



Full wwPDB X-ray Structure Validation Report ⓘ

May 17, 2020 – 04:09 am BST

PDB ID : 1N8R
Title : Structure of large ribosomal subunit in complex with virginiamycin M
Authors : Hansen, J.L.; Moore, P.B.; Steitz, T.A.
Deposited on : 2002-11-21
Resolution : 3.00 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

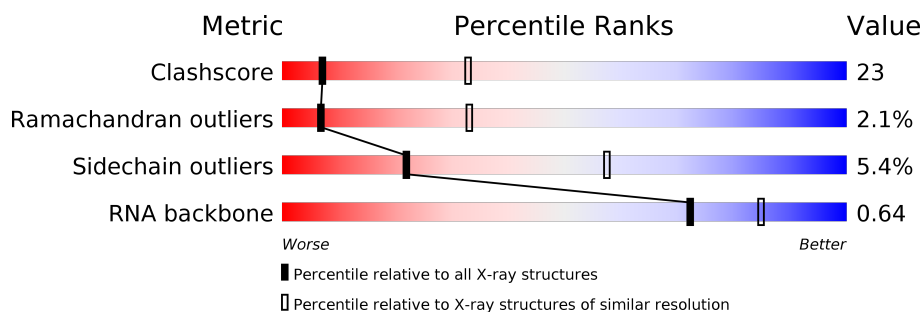
1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RNA backbone	3102	1173 (3.30-2.70)



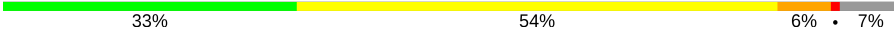















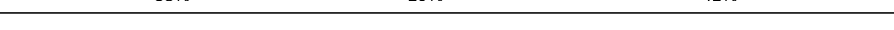

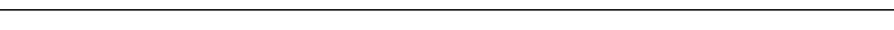
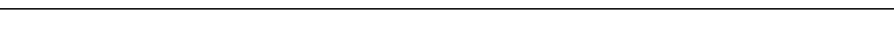

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. 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 $\leq 5\%$.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2922	48% 37% 8% • 6%
2	B	122	43% 43% 10% •
3	C	239	50% 43% 6% •
4	D	337	49% 45% 7%
5	E	246	52% 43% •
6	F	176	26% 45% 7% • 20%
7	G	177	54% 42% • •

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Mol	Chain	Length	Quality of chain
8	H	119	
9	I	348	
10	J	167	
11	K	145	
12	L	132	
13	M	164	
14	N	194	
15	O	186	
16	P	115	
17	Q	148	
18	R	95	
19	S	154	
20	T	84	
21	U	119	
22	V	66	
23	W	70	
24	X	154	
25	Y	91	
26	Z	240	
27	1	73	
28	2	56	
29	3	48	
30	4	92	

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	CL	M	8510	-	-	X	-
35	CL	N	8518	-	-	X	-

2 Entry composition

There are 37 unique types of molecules in this entry. The entry contains 98569 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
1	A	2754	Total	C	N	O	P	0	0	0
			59017	26346	10878	19048	2745			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	237	Total	C	N	O	S	0	0	0
			1754	1072	352	325	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	337	Total	C	N	O	S	0	0	0
			2624	1616	493	510	5			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	?	-	PRO	DELETION	UNP P20279
D	310	ARG	PHE	CONFLICT	UNP P20279

- Molecule 5 is a protein called 50S ribosomal protein L4E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	246	Total	C	N	O	S	0	0	0
			1858	1131	344	382	1			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	119	Total	C	N	O	S	0	0	0
			885	552	141	191	1			

- Molecule 9 is a protein called Acidic ribosomal protein P0 homolog.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	156	Total	C	N	O	S	0	0	0
			1215	766	233	212	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	142	Total	C	N	O	S	0	0	0
			1119	696	199	221	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	132	Total	C	N	O	S	0	0	0
			993	609	189	191	4			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
13	M	145	Total	C	N	O	0	0	0
			1114	668	222	224			

- Molecule 14 is a protein called 50S ribosomal protein L15E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	194	Total	C	N	O	S	0	0	0
			1605	988	346	266	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	186	Total	C	N	O	S	0	0	0
			1444	895	262	285	2			

- Molecule 16 is a protein called 50S ribosomal protein L18E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
16	P	115	Total	C	N	O	0	0	0
			864	529	161	174			

- Molecule 17 is a protein called 50S ribosomal protein L19E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	Q	143	Total	C	N	O	0	0	0
			1133	680	230	223			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	R	95	Total	C	N	O	0	0	0
			734	450	141	143			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	U	119	Total	C	N	O	S	0	0	0
			949	568	180	201				

- Molecule 22 is a protein called 50S ribosomal protein L24E.

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	X	154	Total	C	N	O	S	0	0	0
			1195	737	209	243	6			

- Molecule 25 is a protein called 50S ribosomal protein L31E.

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

- Molecule 26 is a protein called 50S ribosomal protein L32E.

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

- Molecule 27 is a protein called 50S ribosomal protein L37AE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	1	73	Total	C	N	O	S	0	0	0
			563	359	111	86	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	2	56	Total	C	N	O	S	0	0	0
			430	258	86	82	4			

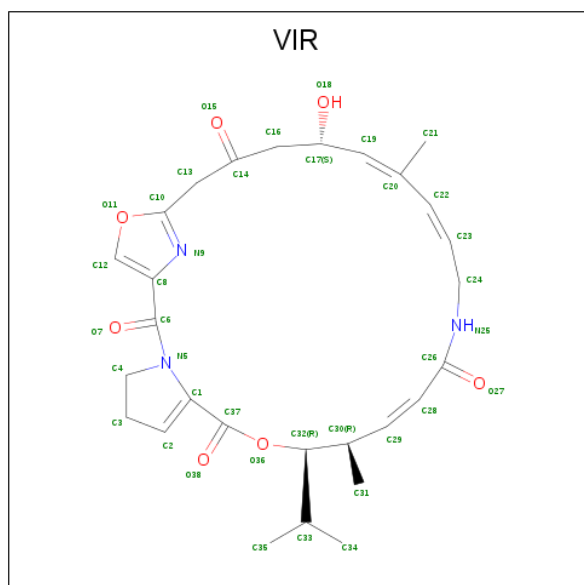
- Molecule 29 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	3	46	Total	C	N	O	S	0	0	0
			393	238	86	68	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	4	92	Total	C	N	O	S	0	0	0
			755	458	153	137	7			

- Molecule 31 is VIRGINIAMYCIN M1 (three-letter code: VIR) (formula: $C_{28}H_{35}N_3O_7$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
31	A	1	Total	C	N	O	0	0
			38	28	3	7		

- Molecule 32 is MAGNESIUM ION (three-letter code: Mg) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
32	D	1	Total Mg 1 1	0	0
32	B	1	Total Mg 1 1	0	0
32	C	2	Total Mg 2 2	0	0
32	Z	1	Total Mg 1 1	0	0
32	A	109	Total Mg 109 109	0	0
32	4	1	Total Mg 1 1	0	0
32	U	1	Total Mg 1 1	0	0
32	L	1	Total Mg 1 1	0	0

- Molecule 33 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
33	A	1	Total K 1 1	0	0

- Molecule 34 is SODIUM ION (three-letter code: Na) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	J	2	Total Na 2 2	0	0
34	K	1	Total Na 1 1	0	0
34	E	1	Total Na 1 1	0	0
34	B	2	Total Na 2 2	0	0
34	C	1	Total Na 1 1	0	0
34	A	71	Total Na 71 71	0	0
34	T	1	Total Na 1 1	0	0
34	N	1	Total Na 1 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	U	1	Total 1	Na 1	0	0
34	4	1	Total 1	Na 1	0	0
34	R	1	Total 1	Na 1	0	0
34	S	2	Total 2	Na 2	0	0
34	M	1	Total 1	Na 1	0	0

- Molecule 35 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	P	1	Total 1	Cl 1	0	0
35	D	1	Total 1	Cl 1	0	0
35	K	3	Total 3	Cl 3	0	0
35	C	1	Total 1	Cl 1	0	0
35	Z	2	Total 2	Cl 2	0	0
35	A	8	Total 8	Cl 8	0	0
35	4	1	Total 1	Cl 1	0	0
35	N	1	Total 1	Cl 1	0	0
35	O	1	Total 1	Cl 1	0	0
35	L	1	Total 1	Cl 1	0	0
35	S	1	Total 1	Cl 1	0	0
35	M	1	Total 1	Cl 1	0	0

- Molecule 36 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	P	1	Total Cd 1 1	0	0
36	2	1	Total Cd 1 1	0	0
36	1	1	Total Cd 1 1	0	0
36	4	1	Total Cd 1 1	0	0
36	V	1	Total Cd 1 1	0	0

- Molecule 37 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
37	A	5881	Total O 5881 5881	0	0
37	B	146	Total O 146 146	0	0
37	C	135	Total O 135 135	0	0
37	D	141	Total O 141 141	0	0
37	E	178	Total O 178 178	0	0
37	F	49	Total O 49 49	0	0
37	G	43	Total O 43 43	0	0
37	H	30	Total O 30 30	0	0
37	I	21	Total O 21 21	0	0
37	J	76	Total O 76 76	0	0
37	K	55	Total O 55 55	0	0
37	L	64	Total O 64 64	0	0
37	M	85	Total O 85 85	0	0
37	N	141	Total O 141 141	0	0
37	O	67	Total O 67 67	0	0

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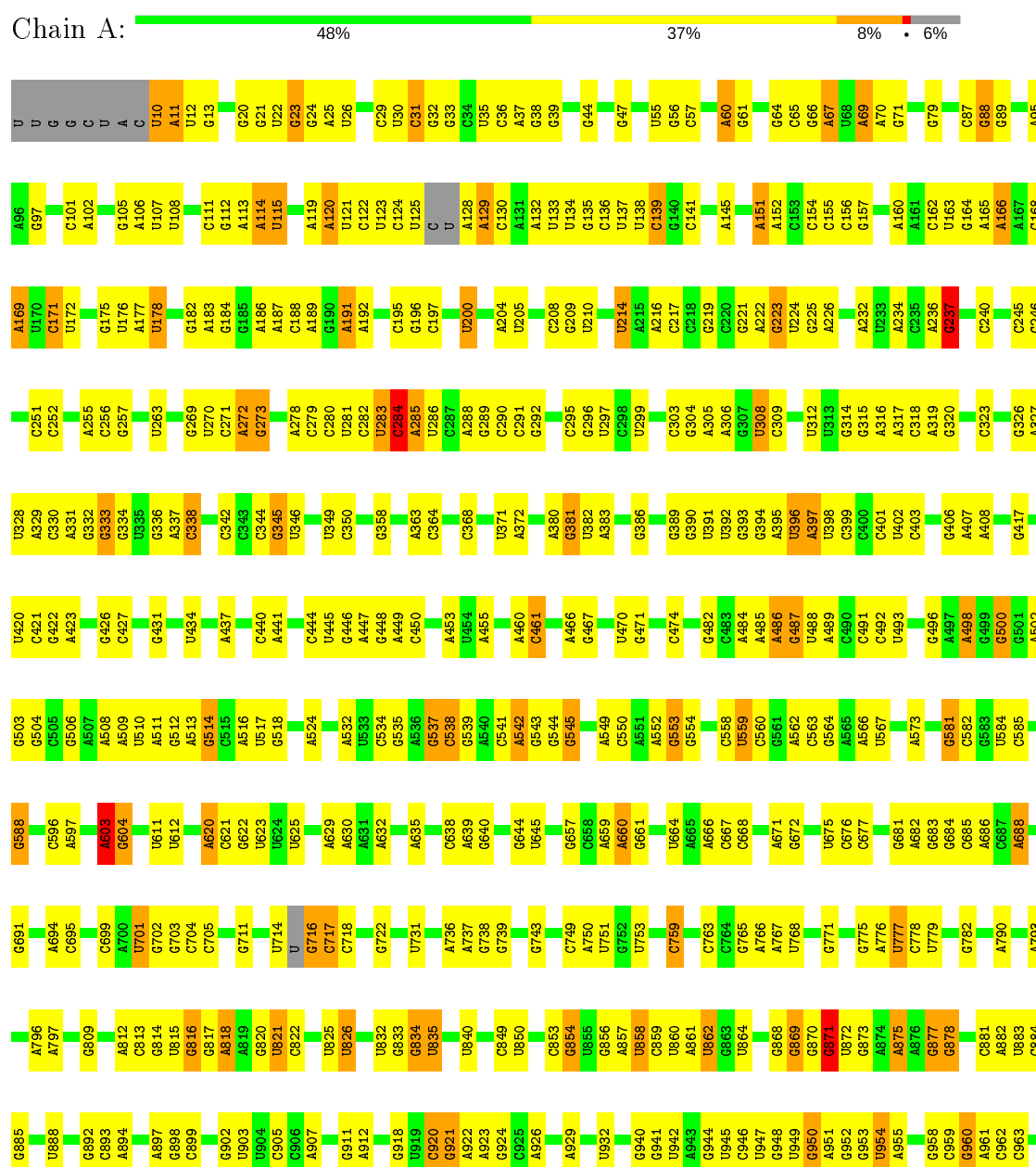
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	P	45	Total 45	O 45	0	0
37	Q	72	Total 72	O 72	0	0
37	R	57	Total 57	O 57	0	0
37	S	87	Total 87	O 87	0	0
37	T	34	Total 34	O 34	0	0
37	U	33	Total 33	O 33	0	0
37	V	27	Total 27	O 27	0	0
37	W	16	Total 16	O 16	0	0
37	X	68	Total 68	O 68	0	0
37	Y	27	Total 27	O 27	0	0
37	Z	100	Total 100	O 100	0	0
37	1	35	Total 35	O 35	0	0
37	2	57	Total 57	O 57	0	0
37	3	40	Total 40	O 40	0	0
37	4	72	Total 72	O 72	0	0

3 Residue-property plots

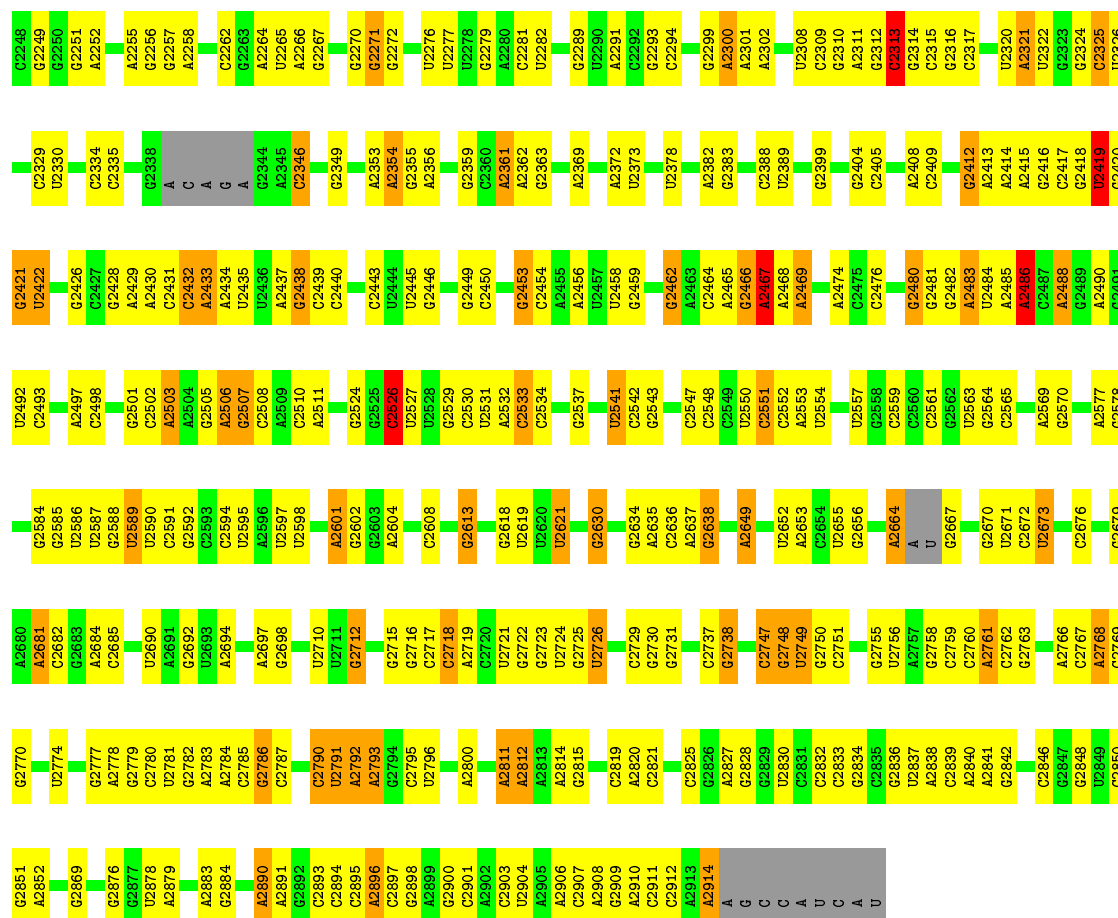
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according 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. 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.

Note EDS was not executed.

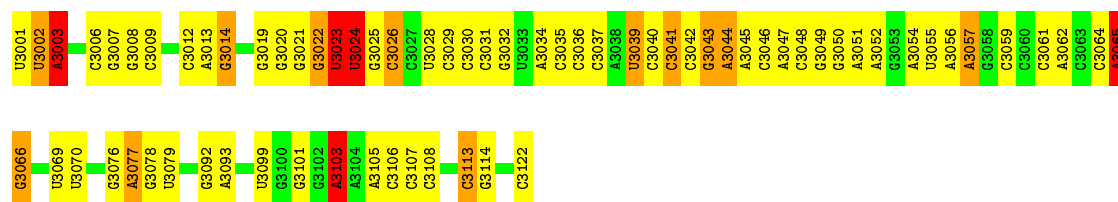
• Molecule 1: 23S ribosomal RNA



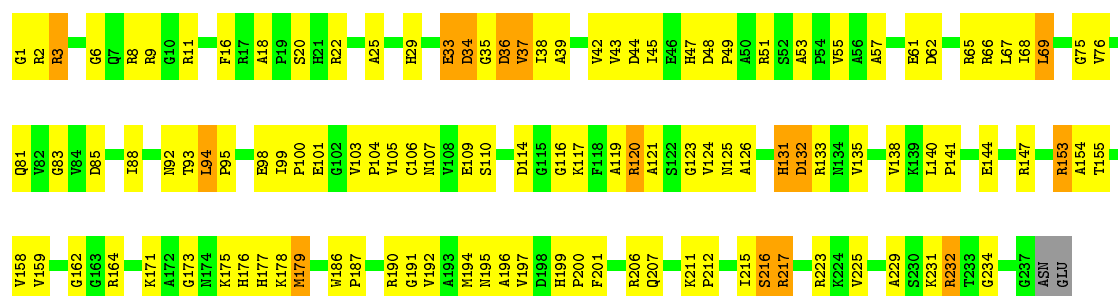
C	C2029	A1859	C1768	A1685	A1603	C1516	G1416	C1228	G1143	G1052	U970
G	U1860	C1686	C1769	C1687	G1604	U1517	G1417	C1229	G1143	G1053	G
C	C1861	C1687	U1770	G1688	G1605	G1523	U1418	U1234	G1151	G1054	U
G	C1862	G1689	U1771	C1692	A1606	G1524	U1419	U1235	G1158	G1055	U
U	G1863	C1693	G1772	C1699	A1607	G1525	C1420	G1236	G1159	A1057	C
A	C1864	G1699	G1773	C1700	G1608	A1526	C1421	U1237	G1160	A1058	C
	A1865	C1701	G1774	U1702	C1609	A1527	C1422	C1238	G1161	G1059	C
C	A1866	U1703	G1775	G1706	G1610	U1528	A1424	G1239	G1162	C1060	C
C	C1867	C1704	U1776	C1706	C1611	G1529	A1434	A1242	G1163	U1062	U
C	A1868	U1705	U1777	C1706	A1612	G1530	U1435	C1243	U1164	C	C
C	A1869	U1706	U1778	C1706	A1613	U1531	U1436	U1244	G1165	G1063	C
C	C1870	U1707	U1779	C1706	C1614	U1532	U1437	C1245	A1067	A1067	G
C	U1871	U1708	U1780	C1706	A1615	G1533	U1438	C1246	C1068	C1068	A
C	U1872	U1709	U1781	C1706	C1616	U1534	U1439	C1247	C1069	C1069	G
C	U1873	U1710	U1782	C1706	U1625	G1535	G1441	A1248	U1166		
C	U1874	U1711	U1783	C1706	U1626	G1536	U1442	U1249	U1167		
C	U1875	U1712	U1784	C1706	U1627	G1537	U1443	U1250	C1168		
C	U1876	U1713	U1785	C1706	G1627	G1538	U1444	C1251	U1169		
C	U1877	U1714	U1786	C1706	C1628	G1539	U1445	C1252	U1170		
C	U1878	U1715	U1787	C1706	C1629	G1540	U1446	C1253	A1072		
C	U1879	U1716	U1788	C1706	C1630	G1541	U1447	C1254	A1073		
C	U1880	U1717	U1789	C1706	U1631	G1542	U1448	C1255	A1074		
C	U1881	U1718	U1790	C1706	U1632	G1543	U1449	C1256	G1075		
C	U1882	U1719	U1791	C1706	U1633	G1544	U1450	C1257	C1080		
C	U1883	U1720	U1792	C1706	U1634	G1545	U1451	C1258	A1081		
C	U1884	U1721	U1793	C1706	U1635	G1546	U1452	C1259	A1082		
C	U1885	U1722	U1794	C1706	U1636	G1547	U1453	C1260	G		
C	U1886	U1723	U1795	C1706	U1637	G1548	U1454	C1261	G		
C	U1887	U1724	U1796	C1706	U1638	G1549	U1455	C1262	G		
C	U1888	U1725	U1797	C1706	U1639	G1550	U1456	C1263	G		
C	U1889	U1726	U1798	C1706	U1640	G1551	U1457	C1264	G		
C	U1890	U1727	U1799	C1706	U1641	G1552	U1458	C1265	G		
C	U1891	U1728	U1800	C1706	U1642	G1553	U1459	C1266	G		
C	U1892	U1729	U1801	C1706	U1643	G1554	U1460	C1267	G		
C	U1893	U1730	U1802	C1706	U1644	G1555	U1461	C1268	G		
C	U1894	U1731	U1803	C1706	U1645	G1556	U1462	C1269	G		
C	U1895	U1732	U1804	C1706	U1646	G1557	U1463	C1270	G		
C	U1896	U1733	U1805	C1706	U1647	G1558	U1464	C1271	G		
C	U1897	U1734	U1806	C1706	U1648	G1559	U1465	C1272	G		
C	U1898	U1735	U1807	C1706	U1649	G1560	U1466	C1273	G		
C	U1899	U1736	U1808	C1706	U1650	G1561	U1467	C1274	G		
C	U1900	U1737	U1809	C1706	U1651	G1562	U1468	C1275	G		
C	U1901	U1738	U1810	C1706	U1652	G1563	U1469	C1276	G		
C	U1902	U1739	U1811	C1706	U1653	G1564	U1470	C1277	G		
C	U1903	U1740	U1812	C1706	U1654	G1565	U1471	C1278	G		
C	U1904	U1741	U1813	C1706	U1655	G1566	U1472	C1279	G		
C	U1905	U1742	U1814	C1706	U1656	G1567	U1473	C1280	G		
C	U1906	U1743	U1815	C1706	U1657	G1568	U1474	C1281	G		
C	U1907	U1744	U1816	C1706	U1658	G1569	U1475	C1282	G		
C	U1908	U1745	U1817	C1706	U1659	G1570	U1476	C1283	G		
C	U1909	U1746	U1818	C1706	U1660	G1571	U1477	C1284	G		
C	U1910	U1747	U1819	C1706	U1661	G1572	U1478	C1285	G		
C	U1911	U1748	U1820	C1706	U1662	G1573	U1479	C1286	G		
C	U1912	U1749	U1821	C1706	U1663	G1574	U1480	C1287	G		
C	U1913	U1750	U1822	C1706	U1664	G1575	U1481	C1288	G		
C	U1914	U1751	U1823	C1706	U1665	G1576	U1482	C1289	G		
C	U1915	U1752	U1824	C1706	U1666	G1577	U1483	C1290	G		
C	U1916	U1753	U1825	C1706	U1667	G1578	U1484	C1291	G		
C	U1917	U1754	U1826	C1706	U1668	G1579	U1485	C1292	G		
C	U1918	U1755	U1827	C1706	U1669	G1580	U1486	C1293	G		
C	U1919	U1756	U1828	C1706	U1670	G1581	U1487	C1294	G		
C	U1920	U1757	U1829	C1706	U1671	G1582	U1488	C1295	G		
C	U1921	U1758	U1830	C1706	U1672	G1583	U1489	C1296	G		
C	U1922	U1759	U1831	C1706	U1673	G1584	U1490	C1297	G		
C	U1923	U1760	U1832	C1706	U1674	G1585	U1491	C1298	G		
C	U1924	U1761	U1833	C1706	U1675	G1586	U1492	C1299	G		
C	U1925	U1762	U1834	C1706	U1676	G1587	U1493	C1300	G		
C	U1926	U1763	U1835	C1706	U1677	G1588	U1494	C1301	G		
C	U1927	U1764	U1836	C1706	U1678	G1589	U1495	C1302	G		
C	U1928	U1765	U1837	C1706	U1679	G1590	U1496	C1303	G		
C	U1929	U1766	U1838	C1706	U1680	G1591	U1497	C1304	G		
C	U1930	U1767	U1839	C1706	U1681	G1592	U1498	C1305	G		
C	U1931	U1768	U1840	C1706	U1682	G1593	U1499	C1306	G		
C	U1932	U1769	U1841	C1706	U1683	G1594	U1500	C1307	G		
C	U1933	U1770	U1842	C1706	U1684	G1595	U1501	C1308	G		
C	U1934	U1771	U1843	C1706	U1685	G1596	U1502	C1309	G		
C	U1935	U1772	U1844	C1706	U1686	G1597	U1503	C1310	G		
C	U1936	U1773	U1845	C1706	U1687	G1598	U1504	C1311	G		
C	U1937	U1774	U1846	C1706	U1688	G1599	U1505	C1312	G		
C	U1938	U1775	U1847	C1706	U1689	G1600	U1506	C1313	G		
C	U1939	U1776	U1848	C1706	U1690	G1601	U1507	C1314	G		
C	U1940	U1777	U1849	C1706	U1691	G1602	U1508	C1315	G		
C	U1941	U1778	U1850	C1706	U1692	G1603	U1509	C1316	G		
C	U1942	U1779	U1851	C1706	U1693	G1604	U1510	C1317	G		
C	U1943	U1780	U1852	C1706	U1694	G1605	U1511	C1318	G		
C	U1944	U1781	U1853	C1706	U1695	G1606	U1512	C1319	G		
C	U1945	U1782	U1854	C1706	U1696	G1607	U1513	C1320	G		
C	U1946	U1783	U1855	C1706	U1697	G1608	U1514	C1321	G		
C	U1947	U1784	U1856	C1706	U1698	G1609	U1515	C1322	G		
C	U1948	U1785	U1857	C1706	U1699	G1610	U1516	C1323	G		
C	U1949	U1786	U1858	C1706	U1700	G1611	U1517	C1324	G		
C	U1950	U1787	U1859	C1706	U1701	G1612	U1518	C1325	G		
C	U1951	U1788	U1860	C1706	U1702	G1613	U1519	C1326	G		
C	U1952	U1789	U1861	C1706	U1703	G1614	U1520	C1327	G		
C	U1953	U1790	U1862	C1706	U1704	G1615	U1521	C1328	G		
C	U1954	U1791	U1863	C1706	U1705	G1616	U1522	C1329	G		
C	U1955	U1792	U1864	C1706	U1706	G1617	U1523	C1330	G		
C	U1956	U1793	U1865	C1706	U1707	G1618	U1524	C1331	G		
C	U1957	U1794	U1866	C1706	U1708	G1619	U1525	C1332	G		
C	U1958	U1795	U1867	C1706	U1709	G1620	U1526	C1333	G		
C	U1959	U1796	U1868	C1706	U1710	G1621	U1527	C1334	G		
C	U1960	U1797	U1869	C1706	U1711	G1622	U1528	C1335	G		
C	U1961	U1798	U1870	C1706	U1712	G1623	U1529	C1336	G		
C	U1962	U1799	U1871	C1706	U1713	G1624	U1530	C1337	G		
C	U1963	U1800	U1872	C1706	U1714	G1625	U1531	C1338	G		
C	U1964	U1801	U1873	C1706	U1715	G1626	U1532	C1339	G		
C	U1965	U1802	U1874	C1706	U1716	G1627	U1533	C1340	G		
C	U1966	U1803	U1875	C1706	U1717	G1628	U1534	C1341	G		
C	U1967	U1804	U1876	C1706	U1718	G1629	U1535	C1342	G		
C	U1968	U1805	U1877	C1706	U1719	G1630	U1536	C1343	G		
C	U1969	U1806	U1878	C1706	U1720	G1631	U1537	C1344	G		
C	U1970	U1807	U1879	C1706	U1721	G1632	U1538	C1345	G		
C	U1971	U1808	U1880	C1706	U1722	G1633	U1539	C1346	G		
C	U1972	U1809	U1881	C1706	U1723	G1634	U1540	C1347	G		
C	U1973	U1810	U1882	C1706	U1724	G1635	U1541	C1348	G		
C	U1974	U1811	U1883	C1706	U1725	G1636	U1542	C1349	G		
C	U1975	U1812	U1884	C1706	U1726	G1637	U1543	C1350	G		
C	U1976	U1813	U1885	C1706	U1727	G1638	U1544	C1351	G		
C	U1977	U1814	U1886	C1706	U1728	G1639	U1545	C1352	G		
C	U1978	U1815	U1887	C1706	U1729	G1640	U1546	C1353	G		
C	U1979	U1816	U1888	C1706	U1730	G1641	U1547	C1354	G		



• Molecule 2: 5S ribosomal RNA

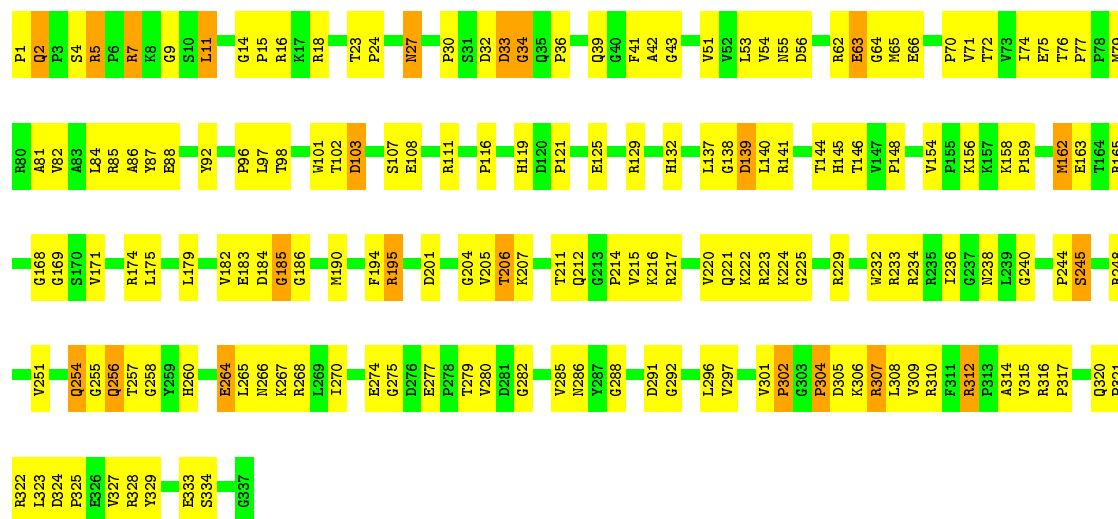


• Molecule 3: 50S ribosomal protein L2P



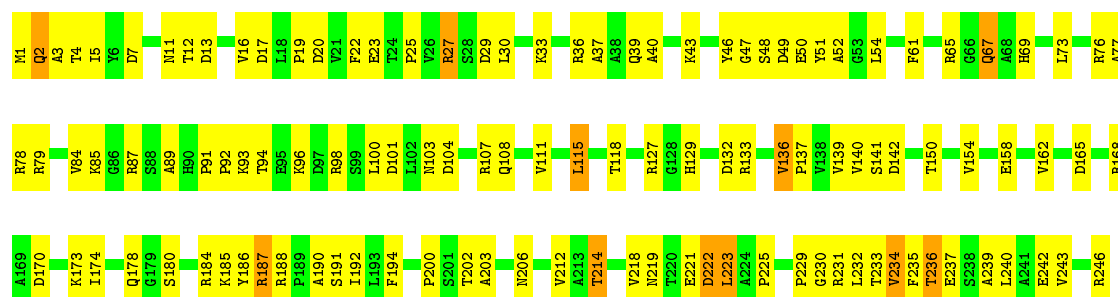
- Molecule 4: 50S ribosomal protein L3P

Chain D: 49% 45% 7%



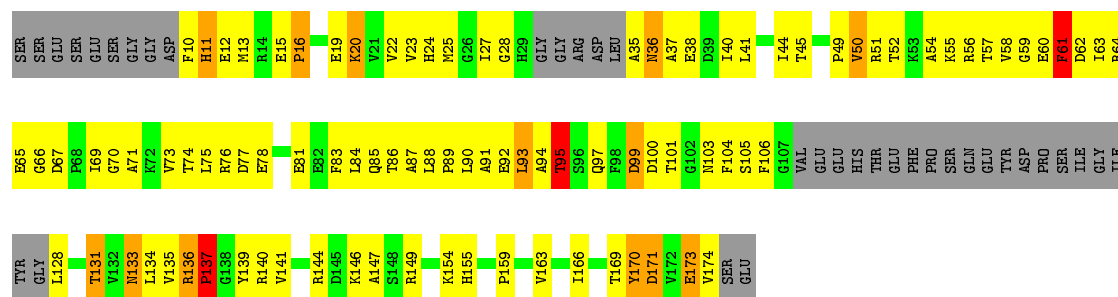
- Molecule 5: 50S ribosomal protein L4E

Chain E: 52% 43% .



- Molecule 6: 50S ribosomal protein L5P

Chain F:  26% 45% 7% 20%



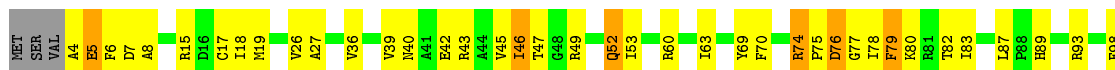
- Molecule 7: 50S ribosomal protein L6P

Chain G: 54% 42% ..



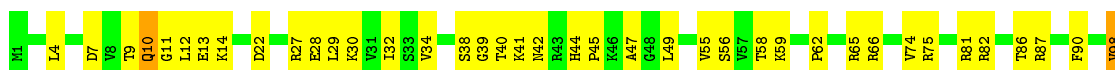
- Molecule 11: 50S ribosomal protein L13P

Chain K: 54% 37% 7%



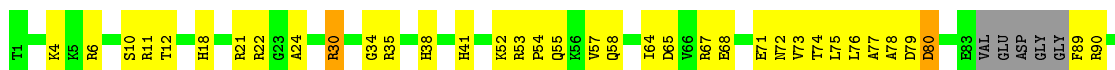
- Molecule 12: 50S ribosomal protein L14P

Chain L: 60% 39%



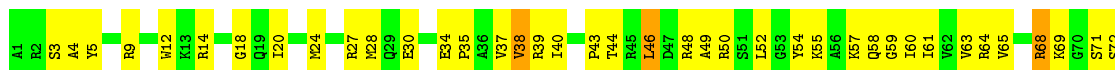
- Molecule 13: 50S ribosomal protein L15P

Chain M: 46% 41% 12%



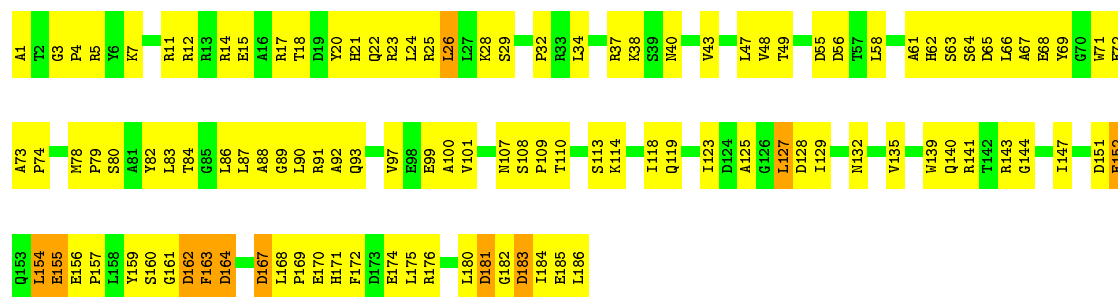
- Molecule 14: 50S ribosomal protein L15E

Chain N: 37% 59% 5%



- Molecule 15: 50S ribosomal protein L18P

Chain O: 40% 54% 6%



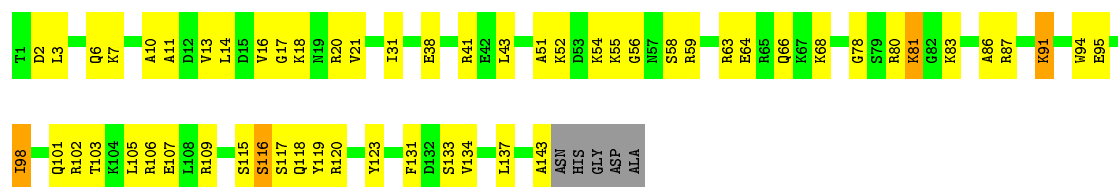
- Molecule 16: 50S ribosomal protein L18E

Chain P: 72% 27%



- Molecule 17: 50S ribosomal protein L19E

Chain Q: 58% 36%



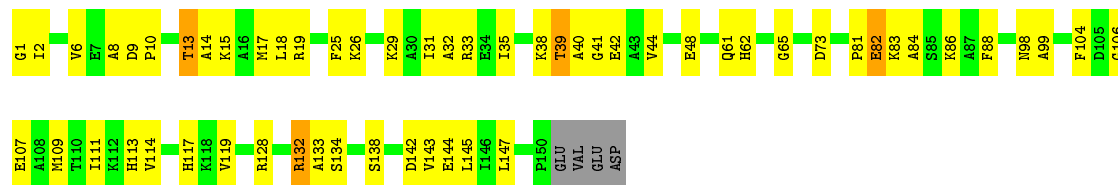
- Molecule 18: 50S ribosomal protein L21e

Chain R: 66% 31%



- Molecule 19: 50S ribosomal protein L22P

Chain S: 60% 34%

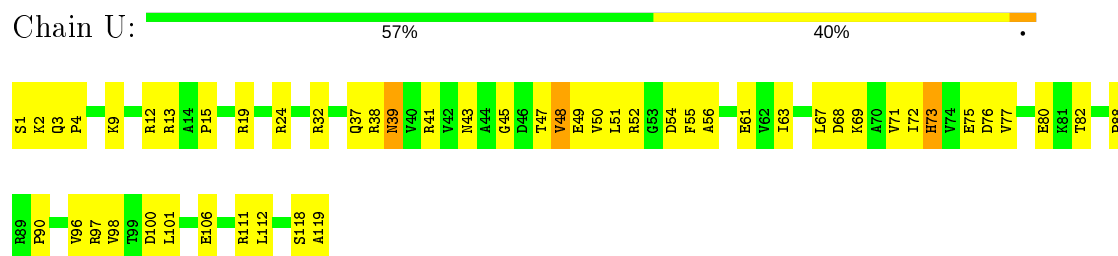


- Molecule 20: 50S ribosomal protein L23P

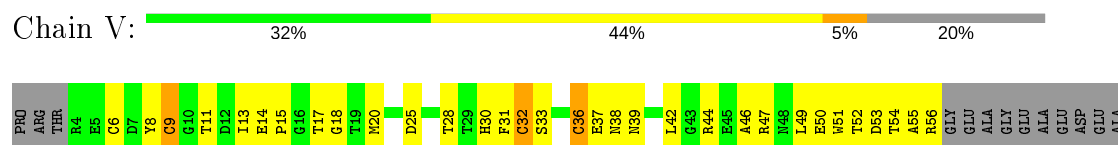
Chain T: 68% 26%



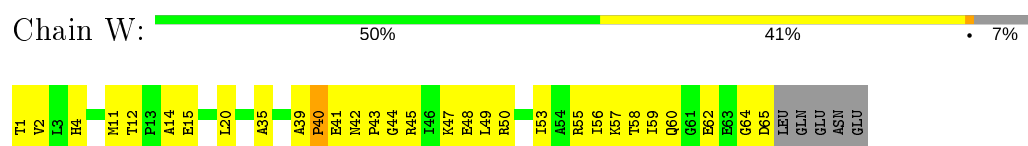
- Molecule 21: 50S ribosomal protein L24P



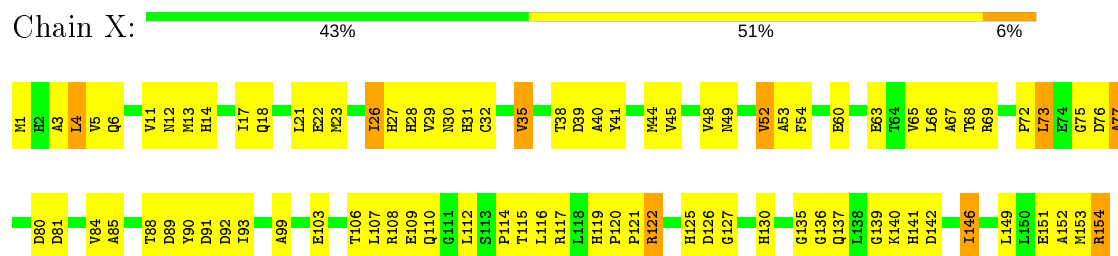
- Molecule 22: 50S ribosomal protein L24E



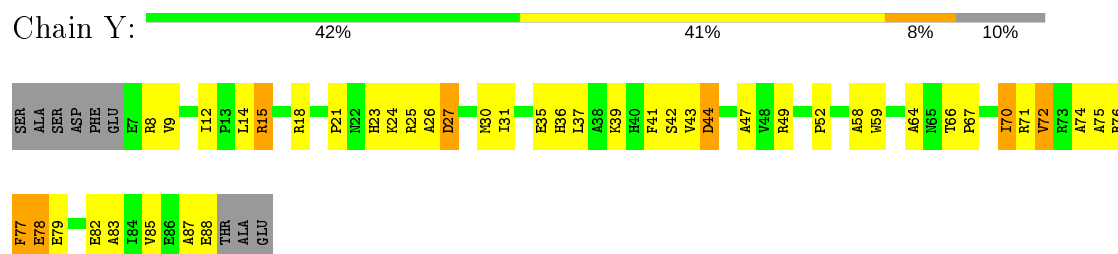
- Molecule 23: 50S ribosomal protein L29P



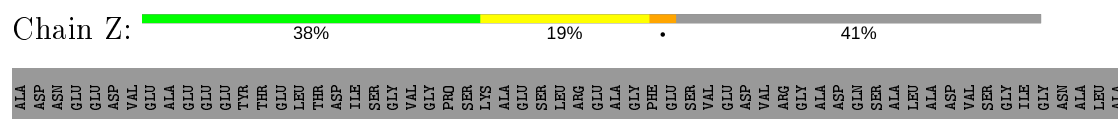
- Molecule 24: 50S ribosomal protein L30P

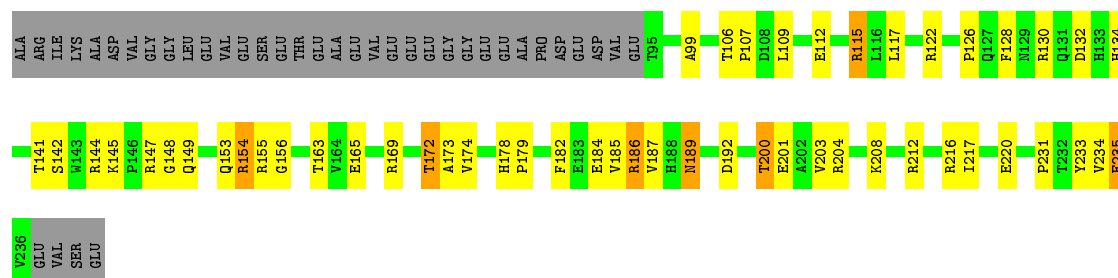


- Molecule 25: 50S ribosomal protein L31E



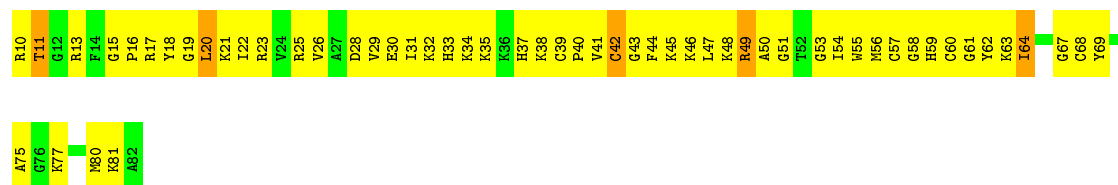
- Molecule 26: 50S ribosomal protein L32E





• Molecule 27: 50S ribosomal protein L37AE

Chain 1: 23% 70% 7%



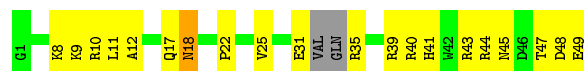
• Molecule 28: 50S ribosomal protein L37e

Chain 2: 63% 38%



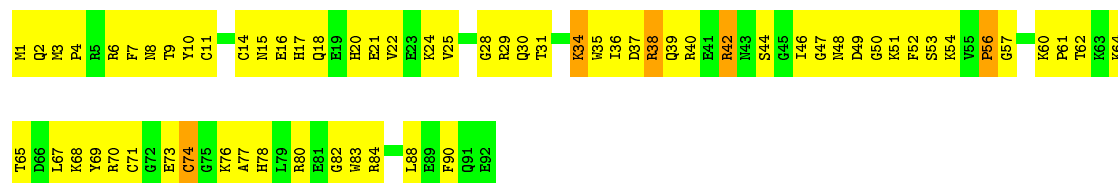
• Molecule 29: 50S ribosomal protein L39e

Chain 3: 54% 40%



• Molecule 30: 50S ribosomal protein L44E

Chain 4: 29% 65% 5%



4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	212.90Å 300.47Å 575.18Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 3.00	Depositor
% Data completeness (in resolution range)	94.6 (20.00-3.00)	Depositor
R_{merge}	0.14	Depositor
R_{sym}	0.14	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.201 , 0.242	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	98569	wwPDB-VP
Average B, all atoms (Å ²)	43.0	wwPDB-VP

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.57	9/66076 (0.0%)	0.76	37/103052 (0.0%)
2	B	0.81	10/2905 (0.3%)	0.91	17/4528 (0.4%)
3	C	0.44	0/1787	0.75	0/2409
4	D	0.41	0/2689	0.71	0/3652
5	E	0.48	0/1883	0.74	0/2551
6	F	0.40	0/1111	0.64	0/1498
7	G	0.44	0/1382	0.66	0/1880
8	H	0.40	0/896	0.63	0/1219
9	I	0.33	0/241	0.53	0/324
10	J	0.46	0/1246	0.83	2/1686 (0.1%)
11	K	0.46	0/1135	0.70	0/1530
12	L	0.43	0/1003	0.75	0/1351
13	M	0.42	0/1126	0.75	0/1504
14	N	0.63	0/1633	0.86	1/2180 (0.0%)
15	O	0.42	0/1473	0.71	0/1999
16	P	0.45	0/873	0.71	0/1181
17	Q	0.44	0/1143	0.64	0/1521
18	R	0.45	0/748	0.79	0/1005
19	S	0.45	0/1172	0.76	0/1578
20	T	0.41	0/648	0.65	0/875
21	U	0.38	0/957	0.70	0/1289
22	V	0.82	0/417	0.81	1/562 (0.2%)
23	W	0.40	0/502	0.61	0/675
24	X	0.50	0/1218	0.73	0/1655
25	Y	0.44	0/664	0.70	0/895
26	Z	0.46	0/1146	0.72	0/1536
27	1	0.77	0/575	0.82	0/763
28	2	0.54	0/437	0.78	0/578
29	3	0.42	0/398	0.63	0/527
30	4	0.98	0/771	0.81	0/1024
All	All	0.56	19/98255 (0.0%)	0.76	58/147027 (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	A	1	157
2	B	0	4
All	All	1	161

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2488	A	O5'-C5'	-8.71	1.28	1.42
2	B	3025	G	C2'-O2'	-7.62	1.31	1.41
2	B	3003	A	O5'-C5'	7.52	1.56	1.44
2	B	3024	U	O5'-C5'	7.15	1.55	1.44
2	B	3023	U	C4'-O4'	7.08	1.54	1.45
1	A	2621	U	O5'-C5'	-6.88	1.31	1.42
2	B	3023	U	C4'-C3'	6.31	1.60	1.53
1	A	2619	U	C4'-O4'	5.80	1.53	1.45
2	B	3019	G	O5'-C5'	5.79	1.53	1.44
1	A	2486	A	O3'-P	-5.54	1.54	1.61
2	B	3023	U	P-OP1	5.45	1.58	1.49
1	A	2104	C	O5'-C5'	5.43	1.53	1.44
1	A	2618	G	C4'-O4'	5.41	1.52	1.45
2	B	3025	G	O4'-C1'	-5.41	1.34	1.41
1	A	2619	U	N1-C2	5.38	1.43	1.38
2	B	3003	A	C2'-O2'	-5.37	1.34	1.41
1	A	2619	U	C2'-O2'	-5.24	1.34	1.41
1	A	1206	U	N1-C2	5.22	1.43	1.38
2	B	3026	C	O5'-C5'	-5.04	1.34	1.42

All (58) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1164	U	OP2-P-O3'	-18.66	64.14	105.20
1	A	1164	U	OP1-P-O3'	-18.19	65.19	105.20
1	A	1979	G	C2'-C3'-O3'	9.72	130.90	109.50
1	A	1563	G	C2'-C3'-O3'	9.58	130.58	109.50
1	A	1165	G	O5'-P-OP1	-8.38	98.16	105.70
1	A	1942	A	C5'-C4'-C3'	7.70	128.31	116.00
1	A	2618	G	OP2-P-O3'	7.30	121.25	105.20
2	B	3023	U	C5'-C4'-C3'	7.00	127.21	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	3023	U	O4'-C4'-C3'	-7.00	97.00	104.00
2	B	3003	A	O5'-P-OP1	6.89	118.97	110.70
1	A	1504	A	C1'-O4'-C4'	-6.60	104.62	109.90
14	N	73	ARG	N-CA-C	-6.53	93.37	111.00
1	A	2432	C	N1-C1'-C2'	6.33	122.23	114.00
1	A	1165	G	OP1-P-OP2	6.26	128.99	119.60
1	A	129	A	C2'-C3'-O3'	6.10	123.45	113.70
2	B	3024	U	C4'-C3'-O3'	6.04	125.07	113.00
2	B	3025	G	C4'-C3'-C2'	-5.99	96.61	102.60
10	J	74	ASN	N-CA-C	-5.93	94.98	111.00
2	B	3103	A	C5'-C4'-O4'	5.90	116.18	109.10
1	A	2313	C	C5'-C4'-O4'	5.89	116.16	109.10
1	A	603	A	N9-C1'-C2'	5.80	121.55	114.00
1	A	2619	U	C1'-O4'-C4'	-5.74	105.31	109.90
1	A	1120	U	C5'-C4'-C3'	-5.70	106.88	116.00
2	B	3039	U	N1-C1'-C2'	5.70	121.42	114.00
1	A	389	G	C5'-C4'-C3'	-5.69	106.89	116.00
22	V	36	CYS	CA-CB-SG	-5.64	103.85	114.00
1	A	1206	U	O5'-P-OP1	-5.60	100.66	105.70
1	A	2793	A	N9-C1'-C2'	-5.58	105.86	112.00
1	A	1738	C	O4'-C4'-C3'	-5.56	98.44	104.00
1	A	2467	A	O5'-P-OP1	-5.55	100.70	105.70
1	A	2419	U	N1-C1'-C2'	5.54	121.20	114.00
2	B	3003	A	C5'-C4'-C3'	5.51	124.82	116.00
1	A	871	G	C5'-C4'-O4'	-5.50	102.50	109.10
1	A	1359	U	N1-C1'-C2'	5.39	121.01	114.00
2	B	3108	C	N1-C1'-C2'	-5.39	106.07	112.00
2	B	3023	U	C4'-C3'-O3'	5.30	123.61	113.00
2	B	3103	A	C4'-C3'-C2'	-5.29	97.31	102.60
2	B	3025	G	OP2-P-O3'	5.24	116.74	105.20
1	A	1559	A	C2'-C3'-O3'	5.21	122.04	113.70
1	A	237	G	N9-C1'-C2'	-5.21	106.27	112.00
1	A	2122	C	OP2-P-O3'	5.21	116.66	105.20
1	A	1592	G	N9-C1'-C2'	5.21	120.77	114.00
2	B	3019	G	O5'-P-OP1	5.20	116.93	110.70
2	B	3113	C	N1-C1'-C2'	5.20	120.75	114.00
2	B	3003	A	O5'-P-OP2	-5.18	101.04	105.70
1	A	1819	G	C1'-O4'-C4'	-5.17	105.76	109.90
1	A	2012	U	N1-C1'-C2'	5.16	120.71	114.00
1	A	284	C	N1-C1'-C2'	5.16	120.71	114.00
10	J	156	THR	N-CA-C	-5.16	97.06	111.00
2	B	3023	U	O5'-P-OP2	5.15	116.88	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2726	U	N1-C1'-C2'	5.13	120.67	114.00
1	A	1829	A	N9-C1'-C2'	-5.12	106.37	112.00
1	A	2467	A	C1'-O4'-C4'	-5.09	105.83	109.90
1	A	1165	G	N9-C1'-C2'	5.07	120.58	114.00
2	B	3024	U	O5'-P-OP1	5.06	116.77	110.70
1	A	1971	G	N9-C1'-C2'	5.04	120.55	114.00
1	A	1415	G	N9-C1'-C2'	-5.04	106.46	112.00
1	A	1579	C	N1-C1'-C2'	5.03	120.54	114.00

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	1563	G	C3'

All (161) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1007	A	Sidechain
1	A	1012	A	Sidechain
1	A	1023	C	Sidechain
1	A	1027	G	Sidechain
1	A	1053	G	Sidechain
1	A	1055	G	Sidechain
1	A	1123	A	Sidechain
1	A	1125	U	Sidechain
1	A	1127	C	Sidechain
1	A	1136	U	Sidechain
1	A	1143	G	Sidechain
1	A	115	U	Sidechain
1	A	1206	U	Sidechain
1	A	1226	G	Sidechain
1	A	1260	G	Sidechain
1	A	1291	A	Sidechain
1	A	1300	G	Sidechain
1	A	1306	U	Sidechain
1	A	1362	U	Sidechain
1	A	1367	A	Sidechain
1	A	1368	U	Sidechain
1	A	1376	G	Sidechain
1	A	1377	C	Sidechain
1	A	1412	U	Sidechain
1	A	1417	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1443	G	Sidechain
1	A	1478	U	Sidechain
1	A	1503	U	Sidechain
1	A	1531	U	Sidechain
1	A	1547	A	Sidechain
1	A	1595	G	Sidechain
1	A	1614	G	Sidechain
1	A	1635	U	Sidechain
1	A	1645	U	Sidechain
1	A	1647	G	Sidechain
1	A	1654	U	Sidechain
1	A	166	A	Sidechain
1	A	1681	G	Sidechain
1	A	1688	G	Sidechain
1	A	1706	G	Sidechain
1	A	171	C	Sidechain
1	A	1736	A	Sidechain
1	A	1748	U	Sidechain
1	A	1750	C	Sidechain
1	A	1752	G	Sidechain
1	A	176	U	Sidechain
1	A	1777	G	Sidechain
1	A	178	U	Sidechain
1	A	1822	A	Sidechain
1	A	1825	U	Sidechain
1	A	1826	C	Sidechain
1	A	1835	U	Sidechain
1	A	1844	C	Sidechain
1	A	1845	A	Sidechain
1	A	1848	G	Sidechain
1	A	1851	G	Sidechain
1	A	1861	C	Sidechain
1	A	1878	G	Sidechain
1	A	191	A	Sidechain
1	A	1943	C	Sidechain
1	A	197	C	Sidechain
1	A	1972	U	Sidechain
1	A	2023	G	Sidechain
1	A	2034	U	Sidechain
1	A	2035	C	Sidechain
1	A	2041	G	Sidechain
1	A	2053	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	2063	U	Sidechain
1	A	2068	G	Sidechain
1	A	2082	G	Sidechain
1	A	2092	G	Sidechain
1	A	2097	G	Sidechain
1	A	2101	A	Sidechain
1	A	2102	G	Sidechain
1	A	214	U	Sidechain
1	A	22	U	Sidechain
1	A	223	G	Sidechain
1	A	224	U	Sidechain
1	A	225	G	Sidechain
1	A	23	G	Sidechain
1	A	2300	A	Sidechain
1	A	2308	U	Sidechain
1	A	2312	G	Sidechain
1	A	2313	C	Sidechain
1	A	2325	C	Sidechain
1	A	2399	G	Sidechain
1	A	2412	G	Sidechain
1	A	2419	U	Sidechain
1	A	2421	G	Sidechain
1	A	2433	A	Sidechain
1	A	2438	G	Sidechain
1	A	2453	G	Sidechain
1	A	2458	U	Sidechain
1	A	2480	G	Sidechain
1	A	2486	A	Sidechain
1	A	2492	U	Sidechain
1	A	2493	C	Sidechain
1	A	2503	A	Sidechain
1	A	2506	A	Sidechain
1	A	2526	C	Sidechain
1	A	2551	C	Sidechain
1	A	2554	U	Sidechain
1	A	26	U	Sidechain
1	A	2630	G	Sidechain
1	A	2673	U	Sidechain
1	A	2692	G	Sidechain
1	A	2712	G	Sidechain
1	A	2722	G	Sidechain
1	A	2738	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	2747	C	Sidechain
1	A	2774	U	Sidechain
1	A	2790	C	Sidechain
1	A	2793	A	Sidechain
1	A	2811	A	Sidechain
1	A	2842	G	Sidechain
1	A	2891	A	Sidechain
1	A	315	G	Sidechain
1	A	32	G	Sidechain
1	A	323	C	Sidechain
1	A	33	G	Sidechain
1	A	333	G	Sidechain
1	A	395	A	Sidechain
1	A	396	U	Sidechain
1	A	434	U	Sidechain
1	A	44	G	Sidechain
1	A	460	A	Sidechain
1	A	486	A	Sidechain
1	A	500	G	Sidechain
1	A	502	A	Sidechain
1	A	55	U	Sidechain
1	A	552	A	Sidechain
1	A	603	A	Sidechain
1	A	635	A	Sidechain
1	A	664	U	Sidechain
1	A	668	C	Sidechain
1	A	701	U	Sidechain
1	A	722	G	Sidechain
1	A	743	G	Sidechain
1	A	751	U	Sidechain
1	A	753	U	Sidechain
1	A	759	C	Sidechain
1	A	768	U	Sidechain
1	A	782	G	Sidechain
1	A	816	G	Sidechain
1	A	818	A	Sidechain
1	A	826	U	Sidechain
1	A	854	G	Sidechain
1	A	862	U	Sidechain
1	A	864	U	Sidechain
1	A	869	G	Sidechain
1	A	873	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	881	C	Sidechain
1	A	888	U	Sidechain
1	A	893	C	Sidechain
1	A	918	G	Sidechain
1	A	950	G	Sidechain
1	A	954	U	Sidechain
2	B	3022	G	Sidechain
2	B	3023	U	Sidechain
2	B	3065	A	Sidechain
2	B	3099	U	Sidechain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	59017	0	29801	1306	0
2	B	2600	0	1326	85	0
3	C	1754	0	1763	144	0
4	D	2624	0	2533	195	0
5	E	1858	0	1816	146	0
6	F	1094	0	1085	135	0
7	G	1357	0	1266	79	0
8	H	885	0	854	73	0
9	I	240	0	231	23	0
10	J	1215	0	1215	168	0
11	K	1119	0	1098	70	0
12	L	993	0	1027	60	0
13	M	1114	0	1072	79	0
14	N	1605	0	1676	212	0
15	O	1444	0	1401	152	0
16	P	864	0	873	29	0
17	Q	1133	0	1127	68	0
18	R	734	0	729	27	0
19	S	1149	0	1122	68	0
20	T	641	0	605	26	0
21	U	949	0	923	52	0
22	V	410	0	368	48	0
23	W	499	0	511	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	X	1195	0	1137	115	0
25	Y	654	0	653	48	0
26	Z	1130	0	1133	62	0
27	1	563	0	601	83	0
28	2	430	0	426	30	0
29	3	393	0	406	22	0
30	4	755	0	732	89	0
31	A	38	0	34	3	0
32	4	1	0	0	0	0
32	A	109	0	0	0	0
32	B	1	0	0	0	0
32	C	2	0	0	0	0
32	D	1	0	0	0	0
32	L	1	0	0	0	0
32	U	1	0	0	0	0
32	Z	1	0	0	0	0
33	A	1	0	0	0	0
34	4	1	0	0	0	0
34	A	71	0	0	0	0
34	B	2	0	0	0	0
34	C	1	0	0	0	0
34	E	1	0	0	0	0
34	J	2	0	0	0	0
34	K	1	0	0	0	0
34	M	1	0	0	0	0
34	N	1	0	0	0	0
34	R	1	0	0	0	0
34	S	2	0	0	0	0
34	T	1	0	0	0	0
34	U	1	0	0	0	0
35	4	1	0	0	1	0
35	A	8	0	0	0	0
35	C	1	0	0	0	0
35	D	1	0	0	0	0
35	K	3	0	0	1	0
35	L	1	0	0	0	0
35	M	1	0	0	2	0
35	N	1	0	0	2	0
35	O	1	0	0	1	0
35	P	1	0	0	0	0
35	S	1	0	0	0	0
35	Z	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	1	1	0	0	0	0
36	2	1	0	0	0	0
36	4	1	0	0	0	0
36	P	1	0	0	0	0
36	V	1	0	0	0	0
37	1	35	0	0	15	0
37	2	57	0	0	1	0
37	3	40	0	0	6	0
37	4	72	0	0	11	0
37	A	5881	0	0	302	0
37	B	146	0	0	21	0
37	C	135	0	0	15	0
37	D	141	0	0	33	0
37	E	178	0	0	46	0
37	F	49	0	0	17	0
37	G	43	0	0	10	0
37	H	30	0	0	11	0
37	I	21	0	0	7	0
37	J	76	0	0	23	0
37	K	55	0	0	6	0
37	L	64	0	0	16	0
37	M	85	0	0	21	0
37	N	141	0	0	35	0
37	O	67	0	0	20	0
37	P	45	0	0	10	0
37	Q	72	0	0	10	0
37	R	57	0	0	3	0
37	S	87	0	0	10	0
37	T	34	0	0	5	0
37	U	33	0	0	6	0
37	V	27	0	0	6	0
37	W	16	0	0	2	0
37	X	68	0	0	11	0
37	Y	27	0	0	5	0
37	Z	100	0	0	14	0
All	All	98569	0	59544	3401	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 23.

All (3401) 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)
10:J:86:ARG:NH1	10:J:133:ILE:HG13	1.52	1.20
10:J:165:GLY:HA3	37:J:8397:HOH:O	1.39	1.18
27:1:39:CYS:SG	27:1:47:LEU:HD21	1.84	1.17
14:N:87:MET:HG2	30:4:46:ILE:HG21	1.25	1.15
21:U:71:VAL:HG11	21:U:90:PRO:HB3	1.31	1.11
5:E:236:THR:HG22	5:E:239:ALA:H	1.01	1.10
23:W:12:THR:HG22	23:W:15:GLU:HG3	1.30	1.10
27:1:46:LYS:HD3	27:1:59:HIS:HB2	1.33	1.09
1:A:1751:G:H2'	1:A:1752:G:H5''	1.34	1.09
5:E:115:LEU:HD13	5:E:223:LEU:HD21	1.35	1.06
10:J:86:ARG:HH11	10:J:133:ILE:CG1	1.67	1.06
5:E:5:ILE:HD11	5:E:16:VAL:HG23	1.39	1.04
6:F:134:LEU:HD11	6:F:166:ILE:HD11	1.35	1.04
1:A:2717:C:H2'	1:A:2718:C:H5''	1.37	1.04
10:J:29:ALA:HB3	10:J:65:ARG:HH12	1.22	1.03
1:A:1160:G:H5'	1:A:1161:A:H5'	1.37	1.03
26:Z:200:THR:HG22	26:Z:201:GLU:HG3	1.39	1.02
10:J:45:GLN:HB3	10:J:163:PRO:HD2	1.40	1.02
1:A:856:G:H2'	37:A:5789:HOH:O	1.60	1.02
14:N:164:THR:HG22	14:N:167:GLY:H	1.19	1.01
27:1:40:PRO:HD3	27:1:47:LEU:HD11	1.41	1.01
6:F:25:MET:HE2	6:F:41:LEU:HG	1.42	1.01
1:A:156:C:H5''	14:N:171:ARG:HD3	1.40	1.01
1:A:2121:G:OP2	37:A:3888:HOH:O	1.79	1.01
5:E:127:ARG:NH2	5:E:225:PRO:HG2	1.77	0.99
14:N:74:ARG:O	14:N:88:VAL:HG13	1.60	0.99
1:A:1835:U:H5	1:A:1840:A:N7	1.61	0.98
1:A:870:G:H2'	1:A:871:G:H5''	1.43	0.98
1:A:1134:G:H4'	10:J:151:MET:HE1	1.41	0.98
14:N:87:MET:CG	30:4:46:ILE:HG21	1.93	0.98
4:D:238:ASN:HD22	4:D:240:GLY:H	1.10	0.97
5:E:78:ARG:HH11	5:E:78:ARG:HG3	1.29	0.97
4:D:86:ALA:HA	37:D:8580:HOH:O	1.65	0.97
2:B:3006:C:H5''	15:O:37:ARG:NH1	1.77	0.96
2:B:3076:G:H3'	2:B:3077:A:H5''	1.47	0.96
1:A:962:C:H1'	15:O:5:ARG:NH1	1.80	0.96
4:D:258:GLY:H	4:D:260:HIS:CE1	1.83	0.96
5:E:140:VAL:HB	37:E:8458:HOH:O	1.65	0.96
1:A:871:G:H5'	1:A:871:G:H8	1.30	0.95
1:A:542:A:H8	1:A:542:A:H5'	1.31	0.95
25:Y:37:LEU:HD13	25:Y:85:VAL:HG21	1.44	0.95
12:L:81:ARG:HB2	12:L:87:ARG:HH11	1.31	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:27:LYS:H	10:J:58:HIS:HD2	1.14	0.95
1:A:1242:A:H5'	11:K:82:THR:HG23	1.46	0.94
1:A:2717:C:C2'	1:A:2718:C:H5''	1.96	0.94
24:X:88:THR:HG22	24:X:89:ASP:H	1.31	0.94
11:K:76:ASP:HA	37:K:5907:HOH:O	1.67	0.94
4:D:264:GLU:HG2	4:D:267:LYS:HE2	1.47	0.94
14:N:69:LYS:O	14:N:73:ARG:NH2	2.01	0.94
1:A:1474:C:H6	1:A:1474:C:H5'	1.31	0.94
10:J:162:SER:HB2	10:J:163:PRO:HD3	1.50	0.94
1:A:21:G:H5'	19:S:2:ILE:HA	1.48	0.94
15:O:47:LEU:HD11	15:O:127:LEU:HD21	1.46	0.94
2:B:3056:A:H2'	2:B:3057:A:H5''	1.49	0.94
1:A:2467:A:H2'	37:A:5819:HOH:O	1.68	0.93
5:E:242:GLU:HG3	37:E:8386:HOH:O	1.67	0.93
1:A:871:G:H5'	1:A:871:G:C8	2.02	0.93
14:N:52:LEU:HD11	37:N:8620:HOH:O	1.67	0.93
30:4:48:ASN:ND2	30:4:50:GLY:H	1.66	0.93
1:A:2123:A:OP2	37:A:5652:HOH:O	1.85	0.93
1:A:1603:A:H5'	1:A:1605:G:O4'	1.68	0.93
10:J:86:ARG:HH11	10:J:133:ILE:HG13	0.77	0.93
17:Q:115:SER:H	17:Q:118:GLN:HE21	0.96	0.92
3:C:211:LYS:HB3	3:C:212:PRO:HD2	1.51	0.92
15:O:49:THR:HG22	15:O:56:ASP:HB2	1.52	0.92
5:E:236:THR:HG21	37:E:8378:HOH:O	1.70	0.92
37:A:5314:HOH:O	2:B:3103:A:H4'	1.67	0.92
10:J:55:GLN:HE21	10:J:124:ARG:HE	1.12	0.92
14:N:35:PRO:CG	14:N:38:VAL:HG23	1.98	0.92
17:Q:115:SER:OG	17:Q:118:GLN:HG3	1.69	0.92
26:Z:187:VAL:HG23	26:Z:192:ASP:HB2	1.52	0.92
37:A:4103:HOH:O	14:N:157:LEU:HD11	1.69	0.91
1:A:506:G:H22	1:A:509:A:H5'	1.35	0.91
15:O:87:LEU:HD12	15:O:186:LEU:HD21	1.52	0.91
37:A:5224:HOH:O	14:N:14:ARG:HG2	1.68	0.91
10:J:59:ASN:HD22	10:J:59:ASN:H	1.17	0.91
24:X:88:THR:HB	37:X:6679:HOH:O	1.69	0.91
5:E:2:GLN:HB3	37:E:8337:HOH:O	1.70	0.91
25:Y:78:GLU:HG2	25:Y:79:GLU:H	1.37	0.90
1:A:960:G:H4'	37:A:7787:HOH:O	1.69	0.90
10:J:26:LYS:HD2	10:J:28:ILE:HD12	1.53	0.90
1:A:2122:C:OP2	37:A:6938:HOH:O	1.90	0.90
5:E:236:THR:HG22	5:E:239:ALA:N	1.86	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:115:SER:H	17:Q:118:GLN:NE2	1.70	0.90
18:R:25:PRO:HB2	37:R:4350:HOH:O	1.71	0.90
27:1:42:CYS:SG	27:1:44:PHE:HB2	2.12	0.89
1:A:1116:U:HO2'	1:A:1118:A:H2	0.91	0.89
26:Z:212:ARG:HD2	37:Z:8605:HOH:O	1.71	0.89
14:N:35:PRO:HG2	14:N:38:VAL:HG23	1.54	0.89
1:A:2064:U:H4'	1:A:2653:A:OP1	1.72	0.89
19:S:99:ALA:HB1	19:S:109:MET:HE1	1.51	0.89
30:4:70:ARG:HG2	30:4:77:ALA:HB2	1.53	0.89
17:Q:55:LYS:HA	37:Q:185:HOH:O	1.73	0.89
37:A:7916:HOH:O	30:4:60:LYS:HG3	1.71	0.88
1:A:31:C:H4'	37:A:7781:HOH:O	1.74	0.88
1:A:1701:A:H5'	37:A:6644:HOH:O	1.73	0.88
5:E:132:ASP:HB3	37:E:8367:HOH:O	1.73	0.88
13:M:68:GLU:HA	37:M:8547:HOH:O	1.73	0.88
14:N:84:LYS:O	37:N:8534:HOH:O	1.89	0.88
1:A:1372:A:H3'	37:A:7549:HOH:O	1.72	0.88
11:K:19:MET:CE	11:K:132:LEU:HD11	2.04	0.88
1:A:1474:C:C6	1:A:1474:C:H5'	2.09	0.87
14:N:173:LEU:HD23	14:N:183:VAL:HG12	1.56	0.87
1:A:1244:U:OP1	11:K:18:ILE:HD13	1.74	0.87
1:A:1166:A:H1'	1:A:1192:A:C2	2.09	0.87
1:A:2420:G:O2'	1:A:2421:G:H5'	1.72	0.87
3:C:88:ILE:HD13	3:C:100:PRO:HD3	1.57	0.87
3:C:192:VAL:HB	37:C:8602:HOH:O	1.72	0.87
24:X:137:GLN:HE21	24:X:141:HIS:HE1	1.21	0.87
1:A:2432:C:O4'	37:A:3119:HOH:O	1.92	0.86
7:G:100:ASP:HB2	37:G:2789:HOH:O	1.73	0.86
8:H:96:ALA:HA	37:H:3111:HOH:O	1.74	0.86
19:S:9:ASP:O	19:S:13:THR:HB	1.75	0.86
10:J:162:SER:HB2	10:J:163:PRO:CD	2.05	0.86
24:X:4:LEU:HD22	24:X:52:VAL:HG21	1.56	0.86
5:E:214:THR:HG21	37:E:8410:HOH:O	1.74	0.86
25:Y:15:ARG:HH11	25:Y:15:ARG:HB3	1.41	0.86
22:V:9:CYS:SG	22:V:11:THR:HG23	2.14	0.86
30:4:74:CYS:SG	30:4:76:LYS:HB2	2.16	0.86
12:L:10:GLN:NE2	12:L:10:GLN:H	1.72	0.85
11:K:99:GLU:HA	37:K:7377:HOH:O	1.74	0.85
5:E:104:ASP:HA	5:E:107:ARG:HH12	1.39	0.85
4:D:140:LEU:HA	37:D:8580:HOH:O	1.76	0.85
4:D:162:MET:HE3	4:D:308:LEU:HD21	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:5445:HOH:O	4:D:216:LYS:HA	1.77	0.85
20:T:57:THR:HG22	20:T:59:ASP:H	1.41	0.85
24:X:122:ARG:HH21	24:X:154:ARG:HD2	1.42	0.85
1:A:2506:A:HO2'	1:A:2507:G:H8	0.87	0.85
12:L:29:LEU:HB3	12:L:55:VAL:HG11	1.57	0.84
13:M:133:VAL:HA	37:M:8578:HOH:O	1.75	0.84
28:2:8:GLN:HE22	28:2:11:LYS:NZ	1.74	0.84
10:J:150:LYS:HE2	37:J:8381:HOH:O	1.77	0.84
1:A:1184:C:H1'	37:A:7822:HOH:O	1.77	0.84
1:A:2755:G:H1'	37:A:5048:HOH:O	1.78	0.84
24:X:130:HIS:O	24:X:136:GLY:HA3	1.76	0.84
1:A:2094:G:H4'	4:D:245:SER:HB3	1.59	0.84
14:N:87:MET:HG2	30:4:46:ILE:CG2	2.06	0.84
1:A:2064:U:H5'	1:A:2652:U:O3'	1.78	0.84
1:A:2533:C:H5'	1:A:2533:C:H6	1.43	0.84
14:N:164:THR:HG23	14:N:165:SER:N	1.91	0.84
1:A:962:C:H1'	15:O:5:ARG:HH12	1.43	0.84
24:X:65:VAL:HA	24:X:68:THR:HG22	1.60	0.84
4:D:212:GLN:HB2	4:D:257:THR:HG21	1.57	0.84
9:I:12:ILE:HA	37:I:4499:HOH:O	1.77	0.84
7:G:6:GLU:HA	7:G:46:THR:HG22	1.60	0.83
1:A:1116:U:H3	1:A:1246:A:H62	1.26	0.83
6:F:105:SER:HB2	6:F:131:THR:HG23	1.58	0.83
1:A:1165:G:H4'	1:A:1174:A:O2'	1.78	0.83
1:A:1205:U:H2'	1:A:1206:U:H5'	1.61	0.83
21:U:9:LYS:HE3	21:U:13:ARG:NH1	1.93	0.82
6:F:20:LYS:HA	6:F:75:LEU:O	1.80	0.82
12:L:81:ARG:HB2	12:L:87:ARG:NH1	1.94	0.82
1:A:2271:G:OP2	37:A:9817:HOH:O	1.98	0.82
37:A:4163:HOH:O	14:N:189:VAL:HG21	1.78	0.82
29:3:41:HIS:H	29:3:45:ASN:HD22	1.27	0.82
1:A:541:C:H2'	1:A:542:A:H5''	1.61	0.82
1:A:1450:C:H4'	1:A:1451:C:OP2	1.78	0.82
12:L:10:GLN:HE21	12:L:10:GLN:H	1.24	0.81
27:1:38:LYS:HE2	27:1:45:LYS:HE2	1.62	0.81
4:D:18:ARG:HG3	4:D:256:GLN:HG3	1.63	0.81
19:S:39:THR:HB	19:S:42:GLU:HG3	1.60	0.81
1:A:288:A:H61	1:A:364:C:H42	1.27	0.81
12:L:39:GLY:HA2	37:L:4183:HOH:O	1.81	0.81
26:Z:220:GLU:HG2	37:Z:8552:HOH:O	1.81	0.81
1:A:541:C:C2'	1:A:542:A:H5''	2.10	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:27:ILE:HG22	6:F:28:GLY:H	1.45	0.81
9:I:23:ILE:HD13	9:I:67:LEU:HD23	1.60	0.81
37:A:9513:HOH:O	14:N:82:ARG:HD2	1.78	0.81
17:Q:59:ARG:NH2	17:Q:66:GLN:HE22	1.78	0.81
3:C:121:ALA:O	3:C:124:VAL:HG22	1.80	0.81
24:X:68:THR:HG23	24:X:69:ARG:HG2	1.61	0.81
14:N:164:THR:HG22	14:N:167:GLY:N	1.95	0.81
10:J:59:ASN:HD22	10:J:59:ASN:N	1.77	0.81
11:K:26:VAL:HG13	11:K:36:VAL:HG11	1.63	0.81
1:A:1209:C:H4'	37:A:5643:HOH:O	1.81	0.81
12:L:22:ASP:HB2	37:L:5264:HOH:O	1.78	0.81
1:A:2426:G:H1'	37:A:6453:HOH:O	1.81	0.80
4:D:321:PRO:HA	37:D:8653:HOH:O	1.80	0.80
1:A:870:G:C2'	1:A:871:G:H5''	2.10	0.80
24:X:122:ARG:HG2	24:X:122:ARG:HH11	1.43	0.80
1:A:1080:C:H4'	1:A:1081:A:OP1	1.80	0.80
10:J:26:LYS:HG2	10:J:28:ILE:H	1.46	0.80
13:M:79:ASP:HB3	37:M:8563:HOH:O	1.79	0.80
1:A:2502:C:H2'	1:A:2503:A:H5'	1.62	0.80
37:A:4832:HOH:O	14:N:146:GLN:HG2	1.82	0.80
3:C:36:ASP:OD2	3:C:85:ASP:HB2	1.80	0.80
4:D:190:MET:HE2	4:D:194:PHE:CD1	2.17	0.80
8:H:63:ILE:HB	8:H:64:PRO:HD3	1.63	0.80
16:P:42:GLU:HB2	37:P:2176:HOH:O	1.81	0.80
24:X:4:LEU:HD22	24:X:52:VAL:CG2	2.12	0.80
22:V:13:ILE:HG12	22:V:32:CYS:CB	2.12	0.80
3:C:35:GLY:O	3:C:36:ASP:HB3	1.80	0.80
12:L:14:LYS:HB2	12:L:45:PRO:HG2	1.62	0.80
12:L:62:PRO:HG3	12:L:65:ARG:HH21	1.46	0.80
25:Y:25:ARG:HD2	37:Y:3861:HOH:O	1.82	0.80
1:A:871:G:C5'	1:A:871:G:H8	1.96	0.79
15:O:144:GLY:O	15:O:147:ILE:HG22	1.81	0.79
25:Y:71:ARG:HB3	25:Y:88:GLU:OE1	1.83	0.79
1:A:2363:G:O3'	18:R:11:ARG:NH1	2.15	0.79
8:H:2:VAL:HG22	8:H:57:GLU:OE1	1.82	0.79
6:F:154:LYS:H	6:F:154:LYS:HD2	1.45	0.79
1:A:282:C:H1'	1:A:368:C:N4	1.96	0.79
7:G:97:VAL:HG12	37:G:4191:HOH:O	1.82	0.79
10:J:142:VAL:HG13	37:J:8379:HOH:O	1.82	0.79
1:A:56:G:H5''	23:W:50:ARG:HH12	1.48	0.79
29:3:35:ARG:HB2	37:3:2691:HOH:O	1.83	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:545:G:H5'	1:A:545:G:H8	1.47	0.79
10:J:56:ILE:HG22	10:J:61:LEU:HD22	1.65	0.79
11:K:19:MET:HE3	11:K:132:LEU:HD11	1.64	0.79
17:Q:115:SER:N	17:Q:118:GLN:HE21	1.77	0.79
19:S:18:LEU:HD12	19:S:143:VAL:HG11	1.65	0.79
10:J:139:ASP:N	10:J:140:PRO:HD3	1.97	0.79
1:A:1118:A:C8	1:A:1118:A:H3'	2.18	0.78
2:B:3020:G:H3'	37:B:2984:HOH:O	1.83	0.78
14:N:102:GLU:OE1	14:N:164:THR:HG21	1.82	0.78
15:O:7:LYS:HE3	18:R:21:ARG:O	1.84	0.78
26:Z:187:VAL:HG23	26:Z:192:ASP:CB	2.14	0.78
13:M:120:LEU:HD12	13:M:133:VAL:HG21	1.65	0.78
26:Z:216:ARG:HD3	37:Z:8574:HOH:O	1.83	0.78
1:A:1771:U:H4'	27:1:20:LEU:HD21	1.64	0.78
1:A:2433:A:H2'	1:A:2434:A:H8	1.48	0.78
11:K:74:ARG:HB3	11:K:74:ARG:HH11	1.49	0.78
1:A:560:C:H42	1:A:597:A:H61	1.30	0.78
1:A:2435:U:OP1	30:4:28:GLY:HA3	1.84	0.78
14:N:74:ARG:HH11	14:N:74:ARG:HG3	1.46	0.78
1:A:2466:G:H5''	37:A:4025:HOH:O	1.82	0.78
1:A:2502:C:C2'	1:A:2503:A:H5'	2.14	0.78
14:N:12:TRP:CE2	14:N:20:ILE:HD11	2.19	0.78
22:V:9:CYS:HA	22:V:52:THR:HG23	1.65	0.78
27:1:29:VAL:O	27:1:33:HIS:HB2	1.83	0.78
1:A:2466:G:OP1	37:A:4025:HOH:O	2.01	0.78
5:E:214:THR:HG23	37:E:8443:HOH:O	1.84	0.78
14:N:186:SER:O	14:N:189:VAL:HG12	1.83	0.78
1:A:21:G:C5'	19:S:2:ILE:HA	2.13	0.78
5:E:78:ARG:NH1	5:E:78:ARG:HG3	1.98	0.78
1:A:1835:U:C5	1:A:1840:A:N7	2.50	0.78
11:K:131:THR:HG22	11:K:134:GLU:H	1.47	0.78
25:Y:41:PHE:O	25:Y:43:VAL:HG23	1.82	0.78
37:A:6857:HOH:O	26:Z:141:THR:HG23	1.83	0.78
27:1:38:LYS:HG2	27:1:45:LYS:HG2	1.64	0.77
1:A:506:G:H22	1:A:509:A:C5'	1.96	0.77
4:D:238:ASN:HD22	4:D:240:GLY:N	1.82	0.77
1:A:820:G:OP1	27:1:17:ARG:NH2	2.17	0.77
37:A:6656:HOH:O	6:F:99:ASP:HA	1.84	0.77
37:A:5198:HOH:O	11:K:47:THR:HB	1.83	0.77
26:Z:186:ARG:HH11	26:Z:186:ARG:HG2	1.47	0.77
27:1:39:CYS:HA	27:1:47:LEU:HD11	1.65	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:113:SER:HB2	37:O:8560:HOH:O	1.83	0.77
1:A:1160:G:C5'	1:A:1161:A:H5'	2.14	0.77
14:N:169:ARG:HD2	37:N:8593:HOH:O	1.84	0.77
21:U:61:GLU:HG3	37:U:3851:HOH:O	1.82	0.77
10:J:139:ASP:HA	37:J:8369:HOH:O	1.83	0.77
12:L:74:VAL:HG13	12:L:113:ILE:HG23	1.66	0.77
1:A:2433:A:H2'	1:A:2434:A:C8	2.20	0.77
10:J:2:PRO:HB2	37:J:8364:HOH:O	1.84	0.77
5:E:5:ILE:HD11	5:E:16:VAL:CG2	2.13	0.77
13:M:67:ARG:O	13:M:71:GLU:HG3	1.85	0.77
22:V:6:CYS:SG	22:V:31:PHE:HA	2.24	0.77
6:F:64:ARG:HG2	6:F:67:ASP:HB3	1.67	0.76
19:S:8:ALA:HB1	19:S:13:THR:HG21	1.68	0.76
1:A:1118:A:H3'	1:A:1118:A:H8	1.48	0.76
23:W:12:THR:HG22	23:W:15:GLU:CG	2.15	0.76
24:X:6:GLN:HB2	24:X:26:ILE:HD12	1.66	0.76
1:A:1886:A:N3	37:A:5184:HOH:O	2.16	0.76
27:1:49:ARG:HD2	37:1:8425:HOH:O	1.85	0.76
1:A:2586:U:H3	1:A:2592:G:H22	1.31	0.76
1:A:558:C:H5'	37:A:5621:HOH:O	1.85	0.76
5:E:236:THR:H	5:E:239:ALA:HB3	1.51	0.76
23:W:1:THR:HG23	23:W:2:VAL:H	1.50	0.76
27:1:30:GLU:HA	27:1:33:HIS:HB3	1.68	0.76
1:A:645:U:OP2	13:M:4:LYS:HE2	1.85	0.76
3:C:69:LEU:HD21	3:C:120:ARG:HB3	1.67	0.76
12:L:62:PRO:HG3	12:L:65:ARG:NH2	1.99	0.76
19:S:106:GLY:HA2	19:S:109:MET:HE3	1.65	0.76
19:S:99:ALA:HB1	19:S:109:MET:CE	2.14	0.76
30:4:69:TYR:HB2	30:4:78:HIS:CE1	2.21	0.76
2:B:3006:C:H5''	15:O:37:ARG:HH12	1.48	0.76
23:W:42:ASN:HB3	37:W:7247:HOH:O	1.84	0.76
1:A:381:G:H5''	37:A:4688:HOH:O	1.84	0.76
1:A:2780:C:H1'	7:G:143:GLN:HE21	1.49	0.76
25:Y:76:ARG:HH11	25:Y:76:ARG:HG3	1.50	0.76
1:A:2748:G:H2'	37:A:7899:HOH:O	1.86	0.75
5:E:139:VAL:HG13	37:E:8455:HOH:O	1.83	0.75
1:A:2467:A:H3'	37:A:5819:HOH:O	1.85	0.75
1:A:56:G:H5''	23:W:50:ARG:NH1	2.01	0.75
8:H:58:GLU:HA	8:H:61:MET:HG3	1.69	0.75
1:A:1679:C:H5'	37:A:9711:HOH:O	1.86	0.75
5:E:47:GLY:HA2	5:E:92:PRO:HB2	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:57:THR:HG22	20:T:59:ASP:N	2.00	0.75
1:A:1684:A:H1'	29:3:43:ARG:HH22	1.51	0.75
1:A:2768:A:H2'	1:A:2769:C:O4'	1.86	0.75
2:B:3048:C:H4'	15:O:141:ARG:HH21	1.51	0.75
10:J:130:HIS:CD2	10:J:133:ILE:HD11	2.21	0.75
5:E:219:ASN:O	5:E:222:ASP:OD1	2.05	0.75
1:A:1172:G:H1'	37:A:5338:HOH:O	1.85	0.74
1:A:2346:C:O2'	6:F:52:THR:HG21	1.86	0.74
10:J:27:LYS:N	10:J:58:HIS:HD2	1.84	0.74
15:O:71:TRP:CE3	15:O:175:LEU:HD22	2.22	0.74
37:A:7357:HOH:O	18:R:9:GLY:HA2	1.87	0.74
1:A:1751:G:C2'	1:A:1752:G:H5''	2.15	0.74
1:A:2758:G:H2'	1:A:2759:C:C6	2.22	0.74
1:A:2812:A:N7	37:A:7874:HOH:O	2.19	0.74
3:C:153:ARG:HB2	3:C:153:ARG:HH11	1.52	0.74
27:1:46:LYS:HB2	27:1:57:CYS:SG	2.27	0.74
10:J:41:THR:HA	37:J:8395:HOH:O	1.86	0.74
15:O:43:VAL:HG13	15:O:118:ILE:HD11	1.70	0.74
14:N:87:MET:CB	30:4:46:ILE:HG21	2.17	0.74
1:A:541:C:H2'	1:A:542:A:C5'	2.17	0.74
1:A:559:U:H6	1:A:559:U:H5'	1.53	0.74
1:A:272:A:H3'	37:A:7887:HOH:O	1.87	0.74
1:A:877:G:H5'	1:A:878:G:OP1	1.88	0.74
15:O:48:VAL:CG1	15:O:55:ASP:HB3	2.17	0.74
1:A:2526:C:O2'	1:A:2527:U:H5'	1.87	0.74
14:N:59:GLY:HA3	14:N:141:ILE:CD1	2.17	0.74
1:A:1759:A:N7	37:A:9936:HOH:O	2.21	0.74
24:X:88:THR:HG22	24:X:89:ASP:N	2.03	0.74
1:A:2291:A:C8	1:A:2309:C:H5'	2.23	0.73
1:A:2432:C:O2'	1:A:2433:A:H5'	1.88	0.73
2:B:3014:G:H8	2:B:3014:G:H5'	1.53	0.73
10:J:140:PRO:HB3	37:J:8379:HOH:O	1.88	0.73
1:A:1886:A:H4'	37:1:8405:HOH:O	1.87	0.73
1:A:2506:A:O2'	1:A:2507:G:H8	1.66	0.73
1:A:284:C:H4'	1:A:285:A:O5'	1.87	0.73
27:1:31:ILE:O	27:1:35:LYS:HG3	1.88	0.73
1:A:1191:A:H3'	1:A:1192:A:H5''	1.68	0.73
1:A:2467:A:OP1	37:A:9444:HOH:O	2.06	0.73
1:A:2635:A:O2'	1:A:2636:C:H5'	1.89	0.73
7:G:107:PHE:CE2	7:G:108:LEU:HD13	2.23	0.73
30:4:25:VAL:HG22	30:4:68:LYS:HG3	1.68	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:143:THR:HG22	13:M:144:ASP:N	2.02	0.73
16:P:38:ARG:NH1	37:P:7674:HOH:O	2.20	0.73
1:A:711:G:H1'	37:A:7453:HOH:O	1.88	0.73
7:G:166:VAL:HG12	37:G:3134:HOH:O	1.88	0.73
9:I:12:ILE:HB	37:I:4714:HOH:O	1.89	0.73
10:J:150:LYS:HB2	10:J:157:ILE:HD12	1.71	0.73
15:O:86:LEU:HD12	15:O:125:ALA:HB2	1.70	0.73
1:A:113:A:H3'	1:A:114:A:H5''	1.70	0.73
1:A:2271:G:P	37:A:9817:HOH:O	2.46	0.73
37:A:7781:HOH:O	21:U:9:LYS:HB2	1.86	0.73
1:A:2467:A:C2'	37:A:5819:HOH:O	2.33	0.73
2:B:3006:C:C5'	15:O:37:ARG:NH1	2.52	0.73
15:O:183:ASP:OD2	15:O:186:LEU:HD12	1.89	0.73
5:E:115:LEU:O	5:E:118:THR:HB	1.89	0.73
22:V:9:CYS:CA	22:V:52:THR:HG23	2.19	0.73
1:A:1477:C:O2'	1:A:1478:U:H5'	1.87	0.72
1:A:2578:G:H5'	1:A:2578:G:H8	1.53	0.72
37:A:4440:HOH:O	4:D:27:ASN:HB2	1.88	0.72
11:K:74:ARG:CB	11:K:74:ARG:HH11	2.01	0.72
15:O:73:ALA:N	37:O:8567:HOH:O	2.22	0.72
30:4:48:ASN:ND2	30:4:50:GLY:N	2.38	0.72
3:C:88:ILE:HD13	3:C:100:PRO:CD	2.19	0.72
10:J:162:SER:CB	10:J:163:PRO:HD3	2.18	0.72
12:L:82:ARG:NH2	12:L:115:ARG:HG2	2.04	0.72
19:S:132:ARG:NH2	37:S:8585:HOH:O	2.20	0.72
24:X:84:VAL:HG12	37:X:6679:HOH:O	1.90	0.72
14:N:87:MET:CB	30:4:46:ILE:HD13	2.18	0.72
1:A:338:C:H4'	5:E:174:ILE:CD1	2.19	0.72
6:F:25:MET:HE1	6:F:37:ALA:HB1	1.69	0.72
13:M:52:LYS:HA	35:M:8510:CL:CL	2.27	0.72
19:S:39:THR:HG22	19:S:42:GLU:H	1.54	0.72
1:A:2276:U:H2'	1:A:2277:U:C6	2.25	0.72
10:J:49:VAL:O	10:J:157:ILE:HG23	1.90	0.72
10:J:5:MET:HG3	37:J:8364:HOH:O	1.89	0.72
27:1:42:CYS:SG	27:1:44:PHE:N	2.58	0.72
6:F:146:LYS:NZ	15:O:107:ASN:HD21	1.88	0.72
1:A:1909:A:N1	1:A:2128:G:H1'	2.04	0.72
6:F:88:LEU:HB2	6:F:89:PRO:HD3	1.72	0.72
10:J:3:GLY:HA2	10:J:57:ARG:HH12	1.55	0.72
1:A:1164:U:H3	1:A:1192:A:H2	1.35	0.72
1:A:69:A:H5'	1:A:69:A:C8	2.25	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69:A:H8	1:A:69:A:H5'	1.53	0.72
6:F:25:MET:CE	6:F:41:LEU:HG	2.20	0.72
11:K:45:VAL:HG23	11:K:130:VAL:O	1.90	0.72
1:A:182:G:H5'	37:A:5522:HOH:O	1.89	0.72
1:A:1874:U:H2'	3:C:120:ARG:HG3	1.70	0.72
7:G:20:ILE:HD11	7:G:40:VAL:HG11	1.72	0.72
10:J:141:ASN:HA	37:J:8365:HOH:O	1.90	0.72
10:J:14:TYR:H	10:J:91:HIS:CE1	2.08	0.72
13:M:30:ARG:NH2	37:M:8523:HOH:O	2.19	0.72
24:X:154:ARG:C	37:X:4276:HOH:O	2.27	0.72
1:A:2716:G:H5''	4:D:206:THR:HG21	1.72	0.72
4:D:162:MET:CE	4:D:308:LEU:HD21	2.19	0.72
14:N:59:GLY:HA3	14:N:141:ILE:HD12	1.71	0.72
1:A:1919:A:H4'	37:A:5211:HOH:O	1.89	0.71
2:B:3056:A:C2'	2:B:3057:A:H5''	2.19	0.71
4:D:314:ALA:HB3	4:D:317:PRO:HG3	1.72	0.71
4:D:329:TYR:CE2	22:V:15:PRO:HG2	2.25	0.71
22:V:13:ILE:HG12	22:V:32:CYS:HB2	1.71	0.71
1:A:2004:U:H4'	37:A:5669:HOH:O	1.91	0.71
4:D:36:PRO:HA	4:D:168:GLY:HA3	1.72	0.71
14:N:122:GLU:OE2	14:N:127:LYS:HE2	1.90	0.71
14:N:64:ARG:HD2	37:N:8588:HOH:O	1.88	0.71
15:O:119:GLN:O	15:O:123:ILE:HG13	1.89	0.71
24:X:88:THR:HG23	24:X:110:GLN:NE2	2.05	0.71
2:B:3092:G:H2'	2:B:3093:A:C8	2.25	0.71
7:G:23:GLU:HG2	7:G:28:SER:HB3	1.72	0.71
15:O:83:LEU:HD13	15:O:175:LEU:HD23	1.72	0.71
19:S:14:ALA:HB3	19:S:147:LEU:HB2	1.72	0.71
30:4:74:CYS:SG	30:4:76:LYS:CB	2.78	0.71
2:B:3023:U:H5''	2:B:3024:U:OP2	1.91	0.71
14:N:52:LEU:HD13	14:N:116:ASN:HB3	1.73	0.71
27:1:18:TYR:HB3	27:1:22:ILE:HG21	1.72	0.71
2:B:3007:G:H4'	15:O:55:ASP:OD2	1.90	0.71
5:E:246:ARG:NH1	5:E:246:ARG:HB3	2.05	0.71
14:N:172:GLY:O	14:N:183:VAL:HG11	1.91	0.71
26:Z:115:ARG:NE	37:Z:8559:HOH:O	2.22	0.71
1:A:1160:G:H5'	1:A:1161:A:C5'	2.16	0.71
1:A:175:G:H2'	14:N:192:ALA:HB3	1.71	0.71
1:A:603:A:H5''	1:A:604:G:OP1	1.91	0.71
2:B:3049:G:H5''	37:B:4707:HOH:O	1.90	0.71
7:G:31:ARG:NH1	37:G:5919:HOH:O	2.22	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:27:LYS:H	10:J:58:HIS:CD2	2.04	0.71
1:A:2851:G:O2'	1:A:2852:A:H5'	1.91	0.71
3:C:199:HIS:CD2	3:C:201:PHE:H	2.09	0.71
3:C:223:ARG:HG3	37:C:8610:HOH:O	1.90	0.71
10:J:47:GLU:HB3	10:J:133:ILE:HD13	1.72	0.71
1:A:1119:G:H2'	11:K:52:GLN:NE2	2.06	0.71
27:1:28:ASP:O	27:1:31:ILE:HG22	1.90	0.71
1:A:1329:A:H2	37:A:5049:HOH:O	1.74	0.71
1:A:2690:U:O2'	7:G:111:LYS:HE3	1.90	0.71
9:I:12:ILE:N	9:I:13:PRO:HD3	2.06	0.71
15:O:159:TYR:HB3	15:O:162:ASP:HB2	1.73	0.71
2:B:3029:C:H2'	2:B:3030:C:H5'	1.73	0.70
4:D:141:ARG:HD2	4:D:163:GLU:OE2	1.90	0.70
4:D:145:HIS:HD2	4:D:146:THR:O	1.74	0.70
7:G:15:GLN:HG3	7:G:20:ILE:HG12	1.72	0.70
12:L:34:VAL:HG22	12:L:47:ALA:HB2	1.71	0.70
1:A:1380:U:OP1	37:A:8414:HOH:O	2.09	0.70
1:A:1625:U:H4'	37:A:5033:HOH:O	1.89	0.70
1:A:1834:C:H2'	1:A:1840:A:N6	2.07	0.70
17:Q:98:ILE:HD12	17:Q:102:ARG:NE	2.06	0.70
26:Z:187:VAL:CG2	26:Z:192:ASP:HB2	2.21	0.70
1:A:2421:G:H3'	1:A:2422:U:H5"	1.74	0.70
1:A:289:G:H22	1:A:363:A:H2	1.40	0.70
4:D:258:GLY:H	4:D:260:HIS:HE1	1.33	0.70
12:L:10:GLN:HE21	12:L:10:GLN:N	1.89	0.70
27:1:23:ARG:NH1	37:1:8404:HOH:O	2.24	0.70
1:A:1176:C:H1'	37:A:4310:HOH:O	1.90	0.70
1:A:125:U:H2'	37:A:4146:HOH:O	1.91	0.70
1:A:2054:A:N3	19:S:128:ARG:NH2	2.40	0.70
1:A:2812:A:H2	1:A:2814:A:H62	1.36	0.70
5:E:61:PHE:HB3	37:E:8451:HOH:O	1.89	0.70
6:F:19:GLU:O	6:F:20:LYS:HG2	1.92	0.70
7:G:11:VAL:HG12	7:G:12:ASP:N	2.06	0.70
14:N:139:PRO:O	14:N:140:ALA:CB	2.39	0.70
15:O:61:ALA:HB3	15:O:88:ALA:HB2	1.73	0.70
1:A:1170:U:O2'	1:A:1172:G:N7	2.22	0.70
3:C:33:GLU:O	3:C:34:ASP:HB2	1.91	0.70
2:B:3006:C:OP1	15:O:37:ARG:NH1	2.24	0.70
1:A:1666:C:H2'	1:A:1667:A:H5'	1.73	0.70
21:U:71:VAL:HG11	21:U:90:PRO:CB	2.17	0.70
1:A:1130:U:H2'	1:A:1131:G:O4'	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1086:A:C6	24:X:11:VAL:HG11	2.26	0.70
2:B:3039:U:H1'	2:B:3044:A:H61	1.56	0.70
10:J:84:ARG:NH2	10:J:135:TRP:HH2	1.89	0.70
10:J:137:ASN:O	10:J:139:ASP:N	2.25	0.70
14:N:78:ASN:ND2	37:N:8654:HOH:O	2.24	0.70
37:A:7128:HOH:O	15:O:4:PRO:HD2	1.90	0.70
1:A:2710:U:H1'	37:A:7983:HOH:O	1.91	0.70
4:D:179:LEU:O	4:D:183:GLU:HG2	1.92	0.70
24:X:13:MET:HE1	24:X:18:GLN:HA	1.72	0.70
1:A:738:G:H3'	37:A:7405:HOH:O	1.92	0.69
4:D:307:ARG:HH11	4:D:307:ARG:HB2	1.57	0.69
6:F:57:THR:HG23	6:F:63:ILE:HG22	1.74	0.69
10:J:47:GLU:HB3	10:J:133:ILE:CD1	2.21	0.69
10:J:59:ASN:ND2	10:J:59:ASN:H	1.90	0.69
4:D:201:ASP:HB2	4:D:312:ARG:HD2	1.73	0.69
14:N:34:GLU:HB3	14:N:35:PRO:HD2	1.75	0.69
1:A:1699:C:H4'	37:A:6803:HOH:O	1.92	0.69
1:A:2267:G:OP1	37:A:3905:HOH:O	2.10	0.69
1:A:2508:C:H2'	37:A:7110:HOH:O	1.90	0.69
14:N:60:ILE:C	14:N:61:ILE:HD12	2.12	0.69
16:P:7:LEU:HD22	37:P:5650:HOH:O	1.91	0.69
1:A:236:A:H4'	1:A:237:G:H5'	1.75	0.69
23:W:39:ALA:N	23:W:40:PRO:HD2	2.08	0.69
1:A:168:C:O2'	1:A:169:A:H5'	1.92	0.69
1:A:338:C:H5''	37:E:8428:HOH:O	1.92	0.69
14:N:72:SER:OG	14:N:74:ARG:HB2	1.92	0.69
1:A:1701:A:H4'	1:A:1702:U:H5''	1.74	0.69
1:A:281:U:H2'	1:A:282:C:O4'	1.93	0.69
5:E:127:ARG:HD2	5:E:229:PRO:O	1.93	0.69
1:A:157:G:H4'	14:N:95:LYS:CE	2.22	0.69
10:J:56:ILE:HG22	10:J:61:LEU:CD2	2.22	0.69
1:A:1362:U:H5'	37:A:3641:HOH:O	1.92	0.69
5:E:37:ALA:HB2	37:E:8385:HOH:O	1.93	0.69
16:P:47:ARG:HH11	16:P:47:ARG:HG3	1.58	0.69
1:A:739:G:C5	37:A:7901:HOH:O	2.45	0.69
6:F:174:VAL:HG13	37:F:6555:HOH:O	1.93	0.69
37:A:7231:HOH:O	14:N:178:LYS:HB2	1.92	0.69
25:Y:78:GLU:CG	25:Y:79:GLU:H	2.05	0.69
5:E:77:ALA:O	5:E:78:ARG:HG3	1.93	0.69
10:J:55:GLN:NE2	10:J:124:ARG:HE	1.89	0.69
22:V:9:CYS:HA	22:V:52:THR:CG2	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:7811:HOH:O	4:D:211:THR:HG21	1.93	0.68
1:A:797:A:H4'	27:1:10:ARG:N	2.09	0.68
1:A:2361:A:H5''	37:A:9404:HOH:O	1.92	0.68
1:A:450:C:OP1	5:E:184:ARG:NH2	2.23	0.68
1:A:1130:U:H5'	37:A:8142:HOH:O	1.93	0.68
1:A:2783:A:H3'	37:A:5596:HOH:O	1.91	0.68
1:A:346:U:H4'	37:A:7200:HOH:O	1.93	0.68
14:N:84:LYS:HE2	37:N:8580:HOH:O	1.93	0.68
30:4:39:GLN:HA	30:4:42:ARG:NH2	2.08	0.68
1:A:1730:G:H5'	1:A:1731:C:C5	2.29	0.68
10:J:136:VAL:HG22	10:J:137:ASN:O	1.93	0.68
12:L:27:ARG:HD2	37:L:4747:HOH:O	1.93	0.68
17:Q:143:ALA:HA	37:Q:169:HOH:O	1.92	0.68
1:A:1086:A:N6	24:X:11:VAL:HG11	2.08	0.68
19:S:18:LEU:HD12	19:S:143:VAL:CG1	2.24	0.68
10:J:33:MET:HB2	10:J:83:PHE:HB3	1.75	0.68
11:K:103:VAL:HG12	37:K:5907:HOH:O	1.93	0.68
13:M:125:PHE:CZ	13:M:140:VAL:HG13	2.28	0.68
14:N:139:PRO:O	14:N:140:ALA:HB3	1.92	0.68
15:O:164:ASP:CG	15:O:167:ASP:HA	2.14	0.68
1:A:797:A:C4'	27:1:10:ARG:N	2.56	0.68
4:D:258:GLY:N	4:D:260:HIS:CE1	2.59	0.68
14:N:152:ARG:HG3	37:N:8558:HOH:O	1.94	0.68
14:N:35:PRO:O	37:N:8539:HOH:O	2.11	0.68
1:A:1118:A:H62	1:A:1244:U:H3	1.39	0.68
6:F:97:GLN:O	6:F:97:GLN:HG2	1.94	0.68
19:S:17:MET:SD	37:S:8549:HOH:O	2.52	0.68
37:A:7063:HOH:O	26:Z:165:GLU:HB3	1.93	0.68
27:1:30:GLU:HA	27:1:33:HIS:CB	2.24	0.68
1:A:2896:A:H5''	37:A:6460:HOH:O	1.92	0.68
4:D:248:ARG:NH2	37:D:8524:HOH:O	2.26	0.68
13:M:65:ASP:CG	13:M:111:ALA:HB3	2.14	0.68
14:N:74:ARG:NH2	37:N:8634:HOH:O	2.27	0.68
14:N:91:ILE:HG23	37:N:8652:HOH:O	1.94	0.68
16:P:32:ARG:HD3	16:P:32:ARG:O	1.93	0.68
5:E:127:ARG:HG2	5:E:127:ARG:HH11	1.58	0.68
1:A:1829:A:H61	27:1:18:TYR:HA	1.60	0.67
2:B:3020:G:O2'	2:B:3021:G:H5'	1.94	0.67
1:A:2408:A:H2	37:4:8517:HOH:O	1.76	0.67
1:A:815:U:OP1	37:A:3044:HOH:O	2.11	0.67
8:H:107:VAL:HG23	37:H:6617:HOH:O	1.93	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:182:G:O3'	14:N:157:LEU:HD13	1.94	0.67
24:X:122:ARG:NH2	24:X:154:ARG:HD2	2.07	0.67
1:A:2748:G:H5'	37:A:7899:HOH:O	1.93	0.67
1:A:948:G:N7	37:A:6210:HOH:O	2.26	0.67
3:C:53:ALA:HB3	37:C:8616:HOH:O	1.94	0.67
1:A:2604:A:H5'	37:A:6153:HOH:O	1.95	0.67
5:E:107:ARG:NH1	5:E:107:ARG:HB3	2.10	0.67
6:F:101:THR:HG22	37:F:7400:HOH:O	1.95	0.67
8:H:91:VAL:HG12	8:H:92:GLY:N	2.09	0.67
10:J:58:HIS:HA	10:J:61:LEU:HD23	1.76	0.67
1:A:1058:A:H2'	1:A:1060:C:H5''	1.75	0.67
11:K:19:MET:HE1	11:K:132:LEU:HD11	1.75	0.67
28:2:8:GLN:HE22	28:2:11:LYS:HZ2	1.41	0.67
1:A:542:A:H5'	1:A:542:A:C8	2.21	0.67
6:F:64:ARG:CG	6:F:67:ASP:HB3	2.24	0.67
6:F:95:THR:O	6:F:97:GLN:N	2.25	0.67
1:A:2123:A:P	14:N:89:ASN:HD22	2.18	0.67
1:A:1869:A:N3	37:A:9744:HOH:O	2.28	0.67
4:D:138:GLY:O	4:D:139:ASP:O	2.13	0.67
4:D:36:PRO:HA	4:D:168:GLY:CA	2.25	0.67
15:O:164:ASP:OD2	15:O:167:ASP:HA	1.95	0.67
15:O:61:ALA:CB	15:O:88:ALA:HB2	2.23	0.67
1:A:2467:A:C3'	37:A:5819:HOH:O	2.41	0.67
1:A:2502:C:H4'	10:J:151:MET:HG2	1.76	0.67
37:A:3176:HOH:O	12:L:39:GLY:HA3	1.94	0.67
1:A:2241:C:O2'	1:A:2242:U:H5'	1.95	0.67
1:A:2890:A:H1'	22:V:56:ARG:NH2	2.10	0.67
1:A:299:U:H5'	37:A:7695:HOH:O	1.95	0.67
1:A:821:U:H2'	1:A:822:C:H6	1.59	0.67
5:E:104:ASP:HA	5:E:107:ARG:NH1	2.08	0.67
9:I:12:ILE:HD12	37:I:692:HOH:O	1.94	0.67
10:J:45:GLN:HE21	10:J:135:TRP:HE1	1.41	0.67
1:A:1015:C:H2'	1:A:1016:U:H6	1.60	0.66
3:C:76:VAL:HG23	27:1:63:LYS:HB3	1.77	0.66
4:D:51:VAL:HG23	4:D:329:TYR:O	1.94	0.66
37:A:7813:HOH:O	5:E:188:ARG:HD2	1.95	0.66
37:A:6155:HOH:O	14:N:170:CYS:SG	2.53	0.66
2:B:3069:U:OP1	15:O:4:PRO:HG3	1.94	0.66
19:S:104:PHE:HB2	19:S:109:MET:HE1	1.75	0.66
1:A:2717:C:H2'	1:A:2718:C:C5'	2.20	0.66
37:B:5071:HOH:O	15:O:20:TYR:CE2	2.48	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:72:VAL:HG22	25:Y:85:VAL:HG12	1.76	0.66
3:C:199:HIS:HD2	3:C:201:PHE:H	1.42	0.66
4:D:72:THR:HB	37:D:8603:HOH:O	1.96	0.66
6:F:41:LEU:HA	6:F:44:ILE:HG22	1.76	0.66
6:F:64:ARG:O	6:F:67:ASP:OD2	2.12	0.66
1:A:2123:A:OP1	14:N:89:ASN:ND2	2.26	0.66
24:X:21:LEU:HD21	24:X:48:VAL:CG1	2.25	0.66
1:A:1651:C:OP1	37:A:5877:HOH:O	2.12	0.66
8:H:53:ASP:OD1	8:H:80:GLN:HB2	1.96	0.66
10:J:4:ALA:HB3	37:J:8364:HOH:O	1.94	0.66
10:J:69:ASN:O	10:J:72:VAL:HG12	1.95	0.66
17:Q:78:GLY:O	37:Q:155:HOH:O	2.13	0.66
18:R:11:ARG:HD3	37:R:5620:HOH:O	1.95	0.66
27:1:37:HIS:HB2	27:1:47:LEU:HB2	1.77	0.66
1:A:2781:U:H2'	1:A:2782:G:H5'	1.77	0.66
13:M:143:THR:HG22	13:M:145:LEU:H	1.59	0.66
1:A:21:G:H4'	19:S:2:ILE:HG22	1.78	0.66
29:3:39:ARG:HG2	37:3:3143:HOH:O	1.95	0.66
1:A:31:C:H2'	37:A:8158:HOH:O	1.96	0.66
37:B:4707:HOH:O	15:O:147:ILE:HD12	1.95	0.66
17:Q:58:SER:HB3	37:Q:186:HOH:O	1.94	0.66
27:1:53:GLY:HA2	27:1:67:GLY:O	1.96	0.66
1:A:1377:C:H5'	1:A:1377:C:H6	1.61	0.66
4:D:62:ARG:HA	4:D:65:MET:CE	2.24	0.66
14:N:114:VAL:HG21	14:N:159:THR:HG21	1.77	0.66
25:Y:66:THR:HG23	25:Y:67:PRO:HD2	1.77	0.66
27:1:75:ALA:HB3	37:1:8434:HOH:O	1.95	0.66
1:A:1474:C:H6	1:A:1474:C:C5'	2.07	0.66
1:A:775:G:OP1	28:2:16:HIS:HE1	1.79	0.66
15:O:12:ARG:HD3	15:O:18:THR:OG1	1.95	0.66
24:X:6:GLN:HB2	24:X:26:ILE:CD1	2.26	0.66
25:Y:18:ARG:NH1	37:Y:4132:HOH:O	2.24	0.66
1:A:1441:G:O2'	1:A:1442:A:H5'	1.95	0.66
1:A:1666:C:O2'	1:A:1667:A:H5''	1.96	0.66
1:A:2414:A:H2'	1:A:2415:A:C8	2.31	0.66
10:J:127:GLY:O	10:J:128:ALA:HB3	1.96	0.66
10:J:48:LEU:HG	10:J:157:ILE:HG21	1.78	0.66
1:A:461:C:H2'	37:A:4377:HOH:O	1.95	0.65
3:C:100:PRO:HG2	3:C:103:VAL:HG21	1.77	0.65
7:G:69:ILE:HA	7:G:72:MET:HE2	1.79	0.65
18:R:24:SER:O	37:R:2847:HOH:O	2.13	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:138:HIS:ND1	14:N:139:PRO:O	2.26	0.65
28:2:1:THR:HA	37:2:435:HOH:O	1.94	0.65
1:A:1741:U:H5'	1:A:1742:A:OP1	1.96	0.65
1:A:2281:C:C2'	1:A:2282:U:H5'	2.25	0.65
1:A:2359:G:N7	37:A:4080:HOH:O	2.28	0.65
4:D:312:ARG:HD3	4:D:315:VAL:HG13	1.77	0.65
25:Y:37:LEU:CD1	25:Y:85:VAL:HG21	2.25	0.65
1:A:2748:G:C5'	37:A:7899:HOH:O	2.43	0.65
1:A:671:A:O2'	1:A:672:G:H2'	1.97	0.65
10:J:166:ASN:N	10:J:166:ASN:HD22	1.93	0.65
12:L:74:VAL:HG11	12:L:113:ILE:HG12	1.79	0.65
23:W:4:HIS:HB3	37:W:6622:HOH:O	1.95	0.65
5:E:1:MET:HG2	5:E:2:GLN:H	1.61	0.65
6:F:35:ALA:N	37:F:5576:HOH:O	2.29	0.65
6:F:54:ALA:HB2	6:F:69:ILE:HD12	1.78	0.65
7:G:23:GLU:HG2	7:G:28:SER:CB	2.27	0.65
14:N:39:ARG:NH2	37:N:8626:HOH:O	2.30	0.65
30:4:65:THR:HG23	30:4:67:LEU:HG	1.77	0.65
8:H:46:GLU:O	8:H:73:PRO:HD2	1.97	0.65
24:X:13:MET:HE3	24:X:17:ILE:HG22	1.79	0.65
24:X:72:PRO:HG2	24:X:77:ALA:HB3	1.78	0.65
1:A:731:U:OP2	37:A:4402:HOH:O	2.14	0.65
1:A:1743:G:N7	37:A:9647:HOH:O	2.28	0.65
10:J:28:ILE:HA	10:J:62:GLU:OE1	1.96	0.65
1:A:2827:A:H2'	1:A:2828:G:O4'	1.96	0.65
6:F:135:VAL:HG22	6:F:136:ARG:H	1.60	0.65
14:N:68:ARG:HD3	14:N:68:ARG:O	1.96	0.65
15:O:71:TRP:HE3	15:O:175:LEU:HD22	1.62	0.65
19:S:132:ARG:CZ	37:S:8585:HOH:O	2.45	0.65
24:X:21:LEU:HD21	24:X:48:VAL:HG11	1.78	0.65
1:A:1874:U:OP1	37:A:4691:HOH:O	2.15	0.64
1:A:1923:G:H4'	30:4:31:THR:O	1.96	0.64
8:H:110:GLU:HG2	37:H:6926:HOH:O	1.95	0.64
15:O:32:PRO:HD2	15:O:99:GLU:O	1.97	0.64
25:Y:78:GLU:HG2	25:Y:79:GLU:N	2.10	0.64
1:A:2310:G:OP2	10:J:114:PRO:HD2	1.96	0.64
1:A:2421:G:H3'	1:A:2422:U:C5'	2.28	0.64
1:A:2459:G:OP1	30:4:64:LYS:N	2.19	0.64
6:F:55:LYS:HA	37:F:6752:HOH:O	1.97	0.64
16:P:14:LEU:HD23	16:P:102:ILE:HD11	1.78	0.64
17:Q:64:GLU:HG2	37:Q:170:HOH:O	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:18:LEU:HB2	19:S:143:VAL:HG12	1.78	0.64
5:E:162:VAL:HG12	5:E:192:ILE:HD11	1.78	0.64
6:F:69:ILE:O	6:F:69:ILE:HG22	1.96	0.64
11:K:74:ARG:O	11:K:78:ILE:HG12	1.98	0.64
21:U:9:LYS:HE3	21:U:13:ARG:HH11	1.61	0.64
1:A:1713:G:C2'	37:A:5435:HOH:O	2.44	0.64
1:A:1741:U:O2'	1:A:2723:G:H4'	1.97	0.64
11:K:19:MET:HE2	11:K:79:PHE:HA	1.78	0.64
27:1:30:GLU:HB3	27:1:34:LYS:HE3	1.80	0.64
1:A:1197:G:N2	37:A:6597:HOH:O	2.31	0.64
11:K:45:VAL:HG21	11:K:129:PHE:CD1	2.33	0.64
20:T:23:LYS:HE2	37:T:8330:HOH:O	1.97	0.64
26:Z:235:GLU:CD	26:Z:235:GLU:H	2.01	0.64
1:A:407:A:H5'	37:A:6386:HOH:O	1.97	0.64
1:A:485:A:N3	1:A:487:G:H5''	2.13	0.64
1:A:814:G:H4'	37:A:3507:HOH:O	1.97	0.64
10:J:136:VAL:HG23	37:J:8343:HOH:O	1.97	0.64
12:L:115:ARG:HG3	12:L:116:GLU:N	2.13	0.64
14:N:164:THR:CG2	14:N:167:GLY:H	2.03	0.64
1:A:1209:C:H2'	1:A:1210:G:H8	1.61	0.64
1:A:1484:G:H2'	37:A:9501:HOH:O	1.96	0.64
2:B:3003:A:H2'	37:B:2430:HOH:O	1.98	0.64
17:Q:87:ARG:HG2	37:Q:190:HOH:O	1.97	0.64
1:A:382:U:C5	1:A:406:G:N2	2.65	0.64
3:C:94:LEU:N	3:C:94:LEU:HD23	2.12	0.64
4:D:140:LEU:HD23	37:D:8580:HOH:O	1.96	0.64
15:O:49:THR:CG2	15:O:56:ASP:HB2	2.26	0.64
15:O:89:GLY:O	15:O:92:ALA:HB3	1.98	0.64
19:S:113:HIS:O	19:S:145:LEU:HD12	1.98	0.64
19:S:39:THR:HG23	19:S:107:GLU:O	1.97	0.64
1:A:447:A:OP1	21:U:2:LYS:HG2	1.97	0.64
1:A:1829:A:N6	27:1:18:TYR:HA	2.13	0.64
1:A:1119:G:N2	1:A:1246:A:C2	2.63	0.64
1:A:1594:C:OP2	17:Q:120:ARG:HD2	1.98	0.64
1:A:1659:A:H2'	1:A:1660:G:O4'	1.98	0.64
14:N:172:GLY:C	14:N:183:VAL:HG11	2.19	0.64
15:O:169:PRO:O	15:O:172:PHE:HB3	1.98	0.64
25:Y:15:ARG:NH1	25:Y:15:ARG:HB3	2.10	0.64
1:A:2763:G:OP1	12:L:9:THR:OG1	2.13	0.63
1:A:1234:U:N3	4:D:244:PRO:HB3	2.13	0.63
5:E:54:LEU:HD21	5:E:87:ARG:HD2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:37:ASP:OD1	11:K:125:SER:HB3	1.98	0.63
1:A:111:C:O2'	28:2:20:ARG:HG2	1.97	0.63
1:A:2431:C:N3	37:A:4064:HOH:O	2.30	0.63
1:A:263:U:O4'	8:H:59:ILE:HD13	1.99	0.63
5:E:12:THR:HB	37:E:8448:HOH:O	1.97	0.63
6:F:23:VAL:HG21	6:F:45:THR:HG21	1.79	0.63
7:G:79:GLY:HA3	37:G:7046:HOH:O	1.98	0.63
12:L:28:GLU:OE2	12:L:58:THR:HG21	1.99	0.63
24:X:137:GLN:HE21	24:X:141:HIS:CE1	2.09	0.63
26:Z:189:ASN:HD22	26:Z:189:ASN:C	2.01	0.63
27:1:47:LEU:HD23	27:1:57:CYS:HB2	1.80	0.63
1:A:2781:U:C2'	1:A:2782:G:H5'	2.28	0.63
1:A:282:C:H1'	1:A:368:C:H42	1.60	0.63
1:A:285:A:H2'	1:A:286:U:O4'	1.98	0.63
37:A:7384:HOH:O	3:C:211:LYS:HG2	1.97	0.63
17:Q:16:VAL:HG12	17:Q:17:GLY:N	2.13	0.63
1:A:926:A:O2'	13:M:41:HIS:HD2	1.80	0.63
10:J:55:GLN:HE22	10:J:91:HIS:CD2	2.16	0.63
24:X:110:GLN:HA	24:X:110:GLN:NE2	2.13	0.63
30:4:11:CYS:SG	30:4:71:CYS:HB2	2.39	0.63
1:A:2359:G:H3'	37:A:6051:HOH:O	1.97	0.63
1:A:2758:G:H2'	1:A:2759:C:H6	1.63	0.63
4:D:238:ASN:ND2	4:D:240:GLY:H	1.91	0.63
6:F:38:GLU:HB3	6:F:49:PRO:HG2	1.80	0.63
1:A:1003:U:HO2'	10:J:90:PHE:HE1	1.44	0.63
24:X:149:LEU:HG	24:X:153:MET:HE2	1.80	0.63
26:Z:144:ARG:CZ	37:Z:8616:HOH:O	2.46	0.63
1:A:2270:G:H4'	3:C:223:ARG:HH12	1.64	0.63
1:A:793:A:N3	37:A:4475:HOH:O	2.31	0.63
2:B:3107:C:C5	37:B:3167:HOH:O	2.51	0.63
14:N:113:ARG:NH2	14:N:156:ARG:HG2	2.14	0.63
24:X:21:LEU:HB3	24:X:26:ILE:HG12	1.80	0.63
1:A:2421:G:H4'	37:A:5144:HOH:O	1.98	0.63
4:D:141:ARG:HG2	4:D:165:ARG:HA	1.79	0.63
8:H:101:ALA:HA	37:H:5413:HOH:O	1.99	0.63
20:T:51:GLN:HE21	20:T:53:ASN:HD21	1.46	0.63
23:W:64:GLY:O	23:W:65:ASP:HB2	1.97	0.63
28:2:25:LYS:HE2	37:3:7213:HOH:O	1.98	0.63
1:A:1015:C:H2'	1:A:1016:U:C6	2.33	0.63
17:Q:103:THR:HA	17:Q:106:ARG:NH1	2.12	0.63
26:Z:200:THR:HG22	26:Z:201:GLU:CG	2.23	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3107:C:H5	37:B:3167:HOH:O	1.82	0.63
5:E:76:ARG:HD2	37:E:8441:HOH:O	1.99	0.63
14:N:61:ILE:N	14:N:61:ILE:HD12	2.14	0.63
3:C:171:LYS:NZ	37:C:8525:HOH:O	2.22	0.62
6:F:51:ARG:HD3	37:F:7636:HOH:O	1.99	0.62
14:N:48:ARG:NH2	37:N:8565:HOH:O	2.32	0.62
18:R:64:GLU:HG3	18:R:74:ASP:OD2	1.97	0.62
24:X:21:LEU:HD22	24:X:26:ILE:CD1	2.29	0.62
30:4:35:TRP:HA	30:4:38:ARG:NH1	2.13	0.62
1:A:1185:U:H5'	37:A:7822:HOH:O	1.99	0.62
1:A:2437:A:H2'	1:A:2438:G:C8	2.34	0.62
6:F:23:VAL:HG23	6:F:23:VAL:O	1.99	0.62
6:F:91:ALA:HB1	37:F:5198:HOH:O	1.99	0.62
7:G:69:ILE:HA	7:G:72:MET:CE	2.29	0.62
8:H:99:THR:HA	37:H:3461:HOH:O	2.00	0.62
10:J:71:TYR:C	10:J:73:GLN:H	2.03	0.62
22:V:46:ALA:HB1	22:V:52:THR:HG21	1.81	0.62
1:A:1116:U:O2'	1:A:1118:A:C2	2.51	0.62
1:A:1872:C:C2	37:A:7669:HOH:O	2.50	0.62
1:A:2769:C:H2'	1:A:2770:G:O4'	2.00	0.62
13:M:114:VAL:HG11	37:M:8578:HOH:O	1.99	0.62
14:N:37:VAL:HG21	14:N:108:LYS:HG3	1.80	0.62
15:O:48:VAL:HG11	15:O:55:ASP:HB3	1.81	0.62
1:A:1759:A:N3	1:A:1818:C:H2'	2.14	0.62
1:A:2419:U:H5''	1:A:2420:G:H5'	1.82	0.62
1:A:488:U:H2'	37:A:4384:HOH:O	1.99	0.62
1:A:776:A:OP1	28:2:28:HIS:HE1	1.82	0.62
1:A:871:G:C5'	1:A:871:G:C8	2.74	0.62
1:A:820:G:C6	3:C:171:LYS:HB2	2.34	0.62
6:F:22:VAL:HG22	6:F:74:THR:HG22	1.81	0.62
24:X:122:ARG:HH22	24:X:154:ARG:C	2.01	0.62
1:A:1878:G:H1'	37:A:6482:HOH:O	2.00	0.62
4:D:71:VAL:HG11	4:D:296:LEU:HB3	1.82	0.62
8:H:50:VAL:HG21	8:H:63:ILE:HG21	1.81	0.62
1:A:2346:C:H6	1:A:2346:C:O5'	1.83	0.62
3:C:37:VAL:HG22	37:C:8605:HOH:O	2.00	0.62
1:A:1053:G:OP1	10:J:12:PRO:HG3	1.98	0.62
14:N:61:ILE:HG13	37:N:8626:HOH:O	1.99	0.62
15:O:154:LEU:O	15:O:155:GLU:HB3	1.99	0.62
24:X:139:GLY:O	24:X:141:HIS:HD2	1.83	0.62
1:A:157:G:H4'	14:N:95:LYS:HE2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2533:C:H5'	1:A:2533:C:C6	2.32	0.62
2:B:3047:A:C2	2:B:3048:C:C2	2.87	0.62
6:F:105:SER:CB	6:F:131:THR:HG23	2.30	0.62
15:O:37:ARG:NH2	37:O:8534:HOH:O	2.32	0.62
22:V:14:GLU:O	22:V:17:THR:HB	1.99	0.62
1:A:2276:U:H2'	1:A:2277:U:H6	1.65	0.62
1:A:2301:A:H5''	1:A:2302:A:H5'	1.82	0.62
9:I:23:ILE:O	9:I:27:ILE:HG13	2.00	0.62
10:J:3:GLY:HA2	10:J:57:ARG:NH1	2.14	0.62
37:A:4060:HOH:O	14:N:79:LYS:HD3	1.98	0.62
1:A:558:C:O2'	1:A:559:U:H5''	2.00	0.62
3:C:179:MET:HG2	3:C:186:TRP:CB	2.30	0.62
4:D:74:ILE:HD13	4:D:309:VAL:HG21	1.80	0.62
4:D:85:ARG:NH1	37:D:8632:HOH:O	2.32	0.62
5:E:27:ARG:HG3	5:E:29:ASP:OD1	1.99	0.62
27:1:39:CYS:CB	27:1:47:LEU:HD21	2.29	0.62
1:A:1942:A:H3'	37:A:7704:HOH:O	2.00	0.62
1:A:282:C:O2'	1:A:283:U:H5'	2.00	0.62
1:A:303:C:O2'	1:A:304:G:H5'	2.00	0.62
1:A:396:U:H1'	37:A:7991:HOH:O	1.99	0.62
9:I:12:ILE:N	9:I:13:PRO:CD	2.63	0.62
14:N:74:ARG:HG3	14:N:74:ARG:NH1	2.10	0.62
19:S:39:THR:HB	19:S:42:GLU:CG	2.29	0.62
19:S:61:GLN:NE2	37:S:8541:HOH:O	2.32	0.62
24:X:22:GLU:HG2	24:X:27:HIS:CD2	2.35	0.62
9:I:64:ASN:N	9:I:64:ASN:HD22	1.96	0.61
1:A:902:G:N7	13:M:18:HIS:HD2	1.98	0.61
15:O:151:ASP:O	15:O:154:LEU:HB2	2.00	0.61
1:A:1268:C:O2'	1:A:1269:G:H5'	2.00	0.61
1:A:12:U:H2'	1:A:13:G:H5'	1.81	0.61
1:A:1819:G:H2'	1:A:1820:G:H4'	1.81	0.61
1:A:2531:U:O2'	1:A:2532:A:H5'	2.00	0.61
4:D:314:ALA:CB	4:D:317:PRO:HG3	2.30	0.61
7:G:3:VAL:HG22	7:G:49:ILE:HB	1.82	0.61
10:J:86:ARG:NH1	10:J:130:HIS:CD2	2.69	0.61
10:J:29:ALA:HB3	10:J:65:ARG:NH1	2.06	0.61
37:A:3837:HOH:O	11:K:46:ILE:HD12	1.99	0.61
1:A:2428:G:O6	1:A:2464:C:H1'	2.01	0.61
1:A:567:U:H5''	37:X:5817:HOH:O	2.00	0.61
2:B:3014:G:H5'	2:B:3014:G:C8	2.34	0.61
5:E:180:SER:HB2	37:E:8452:HOH:O	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:50:VAL:HG13	8:H:60:VAL:HG11	1.82	0.61
12:L:28:GLU:HG2	12:L:58:THR:HB	1.83	0.61
24:X:141:HIS:HB2	24:X:146:ILE:HG12	1.82	0.61
28:2:21:ARG:HD2	28:2:37:CYS:SG	2.41	0.61
1:A:2505:G:O2'	1:A:2506:A:H5'	2.00	0.61
10:J:53:PRO:HG3	10:J:127:GLY:H	1.64	0.61
13:M:104:ASP:HB3	37:M:8569:HOH:O	1.99	0.61
1:A:280:C:H2'	1:A:281:U:O4'	2.01	0.61
3:C:105:VAL:CG1	3:C:154:ALA:HB1	2.30	0.61
17:Q:115:SER:O	17:Q:117:SER:N	2.34	0.61
1:A:1164:U:C4'	1:A:1165:G:OP1	2.44	0.61
1:A:1974:G:OP1	37:A:7219:HOH:O	2.16	0.61
3:C:88:ILE:CD1	3:C:100:PRO:HD3	2.29	0.61
3:C:131:HIS:O	3:C:132:ASP:HB2	1.99	0.61
4:D:103:ASP:HB2	37:D:8591:HOH:O	1.99	0.61
11:K:79:PHE:O	11:K:83:ILE:HG13	2.00	0.61
15:O:11:ARG:HG3	15:O:14:ARG:NH1	2.14	0.61
24:X:106:THR:OG1	24:X:109:GLU:HG3	2.00	0.61
1:A:2123:A:P	14:N:89:ASN:ND2	2.73	0.61
1:A:661:G:C5	1:A:686:A:C2	2.88	0.61
37:A:3079:HOH:O	4:D:254:GLN:HG3	2.00	0.61
17:Q:83:LYS:O	17:Q:86:ALA:HB3	2.01	0.61
21:U:50:VAL:HG12	21:U:56:ALA:HA	1.81	0.61
24:X:81:ASP:OD1	24:X:92:ASP:HB2	2.00	0.61
1:A:558:C:C2'	1:A:559:U:H5''	2.31	0.61
4:D:305:ASP:O	4:D:306:LYS:HB2	2.01	0.61
11:K:75:PRO:HG2	11:K:105:LEU:HD21	1.81	0.61
37:B:5071:HOH:O	15:O:23:ARG:HD3	2.00	0.61
19:S:17:MET:HE1	19:S:19:ARG:NH2	2.16	0.61
1:A:1120:U:H5'	1:A:1121:G:OP2	2.00	0.61
1:A:2466:G:C5'	37:A:4025:HOH:O	2.45	0.61
3:C:192:VAL:O	3:C:192:VAL:HG12	2.00	0.61
4:D:204:GLY:HA3	37:D:8649:HOH:O	2.01	0.61
37:A:7813:HOH:O	5:E:188:ARG:CD	2.48	0.61
14:N:164:THR:CG2	14:N:165:SER:N	2.59	0.61
37:A:9782:HOH:O	14:N:94:LYS:HE2	2.00	0.61
3:C:88:ILE:O	3:C:88:ILE:HG22	2.00	0.61
6:F:67:ASP:O	6:F:69:ILE:HG13	2.01	0.61
1:A:2432:C:C4'	37:A:3119:HOH:O	2.46	0.60
1:A:500:G:H21	19:S:98:ASN:HD21	1.49	0.60
4:D:223:ARG:HG3	4:D:232:TRP:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:62:ARG:HA	4:D:65:MET:HE2	1.82	0.60
6:F:95:THR:C	6:F:97:GLN:H	2.04	0.60
1:A:2435:U:P	30:4:28:GLY:HA3	2.40	0.60
1:A:1972:U:H2'	1:A:1973:A:H5'	1.83	0.60
1:A:2081:A:H4'	11:K:69:TYR:CE1	2.36	0.60
1:A:2717:C:O2'	1:A:2718:C:H5''	2.01	0.60
1:A:349:U:O2'	1:A:350:C:H5'	2.01	0.60
10:J:26:LYS:HD2	10:J:28:ILE:CD1	2.28	0.60
14:N:173:LEU:HD23	14:N:183:VAL:CG1	2.31	0.60
27:1:57:CYS:O	27:1:61:GLY:N	2.31	0.60
1:A:2105:C:H2'	1:A:2106:C:C6	2.36	0.60
5:E:16:VAL:HG12	5:E:17:ASP:N	2.16	0.60
13:M:145:LEU:O	13:M:148:GLU:HG3	2.01	0.60
16:P:87:THR:O	16:P:91:GLN:HG3	2.02	0.60
24:X:65:VAL:HA	24:X:68:THR:CG2	2.31	0.60
29:3:18:ASN:HD21	29:3:40:ARG:H	1.46	0.60
1:A:1393:A:H2'	1:A:1394:C:C6	2.36	0.60
1:A:2506:A:O2'	1:A:2507:G:O5'	2.19	0.60
3:C:211:LYS:NZ	37:C:8579:HOH:O	2.34	0.60
29:3:41:HIS:N	29:3:45:ASN:HD22	1.98	0.60
30:4:73:GLU:HB3	37:4:8561:HOH:O	2.00	0.60
1:A:1788:U:C2	1:A:1805:G:N2	2.69	0.60
1:A:1942:A:O2'	1:A:1943:C:H5'	2.01	0.60
1:A:2621:U:OP2	37:A:3360:HOH:O	2.16	0.60
6:F:170:TYR:O	6:F:171:ASP:HB3	2.01	0.60
25:Y:15:ARG:HH11	25:Y:15:ARG:CB	2.12	0.60
27:1:11:THR:CG2	27:1:23:ARG:HB2	2.32	0.60
1:A:2468:A:H61	30:4:48:ASN:HD21	1.48	0.60
30:4:18:GLN:OE1	30:4:73:GLU:HB3	2.01	0.60
1:A:39:G:N2	1:A:444:C:C2	2.70	0.60
2:B:3039:U:H1'	2:B:3044:A:N6	2.16	0.60
9:I:12:ILE:HG13	37:I:6833:HOH:O	2.00	0.60
10:J:147:ARG:HA	10:J:150:LYS:NZ	2.17	0.60
14:N:96:ASN:ND2	37:N:8542:HOH:O	2.28	0.60
26:Z:216:ARG:CD	37:Z:8574:HOH:O	2.47	0.60
1:A:470:U:O2'	28:2:16:HIS:HD2	1.83	0.60
1:A:1123:A:C6	1:A:1238:C:H5'	2.37	0.60
1:A:2584:G:C2	1:A:2585:G:N7	2.69	0.60
1:A:1884:G:O6	3:C:190:ARG:HD2	2.01	0.60
37:A:7042:HOH:O	21:U:38:ARG:NH1	2.35	0.60
1:A:1165:G:H3'	1:A:1165:G:OP1	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1667:A:H5'	1:A:1667:A:H8	1.67	0.60
1:A:1918:U:OP2	37:A:4400:HOH:O	2.16	0.60
6:F:65:GLU:HG3	37:F:6752:HOH:O	2.00	0.60
11:K:93:ARG:HH11	11:K:93:ARG:HB3	1.66	0.60
17:Q:105:LEU:HD21	17:Q:137:LEU:HD21	1.82	0.60
1:A:1182:C:H1'	1:A:1192:A:H8	1.67	0.60
1:A:134:U:C2	1:A:145:A:C2	2.90	0.60
11:K:107:ASN:ND2	11:K:109:TYR:H	2.00	0.60
11:K:75:PRO:HG2	11:K:105:LEU:CD2	2.32	0.60
23:W:39:ALA:C	23:W:41:GLU:H	2.05	0.60
27:1:39:CYS:HA	27:1:47:LEU:CD1	2.32	0.60
28:2:8:GLN:HE22	28:2:11:LYS:HZ1	1.48	0.60
6:F:54:ALA:CB	6:F:69:ILE:HD12	2.31	0.60
8:H:19:ALA:O	8:H:22:VAL:HG22	2.02	0.60
10:J:75:SER:O	10:J:79:ALA:HB2	2.02	0.60
1:A:2104:C:O2	1:A:2486:A:C2	2.55	0.59
1:A:386:G:N7	37:A:5778:HOH:O	2.31	0.59
4:D:297:VAL:HB	37:D:8603:HOH:O	2.02	0.59
27:1:62:TYR:CE2	27:1:64:ILE:HG23	2.37	0.59
28:2:5:THR:N	28:2:6:PRO:HD2	2.16	0.59
1:A:1751:G:H2'	1:A:1752:G:C5'	2.21	0.59
1:A:182:G:O3'	14:N:157:LEU:CD1	2.50	0.59
2:B:3001:U:O3'	2:B:3003:A:H5"	2.02	0.59
4:D:207:LYS:HG2	4:D:304:PRO:HB3	1.84	0.59
4:D:7:ARG:HG2	4:D:7:ARG:HH11	1.67	0.59
6:F:135:VAL:HG22	6:F:136:ARG:N	2.17	0.59
37:A:4937:HOH:O	14:N:86:MET:SD	2.57	0.59
15:O:47:LEU:HD13	15:O:97:VAL:HG11	1.84	0.59
26:Z:186:ARG:NH1	26:Z:186:ARG:HG2	2.15	0.59
14:N:87:MET:HB3	30:4:46:ILE:HG21	1.84	0.59
1:A:1834:C:H2'	1:A:1840:A:H62	1.66	0.59
1:A:2316:G:H8	37:A:6015:HOH:O	1.85	0.59
1:A:2326:U:H4'	1:A:2412:G:C4'	2.33	0.59
1:A:659:A:H5"	37:P:6799:HOH:O	2.01	0.59
4:D:55:ASN:HB3	4:D:63:GLU:HA	1.83	0.59
5:E:178:GLN:OE1	37:E:8474:HOH:O	2.16	0.59
6:F:19:GLU:HG3	37:F:6165:HOH:O	2.01	0.59
12:L:109:LEU:HD13	12:L:113:ILE:HD11	1.84	0.59
17:Q:55:LYS:CA	37:Q:185:HOH:O	2.41	0.59
24:X:21:LEU:HD22	24:X:26:ILE:HD11	1.84	0.59
25:Y:74:ALA:CB	25:Y:85:VAL:HG22	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1887:U:OP1	27:1:21:LYS:HE3	2.02	0.59
1:A:611:U:H2'	1:A:612:U:C6	2.37	0.59
20:T:81:ILE:HG23	37:T:8336:HOH:O	2.02	0.59
26:Z:155:ARG:NH1	37:Z:8561:HOH:O	2.35	0.59
14:N:87:MET:CG	30:4:46:ILE:HD13	2.33	0.59
1:A:1713:G:H1'	37:A:5435:HOH:O	2.02	0.59
1:A:691:G:N2	1:A:694:A:OP2	2.28	0.59
1:A:951:A:C2'	1:A:952:G:H5'	2.33	0.59
4:D:88:GLU:HG3	4:D:88:GLU:O	2.01	0.59
5:E:246:ARG:HH11	5:E:246:ARG:HB3	1.66	0.59
10:J:13:ALA:HA	10:J:91:HIS:CE1	2.38	0.59
12:L:99:ASP:OD1	12:L:101:ASN:N	2.36	0.59
21:U:37:GLN:OE1	21:U:118:SER:HA	2.02	0.59
1:A:138:U:H5''	1:A:139:C:OP2	2.03	0.59
4:D:154:VAL:HG12	4:D:156:LYS:HG2	1.84	0.59
4:D:7:ARG:HD3	4:D:9:GLY:O	2.03	0.59
6:F:99:ASP:CB	6:F:103:ASN:H	2.16	0.59
8:H:34:ASN:HA	14:N:4:ALA:HB2	1.84	0.59
17:Q:105:LEU:CD2	17:Q:137:LEU:HD21	2.33	0.59
1:A:121:U:OP2	29:3:10:ARG:NH2	2.36	0.59
1:A:1127:C:H2'	1:A:1128:U:H5'	1.84	0.59
1:A:2459:G:P	30:4:64:LYS:HB2	2.42	0.59
1:A:447:A:O2'	1:A:448:G:H5'	2.03	0.59
2:B:3002:U:H4'	2:B:3002:U:OP2	2.03	0.59
2:B:3044:A:O4'	6:F:76:ARG:NE	2.36	0.59
1:A:154:C:H2'	1:A:155:C:H6	1.67	0.59
1:A:920:C:H4'	1:A:921:G:C2	2.37	0.59
3:C:101:GLU:OE2	3:C:131:HIS:HB2	2.03	0.59
10:J:44:ALA:HA	10:J:163:PRO:O	2.02	0.59
14:N:37:VAL:HG21	14:N:108:LYS:CG	2.32	0.59
17:Q:115:SER:HG	17:Q:118:GLN:HG3	1.67	0.59
22:V:38:ASN:O	22:V:42:LEU:HG	2.03	0.59
27:1:22:ILE:O	27:1:26:VAL:HG23	2.03	0.59
1:A:1461:U:H2'	1:A:1462:C:C6	2.38	0.59
1:A:553:G:P	26:Z:204:ARG:HH22	2.26	0.59
4:D:75:GLU:C	4:D:77:PRO:HD3	2.22	0.59
5:E:191:SER:OG	5:E:192:ILE:N	2.36	0.59
6:F:155:HIS:NE2	37:F:7597:HOH:O	2.32	0.59
15:O:34:LEU:HA	15:O:47:LEU:HD23	1.85	0.59
21:U:48:VAL:HG23	21:U:98:VAL:HA	1.84	0.59
24:X:75:GLY:HA3	37:X:5763:HOH:O	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:629:A:C2	1:A:2074:A:C2	2.91	0.59
1:A:2247:C:H5''	37:A:7702:HOH:O	2.02	0.59
1:A:739:G:N7	37:A:7901:HOH:O	2.35	0.59
4:D:190:MET:HE2	4:D:194:PHE:HD1	1.66	0.59
13:M:104:ASP:O	13:M:105:TYR:HB3	2.03	0.59
24:X:125:HIS:HE1	37:X:3071:HOH:O	1.85	0.59
1:A:184:G:H5''	14:N:153:THR:HG22	1.84	0.58
1:A:1951:G:N2	37:A:6623:HOH:O	2.35	0.58
1:A:2548:C:OP2	4:D:5:ARG:NH2	2.36	0.58
6:F:166:ILE:HD12	37:F:6326:HOH:O	2.03	0.58
14:N:52:LEU:HD13	14:N:116:ASN:CB	2.33	0.58
17:Q:80:ARG:HG2	17:Q:87:ARG:CZ	2.33	0.58
24:X:88:THR:CG2	24:X:89:ASP:H	2.12	0.58
1:A:1185:U:H2'	1:A:1186:C:C6	2.38	0.58
1:A:2314:G:C2'	1:A:2315:C:H5'	2.33	0.58
1:A:382:U:C5	1:A:406:G:C2	2.91	0.58
1:A:926:A:O2'	13:M:41:HIS:CD2	2.56	0.58
2:B:3029:C:C2'	2:B:3030:C:H5'	2.33	0.58
6:F:25:MET:CE	6:F:37:ALA:HB1	2.32	0.58
19:S:111:ILE:HG23	19:S:145:LEU:HD11	1.84	0.58
1:A:1515:A:H2'	1:A:1516:C:C6	2.38	0.58
1:A:2587:U:H2'	1:A:2589:U:H5''	1.85	0.58
13:M:143:THR:CG2	13:M:144:ASP:N	2.66	0.58
14:N:58:GLN:HG3	37:N:8610:HOH:O	2.03	0.58
14:N:87:MET:SD	30:4:46:ILE:HD13	2.43	0.58
1:A:1766:U:O2	1:A:1778:A:H5'	2.04	0.58
15:O:91:ARG:HG3	15:O:186:LEU:HD23	1.85	0.58
17:Q:59:ARG:HH22	17:Q:66:GLN:HE22	1.50	0.58
19:S:44:VAL:O	19:S:48:GLU:HG3	2.04	0.58
1:A:105:G:O2'	1:A:106:A:H5'	2.02	0.58
1:A:544:G:C2'	1:A:545:G:H5''	2.34	0.58
4:D:217:ARG:HG3	4:D:257:THR:HG22	1.84	0.58
5:E:133:ARG:HD2	37:E:8419:HOH:O	2.03	0.58
6:F:36:ASN:HA	37:F:7500:HOH:O	2.03	0.58
7:G:126:ILE:HB	7:G:131:LEU:CD2	2.33	0.58
14:N:154:ARG:HD3	37:N:8648:HOH:O	2.03	0.58
1:A:1730:G:H5'	1:A:1731:C:C6	2.39	0.58
1:A:2594:C:O2'	1:A:2595:U:H5'	2.04	0.58
7:G:31:ARG:HH12	7:G:68:HIS:CE1	2.21	0.58
8:H:107:VAL:O	8:H:111:ILE:HG13	2.02	0.58
15:O:86:LEU:O	15:O:90:LEU:HG	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:31:ILE:O	25:Y:35:GLU:HG3	2.04	0.58
1:A:1666:C:C2'	1:A:1667:A:H5'	2.33	0.58
1:A:2694:A:H4'	7:G:91:PHE:CE1	2.38	0.58
5:E:236:THR:HA	37:E:8458:HOH:O	2.03	0.58
10:J:147:ARG:HA	10:J:150:LYS:HZ2	1.69	0.58
20:T:80:ARG:HG2	37:T:8336:HOH:O	2.02	0.58
23:W:11:MET:HB3	23:W:15:GLU:HB2	1.85	0.58
1:A:1535:G:H2'	1:A:1536:C:C6	2.39	0.58
1:A:1773:G:C8	27:1:16:PRO:HA	2.39	0.58
1:A:2115:U:H2'	1:A:2116:U:C6	2.38	0.58
1:A:2761:A:C4	1:A:2763:G:C8	2.91	0.58
1:A:407:A:C2	1:A:408:A:C4	2.92	0.58
1:A:558:C:H2'	1:A:559:U:C5'	2.34	0.58
37:A:5336:HOH:O	10:J:57:ARG:HG3	2.04	0.58
13:M:54:PRO:HG2	13:M:57:VAL:CG2	2.34	0.58
14:N:97:ILE:CD1	14:N:127:LYS:HD2	2.34	0.58
19:S:119:VAL:O	19:S:119:VAL:HG12	2.03	0.58
19:S:119:VAL:HG21	19:S:142:ASP:CG	2.24	0.58
29:3:22:PRO:HG2	29:3:25:VAL:HG23	1.86	0.58
30:4:3:MET:O	30:4:90:PHE:HA	2.04	0.58
1:A:2878:U:H2'	1:A:2879:A:O4'	2.04	0.58
2:B:3057:A:N6	37:B:3535:HOH:O	2.32	0.58
3:C:94:LEU:HG	3:C:99:ILE:HD11	1.85	0.58
6:F:86:THR:O	6:F:90:LEU:HG	2.04	0.58
7:G:126:ILE:HB	7:G:131:LEU:HD23	1.84	0.58
8:H:48:VAL:HG23	8:H:74:PHE:CB	2.34	0.58
11:K:130:VAL:HG12	11:K:131:THR:N	2.17	0.58
25:Y:75:ALA:O	25:Y:83:ALA:HA	2.04	0.58
1:A:2094:G:C4'	4:D:245:SER:HB3	2.32	0.58
15:O:43:VAL:CG1	15:O:118:ILE:HD11	2.33	0.58
1:A:2281:C:H2'	1:A:2282:U:H5'	1.84	0.57
5:E:142:ASP:OD1	5:E:237:GLU:HB3	2.04	0.57
11:K:107:ASN:HD21	11:K:109:TYR:HB2	1.68	0.57
19:S:18:LEU:HB2	19:S:143:VAL:CG1	2.34	0.57
4:D:205:VAL:O	4:D:307:ARG:NE	2.37	0.57
1:A:240:C:H4'	14:N:146:GLN:NE2	2.20	0.57
23:W:56:ILE:O	23:W:60:GLN:HG3	2.04	0.57
24:X:80:ASP:O	24:X:84:VAL:HG23	2.03	0.57
1:A:1528:A:H2'	1:A:1529:G:O4'	2.04	0.57
1:A:2748:G:OP1	1:A:2749:U:H5''	2.04	0.57
4:D:264:GLU:HG2	4:D:267:LYS:CE	2.30	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:44:ILE:HG23	6:F:45:THR:HG23	1.86	0.57
7:G:7:ILE:HG22	7:G:45:ASP:O	2.04	0.57
13:M:148:GLU:HA	37:M:8577:HOH:O	2.02	0.57
14:N:97:ILE:HD13	14:N:127:LYS:HD2	1.87	0.57
24:X:108:ARG:HE	24:X:114:PRO:HG3	1.69	0.57
24:X:4:LEU:O	24:X:32:CYS:HA	2.04	0.57
1:A:1132:A:N6	1:A:1229:C:H2'	2.20	0.57
1:A:1681:G:H5''	1:A:1682:A:H5'	1.86	0.57
1:A:2465:A:H3'	37:A:4025:HOH:O	2.04	0.57
1:A:2791:U:H1'	1:A:2792:A:H5''	1.86	0.57
1:A:816:G:H5'	1:A:1598:A:H4'	1.85	0.57
1:A:834:G:H4'	1:A:835:U:OP2	2.04	0.57
15:O:22:GLN:HG2	15:O:26:LEU:HD22	1.85	0.57
18:R:75:ILE:CD1	18:R:84:ILE:HD11	2.35	0.57
20:T:53:ASN:ND2	37:T:8321:HOH:O	2.37	0.57
1:A:189:A:OP1	14:N:171:ARG:NH2	2.38	0.57
1:A:537:G:C6	1:A:620:A:C8	2.92	0.57
13:M:136:ALA:HB3	37:M:8578:HOH:O	2.05	0.57
24:X:54:PHE:CZ	24:X:140:LYS:HB2	2.39	0.57
14:N:87:MET:HB3	30:4:46:ILE:HD13	1.86	0.57
1:A:1174:A:C5	1:A:1201:C:H4'	2.39	0.57
1:A:2256:G:H2'	1:A:2257:G:H5'	1.87	0.57
3:C:140:LEU:HB3	3:C:141:PRO:HD2	1.87	0.57
8:H:117:GLU:C	8:H:119:ARG:H	2.06	0.57
8:H:46:GLU:N	37:H:3461:HOH:O	2.37	0.57
1:A:371:U:H2'	1:A:372:A:H8	1.69	0.57
6:F:37:ALA:O	6:F:40:ILE:HG12	2.05	0.57
8:H:47:LEU:HB2	8:H:108:LEU:HD11	1.87	0.57
13:M:10:SER:O	13:M:11:ARG:HB3	2.04	0.57
14:N:55:LYS:HB2	14:N:60:ILE:CD1	2.35	0.57
15:O:141:ARG:HB3	37:O:8570:HOH:O	2.05	0.57
37:E:8360:HOH:O	16:P:3:THR:HG21	2.04	0.57
21:U:69:LYS:O	21:U:71:VAL:HG23	2.04	0.57
1:A:1135:G:H5'	37:A:6290:HOH:O	2.03	0.57
1:A:2840:A:OP1	4:D:211:THR:HG23	2.05	0.57
6:F:44:ILE:HG12	6:F:83:PHE:HE1	1.68	0.57
8:H:58:GLU:OE1	14:N:27:ARG:NH2	2.38	0.57
10:J:117:LYS:O	10:J:119:VAL:HG13	2.05	0.57
14:N:89:ASN:HA	37:N:8556:HOH:O	2.04	0.57
16:P:113:VAL:O	16:P:114:ILE:HD13	2.05	0.57
1:A:524:A:H5'	19:S:29:LYS:HE2	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:544:G:H2'	1:A:545:G:H5''	1.87	0.57
4:D:275:GLY:O	4:D:291:ASP:HA	2.05	0.57
7:G:15:GLN:NE2	7:G:40:VAL:O	2.36	0.57
10:J:75:SER:HB3	10:J:79:ALA:HB1	1.85	0.57
37:A:8150:HOH:O	14:N:154:ARG:HB2	2.05	0.57
15:O:37:ARG:NE	37:O:8534:HOH:O	2.37	0.57
15:O:58:LEU:HD12	15:O:58:LEU:N	2.20	0.57
26:Z:187:VAL:HB	37:Z:8575:HOH:O	2.04	0.57
1:A:1471:A:H2'	1:A:1472:C:C6	2.40	0.57
1:A:1733:A:H4'	4:D:212:GLN:HA	1.87	0.57
1:A:2637:A:H5'	37:A:9663:HOH:O	2.04	0.57
1:A:2638:G:H1'	37:A:8230:HOH:O	2.05	0.57
5:E:162:VAL:HG12	5:E:162:VAL:O	2.03	0.57
5:E:236:THR:CG2	5:E:239:ALA:H	1.95	0.57
15:O:154:LEU:HG	15:O:155:GLU:H	1.68	0.57
1:A:2908:A:H2'	1:A:2909:G:O4'	2.04	0.56
1:A:329:A:OP2	5:E:206:ASN:HB2	2.05	0.56
1:A:920:C:H5'	1:A:921:G:C4	2.39	0.56
13:M:143:THR:HG22	13:M:144:ASP:H	1.70	0.56
14:N:38:VAL:C	14:N:63:VAL:HG13	2.25	0.56
2:B:3048:C:H4'	15:O:141:ARG:NH2	2.20	0.56
15:O:67:ALA:HA	15:O:71:TRP:H	1.67	0.56
21:U:101:LEU:HD13	21:U:112:LEU:HD11	1.86	0.56
5:E:168:ARG:NH2	5:E:190:ALA:O	2.38	0.56
5:E:39:GLN:O	5:E:43:LYS:HD3	2.05	0.56
10:J:62:GLU:O	10:J:66:VAL:HG23	2.05	0.56
26:Z:99:ALA:HB2	26:Z:233:TYR:CZ	2.40	0.56
1:A:2405:C:P	37:A:6957:HOH:O	2.63	0.56
1:A:251:C:O2'	1:A:252:C:H5'	2.05	0.56
1:A:694:A:H2'	1:A:695:C:H5'	1.87	0.56
4:D:132:HIS:CE1	4:D:171:VAL:HG21	2.39	0.56
1:A:449:A:N7	5:E:43:LYS:HG2	2.19	0.56
10:J:46:VAL:HG12	10:J:146:TRP:HZ3	1.70	0.56
11:K:19:MET:HE1	11:K:132:LEU:CD1	2.35	0.56
14:N:57:LYS:HE2	14:N:140:ALA:O	2.05	0.56
17:Q:94:TRP:CZ2	17:Q:98:ILE:HG13	2.40	0.56
24:X:119:HIS:HD2	24:X:120:PRO:O	1.89	0.56
26:Z:189:ASN:ND2	26:Z:192:ASP:H	2.04	0.56
1:A:1249:U:H2'	1:A:1250:C:C6	2.40	0.56
3:C:36:ASP:HA	3:C:83:GLY:HA3	1.87	0.56
5:E:236:THR:O	5:E:237:GLU:C	2.42	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:99:ASP:HB2	6:F:103:ASN:HB2	1.87	0.56
12:L:55:VAL:HG12	12:L:56:SER:N	2.20	0.56
15:O:37:ARG:CZ	37:O:8534:HOH:O	2.54	0.56
37:A:6387:HOH:O	18:R:50:GLY:HA2	2.05	0.56
22:V:31:PHE:CG	22:V:37:GLU:HG2	2.40	0.56
23:W:39:ALA:O	23:W:41:GLU:N	2.38	0.56
23:W:39:ALA:N	23:W:40:PRO:CD	2.67	0.56
24:X:4:LEU:HD23	24:X:54:PHE:HB3	1.88	0.56
1:A:113:A:H3'	1:A:114:A:C5'	2.35	0.56
1:A:1181:A:H2'	1:A:1182:C:O4'	2.05	0.56
1:A:2483:A:HO2'	1:A:2484:U:H5	1.53	0.56
3:C:25:ALA:HA	37:C:8571:HOH:O	2.04	0.56
12:L:34:VAL:CG2	12:L:47:ALA:HB2	2.34	0.56
13:M:149:ARG:O	13:M:150:GLN:HB2	2.06	0.56
14:N:74:ARG:O	14:N:88:VAL:CG1	2.46	0.56
21:U:1:SER:N	37:U:5837:HOH:O	2.39	0.56
26:Z:112:GLU:HA	26:Z:112:GLU:OE1	2.06	0.56
1:A:1333:U:H2'	1:A:1334:C:C6	2.40	0.56
1:A:2121:G:C2'	1:A:2122:C:H5'	2.35	0.56
3:C:199:HIS:HD2	3:C:201:PHE:HB2	1.69	0.56
37:A:4988:HOH:O	3:C:6:GLY:HA3	2.04	0.56
12:L:14:LYS:HG3	12:L:32:ILE:O	2.06	0.56
30:4:48:ASN:HD22	30:4:50:GLY:H	1.47	0.56
1:A:1527:A:H1'	1:A:1528:A:C8	2.40	0.56
1:A:2329:C:O2'	1:A:2330:U:H5'	2.04	0.56
1:A:281:U:H3'	37:A:7566:HOH:O	2.06	0.56
1:A:777:U:O2'	28:2:11:LYS:HG2	2.05	0.56
5:E:129:HIS:HD2	5:E:165:ASP:OD2	1.89	0.56
5:E:221:GLU:OE1	37:E:8332:HOH:O	2.18	0.56
6:F:41:LEU:HA	6:F:44:ILE:CG2	2.35	0.56
6:F:64:ARG:CD	6:F:67:ASP:HB3	2.36	0.56
10:J:130:HIS:CG	10:J:133:ILE:HD11	2.40	0.56
12:L:30:LYS:O	12:L:55:VAL:HG13	2.05	0.56
24:X:88:THR:HG23	24:X:110:GLN:HE21	1.71	0.56
1:A:2547:C:H2'	1:A:2548:C:H6	1.69	0.56
3:C:135:VAL:HG21	3:C:147:ARG:NH1	2.21	0.56
3:C:105:VAL:HG11	3:C:154:ALA:HB1	1.86	0.56
4:D:2:GLN:HA	37:D:8619:HOH:O	2.05	0.56
6:F:38:GLU:OE2	6:F:51:ARG:CZ	2.54	0.56
7:G:31:ARG:NH1	7:G:68:HIS:CG	2.74	0.56
8:H:100:ASP:O	8:H:101:ALA:O	2.24	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:104:TYR:HA	37:K:2238:HOH:O	2.04	0.56
19:S:114:VAL:O	19:S:114:VAL:HG13	2.06	0.56
23:W:44:GLY:O	23:W:48:GLU:HG2	2.05	0.56
24:X:122:ARG:CG	24:X:122:ARG:HH11	2.16	0.56
26:Z:117:LEU:HD12	26:Z:174:VAL:HG11	1.87	0.56
4:D:148:PRO:HD2	37:D:8581:HOH:O	2.05	0.56
4:D:55:ASN:HB3	4:D:64:GLY:H	1.70	0.56
5:E:162:VAL:HG13	5:E:232:LEU:HD21	1.86	0.56
6:F:99:ASP:HB3	6:F:103:ASN:H	1.71	0.56
8:H:91:VAL:HG12	8:H:92:GLY:H	1.70	0.56
14:N:114:VAL:HB	14:N:159:THR:HG23	1.86	0.56
14:N:35:PRO:HG3	14:N:38:VAL:HG23	1.87	0.56
27:1:25:ARG:O	27:1:29:VAL:HG23	2.06	0.56
27:1:42:CYS:SG	27:1:43:GLY:N	2.79	0.56
30:4:60:LYS:HD2	30:4:61:PRO:HD2	1.88	0.56
1:A:2719:A:OP1	37:A:4389:HOH:O	2.18	0.56
3:C:105:VAL:HG13	3:C:155:THR:O	2.06	0.56
7:G:7:ILE:HD11	7:G:11:VAL:O	2.06	0.56
11:K:133:GLY:O	11:K:137:GLU:HG3	2.06	0.56
11:K:39:VAL:HG13	11:K:106:GLY:O	2.05	0.56
13:M:21:ARG:N	37:M:8533:HOH:O	2.39	0.56
13:M:72:ASN:O	13:M:76:LEU:HG	2.05	0.56
14:N:104:ARG:O	14:N:108:LYS:HG2	2.05	0.56
14:N:52:LEU:HD13	14:N:116:ASN:CG	2.26	0.56
14:N:87:MET:HE1	37:N:8532:HOH:O	2.05	0.56
30:4:62:THR:HB	37:4:8551:HOH:O	2.04	0.56
1:A:128:A:H3'	1:A:128:A:C8	2.40	0.56
1:A:2787:C:H5	37:A:4999:HOH:O	1.88	0.56
1:A:564:G:H1'	37:A:6670:HOH:O	2.06	0.56
3:C:211:LYS:NZ	37:C:8631:HOH:O	2.39	0.56
13:M:89:PHE:N	37:M:8576:HOH:O	2.39	0.56
37:B:4707:HOH:O	15:O:147:ILE:HB	2.05	0.56
24:X:139:GLY:O	24:X:141:HIS:CD2	2.58	0.56
1:A:1187:U:O2'	1:A:1189:A:H2	1.89	0.55
1:A:1189:A:O2'	1:A:1208:C:H2'	2.05	0.55
1:A:1166:A:H1'	1:A:1192:A:N1	2.20	0.55
1:A:2450:C:H3'	37:A:5544:HOH:O	2.06	0.55
1:A:921:G:H4'	1:A:924:G:C6	2.42	0.55
3:C:81:GLN:HB2	3:C:92:ASN:ND2	2.21	0.55
4:D:307:ARG:HH11	4:D:307:ARG:CB	2.20	0.55
4:D:41:PHE:HA	4:D:79:MET:HE2	1.86	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:10:PHE:CG	6:F:11:HIS:N	2.74	0.55
2:B:3040:C:N4	6:F:51:ARG:HB2	2.21	0.55
6:F:50:VAL:O	6:F:71:ALA:HA	2.06	0.55
10:J:75:SER:C	10:J:79:ALA:HB2	2.27	0.55
12:L:32:ILE:HD11	12:L:56:SER:HB3	1.89	0.55
1:A:188:C:H5''	14:N:163:LEU:HD21	1.87	0.55
22:V:17:THR:HG22	22:V:18:GLY:N	2.21	0.55
1:A:1119:G:H2'	11:K:52:GLN:HE22	1.68	0.55
1:A:1183:C:N4	37:A:4768:HOH:O	2.34	0.55
1:A:1497:G:H4'	1:A:1627:G:O2'	2.06	0.55
1:A:1862:C:H1'	37:A:7579:HOH:O	2.06	0.55
1:A:2064:U:H4'	1:A:2653:A:P	2.47	0.55
1:A:2897:C:H2'	1:A:2898:G:H8	1.69	0.55
7:G:20:ILE:CD1	7:G:40:VAL:HG11	2.35	0.55
13:M:73:VAL:HG23	13:M:74:THR:H	1.70	0.55
15:O:34:LEU:HD22	15:O:129:ILE:CD1	2.35	0.55
26:Z:154:ARG:HH12	26:Z:155:ARG:HG3	1.70	0.55
27:1:37:HIS:O	27:1:45:LYS:HA	2.05	0.55
29:3:18:ASN:ND2	29:3:40:ARG:H	2.05	0.55
30:4:10:TYR:HB2	30:4:17:HIS:CE1	2.41	0.55
1:A:1008:C:H5''	10:J:16:ARG:HH12	1.71	0.55
1:A:453:A:H4'	1:A:455:A:N7	2.21	0.55
3:C:9:ARG:HG2	3:C:16:PHE:CD2	2.42	0.55
6:F:23:VAL:HG22	6:F:73:VAL:HB	1.87	0.55
37:A:3539:HOH:O	14:N:87:MET:HE3	2.05	0.55
21:U:9:LYS:CE	21:U:13:ARG:NH1	2.66	0.55
1:A:625:U:H5''	1:A:1044:C:N4	2.21	0.55
1:A:156:C:H5''	14:N:171:ARG:CD	2.26	0.55
1:A:2634:G:O2'	1:A:2635:A:H5'	2.06	0.55
4:D:175:LEU:C	4:D:175:LEU:HD23	2.26	0.55
15:O:159:TYR:HE2	15:O:163:PHE:HE2	1.54	0.55
1:A:1205:U:H2'	1:A:1206:U:C5'	2.34	0.55
1:A:2266:A:P	37:A:6221:HOH:O	2.63	0.55
3:C:211:LYS:HB3	3:C:212:PRO:CD	2.33	0.55
7:G:10:ASP:HA	37:G:3707:HOH:O	2.06	0.55
1:A:214:U:H5'	37:A:6502:HOH:O	2.05	0.55
1:A:2783:A:O2'	1:A:2784:A:H5'	2.06	0.55
1:A:553:G:O4'	1:A:1325:G:H5'	2.06	0.55
1:A:681:G:N3	1:A:681:G:H5'	2.22	0.55
4:D:221:GLN:HE22	12:L:42:ASN:HD22	1.52	0.55
5:E:200:PRO:HB3	5:E:212:VAL:HG23	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:126:ASN:O	11:K:129:PHE:HE2	1.90	0.55
15:O:24:LEU:O	15:O:28:LYS:HG2	2.06	0.55
26:Z:185:VAL:HA	37:Z:8567:HOH:O	2.05	0.55
1:A:1119:G:H8	11:K:52:GLN:HE22	1.54	0.55
1:A:1159:G:H21	1:A:1189:A:H8	1.53	0.55
1:A:1299:G:N2	37:A:5049:HOH:O	2.40	0.55
1:A:1717:A:H5''	17:Q:54:LYS:HB2	1.89	0.55
1:A:2324:G:H4'	1:A:2418:G:O2'	2.07	0.55
1:A:714:U:H3'	37:A:7299:HOH:O	2.07	0.55
8:H:99:THR:O	8:H:100:ASP:HB2	2.06	0.55
14:N:59:GLY:HA3	14:N:141:ILE:HD11	1.88	0.55
1:A:1168:C:H2'	1:A:1169:U:O4'	2.06	0.55
1:A:2256:G:C2'	1:A:2257:G:H5'	2.37	0.55
1:A:2467:A:P	37:A:9444:HOH:O	2.64	0.55
1:A:289:G:O2'	1:A:290:C:H5'	2.06	0.55
1:A:485:A:O2'	1:A:487:G:H5'	2.07	0.55
2:B:3031:C:H1'	37:B:1137:HOH:O	2.07	0.55
12:L:74:VAL:HG12	12:L:75:ARG:HG3	1.89	0.55
13:M:57:VAL:HG12	13:M:57:VAL:O	2.06	0.55
14:N:85:ARG:NE	37:N:8519:HOH:O	2.40	0.55
1:A:2563:U:H2'	1:A:2565:C:O5'	2.07	0.55
3:C:109:GLU:HG2	3:C:116:GLY:H	1.71	0.55
1:A:1874:U:P	3:C:51:ARG:HD2	2.47	0.55
4:D:329:TYR:HE2	22:V:15:PRO:HG2	1.72	0.55
4:D:32:ASP:HA	37:D:8574:HOH:O	2.06	0.55
6:F:11:HIS:O	6:F:12:GLU:HB3	2.06	0.55
12:L:65:ARG:HD3	37:L:5358:HOH:O	2.07	0.55
20:T:37:VAL:O	20:T:41:VAL:HG23	2.06	0.55
24:X:110:GLN:HA	24:X:110:GLN:HE21	1.71	0.55
26:Z:112:GLU:CD	26:Z:115:ARG:NH1	2.60	0.55
26:Z:178:HIS:CG	26:Z:179:PRO:HD2	2.42	0.55
27:1:30:GLU:HB2	37:1:8414:HOH:O	2.07	0.55
1:A:2507:G:H2'	1:A:2510:C:H42	1.72	0.55
37:A:9608:HOH:O	3:C:11:ARG:HD3	2.06	0.55
4:D:185:GLY:HA2	37:D:8631:HOH:O	2.07	0.55
8:H:100:ASP:HB3	37:H:5691:HOH:O	2.07	0.55
9:I:64:ASN:O	9:I:68:GLU:HG3	2.07	0.55
11:K:46:ILE:HG12	11:K:53:ILE:HD13	1.89	0.55
24:X:90:TYR:CE2	24:X:99:ALA:HB2	2.42	0.55
26:Z:154:ARG:NH1	26:Z:155:ARG:HG3	2.22	0.55
1:A:1187:U:H2'	37:A:7253:HOH:O	2.05	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2524:G:H21	1:A:2526:C:N4	2.04	0.54
1:A:2781:U:H2'	1:A:2782:G:C5'	2.36	0.54
1:A:2756:U:H3	1:A:2896:A:H2	1.52	0.54
1:A:29:C:O2'	1:A:30:U:H5'	2.07	0.54
3:C:191:GLY:HA2	3:C:194:MET:HE3	1.89	0.54
3:C:199:HIS:CD2	3:C:201:PHE:HB2	2.42	0.54
37:A:9476:HOH:O	4:D:214:PRO:HD2	2.07	0.54
5:E:184:ARG:NE	37:E:8420:HOH:O	2.32	0.54
11:K:127:ILE:N	35:K:8501:CL:CL	2.67	0.54
12:L:75:ARG:CZ	37:L:4172:HOH:O	2.54	0.54
21:U:47:THR:HB	21:U:100:ASP:HB3	1.89	0.54
22:V:11:THR:HG22	22:V:53:ASP:OD2	2.06	0.54
24:X:4:LEU:CD2	24:X:52:VAL:HG21	2.32	0.54
25:Y:70:ILE:HG23	25:Y:70:ILE:O	2.07	0.54
26:Z:107:PRO:HB3	26:Z:182:PHE:CE2	2.42	0.54
27:1:19:GLY:O	27:1:23:ARG:HG2	2.06	0.54
1:A:1118:A:C8	1:A:1118:A:C3'	2.85	0.54
1:A:2836:G:C6	1:A:2838:A:C2	2.95	0.54
3:C:57:ALA:HA	3:C:67:LEU:HD23	1.88	0.54
10:J:35:ASN:ND2	10:J:80:ASN:HA	2.22	0.54
14:N:84:LYS:HA	30:4:46:ILE:O	2.06	0.54
15:O:184:ILE:HG22	15:O:185:GLU:HG3	1.88	0.54
15:O:107:ASN:OD1	35:O:8507:CL:CL	2.62	0.54
1:A:1500:U:P	17:Q:41:ARG:HH22	2.30	0.54
24:X:65:VAL:HG12	24:X:116:LEU:HD13	1.89	0.54
27:1:46:LYS:HE2	37:1:8436:HOH:O	2.07	0.54
1:A:1503:U:H2'	1:A:1504:A:O4'	2.07	0.54
1:A:283:U:H5''	1:A:284:C:P	2.47	0.54
5:E:65:ARG:HG3	5:E:67:GLN:HB2	1.89	0.54
14:N:123:ASP:C	14:N:123:ASP:OD1	2.46	0.54
16:P:14:LEU:CD2	16:P:102:ILE:HD11	2.36	0.54
22:V:33:SER:O	22:V:37:GLU:HG3	2.07	0.54
24:X:38:THR:HG22	24:X:39:ASP:N	2.22	0.54
1:A:20:G:H21	19:S:117:HIS:HD2	1.55	0.54
1:A:2453:G:H5''	37:M:8546:HOH:O	2.06	0.54
1:A:2502:C:C4'	10:J:151:MET:HG2	2.36	0.54
17:Q:115:SER:C	17:Q:117:SER:H	2.11	0.54
29:3:41:HIS:H	29:3:45:ASN:ND2	2.01	0.54
1:A:1589:G:N2	1:A:1605:G:H1'	2.23	0.54
1:A:1743:G:H1'	37:A:5254:HOH:O	2.06	0.54
1:A:1787:C:OP1	17:Q:68:LYS:HE2	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2111:G:H1'	37:A:9448:HOH:O	2.07	0.54
3:C:192:VAL:O	3:C:192:VAL:CG1	2.55	0.54
3:C:217:ARG:HG2	3:C:229:ALA:HB2	1.90	0.54
11:K:39:VAL:HG12	11:K:40:ASN:ND2	2.22	0.54
17:Q:31:ILE:HG12	17:Q:43:LEU:HD13	1.90	0.54
22:V:47:ARG:HG3	37:V:4381:HOH:O	2.07	0.54
25:Y:74:ALA:HB2	25:Y:85:VAL:HG13	1.89	0.54
30:4:74:CYS:SG	30:4:76:LYS:CG	2.95	0.54
30:4:84:ARG:HB3	37:4:8551:HOH:O	2.08	0.54
1:A:1250:C:O2'	1:A:1251:C:H5'	2.08	0.54
2:B:3049:G:O2'	2:B:3050:G:H5'	2.08	0.54
4:D:27:ASN:HB3	37:D:8626:HOH:O	2.07	0.54
5:E:25:PRO:HG2	37:E:8324:HOH:O	2.08	0.54
10:J:150:LYS:HA	10:J:153:VAL:HG22	1.89	0.54
24:X:121:PRO:HA	24:X:153:MET:HG2	1.89	0.54
28:2:28:HIS:O	28:2:32:LYS:N	2.40	0.54
2:B:3023:U:C5'	2:B:3024:U:OP2	2.55	0.54
5:E:111:VAL:HB	37:E:8323:HOH:O	2.07	0.54
7:G:84:MET:HE1	7:G:148:ILE:HD12	1.89	0.54
10:J:166:ASN:N	10:J:166:ASN:ND2	2.55	0.54
10:J:59:ASN:ND2	10:J:59:ASN:N	2.51	0.54
12:L:106:GLY:HA3	37:L:5264:HOH:O	2.07	0.54
25:Y:76:ARG:O	25:Y:77:PHE:HB3	2.07	0.54
1:A:1583:U:H1'	37:A:3355:HOH:O	2.07	0.54
1:A:920:C:H4'	1:A:921:G:N2	2.21	0.54
3:C:18:ALA:O	3:C:20:SER:N	2.38	0.54
4:D:7:ARG:NH1	4:D:11:LEU:HD22	2.23	0.54
5:E:127:ARG:HG2	5:E:127:ARG:NH1	2.23	0.54
5:E:40:ALA:CB	5:E:100:LEU:HD12	2.38	0.54
6:F:23:VAL:HG21	6:F:45:THR:CG2	2.37	0.54
25:Y:9:VAL:HG22	25:Y:88:GLU:OE2	2.07	0.54
29:3:48:ASP:O	29:3:49:GLU:HB2	2.08	0.54
1:A:1134:G:H4'	10:J:151:MET:CE	2.28	0.54
1:A:1421:C:O2'	1:A:1422:U:H5'	2.08	0.54
1:A:396:U:H4'	37:A:4800:HOH:O	2.08	0.54
1:A:420:U:H2'	1:A:421:C:C6	2.42	0.54
3:C:109:GLU:HG2	3:C:116:GLY:N	2.23	0.54
3:C:29:HIS:CE1	3:C:107:ASN:ND2	2.76	0.54
4:D:320:GLN:HG3	4:D:321:PRO:HD2	1.90	0.54
5:E:246:ARG:NH1	37:E:8374:HOH:O	2.41	0.54
6:F:27:ILE:HG22	6:F:28:GLY:N	2.17	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:86:VAL:CG1	7:G:129:GLU:HA	2.38	0.54
17:Q:103:THR:O	17:Q:107:GLU:HG3	2.08	0.54
19:S:39:THR:CB	19:S:42:GLU:HG3	2.34	0.54
1:A:558:C:H2'	1:A:559:U:H5'	1.90	0.54
1:A:797:A:O4'	27:1:10:ARG:N	2.41	0.54
14:N:30:GLU:O	14:N:34:GLU:HG3	2.08	0.54
1:A:2123:A:H5'	14:N:89:ASN:HD21	1.73	0.54
19:S:82:GLU:O	19:S:86:LYS:HG3	2.08	0.54
21:U:12:ARG:NH1	37:U:3035:HOH:O	2.40	0.54
37:A:4153:HOH:O	22:V:17:THR:CG2	2.56	0.54
1:A:1246:A:O2'	1:A:1247:A:H3'	2.08	0.53
1:A:1595:G:O2'	1:A:1596:U:H5'	2.08	0.53
1:A:545:G:C8	1:A:545:G:H5'	2.36	0.53
1:A:820:G:C5	3:C:171:LYS:HB2	2.43	0.53
2:B:3051:A:H5'	15:O:160:SER:HB3	1.91	0.53
4:D:280:VAL:HG13	4:D:334:SER:HA	1.90	0.53
4:D:333:GLU:HB2	22:V:14:GLU:OE2	2.08	0.53
14:N:168:ARG:NH1	37:N:8606:HOH:O	2.36	0.53
14:N:65:VAL:HG21	14:N:105:ALA:HB2	1.90	0.53
27:1:39:CYS:SG	27:1:47:LEU:CD2	2.78	0.53
27:1:47:LEU:CD2	27:1:57:CYS:HB2	2.38	0.53
30:4:44:SER:HA	30:4:49:ASP:OD1	2.08	0.53
1:A:1056:U:H2'	1:A:1057:A:O4'	2.08	0.53
1:A:1209:C:H2'	1:A:1210:G:C8	2.42	0.53
1:A:1500:U:OP2	17:Q:41:ARG:NH2	2.41	0.53
1:A:1753:C:O2	4:D:229:ARG:NH2	2.41	0.53
1:A:2326:U:H4'	1:A:2412:G:H4'	1.90	0.53
1:A:2488:A:H61	1:A:2534:C:H42	1.56	0.53
1:A:622:G:O2'	1:A:623:U:H5'	2.08	0.53
3:C:8:ARG:HG2	37:C:8556:HOH:O	2.08	0.53
12:L:125:ALA:C	12:L:127:ALA:H	2.11	0.53
13:M:125:PHE:CE1	13:M:140:VAL:HG13	2.44	0.53
14:N:106:ASN:ND2	35:N:8518:CL:CL	2.79	0.53
14:N:122:GLU:HB2	14:N:126:HIS:O	2.08	0.53
14:N:39:ARG:CZ	37:N:8626:HOH:O	2.56	0.53
37:A:5093:HOH:O	15:O:21:HIS:HD2	1.91	0.53
19:S:132:ARG:HG2	19:S:133:ALA:N	2.22	0.53
23:W:64:GLY:O	23:W:65:ASP:CB	2.56	0.53
25:Y:30:MET:HE1	25:Y:58:ALA:HB3	1.90	0.53
1:A:2503:A:OP1	10:J:147:ARG:NH2	2.31	0.53
1:A:970:U:H2'	37:A:6688:HOH:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:173:GLY:O	3:C:177:HIS:CD2	2.62	0.53
4:D:30:PRO:HB2	4:D:39:GLN:NE2	2.23	0.53
22:V:44:ARG:HB3	37:V:3805:HOH:O	2.07	0.53
24:X:14:HIS:HB2	24:X:17:ILE:HG13	1.90	0.53
27:1:50:ALA:HB3	27:1:54:ILE:HG22	1.91	0.53
1:A:1687:C:O2	28:2:9:GLY:HA2	2.08	0.53
1:A:1189:A:H1'	1:A:1209:C:O4'	2.08	0.53
1:A:2415:A:N3	15:O:26:LEU:HD13	2.23	0.53
3:C:164:ARG:NE	37:C:8596:HOH:O	2.41	0.53
3:C:200:PRO:HD3	37:C:8520:HOH:O	2.07	0.53
5:E:154:VAL:O	5:E:158:GLU:HG3	2.08	0.53
5:E:246:ARG:NE	37:E:8431:HOH:O	2.42	0.53
1:A:1845:A:OP2	3:C:190:ARG:NH1	2.41	0.53
1:A:506:G:N2	1:A:509:A:H5'	2.16	0.53
1:A:513:A:N3	37:A:4039:HOH:O	2.34	0.53
1:A:912:A:C4	1:A:1294:A:C2	2.97	0.53
4:D:217:ARG:HG3	4:D:257:THR:CG2	2.38	0.53
8:H:37:THR:O	8:H:41:GLU:HG3	2.09	0.53
1:A:113:A:OP2	1:A:114:A:H2'	2.08	0.53
1:A:1304:U:H2'	1:A:1305:C:C6	2.44	0.53
1:A:2766:A:O2'	1:A:2767:C:H5'	2.09	0.53
1:A:960:G:N3	1:A:960:G:H2'	2.24	0.53
5:E:118:THR:O	5:E:136:VAL:HG13	2.07	0.53
1:A:1119:G:H8	11:K:52:GLN:NE2	2.06	0.53
13:M:90:ARG:NH2	13:M:121:ILE:HD11	2.22	0.53
19:S:65:GLY:C	37:S:8518:HOH:O	2.46	0.53
1:A:172:U:OP2	37:A:6574:HOH:O	2.18	0.53
1:A:2093:G:H5''	37:A:9864:HOH:O	2.07	0.53
1:A:2256:G:H2'	1:A:2257:G:C5'	2.39	0.53
1:A:2432:C:H2'	1:A:2433:A:H8	1.74	0.53
1:A:2445:U:H2'	1:A:2446:G:C8	2.44	0.53
1:A:2541:U:H2'	1:A:2542:C:H6	1.74	0.53
1:A:2737:C:H2'	37:A:6504:HOH:O	2.08	0.53
1:A:639:A:H2'	1:A:640:G:C8	2.43	0.53
4:D:51:VAL:CG2	4:D:327:VAL:HG13	2.38	0.53
9:I:12:ILE:HG22	9:I:12:ILE:O	2.08	0.53
10:J:53:PRO:HA	10:J:125:VAL:O	2.08	0.53
10:J:56:ILE:HG21	10:J:61:LEU:HD13	1.90	0.53
21:U:32:ARG:NH1	21:U:38:ARG:HH12	2.06	0.53
1:A:2432:C:H4'	30:4:36:ILE:HG12	1.90	0.53
1:A:2464:C:H5''	1:A:2465:A:OP1	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:4777:HOH:O	3:C:11:ARG:CZ	2.57	0.53
15:O:87:LEU:CD1	15:O:186:LEU:HD21	2.33	0.53
1:A:1718:G:OP2	17:Q:20:ARG:HD2	2.08	0.53
19:S:82:GLU:HG3	19:S:83:LYS:N	2.24	0.53
1:A:1735:C:O2'	1:A:1736:A:H5'	2.08	0.53
1:A:221:G:H2'	1:A:222:A:C8	2.43	0.53
7:G:7:ILE:HD11	7:G:11:VAL:C	2.28	0.53
1:A:952:G:OP1	18:R:42:LYS:HE2	2.09	0.53
20:T:57:THR:C	20:T:59:ASP:H	2.12	0.53
1:A:1173:A:H2'	37:A:4715:HOH:O	2.09	0.53
1:A:1213:C:O2'	1:A:1214:G:H5'	2.09	0.53
1:A:1299:G:O6	13:M:6:ARG:HD3	2.09	0.53
1:A:1943:C:O4'	3:C:212:PRO:HA	2.08	0.53
1:A:2505:G:H8	37:A:5999:HOH:O	1.92	0.53
1:A:2578:G:H5'	1:A:2578:G:C8	2.40	0.53
1:A:2088:C:H1'	1:A:2841:A:N1	2.23	0.53
1:A:474:C:O3'	5:E:73:LEU:HD21	2.08	0.53
4:D:307:ARG:HH11	4:D:307:ARG:CG	2.22	0.53
11:K:52:GLN:HG3	11:K:53:ILE:N	2.24	0.53
14:N:154:ARG:CD	37:N:8648:HOH:O	2.56	0.53
25:Y:76:ARG:HG3	25:Y:76:ARG:NH1	2.22	0.53
26:Z:144:ARG:NE	37:Z:8616:HOH:O	2.42	0.53
1:A:1713:G:C1'	37:A:5435:HOH:O	2.56	0.52
1:A:2073:G:OP2	1:A:2490:A:H5'	2.09	0.52
1:A:272:A:H5'	1:A:273:G:OP2	2.09	0.52
1:A:61:G:OP1	29:3:17:GLN:HG2	2.09	0.52
5:E:89:ALA:O	37:E:8315:HOH:O	2.19	0.52
10:J:85:ILE:HB	10:J:132:PHE:CE2	2.44	0.52
13:M:72:ASN:OD1	13:M:75:LEU:HD12	2.09	0.52
24:X:151:GLU:O	24:X:154:ARG:HB3	2.09	0.52
26:Z:126:PRO:HG2	26:Z:128:PHE:CE1	2.43	0.52
29:3:49:GLU:HB2	37:3:719:HOH:O	2.08	0.52
1:A:2320:U:H4'	1:A:2321:A:O4'	2.09	0.52
1:A:542:A:H2'	1:A:543:G:O4'	2.08	0.52
4:D:2:GLN:CD	37:D:8619:HOH:O	2.47	0.52
7:G:11:VAL:CG1	7:G:12:ASP:N	2.71	0.52
7:G:43:ASP:HA	37:G:5864:HOH:O	2.10	0.52
1:A:47:G:N3	1:A:114:A:C2	2.77	0.52
1:A:1787:C:H4'	1:A:2883:A:O4'	2.09	0.52
1:A:2428:G:C6	1:A:2464:C:H1'	2.44	0.52
1:A:2724:U:H2'	1:A:2725:G:O4'	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:153:ARG:CB	3:C:153:ARG:HH11	2.22	0.52
37:A:6680:HOH:O	6:F:55:LYS:HB2	2.09	0.52
8:H:21:GLU:O	8:H:24:ARG:HG3	2.08	0.52
8:H:48:VAL:CG2	8:H:74:PHE:HB3	2.38	0.52
10:J:47:GLU:CB	10:J:133:ILE:HD13	2.39	0.52
1:A:962:C:C1'	15:O:5:ARG:NH1	2.66	0.52
1:A:538:C:OP2	26:Z:134:HIS:HE1	1.93	0.52
1:A:1711:A:O2'	1:A:1712:A:H5'	2.10	0.52
1:A:2015:A:H2'	1:A:2016:U:O4'	2.08	0.52
1:A:2064:U:H5'	1:A:2652:U:H4'	1.91	0.52
1:A:2262:C:O5'	1:A:2262:C:H6	1.91	0.52
1:A:344:C:H2'	1:A:345:G:O4'	2.09	0.52
1:A:383:A:H4'	37:A:5690:HOH:O	2.09	0.52
1:A:796:A:C2	1:A:818:A:H1'	2.45	0.52
4:D:24:PRO:CG	4:D:204:GLY:HA2	2.40	0.52
5:E:40:ALA:HB3	5:E:100:LEU:HD12	1.90	0.52
6:F:65:GLU:HA	37:F:6752:HOH:O	2.08	0.52
14:N:108:LYS:HE3	37:N:8618:HOH:O	2.10	0.52
16:P:59:VAL:HG23	16:P:111:VAL:HG23	1.90	0.52
16:P:44:ASN:HA	16:P:65:LEU:O	2.10	0.52
37:A:7762:HOH:O	21:U:2:LYS:HE2	2.08	0.52
25:Y:21:PRO:HG2	25:Y:24:LYS:HD3	1.91	0.52
1:A:1160:G:HO2'	1:A:1190:G:H8	1.58	0.52
1:A:1730:G:H4'	1:A:1731:C:O5'	2.10	0.52
1:A:1878:G:O2'	1:A:1879:U:C6	2.60	0.52
1:A:2249:G:OP2	37:A:5804:HOH:O	2.18	0.52
1:A:2837:U:H2'	37:A:7196:HOH:O	2.09	0.52
1:A:392:U:O2'	14:N:182:LYS:HE2	2.08	0.52
5:E:115:LEU:HD13	5:E:223:LEU:CD2	2.24	0.52
1:A:2779:G:H21	7:G:143:GLN:NE2	2.08	0.52
8:H:110:GLU:O	8:H:114:LYS:HG3	2.09	0.52
10:J:29:ALA:N	10:J:62:GLU:OE1	2.40	0.52
1:A:431:G:P	14:N:48:ARG:HH12	2.31	0.52
24:X:121:PRO:CA	24:X:153:MET:HG2	2.40	0.52
26:Z:184:GLU:OE1	26:Z:204:ARG:NH1	2.42	0.52
1:A:1778:A:H2'	1:A:1779:A:H5'	1.91	0.52
1:A:316:A:H5'	21:U:54:ASP:OD2	2.09	0.52
1:A:911:G:H5'	1:A:932:U:OP1	2.10	0.52
7:G:116:THR:HG22	7:G:151:LEU:HD22	1.92	0.52
13:M:143:THR:CG2	13:M:144:ASP:H	2.23	0.52
14:N:106:ASN:HD22	14:N:114:VAL:HG23	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:29:SER:HA	37:O:8557:HOH:O	2.09	0.52
24:X:26:ILE:O	24:X:26:ILE:CG1	2.57	0.52
1:A:1636:G:O2'	1:A:1637:A:H5'	2.09	0.52
1:A:2851:G:C2'	1:A:2852:A:H5'	2.40	0.52
15:O:143:ARG:HA	15:O:172:PHE:CD2	2.45	0.52
21:U:48:VAL:HG22	21:U:97:ARG:C	2.30	0.52
21:U:75:GLU:O	21:U:76:ASP:HB2	2.09	0.52
22:V:13:ILE:HG12	22:V:32:CYS:HB3	1.90	0.52
30:4:40:ARG:HG3	30:4:52:PHE:CD2	2.44	0.52
30:4:62:THR:HG23	37:4:8530:HOH:O	2.10	0.52
1:A:1559:A:H1'	37:A:6226:HOH:O	2.10	0.52
1:A:1603:A:H5'	1:A:1605:G:C4'	2.40	0.52
1:A:256:C:H2'	1:A:257:G:O4'	2.09	0.52
1:A:675:U:H2'	1:A:676:C:H5'	1.91	0.52
2:B:3045:A:H2'	2:B:3046:C:H6	1.74	0.52
3:C:51:ARG:HB2	37:C:8616:HOH:O	2.09	0.52
4:D:204:GLY:C	37:D:8649:HOH:O	2.47	0.52
5:E:118:THR:HG22	5:E:137:PRO:HB3	1.92	0.52
6:F:103:ASN:ND2	6:F:134:LEU:H	2.07	0.52
6:F:41:LEU:CA	6:F:44:ILE:HG22	2.39	0.52
1:A:1886:A:O2'	27:1:20:LEU:HB2	2.10	0.52
1:A:1887:U:OP1	27:1:21:LYS:HG3	2.10	0.52
3:C:217:ARG:CG	3:C:217:ARG:HH11	2.22	0.52
8:H:39:SER:HB3	8:H:45:ALA:HB2	1.91	0.52
8:H:6:PHE:CD1	8:H:6:PHE:O	2.63	0.52
16:P:47:ARG:NH1	37:P:4564:HOH:O	2.42	0.52
37:L:408:HOH:O	22:V:37:GLU:HB3	2.09	0.52
1:A:1189:A:H1'	1:A:1209:C:C1'	2.39	0.52
1:A:1211:G:O2'	1:A:1212:C:H5'	2.09	0.52
1:A:2314:G:H2'	1:A:2315:C:H5'	1.92	0.52
1:A:2443:C:H3'	37:A:3850:HOH:O	2.09	0.52
1:A:2909:G:O2'	1:A:2910:A:H5'	2.10	0.52
1:A:542:A:H1'	37:A:5042:HOH:O	2.10	0.52
2:B:3013:A:O2'	2:B:3014:G:H5''	2.10	0.52
1:A:2630:G:O6	3:C:206:ARG:NH2	2.43	0.52
4:D:215:VAL:HA	4:D:220:VAL:HG22	1.92	0.52
15:O:43:VAL:HG12	15:O:43:VAL:O	2.10	0.52
21:U:19:ARG:NH1	21:U:68:ASP:O	2.42	0.52
1:A:1164:U:O4'	1:A:1165:G:OP1	2.27	0.51
1:A:2559:C:H4'	37:A:7614:HOH:O	2.09	0.51
8:H:58:GLU:CA	8:H:61:MET:HG3	2.38	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:113:SER:HB3	37:O:8555:HOH:O	2.10	0.51
24:X:149:LEU:HG	24:X:153:MET:CE	2.39	0.51
27:1:48:LYS:HG2	37:1:8428:HOH:O	2.11	0.51
1:A:2429:A:H2'	1:A:2430:A:C8	2.45	0.51
5:E:185:LYS:HD3	5:E:186:TYR:CE1	2.44	0.51
18:R:50:GLY:HA3	18:R:87:THR:OG1	2.11	0.51
37:A:7781:HOH:O	21:U:9:LYS:HD2	2.10	0.51
24:X:122:ARG:HG2	24:X:152:ALA:O	2.09	0.51
1:A:2768:A:O2'	1:A:2769:C:H5'	2.10	0.51
1:A:2894:C:O2'	1:A:2895:C:H5'	2.10	0.51
1:A:2114:C:OP1	3:C:1:GLY:HA2	2.11	0.51
4:D:162:MET:CE	4:D:310:ARG:HD3	2.40	0.51
5:E:237:GLU:HB2	37:E:8438:HOH:O	2.10	0.51
7:G:101:GLU:HB2	7:G:116:THR:O	2.09	0.51
10:J:110:GLY:N	37:J:8396:HOH:O	2.42	0.51
13:M:140:VAL:HG23	37:M:8562:HOH:O	2.09	0.51
15:O:25:ARG:HA	15:O:28:LYS:HG3	1.92	0.51
1:A:1010:C:H4'	15:O:4:PRO:HB2	1.92	0.51
1:A:1391:G:H2'	1:A:1392:A:H5'	1.93	0.51
1:A:1791:U:H2'	1:A:1792:C:C6	2.46	0.51
1:A:2010:A:C2'	37:A:6320:HOH:O	2.59	0.51
3:C:123:GLY:HA2	3:C:159:VAL:O	2.11	0.51
3:C:99:ILE:O	3:C:131:HIS:CE1	2.62	0.51
4:D:280:VAL:CG1	4:D:334:SER:HA	2.41	0.51
20:T:11:THR:H	20:T:14:ALA:HB3	1.74	0.51
23:W:49:LEU:O	23:W:53:ILE:HG13	2.10	0.51
24:X:122:ARG:CG	24:X:152:ALA:O	2.59	0.51
30:4:69:TYR:CB	30:4:78:HIS:CE1	2.93	0.51
4:D:1:PRO:O	4:D:2:GLN:HB2	2.10	0.51
14:N:184:ARG:HG3	14:N:185:PRO:HA	1.91	0.51
16:P:80:ASP:OD1	16:P:81:PHE:N	2.44	0.51
22:V:9:CYS:SG	22:V:11:THR:N	2.74	0.51
24:X:90:TYR:CD1	24:X:90:TYR:N	2.78	0.51
1:A:1014:A:H5''	2:B:3101:G:O2'	2.10	0.51
1:A:1180:U:H2'	1:A:1181:A:O4'	2.11	0.51
1:A:1188:A:C5	1:A:1189:A:C2	2.99	0.51
1:A:1316:G:H1'	1:A:1340:G:N2	2.26	0.51
1:A:1666:C:O2'	1:A:1667:A:C5'	2.58	0.51
1:A:1979:G:OP1	37:A:6674:HOH:O	2.19	0.51
1:A:88:G:H8	1:A:88:G:H5'	1.76	0.51
4:D:82:VAL:HG12	4:D:82:VAL:O	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:35:ASN:ND2	10:J:79:ALA:O	2.43	0.51
37:A:4235:HOH:O	10:J:90:PHE:CD2	2.55	0.51
1:A:1669:A:H2'	1:A:1670:G:C8	2.46	0.51
1:A:2092:G:H2'	1:A:2613:G:OP1	2.11	0.51
1:A:2782:G:OP1	7:G:71:ASN:ND2	2.41	0.51
7:G:20:ILE:CD1	7:G:33:LEU:HD12	2.40	0.51
10:J:26:LYS:HD3	10:J:89:PRO:HG3	1.93	0.51
14:N:76:ARG:HB2	14:N:88:VAL:HG21	1.92	0.51
14:N:87:MET:CE	37:N:8532:HOH:O	2.58	0.51
29:3:49:GLU:CD	37:3:719:HOH:O	2.48	0.51
30:4:6:ARG:NH1	30:4:21:GLU:HB2	2.25	0.51
1:A:120:A:H2'	1:A:120:A:N3	2.26	0.51
1:A:1377:C:C6	1:A:1377:C:H5'	2.43	0.51
1:A:1504:A:O2'	1:A:1506:U:OP2	2.29	0.51
1:A:2869:G:H5'	37:A:5856:HOH:O	2.11	0.51
1:A:398:U:H2'	1:A:399:C:C6	2.46	0.51
1:A:541:C:O2'	1:A:542:A:H5''	2.10	0.51
6:F:99:ASP:O	6:F:159:PRO:HG3	2.10	0.51
11:K:19:MET:SD	11:K:132:LEU:HD21	2.51	0.51
13:M:143:THR:HG21	37:M:8543:HOH:O	2.10	0.51
13:M:73:VAL:HG23	13:M:74:THR:N	2.26	0.51
1:A:1791:U:H2'	1:A:1792:C:H6	1.74	0.51
1:A:2004:U:H1'	37:A:3569:HOH:O	2.09	0.51
4:D:132:HIS:CE1	4:D:171:VAL:CG2	2.94	0.51
6:F:57:THR:HG23	6:F:63:ILE:CG2	2.39	0.51
14:N:71:SER:O	14:N:73:ARG:NH1	2.41	0.51
37:A:4889:HOH:O	14:N:94:LYS:HE3	2.11	0.51
20:T:29:ASP:OD1	20:T:31:ARG:NH1	2.44	0.51
30:4:11:CYS:SG	30:4:20:HIS:NE2	2.82	0.51
1:A:1384:C:H5'	25:Y:30:MET:HG2	1.93	0.51
1:A:1654:U:H2'	3:C:47:HIS:CD2	2.47	0.51
1:A:1862:C:O2'	1:A:1863:G:H5'	2.11	0.51
1:A:585:C:H6	37:A:6456:HOH:O	1.93	0.51
4:D:162:MET:HE3	4:D:308:LEU:CD2	2.37	0.51
7:G:133:VAL:HG12	7:G:141:VAL:HG13	1.93	0.51
10:J:83:PHE:HZ	10:J:146:TRP:HE1	1.53	0.51
10:J:157:ILE:HG22	10:J:158:ASN:N	2.26	0.51
11:K:80:LYS:HE2	11:K:98:PHE:CZ	2.46	0.51
15:O:3:GLY:HA3	37:O:8512:HOH:O	2.10	0.51
1:A:269:G:C2	1:A:270:U:O4	2.64	0.50
1:A:401:C:H5'	37:A:6155:HOH:O	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:508:A:H2'	1:A:509:A:H5''	1.92	0.50
1:A:657:G:OP1	5:E:27:ARG:NH2	2.43	0.50
1:A:821:U:H2'	1:A:822:C:C6	2.44	0.50
4:D:125:GLU:O	4:D:129:ARG:HG3	2.11	0.50
10:J:62:GLU:HA	37:J:8383:HOH:O	2.09	0.50
15:O:139:TRP:HA	15:O:139:TRP:CE3	2.45	0.50
15:O:67:ALA:C	15:O:69:TYR:N	2.64	0.50
20:T:43:GLU:HB3	37:T:8343:HOH:O	2.12	0.50
37:A:3326:HOH:O	25:Y:23:HIS:HD2	1.93	0.50
1:A:1921:A:C6	1:A:1922:A:C2	2.99	0.50
1:A:485:A:HO2'	1:A:487:G:H8	1.59	0.50
1:A:559:U:H2'	1:A:560:C:O4'	2.11	0.50
10:J:39:GLY:O	10:J:41:THR:N	2.45	0.50
15:O:154:LEU:O	15:O:155:GLU:CB	2.60	0.50
15:O:180:LEU:O	15:O:181:ASP:HB3	2.10	0.50
15:O:80:SER:HB2	37:O:8536:HOH:O	2.12	0.50
17:Q:10:ALA:HA	17:Q:13:VAL:HG12	1.92	0.50
22:V:36:CYS:HG	22:V:51:TRP:HH2	1.58	0.50
24:X:4:LEU:HD21	24:X:52:VAL:HG11	1.93	0.50
29:3:22:PRO:HG2	29:3:25:VAL:CG2	2.40	0.50
1:A:1129:C:H5''	1:A:1130:U:OP2	2.11	0.50
1:A:111:C:H2'	1:A:112:G:O4'	2.12	0.50
1:A:2482:G:N2	1:A:2485:A:OP2	2.43	0.50
1:A:660:A:H4'	1:A:661:G:O5'	2.12	0.50
2:B:3059:C:H5'	37:B:5233:HOH:O	2.10	0.50
5:E:133:ARG:NH2	37:E:8433:HOH:O	2.44	0.50
5:E:150:THR:HA	5:E:203:ALA:O	2.10	0.50
10:J:127:GLY:O	10:J:128:ALA:CB	2.59	0.50
10:J:141:ASN:CA	37:J:8365:HOH:O	2.54	0.50
12:L:58:THR:HG22	12:L:59:LYS:HG3	1.94	0.50
15:O:154:LEU:HG	15:O:155:GLU:N	2.26	0.50
21:U:49:GLU:OE2	21:U:97:ARG:HD2	2.11	0.50
26:Z:172:THR:HG22	26:Z:173:ALA:N	2.24	0.50
37:A:7500:HOH:O	28:2:1:THR:HB	2.10	0.50
1:A:1641:A:H2'	1:A:1642:A:H5'	1.93	0.50
1:A:2010:A:H2'	37:A:6320:HOH:O	2.11	0.50
1:A:394:G:H1	14:N:181:GLU:CD	2.15	0.50
2:B:3055:U:H4'	2:B:3056:A:C8	2.46	0.50
4:D:248:ARG:HG2	37:K:3517:HOH:O	2.11	0.50
6:F:136:ARG:HD2	6:F:155:HIS:O	2.11	0.50
7:G:11:VAL:HG13	7:G:23:GLU:O	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:37:VAL:CG1	14:N:63:VAL:HG11	2.41	0.50
15:O:110:THR:HB	15:O:113:SER:OG	2.11	0.50
17:Q:38:GLU:HA	17:Q:41:ARG:NH1	2.27	0.50
18:R:75:ILE:HD13	18:R:84:ILE:HD11	1.94	0.50
37:A:4562:HOH:O	26:Z:186:ARG:HD2	2.11	0.50
1:A:2718:C:H6	1:A:2718:C:H5'	1.77	0.50
1:A:88:G:H2'	1:A:89:G:C8	2.45	0.50
5:E:20:ASP:O	5:E:23:GLU:HB2	2.12	0.50
7:G:20:ILE:HD12	7:G:33:LEU:HD12	1.93	0.50
8:H:34:ASN:O	8:H:38:LYS:HG3	2.11	0.50
14:N:115:LEU:HD13	14:N:116:ASN:HB2	1.94	0.50
21:U:80:GLU:HA	37:U:6653:HOH:O	2.12	0.50
24:X:65:VAL:CA	24:X:68:THR:HG22	2.36	0.50
37:A:3337:HOH:O	30:4:84:ARG:HB2	2.12	0.50
30:4:7:PHE:CE1	30:4:9:THR:HB	2.47	0.50
1:A:2434:A:H2'	1:A:2435:U:H6	1.77	0.50
1:A:2570:G:H5''	37:A:5277:HOH:O	2.11	0.50
1:A:289:G:N2	1:A:363:A:H2	2.06	0.50
1:A:466:A:H2'	1:A:467:G:O4'	2.12	0.50
1:A:470:U:O2'	28:2:16:HIS:CD2	2.63	0.50
1:A:488:U:C2'	37:A:4384:HOH:O	2.59	0.50
37:A:3364:HOH:O	13:M:22:ARG:HG2	2.12	0.50
23:W:58:THR:O	23:W:62:GLU:HG3	2.11	0.50
26:Z:234:VAL:HG12	26:Z:235:GLU:N	2.26	0.50
30:4:40:ARG:HA	30:4:52:PHE:CZ	2.47	0.50
1:A:1183:C:O2	37:A:6608:HOH:O	2.20	0.50
1:A:160:A:C4	1:A:177:A:C2	2.99	0.50
1:A:2413:A:N7	15:O:109:PRO:HB3	2.27	0.50
1:A:2679:G:H2'	1:A:2681:A:OP2	2.11	0.50
4:D:76:THR:N	4:D:77:PRO:HD3	2.26	0.50
5:E:104:ASP:O	5:E:108:GLN:HG3	2.12	0.50
7:G:11:VAL:HG12	7:G:12:ASP:H	1.76	0.50
7:G:5:LEU:HD21	7:G:66:GLN:HG3	1.93	0.50
8:H:50:VAL:CG2	8:H:63:ILE:HG21	2.42	0.50
14:N:95:LYS:HG2	14:N:99:ARG:HB3	1.93	0.50
24:X:26:ILE:O	24:X:26:ILE:HG13	2.10	0.50
25:Y:43:VAL:HG12	25:Y:44:ASP:N	2.26	0.50
26:Z:106:THR:HG23	26:Z:107:PRO:HD2	1.94	0.50
1:A:1593:C:H5'	17:Q:116:SER:O	2.12	0.50
2:B:3030:C:OP1	6:F:137:PRO:O	2.29	0.50
10:J:163:PRO:HG2	37:J:8338:HOH:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:72:VAL:HG11	10:J:81:TYR:CZ	2.47	0.50
13:M:90:ARG:HG3	13:M:90:ARG:HH11	1.76	0.50
13:M:93:VAL:HG12	13:M:97:VAL:HG23	1.94	0.50
24:X:3:ALA:O	24:X:54:PHE:HA	2.11	0.50
1:A:1331:A:OP2	26:Z:142:SER:OG	2.29	0.50
1:A:777:U:H5	28:2:15:THR:HG1	1.59	0.50
1:A:940:G:C5	1:A:1027:G:C2	2.99	0.50
1:A:1060:C:H6	1:A:1060:C:H5'	1.77	0.50
1:A:1422:U:H2'	1:A:1423:C:C6	2.46	0.50
1:A:1450:C:C4'	1:A:1451:C:OP2	2.57	0.50
1:A:151:A:H2'	1:A:152:A:O4'	2.11	0.50
1:A:1760:G:OP2	37:A:3298:HOH:O	2.18	0.50
10:J:13:ALA:HA	10:J:91:HIS:HE1	1.77	0.50
12:L:105:ARG:HG3	37:L:3385:HOH:O	2.12	0.50
14:N:35:PRO:CG	14:N:38:VAL:CG2	2.83	0.50
27:1:47:LEU:HD13	27:1:64:ILE:HD11	1.94	0.49
30:4:65:THR:O	30:4:82:GLY:HA3	2.12	0.49
1:A:1265:G:H1'	37:A:5365:HOH:O	2.11	0.49
1:A:1434:A:H2'	1:A:1436:C:C5	2.47	0.49
1:A:2291:A:H8	37:A:6831:HOH:O	1.94	0.49
1:A:422:G:C6	1:A:2446:G:C6	3.00	0.49
1:A:2694:A:H4'	7:G:91:PHE:HE1	1.76	0.49
1:A:2697:A:H2'	1:A:2698:G:O4'	2.12	0.49
4:D:254:GLN:HG2	4:D:255:GLY:N	2.26	0.49
4:D:305:ASP:O	4:D:306:LYS:CB	2.59	0.49
10:J:14:TYR:N	10:J:91:HIS:CE1	2.78	0.49
14:N:113:ARG:HH21	14:N:156:ARG:HG2	1.76	0.49
14:N:39:ARG:NE	37:N:8626:HOH:O	2.45	0.49
15:O:132:ASN:O	15:O:135:VAL:HG12	2.12	0.49
15:O:152:GLU:C	15:O:154:LEU:H	2.13	0.49
15:O:64:SER:C	15:O:66:LEU:H	2.16	0.49
17:Q:7:LYS:HD2	17:Q:21:VAL:CG2	2.41	0.49
1:A:1166:A:H61	1:A:1180:U:H3	1.59	0.49
1:A:195:C:H2'	1:A:196:G:H5'	1.94	0.49
1:A:2729:C:O2'	1:A:2730:G:H5'	2.12	0.49
1:A:611:U:H2'	1:A:612:U:H6	1.75	0.49
1:A:1861:C:H4'	3:C:6:GLY:O	2.12	0.49
5:E:50:GLU:HG2	37:E:8392:HOH:O	2.10	0.49
6:F:49:PRO:HA	6:F:73:VAL:HG22	1.93	0.49
7:G:31:ARG:CZ	37:G:5919:HOH:O	2.60	0.49
9:I:67:LEU:O	9:I:71:LEU:HG	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1137:G:H1'	37:A:4257:HOH:O	2.11	0.49
1:A:157:G:H4'	14:N:95:LYS:HE3	1.95	0.49
1:A:200:U:H2'	37:A:3820:HOH:O	2.11	0.49
1:A:288:A:H2'	1:A:289:G:C8	2.47	0.49
1:A:371:U:H2'	1:A:372:A:C8	2.46	0.49
1:A:516:A:OP2	37:A:6006:HOH:O	2.19	0.49
1:A:812:A:H1'	37:A:4337:HOH:O	2.13	0.49
3:C:93:THR:C	3:C:94:LEU:HD23	2.32	0.49
4:D:145:HIS:CD2	4:D:146:THR:O	2.61	0.49
5:E:233:THR:HG22	5:E:234:VAL:N	2.26	0.49
9:I:69:ARG:NH1	37:I:3513:HOH:O	2.45	0.49
10:J:48:LEU:HD13	10:J:146:TRP:HB3	1.95	0.49
12:L:9:THR:O	12:L:10:GLN:C	2.49	0.49
15:O:155:GLU:O	15:O:156:GLU:HG3	2.12	0.49
23:W:12:THR:CG2	23:W:15:GLU:HG3	2.21	0.49
25:Y:25:ARG:HG2	37:Y:5356:HOH:O	2.11	0.49
1:A:949:U:O2'	18:R:40:HIS:HE1	1.95	0.49
14:N:173:LEU:HA	14:N:183:VAL:HG11	1.95	0.49
37:A:5313:HOH:O	14:N:82:ARG:HB3	2.13	0.49
17:Q:16:VAL:CG1	17:Q:17:GLY:N	2.75	0.49
27:1:77:LYS:HA	27:1:80:MET:CE	2.43	0.49
1:A:2004:U:H2'	1:A:2004:U:O2	2.11	0.49
1:A:2019:A:H5'	37:A:4905:HOH:O	2.12	0.49
1:A:2404:G:OP1	18:R:69:ASP:N	2.38	0.49
1:A:2780:C:H1'	7:G:143:GLN:NE2	2.23	0.49
1:A:338:C:H4'	5:E:174:ILE:HD11	1.94	0.49
6:F:163:VAL:HA	37:F:6326:HOH:O	2.11	0.49
13:M:53:ARG:N	35:M:8510:CL:CL	2.80	0.49
24:X:6:GLN:CB	24:X:26:ILE:HD12	2.38	0.49
1:A:1125:U:H2'	1:A:1126:C:H5'	1.95	0.49
1:A:1205:U:C2'	1:A:1206:U:H5'	2.39	0.49
1:A:1483:C:O2'	1:A:1484:G:H5'	2.13	0.49
1:A:1819:G:H5'	37:A:5076:HOH:O	2.13	0.49
1:A:2769:C:O2'	1:A:2770:G:H5'	2.12	0.49
8:H:60:VAL:O	8:H:61:MET:C	2.50	0.49
10:J:45:GLN:HG3	10:J:135:TRP:NE1	2.28	0.49
15:O:90:LEU:HB2	15:O:186:LEU:HD22	1.93	0.49
17:Q:7:LYS:CD	17:Q:21:VAL:CG2	2.91	0.49
21:U:48:VAL:HG22	21:U:97:ARG:O	2.13	0.49
1:A:10:U:H5'	37:A:6399:HOH:O	2.12	0.49
1:A:1505:U:H6	1:A:1505:U:H5'	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1562:C:H2'	1:A:1562:C:O2	2.11	0.49
1:A:2730:G:O2'	1:A:2731:G:H5'	2.13	0.49
1:A:2791:U:C1'	1:A:2792:A:H5''	2.43	0.49
1:A:2846:C:H4'	37:A:5443:HOH:O	2.11	0.49
1:A:661:G:C4	1:A:686:A:C2	3.01	0.49
9:I:27:ILE:HD12	9:I:70:ALA:HB1	1.94	0.49
14:N:149:TRP:O	14:N:152:ARG:HG2	2.12	0.49
15:O:62:HIS:HB3	15:O:65:ASP:OD1	2.12	0.49
18:R:40:HIS:HD2	18:R:60:THR:OG1	1.96	0.49
22:V:20:MET:HG3	22:V:28:THR:HG23	1.94	0.49
24:X:35:VAL:HG23	24:X:41:TYR:CD2	2.48	0.49
26:Z:112:GLU:OE1	26:Z:115:ARG:NH1	2.45	0.49
26:Z:235:GLU:CD	26:Z:235:GLU:N	2.66	0.49
27:1:51:GLY:HA3	37:1:8416:HOH:O	2.12	0.49
1:A:1119:G:OP1	11:K:49:ARG:NH1	2.46	0.49
1:A:1328:A:OP1	26:Z:169:ARG:HD2	2.13	0.49
1:A:1462:C:H2'	1:A:1463:A:C8	2.48	0.49
1:A:2712:G:H5'	37:L:4183:HOH:O	2.11	0.49
1:A:835:U:H3'	37:A:9757:HOH:O	2.13	0.49
5:E:187:ARG:NH2	37:E:8369:HOH:O	2.33	0.49
10:J:165:GLY:C	10:J:166:ASN:HD22	2.15	0.49
11:K:39:VAL:CG1	11:K:40:ASN:N	2.75	0.49
12:L:87:ARG:CZ	37:L:4854:HOH:O	2.61	0.49
14:N:77:PHE:HD2	37:N:8528:HOH:O	1.96	0.49
22:V:44:ARG:HD3	22:V:49:LEU:HD21	1.93	0.49
1:A:2906:A:H5'	1:A:2907:C:O4'	2.12	0.49
1:A:558:C:C2'	1:A:559:U:C5'	2.91	0.49
4:D:168:GLY:N	4:D:174:ARG:HD3	2.28	0.49
4:D:66:GLU:OE1	4:D:328:ARG:HD2	2.13	0.49
6:F:57:THR:HG23	6:F:63:ILE:CB	2.43	0.49
13:M:55:GLN:HA	13:M:58:GLN:NE2	2.26	0.49
1:A:392:U:C5'	14:N:193:LYS:HB3	2.42	0.49
1:A:2055:A:H4'	19:S:132:ARG:NH2	2.27	0.49
37:A:6556:HOH:O	29:3:44:ARG:HG2	2.13	0.49
3:C:123:GLY:HA3	3:C:162:GLY:HA2	1.95	0.49
10:J:71:TYR:C	10:J:73:GLN:N	2.65	0.49
37:A:5198:HOH:O	11:K:47:THR:CB	2.53	0.49
19:S:31:ILE:O	19:S:32:ALA:C	2.50	0.49
24:X:6:GLN:HG2	24:X:29:VAL:HA	1.94	0.49
27:1:11:THR:OG1	27:1:23:ARG:HB2	2.13	0.48
30:4:69:TYR:O	30:4:77:ALA:HA	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1684:A:N1	37:A:9689:HOH:O	2.35	0.48
1:A:2120:U:H2'	1:A:2121:G:O4'	2.13	0.48
1:A:950:G:O2'	1:A:951:A:H5'	2.12	0.48
4:D:82:VAL:HG12	4:D:101:TRP:CE3	2.48	0.48
5:E:19:PRO:HG2	5:E:22:PHE:CD1	2.48	0.48
6:F:94:ALA:HB3	6:F:174:VAL:HA	1.95	0.48
8:H:16:ALA:HA	8:H:111:ILE:HD13	1.95	0.48
15:O:67:ALA:C	15:O:69:TYR:H	2.17	0.48
22:V:49:LEU:O	22:V:55:ALA:CB	2.61	0.48
1:A:1805:G:H2'	1:A:1806:G:H8	1.78	0.48
1:A:1886:A:C5'	37:1:8405:HOH:O	2.60	0.48
1:A:306:A:P	21:U:38:ARG:HH21	2.36	0.48
1:A:514:G:O5'	1:A:514:G:H8	1.96	0.48
3:C:173:GLY:O	3:C:176:HIS:HB3	2.13	0.48
8:H:91:VAL:CG1	8:H:92:GLY:N	2.76	0.48
20:T:32:ALA:HA	20:T:36:GLU:OE1	2.13	0.48
30:4:39:GLN:CA	30:4:42:ARG:NH2	2.74	0.48
30:4:7:PHE:HE1	30:4:9:THR:HB	1.78	0.48
1:A:1003:U:O2'	10:J:90:PHE:HE1	1.95	0.48
1:A:1351:G:OP1	5:E:96:LYS:NZ	2.45	0.48
1:A:1417:G:OP2	29:3:47:THR:OG1	2.31	0.48
1:A:1878:G:C1'	37:A:6482:HOH:O	2.60	0.48
1:A:596:C:H2'	1:A:597:A:C8	2.49	0.48
3:C:36:ASP:HB2	3:C:85:ASP:H	1.79	0.48
7:G:16:ASP:O	7:G:17:HIS:HB2	2.13	0.48
16:P:26:TRP:HA	16:P:26:TRP:CE3	2.49	0.48
1:A:1051:C:H2'	1:A:1052:G:O4'	2.13	0.48
1:A:1523:G:H2'	1:A:1524:U:C6	2.48	0.48
1:A:338:C:H4'	5:E:174:ILE:HD12	1.94	0.48
2:B:3026:C:P	37:B:3472:HOH:O	2.71	0.48
2:B:3054:A:O2'	2:B:3055:U:H5'	2.13	0.48
4:D:238:ASN:ND2	4:D:240:GLY:N	2.57	0.48
4:D:274:GLU:HA	4:D:292:GLY:O	2.12	0.48
11:K:6:PHE:HB3	11:K:109:TYR:OH	2.12	0.48
11:K:74:ARG:HD3	37:K:5061:HOH:O	2.12	0.48
37:A:4937:HOH:O	14:N:83:SER:HA	2.12	0.48
15:O:171:HIS:CE1	37:O:8567:HOH:O	2.65	0.48
18:R:26:PRO:O	18:R:30:VAL:HG23	2.13	0.48
22:V:9:CYS:O	22:V:52:THR:HG23	2.12	0.48
1:A:1450:C:O2'	1:A:1494:A:H5'	2.13	0.48
1:A:1667:A:H2'	1:A:1668:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1684:A:O2'	1:A:1685:A:H5''	2.13	0.48
1:A:1701:A:H4'	1:A:1702:U:C5'	2.43	0.48
1:A:2251:G:H2'	1:A:2252:A:C8	2.49	0.48
1:A:2420:G:H4'	37:A:4471:HOH:O	2.14	0.48
1:A:380:A:H5''	14:N:48:ARG:NH2	2.28	0.48
1:A:79:G:H22	1:A:97:G:H1'	1.79	0.48
1:A:860:U:C2'	37:A:6042:HOH:O	2.62	0.48
6:F:86:THR:C	6:F:89:PRO:HD2	2.34	0.48
8:H:101:ALA:HB2	8:H:108:LEU:HD22	1.96	0.48
8:H:63:ILE:HB	8:H:64:PRO:CD	2.38	0.48
9:I:64:ASN:ND2	9:I:64:ASN:N	2.60	0.48
15:O:182:GLY:O	15:O:183:ASP:O	2.31	0.48
16:P:39:THR:O	16:P:115:ARG:NH2	2.46	0.48
1:A:136:C:H2'	1:A:137:U:O4'	2.13	0.48
1:A:1850:U:H2'	1:A:1851:G:H8	1.77	0.48
1:A:2089:A:O2'	1:A:2090:G:H5'	2.13	0.48
1:A:2271:G:H2'	1:A:2271:G:N3	2.28	0.48
1:A:1565:C:O4'	1:A:2738:G:H1'	2.13	0.48
1:A:2815:G:N7	11:K:80:LYS:NZ	2.61	0.48
2:B:3055:U:H4'	2:B:3056:A:H8	1.78	0.48
10:J:144:GLU:HA	10:J:144:GLU:OE1	2.13	0.48
1:A:2721:U:H4'	12:L:87:ARG:HG3	1.96	0.48
15:O:38:LYS:HE2	15:O:107:ASN:ND2	2.29	0.48
24:X:122:ARG:CG	24:X:122:ARG:NH1	2.76	0.48
1:A:1123:A:N6	1:A:1238:C:H5'	2.29	0.48
1:A:1245:C:H6	1:A:1245:C:O5'	1.97	0.48
1:A:1586:G:O2'	1:A:1587:U:H5'	2.12	0.48
1:A:2256:G:O2'	1:A:2257:G:H5'	2.13	0.48
1:A:2265:U:H2'	1:A:2266:A:C8	2.49	0.48
1:A:2529:G:O2'	1:A:2530:C:H5'	2.13	0.48
1:A:281:U:O2'	1:A:282:C:H5'	2.14	0.48
1:A:2830:U:H3'	37:A:5592:HOH:O	2.12	0.48
1:A:638:C:H2'	1:A:639:A:C8	2.48	0.48
2:B:3012:C:H5'	2:B:3070:U:O4'	2.14	0.48
4:D:265:LEU:CD2	4:D:316:ARG:HD3	2.44	0.48
5:E:214:THR:CG2	37:E:8443:HOH:O	2.50	0.48
7:G:145:ALA:HB1	7:G:168:ILE:CD1	2.43	0.48
8:H:46:GLU:OE1	8:H:100:ASP:HA	2.13	0.48
8:H:13:GLU:OE2	8:H:78:GLU:HG2	2.14	0.48
10:J:84:ARG:CZ	10:J:135:TRP:HH2	2.25	0.48
14:N:182:LYS:HB2	14:N:194:ALA:HB2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:47:LEU:CD1	15:O:97:VAL:HG11	2.44	0.48
37:B:466:HOH:O	18:R:27:GLN:HB2	2.13	0.48
27:1:56:MET:HA	27:1:62:TYR:O	2.13	0.48
1:A:1060:C:H2'	1:A:1061:C:H6	1.78	0.48
1:A:1192:A:H3'	1:A:1193:A:H5'	1.95	0.48
1:A:182:G:H4'	14:N:157:LEU:HD13	1.95	0.48
1:A:396:U:C3'	37:A:4712:HOH:O	2.61	0.48
1:A:694:A:C2'	1:A:695:C:H5'	2.43	0.48
4:D:320:GLN:HG3	4:D:321:PRO:CD	2.43	0.48
6:F:93:LEU:HB3	6:F:97:GLN:OE1	2.13	0.48
9:I:63:ARG:O	9:I:67:LEU:HG	2.14	0.48
12:L:11:GLY:O	12:L:12:LEU:HD23	2.13	0.48
12:L:34:VAL:HB	37:L:7169:HOH:O	2.14	0.48
14:N:184:ARG:HB2	14:N:184:ARG:CZ	2.43	0.48
14:N:20:ILE:O	14:N:24:MET:HG2	2.13	0.48
24:X:154:ARG:HE	24:X:154:ARG:HB3	1.53	0.48
30:4:74:CYS:SG	30:4:76:LYS:HG3	2.54	0.48
1:A:1342:C:C2'	1:A:1343:C:H5'	2.44	0.48
1:A:1609:C:H2'	1:A:1610:G:H8	1.79	0.48
1:A:1819:G:H2'	1:A:1820:G:C5'	2.44	0.48
1:A:1829:A:H61	27:1:18:TYR:CA	2.27	0.48
1:A:2533:C:O2'	1:A:2534:C:H5'	2.13	0.48
1:A:2911:C:H2'	1:A:2912:C:C6	2.49	0.48
4:D:27:ASN:HD22	4:D:27:ASN:H	1.61	0.48
4:D:56:ASP:OD1	4:D:322:ARG:HB3	2.12	0.48
10:J:26:LYS:HD2	10:J:28:ILE:HB	1.95	0.48
12:L:45:PRO:HB2	37:L:7169:HOH:O	2.14	0.48
14:N:37:VAL:HG13	14:N:63:VAL:HG11	1.96	0.48
16:P:39:THR:HB	37:P:3360:HOH:O	2.13	0.48
24:X:122:ARG:HG2	24:X:122:ARG:NH1	2.19	0.48
5:E:51:TYR:CE2	28:2:53:LYS:HB3	2.49	0.48
1:A:107:U:H2'	1:A:108:U:H5'	1.96	0.48
1:A:1205:U:C2'	1:A:1206:U:C5'	2.91	0.48
1:A:128:A:H8	1:A:128:A:H3'	1.79	0.48
1:A:1311:G:C2	1:A:1312:G:C8	3.02	0.48
2:B:3026:C:OP2	37:B:3472:HOH:O	2.20	0.48
4:D:195:ARG:HG2	4:D:323:LEU:HD22	1.96	0.48
4:D:62:ARG:HA	4:D:65:MET:HE3	1.95	0.48
6:F:146:LYS:HZ1	15:O:107:ASN:HD21	1.58	0.48
13:M:11:ARG:HG2	13:M:12:THR:HG23	1.96	0.48
19:S:106:GLY:HA2	19:S:109:MET:CE	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1616:A:H5''	1:A:1617:C:OP1	2.13	0.47
1:A:25:A:H5'	37:A:9515:HOH:O	2.14	0.47
1:A:2769:C:C2'	1:A:2770:G:H5'	2.43	0.47
1:A:282:C:H2'	1:A:283:U:O4'	2.13	0.47
1:A:488:U:C4	1:A:512:G:C5	3.01	0.47
4:D:51:VAL:HG13	4:D:53:LEU:HD13	1.95	0.47
5:E:162:VAL:CG1	5:E:162:VAL:O	2.61	0.47
37:A:4458:HOH:O	8:H:31:LYS:HE3	2.13	0.47
37:A:6905:HOH:O	27:1:22:ILE:HG13	2.13	0.47
1:A:1292:G:HO2'	1:A:1293:U:H6	1.62	0.47
1:A:1308:A:H5'	37:A:7291:HOH:O	2.13	0.47
1:A:1543:G:N1	1:A:1641:A:OP2	2.38	0.47
1:A:1804:A:H2'	1:A:1805:G:C8	2.49	0.47
1:A:516:A:P	37:A:6006:HOH:O	2.72	0.47
1:A:584:U:H3'	37:A:6456:HOH:O	2.14	0.47
3:C:192:VAL:O	3:C:207:GLN:HG2	2.14	0.47
4:D:14:GLY:HA2	4:D:15:PRO:C	2.34	0.47
6:F:92:GLU:O	6:F:93:LEU:O	2.32	0.47
37:A:3571:HOH:O	13:M:4:LYS:HG3	2.14	0.47
37:A:3446:HOH:O	19:S:83:LYS:HB3	2.14	0.47
1:A:119:A:H2'	1:A:120:A:H5''	1.96	0.47
1:A:1461:U:H2'	1:A:1462:C:H6	1.75	0.47
1:A:1925:G:OP1	30:4:29:ARG:NH2	2.48	0.47
1:A:860:U:H2'	1:A:861:A:C8	2.49	0.47
3:C:22:ARG:HG2	37:C:8612:HOH:O	2.13	0.47
6:F:84:LEU:C	6:F:86:THR:H	2.17	0.47
10:J:139:ASP:H	10:J:140:PRO:HD3	1.73	0.47
10:J:31:PHE:CD2	10:J:88:PHE:CZ	3.02	0.47
1:A:2676:C:H4'	11:K:70:PHE:CE1	2.49	0.47
13:M:90:ARG:NH1	13:M:119:THR:HG21	2.29	0.47
13:M:54:PRO:HG2	13:M:57:VAL:HG21	1.94	0.47
37:A:6704:HOH:O	14:N:125:ARG:HB2	2.14	0.47
8:H:38:LYS:NZ	14:N:3:SER:HA	2.29	0.47
19:S:61:GLN:CD	37:S:8541:HOH:O	2.52	0.47
23:W:55:ARG:O	23:W:59:ILE:HG12	2.13	0.47
30:4:11:CYS:HB2	30:4:20:HIS:CE1	2.49	0.47
1:A:1574:C:H6	1:A:1574:C:O5'	1.97	0.47
1:A:2011:A:P	37:A:6320:HOH:O	2.72	0.47
1:A:2353:A:H4'	1:A:2354:A:O5'	2.14	0.47
1:A:278:A:H2'	1:A:279:C:O4'	2.15	0.47
1:A:37:A:H2'	1:A:38:G:C8	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:403:C:H6	1:A:403:C:O5'	1.97	0.47
1:A:553:G:H2'	1:A:554:G:H5'	1.96	0.47
4:D:222:LYS:HE2	37:D:8547:HOH:O	2.14	0.47
4:D:53:LEU:HD21	4:D:270:ILE:HD12	1.97	0.47
4:D:55:ASN:HB3	4:D:64:GLY:N	2.29	0.47
7:G:158:ASP:OD1	7:G:160:ARG:HB2	2.14	0.47
8:H:47:LEU:HD22	8:H:108:LEU:CD1	2.45	0.47
8:H:28:ALA:HB3	8:H:99:THR:O	2.13	0.47
10:J:83:PHE:CD1	10:J:134:ALA:HB2	2.49	0.47
11:K:45:VAL:HG22	11:K:46:ILE:N	2.28	0.47
11:K:70:PHE:O	11:K:70:PHE:CD2	2.68	0.47
14:N:114:VAL:HG21	14:N:159:THR:CG2	2.44	0.47
2:B:3006:C:P	15:O:37:ARG:NH1	2.87	0.47
16:P:4:ASN:HB3	16:P:7:LEU:HB3	1.96	0.47
37:A:6021:HOH:O	21:U:68:ASP:HB2	2.12	0.47
24:X:130:HIS:C	24:X:136:GLY:HA3	2.34	0.47
25:Y:43:VAL:CG1	25:Y:47:ALA:HB3	2.44	0.47
1:A:164:G:C6	1:A:165:A:C5	3.02	0.47
1:A:164:G:O6	1:A:165:A:C6	2.68	0.47
1:A:177:A:H2'	1:A:178:U:O4'	2.14	0.47
1:A:1930:A:H1'	1:A:2128:G:H5'	1.96	0.47
2:B:3041:C:O4'	6:F:50:VAL:HG23	2.15	0.47
6:F:11:HIS:C	6:F:13:MET:H	2.18	0.47
6:F:19:GLU:O	6:F:133:ASN:HB3	2.15	0.47
8:H:48:VAL:HG23	8:H:74:PHE:HB3	1.97	0.47
10:J:84:ARG:CZ	10:J:135:TRP:CH2	2.98	0.47
24:X:122:ARG:NH2	37:X:4276:HOH:O	2.44	0.47
27:1:77:LYS:HA	27:1:80:MET:HE2	1.97	0.47
30:4:74:CYS:SG	30:4:76:LYS:N	2.81	0.47
1:A:1015:C:O5'	1:A:1015:C:H6	1.97	0.47
1:A:1116:U:H3	1:A:1246:A:N6	2.04	0.47
1:A:1768:C:H2'	1:A:1769:C:O4'	2.14	0.47
1:A:2405:C:OP1	37:A:6957:HOH:O	2.20	0.47
1:A:2541:U:H2'	1:A:2542:C:C6	2.49	0.47
1:A:283:U:H5	1:A:284:C:N4	2.12	0.47
1:A:2896:A:H2'	1:A:2896:A:N3	2.29	0.47
1:A:308:U:H5'	21:U:97:ARG:NH2	2.30	0.47
1:A:319:A:H4'	1:A:338:C:C4	2.49	0.47
1:A:39:G:C2	1:A:444:C:N3	2.83	0.47
1:A:407:A:H2'	1:A:408:A:C8	2.50	0.47
2:B:3006:C:P	15:O:37:ARG:HH11	2.38	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:81:GLN:HG3	3:C:92:ASN:HD21	1.79	0.47
3:C:94:LEU:HG	3:C:99:ILE:CD1	2.44	0.47
5:E:200:PRO:HB3	5:E:212:VAL:CG2	2.45	0.47
10:J:157:ILE:CG2	10:J:158:ASN:N	2.78	0.47
10:J:162:SER:CB	10:J:163:PRO:CD	2.80	0.47
2:B:3014:G:O2'	15:O:1:ALA:HB2	2.14	0.47
19:S:17:MET:CE	19:S:19:ARG:NH2	2.78	0.47
27:1:38:LYS:HE2	27:1:45:LYS:CE	2.39	0.47
1:A:1151:G:OP1	9:I:63:ARG:NH1	2.47	0.47
1:A:1162:G:H2'	37:A:6944:HOH:O	2.14	0.47
1:A:2670:G:O2'	1:A:2671:U:H5'	2.14	0.47
2:B:3064:C:H2'	2:B:3065:A:H5'	1.97	0.47
2:B:3092:G:H22	10:J:52:LYS:NZ	2.12	0.47
1:A:1653:A:H5'	3:C:178:LYS:HA	1.97	0.47
3:C:186:TRP:CG	3:C:187:PRO:HA	2.49	0.47
3:C:217:ARG:NH1	3:C:217:ARG:CG	2.77	0.47
5:E:107:ARG:CB	5:E:107:ARG:HH11	2.27	0.47
5:E:115:LEU:HD21	5:E:243:VAL:HG13	1.95	0.47
5:E:219:ASN:N	5:E:222:ASP:OD1	2.48	0.47
10:J:14:TYR:HB2	37:J:8352:HOH:O	2.15	0.47
14:N:155:HIS:ND1	14:N:158:ARG:NE	2.58	0.47
8:H:56:PRO:CG	14:N:44:THR:HA	2.44	0.47
14:N:80:GLY:O	14:N:81:ARG:HD3	2.15	0.47
2:B:3028:U:H5''	15:O:40:ASN:ND2	2.30	0.47
17:Q:98:ILE:CD1	17:Q:102:ARG:NE	2.78	0.47
26:Z:189:ASN:HA	26:Z:217:ILE:HD11	1.95	0.47
1:A:128:A:C3'	1:A:128:A:C8	2.98	0.47
1:A:1494:A:H1'	1:A:1495:C:C6	2.49	0.47
1:A:183:A:H5'	14:N:157:LEU:HD12	1.97	0.47
1:A:2900:G:H2'	1:A:2901:C:O4'	2.15	0.47
3:C:43:VAL:O	3:C:44:ASP:HB2	2.14	0.47
5:E:129:HIS:CE1	5:E:231:ARG:HA	2.50	0.47
6:F:25:MET:HE1	6:F:37:ALA:O	2.14	0.47
6:F:81:GLU:O	6:F:85:GLN:HG3	2.15	0.47
6:F:86:THR:HG23	37:F:7477:HOH:O	2.13	0.47
10:J:111:MET:O	10:J:114:PRO:HD3	2.15	0.47
10:J:46:VAL:O	10:J:146:TRP:HH2	1.97	0.47
15:O:101:VAL:HG12	37:O:8530:HOH:O	2.14	0.47
15:O:67:ALA:O	15:O:69:TYR:N	2.48	0.47
17:Q:13:VAL:HG21	17:Q:41:ARG:HG2	1.97	0.47
1:A:21:G:H5''	19:S:1:GLY:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:9:CYS:HG	22:V:11:THR:HG23	1.78	0.47
26:Z:122:ARG:NH2	37:Z:8538:HOH:O	2.47	0.47
27:1:59:HIS:HA	37:1:8438:HOH:O	2.14	0.47
27:1:57:CYS:O	27:1:61:GLY:CA	2.62	0.47
30:4:7:PHE:HE2	30:4:22:VAL:HG21	1.79	0.47
1:A:1525:G:H5'	1:A:1526:A:OP2	2.15	0.47
1:A:234:A:H4'	1:A:437:A:O4'	2.14	0.47
2:B:3042:C:O2	6:F:76:ARG:NH1	2.48	0.47
3:C:81:GLN:H	3:C:92:ASN:CG	2.18	0.47
6:F:95:THR:OG1	6:F:174:VAL:HG22	2.15	0.47
7:G:102:VAL:HG11	7:G:148:ILE:HD11	1.96	0.47
14:N:139:PRO:HA	14:N:142:LYS:HB2	1.97	0.47
2:B:3006:C:C5'	15:O:37:ARG:HH12	2.19	0.47
17:Q:10:ALA:O	17:Q:13:VAL:HG12	2.15	0.47
17:Q:115:SER:C	17:Q:117:SER:N	2.68	0.47
1:A:2409:C:O2'	30:4:17:HIS:CD2	2.68	0.47
1:A:1021:G:O2'	1:A:1022:A:H5'	2.14	0.47
1:A:1191:A:C3'	1:A:1192:A:H5''	2.40	0.47
1:A:1730:G:H5'	1:A:1731:C:H5	1.77	0.47
1:A:1825:U:O4'	1:A:1999:C:H5''	2.14	0.47
1:A:60:A:C2	1:A:61:G:C8	3.03	0.47
1:A:2103:A:N7	31:A:9403:VIR:H241	2.29	0.47
1:A:945:U:H2'	1:A:946:C:C6	2.50	0.47
3:C:105:VAL:HG12	3:C:106:CYS:N	2.30	0.47
3:C:47:HIS:O	3:C:49:PRO:HD3	2.15	0.47
4:D:195:ARG:HD2	4:D:324:ASP:OD1	2.15	0.47
4:D:42:ALA:HB1	4:D:308:LEU:HD11	1.96	0.47
4:D:7:ARG:CD	4:D:9:GLY:O	2.63	0.47
6:F:94:ALA:O	6:F:95:THR:O	2.33	0.47
7:G:49:ILE:HD11	7:G:69:ILE:HD12	1.97	0.47
11:K:74:ARG:NH1	11:K:76:ASP:HB2	2.30	0.47
16:P:96:VAL:HG13	16:P:100:GLN:HB2	1.96	0.47
16:P:25:VAL:HG23	16:P:26:TRP:N	2.30	0.47
17:Q:59:ARG:HH22	17:Q:66:GLN:NE2	2.13	0.47
1:A:1058:A:H2'	1:A:1060:C:C5'	2.42	0.47
1:A:1072:G:OP2	26:Z:154:ARG:NH2	2.47	0.47
1:A:1098:A:H2'	1:A:1099:G:O4'	2.14	0.47
1:A:120:A:H5'	28:2:20:ARG:HH21	1.80	0.47
1:A:155:C:O2'	1:A:156:C:H5'	2.15	0.47
1:A:1882:C:O2'	1:A:2012:U:OP2	2.30	0.47
1:A:204:A:H2'	1:A:205:U:H5'	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2440:C:C2	1:A:2453:G:C2	3.03	0.47
1:A:2667:G:H1'	1:A:2914:A:N3	2.29	0.47
3:C:132:ASP:OD1	3:C:133:ARG:N	2.47	0.47
3:C:36:ASP:CB	3:C:85:ASP:H	2.28	0.47
4:D:204:GLY:CA	37:D:8649:HOH:O	2.62	0.47
6:F:10:PHE:CD1	6:F:11:HIS:N	2.83	0.47
6:F:35:ALA:O	6:F:37:ALA:N	2.47	0.47
6:F:23:VAL:CG2	6:F:73:VAL:HB	2.44	0.47
14:N:155:HIS:CE1	14:N:158:ARG:HE	2.32	0.47
15:O:108:SER:HA	15:O:109:PRO:HD3	1.75	0.47
15:O:67:ALA:HA	15:O:71:TRP:HB3	1.96	0.47
22:V:8:TYR:CD2	22:V:36:CYS:HB3	2.50	0.47
24:X:6:GLN:HA	24:X:52:VAL:HG23	1.95	0.47
27:1:38:LYS:HG2	37:1:8409:HOH:O	2.15	0.46
1:A:1189:A:H1'	1:A:1209:C:H1'	1.97	0.46
1:A:123:U:O2'	1:A:124:C:H5'	2.15	0.46
1:A:1314:U:H5''	1:A:1316:G:O4'	2.15	0.46
1:A:135:G:OP1	14:N:39:ARG:NH1	2.42	0.46
1:A:1754:A:H2'	1:A:1755:A:O4'	2.15	0.46
1:A:1819:G:H2'	1:A:1820:G:C4'	2.46	0.46
1:A:2084:C:H2'	1:A:2085:A:C8	2.50	0.46
1:A:2557:U:O2'	1:A:2684:A:H5''	2.16	0.46
2:B:3049:G:H2'	2:B:3050:G:O4'	2.15	0.46
4:D:24:PRO:HG3	4:D:204:GLY:HA2	1.96	0.46
4:D:63:GLU:HG3	4:D:63:GLU:O	2.14	0.46
5:E:78:ARG:CG	5:E:78:ARG:NH1	2.72	0.46
5:E:7:ASP:OD1	5:E:11:ASN:O	2.33	0.46
6:F:169:THR:O	6:F:170:TYR:HB2	2.15	0.46
7:G:7:ILE:CG2	7:G:45:ASP:O	2.62	0.46
10:J:47:GLU:HG2	10:J:133:ILE:HD12	1.95	0.46
10:J:43:PRO:HD2	10:J:137:ASN:HA	1.96	0.46
11:K:4:ALA:O	11:K:5:GLU:O	2.33	0.46
1:A:251:C:H1'	14:N:58:GLN:HE22	1.79	0.46
15:O:62:HIS:O	15:O:65:ASP:OD1	2.33	0.46
20:T:10:VAL:CG1	23:W:35:ALA:O	2.63	0.46
3:C:75:GLY:HA2	27:1:63:LYS:O	2.15	0.46
30:4:7:PHE:HE2	30:4:22:VAL:CG2	2.28	0.46
1:A:2119:C:O2'	1:A:2120:U:H5'	2.15	0.46
1:A:2300:A:H4'	1:A:2301:A:O5'	2.15	0.46
1:A:2449:G:H2'	1:A:2450:C:C6	2.51	0.46
2:B:3028:U:H5	37:B:1361:HOH:O	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:51:ARG:NH2	3:C:69:LEU:HD13	2.29	0.46
4:D:36:PRO:CA	4:D:168:GLY:HA3	2.43	0.46
4:D:16:ARG:NH1	37:D:8614:HOH:O	2.48	0.46
4:D:225:GLY:HA3	37:D:8569:HOH:O	2.15	0.46
4:D:304:PRO:CG	4:D:307:ARG:NH1	2.78	0.46
6:F:140:ARG:HG3	6:F:140:ARG:HH11	1.79	0.46
10:J:150:LYS:NZ	37:J:8377:HOH:O	2.46	0.46
10:J:26:LYS:CD	10:J:28:ILE:HB	2.46	0.46
14:N:38:VAL:HG12	14:N:38:VAL:O	2.14	0.46
15:O:11:ARG:O	15:O:15:GLU:HG3	2.15	0.46
1:A:2896:A:OP1	25:Y:15:ARG:NH1	2.48	0.46
30:4:40:ARG:HA	30:4:52:PHE:CE1	2.50	0.46
1:A:2382:A:OP1	30:4:80:ARG:HG2	2.15	0.46
1:A:1517:U:C2	1:A:1670:G:N2	2.83	0.46
1:A:2247:C:C5'	37:A:7702:HOH:O	2.63	0.46
1:A:470:U:H2'	1:A:471:G:O4'	2.16	0.46
1:A:951:A:H2'	1:A:952:G:H5'	1.97	0.46
1:A:1847:A:OP1	3:C:175:LYS:HG3	2.15	0.46
3:C:95:PRO:HG2	3:C:98:GLU:HG2	1.96	0.46
4:D:132:HIS:HB2	4:D:137:LEU:HD22	1.98	0.46
6:F:135:VAL:HG21	6:F:139:TYR:CD1	2.50	0.46
7:G:170:ARG:HB2	7:G:170:ARG:HE	1.55	0.46
14:N:185:PRO:HD2	14:N:189:VAL:HG11	1.97	0.46
16:P:45:LEU:HD12	16:P:88:LYS:HD2	1.97	0.46
17:Q:11:ALA:HB2	17:Q:18:LYS:HA	1.97	0.46
28:2:29:THR:O	28:2:32:LYS:HE2	2.15	0.46
1:A:1592:G:O2'	1:A:1593:C:O5'	2.33	0.46
1:A:1973:A:H2'	1:A:1974:G:O4'	2.16	0.46
1:A:2100:A:H5'	37:E:8470:HOH:O	2.14	0.46
1:A:2672:C:H1'	37:D:8632:HOH:O	2.15	0.46
1:A:514:G:OP1	1:A:514:G:H2'	2.15	0.46
3:C:99:ILE:O	3:C:131:HIS:HE1	1.98	0.46
4:D:277:GLU:N	37:D:8646:HOH:O	2.30	0.46
4:D:285:VAL:O	4:D:286:ASN:HB2	2.14	0.46
5:E:235:PHE:HE2	5:E:243:VAL:HG21	1.80	0.46
6:F:58:VAL:HG12	6:F:59:GLY:N	2.31	0.46
13:M:78:ALA:N	37:M:8532:HOH:O	2.48	0.46
37:A:6558:HOH:O	14:N:174:ARG:HD3	2.14	0.46
19:S:128:ARG:HB2	19:S:132:ARG:O	2.14	0.46
1:A:1143:G:N7	37:A:7758:HOH:O	2.36	0.46
1:A:2281:C:O2'	1:A:2282:U:H5'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2672:C:O2'	1:A:2673:U:H5'	2.15	0.46
1:A:333:G:O2'	1:A:334:G:H5'	2.16	0.46
1:A:2819:C:O4'	4:D:96:PRO:HB2	2.16	0.46
1:A:1352:A:N1	5:E:48:SER:HB3	2.30	0.46
7:G:154:ILE:HG13	7:G:156:ASP:OD1	2.15	0.46
11:K:15:ARG:NH1	11:K:43:ARG:NH1	2.63	0.46
19:S:29:LYS:NZ	37:S:8541:HOH:O	2.48	0.46
20:T:51:GLN:HE21	20:T:53:ASN:ND2	2.13	0.46
37:A:7855:HOH:O	22:V:50:GLU:CD	2.53	0.46
1:A:10:U:O4	1:A:532:A:OP2	2.34	0.46
1:A:1419:U:H2'	1:A:1685:A:C2	2.51	0.46
1:A:1924:A:C2'	37:A:6109:HOH:O	2.64	0.46
1:A:2434:A:O3'	30:4:28:GLY:HA3	2.15	0.46
3:C:195:ASN:O	3:C:196:ALA:C	2.54	0.46
6:F:154:LYS:H	6:F:154:LYS:CD	2.21	0.46
14:N:40:ILE:HG13	14:N:40:ILE:O	2.16	0.46
14:N:69:LYS:N	14:N:125:ARG:O	2.46	0.46
16:P:26:TRP:HA	16:P:26:TRP:HE3	1.79	0.46
1:A:1874:U:OP1	3:C:51:ARG:HD2	2.15	0.46
1:A:2039:A:H4'	1:A:2760:C:O2'	2.16	0.46
1:A:2264:A:H2'	1:A:2265:U:O4'	2.16	0.46
1:A:297:U:H1'	37:A:4315:HOH:O	2.14	0.46
1:A:849:C:O2'	1:A:850:U:H5'	2.16	0.46
2:B:3023:U:C4'	2:B:3024:U:OP2	2.64	0.46
2:B:3031:C:H2'	2:B:3032:G:O4'	2.16	0.46
7:G:21:THR:HG23	7:G:30:THR:OG1	2.16	0.46
7:G:22:VAL:O	7:G:28:SER:HA	2.16	0.46
13:M:125:PHE:CE2	13:M:140:VAL:HG22	2.51	0.46
13:M:24:ALA:HB2	13:M:30:ARG:HD2	1.98	0.46
24:X:88:THR:HG23	24:X:110:GLN:HB3	1.98	0.46
37:A:6304:HOH:O	27:1:34:LYS:HE2	2.16	0.46
1:A:1242:A:OP2	11:K:60:ARG:NH2	2.47	0.46
1:A:2819:C:H2'	1:A:2820:A:C8	2.51	0.46
1:A:37:A:H2'	1:A:38:G:H8	1.81	0.46
1:A:401:C:C5'	37:A:6155:HOH:O	2.64	0.46
1:A:524:A:C5'	19:S:29:LYS:HE2	2.45	0.46
1:A:771:G:OP2	14:N:79:LYS:HE3	2.15	0.46
2:B:3045:A:H2'	2:B:3046:C:C6	2.51	0.46
5:E:140:VAL:HG12	5:E:141:SER:N	2.31	0.46
6:F:23:VAL:CG2	6:F:23:VAL:O	2.63	0.46
6:F:52:THR:N	6:F:70:GLY:O	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:94:ALA:HB3	6:F:174:VAL:CA	2.45	0.46
10:J:45:GLN:NE2	10:J:135:TRP:HE1	2.11	0.46
10:J:30:GLN:H	10:J:65:ARG:NH1	2.13	0.46
14:N:137:ASP:HA	14:N:142:LYS:HE3	1.98	0.46
14:N:61:ILE:HA	37:N:8626:HOH:O	2.16	0.46
15:O:23:ARG:NH2	15:O:55:ASP:OD1	2.49	0.46
18:R:32:GLU:HA	18:R:71:TYR:OH	2.16	0.46
20:T:29:ASP:OD1	20:T:31:ARG:HG3	2.16	0.46
24:X:115:THR:HG23	37:X:5420:HOH:O	2.14	0.46
25:Y:12:ILE:HG23	25:Y:36:HIS:CG	2.51	0.46
1:A:2004:U:H5''	1:A:2005:G:C8	2.51	0.46
1:A:2506:A:O2'	1:A:2507:G:P	2.74	0.46
1:A:517:U:C2'	1:A:518:G:H5'	2.46	0.46
1:A:682:A:H2'	1:A:683:G:O4'	2.16	0.46
3:C:105:VAL:HG11	3:C:154:ALA:CB	2.46	0.46
3:C:191:GLY:HA2	3:C:194:MET:CE	2.46	0.46
6:F:76:ARG:O	6:F:77:ASP:HB2	2.16	0.46
7:G:101:GLU:OE2	7:G:115:ARG:HD3	2.15	0.46
10:J:14:TYR:N	10:J:91:HIS:HE1	2.13	0.46
11:K:142:ASN:O	11:K:144:THR:N	2.49	0.46
13:M:107:LYS:HD2	13:M:124:ASP:OD2	2.16	0.46
14:N:155:HIS:O	14:N:158:ARG:HG2	2.15	0.46
37:A:9917:HOH:O	17:Q:81:LYS:HG2	2.15	0.46
1:A:2055:A:H5'	19:S:134:SER:HB2	1.97	0.46
21:U:19:ARG:HD3	21:U:67:LEU:O	2.15	0.46
21:U:63:ILE:HD11	21:U:75:GLU:HB2	1.98	0.46
23:W:57:LYS:HA	23:W:60:GLN:HE21	1.81	0.46
24:X:73:LEU:HD12	24:X:73:LEU:HA	1.81	0.46
1:A:1857:A:N6	1:A:2247:C:H1'	2.31	0.46
1:A:1006:A:N1	1:A:2311:A:H1'	2.31	0.46
1:A:2474:A:N3	37:A:5025:HOH:O	2.36	0.46
1:A:2897:C:O2'	1:A:2898:G:H5'	2.16	0.46
1:A:666:A:H2'	1:A:667:C:O4'	2.16	0.46
1:A:875:A:C2	3:C:194:MET:SD	3.09	0.46
4:D:304:PRO:HD2	4:D:307:ARG:HD2	1.98	0.46
4:D:41:PHE:CD1	4:D:79:MET:HE2	2.51	0.46
5:E:173:LYS:HB3	5:E:187:ARG:HG3	1.97	0.46
6:F:173:GLU:HG3	6:F:174:VAL:N	2.30	0.46
7:G:81:GLU:HG2	7:G:134:SER:HB3	1.98	0.46
15:O:161:GLY:O	15:O:162:ASP:C	2.53	0.46
24:X:108:ARG:HG3	37:X:3483:HOH:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:31:HIS:HB3	37:X:5420:HOH:O	2.16	0.46
25:Y:8:ARG:NH1	37:Y:2479:HOH:O	2.29	0.46
27:1:39:CYS:SG	27:1:40:PRO:HD2	2.55	0.45
1:A:1289:C:O2'	1:A:1290:G:H5'	2.16	0.45
1:A:1859:A:H8	1:A:1859:A:O5'	2.00	0.45
1:A:1947:G:N2	1:A:1966:U:C2	2.85	0.45
1:A:2264:A:OP1	14:N:71:SER:HB3	2.16	0.45
1:A:1741:U:HO2'	1:A:2723:G:H4'	1.81	0.45
1:A:2909:G:H2'	1:A:2910:A:H8	1.81	0.45
4:D:146:THR:O	4:D:159:PRO:HB3	2.15	0.45
5:E:107:ARG:HH11	5:E:107:ARG:HB3	1.81	0.45
8:H:28:ALA:CB	8:H:99:THR:HG23	2.45	0.45
10:J:33:MET:SD	10:J:83:PHE:HD2	2.38	0.45
15:O:141:ARG:N	37:O:8570:HOH:O	2.49	0.45
17:Q:120:ARG:NH2	17:Q:123:TYR:CD2	2.84	0.45
20:T:33:SER:OG	20:T:36:GLU:HG3	2.15	0.45
27:1:59:HIS:CE1	37:1:8435:HOH:O	2.69	0.45
1:A:1902:G:H2'	1:A:1903:U:O4'	2.15	0.45
1:A:2122:C:P	37:A:6938:HOH:O	2.65	0.45
1:A:2490:A:C2	1:A:2533:C:N4	2.85	0.45
1:A:303:C:H2'	1:A:304:G:O4'	2.16	0.45
1:A:426:G:H2'	1:A:427:C:O4'	2.16	0.45
1:A:24:G:N2	1:A:518:G:H1'	2.31	0.45
4:D:108:GLU:HB3	4:D:111:ARG:HD2	1.97	0.45
8:H:21:GLU:HA	8:H:24:ARG:HE	1.81	0.45
10:J:31:PHE:HE2	10:J:87:LYS:O	1.98	0.45
12:L:40:THR:O	12:L:41:LYS:C	2.55	0.45
12:L:4:LEU:HD22	12:L:116:GLU:HB3	1.99	0.45
14:N:27:ARG:O	14:N:30:GLU:N	2.49	0.45
14:N:157:LEU:HA	35:N:8518:CL:CL	2.54	0.45
22:V:52:THR:HG22	22:V:54:THR:HB	1.98	0.45
37:A:6611:HOH:O	22:V:56:ARG:HB3	2.15	0.45
24:X:4:LEU:HD22	24:X:52:VAL:HG22	1.95	0.45
24:X:60:GLU:O	24:X:63:GLU:HB2	2.17	0.45
24:X:67:ALA:HB2	24:X:93:ILE:HD13	1.97	0.45
25:Y:30:MET:CE	25:Y:58:ALA:HB3	2.46	0.45
27:1:38:LYS:HA	27:1:45:LYS:HA	1.98	0.45
28:2:8:GLN:NE2	28:2:11:LYS:NZ	2.54	0.45
30:4:3:MET:HG3	30:4:4:PRO:HD2	1.98	0.45
1:A:1057:A:C6	1:A:1058:A:C6	3.05	0.45
1:A:1329:A:C2	37:A:5049:HOH:O	2.56	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1829:A:H5''	37:A:3458:HOH:O	2.16	0.45
1:A:1880:C:C2	1:A:1881:A:C8	3.04	0.45
1:A:204:A:C2'	1:A:205:U:H5'	2.46	0.45
1:A:2408:A:O2'	30:4:16:GLU:HA	2.16	0.45
1:A:2684:A:H2'	1:A:2685:C:C6	2.51	0.45
1:A:2795:C:O2'	1:A:2796:U:H5'	2.15	0.45
1:A:903:U:OP2	13:M:11:ARG:NH1	2.45	0.45
3:C:125:ASN:HB3	3:C:158:VAL:HG12	1.99	0.45
4:D:233:ARG:HG2	4:D:233:ARG:HH11	1.81	0.45
7:G:11:VAL:CG1	7:G:12:ASP:H	2.29	0.45
8:H:24:ARG:NH2	37:H:6800:HOH:O	2.50	0.45
10:J:27:LYS:HG3	10:J:58:HIS:CD2	2.51	0.45
11:K:27:ALA:HB1	11:K:87:LEU:CD2	2.47	0.45
12:L:81:ARG:HD3	12:L:87:ARG:NH1	2.31	0.45
14:N:74:ARG:HD3	14:N:91:ILE:HD12	1.97	0.45
1:A:380:A:OP2	14:N:9:ARG:HD2	2.16	0.45
15:O:184:ILE:HG22	15:O:185:GLU:N	2.31	0.45
15:O:47:LEU:HD23	15:O:47:LEU:HA	1.70	0.45
15:O:5:ARG:HG3	18:R:18:PRO:CB	2.46	0.45
19:S:26:LYS:HD3	19:S:62:HIS:CG	2.51	0.45
23:W:12:THR:HG23	23:W:14:ALA:H	1.80	0.45
25:Y:25:ARG:HD3	25:Y:64:ALA:O	2.16	0.45
25:Y:78:GLU:CG	25:Y:79:GLU:N	2.70	0.45
25:Y:74:ALA:HB2	25:Y:85:VAL:HG22	1.98	0.45
1:A:797:A:H5'	27:1:10:ARG:HG2	1.99	0.45
28:2:29:THR:O	28:2:32:LYS:CE	2.65	0.45
1:A:154:C:H2'	1:A:155:C:C6	2.47	0.45
1:A:2121:G:H2'	1:A:2122:C:H5'	1.98	0.45
1:A:2459:G:OP2	30:4:64:LYS:HD2	2.16	0.45
1:A:2469:A:H1'	37:A:3797:HOH:O	2.16	0.45
1:A:2832:C:H5	37:A:7573:HOH:O	2.00	0.45
1:A:694:A:H8	1:A:694:A:O5'	1.99	0.45
3:C:110:SER:N	3:C:114:ASP:OD2	2.49	0.45
3:C:69:LEU:CD2	3:C:120:ARG:HB3	2.40	0.45
4:D:266:ASN:OD1	4:D:317:PRO:HA	2.16	0.45
5:E:246:ARG:NH2	37:E:8431:HOH:O	2.48	0.45
11:K:131:THR:HG22	11:K:133:GLY:N	2.31	0.45
16:P:47:ARG:NH1	16:P:47:ARG:HG3	2.29	0.45
27:1:47:LEU:HD23	27:1:57:CYS:CB	2.46	0.45
1:A:1175:G:H1'	1:A:1193:A:H2'	1.99	0.45
1:A:1730:G:C5'	1:A:1731:C:C6	3.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1827:G:H2'	1:A:1828:G:C8	2.51	0.45
1:A:2445:U:H2'	1:A:2446:G:H8	1.81	0.45
1:A:716:G:H2'	1:A:717:C:O5'	2.17	0.45
1:A:883:U:O2	1:A:883:U:C2'	2.65	0.45
1:A:947:U:O2'	1:A:948:G:H5'	2.17	0.45
2:B:3065:A:O2'	2:B:3066:G:P	2.74	0.45
5:E:223:LEU:HD12	5:E:223:LEU:HA	1.74	0.45
8:H:57:GLU:O	8:H:61:MET:HG3	2.17	0.45
10:J:86:ARG:HD3	10:J:130:HIS:HD2	1.81	0.45
12:L:66:ARG:HG2	12:L:66:ARG:HH11	1.82	0.45
12:L:74:VAL:O	12:L:74:VAL:HG12	2.16	0.45
14:N:59:GLY:CA	14:N:141:ILE:HD11	2.46	0.45
15:O:72:GLU:H	15:O:171:HIS:CE1	2.34	0.45
19:S:39:THR:O	19:S:40:ALA:C	2.53	0.45
23:W:42:ASN:O	23:W:44:GLY:N	2.49	0.45
24:X:21:LEU:HD21	24:X:48:VAL:HG13	1.97	0.45
1:A:2409:C:H4'	30:4:17:HIS:HB2	1.98	0.45
1:A:1206:U:H5'	1:A:1206:U:H6	1.80	0.45
1:A:2116:U:C4	1:A:2271:G:C6	3.04	0.45
1:A:283:U:H5''	1:A:284:C:OP2	2.17	0.45
1:A:383:A:C6	1:A:407:A:C8	3.05	0.45
1:A:512:G:O3'	1:A:513:A:H8	2.00	0.45
1:A:818:A:H5''	37:A:6949:HOH:O	2.16	0.45
2:B:3045:A:C8	2:B:3046:C:C5	3.05	0.45
5:E:36:ARG:NH1	37:E:8403:HOH:O	2.49	0.45
6:F:173:GLU:O	6:F:174:VAL:C	2.54	0.45
8:H:78:GLU:HG3	37:H:5966:HOH:O	2.17	0.45
10:J:95:GLU:HB3	10:J:119:VAL:HG11	1.98	0.45
13:M:73:VAL:HG11	13:M:118:LEU:HD21	1.99	0.45
14:N:59:GLY:C	14:N:141:ILE:HD11	2.36	0.45
14:N:63:VAL:HG21	14:N:109:PHE:CE1	2.51	0.45
37:B:7568:HOH:O	15:O:107:ASN:HB3	2.17	0.45
15:O:93:GLN:HG2	37:O:8558:HOH:O	2.15	0.45
21:U:48:VAL:CG2	21:U:98:VAL:HA	2.46	0.45
1:A:1189:A:C4	37:A:8151:HOH:O	2.56	0.45
1:A:1495:C:H1'	1:A:1573:A:H1'	1.99	0.45
1:A:2123:A:H5'	14:N:89:ASN:ND2	2.31	0.45
1:A:2094:G:C2	1:A:2652:U:O2	2.69	0.45
1:A:566:A:H2'	1:A:567:U:O4'	2.17	0.45
1:A:639:A:C2	1:A:1363:G:C2	3.05	0.45
1:A:639:A:H2'	1:A:640:G:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:929:A:O5'	1:A:929:A:H8	1.99	0.45
3:C:200:PRO:HG2	3:C:225:VAL:HG21	1.99	0.45
3:C:81:GLN:H	3:C:92:ASN:ND2	2.15	0.45
4:D:74:ILE:HG13	37:D:8603:HOH:O	2.15	0.45
5:E:16:VAL:HG12	5:E:17:ASP:H	1.80	0.45
5:E:236:THR:C	37:E:8455:HOH:O	2.54	0.45
16:P:73:ASP:HA	16:P:92:VAL:O	2.17	0.45
1:A:1557:G:O2'	1:A:1558:C:H5'	2.17	0.45
1:A:236:A:H4'	1:A:237:G:OP1	2.16	0.45
1:A:2547:C:H2'	1:A:2548:C:C6	2.50	0.45
1:A:2883:A:H2'	1:A:2884:G:O4'	2.17	0.45
1:A:484:A:C6	1:A:486:A:C6	3.05	0.45
1:A:1940:C:H5''	3:C:234:GLY:HA3	1.98	0.45
6:F:91:ALA:HB2	6:F:106:PHE:CD2	2.51	0.45
8:H:117:GLU:C	8:H:119:ARG:N	2.69	0.45
9:I:12:ILE:O	9:I:13:PRO:C	2.54	0.45
10:J:81:TYR:CD1	10:J:81:TYR:C	2.90	0.45
10:J:55:GLN:NE2	10:J:91:HIS:CD2	2.84	0.45
13:M:97:VAL:HG12	13:M:98:GLU:O	2.16	0.45
15:O:58:LEU:CD1	15:O:58:LEU:N	2.79	0.45
15:O:80:SER:CB	37:O:8536:HOH:O	2.64	0.45
20:T:2:TRP:CZ3	20:T:29:ASP:HB3	2.51	0.45
21:U:24:ARG:HH21	21:U:39:ASN:HD22	1.64	0.45
1:A:1498:G:O2'	1:A:1499:U:H5'	2.17	0.45
1:A:2084:C:H2'	1:A:2085:A:H8	1.82	0.45
1:A:2450:C:O5'	1:A:2450:C:H6	2.00	0.45
1:A:2453:G:H2'	1:A:2454:C:C6	2.52	0.45
1:A:2456:A:H5'	37:A:6055:HOH:O	2.17	0.45
1:A:255:A:C5	1:A:256:C:C4	3.05	0.45
1:A:331:A:C6	1:A:332:G:C4	3.04	0.45
1:A:517:U:H2'	1:A:518:G:H5'	1.98	0.45
1:A:897:A:H2'	1:A:899:C:C5	2.52	0.45
4:D:87:TYR:O	4:D:138:GLY:N	2.42	0.45
5:E:165:ASP:O	5:E:168:ARG:HB3	2.16	0.45
1:A:2363:G:O2'	18:R:11:ARG:HG3	2.17	0.45
21:U:49:GLU:OE2	21:U:51:LEU:HD21	2.17	0.45
37:A:4137:HOH:O	21:U:9:LYS:HD3	2.16	0.45
1:A:1095:U:O2	24:X:120:PRO:HG2	2.17	0.45
24:X:5:VAL:HG22	24:X:32:CYS:HB2	1.99	0.45
28:2:28:HIS:HD2	28:2:30:LYS:H	1.65	0.45
30:4:10:TYR:HB2	30:4:17:HIS:HE1	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:23:G:C6	1:A:24:G:N1	2.85	0.45
1:A:67:A:H5''	1:A:69:A:C8	2.52	0.45
1:A:922:A:N7	1:A:2281:C:H5'	2.32	0.45
37:A:7384:HOH:O	3:C:211:LYS:CG	2.60	0.45
3:C:81:GLN:CB	3:C:92:ASN:ND2	2.80	0.45
4:D:154:VAL:CG1	4:D:156:LYS:HG2	2.47	0.45
5:E:118:THR:CG2	5:E:137:PRO:HB3	2.47	0.45
5:E:1:MET:HG2	5:E:2:GLN:NE2	2.32	0.45
5:E:218:VAL:HG12	37:E:8431:HOH:O	2.17	0.45
5:E:25:PRO:HD2	37:E:8436:HOH:O	2.15	0.45
5:E:27:ARG:HG2	5:E:30:LEU:HG	1.98	0.45
7:G:31:ARG:HH12	7:G:68:HIS:CG	2.35	0.45
8:H:58:GLU:HA	8:H:61:MET:CG	2.45	0.45
8:H:59:ILE:HG22	8:H:59:ILE:O	2.15	0.45
12:L:86:THR:HG22	12:L:87:ARG:N	2.32	0.45
17:Q:3:LEU:HA	17:Q:6:GLN:OE1	2.16	0.45
26:Z:130:ARG:HB2	26:Z:142:SER:O	2.17	0.45
26:Z:107:PRO:HB3	26:Z:182:PHE:CD2	2.52	0.45
1:A:1023:C:O2'	1:A:1024:G:H5'	2.17	0.44
1:A:1570:C:C2'	1:A:1571:G:H5'	2.47	0.44
1:A:2550:U:O2'	1:A:2551:C:H5'	2.17	0.44
1:A:496:G:C6	1:A:498:A:C6	3.06	0.44
1:A:716:G:C2'	1:A:717:C:O5'	2.66	0.44
5:E:192:ILE:CG2	5:E:234:VAL:HG12	2.48	0.44
5:E:1:MET:HG2	5:E:2:GLN:N	2.30	0.44
6:F:64:ARG:HG2	6:F:66:GLY:O	2.18	0.44
12:L:130:MET:SD	22:V:25:ASP:O	2.74	0.44
14:N:104:ARG:O	14:N:108:LYS:HE2	2.17	0.44
14:N:24:MET:HE1	14:N:120:VAL:O	2.17	0.44
17:Q:38:GLU:HA	17:Q:41:ARG:HH11	1.81	0.44
20:T:6:LYS:HB2	20:T:27:ALA:O	2.17	0.44
25:Y:74:ALA:HB1	25:Y:85:VAL:HG22	1.99	0.44
1:A:1125:U:C2'	1:A:1126:C:H5'	2.47	0.44
1:A:1167:G:O2'	1:A:1168:C:H5'	2.17	0.44
1:A:1192:A:O2'	1:A:1193:A:OP1	2.28	0.44
1:A:1314:U:C2	1:A:1316:G:N2	2.86	0.44
1:A:1512:G:O2'	1:A:1513:C:H5'	2.17	0.44
1:A:1945:G:O2'	1:A:1946:C:H5'	2.17	0.44
1:A:2453:G:H3'	37:A:6282:HOH:O	2.16	0.44
1:A:2502:C:H2'	1:A:2503:A:C5'	2.39	0.44
1:A:2833:C:C2	1:A:2848:G:N2	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:295:C:H2'	1:A:296:G:O4'	2.17	0.44
1:A:920:C:C4'	1:A:921:G:C2	3.00	0.44
2:B:3042:C:H5'	2:B:3043:G:OP2	2.16	0.44
3:C:211:LYS:CB	3:C:212:PRO:HD2	2.35	0.44
4:D:144:THR:HG22	4:D:145:HIS:N	2.31	0.44
5:E:218:VAL:CG1	37:E:8431:HOH:O	2.65	0.44
8:H:99:THR:HG23	8:H:99:THR:O	2.17	0.44
10:J:72:VAL:O	10:J:72:VAL:HG13	2.15	0.44
1:A:688:A:H62	13:M:111:ALA:HB2	1.82	0.44
14:N:156:ARG:NH1	37:N:8563:HOH:O	2.49	0.44
14:N:49:ALA:C	14:N:54:TYR:HB3	2.37	0.44
15:O:163:PHE:HA	37:O:8518:HOH:O	2.17	0.44
15:O:34:LEU:HD22	15:O:129:ILE:HD13	1.98	0.44
22:V:49:LEU:HD11	37:V:3805:HOH:O	2.17	0.44
24:X:13:MET:HE1	24:X:18:GLN:CA	2.43	0.44
1:A:1127:C:C2'	1:A:1128:U:H5'	2.47	0.44
1:A:1287:A:O4'	24:X:117:ARG:HD3	2.17	0.44
1:A:1855:G:H8	3:C:144:GLU:OE2	2.01	0.44
1:A:2072:G:H3'	1:A:2073:G:C5'	2.48	0.44
1:A:2320:U:H2'	30:4:2:GLN:O	2.17	0.44
1:A:35:U:H2'	1:A:36:C:C6	2.52	0.44
1:A:534:C:N4	37:A:7937:HOH:O	2.49	0.44
2:B:3105:A:H2'	2:B:3106:C:O4'	2.17	0.44
3:C:126:ALA:HB1	3:C:138:VAL:CG1	2.47	0.44
4:D:195:ARG:NH1	4:D:324:ASP:OD1	2.51	0.44
7:G:15:GLN:HG2	7:G:19:ASP:O	2.17	0.44
8:H:33:THR:HG21	8:H:59:ILE:O	2.18	0.44
37:A:4235:HOH:O	10:J:90:PHE:HD2	1.99	0.44
11:K:39:VAL:HG11	11:K:107:ASN:HB2	1.99	0.44
13:M:146:GLY:C	13:M:148:GLU:H	2.21	0.44
19:S:32:ALA:O	19:S:33:ARG:C	2.56	0.44
21:U:55:PHE:HB2	37:U:6384:HOH:O	2.16	0.44
24:X:13:MET:CE	24:X:17:ILE:HG22	2.47	0.44
30:4:50:GLY:O	30:4:53:SER:HB2	2.17	0.44
1:A:1024:G:C5	1:A:1025:C:C4	3.05	0.44
1:A:1024:G:C6	1:A:1025:C:N3	2.85	0.44
1:A:1477:C:H5'	1:A:1868:G:C5'	2.48	0.44
1:A:1983:C:O5'	1:A:1983:C:H6	2.01	0.44
1:A:2321:A:O2'	1:A:2322:U:H3'	2.18	0.44
1:A:2349:G:OP1	6:F:20:LYS:NZ	2.43	0.44
1:A:2715:G:N2	4:D:264:GLU:OE1	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2821:C:H4'	4:D:116:PRO:HB3	1.98	0.44
1:A:291:C:H2'	1:A:292:G:O4'	2.17	0.44
1:A:445:U:H2'	1:A:446:G:H8	1.82	0.44
1:A:958:G:O2'	1:A:959:C:H5'	2.18	0.44
7:G:132:THR:HB	37:G:2227:HOH:O	2.17	0.44
10:J:136:VAL:HA	37:J:8343:HOH:O	2.18	0.44
14:N:77:PHE:O	14:N:77:PHE:CD1	2.71	0.44
15:O:71:TRP:CE3	15:O:175:LEU:CD2	2.96	0.44
17:Q:7:LYS:CD	17:Q:21:VAL:HG21	2.48	0.44
18:R:33:PHE:N	18:R:71:TYR:OH	2.36	0.44
24:X:122:ARG:NH1	24:X:152:ALA:O	2.51	0.44
1:A:1119:G:H22	1:A:1246:A:H2	1.51	0.44
1:A:1313:A:H5'	26:Z:208:LYS:O	2.18	0.44
1:A:1494:A:C4	1:A:1495:C:C5	3.05	0.44
1:A:245:C:H2'	1:A:246:G:H5'	1.98	0.44
1:A:2551:C:O2'	1:A:2552:C:H5'	2.17	0.44
1:A:703:G:O2'	1:A:704:C:H5'	2.17	0.44
2:B:3042:C:H2'	37:B:6700:HOH:O	2.17	0.44
4:D:268:ARG:NE	37:D:8605:HOH:O	2.50	0.44
7:G:31:ARG:HH12	7:G:68:HIS:CD2	2.36	0.44
8:H:58:GLU:HA	8:H:61:MET:HE2	1.99	0.44
15:O:110:THR:CG2	37:O:8553:HOH:O	2.65	0.44
19:S:35:ILE:O	19:S:38:LYS:HB2	2.17	0.44
21:U:96:VAL:CG1	21:U:97:ARG:N	2.81	0.44
24:X:125:HIS:CD2	24:X:127:GLY:H	2.36	0.44
25:Y:25:ARG:NH1	37:Y:3861:HOH:O	2.51	0.44
1:A:10:U:HO2'	1:A:11:A:P	2.41	0.44
1:A:1127:C:C5	1:A:1128:U:C4	3.05	0.44
1:A:1730:G:C5'	1:A:1731:C:H6	2.30	0.44
1:A:332:G:O2'	1:A:333:G:H5'	2.18	0.44
1:A:482:G:H4'	1:A:508:A:N1	2.33	0.44
1:A:765:G:O3'	5:E:69:HIS:HB3	2.18	0.44
2:B:3008:G:O6	15:O:11:ARG:NH1	2.48	0.44
3:C:35:GLY:O	3:C:36:ASP:CB	2.58	0.44
3:C:36:ASP:O	3:C:38:ILE:N	2.50	0.44
1:A:2547:C:OP2	4:D:5:ARG:NH1	2.50	0.44
8:H:38:LYS:HZ3	14:N:3:SER:HA	1.82	0.44
14:N:154:ARG:NE	37:N:8648:HOH:O	2.51	0.44
15:O:170:GLU:O	15:O:174:GLU:HG3	2.17	0.44
17:Q:10:ALA:HA	17:Q:13:VAL:CG1	2.48	0.44
20:T:51:GLN:NE2	20:T:53:ASN:HD21	2.12	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:40:ALA:O	24:X:44:MET:HG3	2.18	0.44
1:A:1592:G:HO2'	1:A:1593:C:C4'	2.31	0.44
1:A:2064:U:C5'	1:A:2652:U:O3'	2.59	0.44
1:A:2897:C:H2'	1:A:2898:G:C8	2.51	0.44
1:A:825:U:H5''	1:A:826:U:OP1	2.18	0.44
1:A:920:C:H5'	1:A:921:G:N3	2.33	0.44
37:A:9509:HOH:O	5:E:103:ASN:HB3	2.17	0.44
5:E:93:LYS:O	5:E:98:ARG:NH2	2.51	0.44
6:F:101:THR:CG2	37:F:7400:HOH:O	2.61	0.44
10:J:139:ASP:N	10:J:140:PRO:CD	2.73	0.44
10:J:6:TYR:HE2	10:J:94:ARG:O	2.01	0.44
1:A:1003:U:O2	10:J:90:PHE:CZ	2.71	0.44
14:N:61:ILE:N	14:N:61:ILE:CD1	2.80	0.44
21:U:96:VAL:HG13	21:U:97:ARG:N	2.32	0.44
22:V:44:ARG:CB	37:V:3805:HOH:O	2.65	0.44
1:A:1436:C:O2'	1:A:1437:A:H5'	2.17	0.44
1:A:1453:G:H2'	1:A:1454:U:O4'	2.18	0.44
1:A:2361:A:H2'	1:A:2362:A:C8	2.53	0.44
1:A:2432:C:C1'	37:A:4455:HOH:O	2.66	0.44
1:A:2621:U:H5	37:A:3360:HOH:O	2.00	0.44
1:A:2724:U:O5'	1:A:2724:U:H6	2.01	0.44
1:A:308:U:C4	1:A:342:C:H1'	2.52	0.44
1:A:711:G:C2	1:A:718:C:C2	3.06	0.44
2:B:3078:G:N2	2:B:3103:A:OP2	2.48	0.44
3:C:36:ASP:O	3:C:37:VAL:C	2.56	0.44
3:C:94:LEU:N	3:C:94:LEU:CD2	2.81	0.44
5:E:76:ARG:HD3	37:E:8371:HOH:O	2.17	0.44
7:G:172:PRO:HB3	37:G:6931:HOH:O	2.18	0.44
10:J:31:PHE:HA	10:J:85:ILE:CG2	2.48	0.44
14:N:157:LEU:HB3	14:N:160:PHE:HD1	1.83	0.44
15:O:67:ALA:HA	15:O:71:TRP:CB	2.48	0.44
1:A:2299:G:O6	18:R:1:PRO:HA	2.18	0.44
23:W:20:LEU:HD22	23:W:60:GLN:HE22	1.82	0.44
24:X:21:LEU:HB3	24:X:26:ILE:CG1	2.47	0.44
30:4:40:ARG:HD2	37:4:8549:HOH:O	2.16	0.44
1:A:1160:G:N3	37:A:5993:HOH:O	2.36	0.44
1:A:1293:U:O2'	26:Z:149:GLN:NE2	2.46	0.44
1:A:2118:A:H2'	1:A:2119:C:H6	1.83	0.44
1:A:2649:A:H5'	1:A:2649:A:H8	1.83	0.44
1:A:489:A:C8	21:U:82:THR:HG22	2.53	0.44
4:D:265:LEU:HD21	4:D:316:ARG:HD3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:214:THR:HB	37:E:8326:HOH:O	2.18	0.44
6:F:52:THR:HB	6:F:70:GLY:O	2.17	0.44
15:O:127:LEU:HA	15:O:127:LEU:HD12	1.84	0.44
15:O:47:LEU:HD12	15:O:92:ALA:HB1	1.99	0.44
17:Q:143:ALA:HA	37:Q:197:HOH:O	2.16	0.44
24:X:107:LEU:O	24:X:112:LEU:HB2	2.16	0.44
1:A:1119:G:C5	1:A:1243:C:C4	3.06	0.43
1:A:1682:A:H5''	37:A:9839:HOH:O	2.17	0.43
1:A:2038:A:H5''	4:D:222:LYS:HG3	2.00	0.43
3:C:153:ARG:HB2	3:C:153:ARG:NH1	2.28	0.43
1:A:1845:A:P	3:C:190:ARG:HH11	2.41	0.43
4:D:24:PRO:HG2	4:D:204:GLY:HA2	2.00	0.43
4:D:301:VAL:O	4:D:302:PRO:O	2.36	0.43
5:E:46:TYR:CE2	5:E:98:ARG:NH1	2.86	0.43
15:O:139:TRP:HA	15:O:139:TRP:HE3	1.83	0.43
20:T:57:THR:CG2	20:T:58:MET:N	2.81	0.43
21:U:106:GLU:HG3	37:U:4913:HOH:O	2.18	0.43
24:X:76:ASP:O	24:X:77:ALA:C	2.57	0.43
27:1:10:ARG:HA	37:1:8414:HOH:O	2.18	0.43
27:1:13:ARG:NH1	37:1:8419:HOH:O	2.50	0.43
27:1:30:GLU:CA	27:1:33:HIS:HB3	2.45	0.43
1:A:1360:C:H4'	37:A:9575:HOH:O	2.17	0.43
1:A:155:C:OP2	14:N:188:ARG:HD3	2.18	0.43
1:A:1773:G:O2'	27:1:15:GLY:HA2	2.18	0.43
1:A:1888:C:N4	1:A:1889:C:C4	2.87	0.43
1:A:2121:G:O2'	30:4:47:GLY:HA2	2.18	0.43
1:A:2122:C:H3'	37:A:5652:HOH:O	2.18	0.43
1:A:2416:G:H2'	1:A:2417:C:C6	2.53	0.43
1:A:169:A:C6	1:A:2469:A:C6	3.07	0.43
1:A:2748:G:C2'	37:A:7899:HOH:O	2.53	0.43
1:A:328:U:O4'	5:E:202:THR:HG22	2.18	0.43
1:A:305:A:C5	1:A:329:A:C2	3.06	0.43
1:A:39:G:C2	1:A:444:C:C2	3.06	0.43
1:A:702:G:O2'	1:A:703:G:H5'	2.18	0.43
3:C:42:VAL:HG11	3:C:75:GLY:O	2.18	0.43
7:G:157:LYS:HE2	7:G:157:LYS:HB2	1.84	0.43
10:J:26:LYS:CG	10:J:28:ILE:H	2.21	0.43
7:G:34:TRP:O	11:K:127:ILE:HD11	2.18	0.43
11:K:130:VAL:CG1	11:K:131:THR:N	2.80	0.43
11:K:27:ALA:HB1	11:K:87:LEU:HD21	1.99	0.43
11:K:6:PHE:O	11:K:8:ALA:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:13:GLU:OE2	12:L:44:HIS:HB2	2.18	0.43
12:L:74:VAL:O	12:L:74:VAL:CG1	2.66	0.43
14:N:43:PRO:O	37:N:8625:HOH:O	2.20	0.43
14:N:3:SER:OG	14:N:5:TYR:HB2	2.18	0.43
14:N:87:MET:HB2	14:N:91:ILE:HD11	1.99	0.43
17:Q:91:LYS:O	17:Q:95:GLU:HG3	2.18	0.43
30:4:70:ARG:HG2	30:4:77:ALA:CB	2.38	0.43
1:A:2846:C:OP1	4:D:158:LYS:HD3	2.19	0.43
3:C:194:MET:HE1	3:C:199:HIS:HB2	2.00	0.43
5:E:13:ASP:O	5:E:13:ASP:OD1	2.36	0.43
6:F:55:LYS:O	6:F:56:ARG:HB2	2.18	0.43
10:J:139:ASP:OD2	37:J:8392:HOH:O	2.21	0.43
10:J:84:ARG:NH2	10:J:135:TRP:CH2	2.79	0.43
13:M:105:TYR:CD1	13:M:105:TYR:C	2.92	0.43
14:N:133:LEU:N	14:N:133:LEU:HD12	2.33	0.43
15:O:3:GLY:CA	37:O:8512:HOH:O	2.65	0.43
19:S:73:ASP:OD1	37:S:8525:HOH:O	2.21	0.43
1:A:588:G:O6	24:X:154:ARG:NH1	2.52	0.43
29:3:18:ASN:HD22	29:3:18:ASN:HA	1.58	0.43
30:4:22:VAL:CG1	30:4:67:LEU:HD13	2.48	0.43
30:4:37:ASP:HA	37:4:8557:HOH:O	2.18	0.43
1:A:101:C:O2'	1:A:102:A:H5'	2.18	0.43
1:A:1298:U:H2'	1:A:1299:G:C8	2.53	0.43
1:A:2241:C:H2'	1:A:2242:U:C6	2.53	0.43
1:A:422:G:O2'	1:A:423:A:H5'	2.17	0.43
1:A:484:A:N6	1:A:486:A:C6	2.86	0.43
1:A:737:A:H2'	1:A:738:G:O4'	2.18	0.43
1:A:766:A:O2'	1:A:767:A:H5''	2.18	0.43
3:C:215:ILE:HG13	3:C:216:SER:N	2.33	0.43
37:A:9942:HOH:O	4:D:267:LYS:HD3	2.17	0.43
4:D:43:GLY:O	4:D:308:LEU:HD12	2.17	0.43
5:E:84:VAL:O	5:E:85:LYS:HB2	2.17	0.43
9:I:16:LYS:O	9:I:20:VAL:HG23	2.18	0.43
10:J:47:GLU:CB	10:J:133:ILE:CD1	2.94	0.43
14:N:52:LEU:CD1	14:N:116:ASN:HB3	2.46	0.43
1:A:175:G:C2'	14:N:192:ALA:HB3	2.44	0.43
15:O:157:PRO:HA	37:O:8525:HOH:O	2.17	0.43
17:Q:2:ASP:OD1	17:Q:2:ASP:C	2.57	0.43
24:X:110:GLN:CA	24:X:110:GLN:NE2	2.76	0.43
27:1:55:TRP:HB2	27:1:64:ILE:HG13	2.01	0.43
1:A:1566:C:H2'	1:A:1567:A:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1825:U:O2'	1:A:1826:C:H5'	2.18	0.43
1:A:1896:G:C6	1:A:1897:U:C4	3.06	0.43
1:A:2543:G:O3'	1:A:2590:U:H5'	2.19	0.43
1:A:391:U:OP2	14:N:84:LYS:NZ	2.51	0.43
1:A:677:C:H4'	5:E:246:ARG:NH2	2.34	0.43
1:A:778:C:C4	1:A:779:U:C4	3.07	0.43
1:A:941:G:C6	1:A:942:U:C4	3.06	0.43
1:A:962:C:H5''	37:A:5279:HOH:O	2.17	0.43
2:B:3028:U:H2'	2:B:3029:C:C6	2.54	0.43
4:D:119:HIS:O	4:D:121:PRO:HD3	2.18	0.43
1:A:2837:U:H1'	4:D:307:ARG:HH12	1.84	0.43
4:D:41:PHE:CZ	4:D:79:MET:HG3	2.54	0.43
10:J:112:ARG:O	10:J:113:ALA:C	2.56	0.43
15:O:139:TRP:CH2	15:O:176:ARG:NH1	2.87	0.43
15:O:152:GLU:HA	15:O:152:GLU:OE1	2.18	0.43
15:O:43:VAL:O	15:O:84:THR:HG21	2.18	0.43
19:S:39:THR:CG2	19:S:42:GLU:HG3	2.49	0.43
22:V:39:ASN:ND2	22:V:44:ARG:HH11	2.16	0.43
27:1:22:ILE:HG22	27:1:23:ARG:N	2.33	0.43
30:4:65:THR:HB	30:4:83:TRP:H	1.83	0.43
1:A:1052:G:H2'	1:A:1052:G:N3	2.32	0.43
1:A:1069:C:H4'	1:A:1081:A:O2'	2.18	0.43
1:A:1544:U:H2'	1:A:1545:C:H6	1.83	0.43
1:A:2467:A:O2'	1:A:2468:A:H2'	2.19	0.43
1:A:492:C:O2'	1:A:493:U:H5'	2.19	0.43
1:A:503:G:H2'	1:A:504:G:H8	1.83	0.43
31:A:9403:VIR:HC42	31:A:9403:VIR:N9	2.33	0.43
4:D:224:LYS:HD3	4:D:224:LYS:HA	1.74	0.43
4:D:310:ARG:HD2	37:D:8644:HOH:O	2.18	0.43
5:E:142:ASP:OD1	5:E:236:THR:HG23	2.18	0.43
6:F:128:LEU:HD23	6:F:128:LEU:C	2.38	0.43
6:F:49:PRO:HG3	37:F:5828:HOH:O	2.18	0.43
7:G:132:THR:HG23	7:G:132:THR:O	2.18	0.43
10:J:86:ARG:CZ	10:J:130:HIS:CD2	3.01	0.43
13:M:72:ASN:HB2	37:M:8587:HOH:O	2.19	0.43
21:U:71:VAL:HG12	21:U:72:ILE:N	2.33	0.43
1:A:944:G:H1'	24:X:23:MET:SD	2.59	0.43
26:Z:189:ASN:ND2	26:Z:189:ASN:C	2.71	0.43
1:A:1594:C:C2	1:A:1601:G:C2	3.06	0.43
1:A:1666:C:C2'	1:A:1667:A:C5'	2.95	0.43
1:A:2279:G:OP1	37:A:5460:HOH:O	2.21	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2430:A:H2'	1:A:2431:C:C6	2.53	0.43
1:A:2533:C:H6	1:A:2533:C:C5'	2.23	0.43
1:A:2777:G:O2'	1:A:2778:A:H5'	2.18	0.43
31:A:9403:VIR:C4	31:A:9403:VIR:N9	2.82	0.43
1:A:95:A:H5''	1:A:97:G:O4'	2.18	0.43
2:B:3061:C:H2'	2:B:3062:A:H8	1.83	0.43
4:D:238:ASN:HA	37:D:8522:HOH:O	2.17	0.43
4:D:301:VAL:O	4:D:302:PRO:C	2.56	0.43
5:E:194:PHE:HA	5:E:234:VAL:HG13	2.01	0.43
6:F:59:GLY:O	6:F:61:PHE:N	2.42	0.43
8:H:50:VAL:CG1	8:H:60:VAL:HG11	2.48	0.43
10:J:129:ASN:N	10:J:129:ASN:HD22	2.16	0.43
37:A:4910:HOH:O	10:J:151:MET:HE2	2.18	0.43
16:P:77:ALA:HA	16:P:96:VAL:O	2.18	0.43
20:T:10:VAL:HG13	23:W:35:ALA:O	2.19	0.43
26:Z:109:LEU:HA	37:Z:8576:HOH:O	2.18	0.43
26:Z:112:GLU:CD	26:Z:115:ARG:HH12	2.21	0.43
26:Z:187:VAL:HG23	26:Z:192:ASP:HB3	1.98	0.43
28:2:15:THR:O	28:2:29:THR:HG22	2.18	0.43
1:A:963:C:O2	1:A:1005:A:N1	2.52	0.43
1:A:1023:C:H2'	1:A:1024:G:O4'	2.18	0.43
1:A:1262:C:H1'	24:X:120:PRO:HG3	2.00	0.43
1:A:1398:G:H2'	1:A:1399:A:C8	2.54	0.43
1:A:1423:C:O2'	1:A:1424:A:H5'	2.19	0.43
1:A:1654:U:H2'	3:C:47:HIS:HD2	1.83	0.43
1:A:790:A:H1'	1:A:1710:A:H2'	2.00	0.43
1:A:183:A:O2'	1:A:184:G:H5'	2.19	0.43
1:A:208:C:N3	1:A:232:A:C2	2.87	0.43
1:A:2346:C:H4'	6:F:52:THR:HG22	2.01	0.43
1:A:2501:G:H1'	37:A:4910:HOH:O	2.18	0.43
1:A:2898:G:H4'	4:D:288:GLY:HA2	2.00	0.43
1:A:65:C:O2'	1:A:66:G:H5'	2.18	0.43
1:A:736:A:H2'	1:A:737:A:O4'	2.19	0.43
1:A:894:A:C2	5:E:87:ARG:NH2	2.87	0.43
6:F:104:PHE:CE2	6:F:166:ILE:CD1	3.02	0.43
6:F:84:LEU:HA	6:F:87:ALA:HB3	2.01	0.43
10:J:26:LYS:HD3	10:J:89:PRO:CG	2.49	0.43
15:O:110:THR:HB	15:O:113:SER:HG	1.82	0.43
19:S:6:VAL:HG21	19:S:113:HIS:CD2	2.53	0.43
24:X:85:ALA:HB2	24:X:91:ASP:O	2.18	0.43
28:2:17:THR:N	28:2:27:TYR:O	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:4:11:CYS:HB2	30:4:20:HIS:HE1	1.81	0.43
1:A:1593:C:OP1	17:Q:117:SER:CB	2.66	0.43
1:A:1613:C:H2'	1:A:1614:G:O4'	2.18	0.43
1:A:1675:C:O2'	1:A:1676:G:H5'	2.19	0.43
1:A:1878:G:H4'	37:A:4492:HOH:O	2.18	0.43
1:A:2011:A:C1'	1:A:2013:G:C8	3.02	0.43
1:A:330:C:H5	5:E:170:ASP:OD2	2.02	0.43
2:B:3061:C:C2	2:B:3062:A:C8	3.07	0.43
3:C:217:ARG:HG3	3:C:217:ARG:HH11	1.84	0.43
3:C:33:GLU:CD	3:C:33:GLU:H	2.15	0.43
10:J:158:ASN:ND2	37:J:8387:HOH:O	2.51	0.43
1:A:2601:A:N1	12:L:38:SER:HB2	2.33	0.43
13:M:121:ILE:HG12	13:M:141:GLU:HB2	1.99	0.43
15:O:34:LEU:HD13	15:O:47:LEU:HD21	2.01	0.43
17:Q:56:GLY:N	37:Q:185:HOH:O	2.50	0.43
24:X:41:TYR:O	24:X:45:VAL:HG13	2.19	0.43
28:2:29:THR:O	28:2:32:LYS:NZ	2.51	0.43
1:A:2293:G:C5	1:A:2294:C:C5	3.07	0.43
1:A:2428:G:C5	37:A:4161:HOH:O	2.56	0.43
1:A:2655:U:C4	1:A:2656:G:N7	2.87	0.43
1:A:2749:U:O2'	1:A:2751:C:OP2	2.23	0.43
1:A:544:G:H2'	1:A:545:G:C5'	2.49	0.43
1:A:834:G:H3'	1:A:835:U:H4'	2.01	0.43
4:D:268:ARG:NH2	4:D:325:PRO:HG3	2.33	0.43
5:E:127:ARG:HD3	5:E:230:GLY:O	2.19	0.43
6:F:99:ASP:HB2	6:F:103:ASN:H	1.84	0.43
1:A:2781:U:H1'	7:G:139:GLU:OE2	2.17	0.43
13:M:125:PHE:O	37:M:8592:HOH:O	2.22	0.43
14:N:57:LYS:NZ	14:N:144:ASP:OD2	2.49	0.43
14:N:49:ALA:HB1	14:N:54:TYR:CB	2.48	0.43
18:R:93:ARG:HH11	18:R:93:ARG:HG3	1.84	0.43
23:W:12:THR:HG23	23:W:14:ALA:N	2.34	0.43
26:Z:144:ARG:NH2	37:Z:8616:HOH:O	2.52	0.43
1:A:133:U:C4	1:A:134:U:C5	3.07	0.42
1:A:1477:C:C2'	1:A:1478:U:H5'	2.48	0.42
1:A:162:C:H2'	1:A:163:U:H5'	2.00	0.42
1:A:1850:U:O4'	1:A:1941:A:C2	2.71	0.42
1:A:2820:A:H2'	1:A:2821:C:C6	2.54	0.42
1:A:813:C:H3'	37:A:7569:HOH:O	2.19	0.42
2:B:3009:C:OP2	37:B:466:HOH:O	2.22	0.42
3:C:164:ARG:HA	27:1:69:TYR:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:115:LEU:CD1	5:E:223:LEU:HD21	2.27	0.42
6:F:60:GLU:C	6:F:62:ASP:N	2.72	0.42
7:G:162:PHE:CD1	7:G:162:PHE:N	2.86	0.42
8:H:110:GLU:HA	8:H:113:ASP:OD2	2.19	0.42
10:J:71:TYR:O	10:J:73:GLN:N	2.52	0.42
12:L:75:ARG:HG2	12:L:90:PHE:CD2	2.53	0.42
13:M:140:VAL:CG2	37:M:8562:HOH:O	2.67	0.42
15:O:100:ALA:O	15:O:129:ILE:HG23	2.19	0.42
19:S:40:ALA:O	19:S:44:VAL:HG23	2.19	0.42
21:U:3:GLN:HA	21:U:4:PRO:HD3	1.91	0.42
24:X:1:MET:HB2	24:X:103:GLU:HG2	2.01	0.42
1:A:1067:A:C6	1:A:1068:C:C4	3.07	0.42
1:A:1080:C:O5'	1:A:1080:C:H6	2.01	0.42
1:A:1182:C:H1'	1:A:1192:A:C8	2.51	0.42
1:A:119:A:C2	1:A:122:C:N3	2.87	0.42
1:A:1566:C:O2'	1:A:1567:A:H5'	2.19	0.42
1:A:1588:G:C6	1:A:1589:G:N1	2.87	0.42
1:A:1916:C:C2	1:A:1924:A:C2	3.07	0.42
1:A:2779:G:N7	1:A:2790:C:C2	2.87	0.42
1:A:941:G:C5	1:A:942:U:C4	3.07	0.42
2:B:3076:G:C3'	2:B:3077:A:H5"	2.30	0.42
1:A:2679:G:H5'	4:D:11:LEU:HB3	2.00	0.42
5:E:246:ARG:CZ	37:E:8431:HOH:O	2.67	0.42
7:G:84:MET:HE1	7:G:133:VAL:HG21	2.01	0.42
8:H:6:PHE:CD1	8:H:6:PHE:C	2.93	0.42
9:I:12:ILE:CD1	37:I:692:HOH:O	2.60	0.42
10:J:163:PRO:O	10:J:164:ALA:HB2	2.19	0.42
11:K:107:ASN:C	11:K:107:ASN:HD22	2.21	0.42
11:K:77:GLY:O	11:K:78:ILE:C	2.57	0.42
17:Q:134:VAL:O	17:Q:137:LEU:HB3	2.18	0.42
17:Q:14:LEU:HD13	17:Q:51:ALA:HB2	2.00	0.42
25:Y:41:PHE:O	25:Y:42:SER:C	2.57	0.42
29:3:11:LEU:HD23	29:3:11:LEU:HA	1.85	0.42
1:A:1269:G:H2'	1:A:1270:U:C6	2.54	0.42
1:A:1385:G:O3'	25:Y:49:ARG:NH1	2.53	0.42
1:A:1414:A:H2	37:A:5267:HOH:O	2.02	0.42
1:A:24:G:C2	1:A:518:G:N3	2.87	0.42
1:A:2577:A:H5'	37:A:8223:HOH:O	2.19	0.42
1:A:2898:G:H1'	4:D:282:GLY:O	2.19	0.42
1:A:445:U:H1'	37:A:7695:HOH:O	2.19	0.42
4:D:234:ARG:NH1	37:D:8617:HOH:O	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:205:VAL:O	4:D:307:ARG:CD	2.68	0.42
10:J:48:LEU:CG	10:J:157:ILE:HG21	2.48	0.42
24:X:11:VAL:O	24:X:12:ASN:HB2	2.19	0.42
27:1:57:CYS:O	27:1:61:GLY:HA2	2.19	0.42
1:A:1164:U:C1'	1:A:1165:G:OP1	2.67	0.42
1:A:1265:G:C1'	37:A:5365:HOH:O	2.67	0.42
1:A:1762:C:H2'	1:A:1763:C:H6	1.85	0.42
1:A:2839:C:H2'	1:A:2840:A:H5''	2.01	0.42
1:A:326:G:O2'	1:A:327:A:H5'	2.18	0.42
1:A:401:C:H2'	1:A:402:U:C6	2.54	0.42
1:A:440:C:H2'	1:A:441:A:C8	2.55	0.42
1:A:541:C:H2'	1:A:542:A:H5'	1.94	0.42
1:A:549:A:O2'	1:A:550:C:H5'	2.19	0.42
1:A:629:A:H2'	1:A:630:A:O4'	2.20	0.42
1:A:820:G:OP2	3:C:171:LYS:NZ	2.46	0.42
2:B:3008:G:P	37:B:5071:HOH:O	2.76	0.42
2:B:3041:C:C6	6:F:50:VAL:HG21	2.55	0.42
7:G:80:TRP:O	7:G:134:SER:HA	2.19	0.42
8:H:17:LEU:O	8:H:20:LEU:HB3	2.19	0.42
8:H:21:GLU:O	8:H:24:ARG:CG	2.67	0.42
10:J:56:ILE:HG21	10:J:61:LEU:CD1	2.49	0.42
11:K:17:CYS:HA	11:K:119:THR:O	2.20	0.42
13:M:101:ASP:C	13:M:103:ALA:H	2.22	0.42
14:N:146:GLN:NE2	37:N:8656:HOH:O	2.52	0.42
26:Z:185:VAL:HG12	37:Z:8575:HOH:O	2.17	0.42
1:A:101:C:H2'	1:A:102:A:C8	2.54	0.42
1:A:1902:G:O2'	1:A:1903:U:H5'	2.20	0.42
1:A:2355:G:H5''	1:A:2356:A:OP2	2.20	0.42
1:A:2481:G:H3'	1:A:2482:G:H5''	2.00	0.42
2:B:3092:G:C6	2:B:3093:A:C6	3.08	0.42
3:C:44:ASP:O	3:C:45:ILE:HD13	2.20	0.42
6:F:104:PHE:CE2	6:F:166:ILE:HD13	2.55	0.42
7:G:83:GLY:O	7:G:169:THR:N	2.39	0.42
8:H:4:VAL:HA	8:H:76:PHE:CE1	2.54	0.42
10:J:150:LYS:CB	10:J:157:ILE:HD12	2.46	0.42
12:L:65:ARG:CD	37:L:5358:HOH:O	2.66	0.42
14:N:35:PRO:HD2	14:N:38:VAL:HG21	2.02	0.42
6:F:146:LYS:HZ3	15:O:107:ASN:HD21	1.66	0.42
17:Q:14:LEU:O	17:Q:16:VAL:HG23	2.20	0.42
19:S:39:THR:HG22	19:S:41:GLY:N	2.35	0.42
24:X:65:VAL:CG1	24:X:116:LEU:HD13	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:29:VAL:O	24:X:30:ASN:HB2	2.19	0.42
26:Z:153:GLN:O	26:Z:156:GLY:N	2.38	0.42
1:A:1025:C:H5'	24:X:23:MET:O	2.20	0.42
1:A:1279:U:H5''	37:A:9970:HOH:O	2.19	0.42
1:A:1734:C:O5'	1:A:1734:C:H6	2.02	0.42
1:A:1883:U:O2'	1:A:1884:G:H5'	2.19	0.42
1:A:1972:U:C2'	1:A:1973:A:H5'	2.47	0.42
1:A:484:A:N1	1:A:506:G:H4'	2.35	0.42
1:A:621:C:H5'	26:Z:132:ASP:OD2	2.20	0.42
1:A:793:A:H5''	17:Q:83:LYS:HG2	2.01	0.42
4:D:16:ARG:NE	37:D:8553:HOH:O	2.36	0.42
1:A:1734:C:OP1	4:D:234:ARG:HD3	2.18	0.42
10:J:26:LYS:HD2	10:J:28:ILE:CG1	2.49	0.42
1:A:1244:U:P	11:K:18:ILE:HD13	2.60	0.42
13:M:122:ALA:HB3	13:M:125:PHE:CZ	2.55	0.42
15:O:163:PHE:CZ	15:O:164:ASP:OD2	2.72	0.42
21:U:111:ARG:HB3	21:U:119:ALA:HB2	2.02	0.42
26:Z:112:GLU:OE2	26:Z:115:ARG:NH1	2.53	0.42
26:Z:126:PRO:HG2	26:Z:128:PHE:CZ	2.55	0.42
27:1:58:GLY:HA3	37:1:8436:HOH:O	2.20	0.42
30:4:34:LYS:HB2	30:4:37:ASP:OD2	2.20	0.42
1:A:1174:A:N7	1:A:1201:C:O5'	2.53	0.42
1:A:1570:C:O2'	1:A:1571:G:H5'	2.18	0.42
1:A:240:C:O2	1:A:240:C:H2'	2.20	0.42
1:A:2437:A:H2'	1:A:2438:G:H8	1.83	0.42
1:A:2561:C:OP1	7:G:153:ARG:NH2	2.52	0.42
1:A:812:A:H2'	1:A:813:C:C6	2.54	0.42
4:D:81:ALA:O	4:D:186:GLY:HA3	2.20	0.42
4:D:279:THR:CG2	4:D:280:VAL:N	2.82	0.42
4:D:316:ARG:N	4:D:317:PRO:HD3	2.35	0.42
4:D:7:ARG:NH1	4:D:11:LEU:CD2	2.83	0.42
5:E:3:ALA:HA	37:E:8460:HOH:O	2.19	0.42
7:G:84:MET:HB2	7:G:131:LEU:HB2	2.01	0.42
12:L:62:PRO:CG	12:L:65:ARG:HH21	2.25	0.42
14:N:81:ARG:O	14:N:86:MET:HE2	2.19	0.42
15:O:176:ARG:O	15:O:180:LEU:HG	2.19	0.42
16:P:115:ARG:NH1	37:P:6194:HOH:O	2.53	0.42
23:W:39:ALA:C	23:W:41:GLU:N	2.73	0.42
30:4:1:MET:HG3	30:4:88:LEU:HD12	2.02	0.42
1:A:1188:A:C6	1:A:1189:A:C6	3.08	0.42
1:A:1375:A:C2'	1:A:1376:G:H5'	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1609:C:H2'	1:A:1610:G:C8	2.55	0.42
1:A:1795:G:H2'	1:A:1796:A:O4'	2.19	0.42
1:A:1850:U:H2'	1:A:1851:G:C8	2.54	0.42
1:A:1894:C:C2	1:A:1939:U:C4	3.07	0.42
1:A:1898:G:H2'	1:A:1899:C:C6	2.55	0.42
1:A:222:A:H2'	1:A:223:G:O4'	2.19	0.42
1:A:2781:U:O2'	1:A:2782:G:H5'	2.19	0.42
5:E:49:ASP:HB3	5:E:52:ALA:HB2	2.01	0.42
6:F:95:THR:C	6:F:97:GLN:N	2.68	0.42
9:I:20:VAL:O	9:I:24:VAL:HG23	2.20	0.42
10:J:62:GLU:OE2	10:J:66:VAL:CG2	2.68	0.42
14:N:68:ARG:CD	14:N:68:ARG:O	2.66	0.42
15:O:63:SER:O	15:O:66:LEU:HB2	2.19	0.42
15:O:78:MET:HB2	15:O:79:PRO:HD3	2.00	0.42
16:P:39:THR:CB	37:P:3360:HOH:O	2.68	0.42
21:U:15:PRO:O	21:U:19:ARG:HG3	2.19	0.42
24:X:21:LEU:HD22	24:X:26:ILE:HD13	1.99	0.42
24:X:38:THR:HG22	37:X:3580:HOH:O	2.19	0.42
1:A:1516:C:H2'	1:A:1517:U:C6	2.55	0.42
1:A:1940:C:H4'	37:A:7704:HOH:O	2.19	0.42
1:A:2028:U:H2'	1:A:2029:C:C6	2.54	0.42
1:A:2289:G:C2	1:A:2309:C:N4	2.88	0.42
1:A:2434:A:H2'	1:A:2435:U:C6	2.55	0.42
1:A:2438:G:H2'	1:A:2439:C:O4'	2.20	0.42
2:B:3035:C:H5''	37:B:4078:HOH:O	2.19	0.42
2:B:3057:A:C8	6:F:141:VAL:HG21	2.55	0.42
4:D:70:PRO:O	4:D:71:VAL:HG23	2.19	0.42
5:E:79:ARG:O	5:E:87:ARG:HG2	2.20	0.42
10:J:109:ASP:HB2	37:J:8345:HOH:O	2.18	0.42
30:4:70:ARG:HA	37:4:8572:HOH:O	2.19	0.42
1:A:1215:A:O3'	1:A:1216:G:C4'	2.68	0.42
1:A:1215:A:O3'	1:A:1216:G:H4'	2.19	0.42
1:A:1314:U:H2'	37:A:6235:HOH:O	2.18	0.42
1:A:1420:C:C2	1:A:1445:G:N2	2.87	0.42
1:A:1762:C:H2'	1:A:1763:C:C6	2.55	0.42
1:A:1771:U:O2'	27:I:23:ARG:NH2	2.51	0.42
1:A:1916:C:O2	1:A:1924:A:C2	2.72	0.42
1:A:216:A:O2'	1:A:217:C:H5'	2.20	0.42
1:A:2428:G:N7	37:A:4161:HOH:O	2.53	0.42
1:A:2464:C:P	37:A:3313:HOH:O	2.78	0.42
1:A:2638:G:H5'	37:A:5293:HOH:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:332:G:H4'	21:U:2:LYS:O	2.20	0.42
1:A:319:A:H4'	1:A:338:C:C5	2.54	0.42
1:A:226:A:H1'	1:A:393:G:C5	2.54	0.42
1:A:553:G:C2'	1:A:554:G:H5'	2.50	0.42
1:A:562:A:C6	1:A:563:C:C4	3.07	0.42
1:A:57:C:H5''	37:A:7115:HOH:O	2.20	0.42
1:A:775:G:OP1	28:2:16:HIS:CE1	2.67	0.42
2:B:3064:C:C2'	2:B:3065:A:H5'	2.50	0.42
5:E:178:GLN:C	5:E:180:SER:N	2.71	0.42
7:G:20:ILE:HD12	7:G:33:LEU:CD1	2.49	0.42
11:K:131:THR:HB	11:K:134:GLU:HG3	2.00	0.42
14:N:46:LEU:CD2	14:N:50:ARG:HG3	2.50	0.42
15:O:82:TYR:OH	15:O:176:ARG:NH1	2.53	0.42
15:O:38:LYS:HD2	15:O:114:LYS:HE3	2.01	0.42
17:Q:38:GLU:OE1	17:Q:41:ARG:NH1	2.53	0.42
19:S:39:THR:HB	19:S:42:GLU:CD	2.40	0.42
20:T:73:ASP:OD1	20:T:75:GLN:HB2	2.20	0.42
37:A:9933:HOH:O	24:X:119:HIS:HE1	2.01	0.42
1:A:2834:G:OP1	25:Y:39:LYS:HE2	2.20	0.42
26:Z:99:ALA:HB2	26:Z:233:TYR:CE2	2.54	0.42
29:3:31:GLU:O	37:3:2890:HOH:O	2.22	0.41
1:A:111:C:O2'	1:A:112:G:H5'	2.20	0.41
1:A:1641:A:C8	1:A:1702:U:O4	2.73	0.41
1:A:2316:G:O2'	1:A:2462:G:O6	2.37	0.41
1:A:951:A:O2'	1:A:952:G:H5'	2.20	0.41
1:A:960:G:N3	1:A:960:G:C2'	2.82	0.41
3:C:125:ASN:ND2	37:C:8539:HOH:O	2.52	0.41
6:F:99:ASP:CB	6:F:103:ASN:HB2	2.50	0.41
8:H:20:LEU:O	8:H:23:ALA:HB3	2.21	0.41
13:M:138:GLY:HA3	37:M:8558:HOH:O	2.20	0.41
14:N:74:ARG:CD	14:N:91:ILE:CD1	2.98	0.41
15:O:140:GLN:O	15:O:143:ARG:HB2	2.19	0.41
18:R:25:PRO:HA	18:R:26:PRO:HD3	1.90	0.41
18:R:66:LYS:HB2	18:R:70:ALA:O	2.19	0.41
21:U:41:ARG:O	21:U:43:ASN:ND2	2.53	0.41
24:X:126:ASP:HB3	24:X:135:GLY:O	2.20	0.41
1:A:1902:G:N2	1:A:1936:C:C2	2.89	0.41
1:A:2314:G:O2'	1:A:2315:C:H5'	2.20	0.41
1:A:853:C:H2'	1:A:854:G:O4'	2.19	0.41
1:A:954:U:O2'	1:A:955:A:H5'	2.20	0.41
3:C:231:LYS:O	3:C:232:ARG:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:870:G:OP2	3:C:3:ARG:NH1	2.53	0.41
3:C:66:ARG:HH11	3:C:66:ARG:HB2	1.83	0.41
6:F:25:MET:SD	6:F:40:ILE:HD11	2.60	0.41
10:J:132:PHE:O	10:J:133:ILE:HD13	2.20	0.41
12:L:74:VAL:CG1	12:L:113:ILE:HG12	2.47	0.41
37:A:5770:HOH:O	13:M:34:GLY:HA2	2.20	0.41
14:N:91:ILE:HA	37:N:8652:HOH:O	2.20	0.41
1:A:401:C:H5''	14:N:96:ASN:HB3	2.02	0.41
22:V:14:GLU:HA	22:V:15:PRO:HD2	1.89	0.41
24:X:28:HIS:HD2	24:X:31:HIS:CE1	2.38	0.41
25:Y:30:MET:HE3	25:Y:59:TRP:HE1	1.84	0.41
30:4:51:LYS:HG3	30:4:52:PHE:N	2.34	0.41
1:A:1159:G:P	37:A:4662:HOH:O	2.79	0.41
1:A:1441:G:H1'	37:A:8236:HOH:O	2.19	0.41
1:A:1531:U:O2	1:A:1661:A:C2	2.74	0.41
1:A:1617:C:C4	1:A:1643:C:H4'	2.55	0.41
1:A:1810:C:OP1	22:V:44:ARG:NE	2.31	0.41
1:A:1846:U:H5''	3:C:186:TRP:CZ2	2.55	0.41
1:A:2004:U:H2'	1:A:2005:G:OP1	2.19	0.41
1:A:2325:C:H2'	1:A:2326:U:C6	2.55	0.41
1:A:2481:G:C3'	1:A:2482:G:H5''	2.50	0.41
1:A:2684:A:H2'	1:A:2685:C:H6	1.84	0.41
1:A:2785:C:H4'	1:A:2786:G:OP2	2.21	0.41
1:A:290:C:H1'	37:A:6465:HOH:O	2.20	0.41
1:A:314:G:N2	1:A:316:A:H3'	2.34	0.41
1:A:64:G:H2'	1:A:65:C:O4'	2.21	0.41
1:A:849:C:C2'	1:A:850:U:H5'	2.51	0.41
2:B:3056:A:C3'	2:B:3057:A:H5''	2.50	0.41
3:C:81:GLN:N	3:C:92:ASN:ND2	2.67	0.41
4:D:102:THR:HG23	4:D:182:VAL:HG12	2.02	0.41
4:D:7:ARG:HH11	4:D:7:ARG:CG	2.31	0.41
4:D:84:LEU:HD13	4:D:84:LEU:O	2.19	0.41
6:F:84:LEU:HD23	6:F:87:ALA:HB3	2.03	0.41
8:H:28:ALA:HB3	8:H:99:THR:HG23	2.02	0.41
14:N:125:ARG:NH1	37:N:8599:HOH:O	2.52	0.41
1:A:154:C:H3'	14:N:188:ARG:NH1	2.35	0.41
15:O:15:GLU:HB2	15:O:17:ARG:HG3	2.01	0.41
17:Q:109:ARG:NH1	17:Q:119:TYR:CE2	2.88	0.41
22:V:20:MET:HE2	22:V:30:HIS:NE2	2.35	0.41
23:W:45:ARG:C	23:W:47:LYS:N	2.73	0.41
25:Y:76:ARG:HA	25:Y:82:GLU:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:145:LYS:O	26:Z:147:ARG:HG2	2.20	0.41
1:A:1324:G:C2	1:A:1334:C:O2	2.74	0.41
1:A:1494:A:C2	1:A:1495:C:C4	3.08	0.41
1:A:1878:G:O2'	1:A:1879:U:OP2	2.37	0.41
1:A:2053:G:OP1	19:S:138:SER:OG	2.32	0.41
1:A:2716:G:H1'	37:D:8543:HOH:O	2.20	0.41
2:B:3078:G:O2'	2:B:3079:U:P	2.78	0.41
3:C:125:ASN:CB	3:C:158:VAL:HG12	2.50	0.41
6:F:140:ARG:O	6:F:144:ARG:HG2	2.20	0.41
6:F:59:GLY:C	6:F:61:PHE:H	2.19	0.41
10:J:75:SER:HB3	10:J:79:ALA:CB	2.49	0.41
13:M:133:VAL:HB	37:M:8562:HOH:O	2.19	0.41
13:M:142:LEU:HG	13:M:146:GLY:HA3	2.02	0.41
14:N:94:LYS:CE	37:N:8653:HOH:O	2.68	0.41
2:B:3007:G:OP1	15:O:23:ARG:NE	2.54	0.41
18:R:16:ASN:HA	18:R:16:ASN:HD22	1.61	0.41
21:U:55:PHE:CD2	21:U:77:VAL:HG13	2.56	0.41
28:2:28:HIS:CE1	28:2:31:LYS:HE2	2.56	0.41
1:A:1074:G:C2	1:A:1075:G:C8	3.08	0.41
1:A:1081:A:C6	1:A:1082:A:N1	2.88	0.41
1:A:1333:U:H2'	1:A:1334:C:H6	1.82	0.41
1:A:1728:G:N1	1:A:1729:A:C5	2.89	0.41
1:A:2032:U:H2'	1:A:2033:G:H5'	2.03	0.41
1:A:2246:U:N3	1:A:2256:G:C2	2.88	0.41
1:A:2334:C:O2'	1:A:2335:C:H5'	2.21	0.41
1:A:24:G:C4	1:A:518:G:N2	2.88	0.41
1:A:312:U:C2	1:A:320:G:N2	2.88	0.41
2:B:3078:G:O2'	2:B:3079:U:OP2	2.38	0.41
4:D:23:THR:HA	4:D:24:PRO:HD3	1.88	0.41
4:D:92:TYR:CD1	4:D:92:TYR:N	2.88	0.41
6:F:170:TYR:N	6:F:170:TYR:CD1	2.89	0.41
6:F:174:VAL:HG11	37:F:2195:HOH:O	2.21	0.41
6:F:57:THR:HA	6:F:63:ILE:HA	2.01	0.41
12:L:87:ARG:NE	37:L:4854:HOH:O	2.52	0.41
13:M:107:LYS:CD	13:M:124:ASP:OD2	2.68	0.41
13:M:53:ARG:NH2	13:M:57:VAL:HG12	2.35	0.41
13:M:77:ALA:HB3	37:M:8532:HOH:O	2.20	0.41
19:S:15:LYS:HE3	37:S:8580:HOH:O	2.20	0.41
20:T:58:MET:SD	29:3:8:LYS:HE3	2.60	0.41
21:U:43:ASN:C	21:U:45:GLY:H	2.24	0.41
21:U:73:HIS:CD2	21:U:88:PRO:HG3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:52:THR:HG22	22:V:54:THR:N	2.36	0.41
1:A:622:G:P	26:Z:148:GLY:HA3	2.60	0.41
1:A:1014:A:H2'	1:A:1015:C:H5'	2.02	0.41
1:A:1135:G:C6	1:A:1136:U:C4	3.08	0.41
1:A:1238:C:H4'	37:A:6381:HOH:O	2.20	0.41
1:A:12:U:C2'	1:A:13:G:H5'	2.50	0.41
1:A:1545:C:O2'	1:A:1546:G:H5'	2.20	0.41
1:A:1644:C:C2	1:A:1645:U:C6	3.09	0.41
1:A:1657:A:H2'	1:A:1658:A:C8	2.55	0.41
1:A:2133:U:H4'	1:A:2134:G:H5'	2.02	0.41
1:A:2453:G:H5'	37:A:5057:HOH:O	2.21	0.41
1:A:816:G:C6	1:A:817:G:N1	2.88	0.41
1:A:921:G:H4'	1:A:924:G:N1	2.36	0.41
4:D:156:LYS:HE3	37:D:8628:HOH:O	2.20	0.41
4:D:223:ARG:HG3	4:D:232:TRP:C	2.41	0.41
7:G:95:VAL:O	7:G:126:ILE:HD13	2.20	0.41
13:M:73:VAL:HG21	13:M:116:HIS:CD2	2.56	0.41
14:N:68:ARG:O	14:N:68:ARG:CG	2.67	0.41
15:O:113:SER:CB	37:O:8560:HOH:O	2.55	0.41
17:Q:58:SER:CB	37:Q:186:HOH:O	2.61	0.41
19:S:104:PHE:CB	19:S:109:MET:HE1	2.48	0.41
1:A:1185:U:C5'	37:A:7822:HOH:O	2.65	0.41
1:A:171:C:OP2	14:N:84:LYS:HG3	2.21	0.41
1:A:2291:A:N9	1:A:2309:C:H5'	2.35	0.41
1:A:2388:C:H2'	1:A:2389:U:O4'	2.20	0.41
1:A:2430:A:H8	1:A:2430:A:O5'	2.03	0.41
1:A:2497:A:H2'	1:A:2498:C:O4'	2.21	0.41
3:C:65:ARG:HG2	3:C:65:ARG:HH11	1.86	0.41
4:D:102:THR:CG2	4:D:182:VAL:HG12	2.51	0.41
4:D:315:VAL:HG23	4:D:316:ARG:HG2	2.03	0.41
5:E:43:LYS:NZ	37:E:8396:HOH:O	2.45	0.41
5:E:4:THR:N	37:E:8460:HOH:O	2.53	0.41
8:H:34:ASN:HB2	37:H:1111:HOH:O	2.21	0.41
15:O:154:LEU:CG	15:O:155:GLU:H	2.27	0.41
1:A:1813:U:O2'	17:Q:81:LYS:HE3	2.20	0.41
18:R:93:ARG:NH1	18:R:93:ARG:HG3	2.36	0.41
19:S:25:PHE:CE2	19:S:29:LYS:HE2	2.55	0.41
22:V:6:CYS:HB2	22:V:32:CYS:HB3	2.03	0.41
27:1:39:CYS:O	27:1:42:CYS:O	2.39	0.41
30:4:15:ASN:ND2	37:4:8548:HOH:O	2.52	0.41
1:A:1380:U:P	37:A:8414:HOH:O	2.77	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1634:G:H2'	1:A:1635:U:C6	2.55	0.41
1:A:1652:C:O2	3:C:164:ARG:HD2	2.21	0.41
1:A:187:A:H3'	1:A:188:C:H6	1.85	0.41
1:A:2419:U:C1'	37:A:3284:HOH:O	2.68	0.41
1:A:2904:U:H4'	25:Y:8:ARG:NH1	2.35	0.41
1:A:382:U:H5	1:A:406:G:C2	2.37	0.41
1:A:559:U:C6	1:A:559:U:H5'	2.44	0.41
1:A:573:A:P	37:A:7403:HOH:O	2.78	0.41
1:A:661:G:C6	1:A:686:A:C2	3.09	0.41
2:B:3036:C:C5	2:B:3037:C:C5	3.09	0.41
1:A:1874:U:O4	3:C:117:LYS:HD2	2.21	0.41
4:D:255:GLY:O	4:D:257:THR:HG23	2.20	0.41
7:G:7:ILE:HA	7:G:8:PRO:HD3	1.94	0.41
10:J:83:PHE:HD1	10:J:134:ALA:HB2	1.86	0.41
10:J:15:THR:HG22	10:J:90:PHE:O	2.20	0.41
37:A:3881:HOH:O	17:Q:133:SER:HA	2.21	0.41
19:S:17:MET:HG2	19:S:144:GLU:HA	2.02	0.41
22:V:49:LEU:CD1	37:V:3805:HOH:O	2.69	0.41
25:Y:26:ALA:O	25:Y:27:ASP:C	2.57	0.41
27:1:42:CYS:SG	27:1:44:PHE:CB	2.98	0.41
1:A:1158:G:C2'	1:A:1159:G:H5'	2.51	0.41
1:A:1849:G:C6	1:A:1850:U:C5	3.09	0.41
1:A:208:C:C2	1:A:232:A:C2	3.08	0.41
1:A:2383:G:N3	37:A:7062:HOH:O	2.37	0.41
1:A:2712:G:P	37:L:4183:HOH:O	2.79	0.41
1:A:541:C:C2'	1:A:542:A:C5'	2.84	0.41
1:A:684:G:H2'	1:A:685:C:C6	2.56	0.41
1:A:861:A:H2'	1:A:862:U:C6	2.55	0.41
3:C:103:VAL:HA	3:C:104:PRO:HD3	1.87	0.41
4:D:140:LEU:HD13	4:D:175:LEU:HA	2.01	0.41
1:A:2719:A:C2	4:D:70:PRO:HG3	2.55	0.41
5:E:16:VAL:CG1	5:E:17:ASP:N	2.82	0.41
5:E:33:LYS:HE2	37:E:8362:HOH:O	2.20	0.41
8:H:109:GLU:O	8:H:112:ALA:HB3	2.21	0.41
11:K:42:GLU:O	11:K:131:THR:HG23	2.20	0.41
12:L:87:ARG:NH1	37:L:4066:HOH:O	2.53	0.41
13:M:34:GLY:HA3	13:M:38:HIS:CE1	2.56	0.41
14:N:165:SER:HB2	37:N:8550:HOH:O	2.21	0.41
14:N:24:MET:HE2	14:N:28:MET:HE3	2.03	0.41
16:P:56:GLU:HB2	37:P:6111:HOH:O	2.20	0.41
17:Q:101:GLN:NE2	17:Q:131:PHE:O	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:52:THR:CG2	22:V:54:THR:HB	2.51	0.41
24:X:119:HIS:CG	24:X:120:PRO:HD2	2.56	0.41
37:A:9778:HOH:O	27:1:34:LYS:HD3	2.21	0.41
29:3:9:LYS:O	29:3:12:ALA:HB3	2.21	0.41
30:4:39:GLN:HA	30:4:42:ARG:CZ	2.51	0.41
30:4:54:LYS:HD3	37:4:8534:HOH:O	2.21	0.41
1:A:101:C:H2'	1:A:102:A:H8	1.86	0.41
1:A:2011:A:H4'	1:A:2012:U:O5'	2.21	0.41
1:A:2378:U:H3'	30:4:8:ASN:O	2.20	0.41
1:A:2748:G:OP1	1:A:2749:U:C5'	2.67	0.41
1:A:396:U:O2'	1:A:397:A:P	2.79	0.41
1:A:821:U:H5''	37:A:3427:HOH:O	2.21	0.41
1:A:877:G:C5'	1:A:878:G:OP1	2.65	0.41
2:B:3034:A:H2'	2:B:3035:C:O4'	2.20	0.41
3:C:192:VAL:CG1	3:C:207:GLN:HB3	2.50	0.41
4:D:2:GLN:HB2	37:D:8634:HOH:O	2.20	0.41
4:D:307:ARG:CG	4:D:307:ARG:NH1	2.84	0.41
4:D:4:SER:O	4:D:5:ARG:HB2	2.21	0.41
6:F:58:VAL:CG1	6:F:59:GLY:N	2.83	0.41
7:G:77:THR:OG1	7:G:78:GLU:N	2.52	0.41
10:J:139:ASP:HB2	37:J:8346:HOH:O	2.21	0.41
13:M:104:ASP:HB2	37:M:8581:HOH:O	2.20	0.41
14:N:115:LEU:C	14:N:115:LEU:HD13	2.41	0.41
14:N:184:ARG:CG	14:N:185:PRO:HA	2.50	0.41
15:O:175:LEU:HD12	15:O:175:LEU:HA	1.88	0.41
19:S:9:ASP:HA	19:S:10:PRO:HD2	1.91	0.41
1:A:308:U:C2	21:U:52:ARG:NH2	2.89	0.41
22:V:28:THR:CG2	22:V:30:HIS:CE1	3.04	0.41
30:4:38:ARG:O	30:4:42:ARG:HB2	2.21	0.41
1:A:1969:A:N7	1:A:1970:G:C6	2.89	0.41
1:A:535:G:C5	1:A:2063:U:C4	3.09	0.41
1:A:2372:A:H2'	1:A:2373:U:C6	2.56	0.41
1:A:2432:C:H1'	37:A:4455:HOH:O	2.21	0.41
1:A:2664:A:OP1	1:A:2664:A:H8	2.04	0.41
1:A:558:C:H2'	1:A:559:U:H5''	1.96	0.41
4:D:54:VAL:HB	37:D:8610:HOH:O	2.21	0.41
5:E:115:LEU:HA	5:E:115:LEU:HD12	1.91	0.41
5:E:136:VAL:HG22	5:E:137:PRO:HA	2.03	0.41
6:F:27:ILE:HD11	6:F:37:ALA:CB	2.50	0.41
9:I:71:LEU:C	9:I:73:ASP:H	2.24	0.41
10:J:150:LYS:HE2	37:J:8377:HOH:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:142:LEU:HA	13:M:142:LEU:HD12	1.94	0.41
14:N:184:ARG:HB2	14:N:184:ARG:NH1	2.36	0.41
14:N:71:SER:HB2	14:N:92:THR:HG22	2.03	0.41
15:O:163:PHE:O	15:O:164:ASP:O	2.38	0.41
15:O:167:ASP:O	15:O:168:LEU:HD23	2.21	0.41
24:X:52:VAL:HG22	24:X:53:ALA:H	1.85	0.41
24:X:66:LEU:HD23	24:X:66:LEU:HA	1.82	0.41
28:2:15:THR:OG1	28:2:16:HIS:N	2.54	0.40
30:4:24:LYS:HG2	35:4:8504:CL:CL	2.59	0.40
1:A:1007:A:H2'	10:J:19:TYR:CZ	2.57	0.40
1:A:1349:G:H5''	37:A:4166:HOH:O	2.21	0.40
1:A:1594:C:O2'	1:A:1607:A:H4'	2.21	0.40
1:A:2265:U:H2'	1:A:2266:A:H8	1.86	0.40
1:A:2729:C:H4'	1:A:2893:C:O2	2.21	0.40
1:A:491:C:O2'	1:A:492:C:H5'	2.21	0.40
1:A:820:G:O2'	1:A:856:G:H4'	2.21	0.40
1:A:1874:U:C2'	3:C:120:ARG:HG3	2.47	0.40
3:C:2:ARG:HB3	37:C:8528:HOH:O	2.21	0.40
3:C:39:ALA:HB3	3:C:61:GLU:OE2	2.21	0.40
4:D:85:ARG:HD2	4:D:163:GLU:OE1	2.21	0.40
1:A:2717:C:OP1	4:D:207:LYS:HG3	2.21	0.40
6:F:77:ASP:HB3	6:F:78:GLU:H	1.61	0.40
8:H:48:VAL:HG23	8:H:74:PHE:HB2	2.02	0.40
10:J:140:PRO:HA	10:J:142:VAL:HG12	2.02	0.40
15:O:139:TRP:HH2	15:O:176:ARG:HH11	1.68	0.40
37:A:6632:HOH:O	17:Q:63:ARG:NH2	2.38	0.40
20:T:57:THR:C	20:T:59:ASP:N	2.74	0.40
22:V:17:THR:CG2	22:V:18:GLY:N	2.84	0.40
22:V:47:ARG:CG	37:V:4381:HOH:O	2.67	0.40
25:Y:14:LEU:HD12	25:Y:67:PRO:O	2.21	0.40
30:4:25:VAL:HG22	30:4:68:LYS:CG	2.45	0.40
30:4:30:GLN:NE2	37:4:8554:HOH:O	2.32	0.40
1:A:1236:A:C8	11:K:63:ILE:HD11	2.56	0.40
1:A:132:A:C6	1:A:133:U:C4	3.10	0.40
1:A:1592:G:H2'	1:A:1593:C:C6	2.57	0.40
1:A:1603:A:H5''	1:A:1605:G:H5'	2.02	0.40
1:A:1897:U:O2'	1:A:1898:G:H5'	2.21	0.40
1:A:2126:C:C4	1:A:2127:U:C4	3.09	0.40
1:A:2588:G:C6	1:A:2589:U:O2	2.74	0.40
1:A:2591:C:H2'	1:A:2592:G:O4'	2.22	0.40
1:A:2724:U:C4	1:A:2725:G:C6	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2896:A:C4	37:A:6460:HOH:O	2.71	0.40
1:A:2910:A:H5''	37:A:4505:HOH:O	2.22	0.40
1:A:797:A:N1	37:A:3783:HOH:O	2.37	0.40
1:A:902:G:N7	13:M:18:HIS:CD2	2.85	0.40
3:C:48:ASP:HA	3:C:49:PRO:HD3	1.78	0.40
4:D:132:HIS:HE1	4:D:171:VAL:HG21	1.84	0.40
5:E:5:ILE:HG12	37:E:8438:HOH:O	2.20	0.40
7:G:107:PHE:CZ	7:G:108:LEU:HD13	2.55	0.40
10:J:46:VAL:HG12	10:J:146:TRP:CZ3	2.54	0.40
1:A:1055:G:OP2	10:J:94:ARG:NH1	2.54	0.40
14:N:164:THR:HG23	14:N:166:ALA:N	2.36	0.40
1:A:2123:A:C5'	14:N:89:ASN:HD21	2.34	0.40
17:Q:10:ALA:CA	17:Q:13:VAL:HG12	2.52	0.40
19:S:119:VAL:O	19:S:119:VAL:CG1	2.69	0.40
19:S:29:LYS:HD3	37:S:8534:HOH:O	2.20	0.40
19:S:84:ALA:O	19:S:88:PHE:HD1	2.04	0.40
20:T:10:VAL:O	20:T:10:VAL:HG22	2.21	0.40
21:U:71:VAL:CG1	21:U:90:PRO:HB3	2.23	0.40
1:A:892:G:H5''	28:2:54:ALA:HB2	2.02	0.40
1:A:1135:G:C2	1:A:1228:C:C2	3.09	0.40
1:A:1319:G:H1'	37:A:5058:HOH:O	2.20	0.40
1:A:907:A:H4'	1:A:1328:A:C2	2.57	0.40
1:A:1512:G:N2	1:A:1513:C:H1'	2.36	0.40
1:A:1592:G:O2'	1:A:1593:C:O4'	2.32	0.40
1:A:1712:A:H2'	1:A:1713:G:O4'	2.21	0.40
1:A:1761:U:H5'	17:Q:81:LYS:O	2.20	0.40
1:A:2016:U:H6	1:A:2016:U:O5'	2.04	0.40
1:A:209:G:C6	1:A:210:U:N3	2.90	0.40
1:A:2597:U:H2'	1:A:2598:U:H5'	2.03	0.40
1:A:2748:G:H1'	37:A:8442:HOH:O	2.21	0.40
1:A:581:G:O2'	1:A:582:C:H5'	2.21	0.40
1:A:749:C:O2'	1:A:750:A:H5'	2.21	0.40
1:A:763:C:H5''	37:A:9507:HOH:O	2.21	0.40
1:A:775:G:H1'	37:A:9703:HOH:O	2.22	0.40
1:A:832:U:H2'	1:A:833:G:C8	2.56	0.40
1:A:858:U:H2'	1:A:859:C:C6	2.56	0.40
5:E:108:GLN:HA	37:E:8323:HOH:O	2.20	0.40
5:E:19:PRO:HG2	5:E:22:PHE:CE1	2.56	0.40
6:F:15:GLU:HA	6:F:16:PRO:HD3	1.87	0.40
8:H:104:ALA:O	8:H:108:LEU:HB3	2.21	0.40
14:N:63:VAL:HG21	14:N:109:PHE:CZ	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:5313:HOH:O	14:N:82:ARG:CB	2.68	0.40
25:Y:76:ARG:NH1	25:Y:76:ARG:CG	2.84	0.40
27:1:39:CYS:HA	27:1:40:PRO:HD3	1.82	0.40
30:4:34:LYS:O	30:4:37:ASP:HB2	2.21	0.40
1:A:1189:A:N3	37:A:8151:HOH:O	2.54	0.40
1:A:1252:A:H2'	1:A:1253:C:O4'	2.21	0.40
1:A:1314:U:C2	1:A:1316:G:C2	3.10	0.40
1:A:1805:G:H2'	1:A:1806:G:C8	2.55	0.40
1:A:1865:A:H2'	1:A:1866:A:C8	2.56	0.40
1:A:2587:U:C2	1:A:2589:U:H5'	2.57	0.40
1:A:1562:C:H42	1:A:2738:G:H1	1.70	0.40
1:A:2769:C:H2'	1:A:2770:G:C5'	2.51	0.40
1:A:35:U:H2'	1:A:36:C:H6	1.87	0.40
1:A:1943:C:C4'	3:C:212:PRO:HA	2.51	0.40
8:H:104:ALA:HA	37:H:6617:HOH:O	2.19	0.40
9:I:12:ILE:CB	37:I:4714:HOH:O	2.57	0.40
12:L:65:ARG:O	12:L:66:ARG:HB2	2.22	0.40
13:M:140:VAL:O	13:M:140:VAL:HG12	2.21	0.40
13:M:64:ILE:O	13:M:64:ILE:HG23	2.21	0.40
13:M:98:GLU:O	13:M:99:GLU:CB	2.69	0.40
15:O:73:ALA:HB1	15:O:74:PRO:CD	2.50	0.40
1:A:1052:G:C5	1:A:1063:G:C6	3.09	0.40
1:A:1894:C:N4	1:A:1939:U:H2'	2.37	0.40
1:A:2255:A:H2'	1:A:2256:G:O4'	2.21	0.40
1:A:2469:A:H1'	37:A:3618:HOH:O	2.20	0.40
1:A:2505:G:C2'	1:A:2506:A:H5'	2.51	0.40
1:A:2569:A:H2'	1:A:2570:G:O5'	2.21	0.40
1:A:390:G:OP1	30:4:46:ILE:N	2.32	0.40
1:A:702:G:C2	1:A:703:G:C8	3.09	0.40
1:A:812:A:H2'	1:A:813:C:O4'	2.21	0.40
1:A:940:G:C6	1:A:1027:G:C2	3.10	0.40
1:A:958:G:H2'	1:A:959:C:C6	2.57	0.40
3:C:1:GLY:HA2	3:C:197:VAL:HG23	2.03	0.40
4:D:33:ASP:HB3	4:D:34:GLY:H	1.77	0.40
6:F:35:ALA:C	6:F:37:ALA:N	2.75	0.40
12:L:98:VAL:HG22	12:L:102:GLU:C	2.42	0.40
16:P:32:ARG:NH1	37:P:2336:HOH:O	2.55	0.40
23:W:12:THR:HG23	23:W:14:ALA:HB3	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	C	235/239 (98%)	200 (85%)	29 (12%)	6 (3%)	5	27
4	D	335/337 (99%)	302 (90%)	22 (7%)	11 (3%)	4	21
5	E	244/246 (99%)	222 (91%)	22 (9%)	0	100	100
6	F	134/176 (76%)	95 (71%)	27 (20%)	12 (9%)	1	3
7	G	170/177 (96%)	157 (92%)	12 (7%)	1 (1%)	25	64
8	H	117/119 (98%)	104 (89%)	10 (8%)	3 (3%)	5	27
9	I	25/348 (7%)	23 (92%)	1 (4%)	1 (4%)	3	17
10	J	152/167 (91%)	130 (86%)	17 (11%)	5 (3%)	4	21
11	K	140/145 (97%)	127 (91%)	8 (6%)	5 (4%)	3	19
12	L	130/132 (98%)	120 (92%)	8 (6%)	2 (2%)	10	42
13	M	141/164 (86%)	120 (85%)	20 (14%)	1 (1%)	22	60
14	N	192/194 (99%)	165 (86%)	24 (12%)	3 (2%)	9	40
15	O	184/186 (99%)	164 (89%)	12 (6%)	8 (4%)	2	15
16	P	113/115 (98%)	109 (96%)	4 (4%)	0	100	100
17	Q	141/148 (95%)	135 (96%)	5 (4%)	1 (1%)	22	60
18	R	93/95 (98%)	86 (92%)	3 (3%)	4 (4%)	2	15
19	S	148/154 (96%)	134 (90%)	13 (9%)	1 (1%)	22	60
20	T	79/84 (94%)	73 (92%)	6 (8%)	0	100	100
21	U	117/119 (98%)	110 (94%)	7 (6%)	0	100	100
22	V	51/66 (77%)	48 (94%)	3 (6%)	0	100	100
23	W	63/70 (90%)	58 (92%)	3 (5%)	2 (3%)	4	22
24	X	152/154 (99%)	142 (93%)	8 (5%)	2 (1%)	12	45
25	Y	80/91 (88%)	71 (89%)	5 (6%)	4 (5%)	2	12
26	Z	140/240 (58%)	133 (95%)	7 (5%)	0	100	100
27	1	71/73 (97%)	61 (86%)	7 (10%)	3 (4%)	3	16

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	2	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
29	3	42/48 (88%)	41 (98%)	1 (2%)	0	100	100
30	4	90/92 (98%)	83 (92%)	5 (6%)	2 (2%)	6	31
All	All	3633/4235 (86%)	3265 (90%)	291 (8%)	77 (2%)	7	33

All (77) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	D	139	ASP
6	F	93	LEU
6	F	95	THR
6	F	173	GLU
8	H	101	ALA
10	J	162	SER
13	M	80	ASP
15	O	154	LEU
15	O	164	ASP
15	O	167	ASP
15	O	183	ASP
23	W	43	PRO
3	C	34	ASP
3	C	119	ALA
4	D	34	GLY
4	D	107	SER
4	D	169	GLY
6	F	11	HIS
6	F	20	LYS
6	F	36	ASN
6	F	137	PRO
6	F	171	ASP
10	J	164	ALA
11	K	5	GLU
11	K	7	ASP
11	K	89	HIS
11	K	143	LYS
14	N	140	ALA
15	O	162	ASP
15	O	181	ASP
17	Q	116	SER
18	R	89	ALA
24	X	77	ALA

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Mol	Chain	Res	Type
27	1	81	LYS
3	C	132	ASP
4	D	184	ASP
6	F	61	PHE
7	G	44	GLY
8	H	64	PRO
10	J	40	PRO
10	J	138	PRO
12	L	119	GLN
18	R	23	THR
25	Y	77	PHE
25	Y	87	ALA
30	4	56	PRO
3	C	37	VAL
3	C	62	ASP
12	L	126	SER
15	O	68	GLU
15	O	155	GLU
24	X	49	ASN
27	1	20	LEU
4	D	2	GLN
4	D	185	GLY
6	F	16	PRO
6	F	147	ALA
8	H	61	MET
9	I	72	ASP
11	K	141	ALA
18	R	54	PRO
25	Y	78	GLU
30	4	57	GLY
3	C	232	ARG
4	D	206	THR
6	F	170	TYR
10	J	72	VAL
23	W	40	PRO
19	S	81	PRO
14	N	18	GLY
4	D	236	ILE
27	1	41	VAL
4	D	302	PRO
14	N	110	PRO
18	R	18	PRO

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Mol	Chain	Res	Type
25	Y	70	ILE
4	D	5	ARG

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	179/181 (99%)	166 (93%)	13 (7%)	14	44
4	D	282/282 (100%)	264 (94%)	18 (6%)	17	51
5	E	193/193 (100%)	178 (92%)	15 (8%)	12	42
6	F	117/147 (80%)	106 (91%)	11 (9%)	8	32
7	G	152/155 (98%)	148 (97%)	4 (3%)	46	78
8	H	92/92 (100%)	91 (99%)	1 (1%)	73	90
9	I	27/283 (10%)	27 (100%)	0	100	100
10	J	122/122 (100%)	111 (91%)	11 (9%)	9	35
11	K	118/121 (98%)	107 (91%)	11 (9%)	9	33
12	L	106/106 (100%)	102 (96%)	4 (4%)	33	69
13	M	112/126 (89%)	108 (96%)	4 (4%)	35	70
14	N	166/166 (100%)	158 (95%)	8 (5%)	25	62
15	O	149/149 (100%)	144 (97%)	5 (3%)	37	72
16	P	93/93 (100%)	91 (98%)	2 (2%)	52	81
17	Q	113/116 (97%)	109 (96%)	4 (4%)	36	71
18	R	79/79 (100%)	75 (95%)	4 (5%)	24	60
19	S	117/121 (97%)	113 (97%)	4 (3%)	37	72
20	T	71/73 (97%)	69 (97%)	2 (3%)	43	77
21	U	105/105 (100%)	102 (97%)	3 (3%)	42	76
22	V	44/52 (85%)	42 (96%)	2 (4%)	27	64
23	W	51/56 (91%)	51 (100%)	0	100	100
24	X	130/130 (100%)	121 (93%)	9 (7%)	15	48

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	Y	66/73 (90%)	61 (92%)	5 (8%)	13	43
26	Z	120/195 (62%)	110 (92%)	10 (8%)	11	39
27	1	56/56 (100%)	49 (88%)	7 (12%)	4	20
28	2	46/46 (100%)	46 (100%)	0	100	100
29	3	42/44 (96%)	41 (98%)	1 (2%)	49	79
30	4	79/79 (100%)	73 (92%)	6 (8%)	13	43
All	All	3027/3441 (88%)	2863 (95%)	164 (5%)	22	57

All (164) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	3	ARG
3	C	33	GLU
3	C	36	ASP
3	C	55	VAL
3	C	68	ILE
3	C	69	LEU
3	C	94	LEU
3	C	120	ARG
3	C	131	HIS
3	C	153	ARG
3	C	179	MET
3	C	216	SER
3	C	217	ARG
4	D	7	ARG
4	D	11	LEU
4	D	27	ASN
4	D	33	ASP
4	D	63	GLU
4	D	97	LEU
4	D	98	THR
4	D	103	ASP
4	D	162	MET
4	D	195	ARG
4	D	245	SER
4	D	251	VAL
4	D	254	GLN
4	D	256	GLN
4	D	264	GLU
4	D	304	PRO

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Mol	Chain	Res	Type
4	D	307	ARG
4	D	312	ARG
5	E	2	GLN
5	E	27	ARG
5	E	67	GLN
5	E	91	PRO
5	E	94	THR
5	E	101	ASP
5	E	115	LEU
5	E	136	VAL
5	E	187	ARG
5	E	214	THR
5	E	222	ASP
5	E	223	LEU
5	E	234	VAL
5	E	236	THR
5	E	240	LEU
6	F	24	HIS
6	F	50	VAL
6	F	61	PHE
6	F	95	THR
6	F	99	ASP
6	F	100	ASP
6	F	131	THR
6	F	133	ASN
6	F	136	ARG
6	F	137	PRO
6	F	149	ARG
7	G	7	ILE
7	G	15	GLN
7	G	102	VAL
7	G	164	ASP
8	H	12	LEU
10	J	1	LYS
10	J	59	ASN
10	J	72	VAL
10	J	73	GLN
10	J	82	LYS
10	J	85	ILE
10	J	86	ARG
10	J	94	ARG
10	J	142	VAL

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Mol	Chain	Res	Type
10	J	150	LYS
10	J	166	ASN
11	K	46	ILE
11	K	52	GLN
11	K	74	ARG
11	K	76	ASP
11	K	79	PHE
11	K	107	ASN
11	K	112	ASP
11	K	120	SER
11	K	125	SER
11	K	127	ILE
11	K	131	THR
12	L	7	ASP
12	L	10	GLN
12	L	49	LEU
12	L	98	VAL
13	M	30	ARG
13	M	35	ARG
13	M	80	ASP
13	M	117	GLU
14	N	38	VAL
14	N	46	LEU
14	N	68	ARG
14	N	81	ARG
14	N	87	MET
14	N	93	ARG
14	N	99	ARG
14	N	164	THR
15	O	26	LEU
15	O	127	LEU
15	O	128	ASP
15	O	152	GLU
15	O	163	PHE
16	P	3	THR
16	P	28	ASP
17	Q	52	LYS
17	Q	81	LYS
17	Q	91	LYS
17	Q	98	ILE
18	R	11	ARG
18	R	16	ASN

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Mol	Chain	Res	Type
18	R	57	ASP
18	R	95	GLU
19	S	13	THR
19	S	39	THR
19	S	82	GLU
19	S	132	ARG
20	T	10	VAL
20	T	80	ARG
21	U	39	ASN
21	U	48	VAL
21	U	73	HIS
22	V	9	CYS
22	V	32	CYS
24	X	4	LEU
24	X	26	ILE
24	X	35	VAL
24	X	52	VAL
24	X	73	LEU
24	X	122	ARG
24	X	142	ASP
24	X	146	ILE
24	X	154	ARG
25	Y	15	ARG
25	Y	27	ASP
25	Y	44	ASP
25	Y	52	PRO
25	Y	72	VAL
26	Z	115	ARG
26	Z	154	ARG
26	Z	163	THR
26	Z	172	THR
26	Z	186	ARG
26	Z	189	ASN
26	Z	200	THR
26	Z	203	VAL
26	Z	231	PRO
26	Z	235	GLU
27	1	11	THR
27	1	32	LYS
27	1	42	CYS
27	1	49	ARG
27	1	60	CYS

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Mol	Chain	Res	Type
27	1	64	ILE
27	1	68	CYS
29	3	18	ASN
30	4	14	CYS
30	4	34	LYS
30	4	38	ARG
30	4	42	ARG
30	4	56	PRO
30	4	74	CYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (95) such sidechains are listed below:

Mol	Chain	Res	Type
3	C	47	HIS
3	C	92	ASN
3	C	127	GLN
3	C	199	HIS
4	D	27	ASN
4	D	145	HIS
4	D	191	ASN
4	D	221	GLN
4	D	238	ASN
4	D	256	GLN
4	D	260	HIS
4	D	332	ASN
5	E	2	GLN
5	E	39	GLN
5	E	129	HIS
5	E	163	HIS
6	F	85	GLN
6	F	103	ASN
6	F	133	ASN
7	G	106	ASN
7	G	143	GLN
9	I	17	GLN
9	I	64	ASN
10	J	8	ASN
10	J	35	ASN
10	J	55	GLN
10	J	58	HIS
10	J	59	ASN
10	J	69	ASN

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Mol	Chain	Res	Type
10	J	74	ASN
10	J	80	ASN
10	J	91	HIS
10	J	129	ASN
10	J	130	HIS
10	J	137	ASN
10	J	166	ASN
11	K	52	GLN
11	K	107	ASN
12	L	10	GLN
13	M	18	HIS
13	M	41	HIS
13	M	58	GLN
13	M	116	HIS
14	N	26	HIS
14	N	58	GLN
14	N	89	ASN
14	N	176	GLN
15	O	107	ASN
15	O	153	GLN
17	Q	50	GLN
17	Q	66	GLN
17	Q	73	HIS
17	Q	118	GLN
18	R	40	HIS
19	S	61	GLN
19	S	94	ASN
19	S	98	ASN
19	S	113	HIS
19	S	117	HIS
19	S	123	GLN
20	T	9	HIS
20	T	53	ASN
21	U	39	ASN
21	U	43	ASN
21	U	73	HIS
22	V	39	ASN
22	V	48	ASN
23	W	60	GLN
24	X	12	ASN
24	X	27	HIS
24	X	28	HIS

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Mol	Chain	Res	Type
24	X	31	HIS
24	X	87	HIS
24	X	110	GLN
24	X	119	HIS
24	X	125	HIS
24	X	141	HIS
25	Y	23	HIS
26	Z	133	HIS
26	Z	134	HIS
26	Z	149	GLN
26	Z	189	ASN
27	1	70	GLN
28	2	8	GLN
28	2	16	HIS
28	2	28	HIS
29	3	16	ASN
29	3	18	ASN
29	3	37	HIS
29	3	41	HIS
29	3	45	ASN
30	4	13	HIS
30	4	17	HIS
30	4	30	GLN
30	4	48	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2747/2922 (94%)	248 (9%)	38 (1%)
2	B	121/122 (99%)	14 (11%)	4 (3%)
All	All	2868/3044 (94%)	262 (9%)	42 (1%)

All (262) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	11	A
1	A	31	C
1	A	60	A
1	A	67	A
1	A	69	A
1	A	70	A

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Mol	Chain	Res	Type
1	A	71	G
1	A	87	C
1	A	88	G
1	A	114	A
1	A	115	U
1	A	120	A
1	A	130	C
1	A	139	C
1	A	141	C
1	A	151	A
1	A	166	A
1	A	169	A
1	A	186	A
1	A	191	A
1	A	192	A
1	A	200	U
1	A	219	G
1	A	237	G
1	A	271	C
1	A	272	A
1	A	273	G
1	A	283	U
1	A	284	C
1	A	285	A
1	A	308	U
1	A	309	C
1	A	317	A
1	A	318	C
1	A	336	G
1	A	337	A
1	A	345	G
1	A	358	G
1	A	381	G
1	A	397	A
1	A	417	G
1	A	461	C
1	A	487	G
1	A	498	A
1	A	510	U
1	A	511	A
1	A	514	G
1	A	537	G

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Mol	Chain	Res	Type
1	A	538	C
1	A	539	G
1	A	542	A
1	A	545	G
1	A	553	G
1	A	559	U
1	A	581	G
1	A	588	G
1	A	604	G
1	A	620	A
1	A	632	A
1	A	644	G
1	A	660	A
1	A	688	A
1	A	701	U
1	A	705	C
1	A	717	C
1	A	759	C
1	A	777	U
1	A	809	G
1	A	821	U
1	A	835	U
1	A	840	U
1	A	857	A
1	A	858	U
1	A	868	G
1	A	869	G
1	A	871	G
1	A	872	U
1	A	875	A
1	A	877	G
1	A	878	G
1	A	882	A
1	A	884	C
1	A	885	G
1	A	898	G
1	A	905	C
1	A	920	C
1	A	921	G
1	A	923	A
1	A	953	G
1	A	960	G

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Mol	Chain	Res	Type
1	A	961	A
1	A	1006	A
1	A	1008	C
1	A	1029	U
1	A	1045	G
1	A	1059	G
1	A	1060	C
1	A	1072	G
1	A	1081	A
1	A	1088	A
1	A	1109	U
1	A	1110	G
1	A	1119	G
1	A	1130	U
1	A	1137	G
1	A	1162	G
1	A	1164	U
1	A	1165	G
1	A	1166	A
1	A	1171	A
1	A	1174	A
1	A	1175	G
1	A	1177	A
1	A	1185	U
1	A	1192	A
1	A	1193	A
1	A	1206	U
1	A	1208	C
1	A	1216	G
1	A	1237	U
1	A	1238	C
1	A	1239	G
1	A	1279	U
1	A	1287	A
1	A	1289	C
1	A	1342	C
1	A	1353	C
1	A	1360	C
1	A	1377	C
1	A	1406	A
1	A	1407	A
1	A	1451	C

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Mol	Chain	Res	Type
1	A	1474	C
1	A	1485	A
1	A	1505	U
1	A	1506	U
1	A	1524	U
1	A	1525	G
1	A	1526	A
1	A	1528	A
1	A	1564	C
1	A	1580	A
1	A	1592	G
1	A	1617	C
1	A	1625	U
1	A	1626	A
1	A	1633	C
1	A	1634	G
1	A	1656	A
1	A	1667	A
1	A	1682	A
1	A	1684	A
1	A	1685	A
1	A	1692	C
1	A	1701	A
1	A	1722	U
1	A	1723	G
1	A	1725	C
1	A	1731	C
1	A	1752	G
1	A	1778	A
1	A	1779	A
1	A	1798	C
1	A	1820	G
1	A	1829	A
1	A	1856	C
1	A	1857	A
1	A	1879	U
1	A	1904	A
1	A	1919	A
1	A	1942	A
1	A	1971	G
1	A	1973	A
1	A	1974	G

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Mol	Chain	Res	Type
1	A	1978	A
1	A	1979	G
1	A	1980	U
1	A	1996	U
1	A	2006	C
1	A	2008	U
1	A	2011	A
1	A	2012	U
1	A	2013	G
1	A	2033	G
1	A	2034	U
1	A	2064	U
1	A	2072	G
1	A	2073	G
1	A	2074	A
1	A	2096	A
1	A	2101	A
1	A	2102	G
1	A	2103	A
1	A	2110	G
1	A	2238	A
1	A	2258	A
1	A	2271	G
1	A	2272	G
1	A	2317	C
1	A	2321	A
1	A	2346	C
1	A	2354	A
1	A	2361	A
1	A	2369	A
1	A	2422	U
1	A	2462	G
1	A	2466	G
1	A	2467	A
1	A	2469	A
1	A	2476	C
1	A	2480	G
1	A	2483	A
1	A	2507	G
1	A	2511	A
1	A	2533	C
1	A	2537	G

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Mol	Chain	Res	Type
1	A	2541	U
1	A	2553	A
1	A	2564	G
1	A	2589	U
1	A	2601	A
1	A	2602	G
1	A	2608	C
1	A	2613	G
1	A	2638	G
1	A	2649	A
1	A	2664	A
1	A	2681	A
1	A	2682	C
1	A	2726	U
1	A	2747	C
1	A	2748	G
1	A	2749	U
1	A	2750	G
1	A	2762	C
1	A	2768	A
1	A	2786	G
1	A	2792	A
1	A	2800	A
1	A	2811	A
1	A	2812	A
1	A	2825	C
1	A	2850	C
1	A	2876	G
1	A	2890	A
1	A	2896	A
1	A	2903	C
1	A	2914	A
2	B	3002	U
2	B	3003	A
2	B	3014	G
2	B	3022	G
2	B	3024	U
2	B	3041	C
2	B	3043	G
2	B	3044	A
2	B	3052	A
2	B	3057	A

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Mol	Chain	Res	Type
2	B	3066	G
2	B	3077	A
2	B	3114	G
2	B	3122	C

All (42) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	10	U
1	A	69	A
1	A	129	A
1	A	284	C
1	A	338	C
1	A	603	A
1	A	644	G
1	A	699	C
1	A	716	G
1	A	834	G
1	A	857	A
1	A	871	G
1	A	877	G
1	A	898	G
1	A	1080	C
1	A	1164	U
1	A	1237	U
1	A	1246	A
1	A	1352	A
1	A	1377	C
1	A	1450	C
1	A	1474	C
1	A	1563	G
1	A	1667	A
1	A	1685	A
1	A	1856	C
1	A	1942	A
1	A	1979	G
1	A	2005	G
1	A	2011	A
1	A	2313	C
1	A	2466	G
1	A	2467	A
1	A	2526	C

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Mol	Chain	Res	Type
1	A	2649	A
1	A	2718	C
1	A	2761	A
1	A	2791	U
2	B	3023	U
2	B	3065	A
2	B	3103	A
2	B	3113	C

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 232 ligands modelled in this entry, 231 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
31	VIR	A	9403	-	34,40,40	2.51	16 (47%)	36,55,55	2.42	11 (30%)

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
31	VIR	A	9403	-	-	11/42/58/58	0/2/3/3

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	A	9403	VIR	C28-C29	-7.33	1.15	1.32
31	A	9403	VIR	C4-N5	4.21	1.53	1.47
31	A	9403	VIR	C28-C26	3.53	1.55	1.48
31	A	9403	VIR	C17-C19	-3.49	1.46	1.50
31	A	9403	VIR	C13-C10	-3.33	1.44	1.50
31	A	9403	VIR	C34-C33	3.31	1.64	1.52
31	A	9403	VIR	C13-C14	-3.22	1.46	1.52
31	A	9403	VIR	C1-C37	-3.10	1.38	1.48
31	A	9403	VIR	C30-C32	2.84	1.61	1.54
31	A	9403	VIR	O36-C32	2.76	1.49	1.44
31	A	9403	VIR	C26-N25	2.69	1.40	1.34
31	A	9403	VIR	C16-C17	-2.68	1.50	1.54
31	A	9403	VIR	O15-C14	2.44	1.25	1.21
31	A	9403	VIR	C1-N5	2.41	1.42	1.39
31	A	9403	VIR	C21-C20	2.05	1.55	1.50
31	A	9403	VIR	O38-C37	2.03	1.25	1.21

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	A	9403	VIR	C28-C26-N25	-6.11	103.44	114.97
31	A	9403	VIR	C8-C6-N5	-6.09	110.64	118.48
31	A	9403	VIR	O27-C26-C28	5.60	135.79	123.03
31	A	9403	VIR	C4-N5-C6	5.39	126.88	118.83
31	A	9403	VIR	O36-C37-C1	3.31	114.56	110.53
31	A	9403	VIR	O7-C6-N5	3.17	125.35	120.19
31	A	9403	VIR	O7-C6-C8	2.55	123.92	119.00
31	A	9403	VIR	C30-C29-C28	2.31	132.74	126.44
31	A	9403	VIR	C31-C30-C32	2.24	115.25	111.11
31	A	9403	VIR	C32-C30-C29	-2.22	102.34	109.52
31	A	9403	VIR	C22-C20-C19	-2.02	112.77	119.42

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
31	A	9403	VIR	C14-C16-C17-O18
31	A	9403	VIR	N5-C1-C37-O38
31	A	9403	VIR	N5-C1-C37-O36
31	A	9403	VIR	C14-C16-C17-C19
31	A	9403	VIR	C10-C13-C14-O15

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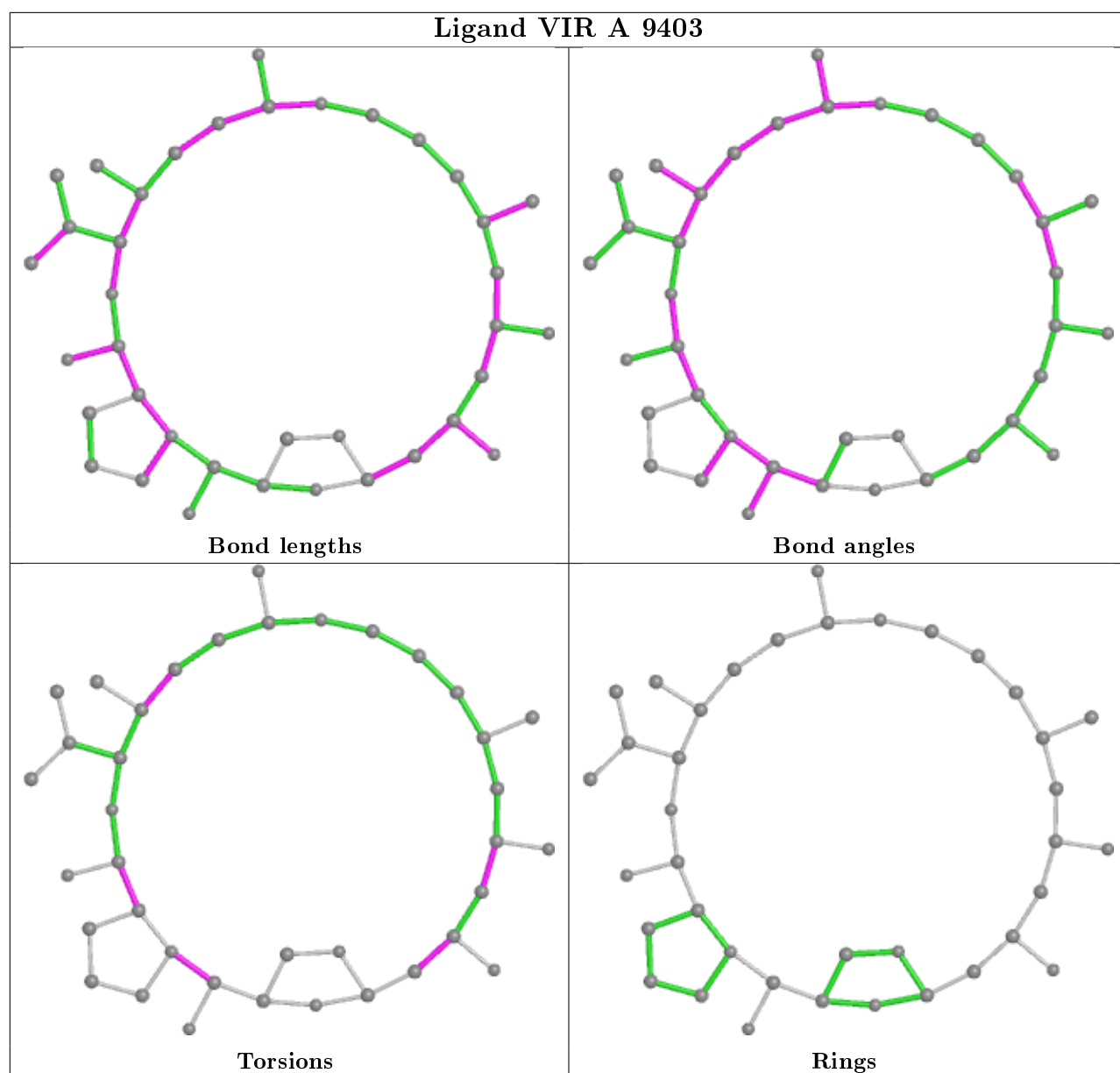
Mol	Chain	Res	Type	Atoms
31	A	9403	VIR	C8-C6-N5-C1
31	A	9403	VIR	C2-C1-C37-O38
31	A	9403	VIR	O7-C6-N5-C4
31	A	9403	VIR	C10-C13-C14-C16
31	A	9403	VIR	C28-C29-C30-C31
31	A	9403	VIR	C2-C1-C37-O36

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
31	A	9403	VIR	3	0

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



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

EDS was not executed - this section is therefore empty.

6.2 Non-standard residues in protein, DNA, RNA chains

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.