:G:C2	46:1:1281:G:C2	3.07	0.42
46:1:1565:G:N3	46:1:1575:A:C6	2.88	0.42
46:1:1624:G:O2'	46:1:1643:A:N1	2.48	0.42
46:1:1862:U:H2'	46:1:1863:G:O4'	2.19	0.42
46:1:2565:U:H2'	46:1:2566:C:C6	2.55	0.42
46:1:3110:C:H2'	46:1:3111:U:H6	1.84	0.42
46:1:3218:A:H4'	46:1:3219:G:O5'	2.18	0.42
1:C:52:ASP:OD1	1:C:53:PRO:HD2	2.20	0.42
2:B:651:ASN:HB3	2:B:654:GLU:OE2	2.20	0.42
4:C3:91:C:H2'	4:C3:92:A:C8	2.55	0.42
6:LB:53:MET:HE2	6:LB:53:MET:HB3	1.94	0.42
9:LE:133:GLU:HA	9:LE:136:GLU:HG3	2.01	0.42
11:LG:72:PRO:HA	11:LG:233:TRP:CE3	2.55	0.42
14:LJ:96:PHE:CE2	14:LJ:160:VAL:HG12	2.55	0.42
46:1:1189:C:N4	46:1:1315:U:O2'	2.44	0.42
46:1:1472:U:H2'	46:1:1473:G:C8	2.53	0.42
46:1:2292:U:H2'	46:1:2293:C:C6	2.54	0.42
46:1:2904:U:H2'	46:1:2905:U:C6	2.55	0.42
2:B:514:PRO:HA	2:B:517:ILE:HD12	2.00	0.42
5:LA:51:ASP:HB3	5:LA:54:ARG:HB3	2.01	0.42
6:LB:180:GLU:OE2	46:1:3002:C:O2'	2.29	0.42
8:LD:119:TYR:CD2	8:LD:141:PRO:HB3	2.54	0.42
15:LL:131:LYS:NZ	15:LL:133:PRO:HB3	2.34	0.42
15:LL:138:VAL:HG22	37:Lh:118:ILE:HG23	2.01	0.42
17:LN:93:LYS:HE3	46:1:276:U:O2	2.20	0.42
23:LT:102:ARG:O	23:LT:102:ARG:HD3	2.19	0.42
27:LX:45:LYS:HD3	27:LX:45:LYS:HA	1.82	0.42
29:LZ:84:ARG:HG3	29:LZ:84:ARG:NH1	2.34	0.42
30:La:74:ASN:HA	30:La:113:LEU:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Lc:53:LYS:O	32:Lc:57:GLU:OE1	2.37	0.42
38:Li:44:VAL:HA	38:Li:47:ILE:HG12	2.02	0.42
46:1:170:G:O6	46:1:248:U:O4	2.37	0.42
46:1:700:C:H2'	46:1:701:G:C8	2.50	0.42
46:1:769:G:C6	46:1:770:G:C6	3.08	0.42
46:1:1026:A:H2'	46:1:1027:A:C8	2.55	0.42
46:1:1525:G:H5'	46:1:1830:G:OP2	2.20	0.42
46:1:1688:U:H2'	46:1:1689:U:C6	2.55	0.42
46:1:1699:A:H2'	46:1:1700:G:C8	2.54	0.42
46:1:1762:C:C6	46:1:1762:C:C5'	3.03	0.42
46:1:2678:A:O2'	46:1:2679:A:O4'	2.26	0.42
46:1:2881:C:H2'	46:1:2882:U:H6	1.83	0.42
46:1:3296:A:H2'	46:1:3297:U:H6	1.84	0.42
2:D:574:TRP:CZ2	2:D:643:LEU:HD21	2.55	0.42
2:B:233:LYS:NZ	2:B:263:ASP:OD2	2.51	0.42
2:B:480:PHE:CE1	2:B:499:PHE:HB2	2.54	0.42
6:LB:259:HIS:CD2	18:LO:64[A]:PHE:CD2	3.08	0.42
8:LD:64:ILE:HG13	8:LD:109:THR:HG21	2.02	0.42
8:LD:219:PHE:CE2	8:LD:227:LEU:HD11	2.55	0.42
9:LE:110:LYS:H	9:LE:110:LYS:HG3	1.65	0.42
12:LH:156:GLN:OE1	46:1:3109:G:N2	2.52	0.42
19:LP:65:SER:HB2	46:1:1447:G:OP1	2.19	0.42
22:LS:96:ASP:CG	22:LS:97:VAL:H	2.25	0.42
31:Lb:14:ARG:HH21	46:1:1139:G:P	2.42	0.42
35:Lf:21:ARG:HH11	35:Lf:21:ARG:HG3	1.85	0.42
46:1:273:A:H2'	46:1:274:G:C8	2.55	0.42
46:1:393:U:H2'	46:1:394:G:O4'	2.20	0.42
46:1:446:U:H4'	46:1:447:U:H5	1.84	0.42
46:1:552:G:H2'	46:1:553:U:H6	1.84	0.42
46:1:598:A:H2'	46:1:599:C:C6	2.54	0.42
46:1:1018:G:H8	46:1:1018:G:OP2	2.03	0.42
46:1:1809:A:H2'	46:1:1810:A:O4'	2.20	0.42
46:1:3084:C:H2'	46:1:3085:G:O4'	2.19	0.42
46:1:3133:C:H2'	46:1:3134:A:O4'	2.19	0.42
1:C:51:VAL:CA	2:D:330:CYS:HB3	2.50	0.42
1:A:49:MET:HE1	2:B:264:TYR:HB3	2.01	0.41
2:B:18:PHE:CG	2:B:49:GLN:HG2	2.54	0.41
2:B:386:GLY:O	2:B:390:LYS:HE3	2.19	0.41
2:B:457:ASP:O	2:B:460:PHE:HB3	2.19	0.41
3:C4:52:G:HO2'	3:C4:53:U:P	2.42	0.41
7:LC:295:ILE:O	7:LC:299:ILE:HB	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LG:129:PRO:HB3	46:1:121:A:N1	2.35	0.41
14:LJ:156:LYS:O	14:LJ:160:VAL:HG13	2.19	0.41
15:LL:11:LYS:HE2	46:1:98:G:O6	2.19	0.41
15:LL:158:ALA:HB3	15:LL:160:GLN:HE22	1.85	0.41
16:LM:42:LYS:NZ	16:LM:43:LYS:HD2	2.35	0.41
17:LN:104:GLU:HA	17:LN:160:GLU:HG3	2.02	0.41
17:LN:193:ARG:NH2	46:1:80:G:OP1	2.53	0.41
24:LU:33:TYR:O	24:LU:37:LEU:HD23	2.20	0.41
34:Le:9:ILE:HD12	34:Le:63:THR:HG23	2.02	0.41
34:Le:87:MET:HE3	34:Le:87:MET:HA	2.00	0.41
36:Lg:74:ARG:HG2	36:Lg:75:ALA:N	2.35	0.41
37:Lh:64:GLU:OE2	37:Lh:68:GLN:NE2	2.52	0.41
37:Lh:106:LYS:HA	37:Lh:109:ILE:HG22	2.01	0.41
39:Lj:21:ARG:NH2	39:Lj:41:ALA:O	2.36	0.41
42:Lm:92:ASP:C	42:Lm:93:LYS:HD2	2.45	0.41
46:1:241:G:H2'	46:1:242:C:C6	2.54	0.41
46:1:874:U:H5''	46:1:2950:G:OP1	2.19	0.41
46:1:991:G:H2'	46:1:992:A:C8	2.55	0.41
46:1:1176:C:OP2	46:1:1177:G:O2'	2.29	0.41
46:1:1196:C:OP1	46:1:1309:U:O2'	2.32	0.41
46:1:2258:U:C2	46:1:2259:A:C8	3.08	0.41
46:1:2361:A:H61	46:1:2377:G:H1	1.68	0.41
1:C:51:VAL:N	2:D:330:CYS:CB	2.83	0.41
2:B:765:CYS:O	2:B:768:LEU:HG	2.19	0.41
2:B:794:ARG:C	2:B:796:LEU:H	2.28	0.41
4:C3:39:G:O2'	4:C3:105:A:N1	2.47	0.41
4:C3:67:U:H2'	4:C3:68:G:C8	2.54	0.41
9:LE:75:PRO:HB3	46:1:3268:A:N3	2.35	0.41
11:LG:129:PRO:HB3	46:1:121:A:C2	2.55	0.41
14:LJ:82:ARG:HA	14:LJ:85:LYS:NZ	2.36	0.41
15:LL:35:ARG:NH2	46:1:685:G:OP2	2.38	0.41
15:LL:176:GLU:OE1	38:Li:11:LEU:CD1	2.69	0.41
16:LM:108:ARG:NH2	18:LO:197[A]:LEU:HD23	2.34	0.41
17:LN:105:ARG:HG2	17:LN:108:ARG:HH22	1.85	0.41
18:LO:28[A]:LEU:HD12	18:LO:94[A]:ARG:NH2	2.35	0.41
46:1:122:A:C2	46:1:149:U:C2	3.07	0.41
46:1:137:G:H2'	46:1:138:U:C6	2.55	0.41
46:1:611:A:C4	46:1:612:U:C5	3.08	0.41
46:1:949:C:H2'	46:1:950:G:O4'	2.19	0.41
46:1:1190:A:H2'	46:1:1190:A:N3	2.35	0.41
46:1:2199:G:H2'	46:1:2200:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1:MET:HG2	2:B:264:TYR:CE1	2.55	0.41
2:B:482:ARG:NH1	2:B:610:TYR:O	2.46	0.41
2:B:753:LEU:HD12	2:B:783:LYS:NZ	2.34	0.41
7:LC:152:VAL:HG21	7:LC:156:LEU:HD22	2.02	0.41
8:LD:33:ARG:O	8:LD:37:VAL:HG22	2.20	0.41
10:LF:100:ARG:NH2	20:LQ:4:ASP:OD1	2.54	0.41
15:LL:75:PHE:H	15:LL:97:VAL:HA	1.85	0.41
21:LR:144:GLN:OE1	21:LR:144:GLN:HA	2.20	0.41
22:LS:46:GLN:HE22	22:LS:52:LYS:CB	2.33	0.41
28:LY:3:LYS:HE3	28:LY:8:VAL:O	2.21	0.41
36:Lg:85:VAL:HA	36:Lg:88:ARG:HG2	2.02	0.41
38:Li:80:PHE:HD1	38:Li:84:LYS:HE2	1.84	0.41
44:Lo:6:LYS:CD	44:Lo:94:GLY:HA3	2.51	0.41
46:1:504:A:N6	46:1:588:G:O6	2.53	0.41
46:1:613:G:H2'	46:1:614:C:C6	2.55	0.41
46:1:715:A:H4'	46:1:716:A:OP1	2.20	0.41
46:1:1945:A:H2'	46:1:1946:A:H8	1.82	0.41
46:1:2200:U:C2	46:1:2201:G:C8	3.09	0.41
46:1:2876:C:C2	46:1:2952:G:C2	3.09	0.41
2:B:670:ILE:HG23	2:B:682:LEU:HD11	2.03	0.41
4:C3:80:A:H2'	4:C3:82:U:H5	1.85	0.41
6:LB:236:LYS:HD3	46:1:2340:U:OP1	2.20	0.41
10:LF:48:ASN:ND2	10:LF:182:ASP:OD2	2.53	0.41
14:LJ:82:ARG:HE	14:LJ:112:LEU:HB3	1.86	0.41
20:LQ:146:SER:HB2	46:1:786:A:P	2.60	0.41
20:LQ:180:ARG:CZ	46:1:2720:G:OP2	2.68	0.41
23:LT:116:ARG:O	23:LT:120:LYS:HB2	2.20	0.41
24:LU:20:SER:O	24:LU:23:THR:HG22	2.20	0.41
29:LZ:46:ILE:HB	29:LZ:49:TYR:HE1	1.84	0.41
45:Lp:59:CYS:SG	45:Lp:60:CYS:N	2.94	0.41
46:1:129:U:H3	46:1:139:G:H1	1.68	0.41
46:1:431:U:H2'	46:1:432:G:C8	2.55	0.41
46:1:837:A:H3'	46:1:838:G:H8	1.85	0.41
46:1:1565:G:N3	46:1:1575:A:N1	2.69	0.41
46:1:1565:G:H22	46:1:1574:C:H42	1.68	0.41
46:1:1750:A:C4	46:1:1752:A:C8	3.09	0.41
46:1:1941:C:H2'	46:1:1942:U:C6	2.56	0.41
46:1:2279:A:C2	46:1:2283:G:C6	3.09	0.41
46:1:2700:G:H2'	46:1:2701:U:C6	2.55	0.41
46:1:3017:A:H2'	46:1:3018:C:C6	2.55	0.41
1:A:9:PRO:HD3	2:B:528:LYS:HD2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:85:PRO:HG2	2:B:439:PHE:HZ	1.86	0.41
2:B:121:ASP:HA	2:B:579:MET:SD	2.61	0.41
5:LA:241:ARG:NH1	46:1:2155:G:OP1	2.49	0.41
7:LC:203:ARG:HD2	46:1:1383:G:H5''	2.03	0.41
11:LG:68:ARG:HH22	11:LG:239:GLY:HA3	1.86	0.41
16:LM:109:ARG:HG2	18:LO:199[A]:TYR:CE1	2.50	0.41
17:LN:154:PRO:O	17:LN:157:LYS:HG3	2.20	0.41
18:LO:54[A]:TYR:OH	18:LO:73[A]:PHE:O	2.37	0.41
20:LQ:44:PHE:CE1	20:LQ:139:ILE:HD11	2.56	0.41
20:LQ:89:ASP:HB2	20:LQ:110:ALA:N	2.35	0.41
23:LT:39:ILE:HG22	23:LT:99:SER:HB3	2.03	0.41
30:La:77:LYS:O	30:La:78:LEU:HB3	2.21	0.41
32:Lc:16:LEU:HD22	32:Lc:98:SER:HA	2.02	0.41
34:Le:16:LYS:HA	34:Le:16:LYS:HD3	1.91	0.41
34:Le:74:PHE:CD2	34:Le:85:LEU:HD11	2.56	0.41
35:Lf:46:GLY:H	35:Lf:71:VAL:HG23	1.85	0.41
36:Lg:36:LYS:NZ	46:1:1595:U:OP2	2.39	0.41
36:Lg:92:ALA:O	36:Lg:96:GLU:HG2	2.21	0.41
46:1:291:C:H2'	46:1:292:U:C6	2.54	0.41
46:1:563:U:H2'	46:1:564:G:H8	1.84	0.41
46:1:843:A:H2'	46:1:844:G:C8	2.55	0.41
46:1:1934:G:C2	46:1:1935:G:C8	3.09	0.41
46:1:2731:U:C2	46:1:2732:G:C8	3.08	0.41
46:1:2984:C:H2'	46:1:2985:C:C6	2.56	0.41
46:1:3165:A:C6	46:1:3286:G:C6	3.08	0.41
46:1:3191:G:C6	46:1:3202:G:C6	3.09	0.41
46:1:3254:G:H2'	46:1:3255:U:C6	2.55	0.41
2:D:10:LEU:HD21	2:D:44:TYR:CE2	2.55	0.41
2:B:318:LEU:HD23	2:B:346:MET:HE1	2.02	0.41
5:LA:242:ARG:NH2	5:LA:243:THR:O	2.54	0.41
6:LB:225:GLY:N	46:1:3306:U:OP1	2.49	0.41
7:LC:187:LEU:HD23	46:1:1419:A:C8	2.56	0.41
8:LD:23:ARG:HD2	8:LD:23:ARG:HA	1.82	0.41
11:LG:106:LYS:O	11:LG:109:LEU:HG	2.20	0.41
12:LH:85:GLY:HA3	12:LH:187:ILE:HD12	2.03	0.41
14:LJ:54:VAL:HG22	14:LJ:59:ILE:HG12	2.02	0.41
17:LN:155:VAL:HG12	46:1:58:G:H4'	2.02	0.41
20:LQ:91:ALA:CB	30:La:80:THR:CG2	2.99	0.41
20:LQ:175:ALA:C	30:La:51:GLY:HA2	2.45	0.41
40:Lk:19:ASP:OD1	40:Lk:20:VAL:N	2.54	0.41
41:Ll:42:ARG:HB3	41:Ll:42:ARG:HH11	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:178:U:H2'	46:1:179:C:C6	2.55	0.41
46:1:195:U:H2'	46:1:196:G:O4'	2.21	0.41
46:1:549:U:O4	46:1:550:A:N6	2.53	0.41
46:1:1031:C:H2'	46:1:1032:C:C6	2.55	0.41
46:1:1136:A:O4'	46:1:2636:A:N6	2.54	0.41
46:1:1404:G:N1	46:1:1408:G:C6	2.89	0.41
46:1:1500:G:H2'	46:1:1501:U:O4'	2.21	0.41
46:1:1563:C:H2'	46:1:1564:U:H6	1.82	0.41
46:1:2180:G:H2'	46:1:2181:C:C6	2.56	0.41
46:1:2352:A:C4	46:1:2353:G:C8	3.09	0.41
46:1:2999:U:H2'	46:1:3000:A:C8	2.55	0.41
46:1:3064:U:H2'	46:1:3065:G:C8	2.53	0.41
46:1:3252:G:H2'	46:1:3253:G:H8	1.82	0.41
1:A:191:HIS:O	1:A:194:ARG:NE	2.51	0.41
2:B:44:TYR:OH	2:B:87:GLU:OE1	2.22	0.41
2:B:283:GLU:O	2:B:286:GLN:HG3	2.21	0.41
2:B:435:ASP:CG	2:B:438:ASN:HB2	2.45	0.41
2:B:517:ILE:HA	2:B:532:MET:HE1	2.01	0.41
2:B:794:ARG:NH1	2:B:794:ARG:HB3	2.35	0.41
3:C4:100:C:O2'	46:1:1055:A:H5''	2.21	0.41
6:LB:114:VAL:HB	6:LB:163:HIS:CE1	2.55	0.41
7:LC:166:VAL:O	7:LC:170:LYS:HG2	2.21	0.41
7:LC:354:VAL:O	7:LC:358:THR:HG23	2.20	0.41
8:LD:160:PHE:HA	8:LD:163:LEU:HB3	2.03	0.41
8:LD:289:LYS:HG3	8:LD:293:LEU:HD13	2.02	0.41
21:LR:79:GLY:N	46:1:1938:U:O3'	2.50	0.41
24:LU:13:LYS:HD2	24:LU:14:THR:H	1.84	0.41
29:LZ:46:ILE:HA	29:LZ:70:PRO:HA	2.02	0.41
36:Lg:37:LYS:NZ	46:1:1591:G:H5''	2.36	0.41
36:Lg:59:PRO:HB3	46:1:1654:A:N3	2.36	0.41
43:Ln:2:ARG:HE	43:Ln:4:LYS:HD3	1.85	0.41
44:Lo:72:LEU:O	44:Lo:80:ARG:HA	2.21	0.41
46:1:63:A:H2'	46:1:64:G:C8	2.54	0.41
46:1:746:A:H2'	46:1:747:A:H8	1.85	0.41
46:1:1097:G:H1'	46:1:1098:A:OP2	2.20	0.41
46:1:1180:A:C6	46:1:1326:A:N1	2.89	0.41
46:1:1228:C:H2'	46:1:1229:G:C8	2.55	0.41
46:1:1265:U:C4	46:1:1277:C:C2	3.08	0.41
46:1:1414:G:H2'	46:1:1415:U:C6	2.55	0.41
46:1:1761:C:H4'	2:D:34:ASN:HB3	2.01	0.41
46:1:1762:C:C4	2:D:74:ASP:N	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:1954:G:H2'	46:1:1955:U:C6	2.55	0.41
46:1:2722:U:H2'	46:1:2723:U:H6	1.85	0.41
46:1:2961:G:H2'	46:1:2962:U:H6	1.85	0.41
46:1:3189:G:H2'	46:1:3190:C:C6	2.56	0.41
1:A:14:LYS:HG3	1:A:57:HIS:CE1	2.55	0.41
2:B:741:CYS:O	2:B:744:ASP:N	2.54	0.41
4:C3:143:U:C2	4:C3:144:G:C8	3.09	0.41
6:LB:153:LYS:HD3	6:LB:154:TYR:CZ	2.56	0.41
8:LD:39:GLN:OE1	8:LD:40:HIS:N	2.54	0.41
8:LD:107:ARG:NH1	8:LD:169:GLY:O	2.51	0.41
9:LE:77:ARG:HH11	9:LE:77:ARG:HG2	1.84	0.41
15:LL:54:LEU:HD22	15:LL:119:TYR:CD2	2.54	0.41
19:LP:52:LEU:HD23	19:LP:52:LEU:HA	1.81	0.41
20:LQ:161:LYS:HD3	20:LQ:161:LYS:HA	1.86	0.41
21:LR:64:ARG:NH1	46:1:1689:U:OP1	2.53	0.41
30:La:58:MET:SD	46:1:2775:U:H1'	2.61	0.41
34:Le:95:GLU:OE2	46:1:1410:U:O2'	2.29	0.41
37:Lh:92:LEU:HD22	37:Lh:96:GLU:HG3	2.02	0.41
46:1:213:A:N6	46:1:227:G:H2'	2.36	0.41
46:1:618:C:H2'	46:1:619:A:O4'	2.21	0.41
46:1:966:U:H2'	46:1:967:A:H8	1.84	0.41
46:1:1447:G:N2	46:1:2356:A:OP2	2.41	0.41
46:1:2118:C:H3'	46:1:2119:A:C8	2.56	0.41
46:1:2161:G:H2'	46:1:2162:U:H6	1.85	0.41
46:1:2495:C:O2'	46:1:2496:C:OP1	2.31	0.41
46:1:2805:G:H2'	46:1:2806:U:C6	2.55	0.41
46:1:3355:U:O2'	46:1:3356:G:H5''	2.21	0.41
1:C:55:PHE:CD1	2:D:398:SER:HA	2.55	0.41
1:A:44:PHE:HZ	1:A:100:LEU:HD22	1.86	0.41
2:B:550:LEU:HD22	2:B:625:GLU:HG3	2.02	0.41
2:B:697:LYS:HA	2:B:697:LYS:HD3	1.93	0.41
2:B:701:MET:O	2:B:705:THR:HG22	2.20	0.41
2:B:779:VAL:O	2:B:783:LYS:HG2	2.20	0.41
4:C3:43:A:H2'	4:C3:44:A:C8	2.55	0.41
4:C3:63:G:N3	4:C3:63:G:H2'	2.34	0.41
4:C3:68:G:H2'	4:C3:69:U:C6	2.54	0.41
5:LA:204:MET:SD	5:LA:209:HIS:HB2	2.61	0.41
6:LB:66:LYS:HE2	25:LV:11:PHE:CE1	2.56	0.41
6:LB:106:TRP:HB2	6:LB:133:TYR:CE1	2.56	0.41
6:LB:123:TYR:CE1	6:LB:124:LYS:HG2	2.56	0.41
11:LG:48:ARG:NH2	46:1:2526:C:O2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LI:72:ALA:O	13:LI:76:MET:HG2	2.21	0.41
20:LQ:180:ARG:NH2	46:1:2720:G:P	2.94	0.41
21:LR:4:LEU:HA	21:LR:7:GLN:OE1	2.20	0.41
21:LR:21:LYS:O	21:LR:53:LYS:HD3	2.21	0.41
22:LS:6:GLU:CD	22:LS:99:ARG:HE	2.29	0.41
22:LS:7:TYR:HD2	22:LS:37:ALA:HB2	1.85	0.41
22:LS:96:ASP:CG	22:LS:97:VAL:N	2.79	0.41
28:LY:23:PRO:HG2	28:LY:26:GLN:OE1	2.20	0.41
29:LZ:89:VAL:HG12	29:LZ:92:PHE:CZ	2.55	0.41
30:La:125:VAL:HG23	30:La:145:VAL:HG12	2.02	0.41
32:Lc:74:ASN:HB3	32:Lc:86:ARG:HB2	2.03	0.41
41:Ll:6:SER:OG	41:Ll:9:ILE:HG12	2.21	0.41
44:Lo:46:LYS:NZ	44:Lo:55:LYS:HD3	2.36	0.41
46:1:128:G:H2'	46:1:129:U:C6	2.56	0.41
46:1:512:U:O2	46:1:579:G:N2	2.49	0.41
46:1:717:C:H2'	46:1:718:G:O4'	2.21	0.41
46:1:829:U:H3	46:1:895:A:H62	1.69	0.41
46:1:1038:C:H2'	46:1:1039:U:C6	2.56	0.41
46:1:1038:C:H2'	46:1:1039:U:H6	1.86	0.41
46:1:1054:A:H5''	46:1:2637:A:H61	1.85	0.41
46:1:1070:U:H2'	46:1:1071:U:C6	2.56	0.41
46:1:1085:A:H2'	46:1:1086:C:C6	2.55	0.41
46:1:1184:A:C6	46:1:1323:G:C6	3.08	0.41
46:1:1288:U:H2'	46:1:1289:G:C8	2.54	0.41
46:1:1623:G:C4	46:1:1624:G:C8	3.08	0.41
46:1:1743:G:H2'	46:1:1744:G:H8	1.86	0.41
46:1:1829:G:H5''	46:1:1830:G:H5'	2.03	0.41
46:1:2378:C:C2	46:1:2379:U:C5	3.08	0.41
46:1:2389:C:H2'	46:1:2390:A:C8	2.55	0.41
46:1:2526:C:H2'	46:1:2527:G:C8	2.55	0.41
46:1:2599:U:H2'	46:1:2600:C:C6	2.56	0.41
46:1:3372:A:C6	46:1:3373:U:C4	3.09	0.41
1:C:41:ASP:C	2:D:528:LYS:NZ	2.77	0.41
1:A:1:MET:HG2	2:B:264:TYR:CD1	2.56	0.41
2:B:161:ARG:HA	2:B:161:ARG:HD2	1.86	0.41
3:C4:20:A:H2'	3:C4:21:G:C8	2.56	0.41
3:C4:20:A:H2'	3:C4:21:G:H8	1.85	0.41
6:LB:256:HIS:HA	6:LB:257:PRO:C	2.46	0.41
10:LF:110:ARG:HG2	10:LF:113:SER:HB3	2.03	0.41
11:LG:27:THR:HG22	29:LZ:53:VAL:O	2.20	0.41
11:LG:153:ILE:HD11	11:LG:166:LEU:HD22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LH:106:LYS:HB3	12:LH:106:LYS:HE2	1.83	0.41
20:LQ:36:LEU:O	20:LQ:40:THR:OG1	2.39	0.41
22:LS:101:ALA:O	22:LS:105:THR:HG23	2.21	0.41
27:LX:73:MET:HA	27:LX:73:MET:HE3	2.02	0.41
35:Lf:10:LYS:HB2	35:Lf:33:GLU:CD	2.46	0.41
38:Li:89:GLU:O	38:Li:93:ILE:HG12	2.21	0.41
46:1:595:G:H2'	46:1:596:C:C6	2.56	0.41
46:1:760:G:N2	46:1:770:G:C4	2.89	0.41
46:1:1338:C:H2'	46:1:1339:C:H6	1.86	0.41
46:1:1685:C:H2'	46:1:1686:U:C6	2.55	0.41
46:1:1752:A:C4	46:1:1753:G:C8	3.09	0.41
46:1:2161:G:H2'	46:1:2162:U:C6	2.55	0.41
46:1:2199:G:H2'	46:1:2200:U:H6	1.86	0.41
46:1:2537:U:O2'	46:1:2538:U:O5'	2.31	0.41
46:1:2651:G:H5''	46:1:2652:U:O4'	2.20	0.41
46:1:2765:C:H2'	46:1:2766:U:C6	2.56	0.41
46:1:3020:U:H2'	46:1:3033:A:N6	2.36	0.41
46:1:3296:A:H2'	46:1:3297:U:C6	2.55	0.41
1:A:92:LEU:HD13	1:A:92:LEU:HA	1.92	0.40
1:A:168:ARG:HH11	1:A:178:SER:HB3	1.85	0.40
2:B:517:ILE:HG23	2:B:532:MET:HE1	2.02	0.40
2:B:670:ILE:HG23	2:B:682:LEU:CD1	2.52	0.40
2:B:670:ILE:HG12	2:B:685:LEU:HB3	2.02	0.40
5:LA:83:HIS:HD2	5:LA:84:THR:O	2.04	0.40
5:LA:193:ARG:NH2	46:1:2174:G:OP2	2.35	0.40
5:LA:200:ARG:HE	46:1:2147:A:P	2.44	0.40
6:LB:266:ARG:HG3	6:LB:266:ARG:NH1	2.36	0.40
7:LC:258:LEU:HD12	7:LC:258:LEU:HA	1.90	0.40
10:LF:144:ILE:CD1	10:LF:189:ILE:HB	2.51	0.40
12:LH:2:LYS:HB3	12:LH:59:ASN:OD1	2.20	0.40
13:LI:74:LYS:O	13:LI:78:THR:HG23	2.21	0.40
14:LJ:112:LEU:O	14:LJ:114:ILE:HD12	2.21	0.40
15:LL:54:LEU:HB2	15:LL:119:TYR:CE2	2.56	0.40
20:LQ:146:SER:O	46:1:786:A:H5'	2.21	0.40
20:LQ:177:GLY:O	20:LQ:178:ARG:HD2	2.21	0.40
23:LT:126:VAL:HB	23:LT:128:LEU:HG	2.03	0.40
28:LY:115:ARG:O	28:LY:119:ILE:HG12	2.21	0.40
37:Lh:118:ILE:HG23	37:Lh:118:ILE:O	2.21	0.40
41:Ll:12:LYS:HA	41:Ll:12:LYS:HD2	1.90	0.40
43:Ln:11:ARG:O	43:Ln:15:ARG:HG2	2.21	0.40
44:Lo:84:THR:HG21	46:1:2792:A:H5'	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:728:G:H2'	46:1:729:C:H6	1.86	0.40
46:1:756:U:H2'	46:1:757:C:C6	2.56	0.40
46:1:880:G:N3	46:1:882:A:N6	2.69	0.40
46:1:950:G:N1	46:1:1368:U:OP2	2.37	0.40
46:1:1295:G:H2'	46:1:1296:C:C6	2.57	0.40
46:1:1480:G:O2'	46:1:1871:U:O4	2.25	0.40
46:1:1565:G:H2'	46:1:1566:A:C8	2.55	0.40
46:1:1694:U:O2'	46:1:1695:U:H5'	2.21	0.40
46:1:2196:C:H2'	46:1:2242:A:H61	1.86	0.40
46:1:3104:U:H5''	46:1:3128:G:O6	2.21	0.40
2:D:299:ARG:HG2	2:D:320:TYR:CE2	2.56	0.40
2:D:631:LEU:O	2:D:721:ARG:HD3	2.21	0.40
2:B:733:ASN:O	2:B:736:LYS:HB2	2.21	0.40
2:B:775:LYS:HA	2:B:775:LYS:HD3	1.90	0.40
5:LA:241:ARG:NH2	46:1:2156:C:OP1	2.35	0.40
6:LB:323:MET:HE2	6:LB:323:MET:HB3	1.88	0.40
14:LJ:96:PHE:HZ	14:LJ:163:PHE:HD2	1.68	0.40
15:LL:9:ILE:HD12	30:La:34:MET:SD	2.61	0.40
15:LL:180:ARG:NH1	38:Li:11:LEU:HD13	2.36	0.40
20:LQ:83:VAL:O	20:LQ:103:ALA:HA	2.21	0.40
23:LT:17:ARG:HH21	23:LT:25:VAL:HG12	1.86	0.40
23:LT:106:LEU:O	23:LT:110:LYS:HG2	2.20	0.40
30:La:2:PRO:CD	46:1:792:G:H4'	2.49	0.40
34:Le:99:ASN:ND2	46:1:1388:U:O2'	2.29	0.40
39:Lj:39:TYR:CG	39:Lj:40:PRO:HA	2.56	0.40
39:Lj:43:LYS:HB3	39:Lj:43:LYS:HE3	1.85	0.40
45:Lp:53:GLY:N	45:Lp:68:ALA:HA	2.35	0.40
46:1:213:A:H61	46:1:227:G:H2'	1.85	0.40
46:1:215:G:H2'	46:1:216:G:C8	2.57	0.40
46:1:598:A:H2'	46:1:599:C:H6	1.86	0.40
46:1:790:U:H2'	46:1:791:A:H8	1.85	0.40
46:1:989:A:H2'	46:1:990:U:O4'	2.21	0.40
46:1:1805:C:H2'	46:1:1806:A:C8	2.40	0.40
46:1:1988:C:H2'	46:1:1989:U:C6	2.57	0.40
46:1:2202:C:H2'	46:1:2203:U:H6	1.86	0.40
46:1:2519:A:H2'	46:1:2520:A:C8	2.57	0.40
1:C:50:THR:CA	2:D:333:ILE:HG21	2.10	0.40
1:A:12:LEU:HD23	1:A:12:LEU:HA	1.94	0.40
2:B:540:MET:HE2	2:B:540:MET:HB3	2.03	0.40
2:B:545:ARG:O	2:B:548:LYS:HG3	2.22	0.40
4:C3:82:U:H4'	4:C3:87:G:H5''	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LA:192:LYS:HB3	5:LA:193:ARG:NH1	2.37	0.40
10:LF:116:PHE:CZ	10:LF:144:ILE:HG22	2.55	0.40
10:LF:182:ASP:HA	10:LF:185:ILE:HD12	2.04	0.40
10:LF:221:LYS:O	10:LF:227:GLY:HA3	2.22	0.40
16:LM:121:MET:HE1	46:1:3215:A:C5'	2.51	0.40
17:LN:96:ARG:NH2	17:LN:104:GLU:OE2	2.55	0.40
26:LW:4:GLU:O	26:LW:5:ILE:HD13	2.22	0.40
28:LY:34:PRO:HA	28:LY:47:ALA:HA	2.02	0.40
29:LZ:105:SER:O	29:LZ:109:GLU:OE1	2.38	0.40
35:Lf:13:HIS:ND1	35:Lf:89:LEU:HD12	2.37	0.40
36:Lg:102:LYS:HE3	36:Lg:102:LYS:HB2	1.90	0.40
42:Lm:80:PRO:HA	42:Lm:83:LYS:HG3	2.03	0.40
44:Lo:3:ASN:OD1	44:Lo:4:VAL:N	2.54	0.40
45:Lp:80:ARG:NH1	45:Lp:80:ARG:HB3	2.37	0.40
46:1:19:U:H2'	46:1:20:A:C8	2.55	0.40
46:1:192:C:H2'	46:1:193:C:H6	1.86	0.40
46:1:495:G:H2'	46:1:496:C:H6	1.86	0.40
46:1:583:G:C2	46:1:584:G:C8	3.09	0.40
46:1:929:A:H2'	46:1:930:U:H6	1.85	0.40
46:1:1104:G:H2'	46:1:1105:A:H8	1.85	0.40
46:1:1255:C:N4	46:1:1263:A:OP1	2.54	0.40
46:1:1373:A:H2'	46:1:1374:G:H8	1.87	0.40
46:1:1637:A:H2'	46:1:1638:A:C8	2.57	0.40
46:1:2249:G:C5	46:1:2272:G:C2	3.09	0.40
46:1:2273:G:H22	46:1:2312:A:P	2.44	0.40
1:A:30:GLU:HG3	2:B:516:TYR:CZ	2.55	0.40
2:B:12:LEU:HA	2:B:15:ARG:HG2	2.04	0.40
2:B:685:LEU:HD23	2:B:688:ARG:HH21	1.86	0.40
4:C3:1:A:N1	46:1:2994:A:O2'	2.51	0.40
6:LB:76:VAL:HG21	6:LB:323:MET:SD	2.61	0.40
7:LC:34:ILE:HG21	7:LC:120:TYR:HD2	1.87	0.40
7:LC:170:LYS:HD2	7:LC:175:HIS:ND1	2.37	0.40
9:LE:11:PRO:HG2	34:Le:91:THR:HG21	2.03	0.40
10:LF:92:ILE:HG12	46:1:1159:A:OP2	2.21	0.40
11:LG:242:ALA:N	46:1:2586:G:O6	2.55	0.40
11:LG:246:MET:HG2	11:LG:249:ARG:HH21	1.85	0.40
13:LI:101:LYS:O	13:LI:102:MET:HE2	2.21	0.40
14:LJ:25:GLU:HG2	14:LJ:29:ARG:NH2	2.26	0.40
14:LJ:65:ILE:HG13	14:LJ:66:ALA:N	2.36	0.40
16:LM:13:ARG:HB3	16:LM:65:LEU:HD23	2.04	0.40
16:LM:21:VAL:HG12	16:LM:65:LEU:HD12	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LN:93:LYS:O	46:1:289:A:O2'	2.40	0.40
17:LN:187:ARG:NH1	46:1:49:A:C5	2.90	0.40
18:LO:39[A]:GLU:HG2	18:LO:40[A]:GLU:CD	2.46	0.40
37:Lh:23:ASP:O	37:Lh:27:GLU:OE1	2.40	0.40
46:1:100:A:H3'	46:1:101:G:H21	1.87	0.40
46:1:138:U:H2'	46:1:139:G:C8	2.56	0.40
46:1:237:G:H2'	46:1:238:A:C8	2.56	0.40
46:1:412:G:C4	46:1:413:U:C5	3.09	0.40
46:1:544:C:O2	46:1:548:G:N1	2.54	0.40
46:1:1595:U:C2	46:1:1596:C:C5	3.09	0.40
46:1:1855:U:H2'	46:1:1856:C:H6	1.87	0.40
46:1:1949:G:H2'	46:1:1950:U:C6	2.56	0.40
46:1:3026:G:N2	46:1:3029:A:OP2	2.49	0.40
46:1:3169:U:H3	46:1:3281:U:H3	1.69	0.40
1:C:39:TRP:CE2	1:C:66:LYS:HB2	2.56	0.40
2:D:82:HIS:CE1	2:D:117:LYS:HE3	2.56	0.40
1:A:36:MET:HB2	2:B:528:LYS:HG3	2.03	0.40
1:A:76:THR:OG1	1:A:111:VAL:HG11	2.21	0.40
2:B:27:GLN:HG3	2:B:30:LYS:HE3	2.03	0.40
2:B:498:THR:O	2:B:501:GLU:HG2	2.21	0.40
7:LC:39:PHE:HE1	7:LC:236:LEU:HA	1.86	0.40
7:LC:360:LYS:NZ	46:1:519:A:N7	2.70	0.40
9:LE:93:VAL:O	9:LE:96:VAL:HG22	2.22	0.40
10:LF:43:ILE:O	10:LF:46:GLU:HG3	2.21	0.40
10:LF:221:LYS:HG3	10:LF:227:GLY:HA3	2.02	0.40
11:LG:172:LYS:C	11:LG:173:MET:HE2	2.47	0.40
14:LJ:96:PHE:HD1	14:LJ:102:PHE:HB3	1.84	0.40
15:LL:105:ASN:C	38:Li:20:MET:HE1	2.47	0.40
16:LM:27:GLN:HE21	16:LM:27:GLN:HB2	1.76	0.40
19:LP:22:LEU:HD23	19:LP:90:PHE:CD1	2.57	0.40
21:LR:140:GLU:OE1	46:1:2093:A:OP1	2.39	0.40
22:LS:81:TYR:CZ	22:LS:90:MET:HE3	2.57	0.40
32:Lc:9:SER:OG	32:Lc:10:ILE:N	2.54	0.40
33:Ld:43:HIS:O	33:Ld:44:MET:HE2	2.21	0.40
46:1:80:G:H2'	46:1:81:C:C6	2.56	0.40
46:1:283:G:OP1	46:1:285:A:O2'	2.31	0.40
46:1:293:C:H2'	46:1:294:U:O4'	2.21	0.40
46:1:1024:G:C2	46:1:1029:G:N1	2.89	0.40
46:1:1174:G:H1'	46:1:1181:U:H3	1.84	0.40
46:1:1948:G:C2	46:1:2099:A:C2	3.10	0.40
46:1:2412:G:H2'	46:1:2413:A:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:1:2426:U:H2'	46:1:2427:U:H6	1.86	0.40
46:1:3319:U:HO2'	46:1:3320:A:P	2.42	0.40
46:1:3350:C:O2'	46:1:3351:U:O5'	2.31	0.40
1:C:50:THR:HG22	2:D:333:ILE:CB	2.51	0.40
1:C:54:THR:HG23	2:D:396:TYR:HB2	2.04	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	193/195 (99%)	192 (100%)	1 (0%)	0	100	100
1	C	66/195 (34%)	66 (100%)	0	0	100	100
2	B	794/796 (100%)	790 (100%)	3 (0%)	1 (0%)	48	79
2	D	794/796 (100%)	770 (97%)	22 (3%)	2 (0%)	36	67
5	LA	249/251 (99%)	234 (94%)	15 (6%)	0	100	100
6	LB	384/386 (100%)	358 (93%)	26 (7%)	0	100	100
7	LC	359/361 (99%)	329 (92%)	28 (8%)	2 (1%)	21	54
8	LD	292/294 (99%)	274 (94%)	17 (6%)	1 (0%)	36	67
9	LE	163/175 (93%)	155 (95%)	8 (5%)	0	100	100
10	LF	220/222 (99%)	205 (93%)	15 (7%)	0	100	100
11	LG	231/233 (99%)	221 (96%)	10 (4%)	0	100	100
12	LH	189/191 (99%)	176 (93%)	13 (7%)	0	100	100
13	LI	216/218 (99%)	208 (96%)	8 (4%)	0	100	100
14	LJ	167/169 (99%)	152 (91%)	15 (9%)	0	100	100
15	LL	191/193 (99%)	174 (91%)	15 (8%)	2 (1%)	12	43
16	LM	134/136 (98%)	129 (96%)	5 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	LN	201/203 (99%)	191 (95%)	10 (5%)	0	100	100
18	LO	195/197 (99%)	185 (95%)	8 (4%)	2 (1%)	12	43
19	LP	181/183 (99%)	171 (94%)	10 (6%)	0	100	100
20	LQ	183/185 (99%)	176 (96%)	7 (4%)	0	100	100
21	LR	169/188 (90%)	163 (96%)	6 (4%)	0	100	100
22	LS	169/171 (99%)	157 (93%)	12 (7%)	0	100	100
23	LT	157/159 (99%)	148 (94%)	9 (6%)	0	100	100
24	LU	98/100 (98%)	95 (97%)	3 (3%)	0	100	100
25	LV	134/136 (98%)	132 (98%)	2 (2%)	0	100	100
26	LW	65/126 (52%)	61 (94%)	4 (6%)	0	100	100
27	LX	119/121 (98%)	116 (98%)	3 (2%)	0	100	100
28	LY	123/125 (98%)	117 (95%)	6 (5%)	0	100	100
29	LZ	133/135 (98%)	123 (92%)	10 (8%)	0	100	100
30	La	146/148 (99%)	133 (91%)	13 (9%)	0	100	100
31	Lb	56/58 (97%)	52 (93%)	4 (7%)	0	100	100
32	Lc	94/96 (98%)	93 (99%)	1 (1%)	0	100	100
33	Ld	107/109 (98%)	99 (92%)	7 (6%)	1 (1%)	14	45
34	Le	125/127 (98%)	120 (96%)	5 (4%)	0	100	100
35	Lf	104/106 (98%)	100 (96%)	4 (4%)	0	100	100
36	Lg	110/112 (98%)	106 (96%)	4 (4%)	0	100	100
37	Lh	117/119 (98%)	110 (94%)	7 (6%)	0	100	100
38	Li	97/99 (98%)	92 (95%)	5 (5%)	0	100	100
39	Lj	83/85 (98%)	80 (96%)	3 (4%)	0	100	100
40	Lk	75/77 (97%)	74 (99%)	1 (1%)	0	100	100
41	Ll	48/50 (96%)	48 (100%)	0	0	100	100
42	Lm	50/52 (96%)	47 (94%)	2 (4%)	1 (2%)	6	32
43	Ln	23/25 (92%)	23 (100%)	0	0	100	100
44	Lo	101/103 (98%)	96 (95%)	5 (5%)	0	100	100
45	Lp	89/91 (98%)	88 (99%)	1 (1%)	0	100	100
All	All	7994/8297 (96%)	7629 (95%)	353 (4%)	12 (0%)	44	73

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	742	CYS
7	LC	293	SER
33	Ld	6	ASP
2	D	16	SER
2	D	777	GLU
8	LD	21	ARG
18	LO	111[A]	PRO
15	LL	63	VAL
7	LC	4	PRO
18	LO	110[A]	PRO
15	LL	77	LEU
42	Lm	80	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	180/180 (100%)	180 (100%)	0	100	100
1	C	66/180 (37%)	65 (98%)	1 (2%)	57	69
2	B	743/743 (100%)	741 (100%)	2 (0%)	86	84
2	D	743/743 (100%)	737 (99%)	6 (1%)	73	76
5	LA	190/193 (98%)	190 (100%)	0	100	100
6	LB	318/322 (99%)	318 (100%)	0	100	100
7	LC	288/288 (100%)	288 (100%)	0	100	100
8	LD	241/243 (99%)	241 (100%)	0	100	100
9	LE	138/153 (90%)	138 (100%)	0	100	100
10	LF	186/186 (100%)	186 (100%)	0	100	100
11	LG	187/191 (98%)	187 (100%)	0	100	100
12	LH	168/171 (98%)	168 (100%)	0	100	100
13	LI	185/185 (100%)	185 (100%)	0	100	100
14	LJ	146/147 (99%)	146 (100%)	0	100	100
15	LL	154/154 (100%)	154 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	LM	107/107 (100%)	106 (99%)	1 (1%)	70	74
17	LN	175/175 (100%)	175 (100%)	0	100	100
18	LO	160/160 (100%)	160 (100%)	0	100	100
19	LP	138/145 (95%)	138 (100%)	0	100	100
20	LQ	150/150 (100%)	150 (100%)	0	100	100
21	LR	139/153 (91%)	139 (100%)	0	100	100
22	LS	155/155 (100%)	155 (100%)	0	100	100
23	LT	136/136 (100%)	136 (100%)	0	100	100
24	LU	87/87 (100%)	87 (100%)	0	100	100
25	LV	104/104 (100%)	104 (100%)	0	100	100
26	LW	54/107 (50%)	54 (100%)	0	100	100
27	LX	104/105 (99%)	104 (100%)	0	100	100
28	LY	108/108 (100%)	108 (100%)	0	100	100
29	LZ	115/115 (100%)	115 (100%)	0	100	100
30	La	118/118 (100%)	117 (99%)	1 (1%)	73	76
31	Lb	46/46 (100%)	46 (100%)	0	100	100
32	Lc	81/81 (100%)	81 (100%)	0	100	100
33	Ld	93/96 (97%)	93 (100%)	0	100	100
34	Le	108/109 (99%)	108 (100%)	0	100	100
35	Lf	90/90 (100%)	90 (100%)	0	100	100
36	Lg	95/95 (100%)	95 (100%)	0	100	100
37	Lh	104/104 (100%)	104 (100%)	0	100	100
38	Li	80/81 (99%)	80 (100%)	0	100	100
39	Lj	69/69 (100%)	69 (100%)	0	100	100
40	Lk	68/68 (100%)	68 (100%)	0	100	100
41	Ll	45/45 (100%)	45 (100%)	0	100	100
42	Lm	47/47 (100%)	47 (100%)	0	100	100
43	Ln	22/23 (96%)	22 (100%)	0	100	100
44	Lo	87/88 (99%)	87 (100%)	0	100	100
45	Lp	71/71 (100%)	71 (100%)	0	100	100
All	All	6889/7117 (97%)	6878 (100%)	11 (0%)	85	87

All (11) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	181	GLN
2	B	787	LEU
16	LM	27	GLN
30	La	120	ASN
1	C	54	THR
2	D	2	SER
2	D	13	VAL
2	D	401	THR
2	D	601	PHE
2	D	779	VAL
2	D	782	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (64) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	16	ASN
1	A	109	HIS
1	A	112	ASN
2	B	20	GLN
2	B	29	GLN
2	B	57	ASN
2	B	123	ASN
2	B	133	GLN
2	B	165	ASN
2	B	364	HIS
2	B	430	ASN
2	B	469	ASN
2	B	491	GLN
2	B	571	HIS
2	B	581	GLN
2	B	677	ASN
2	B	755	GLN
5	LA	83	HIS
5	LA	205	ASN
6	LB	177	HIS
7	LC	243	HIS
8	LD	203	HIS
10	LF	194	HIS
11	LG	59	GLN
12	LH	51	GLN
12	LH	96	HIS

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Mol	Chain	Res	Type
13	LI	163	GLN
15	LL	106	GLN
15	LL	114	GLN
15	LL	129	ASN
16	LM	41	GLN
17	LN	182	ASN
20	LQ	9	GLN
21	LR	134	HIS
22	LS	62	ASN
23	LT	5	HIS
23	LT	58	GLN
24	LU	49	ASN
25	LV	98	ASN
29	LZ	57	HIS
30	La	28	HIS
30	La	62	HIS
30	La	64	GLN
30	La	67	HIS
32	Lc	47	ASN
32	Lc	75	ASN
33	Ld	21	HIS
34	Le	31	ASN
34	Le	71	HIS
34	Le	104	ASN
35	Lf	106	ASN
36	Lg	34	HIS
37	Lh	68	GLN
39	Lj	12	HIS
41	Ll	38	ASN
1	C	19	ASN
2	D	6	GLN
2	D	34	ASN
2	D	133	GLN
2	D	163	GLN
2	D	471	GLN
2	D	524	ASN
2	D	678	ASN
2	D	790	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
3	C4	120/121 (99%)	11 (9%)	1 (0%)
4	C3	157/158 (99%)	26 (16%)	1 (0%)
46	1	3297/3395 (97%)	609 (18%)	39 (1%)
All	All	3574/3674 (97%)	646 (18%)	41 (1%)

All (646) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
3	C4	7	G
3	C4	11	A
3	C4	53	U
3	C4	54	U
3	C4	55	A
3	C4	65	G
3	C4	73	C
3	C4	76	A
3	C4	102	A
3	C4	112	G
3	C4	121	U
4	C3	34	U
4	C3	35	C
4	C3	53	A
4	C3	59	A
4	C3	62	C
4	C3	63	G
4	C3	80	A
4	C3	81	U
4	C3	82	U
4	C3	83	C
4	C3	84	C
4	C3	85	G
4	C3	86	U
4	C3	87	G
4	C3	90	U
4	C3	95	G
4	C3	97	A
4	C3	104	A
4	C3	106	C
4	C3	111	A
4	C3	113	U
4	C3	125	U
4	C3	126	A
4	C3	148	G

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Mol	Chain	Res	Type
4	C3	152	G
4	C3	158	U
46	1	13	A
46	1	14	U
46	1	18	G
46	1	26	A
46	1	40	A
46	1	43	A
46	1	49	A
46	1	59	G
46	1	60	A
46	1	65	A
46	1	66	A
46	1	92	G
46	1	99	A
46	1	109	A
46	1	110	G
46	1	111	C
46	1	113	C
46	1	116	A
46	1	117	U
46	1	118	U
46	1	120	G
46	1	121	A
46	1	122	A
46	1	133	U
46	1	134	U
46	1	136	G
46	1	156	G
46	1	157	A
46	1	165	A
46	1	166	C
46	1	173	G
46	1	187	A
46	1	190	U
46	1	191	U
46	1	200	C
46	1	210	U
46	1	213	A
46	1	218	G
46	1	219	A
46	1	221	A

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Mol	Chain	Res	Type
46	1	231	G
46	1	234	G
46	1	240	U
46	1	241	G
46	1	243	G
46	1	245	U
46	1	249	U
46	1	251	G
46	1	252	U
46	1	269	G
46	1	283	G
46	1	286	U
46	1	295	A
46	1	298	U
46	1	305	U
46	1	323	A
46	1	329	U
46	1	339	C
46	1	350	C
46	1	351	A
46	1	376	G
46	1	398	A
46	1	399	A
46	1	401	U
46	1	402	A
46	1	403	C
46	1	421	G
46	1	422	A
46	1	439	C
46	1	440	A
46	1	441	U
46	1	442	G
46	1	445	G
46	1	446	U
46	1	447	U
46	1	448	U
46	1	449	U
46	1	450	G
46	1	451	U
46	1	487	U
46	1	488	U
46	1	489	U

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Mol	Chain	Res	Type
46	1	491	A
46	1	492	C
46	1	494	G
46	1	521	A
46	1	523	A
46	1	535	G
46	1	536	U
46	1	543	C
46	1	544	C
46	1	546	C
46	1	547	G
46	1	552	G
46	1	555	U
46	1	557	A
46	1	559	A
46	1	579	G
46	1	609	G
46	1	610	G
46	1	611	A
46	1	620	U
46	1	621	A
46	1	637	C
46	1	638	C
46	1	649	A
46	1	667	C
46	1	677	A
46	1	681	U
46	1	690	A
46	1	691	A
46	1	705	A
46	1	712	G
46	1	715	A
46	1	716	A
46	1	719	U
46	1	720	A
46	1	727	G
46	1	764	U
46	1	767	U
46	1	768	C
46	1	776	U
46	1	777	U
46	1	780	A

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Mol	Chain	Res	Type
46	1	781	G
46	1	785	G
46	1	786	A
46	1	806	A
46	1	817	A
46	1	826	G
46	1	830	A
46	1	846	A
46	1	847	A
46	1	849	C
46	1	861	C
46	1	865	U
46	1	874	U
46	1	879	U
46	1	896	A
46	1	907	G
46	1	908	G
46	1	914	A
46	1	916	G
46	1	917	A
46	1	921	A
46	1	923	C
46	1	937	G
46	1	944	C
46	1	953	G
46	1	959	C
46	1	960	U
46	1	974	G
46	1	980	A
46	1	982	C
46	1	994	G
46	1	1002	A
46	1	1010	G
46	1	1015	U
46	1	1017	C
46	1	1018	G
46	1	1020	G
46	1	1024	G
46	1	1025	A
46	1	1032	C
46	1	1035	G
46	1	1036	A

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Mol	Chain	Res	Type
46	1	1047	A
46	1	1049	C
46	1	1063	G
46	1	1064	A
46	1	1065	A
46	1	1072	G
46	1	1080	A
46	1	1081	U
46	1	1093	A
46	1	1094	U
46	1	1095	U
46	1	1097	G
46	1	1098	A
46	1	1103	A
46	1	1104	G
46	1	1117	G
46	1	1131	G
46	1	1144	U
46	1	1153	A
46	1	1159	A
46	1	1178	G
46	1	1180	A
46	1	1181	U
46	1	1192	C
46	1	1193	A
46	1	1196	C
46	1	1201	C
46	1	1208	U
46	1	1217	A
46	1	1222	G
46	1	1227	C
46	1	1232	C
46	1	1235	U
46	1	1236	G
46	1	1238	C
46	1	1241	U
46	1	1242	G
46	1	1245	A
46	1	1246	G
46	1	1253	U
46	1	1258	U
46	1	1262	G

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Mol	Chain	Res	Type
46	1	1263	A
46	1	1264	G
46	1	1269	U
46	1	1270	A
46	1	1271	A
46	1	1274	A
46	1	1278	A
46	1	1279	C
46	1	1285	G
46	1	1287	A
46	1	1307	G
46	1	1308	A
46	1	1309	U
46	1	1315	U
46	1	1325	U
46	1	1330	A
46	1	1348	U
46	1	1349	G
46	1	1351	U
46	1	1352	A
46	1	1353	U
46	1	1354	G
46	1	1355	A
46	1	1356	U
46	1	1357	G
46	1	1386	A
46	1	1399	A
46	1	1400	G
46	1	1417	G
46	1	1419	A
46	1	1434	G
46	1	1437	C
46	1	1446	A
46	1	1450	G
46	1	1481	A
46	1	1483	G
46	1	1484	U
46	1	1488	G
46	1	1495	U
46	1	1508	C
46	1	1523	U
46	1	1556	C

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Mol	Chain	Res	Type
46	1	1557	A
46	1	1560	G
46	1	1562	C
46	1	1563	C
46	1	1565	G
46	1	1566	A
46	1	1567	U
46	1	1568	U
46	1	1569	U
46	1	1572	U
46	1	1573	G
46	1	1575	A
46	1	1576	G
46	1	1580	A
46	1	1581	C
46	1	1582	C
46	1	1583	A
46	1	1587	A
46	1	1588	A
46	1	1589	A
46	1	1605	A
46	1	1607	U
46	1	1619	A
46	1	1620	U
46	1	1629	U
46	1	1639	C
46	1	1642	A
46	1	1643	A
46	1	1645	U
46	1	1657	C
46	1	1683	A
46	1	1717	U
46	1	1724	U
46	1	1725	C
46	1	1736	G
46	1	1741	A
46	1	1750	A
46	1	1751	G
46	1	1761	C
46	1	1762	C
46	1	1763	U
46	1	1765	U

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Mol	Chain	Res	Type
46	1	1766	G
46	1	1770	G
46	1	1775	G
46	1	1780	G
46	1	1788	C
46	1	1797	A
46	1	1808	G
46	1	1814	A
46	1	1816	A
46	1	1817	G
46	1	1819	U
46	1	1820	U
46	1	1821	U
46	1	1835	A
46	1	1839	A
46	1	1840	U
46	1	1841	A
46	1	1842	A
46	1	1846	C
46	1	1849	C
46	1	1850	A
46	1	1866	C
46	1	1867	A
46	1	1878	G
46	1	1880	U
46	1	1893	A
46	1	1906	G
46	1	1951	C
46	1	1952	G
46	1	1953	G
46	1	1954	G
46	1	1955	U
46	1	1960	A
46	1	1961	G
46	1	1962	A
46	1	1963	G
46	1	1964	C
46	1	1972	A
46	1	1973	G
46	1	1976	G
46	1	1981	G
46	1	1983	G

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Mol	Chain	Res	Type
46	1	1984	C
46	1	1985	G
46	1	1986	U
46	1	1994	G
46	1	1998	G
46	1	2001	U
46	1	2003	G
46	1	2005	G
46	1	2006	G
46	1	2007	G
46	1	2008	G
46	1	2009	C
46	1	2010	U
46	1	2013	C
46	1	2016	U
46	1	2017	G
46	1	2020	A
46	1	2022	G
46	1	2023	C
46	1	2025	G
46	1	2033	G
46	1	2035	G
46	1	2039	C
46	1	2045	G
46	1	2047	A
46	1	2048	G
46	1	2049	A
46	1	2050	C
46	1	2059	U
46	1	2081	U
46	1	2082	U
46	1	2087	C
46	1	2088	A
46	1	2089	A
46	1	2093	A
46	1	2101	C
46	1	2102	U
46	1	2107	A
46	1	2111	G
46	1	2112	U
46	1	2113	A
46	1	2114	C

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Mol	Chain	Res	Type
46	1	2121	G
46	1	2122	G
46	1	2126	A
46	1	2131	A
46	1	2144	A
46	1	2158	A
46	1	2169	G
46	1	2170	U
46	1	2171	G
46	1	2188	A
46	1	2192	C
46	1	2193	U
46	1	2194	G
46	1	2206	G
46	1	2207	A
46	1	2209	U
46	1	2210	G
46	1	2222	A
46	1	2223	A
46	1	2244	A
46	1	2249	G
46	1	2250	G
46	1	2255	A
46	1	2270	A
46	1	2272	G
46	1	2273	G
46	1	2281	A
46	1	2282	U
46	1	2288	G
46	1	2307	G
46	1	2310	U
46	1	2313	A
46	1	2314	U
46	1	2315	G
46	1	2318	U
46	1	2334	U
46	1	2336	U
46	1	2373	A
46	1	2374	C
46	1	2375	G
46	1	2385	G
46	1	2388	U

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Mol	Chain	Res	Type
46	1	2393	G
46	1	2394	G
46	1	2397	A
46	1	2402	A
46	1	2403	G
46	1	2404	A
46	1	2411	U
46	1	2419	A
46	1	2435	G
46	1	2437	G
46	1	2439	A
46	1	2445	A
46	1	2446	U
46	1	2447	A
46	1	2452	G
46	1	2496	C
46	1	2498	U
46	1	2499	U
46	1	2501	U
46	1	2502	A
46	1	2506	U
46	1	2507	C
46	1	2508	U
46	1	2514	U
46	1	2515	A
46	1	2522	G
46	1	2524	A
46	1	2525	G
46	1	2531	C
46	1	2532	U
46	1	2537	U
46	1	2538	U
46	1	2539	C
46	1	2540	A
46	1	2541	U
46	1	2542	U
46	1	2544	U
46	1	2546	C
46	1	2547	A
46	1	2548	C
46	1	2549	G
46	1	2552	C

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Mol	Chain	Res	Type
46	1	2561	A
46	1	2569	A
46	1	2570	U
46	1	2571	U
46	1	2572	C
46	1	2573	G
46	1	2585	G
46	1	2593	A
46	1	2606	G
46	1	2607	G
46	1	2614	G
46	1	2638	C
46	1	2652	U
46	1	2656	A
46	1	2672	G
46	1	2674	A
46	1	2677	G
46	1	2681	U
46	1	2689	A
46	1	2691	A
46	1	2694	A
46	1	2696	A
46	1	2704	A
46	1	2714	G
46	1	2719	U
46	1	2728	G
46	1	2729	U
46	1	2737	C
46	1	2752	U
46	1	2753	G
46	1	2772	C
46	1	2773	C
46	1	2777	G
46	1	2778	G
46	1	2788	C
46	1	2796	G
46	1	2800	G
46	1	2801	A
46	1	2803	A
46	1	2808	A
46	1	2810	C
46	1	2816	G

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Mol	Chain	Res	Type
46	1	2817	A
46	1	2821	C
46	1	2842	U
46	1	2844	C
46	1	2845	A
46	1	2856	G
46	1	2867	C
46	1	2871	G
46	1	2872	A
46	1	2873	U
46	1	2875	U
46	1	2887	A
46	1	2889	C
46	1	2911	A
46	1	2923	U
46	1	2929	C
46	1	2935	U
46	1	2936	A
46	1	2947	G
46	1	2971	A
46	1	2983	C
46	1	2990	G
46	1	2992	U
46	1	2996	U
46	1	2997	G
46	1	3012	A
46	1	3030	G
46	1	3056	U
46	1	3059	G
46	1	3078	U
46	1	3080	G
46	1	3086	A
46	1	3092	C
46	1	3093	C
46	1	3101	G
46	1	3104	U
46	1	3113	A
46	1	3115	C
46	1	3119	U
46	1	3122	A
46	1	3129	A
46	1	3130	A

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Mol	Chain	Res	Type
46	1	3131	U
46	1	3139	A
46	1	3142	A
46	1	3143	C
46	1	3151	U
46	1	3153	U
46	1	3154	C
46	1	3155	U
46	1	3156	U
46	1	3157	U
46	1	3158	G
46	1	3165	A
46	1	3170	A
46	1	3173	G
46	1	3174	A
46	1	3176	G
46	1	3179	U
46	1	3181	C
46	1	3187	A
46	1	3196	U
46	1	3207	U
46	1	3210	A
46	1	3217	C
46	1	3218	A
46	1	3219	G
46	1	3227	A
46	1	3229	G
46	1	3239	G
46	1	3242	G
46	1	3243	A
46	1	3245	A
46	1	3247	G
46	1	3259	U
46	1	3263	G
46	1	3269	U
46	1	3270	U
46	1	3273	A
46	1	3276	G
46	1	3281	U
46	1	3287	U
46	1	3288	G
46	1	3289	G

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Mol	Chain	Res	Type
46	1	3294	A
46	1	3295	A
46	1	3304	U
46	1	3313	U
46	1	3316	A
46	1	3318	G
46	1	3319	U
46	1	3320	A
46	1	3334	U
46	1	3341	U
46	1	3345	G
46	1	3351	U
46	1	3352	U
46	1	3353	G
46	1	3354	U
46	1	3355	U
46	1	3369	G
46	1	3375	A
46	1	3378	C
46	1	3386	G
46	1	3389	U
46	1	3390	G
46	1	3396	U

All (41) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
3	C4	52	G
4	C3	85	G
46	1	13	A
46	1	239	G
46	1	282	G
46	1	637	C
46	1	715	A
46	1	763	G
46	1	916	G
46	1	1064	A
46	1	1097	G
46	1	1307	G
46	1	1348	U
46	1	1355	A
46	1	1562	C

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Mol	Chain	Res	Type
46	1	1762	C
46	1	1815	U
46	1	1820	U
46	1	1950	U
46	1	1959	G
46	1	1983	G
46	1	2016	U
46	1	2086	A
46	1	2101	C
46	1	2112	U
46	1	2249	G
46	1	2495	C
46	1	2501	U
46	1	2537	U
46	1	2541	U
46	1	2547	A
46	1	3121	U
46	1	3154	C
46	1	3157	U
46	1	3218	A
46	1	3228	C
46	1	3269	U
46	1	3275	U
46	1	3319	U
46	1	3350	C
46	1	3351	U

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 211 ligands modelled in this entry, 211 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

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

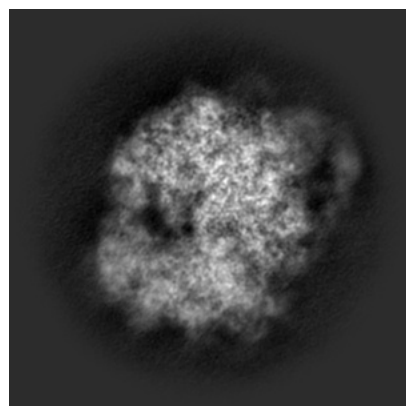
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-16090. These allow visual inspection of the internal detail of the map and identification of artifacts.

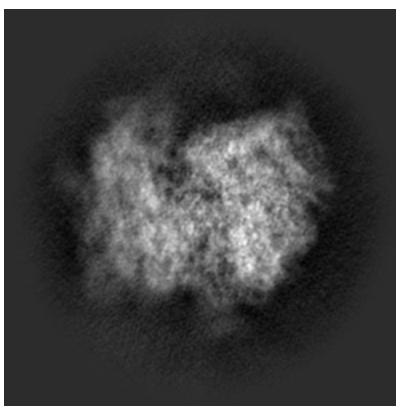
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

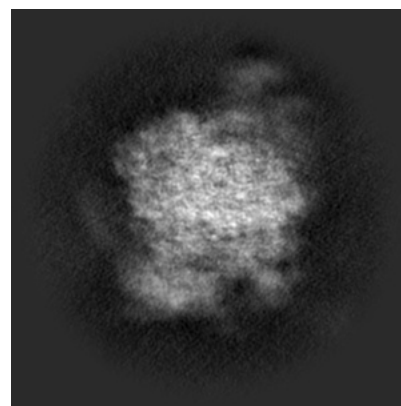
6.1.1 Primary map



X

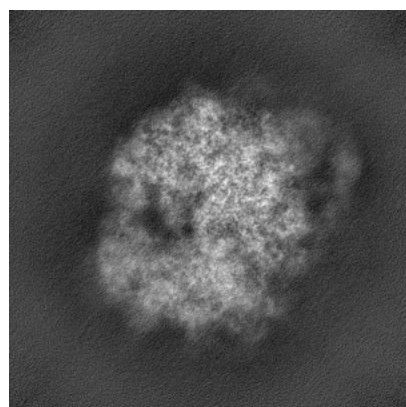


Y

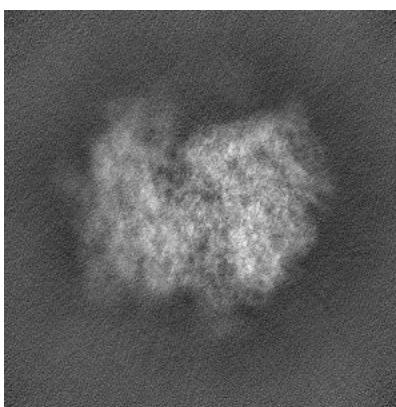


Z

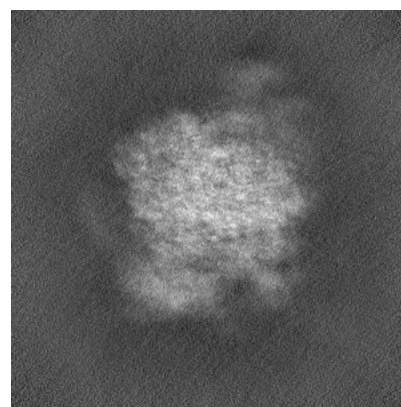
6.1.2 Raw map



X



Y

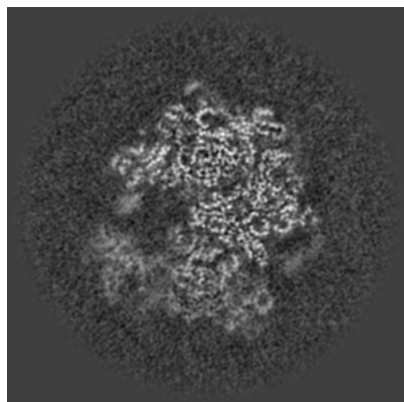


Z

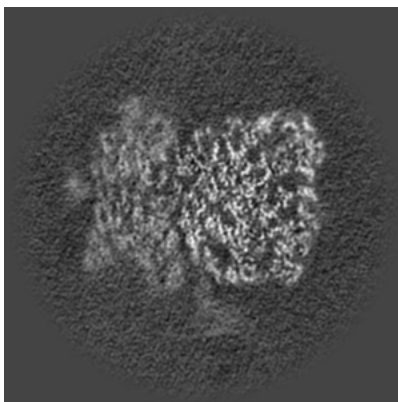
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

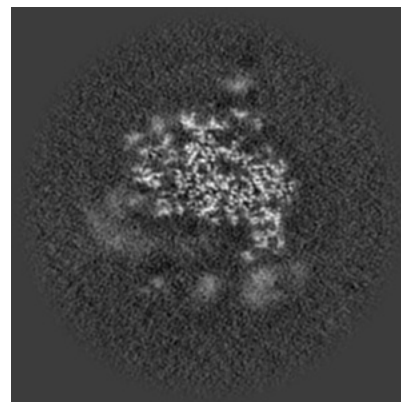
6.2.1 Primary map



X Index: 200

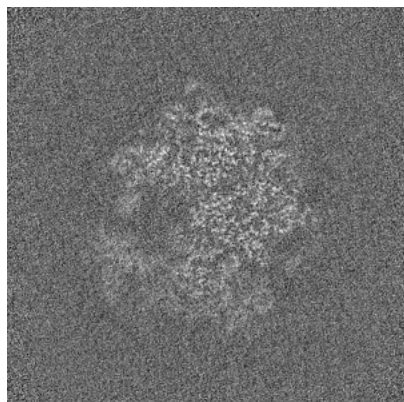


Y Index: 200

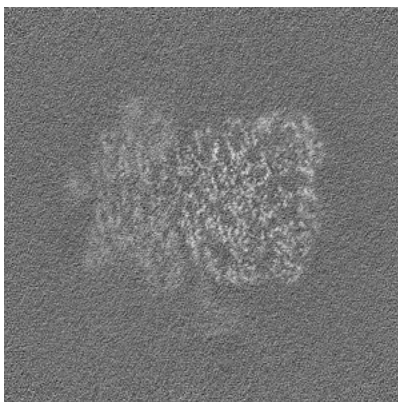


Z Index: 200

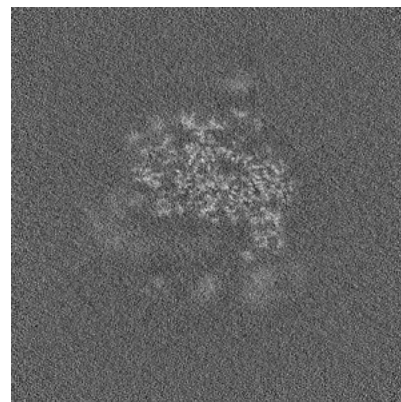
6.2.2 Raw map



X Index: 200



Y Index: 200

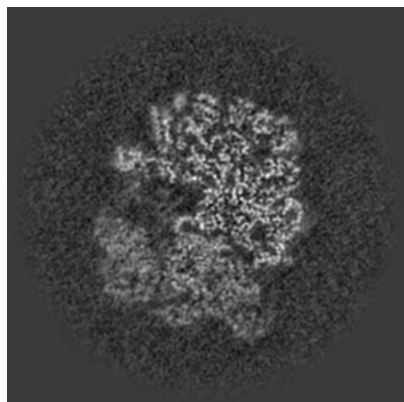


Z Index: 200

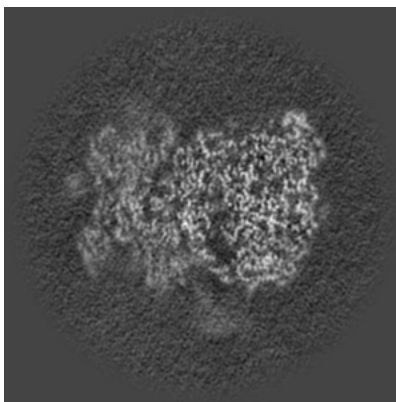
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

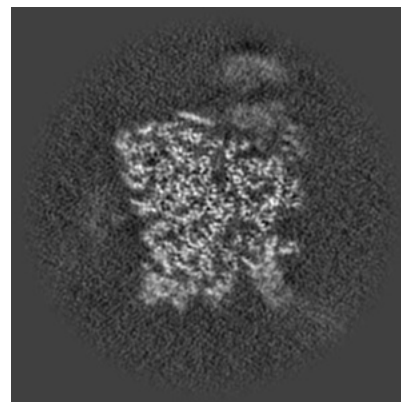
6.3.1 Primary map



X Index: 182

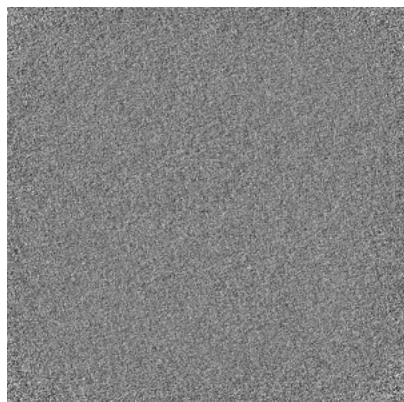


Y Index: 194

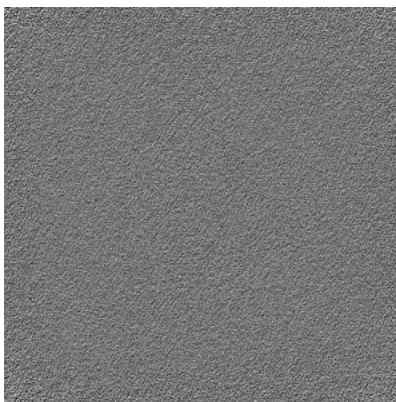


Z Index: 237

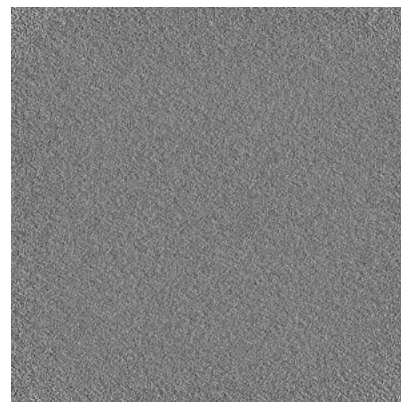
6.3.2 Raw map



X Index: 0



Y Index: 0

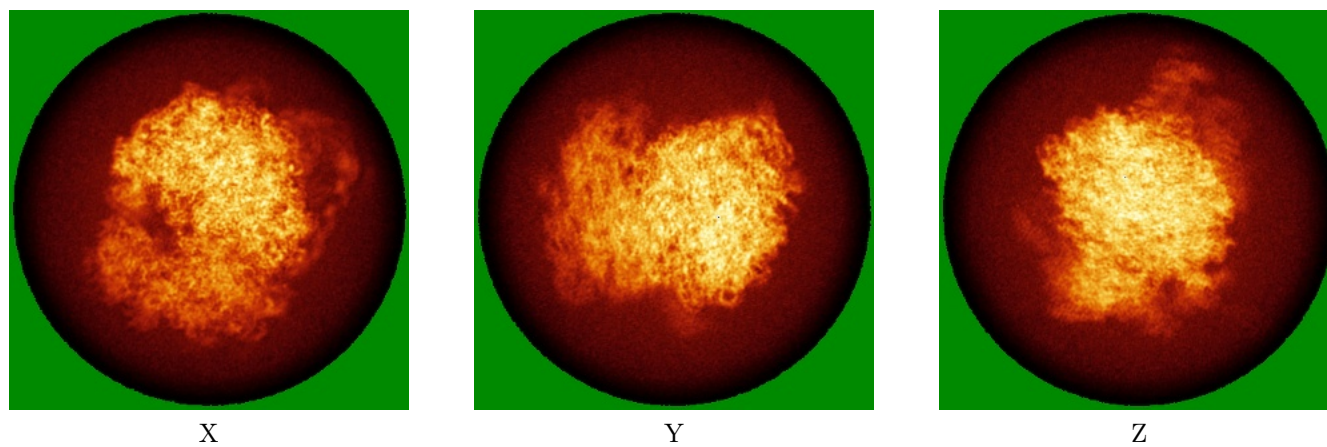


Z Index: 0

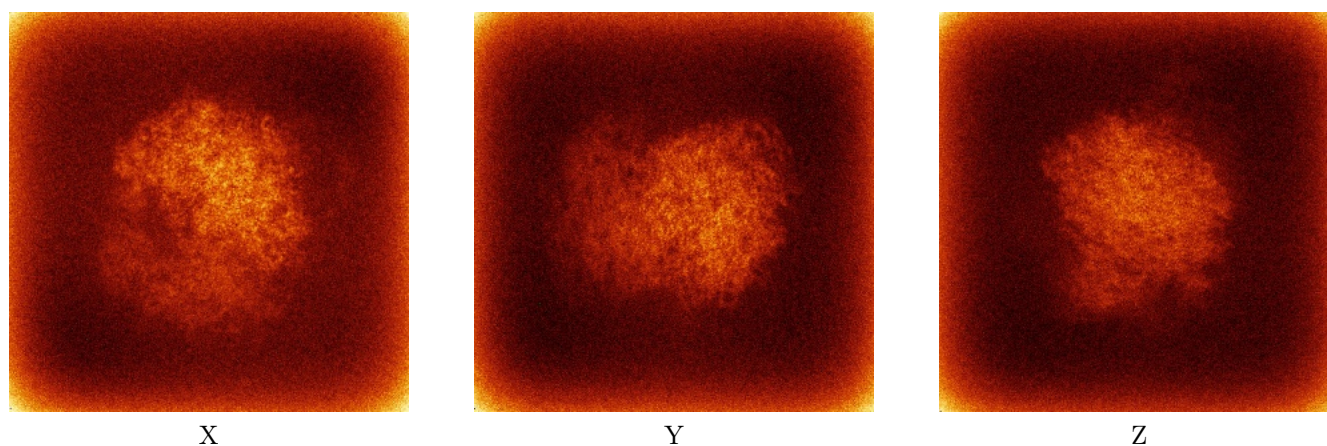
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



6.4.2 Raw map



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](#)

This section was not generated.

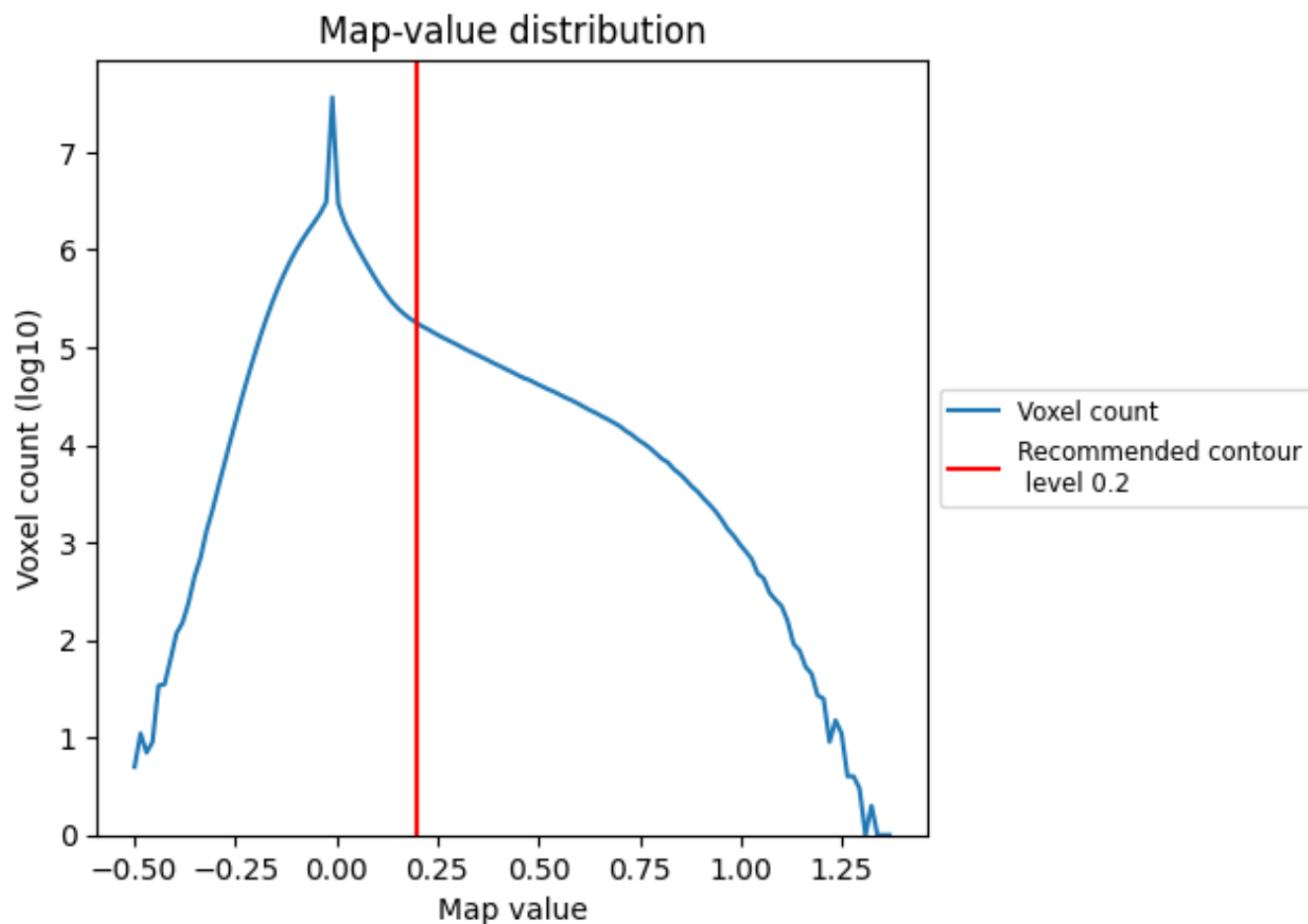
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

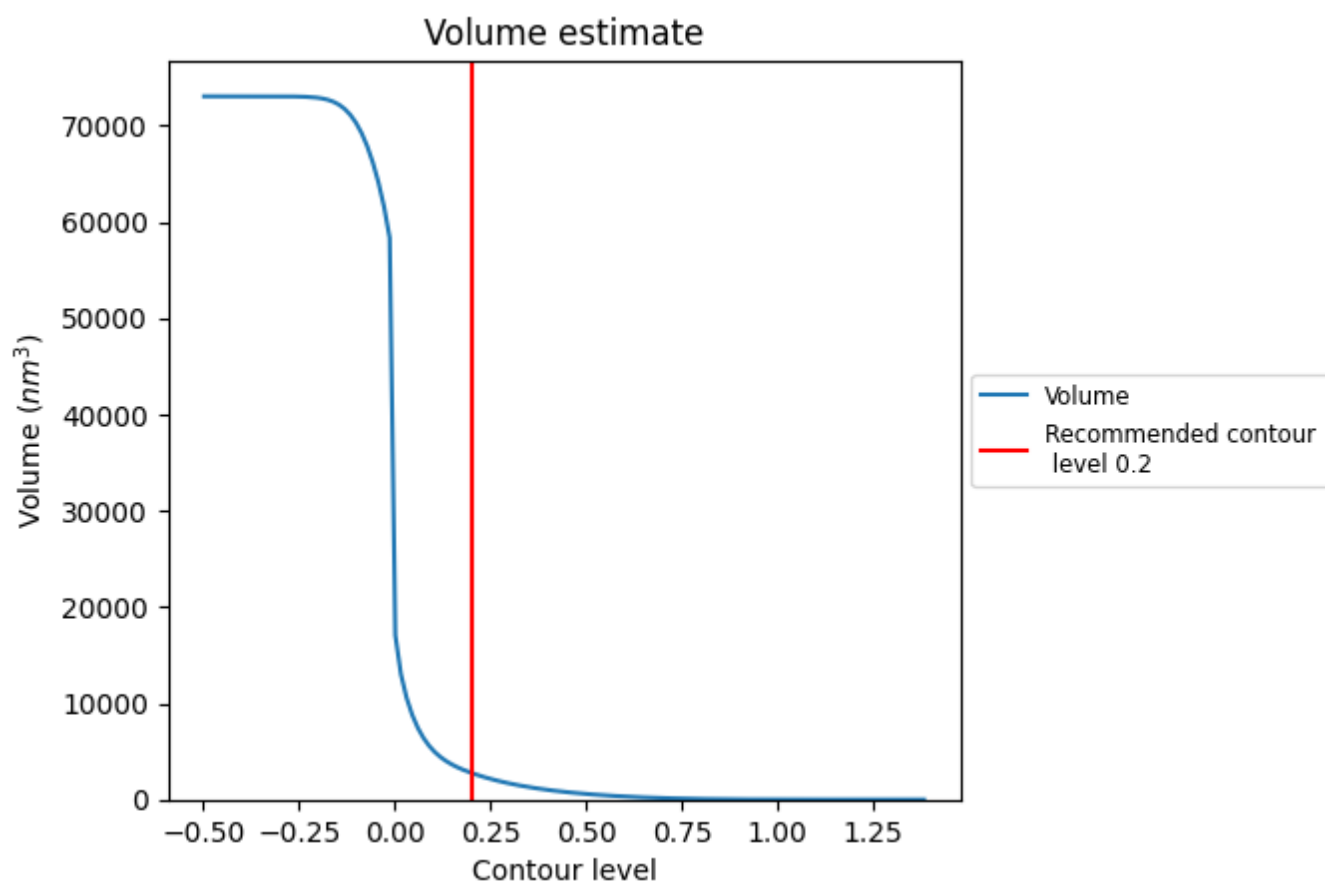
This section contains the results of statistical analysis of the map.

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.

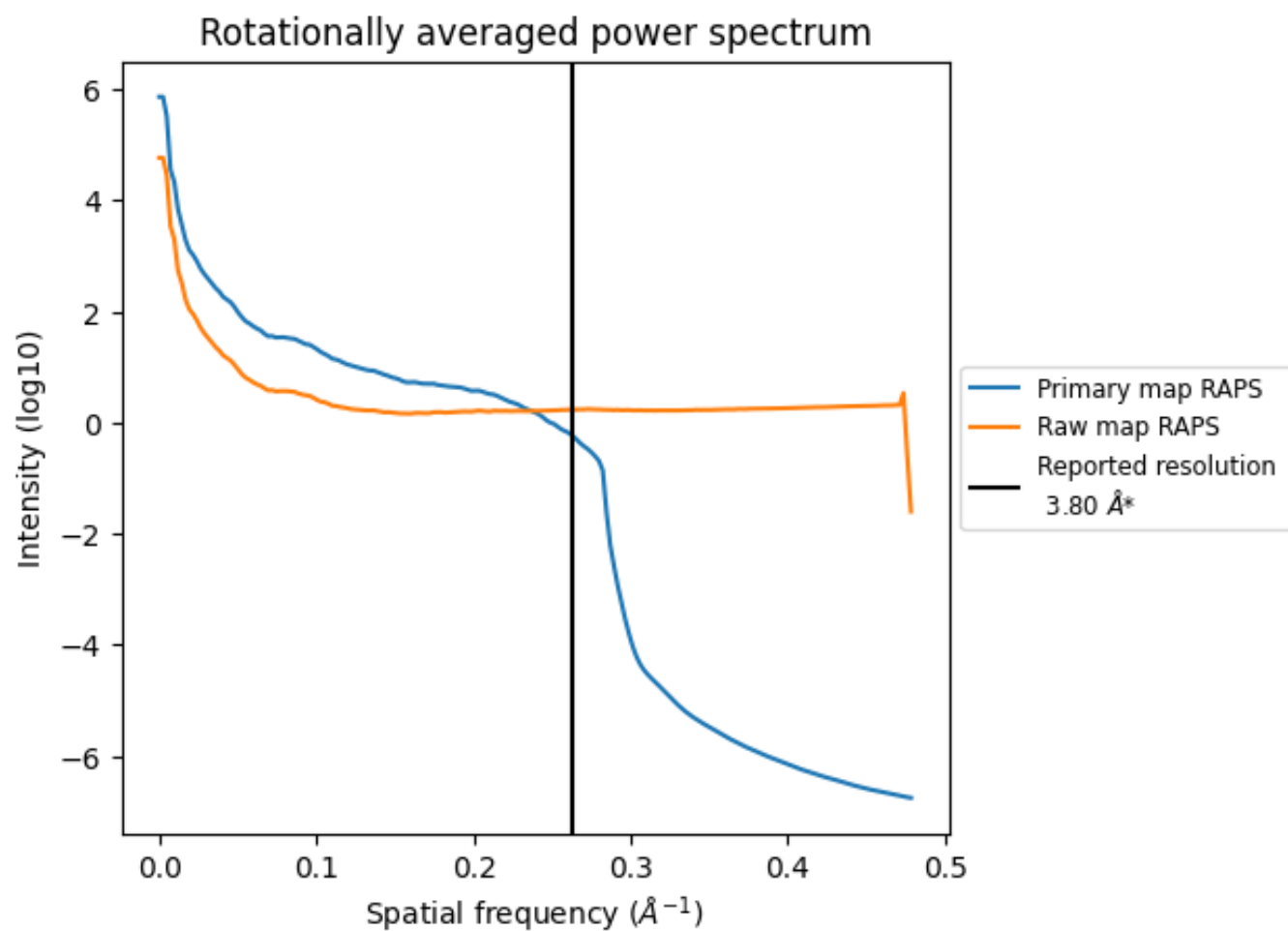
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2769 nm³; this corresponds to an approximate mass of 2501 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 ⓘ

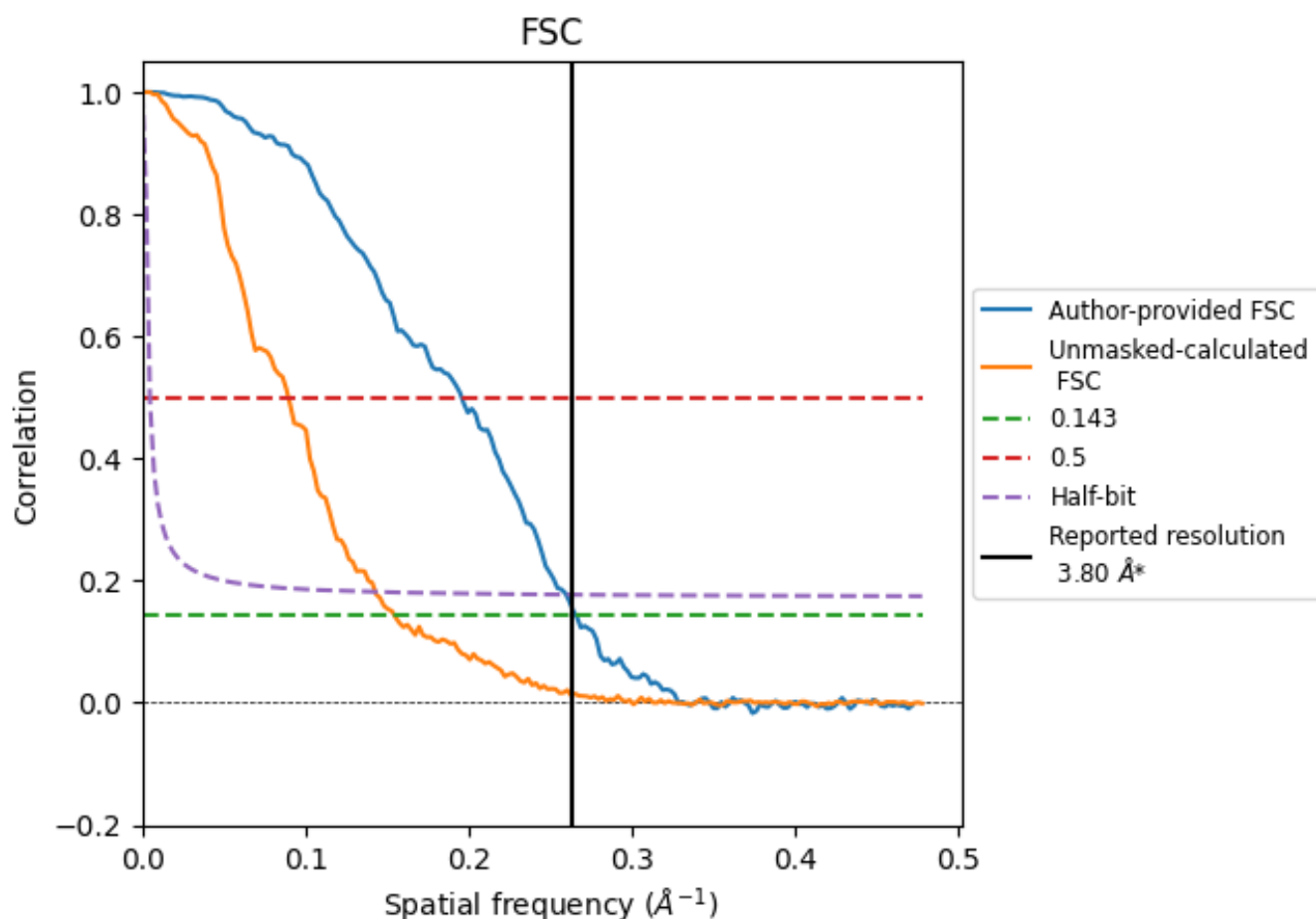


*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

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 0.263 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

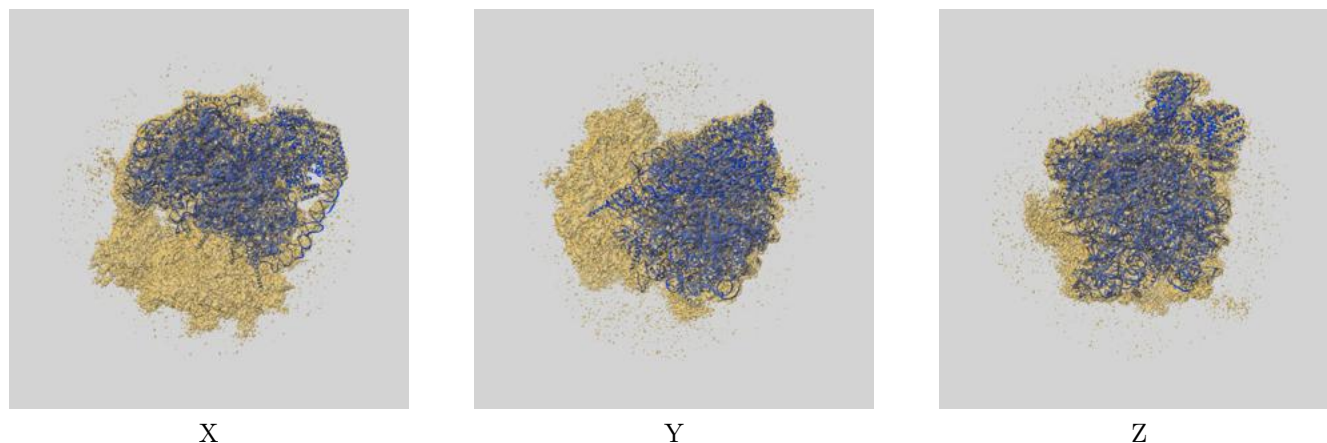
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.76	5.10	3.85
Unmasked-calculated*	6.46	11.15	6.99

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.46 differs from the reported value 3.8 by more than 10 %

9 Map-model fit [i](#)

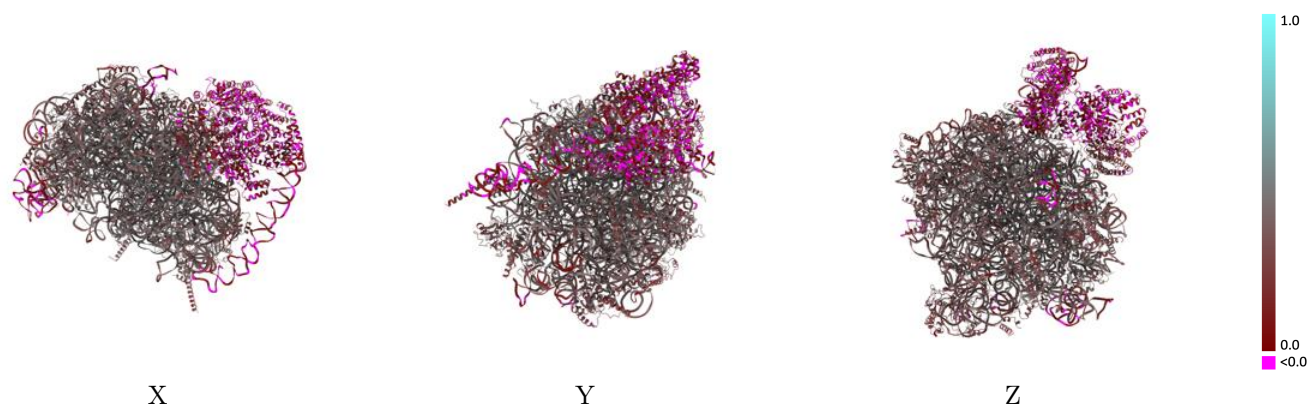
This section contains information regarding the fit between EMDB map EMD-16090 and PDB model 8BJQ. Per-residue inclusion information can be found in section [3](#) on page [14](#).

9.1 Map-model overlay [i](#)



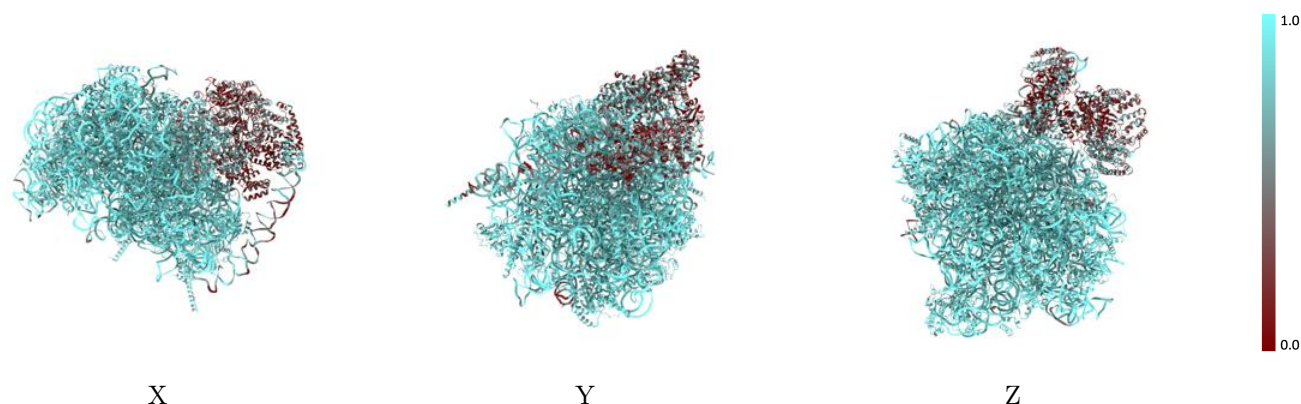
The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



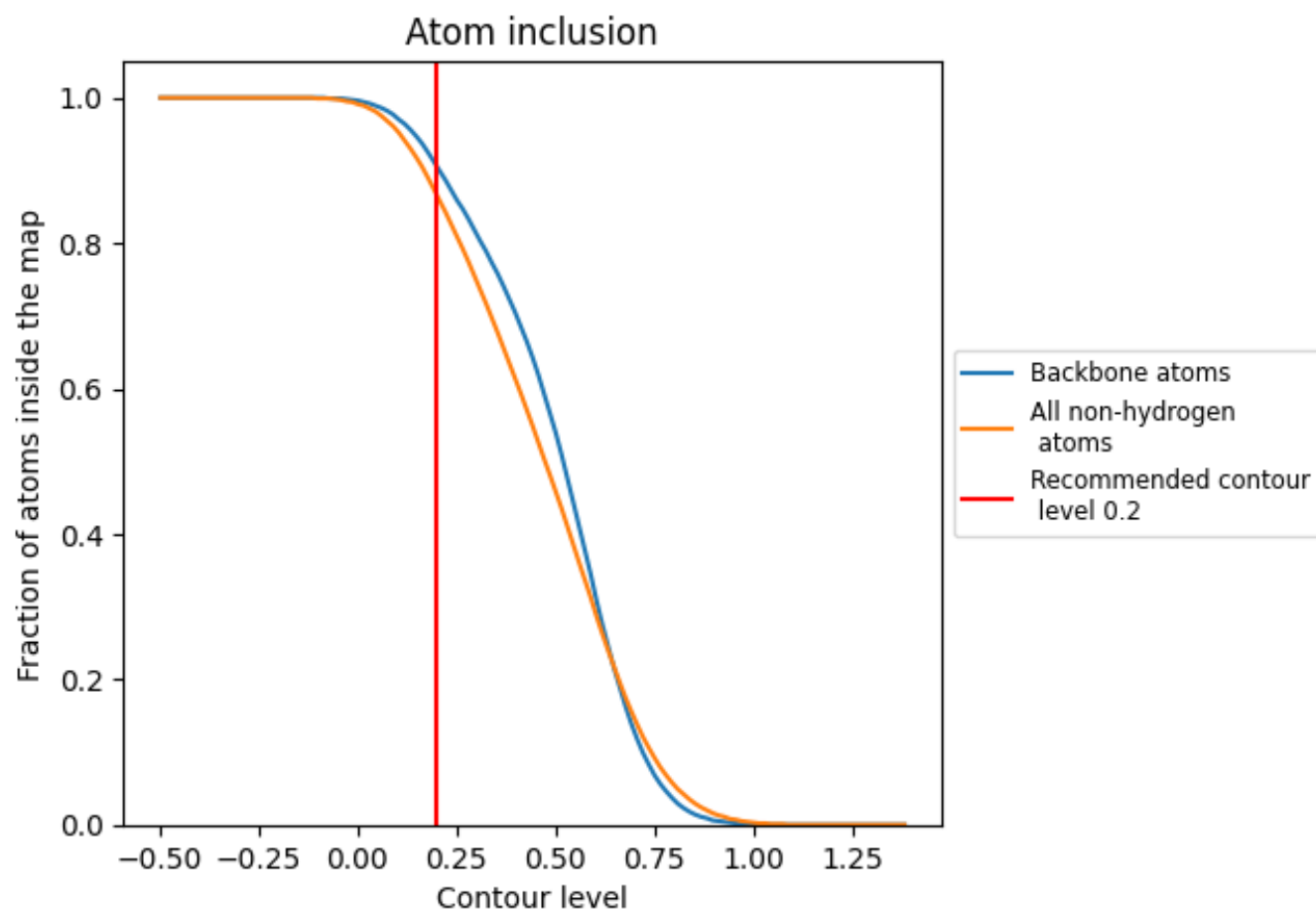
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.2).

9.4 Atom inclusion [i](#)



At the recommended contour level, 91% of all backbone atoms, 87% 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 (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8660	 0.3370
1	 0.9560	 0.3660
A	 0.1720	 0.0460
B	 0.4710	 0.1120
C	 0.1710	 0.0510
C3	 0.9890	 0.3920
C4	 0.9940	 0.3720
D	 0.3710	 0.0800
LA	 0.8480	 0.4090
LB	 0.9000	 0.4110
LC	 0.8880	 0.3830
LD	 0.8750	 0.2840
LE	 0.8540	 0.2940
LF	 0.8850	 0.3770
LG	 0.8540	 0.3350
LH	 0.8950	 0.3730
LI	 0.8570	 0.3560
LJ	 0.8060	 0.2790
LL	 0.8630	 0.3360
LM	 0.8920	 0.3610
LN	 0.8650	 0.3780
LO	 0.8940	 0.4090
LP	 0.8370	 0.3760
LQ	 0.8890	 0.3760
LR	 0.8480	 0.3690
LS	 0.8840	 0.3990
LT	 0.8800	 0.3910
LU	 0.8340	 0.3000
LV	 0.8140	 0.4190
LW	 0.8200	 0.3950
LX	 0.8710	 0.3860
LY	 0.8640	 0.3510
LZ	 0.8950	 0.3510
La	 0.8760	 0.3470
Lb	 0.8430	 0.3460



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Chain	Atom inclusion	Q-score
Lc	 0.8880	 0.3450
Ld	 0.8760	 0.4000
Le	 0.8780	 0.4100
Lf	 0.8990	 0.4200
Lg	 0.8770	 0.3860
Lh	 0.8810	 0.3370
Li	 0.8260	 0.3310
Lj	 0.9180	 0.4140
Lk	 0.8330	 0.3420
Ll	 0.8580	 0.3570
Lm	 0.8740	 0.3840
Ln	 0.8120	 0.3120
Lo	 0.8610	 0.3750
Lp	 0.8390	 0.3730