



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 7, 2023 – 02:23 AM EDT

PDB ID : 1YJW
Title : Crystal Structure Of Quinupristin Bound To The G2099A Mutant 50S Ribosomal Subunit Of Haloarcula Marismortui
Authors : Tu, D.; Blaha, G.; Moore, P.B.; Steitz, T.A.
Deposited on : 2005-01-15
Resolution : 2.90 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 types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.33
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) : 2.33

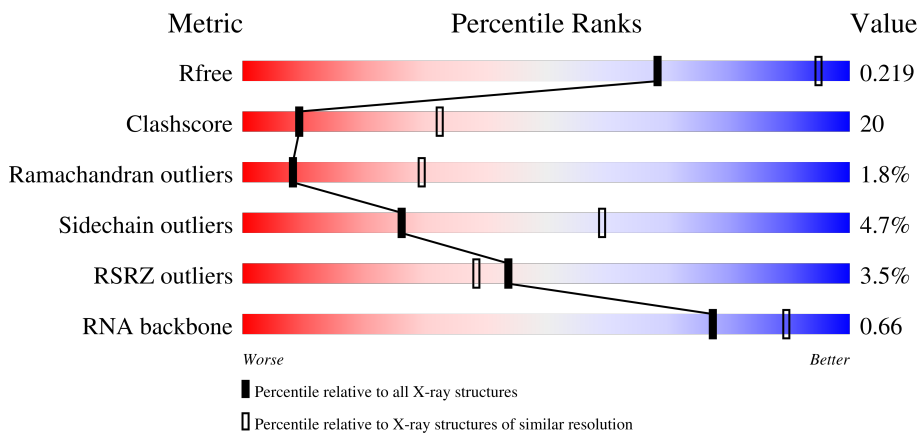
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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))
R_{free}	130704	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)
RNA backbone	3102	1007 (3.16-2.64)

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% 53% 36% 6% 6%
2	1	57	 65% 33%
3	2	50	 4% 46% 46% 8%
4	3	92	 55% 45%

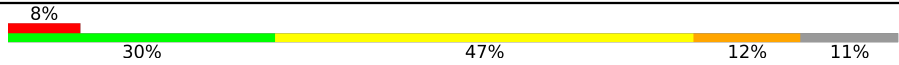


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Mol	Chain	Length	Quality of chain
5	4	8	
6	9	122	
7	A	240	
8	B	338	
9	C	246	
10	D	177	
11	E	178	
12	F	120	
13	G	348	
14	H	177	
15	I	162	
16	J	145	
17	K	132	
18	L	165	
19	M	195	
20	N	187	
21	O	116	
22	P	149	
23	Q	96	
24	R	155	
25	S	85	
26	T	120	
27	U	66	
28	V	71	
29	W	154	

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Mol	Chain	Length	Quality of chain
30	X	92	
31	Y	241	
32	Z	83	

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
35	NA	0	3120	-	-	-	X
35	NA	0	3134	-	-	-	X
35	NA	0	3174	-	-	-	X
35	NA	0	3175	-	-	-	X
35	NA	0	3183	-	-	-	X
35	NA	9	203	-	-	-	X
35	NA	R	202	-	-	-	X
36	CL	0	3189	-	-	X	-
36	CL	N	201	-	-	X	-

2 Entry composition [i](#)

There are 38 unique types of molecules in this entry. The entry contains 99111 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	59020	26349	10873	19053	2745	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	2099	A	G	conflict	GB 55229667

- Molecule 2 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	1	56	431	258	86	83	4	0	0	0

- Molecule 3 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	2	46	396	239	89	67	1	0	0	0

- Molecule 4 is a protein called 50S ribosomal protein L44e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	3	92	755	458	153	137	7	0	0	0

- Molecule 5 is a protein called QUINUPRISTIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	4	8	73	53	9	10	1	0	0	0

- Molecule 6 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
6	9	122	2599	1160	471	847	121	0	0	0

- Molecule 7 is a protein called 50S ribosomal protein L2.

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

- Molecule 8 is a protein called 50S ribosomal protein L3.

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

- Molecule 9 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	C	246	1859	1131	344	383	1	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	73	LEU	GLN	conflict	UNP P12735

- Molecule 10 is a protein called 50S ribosomal protein L5.

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

- Molecule 11 is a protein called 50S ribosomal protein L6.

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

- Molecule 12 is a protein called 50S ribosomal protein L7Ae.

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

- Molecule 13 is a protein called 50S ribosomal protein L10.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	248	ASP	ALA	conflict	UNP P15825

- Molecule 14 is a protein called 50S ribosomal protein L10e.

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

- Molecule 15 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	I	70	519	323	81	114	1	0	0	0

- Molecule 16 is a protein called 50S ribosomal protein L13.

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

- Molecule 17 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
17	K	132	992	609	187	192	4	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	44	LEU	HIS	conflict	UNP P22450

- Molecule 18 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
18	L	145	1118	670	222	226	0	0	0

- Molecule 19 is a protein called 50S ribosomal protein L15e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
19	M	194	1558	942	332	283	1	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	13	GLU	LYS	conflict	UNP P60618

- Molecule 20 is a protein called 50S ribosomal protein L18.

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

- Molecule 21 is a protein called 50S ribosomal protein L18e.

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

- Molecule 22 is a protein called 50S ribosomal protein L19e.

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

- Molecule 23 is a protein called 50S ribosomal protein L21e.

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

- Molecule 24 is a protein called 50S ribosomal protein L22.

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

- Molecule 25 is a protein called 50S ribosomal protein L23.

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

- Molecule 26 is a protein called 50S ribosomal protein L24.

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

- Molecule 27 is a protein called 50S ribosomal protein L24e.

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

- Molecule 28 is a protein called 50S ribosomal protein L29.

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

- Molecule 29 is a protein called 50S ribosomal protein L30.

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

- Molecule 30 is a protein called 50S ribosomal protein L31e.

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

- Molecule 31 is a protein called 50S ribosomal protein L32e.

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

- Molecule 32 is a protein called 50S ribosomal protein L37Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	Z	73	Total	C	N	O	S	0	0	0
			578	346	116	111	5			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Z	10	ARG	-	expression tag	UNP P60619

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	0	109	Total	Mg	0	0
			109	109		
33	3	1	Total	Mg	0	0
			1	1		
33	4	1	Total	Mg	0	0
			1	1		
33	9	1	Total	Mg	0	0
			1	1		
33	A	1	Total	Mg	0	0
			1	1		
33	B	1	Total	Mg	0	0
			1	1		
33	K	1	Total	Mg	0	0
			1	1		
33	T	1	Total	Mg	0	0
			1	1		
33	Y	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	0	0
			2	2		

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

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	0	74	Total Na 74 74	0	0
35	9	2	Total Na 2 2	0	0
35	A	1	Total Na 1 1	0	0
35	C	1	Total Na 1 1	0	0
35	H	1	Total Na 1 1	0	0
35	J	1	Total Na 1 1	0	0
35	L	1	Total Na 1 1	0	0
35	M	1	Total Na 1 1	0	0
35	Q	1	Total Na 1 1	0	0
35	R	2	Total Na 2 2	0	0
35	S	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	10	Total Cl 10 10	0	0
36	3	1	Total Cl 1 1	0	0
36	A	1	Total Cl 1 1	0	0
36	B	1	Total Cl 1 1	0	0
36	J	3	Total Cl 3 3	0	0
36	L	1	Total Cl 1 1	0	0
36	M	1	Total Cl 1 1	0	0
36	N	1	Total Cl 1 1	0	0
36	O	1	Total Cl 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	R	1	Total Cl 1 1	0	0
36	Y	1	Total Cl 1 1	0	0

- Molecule 37 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
37	1	1	Total Cd 1 1	0	0
37	3	1	Total Cd 1 1	0	0
37	O	1	Total Cd 1 1	0	0
37	U	1	Total Cd 1 1	0	0
37	Z	1	Total Cd 1 1	0	0

- Molecule 38 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
38	0	5842	Total O 5842 5842	0	0
38	1	60	Total O 60 60	0	0
38	2	49	Total O 49 49	0	0
38	3	69	Total O 69 69	0	0
38	4	2	Total O 2 2	0	0
38	9	143	Total O 143 143	0	0
38	A	123	Total O 123 123	0	0
38	B	146	Total O 146 146	0	0
38	C	185	Total O 185 185	0	0
38	D	49	Total O 49 49	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	E	42	Total 42	O 42	0	0
38	F	26	Total 26	O 26	0	0
38	G	20	Total 20	O 20	0	0
38	H	69	Total 69	O 69	0	0
38	I	9	Total 9	O 9	0	0
38	J	55	Total 55	O 55	0	0
38	K	59	Total 59	O 59	0	0
38	L	82	Total 82	O 82	0	0
38	M	129	Total 129	O 129	0	0
38	N	60	Total 60	O 60	0	0
38	O	42	Total 42	O 42	0	0
38	P	72	Total 72	O 72	0	0
38	Q	48	Total 48	O 48	0	0
38	R	85	Total 85	O 85	0	0
38	S	30	Total 30	O 30	0	0
38	T	39	Total 39	O 39	0	0
38	U	29	Total 29	O 29	0	0
38	V	13	Total 13	O 13	0	0
38	W	69	Total 69	O 69	0	0
38	X	26	Total 26	O 26	0	0
38	Y	101	Total 101	O 101	0	0

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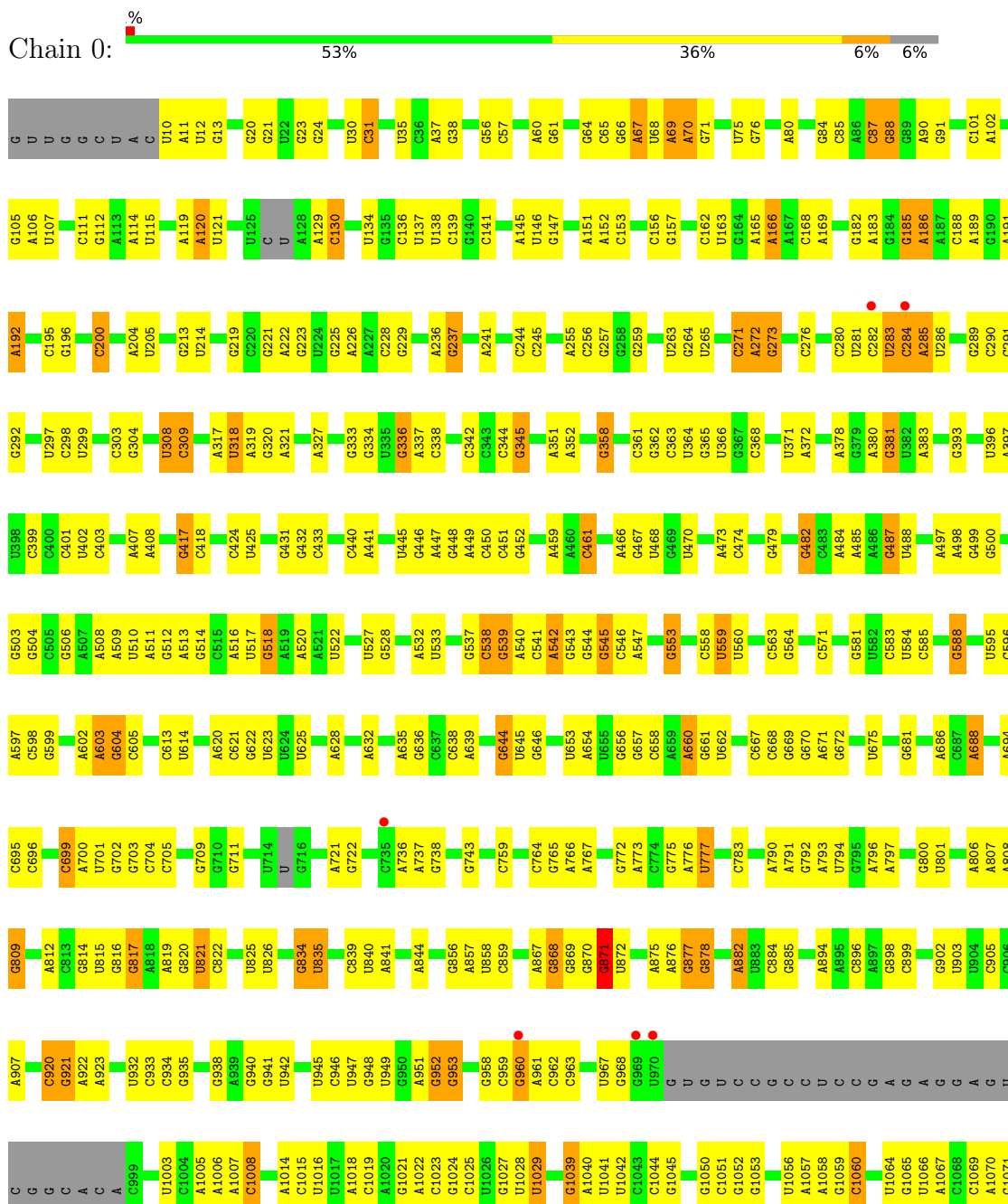
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	Z	37	Total	O	0	0
			37	37		

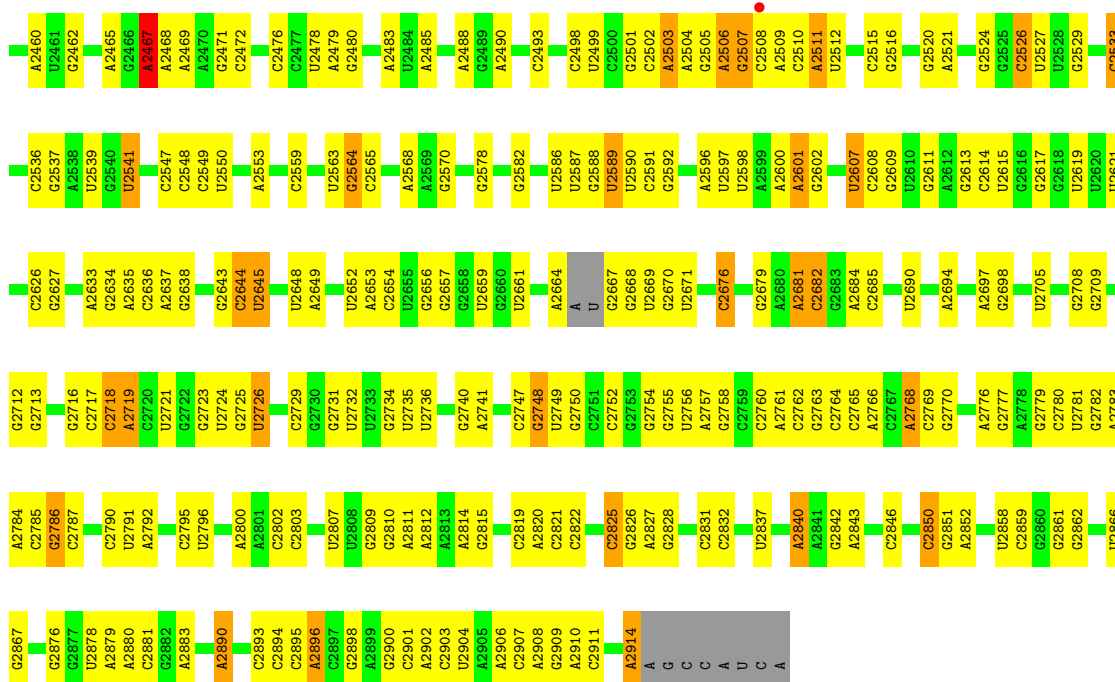
3 Residue-property plots [i](#)

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

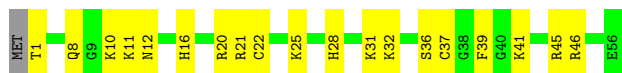
- Molecule 1: 23S RIBOSOMAL RNA



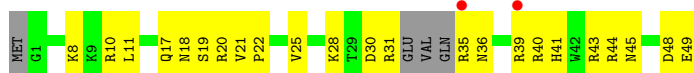
A2364	G2270	C	G1823	A1733	G1834	A1533	A1437	C1343	G1239	A1171	G1072
G2365	G2271	C	G1824	C1734	U1635	C1534	G1438	A1348	G1242	G1172	A1073
A2369	C2272	A	U1825	A1735	G1636	G1535	C1439	A1440	C1243	A1173	G1074
G2370	C2273	G	U1826	A1736	A1637	C1536	U1440	A1352	G1244	A1174	A1081
A2371	G2274	A	A1829	U1741	U1641	G1543	G1442	G1354	C1245	G1175	A1086
A2372	A2039	C	C1830	A1742	A1642	U1544	U1446	A1355	A1246	A1177	G1087
U2373	C2040	C	U1834	G1743	A1643	C1545	U1450	C1360	C1250	G1178	A1088
U2377	G2044	G	U1835	G1744	C1643	A1545	C1451	C1462	C1251	G1179	A1089
C2281	A	A	U1838	U1748	A1653	A1559	C1450	G1363	G1260	A1180	A1097
U2282	G2050	U	U1839	C1749	U1654	U	C1451	G1461	G1261	A1181	A1098
A2291	G2053	G	A1840	U1750	G1655	U1561	U1461	C1366	G1266	C1182	G1099
A2382	A2055	A	C1841	G1751	A1656	C1562	C1462	U1372	U1267	U1185	C1102
U2384	A	A	U1845	G1752	A1657	G1563	A1470	A1372	C1267	C1186	U1109
U2386	U2064	U	G1849	C1753	A1658	C1564	A1471	A1375	C1268	U1187	U1110
U2387	C2065	A	U	A1755	A1659	A1564	C1472	A1376	G1269	C1188	G1110
U2388	G2072	C	U	U1761	G1660	G1571	U1473	C1377	C1273	A1189	U1111
U2389	A2074	A	C1853	C1762	A1667	C1574	C1474	G1378	G1277	A1190	G1112
C2309	A2074	C	G1854	C1763	U1668	A1574	U1477	U1379	C1277	A1191	U1116
G2312	A2081	C	U1855	U1766	G1669	A1580	U1478	U1380	C1277	A1192	A1117
A2401	C	C	C1856	A1767	U1670	A1581	G1479	U1386	U1279	A1193	A1118
A2402	C2087	G	U1862	C1768	C1674	C1584	C1483	G1387	A1287	A1194	G1119
C2315	C2088	G	G1863	C1769	U1677	C1585	G1484	U1288	U1288	G1195	U1120
G2316	A2089	G	U1868	U1770	A1678	C1586	U1488	G1391	U1289	U1198	G1121
C2317	G2090	G	G1869	A1771	U1679	U1587	U1489	A1392	G1290	U1199	A1123
U2320	G2091	U	C1872	G1772	C1679	G1588	G1490	A1393	A1291	A1200	U1129
A2321	C	C	U1873	G1773	A1682	G1589	U1493	C1394	U1292	C1201	U1130
U2419	A2096	C	U1874	A1778	G1683	G1592	A1493	G1398	U1293	A1202	G1137
G2420	A2100	U	U1877	A1779	U1684	C1593	A1494	A1399	A1294	G1203	G1138
G2421	G2102	G	G1878	U1783	A1685	C1594	C1495	C1400	G1295	G1204	A1132
U2422	A2103	G	U1879	G1785	C1692	G1595	A1496	A1406	G1299	U1205	U1206
C2329	C2104	A	C1882	C1786	A1701	U1596	G1497	A1407	G1304	A1206	U1337
U2330	G	G	U1883	C1787	U1702	U1598	U1500	U1408	C1306	C1208	U1139
C2335	G2110	G	G1884	U1788	G1703	G1600	A1501	G1409	A1307	C1209	C1140
A2425	G2111	U	U1903	G1789	A1710	A1603	U1502	A1406	A1308	G1210	A1150
G2426	A2112	A	U1904	C1790	A1711	A1604	A1503	A1414	A1307	G1211	A1151
C2431	C2113	C	U1905	U1791	A1712	G1605	U1504	G1415	A1308	C1212	G1154
A2432	C2114	C	U1906	U1792	G1713	G1606	U1505	G1416	U1314	G1213	G1155
A2433	G2000	C	A1977	A1797	C1714	G1607	U1506	G1417	G1316	A1215	C1156
A2434	G2001	C	C1786	C1798	C1715	G1614	C1513	U1418	G1316	G1217	C1157
U2435	C2002	C	U1788	G1799	A1716	A1615	C1514	U1419	G1325	G1226	G1158
U2441	U2003	G	A1804	G1806	A1717	A1616	A1515	C1420	A1328	G1227	G1159
G2442	U2004	U	G1805	G1806	G1718	G1617	U1516	U1422	A1328	C1228	G1160
U2443	G2005	A	G1806	G1806	G1719	G1618	C1517	U1423	G1331	C1229	A1161
U2444	U2008	G	U1925	G1925	U1722	C1620	A1518	C1423	G1332	C1232	G1162
G2446	A2011	G	G1926	A1927	G1723	U1624	U1524	A1427	U1333	A1232	U1163
G2453	U2012	G	U1927	A1811	U1724	A1625	A1526	G1430	C1334	A1234	G1165
C2454	G2013	C	A1930	G1819	C1725	A1626	A1527	U1434	C1335	U1234	G1166
A2455	U2032	C	A1931	G1820	G1730	A1627	U1528	U1435	G1340	G1235	G1167
G2456	C	A	C1935	A1821	C1731	G1627	G1529	U1436	A1341	U1236	C1168
		A		A1822	A1732	C1633		C1436	C1342	U1237	U1170



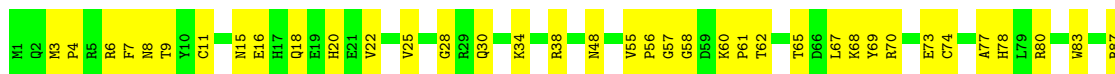
• Molecule 2: 50S ribosomal protein L37e



• Molecule 3: 50S ribosomal protein L39e



• Molecule 4: 50S ribosomal protein L44e

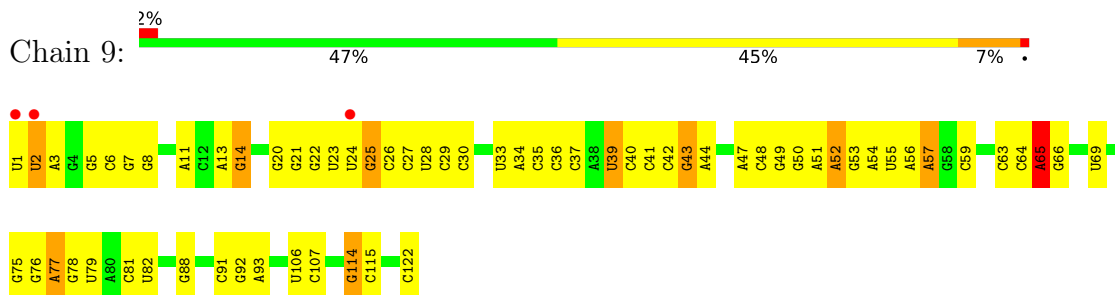


• Molecule 5: QUINUPRISTIN

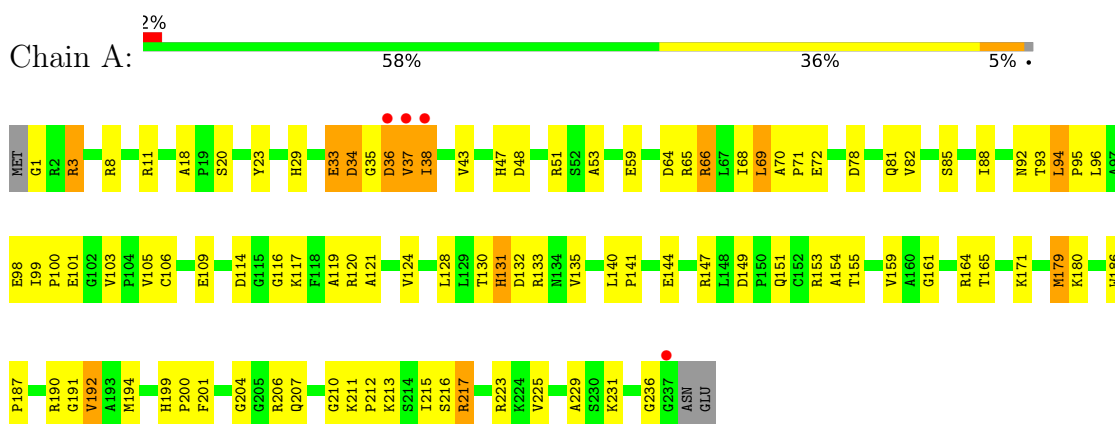




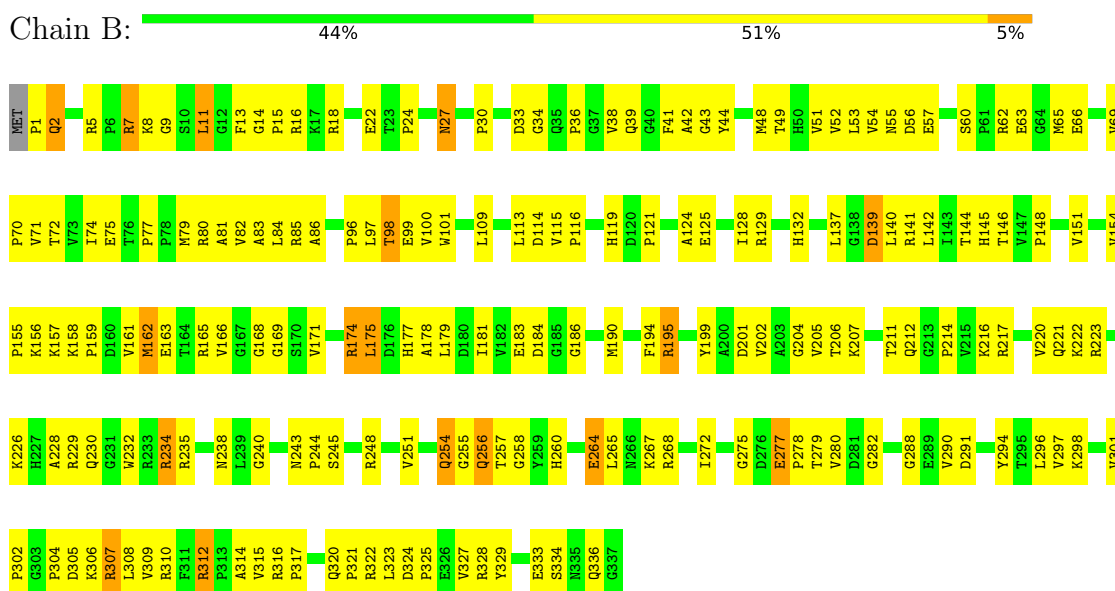
- Molecule 6: 5S RIBOSOMAL RNA



- Molecule 7: 50S ribosomal protein L2

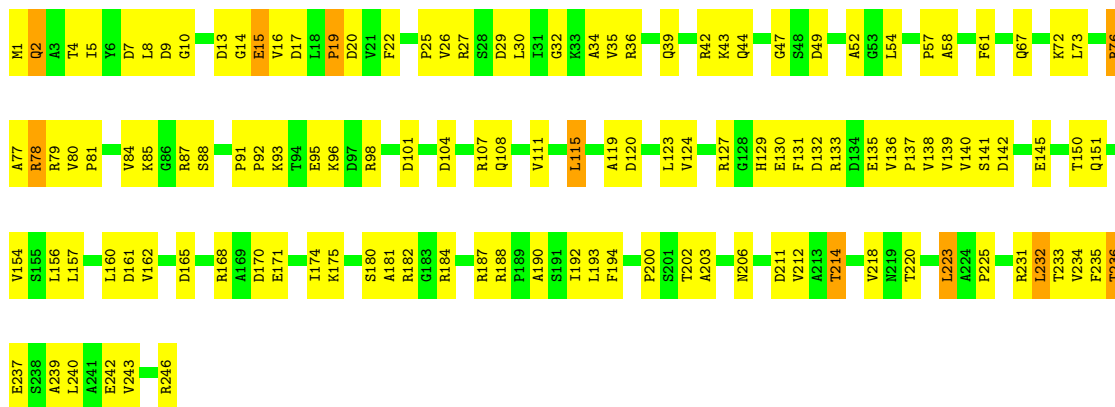


- Molecule 8: 50S ribosomal protein L3

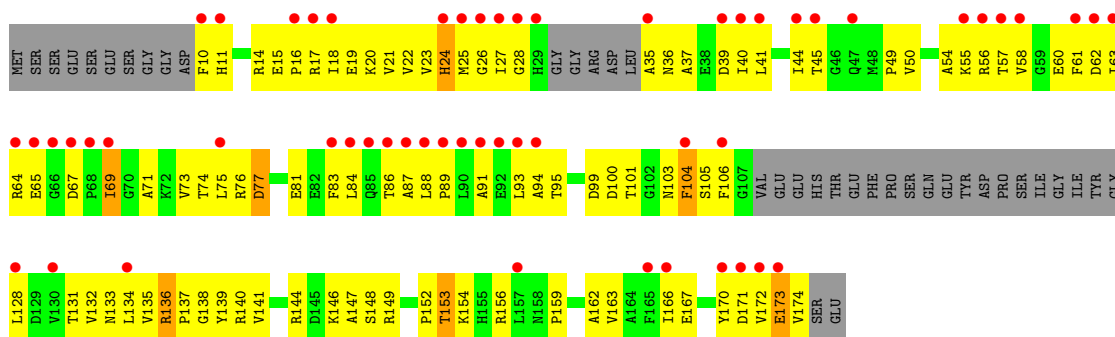


- Molecule 9: 50S ribosomal protein L4

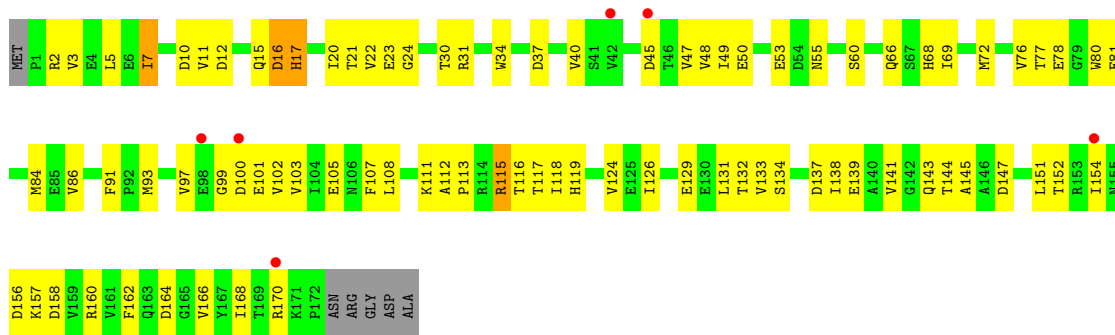




• Molecule 10: 50S ribosomal protein L5

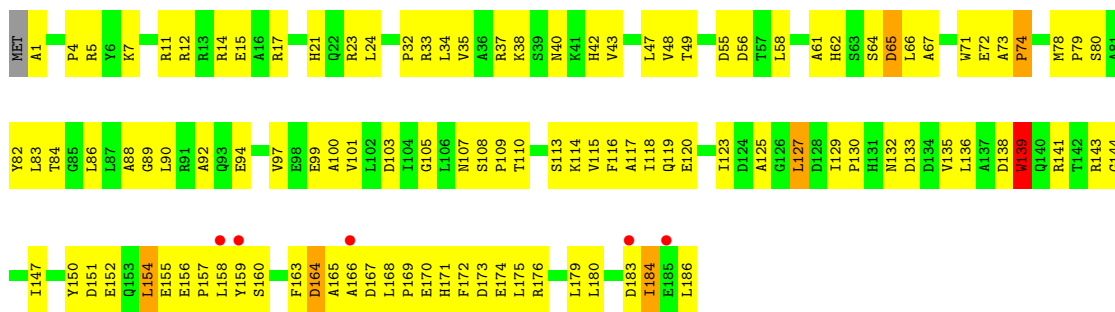


• Molecule 11: 50S ribosomal protein L6



• Molecule 12: 50S ribosomal protein L7Ae

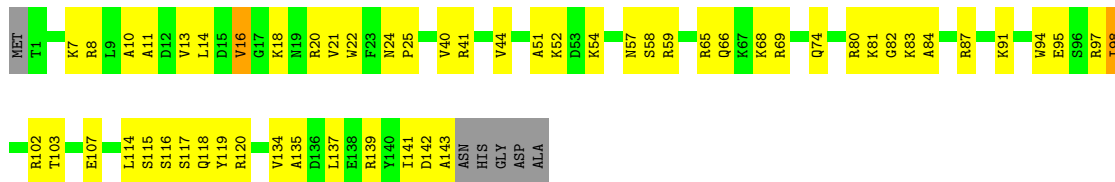




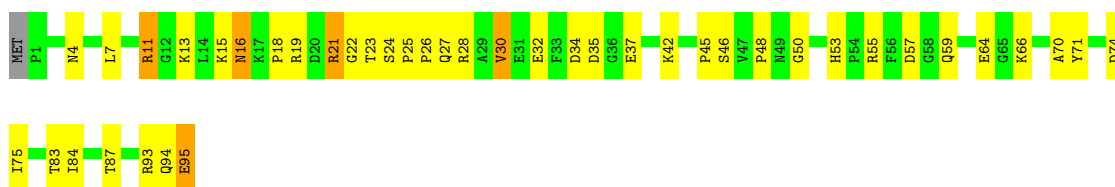
• Molecule 21: 50S ribosomal protein L18e



• Molecule 22: 50S ribosomal protein L19e



• Molecule 23: 50S ribosomal protein L21e

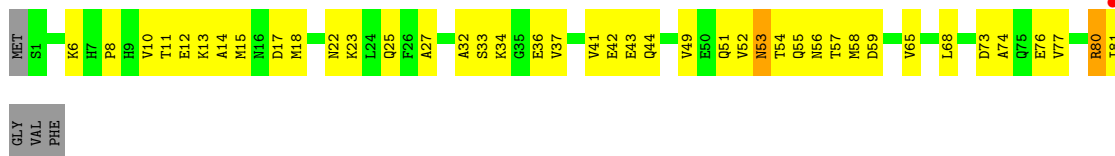


• Molecule 24: 50S ribosomal protein L22

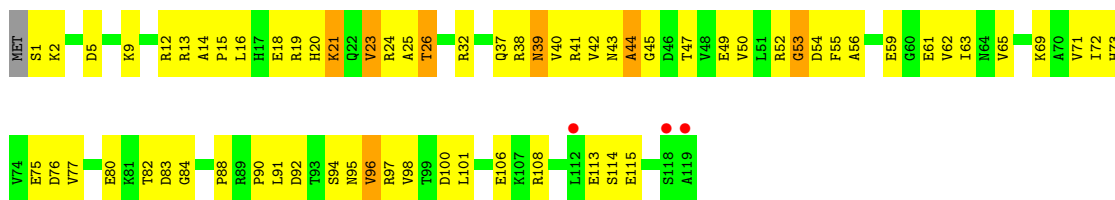
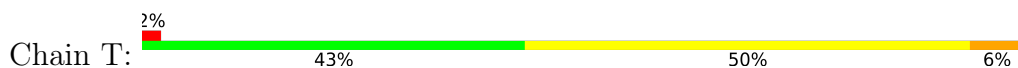




• Molecule 25: 50S ribosomal protein L23



• Molecule 26: 50S ribosomal protein L24



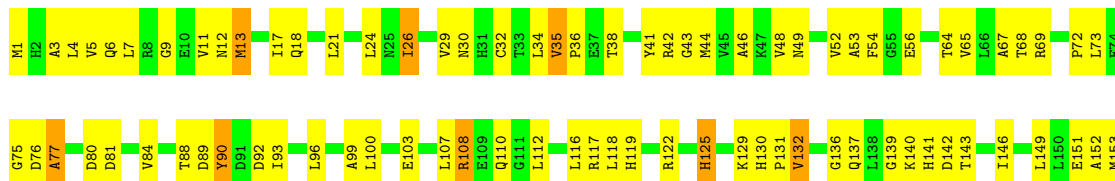
• Molecule 27: 50S ribosomal protein L24e



• Molecule 28: 50S ribosomal protein L29



• Molecule 29: 50S ribosomal protein L30



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	211.69Å 299.78Å 573.88Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.98 – 2.90 49.95 – 2.89	Depositor EDS
% Data completeness (in resolution range)	83.8 (29.98-2.90) 83.4 (49.95-2.89)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.29 (at 2.91Å)	Xtrriage
Refinement program	CNS	Depositor
R, R_{free}	0.171 , 0.223 0.171 , 0.219	Depositor DCC
R_{free} test set	3279 reflections (0.98%)	wwPDB-VP
Wilson B-factor (Å ²)	43.6	Xtrriage
Anisotropy	0.168	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 67.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	99111	wwPDB-VP
Average B, all atoms (Å ²)	49.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.39% 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MHU, OMU, CL, MHT, K, MHW, CD, DBB, MG, 004, NA, MHV, 1MA, OMG, PSU, UR3

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	0/65957	0.69	13/102867 (0.0%)
2	1	0.38	0/438	0.61	0/578
3	2	0.34	0/401	0.56	0/529
4	3	0.37	0/771	0.57	0/1024
5	4	1.63	0/13	1.38	0/15
6	9	0.35	0/2904	0.69	1/4526 (0.0%)
7	A	0.33	0/1786	0.65	0/2408
8	B	0.33	0/2690	0.63	0/3652
9	C	0.36	0/1884	0.63	0/2551
10	D	0.32	0/1111	0.56	0/1498
11	E	0.33	0/1382	0.58	0/1880
12	F	0.33	0/901	0.57	0/1224
13	G	0.30	0/241	0.48	0/324
14	H	0.34	0/1302	0.64	0/1743
15	I	0.31	0/526	0.55	0/716
16	J	0.35	0/1136	0.59	0/1530
17	K	0.35	0/1001	0.67	0/1347
18	L	0.32	0/1130	0.63	0/1509
19	M	0.34	0/1582	0.60	0/2117
20	N	0.30	0/1474	0.64	0/1999
21	O	0.34	0/874	0.60	0/1181
22	P	0.33	0/1147	0.54	0/1528
23	Q	0.35	0/749	0.66	0/1005
24	R	0.34	0/1172	0.63	0/1578
25	S	0.34	0/648	0.59	0/875
26	T	0.32	0/958	0.61	0/1289
27	U	0.32	0/417	0.58	0/562
28	V	0.29	0/502	0.55	0/675
29	W	0.36	0/1219	0.62	0/1655
30	X	0.33	0/664	0.61	0/895
31	Y	0.35	0/1146	0.62	0/1536
32	Z	0.35	0/589	0.67	0/787

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.36	0/98715	0.67	14/147603 (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	20
6	9	0	1
29	W	0	1
All	All	0	22

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	1504	A	C1'-O4'-C4'	-6.45	104.74	109.90
1	0	1942	A	C5'-C4'-C3'	6.01	125.61	116.00
1	0	871	G	C5'-C4'-O4'	-5.83	102.10	109.10
1	0	2291	A	N9-C1'-C2'	5.68	121.39	114.00
1	0	2726	U	N1-C1'-C2'	5.63	121.33	114.00
6	9	39	U	N1-C1'-C2'	5.52	121.18	114.00
1	0	1819	G	C5'-C4'-C3'	5.43	124.69	116.00
1	0	2313	C	C5'-C4'-O4'	5.37	115.55	109.10
1	0	1120	U	C5'-C4'-C3'	-5.29	107.54	116.00
1	0	841	A	C1'-O4'-C4'	-5.28	105.68	109.90
1	0	1971	G	N9-C1'-C2'	5.16	120.71	114.00
1	0	2467	A	C1'-O4'-C4'	-5.12	105.81	109.90
1	0	1165	G	C1'-O4'-C4'	-5.09	105.83	109.90
1	0	2313	C	C1'-O4'-C4'	-5.01	105.89	109.90

There are no chirality outliers.

All (22) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1039	G	Sidechain
1	0	1377	C	Sidechain
1	0	1430	G	Sidechain
1	0	1653	A	Sidechain
1	0	1829	A	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1863	G	Sidechain
1	0	1877	G	Sidechain
1	0	1878	G	Sidechain
1	0	1970	G	Sidechain
1	0	2493	C	Sidechain
1	0	2503	A	Sidechain
1	0	2506	A	Sidechain
1	0	2607	U	Sidechain
1	0	482	G	Sidechain
1	0	518	G	Sidechain
1	0	792	G	Sidechain
1	0	817	G	Sidechain
1	0	867	A	Sidechain
1	0	868	G	Sidechain
1	0	952	G	Sidechain
6	9	65	A	Sidechain
29	W	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	59020	0	29811	1125	0
2	1	431	0	426	27	0
3	2	396	0	413	30	0
4	3	755	0	728	38	0
5	4	73	0	64	1	0
6	9	2599	0	1325	72	0
7	A	1753	0	1766	116	0
8	B	2625	0	2533	203	0
9	C	1859	0	1816	140	0
10	D	1094	0	1085	111	0
11	E	1357	0	1266	79	0
12	F	890	0	843	56	0
13	G	240	0	231	19	0
14	H	1282	0	1292	88	0
15	I	519	0	500	62	0
16	J	1120	0	1098	75	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
17	K	992	0	1031	72	0
18	L	1118	0	1076	82	0
19	M	1558	0	1566	82	0
20	N	1445	0	1401	145	0
21	O	865	0	873	48	0
22	P	1136	0	1123	57	0
23	Q	735	0	729	45	0
24	R	1149	0	1122	59	0
25	S	641	0	605	39	0
26	T	950	0	923	71	0
27	U	410	0	364	35	0
28	V	499	0	511	43	0
29	W	1196	0	1137	116	0
30	X	654	0	653	59	0
31	Y	1130	0	1133	69	0
32	Z	578	0	539	24	0
33	0	109	0	0	0	0
33	3	1	0	0	0	0
33	4	1	0	0	0	0
33	9	1	0	0	0	0
33	A	1	0	0	0	0
33	B	1	0	0	0	0
33	K	1	0	0	0	0
33	T	1	0	0	0	0
33	Y	1	0	0	0	0
34	0	2	0	0	0	0
35	0	74	0	0	0	0
35	9	2	0	0	0	0
35	A	1	0	0	0	0
35	C	1	0	0	0	0
35	H	1	0	0	0	0
35	J	1	0	0	0	0
35	L	1	0	0	0	0
35	M	1	0	0	0	0
35	Q	1	0	0	0	0
35	R	2	0	0	0	0
35	S	1	0	0	0	0
36	0	10	0	0	2	0
36	3	1	0	0	0	0
36	A	1	0	0	0	0
36	B	1	0	0	0	0
36	J	3	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	L	1	0	0	0	0
36	M	1	0	0	0	0
36	N	1	0	0	2	0
36	O	1	0	0	0	0
36	R	1	0	0	0	0
36	Y	1	0	0	0	0
37	1	1	0	0	0	0
37	3	1	0	0	0	0
37	O	1	0	0	0	0
37	U	1	0	0	0	0
37	Z	1	0	0	0	0
38	0	5842	0	0	196	0
38	1	60	0	0	8	0
38	2	49	0	0	5	0
38	3	69	0	0	11	0
38	4	2	0	0	0	0
38	9	143	0	0	9	0
38	A	123	0	0	19	0
38	B	146	0	0	20	0
38	C	185	0	0	37	0
38	D	49	0	0	22	0
38	E	42	0	0	11	0
38	F	26	0	0	5	0
38	G	20	0	0	2	0
38	H	69	0	0	15	0
38	I	9	0	0	3	0
38	J	55	0	0	4	0
38	K	59	0	0	11	0
38	L	82	0	0	21	0
38	M	129	0	0	12	0
38	N	60	0	0	11	0
38	O	42	0	0	7	0
38	P	72	0	0	5	0
38	Q	48	0	0	7	0
38	R	85	0	0	6	0
38	S	30	0	0	5	0
38	T	39	0	0	8	0
38	U	29	0	0	3	0
38	V	13	0	0	3	0
38	W	69	0	0	12	0
38	X	26	0	0	6	0
38	Y	101	0	0	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	Z	37	0	0	2	0
All	All	99111	0	59983	2986	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 20.

All (2986) 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)
6:9:6:C:H5''	20:N:37:ARG:NH1	1.59	1.16
1:0:156:C:H5''	19:M:171:ARG:HD3	1.25	1.15
6:9:6:C:H5''	20:N:37:ARG:HH12	0.97	1.14
1:0:1160:G:H5'	1:0:1161:A:H5'	1.26	1.07
1:0:871:G:H5'	1:0:871:G:H8	1.10	1.06
24:R:18:LEU:HB2	24:R:143:VAL:HG12	1.34	1.05
9:C:236:THR:HG22	9:C:239:ALA:H	1.18	1.04
10:D:25:MET:HE3	10:D:37:ALA:HB1	1.33	1.03
10:D:154:LYS:H	10:D:154:LYS:HD2	1.18	1.03
1:0:871:G:H5'	1:0:871:G:C8	1.94	1.02
28:V:12:THR:HG22	28:V:15:GLU:HG3	1.39	1.01
14:H:59:GLN:HE21	14:H:129:ARG:HE	1.08	1.00
9:C:127:ARG:NH2	9:C:225:PRO:HG2	1.76	1.00
14:H:174:LEU:HA	38:H:369:HOH:O	1.59	0.99
1:0:870:G:H2'	1:0:871:G:H5''	1.41	0.99
8:B:264:GLU:HG2	8:B:267:LYS:HE2	1.41	0.98
1:0:796:A:HO2'	32:Z:10:ARG:N	1.60	0.98
1:0:381:G:H5''	38:O:4902:HOH:O	1.67	0.95
1:0:1119:G:H2'	16:J:52:GLN:NE2	1.80	0.95
15:I:127:CYS:HB3	15:I:132:VAL:HB	1.45	0.95
31:Y:187:VAL:HG23	31:Y:192:ASP:HB2	1.47	0.95
1:0:21:G:H5'	24:R:2:ILE:HA	1.49	0.94
29:W:6:GLN:HB2	29:W:26:ILE:HD12	1.49	0.94
22:P:59:ARG:NH2	22:P:66:GLN:HE22	1.66	0.93
17:K:10:GLN:H	17:K:10:GLN:NE2	1.66	0.93
10:D:134:LEU:HD11	10:D:166:ILE:HD11	1.46	0.93
30:X:72:VAL:HG22	30:X:85:VAL:HG12	1.50	0.93
30:X:37:LEU:HD13	30:X:85:VAL:HG21	1.47	0.92
1:0:1116:U:HO2'	1:0:1118:A:H2	0.92	0.92
1:0:56:G:H5''	28:V:50:ARG:HH12	1.34	0.92
1:0:1474:C:H6	1:0:1474:C:H5'	1.35	0.92
19:M:164:THR:HG22	19:M:167:GLY:H	1.32	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:4:LEU:HD22	29:W:52:VAL:HG21	1.53	0.91
16:J:76:ASP:HA	38:J:4028:HOH:O	1.71	0.91
7:A:35:GLY:O	7:A:36:ASP:HB3	1.70	0.90
29:W:88:THR:HB	38:W:4041:HOH:O	1.69	0.90
1:0:1116:U:H3	1:0:1246:A:H62	1.18	0.90
1:0:2717:C:H2'	1:0:2718:C:H5''	1.53	0.90
32:Z:46:ARG:HD2	32:Z:59:TYR:HB2	1.52	0.90
1:0:1119:G:H2'	16:J:52:GLN:HE22	1.32	0.90
1:0:1242:A:H5'	16:J:82:THR:HG23	1.54	0.90
1:0:2756:U:H3	1:0:2896:A:H2	1.17	0.90
17:K:10:GLN:H	17:K:10:GLN:HE21	0.91	0.90
6:9:14:G:H5'	6:9:14:G:H8	1.36	0.90
17:K:10:GLN:HE21	17:K:10:GLN:N	1.70	0.89
1:0:1751:G:H2'	1:0:1752:G:H5''	1.54	0.89
8:B:62:ARG:HA	8:B:65:MET:HE3	1.53	0.89
17:K:74:VAL:HG11	17:K:113:ILE:HG12	1.53	0.89
1:0:545:G:H5'	1:0:545:G:H8	1.39	0.88
6:9:76:G:H3'	6:9:77:A:H5''	1.54	0.88
29:W:72:PRO:HG2	29:W:77:ALA:HB3	1.53	0.88
1:0:870:G:C2'	1:0:871:G:H5''	2.03	0.88
1:0:2586:U:H3	1:0:2592:G:H22	1.16	0.88
14:H:102:LYS:HD3	14:H:122:LYS:HD3	1.56	0.88
9:C:115:LEU:HD21	9:C:243:VAL:HG13	1.56	0.88
26:T:71:VAL:HG11	26:T:90:PRO:HB3	1.56	0.88
29:W:21:LEU:HD13	29:W:26:ILE:HD11	1.56	0.88
20:N:47:LEU:HD11	20:N:127:LEU:HD21	1.54	0.88
21:O:42:GLU:HB2	38:O:4021:HOH:O	1.73	0.88
1:0:2717:C:C2'	1:0:2718:C:H5''	2.04	0.87
14:H:59:GLN:NE2	14:H:129:ARG:HE	1.71	0.87
16:J:74:ARG:HB3	16:J:74:ARG:HH11	1.37	0.87
1:0:1160:G:C5'	1:0:1161:A:H5'	2.05	0.87
8:B:320:GLN:NE2	8:B:321:PRO:HD2	1.89	0.87
22:P:115:SER:H	22:P:118:GLN:NE2	1.73	0.87
1:0:542:A:H5'	1:0:542:A:H8	1.38	0.86
27:U:9:CYS:HA	27:U:52:THR:HG23	1.57	0.86
38:O:9537:HOH:O	17:K:39:GLY:HA2	1.74	0.86
1:0:200:C:H2'	38:O:4592:HOH:O	1.76	0.86
9:C:1:MET:HG2	9:C:2:GLN:H	1.41	0.86
1:0:962:C:H1'	20:N:5:ARG:HH12	1.38	0.85
1:0:1160:G:H5'	1:0:1161:A:C5'	2.05	0.85
3:2:41:HIS:H	3:2:45:ASN:HD22	1.23	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:877:G:H5'	1:0:878:G:OP1	1.76	0.85
19:M:99:ARG:HD2	19:M:167:GLY:HA2	1.58	0.85
9:C:236:THR:HA	38:C:522:HOH:O	1.76	0.85
29:W:4:LEU:HD23	29:W:54:PHE:HB3	1.56	0.84
14:H:30:LYS:H	14:H:62:HIS:HD2	1.21	0.84
1:0:1701:A:H4'	1:0:1702:U:H5''	1.59	0.84
9:C:236:THR:HG22	9:C:239:ALA:N	1.90	0.84
14:H:12:ILE:HD12	14:H:57:THR:HG22	1.57	0.84
17:K:81:ARG:HB2	17:K:87:ARG:NH1	1.92	0.84
26:T:9:LYS:HE3	26:T:13:ARG:NH1	1.92	0.84
8:B:201:ASP:HB2	8:B:312:ARG:HD2	1.60	0.84
1:0:2291:A:C8	1:0:2309:C:H5'	2.12	0.84
29:W:88:THR:HG22	29:W:89:ASP:H	1.42	0.84
7:A:135:VAL:HG21	7:A:147:ARG:HG2	1.57	0.83
14:H:12:ILE:HG23	14:H:129:ARG:NE	1.91	0.83
14:H:88:MET:HA	14:H:139:ALA:HA	1.59	0.83
17:K:98:VAL:HG13	17:K:102:GLU:HA	1.61	0.83
9:C:236:THR:H	9:C:239:ALA:HB3	1.44	0.83
1:0:558:C:C2'	1:0:559:U:H5''	2.08	0.83
20:N:48:VAL:CG1	20:N:55:ASP:HB3	2.08	0.83
17:K:98:VAL:CG1	17:K:102:GLU:HA	2.09	0.82
19:M:102:GLU:OE1	19:M:164:THR:HG21	1.79	0.82
12:F:53:ASP:OD1	12:F:80:GLN:HB2	1.80	0.82
18:L:79:ASP:HB3	38:L:358:HOH:O	1.78	0.82
1:0:1679:C:H5'	38:0:7104:HOH:O	1.79	0.82
1:0:1684:A:H1'	3:2:43:ARG:HH22	1.44	0.82
6:9:28:U:H5''	20:N:40:ASN:ND2	1.95	0.82
30:X:30:MET:HE1	30:X:55:ASN:HA	1.61	0.82
1:0:21:G:C5'	24:R:2:ILE:HA	2.10	0.81
1:0:1559:A:H1'	38:0:7360:HOH:O	1.78	0.81
38:0:8709:HOH:O	10:D:99:ASP:HA	1.79	0.81
8:B:217:ARG:HG3	8:B:257:THR:HG22	1.62	0.81
1:0:1878:G:H1'	38:0:8000:HOH:O	1.80	0.81
1:0:506:G:H22	1:0:509:A:C5'	1.93	0.81
1:0:282:C:H1'	1:0:368:C:N4	1.95	0.81
6:9:29:C:H2'	6:9:30:C:H5'	1.62	0.81
1:0:962:C:H1'	20:N:5:ARG:NH1	1.94	0.81
9:C:162:VAL:HG12	9:C:192:ILE:HD11	1.61	0.81
6:9:6:C:C5'	20:N:37:ARG:NH1	2.44	0.81
28:V:12:THR:HG23	28:V:14:ALA:H	1.45	0.80
8:B:162:MET:HE1	8:B:308:LEU:HD21	1.63	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E:97:VAL:HG12	38:E:4024:HOH:O	1.81	0.80
20:N:37:ARG:HH21	20:N:105:GLY:CA	1.94	0.80
1:0:1162:G:H1'	15:I:112:LEU:HD11	1.61	0.80
9:C:2:GLN:HB3	38:C:417:HOH:O	1.81	0.80
1:0:1184:C:H1'	38:0:6617:HOH:O	1.82	0.80
38:0:6579:HOH:O	13:G:12:ILE:HA	1.81	0.80
18:L:35:ARG:HH12	18:L:43:HIS:HB3	1.46	0.80
1:0:2533:C:H5'	1:0:2533:C:H6	1.44	0.80
1:0:544:G:H2'	1:0:545:G:H5''	1.62	0.80
1:0:1835:U:H5	1:0:1840:A:N7	1.80	0.80
4:3:60:LYS:HG3	4:3:61:PRO:HD2	1.65	0.79
8:B:275:GLY:O	8:B:291:ASP:HA	1.82	0.79
29:W:52:VAL:HG22	29:W:53:ALA:H	1.47	0.79
1:0:157:G:H4'	19:M:95:LYS:HE2	1.64	0.79
17:K:81:ARG:HB2	17:K:87:ARG:HH11	1.47	0.79
17:K:63:GLU:HB2	38:K:4034:HOH:O	1.83	0.79
29:W:13:MET:HE1	29:W:18:GLN:HA	1.64	0.79
1:0:2716:G:H5''	8:B:206:THR:HG21	1.63	0.79
20:N:164:ASP:OD1	20:N:167:ASP:HA	1.84	0.79
7:A:100:PRO:HG2	7:A:103:VAL:HG21	1.64	0.78
10:D:57:THR:HG23	10:D:63:ILE:HA	1.64	0.78
10:D:28:GLY:HA2	10:D:69:ILE:HG23	1.63	0.78
23:Q:75:ILE:HD13	23:Q:84:ILE:HD11	1.66	0.78
24:R:18:LEU:HB2	24:R:143:VAL:CG1	2.14	0.78
14:H:49:GLN:HG3	14:H:140:TYR:CE2	2.19	0.78
28:V:56:ILE:O	28:V:60:GLN:HG3	1.84	0.78
1:0:2890:A:H1'	27:U:56:ARG:NH2	1.98	0.78
22:P:59:ARG:HH22	22:P:66:GLN:HE22	1.28	0.78
1:0:1666:C:H2'	1:0:1667:A:H5'	1.66	0.78
1:0:1118:A:H8	1:0:1118:A:H3'	1.48	0.78
16:J:75:PRO:HG2	16:J:105:LEU:HD21	1.65	0.78
28:V:1:THR:HG23	28:V:2:VAL:H	1.49	0.78
1:0:470:U:O2'	2:1:16:HIS:HD2	1.66	0.77
12:F:46:GLU:OE1	12:F:100:ASP:HA	1.85	0.77
20:N:80:SER:HB2	38:N:4032:HOH:O	1.84	0.77
1:0:1244:U:OP1	16:J:18:ILE:HD13	1.85	0.77
22:P:13:VAL:HG21	22:P:41:ARG:HG2	1.66	0.77
15:I:117:THR:HG22	15:I:121:LYS:HE3	1.66	0.77
1:0:506:G:H22	1:0:509:A:H5'	1.50	0.77
1:0:1209:C:H2'	1:0:1210:G:H8	1.48	0.77
1:0:31:C:H2'	38:0:4091:HOH:O	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:91:VAL:HG12	12:F:92:GLY:N	2.00	0.77
8:B:248:ARG:O	8:B:251:VAL:HG22	1.85	0.77
30:X:71:ARG:HD3	38:X:4023:HOH:O	1.83	0.77
9:C:242:GLU:HG3	38:C:581:HOH:O	1.83	0.76
1:0:2908:A:H2'	1:0:2909:G:O4'	1.84	0.76
6:9:56:A:H2'	6:9:57:A:H5''	1.66	0.76
15:I:97:VAL:HG12	15:I:101:LYS:HE3	1.68	0.76
14:H:12:ILE:HG23	14:H:129:ARG:CZ	2.15	0.76
1:0:1163:G:H5'	15:I:110:ASP:O	1.85	0.76
1:0:1834:C:H2'	1:0:1840:A:N6	2.00	0.76
12:F:27:GLY:HA3	12:F:101:ALA:O	1.85	0.76
30:X:76:ARG:HH11	30:X:76:ARG:HG3	1.50	0.76
7:A:191:GLY:HA2	7:A:194:MET:HE3	1.65	0.76
14:H:30:LYS:H	14:H:62:HIS:CD2	2.04	0.76
29:W:64:THR:O	29:W:68:THR:HG22	1.86	0.76
1:0:559:U:H6	1:0:559:U:H5'	1.49	0.76
1:0:1834:C:H2'	1:0:1840:A:H62	1.51	0.76
29:W:21:LEU:HD21	29:W:48:VAL:HG11	1.68	0.76
1:0:1701:A:H5'	38:0:7068:HOH:O	1.85	0.76
1:0:2780:C:H1'	11:E:143:GLN:HE21	1.51	0.76
8:B:140:LEU:HD23	38:B:559:HOH:O	1.86	0.76
8:B:320:GLN:HE21	8:B:321:PRO:HD2	1.47	0.76
17:K:30:LYS:O	17:K:55:VAL:HG13	1.86	0.76
1:0:182:G:H5'	38:0:4531:HOH:O	1.86	0.75
1:0:1293:U:H5'	31:Y:154:ARG:HH21	1.48	0.75
19:M:24:GLN:NE2	19:M:27:ARG:HH11	1.84	0.75
1:0:1118:A:H3'	1:0:1118:A:C8	2.21	0.75
7:A:81:GLN:HB2	7:A:92:ASN:ND2	2.02	0.75
1:0:56:G:H5''	28:V:50:ARG:NH1	2.00	0.75
8:B:86:ALA:HA	38:B:559:HOH:O	1.85	0.75
12:F:96:ALA:HA	38:F:4009:HOH:O	1.86	0.75
29:W:21:LEU:HD21	29:W:48:VAL:CG1	2.15	0.75
8:B:18:ARG:HG3	8:B:256:GLN:HG3	1.67	0.75
1:0:545:G:H5'	1:0:545:G:C8	2.21	0.75
6:9:14:G:H5'	6:9:14:G:C8	2.20	0.75
19:M:164:THR:HG22	19:M:167:GLY:N	2.01	0.75
1:0:383:A:H4'	38:0:4914:HOH:O	1.86	0.75
20:N:113:SER:HB2	38:N:4044:HOH:O	1.86	0.75
1:0:1474:C:H5'	1:0:1474:C:C6	2.22	0.74
7:A:36:ASP:OD2	7:A:85:SER:HB2	1.87	0.74
8:B:27:ASN:HD22	8:B:27:ASN:H	1.34	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:321:PRO:HA	38:B:578:HOH:O	1.88	0.74
14:H:49:GLN:OE1	14:H:169:GLU:HG3	1.87	0.74
2:1:25:LYS:HD2	3:2:49:GLU:H	1.52	0.74
16:J:74:ARG:HH11	16:J:74:ARG:CB	1.99	0.74
31:Y:187:VAL:HG23	31:Y:192:ASP:CB	2.17	0.74
1:0:10:U:H3'	38:0:5221:HOH:O	1.85	0.74
1:0:1741:U:H5'	1:0:1742:A:OP1	1.87	0.74
10:D:99:ASP:HB3	10:D:103:ASN:H	1.52	0.74
17:K:14:LYS:HB2	17:K:45:PRO:HG2	1.69	0.74
1:0:2364:A:H5''	23:Q:15:LYS:HD3	1.70	0.74
4:3:25:VAL:HG22	4:3:68:LYS:HG3	1.68	0.74
6:9:48:C:H4'	20:N:141:ARG:NH2	2.03	0.74
9:C:236:THR:HG21	38:C:525:HOH:O	1.88	0.74
20:N:48:VAL:HG11	20:N:55:ASP:HB3	1.70	0.74
16:J:39:VAL:HG13	16:J:106:GLY:O	1.88	0.73
6:9:92:G:H2'	6:9:93:A:C8	2.22	0.73
23:Q:25:PRO:HB2	38:Q:223:HOH:O	1.88	0.73
1:0:711:G:H1'	38:0:5573:HOH:O	1.87	0.73
1:0:1667:A:H5'	1:0:1667:A:H8	1.54	0.73
1:0:2748:G:H2'	38:0:8252:HOH:O	1.89	0.73
1:0:2768:A:H2'	1:0:2769:C:O4'	1.87	0.73
29:W:151:GLU:O	29:W:154:ARG:HB3	1.88	0.73
18:L:143:THR:HG21	38:L:371:HOH:O	1.87	0.73
18:L:148:GLU:HA	38:L:376:HOH:O	1.88	0.73
1:0:544:G:C2'	1:0:545:G:H5''	2.18	0.73
28:V:42:ASN:HB3	38:V:4008:HOH:O	1.88	0.73
1:0:1130:U:H5'	38:0:6544:HOH:O	1.89	0.73
1:0:1884:G:O6	7:A:190:ARG:HD2	1.87	0.73
1:0:558:C:H2'	1:0:559:U:H5''	1.69	0.73
15:I:96:SER:H	15:I:99:GLN:NE2	1.87	0.73
28:V:12:THR:HG22	28:V:15:GLU:CG	2.19	0.73
14:H:62:HIS:HA	14:H:65:LEU:HD23	1.71	0.72
23:Q:75:ILE:CD1	23:Q:84:ILE:HD11	2.18	0.72
1:0:1603:A:H5'	1:0:1605:G:O4'	1.89	0.72
16:J:107:ASN:ND2	16:J:109:TYR:H	1.85	0.72
20:N:47:LEU:HD13	20:N:97:VAL:HG11	1.69	0.72
28:V:39:ALA:N	28:V:40:PRO:HD2	2.05	0.72
24:R:132:ARG:HG2	24:R:133:ALA:N	2.05	0.72
14:H:6:ALA:HA	14:H:61:ARG:HH12	1.53	0.72
20:N:169:PRO:O	20:N:172:PHE:HB3	1.88	0.72
22:P:143:ALA:HA	38:P:272:HOH:O	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1165:G:H4'	1:0:1174:A:O2'	1.89	0.72
14:H:6:ALA:HA	14:H:61:ARG:NH1	2.04	0.72
29:W:132:VAL:HG21	29:W:140:LYS:O	1.89	0.72
8:B:179:LEU:O	8:B:183:GLU:HG2	1.89	0.72
10:D:25:MET:SD	10:D:40:ILE:HD11	2.30	0.72
12:F:58:GLU:OE1	19:M:27:ARG:NH2	2.23	0.72
29:W:52:VAL:HG22	29:W:53:ALA:N	2.05	0.72
29:W:88:THR:HG23	29:W:110:GLN:NE2	2.04	0.72
10:D:135:VAL:HG21	10:D:139:TYR:CD1	2.24	0.72
27:U:47:ARG:HG3	38:U:8826:HOH:O	1.90	0.72
1:0:1450:C:H4'	1:0:1451:C:OP2	1.88	0.71
6:9:48:C:H4'	20:N:141:ARG:HH21	1.55	0.71
1:0:821:U:H2'	1:0:822:C:H6	1.54	0.71
8:B:190:MET:HE2	8:B:194:PHE:CD1	2.25	0.71
31:Y:174:VAL:HG12	31:Y:177:LYS:HD2	1.71	0.71
1:0:694:A:H2'	1:0:695:C:H5'	1.72	0.71
6:9:54:A:O2'	6:9:55:U:H5'	1.90	0.71
6:9:114:G:O6	20:N:11:ARG:HD3	1.91	0.71
14:H:165:ARG:HD3	38:H:319:HOH:O	1.89	0.71
1:0:2270:G:H4'	7:A:223:ARG:HH12	1.55	0.71
8:B:36:PRO:HA	8:B:168:GLY:HA3	1.73	0.71
22:P:103:THR:O	22:P:107:GLU:HG3	1.91	0.71
1:0:2812:A:H2	1:0:2814:A:H62	1.37	0.71
8:B:212:GLN:HB2	8:B:257:THR:HG21	1.70	0.71
9:C:145:GLU:HG3	38:C:525:HOH:O	1.88	0.71
21:O:32:ARG:O	21:O:32:ARG:HD3	1.90	0.71
3:2:22:PRO:HG2	3:2:25:VAL:HG23	1.73	0.71
1:0:1819:G:H2'	1:0:1820:G:H4'	1.72	0.71
1:0:2320:U:H4'	1:0:2321:A:O4'	1.90	0.71
9:C:142:ASP:OD1	9:C:237:GLU:HB3	1.91	0.71
1:0:156:C:H5'	19:M:171:ARG:CD	2.15	0.71
14:H:32:ALA:HB3	14:H:69:ARG:HH12	1.54	0.71
1:0:960:G:H4'	38:O:6208:HOH:O	1.90	0.70
9:C:233:THR:HG22	9:C:234:VAL:H	1.56	0.70
10:D:146:LYS:NZ	20:N:107:ASN:HD21	1.89	0.70
20:N:38:LYS:HE2	20:N:107:ASN:ND2	2.05	0.70
1:0:1206:U:H5'	1:0:1206:U:H6	1.56	0.70
29:W:137:GLN:HE21	29:W:141:HIS:HE1	1.38	0.70
16:J:19:MET:HE3	16:J:132:LEU:HD11	1.72	0.70
29:W:6:GLN:HB2	29:W:26:ILE:CD1	2.20	0.70
1:0:259:G:H21	19:M:58:GLN:NE2	1.88	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:2:VAL:HG22	12:F:57:GLU:OE1	1.92	0.70
14:H:59:GLN:HE21	14:H:129:ARG:NE	1.88	0.70
19:M:65:VAL:HG21	19:M:105:ALA:HB2	1.74	0.70
24:R:39:THR:HB	24:R:42:GLU:HG3	1.72	0.70
1:0:814:G:H4'	38:0:5765:HOH:O	1.90	0.70
1:0:1377:C:H5'	1:0:1377:C:H6	1.56	0.70
20:N:61:ALA:HB3	20:N:88:ALA:HB2	1.72	0.70
1:0:2578:G:H5'	1:0:2578:G:H8	1.55	0.70
8:B:55:ASN:HB3	8:B:63:GLU:HA	1.74	0.70
8:B:162:MET:HE2	8:B:310:ARG:HD3	1.73	0.70
18:L:133:VAL:HA	38:L:375:HOH:O	1.91	0.70
1:0:2637:A:H5'	38:0:9419:HOH:O	1.91	0.70
25:S:51:GLN:HE21	25:S:53:ASN:HD21	1.40	0.70
30:X:72:VAL:HG22	30:X:85:VAL:CG1	2.19	0.70
12:F:63:ILE:HB	12:F:64:PRO:HD3	1.72	0.70
16:J:19:MET:HE2	16:J:79:PHE:HA	1.72	0.70
25:S:42:GLU:HG2	25:S:49:VAL:HG23	1.74	0.70
27:U:14:GLU:O	27:U:17:THR:HB	1.92	0.70
30:X:78:GLU:HG2	30:X:79:GLU:H	1.56	0.70
22:P:59:ARG:HH22	22:P:66:GLN:NE2	1.89	0.69
7:A:88:ILE:HD13	7:A:100:PRO:HD3	1.72	0.69
9:C:1:MET:HG2	9:C:2:GLN:N	2.07	0.69
24:R:99:ALA:HB1	24:R:109:MET:CE	2.22	0.69
1:0:558:C:H2'	1:0:559:U:C5'	2.21	0.69
38:0:4849:HOH:O	26:T:53:GLY:HA3	1.92	0.69
7:A:68:ILE:HD11	38:A:443:HOH:O	1.92	0.69
16:J:107:ASN:C	16:J:107:ASN:HD22	1.95	0.69
17:K:29:LEU:HB3	17:K:55:VAL:HG11	1.73	0.69
1:0:558:C:O2'	1:0:559:U:H5''	1.92	0.69
1:0:2783:A:H3'	38:0:9678:HOH:O	1.93	0.69
29:W:88:THR:HG23	29:W:110:GLN:HE21	1.58	0.69
30:X:43:VAL:HG11	30:X:82:GLU:HA	1.74	0.69
1:0:1187:U:H2'	38:0:6627:HOH:O	1.92	0.69
9:C:246:ARG:HD2	38:C:584:HOH:O	1.93	0.69
1:0:57:C:H5''	38:0:4173:HOH:O	1.93	0.68
32:Z:26:VAL:O	32:Z:30:GLU:HG3	1.93	0.68
7:A:94:LEU:HG	7:A:99:ILE:HD11	1.75	0.68
15:I:101:LYS:O	15:I:105:GLU:HG3	1.94	0.68
18:L:35:ARG:HB2	18:L:35:ARG:NH1	2.08	0.68
24:R:119:VAL:HG21	24:R:142:ASP:CG	2.13	0.68
1:0:2506:A:O2'	1:0:2507:G:H8	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:200:PRO:HD3	38:A:513:HOH:O	1.92	0.68
1:O:2426:G:H1'	38:O:8683:HOH:O	1.92	0.68
12:F:61:MET:HB3	19:M:19:GLN:OE1	1.93	0.68
11:E:145:ALA:HB1	11:E:168:ILE:HD11	1.76	0.68
15:I:88:GLN:HA	15:I:91:PHE:CE2	2.28	0.68
7:A:199:HIS:HD2	7:A:201:PHE:H	1.42	0.68
29:W:5:VAL:HG11	29:W:153:MET:HE3	1.74	0.68
32:Z:37:HIS:HB2	32:Z:47:VAL:HB	1.75	0.68
1:O:214:U:H5'	38:O:4638:HOH:O	1.92	0.68
1:O:236:A:H4'	1:O:237:G:H5'	1.75	0.68
1:O:399:C:H5'	19:M:179:GLY:O	1.93	0.68
8:B:304:PRO:HD2	8:B:307:ARG:HD2	1.76	0.68
15:I:118:ASN:HA	15:I:121:LYS:HD2	1.75	0.68
17:K:74:VAL:CG1	17:K:113:ILE:HG12	2.22	0.68
27:U:17:THR:HG22	27:U:18:GLY:N	2.07	0.68
32:Z:57:CYS:SG	32:Z:59:TYR:HB3	2.32	0.68
1:O:447:A:P	26:T:1:SER:HB2	2.34	0.68
38:O:4764:HOH:O	19:M:58:GLN:HG3	1.93	0.68
7:A:51:ARG:HB2	38:A:435:HOH:O	1.94	0.68
24:R:8:ALA:HB1	24:R:13:THR:HG21	1.74	0.68
7:A:88:ILE:O	7:A:88:ILE:HG22	1.92	0.68
10:D:25:MET:HE3	10:D:37:ALA:CB	2.20	0.68
17:K:13:GLU:OE2	17:K:44:LEU:HB2	1.93	0.68
29:W:88:THR:HG22	29:W:89:ASP:N	2.08	0.68
1:O:450:C:OP1	9:C:184:ARG:NH2	2.24	0.68
1:O:1189:A:H1'	1:O:1209:C:O4'	1.94	0.68
8:B:141:ARG:HD2	8:B:163:GLU:OE2	1.94	0.68
10:D:154:LYS:HD2	10:D:154:LYS:N	2.02	0.68
1:O:21:G:H5''	24:R:1:GLY:O	1.95	0.67
9:C:61:PHE:HB3	38:C:459:HOH:O	1.93	0.67
29:W:84:VAL:HG12	38:W:4041:HOH:O	1.93	0.67
1:O:1157:C:H2'	1:O:1158:G:H8	1.56	0.67
1:O:2533:C:H5'	1:O:2533:C:C6	2.28	0.67
10:D:65:GLU:HA	38:D:225:HOH:O	1.93	0.67
24:R:96:VAL:HG13	24:R:106:GLY:HA3	1.75	0.67
1:O:1417:G:O2'	3:2:11:LEU:HD22	1.94	0.67
11:E:137:ASP:OD1	11:E:139:GLU:HB2	1.94	0.67
18:L:136:ALA:HB3	38:L:375:HOH:O	1.94	0.67
8:B:162:MET:CE	8:B:308:LEU:HD21	2.23	0.67
9:C:132:ASP:HB3	38:C:516:HOH:O	1.93	0.67
10:D:84:LEU:HA	10:D:87:ALA:HB3	1.74	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:146:LYS:HZ3	20:N:107:ASN:HD21	1.42	0.67
18:L:67:ARG:O	18:L:71:GLU:HG3	1.95	0.67
1:0:1160:G:O2'	1:0:1190:G:H1'	1.95	0.67
1:0:2036:C:O4'	17:K:44:LEU:HG	1.94	0.67
7:A:161:GLY:O	32:Z:68:SER:HB2	1.95	0.67
2:1:21:ARG:HD2	2:1:37:CYS:SG	2.35	0.67
10:D:159:PRO:O	10:D:163:VAL:HG23	1.94	0.67
1:0:1654:U:H2'	7:A:47:HIS:HD2	1.59	0.67
1:0:2635:A:O2'	1:0:2636:C:H5'	1.95	0.67
4:3:70:ARG:HG2	4:3:77:ALA:HB2	1.77	0.67
8:B:140:LEU:HA	38:B:559:HOH:O	1.94	0.67
16:J:107:ASN:HD21	16:J:109:TYR:HB2	1.60	0.67
1:0:111:C:O2'	2:1:20:ARG:HG2	1.94	0.67
1:0:2524:G:H21	1:0:2526:C:N4	1.92	0.67
8:B:139:ASP:HB2	8:B:165:ARG:HE	1.60	0.67
10:D:146:LYS:NZ	20:N:107:ASN:ND2	2.43	0.67
17:K:34:VAL:HG22	17:K:47:ALA:HB2	1.77	0.67
19:M:99:ARG:CD	19:M:167:GLY:HA2	2.24	0.67
17:K:132:VAL:HG11	27:U:22:VAL:HG22	1.76	0.67
19:M:78:LYS:HE2	38:M:358:HOH:O	1.95	0.67
29:W:80:ASP:O	29:W:84:VAL:HG23	1.95	0.67
1:0:338:C:H4'	9:C:174:ILE:CD1	2.25	0.66
1:0:542:A:H5'	1:0:542:A:C8	2.27	0.66
1:0:1189:A:H1'	1:0:1209:C:C1'	2.25	0.66
1:0:1790:C:H2'	1:0:1791:U:H6	1.60	0.66
7:A:211:LYS:HB3	7:A:212:PRO:HD2	1.76	0.66
9:C:233:THR:HG22	9:C:234:VAL:N	2.10	0.66
24:R:39:THR:HG23	24:R:107:GLU:O	1.95	0.66
29:W:5:VAL:HG11	29:W:153:MET:CE	2.26	0.66
1:0:871:G:H8	1:0:871:G:C5'	1.99	0.66
7:A:64:ASP:OD1	7:A:66:ARG:HD2	1.95	0.66
16:J:6:PHE:HB3	16:J:109:TYR:OH	1.94	0.66
20:N:164:ASP:CG	20:N:167:ASP:HA	2.16	0.66
1:0:21:G:H4'	24:R:2:ILE:HG22	1.78	0.66
1:0:1593:C:OP1	22:P:117:SER:HB3	1.96	0.66
8:B:62:ARG:HA	8:B:65:MET:CE	2.23	0.66
9:C:180:SER:HB2	38:C:534:HOH:O	1.94	0.66
11:E:132:THR:HB	38:E:4031:HOH:O	1.95	0.66
14:H:23:ILE:HG23	14:H:123:ILE:HD11	1.77	0.66
17:K:28:GLU:HG2	17:K:58:THR:HB	1.78	0.66
28:V:64:GLY:O	28:V:65:ASP:HB2	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Y:151:SER:HB3	31:Y:154:ARG:HB3	1.78	0.66
1:O:2508:C:H2'	38:O:9086:HOH:O	1.95	0.66
1:O:657:G:OP1	9:C:27:ARG:NH2	2.28	0.66
1:O:1666:C:O2'	1:O:1667:A:H5''	1.95	0.66
21:O:21:SER:OG	21:O:106:PRO:HB2	1.94	0.66
29:W:129:LYS:HG2	38:W:4056:HOH:O	1.96	0.66
1:O:1121:G:H4'	38:O:6523:HOH:O	1.94	0.66
9:C:139:VAL:HG13	38:C:580:HOH:O	1.95	0.66
10:D:64:ARG:HB3	10:D:67:ASP:OD2	1.95	0.66
1:O:1007:A:H2'	14:H:22:TYR:CZ	2.31	0.66
8:B:62:ARG:CA	8:B:65:MET:HE3	2.25	0.66
20:N:34:LEU:HA	20:N:47:LEU:HD23	1.77	0.66
20:N:120:GLU:HG3	20:N:136:LEU:HD13	1.76	0.66
23:Q:26:PRO:O	23:Q:30:VAL:HG23	1.95	0.66
3:2:22:PRO:HG2	3:2:25:VAL:CG2	2.25	0.66
20:N:37:ARG:HD3	36:N:201:CL:CL	2.32	0.66
22:P:65:ARG:HD3	22:P:69:ARG:NH1	2.10	0.66
1:O:1372:A:H3'	38:O:6994:HOH:O	1.95	0.66
1:O:1615:A:H4'	38:O:7429:HOH:O	1.95	0.66
14:H:49:GLN:HB2	14:H:170:ARG:HD2	1.77	0.66
17:K:22:ASP:HB2	38:K:4013:HOH:O	1.96	0.66
4:3:62:THR:HB	38:3:248:HOH:O	1.95	0.65
7:A:199:HIS:CD2	7:A:201:PHE:H	2.14	0.65
7:A:200:PRO:HG2	7:A:225:VAL:HG21	1.78	0.65
1:O:447:A:OP1	26:T:2:LYS:HG2	1.97	0.65
1:O:1053:G:OP1	14:H:15:PRO:HG3	1.96	0.65
1:O:2414:A:H2'	1:O:2415:A:C8	2.29	0.65
10:D:25:MET:HE1	10:D:41:LEU:HG	1.78	0.65
15:I:120:ALA:O	15:I:124:VAL:HG23	1.96	0.65
20:N:78:MET:HB2	20:N:79:PRO:HD3	1.78	0.65
22:P:134:VAL:O	22:P:137:LEU:HB3	1.95	0.65
1:O:513:A:N3	38:O:5181:HOH:O	2.29	0.65
3:2:49:GLU:HB2	38:2:145:HOH:O	1.94	0.65
14:H:12:ILE:O	14:H:12:ILE:HG22	1.96	0.65
1:O:541:C:C2'	1:O:542:A:H5''	2.26	0.65
2:1:46:ARG:HA	38:1:246:HOH:O	1.96	0.65
9:C:5:ILE:HD11	9:C:16:VAL:CG2	2.27	0.65
28:V:55:ARG:O	28:V:59:ILE:HG12	1.95	0.65
1:O:645:U:OP2	18:L:4:LYS:HE2	1.96	0.65
7:A:121:ALA:O	7:A:124:VAL:HG22	1.96	0.65
21:O:47:ARG:HH11	21:O:47:ARG:HG3	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:R:18:LEU:HD12	24:R:143:VAL:HG11	1.78	0.65
27:U:52:THR:HG22	27:U:54:THR:H	1.61	0.65
1:0:2850:C:H6	1:0:2850:C:H5'	1.62	0.65
10:D:23:VAL:HG21	10:D:45:THR:HG21	1.77	0.65
27:U:9:CYS:SG	27:U:11:THR:HG23	2.36	0.65
1:0:447:A:OP2	26:T:1:SER:HB2	1.97	0.65
38:0:6613:HOH:O	15:I:87:PRO:HD3	1.96	0.65
10:D:35:ALA:HB1	38:D:218:HOH:O	1.95	0.65
23:Q:66:LYS:HB2	23:Q:70:ALA:O	1.97	0.65
25:S:77:VAL:O	25:S:80:ARG:HG2	1.97	0.65
7:A:109:GLU:HG2	7:A:116:GLY:H	1.61	0.65
11:E:118:ILE:HG23	11:E:144:THR:HG21	1.79	0.65
16:J:103:VAL:HG12	38:J:4028:HOH:O	1.97	0.65
18:L:22:ARG:HG2	38:L:329:HOH:O	1.96	0.65
1:0:272:A:H5'	1:0:273:G:OP2	1.96	0.65
7:A:66:ARG:HH11	7:A:66:ARG:HB2	1.61	0.65
21:O:10:LEU:HD13	21:O:99:GLU:HG3	1.79	0.65
38:0:7889:HOH:O	2:1:1:THR:HB	1.96	0.65
11:E:22:VAL:O	11:E:76:VAL:HG11	1.97	0.65
1:0:281:U:H2'	1:0:282:C:O4'	1.97	0.64
17:K:74:VAL:HG13	17:K:113:ILE:HG23	1.79	0.64
18:L:35:ARG:HB2	18:L:35:ARG:HH11	1.61	0.64
1:0:2769:C:C2'	1:0:2770:G:H5'	2.27	0.64
10:D:35:ALA:C	10:D:37:ALA:H	1.99	0.64
11:E:37:ASP:OD1	16:J:125:SER:HB3	1.97	0.64
26:T:24:ARG:HH21	26:T:39:ASN:HD22	1.44	0.64
14:H:146:ALA:O	14:H:149:VAL:HG12	1.98	0.64
4:3:87:ARG:HD2	4:3:89:GLU:OE2	1.98	0.64
20:N:67:ALA:HA	20:N:71:TRP:HB3	1.80	0.64
20:N:139:TRP:HA	20:N:139:TRP:CE3	2.31	0.64
29:W:137:GLN:HE21	29:W:141:HIS:CE1	2.15	0.64
17:K:75:ARG:CZ	38:K:4039:HOH:O	2.45	0.64
1:0:709:G:O2'	21:O:25:VAL:HG12	1.97	0.64
11:E:100:ASP:HB2	38:E:4025:HOH:O	1.96	0.64
11:E:20:ILE:HD11	11:E:40:VAL:HG11	1.80	0.64
16:J:54:VAL:HG11	16:J:138:THR:HG21	1.80	0.64
19:M:64:ARG:HD2	38:M:325:HOH:O	1.97	0.64
8:B:7:ARG:NH1	8:B:11:LEU:HD22	2.13	0.64
8:B:314:ALA:HB3	8:B:317:PRO:HG3	1.80	0.64
12:F:34:ASN:HA	19:M:4:ALA:HB2	1.78	0.64
20:N:132:ASN:O	20:N:135:VAL:HG12	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:259:G:H21	19:M:58:GLN:HE22	1.45	0.64
7:A:217:ARG:HG2	7:A:229:ALA:HB2	1.80	0.64
11:E:81:GLU:HG2	11:E:134:SER:HB3	1.79	0.64
14:H:100:GLU:HB3	14:H:124:VAL:HG11	1.78	0.64
1:0:1116:U:O2'	1:0:1118:A:H2	1.73	0.63
1:0:1119:G:N2	1:0:1246:A:C2	2.64	0.63
1:0:2524:G:H21	1:0:2526:C:H41	1.44	0.63
1:0:2807:U:P	8:B:27:ASN:HD21	2.21	0.63
6:9:20:G:H3'	38:9:323:HOH:O	1.98	0.63
8:B:162:MET:HG3	8:B:310:ARG:HD3	1.80	0.63
29:W:90:TYR:N	29:W:90:TYR:CD1	2.65	0.63
22:P:20:ARG:NH1	22:P:54:LYS:HD3	2.13	0.63
25:S:11:THR:H	25:S:14:ALA:HB3	1.64	0.63
27:U:46:ALA:HB1	27:U:52:THR:HG21	1.80	0.63
30:X:37:LEU:CD1	30:X:85:VAL:HG21	2.27	0.63
30:X:71:ARG:HB3	30:X:88:GLU:OE1	1.99	0.63
1:0:280:C:H2'	1:0:281:U:O4'	1.99	0.63
11:E:133:VAL:HG12	11:E:141:VAL:HG13	1.80	0.63
15:I:87:PRO:C	15:I:89:GLU:H	2.02	0.63
16:J:42:GLU:O	16:J:131:THR:HG23	1.99	0.63
18:L:72:ASN:HB2	38:L:351:HOH:O	1.98	0.63
20:N:47:LEU:HD12	20:N:92:ALA:HB1	1.78	0.63
26:T:9:LYS:HE3	26:T:13:ARG:CZ	2.27	0.63
29:W:4:LEU:CD2	29:W:54:PHE:HB3	2.25	0.63
30:X:76:ARG:O	30:X:77:PHE:HB3	1.97	0.63
7:A:211:LYS:HB2	38:A:504:HOH:O	1.97	0.63
18:L:121:ILE:HG12	18:L:141:GLU:HB2	1.79	0.63
20:N:139:TRP:HA	20:N:139:TRP:HE3	1.63	0.63
23:Q:18:PRO:O	23:Q:21:ARG:HB2	1.98	0.63
30:X:21:PRO:HG2	30:X:24:LYS:HD3	1.81	0.63
8:B:5:ARG:NH1	8:B:8:LYS:HE2	2.14	0.63
1:0:588:G:O6	29:W:154:ARG:NH1	2.32	0.63
1:0:1164:U:OP1	15:I:69:PRO:HA	1.98	0.63
1:0:2598:U:H5''	17:K:36:GLY:HA2	1.80	0.63
11:E:2:ARG:HH21	11:E:48:VAL:HG21	1.62	0.63
29:W:13:MET:HE3	29:W:17:ILE:HG22	1.81	0.63
1:0:1751:G:C2'	1:0:1752:G:H5''	2.29	0.63
14:H:114:ASP:HB2	38:H:346:HOH:O	1.98	0.63
26:T:43:ASN:ND2	26:T:108:ARG:CZ	2.62	0.63
1:0:603:A:H5''	1:0:604:G:OP1	1.98	0.63
1:0:1641:A:H2'	1:0:1642:A:H5'	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:338:C:H4'	9:C:174:ILE:HD11	1.81	0.62
1:0:1819:G:H5'	38:0:7788:HOH:O	1.98	0.62
1:0:2112:A:H2'	1:0:2113:G:C8	2.34	0.62
7:A:29:HIS:CB	7:A:153:ARG:HH12	2.10	0.62
12:F:38:LYS:NZ	19:M:3:SER:HA	2.13	0.62
14:H:49:GLN:HB3	14:H:170:ARG:HG3	1.80	0.62
25:S:53:ASN:HD22	25:S:53:ASN:N	1.96	0.62
29:W:81:ASP:OD1	29:W:92:ASP:HB2	1.99	0.62
1:0:2547:C:OP2	8:B:5:ARG:NH1	2.32	0.62
16:J:19:MET:HE1	16:J:132:LEU:HD21	1.81	0.62
1:0:541:C:H2'	1:0:542:A:C5'	2.29	0.62
13:G:71:LEU:C	13:G:73:ASP:H	2.01	0.62
14:H:30:LYS:N	14:H:62:HIS:HD2	1.94	0.62
16:J:39:VAL:HG11	16:J:107:ASN:HB2	1.80	0.62
1:0:2276:U:H5'	38:0:4469:HOH:O	1.99	0.62
1:0:2894:C:O2'	1:0:2895:C:H5'	1.99	0.62
15:I:119:ALA:O	15:I:123:VAL:HG23	2.00	0.62
1:0:1348:A:H3'	38:0:6915:HOH:O	1.99	0.62
1:0:1666:C:C2'	1:0:1667:A:H5'	2.30	0.62
38:3:235:HOH:O	19:M:84:LYS:HE2	1.98	0.62
7:A:96:LEU:HD22	7:A:128:LEU:HD13	1.80	0.62
8:B:264:GLU:HG2	8:B:267:LYS:CE	2.22	0.62
1:0:138:U:OP2	1:0:139:C:H5	1.83	0.62
6:9:56:A:C2'	6:9:57:A:H5''	2.29	0.62
10:D:104:PHE:CE2	10:D:132:VAL:HB	2.35	0.62
15:I:129:SER:O	15:I:130:LEU:HD23	2.00	0.62
16:J:46:ILE:HD11	16:J:53:ILE:CG2	2.29	0.62
20:N:58:LEU:N	20:N:58:LEU:HD12	2.15	0.62
22:P:98:ILE:HD12	22:P:102:ARG:NE	2.14	0.62
6:9:35:C:H5''	38:9:348:HOH:O	1.99	0.62
8:B:162:MET:CE	8:B:310:ARG:HD3	2.29	0.62
12:F:91:VAL:HG12	12:F:92:GLY:H	1.65	0.62
16:J:99:GLU:HA	38:J:4030:HOH:O	1.98	0.62
16:J:130:VAL:HG12	16:J:131:THR:N	2.12	0.62
14:H:57:THR:HA	14:H:130:VAL:O	2.00	0.62
14:H:61:ARG:HH11	14:H:61:ARG:HG3	1.63	0.62
20:N:73:ALA:HB1	20:N:74:PRO:CD	2.30	0.62
25:S:33:SER:OG	25:S:36:GLU:HG3	2.00	0.62
1:0:1242:A:H5'	16:J:82:THR:CG2	2.28	0.62
1:0:2862:G:H4'	8:B:336:GLN:O	2.00	0.62
8:B:145:HIS:HD2	8:B:146:THR:O	1.83	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:140:VAL:HB	38:C:522:HOH:O	2.00	0.62
11:E:21:THR:HG23	11:E:30:THR:OG1	1.99	0.62
28:V:44:GLY:O	28:V:48:GLU:HG2	1.99	0.62
29:W:4:LEU:HD22	29:W:52:VAL:CG2	2.26	0.62
1:O:1328:A:OP1	31:Y:169:ARG:HD2	2.00	0.62
1:O:2766:A:H5'	38:O:9658:HOH:O	1.99	0.62
7:A:191:GLY:HA2	7:A:194:MET:CE	2.29	0.62
7:A:211:LYS:HD3	38:A:505:HOH:O	1.99	0.62
19:M:125:ARG:NH1	38:M:390:HOH:O	2.32	0.62
31:Y:235:GLU:CD	31:Y:235:GLU:H	2.02	0.62
1:O:2420:G:O2'	1:O:2421:G:H5'	1.99	0.61
4:3:74:CYS:N	38:3:258:HOH:O	2.31	0.61
8:B:41:PHE:HA	8:B:79:MET:HE2	1.80	0.61
21:O:73:ASP:HA	21:O:92:VAL:O	2.00	0.61
1:O:1717:A:H5''	22:P:54:LYS:HB2	1.82	0.61
17:K:62:PRO:HG3	17:K:65:ARG:HH21	1.65	0.61
18:L:143:THR:HG22	18:L:144:ASP:N	2.15	0.61
22:P:14:LEU:HD13	22:P:51:ALA:HB2	1.80	0.61
22:P:20:ARG:HH12	22:P:54:LYS:HD3	1.64	0.61
28:V:57:LYS:HA	28:V:60:GLN:HE21	1.65	0.61
29:W:13:MET:CE	29:W:17:ILE:HG22	2.30	0.61
6:9:14:G:O2'	20:N:1:ALA:HB2	2.01	0.61
25:S:33:SER:O	25:S:37:VAL:HG23	2.00	0.61
1:O:541:C:H2'	1:O:542:A:H5''	1.82	0.61
1:O:1234:U:N3	8:B:244:PRO:HB3	2.15	0.61
26:T:69:LYS:O	26:T:71:VAL:HG23	2.00	0.61
1:O:621:C:H5'	31:Y:132:ASP:OD2	2.01	0.61
1:O:2756:U:N3	1:O:2896:A:H2	1.96	0.61
38:O:7475:HOH:O	7:A:165:THR:HG23	2.00	0.61
1:O:2453:G:H3'	38:O:8942:HOH:O	2.01	0.61
4:3:55:VAL:HB	4:3:56:PRO:HD2	1.83	0.61
8:B:202:VAL:HG11	8:B:301:VAL:HG13	1.81	0.61
11:E:11:VAL:HG12	11:E:12:ASP:N	2.14	0.61
18:L:53:ARG:NH2	18:L:57:VAL:HG12	2.16	0.61
19:M:30:GLU:O	19:M:34:GLU:HG3	2.01	0.61
29:W:21:LEU:HB3	29:W:26:ILE:HG12	1.83	0.61
9:C:150:THR:HA	9:C:203:ALA:O	2.00	0.61
18:L:61:ALA:HA	38:L:365:HOH:O	2.01	0.61
18:L:143:THR:HG22	18:L:145:LEU:H	1.66	0.61
1:O:602:A:O2'	1:O:605:C:H4'	2.00	0.61
1:O:1919:A:H4'	38:O:8068:HOH:O	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2472:C:O2'	1:0:2634:G:H4'	2.00	0.61
9:C:188:ARG:HD3	38:C:558:HOH:O	2.00	0.61
14:H:49:GLN:HG3	14:H:140:TYR:CD2	2.35	0.61
26:T:55:PHE:CD2	26:T:77:VAL:HG13	2.35	0.61
29:W:6:GLN:HG2	29:W:29:VAL:HA	1.82	0.61
1:0:1701:A:H4'	1:0:1702:U:C5'	2.30	0.61
1:0:2036:C:C1'	17:K:44:LEU:HG	2.30	0.61
8:B:294:TYR:HE2	38:B:629:HOH:O	1.82	0.61
9:C:78:ARG:HH11	9:C:78:ARG:HG3	1.66	0.61
12:F:26:THR:HG21	12:F:102:GLY:C	2.21	0.61
29:W:65:VAL:CG1	29:W:116:LEU:HD13	2.30	0.61
1:0:1544:U:H2'	1:0:1545:C:H6	1.66	0.60
1:0:2004:U:H4'	38:0:8178:HOH:O	2.00	0.60
38:0:7680:HOH:O	8:B:254:GLN:HG3	2.00	0.60
38:0:9805:HOH:O	27:U:56:ARG:HD3	2.01	0.60
2:1:25:LYS:HE2	38:2:147:HOH:O	2.00	0.60
1:0:308:U:C4	1:0:342:C:H1'	2.36	0.60
1:0:660:A:H4'	1:0:661:G:O5'	2.01	0.60
1:0:794:U:H3	1:0:819:A:H61	1.49	0.60
8:B:80:ARG:HD3	38:B:572:HOH:O	2.02	0.60
8:B:154:VAL:HG12	8:B:156:LYS:HG2	1.83	0.60
8:B:195:ARG:HG2	8:B:323:LEU:HD22	1.82	0.60
13:G:27:ILE:HD13	13:G:71:LEU:HD23	1.82	0.60
24:R:111:ILE:HG23	24:R:145:LEU:HD11	1.83	0.60
1:0:1972:U:H2'	1:0:1973:A:H5'	1.83	0.60
8:B:74:ILE:HG13	38:B:539:HOH:O	2.00	0.60
15:I:84:SER:HB3	15:I:92:VAL:CG2	2.32	0.60
16:J:133:GLY:O	16:J:137:GLU:HG3	2.00	0.60
1:0:2445:U:H2'	1:0:2446:G:C8	2.37	0.60
6:9:13:A:O2'	6:9:14:G:H5''	2.01	0.60
16:J:26:VAL:HG13	16:J:36:VAL:HG11	1.82	0.60
8:B:66:GLU:OE1	8:B:328:ARG:HD2	2.00	0.60
11:E:3:VAL:HG22	11:E:49:ILE:HB	1.81	0.60
14:H:23:ILE:HG23	14:H:123:ILE:CD1	2.31	0.60
24:R:47:LEU:HB2	24:R:89:LEU:HD21	1.83	0.60
26:T:43:ASN:HD22	26:T:108:ARG:NH2	1.98	0.60
26:T:73:HIS:HD2	26:T:88:PRO:HG3	1.66	0.60
1:0:470:U:O2'	2:1:16:HIS:CD2	2.53	0.60
1:0:544:G:C3'	1:0:545:G:H5''	2.32	0.60
1:0:1205:U:H2'	1:0:1206:U:C5'	2.31	0.60
16:J:45:VAL:HG23	16:J:130:VAL:O	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:M:164:THR:HG23	19:M:165:GLY:N	2.15	0.60
1:O:1130:U:H2'	1:O:1131:G:O4'	2.01	0.60
8:B:217:ARG:HG3	8:B:257:THR:CG2	2.30	0.60
15:I:108:HIS:N	15:I:109:PRO:HD2	2.16	0.60
16:J:75:PRO:HG2	16:J:105:LEU:CD2	2.32	0.60
26:T:52:ARG:HB2	26:T:95:ASN:HB3	1.82	0.60
11:E:107:PHE:CE2	11:E:108:LEU:HD13	2.37	0.60
19:M:15:PRO:HA	19:M:20:LEU:HD23	1.84	0.60
22:P:8:ARG:HG3	38:P:208:HOH:O	2.02	0.60
1:O:1058:A:H2'	1:O:1060:C:H5''	1.84	0.60
4:3:65:THR:HG23	4:3:67:LEU:HG	1.84	0.60
8:B:312:ARG:HD3	8:B:315:VAL:HG13	1.82	0.60
20:N:15:GLU:OE1	20:N:17:ARG:HD2	2.02	0.60
31:Y:189:ASN:ND2	31:Y:192:ASP:H	2.00	0.60
1:O:1400:C:H4'	30:X:56:GLU:HG2	1.83	0.60
1:O:1768:C:H2'	1:O:1769:C:O4'	2.02	0.60
1:O:2248:C:H3'	38:O:8518:HOH:O	2.01	0.60
26:T:24:ARG:HH21	26:T:39:ASN:ND2	1.99	0.60
31:Y:105:LYS:HE2	31:Y:198:GLY:O	2.02	0.60
1:O:2112:A:H2'	1:O:2113:G:H8	1.67	0.59
7:A:36:ASP:O	7:A:38:ILE:N	2.34	0.59
17:K:34:VAL:HG21	17:K:46:LYS:O	2.02	0.59
19:M:133:LEU:O	19:M:134:ILE:HD13	2.01	0.59
23:Q:94:GLN:O	23:Q:95:GLU:HB2	2.02	0.59
29:W:125:HIS:HE1	38:W:4003:HOH:O	1.85	0.59
1:O:2382:A:H5'	38:O:8765:HOH:O	2.01	0.59
38:9:357:HOH:O	20:N:147:ILE:HD12	2.01	0.59
13:G:23:ILE:O	13:G:27:ILE:HG13	2.02	0.59
20:N:154:LEU:C	20:N:156:GLU:H	2.05	0.59
28:V:12:THR:CG2	28:V:15:GLU:HG3	2.23	0.59
28:V:39:ALA:C	28:V:41:GLU:H	2.05	0.59
1:O:820:G:C5	7:A:171:LYS:HB2	2.38	0.59
20:N:179:LEU:HA	20:N:184:ILE:HD12	1.84	0.59
26:T:71:VAL:HG11	26:T:90:PRO:CB	2.30	0.59
30:X:43:VAL:HG22	30:X:76:ARG:NH1	2.17	0.59
1:O:1379:A:H1'	38:O:7015:HOH:O	2.01	0.59
1:O:2679:G:H2'	1:O:2681:A:OP2	2.03	0.59
1:O:2827:A:H2'	1:O:2828:G:O4'	2.02	0.59
6:9:28:U:H5''	20:N:40:ASN:HD21	1.66	0.59
8:B:57:GLU:O	8:B:63:GLU:HB3	2.03	0.59
16:J:107:ASN:HD22	16:J:109:TYR:H	1.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:L:30:ARG:NH2	38:L:332:HOH:O	2.35	0.59
20:N:37:ARG:CZ	38:N:4040:HOH:O	2.49	0.59
1:0:90:A:H2'	1:0:91:G:O4'	2.03	0.59
7:A:43:VAL:HG21	7:A:59:GLU:HG3	1.84	0.59
13:G:16:LYS:O	13:G:20:VAL:HG23	2.02	0.59
18:L:114:VAL:HG11	38:L:375:HOH:O	2.02	0.59
21:O:38:ARG:NH1	38:O:4017:HOH:O	2.35	0.59
22:P:80:ARG:HG2	22:P:87:ARG:CZ	2.33	0.59
26:T:41:ARG:HG2	26:T:41:ARG:HH11	1.66	0.59
1:0:407:A:H5'	38:0:4968:HOH:O	2.03	0.59
1:0:583:C:H2'	1:0:584:U:C6	2.38	0.59
8:B:85:ARG:NH1	38:B:546:HOH:O	2.35	0.59
20:N:47:LEU:HD12	20:N:92:ALA:CB	2.32	0.59
20:N:73:ALA:HB1	20:N:74:PRO:HD2	1.85	0.59
30:X:25:ARG:HD3	30:X:64:ALA:O	2.03	0.59
1:0:2521:A:OP2	14:H:6:ALA:HB3	2.02	0.59
7:A:37:VAL:HG22	38:A:431:HOH:O	2.02	0.59
12:F:91:VAL:CG1	12:F:92:GLY:N	2.66	0.59
26:T:43:ASN:HD22	26:T:108:ARG:CZ	2.16	0.59
28:V:5:VAL:HG23	38:V:4002:HOH:O	2.02	0.59
1:0:2851:G:O2'	1:0:2852:A:H5'	2.03	0.59
12:F:69:GLU:O	12:F:70:LYS:HG2	2.03	0.59
14:H:168:VAL:HG13	38:H:324:HOH:O	2.02	0.59
18:L:35:ARG:NH1	18:L:43:HIS:HB3	2.17	0.59
1:0:1377:C:H5'	1:0:1377:C:C6	2.38	0.59
1:0:1477:C:H5'	1:0:1868:G:C5'	2.33	0.59
8:B:125:GLU:O	8:B:129:ARG:HG3	2.01	0.59
9:C:107:ARG:NE	38:C:504:HOH:O	2.23	0.59
14:H:72:ALA:HB2	14:H:156:ALA:HB2	1.85	0.59
18:L:62:ALA:HB2	18:L:103:ALA:CB	2.33	0.59
19:M:134:ILE:HG23	19:M:141:ILE:HD13	1.84	0.59
21:O:41:ALA:HA	38:O:4020:HOH:O	2.02	0.59
1:0:1835:U:C5	1:0:1840:A:N7	2.68	0.58
1:0:2559:C:H4'	38:0:9699:HOH:O	2.02	0.58
20:N:38:LYS:HD2	20:N:114:LYS:HE3	1.83	0.58
30:X:76:ARG:HG3	30:X:76:ARG:NH1	2.18	0.58
18:L:144:ASP:HA	18:L:147:GLU:HG3	1.84	0.58
19:M:80:GLY:O	19:M:81:ARG:HD2	2.02	0.58
27:U:4:ARG:N	38:U:8801:HOH:O	2.35	0.58
29:W:35:VAL:HG23	29:W:41:TYR:CD2	2.38	0.58
1:0:512:G:O3'	1:0:513:A:H8	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:547:A:H3'	38:0:5256:HOH:O	2.02	0.58
9:C:246:ARG:HB3	9:C:246:ARG:NH1	2.18	0.58
20:N:86:LEU:O	20:N:90:LEU:HG	2.03	0.58
22:P:135:ALA:HB1	22:P:139:ARG:HH12	1.67	0.58
24:R:39:THR:HB	24:R:42:GLU:CG	2.33	0.58
31:Y:141:THR:HG23	38:Y:449:HOH:O	2.01	0.58
1:0:1213:C:O2'	1:0:1214:G:H5'	2.03	0.58
11:E:10:ASP:HA	38:E:4004:HOH:O	2.03	0.58
22:P:7:LYS:HD3	22:P:21:VAL:CG2	2.33	0.58
31:Y:234:VAL:HG12	31:Y:235:GLU:N	2.18	0.58
1:0:1189:A:H1'	1:0:1209:C:H1'	1.86	0.58
1:0:1191:A:H2'	1:0:1193:A:H5'	1.86	0.58
1:0:2831:C:H2'	1:0:2832:C:H5'	1.84	0.58
1:0:2852:A:H5''	38:0:9773:HOH:O	2.03	0.58
10:D:44:ILE:HG23	10:D:45:THR:HG23	1.85	0.58
1:0:138:U:H5''	1:0:139:C:OP2	2.04	0.58
1:0:396:U:O2'	1:0:418:C:H4'	2.04	0.58
1:0:506:G:H22	1:0:509:A:H5''	1.66	0.58
1:0:603:A:H1'	1:0:605:C:C2	2.38	0.58
1:0:1157:C:H2'	1:0:1158:G:C8	2.36	0.58
1:0:2073:G:OP2	1:0:2490:A:H5'	2.04	0.58
1:0:2721:U:H4'	17:K:87:ARG:HG3	1.86	0.58
1:0:2904:U:H4'	30:X:8:ARG:NH1	2.19	0.58
8:B:217:ARG:CG	8:B:257:THR:HG22	2.32	0.58
8:B:238:ASN:HD22	8:B:240:GLY:H	1.52	0.58
10:D:91:ALA:HB1	38:D:233:HOH:O	2.03	0.58
10:D:163:VAL:HA	38:D:247:HOH:O	2.03	0.58
14:H:31:ILE:HA	14:H:66:GLU:OE1	2.04	0.58
1:0:656:G:OP2	21:O:37:ARG:HD2	2.04	0.58
1:0:1097:A:H5''	29:W:125:HIS:NE2	2.19	0.58
1:0:1596:U:H2'	1:0:1598:A:OP2	2.03	0.58
38:0:8081:HOH:O	7:A:213:LYS:HB2	2.04	0.58
7:A:33:GLU:O	7:A:34:ASP:HB2	2.04	0.58
8:B:74:ILE:HD13	8:B:309:VAL:HG21	1.86	0.58
28:V:1:THR:HG23	28:V:2:VAL:N	2.19	0.58
1:0:962:C:H5''	38:0:6215:HOH:O	2.03	0.58
1:0:1060:C:H6	1:0:1060:C:H5'	1.68	0.58
1:0:1118:A:H62	1:0:1244:U:H3	1.51	0.58
1:0:1790:C:H2'	1:0:1791:U:C6	2.37	0.58
1:0:1862:C:H1'	38:0:7955:HOH:O	2.03	0.58
38:0:4090:HOH:O	26:T:9:LYS:HB2	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:41:LEU:HA	10:D:44:ILE:HG22	1.86	0.58
15:I:134:ILE:HG22	15:I:135:GLU:N	2.18	0.58
18:L:41:HIS:H	18:L:41:HIS:CD2	2.20	0.58
18:L:130:ARG:HA	38:L:374:HOH:O	2.04	0.58
20:N:86:LEU:HD12	20:N:125:ALA:HB2	1.85	0.58
24:R:99:ALA:HB1	24:R:109:MET:HE3	1.83	0.58
1:0:281:U:H3'	38:0:4801:HOH:O	2.04	0.58
1:0:1375:A:C2'	1:0:1376:G:H5'	2.34	0.58
12:F:16:ALA:HA	12:F:111:ILE:HD13	1.86	0.58
16:J:52:GLN:HG3	16:J:53:ILE:N	2.19	0.58
31:Y:187:VAL:HB	38:Y:478:HOH:O	2.02	0.58
1:0:407:A:H3'	38:0:4970:HOH:O	2.04	0.57
1:0:1182:C:H1'	1:0:1192:A:H8	1.69	0.57
1:0:1189:A:H3'	38:0:6620:HOH:O	2.03	0.57
1:0:1266:U:H4'	31:Y:115:ARG:HH21	1.69	0.57
1:0:2755:G:H1'	38:0:9634:HOH:O	2.03	0.57
2:1:25:LYS:O	2:1:25:LYS:HG2	2.04	0.57
9:C:5:ILE:HD11	9:C:16:VAL:HG23	1.85	0.57
10:D:58:VAL:CG1	10:D:60:GLU:HG2	2.34	0.57
29:W:88:THR:HG23	29:W:110:GLN:HB3	1.84	0.57
1:0:482:G:H4'	1:0:508:A:N1	2.19	0.57
1:0:1667:A:H2'	1:0:1668:U:C6	2.39	0.57
1:0:2434:A:O3'	4:3:28:GLY:HA3	2.04	0.57
1:0:517:U:H2'	1:0:518:G:H5'	1.86	0.57
1:0:1015:C:H2'	1:0:1016:U:C6	2.39	0.57
1:0:2135:A:O2'	1:0:2136:G:H5'	2.03	0.57
1:0:2361:A:H5'	1:0:2361:A:H8	1.69	0.57
1:0:2812:A:H2	1:0:2814:A:N6	2.01	0.57
38:0:9100:HOH:O	14:H:61:ARG:HG3	2.03	0.57
10:D:50:VAL:O	10:D:71:ALA:HA	2.04	0.57
20:N:154:LEU:HD11	20:N:157:PRO:HA	1.86	0.57
23:Q:28:ARG:HG2	38:Q:223:HOH:O	2.03	0.57
26:T:16:LEU:HA	26:T:19:ARG:HG3	1.86	0.57
31:Y:234:VAL:HG12	31:Y:235:GLU:H	1.69	0.57
1:0:1878:G:C1'	38:0:8000:HOH:O	2.45	0.57
14:H:12:ILE:HD12	14:H:57:THR:CG2	2.33	0.57
22:P:18:LYS:HE2	38:P:208:HOH:O	2.04	0.57
29:W:21:LEU:HD22	29:W:26:ILE:CD1	2.34	0.57
1:0:12:U:H2'	1:0:13:G:H5'	1.86	0.57
1:0:2243:C:H5''	38:0:8513:HOH:O	2.03	0.57
1:0:2270:G:H4'	7:A:223:ARG:NH1	2.18	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:19:PRO:HG2	9:C:22:PHE:CD1	2.39	0.57
31:Y:95:THR:N	31:Y:236:VAL:O	2.36	0.57
31:Y:220:GLU:HG3	38:Y:493:HOH:O	2.02	0.57
1:O:2055:A:H4'	24:R:132:ARG:NH2	2.19	0.57
1:O:2064:U:H5'	1:O:2652:U:H4'	1.86	0.57
12:F:50:VAL:HG13	12:F:60:VAL:HG11	1.87	0.57
16:J:19:MET:CE	16:J:132:LEU:HD11	2.35	0.57
22:P:7:LYS:HD3	22:P:21:VAL:HG22	1.86	0.57
30:X:47:ALA:HB1	30:X:82:GLU:HB3	1.86	0.57
1:O:669:G:O2'	1:O:670:G:H5'	2.05	0.57
1:O:958:G:H2'	1:O:959:C:C6	2.38	0.57
1:O:1504:A:H5'	38:O:7284:HOH:O	2.03	0.57
1:O:1741:U:O2'	1:O:2723:G:H4'	2.05	0.57
1:O:2365:G:H4'	23:Q:45:PRO:O	2.03	0.57
38:O:6882:HOH:O	31:Y:186:ARG:HD2	2.02	0.57
8:B:119:HIS:O	8:B:121:PRO:HD3	2.05	0.57
15:I:117:THR:O	15:I:121:LYS:HG3	2.04	0.57
20:N:151:ASP:O	20:N:154:LEU:HB2	2.05	0.57
1:O:1120:U:H5'	1:O:1121:G:OP2	2.04	0.57
3:2:20:ARG:HG3	3:2:21:VAL:H	1.70	0.57
10:D:49:PRO:HA	10:D:73:VAL:HG22	1.87	0.57
13:G:23:ILE:HD13	13:G:67:LEU:HD23	1.86	0.57
22:P:135:ALA:HB1	22:P:139:ARG:NH1	2.19	0.57
31:Y:106:THR:HG23	31:Y:107:PRO:HD2	1.85	0.57
1:O:2276:U:H2'	1:O:2277:U:C6	2.39	0.57
1:O:2548:C:OP2	8:B:5:ARG:NH2	2.38	0.57
3:2:41:HIS:HD2	3:2:44:ARG:H	1.53	0.57
4:3:73:GLU:HB3	38:3:258:HOH:O	2.05	0.57
8:B:132:HIS:HB2	8:B:137:LEU:HD22	1.87	0.57
18:L:80:ASP:HB2	18:L:90:ARG:O	2.04	0.57
19:M:24:GLN:HE21	19:M:27:ARG:HH11	1.52	0.57
30:X:51:ASP:OD2	30:X:52:PRO:HD2	2.05	0.57
1:O:585:C:H5'	38:O:5306:HOH:O	2.05	0.57
1:O:899:C:H5'	38:O:6055:HOH:O	2.04	0.57
1:O:1205:U:H2'	1:O:1206:U:H5'	1.86	0.57
1:O:1209:C:H2'	1:O:1210:G:C8	2.36	0.57
1:O:2718:C:H6	1:O:2718:C:H5'	1.70	0.57
9:C:98:ARG:NH1	38:C:493:HOH:O	2.36	0.57
24:R:33:ARG:HD2	38:R:331:HOH:O	2.04	0.57
7:A:48:ASP:HB3	38:A:435:HOH:O	2.04	0.56
10:D:88:LEU:HB2	10:D:89:PRO:HD3	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:38:LYS:HZ3	19:M:3:SER:HA	1.70	0.56
1:0:583:C:H2'	1:0:584:U:H6	1.69	0.56
1:0:775:G:OP1	2:1:16:HIS:HE1	1.89	0.56
1:0:1766:U:O2	1:0:1778:A:H5'	2.06	0.56
1:0:2846:C:H4'	8:B:156:LYS:HB3	1.86	0.56
1:0:2909:G:H2'	1:0:2910:A:H8	1.70	0.56
7:A:105:VAL:CG1	7:A:154:ALA:HB1	2.35	0.56
8:B:305:ASP:O	8:B:306:LYS:HB2	2.05	0.56
15:I:67:VAL:HG13	15:I:68:PRO:HD2	1.86	0.56
21:O:53:GLN:HG2	21:O:56:GLU:OE1	2.06	0.56
1:0:2667:G:H1'	1:0:2914:A:N3	2.21	0.56
1:0:2769:C:H2'	1:0:2770:G:H5'	1.87	0.56
1:0:2780:C:C1'	11:E:143:GLN:HE21	2.17	0.56
4:3:3:MET:HG3	4:3:4:PRO:HD2	1.86	0.56
4:3:3:MET:O	4:3:90:PHE:HA	2.04	0.56
7:A:94:LEU:HG	7:A:99:ILE:CD1	2.35	0.56
8:B:71:VAL:HG11	8:B:296:LEU:HB3	1.86	0.56
9:C:236:THR:O	9:C:239:ALA:N	2.39	0.56
14:H:66:GLU:HA	38:H:327:HOH:O	2.06	0.56
20:N:35:VAL:HG13	38:N:4040:HOH:O	2.04	0.56
22:P:59:ARG:NH2	22:P:66:GLN:NE2	2.45	0.56
1:0:292:G:H2'	1:0:358:G:N2	2.20	0.56
1:0:681:G:N3	1:0:681:G:H5'	2.20	0.56
1:0:945:U:O2'	29:W:43:GLY:HA3	2.04	0.56
1:0:2812:A:H1'	38:O:5225:HOH:O	2.05	0.56
15:I:100:VAL:HG11	15:I:124:VAL:CG2	2.34	0.56
15:I:124:VAL:HG13	15:I:134:ILE:HD11	1.88	0.56
17:K:87:ARG:NE	38:K:4043:HOH:O	2.39	0.56
1:0:1183:C:N4	1:0:1184:C:H41	2.03	0.56
15:I:124:VAL:O	15:I:124:VAL:HG12	2.04	0.56
16:J:22:VAL:O	16:J:26:VAL:HG23	2.05	0.56
20:N:24:LEU:HD13	23:Q:26:PRO:HB3	1.87	0.56
20:N:49:THR:HG22	20:N:56:ASP:HB2	1.87	0.56
29:W:54:PHE:CZ	29:W:140:LYS:HB2	2.40	0.56
1:0:644:G:H5'	1:0:644:G:N3	2.20	0.56
1:0:871:G:C8	1:0:871:G:C5'	2.80	0.56
1:0:2401:A:H5'	38:O:8818:HOH:O	2.06	0.56
1:0:2565:C:H4'	38:O:9210:HOH:O	2.05	0.56
9:C:156:LEU:O	9:C:160:LEU:HG	2.05	0.56
18:L:55:GLN:HA	18:L:58:GLN:HE21	1.70	0.56
20:N:163:PHE:O	20:N:164:ASP:O	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Z:22:SER:O	32:Z:26:VAL:HG23	2.05	0.56
3:2:36:ASN:HB3	3:2:39:ARG:HG3	1.88	0.56
9:C:119:ALA:HA	9:C:136:VAL:O	2.05	0.56
11:E:116:THR:HG22	11:E:151:LEU:HD22	1.88	0.56
1:0:870:G:H2'	1:0:871:G:C5'	2.27	0.56
1:0:1398:G:H2'	1:0:1399:A:C8	2.41	0.56
1:0:1461:U:H2'	1:0:1462:C:C6	2.41	0.56
1:0:1701:A:H5''	1:0:1702:U:H3'	1.86	0.56
1:0:1972:U:H2'	1:0:1973:A:C5'	2.36	0.56
1:0:2505:G:O2'	1:0:2506:A:H5'	2.05	0.56
7:A:128:LEU:HG	38:A:450:HOH:O	2.05	0.56
8:B:54:VAL:HB	38:B:536:HOH:O	2.05	0.56
8:B:154:VAL:CG1	8:B:156:LYS:HG2	2.36	0.56
11:E:2:ARG:HE	11:E:48:VAL:HG13	1.69	0.56
11:E:69:ILE:HA	11:E:72:MET:CE	2.36	0.56
18:L:26:HIS:HB2	38:L:327:HOH:O	2.06	0.56
1:0:1677:U:OP2	3:2:8:LYS:NZ	2.38	0.56
4:3:15:ASN:ND2	38:3:208:HOH:O	2.39	0.56
7:A:109:GLU:HG2	7:A:116:GLY:N	2.21	0.56
8:B:7:ARG:HG2	8:B:7:ARG:HH11	1.70	0.56
12:F:13:GLU:OE2	12:F:78:GLU:HG2	2.06	0.56
24:R:39:THR:HG22	24:R:42:GLU:H	1.70	0.56
28:V:39:ALA:N	28:V:40:PRO:CD	2.69	0.56
29:W:26:ILE:O	29:W:26:ILE:HG13	2.06	0.56
1:0:1029:U:O2'	1:0:1273:C:OP1	2.23	0.56
1:0:1180:U:H2'	1:0:1181:A:C8	2.41	0.56
1:0:2769:C:H2'	1:0:2770:G:O4'	2.06	0.56
7:A:51:ARG:NH1	7:A:120:ARG:O	2.39	0.56
14:H:43:ALA:HB1	14:H:140:TYR:CE2	2.41	0.56
15:I:105:GLU:HA	15:I:108:HIS:NE2	2.20	0.56
19:M:78:LYS:HD3	38:M:357:HOH:O	2.06	0.56
23:Q:11:ARG:HD3	38:Q:213:HOH:O	2.06	0.56
27:U:11:THR:HG22	27:U:53:ASP:OD2	2.06	0.56
1:0:24:G:N2	1:0:518:G:H1'	2.21	0.55
1:0:272:A:H3'	38:0:4792:HOH:O	2.05	0.55
1:0:797:A:C4'	32:Z:10:ARG:N	2.69	0.55
1:0:2488:A:H1'	38:0:9047:HOH:O	2.05	0.55
1:0:2563:U:H2'	1:0:2565:C:O5'	2.06	0.55
6:9:34:A:H2'	6:9:35:C:O4'	2.06	0.55
6:9:56:A:O2'	10:D:14:ARG:HD3	2.06	0.55
8:B:314:ALA:CB	8:B:317:PRO:HG3	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:I:97:VAL:CG1	15:I:101:LYS:HE3	2.35	0.55
29:W:34:LEU:HD12	29:W:100:LEU:HD13	1.88	0.55
1:0:1434:A:H2'	1:0:1436:C:C5	2.41	0.55
1:0:2256:G:O2'	1:0:2257:G:H5'	2.05	0.55
8:B:27:ASN:HD22	8:B:27:ASN:N	1.98	0.55
9:C:88:SER:O	9:C:91:PRO:HD3	2.06	0.55
29:W:88:THR:HG22	29:W:90:TYR:HD1	1.70	0.55
1:0:188:C:H5''	19:M:163:LEU:HD21	1.88	0.55
1:0:2507:G:H2'	1:0:2510:C:H42	1.71	0.55
6:9:33:U:H2'	38:9:343:HOH:O	2.06	0.55
16:J:130:VAL:CG1	16:J:131:THR:N	2.69	0.55
23:Q:13:LYS:NZ	38:Q:211:HOH:O	2.37	0.55
1:0:671:A:O2'	1:0:672:G:H2'	2.07	0.55
1:0:1116:U:H3	1:0:1246:A:N6	1.95	0.55
1:0:1787:C:H4'	1:0:2883:A:O4'	2.05	0.55
1:0:2681:A:H4'	1:0:2682:C:H5'	1.88	0.55
1:0:2779:G:H21	11:E:143:GLN:NE2	2.03	0.55
38:0:7406:HOH:O	22:P:117:SER:HB2	2.06	0.55
8:B:265:LEU:HD21	8:B:316:ARG:HD3	1.88	0.55
11:E:68:HIS:O	11:E:72:MET:HG3	2.07	0.55
24:R:44:VAL:HG13	24:R:89:LEU:HD22	1.89	0.55
25:S:57:THR:HG22	25:S:59:ASP:H	1.70	0.55
30:X:47:ALA:HB1	30:X:82:GLU:CB	2.37	0.55
31:Y:155:ARG:NH1	38:Y:463:HOH:O	2.37	0.55
1:0:656:G:H5'	21:O:3:THR:HB	1.88	0.55
1:0:1380:U:H5'	38:0:7016:HOH:O	2.05	0.55
1:0:2502:C:C2'	1:0:2503:A:H5'	2.36	0.55
1:0:2904:U:H4'	30:X:8:ARG:HH12	1.71	0.55
3:2:40:ARG:HG3	3:2:45:ASN:HB2	1.88	0.55
6:9:1:U:H4'	6:9:3:A:OP1	2.06	0.55
17:K:18:ILE:HG22	17:K:93:ASN:HB2	1.88	0.55
20:N:110:THR:HB	20:N:113:SER:OG	2.05	0.55
1:0:380:A:OP2	19:M:9:ARG:HD2	2.07	0.55
1:0:1730:G:H5''	1:0:1731:C:C6	2.42	0.55
1:0:1845:A:OP2	7:A:190:ARG:NH1	2.39	0.55
14:H:168:VAL:CG1	38:H:324:HOH:O	2.54	0.55
20:N:64:SER:C	20:N:66:LEU:H	2.10	0.55
6:9:39:U:H1'	6:9:44:A:H61	1.71	0.55
17:K:98:VAL:HG11	17:K:102:GLU:HA	1.88	0.55
25:S:6:LYS:HB2	25:S:27:ALA:O	2.06	0.55
25:S:43:GLU:HB3	38:S:4013:HOH:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:488:U:H2'	38:0:5153:HOH:O	2.07	0.55
1:0:1165:G:H1'	1:0:1174:A:H1'	1.88	0.55
6:9:75:G:H1	6:9:106:U:H3	1.55	0.55
10:D:37:ALA:O	10:D:40:ILE:HG12	2.07	0.55
11:E:2:ARG:HE	11:E:48:VAL:CG1	2.20	0.55
19:M:122:GLN:OE1	19:M:127:LYS:HE2	2.07	0.55
26:T:50:VAL:HG12	26:T:56:ALA:HA	1.88	0.55
28:V:16:ARG:NH2	28:V:63:GLU:HG3	2.22	0.55
1:0:703:G:O2'	1:0:704:C:H5'	2.07	0.55
1:0:814:G:H2'	1:0:815:U:C6	2.41	0.55
1:0:1528:A:H2'	1:0:1529:G:O4'	2.06	0.55
1:0:1926:G:H2'	1:0:1927:A:C8	2.42	0.55
3:2:40:ARG:HG3	3:2:45:ASN:CB	2.37	0.55
10:D:54:ALA:HB2	10:D:69:ILE:HD12	1.88	0.55
12:F:21:GLU:O	12:F:24:ARG:HG2	2.06	0.55
20:N:49:THR:HG22	20:N:58:LEU:HD11	1.89	0.55
23:Q:64:GLU:HG3	23:Q:74:ASP:OD2	2.06	0.55
24:R:145:LEU:HD12	24:R:146:ILE:H	1.72	0.55
1:0:2504:A:H4'	14:H:74:ARG:HH11	1.72	0.55
2:1:1:THR:HA	38:1:204:HOH:O	2.07	0.55
9:C:200:PRO:HB3	9:C:212:VAL:HG23	1.88	0.55
10:D:40:ILE:HG13	10:D:41:LEU:N	2.22	0.55
11:E:69:ILE:HA	11:E:72:MET:HE2	1.88	0.55
12:F:56:PRO:CG	19:M:44:THR:HA	2.37	0.55
22:P:13:VAL:HG13	22:P:14:LEU:N	2.22	0.55
27:U:17:THR:CG2	27:U:18:GLY:N	2.70	0.55
29:W:90:TYR:CE2	29:W:99:ALA:HB2	2.42	0.55
29:W:110:GLN:NE2	29:W:110:GLN:HA	2.22	0.55
30:X:70:ILE:HG23	30:X:70:ILE:O	2.07	0.55
1:0:136:C:H2'	1:0:137:U:O4'	2.08	0.54
20:N:176:ARG:O	20:N:180:LEU:HD13	2.07	0.54
27:U:14:GLU:OE1	27:U:15:PRO:HD2	2.07	0.54
28:V:12:THR:HG23	28:V:14:ALA:N	2.18	0.54
1:0:284:C:H4'	1:0:285:A:O5'	2.08	0.54
1:0:308:U:H5'	1:0:309:C:OP1	2.07	0.54
1:0:595:U:H2'	1:0:596:C:H6	1.72	0.54
1:0:1056:U:H2'	1:0:1057:A:O4'	2.07	0.54
1:0:1291:A:H2	38:0:6777:HOH:O	1.89	0.54
8:B:43:GLY:O	8:B:308:LEU:HD12	2.06	0.54
9:C:162:VAL:HG13	9:C:232:LEU:HD21	1.87	0.54
1:0:1537:C:H1'	38:0:7336:HOH:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1544:U:H2'	1:0:1545:C:C6	2.42	0.54
9:C:236:THR:O	9:C:237:GLU:C	2.45	0.54
12:F:46:GLU:O	12:F:73:PRO:HD2	2.06	0.54
14:H:102:LYS:HG3	38:H:341:HOH:O	2.06	0.54
31:Y:189:ASN:C	31:Y:189:ASN:HD22	2.09	0.54
1:0:947:U:H2'	1:0:948:G:H8	1.71	0.54
1:0:1187:U:O2'	1:0:1189:A:H2	1.91	0.54
1:0:1535:G:H2'	1:0:1536:C:C6	2.43	0.54
24:R:111:ILE:HG23	24:R:145:LEU:CD1	2.37	0.54
31:Y:99:ALA:HB2	31:Y:233:TYR:CE2	2.43	0.54
1:0:2717:C:H2'	1:0:2718:C:C5'	2.33	0.54
7:A:164:ARG:NE	38:A:456:HOH:O	2.39	0.54
23:Q:53:HIS:ND1	23:Q:55:ARG:HB2	2.23	0.54
31:Y:163:THR:HG23	38:Y:469:HOH:O	2.06	0.54
31:Y:235:GLU:CD	31:Y:235:GLU:N	2.60	0.54
1:0:484:A:N1	1:0:506:G:H4'	2.22	0.54
1:0:2411:C:H4'	38:0:8845:HOH:O	2.06	0.54
1:0:2634:G:OP2	7:A:204:GLY:N	2.38	0.54
9:C:78:ARG:HG3	9:C:78:ARG:NH1	2.23	0.54
9:C:129:HIS:CE1	9:C:231:ARG:HA	2.43	0.54
10:D:10:PHE:CG	10:D:11:HIS:N	2.75	0.54
10:D:174:VAL:HG12	38:D:249:HOH:O	2.07	0.54
22:P:97:ARG:HD2	38:P:252:HOH:O	2.08	0.54
28:V:4:HIS:HB3	38:V:4003:HOH:O	2.08	0.54
29:W:21:LEU:HD21	29:W:48:VAL:HG13	1.90	0.54
29:W:34:LEU:CD1	29:W:100:LEU:HD13	2.38	0.54
29:W:65:VAL:HA	29:W:68:THR:CG2	2.38	0.54
1:0:1714:C:O2'	1:0:1715:C:H5'	2.08	0.54
1:0:2795:C:O2'	1:0:2796:U:H5'	2.07	0.54
8:B:254:GLN:HG2	8:B:255:GLY:N	2.22	0.54
10:D:135:VAL:HG22	10:D:136:ARG:N	2.23	0.54
15:I:130:LEU:HA	38:I:4002:HOH:O	2.06	0.54
27:U:9:CYS:HA	27:U:52:THR:CG2	2.33	0.54
27:U:52:THR:CG2	27:U:54:THR:HB	2.37	0.54
31:Y:212:ARG:HD2	38:Y:402:HOH:O	2.08	0.54
1:0:1942:A:H3'	38:0:8079:HOH:O	2.07	0.54
1:0:2256:G:C2'	1:0:2257:G:H5'	2.38	0.54
1:0:2787:C:H5	38:0:9680:HOH:O	1.90	0.54
7:A:194:MET:HE1	7:A:199:HIS:HB2	1.90	0.54
8:B:238:ASN:ND2	8:B:240:GLY:H	2.05	0.54
10:D:65:GLU:HG3	38:D:225:HOH:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:N:154:LEU:O	20:N:155:GLU:HB3	2.07	0.54
1:O:1151:G:OP1	13:G:63:ARG:NH1	2.41	0.54
24:R:25:PHE:CE2	24:R:29:LYS:HE2	2.43	0.54
1:O:447:A:O2'	1:O:448:G:H5'	2.08	0.54
1:O:553:G:H5'	38:O:5266:HOH:O	2.07	0.54
1:O:2111:G:H1'	38:O:5678:HOH:O	2.08	0.54
38:O:4824:HOH:O	26:T:38:ARG:NH1	2.41	0.54
7:A:82:VAL:HG13	7:A:93:THR:HB	1.88	0.54
8:B:41:PHE:CD1	8:B:79:MET:HE2	2.43	0.54
8:B:55:ASN:CB	8:B:63:GLU:HA	2.37	0.54
14:H:50:ILE:HD12	14:H:149:VAL:HG11	1.90	0.54
15:I:94:ASP:OD1	15:I:133:THR:HB	2.08	0.54
20:N:170:GLU:O	20:N:174:GLU:HG3	2.08	0.54
28:V:58:THR:O	28:V:62:GLU:HG3	2.08	0.54
1:O:461:C:N3	1:O:479:G:H5'	2.23	0.53
1:O:1118:A:C8	1:O:1118:A:C3'	2.85	0.53
8:B:223:ARG:HG3	8:B:232:TRP:O	2.08	0.53
9:C:34:ALA:HB3	9:C:220:THR:HG21	1.90	0.53
11:E:80:TRP:O	11:E:134:SER:HA	2.07	0.53
17:K:55:VAL:HG12	17:K:56:SER:N	2.22	0.53
22:P:10:ALA:HA	22:P:13:VAL:HG12	1.89	0.53
29:W:3:ALA:O	29:W:54:PHE:HA	2.08	0.53
1:O:907:A:H4'	1:O:1328:A:C2	2.43	0.53
1:O:1166:A:H1'	1:O:1192:A:C2	2.42	0.53
1:O:2717:C:O2'	1:O:2718:C:H5''	2.07	0.53
38:O:9708:HOH:O	8:B:27:ASN:HB3	2.08	0.53
12:F:19:ALA:O	12:F:22:VAL:HG22	2.08	0.53
17:K:125:ALA:C	17:K:127:ALA:H	2.10	0.53
32:Z:36:ASP:HB3	32:Z:45:ASP:HB3	1.88	0.53
1:O:553:G:O4'	1:O:1325:G:H5'	2.06	0.53
1:O:902:G:N7	18:L:18:HIS:HD2	2.06	0.53
1:O:920:C:H5''	1:O:921:G:O5'	2.08	0.53
1:O:1086:A:C6	29:W:11:VAL:HG11	2.44	0.53
1:O:2670:G:O2'	1:O:2671:U:H5'	2.08	0.53
1:O:2840:A:OP1	8:B:211:THR:HG23	2.08	0.53
38:O:9659:HOH:O	8:B:298:LYS:HD3	2.09	0.53
6:9:56:A:C3'	6:9:57:A:H5''	2.37	0.53
8:B:2:GLN:HA	38:B:506:HOH:O	2.07	0.53
10:D:94:ALA:HA	10:D:174:VAL:O	2.08	0.53
24:R:82:GLU:HG3	24:R:83:LYS:N	2.22	0.53
29:W:107:LEU:O	29:W:112:LEU:HB2	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1242:A:OP2	16:J:60:ARG:NH2	2.41	0.53
1:0:1393:A:H2'	1:0:1394:C:C6	2.44	0.53
1:0:1735:C:OP2	8:B:234:ARG:HG3	2.09	0.53
1:0:1973:A:H2'	1:0:1974:G:O4'	2.09	0.53
1:0:2044:G:OP1	30:X:23:HIS:HE1	1.91	0.53
1:0:2784:A:H1'	11:E:60:SER:OG	2.07	0.53
6:9:64:C:C2'	6:9:65:A:H5'	2.38	0.53
8:B:41:PHE:CZ	8:B:79:MET:HG3	2.44	0.53
8:B:139:ASP:HB2	8:B:165:ARG:NE	2.23	0.53
8:B:199:TYR:CE2	8:B:268:ARG:HB2	2.43	0.53
11:E:158:ASP:OD1	11:E:160:ARG:HB2	2.08	0.53
18:L:149:ARG:O	18:L:150:GLN:HB2	2.08	0.53
26:T:49:GLU:OE2	26:T:97:ARG:NH1	2.42	0.53
31:Y:99:ALA:HB2	31:Y:233:TYR:CZ	2.43	0.53
1:0:192:A:H5'	38:0:4570:HOH:O	2.08	0.53
1:0:1160:G:HO2'	1:0:1190:G:H1'	1.72	0.53
1:0:1595:G:O2'	1:0:1596:U:H5'	2.07	0.53
1:0:2478:U:H2'	1:0:2479:A:C8	2.44	0.53
8:B:51:VAL:CG2	8:B:327:VAL:HG13	2.38	0.53
20:N:37:ARG:HG3	20:N:37:ARG:HH11	1.74	0.53
31:Y:145:LYS:O	31:Y:147:ARG:HG2	2.09	0.53
32:Z:11:SER:HB3	32:Z:23:ARG:HB2	1.91	0.53
1:0:1120:U:H5''	1:0:1120:U:C6	2.43	0.53
1:0:1173:A:H4'	1:0:1174:A:C8	2.44	0.53
1:0:1419:U:H2'	1:0:1685:A:C2	2.44	0.53
1:0:2589:U:H2'	1:0:2590:U:C6	2.44	0.53
6:9:28:U:H2'	6:9:29:C:C6	2.44	0.53
8:B:51:VAL:HG23	8:B:329:TYR:O	2.09	0.53
10:D:154:LYS:H	10:D:154:LYS:CD	1.97	0.53
12:F:57:GLU:O	12:F:61:MET:HG3	2.09	0.53
17:K:74:VAL:HG12	17:K:75:ARG:HG3	1.91	0.53
19:M:61:ILE:CG2	19:M:62:VAL:N	2.72	0.53
29:W:4:LEU:O	29:W:32:CYS:HA	2.09	0.53
29:W:143:THR:N	38:W:4064:HOH:O	2.42	0.53
1:0:1375:A:O2'	1:0:1376:G:H5'	2.09	0.53
1:0:1973:A:H5'	1:0:1973:A:H8	1.74	0.53
1:0:2050:G:H5''	24:R:80:TYR:O	2.09	0.53
1:0:2769:C:H2'	1:0:2770:G:C5'	2.39	0.53
38:0:5169:HOH:O	26:T:82:THR:HA	2.09	0.53
4:3:70:ARG:NH1	4:3:77:ALA:HB2	2.24	0.53
7:A:65:ARG:O	7:A:66:ARG:HG3	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:16:ARG:NH1	38:B:516:HOH:O	2.41	0.53
8:B:144:THR:HB	38:B:561:HOH:O	2.09	0.53
9:C:214:THR:HG21	38:C:565:HOH:O	2.08	0.53
11:E:24:GLY:HA3	11:E:76:VAL:HB	1.91	0.53
11:E:53:GLU:HB3	11:E:55:ASN:ND2	2.24	0.53
16:J:46:ILE:HD11	16:J:53:ILE:HG23	1.91	0.53
19:M:61:ILE:HA	38:M:330:HOH:O	2.08	0.53
20:N:89:GLY:O	20:N:92:ALA:HB3	2.08	0.53
1:O:1014:A:H2'	1:O:1015:C:H5'	1.91	0.53
1:O:1634:G:H2'	1:O:1635:U:C6	2.44	0.53
1:O:2441:U:H4'	18:L:53:ARG:HD2	1.91	0.53
9:C:27:ARG:HG2	9:C:30:LEU:HD12	1.91	0.53
9:C:115:LEU:HD13	9:C:223:LEU:HD21	1.90	0.53
10:D:63:ILE:HG13	10:D:64:ARG:N	2.24	0.53
12:F:91:VAL:CG1	12:F:92:GLY:H	2.21	0.53
17:K:7:ASP:OD2	17:K:81:ARG:NH2	2.42	0.53
18:L:66:VAL:HG23	18:L:67:ARG:N	2.22	0.53
18:L:104:ASP:O	18:L:105:TYR:HB3	2.08	0.53
20:N:37:ARG:HH21	20:N:105:GLY:HA2	1.72	0.53
29:W:149:LEU:HG	29:W:153:MET:HE2	1.91	0.53
1:O:282:C:H2'	1:O:283:U:O4'	2.09	0.53
1:O:1525:G:H5'	1:O:1526:A:OP2	2.09	0.53
1:O:2326:C:H4'	1:O:2412:G:H4'	1.91	0.53
1:O:2564:G:OP2	1:O:2565:C:H5''	2.09	0.53
6:9:29:C:C2'	6:9:30:C:H5'	2.36	0.53
6:9:69:U:OP1	20:N:4:PRO:HG3	2.09	0.53
8:B:56:ASP:OD1	8:B:322:ARG:HB3	2.08	0.53
8:B:139:ASP:CB	8:B:165:ARG:HE	2.22	0.53
10:D:144:ARG:O	10:D:148:SER:HB3	2.08	0.53
12:F:39:SER:HB3	12:F:45:ALA:HB2	1.91	0.53
16:J:46:ILE:HD11	16:J:53:ILE:HG21	1.90	0.53
20:N:49:THR:CG2	20:N:58:LEU:HD11	2.39	0.53
20:N:171:HIS:CE1	38:N:4031:HOH:O	2.62	0.53
21:O:50:ARG:HD2	21:O:51:TYR:CE1	2.43	0.53
25:S:57:THR:HG22	25:S:59:ASP:N	2.23	0.53
1:O:289:G:O2'	1:O:290:C:H5'	2.09	0.53
1:O:558:C:C2'	1:O:559:U:C5'	2.82	0.53
1:O:812:A:H1'	38:O:5764:HOH:O	2.08	0.53
1:O:1132:A:N6	1:O:1229:C:H2'	2.24	0.53
38:O:4840:HOH:O	9:C:188:ARG:HD2	2.08	0.53
10:D:166:ILE:HB	38:D:247:HOH:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:G:63:ARG:O	13:G:67:LEU:HG	2.09	0.53
13:G:71:LEU:O	13:G:73:ASP:N	2.42	0.53
38:K:4042:HOH:O	27:U:20:MET:HE1	2.08	0.53
29:W:52:VAL:CG2	29:W:53:ALA:H	2.20	0.53
29:W:149:LEU:HG	29:W:153:MET:CE	2.39	0.53
1:0:244:C:OP2	12:F:38:LYS:HE3	2.09	0.52
1:0:2598:U:O2	1:0:2600:A:H8	1.92	0.52
1:0:2831:C:C2'	1:0:2832:C:H5'	2.39	0.52
4:3:56:PRO:N	38:3:245:HOH:O	2.42	0.52
6:9:8:G:H4'	23:Q:27:GLN:NE2	2.24	0.52
8:B:84:LEU:HD23	8:B:142:LEU:HD23	1.89	0.52
11:E:84:MET:HG2	11:E:168:ILE:HA	1.90	0.52
1:0:1495:C:H1'	1:0:1573:A:H1'	1.92	0.52
1:0:1734:C:OP1	8:B:234:ARG:HD3	2.09	0.52
1:0:2601:A:N1	17:K:38:SER:HB2	2.24	0.52
4:3:83:TRP:HA	38:3:265:HOH:O	2.09	0.52
7:A:33:GLU:OE1	7:A:33:GLU:N	2.41	0.52
9:C:107:ARG:NH2	38:C:504:HOH:O	2.41	0.52
10:D:35:ALA:HB2	38:D:216:HOH:O	2.10	0.52
10:D:95:THR:OG1	10:D:174:VAL:HG22	2.10	0.52
15:I:133:THR:HG22	15:I:134:ILE:N	2.24	0.52
17:K:62:PRO:HG3	17:K:65:ARG:NH2	2.23	0.52
29:W:48:VAL:O	29:W:48:VAL:HG12	2.09	0.52
29:W:142:ASP:HB2	38:W:4066:HOH:O	2.09	0.52
1:0:538:C:H5''	1:0:539:G:C8	2.44	0.52
1:0:1634:G:H3'	38:0:7450:HOH:O	2.08	0.52
1:0:1946:C:H1'	38:0:8090:HOH:O	2.08	0.52
6:9:39:U:H1'	6:9:44:A:N6	2.24	0.52
10:D:10:PHE:CD1	10:D:11:HIS:N	2.77	0.52
10:D:76:ARG:O	10:D:77:ASP:HB2	2.08	0.52
19:M:134:ILE:O	19:M:136:PRO:HD3	2.09	0.52
29:W:88:THR:HG21	29:W:96:LEU:HD13	1.90	0.52
1:0:255:A:H2'	1:0:256:C:O4'	2.09	0.52
1:0:816:G:C6	1:0:817:G:N1	2.77	0.52
1:0:947:U:H2'	1:0:948:G:C8	2.44	0.52
1:0:1118:A:H8	1:0:1119:G:H5''	1.73	0.52
1:0:1805:G:H2'	1:0:1806:G:H8	1.73	0.52
1:0:2781:U:H2'	1:0:2782:G:H5'	1.91	0.52
1:0:2802:C:H2'	1:0:2803:C:C6	2.44	0.52
8:B:177:HIS:O	8:B:181:ILE:HG13	2.09	0.52
9:C:127:ARG:HG2	9:C:127:ARG:HH11	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:214:THR:HG23	38:C:582:HOH:O	2.09	0.52
10:D:18:ILE:HD13	10:D:84:LEU:CD1	2.40	0.52
12:F:50:VAL:CG1	12:F:60:VAL:HG11	2.39	0.52
27:U:52:THR:HG22	27:U:54:THR:N	2.24	0.52
1:0:60:A:H5'	3:2:19:SER:OG	2.09	0.52
1:0:120:A:H2'	1:0:120:A:N3	2.25	0.52
1:0:1304:U:H2'	1:0:1305:C:C6	2.44	0.52
1:0:2740:G:H2'	1:0:2741:A:O4'	2.08	0.52
7:A:179:MET:HG2	7:A:186:TRP:CG	2.45	0.52
11:E:116:THR:CG2	11:E:151:LEU:HD22	2.39	0.52
12:F:105:ASP:O	12:F:109:GLU:HB2	2.09	0.52
20:N:167:ASP:O	20:N:168:LEU:HD23	2.10	0.52
21:O:25:VAL:HG23	21:O:26:TRP:N	2.24	0.52
28:V:39:ALA:O	28:V:41:GLU:N	2.42	0.52
1:0:1087:G:H4'	1:0:1088:A:OP1	2.09	0.52
8:B:307:ARG:HH11	8:B:307:ARG:HB2	1.75	0.52
9:C:7:ASP:OD2	9:C:9:ASP:HB2	2.09	0.52
14:H:141:CYS:HB2	38:H:331:HOH:O	2.08	0.52
1:0:88:G:H8	1:0:88:G:H5'	1.75	0.52
1:0:474:C:O3'	9:C:73:LEU:HD21	2.10	0.52
1:0:1015:C:H2'	1:0:1016:U:H6	1.74	0.52
38:O:6211:HOH:O	20:N:4:PRO:HD2	2.10	0.52
21:O:57:THR:O	21:O:111:VAL:HG23	2.10	0.52
1:0:317:A:H5''	26:T:52:ARG:HD2	1.92	0.52
1:0:790:A:H2'	1:0:791:A:O4'	2.10	0.52
1:0:1730:G:H5''	1:0:1731:C:H6	1.74	0.52
1:0:2781:U:H1'	11:E:139:GLU:OE2	2.10	0.52
8:B:248:ARG:NH2	38:B:611:HOH:O	2.42	0.52
8:B:260:HIS:HE1	38:B:618:HOH:O	1.91	0.52
15:I:88:GLN:NE2	15:I:128:THR:HG21	2.25	0.52
16:J:107:ASN:ND2	16:J:109:TYR:N	2.57	0.52
19:M:99:ARG:HD2	19:M:167:GLY:CA	2.37	0.52
20:N:61:ALA:CB	20:N:88:ALA:HB2	2.39	0.52
28:V:64:GLY:O	28:V:65:ASP:CB	2.57	0.52
29:W:89:ASP:HB2	29:W:90:TYR:CE1	2.44	0.52
1:0:236:A:H4'	1:0:237:G:OP1	2.09	0.52
1:0:581:G:H5'	38:O:5301:HOH:O	2.09	0.52
3:2:48:ASP:O	3:2:49:GLU:HB2	2.09	0.52
8:B:205:VAL:O	8:B:307:ARG:NE	2.43	0.52
11:E:137:ASP:O	11:E:141:VAL:HG23	2.10	0.52
15:I:67:VAL:CG1	15:I:68:PRO:HD2	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:J:107:ASN:HD22	16:J:108:PRO:N	2.06	0.52
20:N:47:LEU:CD1	20:N:97:VAL:HG11	2.39	0.52
21:O:115:ARG:NH1	38:O:4041:HOH:O	2.41	0.52
26:T:1:SER:HA	38:T:4001:HOH:O	2.08	0.52
32:Z:60:CYS:O	32:Z:61:ASP:HB2	2.09	0.52
1:O:1287:A:O4'	29:W:117:ARG:HD3	2.09	0.52
1:O:1947:G:N2	1:O:1966:U:C2	2.78	0.52
1:O:1979:G:H2'	38:O:8127:HOH:O	2.09	0.52
6:9:51:A:H5'	20:N:160:SER:HB3	1.90	0.52
8:B:195:ARG:HD2	8:B:324:ASP:OD1	2.10	0.52
9:C:10:GLY:HA2	9:C:160:LEU:HD21	1.91	0.52
10:D:58:VAL:HG12	10:D:60:GLU:HG2	1.92	0.52
10:D:64:ARG:CD	10:D:67:ASP:HB3	2.40	0.52
10:D:128:LEU:O	10:D:128:LEU:HD23	2.10	0.52
16:J:131:THR:HG22	16:J:133:GLY:N	2.24	0.52
20:N:43:VAL:HG13	20:N:118:ILE:HD11	1.92	0.52
25:S:25:GLN:HG2	25:S:65:VAL:HG22	1.92	0.52
26:T:18:GLU:O	26:T:21:LYS:HG3	2.09	0.52
29:W:56:GLU:O	29:W:143:THR:HG23	2.10	0.52
30:X:49:ARG:HG2	30:X:84:ILE:HG23	1.92	0.52
31:Y:189:ASN:HA	31:Y:217:ILE:HD11	1.90	0.52
1:O:485:A:N3	1:O:487:G:H5''	2.25	0.51
1:O:1446:U:H2'	25:S:55:GLN:NE2	2.25	0.51
1:O:2600:A:H2'	1:O:2601:A:O4'	2.11	0.51
1:O:2768:A:O2'	1:O:2769:C:H5'	2.10	0.51
1:O:2785:C:H4'	1:O:2786:G:OP2	2.11	0.51
7:A:105:VAL:HG11	7:A:154:ALA:HB1	1.91	0.51
7:A:192:VAL:HB	38:A:481:HOH:O	2.10	0.51
8:B:96:PRO:HG3	38:B:546:HOH:O	2.10	0.51
8:B:109:LEU:HG	8:B:113:LEU:HD12	1.93	0.51
16:J:126:ASN:ND2	38:J:4050:HOH:O	2.42	0.51
30:X:66:THR:HG23	30:X:67:PRO:HD2	1.92	0.51
1:O:2840:A:H3'	38:O:9746:HOH:O	2.10	0.51
12:F:36:THR:HG23	12:F:97:ALA:HB2	1.91	0.51
19:M:72:ALA:HB2	19:M:93:ARG:HG2	1.93	0.51
21:O:59:VAL:CG2	21:O:111:VAL:HG21	2.39	0.51
22:P:116:SER:O	22:P:119:TYR:HB3	2.09	0.51
32:Z:56:GLN:HA	32:Z:62:TYR:O	2.10	0.51
1:O:37:A:H2'	1:O:38:G:C8	2.45	0.51
1:O:195:C:H5''	38:M:420:HOH:O	2.09	0.51
1:O:814:G:H2'	1:O:815:U:H6	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1391:G:H2'	1:0:1392:A:H5'	1.92	0.51
1:0:2570:G:H5''	38:0:9222:HOH:O	2.09	0.51
1:0:2724:U:H2'	1:0:2725:G:O4'	2.09	0.51
9:C:19:PRO:HG2	9:C:22:PHE:CE1	2.45	0.51
19:M:27:ARG:NH2	19:M:44:THR:HG23	2.25	0.51
26:T:80:GLU:HG2	38:T:4027:HOH:O	2.10	0.51
30:X:74:ALA:HB2	30:X:85:VAL:HG13	1.92	0.51
1:0:1335:C:OP2	31:Y:207:SER:HB3	2.11	0.51
1:0:1641:A:C2'	1:0:1642:A:H5'	2.40	0.51
1:0:2769:C:O2'	1:0:2770:G:H5'	2.11	0.51
1:0:2781:U:C2'	1:0:2782:G:H5'	2.40	0.51
7:A:65:ARG:C	7:A:66:ARG:HG3	2.31	0.51
8:B:41:PHE:CE1	8:B:79:MET:HG3	2.45	0.51
17:K:118:ALA:HA	17:K:125:ALA:HB2	1.92	0.51
18:L:57:VAL:HG12	18:L:57:VAL:O	2.11	0.51
18:L:77:ALA:HB3	38:L:356:HOH:O	2.11	0.51
1:0:2634:G:H3'	38:0:9414:HOH:O	2.10	0.51
38:0:6579:HOH:O	13:G:12:ILE:HG23	2.10	0.51
2:1:45:ARG:HD2	38:1:244:HOH:O	2.11	0.51
10:D:22:VAL:HG22	10:D:74:THR:HG22	1.92	0.51
11:E:126:ILE:HB	11:E:131:LEU:HD23	1.92	0.51
13:G:20:VAL:O	13:G:24:VAL:HG23	2.10	0.51
17:K:75:ARG:O	17:K:93:ASN:HA	2.10	0.51
25:S:22:ASN:ND2	25:S:68:LEU:HB2	2.25	0.51
26:T:106:GLU:HG3	38:T:4035:HOH:O	2.10	0.51
29:W:38:THR:HG22	38:W:4020:HOH:O	2.10	0.51
1:0:285:A:C2	1:0:368:C:H4'	2.46	0.51
1:0:960:G:H3'	1:0:960:G:N3	2.25	0.51
1:0:2719:A:C2	8:B:70:PRO:HG3	2.46	0.51
38:0:9658:HOH:O	8:B:267:LYS:HD3	2.11	0.51
9:C:47:GLY:HA2	9:C:92:PRO:HB2	1.92	0.51
9:C:235:PHE:HE2	9:C:243:VAL:HG21	1.76	0.51
10:D:35:ALA:C	10:D:37:ALA:N	2.64	0.51
11:E:34:TRP:HB3	38:E:4012:HOH:O	2.10	0.51
12:F:32:GLY:N	38:F:4009:HOH:O	2.43	0.51
20:N:23:ARG:NH1	38:N:4013:HOH:O	2.42	0.51
26:T:49:GLU:HB3	26:T:59:GLU:HG3	1.92	0.51
28:V:42:ASN:N	28:V:43:PRO:HD3	2.25	0.51
32:Z:53:GLY:HA2	32:Z:67:GLY:O	2.11	0.51
1:0:451:C:O2'	1:0:452:G:H5'	2.11	0.51
1:0:820:G:O2'	1:0:856:G:H4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1024:G:H4'	29:W:41:TYR:OH	2.10	0.51
1:0:1226:G:O2'	1:0:1227:C:H5'	2.10	0.51
1:0:1634:G:H2'	1:0:1635:U:H6	1.76	0.51
1:0:1786:C:OP1	22:P:74:GLN:HG2	2.11	0.51
1:0:2081:A:H4'	16:J:69:TYR:CE1	2.46	0.51
1:0:2325:U:O2'	1:0:2411:C:H1'	2.09	0.51
8:B:258:GLY:H	8:B:260:HIS:CE1	2.28	0.51
11:E:7:ILE:HD11	11:E:11:VAL:C	2.31	0.51
12:F:15:ASP:O	12:F:18:GLU:HB2	2.10	0.51
14:H:61:ARG:NH1	14:H:61:ARG:HG3	2.26	0.51
15:I:105:GLU:HA	15:I:108:HIS:CE1	2.46	0.51
21:O:47:ARG:HG3	21:O:47:ARG:NH1	2.25	0.51
29:W:29:VAL:O	29:W:30:ASN:HB2	2.10	0.51
1:0:168:C:O5'	1:0:168:C:H6	1.93	0.51
1:0:721:A:H5''	21:O:51:TYR:CE2	2.46	0.51
1:0:1667:A:H5'	1:0:1667:A:C8	2.41	0.51
1:0:2326:C:H4'	1:0:2412:G:C4'	2.40	0.51
7:A:94:LEU:HD12	7:A:98:GLU:HB2	1.92	0.51
10:D:101:THR:O	10:D:101:THR:HG22	2.11	0.51
30:X:25:ARG:NH1	38:X:4012:HOH:O	2.44	0.51
1:0:877:G:C5'	1:0:878:G:OP1	2.56	0.51
1:0:1112:G:H1	1:0:1251:C:H42	1.56	0.51
38:O:7612:HOH:O	22:P:81:LYS:HG2	2.10	0.51
8:B:137:LEU:HD21	8:B:140:LEU:HD21	1.92	0.51
9:C:79:ARG:O	9:C:87:ARG:HG2	2.11	0.51
14:H:102:LYS:HD3	14:H:122:LYS:CD	2.35	0.51
15:I:91:PHE:HD2	15:I:131:GLY:HA2	1.75	0.51
23:Q:75:ILE:HA	38:Q:238:HOH:O	2.10	0.51
28:V:38:GLY:O	28:V:41:GLU:HG3	2.11	0.51
29:W:21:LEU:HB3	29:W:26:ILE:CG1	2.41	0.51
1:0:814:G:H1'	38:O:5767:HOH:O	2.09	0.51
1:0:1654:U:H2'	7:A:47:HIS:CD2	2.44	0.51
1:0:1666:C:O2'	1:0:1667:A:C5'	2.59	0.51
1:0:2812:A:C2	1:0:2814:A:N6	2.76	0.51
10:D:40:ILE:HG23	38:D:219:HOH:O	2.10	0.51
10:D:135:VAL:HG22	10:D:136:ARG:H	1.76	0.51
11:E:105:GLU:HG2	11:E:113:PRO:HB3	1.93	0.51
27:U:25:ASP:OD2	27:U:26:GLY:N	2.44	0.51
1:0:1003:U:H4'	14:H:91:ARG:O	2.10	0.50
38:O:8286:HOH:O	24:R:139:PRO:HD2	2.11	0.50
7:A:100:PRO:HG2	7:A:103:VAL:CG2	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:194:MET:CE	7:A:199:HIS:HB2	2.41	0.50
10:D:140:ARG:O	10:D:144:ARG:HG2	2.11	0.50
15:I:113:SER:HB2	15:I:118:ASN:HB2	1.93	0.50
20:N:49:THR:CG2	20:N:56:ASP:HB2	2.41	0.50
28:V:38:GLY:C	28:V:40:PRO:HD2	2.31	0.50
31:Y:112:GLU:CD	31:Y:115:ARG:NH1	2.64	0.50
1:0:282:C:O2'	1:0:283:U:H5'	2.12	0.50
1:0:2005:G:H3'	1:0:2005:G:OP2	2.11	0.50
1:0:2361:A:H5''	38:0:8725:HOH:O	2.09	0.50
1:0:2387:U:H2'	1:0:2388:C:C6	2.46	0.50
1:0:2467:A:O2'	1:0:2468:A:H2'	2.12	0.50
1:0:2582:G:O3'	17:K:41:LYS:HA	2.11	0.50
38:0:8978:HOH:O	18:L:37:LYS:HE2	2.11	0.50
8:B:81:ALA:O	8:B:186:GLY:HA3	2.10	0.50
10:D:146:LYS:HZ3	20:N:107:ASN:ND2	2.08	0.50
18:L:73:VAL:HG23	18:L:74:THR:N	2.26	0.50
18:L:97:VAL:HG12	18:L:98:GLU:O	2.10	0.50
1:0:69:A:H5'	1:0:69:A:C8	2.46	0.50
1:0:449:A:N7	9:C:43:LYS:HG2	2.26	0.50
1:0:527:U:H2'	1:0:528:G:C8	2.46	0.50
1:0:1279:U:O2	1:0:1279:U:H2'	2.12	0.50
1:0:1441:G:O2'	1:0:1442:A:H5'	2.11	0.50
1:0:1594:C:OP2	22:P:120:ARG:HD2	2.11	0.50
1:0:1761:U:H5''	22:P:83:LYS:HA	1.93	0.50
1:0:2114:C:O2'	1:0:2115:U:H5'	2.11	0.50
1:0:2424:U:H1'	23:Q:7:LEU:HD12	1.94	0.50
1:0:2506:A:O2'	1:0:2507:G:C8	2.62	0.50
9:C:7:ASP:C	9:C:9:ASP:H	2.15	0.50
11:E:77:THR:OG1	11:E:78:GLU:N	2.44	0.50
23:Q:21:ARG:HG2	23:Q:22:GLY:H	1.76	0.50
32:Z:42:CYS:SG	32:Z:44:GLU:HB2	2.51	0.50
1:0:61:G:OP1	3:2:17:GLN:HG2	2.11	0.50
1:0:383:A:H5'	38:0:4994:HOH:O	2.11	0.50
1:0:545:G:H8	1:0:545:G:C5'	2.19	0.50
1:0:941:G:O2'	1:0:942:U:H5'	2.11	0.50
1:0:2252:A:C5	1:0:2253:G:H1'	2.47	0.50
1:0:2587:OMU:H2'	1:0:2589:U:H5''	1.93	0.50
7:A:105:VAL:HG12	7:A:106:CYS:N	2.25	0.50
8:B:199:TYR:HE2	8:B:268:ARG:HB2	1.76	0.50
9:C:7:ASP:O	9:C:9:ASP:N	2.43	0.50
17:K:75:ARG:HH21	17:K:94:ALA:CB	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:T:26:THR:HA	26:T:39:ASN:HB3	1.93	0.50
31:Y:109:LEU:HA	38:Y:417:HOH:O	2.11	0.50
1:0:764:C:H2'	1:0:765:G:O4'	2.11	0.50
1:0:1421:C:H2'	1:0:1422:U:H6	1.76	0.50
17:K:81:ARG:HH11	17:K:81:ARG:HG2	1.76	0.50
18:L:73:VAL:HG11	18:L:118:LEU:HD21	1.93	0.50
20:N:37:ARG:CD	36:N:201:CL:CL	2.96	0.50
29:W:65:VAL:HG12	29:W:116:LEU:HD13	1.93	0.50
1:0:290:C:O2'	1:0:291:C:H5'	2.12	0.50
1:0:1684:A:O2'	1:0:1685:A:H5''	2.11	0.50
1:0:1711:A:O2'	1:0:1712:A:H5'	2.12	0.50
1:0:2694:A:H4'	11:E:91:PHE:HE1	1.76	0.50
1:0:2880:A:H2'	1:0:2881:C:H5'	1.92	0.50
8:B:48:MET:HG2	8:B:72:THR:HA	1.94	0.50
11:E:103:VAL:HG22	11:E:115:ARG:HB3	1.94	0.50
1:0:522:U:O2'	1:0:1366:C:H5'	2.11	0.50
1:0:2072:G:C6	1:0:2533:C:H1'	2.47	0.50
1:0:2419:U:H5''	1:0:2420:G:H5'	1.94	0.50
6:9:88:G:OP1	29:W:130:HIS:NE2	2.41	0.50
9:C:200:PRO:HB3	9:C:212:VAL:CG2	2.41	0.50
16:J:107:ASN:ND2	16:J:107:ASN:C	2.63	0.50
1:0:466:A:H2'	1:0:467:G:O4'	2.12	0.50
1:0:1527:A:H1'	1:0:1528:A:C8	2.46	0.50
1:0:1853:C:OP1	7:A:231:LYS:HG3	2.11	0.50
1:0:2300:A:H4'	1:0:2301:A:O5'	2.12	0.50
19:M:46:LEU:O	19:M:50:ARG:HG3	2.12	0.50
20:N:43:VAL:O	20:N:84:THR:HG21	2.12	0.50
25:S:81:ILE:HG12	38:S:4028:HOH:O	2.12	0.50
1:0:64:G:H2'	1:0:65:C:O4'	2.12	0.50
1:0:517:U:C2'	1:0:518:G:H5'	2.42	0.50
1:0:1543:G:N1	1:0:1641:A:OP2	2.36	0.50
1:0:1855:G:H8	7:A:144:GLU:OE2	1.94	0.50
1:0:2671:U:H5''	8:B:161:VAL:O	2.12	0.50
1:0:2878:U:H2'	1:0:2879:A:O4'	2.12	0.50
7:A:66:ARG:HH11	7:A:66:ARG:CB	2.24	0.50
12:F:99:THR:HG23	12:F:99:THR:O	2.12	0.50
15:I:134:ILE:HG22	15:I:135:GLU:H	1.77	0.50
17:K:28:GLU:OE2	17:K:58:THR:HG21	2.12	0.50
19:M:169:ARG:NH1	38:M:413:HOH:O	2.43	0.50
24:R:113:HIS:O	24:R:145:LEU:HD12	2.12	0.50
26:T:47:THR:HB	26:T:100:ASP:HB3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:35:VAL:HG22	29:W:36:PRO:O	2.12	0.50
1:0:195:C:H2'	1:0:196:G:H5'	1.94	0.49
1:0:653:U:H5''	38:O:4017:HOH:O	2.11	0.49
1:0:1102:C:H5	38:O:6483:HOH:O	1.94	0.49
1:0:1201:C:H5''	38:O:6630:HOH:O	2.12	0.49
1:0:1333:U:H2'	1:0:1334:C:C6	2.46	0.49
38:9:357:HOH:O	20:N:147:ILE:HB	2.12	0.49
10:D:58:VAL:HB	10:D:62:ASP:HB3	1.94	0.49
11:E:11:VAL:CG1	11:E:12:ASP:N	2.75	0.49
15:I:84:SER:HB3	15:I:92:VAL:HG21	1.94	0.49
18:L:73:VAL:HG23	18:L:74:THR:H	1.77	0.49
26:T:40:VAL:HG22	26:T:41:ARG:N	2.27	0.49
1:0:119:A:H2'	1:0:120:A:H5''	1.94	0.49
1:0:571:C:O5'	1:0:571:C:H6	1.94	0.49
1:0:596:C:H2'	1:0:597:A:H8	1.77	0.49
1:0:598:C:H2'	1:0:599:G:H8	1.76	0.49
1:0:656:G:H3'	21:O:37:ARG:HH12	1.77	0.49
1:0:790:A:H1'	1:0:1710:A:H2'	1.94	0.49
1:0:821:U:H2'	1:0:822:C:C6	2.41	0.49
1:0:1762:C:H2'	1:0:1763:C:H6	1.77	0.49
1:0:2371:G:H5'	38:O:8744:HOH:O	2.11	0.49
9:C:246:ARG:HB3	9:C:246:ARG:HH11	1.77	0.49
13:G:64:ASN:HD22	13:G:64:ASN:N	2.10	0.49
19:M:65:VAL:CG2	19:M:105:ALA:HB2	2.41	0.49
1:0:559:U:H2'	1:0:560:U:O4'	2.12	0.49
1:0:702:G:O2'	1:0:703:G:H5'	2.12	0.49
1:0:1118:A:C8	1:0:1119:G:H5''	2.46	0.49
1:0:1307:A:H2'	1:0:1308:A:C8	2.46	0.49
1:0:1942:A:O2'	1:0:1943:C:H5'	2.11	0.49
2:1:22:CYS:HA	38:1:242:HOH:O	2.11	0.49
13:G:71:LEU:C	13:G:73:ASP:N	2.65	0.49
18:L:89:PHE:N	38:L:357:HOH:O	2.44	0.49
18:L:133:VAL:HB	38:L:374:HOH:O	2.12	0.49
29:W:76:ASP:O	29:W:77:ALA:C	2.49	0.49
31:Y:126:PRO:HG2	31:Y:128:PHE:CE1	2.47	0.49
1:0:595:U:H2'	1:0:596:C:C6	2.47	0.49
1:0:1778:A:H2'	1:0:1779:A:H5'	1.95	0.49
9:C:107:ARG:O	9:C:111:VAL:HG23	2.11	0.49
14:H:80:LEU:O	14:H:84:GLY:HA3	2.13	0.49
14:H:91:ARG:HH11	14:H:138:THR:CB	2.24	0.49
16:J:79:PHE:HB3	16:J:103:VAL:HG11	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:T:38:ARG:HG3	26:T:38:ARG:HH11	1.77	0.49
1:0:189:A:OP1	19:M:171:ARG:NH2	2.45	0.49
1:0:820:G:C6	7:A:171:LYS:HB2	2.48	0.49
1:0:1069:C:H2'	1:0:1070:A:O4'	2.13	0.49
1:0:1715:C:H1'	22:P:57:ASN:HD21	1.77	0.49
1:0:2265:U:H2'	1:0:2266:A:C8	2.48	0.49
1:0:2668:G:H2'	1:0:2669:U:C6	2.48	0.49
10:D:25:MET:CE	10:D:41:LEU:HG	2.42	0.49
14:H:94:PRO:HA	14:H:127:ALA:O	2.13	0.49
15:I:95:LEU:HA	15:I:99:GLN:OE1	2.12	0.49
20:N:34:LEU:HD13	20:N:47:LEU:HD21	1.95	0.49
21:O:14:LEU:HD23	21:O:102:ILE:HD11	1.93	0.49
28:V:1:THR:O	28:V:3:LEU:N	2.45	0.49
29:W:122:ARG:NH2	29:W:154:ARG:OXT	2.43	0.49
1:0:67:A:H5''	1:0:69:A:C8	2.48	0.49
1:0:1039:G:H2'	1:0:1040:A:O4'	2.12	0.49
1:0:1181:A:H2'	1:0:1182:C:H5'	1.94	0.49
1:0:1375:A:H2'	1:0:1376:G:H5'	1.92	0.49
1:0:2533:C:H6	1:0:2533:C:C5'	2.22	0.49
1:0:2764:C:H2'	1:0:2765:C:H6	1.76	0.49
8:B:329:TYR:CE2	27:U:15:PRO:HG2	2.48	0.49
10:D:93:LEU:HD23	38:D:233:HOH:O	2.12	0.49
18:L:145:LEU:HD23	18:L:145:LEU:C	2.32	0.49
20:N:73:ALA:N	38:N:4031:HOH:O	2.45	0.49
20:N:151:ASP:CG	20:N:165:ALA:O	2.51	0.49
23:Q:32:GLU:HA	23:Q:71:TYR:OH	2.12	0.49
1:0:130:C:H2'	38:O:4389:HOH:O	2.12	0.49
1:0:903:U:OP2	18:L:11:ARG:NH1	2.44	0.49
1:0:1316:G:H1'	1:0:1340:G:N2	2.28	0.49
1:0:1416:G:H2'	1:0:1417:G:H5'	1.93	0.49
1:0:1593:C:C6	22:P:120:ARG:HD3	2.47	0.49
1:0:1633:C:H5''	1:0:1634:G:OP1	2.13	0.49
1:0:1783:A:O2'	1:0:1784:U:H5'	2.12	0.49
1:0:1825:U:O2'	1:0:1826:C:H5'	2.13	0.49
1:0:2526:C:O2'	1:0:2527:U:H5'	2.13	0.49
7:A:18:ALA:O	7:A:20:SER:N	2.42	0.49
9:C:151:GLN:O	9:C:154:VAL:HB	2.13	0.49
12:F:100:ASP:O	12:F:101:ALA:O	2.31	0.49
18:L:43:HIS:O	18:L:44:GLU:C	2.51	0.49
19:M:181:GLU:OE1	19:M:181:GLU:N	2.37	0.49
20:N:5:ARG:HG3	23:Q:18:PRO:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:S:57:THR:C	25:S:59:ASP:H	2.16	0.49
30:X:78:GLU:HG2	30:X:79:GLU:N	2.27	0.49
1:0:694:A:C2'	1:0:695:C:H5'	2.41	0.49
1:0:834:G:H3'	1:0:835:U:H4'	1.95	0.49
1:0:1200:A:H1'	38:0:6635:HOH:O	2.13	0.49
1:0:1236:A:C8	16:J:63:ILE:HD11	2.48	0.49
1:0:1497:G:H4'	1:0:1627:G:O2'	2.13	0.49
1:0:1559:A:OP2	1:0:1559:A:H8	1.95	0.49
1:0:2837:U:H1'	8:B:307:ARG:HH12	1.77	0.49
1:0:2896:A:H5''	38:0:9810:HOH:O	2.11	0.49
9:C:2:GLN:HB3	38:C:415:HOH:O	2.13	0.49
9:C:237:GLU:HB2	38:C:523:HOH:O	2.13	0.49
18:L:125:PHE:CZ	18:L:140:VAL:HG13	2.47	0.49
20:N:143:ARG:HA	20:N:172:PHE:CD2	2.48	0.49
26:T:71:VAL:CG1	26:T:90:PRO:HB3	2.36	0.49
29:W:88:THR:CG2	29:W:89:ASP:H	2.20	0.49
1:0:1119:G:H22	1:0:1246:A:H2	1.55	0.49
1:0:1185:U:H2'	1:0:1186:C:C6	2.48	0.49
1:0:1771:U:H5'	32:Z:20:ARG:HH21	1.76	0.49
1:0:2312:G:H2'	1:0:2313:C:H5'	1.94	0.49
1:0:2468:A:H61	4:3:48:ASN:HD21	1.60	0.49
1:0:2636:C:H3'	38:0:9419:HOH:O	2.12	0.49
7:A:153:ARG:HB2	7:A:153:ARG:NH1	2.28	0.49
10:D:138:GLY:N	38:D:245:HOH:O	2.36	0.49
22:P:114:LEU:HA	22:P:118:GLN:NE2	2.28	0.49
1:0:635:A:H2'	1:0:636:G:H5''	1.94	0.49
1:0:654:A:OP2	21:O:38:ARG:HD3	2.12	0.49
1:0:705:C:O2	1:0:705:C:H2'	2.13	0.49
1:0:1299:G:O6	18:L:6:ARG:HD3	2.13	0.49
7:A:153:ARG:CB	7:A:153:ARG:HH11	2.26	0.49
15:I:87:PRO:HD3	38:I:4009:HOH:O	2.13	0.49
29:W:38:THR:O	29:W:42:ARG:HB2	2.13	0.49
31:Y:107:PRO:HB3	31:Y:182:PHE:CD2	2.48	0.49
1:0:130:C:H5'	38:0:4351:HOH:O	2.13	0.48
1:0:226:A:H1'	1:0:393:G:C5	2.48	0.48
1:0:932:U:H2'	1:0:933:C:C6	2.47	0.48
1:0:1811:A:C2	1:0:2752:C:H1'	2.48	0.48
1:0:2578:G:H5'	1:0:2578:G:C8	2.43	0.48
1:0:2896:A:OP1	30:X:15:ARG:NH1	2.46	0.48
38:0:7955:HOH:O	7:A:11:ARG:HA	2.12	0.48
4:3:65:THR:HB	4:3:83:TRP:H	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:157:LEU:HD11	9:C:194:PHE:HZ	1.78	0.48
11:E:20:ILE:CD1	11:E:40:VAL:HG11	2.42	0.48
17:K:121:PHE:HB3	38:K:4051:HOH:O	2.12	0.48
18:L:20:ASN:O	18:L:22:ARG:N	2.46	0.48
20:N:37:ARG:HE	20:N:105:GLY:HA3	1.78	0.48
24:R:59:PHE:HZ	24:R:81:PRO:HG3	1.77	0.48
30:X:66:THR:CG2	30:X:67:PRO:HD2	2.44	0.48
32:Z:10:ARG:HA	38:Z:218:HOH:O	2.11	0.48
1:0:396:U:H1'	38:0:4950:HOH:O	2.12	0.48
1:0:808:A:C5	1:0:809:G:H1'	2.48	0.48
1:0:1666:C:C2'	1:0:1667:A:C5'	2.91	0.48
38:0:6469:HOH:O	29:W:119:HIS:HE1	1.96	0.48
13:G:19:GLU:O	13:G:23:ILE:HG13	2.14	0.48
14:H:12:ILE:HG12	14:H:59:GLN:HG2	1.94	0.48
16:J:75:PRO:HD3	16:J:136:SER:OG	2.13	0.48
20:N:64:SER:O	20:N:66:LEU:N	2.46	0.48
22:P:98:ILE:O	22:P:98:ILE:HD13	2.13	0.48
1:0:777:U:O2'	2:1:11:LYS:HG2	2.13	0.48
1:0:1762:C:H4'	38:0:7768:HOH:O	2.13	0.48
1:0:2598:U:O2	1:0:2600:A:C8	2.66	0.48
7:A:186:TRP:CG	7:A:187:PRO:HA	2.48	0.48
8:B:171:VAL:O	8:B:175:LEU:HB2	2.12	0.48
8:B:255:GLY:O	8:B:257:THR:HG23	2.14	0.48
14:H:41:LYS:HD3	14:H:46:TYR:OH	2.12	0.48
18:L:6:ARG:NH2	38:L:308:HOH:O	2.45	0.48
18:L:62:ALA:HB2	18:L:103:ALA:HB2	1.95	0.48
19:M:164:THR:CG2	19:M:167:GLY:H	2.15	0.48
21:O:14:LEU:CD2	21:O:102:ILE:HD11	2.42	0.48
1:0:87:C:H2'	3:2:28:LYS:O	2.13	0.48
1:0:776:A:OP1	2:1:28:HIS:HE1	1.96	0.48
1:0:1277:C:OP2	21:O:19:ARG:NH1	2.47	0.48
1:0:1874:U:OP1	7:A:51:ARG:HD2	2.12	0.48
1:0:1909:A:N1	1:0:2128:G:H1'	2.27	0.48
1:0:2359:G:H3'	38:0:8727:HOH:O	2.12	0.48
3:2:41:HIS:HB3	3:2:44:ARG:HB2	1.96	0.48
4:3:56:PRO:HA	38:3:245:HOH:O	2.13	0.48
9:C:132:ASP:CB	38:C:516:HOH:O	2.58	0.48
14:H:57:THR:HG23	14:H:131:GLN:HA	1.94	0.48
14:H:59:GLN:NE2	14:H:129:ARG:NE	2.52	0.48
19:M:26:GLN:O	19:M:29:GLN:HB2	2.14	0.48
1:0:1278:A:H4'	1:0:1279:U:C4	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2314:G:C2'	1:0:2315:C:H5'	2.42	0.48
1:0:2659:U:H5''	38:0:9492:HOH:O	2.13	0.48
1:0:2909:G:H2'	1:0:2910:A:C8	2.47	0.48
11:E:5:LEU:HD21	11:E:66:GLN:HG3	1.95	0.48
15:I:73:LEU:HD12	15:I:107:LYS:NZ	2.29	0.48
19:M:98:GLN:HB2	19:M:129:HIS:NE2	2.28	0.48
21:O:44:ASN:OD1	21:O:65:LEU:HB2	2.13	0.48
29:W:11:VAL:O	29:W:12:ASN:HB2	2.13	0.48
30:X:46:ASP:OD2	30:X:46:ASP:N	2.45	0.48
1:0:84:G:O2'	1:0:85:C:H5'	2.13	0.48
1:0:228:C:H2'	1:0:229:G:H5'	1.94	0.48
1:0:722:G:H22	1:0:938:G:P	2.37	0.48
1:0:1787:C:OP1	22:P:68:LYS:HE2	2.13	0.48
1:0:2754:G:O2'	1:0:2755:G:H5'	2.14	0.48
9:C:151:GLN:HB3	38:C:527:HOH:O	2.13	0.48
19:M:54:TYR:HB2	19:M:132:ILE:HD13	1.95	0.48
20:N:37:ARG:HH21	20:N:105:GLY:N	2.12	0.48
20:N:116:PHE:HB3	20:N:136:LEU:HD23	1.95	0.48
22:P:142:ASP:O	22:P:143:ALA:O	2.30	0.48
1:0:541:C:H2'	1:0:542:A:H5'	1.94	0.48
1:0:1007:A:H2'	14:H:22:TYR:OH	2.14	0.48
1:0:1051:C:H2'	1:0:1052:G:O4'	2.14	0.48
8:B:83:ALA:HB2	8:B:101:TRP:CD2	2.49	0.48
12:F:4:VAL:HG13	12:F:76:PHE:CE1	2.48	0.48
17:K:99:ASP:OD1	17:K:101:ASN:N	2.47	0.48
18:L:129:ALA:O	18:L:133:VAL:HG23	2.14	0.48
23:Q:93:ARG:HG3	23:Q:93:ARG:HH11	1.79	0.48
1:0:101:C:H2'	1:0:102:A:C8	2.49	0.48
1:0:351:A:O2'	1:0:352:A:H5'	2.13	0.48
1:0:553:G:H3'	38:0:5272:HOH:O	2.14	0.48
1:0:596:C:H2'	1:0:597:A:C8	2.48	0.48
1:0:1636:G:O2'	1:0:1637:A:H5'	2.14	0.48
1:0:1638:U:H5'	38:0:7453:HOH:O	2.14	0.48
1:0:2291:A:N9	1:0:2309:C:H5'	2.29	0.48
4:3:34:LYS:HE2	38:3:222:HOH:O	2.13	0.48
9:C:26:VAL:HG21	9:C:123:LEU:HD11	1.96	0.48
15:I:100:VAL:HG11	15:I:124:VAL:HG22	1.96	0.48
17:K:35:HIS:HB2	17:K:52:LYS:O	2.14	0.48
19:M:184:ARG:HG3	19:M:185:PRO:HA	1.96	0.48
25:S:52:VAL:C	25:S:53:ASN:HD22	2.17	0.48
1:0:105:G:O2'	1:0:106:A:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1018:A:H4'	23:Q:59:GLN:NE2	2.29	0.48
1:0:1041:U:H2'	1:0:1042:U:H5'	1.96	0.48
1:0:1477:C:H5'	1:0:1868:G:H5'	1.96	0.48
1:0:1524:U:OP1	1:0:1524:U:H4'	2.14	0.48
1:0:1882:C:OP1	7:A:192:VAL:HG23	2.14	0.48
1:0:2281:C:H2'	1:0:2282:U:H5'	1.95	0.48
1:0:2456:A:H5'	38:0:8945:HOH:O	2.14	0.48
10:D:67:ASP:O	10:D:69:ILE:HG13	2.13	0.48
11:E:34:TRP:HA	38:E:4013:HOH:O	2.13	0.48
13:G:67:LEU:O	13:G:71:LEU:HG	2.13	0.48
21:O:88:LYS:HB3	38:O:4026:HOH:O	2.13	0.48
24:R:82:GLU:HG3	24:R:83:LYS:H	1.79	0.48
24:R:132:ARG:NH2	38:R:379:HOH:O	2.46	0.48
30:X:71:ARG:HD2	38:X:4026:HOH:O	2.13	0.48
31:Y:115:ARG:NE	38:Y:423:HOH:O	2.47	0.48
32:Z:32:GLU:HA	32:Z:35:GLU:HG3	1.96	0.48
1:0:667:C:H2'	1:0:668:C:H6	1.79	0.48
1:0:1150:A:C2	13:G:20:VAL:HG21	2.49	0.48
1:0:1470:A:OP1	19:M:93:ARG:HD2	2.14	0.48
1:0:2617:G:H4'	38:0:9356:HOH:O	2.14	0.48
38:0:6451:HOH:O	29:W:9:GLY:HA3	2.13	0.48
8:B:27:ASN:H	8:B:27:ASN:ND2	2.06	0.48
8:B:268:ARG:NH2	8:B:325:PRO:HG3	2.29	0.48
9:C:27:ARG:NH1	9:C:29:ASP:OD1	2.43	0.48
11:E:118:ILE:HD13	11:E:124:VAL:HG23	1.95	0.48
15:I:118:ASN:HA	15:I:121:LYS:CD	2.43	0.48
17:K:37:TYR:HD2	38:K:4016:HOH:O	1.97	0.48
19:M:9:ARG:HG3	38:M:338:HOH:O	2.14	0.48
20:N:184:ILE:HG23	20:N:184:ILE:O	2.14	0.48
21:O:105:ASN:HD21	21:O:109:SER:H	1.62	0.48
26:T:92:ASP:OD1	26:T:94:SER:HB3	2.14	0.48
31:Y:133:HIS:HD2	38:Y:440:HOH:O	1.96	0.48
31:Y:144:ARG:CZ	38:Y:451:HOH:O	2.62	0.48
1:0:68:U:O2'	1:0:69:A:H5''	2.14	0.47
1:0:134:U:C2	1:0:145:A:C2	3.02	0.47
1:0:533:U:H3'	38:0:5227:HOH:O	2.14	0.47
1:0:644:G:H1'	38:0:5437:HOH:O	2.12	0.47
1:0:825:U:H5''	1:0:826:U:OP1	2.14	0.47
1:0:1008:C:H5''	14:H:19:ARG:HH12	1.78	0.47
1:0:1406:A:H5'	1:0:1407:A:C8	2.48	0.47
1:0:2729:C:H4'	1:0:2893:C:O2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2735:U:H2'	1:0:2736:U:C6	2.48	0.47
1:0:2825:C:H4'	1:0:2826:G:O5'	2.14	0.47
8:B:80:ARG:O	8:B:82:VAL:HG23	2.14	0.47
18:L:125:PHE:CE1	18:L:140:VAL:HG13	2.49	0.47
27:U:52:THR:HG22	27:U:54:THR:HB	1.95	0.47
1:0:69:A:H5'	1:0:69:A:H8	1.78	0.47
1:0:1503:U:H2'	1:0:1504:A:O4'	2.14	0.47
1:0:1581:A:H61	1:0:1614:G:H1'	1.78	0.47
1:0:1948:G:H2'	1:0:1949:G:O4'	2.14	0.47
1:0:2002:C:H2'	1:0:2003:U:H5'	1.95	0.47
1:0:2100:A:H5'	38:0:8417:HOH:O	2.14	0.47
8:B:212:GLN:OE1	8:B:216:LYS:HD3	2.13	0.47
8:B:301:VAL:HG13	8:B:302:PRO:HD2	1.96	0.47
9:C:104:ASP:O	9:C:108:GLN:HG3	2.14	0.47
12:F:37:THR:O	12:F:41:GLU:HG3	2.14	0.47
12:F:78:GLU:HG3	38:F:4017:HOH:O	2.14	0.47
16:J:6:PHE:O	16:J:8:ALA:N	2.47	0.47
20:N:48:VAL:HG12	20:N:55:ASP:HB3	1.90	0.47
23:Q:23:THR:HG22	23:Q:24:SER:N	2.29	0.47
28:V:12:THR:HB	28:V:15:GLU:OE2	2.14	0.47
29:W:69:ARG:HD2	29:W:117:ARG:O	2.14	0.47
31:Y:144:ARG:NE	38:Y:451:HOH:O	2.46	0.47
31:Y:187:VAL:CG1	31:Y:205:ILE:HA	2.43	0.47
1:0:766:A:HO2'	1:0:767:A:H8	1.62	0.47
38:0:7682:HOH:O	8:B:214:PRO:HD2	2.14	0.47
6:9:3:A:H2'	38:9:330:HOH:O	2.14	0.47
6:9:34:A:O5'	6:9:34:A:H8	1.96	0.47
8:B:1:PRO:O	8:B:2:GLN:HB2	2.13	0.47
8:B:36:PRO:HG3	8:B:169:GLY:H	1.77	0.47
15:I:108:HIS:N	15:I:109:PRO:CD	2.77	0.47
17:K:32:ILE:HD11	17:K:56:SER:HB3	1.96	0.47
17:K:87:ARG:HB2	27:U:19:THR:HG23	1.95	0.47
20:N:7:LYS:HE3	23:Q:21:ARG:O	2.15	0.47
29:W:6:GLN:CB	29:W:26:ILE:HD12	2.34	0.47
1:0:1173:A:H2	38:0:6634:HOH:O	1.96	0.47
1:0:1427:A:H61	1:0:1440:U:H1'	1.80	0.47
1:0:1840:A:H4'	1:0:1841:C:O5'	2.14	0.47
1:0:2241:C:O2'	1:0:2242:U:H5'	2.14	0.47
1:0:2388:C:H2'	1:0:2389:U:O4'	2.14	0.47
6:9:76:G:C3'	6:9:77:A:H5''	2.35	0.47
8:B:30:PRO:HB2	8:B:39:GLN:NE2	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:246:ARG:NH2	38:C:583:HOH:O	2.42	0.47
18:L:143:THR:CG2	18:L:144:ASP:N	2.77	0.47
20:N:67:ALA:HA	20:N:71:TRP:CB	2.44	0.47
24:R:99:ALA:CB	24:R:109:MET:HE3	2.45	0.47
1:O:213:G:N2	1:O:225:G:H2'	2.30	0.47
1:O:363:C:O2'	1:O:364:U:H5'	2.15	0.47
1:O:1044:C:H5''	38:O:6098:HOH:O	2.15	0.47
1:O:1154:A:H2'	1:O:1155:G:C8	2.49	0.47
1:O:1735:C:O2'	1:O:1736:A:H5'	2.13	0.47
1:O:2353:A:O2'	20:N:7:LYS:HB3	2.14	0.47
1:O:2520:G:H5'	14:H:64:SER:OG	2.15	0.47
2:1:21:ARG:HD2	2:1:39:PHE:HB2	1.97	0.47
7:A:8:ARG:HG2	38:A:413:HOH:O	2.13	0.47
11:E:16:ASP:O	11:E:17:HIS:HB2	2.14	0.47
14:H:142:ASN:O	14:H:144:GLU:N	2.47	0.47
20:N:37:ARG:NH2	20:N:105:GLY:CA	2.70	0.47
21:O:26:TRP:HA	21:O:26:TRP:CE3	2.49	0.47
24:R:114:VAL:HA	24:R:144:GLU:O	2.14	0.47
29:W:139:GLY:O	29:W:141:HIS:CD2	2.67	0.47
1:O:2780:C:H2'	1:O:2781:U:C6	2.50	0.47
38:O:8077:HOH:O	7:A:236:GLY:HA3	2.14	0.47
9:C:233:THR:CG2	9:C:234:VAL:H	2.26	0.47
10:D:64:ARG:HD3	10:D:67:ASP:HB3	1.96	0.47
14:H:12:ILE:HG12	14:H:59:GLN:CG	2.45	0.47
15:I:87:PRO:CB	15:I:129:SER:C	2.83	0.47
16:J:39:VAL:CG1	16:J:107:ASN:HB2	2.45	0.47
27:U:13:ILE:HG12	27:U:32:CYS:HB3	1.96	0.47
30:X:80:GLU:O	30:X:80:GLU:HG2	2.14	0.47
1:O:101:C:H2'	1:O:102:A:H8	1.80	0.47
1:O:563:C:H2'	1:O:564:G:O4'	2.15	0.47
1:O:625:U:H5''	1:O:1044:C:N4	2.29	0.47
1:O:657:G:H2'	1:O:658:C:C6	2.50	0.47
1:O:946:C:O2'	1:O:947:U:H5'	2.15	0.47
1:O:1116:U:O2'	1:O:1118:A:C2	2.56	0.47
1:O:1416:G:C2'	1:O:1417:G:H5'	2.44	0.47
1:O:1819:G:H2'	1:O:1820:G:C4'	2.40	0.47
1:O:2281:C:C2'	1:O:2282:U:H5'	2.45	0.47
1:O:2365:G:P	23:Q:15:LYS:HG3	2.54	0.47
1:O:2607:U:H4'	38:O:9306:HOH:O	2.14	0.47
3:2:31:ARG:NH1	38:2:127:HOH:O	2.48	0.47
3:2:35:ARG:HB2	38:2:132:HOH:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:30:GLN:NE2	38:3:218:HOH:O	2.43	0.47
6:9:91:C:H2'	6:9:92:G:O4'	2.15	0.47
8:B:52:VAL:O	8:B:53:LEU:HD12	2.15	0.47
10:D:23:VAL:HG21	10:D:45:THR:CG2	2.43	0.47
11:E:81:GLU:HG2	11:E:134:SER:CB	2.44	0.47
14:H:86:TYR:C	14:H:86:TYR:CD1	2.88	0.47
16:J:39:VAL:HG12	16:J:40:ASN:ND2	2.29	0.47
16:J:54:VAL:CG1	16:J:138:THR:HG21	2.45	0.47
17:K:106:GLY:HA3	38:K:4013:HOH:O	2.14	0.47
19:M:15:PRO:HA	19:M:20:LEU:CD2	2.45	0.47
19:M:61:ILE:HG22	19:M:62:VAL:N	2.28	0.47
20:N:11:ARG:HG3	20:N:14:ARG:NH1	2.29	0.47
20:N:94:GLU:HG3	20:N:186:LEU:HD12	1.96	0.47
20:N:100:ALA:O	20:N:129:ILE:HG23	2.15	0.47
26:T:42:VAL:CG1	26:T:62:VAL:HG21	2.44	0.47
26:T:43:ASN:C	26:T:45:GLY:H	2.18	0.47
30:X:43:VAL:HG12	30:X:44:ASP:N	2.30	0.47
31:Y:108:ASP:OD1	31:Y:108:ASP:N	2.48	0.47
1:0:876:A:H2'	1:0:876:A:N3	2.29	0.47
1:0:949:U:H4'	23:Q:95:GLU:HA	1.97	0.47
1:0:1236:A:C2'	1:0:1237:U:H5'	2.45	0.47
1:0:2064:U:H5'	1:0:2652:U:O3'	2.15	0.47
1:0:2114:C:OP1	7:A:1:GLY:HA2	2.15	0.47
1:0:2597:U:H2'	1:0:2598:U:H5'	1.96	0.47
1:0:2656:G:O2'	1:0:2657:G:H5'	2.15	0.47
7:A:164:ARG:CZ	38:A:456:HOH:O	2.62	0.47
8:B:304:PRO:HD2	8:B:307:ARG:CD	2.43	0.47
9:C:127:ARG:HG2	9:C:127:ARG:NH1	2.30	0.47
18:L:78:ALA:N	38:L:356:HOH:O	2.48	0.47
21:O:96:VAL:HG13	21:O:100:GLN:OE1	2.14	0.47
22:P:16:VAL:CG1	22:P:20:ARG:CZ	2.93	0.47
1:0:598:C:H2'	1:0:599:G:C8	2.50	0.47
1:0:960:G:N3	1:0:960:G:C2'	2.77	0.47
1:0:1205:U:H2'	1:0:1206:U:H5''	1.97	0.47
1:0:2324:G:N2	1:0:2377:U:H1'	2.30	0.47
7:A:153:ARG:HB2	7:A:153:ARG:HH11	1.80	0.47
7:A:211:LYS:CB	38:A:504:HOH:O	2.60	0.47
8:B:24:PRO:CG	8:B:204:GLY:HA2	2.45	0.47
8:B:132:HIS:HB2	8:B:137:LEU:CD2	2.45	0.47
10:D:91:ALA:HB2	10:D:106:PHE:CD2	2.50	0.47
11:E:31:ARG:HH12	11:E:68:HIS:CE1	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:H:117:ARG:O	14:H:118:ALA:C	2.53	0.47
17:K:65:ARG:HD3	38:K:4032:HOH:O	2.15	0.47
18:L:65:ASP:HA	18:L:109:LEU:O	2.14	0.47
18:L:68:GLU:HB2	38:L:350:HOH:O	2.15	0.47
19:M:146:ASP:O	19:M:147:LEU:HD23	2.15	0.47
19:M:164:THR:HB	38:M:409:HOH:O	2.13	0.47
25:S:57:THR:HG22	25:S:58:MET:N	2.29	0.47
28:V:1:THR:O	28:V:4:HIS:CE1	2.68	0.47
1:0:327:A:N3	9:C:206:ASN:ND2	2.63	0.47
1:0:704:C:H2'	1:0:705:C:H6	1.80	0.47
1:0:2541:U:H5'	1:0:2611:G:O6	2.15	0.47
1:0:2596:A:H2	36:0:3189:CL:CL	2.35	0.47
1:0:2900:G:H2'	1:0:2901:C:O4'	2.15	0.47
2:1:1:THR:HG21	38:1:207:HOH:O	2.15	0.47
8:B:124:ALA:O	8:B:128:ILE:HG13	2.14	0.47
10:D:86:THR:HG23	38:D:231:HOH:O	2.14	0.47
14:H:48:VAL:HA	14:H:170:ARG:O	2.15	0.47
16:J:41:ALA:O	16:J:132:LEU:HD12	2.15	0.47
17:K:49:LEU:HA	17:K:73:VAL:HG12	1.97	0.47
20:N:72:GLU:HB3	20:N:171:HIS:HE1	1.80	0.47
20:N:154:LEU:CD1	20:N:157:PRO:HA	2.44	0.47
26:T:44:ALA:HA	26:T:62:VAL:HG12	1.95	0.47
1:0:23:G:H1'	1:0:520:A:N6	2.30	0.46
1:0:65:C:O2'	1:0:66:G:H5'	2.15	0.46
1:0:558:C:H2'	1:0:559:U:H5'	1.93	0.46
1:0:1064:U:H2'	1:0:1065:G:C8	2.50	0.46
1:0:1603:A:C5'	1:0:1605:G:H5'	2.45	0.46
1:0:2314:G:O2'	1:0:2315:C:H5'	2.15	0.46
2:1:45:ARG:HB3	38:1:244:HOH:O	2.14	0.46
3:2:20:ARG:CG	3:2:21:VAL:N	2.79	0.46
7:A:94:LEU:HD23	7:A:94:LEU:N	2.29	0.46
8:B:83:ALA:HA	8:B:100:VAL:O	2.15	0.46
8:B:84:LEU:HB3	8:B:100:VAL:HB	1.98	0.46
10:D:141:VAL:HG13	10:D:144:ARG:HH21	1.80	0.46
11:E:81:GLU:HA	11:E:133:VAL:O	2.15	0.46
12:F:56:PRO:HG2	19:M:44:THR:HA	1.97	0.46
16:J:51:GLU:O	16:J:55:GLU:HG3	2.15	0.46
17:K:49:LEU:HD23	17:K:50:GLY:N	2.30	0.46
1:0:152:A:O2'	1:0:153:C:H5'	2.15	0.46
1:0:806:A:H2'	1:0:807:A:O4'	2.15	0.46
1:0:870:G:OP2	7:A:3:ARG:HD3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1625:U:H4'	38:0:7442:HOH:O	2.15	0.46
1:0:2039:A:H4'	1:0:2760:C:O2'	2.16	0.46
1:0:2501:G:H1'	38:0:9075:HOH:O	2.16	0.46
1:0:2644:C:O2'	1:0:2645:U:OP1	2.29	0.46
4:3:55:VAL:HB	4:3:56:PRO:CD	2.45	0.46
8:B:41:PHE:HB3	8:B:190:MET:HE1	1.97	0.46
9:C:133:ARG:NE	9:C:138:VAL:HG22	2.30	0.46
10:D:152:PRO:O	10:D:156:ARG:HG2	2.15	0.46
17:K:64:MET:HA	17:K:67:GLN:HE21	1.81	0.46
18:L:55:GLN:HA	18:L:58:GLN:NE2	2.30	0.46
20:N:47:LEU:HD23	20:N:47:LEU:HA	1.71	0.46
21:O:26:TRP:HB2	38:O:4009:HOH:O	2.14	0.46
28:V:1:THR:CG2	28:V:2:VAL:H	2.19	0.46
29:W:69:ARG:NH2	38:W:4068:HOH:O	2.45	0.46
30:X:54:ILE:O	30:X:57:ALA:HB3	2.15	0.46
1:0:553:G:P	31:Y:204:ARG:HH22	2.38	0.46
1:0:1168:C:H5	38:0:6595:HOH:O	1.98	0.46
1:0:1333:U:H2'	1:0:1334:C:H6	1.80	0.46
1:0:2656:G:C2'	1:0:2657:G:H5'	2.45	0.46
7:A:37:VAL:HG13	38:A:432:HOH:O	2.14	0.46
8:B:77:PRO:HG2	8:B:151:VAL:CG2	2.45	0.46
8:B:109:LEU:CG	8:B:113:LEU:HD12	2.46	0.46
9:C:140:VAL:HG12	9:C:141:SER:N	2.30	0.46
10:D:167:GLU:HA	10:D:171:ASP:OD1	2.15	0.46
11:E:170:ARG:NH2	38:E:4042:HOH:O	2.48	0.46
12:F:43:GLY:C	12:F:45:ALA:H	2.18	0.46
14:H:151:GLU:HG3	38:H:359:HOH:O	2.15	0.46
17:K:5:GLY:O	17:K:83:PRO:HD3	2.16	0.46
17:K:66:ARG:HG2	17:K:66:ARG:HH11	1.81	0.46
21:O:26:TRP:HA	21:O:26:TRP:HE3	1.79	0.46
26:T:113:GLU:O	26:T:114:SER:C	2.53	0.46
29:W:80:ASP:HB2	38:W:4039:HOH:O	2.15	0.46
30:X:22:ASN:O	30:X:25:ARG:HG3	2.15	0.46
31:Y:177:LYS:HD3	31:Y:181:GLY:O	2.15	0.46
1:0:31:C:H4'	38:0:4090:HOH:O	2.16	0.46
1:0:106:A:H2'	1:0:107:U:O4'	2.15	0.46
1:0:1236:A:H2'	1:0:1237:U:O4'	2.14	0.46
1:0:1515:A:H2'	1:0:1516:U:C6	2.50	0.46
1:0:1762:C:H2'	1:0:1763:C:C6	2.51	0.46
1:0:2505:G:H8	38:0:9080:HOH:O	1.99	0.46
1:0:2820:A:H2'	1:0:2821:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:9:56:A:H1'	10:D:14:ARG:HG2	1.97	0.46
7:A:140:LEU:HB3	7:A:141:PRO:HD2	1.96	0.46
8:B:24:PRO:HD3	38:B:526:HOH:O	2.14	0.46
11:E:145:ALA:HB1	11:E:168:ILE:CD1	2.44	0.46
15:I:96:SER:H	15:I:99:GLN:CD	2.18	0.46
15:I:133:THR:HG22	15:I:134:ILE:H	1.79	0.46
19:M:57:LYS:NZ	19:M:144:ASP:OD2	2.38	0.46
20:N:179:LEU:HA	20:N:184:ILE:CD1	2.44	0.46
31:Y:205:ILE:HB	31:Y:230:ASN:HD21	1.80	0.46
32:Z:51:GLY:HA3	38:Z:226:HOH:O	2.15	0.46
1:0:336:G:O6	26:T:54:ASP:N	2.48	0.46
1:0:541:C:C2'	1:0:542:A:C5'	2.92	0.46
1:0:1483:C:O2'	1:0:1484:G:H5'	2.14	0.46
1:0:2256:G:H2'	1:0:2257:G:C5'	2.46	0.46
17:K:64:MET:HA	17:K:67:GLN:NE2	2.31	0.46
17:K:130:MET:SD	27:U:25:ASP:O	2.73	0.46
19:M:61:ILE:HD12	19:M:61:ILE:N	2.30	0.46
29:W:67:ALA:HB2	29:W:93:ILE:HD13	1.98	0.46
30:X:80:GLU:N	38:X:4025:HOH:O	2.48	0.46
31:Y:196:VAL:CG1	31:Y:226:ILE:HD13	2.45	0.46
31:Y:216:ARG:CD	38:Y:489:HOH:O	2.63	0.46
1:0:121:U:OP2	3:2:10:ARG:NH2	2.48	0.46
1:0:1158:G:O2'	1:0:1159:G:H5'	2.15	0.46
1:0:1185:U:H5'	38:0:6617:HOH:O	2.14	0.46
1:0:1422:U:H4'	38:0:7110:HOH:O	2.14	0.46
1:0:1976:G:H5''	38:0:8114:HOH:O	2.15	0.46
1:0:2455:A:H2'	1:0:2456:A:O4'	2.16	0.46
1:0:2509:A:H2'	1:0:2510:C:O4'	2.15	0.46
38:0:5833:HOH:O	8:B:229:ARG:HD2	2.14	0.46
4:3:11:CYS:HB2	4:3:20:HIS:CE1	2.50	0.46
9:C:120:ASP:O	9:C:124:VAL:HG23	2.16	0.46
10:D:41:LEU:HA	10:D:44:ILE:CG2	2.45	0.46
12:F:50:VAL:HG21	12:F:63:ILE:HG21	1.97	0.46
14:H:69:ARG:HB3	38:H:327:HOH:O	2.14	0.46
19:M:31:TRP:CD1	19:M:64:ARG:NH1	2.84	0.46
20:N:115:VAL:HG22	38:N:4044:HOH:O	2.15	0.46
29:W:4:LEU:HD23	29:W:54:PHE:CB	2.39	0.46
1:0:622:G:O2'	1:0:623:U:H5'	2.16	0.46
1:0:737:A:H2'	1:0:738:G:O4'	2.15	0.46
1:0:1614:G:H2'	38:0:7383:HOH:O	2.14	0.46
1:0:1619:G:H2'	1:0:1620:C:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2549:C:H2'	1:0:2550:U:O4'	2.16	0.46
1:0:2708:G:H2'	1:0:2709:G:O4'	2.16	0.46
38:0:5243:HOH:O	31:Y:135:LYS:HE3	2.16	0.46
38:0:9604:HOH:O	22:P:58:SER:HB3	2.15	0.46
9:C:200:PRO:HA	38:C:552:HOH:O	2.16	0.46
10:D:146:LYS:HZ1	20:N:107:ASN:ND2	2.14	0.46
11:E:15:GLN:HG3	11:E:20:ILE:HG12	1.98	0.46
14:H:50:ILE:HD12	14:H:149:VAL:CG1	2.45	0.46
15:I:102:GLN:HA	15:I:105:GLU:OE2	2.15	0.46
26:T:61:GLU:N	38:T:4021:HOH:O	2.40	0.46
1:0:894:A:C2	9:C:87:ARG:NH2	2.84	0.46
1:0:1471:A:H2'	1:0:1472:C:C6	2.49	0.46
1:0:2004:U:H2'	1:0:2004:U:O2	2.15	0.46
6:9:64:C:H2'	6:9:65:A:H5'	1.97	0.46
26:T:25:ALA:O	26:T:39:ASN:CB	2.64	0.46
26:T:61:GLU:HG3	38:T:4018:HOH:O	2.15	0.46
28:V:24:LYS:O	28:V:27:LEU:HB3	2.16	0.46
29:W:1:MET:HB2	29:W:103:GLU:HG2	1.97	0.46
1:0:417:G:P	38:0:4977:HOH:O	2.73	0.46
1:0:545:G:H2'	1:0:546:C:O4'	2.16	0.46
1:0:699:C:C2	1:0:743:G:N2	2.84	0.46
1:0:962:C:C1'	20:N:5:ARG:NH1	2.73	0.46
1:0:1120:U:H5''	1:0:1120:U:H6	1.81	0.46
1:0:1450:C:O2'	1:0:1493:A:H2'	2.15	0.46
1:0:1878:G:O2'	1:0:1879:U:OP2	2.34	0.46
1:0:2002:C:C2'	1:0:2003:U:H5'	2.45	0.46
1:0:2421:G:H3'	1:0:2422:U:C5'	2.46	0.46
1:0:2453:G:H4'	18:L:50:GLY:C	2.36	0.46
1:0:2831:C:H2'	1:0:2832:C:C5'	2.45	0.46
38:9:312:HOH:O	23:Q:27:GLN:HB2	2.16	0.46
8:B:80:ARG:HA	8:B:186:GLY:O	2.16	0.46
12:F:117:GLU:C	12:F:119:ARG:H	2.18	0.46
25:S:32:ALA:HA	25:S:36:GLU:OE1	2.16	0.46
31:Y:216:ARG:HD3	38:Y:489:HOH:O	2.15	0.46
1:0:37:A:H2'	1:0:38:G:H8	1.80	0.46
1:0:661:G:C5	1:0:686:A:C2	3.04	0.46
1:0:675:U:O2'	9:C:42:ARG:NH1	2.49	0.46
1:0:960:G:H8	38:0:6207:HOH:O	1.98	0.46
1:0:1804:A:H2'	1:0:1805:G:C8	2.51	0.46
1:0:1878:G:H5''	38:0:7982:HOH:O	2.16	0.46
1:0:2717:C:OP1	8:B:207:LYS:HG3	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:9:440:HOH:O	20:N:65:ASP:HB3	2.14	0.46
7:A:101:GLU:OE2	7:A:131:HIS:HB2	2.16	0.46
7:A:130:THR:N	38:A:450:HOH:O	2.48	0.46
8:B:55:ASN:CG	8:B:63:GLU:HA	2.36	0.46
10:D:128:LEU:HB2	38:D:235:HOH:O	2.15	0.46
23:Q:4:ASN:ND2	38:Q:205:HOH:O	2.49	0.46
26:T:32:ARG:NH1	26:T:38:ARG:HH12	2.14	0.46
26:T:82:THR:C	26:T:84:GLY:H	2.20	0.46
30:X:31:ILE:O	30:X:35:GLU:HG3	2.16	0.46
31:Y:122:ARG:NH2	38:Y:427:HOH:O	2.49	0.46
1:0:700:A:C2	18:L:71:GLU:HG2	2.51	0.45
1:0:1071:G:H4'	31:Y:154:ARG:HH22	1.80	0.45
1:0:1161:A:O5'	1:0:1161:A:H8	1.98	0.45
9:C:84:VAL:O	9:C:85:LYS:HB2	2.15	0.45
29:W:88:THR:HG22	29:W:90:TYR:CD1	2.51	0.45
1:0:130:C:H1'	38:0:4353:HOH:O	2.16	0.45
1:0:169:A:H1'	4:3:48:ASN:ND2	2.32	0.45
1:0:245:C:H2'	38:0:4738:HOH:O	2.16	0.45
1:0:407:A:H2'	1:0:408:A:C8	2.51	0.45
1:0:932:U:H2'	1:0:933:C:H6	1.81	0.45
1:0:1603:A:H5'	1:0:1605:G:C4'	2.46	0.45
1:0:2335:C:H2'	1:0:2336:G:C8	2.51	0.45
1:0:2802:C:H2'	1:0:2803:C:H6	1.81	0.45
3:2:41:HIS:CD2	3:2:44:ARG:H	2.33	0.45
6:9:5:G:O2'	6:9:6:C:H5'	2.17	0.45
7:A:132:ASP:OD1	7:A:133:ARG:N	2.49	0.45
9:C:133:ARG:HH11	9:C:133:ARG:HG3	1.81	0.45
10:D:23:VAL:HG23	10:D:23:VAL:O	2.16	0.45
18:L:91:VAL:CG1	18:L:120:LEU:HD23	2.47	0.45
18:L:122:ALA:HB3	18:L:125:PHE:CZ	2.52	0.45
19:M:134:ILE:CG2	19:M:141:ILE:HD13	2.46	0.45
24:R:39:THR:HB	24:R:42:GLU:CD	2.36	0.45
26:T:73:HIS:HD2	26:T:88:PRO:CG	2.27	0.45
8:B:280:VAL:CG1	8:B:334:SER:HA	2.46	0.45
11:E:86:VAL:CG1	11:E:129:GLU:HA	2.46	0.45
15:I:87:PRO:HB3	15:I:129:SER:C	2.36	0.45
22:P:98:ILE:HD12	22:P:102:ARG:CZ	2.46	0.45
31:Y:112:GLU:HA	31:Y:112:GLU:OE1	2.17	0.45
31:Y:132:ASP:OD1	31:Y:135:LYS:HD2	2.16	0.45
1:0:2895:C:H2'	38:0:9813:HOH:O	2.17	0.45
38:0:4093:HOH:O	26:T:9:LYS:CD	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:9:6:C:O2'	20:N:33:ARG:NH2	2.46	0.45
8:B:38:VAL:HA	8:B:166:VAL:HG22	1.99	0.45
8:B:75:GLU:C	8:B:77:PRO:HD3	2.37	0.45
8:B:82:VAL:HG12	8:B:101:TRP:CE3	2.51	0.45
9:C:111:VAL:HB	38:C:506:HOH:O	2.15	0.45
14:H:149:VAL:HG13	38:H:358:HOH:O	2.16	0.45
20:N:42:HIS:CG	20:N:62:HIS:HE1	2.35	0.45
20:N:151:ASP:OD1	20:N:154:LEU:HD13	2.16	0.45
25:S:73:ASP:OD1	25:S:76:GLU:HG3	2.17	0.45
1:0:166:A:N7	18:L:25:GLY:HA2	2.31	0.45
1:0:264:G:H1'	1:0:265:U:H5	1.81	0.45
1:0:1450:C:C4'	1:0:1451:C:OP2	2.62	0.45
1:0:1496:A:H5'	1:0:1572:A:H1'	1.98	0.45
1:0:1733:A:H4'	8:B:212:GLN:HA	1.99	0.45
1:0:2053:G:H4'	24:R:136:TRP:CE2	2.52	0.45
1:0:2335:C:H2'	1:0:2336:G:H8	1.81	0.45
1:0:2421:G:H3'	1:0:2422:U:H5''	1.97	0.45
2:1:36:SER:O	2:1:46:ARG:HD3	2.16	0.45
8:B:305:ASP:O	8:B:306:LYS:CB	2.64	0.45
9:C:14:GLY:O	9:C:15:GLU:HB3	2.16	0.45
15:I:87:PRO:C	15:I:89:GLU:N	2.68	0.45
20:N:11:ARG:O	20:N:15:GLU:HG3	2.15	0.45
20:N:144:GLY:O	20:N:147:ILE:CG2	2.65	0.45
21:O:11:ILE:HD13	21:O:34:GLU:HG3	1.98	0.45
22:P:115:SER:O	22:P:116:SER:C	2.54	0.45
24:R:96:VAL:O	24:R:99:ALA:HB3	2.16	0.45
29:W:117:ARG:HB3	29:W:117:ARG:HH11	1.82	0.45
31:Y:112:GLU:OE2	31:Y:115:ARG:NH1	2.50	0.45
1:0:60:A:O2'	1:0:61:G:H5'	2.17	0.45
1:0:285:A:H2'	1:0:286:U:O4'	2.17	0.45
1:0:839:C:O2'	5:4:9:MHT:H7	2.15	0.45
1:0:907:A:H4'	1:0:1328:A:N1	2.31	0.45
1:0:962:C:H2'	1:0:963:C:H5'	1.99	0.45
1:0:1139:U:H2'	1:0:1140:C:C6	2.52	0.45
1:0:1942:A:H4'	38:0:8081:HOH:O	2.16	0.45
1:0:2001:G:O2'	1:0:2002:C:H5'	2.16	0.45
1:0:2104:C:O2	1:0:2485:A:N1	2.49	0.45
1:0:2353:A:H4'	1:0:2354:A:O5'	2.16	0.45
38:0:6697:HOH:O	16:J:46:ILE:HA	2.16	0.45
7:A:165:THR:O	7:A:165:THR:HG22	2.16	0.45
8:B:329:TYR:HE2	27:U:15:PRO:HG2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:J:127:ILE:HG22	36:J:202:CL:CL	2.54	0.45
20:N:110:THR:HB	20:N:113:SER:HG	1.81	0.45
1:0:146:U:O2'	1:0:147:G:H5'	2.17	0.45
1:0:281:U:O2'	1:0:282:C:H5'	2.17	0.45
1:0:297:U:H2'	1:0:298:C:C6	2.51	0.45
1:0:821:U:H5''	38:0:5786:HOH:O	2.15	0.45
1:0:858:U:H2'	1:0:859:C:H6	1.82	0.45
1:0:958:G:H2'	1:0:959:C:H6	1.82	0.45
1:0:1186:C:H42	1:0:1190:G:H22	1.63	0.45
1:0:1625:U:H5''	38:0:7441:HOH:O	2.16	0.45
1:0:1872:C:H2'	7:A:23:TYR:HD1	1.82	0.45
1:0:2266:A:OP2	19:M:90:ARG:NH2	2.50	0.45
1:0:2478:U:H2'	1:0:2479:A:H8	1.82	0.45
1:0:2498:C:O2'	1:0:2499:U:H5'	2.16	0.45
1:0:2511:A:H5'	1:0:2511:A:H8	1.82	0.45
1:0:2515:C:H2'	1:0:2516:G:O4'	2.16	0.45
1:0:2690:U:O2'	11:E:111:LYS:HE3	2.17	0.45
1:0:2910:A:H5''	38:0:9822:HOH:O	2.17	0.45
8:B:14:GLY:HA2	8:B:15:PRO:C	2.37	0.45
8:B:24:PRO:HG2	8:B:204:GLY:HA2	1.98	0.45
9:C:57:PRO:HD2	9:C:73:LEU:HD22	1.98	0.45
9:C:165:ASP:O	9:C:168:ARG:HB3	2.17	0.45
10:D:21:VAL:HA	10:D:131:THR:O	2.17	0.45
16:J:74:ARG:NH1	16:J:76:ASP:HB2	2.32	0.45
18:L:91:VAL:HB	38:L:358:HOH:O	2.16	0.45
19:M:18:GLY:O	19:M:21:ALA:HB3	2.16	0.45
20:N:38:LYS:HE2	20:N:107:ASN:HD21	1.80	0.45
20:N:72:GLU:O	20:N:72:GLU:HG2	2.17	0.45
24:R:18:LEU:HD22	24:R:21:ARG:NE	2.32	0.45
24:R:114:VAL:HG13	24:R:114:VAL:O	2.17	0.45
1:0:1183:C:H41	1:0:1192:A:H5'	1.81	0.45
1:0:1903:U:O2'	1:0:1904:A:C8	2.69	0.45
9:C:29:ASP:HB2	21:O:3:THR:HG22	1.98	0.45
9:C:130:GLU:OE1	9:C:130:GLU:HA	2.17	0.45
20:N:72:GLU:H	20:N:171:HIS:CE1	2.34	0.45
20:N:144:GLY:O	20:N:147:ILE:HG22	2.16	0.45
21:O:96:VAL:HG12	21:O:97:SER:N	2.31	0.45
22:P:40:VAL:O	22:P:44:VAL:HG23	2.17	0.45
26:T:24:ARG:NH2	26:T:39:ASN:HD22	2.14	0.45
26:T:75:GLU:O	26:T:76:ASP:HB2	2.16	0.45
29:W:21:LEU:HD22	29:W:26:ILE:HD13	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:X:20:GLU:OE1	30:X:21:PRO:HD2	2.17	0.45
30:X:45:GLU:HG3	38:X:4017:HOH:O	2.16	0.45
30:X:73:ARG:HB2	30:X:88:GLU:OE2	2.17	0.45
1:0:558:C:HO2'	1:0:559:U:H5''	1.81	0.45
1:0:1261:A:H4'	38:0:6453:HOH:O	2.17	0.45
1:0:1414:A:H2'	1:0:1415:G:O4'	2.17	0.45
1:0:1588:G:C6	1:0:1589:G:N1	2.84	0.45
1:0:1624:A:H5'	1:0:1626:A:O4'	2.16	0.45
1:0:2032:U:O2'	1:0:2033:G:H5''	2.16	0.45
1:0:2054:A:C2	24:R:128:ARG:NH2	2.85	0.45
1:0:2361:A:H2'	1:0:2362:A:O4'	2.17	0.45
2:1:28:HIS:HB3	2:1:31:LYS:HB2	1.99	0.45
6:9:30:C:OP1	10:D:137:PRO:O	2.34	0.45
7:A:29:HIS:HB3	7:A:153:ARG:HH12	1.82	0.45
8:B:79:MET:HE1	38:B:561:HOH:O	2.16	0.45
9:C:133:ARG:HD2	38:C:518:HOH:O	2.15	0.45
11:E:11:VAL:HG13	11:E:23:GLU:O	2.16	0.45
12:F:1:PRO:H3	12:F:4:VAL:CG2	2.30	0.45
17:K:75:ARG:HE	17:K:94:ALA:HB3	1.82	0.45
19:M:47:ASP:CG	19:M:48:LYS:N	2.71	0.45
20:N:12:ARG:HH21	20:N:17:ARG:HD3	1.80	0.45
26:T:38:ARG:NH1	26:T:38:ARG:HG3	2.31	0.45
1:0:363:C:H2'	1:0:364:U:C6	2.52	0.45
1:0:657:G:H2'	1:0:658:C:H6	1.81	0.45
1:0:902:G:N7	18:L:18:HIS:CD2	2.85	0.45
1:0:1268:C:H2'	1:0:1269:G:H8	1.82	0.45
1:0:1500:U:P	22:P:41:ARG:HH22	2.40	0.45
1:0:2782:G:O6	1:0:2790:C:H5''	2.16	0.45
2:1:25:LYS:HD2	3:2:49:GLU:N	2.25	0.45
8:B:297:VAL:HB	38:B:539:HOH:O	2.17	0.45
9:C:235:PHE:CE2	9:C:243:VAL:HG21	2.52	0.45
12:F:43:GLY:O	12:F:45:ALA:N	2.46	0.45
12:F:50:VAL:CG2	12:F:63:ILE:HG21	2.47	0.45
26:T:71:VAL:HG12	26:T:72:ILE:N	2.32	0.45
29:W:154:ARG:HB3	29:W:154:ARG:HE	1.64	0.45
1:0:1028:U:H1'	38:0:6270:HOH:O	2.17	0.44
1:0:1175:G:H1'	1:0:1193:A:H2'	1.99	0.44
1:0:1659:A:H2'	1:0:1660:G:O4'	2.16	0.44
1:0:1761:U:H4'	22:P:82:GLY:O	2.18	0.44
1:0:1940:C:H4'	38:0:8079:HOH:O	2.16	0.44
1:0:2054:A:N3	24:R:128:ARG:NH2	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2256:G:H2'	1:0:2257:G:H5'	1.98	0.44
1:0:2614:C:O2'	1:0:2615:U:H5'	2.17	0.44
9:C:54:LEU:HD23	9:C:79:ARG:HG3	1.99	0.44
10:D:128:LEU:HD23	10:D:128:LEU:C	2.37	0.44
12:F:48:VAL:CG2	12:F:74:PHE:HB3	2.47	0.44
19:M:49:ALA:C	19:M:54:TYR:HB3	2.38	0.44
25:S:13:LYS:HE2	38:S:4005:HOH:O	2.17	0.44
26:T:55:PHE:CG	26:T:77:VAL:HG13	2.51	0.44
30:X:75:ALA:O	30:X:83:ALA:HA	2.17	0.44
1:0:24:G:H22	1:0:518:G:H1'	1.82	0.44
1:0:1930:A:H2'	1:0:1931:A:C8	2.52	0.44
1:0:1940:C:H1'	38:0:8074:HOH:O	2.17	0.44
1:0:2781:U:H2'	1:0:2782:G:C5'	2.47	0.44
1:0:2821:C:H4'	8:B:116:PRO:HB3	1.99	0.44
8:B:84:LEU:HD23	8:B:142:LEU:CD2	2.46	0.44
8:B:98:THR:HG22	8:B:99:GLU:H	1.81	0.44
9:C:246:ARG:NE	38:C:583:HOH:O	2.39	0.44
18:L:56:LYS:HA	38:L:302:HOH:O	2.16	0.44
18:L:124:ASP:OD1	18:L:149:ARG:NH2	2.50	0.44
20:N:86:LEU:HD21	20:N:180:LEU:CD1	2.47	0.44
20:N:119:GLN:O	20:N:123:ILE:HG13	2.17	0.44
29:W:7:LEU:CD1	29:W:53:ALA:HB2	2.48	0.44
1:0:1490:G:H4'	1:0:1533:A:OP1	2.17	0.44
1:0:1909:A:H2'	1:0:1910:A:C8	2.53	0.44
1:0:2712:G:O2'	1:0:2713:G:H5'	2.18	0.44
1:0:2911:C:H3'	38:0:9823:HOH:O	2.16	0.44
3:2:19:SER:O	3:2:36:ASN:ND2	2.51	0.44
8:B:7:ARG:CD	8:B:9:GLY:O	2.65	0.44
8:B:217:ARG:CD	8:B:257:THR:HG22	2.47	0.44
8:B:240:GLY:HA3	38:B:608:HOH:O	2.17	0.44
9:C:131:PHE:CD2	9:C:232:LEU:HD22	2.52	0.44
9:C:246:ARG:NH1	38:C:584:HOH:O	2.49	0.44
11:E:126:ILE:HB	11:E:131:LEU:CD2	2.48	0.44
18:L:10:SER:O	18:L:11:ARG:HB3	2.18	0.44
19:M:125:ARG:HD3	38:M:390:HOH:O	2.16	0.44
24:R:29:LYS:HD3	38:R:332:HOH:O	2.17	0.44
24:R:33:ARG:NH2	38:R:332:HOH:O	2.50	0.44
28:V:42:ASN:O	28:V:44:GLY:N	2.50	0.44
1:0:499:G:O2'	1:0:500:G:H5'	2.16	0.44
1:0:2344:G:H2'	1:0:2344:G:N3	2.33	0.44
6:9:52:A:H2'	6:9:53:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:9:114:G:H2'	6:9:115:C:C6	2.53	0.44
9:C:72:LYS:HG2	9:C:77:ALA:HA	1.98	0.44
38:C:542:HOH:O	26:T:2:LYS:HE2	2.17	0.44
18:L:67:ARG:HB2	18:L:112:GLY:HA3	1.99	0.44
20:N:23:ARG:NH2	20:N:55:ASP:OD1	2.50	0.44
25:S:15:MET:O	25:S:18:MET:HB3	2.18	0.44
29:W:46:ALA:O	29:W:49:ASN:HB2	2.17	0.44
30:X:10:VAL:HG11	30:X:36:HIS:HE1	1.82	0.44
31:Y:133:HIS:HA	31:Y:139:VAL:HG12	1.98	0.44
1:0:380:A:H2'	38:0:4901:HOH:O	2.15	0.44
1:0:401:C:H2'	1:0:402:U:C6	2.53	0.44
1:0:1019:C:H5'	38:0:6251:HOH:O	2.16	0.44
1:0:1137:G:H1'	38:0:6562:HOH:O	2.17	0.44
1:0:1250:C:O2'	1:0:1251:C:H5'	2.17	0.44
1:0:1478:U:H2'	1:0:1479:G:H8	1.82	0.44
1:0:2038:A:H5''	8:B:222:LYS:HG3	1.99	0.44
1:0:2055:A:H4'	24:R:132:ARG:HH21	1.82	0.44
38:0:7957:HOH:O	7:A:11:ARG:HG2	2.18	0.44
6:9:42:C:H5'	6:9:43:G:OP2	2.17	0.44
8:B:42:ALA:HB3	8:B:79:MET:SD	2.57	0.44
8:B:142:LEU:HD21	8:B:178:ALA:HB1	2.00	0.44
8:B:243:ASN:HA	8:B:244:PRO:C	2.38	0.44
8:B:336:GLN:NE2	38:B:643:HOH:O	2.49	0.44
10:D:27:ILE:HB	10:D:69:ILE:O	2.17	0.44
10:D:56:ARG:N	38:D:225:HOH:O	2.50	0.44
11:E:162:PHE:N	11:E:162:PHE:CD1	2.85	0.44
12:F:106:ALA:HB3	38:F:4024:HOH:O	2.18	0.44
14:H:114:ASP:N	38:H:344:HOH:O	2.50	0.44
16:J:19:MET:CE	16:J:132:LEU:HD21	2.47	0.44
16:J:45:VAL:HG22	16:J:46:ILE:N	2.33	0.44
19:M:60:VAL:C	19:M:61:ILE:HD12	2.37	0.44
22:P:83:LYS:HG3	22:P:84:ALA:H	1.81	0.44
24:R:39:THR:O	24:R:40:ALA:C	2.55	0.44
29:W:26:ILE:O	29:W:26:ILE:CG1	2.64	0.44
1:0:797:A:H5'	32:Z:10:ARG:N	2.32	0.44
1:0:1025:C:P	29:W:108:ARG:NH1	2.91	0.44
1:0:1421:C:O2'	1:0:1422:U:H5'	2.17	0.44
1:0:1517:C:O2'	1:0:1518:A:H5'	2.18	0.44
1:0:1730:G:C5'	1:0:1731:C:C6	3.01	0.44
1:0:2064:U:H4'	1:0:2653:A:OP1	2.17	0.44
1:0:2637:A:H5'	38:0:9422:HOH:O	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:36:ASP:C	7:A:38:ILE:H	2.20	0.44
7:A:38:ILE:HD13	7:A:38:ILE:HA	1.85	0.44
7:A:53:ALA:HB3	38:A:435:HOH:O	2.17	0.44
8:B:115:VAL:HA	8:B:116:PRO:HD3	1.75	0.44
8:B:221:GLN:HE22	17:K:42:ASN:ND2	2.16	0.44
9:C:39:GLN:O	9:C:43:LYS:HD3	2.18	0.44
10:D:140:ARG:N	38:D:240:HOH:O	2.49	0.44
10:D:153:THR:O	10:D:156:ARG:HB2	2.17	0.44
11:E:154:ILE:HD11	11:E:157:LYS:HE2	1.99	0.44
18:L:54:PRO:HG2	18:L:57:VAL:CG2	2.47	0.44
20:N:170:GLU:HA	20:N:173:ASP:OD2	2.18	0.44
28:V:20:LEU:HD11	28:V:53:ILE:HG23	1.99	0.44
30:X:36:HIS:CE1	30:X:40:HIS:CD2	3.06	0.44
31:Y:219:GLU:HG3	31:Y:220:GLU:N	2.32	0.44
1:0:185:G:H4'	1:0:186:A:OP1	2.17	0.44
1:0:271:C:H41	1:0:378:A:H2	1.63	0.44
1:0:1181:A:C2'	1:0:1182:C:H5'	2.47	0.44
1:0:1234:U:C4	8:B:244:PRO:HB3	2.53	0.44
1:0:2268:C:H2'	1:0:2269:C:C6	2.53	0.44
1:0:2858:U:H2'	1:0:2859:C:C6	2.52	0.44
6:9:106:U:O5'	6:9:106:U:H6	2.01	0.44
10:D:15:GLU:HA	10:D:16:PRO:HD3	1.88	0.44
10:D:41:LEU:CA	10:D:44:ILE:HG22	2.46	0.44
15:I:91:PHE:HA	15:I:131:GLY:CA	2.48	0.44
17:K:27:ARG:HD2	38:K:4015:HOH:O	2.18	0.44
19:M:76:ARG:HG2	19:M:76:ARG:HH11	1.81	0.44
25:S:57:THR:CG2	25:S:58:MET:N	2.80	0.44
27:U:9:CYS:CA	27:U:52:THR:HG23	2.36	0.44
29:W:4:LEU:HD23	29:W:4:LEU:HA	1.77	0.44
30:X:22:ASN:C	30:X:24:LYS:H	2.21	0.44
1:0:163:U:O3'	1:0:896:C:H4'	2.17	0.44
1:0:545:G:C8	1:0:545:G:C5'	2.99	0.44
1:0:559:U:H6	1:0:559:U:C5'	2.27	0.44
1:0:658:C:O2'	1:0:662:U:OP1	2.32	0.44
1:0:1180:U:H4'	15:I:86:GLU:HG2	2.00	0.44
1:0:1437:A:O2'	1:0:1438:G:H5'	2.18	0.44
1:0:1584:C:O2'	1:0:1585:C:H5'	2.17	0.44
1:0:1754:A:H2'	1:0:1755:A:O4'	2.18	0.44
1:0:2072:G:H3'	1:0:2073:G:C5'	2.48	0.44
1:0:2506:A:N6	1:0:2511:A:O2'	2.48	0.44
3:2:35:ARG:HG2	38:2:133:HOH:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:69:TYR:HB2	4:3:78:HIS:CE1	2.53	0.44
6:9:11:A:P	23:Q:19:ARG:HH21	2.40	0.44
8:B:69:VAL:HA	8:B:70:PRO:HD3	1.84	0.44
9:C:133:ARG:HE	9:C:138:VAL:HG22	1.83	0.44
10:D:140:ARG:HH11	10:D:140:ARG:HG3	1.82	0.44
12:F:49:PHE:HE1	12:F:98:VAL:HG23	1.83	0.44
13:G:63:ARG:N	38:G:4014:HOH:O	2.50	0.44
15:I:134:ILE:C	15:I:135:GLU:HG3	2.38	0.44
17:K:62:PRO:CG	17:K:65:ARG:HH21	2.31	0.44
20:N:143:ARG:NH1	20:N:173:ASP:OD1	2.50	0.44
26:T:96:VAL:HG13	26:T:97:ARG:N	2.33	0.44
31:Y:187:VAL:CG2	31:Y:192:ASP:HB2	2.33	0.44
1:0:736:A:H2'	1:0:737:A:O4'	2.18	0.44
1:0:858:U:H2'	1:0:859:C:C6	2.52	0.44
1:0:1386:G:O2'	1:0:1387:G:H5'	2.18	0.44
1:0:1513:C:O2'	1:0:1514:C:H5'	2.17	0.44
1:0:2819:C:O4'	8:B:96:PRO:HB2	2.18	0.44
4:3:16:GLU:HG3	4:3:18:GLN:HE21	1.82	0.44
4:3:20:HIS:HA	4:3:70:ARG:O	2.18	0.44
7:A:70:ALA:HA	7:A:71:PRO:HD3	1.80	0.44
21:O:80:ASP:OD1	21:O:81:PHE:N	2.50	0.44
30:X:41:PHE:CZ	30:X:74:ALA:HB3	2.53	0.44
31:Y:100:ARG:NH1	31:Y:215:GLU:HA	2.33	0.44
1:0:35:U:H5'	9:C:47:GLY:O	2.18	0.43
1:0:485:A:O2'	1:0:487:G:H5'	2.18	0.43
1:0:844:A:C6	1:0:882:A:C5	3.06	0.43
1:0:952:G:N3	1:0:2302:A:H2'	2.33	0.43
1:0:1415:G:H5'	2:1:12:ASN:O	2.18	0.43
1:0:1573:A:H2'	1:0:1574:C:O4'	2.18	0.43
1:0:2433:A:H2'	1:0:2434:A:C8	2.52	0.43
1:0:2524:G:N2	1:0:2526:C:H41	2.12	0.43
1:0:2866:U:H4'	1:0:2867:G:H5'	2.00	0.43
7:A:223:ARG:HG3	38:A:514:HOH:O	2.17	0.43
9:C:218:VAL:N	38:C:583:HOH:O	2.50	0.43
10:D:166:ILE:HD12	38:D:247:HOH:O	2.17	0.43
17:K:41:LYS:O	17:K:42:ASN:HB2	2.18	0.43
19:M:59:GLY:HA3	19:M:141:ILE:CD1	2.47	0.43
25:S:76:GLU:HB3	38:S:4029:HOH:O	2.18	0.43
26:T:9:LYS:CE	26:T:13:ARG:NH1	2.73	0.43
28:V:4:HIS:O	28:V:8:ILE:HG13	2.18	0.43
31:Y:182:PHE:HD2	31:Y:200:THR:O	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Z:10:ARG:HG3	32:Z:11:SER:N	2.33	0.43
1:0:688:A:N7	18:L:65:ASP:OD2	2.51	0.43
1:0:1119:G:H8	16:J:52:GLN:HE22	1.66	0.43
1:0:1174:A:C5	1:0:1201:C:H4'	2.52	0.43
1:0:2274:A:H1'	19:M:86:GLN:NE2	2.33	0.43
1:0:2809:G:H2'	1:0:2810:G:O4'	2.18	0.43
2:1:10:LYS:HG3	38:1:212:HOH:O	2.18	0.43
9:C:44:GLN:HA	38:C:439:HOH:O	2.18	0.43
10:D:64:ARG:HD3	10:D:67:ASP:CB	2.48	0.43
12:F:33:THR:HG21	12:F:59:ILE:O	2.17	0.43
14:H:83:GLU:HA	38:H:330:HOH:O	2.18	0.43
19:M:34:GLU:HB3	19:M:38:GLU:HG3	1.99	0.43
24:R:9:ASP:O	24:R:13:THR:HG22	2.17	0.43
25:S:14:ALA:HA	25:S:25:GLN:NE2	2.33	0.43
26:T:25:ALA:O	26:T:39:ASN:HB2	2.18	0.43
1:0:256:C:H2'	1:0:257:G:O4'	2.18	0.43
1:0:445:U:H2'	1:0:446:G:H8	1.82	0.43
1:0:1207:A:N6	38:0:6642:HOH:O	2.51	0.43
1:0:1839:A:H5'	1:0:2643:G:H4'	2.00	0.43
1:0:2091:G:O3'	8:B:235:ARG:HD3	2.17	0.43
1:0:2460:A:H5''	4:3:58:GLY:O	2.18	0.43
38:0:8248:HOH:O	8:B:216:LYS:HA	2.18	0.43
4:3:56:PRO:CA	38:3:245:HOH:O	2.66	0.43
9:C:168:ARG:NH2	9:C:190:ALA:O	2.51	0.43
10:D:39:ASP:HB2	38:D:219:HOH:O	2.18	0.43
14:H:27:PRO:HD3	14:H:123:ILE:HG22	2.01	0.43
16:J:84:ARG:HB2	16:J:98:PHE:CE1	2.53	0.43
21:O:35:LYS:HB3	21:O:36:PRO:HD2	2.00	0.43
22:P:22:TRP:CH2	22:P:24:ASN:HA	2.53	0.43
1:0:299:U:H5'	38:0:5026:HOH:O	2.19	0.43
1:0:667:C:H2'	1:0:668:C:C6	2.54	0.43
1:0:793:A:H5''	22:P:83:LYS:HG2	1.99	0.43
1:0:1098:A:H2'	1:0:1099:G:O4'	2.17	0.43
1:0:1119:G:N2	1:0:1246:A:H2	2.13	0.43
1:0:1119:G:H8	16:J:52:GLN:NE2	2.16	0.43
1:0:1211:G:H2'	1:0:1212:C:H6	1.83	0.43
1:0:1517:C:O2	1:0:1670:A:C2	2.71	0.43
1:0:1674:C:P	25:S:34:LYS:HG3	2.59	0.43
1:0:1718:G:O2'	1:0:1719:G:H5'	2.19	0.43
1:0:2372:A:H2'	1:0:2373:U:C6	2.53	0.43
1:0:2443:C:H1'	18:L:56:LYS:HE3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2521:A:P	14:H:6:ALA:HB3	2.59	0.43
4:3:22:VAL:HG11	4:3:67:LEU:HD13	2.00	0.43
6:9:106:U:O2'	6:9:107:C:H5'	2.19	0.43
7:A:149:ASP:OD1	7:A:151:GLN:HB2	2.17	0.43
7:A:215:ILE:HG13	7:A:216:SER:N	2.33	0.43
8:B:190:MET:HG2	8:B:272:ILE:CG2	2.48	0.43
9:C:133:ARG:NH2	38:C:517:HOH:O	2.50	0.43
10:D:81:GLU:C	10:D:83:PHE:H	2.22	0.43
11:E:84:MET:HE1	11:E:133:VAL:HG21	2.01	0.43
16:J:39:VAL:HG11	16:J:107:ASN:CB	2.47	0.43
19:M:184:ARG:CG	19:M:185:PRO:HA	2.49	0.43
24:R:46:TYR:O	24:R:49:ALA:HB3	2.17	0.43
29:W:5:VAL:O	29:W:52:VAL:HG23	2.18	0.43
29:W:24:LEU:HD21	29:W:44:MET:SD	2.58	0.43
29:W:122:ARG:HG3	29:W:152:ALA:O	2.18	0.43
1:0:165:A:H5'	18:L:33:ALA:HB2	2.01	0.43
1:0:371:U:H2'	1:0:372:A:H8	1.82	0.43
1:0:613:C:H2'	1:0:614:U:H6	1.83	0.43
1:0:922:A:N7	1:0:2281:C:H5'	2.34	0.43
1:0:1478:U:H2'	1:0:1479:G:C8	2.53	0.43
1:0:1617:C:C4	1:0:1643:C:H4'	2.53	0.43
1:0:2299:G:C6	1:0:2300:A:C6	3.07	0.43
1:0:2609:G:N2	8:B:238:ASN:HD21	2.17	0.43
1:0:2861:G:H4'	8:B:282:GLY:N	2.34	0.43
1:0:2906:A:H5'	1:0:2907:C:O4'	2.18	0.43
8:B:84:LEU:O	8:B:99:GLU:HA	2.18	0.43
9:C:175:LYS:HD3	9:C:184:ARG:O	2.19	0.43
16:J:108:PRO:HG2	16:J:109:TYR:CD1	2.54	0.43
19:M:99:ARG:NH1	38:M:375:HOH:O	2.49	0.43
20:N:163:PHE:O	20:N:164:ASP:OD1	2.36	0.43
23:Q:35:ASP:N	23:Q:35:ASP:OD1	2.51	0.43
25:S:8:PRO:HD2	28:V:32:ALA:HA	2.00	0.43
30:X:34:ARG:NH1	30:X:48:VAL:O	2.40	0.43
1:0:10:U:O4	1:0:532:A:OP2	2.36	0.43
1:0:69:A:C2'	1:0:70:A:OP2	2.67	0.43
1:0:204:A:C2'	1:0:205:U:H5'	2.49	0.43
1:0:1052:G:H2'	1:0:1052:G:N3	2.33	0.43
1:0:1102:C:H4'	38:O:6484:HOH:O	2.18	0.43
1:0:1123:A:C2	1:0:1129:C:H4'	2.54	0.43
1:0:1641:A:H2'	1:0:1642:A:C5'	2.46	0.43
1:0:1735:C:H5'	8:B:235:ARG:NH2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:9:3:A:H2	6:9:21:G:N3	2.17	0.43
10:D:24:HIS:CE1	10:D:26:GLY:H	2.37	0.43
10:D:173:GLU:OE1	10:D:174:VAL:HG23	2.19	0.43
11:E:107:PHE:CZ	11:E:152:THR:HB	2.53	0.43
12:F:48:VAL:HG12	12:F:97:ALA:CB	2.48	0.43
15:I:99:GLN:O	15:I:103:ILE:HG13	2.18	0.43
17:K:6:ALA:HB3	17:K:116:GLU:HG2	2.01	0.43
24:R:84:ALA:O	24:R:88:PHE:HD1	2.01	0.43
25:S:80:ARG:NH1	38:S:4029:HOH:O	2.51	0.43
27:U:6:CYS:C	27:U:8:TYR:H	2.22	0.43
30:X:30:MET:CE	30:X:58:ALA:HB3	2.48	0.43
30:X:30:MET:CE	30:X:55:ASN:HA	2.39	0.43
30:X:78:GLU:CG	30:X:79:GLU:H	2.28	0.43
31:Y:133:HIS:HA	31:Y:139:VAL:CG1	2.48	0.43
1:0:297:U:H2'	1:0:298:C:H6	1.82	0.43
1:0:1023:C:H2'	1:0:1024:G:O4'	2.18	0.43
1:0:1066:U:H2'	1:0:1067:A:C8	2.54	0.43
1:0:1421:C:H2'	1:0:1422:U:C6	2.52	0.43
1:0:1427:A:H61	1:0:1440:U:C1'	2.30	0.43
1:0:1477:C:H5'	1:0:1868:G:H5''	2.01	0.43
1:0:1845:A:O3'	7:A:187:PRO:HB2	2.19	0.43
1:0:2731:G:H2'	1:0:2732:U:O4'	2.18	0.43
1:0:2761:A:C4	1:0:2763:G:C8	3.07	0.43
7:A:95:PRO:HA	7:A:153:ARG:HA	1.99	0.43
7:A:164:ARG:HA	32:Z:69:TYR:CE1	2.54	0.43
8:B:157:LYS:O	8:B:159:PRO:HD3	2.18	0.43
9:C:136:VAL:HA	9:C:137:PRO:C	2.38	0.43
9:C:194:PHE:HA	9:C:234:VAL:HG13	2.01	0.43
11:E:47:VAL:HG11	11:E:69:ILE:HD13	2.00	0.43
23:Q:93:ARG:HG3	23:Q:93:ARG:NH1	2.33	0.43
25:S:11:THR:O	25:S:15:MET:HG2	2.18	0.43
25:S:18:MET:HG3	25:S:74:ALA:HB1	2.00	0.43
1:0:396:U:OP2	4:3:38:ARG:HD2	2.19	0.43
1:0:1506:U:H6	1:0:1506:U:H5'	1.83	0.43
1:0:1603:A:H5''	1:0:1604:G:H3'	2.00	0.43
1:0:1925:G:O2'	1:0:1926:G:H5'	2.19	0.43
6:9:59:C:H4'	38:9:364:HOH:O	2.19	0.43
9:C:233:THR:CG2	9:C:234:VAL:N	2.78	0.43
11:E:2:ARG:HG3	11:E:50:GLU:HB3	2.00	0.43
17:K:30:LYS:C	17:K:55:VAL:HG13	2.37	0.43
18:L:34:GLY:C	18:L:36:ASP:H	2.22	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:M:107:ARG:NH1	38:M:378:HOH:O	2.49	0.43
20:N:108:SER:HA	20:N:109:PRO:HD3	1.82	0.43
25:S:10:VAL:HG11	28:V:36:ALA:HA	2.00	0.43
1:0:468:U:H3'	38:0:5101:HOH:O	2.18	0.43
1:0:968:G:H1'	14:H:35:LYS:HD2	2.00	0.43
1:0:1213:C:C2'	1:0:1214:G:H5'	2.49	0.43
1:0:1571:G:H1'	1:0:1627:G:N2	2.34	0.43
1:0:1600:G:H4'	38:0:7411:HOH:O	2.17	0.43
1:0:2039:A:H2'	1:0:2040:C:C6	2.54	0.43
1:0:2754:G:HO2'	1:0:2755:G:H5'	1.82	0.43
6:9:8:G:H4'	23:Q:27:GLN:HE21	1.84	0.43
8:B:13:PHE:O	8:B:16:ARG:HD2	2.19	0.43
8:B:22:GLU:HA	8:B:205:VAL:HG21	2.01	0.43
8:B:278:PRO:HD3	8:B:294:TYR:CE2	2.54	0.43
10:D:14:ARG:NH1	38:D:209:HOH:O	2.50	0.43
12:F:56:PRO:HG2	19:M:43:PRO:O	2.18	0.43
14:H:69:ARG:HD3	38:H:327:HOH:O	2.19	0.43
15:I:126:THR:HG22	15:I:126:THR:O	2.19	0.43
26:T:37:GLN:HB3	38:T:4017:HOH:O	2.19	0.43
1:0:213:G:O2'	1:0:214:U:OP2	2.37	0.43
1:0:361:C:H2'	1:0:362:G:O4'	2.19	0.43
1:0:1314:U:H5''	1:0:1316:G:O4'	2.18	0.43
1:0:2120:U:H2'	1:0:2121:G:O4'	2.19	0.43
1:0:2712:G:H5'	38:0:9537:HOH:O	2.18	0.43
1:0:2764:C:H2'	1:0:2765:C:C6	2.53	0.43
1:0:2898:G:H4'	8:B:288:GLY:HA2	2.00	0.43
6:9:29:C:H2'	6:9:30:C:C5'	2.43	0.43
7:A:105:VAL:HG13	7:A:155:THR:O	2.18	0.43
10:D:20:LYS:HA	10:D:75:LEU:O	2.19	0.43
12:F:46:GLU:N	38:F:4011:HOH:O	2.52	0.43
14:H:6:ALA:CA	14:H:61:ARG:HH12	2.26	0.43
14:H:49:GLN:HB3	14:H:170:ARG:CG	2.48	0.43
14:H:49:GLN:CB	14:H:170:ARG:HG3	2.46	0.43
20:N:82:TYR:CD2	20:N:82:TYR:C	2.92	0.43
21:O:32:ARG:HD3	21:O:32:ARG:C	2.39	0.43
24:R:4:TYR:CE1	24:R:17:MET:HE2	2.53	0.43
26:T:14:ALA:HA	26:T:15:PRO:HD3	1.93	0.43
26:T:71:VAL:HG13	26:T:91:LEU:O	2.19	0.43
27:U:17:THR:HG22	27:U:18:GLY:H	1.84	0.43
30:X:76:ARG:O	30:X:77:PHE:CB	2.64	0.43
1:0:1289:C:O2'	1:0:1290:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1427:A:N6	1:0:1440:U:H1'	2.34	0.42
1:0:1702:U:H1'	38:0:7352:HOH:O	2.20	0.42
1:0:1849:G:H1'	1:0:2011:A:N1	2.34	0.42
1:0:1929:G:H1'	38:0:8072:HOH:O	2.18	0.42
1:0:2402:A:H1'	38:0:8828:HOH:O	2.19	0.42
38:0:6158:HOH:O	21:O:39:THR:HB	2.18	0.42
6:9:3:A:OP2	6:9:25:G:N2	2.52	0.42
9:C:95:GLU:CD	9:C:95:GLU:H	2.23	0.42
9:C:115:LEU:HD21	9:C:243:VAL:CG1	2.36	0.42
11:E:132:THR:HG23	11:E:132:THR:O	2.19	0.42
15:I:95:LEU:O	15:I:134:ILE:HG23	2.18	0.42
17:K:98:VAL:HG13	17:K:102:GLU:CA	2.40	0.42
20:N:114:LYS:O	20:N:117:ALA:HB3	2.19	0.42
20:N:158:LEU:C	20:N:159:TYR:HD1	2.22	0.42
21:O:14:LEU:HG	21:O:102:ILE:HD11	2.00	0.42
21:O:25:VAL:HG23	21:O:26:TRP:CE3	2.54	0.42
27:U:23:HIS:HB2	27:U:27:ALA:HB3	2.00	0.42
29:W:69:ARG:HG3	29:W:118:LEU:HD23	2.01	0.42
29:W:140:LYS:C	29:W:141:HIS:HD2	2.23	0.42
30:X:15:ARG:HB3	30:X:15:ARG:HH11	1.84	0.42
31:Y:97:LEU:C	31:Y:98:GLN:HG2	2.39	0.42
1:0:111:C:H2'	1:0:112:G:O4'	2.19	0.42
1:0:960:G:N3	1:0:960:G:H2'	2.33	0.42
1:0:2039:A:OP2	8:B:234:ARG:NH2	2.52	0.42
1:0:2815:G:C5	16:J:102:ARG:HG2	2.54	0.42
6:9:26:C:O2'	6:9:27:C:H5'	2.19	0.42
6:9:44:A:O4'	10:D:76:ARG:NE	2.48	0.42
9:C:16:VAL:HG21	9:C:237:GLU:OE1	2.19	0.42
9:C:35:VAL:HG23	9:C:220:THR:HG22	2.01	0.42
10:D:81:GLU:C	10:D:83:PHE:N	2.72	0.42
15:I:71:ALA:O	15:I:75:LYS:HG3	2.19	0.42
16:J:15:ARG:NH1	16:J:43:ARG:NH1	2.67	0.42
19:M:46:LEU:HD22	19:M:50:ARG:HD2	2.00	0.42
20:N:48:VAL:HG11	20:N:55:ASP:CB	2.46	0.42
21:O:105:ASN:HD21	21:O:109:SER:N	2.16	0.42
26:T:65:VAL:HG22	26:T:72:ILE:HG22	2.01	0.42
28:V:1:THR:O	28:V:2:VAL:C	2.56	0.42
28:V:12:THR:HG22	28:V:15:GLU:H	1.83	0.42
31:Y:229:LEU:O	31:Y:231:PRO:HD3	2.19	0.42
1:0:87:C:C2	3:2:30:ASP:OD2	2.72	0.42
1:0:221:G:H2'	1:0:222:A:C8	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:553:G:P	31:Y:204:ARG:NH2	2.92	0.42
1:0:953:G:H2'	38:0:6189:HOH:O	2.19	0.42
1:0:1123:A:C6	1:0:1238:C:H5'	2.54	0.42
38:0:5339:HOH:O	31:Y:158:LYS:HD3	2.18	0.42
4:3:91:GLN:O	4:3:92:GLU:HB2	2.20	0.42
7:A:66:ARG:CB	7:A:66:ARG:NH1	2.83	0.42
8:B:63:GLU:O	8:B:63:GLU:HG3	2.19	0.42
8:B:175:LEU:C	8:B:175:LEU:CD2	2.88	0.42
9:C:49:ASP:HB3	9:C:52:ALA:HB2	2.00	0.42
10:D:19:GLU:HG3	38:D:210:HOH:O	2.19	0.42
11:E:31:ARG:NH1	38:E:4034:HOH:O	2.52	0.42
18:L:35:ARG:O	18:L:40:PHE:HA	2.19	0.42
18:L:66:VAL:CG2	18:L:67:ARG:N	2.83	0.42
21:O:79:VAL:O	21:O:80:ASP:HB2	2.19	0.42
26:T:63:ILE:HD11	26:T:75:GLU:HB2	2.01	0.42
29:W:21:LEU:HD22	29:W:26:ILE:HD11	2.00	0.42
29:W:48:VAL:HG12	29:W:52:VAL:CG1	2.50	0.42
1:0:162:C:H2'	1:0:163:U:H5'	2.02	0.42
1:0:503:G:H2'	1:0:504:G:H8	1.83	0.42
1:0:694:A:H4'	1:0:2441:U:OP1	2.20	0.42
1:0:1772:C:H5'	1:0:1773:G:C5	2.55	0.42
1:0:1805:G:H2'	1:0:1806:G:C8	2.53	0.42
1:0:2090:G:H2'	1:0:2091:G:C8	2.54	0.42
1:0:2445:U:H2'	1:0:2446:G:H8	1.79	0.42
1:0:2653:A:H2'	1:0:2654:C:C6	2.55	0.42
1:0:2676:C:H4'	16:J:70:PHE:CE1	2.54	0.42
1:0:2842:G:H2'	1:0:2843:A:H5'	2.01	0.42
4:3:69:TYR:CZ	4:3:80:ARG:HD2	2.55	0.42
8:B:278:PRO:HD3	8:B:294:TYR:CZ	2.53	0.42
8:B:320:GLN:NE2	8:B:321:PRO:CD	2.72	0.42
10:D:36:ASN:C	38:D:222:HOH:O	2.57	0.42
10:D:55:LYS:O	10:D:56:ARG:HB2	2.19	0.42
20:N:154:LEU:HG	20:N:155:GLU:N	2.34	0.42
28:V:39:ALA:C	28:V:41:GLU:N	2.72	0.42
29:W:48:VAL:CG1	29:W:48:VAL:O	2.67	0.42
31:Y:108:ASP:OD1	31:Y:199:ASP:HB3	2.19	0.42
1:0:20:G:H21	24:R:117:HIS:HD2	1.66	0.42
1:0:303:C:H2'	1:0:304:G:O4'	2.20	0.42
1:0:541:C:O2'	1:0:542:A:H5''	2.20	0.42
1:0:1041:U:H4'	1:0:1295:G:H5'	2.01	0.42
1:0:1163:G:N2	38:I:4004:HOH:O	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1935:C:H2'	1:0:1936:C:H6	1.84	0.42
1:0:2502:C:H2'	1:0:2503:A:H5'	2.01	0.42
4:3:8:ASN:O	4:3:9:THR:HB	2.19	0.42
8:B:223:ARG:O	8:B:228:ALA:HB2	2.20	0.42
12:F:70:LYS:C	12:F:72:VAL:H	2.22	0.42
15:I:87:PRO:O	15:I:89:GLU:HG3	2.19	0.42
17:K:65:ARG:O	17:K:66:ARG:HB2	2.19	0.42
21:O:25:VAL:CG2	21:O:26:TRP:N	2.81	0.42
22:P:91:LYS:O	22:P:95:GLU:HG3	2.20	0.42
24:R:59:PHE:O	24:R:63:ASN:HB3	2.19	0.42
27:U:14:GLU:HA	27:U:15:PRO:HD2	1.94	0.42
29:W:122:ARG:HG3	29:W:122:ARG:HH11	1.84	0.42
1:0:318:U:O2'	1:0:338:C:H2'	2.19	0.42
1:0:396:U:C1'	38:0:4950:HOH:O	2.66	0.42
1:0:1183:C:O2	1:0:1183:C:H2'	2.19	0.42
1:0:1874:U:P	7:A:51:ARG:HD2	2.59	0.42
7:A:69:LEU:HD11	7:A:159:VAL:HG13	2.01	0.42
8:B:277:GLU:N	8:B:278:PRO:CD	2.83	0.42
16:J:34:GLU:HA	16:J:34:GLU:OE1	2.19	0.42
16:J:52:GLN:HG3	16:J:53:ILE:H	1.83	0.42
17:K:28:GLU:HG2	17:K:58:THR:CB	2.47	0.42
24:R:4:TYR:N	38:R:308:HOH:O	2.53	0.42
29:W:65:VAL:HG11	29:W:116:LEU:HD13	2.02	0.42
29:W:119:HIS:O	29:W:153:MET:HB3	2.19	0.42
1:0:431:G:O2'	1:0:432:G:H5'	2.20	0.42
1:0:1268:C:O2'	31:Y:169:ARG:HB2	2.20	0.42
1:0:1666:C:H2'	1:0:1667:A:H8	1.84	0.42
1:0:1798:C:H1'	22:P:66:GLN:OE1	2.20	0.42
1:0:2115:U:H2'	1:0:2116:U:C6	2.54	0.42
1:0:2820:A:OP1	8:B:98:THR:HG23	2.18	0.42
1:0:2822:C:O2'	1:0:2827:A:H4'	2.19	0.42
2:1:8:GLN:HE22	2:1:11:LYS:NZ	2.18	0.42
6:9:55:U:H4'	6:9:56:A:C8	2.55	0.42
7:A:72:GLU:HG3	32:Z:66:GLY:HA2	2.02	0.42
7:A:223:ARG:O	7:A:223:ARG:HG2	2.20	0.42
9:C:16:VAL:HG12	9:C:17:ASP:N	2.35	0.42
10:D:54:ALA:HB2	10:D:69:ILE:CD1	2.48	0.42
10:D:172:VAL:HG12	10:D:173:GLU:N	2.35	0.42
14:H:29:SER:HA	14:H:62:HIS:CD2	2.55	0.42
14:H:32:ALA:C	14:H:33:GLN:HG3	2.38	0.42
14:H:146:ALA:O	14:H:150:LYS:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:N:74:PRO:HG2	20:N:159:TYR:CZ	2.55	0.42
21:O:96:VAL:CG1	21:O:97:SER:N	2.83	0.42
23:Q:24:SER:HB3	23:Q:28:ARG:HH21	1.83	0.42
24:R:29:LYS:CD	38:R:335:HOH:O	2.68	0.42
26:T:41:ARG:HG2	26:T:41:ARG:NH1	2.33	0.42
30:X:9:VAL:HG22	30:X:88:GLU:OE2	2.20	0.42
31:Y:125:LYS:HB2	31:Y:126:PRO:HD2	2.01	0.42
1:0:474:C:O3'	9:C:73:LEU:CD2	2.67	0.42
1:0:951:A:H5''	23:Q:42:LYS:HD3	2.02	0.42
1:0:963:C:O2	1:0:1005:A:N1	2.53	0.42
1:0:1186:C:H5''	38:0:6619:HOH:O	2.20	0.42
1:0:1201:C:H2'	1:0:1202:A:H5'	2.02	0.42
1:0:1334:C:H2'	1:0:1335:C:H6	1.84	0.42
1:0:1743:G:H2'	1:0:1744:G:O4'	2.19	0.42
1:0:2087:C:O2'	1:0:2088:C:H5'	2.20	0.42
1:0:2251:G:H2'	1:0:2252:A:C8	2.54	0.42
10:D:23:VAL:CG2	10:D:73:VAL:HB	2.49	0.42
11:E:101:GLU:HB2	11:E:116:THR:O	2.19	0.42
20:N:143:ARG:NH1	20:N:173:ASP:OD2	2.52	0.42
23:Q:16:ASN:HB2	38:Q:215:HOH:O	2.19	0.42
24:R:145:LEU:HD12	24:R:146:ILE:N	2.34	0.42
28:V:1:THR:C	28:V:3:LEU:N	2.73	0.42
30:X:81:GLY:O	30:X:82:GLU:HB3	2.20	0.42
1:0:69:A:H2'	1:0:70:A:OP2	2.19	0.42
1:0:934:C:H2'	1:0:935:G:C8	2.54	0.42
1:0:962:C:C2'	1:0:963:C:H5'	2.50	0.42
1:0:1181:A:H2'	1:0:1182:C:C5'	2.49	0.42
1:0:1268:C:O2'	1:0:1269:G:H5'	2.20	0.42
1:0:1377:C:H2'	1:0:1723:G:O6	2.20	0.42
1:0:1903:U:O2'	1:0:1904:A:N7	2.51	0.42
1:0:2133:U:H4'	1:0:2134:G:C5'	2.49	0.42
1:0:2237:G:H1'	38:0:8506:HOH:O	2.19	0.42
4:3:6:ARG:O	4:3:7:PHE:HB3	2.20	0.42
4:3:69:TYR:O	4:3:77:ALA:HA	2.20	0.42
6:9:27:C:H2'	6:9:28:U:O4'	2.20	0.42
6:9:57:A:C8	10:D:141:VAL:HG21	2.54	0.42
8:B:226:LYS:O	8:B:230:GLN:HG2	2.20	0.42
10:D:170:TYR:O	10:D:171:ASP:HB3	2.20	0.42
11:E:101:GLU:HB3	11:E:117:THR:HA	2.01	0.42
11:E:119:HIS:HE1	11:E:147:ASP:OD2	2.02	0.42
12:F:52:GLU:OE1	12:F:78:GLU:OE1	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:L:72:ASN:O	18:L:76:LEU:HG	2.20	0.42
20:N:151:ASP:HB3	38:N:4054:HOH:O	2.19	0.42
24:R:61:GLN:HE21	24:R:61:GLN:HB2	1.63	0.42
26:T:73:HIS:CD2	26:T:88:PRO:CG	3.03	0.42
29:W:73:LEU:HD12	29:W:73:LEU:HA	1.73	0.42
30:X:25:ARG:HG2	38:X:4011:HOH:O	2.20	0.42
31:Y:170:SER:OG	31:Y:175:ARG:HG3	2.19	0.42
1:0:183:A:H1'	19:M:161:ARG:NH1	2.35	0.42
1:0:432:G:O2'	1:0:433:C:H5'	2.20	0.42
1:0:967:U:O2	14:H:35:LYS:HE3	2.19	0.42
1:0:1018:A:H4'	23:Q:59:GLN:HE22	1.85	0.42
1:0:1169:U:H3	1:0:1177:A:H61	1.68	0.42
1:0:1422:U:H2'	1:0:1423:C:C6	2.54	0.42
1:0:1838:U:O4'	1:0:2644:C:C2	2.73	0.42
1:0:1943:C:O4'	7:A:212:PRO:HA	2.20	0.42
1:0:2096:A:C8	1:0:2539:U:C2	3.07	0.42
1:0:2353:A:H1'	23:Q:21:ARG:HH12	1.85	0.42
1:0:2846:C:OP1	8:B:158:LYS:HD3	2.19	0.42
4:3:11:CYS:HB2	4:3:20:HIS:NE2	2.34	0.42
1:0:333:G:O2'	1:0:334:G:H5'	2.20	0.41
1:0:424:C:H2'	1:0:425:U:C6	2.55	0.41
1:0:1163:G:H2'	1:0:1164:U:C5	2.54	0.41
1:0:1797:A:H2'	1:0:1799:G:O5'	2.20	0.41
1:0:2134:G:N2	1:0:2242:U:C2	2.89	0.41
1:0:2443:C:O3'	18:L:56:LYS:HE3	2.20	0.41
1:0:2456:A:H1'	38:0:8946:HOH:O	2.20	0.41
2:1:41:LYS:NZ	38:1:236:HOH:O	2.53	0.41
6:9:47:A:C2	6:9:48:C:C2	3.07	0.41
7:A:192:VAL:HG12	7:A:207:GLN:HB3	2.01	0.41
8:B:145:HIS:CD2	8:B:146:THR:O	2.68	0.41
9:C:32:GLY:O	9:C:36:ARG:HB2	2.20	0.41
9:C:140:VAL:CG1	9:C:141:SER:N	2.82	0.41
10:D:99:ASP:CB	10:D:103:ASN:HB2	2.50	0.41
14:H:56:GLU:HA	14:H:132:ALA:HB2	2.02	0.41
16:J:46:ILE:O	16:J:46:ILE:CG1	2.67	0.41
17:K:113:ILE:HD12	17:K:128:ALA:CB	2.49	0.41
19:M:57:LYS:HG2	19:M:58:GLN:H	1.85	0.41
20:N:21:HIS:HB3	38:N:4011:HOH:O	2.19	0.41
23:Q:16:ASN:HD22	23:Q:16:ASN:HA	1.60	0.41
24:R:40:ALA:O	24:R:44:VAL:HG23	2.19	0.41
1:0:80:A:H5''	26:T:41:ARG:CZ	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1021:G:O2'	1:0:1022:A:H5'	2.19	0.41
1:0:1050:G:C6	1:0:1051:C:C4	3.08	0.41
1:0:1968:A:H2'	1:0:1969:A:C8	2.55	0.41
1:0:2303:A:H4'	38:0:8645:HOH:O	2.20	0.41
36:0:3189:CL:CL	38:K:4017:HOH:O	2.59	0.41
3:2:36:ASN:HB3	3:2:39:ARG:NE	2.34	0.41
8:B:221:GLN:HE22	17:K:42:ASN:HD22	1.68	0.41
9:C:236:THR:CG2	9:C:239:ALA:H	2.08	0.41
14:H:157:TYR:CD1	14:H:157:TYR:C	2.93	0.41
20:N:83:LEU:HD13	20:N:175:LEU:HD23	2.02	0.41
23:Q:32:GLU:O	23:Q:93:ARG:NH2	2.53	0.41
24:R:43:ALA:O	24:R:47:LEU:HG	2.20	0.41
1:0:440:C:H2'	1:0:441:A:C8	2.55	0.41
1:0:638:C:H2'	1:0:639:A:C8	2.56	0.41
1:0:876:A:N3	1:0:876:A:C2'	2.84	0.41
1:0:1197:G:H1'	1:0:1203:G:N2	2.35	0.41
1:0:1948:G:N2	1:0:1965:C:H1'	2.34	0.41
1:0:2064:U:H2'	1:0:2065:C:H6	1.84	0.41
1:0:2379:G:H5'	1:0:2381:C:O4'	2.21	0.41
1:0:2511:A:H2'	1:0:2512:U:O4'	2.20	0.41
6:9:2:U:OP2	6:9:3:A:H5'	2.21	0.41
7:A:217:ARG:HH11	7:A:217:ARG:CG	2.33	0.41
9:C:27:ARG:NH2	21:O:4:ASN:ND2	2.68	0.41
9:C:93:LYS:O	9:C:98:ARG:NH2	2.52	0.41
10:D:40:ILE:O	10:D:44:ILE:HG22	2.20	0.41
12:F:21:GLU:O	12:F:24:ARG:CG	2.67	0.41
14:H:43:ALA:O	14:H:170:ARG:NH1	2.53	0.41
16:J:56:LYS:HE2	16:J:60:ARG:NH2	2.35	0.41
20:N:62:HIS:HB3	20:N:65:ASP:OD1	2.21	0.41
21:O:4:ASN:HA	21:O:5:PRO:HD3	1.84	0.41
21:O:33:LEU:HA	21:O:40:HIS:NE2	2.36	0.41
29:W:117:ARG:CB	29:W:117:ARG:NH1	2.83	0.41
1:0:30:U:OP2	9:C:181:ALA:HB2	2.19	0.41
1:0:903:U:O4	18:L:18:HIS:HB2	2.20	0.41
1:0:1206:U:H2'	1:0:1207:A:O4'	2.20	0.41
1:0:1472:C:O5'	1:0:1472:C:H6	2.03	0.41
1:0:1771:U:O2'	1:0:1773:G:N7	2.51	0.41
38:0:4093:HOH:O	26:T:9:LYS:HD3	2.19	0.41
6:9:81:C:O2'	6:9:82:U:H5'	2.20	0.41
8:B:5:ARG:HH11	8:B:8:LYS:HE2	1.83	0.41
8:B:154:VAL:HA	8:B:155:PRO:HD3	1.81	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:159:PRO:O	10:D:162:ALA:HB3	2.21	0.41
11:E:7:ILE:HG22	11:E:45:ASP:O	2.20	0.41
14:H:91:ARG:NH1	14:H:138:THR:OG1	2.53	0.41
16:J:116:LEU:HB2	16:J:119:THR:HG21	2.02	0.41
16:J:131:THR:HG22	16:J:134:GLU:H	1.84	0.41
17:K:20:CYS:HB2	17:K:29:LEU:HG	2.02	0.41
20:N:32:PRO:HD2	20:N:99:GLU:O	2.20	0.41
20:N:114:LYS:O	20:N:118:ILE:HG13	2.21	0.41
20:N:155:GLU:O	20:N:156:GLU:HG3	2.20	0.41
22:P:59:ARG:HG2	22:P:59:ARG:HH11	1.85	0.41
25:S:37:VAL:O	25:S:41:VAL:HG23	2.20	0.41
25:S:73:ASP:O	25:S:77:VAL:HG23	2.20	0.41
26:T:39:ASN:ND2	38:T:4017:HOH:O	2.54	0.41
29:W:21:LEU:CD1	29:W:26:ILE:HD11	2.40	0.41
1:0:320:G:H2'	1:0:321:A:C8	2.55	0.41
1:0:646:G:H5''	9:C:96:LYS:HD2	2.03	0.41
1:0:820:G:H5'	1:0:821:U:H5'	2.02	0.41
1:0:1041:U:C2'	1:0:1042:U:H5'	2.51	0.41
1:0:1112:G:H1	1:0:1251:C:N4	2.18	0.41
1:0:2697:A:H2'	1:0:2698:G:O4'	2.19	0.41
1:0:2866:U:C4	27:U:50:GLU:HB3	2.55	0.41
6:9:20:G:O2'	6:9:21:G:H5'	2.20	0.41
9:C:13:ASP:OD1	9:C:13:ASP:O	2.39	0.41
9:C:218:VAL:HG12	38:C:583:HOH:O	2.20	0.41
13:G:69:ARG:NH1	38:G:4016:HOH:O	2.53	0.41
14:H:41:LYS:O	14:H:87:LYS:HE2	2.20	0.41
15:I:88:GLN:HE21	15:I:128:THR:HG21	1.85	0.41
20:N:163:PHE:CZ	20:N:171:HIS:ND1	2.88	0.41
31:Y:203:VAL:HG12	31:Y:228:VAL:HG22	2.00	0.41
1:0:11:A:H5'	1:0:12:U:OP2	2.20	0.41
1:0:595:U:O2'	1:0:596:C:H5'	2.21	0.41
1:0:1216:G:O2'	1:0:1217:G:H5'	2.21	0.41
1:0:1819:G:H2'	1:0:1820:G:C5'	2.51	0.41
1:0:1972:U:C2'	1:0:1973:A:C5'	2.99	0.41
1:0:2271:G:N3	1:0:2271:G:H2'	2.35	0.41
1:0:2392:C:H4'	38:0:8782:HOH:O	2.19	0.41
1:0:2471:G:N3	1:0:2633:A:H2	2.19	0.41
1:0:2568:A:H8	1:0:2568:A:O5'	2.03	0.41
7:A:210:GLY:HA3	38:A:490:HOH:O	2.19	0.41
8:B:114:ASP:O	8:B:115:VAL:C	2.59	0.41
9:C:211:ASP:HB3	38:C:575:HOH:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E:166:VAL:HG12	38:E:4041:HOH:O	2.20	0.41
16:J:88:PRO:HA	36:J:203:CL:CL	2.58	0.41
17:K:55:VAL:CG1	17:K:56:SER:N	2.83	0.41
22:P:18:LYS:O	22:P:21:VAL:HG13	2.20	0.41
29:W:131:PRO:HB2	38:W:4057:HOH:O	2.21	0.41
31:Y:190:VAL:HG23	38:Y:482:HOH:O	2.20	0.41
1:0:75:U:H2'	1:0:76:G:C8	2.55	0.41
1:0:283:U:C5	1:0:284:C:N3	2.88	0.41
1:0:291:C:H2'	1:0:292:G:O4'	2.21	0.41
1:0:440:C:O2'	1:0:441:A:H5'	2.19	0.41
1:0:695:C:H2'	1:0:696:C:C6	2.55	0.41
1:0:783:C:OP1	7:A:180:LYS:HE3	2.21	0.41
1:0:940:G:C5	1:0:1027:G:C2	3.09	0.41
1:0:1166:A:H61	1:0:1180:U:H3	1.69	0.41
1:0:2000:G:O2'	1:0:2001:G:H5'	2.21	0.41
1:0:2297:U:H1'	38:0:8672:HOH:O	2.19	0.41
1:0:2502:C:H2'	1:0:2503:A:O4'	2.20	0.41
2:1:28:HIS:CD2	2:1:31:LYS:HG3	2.55	0.41
8:B:60:SER:C	8:B:62:ARG:H	2.24	0.41
8:B:280:VAL:HG13	8:B:333:GLU:O	2.19	0.41
9:C:139:VAL:CG1	38:C:580:HOH:O	2.62	0.41
15:I:70:THR:O	15:I:72:GLU:N	2.53	0.41
20:N:147:ILE:O	20:N:150:TYR:HB3	2.20	0.41
21:O:11:ILE:O	21:O:15:LYS:HG3	2.20	0.41
22:P:11:ALA:HB2	22:P:18:LYS:HA	2.03	0.41
22:P:24:ASN:HA	22:P:25:PRO:HD3	1.90	0.41
23:Q:50:GLY:HA3	23:Q:87:THR:OG1	2.21	0.41
28:V:12:THR:CG2	28:V:15:GLU:H	2.34	0.41
28:V:42:ASN:N	28:V:43:PRO:CD	2.83	0.41
1:0:241:A:C2	1:0:378:A:H4'	2.56	0.41
1:0:948:G:C6	1:0:949:U:C4	3.08	0.41
1:0:1181:A:H5'	15:I:89:GLU:OE2	2.19	0.41
1:0:1477:C:H4'	1:0:1868:G:OP1	2.20	0.41
1:0:1882:C:H5''	7:A:192:VAL:HG21	2.03	0.41
1:0:1926:G:H2'	1:0:1927:A:H8	1.84	0.41
1:0:2661:U:H3	1:0:2812:A:H62	1.67	0.41
6:9:49:G:O2'	6:9:50:G:H5'	2.21	0.41
6:9:63:C:O2'	6:9:64:C:H5'	2.21	0.41
8:B:195:ARG:NE	8:B:323:LEU:HD13	2.36	0.41
10:D:17:ARG:NH2	38:D:240:HOH:O	2.52	0.41
10:D:147:ALA:HA	20:N:15:GLU:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:H:117:ARG:HB3	38:H:347:HOH:O	2.20	0.41
16:J:142:ASN:O	16:J:144:THR:N	2.54	0.41
20:N:37:ARG:HH11	20:N:37:ARG:CG	2.31	0.41
20:N:115:VAL:HG13	38:N:4043:HOH:O	2.20	0.41
26:T:98:VAL:HG11	26:T:101:LEU:HD23	2.01	0.41
29:W:65:VAL:HA	29:W:68:THR:HG22	2.02	0.41
32:Z:10:ARG:CG	32:Z:11:SER:H	2.33	0.41
1:0:473:A:O2'	1:0:474:C:H5'	2.21	0.41
1:0:539:G:H2'	1:0:540:A:C8	2.56	0.41
1:0:542:A:H2'	1:0:543:G:O4'	2.21	0.41
1:0:772:G:H2'	1:0:773:A:O4'	2.20	0.41
1:0:1501:A:H4'	38:0:7280:HOH:O	2.20	0.41
1:0:1787:C:O2'	1:0:1788:U:H5'	2.21	0.41
1:0:1829:A:H2'	1:0:1830:C:H5'	2.03	0.41
1:0:1883:U:C2'	1:0:1884:G:H5'	2.51	0.41
1:0:1904:A:H2'	1:0:1905:U:O4'	2.20	0.41
1:0:2329:C:O2'	1:0:2330:U:H5'	2.21	0.41
1:0:2384:U:H5''	38:0:5594:HOH:O	2.21	0.41
1:0:2388:C:H5'	23:Q:83:THR:O	2.20	0.41
1:0:2626:C:H2'	1:0:2627:G:C8	2.56	0.41
1:0:2694:A:H4'	11:E:91:PHE:CE1	2.55	0.41
1:0:2851:G:H2'	1:0:2902:A:H61	1.85	0.41
2:1:28:HIS:O	2:1:32:LYS:N	2.47	0.41
7:A:206:ARG:NH1	38:A:498:HOH:O	2.54	0.41
8:B:13:PHE:CD1	8:B:13:PHE:N	2.89	0.41
8:B:162:MET:HG3	8:B:310:ARG:NH1	2.36	0.41
9:C:20:ASP:HB2	38:C:420:HOH:O	2.20	0.41
11:E:72:MET:HA	38:E:4032:HOH:O	2.21	0.41
11:E:99:GLY:N	38:E:4024:HOH:O	2.53	0.41
14:H:60:LEU:O	14:H:65:LEU:HD21	2.21	0.41
15:I:70:THR:C	15:I:72:GLU:N	2.74	0.41
20:N:33:ARG:HD2	20:N:103:ASP:OD2	2.20	0.41
26:T:12:ARG:NH1	38:T:4007:HOH:O	2.50	0.41
26:T:20:HIS:O	26:T:23:VAL:HG23	2.21	0.41
30:X:43:VAL:HG12	30:X:47:ALA:HB3	2.03	0.41
31:Y:204:ARG:HA	31:Y:230:ASN:OD1	2.20	0.41
1:0:137:U:OP1	1:0:259:G:O2'	2.39	0.41
1:0:344:C:H2'	1:0:345:G:O4'	2.21	0.41
1:0:1355:A:H5''	38:Y:453:HOH:O	2.21	0.41
1:0:1748:U:C5	1:0:1749:U:C4	3.09	0.41
1:0:1761:U:H2'	1:0:1762:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1951:G:N2	38:0:8099:HOH:O	2.54	0.41
1:0:1996:U:O2'	1:0:1997:A:H5'	2.20	0.41
1:0:2644:C:O2'	1:0:2645:U:H5'	2.21	0.41
9:C:25:PRO:HG2	38:C:422:HOH:O	2.21	0.41
9:C:80:VAL:HA	9:C:81:PRO:HD3	1.88	0.41
9:C:180:SER:C	9:C:182:ARG:H	2.24	0.41
11:E:107:PHE:CD2	11:E:108:LEU:HD13	2.56	0.41
11:E:154:ILE:HG23	11:E:154:ILE:O	2.20	0.41
12:F:38:LYS:HZ1	19:M:3:SER:HA	1.86	0.41
16:J:45:VAL:HA	16:J:130:VAL:O	2.21	0.41
18:L:148:GLU:HG3	38:L:377:HOH:O	2.20	0.41
19:M:106:SER:HB2	19:M:114:VAL:CG2	2.51	0.41
25:S:44:GLN:OE1	25:S:44:GLN:HA	2.21	0.41
29:W:21:LEU:CD2	29:W:48:VAL:HG11	2.46	0.41
30:X:30:MET:HE2	30:X:58:ALA:HB3	2.03	0.41
1:0:800:G:H2'	1:0:801:U:C6	2.57	0.40
1:0:1074:G:H4'	1:0:1260:G:C6	2.56	0.40
1:0:1174:A:H5'	38:0:6594:HOH:O	2.21	0.40
1:0:1235:G:OP2	1:0:2550:U:H4'	2.21	0.40
1:0:1363:G:OP1	9:C:76:ARG:NH2	2.54	0.40
1:0:1413:A:H2'	1:0:1414:A:O4'	2.20	0.40
1:0:1783:A:C2'	1:0:1784:U:H5'	2.51	0.40
1:0:2338:G:H1'	10:D:105:SER:OG	2.20	0.40
1:0:2431:C:H5'	18:L:47:GLY:HA2	2.02	0.40
1:0:2507:G:H2'	1:0:2510:C:N4	2.36	0.40
1:0:2591:C:H2'	1:0:2592:G:O4'	2.21	0.40
1:0:2734:G:O2'	1:0:2735:U:H5'	2.20	0.40
7:A:36:ASP:C	7:A:38:ILE:N	2.74	0.40
8:B:27:ASN:N	8:B:27:ASN:ND2	2.67	0.40
14:H:87:LYS:O	14:H:140:TYR:HD1	2.04	0.40
15:I:66:GLY:O	15:I:67:VAL:C	2.58	0.40
15:I:127:CYS:CB	15:I:132:VAL:HB	2.34	0.40
20:N:58:LEU:N	20:N:58:LEU:CD1	2.83	0.40
20:N:166:ALA:O	20:N:167:ASP:HB2	2.21	0.40
22:P:141:ILE:O	22:P:143:ALA:N	2.49	0.40
25:S:34:LYS:HG2	25:S:54:THR:HG23	2.03	0.40
27:U:28:THR:HB	38:U:8814:HOH:O	2.20	0.40
30:X:76:ARG:NH1	30:X:76:ARG:CG	2.83	0.40
32:Z:39:CYS:HA	32:Z:40:PRO:HD3	1.92	0.40
1:0:222:A:H2'	1:0:223:G:O4'	2.20	0.40
1:0:263:U:O4'	12:F:59:ILE:HD13	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:694:A:H2'	1:0:695:C:C5'	2.45	0.40
1:0:1058:A:H2'	1:0:1060:C:C5'	2.51	0.40
1:0:1586:G:O2'	1:0:1587:U:H5'	2.20	0.40
1:0:1657:A:H2'	1:0:1658:A:C8	2.56	0.40
1:0:1674:C:OP2	25:S:34:LYS:HE3	2.22	0.40
1:0:1702:U:H5'	38:0:7620:HOH:O	2.20	0.40
1:0:1733:A:C2	1:0:1734:C:H1'	2.56	0.40
1:0:1822:A:O2'	1:0:1823:G:H5'	2.21	0.40
1:0:1883:U:O2'	1:0:1884:G:H5'	2.21	0.40
1:0:2385:G:H2'	1:0:2386:U:C6	2.57	0.40
1:0:2684:A:H2'	1:0:2685:C:C6	2.56	0.40
6:9:1:U:C4'	6:9:3:A:OP1	2.70	0.40
6:9:81:C:C2'	6:9:82:U:H5'	2.50	0.40
7:A:190:ARG:NH2	7:A:207:GLN:OE1	2.54	0.40
9:C:4:THR:HB	9:C:135:GLU:OE1	2.21	0.40
9:C:138:VAL:O	9:C:234:VAL:HA	2.21	0.40
11:E:138:ILE:HG23	11:E:139:GLU:N	2.35	0.40
15:I:114:TYR:CD1	15:I:114:TYR:N	2.89	0.40
16:J:9:ASP:H	16:J:35:THR:HB	1.86	0.40
18:L:144:ASP:CA	18:L:147:GLU:HG3	2.51	0.40
23:Q:46:SER:O	23:Q:48:PRO:HD3	2.22	0.40
24:R:119:VAL:HG12	24:R:119:VAL:O	2.21	0.40
26:T:96:VAL:CG1	26:T:97:ARG:N	2.84	0.40
27:U:52:THR:HG21	27:U:54:THR:HB	2.02	0.40
29:W:154:ARG:C	38:W:4068:HOH:O	2.59	0.40
1:0:276:C:H6	1:0:276:C:O5'	2.04	0.40
1:0:365:G:C6	1:0:366:U:C4	3.10	0.40
1:0:821:U:H1'	38:0:5789:HOH:O	2.21	0.40
1:0:1164:U:H3	1:0:1192:A:H2	1.69	0.40
1:0:1197:G:N2	38:0:6630:HOH:O	2.52	0.40
1:0:1268:C:H2'	1:0:1269:G:C8	2.57	0.40
1:0:1306:U:OP1	9:C:184:ARG:HD2	2.21	0.40
1:0:1342:C:C2'	1:0:1343:C:H5'	2.52	0.40
1:0:1810:C:H1'	27:U:42:LEU:HD22	2.04	0.40
1:0:1976:G:H1'	1:0:2005:G:N2	2.37	0.40
1:0:2255:A:O2'	1:0:2256:G:H5'	2.21	0.40
1:0:2705:U:O4'	11:E:112:ALA:HB2	2.21	0.40
1:0:2757:A:H2'	1:0:2758:G:O4'	2.20	0.40
3:2:40:ARG:HH11	3:2:40:ARG:HG2	1.85	0.40
6:9:2:U:OP2	6:9:2:U:H4'	2.22	0.40
7:A:105:VAL:HG11	7:A:154:ALA:CB	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:44:TYR:OH	8:B:148:PRO:HG3	2.22	0.40
18:L:54:PRO:HG2	18:L:57:VAL:HG21	2.03	0.40
18:L:91:VAL:HG13	18:L:120:LEU:HD23	2.04	0.40
22:P:59:ARG:HD3	38:P:226:HOH:O	2.20	0.40
24:R:18:LEU:HD12	24:R:143:VAL:CG1	2.47	0.40
25:S:53:ASN:N	25:S:53:ASN:ND2	2.67	0.40
27:U:6:CYS:HA	27:U:13:ILE:HD11	2.03	0.40
29:W:75:GLY:HA3	38:W:4031:HOH:O	2.21	0.40
1:O:402:U:H2'	1:O:403:C:C6	2.56	0.40
1:O:459:A:H4'	38:O:5069:HOH:O	2.21	0.40
38:O:8830:HOH:O	23:Q:50:GLY:HA2	2.21	0.40
3:2:8:LYS:NZ	25:S:56:ASN:O	2.50	0.40
6:9:36:C:H2'	6:9:37:C:O4'	2.22	0.40
7:A:105:VAL:CG1	7:A:106:CYS:N	2.84	0.40
8:B:36:PRO:HB3	8:B:174:ARG:HA	2.03	0.40
8:B:41:PHE:HB3	8:B:190:MET:CE	2.50	0.40
8:B:265:LEU:CD2	8:B:316:ARG:HD3	2.50	0.40
8:B:279:THR:OG1	8:B:290:VAL:O	2.35	0.40
9:C:193:LEU:HA	9:C:211:ASP:O	2.21	0.40
10:D:135:VAL:HG23	38:D:239:HOH:O	2.21	0.40
13:G:64:ASN:N	13:G:64:ASN:ND2	2.70	0.40
20:N:71:TRP:CE3	20:N:175:LEU:CD2	3.05	0.40
29:W:130:HIS:O	29:W:136:GLY:HA3	2.21	0.40
31:Y:186:ARG:HH11	31:Y:186:ARG:HG2	1.86	0.40
1:O:962:C:H2'	1:O:963:C:C5'	2.52	0.40
1:O:1500:U:OP2	22:P:41:ARG:NH2	2.55	0.40
1:O:2435:U:OP1	4:3:28:GLY:HA3	2.22	0.40
1:O:2529:G:H5'	38:O:9120:HOH:O	2.22	0.40
1:O:2776:A:H2'	1:O:2777:G:O4'	2.21	0.40
6:9:28:U:H5''	20:N:40:ASN:HD22	1.81	0.40
6:9:78:G:O2'	6:9:79:U:OP2	2.40	0.40
7:A:114:ASP:HB2	7:A:117:LYS:HE2	2.02	0.40
8:B:51:VAL:HG21	8:B:327:VAL:HG13	2.02	0.40
8:B:214:PRO:C	8:B:220:VAL:HG22	2.42	0.40
9:C:78:ARG:HD3	38:C:472:HOH:O	2.22	0.40
9:C:160:LEU:O	9:C:161:ASP:HB2	2.22	0.40
9:C:170:ASP:O	9:C:171:GLU:HG3	2.22	0.40
11:E:93:MET:HE2	11:E:93:MET:HB2	1.90	0.40
17:K:75:ARG:HG2	17:K:90:PHE:CD2	2.56	0.40
19:M:24:GLN:HE22	19:M:27:ARG:HH11	1.67	0.40
23:Q:34:ASP:O	23:Q:37:GLU:HG3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:S:17:ASP:HB3	25:S:23:LYS:HB2	2.03	0.40
30:X:43:VAL:CG2	30:X:76:ARG:NH1	2.83	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	
2	1	54/57 (95%)	49 (91%)	5 (9%)	0	100	100
3	2	42/50 (84%)	41 (98%)	1 (2%)	0	100	100
4	3	90/92 (98%)	82 (91%)	7 (8%)	1 (1%)	14	42
5	4	2/8 (25%)	2 (100%)	0	0	100	100
7	A	235/240 (98%)	203 (86%)	28 (12%)	4 (2%)	9	31
8	B	335/338 (99%)	294 (88%)	36 (11%)	5 (2%)	10	34
9	C	244/246 (99%)	218 (89%)	21 (9%)	5 (2%)	7	27
10	D	134/177 (76%)	92 (69%)	39 (29%)	3 (2%)	6	24
11	E	170/178 (96%)	158 (93%)	11 (6%)	1 (1%)	25	58
12	F	117/120 (98%)	100 (86%)	12 (10%)	5 (4%)	2	10
13	G	25/348 (7%)	23 (92%)	1 (4%)	1 (4%)	3	11
14	H	156/177 (88%)	139 (89%)	14 (9%)	3 (2%)	8	28
15	I	68/162 (42%)	50 (74%)	16 (24%)	2 (3%)	4	18
16	J	140/145 (97%)	127 (91%)	10 (7%)	3 (2%)	7	26
17	K	130/132 (98%)	120 (92%)	10 (8%)	0	100	100
18	L	141/165 (86%)	113 (80%)	24 (17%)	4 (3%)	5	19
19	M	192/195 (98%)	175 (91%)	17 (9%)	0	100	100
20	N	184/187 (98%)	154 (84%)	21 (11%)	9 (5%)	2	8

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	O	113/116 (97%)	100 (88%)	12 (11%)	1 (1%)	17	48
22	P	141/149 (95%)	127 (90%)	14 (10%)	0	100	100
23	Q	93/96 (97%)	83 (89%)	9 (10%)	1 (1%)	14	42
24	R	148/155 (96%)	133 (90%)	14 (10%)	1 (1%)	22	54
25	S	79/85 (93%)	68 (86%)	11 (14%)	0	100	100
26	T	117/120 (98%)	104 (89%)	10 (8%)	3 (3%)	5	20
27	U	51/66 (77%)	46 (90%)	5 (10%)	0	100	100
28	V	63/71 (89%)	53 (84%)	6 (10%)	4 (6%)	1	4
29	W	152/154 (99%)	138 (91%)	13 (9%)	1 (1%)	22	54
30	X	80/92 (87%)	66 (82%)	9 (11%)	5 (6%)	1	4
31	Y	140/241 (58%)	133 (95%)	7 (5%)	0	100	100
32	Z	71/83 (86%)	54 (76%)	14 (20%)	3 (4%)	3	10
All	All	3707/4445 (83%)	3245 (88%)	397 (11%)	65 (2%)	8	29

All (65) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	A	34	ASP
7	A	37	VAL
8	B	184	ASP
9	C	8	LEU
10	D	173	GLU
12	F	101	ALA
20	N	133	ASP
20	N	154	LEU
20	N	164	ASP
20	N	184	ILE
32	Z	20	ARG
32	Z	81	ARG
8	B	139	ASP
12	F	44	SER
13	G	72	ASP
14	H	143	VAL
16	J	143	LYS
18	L	21	ARG
18	L	80	ASP
20	N	65	ASP
26	T	44	ALA

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Mol	Chain	Res	Type
28	V	43	PRO
30	X	70	ILE
8	B	245	SER
9	C	58	ALA
12	F	71	GLY
16	J	7	ASP
20	N	183	ASP
23	Q	21	ARG
26	T	53	GLY
26	T	83	ASP
28	V	41	GLU
29	W	77	ALA
30	X	23	HIS
30	X	77	PHE
30	X	87	ALA
4	3	57	GLY
7	A	119	ALA
9	C	232	LEU
10	D	77	ASP
14	H	19	ARG
14	H	39	LYS
15	I	71	ALA
16	J	5	GLU
18	L	35	ARG
18	L	105	TYR
20	N	74	PRO
32	Z	21	VAL
9	C	15	GLU
11	E	17	HIS
12	F	104	ALA
15	I	76	ASP
20	N	139	TRP
21	O	90	ASP
28	V	40	PRO
30	X	78	GLU
28	V	2	VAL
8	B	34	GLY
24	R	106	GLY
8	B	2	GLN
10	D	69	ILE
7	A	192	VAL
9	C	19	PRO

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Mol	Chain	Res	Type
20	N	130	PRO
12	F	64	PRO

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	
2	1	46/47 (98%)	46 (100%)	0	100	100
3	2	42/46 (91%)	41 (98%)	1 (2%)	49	79
4	3	79/79 (100%)	79 (100%)	0	100	100
5	4	2/2 (100%)	2 (100%)	0	100	100
7	A	179/182 (98%)	168 (94%)	11 (6%)	18	48
8	B	282/283 (100%)	264 (94%)	18 (6%)	17	45
9	C	193/193 (100%)	181 (94%)	12 (6%)	18	47
10	D	117/148 (79%)	109 (93%)	8 (7%)	16	42
11	E	152/156 (97%)	146 (96%)	6 (4%)	32	66
12	F	93/94 (99%)	90 (97%)	3 (3%)	39	73
13	G	27/283 (10%)	27 (100%)	0	100	100
14	H	134/145 (92%)	128 (96%)	6 (4%)	27	61
15	I	58/130 (45%)	58 (100%)	0	100	100
16	J	118/121 (98%)	110 (93%)	8 (7%)	16	42
17	K	106/106 (100%)	105 (99%)	1 (1%)	78	93
18	L	113/127 (89%)	107 (95%)	6 (5%)	22	54
19	M	158/159 (99%)	151 (96%)	7 (4%)	28	61
20	N	149/150 (99%)	144 (97%)	5 (3%)	37	71
21	O	93/94 (99%)	90 (97%)	3 (3%)	39	73
22	P	113/117 (97%)	109 (96%)	4 (4%)	36	70
23	Q	79/80 (99%)	74 (94%)	5 (6%)	18	46
24	R	117/122 (96%)	113 (97%)	4 (3%)	37	71

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	S	71/74 (96%)	68 (96%)	3 (4%)	30	63
26	T	105/106 (99%)	98 (93%)	7 (7%)	16	43
27	U	44/52 (85%)	44 (100%)	0	100	100
28	V	51/57 (90%)	50 (98%)	1 (2%)	55	82
29	W	130/130 (100%)	122 (94%)	8 (6%)	18	47
30	X	66/74 (89%)	58 (88%)	8 (12%)	5	15
31	Y	120/196 (61%)	114 (95%)	6 (5%)	24	57
32	Z	60/68 (88%)	56 (93%)	4 (7%)	16	43
All	All	3097/3621 (86%)	2952 (95%)	145 (5%)	26	59

All (145) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	2	18	ASN
7	A	3	ARG
7	A	33	GLU
7	A	36	ASP
7	A	38	ILE
7	A	66	ARG
7	A	69	LEU
7	A	78	ASP
7	A	94	LEU
7	A	131	HIS
7	A	179	MET
7	A	217	ARG
8	B	7	ARG
8	B	11	LEU
8	B	27	ASN
8	B	33	ASP
8	B	49	THR
8	B	97	LEU
8	B	98	THR
8	B	162	MET
8	B	174	ARG
8	B	175	LEU
8	B	195	ARG
8	B	234	ARG
8	B	254	GLN
8	B	256	GLN

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Mol	Chain	Res	Type
8	B	264	GLU
8	B	277	GLU
8	B	307	ARG
8	B	312	ARG
9	C	2	GLN
9	C	67	GLN
9	C	76	ARG
9	C	78	ARG
9	C	101	ASP
9	C	115	LEU
9	C	187	ARG
9	C	202	THR
9	C	214	THR
9	C	223	LEU
9	C	236	THR
9	C	240	LEU
10	D	24	HIS
10	D	61	PHE
10	D	100	ASP
10	D	104	PHE
10	D	133	ASN
10	D	136	ARG
10	D	149	ARG
10	D	153	THR
11	E	7	ILE
11	E	16	ASP
11	E	102	VAL
11	E	115	ARG
11	E	156	ASP
11	E	164	ASP
12	F	12	LEU
12	F	46	GLU
12	F	100	ASP
14	H	21	GLU
14	H	33	GLN
14	H	87	LYS
14	H	91	ARG
14	H	157	TYR
14	H	170	ARG
16	J	7	ASP
16	J	47	THR
16	J	52	GLN

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Mol	Chain	Res	Type
16	J	74	ARG
16	J	76	ASP
16	J	79	PHE
16	J	107	ASN
16	J	120	SER
17	K	10	GLN
18	L	30	ARG
18	L	35	ARG
18	L	80	ASP
18	L	99	GLU
18	L	102	ASP
18	L	149	ARG
19	M	46	LEU
19	M	68	ARG
19	M	93	ARG
19	M	99	ARG
19	M	116	ASN
19	M	164	THR
19	M	186	SER
20	N	101	VAL
20	N	127	LEU
20	N	138	ASP
20	N	139	TRP
20	N	152	GLU
21	O	67	SER
21	O	97	SER
21	O	98	LEU
22	P	16	VAL
22	P	52	LYS
22	P	94	TRP
22	P	98	ILE
23	Q	11	ARG
23	Q	16	ASN
23	Q	30	VAL
23	Q	57	ASP
23	Q	95	GLU
24	R	13	THR
24	R	39	THR
24	R	82	GLU
24	R	132	ARG
25	S	12	GLU
25	S	53	ASN

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Mol	Chain	Res	Type
25	S	80	ARG
26	T	5	ASP
26	T	21	LYS
26	T	23	VAL
26	T	26	THR
26	T	39	ASN
26	T	96	VAL
26	T	115	GLU
28	V	65	ASP
29	W	13	MET
29	W	26	ILE
29	W	35	VAL
29	W	108	ARG
29	W	125	HIS
29	W	132	VAL
29	W	146	ILE
29	W	154	ARG
30	X	15	ARG
30	X	27	ASP
30	X	44	ASP
30	X	46	ASP
30	X	49	ARG
30	X	56	GLU
30	X	79	GLU
30	X	82	GLU
31	Y	163	THR
31	Y	174	VAL
31	Y	186	ARG
31	Y	189	ASN
31	Y	203	VAL
31	Y	235	GLU
32	Z	23	ARG
32	Z	41	ASN
32	Z	44	GLU
32	Z	82	SER

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

Mol	Chain	Res	Type
2	1	8	GLN
2	1	16	HIS
2	1	28	HIS

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Mol	Chain	Res	Type
3	2	16	ASN
3	2	18	ASN
3	2	41	HIS
3	2	45	ASN
4	3	15	ASN
4	3	30	GLN
4	3	48	ASN
7	A	47	HIS
7	A	92	ASN
7	A	125	ASN
7	A	199	HIS
8	B	27	ASN
8	B	106	HIS
8	B	145	HIS
8	B	238	ASN
8	B	260	HIS
8	B	320	GLN
8	B	332	ASN
9	C	129	HIS
9	C	163	HIS
10	D	47	GLN
10	D	97	GLN
10	D	103	ASN
10	D	133	ASN
11	E	55	ASN
11	E	90	HIS
11	E	119	HIS
11	E	143	GLN
12	F	80	GLN
13	G	17	GLN
13	G	64	ASN
14	H	34	HIS
14	H	59	GLN
14	H	62	HIS
14	H	73	ASN
14	H	148	HIS
15	I	88	GLN
15	I	108	HIS
16	J	52	GLN
16	J	107	ASN
16	J	126	ASN
17	K	10	GLN

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Mol	Chain	Res	Type
17	K	42	ASN
18	L	18	HIS
18	L	41	HIS
18	L	42	ASN
18	L	58	GLN
18	L	116	HIS
19	M	24	GLN
19	M	58	GLN
19	M	137	ASN
19	M	143	ASN
19	M	170	ASN
19	M	190	ASN
20	N	40	ASN
20	N	93	GLN
20	N	107	ASN
21	O	53	GLN
22	P	50	GLN
22	P	66	GLN
22	P	118	GLN
23	Q	16	ASN
23	Q	40	HIS
23	Q	59	GLN
24	R	61	GLN
24	R	94	ASN
24	R	98	ASN
24	R	113	HIS
24	R	123	GLN
25	S	25	GLN
25	S	53	ASN
26	T	39	ASN
26	T	43	ASN
26	T	73	HIS
27	U	39	ASN
27	U	48	ASN
28	V	60	GLN
29	W	87	HIS
29	W	110	GLN
29	W	119	HIS
29	W	125	HIS
29	W	141	HIS
30	X	23	HIS
30	X	36	HIS

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Mol	Chain	Res	Type
31	Y	129	ASN
31	Y	133	HIS
31	Y	134	HIS
31	Y	149	GLN
31	Y	189	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2745/2922 (93%)	245 (8%)	23 (0%)
6	9	121/122 (99%)	16 (13%)	1 (0%)
All	All	2866/3044 (94%)	261 (9%)	24 (0%)

All (261) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	31	C
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	120	A
1	0	130	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	185	G
1	0	186	A
1	0	191	A
1	0	192	A
1	0	200	C
1	0	219	G
1	0	237	G
1	0	271	C
1	0	272	A
1	0	273	G
1	0	283	U

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Mol	Chain	Res	Type
1	0	284	C
1	0	285	A
1	0	308	U
1	0	309	C
1	0	319	A
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	461	C
1	0	487	G
1	0	497	A
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	U
1	0	588	G
1	0	604	G
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	759	C
1	0	777	U
1	0	809	G
1	0	821	U
1	0	835	U
1	0	840	U
1	0	857	A

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Mol	Chain	Res	Type
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	884	C
1	0	885	G
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	1130	U
1	0	1137	G
1	0	1164	U
1	0	1165	G
1	0	1166	A
1	0	1174	A
1	0	1175	G
1	0	1185	U
1	0	1192	A
1	0	1193	A
1	0	1206	U
1	0	1208	C

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Mol	Chain	Res	Type
1	0	1216	G
1	0	1234	U
1	0	1238	C
1	0	1239	G
1	0	1242	A
1	0	1279	U
1	0	1289	C
1	0	1331	G
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	1488	U
1	0	1505	U
1	0	1506	U
1	0	1524	U
1	0	1525	G
1	0	1526	A
1	0	1559	A
1	0	1562	C
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
1	0	1725	C
1	0	1730	G

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Mol	Chain	Res	Type
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	1873	G
1	0	1879	U
1	0	1919	A
1	0	1942	A
1	0	1968	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	2008	U
1	0	2011	A
1	0	2012	U
1	0	2013	G
1	0	2033	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	2243	C
1	0	2258	A
1	0	2271	G
1	0	2272	G
1	0	2291	A
1	0	2317	C

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Mol	Chain	Res	Type
1	0	2320	U
1	0	2321	A
1	0	2354	A
1	0	2361	A
1	0	2369	A
1	0	2422	U
1	0	2462	G
1	0	2465	A
1	0	2469	A
1	0	2476	C
1	0	2480	G
1	0	2483	A
1	0	2507	G
1	0	2511	A
1	0	2533	C
1	0	2537	G
1	0	2541	U
1	0	2553	A
1	0	2564	G
1	0	2589	U
1	0	2601	A
1	0	2602	G
1	0	2608	C
1	0	2613	G
1	0	2638	G
1	0	2645	U
1	0	2648	U
1	0	2649	A
1	0	2664	A
1	0	2676	C
1	0	2681	A
1	0	2682	C
1	0	2719	A
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

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Mol	Chain	Res	Type
1	0	2800	A
1	0	2811	A
1	0	2825	C
1	0	2840	A
1	0	2850	C
1	0	2876	G
1	0	2890	A
1	0	2896	A
1	0	2903	C
1	0	2914	A
6	9	2	U
6	9	7	G
6	9	14	G
6	9	22	G
6	9	23	U
6	9	24	U
6	9	25	G
6	9	40	C
6	9	41	C
6	9	43	G
6	9	52	A
6	9	57	A
6	9	66	G
6	9	77	A
6	9	114	G
6	9	122	C

All (24) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	129	A
1	0	318	U
1	0	603	A
1	0	699	C
1	0	834	G
1	0	857	A
1	0	871	G
1	0	877	G
1	0	1232	A
1	0	1237	U
1	0	1352	A
1	0	1377	C

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Mol	Chain	Res	Type
1	0	1450	C
1	0	1474	C
1	0	1856	C
1	0	2011	A
1	0	2313	C
1	0	2467	A
1	0	2526	C
1	0	2536	C
1	0	2644	C
1	0	2718	C
1	0	2791	U
6	9	65	A

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

10 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	004	4	7	5	9,10,11	2.92	3 (33%)	9,12,14	2.09	3 (33%)
5	MHV	4	6	5	7,9,10	2.05	2 (28%)	7,11,13	1.72	2 (28%)
1	UR3	0	2619	1	19,22,23	0.45	0	26,32,35	0.63	1 (3%)
5	MHW	4	1	33,5	9,9,10	2.56	4 (44%)	10,11,13	1.22	1 (10%)
5	DBB	4	3	5	4,5,6	1.05	0	1,5,7	0.24	0
1	OMU	0	2587	1,35	19,22,23	0.22	0	26,31,34	0.42	0
1	1MA	0	628	1,35	16,25,26	1.40	3 (18%)	18,37,40	1.13	2 (11%)
5	MHU	4	5	5	14,15,16	2.86	8 (57%)	18,19,21	1.65	5 (27%)
1	PSU	0	2621	1	18,21,22	1.45	2 (11%)	22,30,33	1.26	3 (13%)
1	OMG	0	2588	1	18,26,27	1.03	2 (11%)	19,38,41	0.69	1 (5%)

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
5	004	4	7	5	-	2/4/6/8	0/1/1/1
5	MHV	4	6	5	-	0/1/12/14	0/1/1/1
1	UR3	0	2619	1	-	0/7/25/26	0/2/2/2
5	MHW	4	1	33,5	-	0/2/2/4	0/1/1/1
5	DBB	4	3	5	-	0/3/4/6	-
1	OMU	0	2587	1,35	-	0/9/27/28	0/2/2/2
1	1MA	0	628	1,35	-	0/3/25/26	0/3/3/3
5	MHU	4	5	5	-	0/9/12/14	0/1/1/1
1	PSU	0	2621	1	-	0/7/25/26	0/2/2/2
1	OMG	0	2588	1	-	0/5/27/28	0/3/3/3

All (24) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	4	7	004	CB-CA	7.09	1.60	1.52
1	0	2621	PSU	C2-N1	4.62	1.43	1.36
5	4	1	MHW	CA-N	4.54	1.42	1.35
5	4	5	MHU	CA-N	4.52	1.55	1.47
5	4	6	MHV	CB-CG	4.38	1.57	1.50
5	4	5	MHU	CE2-CZ	4.18	1.47	1.39
5	4	5	MHU	CD2-CE2	3.96	1.46	1.38
1	0	628	1MA	C2-N3	3.79	1.33	1.29
5	4	5	MHU	CB-CA	3.61	1.62	1.54
5	4	7	004	CD2-CG2	3.45	1.46	1.38
5	4	1	MHW	CB-CA	3.42	1.46	1.40
5	4	5	MHU	CE1-CZ	3.33	1.45	1.39
5	4	5	MHU	CD1-CG	3.28	1.45	1.38
5	4	1	MHW	CG2-CB	3.24	1.45	1.39
1	0	2621	PSU	C6-C5	3.05	1.38	1.35
5	4	1	MHW	CA-C	2.99	1.51	1.48
1	0	2588	OMG	C5-C6	-2.72	1.41	1.47
1	0	628	1MA	C6-N6	2.61	1.34	1.27
5	4	5	MHU	CE1-CD1	2.50	1.43	1.38
5	4	7	004	CG1-CB	2.42	1.42	1.39
1	0	2588	OMG	C8-N7	-2.39	1.31	1.35
5	4	6	MHV	CD2-CG	2.26	1.55	1.50
1	0	628	1MA	C8-N7	-2.16	1.31	1.35
5	4	5	MHU	CZ-NZ	2.03	1.42	1.37

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	4	7	004	CG2-CB-CA	3.82	126.81	120.65
5	4	5	MHU	CB-CA-N	3.45	116.00	110.65
5	4	7	004	CB-CA-N	-3.42	104.21	112.40
1	0	2621	PSU	C6-C5-C4	3.21	120.44	118.20
5	4	5	MHU	O-C-CA	-3.19	116.43	124.78
1	0	2621	PSU	C6-N1-C2	-2.90	119.71	122.68
1	0	628	1MA	N1-C2-N3	2.87	129.37	126.02
5	4	6	MHV	CB-CA-N	-2.83	106.64	112.50
1	0	2621	PSU	O2-C2-N1	2.60	125.65	122.79
1	0	628	1MA	C5-C6-N1	2.51	117.64	113.90
5	4	5	MHU	CG-CB-CA	2.48	117.18	113.63
5	4	5	MHU	CB-CA-C	-2.45	107.00	111.65
5	4	6	MHV	CD2-CE-N	-2.37	104.86	110.03
1	0	2619	UR3	C4-N3-C2	2.35	126.78	124.56
1	0	2588	OMG	O6-C6-C5	2.09	128.45	124.37
5	4	5	MHU	CM-N-CA	2.04	120.00	113.64
5	4	7	004	CG1-CB-CA	-2.04	117.36	120.65
5	4	1	MHW	CE-N-CA	2.02	120.17	116.69

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	4	7	004	C-CA-CB-CG1
5	4	7	004	C-CA-CB-CG2

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	0	2587	OMU	1	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 232 ligands modelled in this entry, 232 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 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	2749/2922 (94%)	-0.23	37 (1%) 77 77	18, 42, 85, 147	0
2	1	56/57 (98%)	-0.56	0 100 100	23, 28, 34, 41	0
3	2	46/50 (92%)	0.10	2 (4%) 35 31	24, 56, 82, 96	0
4	3	92/92 (100%)	0.02	1 (1%) 80 80	30, 48, 61, 79	0
5	4	2/8 (25%)	-0.11	0 100 100	49, 49, 49, 54	0
6	9	122/122 (100%)	-0.14	3 (2%) 57 55	36, 57, 84, 148	0
7	A	237/240 (98%)	-0.11	4 (1%) 70 69	21, 44, 80, 100	0
8	B	337/338 (99%)	-0.13	0 100 100	23, 50, 76, 86	0
9	C	246/246 (100%)	-0.32	0 100 100	19, 39, 62, 72	0
10	D	140/177 (79%)	1.73	56 (40%) 0 0	47, 94, 117, 125	0
11	E	172/178 (96%)	0.47	6 (3%) 44 38	41, 61, 83, 88	0
12	F	119/120 (99%)	0.35	3 (2%) 57 55	41, 63, 88, 104	0
13	G	29/348 (8%)	2.33	16 (55%) 0 0	71, 87, 95, 96	0
14	H	160/177 (90%)	0.10	2 (1%) 77 77	36, 52, 88, 105	0
15	I	70/162 (43%)	4.05	65 (92%) 0 0	108, 118, 136, 138	0
16	J	142/145 (97%)	-0.08	2 (1%) 75 75	34, 46, 66, 86	0
17	K	132/132 (100%)	-0.22	2 (1%) 73 73	26, 46, 65, 75	0
18	L	145/165 (87%)	0.38	8 (5%) 25 21	22, 60, 100, 114	0
19	M	194/195 (99%)	-0.48	0 100 100	25, 36, 52, 59	0
20	N	186/187 (99%)	0.05	5 (2%) 54 50	34, 58, 100, 110	0
21	O	115/116 (99%)	-0.13	0 100 100	33, 47, 66, 71	0
22	P	143/149 (95%)	-0.03	0 100 100	33, 49, 61, 73	0
23	Q	95/96 (98%)	-0.15	0 100 100	28, 39, 54, 66	0
24	R	150/155 (96%)	-0.20	0 100 100	28, 40, 58, 67	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	S	81/85 (95%)	0.01	1 (1%) 79 79	37, 52, 71, 79	0
26	T	119/120 (99%)	0.21	3 (2%) 57 55	35, 51, 80, 94	0
27	U	53/66 (80%)	0.08	1 (1%) 66 65	39, 51, 67, 78	0
28	V	65/71 (91%)	0.69	7 (10%) 5 4	46, 66, 105, 112	0
29	W	154/154 (100%)	-0.17	0 100 100	27, 42, 59, 71	0
30	X	82/92 (89%)	0.36	7 (8%) 10 8	38, 55, 76, 96	0
31	Y	142/241 (58%)	-0.10	4 (2%) 53 49	24, 40, 62, 81	0
32	Z	73/83 (87%)	-0.19	0 100 100	39, 53, 69, 87	0
All	All	6648/7489 (88%)	-0.03	235 (3%) 44 38	18, 46, 91, 148	0

All (235) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
15	I	88	GLN	8.5
15	I	132	VAL	8.5
15	I	128	THR	7.7
15	I	70	THR	7.4
15	I	66	GLY	7.1
10	D	63	ILE	7.0
15	I	104	ALA	6.7
15	I	119	ALA	6.2
28	V	1	THR	6.1
15	I	68	PRO	6.0
15	I	112	LEU	5.9
15	I	118	ASN	5.9
15	I	113	SER	5.9
15	I	106	GLN	5.5
15	I	91	PHE	5.4
15	I	108	HIS	5.4
15	I	74	ILE	5.3
15	I	111	LEU	5.3
15	I	117	THR	5.2
10	D	27	ILE	5.1
10	D	93	LEU	5.1
1	0	1198	U	5.1
15	I	80	PHE	5.0
15	I	79	GLY	5.0
15	I	99	GLN	5.0
1	0	1203	G	5.0

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Mol	Chain	Res	Type	RSRZ
15	I	69	PRO	5.0
1	0	1172	G	4.9
10	D	172	VAL	4.8
10	D	64	ARG	4.8
15	I	110	ASP	4.8
10	D	29	HIS	4.7
10	D	61	PHE	4.6
15	I	127	CYS	4.6
10	D	57	THR	4.6
28	V	39	ALA	4.5
18	L	80	ASP	4.5
15	I	133	THR	4.5
6	9	1	U	4.5
15	I	72	GLU	4.4
15	I	73	LEU	4.4
15	I	97	VAL	4.4
15	I	76	ASP	4.3
10	D	171	ASP	4.3
10	D	18	ILE	4.3
15	I	102	GLN	4.2
30	X	88	GLU	4.2
13	G	23	ILE	4.2
15	I	131	GLY	4.2
7	A	37	VAL	4.1
10	D	88	LEU	4.1
10	D	66	GLY	4.1
15	I	100	VAL	4.1
10	D	26	GLY	4.0
10	D	90	LEU	4.0
15	I	121	LYS	4.0
1	0	1196	C	3.9
15	I	109	PRO	3.9
13	G	26	MET	3.9
10	D	10	PHE	3.9
15	I	67	VAL	3.8
1	0	1202	A	3.8
1	0	1197	G	3.7
10	D	87	ALA	3.7
15	I	135	GLU	3.7
13	G	24	VAL	3.7
13	G	68	GLU	3.7
15	I	71	ALA	3.6

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Mol	Chain	Res	Type	RSRZ
10	D	85	GLN	3.6
10	D	44	ILE	3.6
13	G	27	ILE	3.6
10	D	69	ILE	3.6
1	0	1204	C	3.6
10	D	170	TYR	3.6
15	I	75	LYS	3.5
15	I	103	ILE	3.5
15	I	134	ILE	3.5
15	I	120	ALA	3.5
15	I	107	LYS	3.4
10	D	92	GLU	3.4
13	G	71	LEU	3.4
15	I	98	ASP	3.4
1	0	1199	A	3.4
18	L	106	VAL	3.3
15	I	93	ALA	3.3
1	0	1186	C	3.3
28	V	40	PRO	3.3
10	D	62	ASP	3.3
15	I	130	LEU	3.3
15	I	92	VAL	3.3
1	0	1951	G	3.3
15	I	116	LEU	3.3
15	I	105	GLU	3.2
10	D	84	LEU	3.2
15	I	78	ALA	3.2
1	0	1177	A	3.2
1	0	1169	U	3.2
15	I	95	LEU	3.1
15	I	114	TYR	3.1
27	U	47	ARG	3.1
13	G	73	ASP	3.1
3	2	35	ARG	3.1
10	D	83	PHE	3.1
15	I	96	SER	3.1
1	0	1171	A	3.1
10	D	75	LEU	3.1
10	D	45	THR	3.0
1	0	1170	U	3.0
10	D	134	LEU	3.0
31	Y	95	THR	3.0

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Mol	Chain	Res	Type	RSRZ
10	D	17	ARG	3.0
10	D	89	PRO	3.0
6	9	24	U	3.0
1	0	284	C	3.0
15	I	84	SER	3.0
28	V	38	GLY	2.9
15	I	90	ASP	2.9
26	T	119	ALA	2.9
15	I	94	ASP	2.9
10	D	11	HIS	2.9
10	D	128	LEU	2.9
13	G	70	ALA	2.9
1	0	970	U	2.8
15	I	126	THR	2.8
1	0	2237	G	2.8
10	D	67	ASP	2.8
10	D	25	MET	2.8
30	X	41	PHE	2.8
10	D	58	VAL	2.8
10	D	40	ILE	2.7
7	A	38	ILE	2.7
18	L	105	TYR	2.7
10	D	106	PHE	2.7
15	I	82	THR	2.7
14	H	40	GLN	2.7
31	Y	235	GLU	2.7
10	D	56	ARG	2.7
20	N	183	ASP	2.6
10	D	55	LYS	2.6
7	A	237	GLY	2.6
15	I	124	VAL	2.6
14	H	86	TYR	2.6
1	0	735	C	2.6
30	X	85	VAL	2.6
15	I	86	GLU	2.6
20	N	166	ALA	2.6
13	G	72	ASP	2.5
10	D	35	ALA	2.5
16	J	92	GLN	2.5
11	E	45	ASP	2.5
30	X	80	GLU	2.5
1	0	1195	G	2.5

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Mol	Chain	Res	Type	RSRZ
10	D	104	PHE	2.5
15	I	89	GLU	2.5
10	D	166	ILE	2.5
13	G	15	TRP	2.5
13	G	67	LEU	2.5
25	S	81	ILE	2.5
18	L	79	ASP	2.5
10	D	68	PRO	2.5
1	0	282	C	2.4
20	N	158	LEU	2.4
1	0	2508	C	2.4
13	G	66	LEU	2.4
15	I	77	GLU	2.4
28	V	41	GLU	2.4
1	0	1180	U	2.4
26	T	112	LEU	2.4
10	D	86	THR	2.4
15	I	122	GLU	2.4
30	X	74	ALA	2.4
1	0	1181	A	2.4
12	F	6	PHE	2.3
18	L	150	GLN	2.3
6	9	2	U	2.3
31	Y	108	ASP	2.3
10	D	65	GLU	2.3
10	D	41	LEU	2.3
26	T	118	SER	2.3
10	D	165	PHE	2.3
1	0	1168	C	2.3
1	0	1173	A	2.3
1	0	1200	A	2.3
12	F	44	SER	2.3
1	0	1175	G	2.3
1	0	1185	U	2.3
28	V	43	PRO	2.3
28	V	3	LEU	2.3
1	0	1525	G	2.3
10	D	47	GLN	2.3
15	I	83	GLY	2.2
15	I	87	PRO	2.2
13	G	22	ALA	2.2
30	X	7	GLU	2.2

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Mol	Chain	Res	Type	RSRZ
11	E	170	ARG	2.2
1	0	960	G	2.2
3	2	39	ARG	2.2
1	0	1205	U	2.2
7	A	36	ASP	2.2
16	J	96	GLU	2.2
1	0	2238	A	2.2
18	L	89	PHE	2.2
11	E	100	ASP	2.2
10	D	94	ALA	2.2
18	L	100	ALA	2.2
13	G	29	SER	2.2
1	0	1174	A	2.2
10	D	130	VAL	2.2
20	N	185	GLU	2.2
1	0	969	G	2.1
10	D	39	ASP	2.1
18	L	75	LEU	2.1
10	D	28	GLY	2.1
30	X	77	PHE	2.1
10	D	157	LEU	2.1
10	D	173	GLU	2.1
10	D	16	PRO	2.1
15	I	123	VAL	2.1
17	K	132	VAL	2.1
11	E	154	ILE	2.1
1	0	1190	G	2.1
10	D	24	HIS	2.1
12	F	45	ALA	2.1
11	E	98	GLU	2.1
15	I	81	GLU	2.1
1	0	1130	U	2.1
20	N	159	TYR	2.0
17	K	108	GLU	2.0
1	0	1178	G	2.0
4	3	92	GLU	2.0
11	E	42	VAL	2.0
31	Y	98	GLN	2.0
13	G	28	GLU	2.0
10	D	91	ALA	2.0
13	G	20	VAL	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [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
5	DBB	4	3	6/7	0.94	0.18	51,51,52,53	0
5	MHV	4	6	9/10	0.94	0.18	53,55,59,59	0
5	MHU	4	5	15/16	0.95	0.17	56,59,62,63	0
5	004	4	7	10/11	0.95	0.20	45,48,49,51	0
5	MHW	4	1	9/10	0.96	0.20	46,47,49,50	0
1	1MA	0	628	23/24	0.98	0.15	25,28,31,32	0
1	OMU	0	2587	21/22	0.98	0.15	29,32,37,38	0
1	OMG	0	2588	24/25	0.98	0.14	28,31,34,35	0
1	UR3	0	2619	21/22	0.98	0.13	30,35,39,42	0
1	PSU	0	2621	20/21	0.98	0.14	33,35,37,38	0

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	0	3183	1/1	0.09	0.92	81,81,81,81	0
35	NA	0	3174	1/1	0.53	0.47	75,75,75,75	0
35	NA	R	202	1/1	0.60	0.59	75,75,75,75	0
35	NA	0	3134	1/1	0.61	0.61	72,72,72,72	0
35	NA	0	3175	1/1	0.71	0.45	54,54,54,54	0
35	NA	9	203	1/1	0.73	0.70	85,85,85,85	0
35	NA	0	3140	1/1	0.74	0.35	47,47,47,47	0
35	NA	0	3137	1/1	0.76	0.30	81,81,81,81	0
33	MG	0	3105	1/1	0.77	0.26	47,47,47,47	0
35	NA	0	3120	1/1	0.80	0.52	36,36,36,36	0
35	NA	0	3121	1/1	0.80	0.30	50,50,50,50	0
35	NA	0	3141	1/1	0.81	0.12	37,37,37,37	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	C	301	1/1	0.82	0.25	32,32,32,32	0
35	NA	0	3117	1/1	0.83	0.43	56,56,56,56	0
35	NA	0	3170	1/1	0.83	0.35	72,72,72,72	0
35	NA	9	202	1/1	0.84	0.13	31,31,31,31	0
35	NA	0	3147	1/1	0.84	0.25	44,44,44,44	0
33	MG	0	3063	1/1	0.85	0.39	37,37,37,37	0
35	NA	0	3165	1/1	0.85	0.33	60,60,60,60	0
35	NA	0	3156	1/1	0.86	0.28	55,55,55,55	0
33	MG	0	3082	1/1	0.86	0.18	46,46,46,46	0
33	MG	0	3071	1/1	0.87	0.08	55,55,55,55	0
35	NA	0	3184	1/1	0.87	0.15	45,45,45,45	0
33	MG	0	3097	1/1	0.87	0.44	79,79,79,79	0
36	CL	0	3192	1/1	0.87	0.43	88,88,88,88	0
35	NA	0	3173	1/1	0.88	0.23	53,53,53,53	0
35	NA	0	3122	1/1	0.88	0.17	47,47,47,47	0
35	NA	0	3164	1/1	0.88	0.34	75,75,75,75	0
33	MG	0	3050	1/1	0.88	0.19	72,72,72,72	0
35	NA	0	3118	1/1	0.88	0.15	39,39,39,39	0
36	CL	0	3194	1/1	0.88	0.18	58,58,58,58	0
33	MG	0	3108	1/1	0.89	0.11	46,46,46,46	0
35	NA	0	3161	1/1	0.89	0.48	54,54,54,54	0
33	MG	0	3093	1/1	0.89	0.16	45,45,45,45	0
35	NA	0	3138	1/1	0.89	0.31	41,41,41,41	0
33	MG	0	3092	1/1	0.90	0.16	42,42,42,42	0
33	MG	0	3047	1/1	0.90	0.20	62,62,62,62	0
35	NA	H	201	1/1	0.90	0.15	38,38,38,38	0
35	NA	0	3166	1/1	0.90	0.14	35,35,35,35	0
35	NA	0	3160	1/1	0.90	0.47	48,48,48,48	0
33	MG	0	3049	1/1	0.90	0.25	58,58,58,58	0
35	NA	0	3159	1/1	0.91	0.07	49,49,49,49	0
35	NA	0	3171	1/1	0.91	0.36	65,65,65,65	0
35	NA	0	3132	1/1	0.91	0.21	39,39,39,39	0
33	MG	T	201	1/1	0.91	0.11	45,45,45,45	0
33	MG	0	3034	1/1	0.91	0.09	29,29,29,29	0
35	NA	0	3154	1/1	0.91	0.36	40,40,40,40	0
33	MG	0	3051	1/1	0.91	0.12	58,58,58,58	0
36	CL	A	303	1/1	0.91	0.19	58,58,58,58	0
35	NA	0	3167	1/1	0.92	0.51	43,43,43,43	0
35	NA	0	3185	1/1	0.92	0.32	38,38,38,38	0
33	MG	0	3084	1/1	0.92	0.11	49,49,49,49	0
33	MG	0	3066	1/1	0.92	0.07	34,34,34,34	0
35	NA	0	3125	1/1	0.92	0.25	39,39,39,39	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	MG	0	3061	1/1	0.92	0.06	52,52,52,52	0
35	NA	R	201	1/1	0.92	0.10	33,33,33,33	0
33	MG	0	3077	1/1	0.92	0.17	58,58,58,58	0
35	NA	0	3179	1/1	0.92	0.23	64,64,64,64	0
35	NA	0	3181	1/1	0.92	0.31	46,46,46,46	0
33	MG	0	3046	1/1	0.92	0.11	52,52,52,52	0
35	NA	0	3145	1/1	0.93	0.06	55,55,55,55	0
33	MG	0	3101	1/1	0.93	0.08	73,73,73,73	0
35	NA	0	3148	1/1	0.93	0.13	29,29,29,29	0
33	MG	0	3069	1/1	0.93	0.08	56,56,56,56	0
33	MG	0	3087	1/1	0.93	0.29	75,75,75,75	0
35	NA	0	3157	1/1	0.93	0.56	71,71,71,71	0
33	MG	0	3089	1/1	0.93	0.13	47,47,47,47	0
34	K	0	3111	1/1	0.93	0.12	62,62,62,62	0
35	NA	0	3176	1/1	0.93	0.63	60,60,60,60	0
35	NA	0	3114	1/1	0.93	0.20	50,50,50,50	0
35	NA	0	3143	1/1	0.93	0.26	47,47,47,47	0
35	NA	0	3182	1/1	0.93	0.16	40,40,40,40	0
33	MG	0	3086	1/1	0.94	0.05	41,41,41,41	0
33	MG	9	201	1/1	0.94	0.09	53,53,53,53	0
33	MG	K	201	1/1	0.94	0.07	46,46,46,46	0
35	NA	0	3144	1/1	0.94	0.13	44,44,44,44	0
33	MG	0	3060	1/1	0.94	0.08	27,27,27,27	0
35	NA	0	3168	1/1	0.94	0.20	40,40,40,40	0
33	MG	0	3073	1/1	0.94	0.07	28,28,28,28	0
35	NA	0	3130	1/1	0.94	0.42	61,61,61,61	0
33	MG	0	3103	1/1	0.94	0.08	60,60,60,60	0
35	NA	L	201	1/1	0.94	0.71	61,61,61,61	0
35	NA	Q	101	1/1	0.94	0.09	33,33,33,33	0
35	NA	0	3115	1/1	0.94	0.11	29,29,29,29	0
35	NA	0	3135	1/1	0.94	0.31	60,60,60,60	0
35	NA	0	3116	1/1	0.94	0.41	33,33,33,33	0
35	NA	0	3177	1/1	0.94	0.30	58,58,58,58	0
36	CL	0	3195	1/1	0.94	0.27	88,88,88,88	0
33	MG	0	3076	1/1	0.94	0.10	50,50,50,50	0
36	CL	O	202	1/1	0.94	0.18	74,74,74,74	0
33	MG	0	3001	1/1	0.95	0.07	30,30,30,30	0
33	MG	0	3083	1/1	0.95	0.07	25,25,25,25	0
35	NA	0	3139	1/1	0.95	0.17	62,62,62,62	0
35	NA	J	201	1/1	0.95	0.09	61,61,61,61	0
35	NA	0	3123	1/1	0.95	0.12	27,27,27,27	0
33	MG	0	3106	1/1	0.95	0.24	42,42,42,42	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	3126	1/1	0.95	0.10	28,28,28,28	0
35	NA	0	3127	1/1	0.95	0.17	26,26,26,26	0
36	CL	0	3187	1/1	0.95	0.19	57,57,57,57	0
33	MG	0	3094	1/1	0.95	0.10	73,73,73,73	0
33	MG	0	3041	1/1	0.95	0.20	38,38,38,38	0
33	MG	0	3098	1/1	0.95	0.20	48,48,48,48	0
35	NA	0	3150	1/1	0.95	0.09	42,42,42,42	0
36	CL	J	203	1/1	0.95	0.14	63,63,63,63	0
36	CL	L	202	1/1	0.95	0.11	46,46,46,46	0
33	MG	0	3090	1/1	0.95	0.08	41,41,41,41	0
35	NA	A	302	1/1	0.96	0.16	38,38,38,38	0
33	MG	0	3085	1/1	0.96	0.18	41,41,41,41	0
35	NA	0	3112	1/1	0.96	0.14	21,21,21,21	0
33	MG	0	3035	1/1	0.96	0.05	50,50,50,50	0
33	MG	0	3052	1/1	0.96	0.05	35,35,35,35	0
33	MG	0	3088	1/1	0.96	0.21	48,48,48,48	0
33	MG	0	3008	1/1	0.96	0.04	33,33,33,33	0
33	MG	0	3011	1/1	0.96	0.08	21,21,21,21	0
33	MG	0	3015	1/1	0.96	0.06	38,38,38,38	0
36	CL	0	3191	1/1	0.96	0.12	51,51,51,51	0
33	MG	3	101	1/1	0.96	0.04	40,40,40,40	0
35	NA	0	3163	1/1	0.96	0.21	44,44,44,44	0
33	MG	0	3033	1/1	0.96	0.09	31,31,31,31	0
35	NA	0	3142	1/1	0.96	0.07	26,26,26,26	0
36	CL	J	202	1/1	0.96	0.18	55,55,55,55	0
33	MG	0	3002	1/1	0.96	0.04	26,26,26,26	0
36	CL	J	204	1/1	0.96	0.11	57,57,57,57	0
33	MG	0	3096	1/1	0.96	0.16	49,49,49,49	0
34	K	0	3110	1/1	0.96	0.20	86,86,86,86	0
33	MG	0	3059	1/1	0.97	0.14	44,44,44,44	0
33	MG	0	3099	1/1	0.97	0.22	53,53,53,53	0
35	NA	0	3158	1/1	0.97	0.53	43,43,43,43	0
33	MG	0	3010	1/1	0.97	0.07	24,24,24,24	0
35	NA	0	3136	1/1	0.97	0.32	50,50,50,50	0
33	MG	0	3027	1/1	0.97	0.11	40,40,40,40	0
33	MG	0	3045	1/1	0.97	0.08	58,58,58,58	0
33	MG	0	3091	1/1	0.97	0.06	26,26,26,26	0
33	MG	0	3107	1/1	0.97	0.09	49,49,49,49	0
35	NA	0	3119	1/1	0.97	0.09	40,40,40,40	0
35	NA	M	201	1/1	0.97	0.13	30,30,30,30	0
33	MG	0	3065	1/1	0.97	0.10	38,38,38,38	0
33	MG	0	3109	1/1	0.97	0.11	20,20,20,20	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	3169	1/1	0.97	0.14	35,35,35,35	0
33	MG	0	3056	1/1	0.97	0.09	42,42,42,42	0
36	CL	0	3188	1/1	0.97	0.14	57,57,57,57	0
33	MG	0	3067	1/1	0.97	0.11	41,41,41,41	0
35	NA	0	3146	1/1	0.97	0.12	26,26,26,26	0
36	CL	0	3193	1/1	0.97	0.13	56,56,56,56	0
33	MG	B	401	1/1	0.97	0.09	32,32,32,32	0
33	MG	0	3095	1/1	0.97	0.11	49,49,49,49	0
35	NA	0	3149	1/1	0.97	0.12	35,35,35,35	0
33	MG	0	3068	1/1	0.97	0.09	59,59,59,59	0
35	NA	0	3151	1/1	0.97	0.05	30,30,30,30	0
35	NA	0	3180	1/1	0.97	0.38	45,45,45,45	0
35	NA	0	3153	1/1	0.97	0.14	43,43,43,43	0
36	CL	N	201	1/1	0.97	0.13	57,57,57,57	0
33	MG	0	3058	1/1	0.97	0.06	27,27,27,27	0
36	CL	R	203	1/1	0.97	0.15	43,43,43,43	0
33	MG	0	3081	1/1	0.98	0.16	41,41,41,41	0
33	MG	0	3013	1/1	0.98	0.10	37,37,37,37	0
33	MG	0	3053	1/1	0.98	0.13	48,48,48,48	0
33	MG	4	102	1/1	0.98	0.08	46,46,46,46	0
33	MG	0	3054	1/1	0.98	0.09	24,24,24,24	0
33	MG	A	301	1/1	0.98	0.08	44,44,44,44	0
33	MG	0	3055	1/1	0.98	0.13	40,40,40,40	0
33	MG	0	3014	1/1	0.98	0.07	31,31,31,31	0
33	MG	0	3057	1/1	0.98	0.08	32,32,32,32	0
33	MG	Y	301	1/1	0.98	0.12	34,34,34,34	0
33	MG	0	3006	1/1	0.98	0.05	46,46,46,46	0
33	MG	0	3038	1/1	0.98	0.08	28,28,28,28	0
33	MG	0	3039	1/1	0.98	0.10	33,33,33,33	0
35	NA	0	3113	1/1	0.98	0.26	44,44,44,44	0
33	MG	0	3040	1/1	0.98	0.14	70,70,70,70	0
33	MG	0	3062	1/1	0.98	0.07	51,51,51,51	0
33	MG	0	3016	1/1	0.98	0.11	23,23,23,23	0
35	NA	0	3152	1/1	0.98	0.11	34,34,34,34	0
33	MG	0	3064	1/1	0.98	0.18	96,96,96,96	0
33	MG	0	3043	1/1	0.98	0.06	35,35,35,35	0
35	NA	0	3155	1/1	0.98	0.20	39,39,39,39	0
33	MG	0	3044	1/1	0.98	0.06	37,37,37,37	0
33	MG	0	3017	1/1	0.98	0.05	26,26,26,26	0
35	NA	S	101	1/1	0.98	0.13	10,10,10,10	0
36	CL	0	3186	1/1	0.98	0.16	43,43,43,43	0
33	MG	0	3018	1/1	0.98	0.09	34,34,34,34	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	MG	0	3021	1/1	0.98	0.10	32,32,32,32	0
36	CL	0	3189	1/1	0.98	0.07	39,39,39,39	0
33	MG	0	3100	1/1	0.98	0.05	35,35,35,35	0
35	NA	0	3124	1/1	0.98	0.12	48,48,48,48	0
35	NA	0	3162	1/1	0.98	0.40	49,49,49,49	0
33	MG	0	3048	1/1	0.98	0.07	48,48,48,48	0
33	MG	0	3025	1/1	0.98	0.03	42,42,42,42	0
36	CL	3	103	1/1	0.98	0.08	53,53,53,53	0
33	MG	0	3104	1/1	0.98	0.06	40,40,40,40	0
36	CL	B	402	1/1	0.98	0.12	40,40,40,40	0
35	NA	0	3128	1/1	0.98	0.13	22,22,22,22	0
33	MG	0	3075	1/1	0.98	0.07	38,38,38,38	0
35	NA	0	3131	1/1	0.98	0.12	39,39,39,39	0
33	MG	0	3012	1/1	0.98	0.07	25,25,25,25	0
35	NA	0	3133	1/1	0.98	0.16	50,50,50,50	0
33	MG	0	3032	1/1	0.98	0.07	40,40,40,40	0
35	NA	0	3172	1/1	0.98	0.13	58,58,58,58	0
36	CL	Y	302	1/1	0.98	0.11	30,30,30,30	0
37	CD	3	102	1/1	0.98	0.05	55,55,55,55	0
37	CD	O	201	1/1	0.98	0.07	70,70,70,70	0
33	MG	0	3102	1/1	0.99	0.08	23,23,23,23	0
33	MG	0	3079	1/1	0.99	0.03	42,42,42,42	0
33	MG	0	3080	1/1	0.99	0.09	65,65,65,65	0
33	MG	0	3004	1/1	0.99	0.07	27,27,27,27	0
33	MG	0	3042	1/1	0.99	0.10	31,31,31,31	0
33	MG	0	3026	1/1	0.99	0.07	19,19,19,19	0
33	MG	0	3009	1/1	0.99	0.07	22,22,22,22	0
33	MG	0	3028	1/1	0.99	0.09	39,39,39,39	0
36	CL	0	3190	1/1	0.99	0.12	46,46,46,46	0
33	MG	0	3029	1/1	0.99	0.08	33,33,33,33	0
33	MG	0	3030	1/1	0.99	0.08	31,31,31,31	0
35	NA	0	3178	1/1	0.99	0.10	29,29,29,29	0
33	MG	0	3031	1/1	0.99	0.08	28,28,28,28	0
35	NA	0	3129	1/1	0.99	0.10	25,25,25,25	0
33	MG	0	3005	1/1	0.99	0.10	27,27,27,27	0
33	MG	0	3019	1/1	0.99	0.05	23,23,23,23	0
33	MG	0	3020	1/1	0.99	0.08	22,22,22,22	0
33	MG	0	3003	1/1	0.99	0.12	31,31,31,31	0
33	MG	0	3070	1/1	0.99	0.06	25,25,25,25	0
33	MG	0	3036	1/1	0.99	0.05	32,32,32,32	0
33	MG	0	3072	1/1	0.99	0.08	47,47,47,47	0
36	CL	M	202	1/1	0.99	0.08	31,31,31,31	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	MG	0	3037	1/1	0.99	0.07	44,44,44,44	0
33	MG	0	3074	1/1	0.99	0.10	20,20,20,20	0
33	MG	0	3022	1/1	0.99	0.08	36,36,36,36	0
33	MG	0	3023	1/1	0.99	0.06	34,34,34,34	0
37	CD	1	101	1/1	0.99	0.08	56,56,56,56	0
33	MG	0	3024	1/1	0.99	0.06	12,12,12,12	0
33	MG	0	3078	1/1	0.99	0.04	22,22,22,22	0
33	MG	0	3007	1/1	1.00	0.07	12,12,12,12	0
37	CD	U	8701	1/1	1.00	0.08	60,60,60,60	0
37	CD	Z	101	1/1	1.00	0.11	59,59,59,59	0

6.5 Other polymers [i](#)

There are no such residues in this entry.