



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 11, 2021 – 07:08 AM EDT

PDB ID : 3CPW
Title : The structure of the antibiotic LINEZOLID bound to the large ribosomal subunit of HALOARCULA MARISMORTUI
Authors : Ippolito, J.A.; Kanyo, Z.K.; Wang, D.; Franceschi, F.J.; Moore, P.B.; Steitz, T.A.; Duffy, E.M.
Deposited on : 2008-04-01
Resolution : 2.70 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.23.2
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.23.2

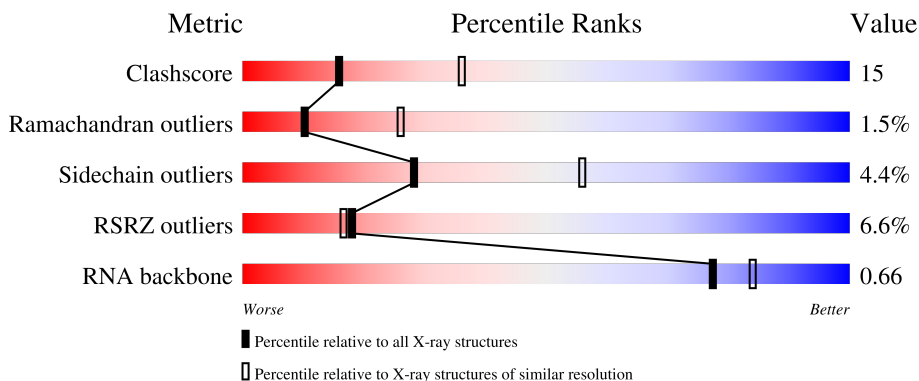
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.70 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)
RNA backbone	3102	1159 (3.00-2.40)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	0	2922	 4% 55% 34% 5% 6%
2	9	122	 11% 48% 39% 11%
3	A	240	 4% 60% 32% 6%
4	B	338	 61% 36%
5	C	246	 2% 66% 30%

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Mol	Chain	Length	Quality of chain
6	D	177	
7	E	178	
8	F	120	
9	G	348	
10	H	177	
11	I	145	
12	J	132	
13	K	165	
14	L	196	
15	M	187	
16	N	116	
17	O	149	
18	P	96	
19	Q	155	
20	R	85	
21	S	120	
22	T	67	
23	U	71	
24	V	154	
25	W	92	
26	X	241	
27	Y	92	
28	Z	57	
29	1	50	
30	2	92	

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Mol	Chain	Length	Quality of chain
31	4	4	<p>100% 25% 25% 50%</p>

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
33	MG	0	8017	-	-	-	X
33	MG	0	8030	-	-	-	X
33	MG	0	8037	-	-	-	X
33	MG	0	8038	-	-	-	X
33	MG	0	8071	-	-	-	X
33	MG	0	8073	-	-	-	X
33	MG	0	8082	-	-	-	X
34	K	0	8401	-	-	-	X
35	NA	0	8512	-	-	-	X
35	NA	0	8518	-	-	-	X
35	NA	0	8522	-	-	-	X
35	NA	0	8535	-	-	-	X
35	NA	0	8544	-	-	-	X
35	NA	0	8555	-	-	-	X
35	NA	0	8567	-	-	-	X
35	NA	0	8571	-	-	-	X
35	NA	0	8573	-	-	-	X
35	NA	0	8574	-	-	-	X
35	NA	0	8575	-	-	-	X
35	NA	9	8543	-	-	-	X
35	NA	9	8572	-	-	-	X
37	SR	0	9006	-	-	-	X

2 Entry composition

There are 40 unique types of molecules in this entry. The entry contains 98629 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	0	2754	59016	26346	10879	19046	2745	0	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	559	C	U	conflict	GB 3377779
0	560	C	U	conflict	GB 3377779
0	2099	A	G	engineered mutation	GB 3377779

- Molecule 2 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	9	122	2600	1160	472	847	121	0	0	0

- Molecule 3 is a protein called 50S ribosomal protein L2P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	A	237	1753	1072	352	324	5	0	0	0

- Molecule 4 is a protein called 50S ribosomal protein L3P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	B	337	2625	1616	493	511	5	0	0	0

- Molecule 5 is a protein called 50S ribosomal protein L4P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	C	246	1860	1130	345	384	1	0	0	0

- Molecule 6 is a protein called 50S ribosomal protein L5P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	D	140	1094	685	195	210	4	0	0	0

- Molecule 7 is a protein called 50S ribosomal protein L6P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	E	172	1357	840	224	289	4	0	0	0

- Molecule 8 is a protein called 50S ribosomal protein L7Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	F	119	890	551	141	197	1	0	0	0

- Molecule 9 is a protein called 50S ribosomal protein L10E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	G	29	240	149	39	51	1	0	0	0

- Molecule 10 is a protein called 50S ribosomal protein L10e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	H	160	1282	798	240	238	6	0	0	0

- Molecule 11 is a protein called 50S ribosomal protein L13P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	I	142	1120	696	199	222	3	0	0	0

- Molecule 12 is a protein called 50S ribosomal protein L14P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	J	132	994	609	189	192	4	0	0	0

- Molecule 13 is a protein called 50S ribosomal protein L15P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	K	145	1118	670	222	226		0	0	0

- Molecule 14 is a protein called 50S ribosomal protein L15e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
14	L	194	1558	943	333	281	1	0	0	0

- Molecule 15 is a protein called 50S ribosomal protein L18P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	M	186	1445	895	262	286	2	0	0	0

- Molecule 16 is a protein called 50S ribosomal protein L18e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
16	N	115	865	529	161	175	0	0	0

- Molecule 17 is a protein called 50S ribosomal protein L19e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
17	O	143	1136	683	229	224	0	0	0

- Molecule 18 is a protein called 50S ribosomal protein L21e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
18	P	95	735	450	141	144	0	0	0

- Molecule 19 is a protein called 50S ribosomal protein L22P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
19	Q	150	1149	713	209	223	4	0	0	0

- Molecule 20 is a protein called 50S ribosomal protein L23P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
20	R	81	641	389	111	138	3	0	0	0

- Molecule 21 is a protein called 50S ribosomal protein L24P.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
21	S	119	950	568	180	202	0	0	0

- Molecule 22 is a protein called 50S ribosomal protein L24e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
22	T	53	410	244	75	86	5	0	0	0

- Molecule 23 is a protein called 50S ribosomal protein L29P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
23	U	65	499	304	94	100	1	0	0	0

- Molecule 24 is a protein called 50S ribosomal protein L30P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
24	V	154	1196	737	209	244	6	0	0	0

- Molecule 25 is a protein called 50S ribosomal protein L31e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
25	W	82	654	402	129	122	1	0	0	0

- Molecule 26 is a protein called 50S ribosomal protein L32e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
26	X	142	1130	686	228	216	0	0	0

- Molecule 27 is a protein called 50S ribosomal protein L37Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
27	Y	72	567	340	112	110	5	0	0	0

- Molecule 28 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
28	Z	56	431	258	86	83	4	0	0	0

- Molecule 29 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
29	1	46	396	239	89	67	1	0	0	0

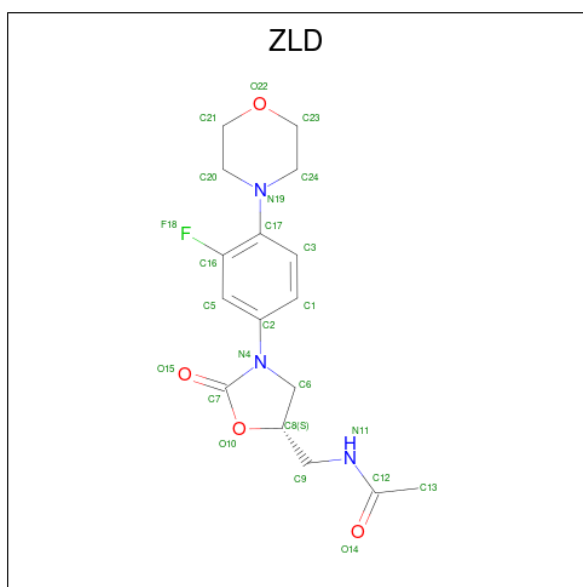
- Molecule 30 is a protein called 50S ribosomal protein L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
30	2	92	755	458	153	137	7	0	0	0

- Molecule 31 is a RNA chain called 5'-R(*CP*CP*AP*(PHE)*(ACA))-3'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
31	4	4	70	37	12	19	2	0	0	0

- Molecule 32 is N-[[[(5S)-3-(3-fluoro-4-morpholin-4-ylphenyl)-2-oxo-1,3-oxazolidin-5-yl]methyl]acetamide (three-letter code: ZLD) (formula: C₁₆H₂₀FN₃O₄).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
32	0	1	Total	C	F	N	O	0	0
			24	16	1	3	4		

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	0	84	Total	Mg	0	0
			84	84		
33	9	1	Total	Mg	0	0
			1	1		
33	A	2	Total	Mg	0	0
			2	2		
33	B	1	Total	Mg	0	0
			1	1		
33	J	1	Total	Mg	0	0
			1	1		
33	S	1	Total	Mg	0	0
			1	1		
33	X	1	Total	Mg	0	0
			1	1		
33	1	1	Total	Mg	0	0
			1	1		

- Molecule 34 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	0	2	Total K 2 2	0	0

- Molecule 35 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	0	64	Total Na 64 64	0	0
35	9	2	Total Na 2 2	0	0
35	B	1	Total Na 1 1	0	0
35	C	1	Total Na 1 1	0	0
35	I	1	Total Na 1 1	0	0
35	K	1	Total Na 1 1	0	0
35	L	1	Total Na 1 1	0	0
35	P	1	Total Na 1 1	0	0
35	Q	2	Total Na 2 2	0	0
35	R	1	Total Na 1 1	0	0

- Molecule 36 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	0	9	Total Cl 9 9	0	0
36	A	1	Total Cl 1 1	0	0
36	B	1	Total Cl 1 1	0	0
36	I	3	Total Cl 3 3	0	0
36	J	1	Total Cl 1 1	0	0
36	K	1	Total Cl 1 1	0	0
36	L	1	Total Cl 1 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	M	1	Total 1	Cl 1	0	0
36	N	1	Total 1	Cl 1	0	0
36	Q	1	Total 1	Cl 1	0	0
36	X	1	Total 1	Cl 1	0	0
36	2	1	Total 1	Cl 1	0	0

- Molecule 37 is STRONTIUM ION (three-letter code: SR) (formula: Sr).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	0	92	Total 92	Sr 92	0	0
37	9	3	Total 3	Sr 3	0	0
37	A	3	Total 3	Sr 3	0	0
37	B	2	Total 2	Sr 2	0	0
37	F	1	Total 1	Sr 1	0	0
37	H	1	Total 1	Sr 1	0	0
37	Q	1	Total 1	Sr 1	0	0
37	R	1	Total 1	Sr 1	0	0
37	S	1	Total 1	Sr 1	0	0
37	Z	2	Total 2	Sr 2	0	0
37	2	1	Total 1	Sr 1	0	0

- Molecule 38 is CADMIUM ION (three-letter code: CD) (formula: Cd).

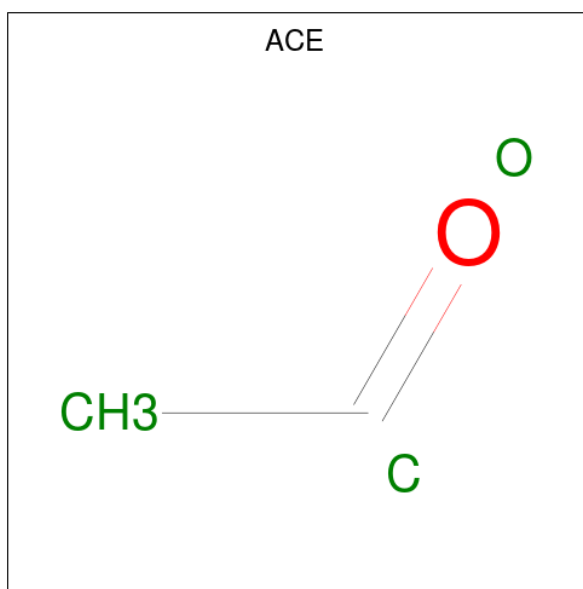
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	N	1	Total 1	Cd 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	T	1	Total 1	Cd 1	0	0
38	Y	1	Total 1	Cd 1	0	0
38	Z	1	Total 1	Cd 1	0	0
38	2	1	Total 1	Cd 1	0	0

- Molecule 39 is ACETYL GROUP (three-letter code: ACE) (formula: C₂H₄O).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
39	4	1	Total 3	C 2	O 1	0	0

- Molecule 40 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
40	0	5757	Total 5757	O 5757	0	0
40	9	144	Total 144	O 144	0	0
40	A	129	Total 129	O 129	0	0
40	B	158	Total 158	O 158	0	0

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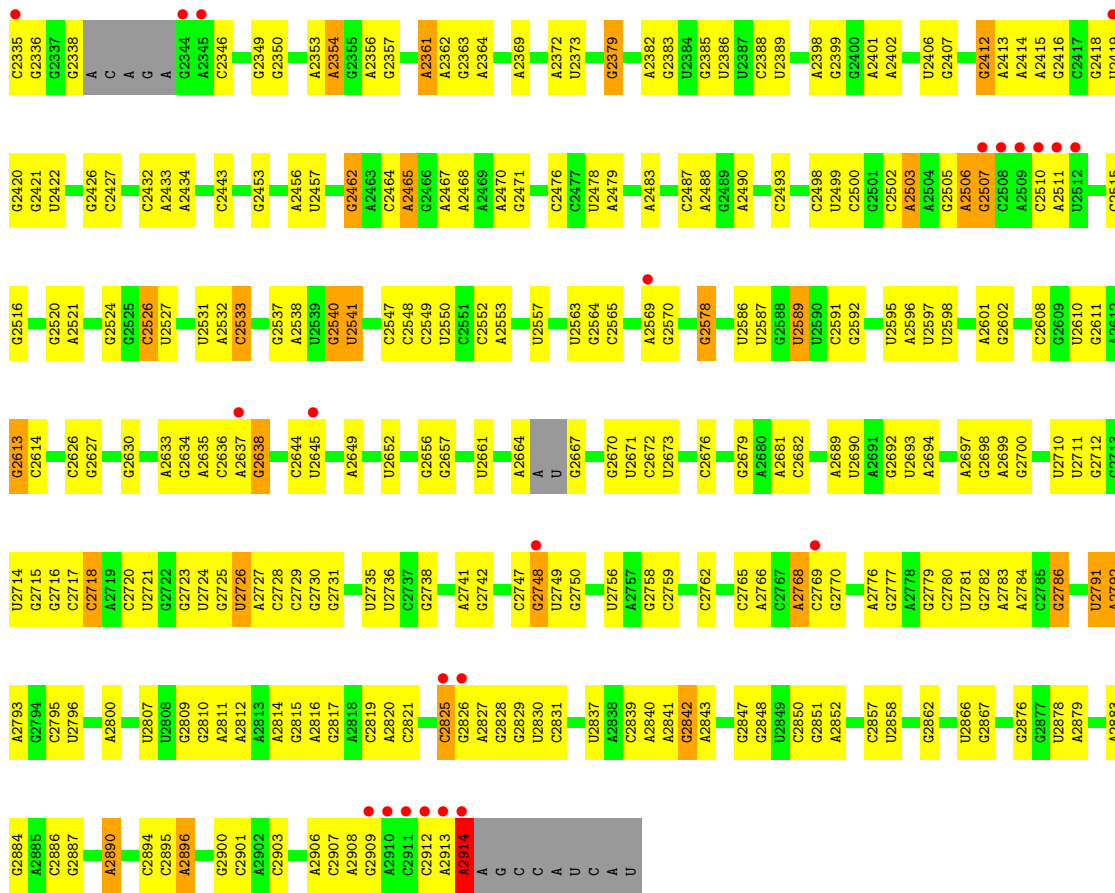
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
40	C	183	Total 183	O 183	0	0
40	D	53	Total 53	O 53	0	0
40	E	50	Total 50	O 50	0	0
40	F	25	Total 25	O 25	0	0
40	G	22	Total 22	O 22	0	0
40	H	66	Total 66	O 66	0	0
40	I	57	Total 57	O 57	0	0
40	J	59	Total 59	O 59	0	0
40	K	84	Total 84	O 84	0	0
40	L	136	Total 136	O 136	0	0
40	M	66	Total 66	O 66	0	0
40	N	45	Total 45	O 45	0	0
40	O	70	Total 70	O 70	0	0
40	P	51	Total 51	O 51	0	0
40	Q	84	Total 84	O 84	0	0
40	R	38	Total 38	O 38	0	0
40	S	43	Total 43	O 43	0	0
40	T	28	Total 28	O 28	0	0
40	U	15	Total 15	O 15	0	0
40	V	75	Total 75	O 75	0	0
40	W	28	Total 28	O 28	0	0

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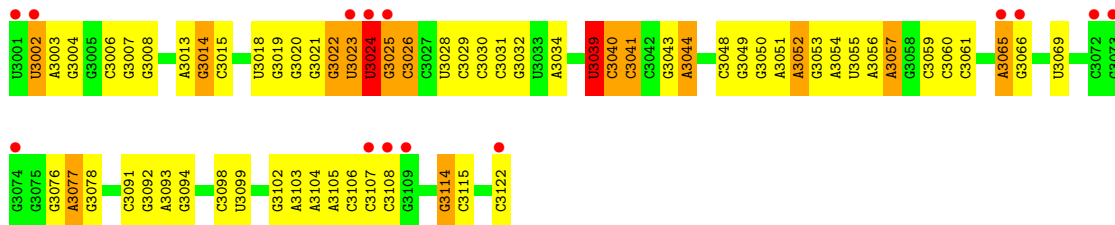
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
40	X	99	Total O 99 99	0	0
40	Y	23	Total O 23 23	0	0
40	Z	58	Total O 58 58	0	0
40	1	40	Total O 40 40	0	0
40	2	73	Total O 73 73	0	0
40	4	3	Total O 3 3	0	0

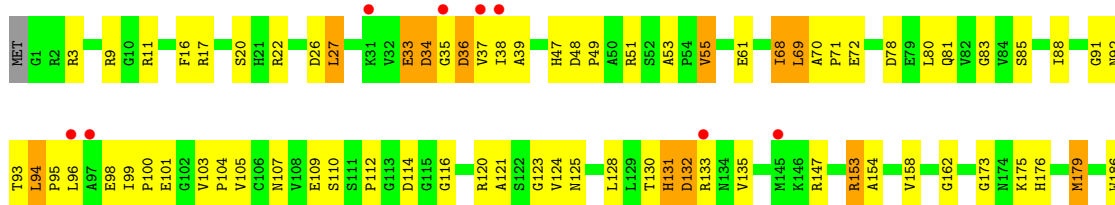
U	G1110	G1186	C1257	A1367	A1482	G1589	G1683	G1787	G1871	U1967	A2103	A	C	G2237
C	U1111	U1187	G1258	U1368	C1483	G1592	A1684	U1788	U1878	G1971	C2106	C	C	A2238
G	U1115	A1188	C1267	A1372	U1500	G1596	G1685	G1789	G1879	U1972	G2110	A	G	U2241
C	U1116	A1189	G1268	G1376	A1501	A1598	A1686	G1799	C1878	U1973	G2111	G	G	G2251
A	A1117	A1190	G1269	C1377	U1502	A1597	C1687	G1800	U1879	G1974	G2112	A	C	U2242
C	A1118	A1191	U1270	U1380	U1503	A1603	C1688	G1801	C1878	A1978	A2112	C	C	G2252
A	A1119	A1192	A1278	U1384	U1504	G1604	U1692	G1802	U1879	G1979	G2113	C	C	G2253
C	U1120	A1193	U1279	U1384	U1505	G1605	U1696	G1803	C1881	U1980	G2114	C	C	G2254
C	G1119	A1194	A1280	C1384	U1506	G1606	G1697	G1804	U1881	U1984	U2115	C	C	A2255
A	U1121	A1195	G1283	A1393	G1512	C1609	U1702	G1805	C1894	G1995	G2116	C	C	G2256
C	G1122	A1196	G1284	C1394	G1513	G1610	G1706	G1809	G1902	U1996	G2117	C	C	G2257
C	A1123	A1197	U1285	C1394	A1514	G1611	G1707	G1809	U1903	U2004	G2118	C	C	A2258
A	C1129	U1198	A1287	A1398	A1515	G1614	G1714	C1816	A1909	G2005	G2122	C	C	G2259
A	U1130	A1199	A1288	U1407	A1516	G1615	G1715	U1817	A1910	G2006	U2133	C	C	U2265
A	G1131	A1200	C1289	U1408	A1516	A1615	G1716	U1817	A1911	C2007	G2134	C	C	A2266
A	A1132	A1201	G1290	G1401	U1517	C1616	A1716	G1818	A1922	U2008	A2135	C	C	G2267
A	G1138	G1202	U1299	A1406	U1520	C1617	A1717	G1819	C1914	U2011	G2136	C	C	G2270
A	U1139	G1203	G1299	A1406	G1521	G1618	U1722	G1820	A1919	U2012	A	C	C	G2271
A	C1140	G1204	G1299	U1408	U1521	G1618	G1723	G1820	A1920	G2013	C	C	C	G2272
A	U1150	G1209	U1298	U1409	U1524	U1625	U1724	G1822	A1921	G2014	C	C	C	A2274
A	G1151	G1211	G1299	G1415	G1525	A1626	C1725	U1825	A1922	U2016	G	G	C	G2275
A	U1154	G1212	U1304	U1419	A1526	A1630	G1730	C1826	G1925	U2017	C	C	C	G2281
A	G1155	G1213	C1305	U1419	A1527	A1633	G1731	G1827	G1926	U2018	C	C	C	U2282
A	C1156	G1214	G1305	U1421	G1528	G1634	G1732	G1828	G1927	G2013	C	C	C	G2283
A	G1157	G1216	U1309	C1421	G1529	U1635	A1733	C1830	C1928	U2034	C	C	C	G2284
A	U1158	G1217	U1310	U1422	G1535	G1636	G1739	C1834	U1929	G2044	C	C	C	A2291
A	G1159	U1218	G1311	C1423	C1536	G1637	U1741	U1836	U1939	A2054	C	C	C	C2296
A	U1160	U1219	G1312	A1424	C1537	A1637	U1742	U1837	A1942	A2055	C	C	C	U2297
A	A1161	U1229	A1314	G1430	U1544	A1641	A1742	U1838	C1943	U2064	C	C	C	A2300
A	G1162	C1229	U1314	G1430	C1545	A1642	G1751	U1839	G1944	C2065	C	C	C	A2301
A	G1163	A1230	A1321	U1441	G1552	A1643	G1752	A1840	G1945	C2066	C	C	C	A2302
A	U1164	A1232	G1322	U1442	C1553	C1644	C1753	C1841	G1946	U2072	C	C	C	U2309
A	G1165	A1233	U1327	U1442	U1554	U1645	G1754	U1841	G1947	G2073	C	C	C	C2313
A	A1166	U1234	G1328	G1444	G1555	U1654	A1754	U1842	G1948	G2074	C	C	C	G2314
A	G1167	G1235	A1328	G1444	G1556	A1655	G1755	A1845	G1949	A2074	C	C	C	G2315
A	C1168	U1236	U1333	U1450	G1557	A1657	G1756	U1846	G1950	U2081	C	C	C	G2316
A	U1169	U1237	C1334	G1451	C1558	A1658	A1759	G1846	G1951	A	C	C	C	G2317
A	U1170	C1238	U1336	U1454	U1559	A1659	U1766	G1849	U	A	C	C	C	U2320
A	A1171	G1239	U1336	U1454	U1561	A1660	A1767	U1850	A	A	C	C	C	A2321
A	U1172	A1242	G1340	A1458	C1562	C1666	G1768	G1851	C	C	C	C	C	G2325
A	A1173	C1243	A1341	A1458	G1563	A1667	C1769	G1852	U	U	C	C	C	U2326
A	G1175	U1244	C1342	C1462	C1564	U1668	C1777	C1853	A	A	C	C	C	U2330
A	C1176	C1245	C1343	A1463	C1566	G1670	G1778	C1854	C	C	C	C	C	C2331
A	A1177	A1246	A1344	A1463	C1566	G1670	A1778	G1855	C	C	C	C	C	G2334
A	G1178	A1247	C1344	A1463	C1566	G1670	A1779	C1856	C	C	C	C	C	
A	C1179	A1248	A1352	A1470	C1574	U1677	G1780	G1857	C	C	C	C	C	
A	U1180	U1249	C1353	A1470	C1575	U1677	G1781	A1858	C	C	C	C	C	
A	A1181	C1250	C1360	C1474	U1575	C1679	G1782	G1863	C	C	C	C	C	
A	C1182	C1251	C1361	G1475	A1580	C1680	A1783	U1867	C	C	C	C	C	
A	U1183	C1252	U1362	A1476	A1580	C1681	U1784	G1868	C	C	C	C	C	
A	C1184	C1253	G1363	A1478	G1588	A1682	U1784	G1868	C	C	C	C	C	



• Molecule 2: 5S RIBOSOMAL RNA

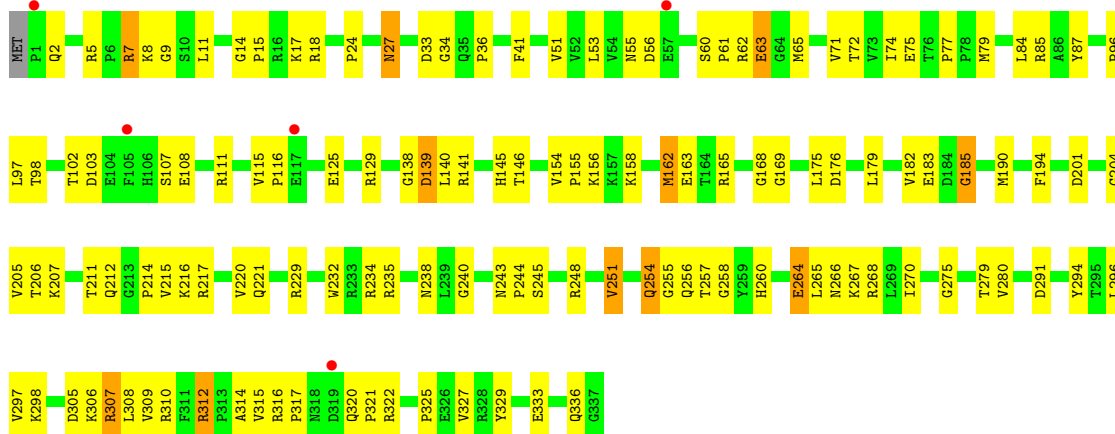


• Molecule 3: 50S ribosomal protein L2P

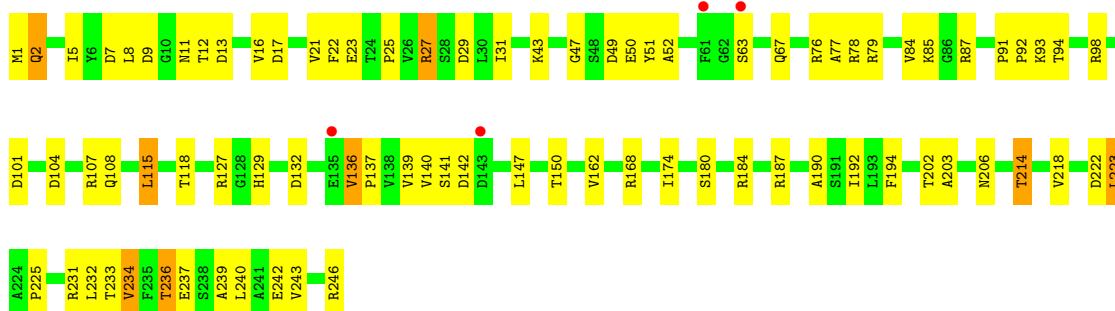




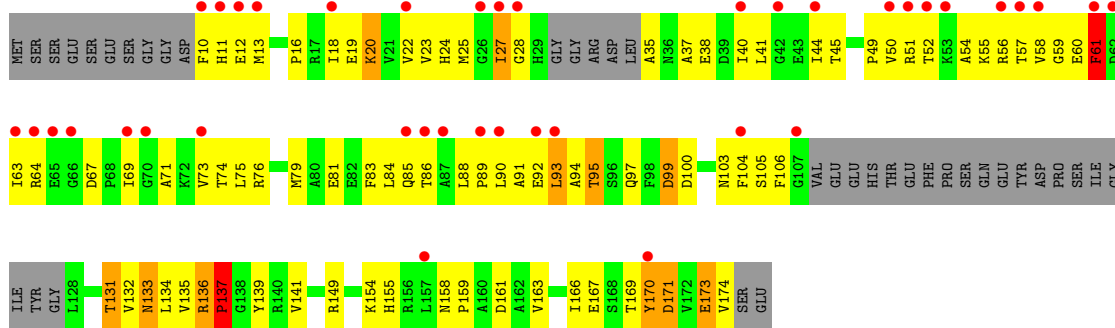
• Molecule 4: 50S ribosomal protein L3P



• Molecule 5: 50S ribosomal protein L4P



• Molecule 6: 50S ribosomal protein L5P



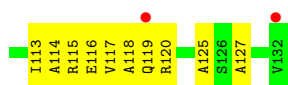
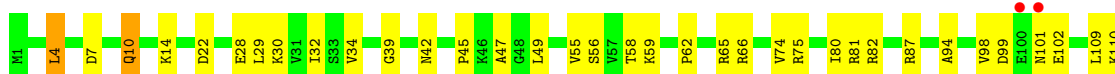
• Molecule 7: 50S ribosomal protein L6P



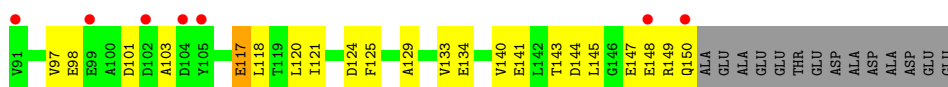
- Molecule 11: 50S ribosomal protein L13P



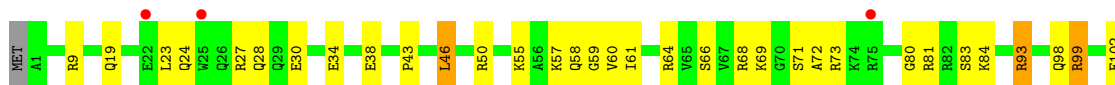
- Molecule 12: 50S ribosomal protein L14P



- Molecule 13: 50S ribosomal protein L15P

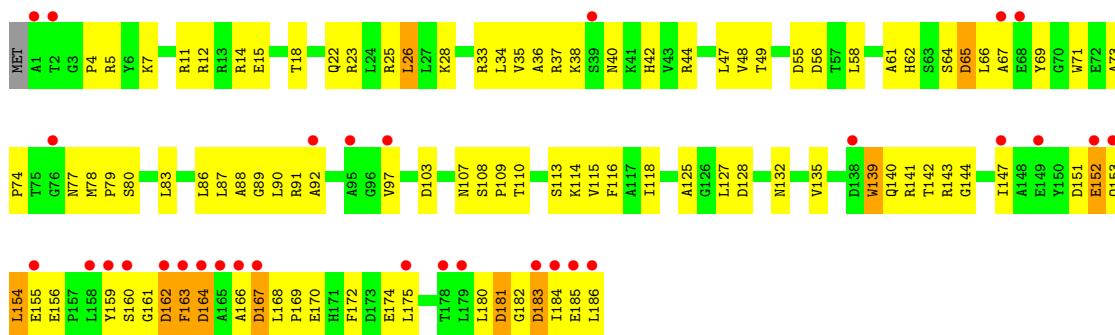


- Molecule 14: 50S ribosomal protein L15e

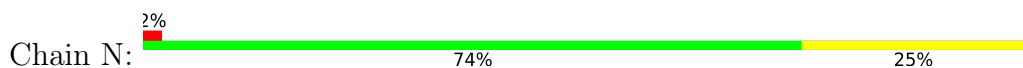


- Molecule 15: 50S ribosomal protein L18P

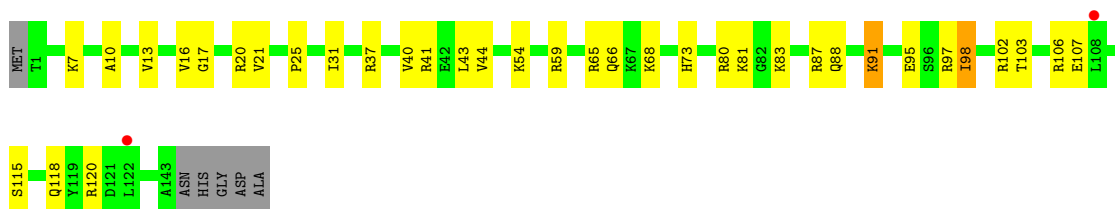
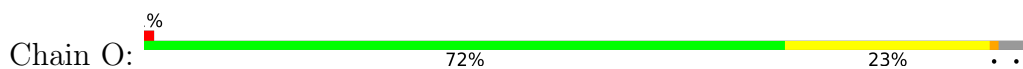




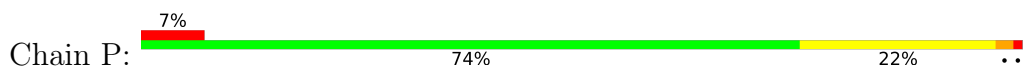
- Molecule 16: 50S ribosomal protein L18e



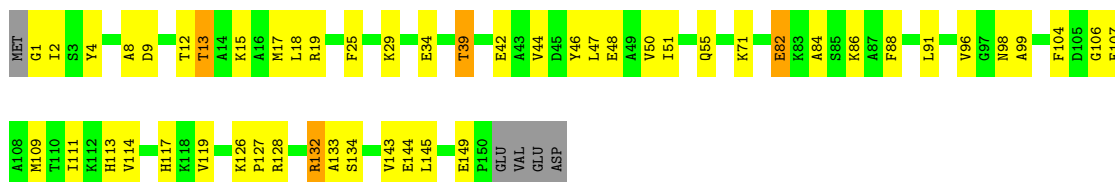
- Molecule 17: 50S ribosomal protein L19e



- Molecule 18: 50S ribosomal protein L21e



- Molecule 19: 50S ribosomal protein L22P

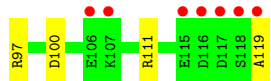
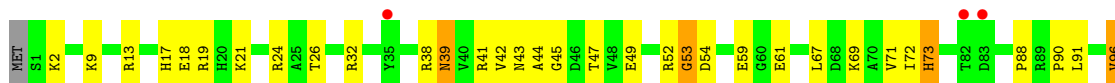


- Molecule 20: 50S ribosomal protein L23P

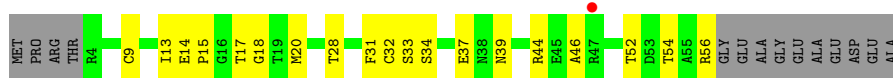




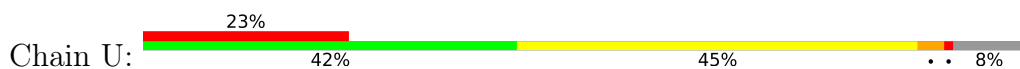
• Molecule 21: 50S ribosomal protein L24P



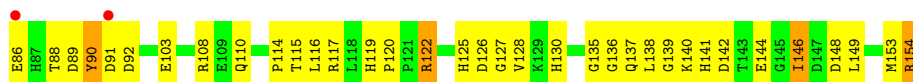
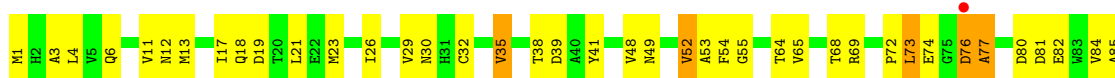
• Molecule 22: 50S ribosomal protein L24e



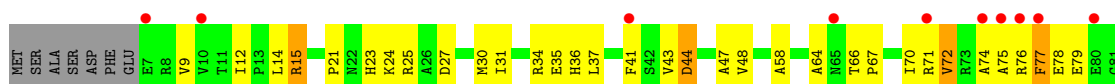
• Molecule 23: 50S ribosomal protein L29P



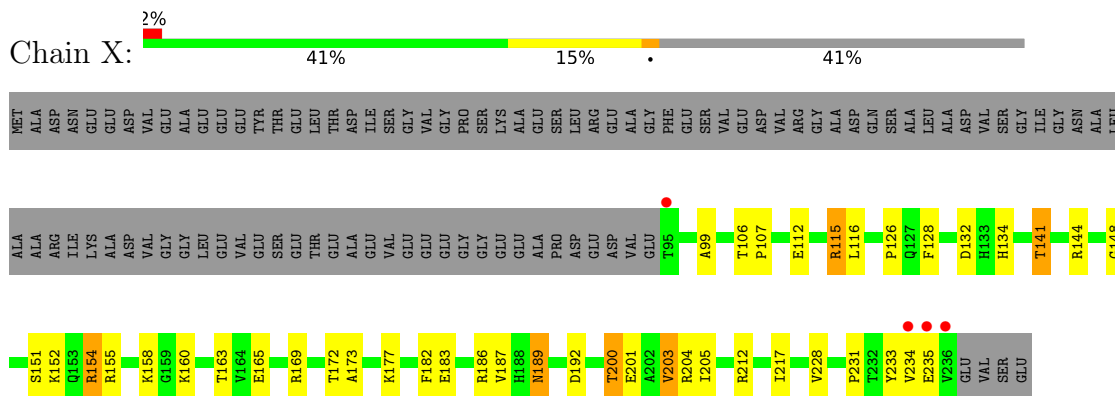
• Molecule 24: 50S ribosomal protein L30P



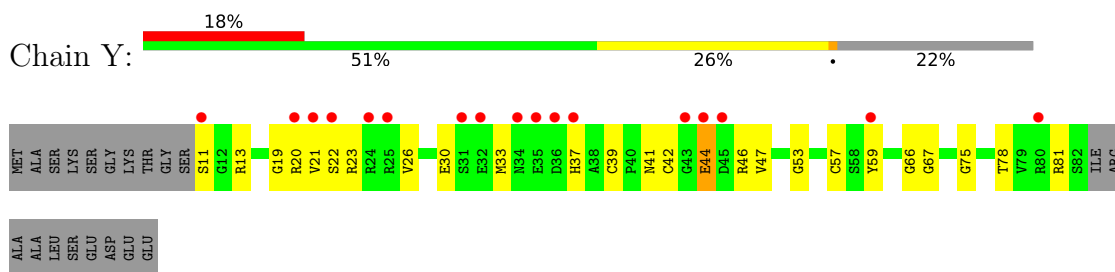
• Molecule 25: 50S ribosomal protein L31e



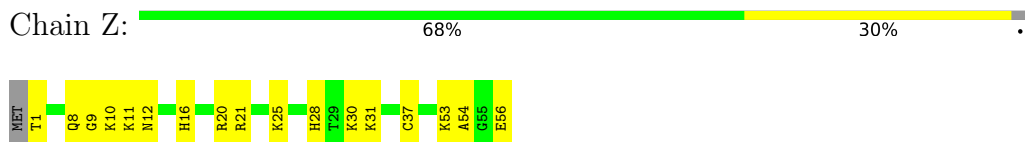
- Molecule 26: 50S ribosomal protein L32e



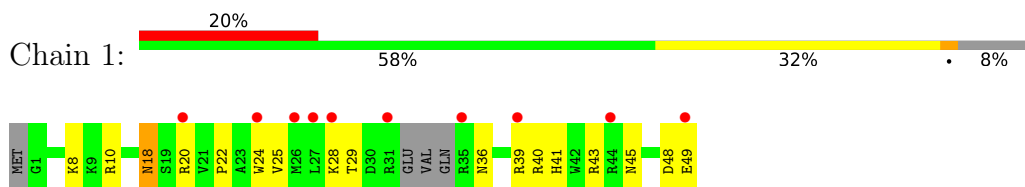
- Molecule 27: 50S ribosomal protein L37Ae



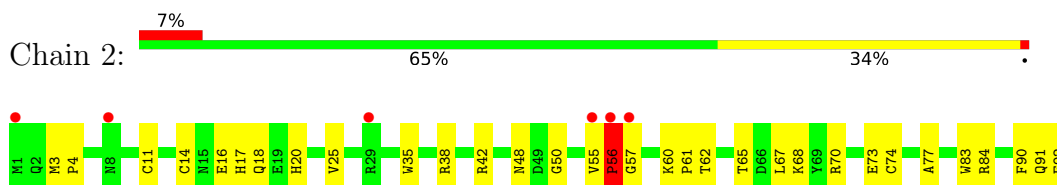
- Molecule 28: 50S ribosomal protein L37e



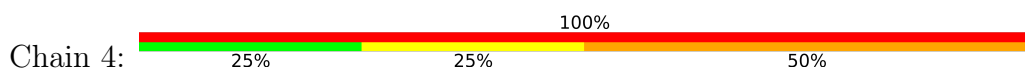
- Molecule 29: 50S ribosomal protein L39e



- Molecule 30: 50S ribosomal protein L44E



- Molecule 31: 5'-R(*CP*CP*AP*(PHE)*(ACA))-3'





4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	211.73Å 298.58Å 575.29Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 2.70 39.62 – 2.70	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-2.70) 91.4 (39.62-2.70)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.51 (at 2.69Å)	Xtrriage
Refinement program	CNX	Depositor
R, R_{free}	0.191 , 0.230 0.193 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å ²)	57.3	Xtrriage
Anisotropy	0.107	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 74.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	98629	wwPDB-VP
Average B, all atoms (Å ²)	60.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.06% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: MG, ACE, ZLD, K, NA, SR, CL, CD

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	0	0.37	2/66075 (0.0%)	0.69	25/103050 (0.0%)
2	9	0.34	0/2905	0.75	2/4528 (0.0%)
3	A	0.35	0/1786	0.65	0/2408
4	B	0.33	0/2690	0.64	0/3652
5	C	0.37	0/1885	0.63	0/2552
6	D	0.31	0/1111	0.57	0/1498
7	E	0.32	0/1382	0.57	0/1880
8	F	0.38	0/901	0.57	0/1224
9	G	0.28	0/241	0.48	0/324
10	H	0.51	0/1302	0.70	1/1743 (0.1%)
11	I	0.35	0/1136	0.59	0/1530
12	J	0.32	0/1004	0.65	0/1351
13	K	0.33	0/1130	0.65	0/1509
14	L	0.48	0/1582	0.67	0/2116
15	M	0.29	0/1474	0.62	0/1999
16	N	0.32	0/874	0.59	0/1181
17	O	0.35	0/1147	0.56	0/1528
18	P	0.33	0/749	0.65	0/1005
19	Q	0.34	0/1172	0.64	0/1578
20	R	0.31	0/648	0.57	0/875
21	S	0.31	0/958	0.62	0/1289
22	T	0.34	0/417	0.54	0/562
23	U	0.28	0/502	0.53	0/675
24	V	0.34	0/1219	0.62	0/1655
25	W	0.33	0/664	0.58	0/895
26	X	0.34	0/1146	0.64	0/1536
27	Y	0.46	0/578	0.69	0/773
28	Z	0.40	0/438	0.66	0/578
29	1	0.35	0/401	0.59	0/529
30	2	0.37	0/771	0.58	0/1024
31	4	1.99	3/76 (3.9%)	1.29	1/112 (0.9%)
All	All	0.37	5/98364 (0.0%)	0.68	29/147159 (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
1	0	0	54
2	9	0	2
24	V	0	1
All	All	0	57

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	559	C	C4-N4	-11.17	1.23	1.33
1	0	559	C	N3-C4	6.65	1.38	1.33
31	4	74	C	N1-C6	6.21	1.40	1.37
31	4	75	C	N1-C6	5.85	1.40	1.37
31	4	76	A	N3-C4	5.43	1.38	1.34

All (29) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	559	C	N3-C4-C5	-18.22	114.61	121.90
1	0	559	C	C2-N3-C4	14.39	127.10	119.90
2	9	3024	U	C2'-C3'-O3'	8.50	128.19	109.50
1	0	559	C	C5-C4-N4	7.84	125.69	120.20
1	0	871	G	C5'-C4'-O4'	-7.72	99.84	109.10
1	0	1563	G	C2'-C3'-O3'	7.43	125.84	109.50
1	0	1979	G	C2'-C3'-O3'	7.17	125.27	109.50
1	0	559	C	N1-C2-O2	7.08	123.14	118.90
1	0	1559	A	C2'-C3'-O3'	7.07	125.05	109.50
1	0	777	U	O4'-C1'-N1	6.73	113.58	108.20
31	4	76	A	C3'-C2'-C1'	6.58	106.77	101.50
2	9	3039	U	N1-C1'-C2'	6.24	122.11	114.00
1	0	559	C	N1-C2-N3	-6.22	114.84	119.20
1	0	2338	G	C2'-C3'-O3'	6.20	123.61	113.70
1	0	1120	U	C5'-C4'-C3'	-6.00	106.41	116.00
1	0	1592	G	N9-C1'-C2'	5.99	121.79	114.00
1	0	69	A	C5'-C4'-O4'	-5.94	101.97	109.10
1	0	1829	A	N9-C1'-C2'	-5.87	105.54	112.00
1	0	1942	A	C5'-C4'-C3'	5.68	125.08	116.00
1	0	2726	U	N1-C1'-C2'	5.61	121.30	114.00
1	0	1819	G	C5'-C4'-C3'	5.48	124.77	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	206	G	C5'-C4'-C3'	-5.46	107.27	116.00
1	0	2313	C	C5'-C4'-C3'	5.33	124.53	116.00
1	0	2914	A	C2'-C3'-O3'	5.30	122.19	113.70
1	0	2313	C	C5'-C4'-O4'	5.23	115.38	109.10
10	H	171	LEU	CB-CG-CD2	-5.23	102.11	111.00
1	0	1504	A	N9-C1'-C2'	5.13	120.67	114.00
1	0	535	G	N9-C1'-C2'	5.08	120.61	114.00
1	0	518	G	O4'-C1'-N9	5.03	112.22	108.20

There are no chirality outliers.

All (57) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1039	G	Sidechain
1	0	1078	A	Sidechain
1	0	1327	G	Sidechain
1	0	1340	G	Sidechain
1	0	1376	G	Sidechain
1	0	1430	G	Sidechain
1	0	1458	A	Sidechain
1	0	1592	G	Sidechain
1	0	1682	A	Sidechain
1	0	1696	U	Sidechain
1	0	1741	U	Sidechain
1	0	1777	G	Sidechain
1	0	1809	G	Sidechain
1	0	182	G	Sidechain
1	0	1829	A	Sidechain
1	0	1863	G	Sidechain
1	0	1867	G	Sidechain
1	0	1877	G	Sidechain
1	0	1878	G	Sidechain
1	0	1979	G	Sidechain
1	0	2102	G	Sidechain
1	0	2412	G	Sidechain
1	0	2465	A	Sidechain
1	0	2493	C	Sidechain
1	0	2503	A	Sidechain
1	0	2506	A	Sidechain
1	0	2552	C	Sidechain
1	0	2557	U	Sidechain
1	0	2630	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2679	G	Sidechain
1	0	270	U	Sidechain
1	0	2714	U	Sidechain
1	0	2793	A	Sidechain
1	0	2842	G	Sidechain
1	0	324	G	Sidechain
1	0	332	G	Sidechain
1	0	333	G	Sidechain
1	0	396	U	Sidechain
1	0	469	G	Sidechain
1	0	470	U	Sidechain
1	0	471	G	Sidechain
1	0	482	G	Sidechain
1	0	487	G	Sidechain
1	0	50	G	Sidechain
1	0	518	G	Sidechain
1	0	619	U	Sidechain
1	0	742	G	Sidechain
1	0	795	G	Sidechain
1	0	817	G	Sidechain
1	0	867	A	Sidechain
1	0	868	G	Sidechain
1	0	888	U	Sidechain
1	0	900	U	Sidechain
1	0	952	G	Sidechain
2	9	3039	U	Sidechain
2	9	3065	A	Sidechain
24	V	90	TYR	Sidechain

5.2 Too-close contacts [\(i\)](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59016	0	29807	894	0
2	9	2600	0	1326	75	0
3	A	1753	0	1766	102	0
4	B	2625	0	2532	132	0
5	C	1860	0	1813	85	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	D	1094	0	1085	92	0
7	E	1357	0	1266	62	0
8	F	890	0	843	46	0
9	G	240	0	231	15	0
10	H	1282	0	1295	61	0
11	I	1120	0	1098	56	0
12	J	994	0	1027	48	0
13	K	1118	0	1076	47	0
14	L	1558	0	1573	57	0
15	M	1445	0	1401	113	0
16	N	865	0	873	28	0
17	O	1136	0	1123	38	0
18	P	735	0	728	19	0
19	Q	1149	0	1122	49	0
20	R	641	0	605	21	0
21	S	950	0	923	37	0
22	T	410	0	364	21	0
23	U	499	0	511	36	0
24	V	1196	0	1137	87	0
25	W	654	0	653	35	0
26	X	1130	0	1133	43	0
27	Y	567	0	526	18	0
28	Z	431	0	426	26	0
29	1	396	0	413	25	0
30	2	755	0	728	29	0
31	4	70	0	42	4	0
32	0	24	0	20	0	0
33	0	84	0	0	0	0
33	1	1	0	0	0	0
33	9	1	0	0	0	0
33	A	2	0	0	0	0
33	B	1	0	0	0	0
33	J	1	0	0	0	0
33	S	1	0	0	0	0
33	X	1	0	0	0	0
34	0	2	0	0	0	0
35	0	64	0	0	0	0
35	9	2	0	0	0	0
35	B	1	0	0	0	0
35	C	1	0	0	0	0
35	I	1	0	0	0	0
35	K	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
35	L	1	0	0	0	0
35	P	1	0	0	0	0
35	Q	2	0	0	0	0
35	R	1	0	0	0	0
36	0	9	0	0	0	0
36	2	1	0	0	0	0
36	A	1	0	0	0	0
36	B	1	0	0	0	0
36	I	3	0	0	1	0
36	J	1	0	0	0	0
36	K	1	0	0	0	0
36	L	1	0	0	1	0
36	M	1	0	0	0	0
36	N	1	0	0	0	0
36	Q	1	0	0	0	0
36	X	1	0	0	0	0
37	0	92	0	0	0	0
37	2	1	0	0	0	0
37	9	3	0	0	0	0
37	A	3	0	0	0	0
37	B	2	0	0	0	0
37	F	1	0	0	0	0
37	H	1	0	0	0	0
37	Q	1	0	0	0	0
37	R	1	0	0	0	0
37	S	1	0	0	0	0
37	Z	2	0	0	0	0
38	2	1	0	0	0	0
38	N	1	0	0	0	0
38	T	1	0	0	0	0
38	Y	1	0	0	0	0
38	Z	1	0	0	0	0
39	4	3	0	3	0	0
40	0	5757	0	0	72	0
40	1	40	0	0	1	0
40	2	73	0	0	5	0
40	4	3	0	0	0	0
40	9	144	0	0	5	0
40	A	129	0	0	10	0
40	B	158	0	0	12	0
40	C	183	0	0	12	0
40	D	53	0	0	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
40	E	50	0	0	4	0
40	F	25	0	0	2	0
40	G	22	0	0	2	0
40	H	66	0	0	6	0
40	I	57	0	0	3	0
40	J	59	0	0	4	0
40	K	84	0	0	9	0
40	L	136	0	0	5	0
40	M	66	0	0	10	0
40	N	45	0	0	3	0
40	O	70	0	0	1	0
40	P	51	0	0	2	0
40	Q	84	0	0	1	0
40	R	38	0	0	0	0
40	S	43	0	0	4	0
40	T	28	0	0	1	0
40	U	15	0	0	1	0
40	V	75	0	0	4	0
40	W	28	0	0	1	0
40	X	99	0	0	4	0
40	Y	23	0	0	2	0
40	Z	58	0	0	1	0
All	All	98629	0	59469	2191	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 15.

All (2191) 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)
1:0:1160:G:H5'	1:0:1161:A:H5'	1.21	1.14
5:C:236:THR:HG22	5:C:239:ALA:H	1.07	1.11
2:9:3023:U:H3'	2:9:3024:U:H5''	1.29	1.09
1:0:156:C:H5''	14:L:171:ARG:HD3	1.37	1.04
1:0:2637:A:H2'	31:4:74:C:H5''	1.35	1.04
2:9:3076:G:H3'	2:9:3077:A:H5''	1.38	1.03
21:S:71:VAL:HG11	21:S:90:PRO:HB3	1.34	1.03
25:W:37:LEU:HD13	25:W:85:VAL:HG21	1.38	1.02
2:9:3006:C:H5''	15:M:37:ARG:HH12	1.25	1.02
2:9:3006:C:H5''	15:M:37:ARG:NH1	1.74	1.02
23:U:12:THR:HG22	23:U:15:GLU:HG3	1.39	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:264:GLU:HG2	4:B:267:LYS:HE2	1.40	1.00
17:O:115:SER:H	17:O:118:GLN:HE21	1.06	1.00
12:J:29:LEU:HB3	12:J:55:VAL:HG11	1.43	1.00
24:V:88:THR:HG22	24:V:89:ASP:H	1.24	0.99
14:L:107:ARG:HH11	14:L:107:ARG:HG3	1.25	0.98
6:D:134:LEU:HD11	6:D:166:ILE:HD11	1.45	0.98
1:O:1242:A:H5'	11:I:82:THR:HG23	1.44	0.96
24:V:137:GLN:HE21	24:V:141:HIS:HE1	1.09	0.96
5:C:78:ARG:HH11	5:C:78:ARG:HG3	1.29	0.96
20:R:57:THR:HG22	20:R:59:ASP:H	1.26	0.96
1:O:870:G:H2'	1:O:871:G:H5''	1.45	0.95
12:J:10:GLN:H	12:J:10:GLN:NE2	1.62	0.95
15:M:144:GLY:O	15:M:147:ILE:HG22	1.65	0.94
12:J:10:GLN:HE21	12:J:10:GLN:N	1.65	0.94
1:O:871:G:C8	1:O:871:G:H5'	2.01	0.94
1:O:871:G:H5'	1:O:871:G:H8	1.31	0.94
2:9:3056:A:H2'	2:9:3057:A:H5''	1.50	0.93
5:C:127:ARG:NH2	5:C:225:PRO:HG2	1.83	0.93
1:O:2812:A:H2	1:O:2814:A:H62	1.16	0.92
24:V:4:LEU:HD22	24:V:52:VAL:HG21	1.51	0.92
19:Q:99:ALA:HB1	19:Q:109:MET:HE1	1.51	0.91
15:M:47:LEU:HD11	15:M:127:LEU:HD21	1.52	0.91
24:V:122:ARG:HG2	24:V:122:ARG:HH11	1.35	0.91
6:D:25:MET:HE1	6:D:37:ALA:HB1	1.50	0.91
3:A:153:ARG:HB2	3:A:153:ARG:HH11	1.33	0.91
10:H:27:LYS:H	10:H:59:HIS:HD2	1.19	0.90
5:C:5:ILE:HD11	5:C:16:VAL:HG23	1.51	0.90
1:O:1166:A:H1'	1:O:1192:A:C2	2.08	0.89
15:M:113:SER:HB2	40:M:8860:HOH:O	1.72	0.89
1:O:1701:A:H4'	1:O:1702:U:H5''	1.53	0.88
14:L:99:ARG:HH21	14:L:170:ASN:HD22	1.18	0.88
19:Q:8:ALA:HB1	19:Q:13:THR:HG21	1.54	0.88
3:A:211:LYS:HB3	3:A:212:PRO:HD2	1.54	0.88
6:D:154:LYS:H	6:D:154:LYS:HD2	1.39	0.87
11:I:93:ARG:HB3	11:I:93:ARG:HH11	1.39	0.87
12:J:39:GLY:HA2	40:J:4183:HOH:O	1.72	0.87
5:C:115:LEU:HD21	5:C:243:VAL:HG13	1.55	0.87
1:O:542:A:H5'	1:O:542:A:H8	1.38	0.87
8:F:91:VAL:HG12	8:F:92:GLY:H	1.40	0.87
1:O:21:G:H5'	19:Q:2:ILE:HA	1.58	0.86
26:X:200:THR:HG22	26:X:201:GLU:HG3	1.54	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:2:70:ARG:HG2	30:2:77:ALA:HB2	1.58	0.86
4:B:238:ASN:HD22	4:B:240:GLY:H	1.24	0.86
15:M:83:LEU:HD13	15:M:175:LEU:HD23	1.56	0.86
5:C:236:THR:HG22	5:C:239:ALA:N	1.90	0.86
6:D:27:ILE:HG22	6:D:28:GLY:H	1.41	0.85
20:R:51:GLN:HE21	20:R:53:ASN:HD21	1.24	0.85
24:V:6:GLN:HB2	24:V:26:ILE:HD12	1.58	0.85
1:O:2506:A:O2'	1:O:2507:G:H8	1.60	0.85
12:J:74:VAL:HG13	12:J:113:ILE:HG23	1.56	0.85
1:O:2586:U:H3	1:O:2592:G:H22	1.23	0.85
5:C:104:ASP:HA	5:C:107:ARG:HH12	1.40	0.85
5:C:115:LEU:HD13	5:C:223:LEU:HD21	1.58	0.85
4:B:190:MET:HE2	4:B:194:PHE:CD1	2.13	0.84
14:L:102:GLU:OE1	14:L:164:THR:HG21	1.77	0.84
24:V:88:THR:HG22	24:V:89:ASP:N	1.91	0.84
1:O:2717:C:C2'	1:O:2718:C:H5''	2.08	0.83
1:O:2840:A:OP1	4:B:211:THR:HG23	1.78	0.83
28:Z:25:LYS:HD2	29:1:49:GLU:H	1.42	0.83
1:O:1160:G:H5'	1:O:1161:A:C5'	2.06	0.83
10:H:167:ARG:HD2	40:H:8990:HOH:O	1.78	0.83
4:B:162:MET:HE3	4:B:308:LEU:HD21	1.60	0.83
16:N:47:ARG:HG3	16:N:47:ARG:HH11	1.44	0.83
1:O:2637:A:H2'	31:4:74:C:C5'	2.09	0.82
8:F:58:GLU:HA	8:F:61:MET:HE2	1.60	0.82
1:O:1603:A:H5'	1:O:1605:G:O4'	1.79	0.82
7:E:15:GLN:HG3	7:E:20:ILE:HG12	1.59	0.82
1:O:560:C:H42	1:O:597:A:H61	1.26	0.82
1:O:1835:U:H5	1:O:1840:A:N7	1.78	0.82
12:J:4:LEU:HD22	12:J:116:GLU:HB3	1.61	0.82
6:D:20:LYS:HA	6:D:75:LEU:O	1.80	0.82
1:O:541:C:C2'	1:O:542:A:H5''	2.10	0.82
23:U:1:THR:HG23	23:U:2:VAL:H	1.45	0.82
1:O:289:G:H22	1:O:363:A:H2	1.28	0.81
11:I:74:ARG:HB3	11:I:74:ARG:HH11	1.45	0.81
24:V:88:THR:HB	40:V:6679:HOH:O	1.81	0.81
7:E:20:ILE:HD11	7:E:40:VAL:HG11	1.63	0.81
2:9:3023:U:C3'	2:9:3024:U:H5''	2.11	0.80
1:O:1119:G:N2	1:O:1246:A:C2	2.50	0.80
24:V:88:THR:HG23	24:V:110:GLN:NE2	1.95	0.80
5:C:5:ILE:HD11	5:C:16:VAL:CG2	2.11	0.80
2:9:3025:G:H3'	2:9:3026:C:C5'	2.12	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:105:SER:HB2	6:D:131:THR:HG23	1.63	0.80
1:O:2694:A:H4'	7:E:91:PHE:HE1	1.47	0.80
3:A:88:ILE:HD13	3:A:100:PRO:HD3	1.64	0.80
6:D:25:MET:HE2	6:D:41:LEU:HG	1.63	0.80
15:M:38:LYS:HE2	15:M:107:ASN:ND2	1.96	0.80
1:O:541:C:H2'	1:O:542:A:H5''	1.64	0.79
1:O:1160:G:C5'	1:O:1161:A:H5'	2.07	0.79
1:O:2506:A:HO2'	1:O:2507:G:H8	0.80	0.79
1:O:870:G:C2'	1:O:871:G:H5''	2.10	0.79
1:O:962:C:H1'	15:M:5:ARG:NH1	1.96	0.79
12:J:74:VAL:HG11	12:J:113:ILE:HG12	1.65	0.79
1:O:2054:A:N3	19:Q:128:ARG:NH2	2.30	0.79
4:B:36:PRO:HA	4:B:168:GLY:HA3	1.65	0.79
1:O:288:A:H61	1:O:364:C:H42	1.31	0.79
24:V:88:THR:HG23	24:V:110:GLN:HE21	1.47	0.79
21:S:9:LYS:HE3	21:S:13:ARG:NH1	1.98	0.78
26:X:187:VAL:HG23	26:X:192:ASP:HB2	1.63	0.78
15:M:87:LEU:HD12	15:M:186:LEU:HD21	1.66	0.78
24:V:137:GLN:HE21	24:V:141:HIS:CE1	1.99	0.78
16:N:32:ARG:O	16:N:32:ARG:HD3	1.82	0.78
14:L:107:ARG:HG3	14:L:107:ARG:NH1	1.98	0.78
28:Z:21:ARG:HD2	28:Z:37:CYS:SG	2.24	0.78
29:1:41:HIS:H	29:1:45:ASN:HD22	1.28	0.78
2:9:3023:U:H3'	2:9:3024:U:C5'	2.13	0.78
2:9:3051:A:H5'	15:M:160:SER:HB3	1.64	0.78
3:A:191:GLY:HA2	3:A:194:MET:CE	2.13	0.77
10:H:45:VAL:HA	10:H:167:ARG:O	1.83	0.77
25:W:15:ARG:HB3	25:W:15:ARG:HH11	1.49	0.77
24:V:21:LEU:HD21	24:V:48:VAL:HG11	1.65	0.77
1:O:2717:C:O2'	1:O:2718:C:H5''	1.84	0.77
12:J:10:GLN:H	12:J:10:GLN:HE21	0.82	0.77
20:R:57:THR:HG22	20:R:59:ASP:N	1.98	0.77
14:L:134:ILE:HG23	14:L:141:ILE:HD13	1.65	0.77
4:B:212:GLN:HB2	4:B:257:THR:HG21	1.66	0.77
3:A:199:HIS:HD2	3:A:201:PHE:H	1.33	0.77
1:O:21:G:C5'	19:Q:2:ILE:HA	2.15	0.76
1:O:1474:C:H6	1:O:1474:C:H5'	1.50	0.76
3:A:35:GLY:O	3:A:36:ASP:HB3	1.85	0.76
24:V:84:VAL:HG12	40:V:6679:HOH:O	1.85	0.76
1:O:1116:U:H3	1:O:1246:A:H62	1.32	0.76
9:G:12:ILE:N	9:G:13:PRO:HD3	2.00	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:3024:U:O2'	2:9:3025:G:H4'	1.85	0.76
2:9:3025:G:H3'	2:9:3026:C:H5'	1.66	0.76
1:0:1209:C:H2'	1:0:1210:G:H8	1.50	0.76
30:2:25:VAL:HG22	30:2:68:LYS:HG3	1.67	0.76
17:O:115:SER:OG	17:O:118:GLN:HG3	1.86	0.76
1:0:2676:C:H4'	11:I:70:PHE:CE1	2.20	0.75
1:0:2694:A:H4'	7:E:91:PHE:CE1	2.22	0.75
2:9:3092:G:H2'	2:9:3093:A:C8	2.21	0.75
6:D:22:VAL:HG22	6:D:74:THR:HG22	1.67	0.75
1:0:2780:C:H1'	7:E:143:GLN:HE21	1.51	0.75
19:Q:9:ASP:O	19:Q:13:THR:HB	1.87	0.75
6:D:54:ALA:HB2	6:D:69:ILE:HD12	1.67	0.75
1:0:544:G:H2'	1:0:545:G:H5''	1.69	0.74
1:0:545:G:H5'	1:0:545:G:H8	1.52	0.74
3:A:153:ARG:HH11	3:A:153:ARG:CB	2.00	0.74
7:E:6:GLU:HA	7:E:46:THR:HG22	1.70	0.74
11:I:45:VAL:HG23	11:I:130:VAL:O	1.87	0.74
12:J:32:ILE:HD11	12:J:56:SER:HB3	1.68	0.74
8:F:50:VAL:HG13	8:F:60:VAL:HG11	1.70	0.74
12:J:14:LYS:HB2	12:J:45:PRO:HG2	1.68	0.74
1:0:506:G:H22	1:0:509:A:C5'	2.00	0.74
1:0:1751:G:H2'	1:0:1752:G:H5''	1.69	0.74
1:0:1165:G:H4'	1:0:1174:A:O2'	1.88	0.73
8:F:91:VAL:HG12	8:F:92:GLY:N	2.02	0.73
1:0:871:G:H8	1:0:871:G:C5'	2.02	0.73
1:0:2890:A:H1'	22:T:56:ARG:NH2	2.03	0.73
3:A:200:PRO:HG2	3:A:225:VAL:HG21	1.70	0.73
1:0:2420:G:O2'	1:0:2421:G:H5'	1.87	0.73
24:V:21:LEU:HD22	24:V:26:ILE:CD1	2.19	0.73
23:U:39:ALA:N	23:U:40:PRO:HD2	2.03	0.73
10:H:21:THR:O	10:H:120:ILE:HD12	1.89	0.73
19:Q:18:LEU:HD12	19:Q:143:VAL:HG11	1.70	0.73
1:0:284:C:H4'	1:0:285:A:O5'	1.89	0.72
15:M:48:VAL:CG1	15:M:55:ASP:HB3	2.19	0.72
29:1:18:ASN:HD21	29:1:40:ARG:H	1.34	0.72
24:V:80:ASP:O	24:V:84:VAL:HG23	1.88	0.72
10:H:27:LYS:N	10:H:59:HIS:HD2	1.86	0.72
15:M:38:LYS:HE2	15:M:107:ASN:HD21	1.54	0.72
1:0:657:G:OP1	5:C:27:ARG:NH2	2.21	0.72
2:9:3039:U:H1'	2:9:3044:A:H61	1.53	0.72
24:V:21:LEU:HD22	24:V:26:ILE:HD11	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:3006:C:C5'	15:M:37:ARG:HH12	2.01	0.72
1:0:2505:G:O2'	1:0:2506:A:H5'	1.90	0.72
2:9:3029:C:H2'	2:9:3030:C:H5'	1.71	0.72
1:0:2716:G:H5''	4:B:206:THR:HG21	1.71	0.72
13:K:143:THR:HG22	13:K:144:ASP:N	2.05	0.72
15:M:49:THR:HG22	15:M:56:ASP:HB2	1.72	0.72
1:0:877:G:H5'	1:0:878:G:OP1	1.90	0.72
17:O:91:LYS:O	17:O:95:GLU:HG3	1.90	0.72
1:0:2831:C:O3'	19:Q:71:LYS:HE2	1.90	0.71
3:A:153:ARG:HB2	3:A:153:ARG:NH1	2.05	0.71
1:0:1164:U:H4'	1:0:1165:G:OP1	1.89	0.71
1:0:1182:C:H1'	1:0:1192:A:H8	1.56	0.71
4:B:275:GLY:O	4:B:291:ASP:HA	1.90	0.71
15:M:80:SER:HB2	40:M:8837:HOH:O	1.90	0.71
15:M:183:ASP:OD2	15:M:186:LEU:HD12	1.88	0.71
24:V:13:MET:HE3	24:V:17:ILE:HG22	1.72	0.71
1:0:282:C:H1'	1:0:368:C:N4	2.05	0.71
1:0:1116:U:HO2'	1:0:1118:A:H2	1.36	0.71
1:0:2717:C:H2'	1:0:2718:C:H5''	1.73	0.71
24:V:68:THR:HG23	24:V:69:ARG:HG2	1.73	0.71
1:0:1666:C:H2'	1:0:1667:A:H5'	1.73	0.71
1:0:1819:G:H2'	1:0:1820:G:H4'	1.72	0.71
2:9:3056:A:C2'	2:9:3057:A:H5''	2.21	0.71
10:H:56:GLN:NE2	10:H:126:ARG:HE	1.89	0.71
21:S:49:GLU:OE2	21:S:97:ARG:HD2	1.90	0.71
24:V:88:THR:CG2	24:V:89:ASP:H	1.99	0.71
25:W:72:VAL:HG22	25:W:85:VAL:HG12	1.72	0.70
30:2:62:THR:HB	40:2:8981:HOH:O	1.90	0.70
1:0:1244:U:OP1	11:I:18:ILE:HD13	1.91	0.70
4:B:179:LEU:O	4:B:183:GLU:HG2	1.90	0.70
17:O:115:SER:H	17:O:118:GLN:NE2	1.85	0.70
1:0:371:U:H2'	1:0:372:A:H8	1.55	0.70
1:0:1119:G:H2'	11:I:52:GLN:NE2	2.05	0.70
1:0:2468:A:H61	30:2:48:ASN:HD21	1.40	0.70
6:D:54:ALA:CB	6:D:69:ILE:HD12	2.21	0.70
1:0:541:C:H2'	1:0:542:A:C5'	2.21	0.70
1:0:1641:A:H2'	1:0:1642:A:H5'	1.73	0.70
1:0:1701:A:H4'	1:0:1702:U:C5'	2.20	0.70
10:H:20:ILE:HG23	10:H:120:ILE:HD11	1.73	0.70
23:U:55:ARG:O	23:U:59:ILE:HG12	1.91	0.70
1:0:2827:A:H2'	1:0:2828:G:O4'	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2769:C:H2'	1:0:2770:G:O4'	1.92	0.70
3:A:192:VAL:HG12	3:A:207:GLN:HB3	1.72	0.70
5:C:104:ASP:HA	5:C:107:ARG:NH1	2.06	0.70
13:K:67:ARG:O	13:K:71:GLU:HG3	1.92	0.69
1:0:1189:A:H1'	1:0:1209:C:O4'	1.92	0.69
27:Y:11:SER:HB3	27:Y:23:ARG:HB2	1.71	0.69
4:B:7:ARG:HG2	4:B:7:ARG:HH11	1.57	0.69
2:9:3006:C:C5'	15:M:37:ARG:NH1	2.53	0.69
5:C:76:ARG:HG2	5:C:78:ARG:NH1	2.07	0.69
11:I:74:ARG:O	11:I:78:ILE:HG12	1.92	0.69
3:A:33:GLU:O	3:A:34:ASP:HB2	1.92	0.69
24:V:137:GLN:NE2	24:V:141:HIS:HE1	1.87	0.69
1:0:470:U:O2'	28:Z:16:HIS:HD2	1.76	0.69
1:0:506:G:H22	1:0:509:A:H5'	1.56	0.69
1:0:1116:U:O2'	1:0:1118:A:H2	1.76	0.69
1:0:2851:G:O2'	1:0:2852:A:H5'	1.92	0.69
3:A:199:HIS:CD2	3:A:201:PHE:H	2.09	0.69
13:K:90:ARG:NH2	13:K:121:ILE:HD11	2.08	0.69
17:O:80:ARG:HG2	17:O:87:ARG:CZ	2.22	0.69
24:V:125:HIS:CD2	24:V:127:GLY:H	2.11	0.69
24:V:141:HIS:HB2	24:V:146:ILE:HG12	1.75	0.69
3:A:191:GLY:HA2	3:A:194:MET:HE2	1.73	0.69
8:F:53:ASP:OD1	8:F:80:GLN:HB2	1.93	0.69
19:Q:18:LEU:HB2	19:Q:143:VAL:HG12	1.73	0.69
23:U:12:THR:HG22	23:U:15:GLU:CG	2.18	0.69
24:V:125:HIS:HD2	24:V:127:GLY:H	1.39	0.69
1:0:1209:C:H2'	1:0:1210:G:C8	2.28	0.69
1:0:2502:C:C2'	1:0:2503:A:H5'	2.23	0.69
19:Q:25:PHE:CE2	19:Q:29:LYS:HE2	2.28	0.68
12:J:81:ARG:HB2	12:J:87:ARG:NH1	2.09	0.68
2:9:3023:U:H4'	2:9:3024:U:OP2	1.93	0.68
12:J:81:ARG:HB2	12:J:87:ARG:HH11	1.57	0.68
19:Q:106:GLY:HA2	19:Q:109:MET:HE3	1.76	0.68
14:L:80:GLY:O	14:L:81:ARG:HD2	1.94	0.68
26:X:187:VAL:HG23	26:X:192:ASP:CB	2.23	0.68
1:0:2005:G:H3'	1:0:2005:G:OP2	1.94	0.68
25:W:78:GLU:HG2	25:W:79:GLU:H	1.59	0.68
24:V:6:GLN:HB2	24:V:26:ILE:CD1	2.23	0.68
30:2:65:THR:HG23	30:2:67:LEU:HG	1.74	0.68
1:0:2346:C:O2'	6:D:52:THR:HG21	1.93	0.68
1:0:2908:A:H2'	1:0:2909:G:O4'	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:154:ILE:HD11	7:E:157:LYS:HB2	1.76	0.68
25:W:71:ARG:HB3	25:W:88:GLU:OE1	1.93	0.68
5:C:236:THR:CG2	5:C:239:ALA:H	1.96	0.68
1:0:544:G:C2'	1:0:545:G:H5''	2.23	0.67
2:9:3006:C:OP1	15:M:37:ARG:NH1	2.27	0.67
4:B:258:GLY:H	4:B:260:HIS:CE1	2.12	0.67
7:E:68:HIS:O	7:E:72:MET:HG3	1.95	0.67
26:X:154:ARG:HH12	26:X:155:ARG:HG3	1.59	0.67
5:C:78:ARG:HG3	5:C:78:ARG:NH1	2.02	0.67
6:D:86:THR:O	6:D:90:LEU:HG	1.94	0.67
6:D:99:ASP:HB2	6:D:103:ASN:HB2	1.74	0.67
1:0:432:G:O2'	1:0:433:C:H5'	1.95	0.67
3:A:192:VAL:CG1	3:A:207:GLN:HB3	2.24	0.67
17:O:59:ARG:NH2	17:O:66:GLN:HE22	1.91	0.67
24:V:122:ARG:NH2	24:V:154:ARG:OXT	2.27	0.67
1:0:1116:U:O2'	1:0:1118:A:C2	2.48	0.67
3:A:101:GLU:OE2	3:A:131:HIS:HB2	1.95	0.67
3:A:105:VAL:CG1	3:A:154:ALA:HB1	2.25	0.67
7:E:81:GLU:HG2	7:E:134:SER:HB3	1.76	0.67
17:O:10:ALA:HA	17:O:13:VAL:HG12	1.76	0.67
1:0:20:G:H21	19:Q:117:HIS:HD2	1.42	0.67
14:L:24:GLN:NE2	14:L:27:ARG:HH11	1.92	0.67
1:0:450:C:OP1	5:C:184:ARG:NH2	2.26	0.67
1:0:1450:C:H4'	1:0:1451:C:OP2	1.95	0.67
3:A:125:ASN:HB3	3:A:158:VAL:HG12	1.77	0.67
5:C:1:MET:HG2	5:C:2:GLN:H	1.60	0.67
5:C:47:GLY:HA2	5:C:92:PRO:HB2	1.77	0.67
6:D:170:TYR:O	6:D:171:ASP:HB3	1.95	0.67
10:H:167:ARG:CD	40:H:8990:HOH:O	2.38	0.67
21:S:41:ARG:HG2	21:S:41:ARG:HH11	1.60	0.67
28:Z:25:LYS:HD2	29:1:49:GLU:N	2.10	0.67
1:0:1118:A:H8	1:0:1118:A:H3'	1.60	0.66
6:D:19:GLU:O	6:D:20:LYS:HG2	1.95	0.66
24:V:21:LEU:HD21	24:V:48:VAL:CG1	2.25	0.66
4:B:53:LEU:HD11	4:B:327:VAL:HG22	1.75	0.66
22:T:17:THR:HG22	22:T:18:GLY:N	2.10	0.66
2:9:3020:G:O2'	2:9:3021:G:H5'	1.95	0.66
6:D:25:MET:CE	6:D:37:ALA:HB1	2.25	0.66
6:D:88:LEU:HB2	6:D:89:PRO:HD3	1.76	0.66
10:H:29:ALA:HB3	10:H:66:ARG:HH12	1.60	0.66
1:0:1377:C:H5'	1:0:1377:C:H6	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:58:ARG:HH11	10:H:58:ARG:HG3	1.60	0.66
21:S:9:LYS:HE3	21:S:13:ARG:HH11	1.57	0.66
7:E:5:LEU:HD21	7:E:66:GLN:HG3	1.76	0.66
15:M:61:ALA:HB3	15:M:88:ALA:HB2	1.77	0.66
26:X:189:ASN:HA	26:X:217:ILE:HD11	1.75	0.66
5:C:27:ARG:HG3	5:C:29:ASP:OD1	1.94	0.66
23:U:20:LEU:HD22	23:U:60:GLN:HE22	1.60	0.66
24:V:122:ARG:HH11	24:V:122:ARG:CG	2.07	0.66
21:S:61:GLU:HG3	40:S:3851:HOH:O	1.95	0.66
15:M:71:TRP:CE3	15:M:175:LEU:HD22	2.31	0.66
8:F:37:THR:O	8:F:41:GLU:HG3	1.95	0.66
1:O:2547:C:OP2	4:B:5:ARG:NH1	2.29	0.65
3:A:36:ASP:HA	3:A:83:GLY:HA3	1.78	0.65
21:S:47:THR:HB	21:S:100:ASP:HB3	1.78	0.65
12:J:49:LEU:HD12	12:J:80:ILE:HG21	1.79	0.65
20:R:51:GLN:NE2	20:R:53:ASN:HD21	1.94	0.65
8:F:58:GLU:OE1	14:L:27:ARG:NH2	2.28	0.65
11:I:107:ASN:ND2	11:I:109:TYR:H	1.94	0.65
12:J:34:VAL:HG22	12:J:47:ALA:HB2	1.79	0.65
1:O:1201:C:H5'	40:O:6599:HOH:O	1.96	0.65
1:O:2526:C:O2'	1:O:2527:U:H5'	1.97	0.65
2:9:3039:U:H1'	2:9:3044:A:N6	2.10	0.65
19:Q:99:ALA:HB1	19:Q:109:MET:CE	2.26	0.65
20:R:10:VAL:HG11	23:U:36:ALA:HA	1.76	0.65
1:O:2414:A:H2'	1:O:2415:A:C8	2.32	0.65
1:O:559:C:H6	1:O:559:C:H5'	1.62	0.65
8:F:63:ILE:HB	8:F:64:PRO:HD3	1.78	0.65
15:M:155:GLU:O	15:M:156:GLU:HG3	1.97	0.65
25:W:66:THR:HG23	25:W:67:PRO:HD2	1.77	0.65
6:D:64:ARG:HG2	6:D:67:ASP:HB3	1.78	0.65
5:C:162:VAL:HG12	5:C:192:ILE:HD11	1.76	0.65
6:D:57:THR:HG23	6:D:63:ILE:HG22	1.79	0.65
2:9:3025:G:C3'	2:9:3026:C:H5'	2.27	0.65
1:O:1462:C:H2'	1:O:1463:A:C8	2.32	0.64
1:O:2502:C:H2'	1:O:2503:A:H5'	1.79	0.64
3:A:131:HIS:O	3:A:132:ASP:HB2	1.95	0.64
4:B:62:ARG:HA	4:B:65:MET:CE	2.26	0.64
11:I:74:ARG:HH11	11:I:74:ARG:CB	2.10	0.64
21:S:9:LYS:CE	21:S:13:ARG:NH1	2.59	0.64
23:U:56:ILE:O	23:U:60:GLN:HG3	1.96	0.64
22:T:39:ASN:ND2	22:T:44:ARG:HH11	1.94	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:W:74:ALA:HB2	25:W:85:VAL:HG13	1.79	0.64
1:0:281:U:H2'	1:0:282:C:O4'	1.97	0.64
1:0:289:G:N2	1:0:363:A:H2	1.93	0.64
1:0:558:C:O2'	1:0:559:C:H5''	1.96	0.64
27:Y:11:SER:CB	27:Y:23:ARG:HB2	2.27	0.64
28:Z:10:LYS:HG3	40:Z:8984:HOH:O	1.97	0.64
1:0:1234:U:N3	4:B:244:PRO:HB3	2.12	0.64
10:H:46:GLN:HE21	10:H:137:TYR:HE2	1.43	0.64
21:S:32:ARG:NH1	21:S:38:ARG:HH12	1.96	0.64
8:F:2:VAL:HG22	8:F:57:GLU:OE1	1.97	0.64
14:L:164:THR:HG22	14:L:167:GLY:H	1.63	0.64
4:B:18:ARG:HG3	4:B:256:GLN:HG3	1.79	0.64
4:B:201:ASP:HB2	4:B:312:ARG:HD2	1.78	0.64
27:Y:53:GLY:HA2	27:Y:67:GLY:O	1.98	0.64
1:0:1878:G:O2'	1:0:1879:U:C6	2.51	0.64
1:0:1942:A:H3'	40:0:7683:HOH:O	1.98	0.64
3:A:100:PRO:HG2	3:A:103:VAL:HG21	1.79	0.64
1:0:775:G:OP1	28:Z:16:HIS:HE1	1.81	0.64
1:0:1118:A:H3'	1:0:1118:A:C8	2.33	0.64
1:0:1170:U:O2'	1:0:1172:G:N7	2.29	0.64
8:F:96:ALA:HA	40:F:3111:HOH:O	1.96	0.64
1:0:1118:A:H8	1:0:1119:G:H5''	1.64	0.63
1:0:2878:U:H2'	1:0:2879:A:O4'	1.99	0.63
11:I:45:VAL:HG21	11:I:129:PHE:CD1	2.33	0.63
15:M:169:PRO:O	15:M:172:PHE:HB3	1.97	0.63
10:H:27:LYS:H	10:H:59:HIS:CD2	2.08	0.63
21:S:71:VAL:HG11	21:S:90:PRO:CB	2.21	0.63
26:X:154:ARG:NH1	26:X:155:ARG:HG3	2.13	0.63
1:0:2426:G:H1'	40:0:6457:HOH:O	1.96	0.63
1:0:2548:C:OP2	4:B:5:ARG:NH2	2.32	0.63
4:B:238:ASN:HD22	4:B:240:GLY:N	1.96	0.63
15:M:7:LYS:HE3	18:P:21:ARG:O	1.99	0.63
1:0:371:U:H2'	1:0:372:A:C8	2.32	0.63
1:0:2064:U:H5'	1:0:2652:U:H4'	1.81	0.63
7:E:31:ARG:HH12	7:E:68:HIS:CD2	2.16	0.63
1:0:1766:U:O2	1:0:1778:A:H5'	1.99	0.63
7:E:133:VAL:HG12	7:E:141:VAL:HG13	1.81	0.63
9:G:12:ILE:O	9:G:12:ILE:HG22	1.99	0.63
1:0:1183:C:N4	1:0:1184:C:H41	1.97	0.63
4:B:140:LEU:HA	40:B:9055:HOH:O	1.98	0.63
6:D:69:ILE:HG22	6:D:69:ILE:O	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:59:ARG:HH22	17:O:66:GLN:HE22	1.46	0.63
1:O:2533:C:H5'	1:O:2533:C:H6	1.64	0.63
3:A:121:ALA:O	3:A:124:VAL:HG22	1.99	0.63
4:B:24:PRO:CG	4:B:204:GLY:HA2	2.29	0.63
6:D:44:ILE:HG12	6:D:83:PHE:HE1	1.63	0.63
6:D:135:VAL:HG21	6:D:139:TYR:CD1	2.34	0.63
15:M:62:HIS:HB3	15:M:65:ASP:OD1	1.99	0.63
24:V:4:LEU:HD23	24:V:54:PHE:HB3	1.79	0.63
1:O:542:A:H5'	1:O:542:A:C8	2.28	0.62
8:F:50:VAL:CG1	8:F:60:VAL:HG11	2.29	0.62
11:I:74:ARG:NH1	11:I:76:ASP:HB2	2.13	0.62
16:N:39:THR:O	16:N:115:ARG:NH2	2.33	0.62
1:O:1080:C:H4'	1:O:1081:A:OP1	1.97	0.62
1:O:1206:U:H5'	1:O:1206:U:H6	1.62	0.62
1:O:1333:U:H2'	1:O:1334:C:C6	2.34	0.62
12:J:74:VAL:CG1	12:J:113:ILE:HG12	2.29	0.62
1:O:285:A:H2'	1:O:286:U:O4'	1.99	0.62
12:J:29:LEU:HB3	12:J:55:VAL:CG1	2.26	0.62
1:O:282:C:O2'	1:O:283:U:H5'	1.99	0.62
1:O:603:A:H5''	1:O:604:G:OP1	1.99	0.62
4:B:51:VAL:HG23	4:B:329:TYR:O	2.00	0.62
5:C:246:ARG:HB3	5:C:246:ARG:NH1	2.14	0.62
1:O:121:U:OP2	29:1:10:ARG:NH2	2.32	0.62
5:C:104:ASP:O	5:C:108:GLN:HG3	1.99	0.62
7:E:23:GLU:HG2	7:E:28:SER:HB3	1.82	0.62
4:B:139:ASP:HB2	4:B:165:ARG:HE	1.65	0.62
6:D:38:GLU:HB3	6:D:49:PRO:HG2	1.80	0.62
13:K:73:VAL:HG23	13:K:74:THR:H	1.64	0.62
1:O:119:A:H2'	1:O:120:A:H5''	1.80	0.62
1:O:2676:C:H4'	11:I:70:PHE:HE1	1.63	0.62
7:E:11:VAL:HG12	7:E:12:ASP:N	2.14	0.62
12:J:115:ARG:HG3	12:J:116:GLU:N	2.14	0.62
15:M:139:TRP:CE3	15:M:139:TRP:HA	2.35	0.62
21:S:69:LYS:O	21:S:71:VAL:HG23	2.00	0.62
1:O:2346:C:H6	1:O:2346:C:O5'	1.83	0.62
7:E:116:THR:HG22	7:E:151:LEU:HD22	1.80	0.62
15:M:11:ARG:O	15:M:15:GLU:HG3	2.00	0.62
24:V:21:LEU:HD13	24:V:26:ILE:HD11	1.82	0.62
1:O:1189:A:H1'	1:O:1209:C:C1'	2.30	0.61
1:O:1191:A:H3'	1:O:1192:A:H5''	1.81	0.61
1:O:1299:G:O6	13:K:6:ARG:HD3	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:135:VAL:HG21	3:A:147:ARG:NH1	2.15	0.61
1:0:1165:G:H1'	1:0:1174:A:H1'	1.82	0.61
15:M:164:ASP:CG	15:M:167:ASP:HA	2.19	0.61
19:Q:44:VAL:O	19:Q:48:GLU:HG3	2.00	0.61
30:2:73:GLU:HB3	40:2:8990:HOH:O	2.00	0.61
1:0:1189:A:H3'	40:0:8098:HOH:O	2.01	0.61
3:A:109:GLU:HG2	3:A:116:GLY:N	2.14	0.61
15:M:49:THR:CG2	15:M:56:ASP:HB2	2.31	0.61
1:0:1730:G:H5'	1:0:1731:C:C5	2.36	0.61
3:A:51:ARG:NH1	3:A:120:ARG:O	2.34	0.61
3:A:81:GLN:HB2	3:A:92:ASN:ND2	2.14	0.61
1:0:2768:A:H2'	1:0:2769:C:O4'	2.01	0.61
19:Q:39:THR:HG23	19:Q:107:GLU:O	1.99	0.61
25:W:37:LEU:CD1	25:W:85:VAL:HG21	2.22	0.61
11:I:75:PRO:HG2	11:I:105:LEU:HD21	1.83	0.61
19:Q:18:LEU:HB2	19:Q:143:VAL:CG1	2.30	0.61
29:1:22:PRO:HG2	29:1:25:VAL:HG23	1.81	0.61
1:0:2851:G:C2'	1:0:2852:A:H5'	2.30	0.61
6:D:44:ILE:HG23	6:D:45:THR:HG23	1.83	0.61
12:J:55:VAL:HG12	12:J:56:SER:N	2.15	0.61
1:0:1328:A:OP1	26:X:169:ARG:HD2	2.00	0.61
1:0:1701:A:H5''	1:0:1702:U:H3'	1.83	0.61
3:A:125:ASN:CB	3:A:158:VAL:HG12	2.31	0.61
3:A:191:GLY:HA2	3:A:194:MET:HE3	1.82	0.61
14:L:57:LYS:HE2	14:L:140:ALA:O	2.01	0.61
4:B:248:ARG:O	4:B:251:VAL:HG13	2.01	0.61
19:Q:18:LEU:HG	19:Q:91:LEU:HD13	1.83	0.61
30:2:70:ARG:HB3	40:2:9001:HOH:O	2.00	0.61
1:0:338:C:H4'	5:C:174:ILE:HD11	1.82	0.61
1:0:1714:C:O2'	1:0:1715:C:H5'	2.01	0.61
4:B:321:PRO:HA	40:B:9136:HOH:O	2.01	0.61
6:D:41:LEU:HA	6:D:44:ILE:HG22	1.82	0.61
11:I:19:MET:CE	11:I:132:LEU:HD11	2.31	0.61
4:B:51:VAL:CG2	4:B:327:VAL:HG13	2.30	0.60
5:C:76:ARG:HG2	5:C:78:ARG:HH12	1.65	0.60
6:D:23:VAL:HG21	6:D:45:THR:HG21	1.81	0.60
1:0:2862:G:H4'	4:B:336:GLN:O	2.00	0.60
2:9:3114:G:O6	15:M:11:ARG:HD3	2.00	0.60
24:V:4:LEU:HD22	24:V:52:VAL:CG2	2.27	0.60
11:I:19:MET:HE3	11:I:132:LEU:HD11	1.82	0.60
24:V:149:LEU:HG	24:V:153:MET:CE	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1441:G:O2'	1:0:1442:A:H5'	2.01	0.60
7:E:20:ILE:CD1	7:E:40:VAL:HG11	2.30	0.60
1:0:1477:C:O2'	1:0:1478:U:H5'	2.01	0.60
1:0:1926:G:H2'	1:0:1927:A:C8	2.36	0.60
6:D:95:THR:C	6:D:97:GLN:H	2.05	0.60
5:C:118:THR:HG22	5:C:137:PRO:HB3	1.83	0.60
5:C:139:VAL:HG13	40:C:8656:HOH:O	2.02	0.60
9:G:64:ASN:O	9:G:68:GLU:HG3	2.01	0.60
24:V:13:MET:HE1	24:V:18:GLN:HA	1.82	0.60
1:0:155:C:OP2	14:L:188:ARG:HD3	2.00	0.60
1:0:871:G:C8	1:0:871:G:C5'	2.78	0.60
2:9:3023:U:H6	2:9:3023:U:H5''	1.67	0.60
15:M:152:GLU:C	15:M:154:LEU:H	2.03	0.60
1:0:1120:U:H5'	1:0:1121:G:OP2	2.02	0.60
1:0:1667:A:H5'	1:0:1667:A:H8	1.67	0.60
15:M:110:THR:HB	15:M:113:SER:OG	2.02	0.60
18:P:53:HIS:ND1	18:P:55:ARG:HB2	2.16	0.60
24:V:13:MET:CE	24:V:17:ILE:HG22	2.31	0.60
3:A:69:LEU:HD21	3:A:120:ARG:HB3	1.83	0.60
5:C:246:ARG:HB3	5:C:246:ARG:HH11	1.67	0.60
27:Y:37:HIS:HB2	27:Y:47:VAL:HB	1.84	0.60
1:0:1878:G:O2'	1:0:1879:U:P	2.60	0.59
4:B:154:VAL:HG12	4:B:156:LYS:HG2	1.84	0.59
8:F:58:GLU:CD	14:L:27:ARG:HH22	2.04	0.59
12:J:28:GLU:HB3	12:J:59:LYS:HB2	1.84	0.59
27:Y:19:GLY:O	27:Y:23:ARG:HG2	2.02	0.59
1:0:645:U:OP2	13:K:4:LYS:HE2	2.02	0.59
10:H:30:GLN:H	10:H:66:ARG:NH1	1.99	0.59
1:0:2779:G:H21	7:E:143:GLN:NE2	2.00	0.59
15:M:114:LYS:O	15:M:118:ILE:HG13	2.02	0.59
29:1:18:ASN:ND2	29:1:40:ARG:H	2.00	0.59
1:0:1973:A:H5'	1:0:1973:A:H8	1.67	0.59
4:B:108:GLU:HB3	4:B:111:ARG:HD2	1.85	0.59
5:C:16:VAL:HG12	5:C:17:ASP:N	2.17	0.59
5:C:233:THR:HG22	5:C:234:VAL:N	2.17	0.59
27:Y:22:SER:O	27:Y:26:VAL:HG23	2.03	0.59
4:B:297:VAL:HB	40:B:9084:HOH:O	2.03	0.59
1:0:111:C:O2'	28:Z:20:ARG:HG2	2.03	0.59
1:0:2676:C:H4'	11:I:70:PHE:CD1	2.37	0.59
4:B:41:PHE:HA	4:B:79:MET:HE2	1.84	0.59
26:X:126:PRO:HG2	26:X:128:PHE:CE1	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:1:22:PRO:HG2	29:1:25:VAL:CG2	2.32	0.59
4:B:162:MET:CE	4:B:310:ARG:HD3	2.33	0.59
4:B:307:ARG:HH11	4:B:307:ARG:CG	2.15	0.59
8:F:46:GLU:OE1	8:F:100:ASP:HA	2.03	0.59
23:U:39:ALA:N	23:U:40:PRO:CD	2.65	0.59
24:V:81:ASP:OD1	24:V:92:ASP:HB2	2.03	0.59
25:W:25:ARG:HD3	25:W:64:ALA:O	2.02	0.59
5:C:236:THR:H	5:C:239:ALA:HB3	1.68	0.59
9:G:23:ILE:O	9:G:27:ILE:HG13	2.03	0.59
11:I:107:ASN:HD22	11:I:107:ASN:C	2.06	0.59
1:O:259:G:H21	14:L:58:GLN:NE2	2.00	0.59
15:M:47:LEU:HD13	15:M:97:VAL:HG11	1.83	0.59
30:2:60:LYS:HG3	30:2:61:PRO:HD2	1.83	0.59
4:B:72:THR:HB	40:B:9084:HOH:O	2.03	0.58
10:H:56:GLN:HE21	10:H:126:ARG:HE	1.47	0.58
1:O:2478:U:O2'	1:O:2479:A:H5'	2.03	0.58
6:D:158:ASN:HB2	6:D:161:ASP:OD2	2.03	0.58
14:L:134:ILE:CG2	14:L:141:ILE:HD13	2.31	0.58
23:U:1:THR:HG23	23:U:2:VAL:N	2.17	0.58
1:O:558:C:H2'	1:O:559:C:H5'	1.85	0.58
1:O:902:G:N7	13:K:18:HIS:HD2	2.01	0.58
1:O:926:A:H5'	13:K:39:GLU:OE2	2.04	0.58
4:B:329:TYR:CE2	22:T:15:PRO:HG2	2.37	0.58
9:G:12:ILE:N	9:G:13:PRO:CD	2.65	0.58
25:W:9:VAL:HG22	25:W:88:GLU:OE2	2.04	0.58
1:O:156:C:H5''	14:L:171:ARG:CD	2.24	0.58
4:B:141:ARG:HG2	4:B:165:ARG:HA	1.85	0.58
6:D:64:ARG:CG	6:D:67:ASP:HB3	2.34	0.58
19:Q:18:LEU:HD12	19:Q:143:VAL:CG1	2.34	0.58
20:R:8:PRO:HD2	23:U:32:ALA:HA	1.85	0.58
24:V:130:HIS:O	24:V:136:GLY:HA3	2.03	0.58
3:A:190:ARG:NH2	3:A:207:GLN:OE1	2.36	0.58
4:B:62:ARG:HA	4:B:65:MET:HE3	1.85	0.58
12:J:34:VAL:CG2	12:J:47:ALA:HB2	2.34	0.58
1:O:656:G:OP2	16:N:37:ARG:HD2	2.03	0.58
1:O:962:C:H1'	15:M:5:ARG:HH12	1.69	0.58
1:O:1236:A:H2'	1:O:1237:U:O4'	2.04	0.58
4:B:24:PRO:HG3	4:B:204:GLY:HA2	1.86	0.58
8:F:36:THR:HG23	8:F:97:ALA:HB2	1.86	0.58
8:F:46:GLU:O	8:F:73:PRO:HD2	2.04	0.58
1:O:1175:G:H1'	1:O:1193:A:H2'	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:1594:C:OP2	17:O:120:ARG:HD2	2.04	0.58
1:O:1755:A:H2'	1:O:1756:G:O4'	2.03	0.58
4:B:305:ASP:O	4:B:306:LYS:HB2	2.04	0.58
6:D:64:ARG:CD	6:D:67:ASP:HB3	2.32	0.58
6:D:97:GLN:HG2	6:D:97:GLN:O	2.04	0.58
12:J:82:ARG:NH2	12:J:115:ARG:HG2	2.18	0.58
15:M:89:GLY:O	15:M:92:ALA:HB3	2.03	0.58
17:O:98:ILE:HD12	17:O:102:ARG:NE	2.19	0.58
1:O:396:U:O2'	1:O:418:C:H4'	2.04	0.58
1:O:21:G:H5''	19:Q:1:GLY:O	2.04	0.58
1:O:280:C:H2'	1:O:281:U:O4'	2.04	0.58
1:O:338:C:H4'	5:C:174:ILE:CD1	2.34	0.58
1:O:512:G:O3'	1:O:513:A:H8	1.87	0.58
2:9:3004:G:H21	15:M:44:ARG:NH1	2.01	0.58
3:A:88:ILE:HD13	3:A:100:PRO:CD	2.33	0.58
6:D:95:THR:O	6:D:97:GLN:N	2.31	0.58
11:I:107:ASN:HD22	11:I:109:TYR:H	1.49	0.58
23:U:64:GLY:O	23:U:65:ASP:HB2	2.03	0.58
1:O:949:U:O2'	18:P:40:HIS:HE1	1.87	0.58
1:O:2265:U:H2'	1:O:2266:A:C8	2.38	0.58
1:O:2270:G:H4'	3:A:223:ARG:HH12	1.69	0.58
1:O:2670:G:O2'	1:O:2671:U:H5'	2.04	0.58
1:O:2768:A:O2'	1:O:2769:C:H5'	2.04	0.58
4:B:265:LEU:HD21	4:B:316:ARG:HD3	1.86	0.58
14:L:164:THR:CG2	14:L:165:GLY:N	2.66	0.58
20:R:29:ASP:OD1	20:R:31:ARG:NH1	2.37	0.58
1:O:272:A:H5'	1:O:273:G:OP2	2.04	0.57
1:O:960:G:N3	1:O:960:G:H2'	2.19	0.57
2:9:3014:G:H5'	2:9:3014:G:H8	1.68	0.57
2:9:3029:C:C2'	2:9:3030:C:H5'	2.34	0.57
8:F:117:GLU:C	8:F:119:ARG:H	2.07	0.57
13:K:143:THR:HG22	13:K:144:ASP:H	1.68	0.57
1:O:1342:C:O2'	1:O:1343:C:H5'	2.04	0.57
24:V:52:VAL:HG22	24:V:53:ALA:H	1.69	0.57
24:V:65:VAL:HA	24:V:68:THR:HG22	1.86	0.57
1:O:1185:U:H2'	1:O:1186:C:C6	2.38	0.57
4:B:254:GLN:HG2	4:B:255:GLY:N	2.17	0.57
7:E:15:GLN:HG2	7:E:19:ASP:O	2.04	0.57
14:L:164:THR:HG22	14:L:166:ALA:N	2.20	0.57
23:U:39:ALA:C	23:U:41:GLU:H	2.08	0.57
25:W:9:VAL:HG13	25:W:88:GLU:OE2	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1878:G:O2'	1:0:1879:U:H6	1.88	0.57
2:9:3054:A:O2'	2:9:3055:U:H5'	2.04	0.57
3:A:95:PRO:HG2	3:A:98:GLU:HG2	1.85	0.57
4:B:221:GLN:HE22	12:J:42:ASN:HD22	1.53	0.57
11:I:107:ASN:HD21	11:I:109:TYR:HB2	1.68	0.57
14:L:34:GLU:HB3	14:L:38:GLU:HG3	1.86	0.57
17:O:103:THR:HA	17:O:106:ARG:NH1	2.19	0.57
1:0:2587:U:H2'	1:0:2589:U:H5''	1.87	0.57
2:9:3076:G:C3'	2:9:3077:A:H5''	2.25	0.57
15:M:139:TRP:HA	15:M:139:TRP:HE3	1.69	0.57
16:N:87:THR:O	16:N:91:GLN:HG3	2.05	0.57
17:O:40:VAL:O	17:O:44:VAL:HG23	2.05	0.57
1:0:613:C:H2'	1:0:614:U:H6	1.70	0.57
4:B:258:GLY:H	4:B:260:HIS:HE1	1.53	0.57
7:E:3:VAL:HG22	7:E:49:ILE:HB	1.86	0.57
1:0:506:G:H22	1:0:509:A:H5''	1.69	0.57
1:0:2637:A:C2'	31:4:74:C:H5''	2.21	0.57
4:B:5:ARG:HD2	4:B:8:LYS:NZ	2.19	0.57
1:0:282:C:H1'	1:0:368:C:H42	1.69	0.57
1:0:291:C:H2'	1:0:292:G:O4'	2.05	0.57
1:0:2816:A:H5''	1:0:2817:G:H5'	1.87	0.57
11:I:19:MET:HE2	11:I:79:PHE:HA	1.87	0.57
15:M:154:LEU:HG	15:M:155:GLU:H	1.70	0.57
1:0:1130:U:H2'	1:0:1131:G:O4'	2.04	0.57
1:0:2721:U:H4'	12:J:87:ARG:HG3	1.86	0.57
3:A:128:LEU:HD21	3:A:131:HIS:HE1	1.69	0.57
4:B:85:ARG:NH1	40:B:9113:HOH:O	2.37	0.57
4:B:314:ALA:HB3	4:B:317:PRO:HG3	1.87	0.57
5:C:107:ARG:NH1	5:C:107:ARG:HB3	2.20	0.57
3:A:36:ASP:OD2	3:A:85:SER:HB2	2.05	0.57
3:A:192:VAL:HB	40:A:9066:HOH:O	2.04	0.57
4:B:307:ARG:HH11	4:B:307:ARG:HG3	1.69	0.57
7:E:81:GLU:HG2	7:E:134:SER:CB	2.35	0.57
19:Q:111:ILE:HG23	19:Q:145:LEU:HD11	1.87	0.57
1:0:1563:G:O2'	1:0:1564:C:OP2	2.19	0.56
1:0:2515:C:H2'	1:0:2516:G:O4'	2.05	0.56
4:B:212:GLN:OE1	4:B:216:LYS:HD3	2.05	0.56
4:B:268:ARG:NH2	4:B:325:PRO:HG3	2.19	0.56
5:C:115:LEU:O	5:C:118:THR:HB	2.05	0.56
1:0:1669:A:H2'	1:0:1670:G:C8	2.40	0.56
12:J:109:LEU:HD13	12:J:113:ILE:HD11	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1118:A:H62	1:0:1244:U:H3	1.52	0.56
4:B:56:ASP:OD1	4:B:322:ARG:HB3	2.04	0.56
6:D:136:ARG:HD2	6:D:155:HIS:O	2.05	0.56
7:E:69:ILE:HA	7:E:72:MET:CE	2.35	0.56
15:M:36:ALA:HB1	15:M:118:ILE:HD12	1.86	0.56
22:T:14:GLU:O	22:T:17:THR:HB	2.05	0.56
26:X:187:VAL:CG2	26:X:192:ASP:HB2	2.35	0.56
1:0:500:G:H21	19:Q:98:ASN:HD21	1.52	0.56
1:0:2812:A:C2	1:0:2814:A:N6	2.67	0.56
5:C:77:ALA:O	5:C:78:ARG:HG3	2.04	0.56
6:D:23:VAL:HG22	6:D:73:VAL:HB	1.87	0.56
6:D:50:VAL:O	6:D:71:ALA:HA	2.04	0.56
10:H:63:GLU:HA	40:H:9029:HOH:O	2.04	0.56
15:M:69:TYR:HE2	15:M:183:ASP:OD2	1.89	0.56
18:P:25:PRO:HB2	40:P:4350:HOH:O	2.05	0.56
1:0:2251:G:H2'	1:0:2252:A:C8	2.40	0.56
6:D:27:ILE:HG22	6:D:28:GLY:N	2.16	0.56
15:M:154:LEU:O	15:M:155:GLU:HB3	2.05	0.56
15:M:184:ILE:HG22	15:M:185:GLU:N	2.19	0.56
17:O:115:SER:N	17:O:118:GLN:HE21	1.89	0.56
1:0:308:U:H5'	21:S:97:ARG:NH2	2.20	0.56
1:0:794:U:H3	1:0:819:A:H61	1.53	0.56
1:0:1666:C:C2'	1:0:1667:A:H5'	2.36	0.56
1:0:2506:A:O2'	1:0:2507:G:O5'	2.23	0.56
14:L:107:ARG:NH1	14:L:107:ARG:CG	2.69	0.56
1:0:168:C:O2'	1:0:169:A:H5'	2.06	0.56
1:0:482:G:H4'	1:0:508:A:N1	2.21	0.56
1:0:1641:A:C2'	1:0:1642:A:H5'	2.35	0.56
1:0:1787:C:OP1	17:O:68:LYS:HE2	2.06	0.56
4:B:265:LEU:CD2	4:B:316:ARG:HD3	2.35	0.56
22:T:17:THR:CG2	22:T:18:GLY:N	2.69	0.56
27:Y:21:VAL:HG12	40:Y:8711:HOH:O	2.06	0.56
1:0:2507:G:H2'	1:0:2510:C:H42	1.71	0.56
1:0:2698:G:H2'	1:0:2699:A:C8	2.41	0.56
1:0:2791:U:H1'	1:0:2792:A:H5''	1.88	0.56
5:C:118:THR:O	5:C:136:VAL:HG13	2.06	0.56
13:K:125:PHE:CE1	13:K:140:VAL:HG13	2.41	0.56
15:M:71:TRP:HE3	15:M:175:LEU:HD22	1.70	0.56
25:W:76:ARG:HH11	25:W:76:ARG:HG3	1.68	0.56
3:A:94:LEU:HG	3:A:99:ILE:HD11	1.87	0.56
4:B:175:LEU:O	4:B:175:LEU:HD23	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:48:VAL:HG12	8:F:97:ALA:HB2	1.88	0.56
14:L:99:ARG:NH2	14:L:170:ASN:HD22	1.97	0.56
15:M:12:ARG:HD3	15:M:18:THR:OG1	2.05	0.56
17:O:10:ALA:HA	17:O:13:VAL:CG1	2.34	0.56
24:V:29:VAL:O	24:V:30:ASN:HB2	2.06	0.56
1:O:88:G:N7	29:1:28:LYS:HD2	2.20	0.56
2:9:3041:C:O4'	6:D:50:VAL:HG23	2.06	0.56
3:A:107:ASN:OD1	3:A:120:ARG:HD2	2.06	0.56
3:A:179:MET:HG2	3:A:186:TRP:CB	2.36	0.56
20:R:51:GLN:HE21	20:R:53:ASN:ND2	2.00	0.56
21:S:71:VAL:CG1	21:S:90:PRO:HB3	2.24	0.56
24:V:21:LEU:HB3	24:V:26:ILE:HG12	1.87	0.56
1:O:588:G:O6	24:V:154:ARG:NH1	2.39	0.55
4:B:74:ILE:HD13	4:B:309:VAL:HG21	1.87	0.55
8:F:60:VAL:O	8:F:60:VAL:HG12	2.06	0.55
11:I:75:PRO:HD3	11:I:136:SER:OG	2.06	0.55
1:O:1205:U:C2'	1:O:1206:U:H5''	2.36	0.55
1:O:2106:C:H5'	1:O:2284:G:H21	1.70	0.55
1:O:2807:U:P	4:B:27:ASN:HD21	2.28	0.55
6:D:37:ALA:O	6:D:40:ILE:HG12	2.06	0.55
10:H:99:LYS:HD3	10:H:119:LYS:HD3	1.88	0.55
11:I:75:PRO:HG2	11:I:105:LEU:CD2	2.35	0.55
15:M:87:LEU:CD1	15:M:186:LEU:HD21	2.34	0.55
1:O:380:A:OP2	14:L:9:ARG:HD2	2.05	0.55
40:O:7890:HOH:O	30:2:60:LYS:HG3	2.07	0.55
5:C:1:MET:HG2	5:C:2:GLN:N	2.20	0.55
1:O:449:A:N7	5:C:43:LYS:HG2	2.22	0.55
1:O:1150:A:C2	9:G:20:VAL:HG21	2.41	0.55
1:O:1528:A:H2'	1:O:1529:G:O4'	2.07	0.55
6:D:94:ALA:HB3	6:D:174:VAL:HA	1.88	0.55
13:K:53:ARG:NH2	13:K:57:VAL:HG12	2.22	0.55
25:W:15:ARG:HB3	25:W:15:ARG:NH1	2.19	0.55
1:O:1666:C:O2'	1:O:1667:A:H5''	2.06	0.55
14:L:71:SER:O	14:L:73:ARG:NH1	2.36	0.55
1:O:545:G:H5'	1:O:545:G:C8	2.39	0.55
1:O:621:C:H5'	26:X:132:ASP:OD2	2.06	0.55
1:O:1057:A:H2'	1:O:1058:A:C8	2.41	0.55
1:O:1132:A:N6	1:O:1229:C:H2'	2.22	0.55
1:O:1462:C:H2'	1:O:1463:A:H8	1.71	0.55
1:O:2320:U:H4'	1:O:2321:A:O4'	2.07	0.55
2:9:3041:C:C6	6:D:50:VAL:HG21	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Z:25:LYS:CD	29:1:49:GLU:H	2.16	0.55
1:0:968:G:H1'	10:H:32:LYS:HD2	1.89	0.55
1:0:1167:G:O2'	1:0:1168:C:H5'	2.06	0.55
1:0:1667:A:H2'	1:0:1668:U:C6	2.41	0.55
4:B:312:ARG:HD3	4:B:315:VAL:HG13	1.88	0.55
15:M:170:GLU:O	15:M:174:GLU:HG3	2.07	0.55
23:U:12:THR:CG2	23:U:15:GLU:HG3	2.26	0.55
24:V:4:LEU:O	24:V:32:CYS:HA	2.06	0.55
1:0:2769:C:O2'	1:0:2770:G:H5'	2.07	0.55
4:B:87:TYR:HD1	40:B:9055:HOH:O	1.90	0.55
19:Q:119:VAL:O	19:Q:119:VAL:HG12	2.05	0.55
24:V:6:GLN:CB	24:V:26:ILE:HD12	2.34	0.55
3:A:211:LYS:HB3	3:A:212:PRO:CD	2.31	0.55
1:0:470:U:O2'	28:Z:16:HIS:CD2	2.60	0.55
1:0:1654:U:H2'	3:A:47:HIS:HD2	1.72	0.55
5:C:233:THR:HG22	5:C:234:VAL:H	1.71	0.55
7:E:31:ARG:NH1	7:E:68:HIS:CG	2.75	0.55
13:K:120:LEU:HD12	13:K:133:VAL:HG21	1.89	0.55
14:L:120:VAL:HG11	14:L:130:GLU:HG3	1.87	0.55
1:0:263:U:O4'	8:F:59:ILE:HD13	2.06	0.54
1:0:1853:C:OP1	3:A:231:LYS:HG3	2.08	0.54
3:A:53:ALA:HB3	40:A:9078:HOH:O	2.05	0.54
4:B:96:PRO:HG3	40:B:9113:HOH:O	2.06	0.54
8:F:48:VAL:HG23	8:F:74:PHE:CB	2.36	0.54
23:U:8:ILE:HG21	23:U:59:ILE:HG13	1.88	0.54
23:U:44:GLY:O	23:U:48:GLU:HG2	2.06	0.54
1:0:1717:A:H5''	17:O:54:LYS:HB2	1.87	0.54
1:0:2291:A:C8	1:0:2309:C:H5'	2.41	0.54
5:C:129:HIS:CE1	5:C:231:ARG:HA	2.42	0.54
17:O:103:THR:O	17:O:107:GLU:HG3	2.07	0.54
21:S:71:VAL:HG12	21:S:72:ILE:N	2.22	0.54
1:0:2073:G:OP2	1:0:2490:A:H5'	2.07	0.54
21:S:32:ARG:NH1	21:S:38:ARG:NH1	2.55	0.54
1:0:1182:C:H1'	1:0:1192:A:C8	2.40	0.54
1:0:2314:G:C2'	1:0:2315:C:H5'	2.37	0.54
3:A:96:LEU:HD22	3:A:128:LEU:HD13	1.90	0.54
6:D:23:VAL:HG23	6:D:23:VAL:O	2.07	0.54
6:D:99:ASP:CB	6:D:103:ASN:HB2	2.37	0.54
15:M:159:TYR:HB3	15:M:162:ASP:HB2	1.90	0.54
1:0:553:G:P	26:X:204:ARG:HH22	2.31	0.54
1:0:625:U:H5''	1:0:1044:C:N4	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1283:G:O2'	1:0:1284:G:H5'	2.06	0.54
40:0:9823:HOH:O	28:Z:1:THR:HA	2.08	0.54
8:F:91:VAL:CG1	8:F:92:GLY:H	2.17	0.54
11:I:93:ARG:HH11	11:I:93:ARG:CB	2.17	0.54
21:S:26:THR:HA	21:S:39:ASN:HB3	1.89	0.54
1:0:1119:G:H22	1:0:1246:A:H2	1.47	0.54
1:0:2715:G:N2	4:B:264:GLU:OE1	2.40	0.54
40:0:5224:HOH:O	11:I:47:THR:HB	2.07	0.54
4:B:79:MET:HE1	40:B:9104:HOH:O	2.07	0.54
1:0:1687:C:O2	28:Z:9:GLY:HA2	2.08	0.54
1:0:2894:C:O2'	1:0:2895:C:H5'	2.07	0.54
1:0:2896:A:N3	1:0:2896:A:H2'	2.23	0.54
2:9:3044:A:O4'	6:D:76:ARG:NE	2.40	0.54
7:E:7:ILE:HD11	7:E:11:VAL:C	2.28	0.54
9:G:16:LYS:O	9:G:20:VAL:HG23	2.07	0.54
13:K:143:THR:CG2	13:K:144:ASP:N	2.70	0.54
15:M:47:LEU:HD12	15:M:92:ALA:HB1	1.90	0.54
1:0:2637:A:C8	31:4:74:C:H3'	2.43	0.54
1:0:2718:C:H6	1:0:2718:C:H5'	1.73	0.54
4:B:162:MET:CE	4:B:308:LEU:HD21	2.34	0.54
13:K:57:VAL:HG12	13:K:57:VAL:O	2.08	0.54
1:0:558:C:C2'	1:0:559:C:H5''	2.38	0.54
1:0:681:G:N3	1:0:681:G:H5'	2.23	0.54
1:0:2432:C:O2'	1:0:2433:A:H5'	2.08	0.54
1:0:69:A:H5'	1:0:69:A:C8	2.43	0.54
1:0:420:U:H2'	1:0:421:C:C6	2.42	0.54
1:0:2102:G:H5''	1:0:2538:A:C2	2.43	0.54
1:0:2563:U:H2'	1:0:2565:C:O5'	2.08	0.54
3:A:94:LEU:HD12	3:A:98:GLU:HB2	1.89	0.54
4:B:162:MET:HE2	4:B:310:ARG:HD3	1.90	0.54
1:0:1053:G:OP1	10:H:12:PRO:HG3	2.07	0.53
1:0:1946:C:H2'	1:0:1971:G:C8	2.43	0.53
1:0:2638:G:H5'	40:0:8342:HOH:O	2.09	0.53
4:B:17:LYS:O	4:B:260:HIS:HD2	1.91	0.53
4:B:41:PHE:CD1	4:B:79:MET:HE2	2.43	0.53
24:V:122:ARG:CG	24:V:122:ARG:NH1	2.70	0.53
1:0:21:G:H4'	19:Q:2:ILE:HG22	1.89	0.53
1:0:1118:A:C8	1:0:1119:G:H5''	2.42	0.53
1:0:2456:A:H2'	1:0:2457:U:C6	2.43	0.53
1:0:2487:C:H2'	1:0:2488:A:O4'	2.08	0.53
1:0:2717:C:H2'	1:0:2718:C:C5'	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:3069:U:OP1	15:M:4:PRO:HG3	2.08	0.53
4:B:141:ARG:HD2	4:B:163:GLU:OE2	2.08	0.53
10:H:54:THR:O	10:H:55:VAL:HG13	2.07	0.53
11:I:130:VAL:HG12	11:I:131:THR:N	2.23	0.53
1:0:65:C:O2'	1:0:66:G:H5'	2.08	0.53
1:0:1733:A:H4'	4:B:212:GLN:HA	1.88	0.53
2:9:3048:C:H4'	15:M:141:ARG:HH21	1.73	0.53
14:L:98:GLN:O	14:L:102:GLU:HG3	2.07	0.53
25:W:43:VAL:HG12	25:W:44:ASP:N	2.23	0.53
26:X:152:LYS:HB3	26:X:160:LYS:HG3	1.90	0.53
1:0:136:C:H2'	1:0:137:U:O4'	2.08	0.53
1:0:281:U:O2'	1:0:282:C:H5'	2.08	0.53
2:9:3092:G:H2'	2:9:3093:A:H8	1.72	0.53
8:F:13:GLU:OE2	8:F:78:GLU:HG2	2.09	0.53
15:M:11:ARG:HG3	15:M:14:ARG:NH1	2.23	0.53
24:V:19:ASP:O	24:V:23:MET:HG3	2.09	0.53
1:0:244:C:OP2	8:F:38:LYS:HE3	2.09	0.53
6:D:11:HIS:C	6:D:13:MET:H	2.11	0.53
9:G:23:ILE:HD13	9:G:67:LEU:HD23	1.91	0.53
16:N:14:LEU:CD2	16:N:102:ILE:HD11	2.39	0.53
19:Q:96:VAL:HG13	19:Q:106:GLY:HA3	1.90	0.53
1:0:60:A:O2'	1:0:61:G:H5'	2.09	0.53
1:0:558:C:H2'	1:0:559:C:C5'	2.39	0.53
1:0:2094:G:H4'	4:B:245:SER:HB3	1.91	0.53
25:W:31:ILE:O	25:W:35:GLU:HG3	2.08	0.53
1:0:514:G:O5'	1:0:514:G:H8	1.92	0.53
1:0:560:C:H2'	1:0:561:G:H8	1.72	0.53
1:0:920:C:H4'	1:0:921:G:C2	2.44	0.53
4:B:139:ASP:CB	4:B:165:ARG:HE	2.21	0.53
4:B:217:ARG:HG3	4:B:257:THR:HG22	1.89	0.53
20:R:57:THR:CG2	20:R:58:MET:N	2.72	0.53
1:0:256:C:H2'	1:0:257:G:O4'	2.09	0.53
1:0:299:U:H5'	40:0:7672:HOH:O	2.08	0.53
1:0:316:A:H5'	21:S:54:ASP:OD2	2.08	0.53
1:0:821:U:H2'	1:0:822:C:H6	1.73	0.53
1:0:1159:G:H21	1:0:1189:A:H8	1.57	0.53
6:D:11:HIS:O	6:D:12:GLU:HB3	2.09	0.53
8:F:99:THR:HG23	8:F:99:THR:O	2.08	0.53
13:K:97:VAL:HG12	13:K:98:GLU:O	2.09	0.53
14:L:60:VAL:C	14:L:61:ILE:HD12	2.30	0.53
24:V:139:GLY:O	24:V:141:HIS:HD2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1684:A:H1'	29:1:43:ARG:HH22	1.74	0.53
1:0:2270:G:H4'	3:A:223:ARG:NH1	2.24	0.53
1:0:2866:U:H4'	1:0:2867:G:H5'	1.90	0.53
22:T:9:CYS:HA	22:T:52:THR:HG23	1.91	0.53
23:U:20:LEU:HD11	23:U:53:ILE:HG23	1.91	0.53
1:0:2081:A:H4'	11:I:69:TYR:CE1	2.44	0.53
1:0:2363:G:O3'	18:P:11:ARG:NH1	2.42	0.53
2:9:3008:G:O6	15:M:11:ARG:NH1	2.42	0.53
15:M:182:GLY:O	15:M:183:ASP:O	2.27	0.53
24:V:149:LEU:HG	24:V:153:MET:HE2	1.91	0.53
1:0:1972:U:H2'	1:0:1973:A:H5'	1.90	0.52
1:0:2912:C:O2'	1:0:2913:A:H5'	2.09	0.52
5:C:180:SER:HB2	40:C:8654:HOH:O	2.09	0.52
6:D:99:ASP:HA	40:D:5675:HOH:O	2.09	0.52
7:E:145:ALA:HB1	7:E:168:ILE:CD1	2.38	0.52
23:U:49:LEU:O	23:U:53:ILE:HG13	2.09	0.52
24:V:38:THR:HG22	24:V:39:ASP:N	2.24	0.52
26:X:106:THR:HG23	26:X:107:PRO:HD2	1.89	0.52
26:X:165:GLU:HB3	40:X:8895:HOH:O	2.09	0.52
1:0:288:A:H2'	1:0:289:G:C8	2.44	0.52
1:0:1289:C:O2'	1:0:1290:G:H5'	2.09	0.52
1:0:1477:C:H5'	1:0:1868:G:C5'	2.38	0.52
1:0:2356:A:H2'	1:0:2357:G:O4'	2.09	0.52
1:0:2499:U:H2'	1:0:2500:C:H6	1.74	0.52
1:0:2569:A:H2'	1:0:2570:G:O5'	2.08	0.52
4:B:215:VAL:HB	4:B:234:ARG:HH12	1.73	0.52
5:C:132:ASP:HB3	40:C:8571:HOH:O	2.09	0.52
6:D:23:VAL:CG2	6:D:73:VAL:HB	2.39	0.52
2:9:3023:U:H5''	2:9:3023:U:C6	2.44	0.52
2:9:3091:C:H2'	2:9:3092:G:O4'	2.09	0.52
3:A:88:ILE:O	3:A:88:ILE:HG22	2.09	0.52
4:B:280:VAL:HG13	4:B:333:GLU:O	2.10	0.52
10:H:58:ARG:HG3	10:H:58:ARG:NH1	2.23	0.52
1:0:702:G:O2'	1:0:703:G:H5'	2.10	0.52
1:0:876:A:H2'	1:0:876:A:N3	2.24	0.52
1:0:1474:C:H5'	1:0:1474:C:C6	2.37	0.52
1:0:1926:G:H2'	1:0:1927:A:H8	1.74	0.52
1:0:2330:U:H4'	1:0:2331:C:OP1	2.10	0.52
1:0:2361:A:H2'	1:0:2362:A:C8	2.44	0.52
3:A:33:GLU:H	3:A:33:GLU:CD	2.10	0.52
4:B:138:GLY:O	4:B:139:ASP:O	2.26	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:5:ILE:CD1	5:C:16:VAL:HG23	2.34	0.52
11:I:6:PHE:HB3	11:I:109:TYR:OH	2.10	0.52
21:S:24:ARG:HH21	21:S:39:ASN:HD22	1.58	0.52
22:T:46:ALA:HB1	22:T:52:THR:HG21	1.90	0.52
1:0:812:A:H2'	1:0:813:C:C6	2.44	0.52
2:9:3107:C:H2'	2:9:3108:C:C6	2.44	0.52
9:G:67:LEU:O	9:G:71:LEU:HG	2.09	0.52
10:H:76:GLU:C	10:H:77:LEU:HD23	2.29	0.52
1:0:635:A:H2'	1:0:636:G:H5''	1.92	0.52
1:0:1595:G:O2'	1:0:1596:U:H5'	2.09	0.52
1:0:1838:U:O2'	1:0:2644:C:H5'	2.09	0.52
1:0:2241:C:O2'	1:0:2242:U:H5'	2.09	0.52
1:0:2531:U:O2'	1:0:2532:A:H5'	2.08	0.52
1:0:2591:C:H2'	1:0:2592:G:O4'	2.10	0.52
19:Q:114:VAL:HA	19:Q:144:GLU:O	2.10	0.52
1:0:538:C:H5''	1:0:539:G:C8	2.45	0.52
1:0:1155:G:H2'	1:0:1156:C:C6	2.45	0.52
1:0:1298:U:H2'	1:0:1299:G:C8	2.44	0.52
1:0:1384:C:H5'	25:W:30:MET:HG2	1.91	0.52
4:B:125:GLU:O	4:B:129:ARG:HG3	2.09	0.52
10:H:56:GLN:HE22	10:H:93:GLN:HG2	1.73	0.52
25:W:76:ARG:O	25:W:77:PHE:HB3	2.10	0.52
1:0:746:A:H4'	1:0:747:G:H5'	1.91	0.52
1:0:1181:A:H2'	1:0:1182:C:O4'	2.09	0.52
15:M:164:ASP:OD2	15:M:167:ASP:HA	2.09	0.52
26:X:212:ARG:HD2	40:X:8902:HOH:O	2.09	0.52
30:2:42:ARG:HG3	30:2:42:ARG:HH11	1.74	0.52
1:0:1098:A:H2'	1:0:1099:G:O4'	2.10	0.52
1:0:1333:U:H2'	1:0:1334:C:H6	1.73	0.52
1:0:1681:G:H5''	1:0:1682:A:H5'	1.92	0.52
1:0:2265:U:H2'	1:0:2266:A:H8	1.74	0.52
1:0:2781:U:C2'	1:0:2782:G:H5'	2.39	0.52
3:A:210:GLY:HA3	40:A:9058:HOH:O	2.09	0.52
27:Y:13:ARG:NH1	40:Y:8717:HOH:O	2.43	0.52
29:1:39:ARG:HG2	40:1:3143:HOH:O	2.10	0.52
1:0:381:G:H5''	40:L:8869:HOH:O	2.09	0.52
1:0:894:A:C2	5:C:87:ARG:NH2	2.77	0.52
1:0:1164:U:H3	1:0:1192:A:H2	1.58	0.52
1:0:2072:G:C6	1:0:2533:C:H1'	2.45	0.52
1:0:2795:C:O2'	1:0:2796:U:H5'	2.10	0.52
15:M:180:LEU:O	15:M:181:ASP:HB3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:7:LYS:HD2	17:O:21:VAL:CG2	2.40	0.52
19:Q:39:THR:HB	19:Q:42:GLU:HG3	1.91	0.52
26:X:154:ARG:HH12	26:X:155:ARG:CG	2.22	0.52
1:0:138:U:H5''	1:0:139:C:OP2	2.11	0.51
1:0:328:U:O4'	5:C:202:THR:HG22	2.10	0.51
1:0:1151:G:OP1	9:G:63:ARG:NH1	2.42	0.51
1:0:1423:C:O2'	1:0:1424:A:H5'	2.10	0.51
2:9:3049:G:O2'	2:9:3050:G:H5'	2.11	0.51
3:A:51:ARG:HB2	40:A:9078:HOH:O	2.09	0.51
3:A:55:VAL:HG22	3:A:68:ILE:O	2.10	0.51
15:M:34:LEU:HA	15:M:47:LEU:HD23	1.93	0.51
1:0:241:A:C2	1:0:378:A:H4'	2.45	0.51
3:A:36:ASP:HB2	3:A:85:SER:H	1.74	0.51
3:A:48:ASP:HB3	40:A:9078:HOH:O	2.08	0.51
5:C:25:PRO:HG2	40:C:8525:HOH:O	2.10	0.51
8:F:58:GLU:HG3	8:F:61:MET:HE1	1.91	0.51
16:N:14:LEU:HD23	16:N:102:ILE:HD11	1.93	0.51
1:0:1751:G:C2'	1:0:1752:G:H5''	2.40	0.51
16:N:96:VAL:HG13	16:N:100:GLN:HB2	1.93	0.51
25:W:78:GLU:HG2	25:W:79:GLU:N	2.23	0.51
29:1:48:ASP:O	29:1:49:GLU:HB2	2.11	0.51
1:0:2644:C:O2'	1:0:2645:U:H5'	2.10	0.51
1:0:2886:C:O2'	1:0:2887:G:H5'	2.10	0.51
2:9:3059:C:H2'	2:9:3060:C:C6	2.45	0.51
4:B:55:ASN:HB3	4:B:63:GLU:HA	1.91	0.51
4:B:71:VAL:HG11	4:B:296:LEU:HD22	1.93	0.51
4:B:215:VAL:HB	4:B:234:ARG:NH1	2.25	0.51
6:D:10:PHE:CG	6:D:11:HIS:N	2.78	0.51
21:S:41:ARG:HG2	21:S:41:ARG:NH1	2.25	0.51
1:0:1118:A:C8	1:0:1118:A:C3'	2.93	0.51
1:0:1158:G:O2'	1:0:1159:G:H5'	2.11	0.51
1:0:1406:A:H4'	1:0:1407:A:H5''	1.92	0.51
1:0:1636:G:O2'	1:0:1637:A:H5'	2.10	0.51
1:0:2667:G:H1'	1:0:2914:A:N3	2.25	0.51
3:A:179:MET:HA	3:A:179:MET:CE	2.41	0.51
15:M:78:MET:HB2	15:M:79:PRO:HD3	1.93	0.51
1:0:793:A:H5''	17:O:83:LYS:HG2	1.93	0.51
1:0:2721:U:OP1	22:T:17:THR:HG23	2.10	0.51
1:0:2820:A:H2'	1:0:2821:C:C6	2.44	0.51
15:M:5:ARG:HG3	18:P:18:PRO:HB3	1.91	0.51
1:0:138:U:OP2	1:0:139:C:H5	1.94	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2470:A:H5''	40:0:3679:HOH:O	2.10	0.51
1:0:2735:U:H2'	1:0:2736:U:C6	2.46	0.51
5:C:140:VAL:HB	40:C:8659:HOH:O	2.10	0.51
10:H:76:GLU:O	10:H:77:LEU:HD23	2.11	0.51
17:O:16:VAL:HG13	17:O:20:ARG:CZ	2.41	0.51
23:U:11:MET:HB3	23:U:15:GLU:HB2	1.93	0.51
24:V:54:PHE:CZ	24:V:140:LYS:HB2	2.46	0.51
1:0:1730:G:C5'	1:0:1731:C:C6	2.94	0.51
1:0:2443:C:O3'	13:K:56:LYS:HE3	2.11	0.51
2:9:3039:U:H3'	2:9:3040:C:H5''	1.93	0.51
4:B:307:ARG:HG3	4:B:307:ARG:NH1	2.26	0.51
24:V:126:ASP:HB3	24:V:135:GLY:O	2.11	0.51
26:X:177:LYS:HE3	26:X:183:GLU:OE2	2.11	0.51
1:0:830:G:H2'	1:0:831:U:C6	2.46	0.51
1:0:1881:A:OP1	3:A:199:HIS:HE1	1.94	0.51
5:C:218:VAL:N	40:C:8631:HOH:O	2.43	0.51
14:L:114:VAL:HG23	36:L:8818:CL:CL	2.48	0.51
15:M:115:VAL:HG22	40:M:8860:HOH:O	2.11	0.51
18:P:53:HIS:CE1	18:P:55:ARG:HB2	2.46	0.51
24:V:119:HIS:HD2	24:V:120:PRO:O	1.94	0.51
30:2:14:CYS:HB3	30:2:16:GLU:HG2	1.93	0.51
1:0:352:A:H2'	1:0:353:G:C8	2.46	0.51
1:0:603:A:H4'	1:0:604:G:O5'	2.11	0.51
1:0:1921:A:O2'	1:0:1922:A:H5'	2.12	0.51
1:0:1947:G:H2'	1:0:1948:G:H8	1.76	0.51
6:D:91:ALA:HB2	6:D:106:PHE:CD2	2.45	0.51
10:H:59:HIS:HA	10:H:62:LEU:HD23	1.92	0.51
20:R:10:VAL:HG11	23:U:36:ALA:CA	2.41	0.51
1:0:1730:G:H5'	1:0:1731:C:C6	2.46	0.50
1:0:2900:G:H2'	1:0:2901:C:O4'	2.11	0.50
2:9:3002:U:OP2	2:9:3002:U:H4'	2.11	0.50
6:D:67:ASP:O	6:D:69:ILE:HG13	2.11	0.50
7:E:11:VAL:HG11	7:E:22:VAL:HG13	1.92	0.50
11:I:131:THR:HG22	11:I:133:GLY:N	2.27	0.50
15:M:73:ALA:HB2	15:M:163:PHE:CZ	2.46	0.50
18:P:86:VAL:HG11	18:P:91:LEU:HD21	1.92	0.50
30:2:65:THR:CG2	30:2:67:LEU:HG	2.42	0.50
1:0:262:A:OP2	8:F:91:VAL:HG11	2.11	0.50
1:0:2413:A:N7	15:M:109:PRO:HB3	2.27	0.50
3:A:123:GLY:HA3	3:A:162:GLY:HA2	1.93	0.50
15:M:67:ALA:HA	15:M:71:TRP:HB3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:2:48:ASN:ND2	30:2:50:GLY:H	2.10	0.50
1:0:1942:A:H5'	3:A:233:THR:HB	1.94	0.50
5:C:118:THR:CG2	5:C:137:PRO:HB3	2.41	0.50
6:D:57:THR:HG23	6:D:63:ILE:CB	2.42	0.50
25:W:15:ARG:HH11	25:W:15:ARG:CB	2.21	0.50
25:W:21:PRO:HG2	25:W:24:LYS:HD3	1.92	0.50
27:Y:26:VAL:O	27:Y:30:GLU:HG3	2.10	0.50
1:0:391:U:OP2	14:L:84:LYS:NZ	2.41	0.50
1:0:1894:C:N4	1:0:1939:U:H2'	2.27	0.50
1:0:2334:C:O2'	1:0:2335:C:H5'	2.12	0.50
1:0:2611:G:H5'	1:0:2613:G:C8	2.46	0.50
1:0:2720:C:O2	12:J:87:ARG:NH2	2.44	0.50
5:C:93:LYS:O	5:C:98:ARG:NH2	2.41	0.50
6:D:58:VAL:HG12	6:D:59:GLY:N	2.27	0.50
7:E:31:ARG:HH12	7:E:68:HIS:CG	2.28	0.50
15:M:184:ILE:HG22	15:M:185:GLU:HG3	1.93	0.50
29:1:36:ASN:HB3	29:1:39:ARG:HG3	1.93	0.50
1:0:1768:C:H2'	1:0:1769:C:O4'	2.12	0.50
1:0:2089:A:O2'	1:0:2090:G:H5'	2.11	0.50
2:9:3013:A:O2'	2:9:3014:G:H5''	2.11	0.50
7:E:15:GLN:NE2	7:E:40:VAL:O	2.43	0.50
8:F:48:VAL:HG23	8:F:74:PHE:HB3	1.93	0.50
12:J:34:VAL:HB	40:J:7169:HOH:O	2.11	0.50
15:M:159:TYR:HE2	15:M:163:PHE:HE2	1.59	0.50
24:V:149:LEU:HG	24:V:153:MET:HE1	1.92	0.50
1:0:101:C:H2'	1:0:102:A:H8	1.76	0.50
1:0:1730:G:C5'	1:0:1731:C:H6	2.24	0.50
1:0:1741:U:O2'	1:0:2723:G:H4'	2.10	0.50
1:0:2780:C:H1'	7:E:143:GLN:NE2	2.24	0.50
4:B:24:PRO:HG2	4:B:204:GLY:HA2	1.92	0.50
8:F:39:SER:HB3	8:F:45:ALA:HB2	1.93	0.50
10:H:20:ILE:HG23	10:H:120:ILE:CD1	2.41	0.50
20:R:57:THR:HG22	20:R:58:MET:N	2.26	0.50
23:U:64:GLY:O	23:U:65:ASP:CB	2.59	0.50
1:0:204:A:C2'	1:0:205:U:H5'	2.41	0.50
1:0:1501:A:OP2	17:O:37:ARG:HD2	2.12	0.50
40:0:5897:HOH:O	4:B:298:LYS:HD3	2.11	0.50
2:9:3028:U:H2'	2:9:3029:C:C6	2.47	0.50
3:A:109:GLU:HG2	3:A:116:GLY:H	1.76	0.50
4:B:125:GLU:OE2	4:B:129:ARG:NH1	2.45	0.50
4:B:205:VAL:O	4:B:307:ARG:NE	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:154:LYS:HD2	6:D:154:LYS:N	2.17	0.50
12:J:45:PRO:HB2	40:J:7169:HOH:O	2.11	0.50
19:Q:34:GLU:HG2	19:Q:46:TYR:OH	2.12	0.50
26:X:189:ASN:HD22	26:X:189:ASN:C	2.14	0.50
1:0:289:G:O2'	1:0:290:C:H5'	2.12	0.50
1:0:945:U:H2'	1:0:946:C:H6	1.76	0.50
1:0:1250:C:O2'	1:0:1251:C:H5'	2.11	0.50
1:0:2364:A:H5''	18:P:15:LYS:HD3	1.92	0.50
8:F:21:GLU:O	8:F:24:ARG:HG3	2.11	0.50
23:U:12:THR:HG23	23:U:14:ALA:H	1.77	0.50
25:W:78:GLU:CG	25:W:79:GLU:H	2.24	0.50
1:0:12:U:H2'	1:0:13:G:H5'	1.93	0.50
1:0:960:G:H4'	40:0:7764:HOH:O	2.11	0.50
1:0:1269:G:H2'	1:0:1270:U:C6	2.47	0.50
1:0:1419:U:H2'	1:0:1685:A:C2	2.47	0.50
1:0:2672:C:O2'	1:0:2673:U:H5'	2.12	0.50
7:E:69:ILE:HA	7:E:72:MET:HE3	1.94	0.50
17:O:13:VAL:HG21	17:O:41:ARG:HG2	1.94	0.50
19:Q:39:THR:HG22	19:Q:42:GLU:H	1.77	0.50
24:V:90:TYR:N	24:V:90:TYR:CD1	2.79	0.50
1:0:316:A:N3	1:0:336:G:O2'	2.40	0.49
1:0:412:C:O2'	1:0:413:G:H5'	2.12	0.49
1:0:447:A:O2'	1:0:448:G:H5'	2.12	0.49
1:0:951:A:C2'	1:0:952:G:H5'	2.42	0.49
1:0:1165:G:OP1	1:0:1165:G:H3'	2.12	0.49
1:0:1535:G:H2'	1:0:1536:C:C6	2.47	0.49
1:0:1701:A:H5'	40:0:6649:HOH:O	2.11	0.49
10:H:40:ALA:HB1	10:H:137:TYR:CE2	2.47	0.49
12:J:58:THR:HG22	12:J:59:LYS:HG3	1.93	0.49
12:J:62:PRO:HG3	12:J:65:ARG:HH21	1.76	0.49
13:K:10:SER:O	13:K:11:ARG:HB3	2.12	0.49
19:Q:104:PHE:HB2	19:Q:109:MET:HE1	1.94	0.49
1:0:105:G:O2'	1:0:106:A:H5'	2.12	0.49
2:9:3003:A:N6	2:9:3022:G:H1'	2.27	0.49
5:C:168:ARG:NH2	5:C:190:ALA:O	2.45	0.49
6:D:75:LEU:HD22	6:D:79:MET:HB3	1.94	0.49
6:D:99:ASP:CB	6:D:103:ASN:H	2.24	0.49
8:F:48:VAL:CG2	8:F:74:PHE:HB3	2.42	0.49
12:J:75:ARG:HE	12:J:94:ALA:HB3	1.77	0.49
15:M:151:ASP:O	15:M:154:LEU:HB2	2.11	0.49
21:S:9:LYS:NZ	21:S:13:ARG:NH1	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:629:A:H2'	1:0:630:A:O4'	2.13	0.49
1:0:2540:G:O2'	1:0:2541:U:H5''	2.12	0.49
10:H:3:ALA:HA	10:H:58:ARG:NH1	2.27	0.49
13:K:143:THR:CG2	13:K:144:ASP:H	2.25	0.49
15:M:64:SER:C	15:M:66:LEU:H	2.16	0.49
20:R:11:THR:H	20:R:14:ALA:HB3	1.77	0.49
1:0:709:G:O2'	16:N:25:VAL:HG12	2.12	0.49
1:0:1211:G:O2'	1:0:1212:C:H5'	2.13	0.49
1:0:1218:U:H2'	1:0:1219:U:C6	2.47	0.49
1:0:1342:C:C2'	1:0:1343:C:H5'	2.42	0.49
1:0:2090:G:H2'	1:0:2091:G:C8	2.47	0.49
1:0:2635:A:O2'	1:0:2636:C:H5'	2.12	0.49
6:D:41:LEU:HA	6:D:44:ILE:CG2	2.41	0.49
9:G:20:VAL:O	9:G:24:VAL:HG23	2.12	0.49
19:Q:106:GLY:HA2	19:Q:109:MET:CE	2.40	0.49
1:0:1778:A:H2'	1:0:1779:A:H5'	1.93	0.49
1:0:2520:G:O2'	1:0:2521:A:H5'	2.12	0.49
1:0:2570:G:H5''	40:0:5298:HOH:O	2.13	0.49
7:E:92:PRO:HB2	40:E:4917:HOH:O	2.12	0.49
1:0:861:A:H4'	1:0:1697:G:H4'	1.94	0.49
40:9:9094:HOH:O	15:M:23:ARG:HD3	2.12	0.49
5:C:1:MET:HG2	5:C:2:GLN:NE2	2.27	0.49
10:H:16:ARG:HH21	10:H:18:GLU:CD	2.16	0.49
13:K:121:ILE:HG12	13:K:141:GLU:HB2	1.94	0.49
14:L:24:GLN:O	14:L:28:GLN:HG3	2.12	0.49
27:Y:57:CYS:SG	27:Y:59:TYR:HB3	2.52	0.49
1:0:441:A:H1'	1:0:442:A:N7	2.28	0.49
1:0:945:U:H2'	1:0:946:C:C6	2.46	0.49
1:0:2499:U:H2'	1:0:2500:C:C6	2.47	0.49
2:9:3106:C:O2'	2:9:3107:C:H5'	2.13	0.49
4:B:84:LEU:HD13	4:B:84:LEU:O	2.12	0.49
12:J:30:LYS:O	12:J:55:VAL:HG13	2.13	0.49
20:R:33:SER:O	20:R:37:VAL:HG23	2.13	0.49
27:Y:39:CYS:O	27:Y:42:CYS:O	2.31	0.49
1:0:1007:A:H2'	10:H:19:TYR:CZ	2.48	0.49
1:0:1044:C:H5''	40:0:9518:HOH:O	2.12	0.49
1:0:1181:A:O2'	1:0:1182:C:H5'	2.13	0.49
1:0:1482:A:O2'	1:0:1483:C:H5'	2.13	0.49
40:0:6650:HOH:O	26:X:158:LYS:HD3	2.12	0.49
2:9:3052:A:O2'	2:9:3053:G:H5'	2.13	0.49
6:D:173:GLU:HG3	6:D:174:VAL:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:30:GLU:O	14:L:34:GLU:HG3	2.12	0.49
27:Y:30:GLU:HA	27:Y:33:MET:HE3	1.94	0.49
1:0:344:C:H2'	1:0:345:G:O4'	2.13	0.49
1:0:887:G:H2'	1:0:888:U:C6	2.47	0.49
1:0:1205:U:H2'	1:0:1206:U:H5''	1.94	0.49
1:0:1268:C:O2'	1:0:1269:G:H5'	2.12	0.49
1:0:1268:C:H2'	1:0:1269:G:H8	1.78	0.49
1:0:1527:A:H1'	1:0:1528:A:C8	2.47	0.49
7:E:100:ASP:HB2	40:E:2789:HOH:O	2.13	0.49
9:G:63:ARG:O	9:G:67:LEU:HG	2.12	0.49
1:0:2815:G:N7	11:I:80:LYS:NZ	2.58	0.49
2:9:3018:U:H2'	2:9:3019:G:H8	1.78	0.49
14:L:164:THR:HG22	14:L:166:ALA:H	1.78	0.49
1:0:101:C:H2'	1:0:102:A:C8	2.48	0.48
1:0:596:C:H2'	1:0:597:A:C8	2.47	0.48
1:0:1654:U:H2'	3:A:47:HIS:CD2	2.47	0.48
1:0:1913:C:H2'	1:0:1914:C:H6	1.78	0.48
1:0:2101:A:H2'	5:C:63:SER:OG	2.13	0.48
6:D:154:LYS:H	6:D:154:LYS:CD	2.14	0.48
7:E:49:ILE:HD11	7:E:69:ILE:HD12	1.94	0.48
13:K:118:LEU:HB2	40:K:8878:HOH:O	2.13	0.48
16:N:80:ASP:OD1	16:N:81:PHE:N	2.46	0.48
26:X:186:ARG:HH11	26:X:186:ARG:HG2	1.78	0.48
1:0:558:C:C2'	1:0:559:C:C5'	2.92	0.48
1:0:1086:A:C6	24:V:11:VAL:HG11	2.48	0.48
1:0:2781:U:H2'	1:0:2782:G:H5'	1.95	0.48
40:0:9995:HOH:O	17:O:81:LYS:HG2	2.12	0.48
4:B:14:GLY:HA2	4:B:15:PRO:C	2.33	0.48
5:C:194:PHE:CD2	5:C:234:VAL:HG11	2.47	0.48
6:D:25:MET:CE	6:D:41:LEU:HG	2.37	0.48
10:H:38:LYS:HE2	10:H:42:ASP:HB2	1.95	0.48
1:0:185:G:H4'	1:0:186:A:H4'	1.94	0.48
1:0:1187:U:O2'	1:0:1189:A:H2	1.96	0.48
6:D:81:GLU:O	6:D:85:GLN:HG3	2.13	0.48
7:E:11:VAL:HG12	7:E:12:ASP:H	1.77	0.48
15:M:116:PHE:N	40:M:8860:HOH:O	2.46	0.48
1:0:95:A:H5''	1:0:97:G:O4'	2.14	0.48
1:0:249:G:O2'	1:0:250:C:H5'	2.13	0.48
1:0:366:U:H2'	1:0:367:G:O4'	2.12	0.48
1:0:1252:A:H2'	1:0:1253:C:O4'	2.12	0.48
1:0:1913:C:H2'	1:0:1914:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:2895:C:H4'	40:W:4132:HOH:O	2.13	0.48
26:X:235:GLU:H	26:X:235:GLU:CD	2.17	0.48
1:O:2427:C:OP2	30:2:84:ARG:HD2	2.12	0.48
1:O:2699:A:H2'	1:O:2700:G:O4'	2.12	0.48
1:O:2781:U:H1'	7:E:139:GLU:OE2	2.13	0.48
5:C:246:ARG:NE	40:C:8631:HOH:O	2.38	0.48
8:F:48:VAL:HG12	8:F:97:ALA:CB	2.43	0.48
10:H:17:ARG:HD3	10:H:23:ILE:HD12	1.96	0.48
10:H:46:GLN:NE2	10:H:137:TYR:HE2	2.09	0.48
11:I:47:THR:HG22	11:I:48:GLY:N	2.29	0.48
15:M:164:ASP:OD1	15:M:167:ASP:HA	2.13	0.48
18:P:64:GLU:HG3	18:P:74:ASP:OD2	2.13	0.48
26:X:112:GLU:OE1	26:X:112:GLU:HA	2.13	0.48
1:O:236:A:H4'	1:O:237:G:H5'	1.96	0.48
1:O:290:C:O2'	1:O:291:C:H5'	2.13	0.48
1:O:858:U:H2'	1:O:859:C:C6	2.48	0.48
1:O:2712:G:H5'	40:J:4183:HOH:O	2.14	0.48
5:C:194:PHE:HA	5:C:234:VAL:HG13	1.95	0.48
14:L:164:THR:HG23	14:L:165:GLY:N	2.28	0.48
16:N:47:ARG:HG3	16:N:47:ARG:NH1	2.16	0.48
16:N:105:ASN:HD21	16:N:109:SER:H	1.62	0.48
17:O:97:ARG:HD2	40:O:163:HOH:O	2.13	0.48
18:P:30:VAL:O	18:P:30:VAL:HG12	2.13	0.48
1:O:189:A:OP1	14:L:171:ARG:NH2	2.46	0.48
1:O:776:A:OP1	28:Z:28:HIS:HE1	1.97	0.48
1:O:1096:U:O2'	1:O:1097:A:H5'	2.13	0.48
1:O:1173:A:H4'	1:O:1174:A:C8	2.49	0.48
1:O:1500:U:P	17:O:41:ARG:HH22	2.37	0.48
1:O:2271:G:H5'	40:A:9045:HOH:O	2.14	0.48
2:9:3060:C:O2'	2:9:3061:C:H5'	2.13	0.48
4:B:212:GLN:HB2	4:B:257:THR:CG2	2.38	0.48
5:C:214:THR:HG21	40:C:8610:HOH:O	2.13	0.48
6:D:55:LYS:O	6:D:56:ARG:HB2	2.13	0.48
8:F:32:GLY:N	40:F:3111:HOH:O	2.46	0.48
9:G:19:GLU:O	9:G:23:ILE:HG13	2.14	0.48
26:X:189:ASN:ND2	26:X:192:ASP:H	2.12	0.48
1:O:960:G:N3	1:O:960:G:C2'	2.77	0.48
1:O:1335:C:H2'	1:O:1336:U:C6	2.48	0.48
1:O:1835:U:C5	1:O:1840:A:N7	2.69	0.48
1:O:2401:A:H2'	1:O:2402:A:C8	2.48	0.48
2:9:3107:C:H2'	2:9:3108:C:H6	1.76	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:320:GLN:HE21	4:B:321:PRO:HD2	1.79	0.48
5:C:242:GLU:HG3	40:C:8589:HOH:O	2.14	0.48
10:H:73:LEU:HD21	10:H:146:VAL:HA	1.95	0.48
1:0:2837:U:H1'	4:B:307:ARG:HH12	1.78	0.48
3:A:70:ALA:HA	3:A:71:PRO:HD3	1.78	0.48
5:C:162:VAL:CG1	5:C:192:ILE:HD11	2.43	0.48
6:D:23:VAL:HG21	6:D:45:THR:CG2	2.44	0.48
6:D:103:ASN:ND2	6:D:134:LEU:H	2.12	0.48
10:H:29:ALA:C	10:H:30:GLN:HG3	2.34	0.48
15:M:154:LEU:O	15:M:155:GLU:CB	2.62	0.48
21:S:71:VAL:CG1	21:S:72:ILE:N	2.76	0.48
24:V:115:THR:HG23	40:V:5420:HOH:O	2.13	0.48
1:0:415:A:O2'	1:0:416:G:H5'	2.14	0.48
1:0:541:C:O2'	1:0:542:A:H5''	2.14	0.48
1:0:1236:A:C8	11:I:63:ILE:HD11	2.49	0.48
1:0:1298:U:H2'	1:0:1299:G:H8	1.79	0.48
1:0:1819:G:H2'	1:0:1820:G:C4'	2.40	0.48
1:0:2503:A:P	10:H:151:ARG:HH22	2.37	0.48
1:0:2595:U:H2'	1:0:2596:A:C8	2.48	0.48
8:F:60:VAL:O	8:F:60:VAL:CG1	2.61	0.48
13:K:129:ALA:O	13:K:133:VAL:HG23	2.14	0.48
16:N:99:GLU:HG3	40:N:6044:HOH:O	2.13	0.48
28:Z:56:GLU:HG2	28:Z:56:GLU:OXT	2.14	0.48
1:0:894:A:N1	5:C:87:ARG:NH2	2.61	0.47
1:0:1021:G:O2'	1:0:1022:A:H5'	2.14	0.47
1:0:1878:G:O2'	1:0:1879:U:OP2	2.32	0.47
4:B:7:ARG:HD3	4:B:9:GLY:O	2.14	0.47
9:G:12:ILE:HG13	40:G:6833:HOH:O	2.13	0.47
11:I:131:THR:HG22	11:I:134:GLU:H	1.78	0.47
15:M:86:LEU:HD12	15:M:125:ALA:HB2	1.96	0.47
18:P:32:GLU:HA	18:P:71:TYR:OH	2.14	0.47
19:Q:84:ALA:O	19:Q:88:PHE:HD1	1.97	0.47
20:R:38:ALA:O	20:R:42:GLU:HG3	2.14	0.47
1:0:542:A:H2'	1:0:543:G:O4'	2.14	0.47
1:0:1066:U:H2'	1:0:1067:A:C8	2.49	0.47
1:0:1362:U:H2'	1:0:1363:G:C8	2.50	0.47
1:0:2349:G:O2'	1:0:2350:G:H5'	2.13	0.47
1:0:2498:C:O2'	1:0:2499:U:H5'	2.14	0.47
1:0:2569:A:C2'	1:0:2570:G:O5'	2.62	0.47
3:A:217:ARG:HH11	3:A:217:ARG:CG	2.27	0.47
6:D:57:THR:HG23	6:D:63:ILE:CG2	2.42	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:59:GLY:O	6:D:61:PHE:N	2.39	0.47
11:I:76:ASP:HA	40:I:5907:HOH:O	2.13	0.47
13:K:149:ARG:O	13:K:150:GLN:HB2	2.14	0.47
23:U:58:THR:O	23:U:62:GLU:HG3	2.14	0.47
30:2:11:CYS:HB2	30:2:20:HIS:CE1	2.48	0.47
1:0:946:C:H2'	1:0:947:U:C6	2.49	0.47
1:0:1042:U:O2'	1:0:1043:C:H5'	2.14	0.47
1:0:2379:G:N3	1:0:2418:G:H2'	2.28	0.47
4:B:190:MET:HE2	4:B:194:PHE:HD1	1.76	0.47
5:C:142:ASP:OD1	5:C:236:THR:HG23	2.13	0.47
10:H:2:PRO:HD2	10:H:5:MET:SD	2.54	0.47
13:K:134:GLU:HG3	40:K:8861:HOH:O	2.13	0.47
30:2:17:HIS:O	30:2:18:GLN:HG3	2.14	0.47
1:0:222:A:H2'	1:0:223:G:O4'	2.13	0.47
1:0:622:G:O2'	1:0:623:U:H5'	2.14	0.47
1:0:1871:U:O4'	1:0:1873:G:C8	2.67	0.47
10:H:30:GLN:H	10:H:66:ARG:HH11	1.61	0.47
13:K:101:ASP:C	13:K:103:ALA:H	2.17	0.47
19:Q:119:VAL:O	19:Q:119:VAL:CG1	2.61	0.47
1:0:200:U:H2'	40:0:3874:HOH:O	2.15	0.47
1:0:1592:G:O2'	1:0:1593:C:O4'	2.31	0.47
1:0:1789:G:O6	17:O:73:HIS:HE1	1.97	0.47
14:L:72:ALA:HB2	14:L:93:ARG:HG2	1.97	0.47
1:0:286:U:H2'	1:0:287:C:C6	2.50	0.47
1:0:889:C:H2'	1:0:890:C:C6	2.50	0.47
1:0:1131:G:C6	1:0:1230:A:C4	3.03	0.47
1:0:1189:A:H1'	1:0:1209:C:H1'	1.94	0.47
1:0:1249:U:H2'	1:0:1250:C:C6	2.49	0.47
1:0:1328:A:C8	26:X:169:ARG:HD3	2.48	0.47
40:0:7221:HOH:O	14:L:178:LYS:HB2	2.15	0.47
2:9:3049:G:H2'	2:9:3050:G:O4'	2.14	0.47
7:E:108:LEU:HD11	7:E:164:ASP:HB2	1.97	0.47
10:H:158:THR:HB	10:H:159:PRO:HD3	1.97	0.47
16:N:44:ASN:CG	16:N:67:SER:HB2	2.34	0.47
19:Q:25:PHE:CE2	19:Q:29:LYS:CE	2.97	0.47
21:S:96:VAL:HG13	21:S:97:ARG:N	2.30	0.47
1:0:653:C:H2'	1:0:654:A:C8	2.49	0.47
1:0:856:G:H2'	40:0:5807:HOH:O	2.13	0.47
1:0:962:C:H5'	40:0:7312:HOH:O	2.15	0.47
1:0:1515:A:H2'	1:0:1516:C:C6	2.50	0.47
1:0:1562:C:H42	1:0:2738:G:H1	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1574:C:H2'	1:0:1575:C:C6	2.50	0.47
1:0:2252:A:H2'	1:0:2253:G:O4'	2.14	0.47
1:0:2257:G:H4'	1:0:2259:C:C2	2.50	0.47
3:A:105:VAL:HG11	3:A:154:ALA:HB1	1.96	0.47
11:I:45:VAL:HG22	11:I:46:ILE:N	2.29	0.47
23:U:39:ALA:O	23:U:41:GLU:N	2.48	0.47
24:V:3:ALA:O	24:V:54:PHE:HA	2.14	0.47
24:V:65:VAL:HG12	24:V:116:LEU:HD13	1.95	0.47
1:0:947:U:H2'	1:0:948:G:C8	2.50	0.47
1:0:1500:U:OP2	17:O:41:ARG:NH2	2.48	0.47
3:A:94:LEU:HD23	3:A:94:LEU:N	2.29	0.47
4:B:53:LEU:CD1	4:B:327:VAL:HG22	2.43	0.47
6:D:94:ALA:HB3	6:D:174:VAL:CA	2.45	0.47
12:J:28:GLU:OE2	12:J:58:THR:HG21	2.14	0.47
14:L:120:VAL:CG1	14:L:130:GLU:HG3	2.43	0.47
15:M:61:ALA:CB	15:M:88:ALA:HB2	2.43	0.47
15:M:71:TRP:N	40:M:8840:HOH:O	2.48	0.47
17:O:31:ILE:HG12	17:O:43:LEU:HD13	1.96	0.47
24:V:144:GLU:O	24:V:148:ASP:OD2	2.33	0.47
1:0:69:A:H5'	1:0:69:A:H8	1.80	0.47
1:0:907:A:H2'	1:0:908:A:C8	2.50	0.47
1:0:1309:U:O2'	1:0:1310:U:H5'	2.15	0.47
1:0:1753:C:O2	4:B:229:ARG:NH2	2.46	0.47
1:0:2626:C:H2'	1:0:2627:G:C8	2.50	0.47
40:O:9568:HOH:O	4:B:214:PRO:HD2	2.15	0.47
5:C:13:ASP:OD1	5:C:13:ASP:O	2.32	0.47
19:Q:114:VAL:HG13	19:Q:114:VAL:O	2.15	0.47
1:0:1001:U:O2'	1:0:1002:G:H5'	2.15	0.47
1:0:1361:C:H2'	1:0:1362:U:C6	2.50	0.47
1:0:1659:A:H2'	1:0:1660:G:O4'	2.15	0.47
2:9:3014:G:H5'	2:9:3014:G:C8	2.50	0.47
6:D:95:THR:C	6:D:97:GLN:N	2.68	0.47
11:I:99:GLU:HA	40:I:7377:HOH:O	2.15	0.47
15:M:49:THR:CG2	15:M:58:LEU:HD11	2.45	0.47
16:N:96:VAL:CG1	16:N:100:GLN:HB2	2.44	0.47
16:N:98:LEU:O	16:N:102:ILE:HG13	2.14	0.47
19:Q:132:ARG:HG2	19:Q:133:ALA:N	2.29	0.47
27:Y:30:GLU:HG2	27:Y:33:MET:HE3	1.97	0.47
1:0:407:A:O2'	1:0:408:A:H5'	2.14	0.46
1:0:2300:A:H4'	1:0:2301:A:O5'	2.15	0.46
2:9:3006:C:H4'	15:M:35:VAL:HG11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:16:VAL:HG12	5:C:17:ASP:H	1.78	0.46
21:S:18:GLU:O	21:S:21:LYS:HG2	2.14	0.46
29:1:25:VAL:O	29:1:29:THR:HG23	2.15	0.46
1:0:31:C:H4'	40:S:7242:HOH:O	2.14	0.46
1:0:220:C:C2	13:K:48:LYS:HE2	2.50	0.46
1:0:666:A:H2'	1:0:667:C:O4'	2.15	0.46
1:0:907:A:H2'	1:0:908:A:H8	1.79	0.46
1:0:1189:A:O2'	1:0:1208:C:H2'	2.14	0.46
1:0:1741:U:H5'	1:0:1742:A:OP1	2.14	0.46
1:0:1826:C:O2'	1:0:1827:G:H5'	2.15	0.46
1:0:1942:A:O2'	1:0:1943:C:H5'	2.15	0.46
1:0:2087:C:O2'	1:0:2088:C:H5'	2.15	0.46
1:0:2388:C:O2'	1:0:2389:U:H5'	2.15	0.46
1:0:2697:A:H2'	1:0:2698:G:O4'	2.15	0.46
1:0:2906:A:H5'	1:0:2907:C:O4'	2.16	0.46
15:M:37:ARG:NE	40:M:8835:HOH:O	2.48	0.46
25:W:30:MET:HE1	25:W:58:ALA:HB3	1.98	0.46
26:X:234:VAL:HG12	26:X:235:GLU:N	2.30	0.46
28:Z:28:HIS:CE1	28:Z:31:LYS:HE2	2.49	0.46
28:Z:28:HIS:CD2	28:Z:31:LYS:HG3	2.50	0.46
1:0:162:C:H2'	1:0:163:U:H5'	1.97	0.46
1:0:1168:C:H2'	1:0:1169:U:O4'	2.16	0.46
1:0:1421:C:O2'	1:0:1422:U:H5'	2.15	0.46
1:0:2419:U:H5''	1:0:2420:G:H5'	1.96	0.46
10:H:79:GLU:C	10:H:80:GLU:HG3	2.35	0.46
12:J:62:PRO:HG3	12:J:65:ARG:NH2	2.30	0.46
14:L:9:ARG:HG3	40:L:8846:HOH:O	2.15	0.46
20:R:33:SER:OG	20:R:36:GLU:HG3	2.14	0.46
21:S:19:ARG:HD3	21:S:67:LEU:O	2.14	0.46
24:V:48:VAL:O	24:V:48:VAL:HG12	2.15	0.46
25:W:9:VAL:HG13	25:W:88:GLU:OE1	2.15	0.46
26:X:112:GLU:CD	26:X:115:ARG:NH1	2.69	0.46
1:0:907:A:H4'	1:0:1328:A:C2	2.51	0.46
1:0:1304:U:H2'	1:0:1305:C:C6	2.51	0.46
1:0:1477:C:C5'	1:0:1868:G:H5''	2.45	0.46
1:0:2689:A:H2'	1:0:2690:U:H5'	1.98	0.46
4:B:5:ARG:HD2	4:B:8:LYS:HZ3	1.81	0.46
5:C:236:THR:O	5:C:237:GLU:C	2.53	0.46
7:E:81:GLU:HA	7:E:133:VAL:O	2.15	0.46
10:H:116:ALA:O	10:H:117:PHE:C	2.54	0.46
17:O:10:ALA:CA	17:O:13:VAL:HG12	2.43	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:50:VAL:HA	19:Q:55:GLN:O	2.16	0.46
21:S:9:LYS:HB2	40:S:7242:HOH:O	2.15	0.46
26:X:107:PRO:HB3	26:X:182:PHE:CD2	2.51	0.46
1:0:1819:G:H2'	1:0:1820:G:C5'	2.45	0.46
1:0:1925:G:O2'	1:0:1926:G:H5'	2.15	0.46
1:0:2826:G:C6	1:0:2913:A:N6	2.84	0.46
10:H:56:GLN:NE2	10:H:93:GLN:HG2	2.30	0.46
19:Q:25:PHE:CZ	19:Q:29:LYS:HE2	2.50	0.46
26:X:141:THR:HG23	40:X:8889:HOH:O	2.15	0.46
30:2:91:GLN:O	30:2:92:GLU:HB2	2.15	0.46
1:0:1739:G:O2'	1:0:1740:U:H5'	2.15	0.46
1:0:1840:A:H4'	1:0:1841:C:O5'	2.15	0.46
1:0:2112:A:H2'	1:0:2113:G:C8	2.50	0.46
40:0:5085:HOH:O	27:Y:13:ARG:HD3	2.16	0.46
2:9:3023:U:C3'	2:9:3024:U:C5'	2.84	0.46
6:D:136:ARG:HB2	6:D:137:PRO:HD2	1.96	0.46
7:E:137:ASP:OD1	7:E:139:GLU:HB2	2.16	0.46
15:M:37:ARG:HH11	15:M:37:ARG:HG3	1.80	0.46
16:N:44:ASN:OD1	16:N:67:SER:HB2	2.16	0.46
24:V:73:LEU:O	24:V:74:GLU:HG3	2.16	0.46
28:Z:28:HIS:CD2	28:Z:30:LYS:HB2	2.50	0.46
28:Z:28:HIS:HD2	28:Z:31:LYS:H	1.63	0.46
1:0:171:C:OP2	14:L:84:LYS:HG3	2.16	0.46
1:0:343:C:O2'	1:0:344:C:H5'	2.16	0.46
1:0:396:U:O2'	1:0:397:A:P	2.73	0.46
1:0:602:A:O2'	1:0:605:C:H4'	2.16	0.46
1:0:1909:A:H2'	1:0:1910:A:C8	2.51	0.46
1:0:2256:G:O2'	1:0:2257:G:H5'	2.16	0.46
1:0:2830:U:O2'	1:0:2831:C:H5'	2.15	0.46
1:0:2847:G:O2'	1:0:2848:G:H5'	2.15	0.46
2:9:3102:G:O2'	2:9:3103:A:H5'	2.15	0.46
3:A:36:ASP:CA	3:A:83:GLY:HA3	2.44	0.46
11:I:15:ARG:NH1	11:I:43:ARG:NH1	2.63	0.46
12:J:125:ALA:C	12:J:127:ALA:H	2.19	0.46
16:N:42:GLU:HB2	40:N:2176:HOH:O	2.16	0.46
20:R:81:ILE:HG22	23:U:29:ASN:OD1	2.16	0.46
24:V:21:LEU:HB3	24:V:26:ILE:CG1	2.46	0.46
1:0:622:G:P	26:X:148:GLY:HA3	2.56	0.46
1:0:820:G:H5'	1:0:821:U:H5'	1.97	0.46
1:0:1087:G:H4'	1:0:1088:A:OP1	2.16	0.46
1:0:2044:G:OP1	25:W:23:HIS:HE1	1.99	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2251:G:H2'	1:0:2252:A:H8	1.79	0.46
1:0:2815:G:OP2	11:I:99:GLU:HG2	2.15	0.46
3:A:217:ARG:HG3	40:A:9008:HOH:O	2.15	0.46
4:B:175:LEU:HD23	4:B:175:LEU:C	2.36	0.46
13:K:73:VAL:HG23	13:K:74:THR:N	2.29	0.46
14:L:66:SER:HB3	14:L:128:TRP:CD1	2.51	0.46
19:Q:29:LYS:NZ	40:Q:8945:HOH:O	2.49	0.46
25:W:43:VAL:CG1	25:W:44:ASP:N	2.78	0.46
1:0:39:G:N2	1:0:444:C:C2	2.84	0.46
1:0:526:U:H2'	1:0:527:U:C6	2.51	0.46
1:0:613:C:H2'	1:0:614:U:C6	2.51	0.46
1:0:1056:U:H2'	1:0:1057:A:O4'	2.15	0.46
1:0:1544:U:H2'	1:0:1545:C:H6	1.81	0.46
1:0:1783:A:O2'	1:0:1784:U:H5'	2.16	0.46
1:0:2692:G:HO2'	1:0:2693:U:P	2.39	0.46
1:0:2842:G:C2'	1:0:2843:A:H5'	2.46	0.46
6:D:10:PHE:CD1	6:D:11:HIS:N	2.84	0.46
7:E:7:ILE:HG22	7:E:45:ASP:O	2.16	0.46
7:E:154:ILE:HG13	7:E:156:ASP:OD1	2.16	0.46
11:I:56:LYS:HE2	11:I:60:ARG:NH2	2.31	0.46
11:I:103:VAL:HG12	40:I:5907:HOH:O	2.16	0.46
15:M:73:ALA:HB1	15:M:74:PRO:CD	2.46	0.46
1:0:834:G:H3'	1:0:835:U:H4'	1.97	0.46
1:0:2115:U:H2'	1:0:2116:U:C6	2.50	0.46
2:9:3104:A:O2'	2:9:3105:A:H5'	2.16	0.46
40:9:9090:HOH:O	24:V:13:MET:HA	2.14	0.46
3:A:36:ASP:CB	3:A:85:SER:H	2.29	0.46
6:D:27:ILE:HB	40:D:5858:HOH:O	2.16	0.46
8:F:58:GLU:HA	8:F:61:MET:CE	2.39	0.46
12:J:101:ASN:O	12:J:102:GLU:HB2	2.16	0.46
13:K:133:VAL:HG13	40:K:8878:HOH:O	2.16	0.46
21:S:111:ARG:HB3	21:S:119:ALA:HB2	1.98	0.46
23:U:5:VAL:HG11	23:U:9:ARG:NH1	2.31	0.46
23:U:8:ILE:CG2	23:U:59:ILE:HG13	2.46	0.46
27:Y:42:CYS:SG	27:Y:44:GLU:HB2	2.56	0.46
29:1:20:ARG:HG3	29:1:39:ARG:HH21	1.81	0.46
1:0:876:A:N3	1:0:876:A:C2'	2.80	0.45
1:0:958:G:O2'	1:0:959:C:H5'	2.15	0.45
1:0:2362:A:H2'	1:0:2363:G:C8	2.52	0.45
4:B:36:PRO:CA	4:B:168:GLY:HA3	2.43	0.45
12:J:55:VAL:CG1	12:J:56:SER:N	2.78	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:184:ARG:HG3	14:L:185:PRO:HA	1.98	0.45
22:T:14:GLU:OE1	22:T:15:PRO:HD2	2.16	0.45
22:T:52:THR:HG22	22:T:54:THR:N	2.31	0.45
1:0:283:U:H5''	1:0:284:C:P	2.56	0.45
1:0:559:C:H2'	1:0:560:C:O4'	2.17	0.45
1:0:1115:U:O2'	1:0:1116:U:H5'	2.16	0.45
1:0:1780:G:O2'	1:0:1781:G:H5'	2.16	0.45
1:0:1942:A:H5'	3:A:233:THR:CB	2.46	0.45
1:0:2296:C:H2'	1:0:2297:U:H6	1.81	0.45
1:0:2385:G:H2'	1:0:2386:U:C6	2.51	0.45
6:D:27:ILE:HD11	6:D:37:ALA:CB	2.46	0.45
6:D:38:GLU:OE2	6:D:51:ARG:CZ	2.64	0.45
8:F:117:GLU:C	8:F:119:ARG:N	2.69	0.45
15:M:22:GLN:HG2	15:M:26:LEU:HD22	1.97	0.45
15:M:33:ARG:NH1	15:M:103:ASP:OD2	2.47	0.45
16:N:26:TRP:CE3	16:N:26:TRP:HA	2.51	0.45
19:Q:17:MET:CE	19:Q:19:ARG:NH2	2.79	0.45
29:1:36:ASN:O	29:1:39:ARG:HG3	2.16	0.45
1:0:695:C:H2'	1:0:696:C:C6	2.51	0.45
1:0:1406:A:H4'	1:0:1407:A:C5'	2.46	0.45
7:E:80:TRP:O	7:E:134:SER:HA	2.16	0.45
15:M:47:LEU:CD1	15:M:97:VAL:HG11	2.45	0.45
15:M:132:ASN:O	15:M:135:VAL:HG12	2.16	0.45
15:M:161:GLY:O	15:M:162:ASP:C	2.54	0.45
1:0:326:G:O2'	1:0:327:A:H5'	2.16	0.45
1:0:512:G:O3'	1:0:513:A:C8	2.68	0.45
1:0:1080:C:O5'	1:0:1080:C:H6	1.99	0.45
1:0:1525:G:H5'	1:0:1526:A:OP2	2.16	0.45
3:A:88:ILE:CD1	3:A:100:PRO:HD3	2.40	0.45
3:A:95:PRO:HA	3:A:153:ARG:HA	1.98	0.45
5:C:27:ARG:O	5:C:31:ILE:HG13	2.17	0.45
7:E:69:ILE:HA	7:E:72:MET:HE2	1.97	0.45
10:H:83:TYR:CD1	10:H:83:TYR:C	2.90	0.45
11:I:54:VAL:O	11:I:58:GLU:HG3	2.15	0.45
24:V:55:GLY:CA	24:V:146:ILE:HG13	2.46	0.45
24:V:108:ARG:HE	24:V:114:PRO:HG3	1.82	0.45
1:0:1377:C:H5'	1:0:1377:C:C6	2.47	0.45
1:0:1799:G:H21	17:O:88:GLN:HE22	1.65	0.45
1:0:2578:G:H5'	1:0:2578:G:H8	1.81	0.45
1:0:2717:C:OP1	4:B:207:LYS:HG3	2.15	0.45
3:A:94:LEU:HG	3:A:99:ILE:CD1	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:66:SER:HB3	14:L:128:TRP:NE1	2.31	0.45
15:M:37:ARG:HD3	15:M:37:ARG:HA	1.78	0.45
19:Q:111:ILE:HG23	19:Q:145:LEU:CD1	2.46	0.45
1:O:120:A:H2'	1:O:120:A:N3	2.32	0.45
1:O:710:G:O2'	1:O:711:G:H5'	2.15	0.45
1:O:899:C:H5'	40:O:3638:HOH:O	2.17	0.45
1:O:920:C:H5''	1:O:921:G:O5'	2.17	0.45
1:O:1314:U:H2'	40:O:6245:HOH:O	2.17	0.45
1:O:1398:G:O4'	17:O:25:PRO:HG3	2.17	0.45
1:O:1706:G:OP1	17:O:65:ARG:HD2	2.16	0.45
1:O:1902:G:H2'	1:O:1903:U:O4'	2.16	0.45
1:O:2032:U:H2'	1:O:2033:G:H5'	1.98	0.45
1:O:2121:G:O2'	1:O:2122:C:H5'	2.17	0.45
1:O:2769:C:C2'	1:O:2770:G:H5'	2.45	0.45
1:O:2809:G:H2'	1:O:2810:G:O4'	2.17	0.45
3:A:39:ALA:O	3:A:61:GLU:HG3	2.16	0.45
3:A:186:TRP:CG	3:A:187:PRO:HA	2.52	0.45
4:B:264:GLU:HG2	4:B:267:LYS:CE	2.28	0.45
5:C:140:VAL:HG12	5:C:141:SER:N	2.31	0.45
7:E:16:ASP:O	7:E:17:HIS:HB2	2.16	0.45
7:E:101:GLU:OE2	7:E:115:ARG:HD3	2.16	0.45
8:F:28:ALA:HB3	8:F:99:THR:O	2.17	0.45
26:X:189:ASN:HD22	26:X:192:ASP:H	1.64	0.45
26:X:203:VAL:CG1	26:X:228:VAL:HG22	2.46	0.45
1:O:128:A:O2'	1:O:129:A:H5'	2.17	0.45
1:O:708:A:H2'	1:O:709:G:O4'	2.17	0.45
1:O:1679:C:O2'	1:O:1685:A:N1	2.46	0.45
1:O:2011:A:H4'	1:O:2012:U:O5'	2.17	0.45
1:O:2065:C:O2'	1:O:2066:C:H5'	2.17	0.45
1:O:2415:A:H2'	1:O:2416:G:H5'	1.98	0.45
1:O:2521:A:OP2	10:H:3:ALA:HB3	2.17	0.45
10:H:66:ARG:HD3	40:H:9029:HOH:O	2.17	0.45
14:L:115:LEU:HD13	14:L:116:ASN:HB2	1.99	0.45
18:P:86:VAL:HG13	18:P:91:LEU:HD11	1.97	0.45
21:S:53:GLY:HA3	40:S:6384:HOH:O	2.17	0.45
26:X:99:ALA:HB2	26:X:233:TYR:CZ	2.52	0.45
1:O:333:G:O2'	1:O:334:G:H5'	2.17	0.45
1:O:696:C:O2'	1:O:697:G:H5'	2.16	0.45
1:O:750:A:H2'	1:O:751:U:C6	2.51	0.45
1:O:1119:G:N2	1:O:1246:A:N1	2.64	0.45
1:O:1641:A:H2'	1:O:1642:A:C5'	2.44	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1850:U:H2'	1:0:1851:G:H8	1.81	0.45
4:B:145:HIS:HD2	4:B:146:THR:O	1.99	0.45
6:D:10:PHE:CE1	6:D:11:HIS:HB3	2.52	0.45
7:E:126:ILE:HB	7:E:131:LEU:HD23	1.99	0.45
10:H:136:ALA:HB3	10:H:146:VAL:HG21	1.97	0.45
16:N:26:TRP:HA	16:N:26:TRP:HE3	1.81	0.45
24:V:21:LEU:CD2	24:V:48:VAL:HG11	2.39	0.45
25:W:9:VAL:HG13	25:W:88:GLU:CD	2.37	0.45
25:W:75:ALA:O	25:W:83:ALA:HA	2.17	0.45
1:0:485:A:N3	1:0:487:G:H5''	2.31	0.45
1:0:790:A:H2'	1:0:791:A:O4'	2.17	0.45
1:0:2839:C:H2'	1:0:2840:A:H5''	1.99	0.45
40:0:6495:HOH:O	29:1:20:ARG:HB3	2.17	0.45
2:9:3014:G:O2'	2:9:3015:C:H5'	2.16	0.45
4:B:75:GLU:C	4:B:77:PRO:HD3	2.36	0.45
4:B:268:ARG:HH21	4:B:325:PRO:HG3	1.82	0.45
4:B:314:ALA:CB	4:B:317:PRO:HG3	2.47	0.45
13:K:24:ALA:HB2	13:K:30:ARG:HD2	1.99	0.45
15:M:4:PRO:HD2	40:M:8859:HOH:O	2.16	0.45
24:V:48:VAL:CG1	24:V:48:VAL:O	2.65	0.45
1:0:396:U:H1'	40:0:7960:HOH:O	2.17	0.45
1:0:400:C:O2'	1:0:401:C:H5'	2.16	0.45
1:0:407:A:H2'	1:0:408:A:C8	2.51	0.45
1:0:912:A:C4	1:0:1294:A:C2	3.04	0.45
1:0:1192:A:O2'	1:0:1193:A:OP1	2.35	0.45
1:0:1836:A:H1'	28:Z:1:THR:O	2.17	0.45
1:0:2825:C:H4'	1:0:2826:G:O5'	2.17	0.45
2:9:3028:U:H5''	15:M:40:ASN:ND2	2.32	0.45
2:9:3114:G:H2'	2:9:3115:C:C6	2.52	0.45
3:A:34:ASP:OD1	3:A:35:GLY:N	2.49	0.45
5:C:8:LEU:HD13	5:C:147:LEU:HD21	1.98	0.45
5:C:51:TYR:CE2	28:Z:53:LYS:HB3	2.52	0.45
5:C:162:VAL:HG13	5:C:232:LEU:HD21	2.00	0.45
6:D:41:LEU:CA	6:D:44:ILE:HG22	2.45	0.45
6:D:94:ALA:O	6:D:95:THR:O	2.34	0.45
21:S:73:HIS:CD2	21:S:88:PRO:HG3	2.52	0.45
24:V:72:PRO:HG2	24:V:77:ALA:HB3	1.98	0.45
1:0:278:A:H2'	1:0:279:C:O4'	2.17	0.44
1:0:499:G:O2'	1:0:500:G:H5'	2.17	0.44
1:0:764:C:C2'	1:0:765:G:H5'	2.46	0.44
1:0:1759:A:N3	1:0:1818:C:H2'	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1803:C:H2'	1:0:1804:A:C8	2.52	0.44
1:0:2314:G:H2'	1:0:2315:C:H5'	1.99	0.44
1:0:2416:G:O2'	15:M:25:ARG:HG2	2.17	0.44
1:0:2776:A:H2'	1:0:2777:G:O4'	2.16	0.44
2:9:3049:G:H5''	40:M:8847:HOH:O	2.16	0.44
6:D:170:TYR:CD1	6:D:170:TYR:N	2.85	0.44
15:M:42:HIS:CG	15:M:62:HIS:HE1	2.35	0.44
25:W:34:ARG:NH1	25:W:48:VAL:O	2.47	0.44
1:0:661:G:C5	1:0:686:A:C2	3.06	0.44
1:0:737:A:H2'	1:0:738:G:O4'	2.17	0.44
1:0:1372:A:H3'	40:0:7526:HOH:O	2.18	0.44
3:A:17:ARG:HD2	40:A:9018:HOH:O	2.17	0.44
4:B:140:LEU:HD13	4:B:175:LEU:HA	1.98	0.44
17:O:16:VAL:HG12	17:O:17:GLY:N	2.32	0.44
19:Q:4:TYR:CZ	19:Q:15:LYS:HB3	2.52	0.44
24:V:21:LEU:HD22	24:V:26:ILE:HD13	1.96	0.44
25:W:41:PHE:O	25:W:43:VAL:HG23	2.17	0.44
30:2:3:MET:O	30:2:90:PHE:HA	2.16	0.44
1:0:137:U:OP1	1:0:259:G:O2'	2.34	0.44
1:0:447:A:OP1	21:S:2:LYS:HG2	2.17	0.44
1:0:2274:A:O2'	1:0:2275:G:H5'	2.17	0.44
1:0:2828:G:O2'	1:0:2829:G:H5'	2.17	0.44
40:0:5354:HOH:O	10:H:58:ARG:HG3	2.17	0.44
4:B:258:GLY:N	4:B:260:HIS:CE1	2.81	0.44
6:D:19:GLU:O	6:D:133:ASN:HB3	2.18	0.44
6:D:104:PHE:CE2	6:D:166:ILE:CD1	3.00	0.44
8:F:84:GLY:O	8:F:89:LEU:HB2	2.17	0.44
10:H:28:ILE:HA	10:H:63:GLU:OE1	2.18	0.44
10:H:46:GLN:HB3	10:H:167:ARG:H	1.83	0.44
15:M:48:VAL:HG11	15:M:55:ASP:HB3	1.98	0.44
24:V:35:VAL:HG23	24:V:41:TYR:CD2	2.52	0.44
24:V:64:THR:O	24:V:68:THR:HG22	2.17	0.44
24:V:110:GLN:NE2	24:V:110:GLN:HA	2.32	0.44
1:0:541:C:H2'	1:0:542:A:H5'	1.99	0.44
1:0:758:A:H2'	1:0:759:C:O4'	2.17	0.44
1:0:932:U:H2'	1:0:933:C:C6	2.53	0.44
1:0:1213:C:O2'	1:0:1214:G:H5'	2.18	0.44
1:0:1657:A:H2'	1:0:1658:A:C8	2.53	0.44
1:0:1790:C:H2'	1:0:1791:U:H6	1.82	0.44
1:0:1994:A:P	12:J:66:ARG:HH22	2.41	0.44
1:0:2524:G:H21	1:0:2526:C:N4	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2883:A:H2'	1:0:2884:G:O4'	2.18	0.44
5:C:21:VAL:HG13	40:C:8603:HOH:O	2.17	0.44
5:C:79:ARG:O	5:C:87:ARG:HG2	2.16	0.44
7:E:101:GLU:HB2	7:E:116:THR:O	2.17	0.44
10:H:154:TYR:CD1	10:H:154:TYR:C	2.90	0.44
26:X:107:PRO:HB3	26:X:182:PHE:CE2	2.53	0.44
1:0:1321:A:H2'	1:0:1322:G:C8	2.53	0.44
1:0:1544:U:H2'	1:0:1545:C:C6	2.53	0.44
1:0:1616:A:H2'	1:0:1618:G:C8	2.53	0.44
7:E:108:LEU:HB3	40:E:1306:HOH:O	2.16	0.44
10:H:43:TYR:HA	10:H:44:PRO:HD3	1.80	0.44
13:K:145:LEU:O	13:K:145:LEU:HD23	2.18	0.44
25:W:12:ILE:HD12	25:W:36:HIS:ND1	2.32	0.44
1:0:523:C:H2'	1:0:524:A:C8	2.53	0.44
1:0:883:U:H5''	40:0:3248:HOH:O	2.17	0.44
1:0:952:G:N3	1:0:2302:A:H2'	2.32	0.44
1:0:1139:U:H2'	1:0:1140:C:C6	2.52	0.44
1:0:1192:A:H3'	1:0:1193:A:H5'	1.99	0.44
1:0:1422:U:H2'	1:0:1423:C:C6	2.53	0.44
1:0:1849:G:H1'	1:0:2011:A:N1	2.33	0.44
1:0:2100:A:H5'	40:0:7723:HOH:O	2.17	0.44
1:0:2842:G:H2'	1:0:2843:A:H5'	2.00	0.44
1:0:2857:C:H2'	1:0:2858:U:C6	2.53	0.44
3:A:72:GLU:HG3	27:Y:66:GLY:HA2	1.99	0.44
8:F:49:PHE:HE1	8:F:98:VAL:HG23	1.83	0.44
11:I:13:ASP:OD1	11:I:15:ARG:HB3	2.17	0.44
15:M:140:GLN:HA	15:M:143:ARG:HD3	1.99	0.44
19:Q:113:HIS:HE1	19:Q:144:GLU:CD	2.21	0.44
21:S:32:ARG:HH12	21:S:38:ARG:HH12	1.63	0.44
24:V:26:ILE:O	24:V:26:ILE:HG13	2.18	0.44
26:X:126:PRO:HG2	26:X:128:PHE:CZ	2.51	0.44
30:2:35:TRP:HA	30:2:38:ARG:NH1	2.32	0.44
1:0:538:C:OP2	26:X:134:HIS:HE1	2.01	0.44
1:0:1284:G:O2'	1:0:1285:U:H5'	2.17	0.44
1:0:1476:A:O2'	1:0:1477:C:H5'	2.17	0.44
7:E:126:ILE:HB	7:E:131:LEU:CD2	2.48	0.44
10:H:28:ILE:HG23	40:H:9029:HOH:O	2.17	0.44
14:L:64:ARG:HD2	40:L:8886:HOH:O	2.17	0.44
22:T:31:PHE:CG	22:T:37:GLU:HG2	2.52	0.44
1:0:204:A:H2'	1:0:205:U:H5'	2.00	0.44
1:0:605:C:H2'	1:0:606:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:926:A:O2'	13:K:41:HIS:HD2	2.00	0.44
1:0:1278:A:H4'	1:0:1279:U:C4	2.53	0.44
1:0:1667:A:H2'	1:0:1668:U:H6	1.82	0.44
1:0:2730:G:O2'	1:0:2731:G:H5'	2.18	0.44
2:9:3103:A:O2'	2:9:3104:A:H5'	2.18	0.44
3:A:93:THR:C	3:A:94:LEU:HD23	2.38	0.44
6:D:159:PRO:O	6:D:163:VAL:HG23	2.17	0.44
11:I:90:LYS:HB2	36:I:8802:CL:CL	2.55	0.44
15:M:91:ARG:HG3	15:M:186:LEU:HD23	2.00	0.44
21:S:71:VAL:HG13	21:S:91:LEU:O	2.18	0.44
1:0:821:U:H2'	1:0:822:C:C6	2.53	0.44
1:0:1199:A:H2'	1:0:1200:A:C8	2.52	0.44
1:0:1855:G:H4'	1:0:1856:C:O5'	2.18	0.44
1:0:2462:G:O6	30:2:61:PRO:HG3	2.18	0.44
2:9:3023:U:H6	2:9:3023:U:C5'	2.30	0.44
4:B:232:TRP:CD1	4:B:235:ARG:HD2	2.52	0.44
5:C:7:ASP:OD1	5:C:11:ASN:N	2.48	0.44
5:C:127:ARG:HG2	5:C:127:ARG:HH11	1.83	0.44
5:C:237:GLU:HB2	40:C:8637:HOH:O	2.18	0.44
14:L:24:GLN:HE21	14:L:27:ARG:HH11	1.64	0.44
15:M:77:ASN:OD1	15:M:79:PRO:HD2	2.18	0.44
23:U:42:ASN:HB3	40:U:7247:HOH:O	2.18	0.44
24:V:76:ASP:O	24:V:77:ALA:C	2.56	0.44
1:0:295:C:O2'	1:0:296:G:H5'	2.17	0.43
1:0:1380:U:H5'	40:0:9699:HOH:O	2.17	0.43
1:0:2372:A:H2'	1:0:2373:U:C6	2.53	0.43
1:0:2443:C:H5'	13:K:57:VAL:HG21	1.99	0.43
2:9:3057:A:C8	6:D:141:VAL:HG21	2.53	0.43
8:F:57:GLU:HB2	14:L:23:LEU:HD11	2.00	0.43
15:M:154:LEU:HG	15:M:155:GLU:N	2.32	0.43
20:R:42:GLU:HG2	20:R:49:VAL:HG23	1.99	0.43
1:0:949:U:H4'	18:P:95:GLU:HA	2.00	0.43
1:0:1044:C:H3'	1:0:1045:G:H5''	2.00	0.43
1:0:1180:U:H2'	1:0:1181:A:O4'	2.18	0.43
1:0:1943:C:O4'	3:A:212:PRO:HA	2.18	0.43
1:0:2032:U:H2'	1:0:2033:G:C5'	2.47	0.43
1:0:2254:G:O2'	1:0:2255:A:H5'	2.18	0.43
1:0:2353:A:H4'	1:0:2354:A:O5'	2.17	0.43
3:A:36:ASP:O	3:A:38:ILE:N	2.51	0.43
4:B:129:ARG:NH2	4:B:176:ASP:OD1	2.50	0.43
4:B:266:ASN:OD1	4:B:317:PRO:HA	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:305:ASP:O	4:B:306:LYS:CB	2.64	0.43
5:C:78:ARG:NH1	5:C:78:ARG:CG	2.72	0.43
1:0:709:G:O2'	16:N:25:VAL:CG1	2.66	0.43
1:0:1609:C:H2'	1:0:1610:G:C8	2.54	0.43
3:A:110:SER:N	3:A:114:ASP:OD2	2.49	0.43
3:A:132:ASP:OD1	3:A:133:ARG:N	2.49	0.43
4:B:102:THR:HG21	4:B:182:VAL:O	2.17	0.43
4:B:232:TRP:HD1	4:B:235:ARG:HD2	1.82	0.43
6:D:104:PHE:CE2	6:D:166:ILE:HD13	2.52	0.43
6:D:173:GLU:O	6:D:174:VAL:C	2.56	0.43
12:J:81:ARG:HD3	12:J:87:ARG:NH1	2.32	0.43
19:Q:128:ARG:HB2	19:Q:132:ARG:O	2.19	0.43
1:0:848:C:H2'	1:0:849:C:C6	2.53	0.43
1:0:848:C:H5'	40:0:7610:HOH:O	2.19	0.43
1:0:1119:G:N2	1:0:1246:A:H2	2.09	0.43
1:0:1682:A:H2'	40:0:3244:HOH:O	2.19	0.43
1:0:2004:U:H4'	40:0:5688:HOH:O	2.17	0.43
1:0:2133:U:H4'	1:0:2134:G:H5'	1.99	0.43
1:0:2610:U:H4'	40:0:4172:HOH:O	2.18	0.43
4:B:60:SER:HA	4:B:61:PRO:HD3	1.87	0.43
11:I:46:ILE:HD11	11:I:53:ILE:HG23	2.00	0.43
11:I:74:ARG:HH12	11:I:76:ASP:HB2	1.79	0.43
13:K:144:ASP:O	13:K:147:GLU:HB2	2.19	0.43
15:M:166:ALA:O	15:M:167:ASP:O	2.35	0.43
24:V:11:VAL:O	24:V:12:ASN:HB2	2.17	0.43
1:0:90:A:H2'	1:0:91:G:O4'	2.18	0.43
1:0:202:U:O2'	1:0:203:G:H5'	2.18	0.43
1:0:830:G:O2'	1:0:831:U:H5'	2.18	0.43
1:0:1268:C:O2'	26:X:169:ARG:HB2	2.18	0.43
1:0:2656:G:O2'	1:0:2657:G:H5'	2.18	0.43
40:0:4762:HOH:O	3:A:212:PRO:HB2	2.19	0.43
40:0:6722:HOH:O	3:A:205:GLY:HA3	2.19	0.43
2:9:3007:G:H5'	40:9:9094:HOH:O	2.18	0.43
2:9:3007:G:H4'	15:M:55:ASP:OD2	2.18	0.43
2:9:3034:A:H1'	15:M:153:GLN:HE22	1.84	0.43
10:H:51:VAL:HG21	10:H:127:VAL:HG11	1.99	0.43
20:R:29:ASP:OD1	20:R:31:ARG:HG3	2.19	0.43
24:V:122:ARG:NH2	40:V:4276:HOH:O	2.48	0.43
26:X:187:VAL:HG12	26:X:205:ILE:HA	2.01	0.43
27:Y:75:GLY:O	27:Y:78:THR:HB	2.18	0.43
28:Z:25:LYS:O	28:Z:25:LYS:HG2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:569:A:H5''	1:0:587:A:N1	2.34	0.43
1:0:712:C:O2'	1:0:713:U:H2'	2.19	0.43
1:0:747:G:H2'	1:0:748:C:C6	2.54	0.43
1:0:816:G:C6	1:0:817:G:N1	2.87	0.43
1:0:1183:C:N4	1:0:1184:C:N4	2.64	0.43
1:0:1444:G:O2'	1:0:1502:A:N1	2.45	0.43
1:0:1669:A:H2'	1:0:1670:G:H8	1.82	0.43
1:0:1677:U:OP2	29:1:8:LYS:NZ	2.49	0.43
1:0:1816:C:H2'	1:0:1817:U:O4'	2.19	0.43
1:0:1850:U:H2'	1:0:1851:G:C8	2.52	0.43
40:0:4589:HOH:O	5:C:76:ARG:HD3	2.18	0.43
12:J:118:ALA:C	12:J:120:ARG:H	2.22	0.43
18:P:66:LYS:HB2	18:P:70:ALA:O	2.19	0.43
1:0:24:G:N2	1:0:518:G:H1'	2.33	0.43
1:0:451:C:O2'	1:0:452:G:H5'	2.18	0.43
1:0:1470:A:OP1	14:L:93:ARG:HD2	2.18	0.43
1:0:2515:C:O2'	1:0:2516:G:H5'	2.19	0.43
1:0:2597:U:H2'	1:0:2598:U:H5'	1.99	0.43
1:0:2727:A:H2'	1:0:2728:C:H5'	2.00	0.43
1:0:2896:A:H5''	40:0:6464:HOH:O	2.18	0.43
3:A:26:ASP:OD1	3:A:26:ASP:O	2.36	0.43
5:C:49:ASP:HB3	5:C:52:ALA:HB2	2.01	0.43
15:M:5:ARG:HG3	18:P:18:PRO:CB	2.48	0.43
29:1:48:ASP:O	29:1:49:GLU:CB	2.66	0.43
30:2:73:GLU:HB2	40:2:8957:HOH:O	2.18	0.43
1:0:806:A:H2'	1:0:807:A:O4'	2.19	0.43
1:0:858:U:H2'	1:0:859:C:H6	1.84	0.43
1:0:1945:G:O2'	1:0:1946:C:H5'	2.19	0.43
1:0:2326:U:H4'	1:0:2412:G:H4'	2.00	0.43
1:0:2385:G:H2'	1:0:2386:U:H6	1.83	0.43
1:0:2786:G:H2'	40:0:7524:HOH:O	2.17	0.43
40:0:7789:HOH:O	4:B:211:THR:HG21	2.18	0.43
3:A:103:VAL:O	3:A:105:VAL:HG23	2.18	0.43
4:B:7:ARG:CG	4:B:7:ARG:NH1	2.82	0.43
22:T:13:ILE:HG12	22:T:32:CYS:HB3	2.00	0.43
22:T:52:THR:CG2	22:T:54:THR:HB	2.49	0.43
30:2:65:THR:HB	30:2:83:TRP:H	1.84	0.43
1:0:125:U:H2'	40:0:4182:HOH:O	2.18	0.43
1:0:177:A:H2'	1:0:178:U:O4'	2.18	0.43
1:0:539:G:H2'	1:0:540:A:C8	2.54	0.43
1:0:1142:C:O2'	1:0:1143:G:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1362:U:H2'	1:0:1363:G:H8	1.83	0.43
1:0:1834:C:H2'	1:0:1840:A:N6	2.34	0.43
1:0:2505:G:HO2'	1:0:2506:A:H5'	1.83	0.43
4:B:115:VAL:HA	4:B:116:PRO:HD3	1.78	0.43
4:B:258:GLY:HA2	40:B:9029:HOH:O	2.18	0.43
4:B:307:ARG:CG	4:B:307:ARG:NH1	2.80	0.43
6:D:58:VAL:CG1	6:D:59:GLY:N	2.82	0.43
16:N:29:VAL:O	16:N:33:LEU:HG	2.19	0.43
28:Z:25:LYS:HD2	29:1:48:ASP:HA	2.01	0.43
1:0:283:U:H5''	1:0:284:C:OP2	2.19	0.43
1:0:553:G:H5'	40:0:3929:HOH:O	2.19	0.43
1:0:1280:A:OP1	1:0:1280:A:H3'	2.18	0.43
1:0:1503:U:H2'	1:0:1504:A:O4'	2.18	0.43
1:0:1609:C:H2'	1:0:1610:G:H8	1.84	0.43
1:0:1829:A:C2'	1:0:1830:C:H5'	2.48	0.43
1:0:2015:A:H2'	1:0:2016:U:O4'	2.19	0.43
3:A:80:LEU:HD22	3:A:91:GLY:O	2.19	0.43
4:B:41:PHE:HB3	4:B:190:MET:HE1	2.01	0.43
4:B:215:VAL:HA	4:B:220:VAL:HG22	2.01	0.43
6:D:49:PRO:HG3	40:D:5828:HOH:O	2.17	0.43
7:E:86:VAL:CG1	7:E:129:GLU:HA	2.48	0.43
7:E:101:GLU:CB	7:E:117:THR:HA	2.49	0.43
11:I:93:ARG:HB3	11:I:93:ARG:NH1	2.20	0.43
30:2:74:CYS:N	40:2:8990:HOH:O	2.52	0.43
1:0:491:C:O2'	1:0:492:C:H5'	2.19	0.42
1:0:947:U:H2'	1:0:948:G:H8	1.83	0.42
1:0:1512:G:O2'	1:0:1513:C:H5'	2.19	0.42
1:0:1947:G:H2'	1:0:1948:G:C8	2.53	0.42
1:0:2507:G:H2'	1:0:2510:C:N4	2.33	0.42
1:0:2781:U:O2'	1:0:2782:G:H5'	2.19	0.42
3:A:39:ALA:HB3	3:A:61:GLU:OE2	2.19	0.42
4:B:154:VAL:HA	4:B:155:PRO:HD3	1.87	0.42
7:E:11:VAL:HG13	7:E:23:GLU:O	2.19	0.42
7:E:20:ILE:CD1	7:E:33:LEU:HD12	2.49	0.42
8:F:33:THR:HG21	8:F:59:ILE:O	2.19	0.42
13:K:133:VAL:HB	40:K:8861:HOH:O	2.18	0.42
15:M:141:ARG:HB3	40:M:8868:HOH:O	2.19	0.42
15:M:152:GLU:C	15:M:154:LEU:N	2.71	0.42
16:N:26:TRP:HB2	40:N:3062:HOH:O	2.19	0.42
18:P:3:SER:HB3	40:P:5998:HOH:O	2.19	0.42
28:Z:53:LYS:HD3	28:Z:53:LYS:HA	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1234:U:C4	4:B:244:PRO:HB3	2.54	0.42
1:0:1399:A:H2'	1:0:1400:C:C6	2.55	0.42
1:0:1419:U:H5'	1:0:1420:C:OP2	2.19	0.42
1:0:1679:C:H5'	40:0:9791:HOH:O	2.19	0.42
1:0:1909:A:N1	1:0:2128:G:H1'	2.34	0.42
1:0:2382:A:O2'	1:0:2383:G:H5'	2.20	0.42
3:A:36:ASP:CB	3:A:83:GLY:HA3	2.49	0.42
7:E:7:ILE:HA	7:E:8:PRO:HD3	1.92	0.42
7:E:11:VAL:CG1	7:E:22:VAL:HG13	2.49	0.42
10:H:38:LYS:HE2	10:H:42:ASP:CB	2.50	0.42
11:I:131:THR:HB	11:I:134:GLU:HG3	2.01	0.42
15:M:25:ARG:HA	15:M:28:LYS:HG3	2.00	0.42
15:M:163:PHE:O	15:M:164:ASP:O	2.37	0.42
19:Q:12:THR:HG22	19:Q:149:GLU:OE1	2.19	0.42
19:Q:82:GLU:O	19:Q:86:LYS:HG3	2.19	0.42
1:0:414:C:H5'	40:0:3106:HOH:O	2.19	0.42
1:0:541:C:C2'	1:0:542:A:C5'	2.85	0.42
1:0:694:A:H2'	1:0:695:C:H5'	2.00	0.42
1:0:789:C:H1'	1:0:827:A:C2	2.53	0.42
1:0:2004:U:H2'	1:0:2004:U:O2	2.18	0.42
1:0:2784:A:H1'	7:E:60:SER:OG	2.18	0.42
2:9:3025:G:C2'	2:9:3026:C:H5'	2.49	0.42
3:A:9:ARG:HG2	3:A:16:PHE:CD2	2.55	0.42
3:A:192:VAL:HG13	40:A:9032:HOH:O	2.19	0.42
4:B:62:ARG:CA	4:B:65:MET:HE3	2.49	0.42
15:M:86:LEU:O	15:M:90:LEU:HG	2.20	0.42
24:V:82:GLU:O	24:V:86:GLU:HG3	2.20	0.42
24:V:88:THR:CG2	24:V:90:TYR:HD1	2.31	0.42
26:X:151:SER:HB3	26:X:154:ARG:HB3	2.02	0.42
1:0:255:A:H2'	1:0:256:C:C6	2.54	0.42
1:0:383:A:H4'	40:0:5709:HOH:O	2.19	0.42
1:0:494:C:H2'	1:0:496:G:OP2	2.19	0.42
1:0:669:G:O2'	1:0:670:G:H5'	2.20	0.42
1:0:703:G:O2'	1:0:704:C:H5'	2.19	0.42
1:0:757:C:OP1	13:K:27:ARG:HD2	2.19	0.42
1:0:872:U:O2'	1:0:873:G:H5'	2.19	0.42
1:0:1819:G:H5'	40:0:6189:HOH:O	2.18	0.42
1:0:2716:G:C5'	4:B:206:THR:HG21	2.45	0.42
3:A:173:GLY:O	3:A:176:HIS:HB3	2.19	0.42
4:B:27:ASN:HD22	4:B:27:ASN:H	1.66	0.42
6:D:18:ILE:HD13	6:D:84:LEU:HD12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:15:LYS:HD3	16:N:19:ARG:NH2	2.34	0.42
22:T:20:MET:CG	22:T:28:THR:HG23	2.49	0.42
22:T:34:SER:HA	22:T:37:GLU:OE1	2.20	0.42
25:W:70:ILE:HG23	25:W:70:ILE:O	2.19	0.42
26:X:99:ALA:HB2	26:X:233:TYR:CE2	2.54	0.42
30:2:18:GLN:OE1	30:2:73:GLU:HB3	2.20	0.42
1:0:191:A:C4	1:0:237:G:N7	2.88	0.42
1:0:631:A:C6	1:0:2074:A:H5'	2.55	0.42
1:0:1039:G:H2'	1:0:1040:A:O4'	2.20	0.42
1:0:1257:C:O2'	1:0:1258:G:H5'	2.20	0.42
1:0:1565:C:H2'	1:0:1566:C:H6	1.83	0.42
1:0:2758:G:H2'	1:0:2759:C:C6	2.55	0.42
2:9:3002:U:OP2	2:9:3003:A:H5'	2.20	0.42
3:A:130:THR:HG22	3:A:131:HIS:O	2.19	0.42
4:B:279:THR:CG2	4:B:280:VAL:N	2.83	0.42
6:D:99:ASP:HB3	6:D:103:ASN:H	1.83	0.42
6:D:167:GLU:C	6:D:169:THR:H	2.23	0.42
7:E:9:GLU:HA	40:E:5240:HOH:O	2.19	0.42
7:E:11:VAL:CG1	7:E:12:ASP:N	2.82	0.42
10:H:38:LYS:O	10:H:84:LYS:HE2	2.20	0.42
13:K:34:GLY:HA3	13:K:38:HIS:CE1	2.55	0.42
15:M:108:SER:HA	15:M:109:PRO:HD3	1.75	0.42
15:M:184:ILE:HG22	15:M:185:GLU:H	1.84	0.42
23:U:12:THR:OG1	23:U:13:PRO:HD2	2.19	0.42
1:0:100:C:O2	21:S:17:HIS:HB3	2.19	0.42
1:0:317:A:H5''	21:S:52:ARG:HD2	2.02	0.42
1:0:347:A:O2'	1:0:348:C:H5'	2.19	0.42
1:0:1537:C:H1'	40:0:6946:HOH:O	2.19	0.42
1:0:1730:G:H5''	1:0:1731:C:H6	1.85	0.42
2:9:3093:A:C5	2:9:3094:G:H1'	2.55	0.42
3:A:27:LEU:HD21	3:A:55:VAL:HG21	2.01	0.42
4:B:294:TYR:HE2	40:B:9129:HOH:O	2.03	0.42
5:C:7:ASP:OD2	5:C:9:ASP:HB2	2.19	0.42
7:E:20:ILE:HD12	7:E:33:LEU:HD12	2.01	0.42
8:F:56:PRO:HG2	14:L:43:PRO:O	2.19	0.42
13:K:145:LEU:O	13:K:148:GLU:HG3	2.20	0.42
1:0:272:A:H3'	40:0:7862:HOH:O	2.19	0.42
1:0:560:C:H2'	1:0:561:G:C8	2.54	0.42
1:0:646:G:H2'	1:0:647:U:C6	2.55	0.42
1:0:682:A:H2'	1:0:683:G:O4'	2.19	0.42
1:0:1552:G:H2'	1:0:1553:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1644:C:O2'	1:0:1645:U:H5'	2.20	0.42
40:0:7810:HOH:O	14:L:55:LYS:HE2	2.19	0.42
40:9:9105:HOH:O	15:M:115:VAL:HG13	2.18	0.42
7:E:132:THR:HG23	7:E:132:THR:O	2.19	0.42
16:N:81:PHE:N	16:N:81:PHE:CD1	2.87	0.42
20:R:30:ASP:HA	20:R:62:LYS:HE3	2.01	0.42
24:V:108:ARG:HE	24:V:114:PRO:CG	2.32	0.42
1:0:308:U:H5'	21:S:97:ARG:HH21	1.83	0.42
1:0:514:G:H5'	40:0:7435:HOH:O	2.20	0.42
1:0:683:G:O2'	1:0:684:G:H5'	2.20	0.42
1:0:1205:U:H2'	1:0:1206:U:C5'	2.50	0.42
1:0:1516:C:H2'	1:0:1517:U:C6	2.55	0.42
1:0:1555:G:H4'	1:0:1630:A:H2	1.84	0.42
1:0:1666:C:C2'	1:0:1667:A:C5'	2.97	0.42
1:0:1979:G:H2'	40:0:3730:HOH:O	2.20	0.42
1:0:2433:A:H2'	1:0:2434:A:C8	2.54	0.42
6:D:92:GLU:O	6:D:93:LEU:O	2.37	0.42
10:H:167:ARG:CG	40:H:8990:HOH:O	2.67	0.42
11:I:42:GLU:O	11:I:131:THR:HG23	2.19	0.42
12:J:99:ASP:OD1	12:J:101:ASN:N	2.52	0.42
13:K:148:GLU:HA	40:K:8877:HOH:O	2.19	0.42
16:N:21:SER:HB2	16:N:106:PRO:O	2.20	0.42
24:V:65:VAL:CG1	24:V:116:LEU:HD13	2.49	0.42
25:W:14:LEU:HD12	25:W:67:PRO:O	2.19	0.42
1:0:74:A:H2'	1:0:75:U:C6	2.54	0.42
1:0:86:A:C2	29:1:25:VAL:HG13	2.55	0.42
1:0:259:G:O2'	1:0:260:C:H5'	2.20	0.42
1:0:710:G:H5'	16:N:25:VAL:HG13	2.02	0.42
1:0:922:A:N7	1:0:2281:C:H5'	2.35	0.42
1:0:1244:U:H4'	1:0:1246:A:O4'	2.20	0.42
1:0:1847:A:OP1	3:A:175:LYS:HG3	2.19	0.42
4:B:185:GLY:HA2	40:B:9112:HOH:O	2.19	0.42
5:C:127:ARG:HG2	5:C:127:ARG:NH1	2.34	0.42
6:D:35:ALA:C	6:D:37:ALA:N	2.73	0.42
8:F:61:MET:HB3	14:L:19:GLN:OE1	2.19	0.42
10:H:88:ARG:NH1	10:H:135:THR:OG1	2.51	0.42
12:J:118:ALA:O	12:J:120:ARG:N	2.53	0.42
13:K:79:ASP:HB3	40:K:8862:HOH:O	2.20	0.42
14:L:61:ILE:HD12	14:L:61:ILE:N	2.35	0.42
22:T:37:GLU:HB3	40:T:408:HOH:O	2.19	0.42
24:V:52:VAL:HG13	24:V:53:ALA:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:X:116:LEU:HD12	26:X:173:ALA:HB3	2.01	0.42
26:X:144:ARG:NE	40:X:8914:HOH:O	2.53	0.42
29:1:36:ASN:HB3	29:1:39:ARG:NE	2.34	0.42
1:0:329:A:OP2	5:C:206:ASN:HB2	2.19	0.42
1:0:660:A:H4'	1:0:661:G:O5'	2.20	0.42
1:0:696:C:HO2'	1:0:697:G:H5'	1.84	0.42
1:0:764:C:O2'	1:0:765:G:H5'	2.19	0.42
1:0:815:U:O2'	1:0:1598:A:H4'	2.19	0.42
1:0:1724:U:H5''	40:0:4151:HOH:O	2.19	0.42
1:0:1829:A:H5''	40:0:3517:HOH:O	2.19	0.42
1:0:1845:A:O2'	1:0:1846:U:H5'	2.19	0.42
1:0:2464:C:H5''	1:0:2465:A:OP1	2.19	0.42
15:M:58:LEU:HD12	15:M:58:LEU:N	2.35	0.42
18:P:75:ILE:CD1	18:P:84:ILE:HD11	2.50	0.42
24:V:119:HIS:CD2	24:V:120:PRO:HD2	2.55	0.42
24:V:128:VAL:O	24:V:138:LEU:HD11	2.20	0.42
1:0:314:G:N2	1:0:316:A:H3'	2.34	0.41
1:0:677:C:H4'	5:C:246:ARG:NH2	2.35	0.41
1:0:752:G:H2'	1:0:753:U:O4'	2.20	0.41
1:0:1171:A:H2'	1:0:1172:G:H5'	2.02	0.41
1:0:1299:G:N2	40:0:5073:HOH:O	2.52	0.41
1:0:1400:C:O2'	1:0:1401:G:H5'	2.20	0.41
1:0:2064:U:H5'	1:0:2652:U:O3'	2.20	0.41
1:0:2281:C:C2'	1:0:2282:U:H5'	2.49	0.41
4:B:158:LYS:HB2	40:B:9036:HOH:O	2.19	0.41
4:B:254:GLN:HG2	4:B:255:GLY:H	1.85	0.41
8:F:26:THR:HG21	8:F:103:GLU:HG3	2.01	0.41
12:J:22:ASP:O	12:J:110:LYS:HE3	2.20	0.41
24:V:85:ALA:HB2	24:V:91:ASP:O	2.19	0.41
1:0:47:G:N3	1:0:114:A:C2	2.89	0.41
1:0:566:A:H2'	1:0:567:U:O4'	2.20	0.41
1:0:764:C:H2'	1:0:765:G:O4'	2.20	0.41
1:0:941:G:C5	1:0:942:U:C4	3.09	0.41
1:0:1393:A:H2'	1:0:1394:C:C6	2.55	0.41
1:0:1407:A:O2'	1:0:1408:U:H3'	2.20	0.41
1:0:2453:G:H4'	13:K:50:GLY:C	2.40	0.41
1:0:2661:U:H3	1:0:2812:A:H62	1.68	0.41
1:0:2890:A:C4	22:T:56:ARG:CZ	3.03	0.41
4:B:217:ARG:HG3	4:B:257:THR:CG2	2.51	0.41
7:E:84:MET:HG2	7:E:168:ILE:HA	2.01	0.41
14:L:46:LEU:HD22	14:L:50:ARG:HG3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:73:ALA:HB1	15:M:74:PRO:HD2	2.01	0.41
19:Q:47:LEU:O	19:Q:51:ILE:HG13	2.20	0.41
23:U:43:PRO:O	23:U:46:ILE:HG22	2.19	0.41
26:X:106:THR:CG2	26:X:107:PRO:HD2	2.51	0.41
30:2:70:ARG:HG2	30:2:70:ARG:NH1	2.35	0.41
1:0:638:C:H2'	1:0:639:A:C8	2.55	0.41
1:0:1171:A:C2'	1:0:1172:G:H5'	2.51	0.41
1:0:1184:C:H1'	40:0:7798:HOH:O	2.19	0.41
1:0:1311:G:C2	1:0:1312:G:C8	3.09	0.41
1:0:1367:A:H2'	1:0:1368:U:O4'	2.20	0.41
2:9:3098:C:O2'	2:9:3099:U:H5'	2.20	0.41
3:A:128:LEU:HG	40:A:9046:HOH:O	2.19	0.41
7:E:23:GLU:HG2	7:E:28:SER:CB	2.49	0.41
14:L:159:VAL:HG13	14:L:160:PHE:N	2.35	0.41
14:L:164:THR:HB	40:L:8819:HOH:O	2.20	0.41
17:O:80:ARG:HG2	17:O:87:ARG:NH2	2.34	0.41
23:U:29:ASN:O	23:U:33:VAL:HG23	2.20	0.41
24:V:65:VAL:HA	24:V:68:THR:CG2	2.49	0.41
24:V:139:GLY:O	24:V:141:HIS:CD2	2.71	0.41
25:W:30:MET:CE	25:W:58:ALA:HB3	2.50	0.41
27:Y:46:ARG:HD2	27:Y:59:TYR:HB2	2.03	0.41
1:0:170:U:H2'	1:0:171:C:H5'	2.01	0.41
1:0:559:C:N4	1:0:598:C:H42	2.19	0.41
1:0:1173:A:H2'	40:0:4746:HOH:O	2.20	0.41
1:0:1245:C:O5'	1:0:1245:C:H6	2.03	0.41
1:0:1565:C:O4'	1:0:2738:G:H1'	2.20	0.41
1:0:1845:A:OP2	3:A:190:ARG:NH1	2.54	0.41
1:0:1966:U:H2'	1:0:1967:U:C6	2.54	0.41
40:0:4960:HOH:O	5:C:50:GLU:HG2	2.19	0.41
3:A:103:VAL:HA	3:A:104:PRO:HD3	1.94	0.41
9:G:14:GLU:HB3	40:G:4173:HOH:O	2.20	0.41
10:H:54:THR:O	10:H:55:VAL:CG1	2.67	0.41
12:J:14:LYS:HG3	12:J:32:ILE:O	2.20	0.41
13:K:117:GLU:HA	40:K:8855:HOH:O	2.20	0.41
14:L:69:LYS:O	14:L:73:ARG:NH2	2.42	0.41
22:T:52:THR:HG22	22:T:54:THR:HB	2.02	0.41
1:0:297:U:H2'	1:0:298:C:C6	2.56	0.41
1:0:755:G:O2'	1:0:756:A:H5'	2.21	0.41
1:0:1051:C:H2'	1:0:1052:G:O4'	2.21	0.41
1:0:1453:G:H2'	1:0:1454:U:O4'	2.20	0.41
1:0:1520:G:H2'	1:0:1521:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2032:U:O2'	1:0:2033:G:H5''	2.20	0.41
1:0:2266:A:H2'	1:0:2267:G:C8	2.56	0.41
1:0:2335:C:H2'	1:0:2336:G:H8	1.85	0.41
40:0:7365:HOH:O	3:A:211:LYS:HG2	2.20	0.41
40:0:7890:HOH:O	30:2:61:PRO:HG2	2.21	0.41
15:M:91:ARG:HG3	15:M:186:LEU:CD2	2.50	0.41
17:O:16:VAL:HG12	17:O:20:ARG:HB2	2.02	0.41
20:R:73:ASP:OD1	20:R:76:GLU:HG3	2.20	0.41
1:0:88:G:N3	29:1:24:TRP:HB2	2.36	0.41
1:0:324:G:O2'	1:0:325:U:H5'	2.21	0.41
1:0:631:A:N3	1:0:2073:G:O2'	2.49	0.41
1:0:1119:G:H2'	11:I:52:GLN:HE22	1.83	0.41
1:0:1335:C:H2'	1:0:1336:U:H6	1.84	0.41
1:0:1588:G:C6	1:0:1589:G:N1	2.88	0.41
1:0:1705:C:H2'	1:0:1706:G:O4'	2.20	0.41
1:0:1804:A:H2'	1:0:1805:G:C8	2.55	0.41
1:0:2103:A:N7	1:0:2538:A:N6	2.68	0.41
1:0:2406:U:O2'	1:0:2407:G:H5'	2.20	0.41
1:0:2689:A:C2'	1:0:2690:U:H5'	2.50	0.41
1:0:2729:C:O2'	1:0:2730:G:H5'	2.20	0.41
1:0:2765:C:H2'	1:0:2766:A:C8	2.56	0.41
1:0:2819:C:O4'	4:B:96:PRO:HB2	2.20	0.41
3:A:48:ASP:HA	3:A:49:PRO:HD3	1.91	0.41
5:C:84:VAL:O	5:C:85:LYS:HB2	2.21	0.41
6:D:93:LEU:HG	40:D:3862:HOH:O	2.20	0.41
8:F:59:ILE:HD11	40:L:8924:HOH:O	2.21	0.41
10:H:9:ILE:HD12	10:H:54:THR:HG22	2.03	0.41
21:S:49:GLU:HB3	21:S:59:GLU:CG	2.50	0.41
22:T:33:SER:O	22:T:37:GLU:HG3	2.20	0.41
30:2:3:MET:HG3	30:2:4:PRO:HD2	2.03	0.41
1:0:73:C:O2'	1:0:74:A:H5'	2.21	0.41
1:0:671:A:O2'	1:0:672:G:H2'	2.21	0.41
1:0:1119:G:H8	11:I:52:GLN:NE2	2.18	0.41
1:0:1138:G:H2'	1:0:1139:U:O4'	2.21	0.41
1:0:1279:U:O2	1:0:1279:U:H2'	2.19	0.41
1:0:2502:C:O3'	10:H:151:ARG:NH2	2.54	0.41
1:0:2783:A:H2'	1:0:2784:A:C8	2.55	0.41
1:0:2842:G:H2'	1:0:2843:A:C5'	2.50	0.41
7:E:102:VAL:HG11	7:E:148:ILE:HD11	2.03	0.41
23:U:45:ARG:C	23:U:47:LYS:N	2.71	0.41
1:0:396:U:OP2	30:2:38:ARG:NH1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1557:G:O2'	1:0:1558:C:H5'	2.21	0.41
1:0:2502:C:H2'	1:0:2503:A:C5'	2.49	0.41
1:0:2502:C:O2'	1:0:2503:A:H5'	2.21	0.41
1:0:2741:A:H2'	1:0:2742:G:O4'	2.21	0.41
1:0:2756:U:O2	1:0:2896:A:H2	2.03	0.41
1:0:2837:U:H2'	40:0:7186:HOH:O	2.20	0.41
40:0:4806:HOH:O	3:A:11:ARG:NE	2.53	0.41
2:9:3020:G:H3'	40:9:9055:HOH:O	2.20	0.41
2:9:3031:C:O2'	2:9:3032:G:H5'	2.20	0.41
5:C:21:VAL:HG23	5:C:22:PHE:CD1	2.56	0.41
14:L:59:GLY:HA3	14:L:141:ILE:HD12	2.02	0.41
17:O:16:VAL:HG13	17:O:20:ARG:NH1	2.35	0.41
23:U:1:THR:CG2	23:U:2:VAL:N	2.82	0.41
25:W:43:VAL:CG1	25:W:47:ALA:HB3	2.51	0.41
1:0:161:A:H2'	1:0:162:C:C6	2.55	0.41
1:0:862:U:H5'	40:0:7614:HOH:O	2.21	0.41
1:0:1110:G:O2'	1:0:1111:U:H5'	2.20	0.41
1:0:1123:A:C2	1:0:1129:C:H4'	2.56	0.41
1:0:1165:G:O2'	1:0:1166:A:OP1	2.36	0.41
1:0:1246:A:O2'	1:0:1247:A:H3'	2.21	0.41
1:0:1477:C:H2'	1:0:1478:U:C6	2.56	0.41
1:0:1634:G:H2'	1:0:1635:U:C6	2.56	0.41
1:0:1787:C:H4'	1:0:2883:A:O4'	2.21	0.41
1:0:1856:C:H5'	1:0:1858:A:O4'	2.21	0.41
1:0:2055:A:H5'	19:Q:134:SER:HB2	2.03	0.41
1:0:2471:G:N3	1:0:2633:A:H2	2.18	0.41
40:0:7341:HOH:O	18:P:9:GLY:HA2	2.21	0.41
4:B:62:ARG:HA	4:B:65:MET:HE2	1.98	0.41
4:B:243:ASN:HA	4:B:244:PRO:C	2.40	0.41
11:I:45:VAL:CG2	11:I:129:PHE:HD1	2.33	0.41
11:I:54:VAL:HG11	11:I:138:THR:HG21	2.03	0.41
11:I:107:ASN:ND2	11:I:107:ASN:C	2.74	0.41
13:K:121:ILE:HA	13:K:141:GLU:O	2.21	0.41
13:K:148:GLU:HB2	40:K:8894:HOH:O	2.20	0.41
15:M:79:PRO:HG3	15:M:142:THR:O	2.21	0.41
17:O:59:ARG:HH22	17:O:66:GLN:NE2	2.15	0.41
23:U:42:ASN:O	23:U:44:GLY:N	2.54	0.41
28:Z:8:GLN:HE22	28:Z:11:LYS:NZ	2.18	0.41
29:1:10:ARG:HH11	29:1:49:GLU:CD	2.24	0.41
1:0:855:U:H4'	1:0:856:G:O4'	2.20	0.41
1:0:1596:U:H2'	1:0:1598:A:OP2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1666:C:O2'	1:0:1667:A:C5'	2.69	0.41
1:0:1730:G:H5'	1:0:1731:C:H5	1.85	0.41
1:0:2724:U:H2'	1:0:2725:G:O4'	2.21	0.41
40:0:4806:HOH:O	3:A:11:ARG:CZ	2.68	0.41
40:0:5005:HOH:O	16:N:39:THR:HB	2.20	0.41
4:B:53:LEU:HD21	4:B:270:ILE:HD12	2.03	0.41
13:K:72:ASN:HB2	40:K:8886:HOH:O	2.20	0.41
15:M:38:LYS:HB2	15:M:38:LYS:HE3	1.78	0.41
23:U:5:VAL:CG1	23:U:9:ARG:NH1	2.84	0.41
28:Z:28:HIS:CD2	28:Z:31:LYS:H	2.39	0.41
1:0:921:G:H4'	1:0:924:G:N1	2.36	0.40
1:0:926:A:O2'	13:K:41:HIS:CD2	2.75	0.40
1:0:1267:C:O2'	1:0:1268:C:H5'	2.21	0.40
1:0:1513:C:O2'	1:0:1514:C:H5'	2.21	0.40
1:0:1592:G:H2'	1:0:1593:C:C6	2.55	0.40
1:0:1823:G:O2'	1:0:1824:C:H5'	2.21	0.40
1:0:2710:U:H2'	1:0:2711:U:C6	2.56	0.40
40:0:3338:HOH:O	11:I:46:ILE:HA	2.22	0.40
3:A:20:SER:C	3:A:22:ARG:H	2.24	0.40
11:I:63:ILE:HG22	11:I:64:GLY:N	2.36	0.40
11:I:88:PRO:O	11:I:94:GLY:HA3	2.21	0.40
13:K:66:VAL:HG23	13:K:67:ARG:N	2.36	0.40
13:K:124:ASP:OD1	13:K:149:ARG:NH2	2.54	0.40
21:S:41:ARG:NH1	21:S:42:VAL:O	2.53	0.40
21:S:43:ASN:C	21:S:45:GLY:H	2.24	0.40
1:0:88:G:H2'	1:0:89:G:C8	2.56	0.40
1:0:164:G:O3'	13:K:30:ARG:HB2	2.20	0.40
1:0:289:G:N1	1:0:363:A:C2	2.86	0.40
1:0:524:A:H5''	19:Q:29:LYS:HD3	2.04	0.40
1:0:731:U:H2'	1:0:732:C:C6	2.56	0.40
1:0:732:C:O2'	1:0:733:U:H5'	2.21	0.40
1:0:1041:U:H4'	1:0:1295:G:H5'	2.04	0.40
1:0:2325:C:H2'	1:0:2326:U:C6	2.57	0.40
1:0:2335:C:H2'	1:0:2336:G:C8	2.57	0.40
1:0:2791:U:H4'	1:0:2792:A:OP1	2.19	0.40
5:C:21:VAL:C	5:C:23:GLU:H	2.24	0.40
5:C:150:THR:HA	5:C:203:ALA:O	2.21	0.40
6:D:104:PHE:CE2	6:D:132:VAL:HB	2.55	0.40
7:E:108:LEU:CD1	7:E:164:ASP:HB2	2.51	0.40
8:F:70:LYS:C	8:F:72:VAL:H	2.25	0.40
8:F:111:ILE:O	8:F:115:VAL:HG23	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:3:ALA:HB2	10:H:58:ARG:HH12	1.87	0.40
15:M:67:ALA:C	15:M:69:TYR:H	2.23	0.40
17:O:115:SER:HG	17:O:118:GLN:HG3	1.81	0.40
22:T:9:CYS:CA	22:T:52:THR:HG23	2.51	0.40
24:V:73:LEU:HD12	24:V:73:LEU:HA	1.95	0.40
1:0:204:A:O2'	1:0:205:U:H5'	2.22	0.40
1:0:668:C:H2'	1:0:669:G:H8	1.86	0.40
1:0:892:G:H5''	28:Z:54:ALA:HB2	2.04	0.40
1:0:1287:A:O4'	24:V:117:ARG:HD3	2.22	0.40
1:0:1800:G:H2'	1:0:1801:A:H8	1.86	0.40
1:0:2088:C:H1'	1:0:2841:A:N1	2.36	0.40
1:0:2284:G:H1'	40:0:3028:HOH:O	2.21	0.40
1:0:2526:C:C6	1:0:2526:C:H5'	2.56	0.40
1:0:2549:C:H2'	1:0:2550:U:O4'	2.22	0.40
2:9:3078:G:N2	2:9:3102:G:H2'	2.36	0.40
3:A:36:ASP:HB2	3:A:83:GLY:HA3	2.04	0.40
4:B:7:ARG:HH11	4:B:7:ARG:CG	2.24	0.40
5:C:12:THR:HB	40:C:8650:HOH:O	2.22	0.40
10:H:20:ILE:CG2	10:H:120:ILE:CD1	2.99	0.40
12:J:117:VAL:O	12:J:117:VAL:HG12	2.22	0.40
14:L:133:LEU:O	14:L:134:ILE:HD13	2.22	0.40
15:M:147:ILE:HD12	40:M:8847:HOH:O	2.21	0.40
20:R:10:VAL:CG1	23:U:36:ALA:HA	2.48	0.40
25:W:23:HIS:CD2	25:W:24:LYS:HG3	2.56	0.40
30:2:55:VAL:HB	30:2:56:PRO:HD2	2.02	0.40
1:0:1154:A:H2'	1:0:1155:G:C8	2.56	0.40
1:0:1415:G:H5'	28:Z:12:ASN:O	2.21	0.40
1:0:2398:A:H2'	1:0:2399:G:O4'	2.21	0.40
1:0:2748:G:H1'	40:0:8331:HOH:O	2.19	0.40
2:9:3053:G:O2'	2:9:3054:A:H5'	2.21	0.40
12:J:101:ASN:O	12:J:102:GLU:CB	2.70	0.40
14:L:134:ILE:O	14:L:136:PRO:HD3	2.21	0.40
15:M:168:LEU:HA	15:M:169:PRO:HD3	1.88	0.40
19:Q:126:LYS:HA	19:Q:127:PRO:HD3	1.93	0.40
1:0:920:C:H4'	1:0:921:G:N2	2.36	0.40
1:0:1218:U:H2'	1:0:1219:U:H6	1.87	0.40
1:0:1614:G:H2'	40:0:5017:HOH:O	2.20	0.40
1:0:1920:C:O2'	1:0:1921:A:H5'	2.21	0.40
1:0:2613:G:O2'	1:0:2614:C:H5'	2.22	0.40
1:0:2783:A:H3'	40:0:5613:HOH:O	2.21	0.40
3:A:35:GLY:O	3:A:36:ASP:CB	2.63	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:54:ALA:HB3	6:D:69:ILE:HD12	2.01	0.40
12:J:14:LYS:CB	12:J:45:PRO:HG2	2.46	0.40
12:J:66:ARG:HG2	12:J:66:ARG:HH11	1.86	0.40
12:J:114:ALA:HB3	12:J:117:VAL:HG23	2.03	0.40
24:V:1:MET:HB2	24:V:103:GLU:HG2	2.03	0.40
24:V:88:THR:HG22	24:V:90:TYR:HD1	1.86	0.40
26:X:187:VAL:HB	26:X:203:VAL:CG2	2.51	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 X-ray entries followed by that with respect to entries of similar resolution.

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	
3	A	235/240 (98%)	210 (89%)	19 (8%)	6 (3%)	5	13
4	B	335/338 (99%)	311 (93%)	18 (5%)	6 (2%)	8	21
5	C	244/246 (99%)	227 (93%)	17 (7%)	0	100	100
6	D	134/177 (76%)	99 (74%)	25 (19%)	10 (8%)	1	1
7	E	170/178 (96%)	161 (95%)	9 (5%)	0	100	100
8	F	117/120 (98%)	104 (89%)	10 (8%)	3 (3%)	5	13
9	G	25/348 (7%)	25 (100%)	0	0	100	100
10	H	156/177 (88%)	140 (90%)	15 (10%)	1 (1%)	25	50
11	I	140/145 (97%)	128 (91%)	8 (6%)	4 (3%)	4	10
12	J	130/132 (98%)	120 (92%)	9 (7%)	1 (1%)	19	43
13	K	141/165 (86%)	120 (85%)	20 (14%)	1 (1%)	22	46
14	L	192/196 (98%)	179 (93%)	12 (6%)	1 (0%)	29	54
15	M	184/187 (98%)	162 (88%)	15 (8%)	7 (4%)	3	7
16	N	113/116 (97%)	111 (98%)	2 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	O	141/149 (95%)	137 (97%)	4 (3%)	0	100	100
18	P	93/96 (97%)	87 (94%)	4 (4%)	2 (2%)	6	17
19	Q	148/155 (96%)	140 (95%)	8 (5%)	0	100	100
20	R	79/85 (93%)	77 (98%)	1 (1%)	1 (1%)	12	30
21	S	117/120 (98%)	108 (92%)	7 (6%)	2 (2%)	9	23
22	T	51/67 (76%)	47 (92%)	4 (8%)	0	100	100
23	U	63/71 (89%)	57 (90%)	4 (6%)	2 (3%)	4	9
24	V	152/154 (99%)	145 (95%)	5 (3%)	2 (1%)	12	30
25	W	80/92 (87%)	72 (90%)	7 (9%)	1 (1%)	12	30
26	X	140/241 (58%)	138 (99%)	2 (1%)	0	100	100
27	Y	70/92 (76%)	61 (87%)	6 (9%)	3 (4%)	2	5
28	Z	54/57 (95%)	52 (96%)	2 (4%)	0	100	100
29	1	42/50 (84%)	41 (98%)	1 (2%)	0	100	100
30	2	90/92 (98%)	86 (96%)	2 (2%)	2 (2%)	6	17
All	All	3636/4286 (85%)	3345 (92%)	236 (6%)	55 (2%)	10	26

All (55) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	27	LEU
4	B	139	ASP
6	D	93	LEU
6	D	95	THR
6	D	137	PRO
6	D	173	GLU
8	F	101	ALA
13	K	80	ASP
15	M	154	LEU
15	M	164	ASP
15	M	183	ASP
27	Y	81	ARG
30	2	56	PRO
3	A	34	ASP
4	B	34	GLY
4	B	169	GLY
6	D	20	LYS
6	D	171	ASP

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Mol	Chain	Res	Type
11	I	143	LYS
15	M	162	ASP
15	M	167	ASP
23	U	43	PRO
24	V	77	ALA
3	A	132	ASP
4	B	185	GLY
11	I	7	ASP
12	J	119	GLN
15	M	65	ASP
15	M	181	ASP
21	S	44	ALA
21	S	53	GLY
25	W	77	PHE
27	Y	20	ARG
30	2	57	GLY
6	D	16	PRO
6	D	61	PHE
11	I	5	GLU
20	R	30	ASP
27	Y	41	ASN
3	A	37	VAL
4	B	2	GLN
4	B	107	SER
6	D	60	GLU
11	I	65	ASN
14	L	83	SER
18	P	78	GLY
18	P	18	PRO
24	V	49	ASN
3	A	112	PRO
6	D	27	ILE
23	U	40	PRO
8	F	64	PRO
8	F	71	GLY
10	H	55	VAL
3	A	211	LYS

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar

resolution.

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	
3	A	179/182 (98%)	167 (93%)	12 (7%)	16	37
4	B	282/283 (100%)	268 (95%)	14 (5%)	24	51
5	C	193/193 (100%)	178 (92%)	15 (8%)	12	29
6	D	117/148 (79%)	107 (92%)	10 (8%)	10	24
7	E	152/156 (97%)	149 (98%)	3 (2%)	55	81
8	F	93/94 (99%)	91 (98%)	2 (2%)	52	79
9	G	27/282 (10%)	27 (100%)	0	100	100
10	H	134/145 (92%)	127 (95%)	7 (5%)	23	49
11	I	118/121 (98%)	108 (92%)	10 (8%)	10	24
12	J	106/106 (100%)	102 (96%)	4 (4%)	33	62
13	K	113/127 (89%)	108 (96%)	5 (4%)	28	56
14	L	158/160 (99%)	152 (96%)	6 (4%)	33	62
15	M	149/150 (99%)	144 (97%)	5 (3%)	37	66
16	N	93/94 (99%)	92 (99%)	1 (1%)	73	90
17	O	113/117 (97%)	111 (98%)	2 (2%)	59	83
18	P	79/80 (99%)	75 (95%)	4 (5%)	24	50
19	Q	117/122 (96%)	113 (97%)	4 (3%)	37	66
20	R	71/74 (96%)	71 (100%)	0	100	100
21	S	105/106 (99%)	102 (97%)	3 (3%)	42	71
22	T	44/53 (83%)	44 (100%)	0	100	100
23	U	51/57 (90%)	49 (96%)	2 (4%)	32	61
24	V	130/130 (100%)	122 (94%)	8 (6%)	18	40
25	W	66/74 (89%)	62 (94%)	4 (6%)	18	41
26	X	120/196 (61%)	111 (92%)	9 (8%)	13	31
27	Y	59/74 (80%)	58 (98%)	1 (2%)	60	84
28	Z	46/47 (98%)	46 (100%)	0	100	100
29	1	42/46 (91%)	41 (98%)	1 (2%)	49	77
30	2	79/79 (100%)	78 (99%)	1 (1%)	69	87
All	All	3036/3496 (87%)	2903 (96%)	133 (4%)	28	56

All (133) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	3	ARG
3	A	33	GLU
3	A	36	ASP
3	A	55	VAL
3	A	68	ILE
3	A	69	LEU
3	A	78	ASP
3	A	94	LEU
3	A	131	HIS
3	A	153	ARG
3	A	179	MET
3	A	217	ARG
4	B	7	ARG
4	B	11	LEU
4	B	27	ASN
4	B	33	ASP
4	B	63	GLU
4	B	97	LEU
4	B	98	THR
4	B	103	ASP
4	B	162	MET
4	B	251	VAL
4	B	254	GLN
4	B	264	GLU
4	B	307	ARG
4	B	312	ARG
5	C	2	GLN
5	C	27	ARG
5	C	67	GLN
5	C	91	PRO
5	C	94	THR
5	C	101	ASP
5	C	115	LEU
5	C	136	VAL
5	C	187	ARG
5	C	214	THR
5	C	222	ASP
5	C	223	LEU
5	C	234	VAL
5	C	236	THR
5	C	240	LEU
6	D	24	HIS

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Mol	Chain	Res	Type
6	D	61	PHE
6	D	99	ASP
6	D	100	ASP
6	D	131	THR
6	D	133	ASN
6	D	136	ARG
6	D	137	PRO
6	D	149	ARG
6	D	170	TYR
7	E	7	ILE
7	E	102	VAL
7	E	164	ASP
8	F	12	LEU
8	F	78	GLU
10	H	18	GLU
10	H	68	SER
10	H	84	LYS
10	H	111	ASP
10	H	154	TYR
10	H	159	PRO
10	H	171	LEU
11	I	46	ILE
11	I	52	GLN
11	I	74	ARG
11	I	76	ASP
11	I	79	PHE
11	I	107	ASN
11	I	112	ASP
11	I	120	SER
11	I	125	SER
11	I	127	ILE
12	J	4	LEU
12	J	7	ASP
12	J	10	GLN
12	J	98	VAL
13	K	30	ARG
13	K	35	ARG
13	K	80	ASP
13	K	83	GLU
13	K	117	GLU
14	L	46	LEU
14	L	68	ARG

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Mol	Chain	Res	Type
14	L	93	ARG
14	L	99	ARG
14	L	116	ASN
14	L	164	THR
15	M	26	LEU
15	M	128	ASP
15	M	139	TRP
15	M	152	GLU
15	M	163	PHE
16	N	3	THR
17	O	91	LYS
17	O	98	ILE
18	P	11	ARG
18	P	16	ASN
18	P	18	PRO
18	P	95	GLU
19	Q	13	THR
19	Q	39	THR
19	Q	82	GLU
19	Q	132	ARG
21	S	39	ASN
21	S	73	HIS
21	S	96	VAL
23	U	43	PRO
23	U	65	ASP
24	V	35	VAL
24	V	52	VAL
24	V	73	LEU
24	V	76	ASP
24	V	122	ARG
24	V	142	ASP
24	V	146	ILE
24	V	154	ARG
25	W	15	ARG
25	W	27	ASP
25	W	44	ASP
25	W	72	VAL
26	X	115	ARG
26	X	141	THR
26	X	154	ARG
26	X	163	THR
26	X	172	THR

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Mol	Chain	Res	Type
26	X	189	ASN
26	X	200	THR
26	X	203	VAL
26	X	231	PRO
27	Y	44	GLU
29	1	18	ASN
30	2	56	PRO

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (77) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	5	GLN
3	A	92	ASN
3	A	199	HIS
4	B	27	ASN
4	B	145	HIS
4	B	191	ASN
4	B	221	GLN
4	B	238	ASN
4	B	256	GLN
4	B	260	HIS
4	B	320	GLN
4	B	332	ASN
5	C	2	GLN
5	C	39	GLN
5	C	129	HIS
6	D	47	GLN
6	D	103	ASN
6	D	133	ASN
7	E	106	ASN
7	E	143	GLN
9	G	64	ASN
10	H	56	GLN
10	H	59	HIS
10	H	70	ASN
11	I	107	ASN
11	I	126	ASN
12	J	10	GLN
13	K	18	HIS
13	K	41	HIS
13	K	42	ASN
13	K	116	HIS

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Mol	Chain	Res	Type
14	L	24	GLN
14	L	26	GLN
14	L	58	GLN
14	L	77	HIS
14	L	143	ASN
14	L	170	ASN
15	M	107	ASN
15	M	153	GLN
17	O	50	GLN
17	O	66	GLN
17	O	73	HIS
17	O	88	GLN
17	O	118	GLN
18	P	16	ASN
18	P	40	HIS
19	Q	61	GLN
19	Q	94	ASN
19	Q	98	ASN
19	Q	113	HIS
19	Q	117	HIS
20	R	9	HIS
20	R	51	GLN
21	S	39	ASN
21	S	73	HIS
22	T	39	ASN
22	T	48	ASN
23	U	60	GLN
24	V	12	ASN
24	V	110	GLN
24	V	119	HIS
24	V	125	HIS
24	V	141	HIS
25	W	23	HIS
26	X	134	HIS
26	X	149	GLN
26	X	189	ASN
28	Z	8	GLN
28	Z	16	HIS
28	Z	28	HIS
29	1	16	ASN
29	1	18	ASN
29	1	41	HIS

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Mol	Chain	Res	Type
29	1	45	ASN
30	2	15	ASN
30	2	30	GLN
30	2	48	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2746/2922 (93%)	239 (8%)	29 (1%)
2	9	121/122 (99%)	17 (14%)	2 (1%)
31	4	2/4 (50%)	1 (50%)	0
All	All	2869/3048 (94%)	257 (8%)	31 (1%)

All (257) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	11	A
1	0	31	C
1	0	60	A
1	0	67	A
1	0	69	A
1	0	70	A
1	0	71	G
1	0	87	C
1	0	88	G
1	0	114	A
1	0	115	U
1	0	130	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	169	A
1	0	186	A
1	0	191	A
1	0	192	A
1	0	200	U
1	0	219	G
1	0	237	G
1	0	271	C
1	0	272	A
1	0	273	G

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Mol	Chain	Res	Type
1	0	283	U
1	0	284	C
1	0	285	A
1	0	308	U
1	0	309	C
1	0	318	C
1	0	336	G
1	0	337	A
1	0	345	G
1	0	358	G
1	0	381	G
1	0	397	A
1	0	417	G
1	0	457	U
1	0	461	C
1	0	487	G
1	0	498	A
1	0	510	U
1	0	511	A
1	0	514	G
1	0	516	A
1	0	537	G
1	0	538	C
1	0	539	G
1	0	542	A
1	0	545	G
1	0	553	G
1	0	559	C
1	0	581	G
1	0	588	G
1	0	604	G
1	0	605	C
1	0	620	A
1	0	632	A
1	0	644	G
1	0	660	A
1	0	688	A
1	0	701	U
1	0	717	C
1	0	759	C
1	0	777	U
1	0	809	G

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Mol	Chain	Res	Type
1	0	821	U
1	0	835	U
1	0	840	U
1	0	857	A
1	0	868	G
1	0	869	G
1	0	871	G
1	0	872	U
1	0	875	A
1	0	877	G
1	0	878	G
1	0	882	A
1	0	898	G
1	0	905	C
1	0	920	C
1	0	921	G
1	0	923	A
1	0	953	G
1	0	960	G
1	0	961	A
1	0	1006	A
1	0	1008	C
1	0	1029	U
1	0	1045	G
1	0	1059	G
1	0	1060	C
1	0	1072	G
1	0	1081	A
1	0	1088	A
1	0	1109	U
1	0	1110	G
1	0	1119	G
1	0	1129	C
1	0	1130	U
1	0	1161	A
1	0	1162	G
1	0	1164	U
1	0	1165	G
1	0	1166	A
1	0	1171	A
1	0	1174	A
1	0	1175	G

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Mol	Chain	Res	Type
1	0	1185	U
1	0	1192	A
1	0	1193	A
1	0	1206	U
1	0	1208	C
1	0	1216	G
1	0	1238	C
1	0	1239	G
1	0	1279	U
1	0	1287	A
1	0	1289	C
1	0	1342	C
1	0	1353	C
1	0	1360	C
1	0	1377	C
1	0	1407	A
1	0	1409	G
1	0	1451	C
1	0	1474	C
1	0	1505	U
1	0	1506	U
1	0	1524	U
1	0	1525	G
1	0	1526	A
1	0	1528	A
1	0	1563	G
1	0	1564	C
1	0	1580	A
1	0	1592	G
1	0	1625	U
1	0	1626	A
1	0	1633	C
1	0	1634	G
1	0	1656	A
1	0	1667	A
1	0	1682	A
1	0	1684	A
1	0	1685	A
1	0	1692	C
1	0	1701	A
1	0	1722	U
1	0	1723	G

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Mol	Chain	Res	Type
1	0	1725	C
1	0	1731	C
1	0	1752	G
1	0	1778	A
1	0	1798	C
1	0	1819	G
1	0	1820	G
1	0	1829	A
1	0	1856	C
1	0	1879	U
1	0	1919	A
1	0	1942	A
1	0	1971	G
1	0	1973	A
1	0	1974	G
1	0	1978	A
1	0	1979	G
1	0	1980	U
1	0	1996	U
1	0	2004	U
1	0	2006	C
1	0	2008	U
1	0	2011	A
1	0	2012	U
1	0	2013	G
1	0	2034	U
1	0	2064	U
1	0	2072	G
1	0	2073	G
1	0	2074	A
1	0	2096	A
1	0	2101	A
1	0	2102	G
1	0	2103	A
1	0	2110	G
1	0	2238	A
1	0	2258	A
1	0	2271	G
1	0	2272	G
1	0	2291	A
1	0	2317	C
1	0	2321	A

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Mol	Chain	Res	Type
1	0	2354	A
1	0	2361	A
1	0	2369	A
1	0	2379	G
1	0	2422	U
1	0	2462	G
1	0	2476	C
1	0	2483	A
1	0	2507	G
1	0	2511	A
1	0	2533	C
1	0	2537	G
1	0	2540	G
1	0	2541	U
1	0	2553	A
1	0	2564	G
1	0	2578	G
1	0	2589	U
1	0	2601	A
1	0	2602	G
1	0	2608	C
1	0	2613	G
1	0	2634	G
1	0	2638	G
1	0	2649	A
1	0	2664	A
1	0	2681	A
1	0	2682	C
1	0	2726	U
1	0	2747	C
1	0	2748	G
1	0	2749	U
1	0	2750	G
1	0	2762	C
1	0	2768	A
1	0	2786	G
1	0	2792	A
1	0	2800	A
1	0	2811	A
1	0	2825	C
1	0	2850	C
1	0	2876	G

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Mol	Chain	Res	Type
1	0	2890	A
1	0	2896	A
1	0	2903	C
1	0	2914	A
2	9	3002	U
2	9	3014	G
2	9	3022	G
2	9	3023	U
2	9	3024	U
2	9	3025	G
2	9	3026	C
2	9	3040	C
2	9	3041	C
2	9	3043	G
2	9	3044	A
2	9	3052	A
2	9	3057	A
2	9	3066	G
2	9	3077	A
2	9	3114	G
2	9	3122	C
31	4	76	A

All (31) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	10	U
1	0	69	A
1	0	129	A
1	0	284	C
1	0	338	C
1	0	603	A
1	0	604	G
1	0	699	C
1	0	834	G
1	0	857	A
1	0	871	G
1	0	877	G
1	0	898	G
1	0	1080	C
1	0	1164	U
1	0	1232	A

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Mol	Chain	Res	Type
1	0	1237	U
1	0	1352	A
1	0	1450	C
1	0	1563	G
1	0	1684	A
1	0	1856	C
1	0	1979	G
1	0	2011	A
1	0	2467	A
1	0	2526	C
1	0	2718	C
1	0	2726	U
1	0	2791	U
2	9	3024	U
2	9	3065	A

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 306 ligands modelled in this entry, 304 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
39	ACE	4	78	31	1,2,2	1.04	0	1,1,1	0.52	0
32	ZLD	0	9500	-	26,26,26	3.08	14 (53%)	36,36,36	3.54	15 (41%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	ZLD	0	9500	-	-	0/13/33/33	0/3/3/3

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	0	9500	ZLD	C3-C17	6.25	1.50	1.39
32	0	9500	ZLD	C3-C1	6.07	1.49	1.38
32	0	9500	ZLD	C17-C16	5.49	1.51	1.40
32	0	9500	ZLD	C1-C2	5.09	1.49	1.39
32	0	9500	ZLD	C20-N19	4.76	1.54	1.46
32	0	9500	ZLD	C24-C23	4.64	1.68	1.50
32	0	9500	ZLD	C5-C16	3.85	1.44	1.37
32	0	9500	ZLD	C9-C8	2.79	1.55	1.51
32	0	9500	ZLD	C20-C21	2.77	1.61	1.50
32	0	9500	ZLD	O15-C7	2.61	1.25	1.21
32	0	9500	ZLD	C2-N4	2.45	1.48	1.43
32	0	9500	ZLD	O10-C8	-2.39	1.43	1.46
32	0	9500	ZLD	O10-C7	2.27	1.38	1.35
32	0	9500	ZLD	C24-N19	-2.16	1.43	1.46

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	0	9500	ZLD	C6-C8-C9	9.87	124.01	113.08
32	0	9500	ZLD	C6-N4-C7	-9.81	105.60	111.28
32	0	9500	ZLD	C2-N4-C7	7.48	133.92	125.91
32	0	9500	ZLD	O15-C7-N4	-6.35	123.88	128.91
32	0	9500	ZLD	O10-C7-N4	6.27	114.16	109.83
32	0	9500	ZLD	C23-C24-N19	4.25	117.86	110.02
32	0	9500	ZLD	O22-C21-C20	3.48	119.47	111.80
32	0	9500	ZLD	F18-C16-C17	3.42	121.53	118.42
32	0	9500	ZLD	C5-C16-C17	3.18	125.96	123.34
32	0	9500	ZLD	C3-C17-C16	-3.16	110.98	117.30
32	0	9500	ZLD	F18-C16-C5	-3.08	112.47	118.61
32	0	9500	ZLD	C8-O10-C7	-2.71	108.01	110.15
32	0	9500	ZLD	C8-C6-N4	2.69	104.52	101.81
32	0	9500	ZLD	C16-C17-N19	2.62	123.58	120.47
32	0	9500	ZLD	C1-C3-C17	2.47	124.27	119.19

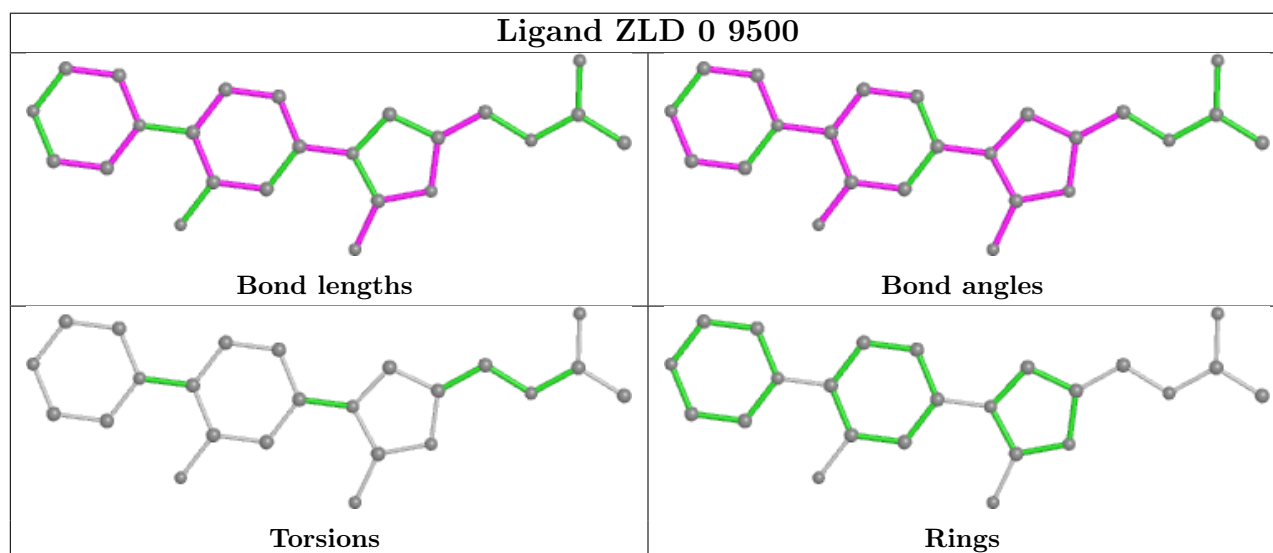
There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data i

6.1 Protein, DNA and RNA chains i

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	0	2754/2922 (94%)	-0.24	118 (4%) 35 33	29, 53, 97, 144	0
2	9	122/122 (100%)	0.53	14 (11%) 4 4	45, 75, 98, 149	0
3	A	237/240 (98%)	0.13	10 (4%) 36 35	34, 58, 90, 107	0
4	B	337/338 (99%)	0.06	5 (1%) 73 76	35, 60, 86, 96	0
5	C	246/246 (100%)	-0.12	4 (1%) 72 74	28, 53, 75, 86	0
6	D	140/177 (79%)	1.50	39 (27%) 0 0	67, 101, 122, 127	0
7	E	172/178 (96%)	0.49	10 (5%) 23 22	48, 74, 93, 98	0
8	F	119/120 (99%)	0.69	21 (17%) 1 1	57, 78, 99, 108	0
9	G	29/348 (8%)	2.66	21 (72%) 0 0	79, 99, 105, 109	0
10	H	160/177 (90%)	0.82	36 (22%) 0 0	41, 55, 80, 88	0
11	I	142/145 (97%)	-0.01	2 (1%) 75 77	43, 56, 75, 94	0
12	J	132/132 (100%)	-0.08	4 (3%) 50 51	40, 54, 78, 90	0
13	K	145/165 (87%)	0.54	16 (11%) 5 4	34, 73, 107, 120	0
14	L	194/196 (98%)	-0.23	3 (1%) 73 76	33, 42, 65, 70	0
15	M	186/187 (99%)	0.87	31 (16%) 1 1	52, 72, 110, 120	0
16	N	115/116 (99%)	0.17	2 (1%) 70 72	45, 62, 77, 82	0
17	O	143/149 (95%)	0.36	2 (1%) 75 77	46, 59, 71, 82	0
18	P	95/96 (98%)	0.14	7 (7%) 14 12	46, 55, 72, 84	0
19	Q	150/155 (96%)	-0.14	0 100 100	37, 51, 70, 76	0
20	R	81/85 (95%)	0.25	6 (7%) 14 12	50, 65, 85, 90	0
21	S	119/120 (99%)	0.53	10 (8%) 11 9	47, 61, 87, 108	0
22	T	53/67 (79%)	0.33	1 (1%) 66 69	47, 59, 78, 86	0
23	U	65/71 (91%)	1.48	16 (24%) 0 0	59, 79, 115, 121	0
24	V	154/154 (100%)	0.17	3 (1%) 66 69	43, 58, 76, 81	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	W	82/92 (89%)	0.73	13 (15%) 1 1	48, 64, 88, 106	0
26	X	142/241 (58%)	-0.02	4 (2%) 53 54	32, 49, 71, 91	0
27	Y	72/92 (78%)	0.75	17 (23%) 0 0	43, 59, 70, 76	0
28	Z	56/57 (98%)	-0.21	0 100 100	33, 40, 46, 57	0
29	1	46/50 (92%)	0.95	10 (21%) 0 0	41, 62, 87, 99	0
30	2	92/92 (100%)	0.35	6 (6%) 18 17	47, 64, 77, 86	0
31	4	4/4 (100%)	3.21	4 (100%) 0 0	78, 83, 85, 88	0
All	All	6584/7334 (89%)	0.10	435 (6%) 18 16	28, 57, 98, 149	0

All (435) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	9	3001	U	13.4
21	S	119	ALA	10.2
15	M	186	LEU	10.1
23	U	1	THR	10.0
23	U	39	ALA	9.8
1	0	1199	A	8.9
6	D	63	ILE	8.8
23	U	40	PRO	8.5
6	D	57	THR	8.2
1	0	735	C	8.1
15	M	184	ILE	7.7
15	M	166	ALA	7.7
10	H	171	LEU	7.5
6	D	26	GLY	7.2
13	K	81	VAL	7.2
1	0	1169	U	7.0
1	0	1177	A	6.9
1	0	10	U	6.8
1	0	1170	U	6.6
2	9	3002	U	6.5
21	S	118	SER	6.3
3	A	237	GLY	6.3
23	U	43	PRO	6.3
23	U	38	GLY	6.2
1	0	736	A	6.2
6	D	62	ASP	6.2
1	0	970	U	6.2
6	D	69	ILE	6.1

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Mol	Chain	Res	Type	RSRZ
1	0	1172	G	6.1
1	0	1195	G	6.1
6	D	10	PHE	6.1
1	0	1181	A	6.1
1	0	497	A	6.0
1	0	1190	G	5.9
9	G	26	MET	5.8
21	S	116	ASP	5.8
6	D	90	LEU	5.8
1	0	1966	U	5.8
1	0	1175	G	5.8
1	0	1206	U	5.7
3	A	37	VAL	5.7
1	0	1200	A	5.6
1	0	1951	G	5.6
1	0	1180	U	5.6
1	0	1161	A	5.5
1	0	1194	A	5.5
1	0	1196	C	5.5
1	0	272	A	5.5
9	G	23	ILE	5.4
1	0	999	C	5.4
15	M	2	THR	5.3
1	0	1191	A	5.3
1	0	1162	G	5.2
21	S	117	ASP	5.2
1	0	2637	A	5.2
23	U	41	GLU	5.1
1	0	1192	A	5.1
2	9	3024	U	5.1
6	D	11	HIS	5.1
1	0	1198	U	5.0
1	0	514	G	4.9
1	0	1965	C	4.9
13	K	80	ASP	4.9
15	M	165	ALA	4.9
15	M	95	ALA	4.9
27	Y	11	SER	4.8
1	0	1000	C	4.8
31	4	77	PHE	4.7
1	0	1163	G	4.7
6	D	27	ILE	4.6

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Mol	Chain	Res	Type	RSRZ
1	0	1202	A	4.6
7	E	45	ASP	4.6
2	9	3025	G	4.6
1	0	1178	G	4.6
1	0	1967	U	4.5
10	H	83	TYR	4.5
1	0	1176	C	4.4
22	T	47	ARG	4.4
1	0	1164	U	4.4
1	0	1171	A	4.4
1	0	1173	A	4.4
1	0	2237	G	4.3
25	W	88	GLU	4.3
1	0	1948	G	4.3
9	G	22	ALA	4.3
1	0	2511	A	4.3
1	0	1207	A	4.2
1	0	1964	U	4.2
15	M	68	GLU	4.2
1	0	969	G	4.2
1	0	1203	G	4.2
1	0	1208	C	4.2
8	F	28	ALA	4.2
6	D	66	GLY	4.2
10	H	138	CYS	4.2
2	9	3023	U	4.2
6	D	61	PHE	4.2
1	0	1193	A	4.1
29	1	27	LEU	4.1
25	W	65	ASN	4.1
29	1	39	ARG	4.1
9	G	25	GLU	4.0
4	B	1	PRO	4.0
15	M	39	SER	4.0
1	0	2769	C	4.0
26	X	235	GLU	4.0
1	0	1947	G	4.0
25	W	80	GLU	4.0
23	U	37	GLY	4.0
1	0	1205	U	3.9
1	0	1168	C	3.9
1	0	1197	G	3.9

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Mol	Chain	Res	Type	RSRZ
1	0	1525	G	3.9
29	1	35	ARG	3.9
6	D	92	GLU	3.9
1	0	1182	C	3.9
18	P	18	PRO	3.9
1	0	282	C	3.9
25	W	77	PHE	3.9
1	0	1950	G	3.9
6	D	56	ARG	3.8
8	F	119	ARG	3.8
6	D	170	TYR	3.8
9	G	21	ASP	3.8
1	0	1179	C	3.7
1	0	737	A	3.7
1	0	960	G	3.7
1	0	138	U	3.7
3	A	236	GLY	3.7
29	1	28	LYS	3.7
9	G	69	ARG	3.6
10	H	143	ALA	3.6
23	U	10	ASP	3.6
23	U	36	ALA	3.6
10	H	37	GLN	3.6
1	0	2512	U	3.6
1	0	2911	C	3.6
15	M	153	GLN	3.6
27	Y	37	HIS	3.6
26	X	95	THR	3.5
4	B	117	GLU	3.5
2	9	3072	C	3.5
8	F	106	ALA	3.5
1	0	2344	G	3.5
13	K	60	GLU	3.4
1	0	1184	C	3.4
1	0	280	C	3.4
6	D	58	VAL	3.4
6	D	64	ARG	3.4
15	M	162	ASP	3.4
3	A	133	ARG	3.4
8	F	90	GLU	3.4
1	0	2748	G	3.4
7	E	42	VAL	3.4

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Mol	Chain	Res	Type	RSRZ
10	H	39	ASP	3.4
25	W	85	VAL	3.4
8	F	16	ALA	3.4
2	9	3122	C	3.4
4	B	57	GLU	3.3
10	H	139	ASN	3.3
1	0	1185	U	3.3
9	G	73	ASP	3.3
1	0	1174	A	3.3
15	M	152	GLU	3.3
15	M	158	LEU	3.2
16	N	23	GLY	3.2
25	W	7	GLU	3.2
27	Y	34	ASN	3.2
15	M	97	VAL	3.2
18	P	76	VAL	3.2
15	M	1	ALA	3.2
1	0	1201	C	3.2
10	H	140	VAL	3.2
20	R	81	ILE	3.2
31	4	76	A	3.1
9	G	72	ASP	3.1
6	D	44	ILE	3.1
13	K	99	GLU	3.1
1	0	2345	A	3.1
1	0	1167	G	3.1
13	K	150	GLN	3.1
15	M	179	LEU	3.1
29	1	49	GLU	3.1
15	M	178	THR	3.1
6	D	51	ARG	3.1
10	H	21	THR	3.0
1	0	1204	C	3.0
10	H	24	PRO	3.0
9	G	66	LEU	3.0
15	M	160	SER	3.0
16	N	1	SER	3.0
10	H	82	ASP	3.0
1	0	2004	U	3.0
17	O	122	LEU	3.0
10	H	115	ALA	3.0
1	0	2508	C	3.0

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Mol	Chain	Res	Type	RSRZ
25	W	71	ARG	3.0
9	G	65	THR	3.0
10	H	141	GLU	3.0
25	W	82	GLU	3.0
21	S	107	LYS	3.0
25	W	74	ALA	3.0
1	0	1165	G	3.0
9	G	68	GLU	3.0
15	M	76	GLY	3.0
27	Y	44	GLU	3.0
1	0	1625	U	2.9
23	U	2	VAL	2.9
1	0	2510	C	2.9
15	M	138	ASP	2.9
7	E	6	GLU	2.9
1	0	2914	A	2.9
10	H	142	ASP	2.9
21	S	115	GLU	2.9
24	V	86	GLU	2.9
27	Y	45	ASP	2.9
6	D	70	GLY	2.9
9	G	24	VAL	2.9
2	9	3073	G	2.9
2	9	3065	A	2.9
15	M	149	GLU	2.9
8	F	44	SER	2.9
1	0	2909	G	2.9
9	G	18	GLU	2.8
1	0	2913	A	2.8
9	G	12	ILE	2.8
6	D	12	GLU	2.8
9	G	29	SER	2.8
10	H	169	GLU	2.8
1	0	2335	C	2.8
6	D	40	ILE	2.8
15	M	155	GLU	2.8
15	M	167	ASP	2.8
1	0	2910	A	2.8
10	H	78	GLY	2.8
8	F	114	LYS	2.8
15	M	67	ALA	2.8
1	0	2507	G	2.8

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Mol	Chain	Res	Type	RSRZ
31	4	74	C	2.8
30	2	56	PRO	2.7
27	Y	36	ASP	2.7
10	H	146	VAL	2.7
26	X	236	VAL	2.7
23	U	46	ILE	2.7
27	Y	59	TYR	2.7
13	K	77	ALA	2.7
20	R	77	VAL	2.7
10	H	22	GLY	2.7
21	S	35	TYR	2.7
1	0	281	U	2.7
6	D	87	ALA	2.7
8	F	21	GLU	2.7
10	H	79	GLU	2.7
13	K	102	ASP	2.7
18	P	95	GLU	2.7
10	H	25	GLY	2.7
6	D	52	THR	2.7
1	0	2238	A	2.7
25	W	75	ALA	2.7
12	J	132	VAL	2.6
10	H	73	LEU	2.6
1	0	809	G	2.6
8	F	22	VAL	2.6
1	0	2825	C	2.6
1	0	2912	C	2.6
9	G	14	GLU	2.6
10	H	76	GLU	2.6
1	0	1166	A	2.6
27	Y	35	GLU	2.6
25	W	10	VAL	2.6
27	Y	31	SER	2.6
24	V	91	ASP	2.6
1	0	1279	U	2.6
27	Y	22	SER	2.6
23	U	8	ILE	2.6
29	1	24	TRP	2.6
7	E	43	ASP	2.6
8	F	17	LEU	2.6
13	K	79	ASP	2.6
2	9	3074	G	2.6

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Mol	Chain	Res	Type	RSRZ
10	H	167	ARG	2.6
27	Y	25	ARG	2.6
29	1	44	ARG	2.6
15	M	185	GLU	2.6
17	O	108	LEU	2.5
10	H	116	ALA	2.5
14	L	22	GLU	2.5
6	D	28	GLY	2.5
10	H	23	ILE	2.5
26	X	234	VAL	2.5
7	E	89	SER	2.5
8	F	105	ASP	2.5
1	0	358	G	2.5
29	1	26	MET	2.5
30	2	29	ARG	2.5
27	Y	21	VAL	2.5
30	2	8	ASN	2.5
6	D	107	GLY	2.5
10	H	145	HIS	2.5
23	U	14	ALA	2.5
10	H	34	GLY	2.4
13	K	82	ALA	2.4
8	F	19	ALA	2.4
7	E	100	ASP	2.4
8	F	107	ASP	2.4
13	K	148	GLU	2.4
7	E	111	LYS	2.4
12	J	119	GLN	2.4
10	H	44	PRO	2.4
1	0	1183	C	2.4
1	0	2826	G	2.4
11	I	5	GLU	2.4
27	Y	24	ARG	2.4
18	P	81	GLU	2.4
1	0	734	U	2.4
6	D	50	VAL	2.4
9	G	17	GLN	2.4
15	M	183	ASP	2.4
8	F	118	LEU	2.4
6	D	18	ILE	2.4
13	K	104	ASP	2.4
10	H	166	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
1	0	716	G	2.4
8	F	25	ASP	2.4
10	H	111	ASP	2.4
1	0	284	C	2.4
2	9	3108	C	2.4
15	M	175	LEU	2.4
21	S	83	ASP	2.4
1	0	1929	G	2.4
2	9	3109	G	2.4
3	A	35	GLY	2.4
6	D	22	VAL	2.4
1	0	2645	U	2.3
6	D	104	PHE	2.3
1	0	351	G	2.3
2	9	3066	G	2.3
15	M	164	ASP	2.3
8	F	26	THR	2.3
20	R	78	ALA	2.3
1	0	808	A	2.3
14	L	25	TRP	2.3
8	F	117	GLU	2.3
10	H	45	VAL	2.3
7	E	10	ASP	2.3
10	H	35	ARG	2.3
6	D	42	GLY	2.3
13	K	75	LEU	2.3
20	R	16	ASN	2.3
7	E	88	TYR	2.3
5	C	135	GLU	2.3
8	F	103	GLU	2.3
27	Y	20	ARG	2.3
6	D	53	LYS	2.3
1	0	1160	G	2.3
3	A	145	MET	2.3
25	W	76	ARG	2.3
10	H	42	ASP	2.3
1	0	1913	C	2.2
2	9	3107	C	2.2
4	B	105	PHE	2.2
1	0	2509	A	2.2
30	2	57	GLY	2.2
6	D	65	GLU	2.2

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Mol	Chain	Res	Type	RSRZ
29	1	20	ARG	2.2
8	F	15	ASP	2.2
1	0	1186	C	2.2
31	4	75	C	2.2
14	L	75	ARG	2.2
3	A	31	LYS	2.2
7	E	170	ARG	2.2
10	H	38	LYS	2.2
30	2	55	VAL	2.2
5	C	63	SER	2.2
23	U	49	LEU	2.2
3	A	97	ALA	2.2
20	R	70	GLU	2.2
6	D	93	LEU	2.2
4	B	319	ASP	2.2
5	C	143	ASP	2.2
6	D	86	THR	2.2
1	0	1488	U	2.2
13	K	91	VAL	2.2
18	P	84	ILE	2.2
1	0	288	A	2.2
1	0	293	A	2.2
1	0	354	A	2.2
21	S	82	THR	2.2
29	1	31	ARG	2.2
13	K	83	GLU	2.1
13	K	76	LEU	2.1
6	D	85	GLN	2.1
9	G	71	LEU	2.1
24	V	76	ASP	2.1
9	G	70	ALA	2.1
1	0	1919	A	2.1
15	M	163	PHE	2.1
30	2	1	MET	2.1
25	W	41	PHE	2.1
8	F	70	LYS	2.1
9	G	27	ILE	2.1
15	M	159	TYR	2.1
27	Y	43	GLY	2.1
3	A	38	ILE	2.1
1	0	128	A	2.1
15	M	92	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
9	G	63	ARG	2.1
8	F	110	ASP	2.1
3	A	96	LEU	2.1
15	M	147	ILE	2.1
1	0	1159	G	2.1
1	0	2569	A	2.1
23	U	32	ALA	2.1
1	0	298	C	2.1
27	Y	32	GLU	2.1
6	D	89	PRO	2.1
23	U	59	ILE	2.1
13	K	105	TYR	2.1
10	H	86	THR	2.1
1	0	2419	U	2.0
5	C	61	PHE	2.1
20	R	20	PHE	2.1
12	J	100	GLU	2.0
11	I	70	PHE	2.0
1	0	283	U	2.0
6	D	73	VAL	2.0
18	P	21	ARG	2.0
27	Y	80	ARG	2.0
12	J	101	ASN	2.0
6	D	13	MET	2.0
21	S	106	GLU	2.0
18	P	17	LYS	2.0
1	0	362	G	2.0
6	D	157	LEU	2.0
10	H	162	ARG	2.0

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands i

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
35	NA	9	8543	1/1	-0.00	0.93	116,116,116,116	0
35	NA	R	8510	1/1	0.33	0.39	127,127,127,127	0
35	NA	0	8571	1/1	0.40	0.79	103,103,103,103	0
33	MG	0	8066	1/1	0.42	0.33	103,103,103,103	0
33	MG	0	8038	1/1	0.50	0.85	88,88,88,88	0
33	MG	0	8081	1/1	0.54	0.34	82,82,82,82	0
33	MG	0	8017	1/1	0.55	0.51	121,121,121,121	0
35	NA	0	8544	1/1	0.56	0.52	86,86,86,86	0
35	NA	0	8518	1/1	0.58	0.65	107,107,107,107	0
35	NA	9	8572	1/1	0.59	0.56	99,99,99,99	0
33	MG	B	8042	1/1	0.59	0.19	85,85,85,85	0
33	MG	0	8037	1/1	0.60	0.48	102,102,102,102	0
35	NA	0	8573	1/1	0.63	1.09	92,92,92,92	0
34	K	0	8401	1/1	0.64	0.90	129,129,129,129	0
37	SR	0	8971	1/1	0.67	0.13	150,150,150,150	0
35	NA	0	8525	1/1	0.69	0.29	92,92,92,92	0
35	NA	0	8561	1/1	0.69	0.17	122,122,122,122	0
33	MG	0	8040	1/1	0.70	0.18	97,97,97,97	0
35	NA	0	8512	1/1	0.70	0.57	72,72,72,72	0
35	NA	0	8555	1/1	0.71	0.66	75,75,75,75	0
35	NA	0	8574	1/1	0.71	0.53	66,66,66,66	0
35	NA	0	8548	1/1	0.72	0.14	59,59,59,59	0
35	NA	0	8575	1/1	0.73	0.56	104,104,104,104	0
35	NA	0	8535	1/1	0.74	0.50	79,79,79,79	0
37	SR	0	9006	1/1	0.74	0.70	150,150,150,150	0
37	SR	9	8980	1/1	0.74	0.07	137,137,137,137	0
33	MG	0	8089	1/1	0.75	0.10	49,49,49,49	0
37	SR	0	8986	1/1	0.75	0.08	131,131,131,131	0
37	SR	0	8989	1/1	0.76	0.14	150,150,150,150	0
33	MG	0	8082	1/1	0.77	0.41	78,78,78,78	0
37	SR	0	8982	1/1	0.77	0.22	144,144,144,144	0
33	MG	0	8071	1/1	0.77	1.23	84,84,84,84	0
35	NA	0	8567	1/1	0.77	0.69	83,83,83,83	0
33	MG	0	8030	1/1	0.77	0.44	99,99,99,99	0
35	NA	0	8522	1/1	0.77	0.81	77,77,77,77	0
33	MG	0	8035	1/1	0.78	0.28	80,80,80,80	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	8554	1/1	0.78	0.27	63,63,63,63	0
37	SR	0	8919	1/1	0.78	0.15	131,131,131,131	0
33	MG	0	8073	1/1	0.79	0.69	105,105,105,105	0
35	NA	0	8536	1/1	0.80	0.34	71,71,71,71	0
35	NA	0	8550	1/1	0.81	0.29	66,66,66,66	0
35	NA	0	8570	1/1	0.81	0.30	57,57,57,57	0
37	SR	0	8955	1/1	0.81	0.08	122,122,122,122	0
37	SR	B	8987	1/1	0.81	0.39	150,150,150,150	0
33	MG	0	8069	1/1	0.82	0.35	78,78,78,78	0
33	MG	0	8063	1/1	0.82	0.35	94,94,94,94	0
35	NA	0	8563	1/1	0.82	0.69	69,69,69,69	0
35	NA	0	8556	1/1	0.83	0.36	66,66,66,66	0
35	NA	0	8508	1/1	0.83	0.67	55,55,55,55	0
33	MG	0	8010	1/1	0.83	0.42	70,70,70,70	0
35	NA	0	8541	1/1	0.83	0.36	62,62,62,62	0
37	SR	0	8960	1/1	0.83	0.10	116,116,116,116	0
35	NA	0	8517	1/1	0.83	0.34	53,53,53,53	0
37	SR	0	9001	1/1	0.84	0.08	150,150,150,150	0
37	SR	0	9002	1/1	0.84	0.12	125,125,125,125	0
35	NA	0	8569	1/1	0.84	0.20	61,61,61,61	0
33	MG	0	8092	1/1	0.84	0.15	72,72,72,72	0
37	SR	0	8943	1/1	0.84	0.14	110,110,110,110	0
37	SR	0	8988	1/1	0.85	0.07	125,125,125,125	0
35	NA	0	8562	1/1	0.85	0.84	78,78,78,78	0
37	SR	0	8991	1/1	0.85	0.11	150,150,150,150	0
37	SR	0	8956	1/1	0.85	0.07	128,128,128,128	0
33	MG	0	8007	1/1	0.86	0.24	53,53,53,53	0
32	ZLD	0	9500	24/24	0.86	0.37	69,77,79,80	0
37	SR	0	8997	1/1	0.86	0.12	142,142,142,142	0
35	NA	0	8542	1/1	0.86	0.58	68,68,68,68	0
33	MG	0	8064	1/1	0.86	0.12	69,69,69,69	0
35	NA	0	8528	1/1	0.86	0.28	57,57,57,57	0
37	SR	0	9007	1/1	0.86	0.42	150,150,150,150	0
33	MG	0	8031	1/1	0.86	0.09	57,57,57,57	0
37	SR	0	8946	1/1	0.86	0.17	99,99,99,99	0
35	NA	0	8504	1/1	0.87	0.21	42,42,42,42	0
35	NA	0	8516	1/1	0.87	0.73	52,52,52,52	0
37	SR	0	8944	1/1	0.87	0.34	135,135,135,135	0
35	NA	0	8502	1/1	0.87	0.32	75,75,75,75	0
37	SR	0	8958	1/1	0.88	0.07	96,96,96,96	0
37	SR	0	8939	1/1	0.88	0.14	100,100,100,100	0
37	SR	0	8967	1/1	0.88	0.12	113,113,113,113	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	8565	1/1	0.88	0.43	66,66,66,66	0
33	MG	0	8085	1/1	0.88	0.26	105,105,105,105	0
36	CL	B	8819	1/1	0.88	0.39	72,72,72,72	0
35	NA	0	8553	1/1	0.88	0.43	63,63,63,63	0
37	SR	0	8931	1/1	0.88	0.15	94,94,94,94	0
39	ACE	4	78	3/3	0.88	0.38	79,79,80,81	0
35	NA	0	8529	1/1	0.89	0.11	46,46,46,46	0
33	MG	0	8036	1/1	0.89	0.08	58,58,58,58	0
33	MG	0	8039	1/1	0.89	0.37	68,68,68,68	0
33	MG	A	8051	1/1	0.89	0.14	71,71,71,71	0
35	NA	0	8507	1/1	0.89	0.17	51,51,51,51	0
36	CL	I	8802	1/1	0.89	0.19	71,71,71,71	0
37	SR	0	8908	1/1	0.89	0.16	90,90,90,90	0
35	NA	0	8559	1/1	0.89	0.36	85,85,85,85	0
33	MG	0	8087	1/1	0.89	0.18	61,61,61,61	0
37	SR	0	8976	1/1	0.89	0.23	139,139,139,139	0
33	MG	1	8060	1/1	0.89	0.14	58,58,58,58	0
38	CD	N	8705	1/1	0.89	0.41	150,150,150,150	0
37	SR	0	8985	1/1	0.89	0.24	116,116,116,116	0
37	SR	0	8957	1/1	0.90	0.13	120,120,120,120	0
37	SR	0	8975	1/1	0.90	0.08	133,133,133,133	0
36	CL	0	8815	1/1	0.90	0.13	61,61,61,61	0
37	SR	0	8959	1/1	0.90	0.07	150,150,150,150	0
33	MG	0	8062	1/1	0.90	0.20	61,61,61,61	0
35	NA	0	8501	1/1	0.90	0.15	46,46,46,46	0
37	SR	0	8990	1/1	0.91	0.10	131,131,131,131	0
37	SR	0	8920	1/1	0.91	0.09	96,96,96,96	0
37	SR	0	8994	1/1	0.91	0.83	150,150,150,150	0
37	SR	0	8973	1/1	0.91	0.13	101,101,101,101	0
35	NA	0	8509	1/1	0.91	0.39	83,83,83,83	0
33	MG	0	8065	1/1	0.91	0.78	100,100,100,100	0
33	MG	0	8011	1/1	0.91	0.09	33,33,33,33	0
37	SR	0	8983	1/1	0.91	0.15	150,150,150,150	0
33	MG	0	8002	1/1	0.91	0.36	82,82,82,82	0
33	MG	0	8045	1/1	0.91	0.62	71,71,71,71	0
37	SR	H	8972	1/1	0.91	0.10	148,148,148,148	0
37	SR	R	8961	1/1	0.91	0.15	122,122,122,122	0
37	SR	0	8964	1/1	0.91	0.13	101,101,101,101	0
37	SR	0	8947	1/1	0.91	0.24	109,109,109,109	0
33	MG	0	8029	1/1	0.92	0.26	100,100,100,100	0
33	MG	0	8076	1/1	0.92	0.21	68,68,68,68	0
33	MG	0	8078	1/1	0.92	0.20	64,64,64,64	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
37	SR	0	8965	1/1	0.92	0.10	108,108,108,108	0
35	NA	0	8564	1/1	0.92	0.38	74,74,74,74	0
37	SR	0	9000	1/1	0.92	0.08	111,111,111,111	0
35	NA	0	8514	1/1	0.92	0.23	51,51,51,51	0
35	NA	I	8538	1/1	0.92	0.12	51,51,51,51	0
35	NA	P	8540	1/1	0.92	0.13	73,73,73,73	0
35	NA	Q	8533	1/1	0.92	0.09	68,68,68,68	0
37	SR	0	8981	1/1	0.92	0.11	150,150,150,150	0
37	SR	A	8977	1/1	0.92	0.19	99,99,99,99	0
37	SR	B	8950	1/1	0.92	0.17	106,106,106,106	0
33	MG	S	8057	1/1	0.92	0.19	55,55,55,55	0
35	NA	0	8506	1/1	0.92	0.38	66,66,66,66	0
33	MG	0	8068	1/1	0.92	0.61	86,86,86,86	0
35	NA	0	8521	1/1	0.92	0.44	110,110,110,110	0
36	CL	I	8821	1/1	0.92	0.15	67,67,67,67	0
35	NA	Q	8532	1/1	0.93	0.09	49,49,49,49	0
35	NA	0	8511	1/1	0.93	0.18	71,71,71,71	0
33	MG	0	8001	1/1	0.93	0.32	31,31,31,31	0
33	MG	0	8079	1/1	0.93	0.13	72,72,72,72	0
33	MG	0	8046	1/1	0.93	0.40	65,65,65,65	0
33	MG	0	8047	1/1	0.93	0.38	98,98,98,98	0
35	NA	0	8549	1/1	0.93	0.31	75,75,75,75	0
36	CL	2	8804	1/1	0.93	0.12	88,88,88,88	0
33	MG	0	8067	1/1	0.93	0.06	58,58,58,58	0
33	MG	0	8049	1/1	0.93	0.23	85,85,85,85	0
35	NA	0	8505	1/1	0.93	0.37	51,51,51,51	0
37	SR	0	9008	1/1	0.93	0.13	91,91,91,91	0
37	SR	0	8974	1/1	0.93	0.23	134,134,134,134	0
37	SR	9	9003	1/1	0.93	0.34	150,150,150,150	0
37	SR	0	8924	1/1	0.93	0.24	112,112,112,112	0
33	MG	0	8053	1/1	0.93	0.20	64,64,64,64	0
35	NA	0	8527	1/1	0.93	0.30	51,51,51,51	0
33	MG	0	8056	1/1	0.93	0.36	83,83,83,83	0
33	MG	0	8033	1/1	0.93	0.07	58,58,58,58	0
35	NA	L	8539	1/1	0.93	0.35	43,43,43,43	0
33	MG	0	8043	1/1	0.93	0.27	72,72,72,72	0
35	NA	0	8546	1/1	0.94	0.29	77,77,77,77	0
33	MG	0	8090	1/1	0.94	0.38	83,83,83,83	0
36	CL	K	8810	1/1	0.94	0.13	55,55,55,55	0
36	CL	M	8807	1/1	0.94	0.35	71,71,71,71	0
37	SR	0	8993	1/1	0.94	0.08	139,139,139,139	0
35	NA	0	8531	1/1	0.94	0.08	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	C	8503	1/1	0.94	0.14	34,34,34,34	0
35	NA	0	8534	1/1	0.94	0.15	61,61,61,61	0
35	NA	0	8551	1/1	0.94	0.35	46,46,46,46	0
37	SR	0	8966	1/1	0.94	0.09	98,98,98,98	0
33	MG	0	8044	1/1	0.94	0.57	79,79,79,79	0
37	SR	0	8969	1/1	0.94	0.13	127,127,127,127	0
37	SR	0	8927	1/1	0.94	0.15	90,90,90,90	0
33	MG	9	8074	1/1	0.94	0.20	64,64,64,64	0
37	SR	0	8933	1/1	0.94	0.08	103,103,103,103	0
35	NA	0	8526	1/1	0.94	0.15	50,50,50,50	0
35	NA	0	8513	1/1	0.94	0.21	50,50,50,50	0
36	CL	0	8813	1/1	0.94	0.10	59,59,59,59	0
37	SR	0	8945	1/1	0.94	0.11	92,92,92,92	0
35	NA	0	8557	1/1	0.94	0.19	67,67,67,67	0
35	NA	0	8519	1/1	0.94	0.33	49,49,49,49	0
37	SR	0	8948	1/1	0.94	0.16	102,102,102,102	0
37	SR	0	8915	1/1	0.95	0.08	93,93,93,93	0
33	MG	0	8019	1/1	0.95	0.23	37,37,37,37	0
33	MG	0	8091	1/1	0.95	0.05	54,54,54,54	0
36	CL	0	8805	1/1	0.95	0.10	65,65,65,65	0
36	CL	0	8811	1/1	0.95	0.14	83,83,83,83	0
37	SR	0	8995	1/1	0.95	0.21	107,107,107,107	0
35	NA	0	8545	1/1	0.95	0.44	57,57,57,57	0
33	MG	0	8052	1/1	0.95	0.19	49,49,49,49	0
37	SR	0	8938	1/1	0.95	0.26	105,105,105,105	0
36	CL	0	8822	1/1	0.95	0.26	69,69,69,69	0
37	SR	0	9004	1/1	0.95	0.15	150,150,150,150	0
36	CL	A	8809	1/1	0.95	0.20	65,65,65,65	0
33	MG	0	8022	1/1	0.95	0.27	46,46,46,46	0
33	MG	0	8084	1/1	0.95	0.10	66,66,66,66	0
33	MG	0	8025	1/1	0.95	0.08	43,43,43,43	0
37	SR	0	8979	1/1	0.95	0.28	150,150,150,150	0
33	MG	0	8058	1/1	0.95	0.22	28,28,28,28	0
33	MG	0	8088	1/1	0.95	0.08	57,57,57,57	0
37	SR	0	8951	1/1	0.95	0.13	113,113,113,113	0
37	SR	F	9005	1/1	0.95	0.20	116,116,116,116	0
37	SR	0	8984	1/1	0.95	0.10	109,109,109,109	0
36	CL	Q	8806	1/1	0.95	0.12	49,49,49,49	0
33	MG	0	8059	1/1	0.95	0.09	56,56,56,56	0
35	NA	0	8523	1/1	0.95	0.20	51,51,51,51	0
35	NA	0	8530	1/1	0.96	0.17	56,56,56,56	0
33	MG	0	8077	1/1	0.96	0.09	47,47,47,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
36	CL	0	8816	1/1	0.96	0.19	77,77,77,77	0
33	MG	0	8032	1/1	0.96	0.09	56,56,56,56	0
35	NA	0	8566	1/1	0.96	0.58	54,54,54,54	0
35	NA	0	8547	1/1	0.96	0.34	75,75,75,75	0
36	CL	I	8801	1/1	0.96	0.13	61,61,61,61	0
37	SR	9	8968	1/1	0.96	0.11	132,132,132,132	0
37	SR	0	8937	1/1	0.96	0.13	80,80,80,80	0
33	MG	0	8075	1/1	0.96	0.17	50,50,50,50	0
37	SR	A	8929	1/1	0.96	0.10	103,103,103,103	0
35	NA	0	8558	1/1	0.96	0.08	63,63,63,63	0
33	MG	X	8086	1/1	0.96	0.13	51,51,51,51	0
35	NA	0	8560	1/1	0.96	0.49	88,88,88,88	0
36	CL	0	8803	1/1	0.96	0.20	61,61,61,61	0
36	CL	X	8820	1/1	0.96	0.07	49,49,49,49	0
33	MG	0	8080	1/1	0.96	0.07	78,78,78,78	0
37	SR	0	8996	1/1	0.96	0.51	150,150,150,150	0
33	MG	0	8027	1/1	0.96	0.24	53,53,53,53	0
37	SR	0	8910	1/1	0.97	0.18	59,59,59,59	0
33	MG	0	8008	1/1	0.97	0.13	34,34,34,34	0
37	SR	0	8962	1/1	0.97	0.06	108,108,108,108	0
37	SR	0	8963	1/1	0.97	0.12	83,83,83,83	0
35	NA	B	8552	1/1	0.97	0.42	59,59,59,59	0
33	MG	0	8070	1/1	0.97	0.07	62,62,62,62	0
33	MG	0	8020	1/1	0.97	0.17	52,52,52,52	0
37	SR	0	8926	1/1	0.97	0.19	82,82,82,82	0
33	MG	0	8016	1/1	0.97	0.20	94,94,94,94	0
37	SR	0	8970	1/1	0.97	0.10	80,80,80,80	0
37	SR	0	8928	1/1	0.97	0.12	91,91,91,91	0
37	SR	0	8954	1/1	0.97	0.15	94,94,94,94	0
33	MG	0	8024	1/1	0.97	0.21	81,81,81,81	0
33	MG	0	8004	1/1	0.97	0.11	36,36,36,36	0
33	MG	0	8026	1/1	0.97	0.11	61,61,61,61	0
37	SR	S	8911	1/1	0.97	0.15	72,72,72,72	0
37	SR	Z	8952	1/1	0.97	0.11	71,71,71,71	0
37	SR	0	8978	1/1	0.97	0.06	85,85,85,85	0
35	NA	0	8537	1/1	0.97	0.09	43,43,43,43	0
33	MG	0	8023	1/1	0.98	0.16	39,39,39,39	0
36	CL	L	8818	1/1	0.98	0.21	48,48,48,48	0
35	NA	K	8568	1/1	0.98	0.23	57,57,57,57	0
36	CL	N	8808	1/1	0.98	0.27	76,76,76,76	0
34	K	0	8402	1/1	0.98	0.09	70,70,70,70	0
37	SR	0	8949	1/1	0.98	0.12	80,80,80,80	0

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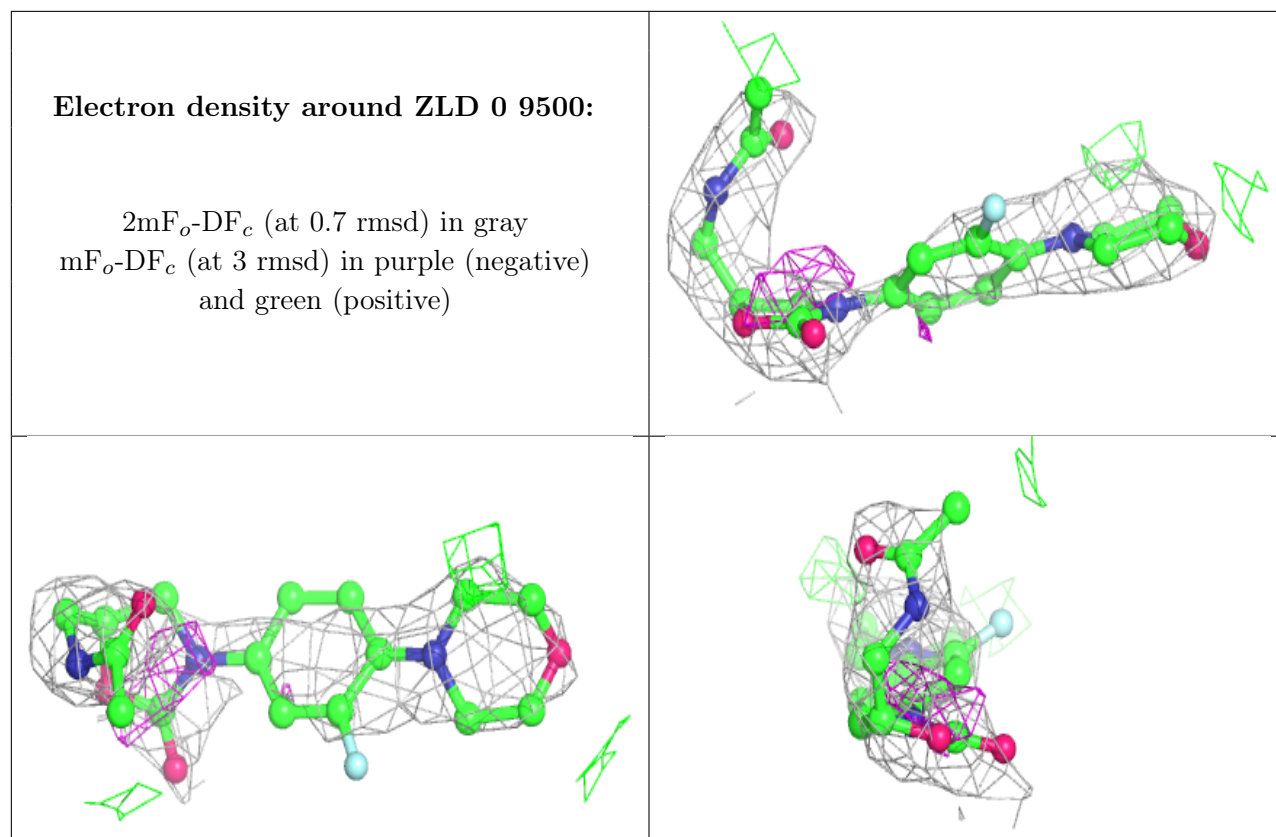
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	MG	0	8041	1/1	0.98	0.13	44,44,44,44	0
37	SR	0	8992	1/1	0.98	0.09	115,115,115,115	0
37	SR	0	8953	1/1	0.98	0.17	96,96,96,96	0
35	NA	0	8520	1/1	0.98	0.14	61,61,61,61	0
37	SR	0	8906	1/1	0.98	0.18	56,56,56,56	0
37	SR	0	8907	1/1	0.98	0.15	63,63,63,63	0
33	MG	0	8009	1/1	0.98	0.28	23,23,23,23	0
37	SR	0	8998	1/1	0.98	0.11	133,133,133,133	0
37	SR	0	8909	1/1	0.98	0.18	74,74,74,74	0
33	MG	0	8018	1/1	0.98	0.29	44,44,44,44	0
33	MG	0	8034	1/1	0.98	0.07	44,44,44,44	0
37	SR	0	8916	1/1	0.98	0.17	85,85,85,85	0
37	SR	0	8917	1/1	0.98	0.16	81,81,81,81	0
35	NA	0	8524	1/1	0.98	0.38	56,56,56,56	0
33	MG	0	8012	1/1	0.98	0.10	30,30,30,30	0
37	SR	0	8923	1/1	0.98	0.13	83,83,83,83	0
33	MG	0	8093	1/1	0.98	0.07	41,41,41,41	0
37	SR	0	8925	1/1	0.98	0.21	79,79,79,79	0
33	MG	0	8015	1/1	0.98	0.13	62,62,62,62	0
37	SR	A	8930	1/1	0.98	0.18	81,81,81,81	0
33	MG	A	8050	1/1	0.98	0.47	93,93,93,93	0
36	CL	0	8817	1/1	0.98	0.13	56,56,56,56	0
33	MG	0	8048	1/1	0.98	0.07	64,64,64,64	0
33	MG	0	8028	1/1	0.98	0.23	29,29,29,29	0
37	SR	0	8934	1/1	0.98	0.17	90,90,90,90	0
33	MG	0	8021	1/1	0.98	0.15	38,38,38,38	0
33	MG	0	8003	1/1	0.98	0.17	35,35,35,35	0
35	NA	0	8515	1/1	0.98	0.15	34,34,34,34	0
37	SR	0	8941	1/1	0.98	0.15	81,81,81,81	0
33	MG	0	8055	1/1	0.98	0.16	40,40,40,40	0
37	SR	0	8999	1/1	0.99	0.09	88,88,88,88	0
37	SR	0	8922	1/1	0.99	0.12	77,77,77,77	0
37	SR	0	8902	1/1	0.99	0.21	49,49,49,49	0
37	SR	0	8903	1/1	0.99	0.14	59,59,59,59	0
37	SR	0	8904	1/1	0.99	0.18	52,52,52,52	0
37	SR	0	8905	1/1	0.99	0.21	59,59,59,59	0
33	MG	0	8005	1/1	0.99	0.07	39,39,39,39	0
36	CL	J	8812	1/1	0.99	0.13	54,54,54,54	0
33	MG	0	8061	1/1	0.99	0.17	36,36,36,36	0
33	MG	0	8006	1/1	0.99	0.25	27,27,27,27	0
33	MG	0	8014	1/1	0.99	0.21	37,37,37,37	0
37	SR	0	8935	1/1	0.99	0.18	80,80,80,80	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
37	SR	0	8936	1/1	0.99	0.15	70,70,70,70	0
37	SR	0	8914	1/1	0.99	0.25	84,84,84,84	0
33	MG	0	8083	1/1	0.99	0.16	55,55,55,55	0
33	MG	0	8072	1/1	0.99	0.13	47,47,47,47	0
37	SR	0	8940	1/1	0.99	0.10	77,77,77,77	0
33	MG	J	8054	1/1	0.99	0.20	37,37,37,37	0
37	SR	0	8942	1/1	0.99	0.12	89,89,89,89	0
37	SR	0	8918	1/1	0.99	0.21	59,59,59,59	0
37	SR	Z	8913	1/1	0.99	0.14	52,52,52,52	0
36	CL	0	8814	1/1	0.99	0.18	57,57,57,57	0
37	SR	2	8932	1/1	0.99	0.12	76,76,76,76	0
37	SR	0	8901	1/1	0.99	0.14	75,75,75,75	0
38	CD	T	8701	1/1	0.99	0.10	64,64,64,64	0
38	CD	Z	8702	1/1	0.99	0.09	67,67,67,67	0
37	SR	0	8921	1/1	0.99	0.17	70,70,70,70	0
37	SR	Q	8912	1/1	1.00	0.17	75,75,75,75	0
38	CD	2	8704	1/1	1.00	0.07	65,65,65,65	0
38	CD	Y	8703	1/1	1.00	0.08	59,59,59,59	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



6.5 Other polymers [i](#)

There are no such residues in this entry.