



Full wwPDB X-ray Structure Validation Report

Feb 28, 2014 – 10:06 AM GMT

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 validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

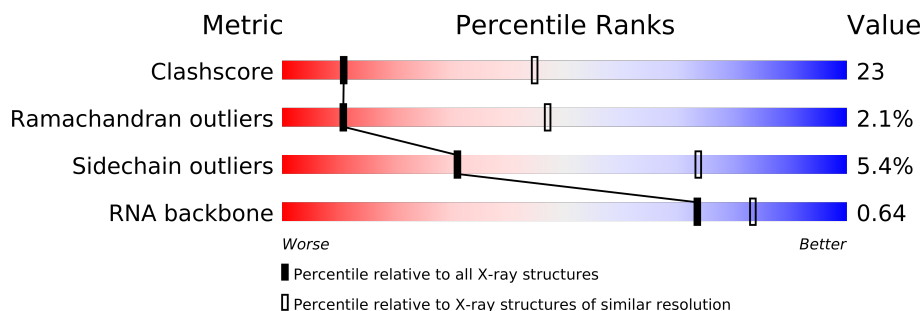
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.15 2013
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 21963
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable22683

1 Overall quality at a glance

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	79885	1594 (3.00-3.00)
Ramachandran outliers	78287	1537 (3.00-3.00)
Sidechain outliers	78261	1540 (3.00-3.00)
RNA backbone	1838	1070 (3.50-2.50)







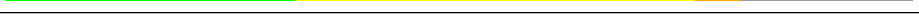

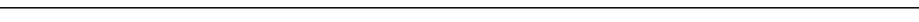
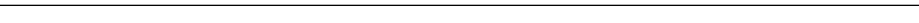





The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2922	
2	B	122	
3	C	239	
4	D	337	
5	E	246	
6	F	176	
7	G	177	
8	H	119	
9	I	348	
10	J	167	
11	K	145	
12	L	132	
13	M	164	
14	N	194	
15	O	186	

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Mol	Chain	Length	Quality of chain
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	

2 Entry composition

There are 37 unique types of molecules in this entry. The entry contains 98569 atoms, of which 0 are hydrogen and 0 are deuterium.

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		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		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			

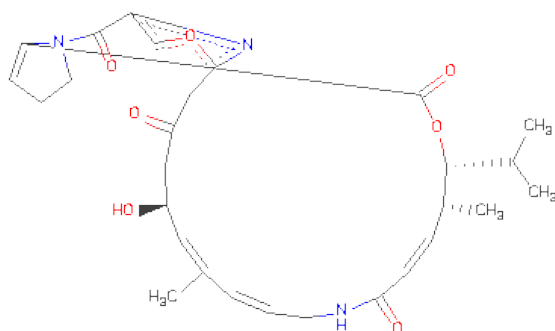
- Molecule 29 is a protein called 50S ribosomal protein L39e.

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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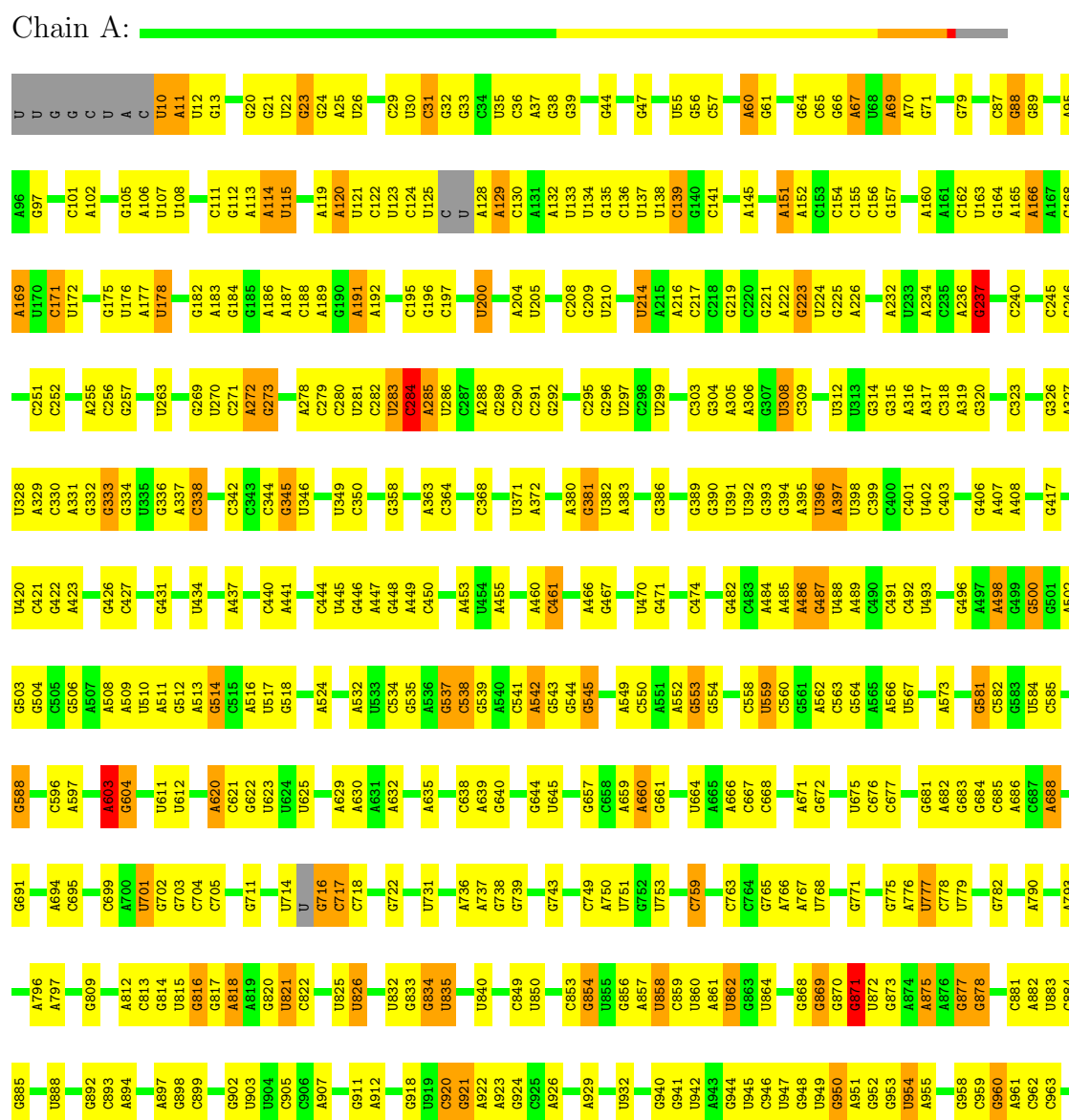
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	P	45	Total 45	O 45	0	0
37	Q	72	Total 72	O 72	0	0
37	R	57	Total 57	O 57	0	0
37	S	87	Total 87	O 87	0	0
37	T	34	Total 34	O 34	0	0
37	U	33	Total 33	O 33	0	0
37	V	27	Total 27	O 27	0	0
37	W	16	Total 16	O 16	0	0
37	X	68	Total 68	O 68	0	0
37	Y	27	Total 27	O 27	0	0
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

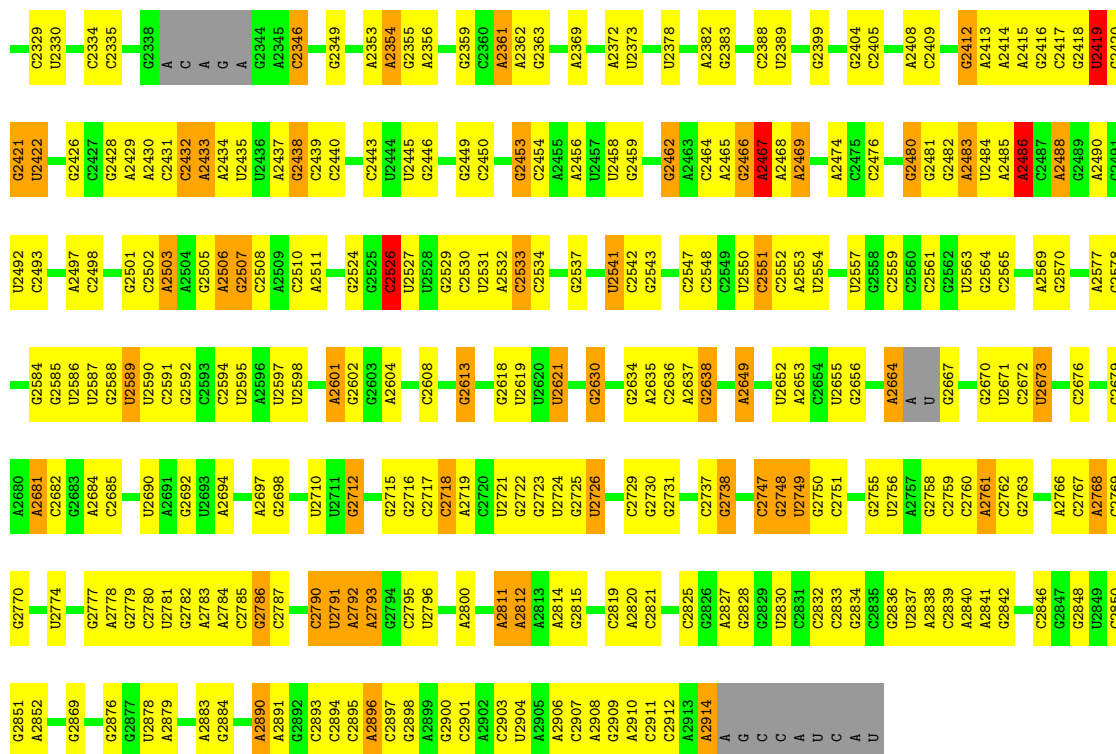
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according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

Note EDS was not executed.

• Molecule 1: 23S ribosomal RNA

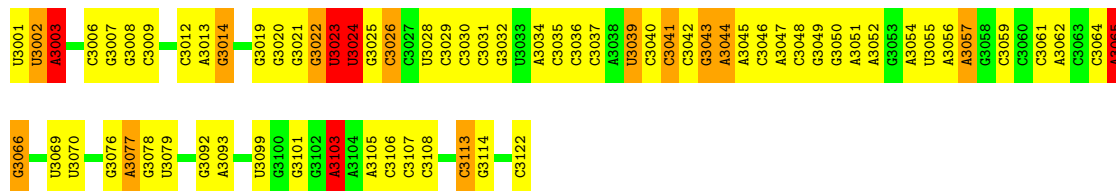


C2243	C2249	G2211	C2029	A1859	C1768	A1603	C1516	G1416	C1228	G1052	U970
G2250	G2251	A2121	U2032	U1860	C1769	G1604	U1517	G1417	C1229	G1053	G
A2252	G2257	A2122	G2033	C1861	U1770	A1606	G1523	U1418	U1234	G1054	U
A2255	A2258	C2126	C2034	C1862	G1688	A1607	U1524	U1419	G1235	G1055	G
A2256	A2259	U2127	C2035	C1863	C1772	G1608	G1525	C1421	A1236	A1057	U
A2257	A2260	G2128		C1864	C1692	C1609	A1526	C1422	U1237	A1058	C
A2258	A2261			A1865	C1699	G1610	A1527	C1423	C1238	G1059	G
A2259	A2262	U2133	A2038	G1866	G1777	C1613	A1528	A1424	G1239	C1060	C
A2260	A2263	G2134	A2039	G1867	A1778	G1614	U1529	A1434		C1061	C
A2261	A2264	A2135	G2040	A1868	A1779	A1615	U1530	U1435	G1163	U1062	U
A2262	A2265	G2136	G2041	A1869	U1787	A1616	U1531	U1436	G1164	G1063	C
A2263	A2266			C1872	U1788	C1617		A1437	U1165		C
A2264	A2267			U1874			G1536		A1166	A1067	G
A2265	A2268			G1875	A1710	U1625	C1536	G1441	G1167	C1068	A
A2266	A2269			U1876	A1711	A1626	G1543	G1442	C1168	C1069	G
A2267	A2270			C1877	A1712	G1627	U1544	G1443	U1169		A
A2268	A2271			A1880	G1713		C1545	G1444	U1170	G1072	G
A2269	A2272			C1881	A1717	C1633	G1546	G1445	A1171	A1073	G
A2270	A2273			U1882	G1718	G1634	U1547		G1172	G1074	A
A2271	A2274			C1883	U1722	U1635	G1557	C1450	A1173	G1075	G
A2272	A2275			G1884	G1723	A1637	C1558	C1451	U1174	C1080	U
A2273	A2276			A1885	U1724	A1637	A1559	G1452	C1175	A1081	C
A2274	A2277			U1886	C1725		U	G1453	C1176	A1082	G
A2275	A2278			C1887		A1641	U1561	U1454	A1177		C
A2276	A2279			U1888	G1810	A1642	C1562	U1455	U1180	A1086	A
A2277	A2280			C1889	U1813	C1643	G1563	U1456	A1181	G1087	G
A2278	A2281			A1894	U1814	A1644	C1564	A1463	C1182	A1088	C
A2279	A2282			C1894	G1815	U1645	C1565	A1464	C1183		A
A2280	A2283			U1895	C1816	G1646	C1566	A1471	U1184	U1095	U
A2281	A2284			C1896	U1817	G1647	C1567	C1472	U1185		C
A2282	A2285			U1897	G1818		C1570	C1473	C1186	A1098	U
A2283	A2286			G1898	C1819	A1651	C1571	C1474	C1187	G1099	A
A2284	A2287			A1899	U1820	A1652	G1572	U1475	A1188	A1006	C
A2285	A2288			C1900	G1821	A1653	A1573	U1476	A1189	A1007	C
A2286	A2289			U1901	C1822	G1654	C1574		G1190	C1008	U
A2287	A2290			A1902	U1823	U1655	C1575	C1477	A1191	U1009	C
A2288	A2291			C1903	C1824	A1656	A1576	C1478	A1192	C1010	C
A2289	A2292			A1904	G1825	A1657	C1577	U1479	A1193	C1011	C
A2290	A2293			U1905	C1826	A1658	C1578	C1483	U1116	G1117	G
A2291	A2294			C1906	U1827	A1659	A1579	G1484	G1118	A1118	C
A2292	A2295			A1907	G1828	G1660	A1580	A1485	G1119	G1119	C
A2293	A2296			U1908	A1829	A1661	U1583	U1494	G1120	A1013	C
A2294	A2297			C1909	C1834		U1586	A1495	G1121	A1014	C
A2295	A2298			U1910	U1835	A1662	C1587	C1496	U1122	U1122	C
A2296	A2299			C1911	A1840	G1666	U1588	G1497	U1205	A1123	C
A2297	A2300			U1912	C1841	A1667	U1589	G1498	A1206	A1124	C
A2298	A2301			C1913	U1842	G1668	G1590	U1499	U1125	U1125	C
A2299	A2302			A1914	G1843	A1669	G1591	U1500	C1208	C1126	C
A2300	A2303			U1915	U1844	G1670	C1592		C1209	G1127	C
A2301	A2304			C1916	A1845		C1593	U1503	G1210	U1128	C
A2302	A2305			U1917	U1846		C1594	A1504	A1307	G1027	C
A2303	A2306			C1918	A1847		C1595	U1505	U1305	U1129	C
A2304	A2307			U1919	G1848		C1596	U1506	U1306	C1026	C
A2305	A2308			C1920	U1849		C1597	U1507	A1308	U1130	C
A2306	A2309			A1921	U1850		C1598	U1508	C1211	G1131	C
A2307	A2310			U1922	G1851		C1599	U1509	G1311	A1132	C
A2308	A2311			C1923	U1852		C1600	U1510	A1215	U1029	C
A2309	A2312			U1924	G1853		C1601	U1511	G1216	G1044	C
A2310	A2313			G1925	U1854		C1602	U1512	A1313	G1134	C
A2311	A2314			A1926	C1855			C1513	U1314	G1135	C
A2312	A2315			C1927	U1856			C1514	G1315	U1136	C
A2313	A2316			U1928	C1857			A1412	G1226	G1137	C
A2314	A2317			C1929	U1858			A1413			C
A2315	A2318			U1930	C1859			A1414			C
A2316	A2319			A1931	U1860			A1415			C
A2317	A2320			C1932	G1861						C
A2318	A2321			U1933	C1862						C
A2319	A2322			C1934	U1863						C
A2320	A2323			U1935	A1864						C
A2321	A2324			C1936	U1865						C
A2322	A2325			U1937	C1866						C
A2323	A2326			C1938	U1867						C
A2324	A2327			U1939	C1868						C
A2325	A2328			C1940	U1869						C
A2326	A2329			U1941	A1868						C
A2327	A2330			C1942	C1943						C
A2328	A2331			U1943	G1944						C
A2329	A2332			C1944	G1945						C
A2330	A2333			U1945	G1946						C
A2331	A2334			C1946	G1947						C
A2332	A2335			U1947	G1948						C
A2333	A2336			C1948	G1949						C
A2334	A2337			U1949	G1950						C
A2335	A2338			C1950	G1951						C
A2336	A2339			U1951	G1952						C
A2337	A2340			C1952	G1953						C
A2338	A2341			U1953	G1954						C
A2339	A2342			C1954	G1955						C
A2340	A2343			U1955	G1956						C
A2341	A2344			C1956	G1957						C
A2342	A2345			U1957	G1958						C
A2343	A2346			C1958	G1959						C
A2344	A2347			U1959	G1960						C
A2345	A2348			C1960	G1961						C
A2346	A2349			U1961	G1962						C
A2347	A2350			C1962	G1963						C
A2348	A2351			U1963	G1964						C
A2349	A2352			C1964	G1965						C
A2350	A2353			U1965	G1966						C
A2351	A2354			C1966	G1967						C
A2352	A2355			U1967	G1968						C
A2353	A2356			C1968	G1969						C
A2354	A2357			U1969	G1970						C
A2355	A2358			C1970	G1971						C
A2356	A2359			U1971	G1972						C
A2357	A2360			C1972	G1973						C
A2358	A2361			U1973	G1974						C
A2359	A2362			C1974	G1975						C
A2360	A2363			U1975	G1976						C
A2361	A2364			C1976	G1977						C
A2362	A2365			U1977	G1978						C
A2363	A2366			C1978	G1979						C
A2364	A2367			U1979	G1980						C
A2365	A2368			C1980	G1981						C
A2366	A2369			U1981	G1982						C
A2367	A2370			C1982	G1983						C
A2368	A2371			U1983	G1984						C
A2369	A2372			C1984	G1985						C
A2370	A2373			U1985	G1986						C
A2371	A2374			C1986	G1987						C
A2372	A2375			U1987	G1988						C
A2373	A2376			C1988	G1989						C
A2374	A2377			U1989	G1990						C
A2375	A2378			C1990	G1991						C
A2376	A2379			U1991	G1992						C
A2377	A2380			C1992	G1993						C
A2378	A2381			U1993	G1994						C
A2379	A2382			C1994	G1995						C
A2380	A2383			U1995	G1996						C
A2381	A2384			C1996	G1997						C
A2382	A2385			U1997	G1998						C
A2383	A2386			C1998	G1999						C
A2384	A2387			U1999	G2000						C
A2385	A2388			C2000	G2001						C
A2386	A2389			U2001	G2002						C
A2387	A2390			C2002	G2003						C
A2388	A2391			U2003	G2004						C
A2389	A2392			C2004	G2005						C
A2390	A2393			U2005	G2006						C
A2391	A2394			C2006	G2007						C
A2392	A2395			U2007	G2008						C
A2393	A2396			C2008	G2009						C
A2394	A2397			U2009	G2010						C
A2395	A2398			C2010	G2011						C
A2396	A2399			U2011	G2012						C
A2397	A2400										



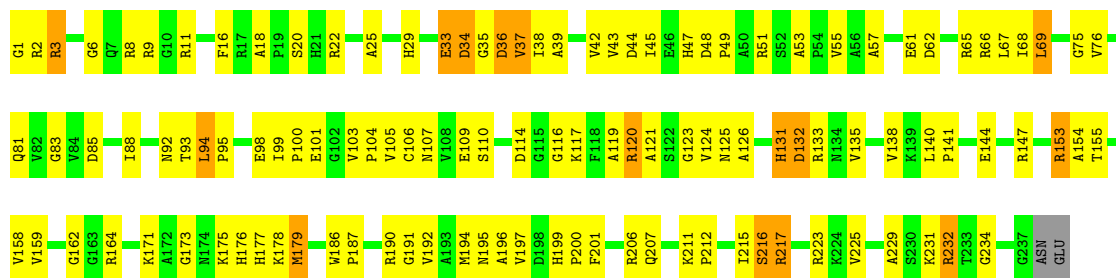
• Molecule 2: 5S ribosomal RNA

Chain B:



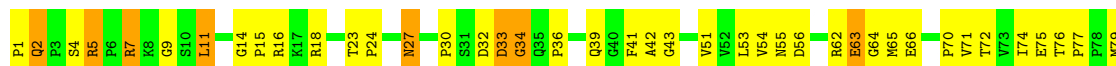
• Molecule 3: 50S ribosomal protein L2P

Chain C:



• Molecule 4: 50S ribosomal protein L3P

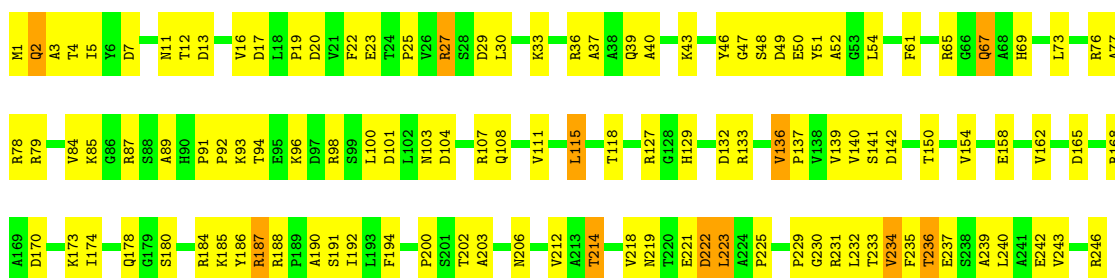
Chain D:





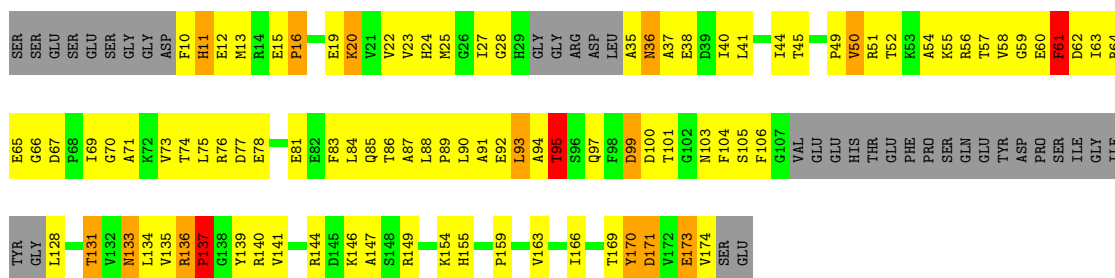
• Molecule 5: 50S ribosomal protein L4E

Chain E:



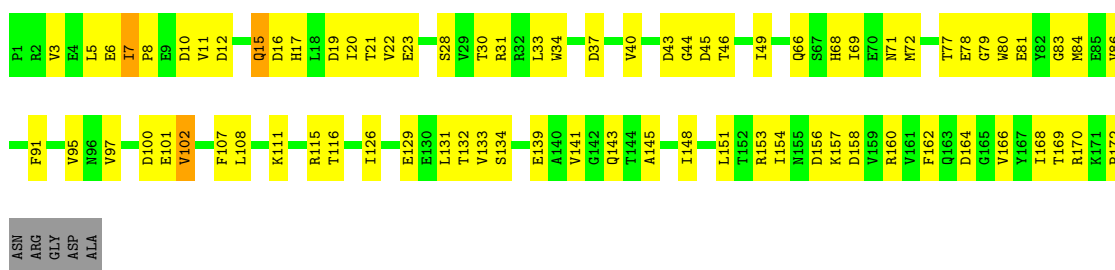
• Molecule 6: 50S ribosomal protein L5P

Chain F:



• Molecule 7: 50S ribosomal protein L6P

Chain G:



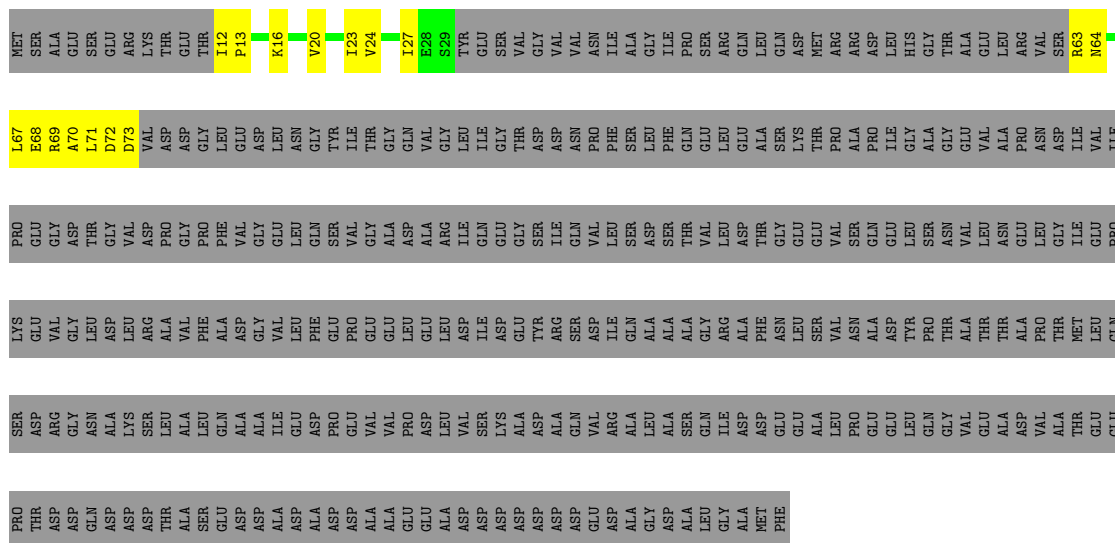
• Molecule 8: 50S ribosomal protein L7Ae

Chain H:



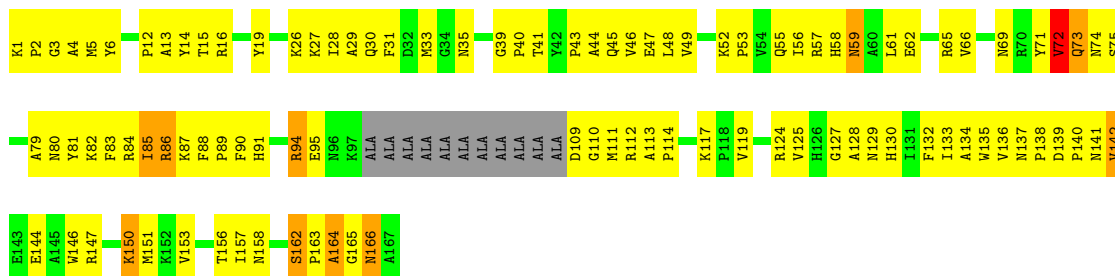
- Molecule 9: Acidic ribosomal protein P0 homolog

Chain I:



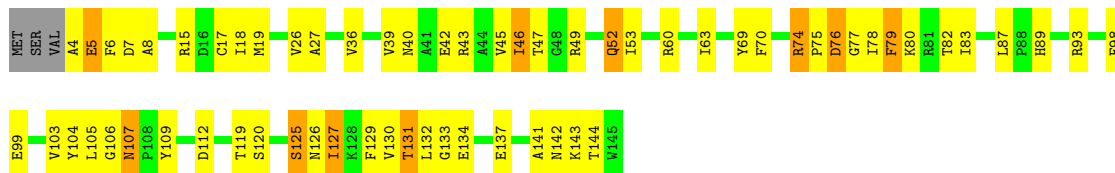
- Molecule 10: 50S ribosomal protein L10e

Chain J:



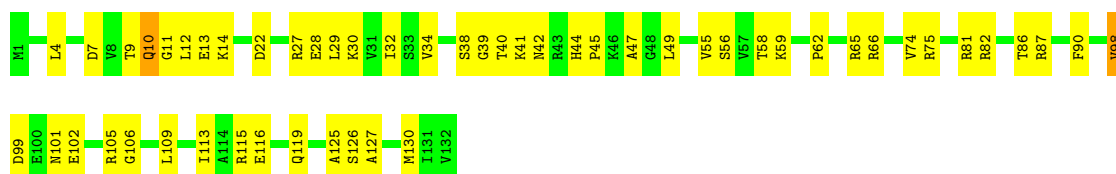
- Molecule 11: 50S ribosomal protein L13P

Chain K:



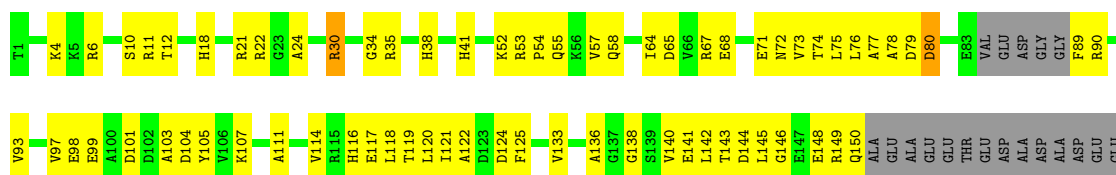
- Molecule 12: 50S ribosomal protein L14P

Chain L:



• Molecule 13: 50S ribosomal protein L15P

Chain M:



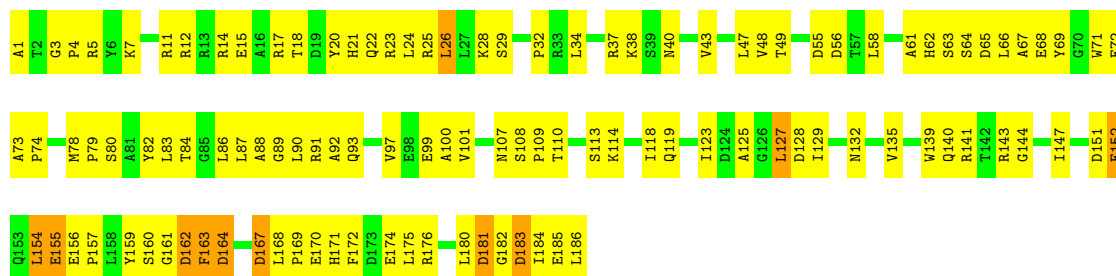
• Molecule 14: 50S ribosomal protein L15E

Chain N:



• Molecule 15: 50S ribosomal protein L18P

Chain O:



• Molecule 16: 50S ribosomal protein L18E

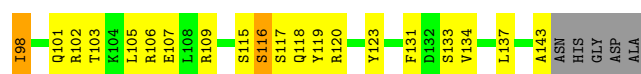
Chain P:



• Molecule 17: 50S ribosomal protein L19E

Chain Q:





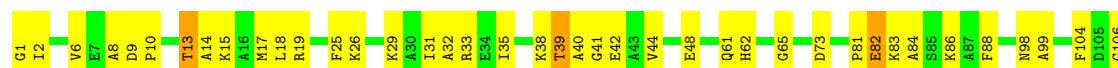
- Molecule 18: 50S ribosomal protein L21e

Chain R:



- Molecule 19: 50S ribosomal protein L22P

Chain S:



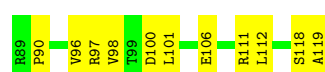
- Molecule 20: 50S ribosomal protein L23P

Chain T:



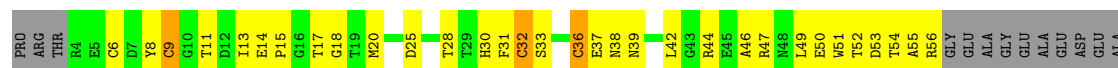
- Molecule 21: 50S ribosomal protein L24P

Chain U:



- Molecule 22: 50S ribosomal protein L24E

Chain V:



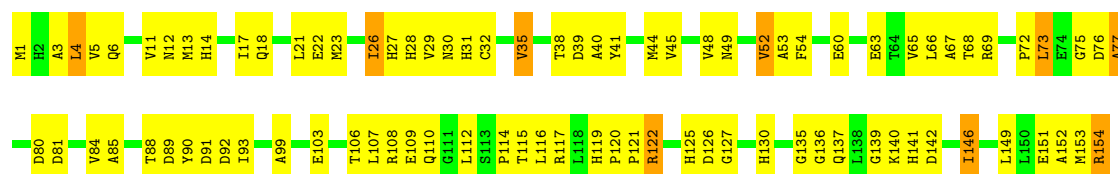
- Molecule 23: 50S ribosomal protein L29P

Chain W:



- Molecule 24: 50S ribosomal protein L30P

Chain X:



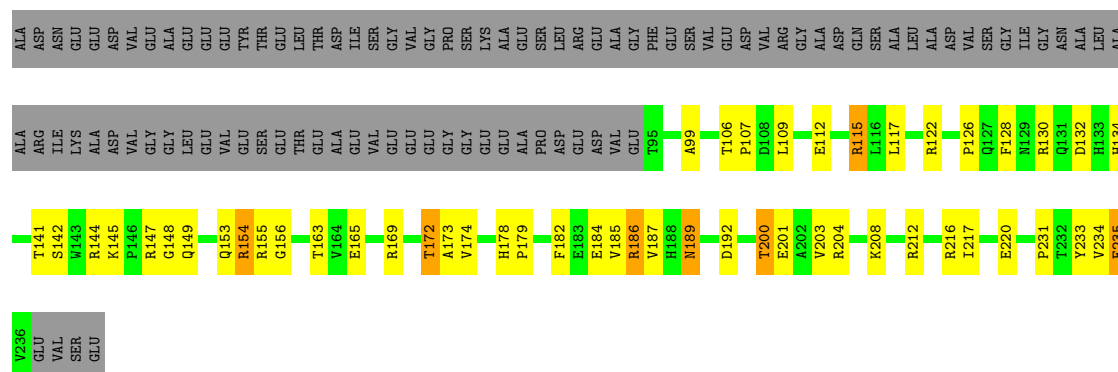
- Molecule 25: 50S ribosomal protein L31E

Chain Y:



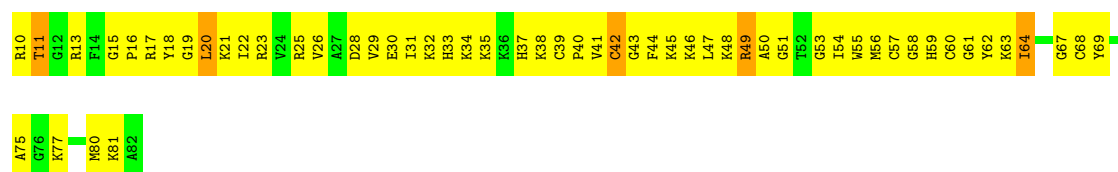
- Molecule 26: 50S ribosomal protein L32E

Chain Z:



- Molecule 27: 50S ribosomal protein L37AE

Chain 1:



- Molecule 28: 50S ribosomal protein L37e

Chain 2:




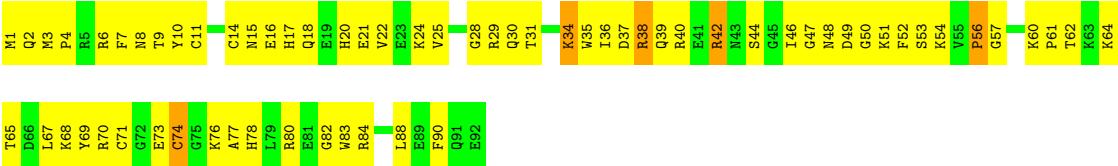
- Molecule 29: 50S ribosomal protein L39e

Chain 3:



● Molecule 30: 50S ribosomal protein L44E

Chain 4: 



4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section will therefore be 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 1.0	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 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 hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	V	410	0	368	48	0
23	W	499	0	511	30	0
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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
35	S	1	0	0	0	0
35	Z	2	0	0	0	0
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

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 23.

All (3401) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(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
10:J:86:ARG:HH11	10:J:133:ILE:CG1	1.67	1.06
5:E:115:LEU:HD13	5:E:223:LEU:HD21	1.35	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
14:N:74:ARG:O	14:N:88:VAL:HG13	1.60	0.99
5:E:127:ARG:NH2	5:E:225:PRO:HG2	1.77	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
5:E:78:ARG:HG3	5:E:78:ARG:HH11	1.29	0.97
4:D:238:ASN:HD22	4:D:240:GLY:H	1.10	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
5:E:140:VAL:HB	37:E:8458:HOH:O	1.65	0.96
4:D:258:GLY:H	4:D:260:HIS:CE1	1.83	0.96
1:A:871:G:H5'	1:A:871:G:H8	1.30	0.95
25:Y:37:LEU:HD13	25:Y:85:VAL:HG21	1.44	0.95
1:A:542:A:H8	1:A:542:A:H5'	1.31	0.95
12:L:81:ARG:HB2	12:L:87:ARG:HH11	1.31	0.95
10:J:27:LYS:H	10:J:58:HIS:HD2	1.14	0.95

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2717:C:C2'	1:A:2718:C:H5''	1.96	0.94
1:A:1242:A:H5'	11:K:82:THR:HG23	1.46	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
10:J:162:SER:HB2	10:J:163:PRO:HD3	1.50	0.94
1:A:1474:C:H6	1:A:1474:C:H5'	1.31	0.94
15:O:47:LEU:HD11	15:O:127:LEU:HD21	1.46	0.94
1:A:21:G:H5'	19:S:2:ILE:HA	1.48	0.94
2:B:3056:A:H2'	2:B:3057:A:H5''	1.49	0.94
5:E:242:GLU:HG3	37:E:8386:HOH:O	1.67	0.93
1:A:2467:A:H2'	37:A:5819:HOH:O	1.68	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
15:O:49:THR:HG22	15:O:56:ASP:HB2	1.52	0.92
3:C:211:LYS:HB3	3:C:212:PRO:HD2	1.51	0.92
5:E:236:THR:HG21	37:E:8378:HOH:O	1.70	0.92
17:Q:115:SER:OG	17:Q:118:GLN:HG3	1.69	0.92
10:J:55:GLN:HE21	10:J:124:ARG:HE	1.12	0.92
37:A:5314:HOH:O	2:B:3103:A:H4'	1.67	0.92
26:Z:187:VAL:HG23	26:Z:192:ASP:HB2	1.52	0.92
14:N:35:PRO:CG	14:N:38:VAL:HG23	1.98	0.92
37:A:4103:HOH:O	14:N:157:LEU:HD11	1.69	0.91
15:O:87:LEU:HD12	15:O:186:LEU:HD21	1.52	0.91
1:A:506:G:H22	1:A:509:A:H5'	1.35	0.91
37:A:5224:HOH:O	14:N:14:ARG:HG2	1.68	0.91
24:X:88:THR:HB	37:X:6679:HOH:O	1.69	0.91
10:J:59:ASN:HD22	10:J:59:ASN:H	1.17	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
5:E:236:THR:HG22	5:E:239:ALA:N	1.86	0.90
1:A:2122:C:OP2	37:A:6938:HOH:O	1.90	0.90
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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
14:N:84:LYS:O	37:N:8534:HOH:O	1.89	0.88
13:M:68:GLU:HA	37:M:8547:HOH:O	1.73	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
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:2420:G:O2'	1:A:2421:G:H5'	1.72	0.87
1:A:1166:A:H1'	1:A:1192:A:C2	2.09	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
25:Y:15:ARG:HH11	25:Y:15:ARG:HB3	1.41	0.86
5:E:214:THR:HG21	37:E:8410:HOH:O	1.74	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
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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2506:A:HO2'	1:A:2507:G:H8	0.87	0.85
13:M:133:VAL:HA	37:M:8578:HOH:O	1.75	0.84
12:L:29:LEU:HB3	12:L:55:VAL:HG11	1.57	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
24:X:130:HIS:O	24:X:136:GLY:HA3	1.76	0.84
1:A:2755:G:H1'	37:A:5048:HOH:O	1.78	0.84
1:A:1184:C:H1'	37:A:7822:HOH:O	1.77	0.84
14:N:87:MET:HG2	30:4:46:ILE:CG2	2.06	0.84
1:A:2094:G:H4'	4:D:245:SER:HB3	1.59	0.84
14:N:164:THR:HG23	14:N:165:SER:N	1.91	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
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
12:L:81:ARG:HB2	12:L:87:ARG:NH1	1.94	0.82
6:F:20:LYS:HA	6:F:75:LEU:O	1.80	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
1:A:541:C:H2'	1:A:542:A:H5''	1.61	0.82
29:3:41:HIS:H	29:3:45:ASN:HD22	1.27	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
26:Z:220:GLU:HG2	37:Z:8552:HOH:O	1.81	0.81
12:L:39:GLY:HA2	37:L:4183:HOH:O	1.81	0.81
6:F:27:ILE:HG22	6:F:28:GLY:H	1.45	0.81
1:A:541:C:C2'	1:A:542:A:H5''	2.10	0.81
37:A:9513:HOH:O	14:N:82:ARG:HD2	1.78	0.81
9:I:23:ILE:HD13	9:I:67:LEU:HD23	1.60	0.81
17:Q:59:ARG:NH2	17:Q:66:GLN:HE22	1.78	0.81

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:X:68:THR:HG23	24:X:69:ARG:HG2	1.61	0.81
3:C:121:ALA:O	3:C:124:VAL:HG22	1.80	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
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:1080:C:H4'	1:A:1081:A:OP1	1.80	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
4:D:190:MET:HE2	4:D:194:PHE:CD1	2.17	0.80
3:C:36:ASP:OD2	3:C:85:ASP:HB2	1.80	0.80
8:H:63:ILE:HB	8:H:64:PRO:HD3	1.63	0.80
24:X:4:LEU:HD22	24:X:52:VAL:CG2	2.12	0.80
16:P:42:GLU:HB2	37:P:2176:HOH:O	1.81	0.80
22:V:13:ILE:HG12	22:V:32:CYS:CB	2.12	0.80
12:L:14:LYS:HB2	12:L:45:PRO:HG2	1.62	0.80
3:C:35:GLY:O	3:C:36:ASP:HB3	1.80	0.80
25:Y:25:ARG:HD2	37:Y:3861:HOH:O	1.82	0.80
12:L:62:PRO:HG3	12:L:65:ARG:HH21	1.46	0.80
1:A:871:G:C5'	1:A:871:G:H8	1.96	0.79
25:Y:71:ARG:HB3	25:Y:88:GLU:OE1	1.83	0.79
15:O:144:GLY:O	15:O:147:ILE:HG22	1.81	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
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:282:C:H1'	1:A:368:C:N4	1.96	0.79
1:A:56:G:H5''	23:W:50:ARG:HH12	1.48	0.79
10:J:56:ILE:HG22	10:J:61:LEU:HD22	1.65	0.79
17:Q:115:SER:N	17:Q:118:GLN:HE21	1.77	0.79
11:K:19:MET:HE3	11:K:132:LEU:HD11	1.64	0.79
19:S:18:LEU:HD12	19:S:143:VAL:HG11	1.65	0.79
29:3:35:ARG:HB2	37:3:2691:HOH:O	1.83	0.79
1:A:545:G:H5'	1:A:545:G:H8	1.47	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:139:ASP:N	10:J:140:PRO:HD3	1.97	0.79
14:N:102:GLU:OE1	14:N:164:THR:HG21	1.82	0.78
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
26:Z:187:VAL:HG23	26:Z:192:ASP:CB	2.14	0.78
15:O:7:LYS:HE3	18:R:21:ARG:O	1.84	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
11:K:74:ARG:HB3	11:K:74:ARG:HH11	1.49	0.78
1:A:2433:A:H2'	1:A:2434:A:H8	1.48	0.78
1:A:1771:U:H4'	27:1:20:LEU:HD21	1.64	0.78
1:A:560:C:H42	1:A:597:A:H61	1.30	0.78
14:N:74:ARG:HH11	14:N:74:ARG:HG3	1.46	0.78
1:A:2435:U:OP1	30:4:28:GLY:HA3	1.84	0.78
1:A:2502:C:C2'	1:A:2503:A:H5'	2.14	0.78
22:V:9:CYS:HA	22:V:52:THR:HG23	1.65	0.78
1:A:2466:G:H5''	37:A:4025:HOH:O	1.82	0.78
14:N:12:TRP:CE2	14:N:20:ILE:HD11	2.19	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:2466:G:OP1	37:A:4025:HOH:O	2.01	0.78
27:1:29:VAL:O	27:1:33:HIS:HB2	1.83	0.78
5:E:78:ARG:HG3	5:E:78:ARG:NH1	1.98	0.78
1:A:21:G:C5'	19:S:2:ILE:HA	2.13	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
37:A:6857:HOH:O	26:Z:141:THR:HG23	1.83	0.78
25:Y:41:PHE:O	25:Y:43:VAL:HG23	1.82	0.78
27:1:38:LYS:HG2	27:1:45:LYS:HG2	1.64	0.77
4:D:238:ASN:HD22	4:D:240:GLY:N	1.82	0.77
1:A:506:G:H22	1:A:509:A:C5'	1.96	0.77
37:A:6656:HOH:O	6:F:99:ASP:HA	1.84	0.77
1:A:820:G:OP1	27:1:17:ARG:NH2	2.17	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
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
21:U:61:GLU:HG3	37:U:3851:HOH:O	1.82	0.77
14:N:169:ARG:HD2	37:N:8593:HOH:O	1.84	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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
22:V:6:CYS:SG	22:V:31:PHE:HA	2.24	0.77
13:M:67:ARG:O	13:M:71:GLU:HG3	1.85	0.77
19:S:8:ALA:HB1	19:S:13:THR:HG21	1.68	0.76
6:F:64:ARG:HG2	6:F:67:ASP:HB3	1.67	0.76
23:W:12:THR:HG22	23:W:15:GLU:CG	2.15	0.76
1:A:1118:A:H3'	1:A:1118:A:H8	1.48	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
5:E:236:THR:H	5:E:239:ALA:HB3	1.51	0.76
1:A:558:C:H5'	37:A:5621:HOH:O	1.85	0.76
27:1:49:ARG:HD2	37:1:8425:HOH:O	1.85	0.76
23:W:1:THR:HG23	23:W:2:VAL:H	1.50	0.76
1:A:2586:U:H3	1:A:2592:G:H22	1.31	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
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
12:L:62:PRO:HG3	12:L:65:ARG:NH2	1.99	0.76
3:C:69:LEU:HD21	3:C:120:ARG:HB3	1.67	0.76
2:B:3006:C:H5''	15:O:37:ARG:HH12	1.48	0.76
30:4:69:TYR:HB2	30:4:78:HIS:CE1	2.21	0.76
23:W:42:ASN:HB3	37:W:7247:HOH:O	1.84	0.76
25:Y:76:ARG:HH11	25:Y:76:ARG:HG3	1.50	0.76
1:A:2780:C:H1'	7:G:143:GLN:HE21	1.49	0.76
1:A:381:G:H5''	37:A:4688:HOH:O	1.84	0.76
5:E:139:VAL:HG13	37:E:8455:HOH:O	1.83	0.75
1:A:2748:G:H2'	37:A:7899:HOH:O	1.86	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
20:T:57:THR:HG22	20:T:59:ASP:N	2.00	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
10:J:130:HIS:CD2	10:J:133:ILE:HD11	2.21	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
5:E:219:ASN:O	5:E:222:ASP:OD1	2.05	0.75
10:J:27:LYS:N	10:J:58:HIS:HD2	1.84	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2346:C:O2'	6:F:52:THR:HG21	1.86	0.74
15:O:71:TRP:CE3	15:O:175:LEU:HD22	2.22	0.74
1:A:1172:G:H1'	37:A:5338:HOH:O	1.85	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
3:C:153:ARG:HB2	3:C:153:ARG:HH11	1.52	0.74
1:A:2812:A:N7	37:A:7874:HOH:O	2.19	0.74
1:A:2758:G:H2'	1:A:2759:C:C6	2.22	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: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:272:A:H3'	37:A:7887:HOH:O	1.87	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
24:X:88:THR:HG22	24:X:89:ASP:N	2.03	0.74
1:A:1759:A:N7	37:A:9936:HOH:O	2.21	0.74
1:A:2432:C:O2'	1:A:2433:A:H5'	1.88	0.73
10:J:140:PRO:HB3	37:J:8379:HOH:O	1.88	0.73
2:B:3014:G:H8	2:B:3014:G:H5'	1.53	0.73
1:A:2291:A:C8	1:A:2309:C:H5'	2.23	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
1:A:1886:A:H4'	37:1:8405:HOH:O	1.87	0.73
1:A:2467:A:OP1	37:A:9444:HOH:O	2.06	0.73
1:A:1191:A:H3'	1:A:1192:A:H5''	1.68	0.73
27:1:31:ILE:O	27:1:35:LYS:HG3	1.88	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
13:M:143:THR:HG22	13:M:144:ASP:N	2.02	0.73
30:4:25:VAL:HG22	30:4:68:LYS:HG3	1.68	0.73
16:P:38:ARG:NH1	37:P:7674:HOH:O	2.20	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
9:I:12:ILE:HB	37:I:4714:HOH:O	1.89	0.73
7:G:166:VAL:HG12	37:G:3134:HOH:O	1.88	0.73
1:A:711:G:H1'	37:A:7453:HOH:O	1.88	0.73
37:A:7781:HOH:O	21:U:9:LYS:HB2	1.86	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2271:G:P	37:A:9817:HOH:O	2.46	0.73
1:A:113:A:H3'	1:A:114:A:H5''	1.70	0.73
2:B:3006:C:C5'	15:O:37:ARG:NH1	2.52	0.73
1:A:2467:A:C2'	37:A:5819:HOH:O	2.33	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: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
1:A:1477:C:O2'	1:A:1478:U:H5'	1.87	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
10:J:162:SER:CB	10:J:163:PRO:HD3	2.18	0.72
24:X:84:VAL:HG12	37:X:6679:HOH:O	1.90	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
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
14:N:87:MET:CB	30:4:46:ILE:HD13	2.18	0.72
6:F:25:MET:HE1	6:F:37:ALA:HB1	1.69	0.72
19:S:39:THR:HG22	19:S:42:GLU:H	1.54	0.72
1:A:338:C:H4'	5:E:174:ILE:CD1	2.19	0.72
13:M:52:LYS:HA	35:M:8510:CL:CL	2.27	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
1:A:2276:U:H2'	1:A:2277:U:C6	2.25	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
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:1909:A:N1	1:A:2128:G:H1'	2.04	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: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
1:A:69:A:H8	1:A:69:A:H5'	1.53	0.72
10:J:14:TYR:H	10:J:91:HIS:CE1	2.08	0.72
1:A:182:G:H5'	37:A:5522:HOH:O	1.89	0.72
24:X:154:ARG:C	37:X:4276:HOH:O	2.27	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
13:M:30:ARG:NH2	37:M:8523:HOH:O	2.19	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:141:ASN:HA	37:J:8365:HOH:O	1.90	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:2716:G:H5''	4:D:206:THR:HG21	1.72	0.72
2:B:3056:A:C2'	2:B:3057:A:H5''	2.19	0.71
22:V:13:ILE:HG12	22:V:32:CYS:HB2	1.71	0.71
4:D:314:ALA:HB3	4:D:317:PRO:HG3	1.72	0.71
1:A:1919:A:H4'	37:A:5211:HOH:O	1.89	0.71
4:D:329:TYR:CE2	22:V:15:PRO:HG2	2.25	0.71
24:X:88:THR:HG23	24:X:110:GLN:NE2	2.05	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
1:A:2004:U:H4'	37:A:5669:HOH:O	1.91	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
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
14:N:52:LEU:HD13	14:N:116:ASN:HB3	1.73	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
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
14:N:172:GLY:O	14:N:183:VAL:HG11	1.91	0.71
5:E:246:ARG:NH1	5:E:246:ARG:HB3	2.05	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
10:J:27:LYS:H	10:J:58:HIS:CD2	2.04	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
1:A:603:A:H5''	1:A:604:G:OP1	1.91	0.71
1:A:175:G:H2'	14:N:192:ALA:HB3	1.71	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
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
1:A:2851:G:O2'	1:A:2852:A:H5'	1.91	0.71
9:I:12:ILE:N	9:I:13:PRO:HD3	2.06	0.71
27:1:28:ASP:O	27:1:31:ILE:HG22	1.90	0.71
15:O:159:TYR:HB3	15:O:162:ASP:HB2	1.73	0.71
1:A:1329:A:H2	37:A:5049:HOH:O	1.74	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2690:U:O2'	7:G:111:LYS:HE3	1.90	0.71
12:L:34:VAL:HG22	12:L:47:ALA:HB2	1.71	0.70
7:G:15:GLN:HG3	7:G:20:ILE:HG12	1.72	0.70
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
1:A:1834:C:H2'	1:A:1840:A:N6	2.07	0.70
26:Z:187:VAL:CG2	26:Z:192:ASP:HB2	2.21	0.70
17:Q:98:ILE:HD12	17:Q:102:ARG:NE	2.06	0.70
1:A:1625:U:H4'	37:A:5033:HOH:O	1.89	0.70
1:A:1380:U:OP1	37:A:8414:HOH:O	2.09	0.70
4:D:258:GLY:H	4:D:260:HIS:HE1	1.33	0.70
1:A:2421:G:H3'	1:A:2422:U:H5''	1.74	0.70
12:L:10:GLN:HE21	12:L:10:GLN:N	1.89	0.70
1:A:289:G:H22	1:A:363:A:H2	1.40	0.70
6:F:19:GLU:O	6:F:20:LYS:HG2	1.92	0.70
27:1:23:ARG:NH1	37:1:8404:HOH:O	2.24	0.70
1:A:2812:A:H2	1:A:2814:A:H62	1.36	0.70
1:A:2054:A:N3	19:S:128:ARG:NH2	2.40	0.70
7:G:11:VAL:HG12	7:G:12:ASP:N	2.06	0.70
15:O:61:ALA:HB3	15:O:88:ALA:HB2	1.73	0.70
14:N:139:PRO:O	14:N:140:ALA:CB	2.39	0.70
1:A:1176:C:H1'	37:A:4310:HOH:O	1.90	0.70
5:E:61:PHE:HB3	37:E:8451:HOH:O	1.89	0.70
1:A:125:U:H2'	37:A:4146:HOH:O	1.91	0.70
2:B:3006:C:OP1	15:O:37:ARG:NH1	2.24	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
21:U:71:VAL:HG11	21:U:90:PRO:CB	2.17	0.70
1:A:1666:C:H2'	1:A:1667:A:H5'	1.73	0.70
1:A:1130:U:H2'	1:A:1131:G:O4'	1.92	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
37:A:7128:HOH:O	15:O:4:PRO:HD2	1.90	0.70
14:N:78:ASN:ND2	37:N:8654:HOH:O	2.24	0.70
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
24:X:13:MET:HE1	24:X:18:GLN:HA	1.72	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
10:J:47:GLU:HB3	10:J:133:ILE:CD1	2.21	0.69
4:D:307:ARG:HH11	4:D:307:ARG:HB2	1.57	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:59:ASN:ND2	10:J:59:ASN:H	1.90	0.69
6:F:57:THR:HG23	6:F:63:ILE:HG22	1.74	0.69
1:A:738:G:H3'	37:A:7405:HOH:O	1.92	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:2508:C:H2'	37:A:7110:HOH:O	1.90	0.69
1:A:1699:C:H4'	37:A:6803:HOH:O	1.92	0.69
14:N:60:ILE:C	14:N:61:ILE:HD12	2.12	0.69
1:A:2267:G:OP1	37:A:3905:HOH:O	2.10	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
14:N:72:SER:OG	14:N:74:ARG:HB2	1.92	0.69
1:A:338:C:H5''	37:E:8428:HOH:O	1.92	0.69
1:A:168:C:O2'	1:A:169:A:H5'	1.92	0.69
5:E:127:ARG:HD2	5:E:229:PRO:O	1.93	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
10:J:56:ILE:HG22	10:J:61:LEU:CD2	2.22	0.69
1:A:157:G:H4'	14:N:95:LYS:CE	2.22	0.69
16:P:47:ARG:HH11	16:P:47:ARG:HG3	1.58	0.69
5:E:37:ALA:HB2	37:E:8385:HOH:O	1.93	0.69
1:A:1362:U:H5'	37:A:3641:HOH:O	1.92	0.69
25:Y:78:GLU:CG	25:Y:79:GLU:H	2.05	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
1:A:739:G:C5	37:A:7901:HOH:O	2.45	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
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
14:N:84:LYS:HE2	37:N:8580:HOH:O	1.93	0.68
1:A:1130:U:H5'	37:A:8142:HOH:O	1.93	0.68
1:A:346:U:H4'	37:A:7200:HOH:O	1.93	0.68
1:A:2783:A:H3'	37:A:5596:HOH:O	1.91	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
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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:143:ALA:HA	37:Q:169:HOH:O	1.92	0.68
19:S:18:LEU:HD12	19:S:143:VAL:CG1	2.24	0.68
1:A:1086:A:N6	24:X:11:VAL:HG11	2.08	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
15:O:164:ASP:CG	15:O:167:ASP:HA	2.14	0.68
14:N:139:PRO:O	14:N:140:ALA:HB3	1.92	0.68
4:D:258:GLY:N	4:D:260:HIS:CE1	2.59	0.68
14:N:35:PRO:O	37:N:8539:HOH:O	2.11	0.68
1:A:797:A:C4'	27:1:10:ARG:N	2.56	0.68
14:N:152:ARG:HG3	37:N:8558:HOH:O	1.94	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
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
1:A:2896:A:H5''	37:A:6460:HOH:O	1.92	0.68
27:1:30:GLU:HA	27:1:33:HIS:CB	2.24	0.68
16:P:32:ARG:HD3	16:P:32:ARG:O	1.93	0.68
13:M:65:ASP:CG	13:M:111:ALA:HB3	2.14	0.68
4:D:248:ARG:NH2	37:D:8524:HOH:O	2.26	0.68
5:E:127:ARG:HG2	5:E:127:ARG:HH11	1.58	0.68
2:B:3020:G:O2'	2:B:3021:G:H5'	1.94	0.67
1:A:1829:A:H61	27:1:18:TYR:HA	1.60	0.67
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
8:H:107:VAL:HG23	37:H:6617:HOH:O	1.93	0.67
1:A:815:U:OP1	37:A:3044:HOH:O	2.11	0.67
1:A:2408:A:H2	37:4:8517:HOH:O	1.76	0.67
3:C:53:ALA:HB3	37:C:8616:HOH:O	1.94	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
10:J:58:HIS:HA	10:J:61:LEU:HD23	1.76	0.67
5:E:107:ARG:NH1	5:E:107:ARG:HB3	2.10	0.67
1:A:2604:A:H5'	37:A:6153:HOH:O	1.95	0.67
8:H:91:VAL:HG12	8:H:92:GLY:N	2.09	0.67
6:F:101:THR:HG22	37:F:7400:HOH:O	1.95	0.67
11:K:19:MET:HE1	11:K:132:LEU:HD11	1.75	0.67
1:A:1058:A:H2'	1:A:1060:C:H5''	1.75	0.67
1:A:2123:A:P	14:N:89:ASN:HD22	2.18	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:542:A:H5'	1:A:542:A:C8	2.21	0.67
28:2:8:GLN:HE22	28:2:11:LYS:HZ2	1.41	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
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: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
1:A:2502:C:H4'	10:J:151:MET:HG2	1.76	0.67
1:A:2467:A:C3'	37:A:5819:HOH:O	2.41	0.67
37:A:3176:HOH:O	12:L:39:GLY:HA3	1.94	0.67
10:J:45:GLN:HE21	10:J:135:TRP:HE1	1.41	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
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
19:S:104:PHE:HB2	19:S:109:MET:HE1	1.75	0.66
4:D:51:VAL:HG23	4:D:329:TYR:O	1.94	0.66
2:B:3069:U:OP1	15:O:4:PRO:HG3	1.94	0.66
37:A:6155:HOH:O	14:N:170:CYS:SG	2.53	0.66
37:A:7813:HOH:O	5:E:188:ARG:HD2	1.95	0.66
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
1:A:2717:C:H2'	1:A:2718:C:C5'	2.20	0.66
25:Y:72:VAL:HG22	25:Y:85:VAL:HG12	1.76	0.66
37:B:5071:HOH:O	15:O:20:TYR:CE2	2.48	0.66
6:F:41:LEU:HA	6:F:44:ILE:HG22	1.76	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
6:F:64:ARG:O	6:F:67:ASP:OD2	2.12	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
18:R:11:ARG:HD3	37:R:5620:HOH:O	1.95	0.66
10:J:4:ALA:HB3	37:J:8364:HOH:O	1.94	0.66
8:H:53:ASP:OD1	8:H:80:GLN:HB2	1.96	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
1:A:1651:C:OP1	37:A:5877:HOH:O	2.12	0.66
27:1:37:HIS:HB2	27:1:47:LEU:HB2	1.77	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:21:G:H4'	19:S:2:ILE:HG22	1.78	0.66
13:M:143:THR:HG22	13:M:145:LEU:H	1.59	0.66
1:A:2781:U:H2'	1:A:2782:G:H5'	1.77	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
29:3:39:ARG:HG2	37:3:3143:HOH:O	1.95	0.66
17:Q:58:SER:HB3	37:Q:186:HOH:O	1.94	0.66
14:N:114:VAL:HG21	14:N:159:THR:HG21	1.77	0.66
1:A:1377:C:H5'	1:A:1377:C:H6	1.61	0.66
27:1:53:GLY:HA2	27:1:67:GLY:O	1.96	0.66
4:D:62:ARG:HA	4:D:65:MET:CE	2.24	0.66
25:Y:66:THR:HG23	25:Y:67:PRO:HD2	1.77	0.66
1:A:1474:C:H6	1:A:1474:C:C5'	2.07	0.66
24:X:6:GLN:HB2	24:X:26:ILE:CD1	2.26	0.66
1:A:775:G:OP1	28:2:16:HIS:HE1	1.79	0.66
25:Y:18:ARG:NH1	37:Y:4132:HOH:O	2.24	0.66
27:1:75:ALA:HB3	37:1:8434:HOH:O	1.95	0.66
15:O:12:ARG:HD3	15:O:18:THR:OG1	1.95	0.66
10:J:48:LEU:HG	10:J:157:ILE:HG21	1.78	0.66
1:A:1666:C:O2'	1:A:1667:A:H5''	1.96	0.66
10:J:127:GLY:O	10:J:128:ALA:HB3	1.96	0.66
1:A:1441:G:O2'	1:A:1442:A:H5'	1.95	0.66
1:A:2414:A:H2'	1:A:2415:A:C8	2.31	0.66
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
1:A:461:C:H2'	37:A:4377:HOH:O	1.95	0.65
14:N:138:HIS:ND1	14:N:139:PRO:O	2.26	0.65
25:Y:37:LEU:CD1	25:Y:85:VAL:HG21	2.25	0.65
4:D:312:ARG:HD3	4:D:315:VAL:HG13	1.77	0.65
1:A:2359:G:N7	37:A:4080:HOH:O	2.28	0.65
28:2:1:THR:HA	37:2:435:HOH:O	1.94	0.65
1:A:2281:C:C2'	1:A:2282:U:H5'	2.25	0.65
1:A:1741:U:H5'	1:A:1742:A:OP1	1.96	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
6:F:35:ALA:N	37:F:5576:HOH:O	2.29	0.65
5:E:1:MET:HG2	5:E:2:GLN:H	1.61	0.65
6:F:54:ALA:HB2	6:F:69:ILE:HD12	1.78	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
24:X:13:MET:HE3	24:X:17:ILE:HG22	1.79	0.65
8:H:46:GLU:O	8:H:73:PRO:HD2	1.97	0.65
30:4:65:THR:HG23	30:4:67:LEU:HG	1.77	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
10:J:28:ILE:HA	10:J:62:GLU:OE1	1.96	0.65
1:A:1743:G:N7	37:A:9647:HOH:O	2.28	0.65
24:X:21:LEU:HD21	24:X:48:VAL:HG11	1.78	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
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
1:A:2827:A:H2'	1:A:2828:G:O4'	1.96	0.65
1:A:1874:U:OP1	37:A:4691:HOH:O	2.15	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
1:A:1923:G:H4'	30:4:31:THR:O	1.96	0.64
25:Y:78:GLU:HG2	25:Y:79:GLU:N	2.10	0.64
1:A:2421:G:H3'	1:A:2422:U:C5'	2.28	0.64
19:S:18:LEU:HB2	19:S:143:VAL:HG12	1.78	0.64
16:P:14:LEU:HD23	16:P:102:ILE:HD11	1.78	0.64
1:A:2459:G:OP1	30:4:64:LYS:N	2.19	0.64
1:A:2310:G:OP2	10:J:114:PRO:HD2	1.96	0.64
17:Q:64:GLU:HG2	37:Q:170:HOH:O	1.97	0.64
6:F:55:LYS:HA	37:F:6752:HOH:O	1.97	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
6:F:69:ILE:O	6:F:69:ILE:HG22	1.96	0.64
5:E:162:VAL:HG12	5:E:192:ILE:HD11	1.78	0.64
11:K:19:MET:HE2	11:K:79:PHE:HA	1.78	0.64
1:A:1741:U:O2'	1:A:2723:G:H4'	1.97	0.64
1:A:1713:G:C2'	37:A:5435:HOH:O	2.44	0.64
11:K:45:VAL:HG21	11:K:129:PHE:CD1	2.33	0.64
27:1:30:GLU:HB3	27:1:34:LYS:HE3	1.80	0.64
26:Z:235:GLU:CD	26:Z:235:GLU:H	2.01	0.64
20:T:23:LYS:HE2	37:T:8330:HOH:O	1.97	0.64
1:A:1197:G:N2	37:A:6597:HOH:O	2.31	0.64
14:N:164:THR:CG2	14:N:167:GLY:H	2.03	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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:485:A:N3	1:A:487:G:H5''	2.13	0.64
1:A:407:A:H5'	37:A:6386:HOH:O	1.97	0.64
1:A:814:G:H4'	37:A:3507:HOH:O	1.97	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
4:D:140:LEU:HD23	37:D:8580:HOH:O	1.96	0.64
15:O:89:GLY:O	15:O:92:ALA:HB3	1.98	0.64
15:O:49:THR:CG2	15:O:56:ASP:HB2	2.26	0.64
19:S:39:THR:HG23	19:S:107:GLU:O	1.97	0.64
1:A:382:U:C5	1:A:406:G:N2	2.65	0.64
19:S:113:HIS:O	19:S:145:LEU:HD12	1.98	0.64
1:A:447:A:OP1	21:U:2:LYS:HG2	1.97	0.64
3:C:94:LEU:N	3:C:94:LEU:HD23	2.12	0.64
1:A:1119:G:N2	1:A:1246:A:C2	2.63	0.64
14:N:172:GLY:C	14:N:183:VAL:HG11	2.19	0.64
25:Y:15:ARG:NH1	25:Y:15:ARG:HB3	2.10	0.64
1:A:1829:A:N6	27:1:18:TYR:HA	2.13	0.64
1:A:1659:A:H2'	1:A:1660:G:O4'	1.98	0.64
1:A:1594:C:OP2	17:Q:120:ARG:HD2	1.98	0.64
15:O:169:PRO:O	15:O:172:PHE:HB3	1.98	0.64
1:A:2763:G:OP1	12:L:9:THR:OG1	2.13	0.63
7:G:37:ASP:OD1	11:K:125:SER:HB3	1.98	0.63
5:E:54:LEU:HD21	5:E:87:ARG:HD2	1.80	0.63
1:A:1234:U:N3	4:D:244:PRO:HB3	2.13	0.63
6:F:23:VAL:HG21	6:F:45:THR:HG21	1.79	0.63
26:Z:189:ASN:HD22	26:Z:189:ASN:C	2.01	0.63
24:X:137:GLN:HE21	24:X:141:HIS:CE1	2.09	0.63
5:E:12:THR:HB	37:E:8448:HOH:O	1.97	0.63
1:A:111:C:O2'	28:2:20:ARG:HG2	1.97	0.63
1:A:263:U:O4'	8:H:59:ILE:HD13	1.99	0.63
1:A:2431:C:N3	37:A:4064:HOH:O	2.30	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
27:1:47:LEU:HD23	27:1:57:CYS:HB2	1.80	0.63
37:A:7384:HOH:O	3:C:211:LYS:HG2	1.97	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
1:A:2781:U:C2'	1:A:2782:G:H5'	2.28	0.63
17:Q:16:VAL:HG12	17:Q:17:GLY:N	2.13	0.63
24:X:110:GLN:HA	24:X:110:GLN:NE2	2.13	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:55:GLN:HE22	10:J:91:HIS:CD2	2.16	0.63
1:A:926:A:O2'	13:M:41:HIS:HD2	1.80	0.63
6:F:38:GLU:HB3	6:F:49:PRO:HG2	1.80	0.63
4:D:238:ASN:ND2	4:D:240:GLY:H	1.91	0.63
1:A:2758:G:H2'	1:A:2759:C:H6	1.63	0.63
1:A:2359:G:H3'	37:A:6051:HOH:O	1.97	0.63
26:Z:144:ARG:CZ	37:Z:8616:HOH:O	2.46	0.63
30:4:11:CYS:SG	30:4:71:CYS:HB2	2.39	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
24:X:21:LEU:HB3	24:X:26:ILE:HG12	1.80	0.63
1:A:2270:G:H4'	3:C:223:ARG:HH12	1.64	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
1:A:793:A:N3	37:A:4475:HOH:O	2.31	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
26:Z:200:THR:HG22	26:Z:201:GLU:CG	2.23	0.63
1:A:1015:C:H2'	1:A:1016:U:C6	2.33	0.63
28:2:25:LYS:HE2	37:3:7213:HOH:O	1.98	0.63
17:Q:103:THR:HA	17:Q:106:ARG:NH1	2.12	0.63
14:N:61:ILE:N	14:N:61:ILE:HD12	2.14	0.63
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
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
24:X:21:LEU:HD22	24:X:26:ILE:CD1	2.29	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
6:F:23:VAL:HG23	6:F:23:VAL:O	1.99	0.62
22:V:46:ALA:HB1	22:V:52:THR:HG21	1.81	0.62
1:A:1185:U:H5'	37:A:7822:HOH:O	1.99	0.62
30:4:35:TRP:HA	30:4:38:ARG:NH1	2.13	0.62
8:H:99:THR:HA	37:H:3461:HOH:O	2.00	0.62
7:G:69:ILE:HA	7:G:72:MET:CE	2.29	0.62
1:A:2437:A:H2'	1:A:2438:G:C8	2.34	0.62
6:F:91:ALA:HB1	37:F:5198:HOH:O	1.99	0.62
10:J:71:TYR:C	10:J:73:GLN:H	2.03	0.62
14:N:37:VAL:HG21	14:N:108:LYS:HG3	1.80	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1116:U:O2'	1:A:1118:A:C2	2.51	0.62
13:M:114:VAL:HG11	37:M:8578:HOH:O	1.99	0.62
1:A:2769:C:H2'	1:A:2770:G:O4'	2.00	0.62
15:O:48:VAL:HG11	15:O:55:ASP:HB3	1.81	0.62
1:A:1872:C:C2	37:A:7669:HOH:O	2.50	0.62
1:A:820:G:C6	3:C:171:LYS:HB2	2.34	0.62
1:A:871:G:C5'	1:A:871:G:C8	2.74	0.62
1:A:2419:U:H5''	1:A:2420:G:H5'	1.82	0.62
24:X:122:ARG:HH22	24:X:154:ARG:C	2.01	0.62
1:A:776:A:OP1	28:2:28:HIS:HE1	1.82	0.62
1:A:1759:A:N3	1:A:1818:C:H2'	2.14	0.62
1:A:488:U:H2'	37:A:4384:HOH:O	1.99	0.62
6:F:22:VAL:HG22	6:F:74:THR:HG22	1.81	0.62
8:H:50:VAL:HG21	8:H:63:ILE:HG21	1.81	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
24:X:139:GLY:O	24:X:141:HIS:HD2	1.83	0.62
3:C:37:VAL:HG22	37:C:8605:HOH:O	2.00	0.62
1:A:2346:C:H6	1:A:2346:C:O5'	1.83	0.62
14:N:61:ILE:HG13	37:N:8626:HOH:O	1.99	0.62
1:A:1053:G:OP1	10:J:12:PRO:HG3	1.98	0.62
15:O:154:LEU:O	15:O:155:GLU:HB3	1.99	0.62
15:O:37:ARG:NH2	37:O:8534:HOH:O	2.32	0.62
1:A:2533:C:H5'	1:A:2533:C:C6	2.32	0.62
6:F:105:SER:CB	6:F:131:THR:HG23	2.30	0.62
2:B:3047:A:C2	2:B:3048:C:C2	2.87	0.62
22:V:14:GLU:O	22:V:17:THR:HB	1.99	0.62
1:A:157:G:H4'	14:N:95:LYS:HE2	1.82	0.62
9:I:23:ILE:O	9:I:27:ILE:HG13	2.00	0.62
1:A:2276:U:H2'	1:A:2277:U:H6	1.65	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:2301:A:H5''	1:A:2302:A:H5'	1.82	0.62
1:A:558:C:O2'	1:A:559:U:H5''	2.00	0.62
4:D:85:ARG:NH1	37:D:8632:HOH:O	2.32	0.62
4:D:74:ILE:HD13	4:D:309:VAL:HG21	1.80	0.62
3:C:179:MET:HG2	3:C:186:TRP:CB	2.30	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
14:N:74:ARG:HG3	14:N:74:ARG:NH1	2.10	0.62
1:A:1942:A:H3'	37:A:7704:HOH:O	2.00	0.62
9:I:12:ILE:N	9:I:13:PRO:CD	2.63	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:39:THR:HB	19:S:42:GLU:CG	2.29	0.62
1:A:282:C:O2'	1:A:283:U:H5'	2.00	0.62
1:A:396:U:H1'	37:A:7991:HOH:O	1.99	0.62
24:X:22:GLU:HG2	24:X:27:HIS:CD2	2.35	0.62
1:A:303:C:O2'	1:A:304:G:H5'	2.00	0.62
19:S:61:GLN:NE2	37:S:8541:HOH:O	2.32	0.62
15:O:151:ASP:O	15:O:154:LEU:HB2	2.00	0.61
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
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
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
1:A:2531:U:O2'	1:A:2532:A:H5'	2.00	0.61
1:A:12:U:H2'	1:A:13:G:H5'	1.81	0.61
1:A:1268:C:O2'	1:A:1269:G:H5'	2.00	0.61
1:A:1819:G:H2'	1:A:1820:G:H4'	1.81	0.61
8:H:50:VAL:HG13	8:H:60:VAL:HG11	1.82	0.61
24:X:141:HIS:HB2	24:X:146:ILE:HG12	1.82	0.61
1:A:2428:G:O6	1:A:2464:C:H1'	2.01	0.61
2:B:3014:G:H5'	2:B:3014:G:C8	2.34	0.61
12:L:28:GLU:HG2	12:L:58:THR:HB	1.83	0.61
5:E:180:SER:HB2	37:E:8452:HOH:O	1.99	0.61
1:A:567:U:H5''	37:X:5817:HOH:O	2.00	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
28:2:21:ARG:HD2	28:2:37:CYS:SG	2.41	0.61
13:M:104:ASP:HB3	37:M:8569:HOH:O	1.99	0.61
17:Q:115:SER:O	17:Q:117:SER:N	2.34	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
11:K:79:PHE:O	11:K:83:ILE:HG13	2.00	0.61
1:A:1164:U:C4'	1:A:1165:G:OP1	2.44	0.61
3:C:88:ILE:CD1	3:C:100:PRO:HD3	2.29	0.61
15:O:11:ARG:HG3	15:O:14:ARG:NH1	2.14	0.61
3:C:131:HIS:O	3:C:132:ASP:HB2	1.99	0.61
1:A:1974:G:OP1	37:A:7219:HOH:O	2.16	0.61
4:D:103:ASP:HB2	37:D:8591:HOH:O	1.99	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
37:A:3079:HOH:O	4:D:254:GLN:HG3	2.00	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:83:LYS:O	17:Q:86:ALA:HB3	2.01	0.61
24:X:81:ASP:OD1	24:X:92:ASP:HB2	2.00	0.61
1:A:661:G:C5	1:A:686:A:C2	2.88	0.61
21:U:50:VAL:HG12	21:U:56:ALA:HA	1.81	0.61
1:A:558:C:C2'	1:A:559:U:H5''	2.31	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
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
14:N:164:THR:CG2	14:N:165:SER:N	2.59	0.61
3:C:192:VAL:O	3:C:192:VAL:HG12	2.00	0.61
1:A:2466:G:C5'	37:A:4025:HOH:O	2.45	0.61
37:A:7813:HOH:O	5:E:188:ARG:CD	2.48	0.61
37:A:9782:HOH:O	14:N:94:LYS:HE2	2.00	0.61
1:A:1120:U:H5'	1:A:1121:G:OP2	2.00	0.61
4:D:204:GLY:HA3	37:D:8649:HOH:O	2.01	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
6:F:95:THR:C	6:F:97:GLN:H	2.04	0.60
4:D:62:ARG:HA	4:D:65:MET:HE2	1.82	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
1:A:2717:C:O2'	1:A:2718: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
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:349:U:O2'	1:A:350:C:H5'	2.01	0.60
27:1:57:CYS:O	27:1:61:GLY:N	2.31	0.60
5:E:16:VAL:HG12	5:E:17:ASP:N	2.16	0.60
24:X:65:VAL:HA	24:X:68:THR:CG2	2.31	0.60
13:M:145:LEU:O	13:M:148:GLU:HG3	2.01	0.60
1:A:2105:C:H2'	1:A:2106:C:C6	2.36	0.60
16:P:87:THR:O	16:P:91:GLN:HG3	2.02	0.60
3:C:211:LYS:NZ	37:C:8579:HOH:O	2.34	0.60
1:A:2506:A:O2'	1:A:2507:G:O5'	2.19	0.60
1:A:1393:A:H2'	1:A:1394:C:C6	2.36	0.60
29:3:18:ASN:HD21	29:3:40:ARG:H	1.46	0.60
1:A:1942:A:O2'	1:A:1943:C:H5'	2.01	0.60
25:Y:15:ARG:HH11	25:Y:15:ARG:CB	2.12	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:3:41:HIS:N	29:3:45:ASN:HD22	1.98	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
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
10:J:147:ARG:HA	10:J:150:LYS:NZ	2.17	0.60
1:A:2468:A:H61	30:4:48:ASN:HD21	1.48	0.60
9:I:12:ILE:HG13	37:I:6833:HOH:O	2.00	0.60
26:Z:216:ARG:CD	37:Z:8574:HOH:O	2.47	0.60
27:1:11:THR:CG2	27:1:23:ARG:HB2	2.32	0.60
2:B:3039:U:H1'	2:B:3044:A:N6	2.16	0.60
14:N:96:ASN:ND2	37:N:8542:HOH:O	2.28	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
1:A:470:U:O2'	28:2:16:HIS:HD2	1.83	0.60
37:A:7042:HOH:O	21:U:38:ARG:NH1	2.35	0.60
1:A:1123:A:C6	1:A:1238:C:H5'	2.37	0.60
1:A:1884:G:O6	3:C:190:ARG:HD2	2.01	0.60
1:A:2584:G:C2	1:A:2585:G:N7	2.69	0.60
1:A:1165:G:H3'	1:A:1165:G:OP1	2.01	0.60
1:A:1667:A:H5'	1:A:1667:A:H8	1.67	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
1:A:1918:U:OP2	37:A:4400:HOH:O	2.16	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
23:W:39:ALA:C	23:W:41:GLU:H	2.05	0.60
11:K:75:PRO:HG2	11:K:105:LEU:CD2	2.32	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
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
10:J:75:SER:O	10:J:79:ALA:HB2	2.02	0.60
8:H:19:ALA:O	8:H:22:VAL:HG22	2.02	0.60
4:D:297:VAL:HB	37:D:8603:HOH:O	2.02	0.59
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
27:1:62:TYR:CE2	27:1:64:ILE:HG23	2.37	0.59
1:A:1751:G:H2'	1:A:1752:G:C5'	2.21	0.59
4:D:207:LYS:HG2	4:D:304:PRO:HB3	1.84	0.59
15:O:47:LEU:HD13	15:O:97:VAL:HG11	1.84	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:182:G:O3'	14:N:157:LEU:CD1	2.50	0.59
26:Z:186:ARG:NH1	26:Z:186:ARG:HG2	2.15	0.59
6:F:135:VAL:HG22	6:F:136:ARG:N	2.17	0.59
2:B:3001:U:O3'	2:B:3003:A:H5''	2.02	0.59
37:A:4937:HOH:O	14:N:86:MET:SD	2.57	0.59
4:D:7:ARG:HG2	4:D:7:ARG:HH11	1.67	0.59
28:2:5:THR:N	28:2:6:PRO:HD2	2.16	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
25:Y:74:ALA:CB	25:Y:85:VAL:HG22	2.32	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
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
5:E:178:GLN:OE1	37:E:8474:HOH:O	2.16	0.59
1:A:2326:U:H4'	1:A:2412:G:C4'	2.33	0.59
4:D:55:ASN:HB3	4:D:63:GLU:HA	1.83	0.59
1:A:659:A:H5''	37:P:6799:HOH:O	2.01	0.59
1:A:2316:G:H8	37:A:6015:HOH:O	1.85	0.59
1:A:1887:U:OP1	27:1:21:LYS:HE3	2.02	0.59
20:T:81:ILE:HG23	37:T:8336:HOH:O	2.02	0.59
1:A:611:U:H2'	1:A:612:U:C6	2.37	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
10:J:13:ALA:HA	10:J:91:HIS:CE1	2.38	0.59
5:E:246:ARG:HH11	5:E:246:ARG:HB3	1.66	0.59
1:A:1713:G:H1'	37:A:5435:HOH:O	2.02	0.59
21:U:37:GLN:OE1	21:U:118:SER:HA	2.02	0.59
4:D:88:GLU:HG3	4:D:88:GLU:O	2.01	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
12:L:99:ASP:OD1	12:L:101:ASN:N	2.36	0.59
6:F:99:ASP:CB	6:F:103:ASN:H	2.16	0.59
17:Q:105:LEU:CD2	17:Q:137:LEU:HD21	2.33	0.59
4:D:7:ARG:HD3	4:D:9:GLY:O	2.03	0.59
8:H:34:ASN:HA	14:N:4:ALA:HB2	1.84	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
2:B:3044:A:O4'	6:F:76:ARG:NE	2.36	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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
10:J:44:ALA:HA	10:J:163:PRO:O	2.02	0.59
1:A:154:C:H2'	1:A:155:C:H6	1.67	0.59
17:Q:115:SER:HG	17:Q:118:GLN:HG3	1.67	0.59
14:N:37:VAL:HG21	14:N:108:LYS:CG	2.32	0.59
3:C:101:GLU:OE2	3:C:131:HIS:HB2	2.03	0.59
22:V:38:ASN:O	22:V:42:LEU:HG	2.03	0.59
1:A:920:C:H4'	1:A:921:G:C2	2.37	0.59
15:O:34:LEU:HA	15:O:47:LEU:HD23	1.85	0.59
27:1:22:ILE:O	27:1:26:VAL:HG23	2.03	0.59
6:F:155:HIS:NE2	37:F:7597:HOH:O	2.32	0.59
5:E:191:SER:OG	5:E:192:ILE:N	2.36	0.59
21:U:48:VAL:HG23	21:U:98:VAL:HA	1.84	0.59
4:D:75:GLU:C	4:D:77:PRO:HD3	2.22	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
24:X:75:GLY:HA3	37:X:5763:HOH:O	2.02	0.59
4:D:190:MET:HE2	4:D:194:PHE:HD1	1.66	0.59
1:A:739:G:N7	37:A:7901:HOH:O	2.35	0.59
13:M:104:ASP:O	13:M:105:TYR:HB3	2.03	0.59
1:A:2247:C:H5''	37:A:7702:HOH:O	2.02	0.59
1:A:629:A:C2	1:A:2074:A:C2	2.91	0.59
24:X:125:HIS:HE1	37:X:3071:HOH:O	1.85	0.59
6:F:166:ILE:HD12	37:F:6326:HOH:O	2.03	0.58
24:X:88:THR:CG2	24:X:89:ASP:H	2.12	0.58
14:N:52:LEU:HD13	14:N:116:ASN:CB	2.33	0.58
1:A:184:G:H5''	14:N:153:THR:HG22	1.84	0.58
17:Q:80:ARG:HG2	17:Q:87:ARG:CZ	2.33	0.58
1:A:2548:C:OP2	4:D:5:ARG:NH2	2.36	0.58
1:A:1951:G:N2	37:A:6623:HOH:O	2.35	0.58
6:F:25:MET:CE	6:F:37:ALA:HB1	2.32	0.58
1:A:1185:U:H2'	1:A:1186:C:C6	2.38	0.58
2:B:3029:C:C2'	2:B:3030:C:H5'	2.33	0.58
1:A:382:U:C5	1:A:406:G:C2	2.91	0.58
19:S:111:ILE:HG23	19:S:145:LEU:HD11	1.84	0.58
1:A:926:A:O2'	13:M:41:HIS:CD2	2.56	0.58
1:A:2314:G:C2'	1:A:2315:C:H5'	2.33	0.58
14:N:87:MET:SD	30:4:46:ILE:HD13	2.43	0.58
13:M:143:THR:CG2	13:M:144:ASP:N	2.66	0.58
1:A:1515:A:H2'	1:A:1516:C:C6	2.38	0.58
14:N:58:GLN:HG3	37:N:8610:HOH:O	2.03	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2587:U:H2'	1:A:2589:U:H5''	1.85	0.58
15:O:91:ARG:HG3	15:O:186:LEU:HD23	1.85	0.58
19:S:44:VAL:O	19:S:48:GLU:HG3	2.04	0.58
17:Q:59:ARG:HH22	17:Q:66:GLN:HE22	1.50	0.58
1:A:1766:U:O2	1:A:1778:A:H5'	2.04	0.58
4:D:217:ARG:HG3	4:D:257:THR:HG22	1.84	0.58
1:A:544:G:C2'	1:A:545:G:H5''	2.34	0.58
7:G:126:ILE:HB	7:G:131:LEU:CD2	2.33	0.58
6:F:36:ASN:HA	37:F:7500:HOH:O	2.03	0.58
14:N:154:ARG:HD3	37:N:8648:HOH:O	2.03	0.58
5:E:133:ARG:HD2	37:E:8419:HOH:O	2.03	0.58
1:A:105:G:O2'	1:A:106:A:H5'	2.02	0.58
15:O:86:LEU:O	15:O:90:LEU:HG	2.04	0.58
7:G:31:ARG:HH12	7:G:68:HIS:CE1	2.21	0.58
1:A:1730:G:H5'	1:A:1731:C:C6	2.39	0.58
8:H:107:VAL:O	8:H:111:ILE:HG13	2.02	0.58
25:Y:31:ILE:O	25:Y:35:GLU:HG3	2.04	0.58
1:A:2594:C:O2'	1:A:2595:U:H5'	2.04	0.58
5:E:236:THR:HA	37:E:8458:HOH:O	2.03	0.58
23:W:11:MET:HB3	23:W:15:GLU:HB2	1.85	0.58
10:J:147:ARG:HA	10:J:150:LYS:HZ2	1.69	0.58
1:A:1666:C:C2'	1:A:1667:A:H5'	2.33	0.58
20:T:80:ARG:HG2	37:T:8336:HOH:O	2.02	0.58
1:A:2694:A:H4'	7:G:91:PHE:CE1	2.38	0.58
1:A:2761:A:C4	1:A:2763:G:C8	2.91	0.58
1:A:2115:U:H2'	1:A:2116:U:C6	2.38	0.58
1:A:558:C:H2'	1:A:559:U:C5'	2.34	0.58
13:M:54:PRO:HG2	13:M:57:VAL:CG2	2.34	0.58
37:A:5336:HOH:O	10:J:57:ARG:HG3	2.04	0.58
14:N:97:ILE:CD1	14:N:127:LYS:HD2	2.34	0.58
1:A:407:A:C2	1:A:408:A:C4	2.92	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
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
2:B:3057:A:N6	37:B:3535:HOH:O	2.32	0.58
11:K:130:VAL:HG12	11:K:131:THR:N	2.17	0.58
6:F:86:THR:O	6:F:90:LEU:HG	2.04	0.58
3:C:94:LEU:HG	3:C:99:ILE:HD11	1.85	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
25:Y:75:ALA:O	25:Y:83:ALA:HA	2.04	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
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
5:E:142:ASP:OD1	5:E:237:GLU:HB3	2.04	0.57
19:S:18:LEU:HB2	19:S:143:VAL:CG1	2.34	0.57
1:A:2281:C:H2'	1:A:2282:U:H5'	1.84	0.57
11:K:107:ASN:HD21	11:K:109:TYR:HB2	1.68	0.57
4:D:205:VAL:O	4:D:307:ARG:NE	2.37	0.57
24:X:80:ASP:O	24:X:84:VAL:HG23	2.03	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
6:F:44:ILE:HG23	6:F:45:THR:HG23	1.86	0.57
4:D:264:GLU:HG2	4:D:267:LYS:CE	2.30	0.57
24:X:4:LEU:O	24:X:32:CYS:HA	2.04	0.57
1:A:2748:G:OP1	1:A:2749:U:H5''	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
7:G:7:ILE:HG22	7:G:45:ASP:O	2.04	0.57
1:A:1528:A:H2'	1:A:1529:G:O4'	2.04	0.57
24:X:108:ARG:HE	24:X:114:PRO:HG3	1.69	0.57
1:A:2465:A:H3'	37:A:4025:HOH:O	2.04	0.57
15:O:22:GLN:HG2	15:O:26:LEU:HD22	1.85	0.57
20:T:53:ASN:ND2	37:T:8321:HOH:O	2.37	0.57
18:R:75:ILE:CD1	18:R:84:ILE:HD11	2.35	0.57
1:A:2791:U:H1'	1:A:2792:A:H5''	1.86	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:834:G:H4'	1:A:835:U:OP2	2.04	0.57
1:A:816:G:H5'	1:A:1598:A:H4'	1.85	0.57
1:A:189:A:OP1	14:N:171:ARG:NH2	2.38	0.57
24:X:54:PHE:CZ	24:X:140:LYS:HB2	2.39	0.57
13:M:136:ALA:HB3	37:M:8578:HOH:O	2.05	0.57
1:A:537:G:C6	1:A:620:A:C8	2.92	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
8:H:46:GLU:N	37:H:3461:HOH:O	2.37	0.57
8:H:117:GLU:C	8:H:119:ARG:H	2.06	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
21:U:69:LYS:O	21:U:71:VAL:HG23	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:37:ALA:O	6:F:40:ILE:HG12	2.05	0.57
15:O:141:ARG:HB3	37:O:8570:HOH:O	2.05	0.57
14:N:55:LYS:HB2	14:N:60:ILE:CD1	2.35	0.57
8:H:47:LEU:HB2	8:H:108:LEU:HD11	1.87	0.57
37:E:8360:HOH:O	16:P:3:THR:HG21	2.04	0.57
13:M:10:SER:O	13:M:11:ARG:HB3	2.04	0.57
1:A:371:U:H2'	1:A:372:A:H8	1.69	0.57
6:F:44:ILE:HG12	6:F:83:PHE:HE1	1.68	0.57
14:N:89:ASN:HA	37:N:8556:HOH:O	2.04	0.57
8:H:58:GLU:OE1	14:N:27:ARG:NH2	2.38	0.57
1:A:2840:A:OP1	4:D:211:THR:HG23	2.05	0.57
1:A:1135:G:H5'	37:A:6290:HOH:O	2.03	0.57
16:P:113:VAL:O	16:P:114:ILE:HD13	2.05	0.57
10:J:117:LYS:O	10:J:119:VAL:HG13	2.05	0.57
15:O:37:ARG:NE	37:O:8534:HOH:O	2.37	0.57
26:Z:187:VAL:HB	37:Z:8575:HOH:O	2.04	0.57
1:A:544:G:H2'	1:A:545:G:H5''	1.87	0.57
7:G:15:GLN:NE2	7:G:40:VAL:O	2.36	0.57
1:A:524:A:H5'	19:S:29:LYS:HE2	1.85	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:58:LEU:HD12	15:O:58:LEU:N	2.20	0.57
4:D:275:GLY:O	4:D:291:ASP:HA	2.05	0.57
5:E:236:THR:CG2	5:E:239:ALA:H	1.95	0.57
1:A:1733:A:H4'	4:D:212:GLN:HA	1.87	0.57
5:E:162:VAL:HG12	5:E:162:VAL:O	2.03	0.57
15:O:154:LEU:HG	15:O:155:GLU:H	1.68	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
1:A:1471:A:H2'	1:A:1472:C:C6	2.40	0.57
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
13:M:143:THR:HG22	13:M:144:ASP:H	1.70	0.56
1:A:920:C:H5'	1:A:921:G:C4	2.39	0.56
21:U:101:LEU:HD13	21:U:112:LEU:HD11	1.86	0.56
1:A:329:A:OP2	5:E:206:ASN:HB2	2.05	0.56
1:A:2908:A:H2'	1:A:2909:G:O4'	2.04	0.56
10:J:62:GLU:O	10:J:66:VAL:HG23	2.05	0.56
5:E:168:ARG:NH2	5:E:190:ALA:O	2.38	0.56
26:Z:99:ALA:HB2	26:Z:233:TYR:CZ	2.40	0.56
5:E:39:GLN:O	5:E:43:LYS:HD3	2.05	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:236:THR:O	5:E:237:GLU:C	2.42	0.56
6:F:99:ASP:HB2	6:F:103:ASN:HB2	1.87	0.56
10:J:46:VAL:HG12	10:J:146:TRP:HZ3	1.70	0.56
15:O:37:ARG:CZ	37:O:8534:HOH:O	2.54	0.56
26:Z:189:ASN:ND2	26:Z:192:ASP:H	2.04	0.56
11:K:19:MET:HE1	11:K:132:LEU:CD1	2.35	0.56
24:X:4:LEU:HD23	24:X:54:PHE:HB3	1.88	0.56
12:L:55:VAL:HG12	12:L:56:SER:N	2.20	0.56
3:C:36:ASP:HA	3:C:83:GLY:HA3	1.87	0.56
22:V:31:PHE:CG	22:V:37:GLU:HG2	2.40	0.56
17:Q:94:TRP:CZ2	17:Q:98:ILE:HG13	2.40	0.56
14:N:57:LYS:HE2	14:N:140:ALA:O	2.05	0.56
23:W:39:ALA:N	23:W:40:PRO:CD	2.67	0.56
23:W:39:ALA:O	23:W:41:GLU:N	2.38	0.56
1:A:694:A:H2'	1:A:695:C:H5'	1.87	0.56
1:A:251:C:O2'	1:A:252:C:H5'	2.05	0.56
1:A:449:A:N7	5:E:43:LYS:HG2	2.19	0.56
24:X:119:HIS:HD2	24:X:120:PRO:O	1.89	0.56
4:D:132:HIS:CE1	4:D:171:VAL:HG21	2.39	0.56
1:A:2405:C:P	37:A:6957:HOH:O	2.63	0.56
1:A:1249:U:H2'	1:A:1250:C:C6	2.40	0.56
37:A:6387:HOH:O	18:R:50:GLY:HA2	2.05	0.56
14:N:74:ARG:O	14:N:88:VAL:CG1	2.46	0.56
1:A:1181:A:H2'	1:A:1182:C:O4'	2.05	0.56
12:L:34:VAL:CG2	12:L:47:ALA:HB2	2.34	0.56
1:A:113:A:H3'	1:A:114:A:C5'	2.35	0.56
26:Z:112:GLU:HA	26:Z:112:GLU:OE1	2.06	0.56
13:M:149:ARG:O	13:M:150:GLN:HB2	2.06	0.56
1:A:2483:A:HO2'	1:A:2484:U:H5	1.53	0.56
21:U:1:SER:N	37:U:5837:HOH:O	2.39	0.56
3:C:25:ALA:HA	37:C:8571:HOH:O	2.04	0.56
1:A:2121:G:C2'	1:A:2122:C:H5'	2.35	0.56
12:L:14:LYS:HG3	12:L:32:ILE:O	2.06	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
1:A:1333:U:H2'	1:A:1334:C:C6	2.40	0.56
10:J:130:HIS:CG	10:J:133:ILE:HD11	2.40	0.56
6:F:41:LEU:HA	6:F:44:ILE:CG2	2.35	0.56
24:X:88:THR:HG23	24:X:110:GLN:HE21	1.71	0.56
30:4:48:ASN:HD22	30:4:50:GLY:H	1.47	0.56
12:L:30:LYS:O	12:L:55:VAL:HG13	2.05	0.56
1:A:777:U:O2'	28:2:11:LYS:HG2	2.05	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:281:U:H3'	37:A:7566:HOH:O	2.06	0.56
6:F:64:ARG:CD	6:F:67:ASP:HB3	2.36	0.56
1:A:1527:A:H1'	1:A:1528:A:C8	2.40	0.56
5:E:129:HIS:HD2	5:E:165:ASP:OD2	1.89	0.56
1:A:2329:C:O2'	1:A:2330:U:H5'	2.04	0.56
5:E:221:GLU:OE1	37:E:8332:HOH:O	2.18	0.56
6:F:38:GLU:OE2	6:F:51:ARG:CZ	2.54	0.56
24:X:122:ARG:CG	24:X:122:ARG:HH11	2.16	0.56
23:W:44:GLY:O	23:W:48:GLU:HG2	2.05	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
3:C:105:VAL:HG11	3:C:154:ALA:HB1	1.86	0.56
1:A:2547:C:H2'	1:A:2548:C:H6	1.69	0.56
19:S:114:VAL:O	19:S:114:VAL:HG13	2.06	0.56
4:D:2:GLN:HA	37:D:8619:HOH:O	2.05	0.56
3:C:135:VAL:HG21	3:C:147:ARG:NH1	2.21	0.56
11:K:104:TYR:HA	37:K:2238:HOH:O	2.04	0.56
26:Z:117:LEU:HD12	26:Z:174:VAL:HG11	1.87	0.56
6:F:99:ASP:HB3	6:F:103:ASN:H	1.71	0.56
14:N:35:PRO:HG3	14:N:38:VAL:HG23	1.87	0.56
14:N:114:VAL:HB	14:N:159:THR:HG23	1.86	0.56
8:H:91:VAL:HG12	8:H:92:GLY:H	1.70	0.56
5:E:162:VAL:HG13	5:E:232:LEU:HD21	1.86	0.56
4:D:55:ASN:HB3	4:D:64:GLY:H	1.70	0.56
4:D:148:PRO:HD2	37:D:8581:HOH:O	2.05	0.56
27:1:42:CYS:SG	27:1:43:GLY:N	2.79	0.56
14:N:87:MET:HE1	37:N:8532:HOH:O	2.05	0.56
14:N:52:LEU:HD13	14:N:116:ASN:CG	2.26	0.56
14:N:104:ARG:O	14:N:108:LYS:HG2	2.05	0.56
11:K:133:GLY:O	11:K:137:GLU:HG3	2.06	0.56
30:4:60:LYS:HD2	30:4:61:PRO:HD2	1.88	0.56
27:1:25:ARG:O	27:1:29:VAL:HG23	2.06	0.56
7:G:7:ILE:HD11	7:G:11:VAL:O	2.06	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
11:K:39:VAL:HG13	11:K:106:GLY:O	2.05	0.56
13:M:72:ASN:O	13:M:76:LEU:HG	2.05	0.56
13:M:21:ARG:N	37:M:8533:HOH:O	2.39	0.56
3:C:211:LYS:NZ	37:C:8631:HOH:O	2.39	0.56
24:X:139:GLY:O	24:X:141:HIS:CD2	2.58	0.56
37:B:4707:HOH:O	15:O:147:ILE:HB	2.05	0.56
1:A:128:A:H3'	1:A:128:A:C8	2.40	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:89:PHE:N	37:M:8576:HOH:O	2.39	0.56
1:A:564:G:H1'	37:A:6670:HOH:O	2.06	0.56
30:4:62:THR:HB	37:4:8551:HOH:O	2.04	0.56
1:A:2787:C:H5	37:A:4999:HOH:O	1.88	0.56
4:D:307:ARG:HH11	4:D:307:ARG:CB	2.20	0.55
2:B:3040:C:N4	6:F:51:ARG:HB2	2.21	0.55
1:A:1166:A:H1'	1:A:1192:A:N1	2.20	0.55
12:L:32:ILE:HD11	12:L:56:SER:HB3	1.89	0.55
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
22:V:17:THR:HG22	22:V:18:GLY:N	2.21	0.55
10:J:75:SER:C	10:J:79:ALA:HB2	2.27	0.55
1:A:921:G:H4'	1:A:924:G:C6	2.42	0.55
6:F:10:PHE:CG	6:F:11:HIS:N	2.74	0.55
1:A:2450:C:H3'	37:A:5544:HOH:O	2.06	0.55
3:C:81:GLN:HB2	3:C:92:ASN:ND2	2.21	0.55
4:D:41:PHE:HA	4:D:79:MET:HE2	1.86	0.55
6:F:50:VAL:O	6:F:71:ALA:HA	2.06	0.55
1:A:188:C:H5''	14:N:163:LEU:HD21	1.87	0.55
15:O:34:LEU:HD22	15:O:129:ILE:CD1	2.35	0.55
1:A:1119:G:H2'	11:K:52:GLN:HE22	1.68	0.55
1:A:2064:U:H4'	1:A:2653:A:P	2.47	0.55
7:G:20:ILE:CD1	7:G:40:VAL:HG11	2.35	0.55
26:Z:154:ARG:HH12	26:Z:155:ARG:HG3	1.70	0.55
13:M:73:VAL:HG23	13:M:74:THR:H	1.70	0.55
1:A:1497:G:H4'	1:A:1627:G:O2'	2.06	0.55
1:A:2897:C:H2'	1:A:2898:G:H8	1.69	0.55
1:A:1862:C:H1'	37:A:7579:HOH:O	2.06	0.55
1:A:1183:C:N4	37:A:4768:HOH:O	2.34	0.55
27:1:37:HIS:O	27:1:45:LYS:HA	2.05	0.55
37:A:3539:HOH:O	14:N:87:MET:HE3	2.05	0.55
6:F:23:VAL:HG22	6:F:73:VAL:HB	1.87	0.55
21:U:9:LYS:CE	21:U:13:ARG:NH1	2.66	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: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
1:A:1008:C:H5''	10:J:16:ARG:HH12	1.71	0.55
1:A:156:C:H5''	14:N:171:ARG:CD	2.26	0.55
4:D:175:LEU:C	4:D:175:LEU:HD23	2.26	0.55
1:A:2634:G:O2'	1:A:2635:A:H5'	2.06	0.55
15:O:159:TYR:HE2	15:O:163:PHE:HE2	1.54	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:625:U:H5''	1:A:1044:C:N4	2.21	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
1:A:1205:U:H2'	1:A:1206:U:C5'	2.34	0.55
7:G:10:ASP:HA	37:G:3707:HOH:O	2.06	0.55
26:Z:185:VAL:HA	37:Z:8567:HOH:O	2.05	0.55
11:K:126:ASN:O	11:K:129:PHE:HE2	1.90	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
1:A:214:U:H5'	37:A:6502:HOH:O	2.05	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
15:O:24:LEU:O	15:O:28:LYS:HG2	2.06	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
14:N:59:GLY:HA3	14:N:141:ILE:HD11	1.88	0.55
1:A:1299:G:N2	37:A:5049:HOH:O	2.40	0.55
8:H:99:THR:O	8:H:100:ASP:HB2	2.06	0.55
1:A:2324:G:H4'	1:A:2418:G:O2'	2.07	0.55
1:A:1717:A:H5''	17:Q:54:LYS:HB2	1.89	0.55
1:A:714:U:H3'	37:A:7299:HOH:O	2.07	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
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
1:A:485:A:O2'	1:A:487:G:H5'	2.07	0.55
1:A:2256:G:C2'	1:A:2257:G:H5'	2.37	0.55
14:N:85:ARG:NE	37:N:8519:HOH:O	2.40	0.55
1:A:1168:C:H2'	1:A:1169:U:O4'	2.06	0.55
2:B:3031:C:H1'	37:B:1137:HOH:O	2.07	0.55
24:X:110:GLN:HA	24:X:110:GLN:HE21	1.71	0.55
12:L:65:ARG:HD3	37:L:5358:HOH:O	2.07	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
26:Z:112:GLU:CD	26:Z:115:ARG:NH1	2.60	0.55
6:F:11:HIS:O	6:F:12:GLU:HB3	2.06	0.55
4:D:32:ASP:HA	37:D:8574:HOH:O	2.06	0.55
3:C:109:GLU:HG2	3:C:116:GLY:H	1.71	0.55
1:A:2563:U:H2'	1:A:2565:C:O5'	2.07	0.55
26:Z:178:HIS:CG	26:Z:179:PRO:HD2	2.42	0.55
20:T:37:VAL:O	20:T:41:VAL:HG23	2.06	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:46:ILE:HG12	11:K:53:ILE:HD13	1.89	0.55
1:A:2507:G:H2'	1:A:2510:C:H42	1.72	0.55
27:1:30:GLU:HB2	37:1:8414: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
26:Z:154:ARG:NH1	26:Z:155:ARG:HG3	2.22	0.55
24:X:90:TYR:CE2	24:X:99:ALA:HB2	2.42	0.55
4:D:185:GLY:HA2	37:D:8631:HOH:O	2.07	0.55
37:A:9608:HOH:O	3:C:11:ARG:HD3	2.06	0.55
24:X:4:LEU:CD2	24:X:52:VAL:HG21	2.32	0.54
1:A:2756:U:H3	1:A:2896:A:H2	1.52	0.54
22:V:11:THR:HG22	22:V:53:ASP:OD2	2.06	0.54
1:A:1187:U:H2'	37:A:7253:HOH:O	2.05	0.54
12:L:75:ARG:CZ	37:L:4172:HOH:O	2.54	0.54
1:A:2524:G:H21	1:A:2526:C:N4	2.04	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
5:E:184:ARG:NE	37:E:8420:HOH:O	2.32	0.54
1:A:2781:U:H2'	1:A:2782:G:C5'	2.36	0.54
26:Z:107:PRO:HB3	26:Z:182:PHE:CE2	2.42	0.54
21:U:47:THR:HB	21:U:100:ASP:HB3	1.89	0.54
25:Y:70:ILE:HG23	25:Y:70:ILE:O	2.07	0.54
37:A:9476:HOH:O	4:D:214:PRO:HD2	2.07	0.54
1:A:29:C:O2'	1:A:30:U:H5'	2.07	0.54
11:K:127:ILE:N	35:K:8501:CL:CL	2.67	0.54
14:N:84:LYS:HA	30:4:46:ILE:O	2.06	0.54
1:A:1118:A:C8	1:A:1118:A:C3'	2.85	0.54
24:X:65:VAL:HG12	24:X:116:LEU:HD13	1.89	0.54
27:1:19:GLY:O	27:1:23:ARG:HG2	2.06	0.54
15:O:107:ASN:OD1	35:O:8507:CL:CL	2.62	0.54
10:J:35:ASN:ND2	10:J:80:ASN:HA	2.22	0.54
15:O:184:ILE:HG22	15:O:185:GLU:HG3	1.88	0.54
1:A:1500:U:P	17:Q:41:ARG:HH22	2.30	0.54
3:C:57:ALA:HA	3:C:67:LEU:HD23	1.88	0.54
1:A:2836:G:C6	1:A:2838:A:C2	2.95	0.54
27:1:46:LYS:HE2	37:1:8436:HOH:O	2.07	0.54
22:V:33:SER:O	22:V:37:GLU:HG3	2.07	0.54
1:A:283:U:H5''	1:A:284:C:P	2.47	0.54
16:P:14:LEU:CD2	16:P:102:ILE:HD11	2.36	0.54
14:N:123:ASP:C	14:N:123:ASP:OD1	2.46	0.54
1:A:1503:U:H2'	1:A:1504:A:O4'	2.07	0.54
24:X:38:THR:HG22	24:X:39:ASP:N	2.22	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:65:ARG:HG3	5:E:67:GLN:HB2	1.89	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
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
25:Y:74:ALA:HB2	25:Y:85:VAL:HG13	1.89	0.54
1:A:1589:G:N2	1:A:1605:G:H1'	2.23	0.54
3:C:192:VAL:O	3:C:192:VAL:CG1	2.55	0.54
29:3:41:HIS:H	29:3:45:ASN:ND2	2.01	0.54
1:A:1743:G:H1'	37:A:5254:HOH:O	2.06	0.54
11:K:39:VAL:HG12	11:K:40:ASN:ND2	2.22	0.54
22:V:47:ARG:HG3	37:V:4381:HOH:O	2.07	0.54
1:A:1787:C:OP1	17:Q:68:LYS:HE2	2.08	0.54
17:Q:31:ILE:HG12	17:Q:43:LEU:HD13	1.90	0.54
3:C:217:ARG:HG2	3:C:229:ALA:HB2	1.90	0.54
1:A:2111:G:H1'	37:A:9448:HOH:O	2.07	0.54
10:J:150:LYS:HA	10:J:153:VAL:HG22	1.89	0.54
30:4:74:CYS:SG	30:4:76:LYS:CG	2.95	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
24:X:121:PRO:HA	24:X:153:MET:HG2	1.89	0.54
1:A:1250:C:O2'	1:A:1251:C:H5'	2.08	0.54
30:4:84:ARG:HB3	37:4:8551:HOH:O	2.08	0.54
5:E:25:PRO:HG2	37:E:8324:HOH:O	2.08	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
5:E:111:VAL:HB	37:E:8323:HOH:O	2.07	0.54
28:2:28:HIS:O	28:2:32:LYS:N	2.40	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
2:B:3023:U:C5'	2:B:3024:U:OP2	2.55	0.54
7:G:84:MET:HE1	7:G:148:ILE:HD12	1.89	0.54
6:F:23:VAL:HG21	6:F:45:THR:CG2	2.37	0.54
5:E:127:ARG:HG2	5:E:127:ARG:NH1	2.23	0.54
25:Y:9:VAL:HG22	25:Y:88:GLU:OE2	2.07	0.54
4:D:7:ARG:NH1	4:D:11:LEU:HD22	2.23	0.54
1:A:920:C:H4'	1:A:921:G:N2	2.21	0.54
1:A:1583:U:H1'	37:A:3355:HOH:O	2.07	0.54
5:E:40:ALA:CB	5:E:100:LEU:HD12	2.38	0.54
3:C:18:ALA:O	3:C:20:SER:N	2.38	0.54
6:F:27:ILE:HG22	6:F:28:GLY:N	2.17	0.54
1:A:1134:G:H4'	10:J:151:MET:CE	2.28	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:39:THR:CB	19:S:42:GLU:HG3	2.34	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
17:Q:103:THR:O	17:Q:107:GLU:HG3	2.08	0.54
1:A:396:U:H4'	37:A:4800:HOH:O	2.08	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
7:G:86:VAL:CG1	7:G:129:GLU:HA	2.38	0.54
1:A:1421:C:O2'	1:A:1422:U:H5'	2.08	0.54
1:A:420:U:H2'	1:A:421:C:C6	2.42	0.54
29:3:48:ASP:O	29:3:49:GLU:HB2	2.08	0.54
1:A:2123:A:H5'	14:N:89:ASN:HD21	1.73	0.54
14:N:30:GLU:O	14:N:34:GLU:HG3	2.08	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
37:A:4153:HOH:O	22:V:17:THR:CG2	2.56	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
1:A:820:G:C5	3:C:171:LYS:HB2	2.43	0.53
1:A:1246:A:O2'	1:A:1247:A:H3'	2.08	0.53
1:A:545:G:C8	1:A:545:G:H5'	2.36	0.53
4:D:333:GLU:HB2	22:V:14:GLU:OE2	2.08	0.53
14:N:65:VAL:HG21	14:N:105:ALA:HB2	1.90	0.53
14:N:168:ARG:NH1	37:N:8606:HOH:O	2.36	0.53
2:B:3051:A:H5'	15:O:160:SER:HB3	1.91	0.53
1:A:1595:G:O2'	1:A:1596:U:H5'	2.08	0.53
4:D:280:VAL:HG13	4:D:334:SER:HA	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
14:N:106:ASN:ND2	35:N:8518:CL:CL	2.79	0.53
13:M:125:PHE:CE1	13:M:140:VAL:HG13	2.44	0.53
1:A:2488:A:H61	1:A:2534:C:H42	1.56	0.53
1:A:1209:C:H2'	1:A:1210:G:C8	2.42	0.53
19:S:132:ARG:HG2	19:S:133:ALA:N	2.22	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
1:A:1056:U:H2'	1:A:1057:A:O4'	2.08	0.53
23:W:64:GLY:O	23:W:65:ASP:CB	2.56	0.53
1:A:2326:U:H4'	1:A:2412:G:H4'	1.90	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
3:C:8:ARG:HG2	37:C:8556:HOH:O	2.08	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:622:G:O2'	1:A:623:U:H5'	2.08	0.53
30:4:44:SER:HA	30:4:49:ASP:OD1	2.08	0.53
25:Y:30:MET:HE1	25:Y:58:ALA:HB3	1.90	0.53
37:A:5093:HOH:O	15:O:21:HIS:HD2	1.91	0.53
12:L:125:ALA:C	12:L:127:ALA:H	2.11	0.53
1:A:2503:A:OP1	10:J:147:ARG:NH2	2.31	0.53
24:X:14:HIS:HB2	24:X:17:ILE:HG13	1.90	0.53
4:D:30:PRO:HB2	4:D:39:GLN:NE2	2.23	0.53
1:A:970:U:H2'	37:A:6688:HOH:O	2.08	0.53
22:V:44:ARG:HB3	37:V:3805:HOH:O	2.07	0.53
3:C:173:GLY:O	3:C:177:HIS:CD2	2.62	0.53
1:A:1189:A:H1'	1:A:1209:C:O4'	2.08	0.53
5:E:246:ARG:NE	37:E:8431:HOH:O	2.42	0.53
1:A:2415:A:N3	15:O:26:LEU:HD13	2.23	0.53
5:E:154:VAL:O	5:E:158:GLU:HG3	2.08	0.53
27:1:50:ALA:HB3	27:1:54:ILE:HG22	1.91	0.53
3:C:164:ARG:NE	37:C:8596:HOH:O	2.41	0.53
1:A:1687:C:O2	28:2:9:GLY:HA2	2.08	0.53
3:C:200:PRO:HD3	37:C:8520:HOH:O	2.07	0.53
1:A:506:G:N2	1:A:509:A:H5'	2.16	0.53
4:D:217:ARG:HG3	4:D:257:THR:CG2	2.38	0.53
1:A:513:A:N3	37:A:4039:HOH:O	2.34	0.53
1:A:1845:A:OP2	3:C:190:ARG:NH1	2.41	0.53
8:H:37:THR:O	8:H:41:GLU:HG3	2.09	0.53
1:A:912:A:C4	1:A:1294:A:C2	2.97	0.53
5:E:118:THR:O	5:E:136:VAL:HG13	2.07	0.53
1:A:960:G:N3	1:A:960:G:H2'	2.24	0.53
1:A:1119:G:H8	11:K:52:GLN:NE2	2.06	0.53
1:A:113:A:OP2	1:A:114:A:H2'	2.08	0.53
13:M:90:ARG:NH2	13:M:121:ILE:HD11	2.22	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
19:S:65:GLY:C	37:S:8518:HOH:O	2.46	0.53
10:J:56:ILE:HG21	10:J:61:LEU:HD13	1.90	0.53
1:A:2432:C:H2'	1:A:2433:A:H8	1.74	0.53
9:I:12:ILE:HG22	9:I:12:ILE:O	2.08	0.53
4:D:51:VAL:CG2	4:D:327:VAL:HG13	2.38	0.53
10:J:53:PRO:HA	10:J:125:VAL:O	2.08	0.53
21:U:32:ARG:NH1	21:U:38:ARG:HH12	2.06	0.53
1:A:2256:G:H2'	1:A:2257:G:C5'	2.39	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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2093:G:H5''	37:A:9864:HOH:O	2.07	0.53
1:A:2737:C:H2'	37:A:6504:HOH:O	2.08	0.53
1:A:172:U:OP2	37:A:6574:HOH:O	2.18	0.53
1:A:639:A:H2'	1:A:640:G:C8	2.43	0.53
15:O:87:LEU:CD1	15:O:186:LEU:HD21	2.33	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
37:A:4777:HOH:O	3:C:11:ARG:CZ	2.57	0.53
19:S:82:GLU:HG3	19:S:83:LYS:N	2.24	0.53
1:A:1718:G:OP2	17:Q:20:ARG:HD2	2.08	0.53
20:T:57:THR:C	20:T:59:ASP:H	2.12	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
1:A:221:G:H2'	1:A:222:A:C8	2.43	0.53
1:A:1735:C:O2'	1:A:1736:A:H5'	2.08	0.53
4:D:307:ARG:HH11	4:D:307:ARG:CG	2.22	0.53
1:A:1943:C:O4'	3:C:212:PRO:HA	2.08	0.53
11:K:52:GLN:HG3	11:K:53:ILE:N	2.24	0.53
1:A:2505:G:H8	37:A:5999:HOH:O	1.92	0.53
25:Y:76:ARG:HG3	25:Y:76:ARG:NH1	2.22	0.53
1:A:2578:G:H5'	1:A:2578:G:C8	2.40	0.53
1:A:1299:G:O6	13:M:6:ARG:HD3	2.09	0.53
26:Z:144:ARG:NE	37:Z:8616:HOH:O	2.42	0.53
14:N:154:ARG:CD	37:N:8648:HOH:O	2.56	0.53
1:A:1213:C:O2'	1:A:1214:G:H5'	2.09	0.53
1:A:1173:A:H2'	37:A:4715:HOH:O	2.09	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
10:J:85:ILE:HB	10:J:132:PHE:CE2	2.44	0.52
24:X:151:GLU:O	24:X:154:ARG:HB3	2.09	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:1713:G:C1'	37:A:5435:HOH:O	2.56	0.52
13:M:72:ASN:OD1	13:M:75:LEU:HD12	2.09	0.52
1:A:61:G:OP1	29:3:17:GLN:HG2	2.09	0.52
26:Z:126:PRO:HG2	26:Z:128:PHE:CE1	2.43	0.52
5:E:89:ALA:O	37:E:8315:HOH:O	2.19	0.52
1:A:542:A:H2'	1:A:543:G:O4'	2.08	0.52
7:G:11:VAL:CG1	7:G:12:ASP:N	2.71	0.52
4:D:2:GLN:CD	37:D:8619:HOH:O	2.47	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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:43:ASP:HA	37:G:5864:HOH:O	2.10	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:2428:G:C6	1:A:2464:C:H1'	2.44	0.52
3:C:153:ARG:CB	3:C:153:ARG:HH11	2.22	0.52
1:A:47:G:N3	1:A:114:A:C2	2.77	0.52
37:A:6680:HOH:O	6:F:55:LYS:HB2	2.09	0.52
8:H:48:VAL:CG2	8:H:74:PHE:HB3	2.38	0.52
1:A:1787:C:H4'	1:A:2883:A:O4'	2.09	0.52
1:A:2724:U:H2'	1:A:2725:G:O4'	2.08	0.52
1:A:538:C:OP2	26:Z:134:HIS:HE1	1.93	0.52
8:H:21:GLU:O	8:H:24:ARG:HG3	2.08	0.52
14:N:108:LYS:HE3	37:N:8618:HOH:O	2.10	0.52
1:A:2064:U:H5'	1:A:2652:U:H4'	1.91	0.52
6:F:65:GLU:HA	37:F:6752:HOH:O	2.08	0.52
1:A:1711:A:O2'	1:A:1712:A:H5'	2.10	0.52
1:A:383:A:H4'	37:A:5690:HOH:O	2.09	0.52
37:A:7762:HOH:O	21:U:2:LYS:HE2	2.08	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
1:A:2262:C:O5'	1:A:2262:C:H6	1.91	0.52
16:P:44:ASN:HA	16:P:65:LEU:O	2.10	0.52
16:P:59:VAL:HG23	16:P:111:VAL:HG23	1.90	0.52
1:A:344:C:H2'	1:A:345:G:O4'	2.09	0.52
25:Y:21:PRO:HG2	25:Y:24:LYS:HD3	1.91	0.52
1:A:2015:A:H2'	1:A:2016:U:O4'	2.08	0.52
1:A:796:A:C2	1:A:818:A:H1'	2.45	0.52
5:E:115:LEU:HD13	5:E:223:LEU:CD2	2.24	0.52
1:A:2837:U:H2'	37:A:7196:HOH:O	2.09	0.52
10:J:29:ALA:N	10:J:62:GLU:OE1	2.40	0.52
1:A:1160:G:HO2'	1:A:1190:G:H8	1.58	0.52
1:A:2779:G:H21	7:G:143:GLN:NE2	2.08	0.52
1:A:1730:G:H4'	1:A:1731:C:O5'	2.10	0.52
8:H:110:GLU:O	8:H:114:LYS:HG3	2.09	0.52
24:X:121:PRO:CA	24:X:153:MET:HG2	2.40	0.52
1:A:431:G:P	14:N:48:ARG:HH12	2.31	0.52
1:A:1878:G:O2'	1:A:1879:U:C6	2.60	0.52
26:Z:184:GLU:OE1	26:Z:204:ARG:NH1	2.42	0.52
1:A:2249:G:OP2	37:A:5804:HOH:O	2.18	0.52
1:A:392:U:O2'	14:N:182:LYS:HE2	2.08	0.52
14:N:106:ASN:HD22	14:N:114:VAL:HG23	1.74	0.52
24:X:26:ILE:O	24:X:26:ILE:CG1	2.57	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:143:THR:CG2	13:M:144:ASP:H	2.23	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
15:O:29:SER:HA	37:O:8557:HOH:O	2.09	0.52
7:G:116:THR:HG22	7:G:151:LEU:HD22	1.92	0.52
1:A:911:G:H5'	1:A:932:U:OP1	2.10	0.52
22:V:13:ILE:HG12	22:V:32:CYS:HB3	1.90	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
1:A:1636:G:O2'	1:A:1637:A:H5'	2.09	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:1603:A:H5'	1:A:1605:G:C4'	2.40	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
30:4:62:THR:HG23	37:4:8530:HOH:O	2.10	0.52
1:A:675:U:H2'	1:A:676:C:H5'	1.91	0.52
1:A:256:C:H2'	1:A:257:G:O4'	2.09	0.52
30:4:40:ARG:HG3	30:4:52:PHE:CD2	2.44	0.52
1:A:1559:A:H1'	37:A:6226:HOH:O	2.10	0.52
2:B:3045:A:H2'	2:B:3046:C:H6	1.74	0.52
37:L:408:HOH:O	22:V:37:GLU:HB3	2.09	0.52
1:A:1886:A:O2'	27:1:20:LEU:HB2	2.10	0.52
16:P:47:ARG:NH1	37:P:4564:HOH:O	2.42	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:6:PHE:CD1	8:H:6:PHE:O	2.63	0.52
8:H:39:SER:HB3	8:H:45:ALA:HB2	1.91	0.52
1:A:542:A:H1'	37:A:5042:HOH:O	2.10	0.52
1:A:1189:A:H1'	1:A:1209:C:C1'	2.39	0.52
15:O:43:VAL:HG12	15:O:43:VAL:O	2.10	0.52
2:B:3013:A:O2'	2:B:3014:G:H5''	2.10	0.52
1:A:2314:G:H2'	1:A:2315:C:H5'	1.92	0.52
1:A:2909:G:O2'	1:A:2910:A:H5'	2.10	0.52
1:A:2443:C:H3'	37:A:3850:HOH:O	2.09	0.52
1:A:2630:G:O6	3:C:206:ARG:NH2	2.43	0.52
1:A:1211:G:O2'	1:A:1212:C:H5'	2.09	0.52
4:D:215:VAL:HA	4:D:220:VAL:HG22	1.92	0.52
21:U:19:ARG:NH1	21:U:68:ASP:O	2.42	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:58:GLU:CA	8:H:61:MET:HG3	2.38	0.51
1:A:1164:U:O4'	1:A:1165:G:OP1	2.27	0.51
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
1:A:2559:C:H4'	37:A:7614:HOH:O	2.09	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:2429:A:H2'	1:A:2430:A:C8	2.45	0.51
18:R:50:GLY:HA3	18:R:87:THR:OG1	2.11	0.51
27:1:48:LYS:HG2	37:1:8428:HOH:O	2.11	0.51
5:E:185:LYS:HD3	5:E:186:TYR:CE1	2.44	0.51
5:E:237:GLU:HB2	37:E:8438:HOH:O	2.10	0.51
4:D:162:MET:CE	4:D:310:ARG:HD3	2.40	0.51
13:M:140:VAL:HG23	37:M:8562:HOH:O	2.09	0.51
1:A:2768:A:O2'	1:A:2769:C:H5'	2.10	0.51
1:A:1010:C:H4'	15:O:4:PRO:HB2	1.92	0.51
15:O:25:ARG:HA	15:O:28:LYS:HG3	1.92	0.51
7:G:101:GLU:HB2	7:G:116:THR:O	2.09	0.51
1:A:2894:C:O2'	1:A:2895:C:H5'	2.10	0.51
10:J:110:GLY:N	37:J:8396:HOH:O	2.42	0.51
1:A:2114:C:OP1	3:C:1:GLY:HA2	2.11	0.51
24:X:122:ARG:CG	24:X:152:ALA:O	2.59	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
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
3:C:123:GLY:HA2	3:C:159:VAL:O	2.11	0.51
23:W:49:LEU:O	23:W:53:ILE:HG13	2.10	0.51
20:T:11:THR:H	20:T:14:ALA:HB3	1.74	0.51
1:A:2010:A:C2'	37:A:6320:HOH:O	2.59	0.51
30:4:69:TYR:CB	30:4:78:HIS:CE1	2.93	0.51
22:V:9:CYS:SG	22:V:11:THR:N	2.74	0.51
14:N:184:ARG:HG3	14:N:185:PRO:HA	1.91	0.51
4:D:1:PRO:O	4:D:2:GLN:HB2	2.10	0.51
24:X:90:TYR:CD1	24:X:90:TYR:N	2.78	0.51
16:P:80:ASP:OD1	16:P:81:PHE:N	2.44	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:1666:C:O2'	1:A:1667:A:C5'	2.58	0.51
1:A:1014:A:H5''	2:B:3101:G:O2'	2.10	0.51
37:A:4235:HOH:O	10:J:90:PHE:CD2	2.55	0.51
10:J:35:ASN:ND2	10:J:79:ALA:O	2.43	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:88:G:H8	1:A:88:G:H5'	1.76	0.51
1:A:1316:G:H1'	1:A:1340:G:N2	2.26	0.51
1:A:1979:G:OP1	37:A:6674:HOH:O	2.19	0.51
4:D:82:VAL:HG12	4:D:82:VAL:O	2.10	0.51
14:N:87:MET:CE	37:N:8532:HOH:O	2.58	0.51
14:N:76:ARG:HB2	14:N:88:VAL:HG21	1.92	0.51
10:J:26:LYS:HD3	10:J:89:PRO:HG3	1.93	0.51
7:G:20:ILE:CD1	7:G:33:LEU:HD12	2.40	0.51
1:A:2782:G:OP1	7:G:71:ASN:ND2	2.41	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
6:F:99:ASP:O	6:F:159:PRO:HG3	2.10	0.51
1:A:541:C:O2'	1:A:542:A:H5''	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
1:A:1377:C:C6	1:A:1377:C:H5'	2.43	0.51
1:A:120:A:H2'	1:A:120:A:N3	2.26	0.51
13:M:73:VAL:HG23	13:M:74:THR:N	2.26	0.51
1:A:1504:A:O2'	1:A:1506:U:OP2	2.29	0.51
29:3:49:GLU:CD	37:3:719:HOH:O	2.48	0.51
1:A:398:U:H2'	1:A:399:C:C6	2.46	0.51
30:4:6:ARG:NH1	30:4:21:GLU:HB2	2.25	0.51
1:A:2869:G:H5'	37:A:5856:HOH:O	2.11	0.51
14:N:71:SER:O	14:N:73:ARG:NH1	2.41	0.51
1:A:2004:U:H1'	37:A:3569:HOH:O	2.09	0.51
6:F:57:THR:HG23	6:F:63:ILE:CG2	2.39	0.51
37:A:4889:HOH:O	14:N:94:LYS:HE3	2.11	0.51
4:D:132:HIS:CE1	4:D:171:VAL:CG2	2.94	0.51
1:A:1791:U:H2'	1:A:1792:C:H6	1.74	0.51
20:T:29:ASP:OD1	20:T:31:ARG:NH1	2.44	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
4:D:162:MET:HE3	4:D:308:LEU:CD2	2.37	0.51
30:4:11:CYS:SG	30:4:20:HIS:NE2	2.82	0.51
7:G:133:VAL:HG12	7:G:141:VAL:HG13	1.93	0.51
1:A:1862:C:O2'	1:A:1863:G:H5'	2.11	0.51
1:A:1384:C:H5'	25:Y:30:MET:HG2	1.93	0.51
15:O:3:GLY:HA3	37:O:8512:HOH:O	2.10	0.51
1:A:585:C:H6	37:A:6456:HOH:O	1.93	0.51
1:A:1654:U:H2'	3:C:47:HIS:CD2	2.47	0.51
11:K:80:LYS:HE2	11:K:98:PHE:CZ	2.46	0.51
10:J:62:GLU:HA	37:J:8383:HOH:O	2.09	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:508:A:H2'	1:A:509:A:H5''	1.92	0.50
15:O:67:ALA:C	15:O:69:TYR:N	2.64	0.50
1:A:821:U:H2'	1:A:822:C:C6	2.44	0.50
1:A:401:C:H5'	37:A:6155:HOH:O	2.10	0.50
1:A:657:G:OP1	5:E:27:ARG:NH2	2.43	0.50
15:O:139:TRP:HA	15:O:139:TRP:CE3	2.45	0.50
37:A:3326:HOH:O	25:Y:23:HIS:HD2	1.93	0.50
4:D:125:GLU:O	4:D:129:ARG:HG3	2.11	0.50
1:A:269:G:C2	1:A:270:U:O4	2.64	0.50
20:T:43:GLU:HB3	37:T:8343:HOH:O	2.12	0.50
24:X:4:LEU:HD21	24:X:52:VAL:HG11	1.93	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
1:A:485:A:HO2'	1:A:487:G:H8	1.59	0.50
15:O:154:LEU:O	15:O:155:GLU:CB	2.60	0.50
17:Q:10:ALA:HA	17:Q:13:VAL:HG12	1.92	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
22:V:36:CYS:HG	22:V:51:TRP:HH2	1.58	0.50
1:A:1921:A:C6	1:A:1922:A:C2	2.99	0.50
10:J:141:ASN:CA	37:J:8365:HOH:O	2.54	0.50
1:A:1129:C:H5''	1:A:1130:U:OP2	2.11	0.50
10:J:127:GLY:O	10:J:128:ALA:CB	2.59	0.50
1:A:111:C:H2'	1:A:112:G:O4'	2.12	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
1:A:660:A:H4'	1:A:661:G:O5'	2.12	0.50
21:U:49:GLU:OE2	21:U:97:ARG:HD2	2.11	0.50
5:E:133:ARG:NH2	37:E:8433:HOH:O	2.44	0.50
29:3:22:PRO:HG2	29:3:25:VAL:CG2	2.40	0.50
5:E:150:THR:HA	5:E:203:ALA:O	2.10	0.50
1:A:2482:G:N2	1:A:2485:A:OP2	2.43	0.50
26:Z:172:THR:HG22	26:Z:173:ALA:N	2.24	0.50
2:B:3059:C:H5'	37:B:5233:HOH:O	2.10	0.50
2:B:3055:U:H4'	2:B:3056:A:C8	2.46	0.50
14:N:37:VAL:CG1	14:N:63:VAL:HG11	2.41	0.50
1:A:1641:A:H2'	1:A:1642:A:H5'	1.93	0.50
37:A:4562:HOH:O	26:Z:186:ARG:HD2	2.11	0.50
15:O:110:THR:HB	15:O:113:SER:OG	2.11	0.50
7:G:11:VAL:HG13	7:G:23:GLU:O	2.10	0.50
4:D:248:ARG:HG2	37:K:3517:HOH:O	2.11	0.50
37:A:7500:HOH:O	28:2:1:THR:HB	2.10	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:136:ARG:HD2	6:F:155:HIS:O	2.11	0.50
18:R:75:ILE:HD13	18:R:84:ILE:HD11	1.94	0.50
17:Q:38:GLU:HA	17:Q:41:ARG:NH1	2.27	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
1:A:2718:C:H6	1:A:2718:C:H5'	1.77	0.50
14:N:115:LEU:HD13	14:N:116:ASN:HB2	1.94	0.50
24:X:65:VAL:CA	24:X:68:THR:HG22	2.36	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
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
21:U:80:GLU:HA	37:U:6653:HOH:O	2.12	0.50
1:A:2434:A:H2'	1:A:2435:U:H6	1.77	0.50
1:A:470:U:O2'	28:2:16:HIS:CD2	2.63	0.50
1:A:289:G:N2	1:A:363:A:H2	2.06	0.50
30:4:7:PHE:CE1	30:4:9:THR:HB	2.47	0.50
26:Z:234:VAL:HG12	26:Z:235:GLU:N	2.26	0.50
1:A:488:U:C2'	37:A:4384:HOH:O	2.59	0.50
37:A:3337:HOH:O	30:4:84:ARG:HB2	2.12	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
1:A:2570:G:H5''	37:A:5277:HOH:O	2.11	0.50
1:A:466:A:H2'	1:A:467:G:O4'	2.12	0.50
8:H:50:VAL:CG2	8:H:63:ILE:HG21	2.42	0.50
24:X:26:ILE:O	24:X:26:ILE:HG13	2.10	0.50
5:E:104:ASP:O	5:E:108:GLN:HG3	2.12	0.50
25:Y:43:VAL:HG12	25:Y:44:ASP:N	2.26	0.50
7:G:11:VAL:HG12	7:G:12:ASP:H	1.76	0.50
14:N:95:LYS:HG2	14:N:99:ARG:HB3	1.93	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
1:A:1183:C:O2	37:A:6608:HOH:O	2.20	0.50
26:Z:106:THR:HG23	26:Z:107:PRO:HD2	1.94	0.50
30:4:40:ARG:HA	30:4:52:PHE:CZ	2.47	0.50
7:G:5:LEU:HD21	7:G:66:GLN:HG3	1.93	0.50
1:A:2413:A:N7	15:O:109:PRO:HB3	2.27	0.50
1:A:160:A:C4	1:A:177:A:C2	2.99	0.50
10:J:163:PRO:HG2	37:J:8338:HOH:O	2.11	0.50
1:A:1593:C:H5'	17:Q:116:SER:O	2.12	0.50
24:X:3:ALA:O	24:X:54:PHE:HA	2.11	0.50
2:B:3030:C:OP1	6:F:137:PRO:O	2.29	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(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
1:A:1331:A:OP2	26:Z:142:SER:OG	2.29	0.50
10:J:13:ALA:HA	10:J:91:HIS:HE1	1.77	0.50
14:N:35:PRO:CG	14:N:38:VAL:CG2	2.83	0.50
1:A:777:U:H5	28:2:15:THR:HG1	1.59	0.50
1:A:1450:C:C4'	1:A:1451:C:OP2	2.57	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:940:G:C5	1:A:1027:G:C2	2.99	0.50
1:A:1760:G:OP2	37:A:3298:HOH:O	2.18	0.50
1:A:151:A:H2'	1:A:152:A:O4'	2.11	0.50
12:L:105:ARG:HG3	37:L:3385:HOH:O	2.12	0.50
27:1:47:LEU:HD13	27:1:64:ILE:HD11	1.94	0.49
10:J:14:TYR:N	10:J:91:HIS:CE1	2.78	0.49
4:D:254:GLN:HG2	4:D:255:GLY:N	2.26	0.49
1:A:2291:A:H8	37:A:6831:HOH:O	1.94	0.49
14:N:39:ARG:NE	37:N:8626:HOH:O	2.45	0.49
30:4:65:THR:O	30:4:82:GLY:HA3	2.12	0.49
14:N:113:ARG:HH21	14:N:156:ARG:HG2	1.76	0.49
15:O:152:GLU:C	15:O:154:LEU:H	2.13	0.49
4:D:305:ASP:O	4:D:306:LYS:CB	2.59	0.49
1:A:2694:A:H4'	7:G:91:PHE:HE1	1.76	0.49
1:A:422:G:C6	1:A:2446:G:C6	3.00	0.49
1:A:2697:A:H2'	1:A:2698:G:O4'	2.12	0.49
17:Q:7:LYS:HD2	17:Q:21:VAL:CG2	2.41	0.49
15:O:64:SER:C	15:O:66:LEU:H	2.16	0.49
1:A:1434:A:H2'	1:A:1436:C:C5	2.47	0.49
15:O:132:ASN:O	15:O:135:VAL:HG12	2.12	0.49
1:A:1265:G:H1'	37:A:5365:HOH:O	2.11	0.49
6:F:49:PRO:HA	6:F:73:VAL:HG22	1.93	0.49
1:A:1166:A:H61	1:A:1180:U:H3	1.59	0.49
9:I:67:LEU:O	9:I:71:LEU:HG	2.12	0.49
7:G:31:ARG:CZ	37:G:5919:HOH:O	2.60	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
1:A:2729:C:O2'	1:A:2730:G:H5'	2.12	0.49
5:E:50:GLU:HG2	37:E:8392:HOH:O	2.10	0.49
1:A:195:C:H2'	1:A:196:G:H5'	1.94	0.49
23:W:12:THR:CG2	23:W:15:GLU:HG3	2.21	0.49
10:J:48:LEU:HD13	10:J:146:TRP:HB3	1.95	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:9:THR:O	12:L:10:GLN:C	2.49	0.49
1:A:288:A:H2'	1:A:289:G:C8	2.47	0.49
25:Y:25:ARG:HG2	37:Y:5356:HOH:O	2.11	0.49
4:D:145:HIS:CD2	4:D:146:THR:O	2.61	0.49
1:A:157:G:H4'	14:N:95:LYS:HE3	1.95	0.49
5:E:233:THR:HG22	5:E:234:VAL:N	2.26	0.49
3:C:93:THR:C	3:C:94:LEU:HD23	2.32	0.49
15:O:155:GLU:O	15:O:156:GLU:HG3	2.12	0.49
1:A:371:U:H2'	1:A:372:A:C8	2.46	0.49
1:A:200:U:H2'	37:A:3820:HOH:O	2.11	0.49
1:A:1137:G:H1'	37:A:4257:HOH:O	2.11	0.49
9:I:69:ARG:NH1	37:I:3513:HOH:O	2.45	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
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
1:A:949:U:O2'	18:R:40:HIS:HE1	1.95	0.49
6:F:163:VAL:HA	37:F:6326:HOH:O	2.11	0.49
24:X:6:GLN:CB	24:X:26:ILE:HD12	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
13:M:53:ARG:N	35:M:8510:CL:CL	2.80	0.49
1:A:2004:U:H2'	1:A:2004:U:O2	2.11	0.49
27:1:77:LYS:HA	27:1:80:MET:CE	2.43	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
10:J:45:GLN:HG3	10:J:135:TRP:NE1	2.28	0.49
8:H:60:VAL:O	8:H:61:MET:C	2.50	0.49
15:O:90:LEU:HB2	15:O:186:LEU:HD22	1.93	0.49
1:A:1205:U:C2'	1:A:1206:U:H5'	2.39	0.49
1:A:2769:C:O2'	1:A:2770:G:H5'	2.12	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
21:U:48:VAL:HG22	21:U:97:ARG:O	2.13	0.49
17:Q:7:LYS:CD	17:Q:21:VAL:CG2	2.91	0.49
1:A:1125:U:H2'	1:A:1126:C:H5'	1.95	0.49
9:I:27:ILE:HD12	9:I:70:ALA:HB1	1.94	0.49
26:Z:112:GLU:OE1	26:Z:115:ARG:NH1	2.45	0.49
14:N:149:TRP:O	14:N:152:ARG:HG2	2.12	0.49
26:Z:235:GLU:CD	26:Z:235:GLU:N	2.66	0.49
1:A:661:G:C4	1:A:686:A:C2	3.01	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2791:U:C1'	1:A:2792:A:H5''	2.43	0.49
1:A:2730:G:O2'	1:A:2731:G:H5'	2.13	0.49
18:R:40:HIS:HD2	18:R:60:THR:OG1	1.96	0.49
1:A:1505:U:H6	1:A:1505:U:H5'	1.76	0.49
15:O:62:HIS:HB3	15:O:65:ASP:OD1	2.12	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
1:A:10:U:H5'	37:A:6399:HOH:O	2.12	0.49
1:A:2846:C:H4'	37:A:5443:HOH:O	2.11	0.49
1:A:1562:C:H2'	1:A:1562:C:O2	2.11	0.49
10:J:165:GLY:C	10:J:166:ASN:HD22	2.15	0.49
12:L:87:ARG:CZ	37:L:4854:HOH:O	2.61	0.49
1:A:1119:G:OP1	11:K:49:ARG:NH1	2.46	0.49
1:A:2712:G:H5'	37:L:4183:HOH:O	2.11	0.49
11:K:39:VAL:CG1	11:K:40:ASN:N	2.75	0.49
1:A:1462:C:H2'	1:A:1463:A:C8	2.48	0.49
1:A:835:U:H3'	37:A:9757:HOH:O	2.13	0.49
22:V:44:ARG:HD3	22:V:49:LEU:HD21	1.93	0.49
14:N:77:PHE:HD2	37:N:8528:HOH:O	1.96	0.49
27:1:51:GLY:HA3	37:1:8416:HOH:O	2.12	0.49
1:A:1328:A:OP1	26:Z:169:ARG:HD2	2.13	0.49
5:E:187:ARG:NH2	37:E:8369:HOH:O	2.33	0.49
1:A:558:C:C2'	1:A:559:U:C5'	2.91	0.49
1:A:2055:A:H4'	19:S:132:ARG:NH2	2.27	0.49
4:D:168:GLY:N	4:D:174:ARG:HD3	2.28	0.49
6:F:57:THR:HG23	6:F:63:ILE:CB	2.43	0.49
1:A:392:U:C5'	14:N:193:LYS:HB3	2.42	0.49
1:A:2906:A:H5'	1:A:2907:C:O4'	2.12	0.49
4:D:66:GLU:OE1	4:D:328:ARG:HD2	2.13	0.49
13:M:55:GLN:HA	13:M:58:GLN:NE2	2.26	0.49
24:X:6:GLN:HG2	24:X:29:VAL:HA	1.94	0.49
37:A:5198:HOH:O	11:K:47:THR:CB	2.53	0.49
10:J:71:TYR:C	10:J:73:GLN:N	2.65	0.49
3:C:123:GLY:HA3	3:C:162:GLY:HA2	1.95	0.49
37:A:6556:HOH:O	29:3:44:ARG:HG2	2.13	0.49
19:S:31:ILE:O	19:S:32:ALA:C	2.50	0.49
1:A:2120:U:H2'	1:A:2121:G:O4'	2.13	0.48
30:4:69:TYR:O	30:4:77:ALA:HA	2.13	0.48
27:1:11:THR:OG1	27:1:23:ARG:HB2	2.13	0.48
1:A:1684:A:N1	37:A:9689:HOH:O	2.35	0.48
15:O:67:ALA:C	15:O:69:TYR:H	2.17	0.48
6:F:94:ALA:HB3	6:F:174:VAL:HA	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:16:ALA:HA	8:H:111:ILE:HD13	1.95	0.48
1:A:950:G:O2'	1:A:951:A:H5'	2.12	0.48
22:V:49:LEU:O	22:V:55:ALA:CB	2.61	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
1:A:1886:A:C5'	37:1:8405:HOH:O	2.60	0.48
8:H:91:VAL:CG1	8:H:92:GLY:N	2.76	0.48
1:A:1805:G:H2'	1:A:1806:G:H8	1.78	0.48
1:A:306:A:P	21:U:38:ARG:HH21	2.36	0.48
3:C:173:GLY:O	3:C:176:HIS:HB3	2.13	0.48
1:A:514:G:O5'	1:A:514:G:H8	1.96	0.48
20:T:32:ALA:HA	20:T:36:GLU:OE1	2.13	0.48
3:C:36:ASP:HB2	3:C:85:ASP:H	1.79	0.48
1:A:596:C:H2'	1:A:597:A:C8	2.49	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:1878:G:C1'	37:A:6482:HOH:O	2.60	0.48
16:P:26:TRP:HA	16:P:26:TRP:CE3	2.49	0.48
1:A:1417:G:OP2	29:3:47:THR:OG1	2.31	0.48
7:G:16:ASP:O	7:G:17:HIS:HB2	2.13	0.48
1:A:1351:G:OP1	5:E:96:LYS:NZ	2.45	0.48
4:D:238:ASN:ND2	4:D:240:GLY:N	2.57	0.48
11:K:74:ARG:HD3	37:K:5061:HOH:O	2.12	0.48
2:B:3054:A:O2'	2:B:3055:U:H5'	2.13	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
15:O:171:HIS:CE1	37:O:8567:HOH:O	2.65	0.48
1:A:338:C:H4'	5:E:174:ILE:HD12	1.94	0.48
11:K:6:PHE:HB3	11:K:109:TYR:OH	2.12	0.48
37:A:4937:HOH:O	14:N:83:SER:HA	2.12	0.48
4:D:274:GLU:HA	4:D:292:GLY:O	2.12	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
2:B:3026:C:P	37:B:3472:HOH:O	2.71	0.48
8:H:63:ILE:HB	8:H:64:PRO:CD	2.38	0.48
15:O:182:GLY:O	15:O:183:ASP:O	2.31	0.48
1:A:1701:A:H4'	1:A:1702:U:C5'	2.43	0.48
1:A:2420:G:H4'	37:A:4471:HOH:O	2.14	0.48
1:A:1450:C:O2'	1:A:1494:A:H5'	2.13	0.48
1:A:1684:A:O2'	1:A:1685:A:H5''	2.13	0.48
6:F:86:THR:C	6:F:89:PRO:HD2	2.34	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1667:A:H2'	1:A:1668:U:C6	2.48	0.48
8:H:101:ALA:HB2	8:H:108:LEU:HD22	1.96	0.48
1:A:380:A:H5''	14:N:48:ARG:NH2	2.28	0.48
9:I:64:ASN:ND2	9:I:64:ASN:N	2.60	0.48
1:A:2251:G:H2'	1:A:2252:A:C8	2.49	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
16:P:39:THR:O	16:P:115:ARG:NH2	2.46	0.48
1:A:2721:U:H4'	12:L:87:ARG:HG3	1.96	0.48
2:B:3055:U:H4'	2:B:3056:A:H8	1.78	0.48
24:X:122:ARG:CG	24:X:122:ARG:NH1	2.76	0.48
1:A:2271:G:H2'	1:A:2271:G:N3	2.28	0.48
15:O:38:LYS:HE2	15:O:107:ASN:ND2	2.29	0.48
1:A:2815:G:N7	11:K:80:LYS:NZ	2.61	0.48
1:A:1565:C:O4'	1:A:2738:G:H1'	2.13	0.48
1:A:1850:U:H2'	1:A:1851:G:H8	1.77	0.48
10:J:144:GLU:HA	10:J:144:GLU:OE1	2.13	0.48
1:A:136:C:H2'	1:A:137:U:O4'	2.13	0.48
1:A:2089:A:O2'	1:A:2090:G:H5'	2.13	0.48
10:J:84:ARG:CZ	10:J:135:TRP:HH2	2.25	0.48
1:A:2265:U:H2'	1:A:2266:A:C8	2.49	0.48
15:O:47:LEU:CD1	15:O:97:VAL:HG11	2.44	0.48
5:E:214:THR:CG2	37:E:8443:HOH:O	2.50	0.48
1:A:281:U:O2'	1:A:282:C:H5'	2.14	0.48
4:D:265:LEU:CD2	4:D:316:ARG:HD3	2.44	0.48
8:H:46:GLU:OE1	8:H:100:ASP:HA	2.13	0.48
1:A:1123:A:N6	1:A:1238:C:H5'	2.29	0.48
1:A:2256:G:O2'	1:A:2257:G:H5'	2.13	0.48
1:A:638:C:H2'	1:A:639:A:C8	2.48	0.48
14:N:182:LYS:HB2	14:N:194:ALA:HB2	1.94	0.48
1:A:1586:G:O2'	1:A:1587:U:H5'	2.12	0.48
1:A:1245:C:H6	1:A:1245:C:O5'	1.97	0.48
1:A:2529:G:O2'	1:A:2530:C:H5'	2.13	0.48
8:H:13:GLU:OE2	8:H:78:GLU:HG2	2.14	0.48
7:G:145:ALA:HB1	7:G:168:ILE:CD1	2.43	0.48
37:B:466:HOH:O	18:R:27:GLN:HB2	2.13	0.48
1:A:2830:U:H3'	37:A:5592:HOH:O	2.12	0.48
2:B:3012:C:H5'	2:B:3070:U:O4'	2.14	0.48
27:1:56:MET:HA	27:1:62:TYR:O	2.13	0.48
1:A:182:G:H4'	14:N:157:LEU:HD13	1.95	0.48
1:A:1192:A:H3'	1:A:1193:A:H5'	1.95	0.48
24:X:154:ARG:HE	24:X:154:ARG:HB3	1.53	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
9:I:63:ARG:O	9:I:67:LEU:HG	2.14	0.48
4:D:320:GLN:HG3	4:D:321:PRO:CD	2.43	0.48
14:N:20:ILE:O	14:N:24:MET:HG2	2.13	0.48
6:F:93:LEU:HB3	6:F:97:GLN:OE1	2.13	0.48
1:A:1060:C:H2'	1:A:1061:C:H6	1.78	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
12:L:11:GLY:O	12:L:12:LEU:HD23	2.13	0.48
10:J:26:LYS:HD2	10:J:28:ILE:HB	1.95	0.48
14:N:37:VAL:HG13	14:N:63:VAL:HG11	1.96	0.48
30:4:74:CYS:SG	30:4:76:LYS:HG3	2.54	0.48
24:X:122:ARG:HG2	24:X:122:ARG:NH1	2.19	0.48
12:L:45:PRO:HB2	37:L:7169:HOH:O	2.14	0.48
1:A:2533:C:O2'	1:A:2534:C:H5'	2.13	0.48
1:A:1829:A:H61	27:1:18:TYR:CA	2.27	0.48
4:D:27:ASN:HD22	4:D:27:ASN:H	1.61	0.48
1:A:1819:G:H2'	1:A:1820:G:C5'	2.44	0.48
16:P:39:THR:HB	37:P:3360:HOH:O	2.13	0.48
1:A:1609:C:H2'	1:A:1610:G:H8	1.79	0.48
4:D:56:ASP:OD1	4:D:322:ARG:HB3	2.12	0.48
1:A:2911:C:H2'	1:A:2912:C:C6	2.49	0.48
1:A:1342:C:C2'	1:A:1343:C:H5'	2.44	0.48
19:S:106:GLY:HA2	19:S:109:MET:CE	2.40	0.48
1:A:1205:U:C2'	1:A:1206:U:C5'	2.91	0.48
6:F:146:LYS:HZ1	15:O:107:ASN:HD21	1.58	0.48
4:D:62:ARG:HA	4:D:65:MET:HE3	1.95	0.48
13:M:11:ARG:HG2	13:M:12:THR:HG23	1.96	0.48
1:A:128:A:H8	1:A:128:A:H3'	1.79	0.48
2:B:3026:C:OP2	37:B:3472:HOH:O	2.20	0.48
1:A:107:U:H2'	1:A:108:U:H5'	1.96	0.48
1:A:1311:G:C2	1:A:1312:G:C8	3.02	0.48
4:D:195:ARG:HG2	4:D:323:LEU:HD22	1.96	0.48
5:E:51:TYR:CE2	28:2:53:LYS:HB3	2.49	0.48
1:A:282:C:H2'	1:A:283:U:O4'	2.13	0.47
1:A:2769:C:C2'	1:A:2770:G:H5'	2.43	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
1:A:488:U:C4	1:A:512:G:C5	3.01	0.47
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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
37:A:4458:HOH:O	8:H:31:LYS:HE3	2.13	0.47
1:A:1543:G:N1	1:A:1641:A:OP2	2.38	0.47
3:C:192:VAL:O	3:C:207:GLN:HG2	2.14	0.47
37:A:6905:HOH:O	27:1:22:ILE:HG13	2.13	0.47
37:A:3571:HOH:O	13:M:4:LYS:HG3	2.14	0.47
6:F:92:GLU:O	6:F:93:LEU:O	2.32	0.47
1:A:1804:A:H2'	1:A:1805:G:C8	2.49	0.47
37:A:3446:HOH:O	19:S:83:LYS:HB3	2.14	0.47
1:A:584:U:H3'	37:A:6456:HOH:O	2.14	0.47
1:A:516:A:P	37:A:6006:HOH:O	2.72	0.47
4:D:14:GLY:HA2	4:D:15:PRO:C	2.34	0.47
1:A:1308:A:H5'	37:A:7291:HOH:O	2.13	0.47
1:A:1292:G:HO2'	1:A:1293:U:H6	1.62	0.47
10:J:31:PHE:CD2	10:J:88:PHE:CZ	3.02	0.47
37:A:6704:HOH:O	14:N:125:ARG:HB2	2.14	0.47
10:J:139:ASP:H	10:J:140:PRO:HD3	1.73	0.47
13:M:54:PRO:HG2	13:M:57:VAL:HG21	1.94	0.47
6:F:84:LEU:C	6:F:86:THR:H	2.17	0.47
1:A:119:A:H2'	1:A:120:A:H5''	1.96	0.47
19:S:61:GLN:CD	37:S:8541:HOH:O	2.52	0.47
8:H:38:LYS:NZ	14:N:3:SER:HA	2.29	0.47
1:A:1461:U:H2'	1:A:1462:C:H6	1.75	0.47
13:M:90:ARG:NH1	13:M:119:THR:HG21	2.29	0.47
1:A:860:U:H2'	1:A:861:A:C8	2.49	0.47
23:W:55:ARG:O	23:W:59:ILE:HG12	2.13	0.47
1:A:1925:G:OP1	30:4:29:ARG:NH2	2.48	0.47
1:A:2676:C:H4'	11:K:70:PHE:CE1	2.49	0.47
3:C:22:ARG:HG2	37:C:8612:HOH:O	2.13	0.47
10:J:83:PHE:CD1	10:J:134:ALA:HB2	2.49	0.47
2:B:3006:C:P	15:O:37:ARG:NH1	2.87	0.47
14:N:114:VAL:HG21	14:N:159:THR:CG2	2.44	0.47
11:K:45:VAL:HG22	11:K:46:ILE:N	2.28	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
4:D:53:LEU:HD21	4:D:270:ILE:HD12	1.97	0.47
16:P:4:ASN:HB3	16:P:7:LEU:HB3	1.96	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
30:4:11:CYS:HB2	30:4:20:HIS:CE1	2.49	0.47
4:D:55:ASN:HB3	4:D:64:GLY:N	2.29	0.47
1:A:553:G:H2'	1:A:554:G:H5'	1.96	0.47
37:A:6021:HOH:O	21:U:68:ASP:HB2	2.12	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2011:A:P	37:A:6320:HOH:O	2.72	0.47
11:K:70:PHE:O	11:K:70:PHE:CD2	2.68	0.47
1:A:403:C:H6	1:A:403:C:O5'	1.97	0.47
1:A:1574:C:H6	1:A:1574:C:O5'	1.97	0.47
1:A:2353:A:H4'	1:A:2354:A:O5'	2.14	0.47
7:G:158:ASP:OD1	7:G:160:ARG:HB2	2.14	0.47
1:A:278:A:H2'	1:A:279:C:O4'	2.15	0.47
4:D:222:LYS:HE2	37:D:8547:HOH:O	2.14	0.47
1:A:37:A:H2'	1:A:38:G:C8	2.48	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
6:F:19:GLU:O	6:F:133:ASN:HB3	2.15	0.47
1:A:1930:A:H1'	1:A:2128:G:H5'	1.96	0.47
8:H:48:VAL:HG23	8:H:74:PHE:HB3	1.97	0.47
6:F:11:HIS:C	6:F:13:MET:H	2.18	0.47
2:B:3041:C:O4'	6:F:50:VAL:HG23	2.15	0.47
1:A:177:A:H2'	1:A:178:U:O4'	2.14	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
10:J:162:SER:CB	10:J:163:PRO:CD	2.80	0.47
10:J:157:ILE:CG2	10:J:158:ASN:N	2.78	0.47
2:B:3006:C:P	15:O:37:ARG:HH11	2.38	0.47
1:A:1116:U:H3	1:A:1246:A:N6	2.04	0.47
1:A:2896:A:H2'	1:A:2896:A:N3	2.29	0.47
30:4:74:CYS:SG	30:4:76:LYS:N	2.81	0.47
1:A:283:U:H5	1:A:284:C:N4	2.12	0.47
2:B:3014:G:O2'	15:O:1:ALA:HB2	2.14	0.47
1:A:319:A:H4'	1:A:338:C:C4	2.49	0.47
19:S:17:MET:CE	19:S:19:ARG:NH2	2.78	0.47
1:A:1015:C:O5'	1:A:1015:C:H6	1.97	0.47
1:A:407:A:H2'	1:A:408:A:C8	2.50	0.47
3:C:94:LEU:HG	3:C:99:ILE:CD1	2.44	0.47
1:A:39:G:C2	1:A:444:C:N3	2.83	0.47
1:A:308:U:H5'	21:U:97:ARG:NH2	2.30	0.47
1:A:2405:C:OP1	37:A:6957:HOH:O	2.20	0.47
3:C:81:GLN:HG3	3:C:92:ASN:HD21	1.79	0.47
5:E:200:PRO:HB3	5:E:212:VAL:CG2	2.45	0.47
1:A:2541:U:H2'	1:A:2542:C:C6	2.49	0.47
27:1:77:LYS:HA	27:1:80:MET:HE2	1.97	0.47
1:A:1768:C:H2'	1:A:1769:C:O4'	2.14	0.47
27:1:38:LYS:HE2	27:1:45:LYS:CE	2.39	0.47
5:E:115:LEU:HD21	5:E:243:VAL:HG13	1.95	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:25:MET:HE1	6:F:37:ALA:O	2.14	0.47
10:J:46:VAL:O	10:J:146:TRP:HH2	1.97	0.47
1:A:21:G:H5'	19:S:1:GLY:O	2.15	0.47
10:J:14:TYR:HB2	37:J:8352:HOH:O	2.15	0.47
26:Z:189:ASN:HA	26:Z:217:ILE:HD11	1.95	0.47
1:A:183:A:H5'	14:N:157:LEU:HD12	1.97	0.47
22:V:9:CYS:HG	22:V:11:THR:HG23	1.78	0.47
5:E:107:ARG:CB	5:E:107:ARG:HH11	2.27	0.47
1:A:1494:A:H1'	1:A:1495:C:C6	2.49	0.47
1:A:1151:G:OP1	9:I:63:ARG:NH1	2.47	0.47
5:E:219:ASN:N	5:E:222:ASP:OD1	2.48	0.47
15:O:67:ALA:O	15:O:69:TYR:N	2.48	0.47
6:F:86:THR:HG23	37:F:7477:HOH:O	2.13	0.47
2:B:3092:G:H22	10:J:52:LYS:NZ	2.12	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
10:J:111:MET:O	10:J:114:PRO:HD3	2.15	0.47
3:C:186:TRP:CG	3:C:187:PRO:HA	2.49	0.47
14:N:80:GLY:O	14:N:81:ARG:HD3	2.15	0.47
5:E:129:HIS:CE1	5:E:231:ARG:HA	2.50	0.47
1:A:128:A:C3'	1:A:128:A:C8	2.98	0.47
17:Q:13:VAL:HG21	17:Q:41:ARG:HG2	1.97	0.47
3:C:217:ARG:NH1	3:C:217:ARG:CG	2.77	0.47
2:B:3064:C:H2'	2:B:3065:A:H5'	1.97	0.47
1:A:1162:G:H2'	37:A:6944:HOH:O	2.14	0.47
14:N:155:HIS:ND1	14:N:158:ARG:NE	2.58	0.47
1:A:2670:G:O2'	1:A:2671:U:H5'	2.14	0.47
8:H:56:PRO:CG	14:N:44:THR:HA	2.44	0.47
1:A:1653:A:H5'	3:C:178:LYS:HA	1.97	0.47
6:F:81:GLU:O	6:F:85:GLN:HG3	2.15	0.47
26:Z:122:ARG:NH2	37:Z:8538:HOH:O	2.47	0.47
15:O:101:VAL:HG12	37:O:8530:HOH:O	2.14	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
27:1:57:CYS:O	27:1:61:GLY:CA	2.62	0.47
27:1:59:HIS:HA	37:1:8438:HOH:O	2.14	0.47
2:B:3006:C:C5'	15:O:37:ARG:HH12	2.19	0.47
17:Q:115:SER:C	17:Q:117:SER:N	2.68	0.47
14:N:139:PRO:HA	14:N:142:LYS:HB2	1.97	0.47
2:B:3042:C:O2	6:F:76:ARG:NH1	2.48	0.47
6:F:95:THR:OG1	6:F:174:VAL:HG22	2.15	0.47
30:4:7:PHE:HE2	30:4:22:VAL:HG21	1.79	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:102:VAL:HG11	7:G:148:ILE:HD11	1.96	0.47
3:C:81:GLN:H	3:C:92:ASN:CG	2.18	0.47
17:Q:10:ALA:O	17:Q:13:VAL:HG12	2.15	0.47
1:A:234:A:H4'	1:A:437:A:O4'	2.14	0.47
1:A:1525:G:H5'	1:A:1526:A:OP2	2.15	0.47
11:K:74:ARG:NH1	11:K:76:ASP:HB2	2.30	0.47
1:A:1191:A:C3'	1:A:1192:A:H5''	2.40	0.47
4:D:42:ALA:HB1	4:D:308:LEU:HD11	1.96	0.47
17:Q:59:ARG:HH22	17:Q:66:GLN:NE2	2.13	0.47
6:F:94:ALA:O	6:F:95:THR:O	2.33	0.47
1:A:1730:G:H5'	1:A:1731:C:H5	1.77	0.47
7:G:49:ILE:HD11	7:G:69:ILE:HD12	1.97	0.47
3:C:105:VAL:HG12	3:C:106:CYS:N	2.30	0.47
4:D:7:ARG:CD	4:D:9:GLY:O	2.63	0.47
1:A:2409:C:O2'	30:4:17:HIS:CD2	2.68	0.47
1:A:60:A:C2	1:A:61:G:C8	3.03	0.47
3:C:47:HIS:O	3:C:49:PRO:HD3	2.15	0.47
16:P:25:VAL:HG23	16:P:26:TRP:N	2.30	0.47
4:D:195:ARG:HD2	4:D:324:ASP:OD1	2.15	0.47
1:A:1021:G:O2'	1:A:1022:A:H5'	2.14	0.47
1:A:945:U:H2'	1:A:946:C:C6	2.50	0.47
16:P:96:VAL:HG13	16:P:100:GLN:HB2	1.96	0.47
1:A:1825:U:O4'	1:A:1999:C:H5''	2.14	0.47
1:A:2103:A:N7	31:A:9403:VIR:H241	2.29	0.47
6:F:23:VAL:CG2	6:F:73:VAL:HB	2.44	0.47
6:F:35:ALA:O	6:F:37:ALA:N	2.47	0.47
1:A:155:C:O2'	1:A:156:C:H5'	2.15	0.47
24:X:6:GLN:HA	24:X:52:VAL:HG23	1.95	0.47
3:C:36:ASP:CB	3:C:85:ASP:H	2.28	0.47
15:O:67:ALA:HA	15:O:71:TRP:HB3	1.96	0.47
1:A:1058:A:H2'	1:A:1060:C:C5'	2.42	0.47
3:C:132:ASP:OD1	3:C:133:ARG:N	2.47	0.47
1:A:120:A:H5'	28:2:20:ARG:HH21	1.80	0.47
4:D:204:GLY:CA	37:D:8649:HOH:O	2.62	0.47
1:A:1072:G:OP2	26:Z:154:ARG:NH2	2.47	0.47
6:F:10:PHE:CD1	6:F:11:HIS:N	2.83	0.47
1:A:2440:C:C2	1:A:2453:G:C2	3.03	0.47
1:A:1882:C:O2'	1:A:2012:U:OP2	2.30	0.47
22:V:8:TYR:CD2	22:V:36:CYS:HB3	2.50	0.47
15:O:108:SER:HA	15:O:109:PRO:HD3	1.75	0.47
14:N:155:HIS:CE1	14:N:158:ARG:HE	2.32	0.47
1:A:204:A:H2'	1:A:205:U:H5'	1.96	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2667:G:H1'	1:A:2914:A:N3	2.29	0.47
1:A:1098:A:H2'	1:A:1099:G:O4'	2.14	0.47
10:J:47:GLU:HG2	10:J:133:ILE:HD12	1.95	0.46
27:1:38:LYS:HG2	37:1:8409:HOH:O	2.15	0.46
5:E:78:ARG:CG	5:E:78:ARG:NH1	2.72	0.46
1:A:1189:A:H1'	1:A:1209:C:H1'	1.97	0.46
2:B:3049:G:H2'	2:B:3050:G:O4'	2.15	0.46
10:J:43:PRO:HD2	10:J:137:ASN:HA	1.96	0.46
7:G:7:ILE:CG2	7:G:45:ASP:O	2.62	0.46
1:A:135:G:OP1	14:N:39:ARG:NH1	2.42	0.46
1:A:1819:G:H2'	1:A:1820:G:C4'	2.46	0.46
4:D:24:PRO:HG3	4:D:204:GLY:HA2	1.96	0.46
6:F:169:THR:O	6:F:170:TYR:HB2	2.15	0.46
4:D:63:GLU:HG3	4:D:63:GLU:O	2.14	0.46
1:A:251:C:H1'	14:N:58:GLN:HE22	1.79	0.46
1:A:1314:U:H5''	1:A:1316:G:O4'	2.15	0.46
15:O:62:HIS:O	15:O:65:ASP:OD1	2.33	0.46
1:A:1754:A:H2'	1:A:1755:A:O4'	2.15	0.46
20:T:10:VAL:CG1	23:W:35:ALA:O	2.63	0.46
1:A:2084:C:H2'	1:A:2085:A:C8	2.50	0.46
11:K:4:ALA:O	11:K:5:GLU:O	2.33	0.46
5:E:7:ASP:OD1	5:E:11:ASN:O	2.33	0.46
1:A:123:U:O2'	1:A:124:C:H5'	2.15	0.46
1:A:2557:U:O2'	1:A:2684:A:H5''	2.16	0.46
4:D:304:PRO:CG	4:D:307:ARG:NH1	2.78	0.46
10:J:26:LYS:CD	10:J:28:ILE:HB	2.46	0.46
1:A:2119:C:O2'	1:A:2120:U:H5'	2.15	0.46
10:J:150:LYS:NZ	37:J:8377:HOH:O	2.46	0.46
14:N:38:VAL:HG12	14:N:38:VAL:O	2.14	0.46
1:A:2896:A:OP1	25:Y:15:ARG:NH1	2.48	0.46
3:C:51:ARG:NH2	3:C:69:LEU:HD13	2.29	0.46
15:O:11:ARG:O	15:O:15:GLU:HG3	2.15	0.46
4:D:36:PRO:CA	4:D:168:GLY:HA3	2.43	0.46
2:B:3028:U:H5	37:B:1361:HOH:O	1.97	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: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
4:D:16:ARG:NH1	37:D:8614:HOH:O	2.48	0.46
6:F:140:ARG:HG3	6:F:140:ARG:HH11	1.79	0.46
4:D:225:GLY:HA3	37:D:8569:HOH:O	2.15	0.46
1:A:470:U:H2'	1:A:471:G:O4'	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:185:PRO:HD2	14:N:189:VAL:HG11	1.97	0.46
6:F:135:VAL:HG21	6:F:139:TYR:CD1	2.50	0.46
1:A:951:A:H2'	1:A:952:G:H5'	1.97	0.46
1:A:2247:C:C5'	37:A:7702:HOH:O	2.63	0.46
1:A:1517:U:C2	1:A:1670:G:N2	2.83	0.46
4:D:132:HIS:HB2	4:D:137:LEU:HD22	1.98	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
7:G:170:ARG:HB2	7:G:170:ARG:HE	1.55	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
3:C:95:PRO:HG2	3:C:98:GLU:HG2	1.96	0.46
1:A:1847:A:OP1	3:C:175:LYS:HG3	2.15	0.46
5:E:235:PHE:HE2	5:E:243:VAL:HG21	1.80	0.46
1:A:1592:G:O2'	1:A:1593:C:O5'	2.33	0.46
28:2:29:THR:O	28:2:32:LYS:HE2	2.15	0.46
19:S:128:ARG:HB2	19:S:132:ARG:O	2.14	0.46
1:A:2672:C:H1'	37:D:8632:HOH:O	2.15	0.46
3:C:99:ILE:O	3:C:131:HIS:HE1	1.98	0.46
1:A:1973:A:H2'	1:A:1974:G:O4'	2.16	0.46
1:A:514:G:OP1	1:A:514:G:H2'	2.15	0.46
13:M:78:ALA:N	37:M:8532:HOH:O	2.48	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
1:A:2100:A:H5'	37:E:8470:HOH:O	2.14	0.46
37:A:6558:HOH:O	14:N:174:ARG:HD3	2.14	0.46
6:F:58:VAL:HG12	6:F:59:GLY:N	2.31	0.46
1:A:2672:C:O2'	1:A:2673:U:H5'	2.15	0.46
1:A:2281:C:O2'	1:A:2282:U:H5'	2.16	0.46
1:A:333:G:O2'	1:A:334:G:H5'	2.16	0.46
20:T:51:GLN:HE21	20:T:53:ASN:ND2	2.13	0.46
19:S:29:LYS:NZ	37:S:8541:HOH:O	2.48	0.46
37:A:7855:HOH:O	22:V:50:GLU:CD	2.53	0.46
1:A:1143:G:N7	37:A:7758:HOH:O	2.36	0.46
1:A:2819:C:O4'	4:D:96:PRO:HB2	2.16	0.46
7:G:154:ILE:HG13	7:G:156:ASP:OD1	2.15	0.46
1:A:1352:A:N1	5:E:48:SER:HB3	2.30	0.46
11:K:15:ARG:NH1	11:K:43:ARG:NH1	2.63	0.46
14:N:69:LYS:N	14:N:125:ARG:O	2.46	0.46
1:A:2434:A:O3'	30:4:28:GLY:HA3	2.15	0.46
6:F:154:LYS:H	6:F:154:LYS:CD	2.21	0.46
1:A:1419:U:H2'	1:A:1685:A:C2	2.51	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:10:U:O4	1:A:532:A:OP2	2.34	0.46
16:P:26:TRP:HA	16:P:26:TRP:HE3	1.79	0.46
14:N:40:ILE:HG13	14:N:40:ILE:O	2.16	0.46
3:C:195:ASN:O	3:C:196:ALA:C	2.54	0.46
1:A:1924:A:C2'	37:A:6109:HOH:O	2.64	0.46
24:X:88:THR:HG23	24:X:110:GLN:HB3	1.98	0.46
1:A:2264:A:H2'	1:A:2265:U:O4'	2.16	0.46
13:M:125:PHE:CE2	13:M:140:VAL:HG22	2.51	0.46
1:A:1874:U:OP1	3:C:51:ARG:HD2	2.15	0.46
13:M:24:ALA:HB2	13:M:30:ARG:HD2	1.98	0.46
7:G:22:VAL:O	7:G:28:SER:HA	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
1:A:849:C:O2'	1:A:850:U:H5'	2.16	0.46
7:G:21:THR:HG23	7:G:30:THR:OG1	2.16	0.46
1:A:2039:A:H4'	1:A:2760:C:O2'	2.16	0.46
1:A:297:U:H1'	37:A:4315:HOH:O	2.14	0.46
5:E:140:VAL:HG12	5:E:141:SER:N	2.31	0.46
10:J:30:GLN:H	10:J:65:ARG:NH1	2.13	0.46
10:J:45:GLN:NE2	10:J:135:TRP:HE1	2.11	0.46
6:F:23:VAL:CG2	6:F:23:VAL:O	2.63	0.46
1:A:1242:A:OP2	11:K:60:ARG:NH2	2.47	0.46
37:A:6304:HOH:O	27:1:34:LYS:HE2	2.16	0.46
6:F:52:THR:N	6:F:70:GLY:O	2.49	0.46
15:O:23:ARG:NH2	15:O:55:ASP:OD1	2.49	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
6:F:94:ALA:HB3	6:F:174:VAL:CA	2.45	0.46
1:A:401:C:C5'	37:A:6155:HOH:O	2.64	0.46
1:A:771:G:OP2	14:N:79:LYS:HE3	2.15	0.46
1:A:524:A:C5'	19:S:29:LYS:HE2	2.45	0.46
2:B:3045:A:H2'	2:B:3046:C:C6	2.51	0.46
20:T:29:ASP:OD1	20:T:31:ARG:HG3	2.16	0.46
1:A:37:A:H2'	1:A:38:G:H8	1.81	0.46
1:A:2819:C:H2'	1:A:2820:A:C8	2.51	0.46
25:Y:12:ILE:HG23	25:Y:36:HIS:CG	2.51	0.46
24:X:115:THR:HG23	37:X:5420:HOH:O	2.14	0.46
18:R:32:GLU:HA	18:R:71:TYR:OH	2.16	0.46
10:J:14:TYR:N	10:J:91:HIS:HE1	2.13	0.46
1:A:2506:A:O2'	1:A:2507:G:P	2.74	0.46
1:A:2055:A:H5'	19:S:134:SER:HB2	1.97	0.46
1:A:2004:U:H5''	1:A:2005:G:C8	2.51	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
3:C:105:VAL:HG11	3:C:154:ALA:CB	2.46	0.46
23:W:57:LYS:HA	23:W:60:GLN:HE21	1.81	0.46
7:G:101:GLU:OE2	7:G:115:ARG:HD3	2.15	0.46
21:U:63:ILE:HD11	21:U:75:GLU:HB2	1.98	0.46
21:U:19:ARG:HD3	21:U:67:LEU:O	2.15	0.46
14:N:155:HIS:O	14:N:158:ARG:HG2	2.15	0.46
11:K:142:ASN:O	11:K:144:THR:N	2.49	0.46
24:X:73:LEU:HD12	24:X:73:LEU:HA	1.81	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
13:M:107:LYS:HD2	13:M:124:ASP:OD2	2.16	0.46
37:A:9917:HOH:O	17:Q:81:LYS:HG2	2.15	0.46
4:D:304:PRO:HD2	4:D:307:ARG:HD2	1.98	0.46
1:A:875:A:C2	3:C:194:MET:SD	3.09	0.46
15:O:161:GLY:O	15:O:162:ASP:C	2.53	0.46
6:F:173:GLU:HG3	6:F:174:VAL:N	2.30	0.46
1:A:1857:A:N6	1:A:2247:C:H1'	2.31	0.46
24:X:108:ARG:HG3	37:X:3483:HOH:O	2.16	0.46
4:D:41:PHE:CD1	4:D:79:MET:HE2	2.51	0.46
1:A:2897:C:O2'	1:A:2898:G:H5'	2.16	0.46
5:E:173:LYS:HB3	5:E:187:ARG:HG3	1.97	0.46
24:X:31:HIS:HB3	37:X:5420:HOH:O	2.16	0.46
1:A:666:A:H2'	1:A:667:C:O4'	2.16	0.46
7:G:81:GLU:HG2	7:G:134:SER:HB3	1.98	0.46
1:A:2474:A:N3	37:A:5025:HOH:O	2.36	0.46
25:Y:8:ARG:NH1	37:Y:2479:HOH:O	2.29	0.46
1:A:1006:A:N1	1:A:2311:A:H1'	2.31	0.46
27:1:39:CYS:SG	27:1:40:PRO:HD2	2.55	0.45
10:J:33:MET:SD	10:J:83:PHE:HD2	2.38	0.45
1:A:2264:A:OP1	14:N:71:SER:HB3	2.16	0.45
5:E:107:ARG:HH11	5:E:107:ARG:HB3	1.81	0.45
15:O:141:ARG:N	37:O:8570:HOH:O	2.49	0.45
4:D:146:THR:O	4:D:159:PRO:HB3	2.15	0.45
8:H:28:ALA:CB	8:H:99:THR:HG23	2.45	0.45
1:A:1741:U:HO2'	1:A:2723:G:H4'	1.81	0.45
17:Q:120:ARG:NH2	17:Q:123:TYR:CD2	2.84	0.45
1:A:2909:G:H2'	1:A:2910:A:H8	1.81	0.45
20:T:33:SER:OG	20:T:36:GLU:HG3	2.15	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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1289:C:O2'	1:A:1290:G:H5'	2.16	0.45
10:J:31:PHE:HE2	10:J:87:LYS:O	1.98	0.45
27:1:59:HIS:CE1	37:1:8435:HOH:O	2.69	0.45
1:A:2122:C:P	37:A:6938:HOH:O	2.65	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
24:X:4:LEU:HD22	24:X:52:VAL:HG22	1.95	0.45
22:V:52:THR:HG22	22:V:54:THR:HB	1.98	0.45
1:A:2490:A:C2	1:A:2533:C:N4	2.85	0.45
12:L:4:LEU:HD22	12:L:116:GLU:HB3	1.99	0.45
37:A:6611:HOH:O	22:V:56:ARG:HB3	2.15	0.45
1:A:303:C:H2'	1:A:304:G:O4'	2.16	0.45
25:Y:30:MET:CE	25:Y:58:ALA:HB3	2.46	0.45
8:H:21:GLU:HA	8:H:24:ARG:HE	1.81	0.45
1:A:24:G:N2	1:A:518:G:H1'	2.31	0.45
1:A:426:G:H2'	1:A:427:C:O4'	2.16	0.45
4:D:108:GLU:HB3	4:D:111:ARG:HD2	1.97	0.45
12:L:40:THR:O	12:L:41:LYS:C	2.55	0.45
1:A:1902:G:H2'	1:A:1903:U:O4'	2.15	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
27:1:38:LYS:HA	27:1:45:LYS:HA	1.98	0.45
14:N:74:ARG:HD3	14:N:91:ILE:HD12	1.97	0.45
23:W:12:THR:HG23	23:W:14:ALA:H	1.80	0.45
15:O:5:ARG:HG3	18:R:18:PRO:CB	2.46	0.45
25:Y:74:ALA:HB2	25:Y:85:VAL:HG22	1.98	0.45
12:L:81:ARG:HD3	12:L:87:ARG:NH1	2.31	0.45
10:J:27:LYS:HG3	10:J:58:HIS:CD2	2.51	0.45
15:O:47:LEU:HD23	15:O:47:LEU:HA	1.70	0.45
25:Y:78:GLU:CG	25:Y:79:GLU:N	2.70	0.45
28:2:8:GLN:NE2	28:2:11:LYS:NZ	2.54	0.45
25:Y:25:ARG:HD3	25:Y:64:ALA:O	2.16	0.45
1:A:1829:A:H5''	37:A:3458:HOH:O	2.16	0.45
7:G:11:VAL:CG1	7:G:12:ASP:H	2.29	0.45
1:A:1329:A:C2	37:A:5049:HOH:O	2.56	0.45
1:A:2408:A:O2'	30:4:16:GLU:HA	2.16	0.45
1:A:1057:A:C6	1:A:1058:A:C6	3.05	0.45
1:A:380:A:OP2	14:N:9:ARG:HD2	2.16	0.45
30:4:3:MET:HG3	30:4:4:PRO:HD2	1.98	0.45
1:A:903:U:OP2	13:M:11:ARG:NH1	2.45	0.45
15:O:184:ILE:HG22	15:O:185:GLU:N	2.31	0.45
8:H:24:ARG:NH2	37:H:6800:HOH:O	2.50	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:204:A:C2'	1:A:205:U:H5'	2.46	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
4:D:233:ARG:HG2	4:D:233:ARG:HH11	1.81	0.45
11:K:27:ALA:HB1	11:K:87:LEU:CD2	2.47	0.45
1:A:1880:C:C2	1:A:1881:A:C8	3.04	0.45
19:S:26:LYS:HD3	19:S:62:HIS:CG	2.51	0.45
3:C:125:ASN:HB3	3:C:158:VAL:HG12	1.99	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
11:K:131:THR:HG22	11:K:133:GLY:N	2.31	0.45
28:2:29:THR:O	28:2:32:LYS:CE	2.65	0.45
1:A:797:A:H5'	27:1:10:ARG:HG2	1.99	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
1:A:2469:A:H1'	37:A:3797:HOH:O	2.16	0.45
16:P:47:ARG:NH1	16:P:47:ARG:HG3	2.29	0.45
1:A:2459:G:OP2	30:4:64:LYS:HD2	2.16	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
1:A:2832:C:H5	37:A:7573:HOH:O	2.00	0.45
10:J:86:ARG:HD3	10:J:130:HIS:HD2	1.81	0.45
27:1:47:LEU:HD23	27:1:57:CYS:CB	2.46	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
1:A:1175:G:H1'	1:A:1193:A:H2'	1.99	0.45
24:X:21:LEU:HD21	24:X:48:VAL:HG13	1.97	0.45
19:S:39:THR:O	19:S:40:ALA:C	2.53	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
23:W:42:ASN:O	23:W:44:GLY:N	2.49	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
1:A:1730:G:C5'	1:A:1731:C:C6	3.00	0.45
1:A:947:U:O2'	1:A:948:G:H5'	2.17	0.45
1:A:2445:U:H2'	1:A:2446:G:H8	1.81	0.45
2:B:3065:A:O2'	2:B:3066:G:P	2.74	0.45
1:A:883:U:O2	1:A:883:U:C2'	2.65	0.45
1:A:716:G:H2'	1:A:717:C:O5'	2.17	0.45
1:A:1827:G:H2'	1:A:1828:G:C8	2.51	0.45
14:N:63:VAL:HG21	14:N:109:PHE:CE1	2.51	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
14:N:59:GLY:C	14:N:141:ILE:HD11	2.36	0.45
37:B:7568:HOH:O	15:O:107:ASN:HB3	2.17	0.45
6:F:173:GLU:O	6:F:174:VAL:C	2.54	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
21:U:48:VAL:CG2	21:U:98:VAL:HA	2.46	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
1:A:2409:C:H4'	30:4:17:HIS:HB2	1.98	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
8:H:78:GLU:HG3	37:H:5966:HOH:O	2.17	0.45
5:E:36:ARG:NH1	37:E:8403:HOH:O	2.49	0.45
15:O:93:GLN:HG2	37:O:8558: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
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:1495:C:H1'	1:A:1573:A:H1'	1.99	0.45
1:A:1189:A:C4	37:A:8151:HOH:O	2.56	0.45
4:D:74:ILE:HG13	37:D:8603:HOH:O	2.15	0.45
1:A:566:A:H2'	1:A:567:U:O4'	2.17	0.45
3:C:81:GLN:H	3:C:92:ASN:ND2	2.15	0.45
3:C:200:PRO:HG2	3:C:225:VAL:HG21	1.99	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
1:A:929:A:O5'	1:A:929:A:H8	1.99	0.45
16:P:73:ASP:HA	16:P:92:VAL:O	2.17	0.45
1:A:1940:C:H5''	3:C:234:GLY:HA3	1.98	0.45
10:J:55:GLN:NE2	10:J:91:HIS:CD2	2.84	0.45
1:A:484:A:C6	1:A:486:A:C6	3.05	0.45
9:I:12:ILE:O	9:I:13:PRO:C	2.54	0.45
1:A:236:A:H4'	1:A:237:G:OP1	2.16	0.45
10:J:81:TYR:CD1	10:J:81:TYR:C	2.90	0.45
6:F:91:ALA:HB2	6:F:106:PHE:CD2	2.51	0.45
1:A:2547:C:H2'	1:A:2548:C:C6	2.50	0.45
8:H:117:GLU:C	8:H:119:ARG:N	2.69	0.45
15:O:58:LEU:CD1	15:O:58:LEU:N	2.79	0.45
1:A:2883:A:H2'	1:A:2884:G:O4'	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:2:TRP:CZ3	20:T:29:ASP:HB3	2.51	0.45
15:O:80:SER:CB	37:O:8536:HOH:O	2.64	0.45
13:M:97:VAL:HG12	13:M:98:GLU:O	2.16	0.45
1:A:1557:G:O2'	1:A:1558:C:H5'	2.17	0.45
21:U:24:ARG:HH21	21:U:39:ASN:HD22	1.64	0.45
37:A:4137:HOH:O	21:U:9:LYS:HD3	2.16	0.45
24:X:5:VAL:HG22	24:X:32:CYS:HB2	1.99	0.45
1:A:2363:G:O2'	18:R:11:ARG:HG3	2.17	0.45
4:D:87:TYR:O	4:D:138:GLY:N	2.42	0.45
1:A:331:A:C6	1:A:332:G:C4	3.04	0.45
21:U:49:GLU:OE2	21:U:51:LEU:HD21	2.17	0.45
5:E:165:ASP:O	5:E:168:ARG:HB3	2.16	0.45
1:A:1095:U:O2	24:X:120:PRO:HG2	2.17	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:255:A:C5	1:A:256:C:C4	3.05	0.45
1:A:2084:C:H2'	1:A:2085:A:H8	1.82	0.45
1:A:517:U:H2'	1:A:518:G:H5'	1.98	0.45
1:A:1498:G:O2'	1:A:1499:U:H5'	2.17	0.45
1:A:2456:A:H5'	37:A:6055:HOH:O	2.17	0.45
1:A:897:A:H2'	1:A:899:C:C5	2.52	0.45
5:E:118:THR:CG2	5:E:137:PRO:HB3	2.47	0.45
12:L:86:THR:HG22	12:L:87:ARG:N	2.32	0.45
37:A:7384:HOH:O	3:C:211:LYS:CG	2.60	0.45
8:H:58:GLU:HA	8:H:61:MET:CG	2.45	0.45
5:E:1:MET:HG2	5:E:2:GLN:NE2	2.32	0.45
28:2:28:HIS:HD2	28:2:30:LYS:H	1.65	0.45
1:A:67:A:H5''	1:A:69:A:C8	2.52	0.45
5:E:218:VAL:HG12	37:E:8431:HOH:O	2.17	0.45
7:G:31:ARG:HH12	7:G:68:HIS:CG	2.35	0.45
1:A:922:A:N7	1:A:2281:C:H5'	2.32	0.45
8:H:59:ILE:HG22	8:H:59:ILE:O	2.15	0.45
5:E:27:ARG:HG2	5:E:30:LEU:HG	1.98	0.45
4:D:154:VAL:CG1	4:D:156:LYS:HG2	2.47	0.45
3:C:81:GLN:CB	3:C:92:ASN:ND2	2.80	0.45
30:4:10:TYR:HB2	30:4:17:HIS:HE1	1.80	0.45
26:Z:107:PRO:HB3	26:Z:182:PHE:CD2	2.52	0.45
5:E:25:PRO:HD2	37:E:8436:HOH:O	2.15	0.45
26:Z:130:ARG:HB2	26:Z:142:SER:O	2.17	0.45
1:A:23:G:C6	1:A:24:G:N1	2.85	0.45
17:Q:3:LEU:HA	17:Q:6:GLN:OE1	2.16	0.45
25:Y:74:ALA:HB1	25:Y:85:VAL:HG22	1.99	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:104:ARG:O	14:N:108:LYS:HE2	2.17	0.44
5:E:1:MET:HG2	5:E:2:GLN:N	2.30	0.44
14:N:24:MET:HE1	14:N:120:VAL:O	2.17	0.44
6:F:64:ARG:HG2	6:F:66:GLY:O	2.18	0.44
5:E:192:ILE:CG2	5:E:234:VAL:HG12	2.48	0.44
17:Q:38:GLU:HA	17:Q:41:ARG:HH11	1.81	0.44
1:A:716:G:C2'	1:A:717:C:O5'	2.66	0.44
1:A:1570:C:C2'	1:A:1571:G:H5'	2.47	0.44
12:L:130:MET:SD	22:V:25:ASP:O	2.74	0.44
1:A:1023:C:O2'	1:A:1024:G:H5'	2.17	0.44
1:A:496:G:C6	1:A:498:A:C6	3.06	0.44
1:A:2550:U:O2'	1:A:2551:C:H5'	2.17	0.44
20:T:6:LYS:HB2	20:T:27:ALA:O	2.17	0.44
1:A:2502:C:H2'	1:A:2503:A:C5'	2.39	0.44
15:O:34:LEU:HD22	15:O:129:ILE:HD13	1.98	0.44
3:C:211:LYS:CB	3:C:212:PRO:HD2	2.35	0.44
1:A:1192:A:O2'	1:A:1193:A:OP1	2.28	0.44
5:E:218:VAL:CG1	37:E:8431:HOH:O	2.65	0.44
15:O:163:PHE:HA	37:O:8518:HOH:O	2.17	0.44
4:D:144:THR:HG22	4:D:145:HIS:N	2.31	0.44
2:B:3042:C:H5'	2:B:3043:G:OP2	2.16	0.44
24:X:13:MET:HE1	24:X:18:GLN:CA	2.43	0.44
1:A:688:A:H62	13:M:111:ALA:HB2	1.82	0.44
8:H:99:THR:O	8:H:99:THR:HG23	2.17	0.44
10:J:72:VAL:O	10:J:72:VAL:HG13	2.15	0.44
14:N:156:ARG:NH1	37:N:8563:HOH:O	2.49	0.44
1:A:920:C:C4'	1:A:921:G:C2	3.00	0.44
1:A:1167:G:O2'	1:A:1168:C:H5'	2.17	0.44
1:A:2453:G:H3'	37:A:6282:HOH:O	2.16	0.44
22:V:49:LEU:HD11	37:V:3805:HOH:O	2.17	0.44
1:A:1314:U:C2	1:A:1316:G:N2	2.86	0.44
1:A:1125:U:C2'	1:A:1126:C:H5'	2.47	0.44
1:A:1945:G:O2'	1:A:1946:C:H5'	2.17	0.44
1:A:1512:G:O2'	1:A:1513:C:H5'	2.17	0.44
1:A:2833:C:C2	1:A:2848:G:N2	2.85	0.44
1:A:295:C:H2'	1:A:296:G:O4'	2.17	0.44
14:N:49:ALA:C	14:N:54:TYR:HB3	2.37	0.44
1:A:2072:G:H3'	1:A:2073:G:C5'	2.48	0.44
13:M:146:GLY:C	13:M:148:GLU:H	2.21	0.44
7:G:15:GLN:HG2	7:G:19:ASP:O	2.17	0.44
24:X:13:MET:CE	24:X:17:ILE:HG22	2.47	0.44
8:H:33:THR:HG21	8:H:59:ILE:O	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
1:A:1127:C:C2'	1:A:1128:U:H5'	2.47	0.44
1:A:2320:U:H2'	30:4:2:GLN:O	2.17	0.44
19:S:32:ALA:O	19:S:33:ARG:C	2.56	0.44
4:D:195:ARG:NH1	4:D:324:ASP:OD1	2.51	0.44
1:A:1855:G:H8	3:C:144:GLU:OE2	2.01	0.44
21:U:55:PHE:HB2	37:U:6384:HOH:O	2.16	0.44
3:C:126:ALA:HB1	3:C:138:VAL:CG1	2.47	0.44
2:B:3105:A:H2'	2:B:3106:C:O4'	2.17	0.44
1:A:534:C:N4	37:A:7937:HOH:O	2.49	0.44
1:A:35:U:H2'	1:A:36:C:C6	2.52	0.44
1:A:1287:A:O4'	24:X:117:ARG:HD3	2.17	0.44
1:A:2715:G:N2	4:D:264:GLU:OE1	2.50	0.44
30:4:50:GLY:O	30:4:53:SER:HB2	2.17	0.44
24:X:122:ARG:NH1	24:X:152:ALA:O	2.51	0.44
1:A:2349:G:OP1	6:F:20:LYS:NZ	2.43	0.44
10:J:136:VAL:HA	37:J:8343:HOH:O	2.18	0.44
15:O:71:TRP:CE3	15:O:175:LEU:CD2	2.96	0.44
1:A:1477:C:H5'	1:A:1868:G:C5'	2.48	0.44
1:A:445:U:H2'	1:A:446:G:H8	1.82	0.44
1:A:2321:A:O2'	1:A:2322:U:H3'	2.18	0.44
17:Q:7:LYS:CD	17:Q:21:VAL:HG21	2.48	0.44
14:N:77:PHE:O	14:N:77:PHE:CD1	2.71	0.44
1:A:2821:C:H4'	4:D:116:PRO:HB3	1.98	0.44
18:R:33:PHE:N	18:R:71:TYR:OH	2.36	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:1983:C:O5'	1:A:1983:C:H6	2.01	0.44
7:G:132:THR:HB	37:G:2227:HOH:O	2.17	0.44
1:A:958:G:O2'	1:A:959:C:H5'	2.18	0.44
1:A:291:C:H2'	1:A:292:G:O4'	2.17	0.44
8:H:58:GLU:HA	8:H:61:MET:HE2	1.99	0.44
1:A:1119:G:H22	1:A:1246:A:H2	1.51	0.44
1:A:1494:A:C4	1:A:1495:C:C5	3.05	0.44
25:Y:25:ARG:NH1	37:Y:3861:HOH:O	2.51	0.44
15:O:110:THR:CG2	37:O:8553:HOH:O	2.65	0.44
7:G:31:ARG:HH12	7:G:68:HIS:CD2	2.36	0.44
2:B:3042:C:H2'	37:B:6700:HOH:O	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
1:A:2551:C:O2'	1:A:2552:C:H5'	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1313:A:H5'	26:Z:208:LYS:O	2.18	0.44
1:A:245:C:H2'	1:A:246:G:H5'	1.98	0.44
1:A:703:G:O2'	1:A:704:C:H5'	2.17	0.44
19:S:35:ILE:O	19:S:38:LYS:HB2	2.17	0.44
4:D:268:ARG:NE	37:D:8605:HOH:O	2.50	0.44
1:A:482:G:H4'	1:A:508:A:N1	2.33	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
2:B:3008:G:O6	15:O:11:ARG:NH1	2.48	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
20:T:51:GLN:NE2	20:T:53:ASN:HD21	2.12	0.44
8:H:38:LYS:HZ3	14:N:3:SER:HA	1.82	0.44
1:A:1127:C:C5	1:A:1128:U:C4	3.05	0.44
1:A:2547:C:OP2	4:D:5:ARG:NH1	2.50	0.44
14:N:154:ARG:NE	37:N:8648:HOH:O	2.51	0.44
17:Q:10:ALA:HA	17:Q:13:VAL:CG1	2.48	0.44
1:A:10:U:HO2'	1:A:11:A:P	2.41	0.44
24:X:40:ALA:O	24:X:44:MET:HG3	2.18	0.44
1:A:765:G:O3'	5:E:69:HIS:HB3	2.18	0.44
15:O:170:GLU:O	15:O:174:GLU:HG3	2.17	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
10:J:139:ASP:N	10:J:140:PRO:CD	2.73	0.44
14:N:61:ILE:N	14:N:61:ILE:CD1	2.80	0.44
6:F:101:THR:CG2	37:F:7400:HOH:O	2.61	0.44
1:A:1003:U:O2	10:J:90:PHE:CZ	2.71	0.44
1:A:920:C:H5'	1:A:921:G:N3	2.33	0.44
21:U:96:VAL:HG13	21:U:97:ARG:N	2.32	0.44
1:A:2897:C:H2'	1:A:2898:G:C8	2.51	0.44
22:V:44:ARG:CB	37:V:3805:HOH:O	2.65	0.44
37:A:9509:HOH:O	5:E:103:ASN:HB3	2.17	0.44
10:J:6:TYR:HE2	10:J:94:ARG:O	2.01	0.44
1:A:825:U:H5''	1:A:826:U:OP1	2.18	0.44
5:E:93:LYS:O	5:E:98:ARG:NH2	2.51	0.44
10:J:31:PHE:HA	10:J:85:ILE:CG2	2.48	0.44
2:B:3078:G:N2	2:B:3103:A:OP2	2.48	0.44
14:N:157:LEU:HB3	14:N:160:PHE:HD1	1.83	0.44
1:A:2432:C:C1'	37:A:4455:HOH:O	2.66	0.44
24:X:21:LEU:HB3	24:X:26:ILE:CG1	2.47	0.44
3:C:36:ASP:O	3:C:37:VAL:C	2.56	0.44
15:O:67:ALA:HA	15:O:71:TRP:CB	2.48	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:711:G:C2	1:A:718:C:C2	3.06	0.44
1:A:2361:A:H2'	1:A:2362:A:C8	2.53	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
1:A:2621:U:H5	37:A:3360:HOH:O	2.00	0.44
1:A:308:U:C4	1:A:342:C:H1'	2.52	0.44
23:W:20:LEU:HD22	23:W:60:GLN:HE22	1.82	0.44
1:A:2724:U:O5'	1:A:2724:U:H6	2.01	0.44
1:A:1436:C:O2'	1:A:1437:A:H5'	2.17	0.44
7:G:172:PRO:HB3	37:G:6931:HOH:O	2.18	0.44
1:A:2299:G:O6	18:R:1:PRO:HA	2.18	0.44
1:A:1453:G:H2'	1:A:1454:U:O4'	2.18	0.44
1:A:1160:G:N3	37:A:5993:HOH:O	2.36	0.44
1:A:2118:A:H2'	1:A:2119:C:H6	1.83	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
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
4:D:265:LEU:HD21	4:D:316:ARG:HD3	2.00	0.44
17:Q:143:ALA:HA	37:Q:197:HOH:O	2.16	0.44
30:4:40:ARG:HD2	37:4:8549:HOH:O	2.16	0.44
1:A:1293:U:O2'	26:Z:149:GLN:NE2	2.46	0.44
1:A:2649:A:H8	1:A:2649:A:H5'	1.83	0.44
1:A:489:A:C8	21:U:82:THR:HG22	2.53	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
20:T:57:THR:CG2	20:T:58:MET:N	2.81	0.43
3:C:153:ARG:HB2	3:C:153:ARG:NH1	2.28	0.43
24:X:76:ASP:O	24:X:77:ALA:C	2.57	0.43
4:D:24:PRO:HG2	4:D:204:GLY:HA2	2.00	0.43
1:A:1845:A:P	3:C:190:ARG:HH11	2.41	0.43
1:A:1682:A:H5''	37:A:9839:HOH:O	2.17	0.43
15:O:139:TRP:HA	15:O:139:TRP:HE3	1.83	0.43
1:A:2038:A:H5''	4:D:222:LYS:HG3	2.00	0.43
5:E:46:TYR:CE2	5:E:98:ARG:NH1	2.86	0.43
21:U:106:GLU:HG3	37:U:4913:HOH:O	2.18	0.43
4:D:301:VAL:O	4:D:302:PRO:O	2.36	0.43
14:N:87:MET:HB2	14:N:91:ILE:HD11	1.99	0.43
10:J:26:LYS:CG	10:J:28:ILE:H	2.21	0.43
1:A:155:C:OP2	14:N:188:ARG:HD3	2.18	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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:130:VAL:CG1	11:K:131:THR:N	2.80	0.43
27:1:10:ARG:HA	37:1:8414:HOH:O	2.18	0.43
27:1:30:GLU:CA	27:1:33:HIS:HB3	2.45	0.43
12:L:74:VAL:O	12:L:74:VAL:CG1	2.66	0.43
1:A:2748:G:C2'	37:A:7899:HOH:O	2.53	0.43
1:A:169:A:C6	1:A:2469:A:C6	3.07	0.43
3:C:42:VAL:HG11	3:C:75:GLY:O	2.18	0.43
1:A:39:G:C2	1:A:444:C:C2	3.06	0.43
11:K:6:PHE:O	11:K:8:ALA:N	2.51	0.43
14:N:3:SER:OG	14:N:5:TYR:HB2	2.18	0.43
1:A:1773:G:O2'	27:1:15:GLY:HA2	2.18	0.43
1:A:305:A:C5	1:A:329:A:C2	3.06	0.43
7:G:34:TRP:O	11:K:127:ILE:HD11	2.18	0.43
11:K:27:ALA:HB1	11:K:87:LEU:HD21	1.99	0.43
1:A:702:G:O2'	1:A:703:G:H5'	2.18	0.43
1:A:2416:G:H2'	1:A:2417:C:C6	2.53	0.43
7:G:157:LYS:HE2	7:G:157:LYS:HB2	1.84	0.43
1:A:1888:C:N4	1:A:1889:C:C4	2.87	0.43
12:L:13:GLU:OE2	12:L:44:HIS:HB2	2.18	0.43
1:A:328:U:O4'	5:E:202:THR:HG22	2.18	0.43
1:A:1360:C:H4'	37:A:9575:HOH:O	2.17	0.43
17:Q:91:LYS:O	17:Q:95:GLU:HG3	2.18	0.43
14:N:43:PRO:O	37:N:8625:HOH:O	2.20	0.43
27:1:13:ARG:NH1	37:1:8419:HOH:O	2.50	0.43
10:J:84:ARG:NH2	10:J:135:TRP:CH2	2.79	0.43
30:4:70:ARG:HG2	30:4:77:ALA:CB	2.38	0.43
1:A:588:G:O6	24:X:154:ARG:NH1	2.52	0.43
10:J:139:ASP:OD2	37:J:8392:HOH:O	2.21	0.43
3:C:194:MET:HE1	3:C:199:HIS:HB2	2.00	0.43
6:F:55:LYS:O	6:F:56:ARG:HB2	2.18	0.43
13:M:105:TYR:CD1	13:M:105:TYR:C	2.92	0.43
15:O:3:GLY:CA	37:O:8512:HOH:O	2.65	0.43
1:A:2846:C:OP1	4:D:158:LYS:HD3	2.19	0.43
19:S:73:ASP:OD1	37:S:8525:HOH:O	2.21	0.43
5:E:13:ASP:O	5:E:13:ASP:OD1	2.36	0.43
14:N:133:LEU:N	14:N:133:LEU:HD12	2.33	0.43
10:J:47:GLU:CB	10:J:133:ILE:CD1	2.94	0.43
24:X:110:GLN:CA	24:X:110:GLN:NE2	2.76	0.43
37:A:9942:HOH:O	4:D:267:LYS:HD3	2.17	0.43
14:N:52:LEU:CD1	14:N:116:ASN:HB3	2.46	0.43
1:A:484:A:N6	1:A:486:A:C6	2.86	0.43
4:D:43:GLY:O	4:D:308:LEU:HD12	2.17	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:175:G:C2'	14:N:192:ALA:HB3	2.44	0.43
1:A:1298:U:H2'	1:A:1299:G:C8	2.53	0.43
1:A:737:A:H2'	1:A:738:G:O4'	2.18	0.43
1:A:2241:C:H2'	1:A:2242:U:C6	2.53	0.43
30:4:22:VAL:CG1	30:4:67:LEU:HD13	2.48	0.43
29:3:18:ASN:HD22	29:3:18:ASN:HA	1.58	0.43
1:A:422:G:O2'	1:A:423:A:H5'	2.17	0.43
1:A:766:A:O2'	1:A:767:A:H5''	2.18	0.43
17:Q:2:ASP:OD1	17:Q:2:ASP:C	2.57	0.43
3:C:215:ILE:HG13	3:C:216:SER:N	2.33	0.43
30:4:37:ASP:HA	37:4:8557:HOH:O	2.18	0.43
15:O:157:PRO:HA	37:O:8525:HOH:O	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
1:A:101:C:O2'	1:A:102:A:H5'	2.18	0.43
27:1:55:TRP:HB2	27:1:64:ILE:HG13	2.01	0.43
1:A:391:U:OP2	14:N:84:LYS:NZ	2.51	0.43
1:A:2837:U:H1'	4:D:307:ARG:HH12	1.84	0.43
1:A:962:C:H5''	37:A:5279:HOH:O	2.17	0.43
19:S:39:THR:CG2	19:S:42:GLU:HG3	2.49	0.43
15:O:43:VAL:O	15:O:84:THR:HG21	2.18	0.43
1:A:677:C:H4'	5:E:246:ARG:NH2	2.34	0.43
2:B:3028:U:H2'	2:B:3029:C:C6	2.54	0.43
15:O:152:GLU:HA	15:O:152:GLU:OE1	2.18	0.43
4:D:41:PHE:CZ	4:D:79:MET:HG3	2.54	0.43
22:V:39:ASN:ND2	22:V:44:ARG:HH11	2.16	0.43
15:O:139:TRP:CH2	15:O:176:ARG:NH1	2.87	0.43
1:A:1825:U:O2'	1:A:1826:C:H5'	2.18	0.43
1:A:941:G:C6	1:A:942:U:C4	3.06	0.43
1:A:2543:G:O3'	1:A:2590:U:H5'	2.19	0.43
1:A:1896:G:C6	1:A:1897:U:C4	3.06	0.43
10:J:112:ARG:O	10:J:113:ALA:C	2.56	0.43
4:D:119:HIS:O	4:D:121:PRO:HD3	2.18	0.43
1:A:778:C:C4	1:A:779:U:C4	3.07	0.43
1:A:1566:C:H2'	1:A:1567:A:H8	1.84	0.43
10:J:86:ARG:CZ	10:J:130:HIS:CD2	3.01	0.43
21:U:71:VAL:HG12	21:U:72:ILE:N	2.33	0.43
5:E:142:ASP:OD1	5:E:236:THR:HG23	2.18	0.43
6:F:49:PRO:HG3	37:F:5828:HOH:O	2.18	0.43
1:A:2467:A:O2'	1:A:2468:A:H2'	2.19	0.43
26:Z:189:ASN:ND2	26:Z:189:ASN:C	2.71	0.43
4:D:310:ARG:HD2	37:D:8644:HOH:O	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1069:C:H4'	1:A:1081:A:O2'	2.18	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
13:M:72:ASN:HB2	37:M:8587:HOH:O	2.19	0.43
1:A:1052:G:H2'	1:A:1052:G:N3	2.32	0.43
31:A:9403:VIR:HC42	31:A:9403:VIR:N9	2.33	0.43
1:A:944:G:H1'	24:X:23:MET:SD	2.59	0.43
7:G:132:THR:HG23	7:G:132:THR:O	2.18	0.43
1:A:492:C:O2'	1:A:493:U:H5'	2.19	0.43
4:D:224:LYS:HD3	4:D:224:LYS:HA	1.74	0.43
6:F:128:LEU:HD23	6:F:128:LEU:C	2.38	0.43
1:A:503:G:H2'	1:A:504:G:H8	1.83	0.43
1:A:1544:U:H2'	1:A:1545:C:H6	1.83	0.43
37:A:4910:HOH:O	10:J:151:MET:HE2	2.18	0.43
4:D:238:ASN:HA	37:D:8522:HOH:O	2.17	0.43
26:Z:187:VAL:HG23	26:Z:192:ASP:HB3	1.98	0.43
8:H:50:VAL:CG1	8:H:60:VAL:HG11	2.48	0.43
1:A:2533:C:H6	1:A:2533:C:C5'	2.23	0.43
26:Z:112:GLU:CD	26:Z:115:ARG:HH12	2.21	0.43
1:A:1666:C:C2'	1:A:1667:A:C5'	2.95	0.43
5:E:194:PHE:HA	5:E:234:VAL:HG13	2.01	0.43
1:A:1594:C:C2	1:A:1601:G:C2	3.06	0.43
1:A:2430:A:H2'	1:A:2431:C:C6	2.53	0.43
1:A:95:A:H5''	1:A:97:G:O4'	2.18	0.43
16:P:77:ALA:HA	16:P:96:VAL:O	2.18	0.43
31:A:9403:VIR:C4	31:A:9403:VIR:N9	2.82	0.43
20:T:10:VAL:HG13	23:W:35:ALA:O	2.19	0.43
6:F:59:GLY:O	6:F:61:PHE:N	2.42	0.43
4:D:301:VAL:O	4:D:302:PRO:C	2.56	0.43
2:B:3061:C:H2'	2:B:3062:A:H8	1.83	0.43
26:Z:109:LEU:HA	37:Z:8576:HOH:O	2.18	0.43
10:J:129:ASN:N	10:J:129:ASN:HD22	2.16	0.43
1:A:2279:G:OP1	37:A:5460:HOH:O	2.21	0.43
1:A:2777:G:O2'	1:A:2778:A:H5'	2.18	0.43
6:F:104:PHE:CE2	6:F:166:ILE:CD1	3.02	0.43
10:J:26:LYS:HD3	10:J:89:PRO:CG	2.49	0.43
1:A:2501:G:H1'	37:A:4910:HOH:O	2.18	0.43
1:A:183:A:O2'	1:A:184:G:H5'	2.19	0.43
28:2:15:THR:O	28:2:29:THR:HG22	2.18	0.43
15:O:110:THR:HB	15:O:113:SER:HG	1.82	0.43
1:A:2346:C:H4'	6:F:52:THR:HG22	2.01	0.43
6:F:84:LEU:HA	6:F:87:ALA:HB3	2.01	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:736:A:H2'	1:A:737:A:O4'	2.19	0.43
19:S:6:VAL:HG21	19:S:113:HIS:CD2	2.53	0.43
1:A:894:A:C2	5:E:87:ARG:NH2	2.87	0.43
1:A:1262:C:H1'	24:X:120:PRO:HG3	2.00	0.43
1:A:2898:G:H4'	4:D:288:GLY:HA2	2.00	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:1023:C:H2'	1:A:1024:G:O4'	2.18	0.43
1:A:1398:G:H2'	1:A:1399:A:C8	2.54	0.43
1:A:65:C:O2'	1:A:66:G:H5'	2.18	0.43
24:X:85:ALA:HB2	24:X:91:ASP:O	2.18	0.43
1:A:963:C:O2	1:A:1005:A:N1	2.52	0.43
1:A:208:C:N3	1:A:232:A:C2	2.87	0.43
1:A:790:A:H1'	1:A:1710:A:H2'	2.00	0.43
10:J:158:ASN:ND2	37:J:8387:HOH:O	2.51	0.43
15:O:34:LEU:HD13	15:O:47:LEU:HD21	2.01	0.43
1:A:1593:C:OP1	17:Q:117:SER:CB	2.66	0.43
17:Q:56:GLY:N	37:Q:185:HOH:O	2.50	0.43
3:C:33:GLU:CD	3:C:33:GLU:H	2.15	0.43
30:4:11:CYS:HB2	30:4:20:HIS:HE1	1.81	0.43
1:A:1878:G:H4'	37:A:4492:HOH:O	2.18	0.43
3:C:217:ARG:HG3	3:C:217:ARG:HH11	1.84	0.43
13:M:121:ILE:HG12	13:M:141:GLU:HB2	1.99	0.43
1:A:2011:A:C1'	1:A:2013:G:C8	3.02	0.43
24:X:41:TYR:O	24:X:45:VAL:HG13	2.19	0.43
2:B:3061:C:C2	2:B:3062:A:C8	3.07	0.43
1:A:1675:C:O2'	1:A:1676:G:H5'	2.19	0.43
28:2:17:THR:N	28:2:27:TYR:O	2.43	0.43
1:A:330:C:H5	5:E:170:ASP:OD2	2.02	0.43
1:A:1613:C:H2'	1:A:1614:G:O4'	2.18	0.43
1:A:2601:A:N1	12:L:38:SER:HB2	2.33	0.43
23:W:12:THR:HG23	23:W:14:ALA:N	2.34	0.43
6:F:99:ASP:HB2	6:F:103:ASN:H	1.84	0.43
5:E:127:ARG:HD3	5:E:230:GLY:O	2.19	0.43
13:M:125:PHE:O	37:M:8592:HOH:O	2.22	0.43
28:2:29:THR:O	28:2:32:LYS:NZ	2.51	0.43
1:A:544:G:H2'	1:A:545:G:C5'	2.49	0.43
1:A:2428:G:C5	37:A:4161:HOH:O	2.56	0.43
1:A:2749:U:O2'	1:A:2751:C:OP2	2.23	0.43
14:N:57:LYS:NZ	14:N:144:ASP:OD2	2.49	0.43
1:A:2781:U:H1'	7:G:139:GLU:OE2	2.17	0.43
26:Z:144:ARG:NH2	37:Z:8616:HOH:O	2.52	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:834:G:H3'	1:A:835:U:H4'	2.01	0.43
14:N:49:ALA:HB1	14:N:54:TYR:CB	2.48	0.43
4:D:268:ARG:NH2	4:D:325:PRO:HG3	2.33	0.43
18:R:93:ARG:HH11	18:R:93:ARG:HG3	1.84	0.43
1:A:2655:U:C4	1:A:2656:G:N7	2.87	0.43
1:A:2293:G:C5	1:A:2294:C:C5	3.07	0.43
5:E:115:LEU:CD1	5:E:223:LEU:HD21	2.27	0.42
15:O:100:ALA:O	15:O:129:ILE:HG23	2.19	0.42
13:M:140:VAL:CG2	37:M:8562:HOH:O	2.67	0.42
19:S:40:ALA:O	19:S:44:VAL:HG23	2.19	0.42
12:L:75:ARG:HG2	12:L:90:PHE:CD2	2.53	0.42
1:A:1477:C:C2'	1:A:1478:U:H5'	2.48	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
1:A:133:U:C4	1:A:134:U:C5	3.07	0.42
3:C:164:ARG:HA	27:1:69:TYR:CE1	2.54	0.42
1:A:813:C:H3'	37:A:7569:HOH:O	2.19	0.42
1:A:1850:U:O4'	1:A:1941:A:C2	2.71	0.42
2:B:3009:C:OP2	37:B:466:HOH:O	2.22	0.42
1:A:2820:A:H2'	1:A:2821:C:C6	2.54	0.42
7:G:162:PHE:CD1	7:G:162:PHE:N	2.86	0.42
1:A:162:C:H2'	1:A:163:U:H5'	2.00	0.42
24:X:1:MET:HB2	24:X:103:GLU:HG2	2.01	0.42
6:F:60:GLU:C	6:F:62:ASP:N	2.72	0.42
21:U:3:GLN:HA	21:U:4:PRO:HD3	1.91	0.42
10:J:163:PRO:O	10:J:164:ALA:HB2	2.19	0.42
2:B:3076:G:C3'	2:B:3077:A:H5''	2.30	0.42
11:K:77:GLY:O	11:K:78:ILE:C	2.57	0.42
1:A:1588:G:C6	1:A:1589:G:N1	2.87	0.42
1:A:1182:C:H1'	1:A:1192:A:C8	2.51	0.42
9:I:12:ILE:CD1	37:I:692:HOH:O	2.60	0.42
1:A:1080:C:O5'	1:A:1080:C:H6	2.01	0.42
25:Y:41:PHE:O	25:Y:42:SER:C	2.57	0.42
1:A:2779:G:N7	1:A:2790:C:C2	2.87	0.42
5:E:246:ARG:CZ	37:E:8431:HOH:O	2.67	0.42
1:A:119:A:C2	1:A:122:C:N3	2.87	0.42
17:Q:14:LEU:HD13	17:Q:51:ALA:HB2	2.00	0.42
17:Q:134:VAL:O	17:Q:137:LEU:HB3	2.18	0.42
11:K:107:ASN:C	11:K:107:ASN:HD22	2.21	0.42
1:A:2679:G:H5'	4:D:11:LEU:HB3	2.00	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

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1916:C:C2	1:A:1924:A:C2	3.07	0.42
1:A:941:G:C5	1:A:942:U:C4	3.07	0.42
1:A:1566:C:O2'	1:A:1567:A:H5'	2.19	0.42
1:A:1067:A:C6	1:A:1068:C:C4	3.07	0.42
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
1:A:445:U:H1'	37:A:7695:HOH:O	2.19	0.42
1:A:1269:G:H2'	1:A:1270:U:C6	2.54	0.42
1:A:2898:G:H1'	4:D:282:GLY:O	2.19	0.42
1:A:24:G:C2	1:A:518:G:N3	2.87	0.42
29:3:11:LEU:HD23	29:3:11:LEU:HA	1.85	0.42
1:A:1414:A:H2	37:A:5267:HOH:O	2.02	0.42
1:A:2577:A:H5'	37:A:8223:HOH:O	2.19	0.42
4:D:234:ARG:NH1	37:D:8617:HOH:O	2.44	0.42
1:A:1385:G:O3'	25:Y:49:ARG:NH1	2.53	0.42
27:1:57:CYS:O	27:1:61:GLY:HA2	2.19	0.42
1:A:820:G:OP2	3:C:171:LYS:NZ	2.46	0.42
1:A:541:C:H2'	1:A:542:A:H5'	1.94	0.42
10:J:56:ILE:HG21	10:J:61:LEU:CD1	2.49	0.42
26:Z:185:VAL:HG12	37:Z:8575:HOH:O	2.17	0.42
1:A:1164:U:C1'	1:A:1165:G:OP1	2.67	0.42
14:N:146:GLN:NE2	37:N:8656:HOH:O	2.52	0.42
2:B:3008:G:P	37:B:5071:HOH:O	2.76	0.42
1:A:2839:C:H2'	1:A:2840:A:H5''	2.01	0.42
1:A:401:C:H2'	1:A:402:U:C6	2.54	0.42
1:A:629:A:H2'	1:A:630:A:O4'	2.20	0.42
2:B:3041:C:C6	6:F:50:VAL:HG21	2.55	0.42
8:H:21:GLU:O	8:H:24:ARG:CG	2.67	0.42
1:A:1265:G:C1'	37:A:5365:HOH:O	2.67	0.42
7:G:80:TRP:O	7:G:134:SER:HA	2.19	0.42
1:A:1762:C:H2'	1:A:1763:C:H6	1.85	0.42
1:A:326:G:O2'	1:A:327:A:H5'	2.18	0.42
1:A:440:C:H2'	1:A:441:A:C8	2.55	0.42
8:H:17:LEU:O	8:H:20:LEU:HB3	2.19	0.42
1:A:549:A:O2'	1:A:550:C:H5'	2.19	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
6:F:104:PHE:CE2	6:F:166:ILE:HD13	2.55	0.42
10:J:150:LYS:CB	10:J:157:ILE:HD12	2.46	0.42
14:N:35:PRO:HD2	14:N:38:VAL:HG21	2.02	0.42
24:X:29:VAL:O	24:X:30:ASN:HB2	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:X:65:VAL:CG1	24:X:116:LEU:HD13	2.49	0.42
19:S:39:THR:HG22	19:S:41:GLY:N	2.35	0.42
12:L:65:ARG:CD	37:L:5358:HOH:O	2.66	0.42
6:F:146:LYS:HZ3	15:O:107:ASN:HD21	1.66	0.42
2:B:3092:G:C6	2:B:3093:A:C6	3.08	0.42
17:Q:14:LEU:O	17:Q:16:VAL:HG23	2.20	0.42
1:A:2481:G:H3'	1:A:2482:G:H5''	2.00	0.42
3:C:44:ASP:O	3:C:45:ILE:HD13	2.20	0.42
1:A:1902:G:O2'	1:A:1903:U:H5'	2.20	0.42
1:A:101:C:H2'	1:A:102:A:C8	2.54	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
1:A:2355:G:H5''	1:A:2356:A:OP2	2.20	0.42
26:Z:153:GLN:O	26:Z:156:GLY:N	2.38	0.42
10:J:26:LYS:HD2	10:J:28:ILE:CG1	2.49	0.42
1:A:484:A:N1	1:A:506:G:H4'	2.35	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
26:Z:112:GLU:OE2	26:Z:115:ARG:NH1	2.53	0.42
15:O:163:PHE:CZ	15:O:164:ASP:OD2	2.72	0.42
1:A:793:A:H5''	17:Q:83:LYS:HG2	2.01	0.42
1:A:1972:U:C2'	1:A:1973:A:H5'	2.47	0.42
1:A:1883:U:O2'	1:A:1884:G:H5'	2.19	0.42
26:Z:126:PRO:HG2	26:Z:128:PHE:CZ	2.55	0.42
4:D:16:ARG:NE	37:D:8553:HOH:O	2.36	0.42
1:A:1025:C:H5'	24:X:23:MET:O	2.20	0.42
1:A:1734:C:O5'	1:A:1734:C:H6	2.02	0.42
1:A:1734:C:OP1	4:D:234:ARG:HD3	2.18	0.42
1:A:621:C:H5'	26:Z:132:ASP:OD2	2.20	0.42
21:U:111:ARG:HB3	21:U:119:ALA:HB2	2.02	0.42
1:A:1279:U:H5''	37:A:9970:HOH:O	2.19	0.42
27:1:58:GLY:HA3	37:1:8436:HOH:O	2.20	0.42
1:A:1174:A:N7	1:A:1201:C:O5'	2.53	0.42
1:A:240:C:O2	1:A:240:C:H2'	2.20	0.42
12:L:62:PRO:CG	12:L:65:ARG:HH21	2.25	0.42
4:D:316:ARG:N	4:D:317:PRO:HD3	2.35	0.42
23:W:39:ALA:C	23:W:41:GLU:N	2.73	0.42
1:A:2437:A:H2'	1:A:2438:G:H8	1.83	0.42
14:N:81:ARG:O	14:N:86:MET:HE2	2.19	0.42
4:D:7:ARG:NH1	4:D:11:LEU:CD2	2.83	0.42
7:G:84:MET:HB2	7:G:131:LEU:HB2	2.01	0.42
4:D:279:THR:CG2	4:D:280:VAL:N	2.82	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:176:ARG:O	15:O:180:LEU:HG	2.19	0.42
1:A:812:A:H2'	1:A:813:C:C6	2.54	0.42
16:P:115:ARG:NH1	37:P:6194:HOH:O	2.53	0.42
1:A:1570:C:O2'	1:A:1571:G:H5'	2.18	0.42
30:4:34:LYS:HB2	30:4:37:ASP:OD2	2.20	0.42
4:D:81:ALA:O	4:D:186:GLY:HA3	2.20	0.42
5:E:3:ALA:HA	37:E:8460:HOH:O	2.19	0.42
1:A:2561:C:OP1	7:G:153:ARG:NH2	2.52	0.42
10:J:62:GLU:OE2	10:J:66:VAL:CG2	2.68	0.42
24:X:21:LEU:HD22	24:X:26:ILE:HD13	1.99	0.42
1:A:1188:A:C6	1:A:1189:A:C6	3.08	0.42
6:F:95:THR:C	6:F:97:GLN:N	2.68	0.42
1:A:2781:U:O2'	1:A:2782:G:H5'	2.19	0.42
14:N:68:ARG:CD	14:N:68:ARG:O	2.66	0.42
24:X:38:THR:HG22	37:X:3580:HOH:O	2.19	0.42
1:A:222:A:H2'	1:A:223:G:O4'	2.19	0.42
21:U:15:PRO:O	21:U:19:ARG:HG3	2.19	0.42
15:O:63:SER:O	15:O:66:LEU:HB2	2.19	0.42
16:P:39:THR:CB	37:P:3360:HOH:O	2.68	0.42
1:A:1850:U:H2'	1:A:1851:G:C8	2.54	0.42
1:A:1609:C:H2'	1:A:1610:G:C8	2.55	0.42
9:I:20:VAL:O	9:I:24:VAL:HG23	2.20	0.42
1:A:1898:G:H2'	1:A:1899:C:C6	2.55	0.42
1:A:1795:G:H2'	1:A:1796:A:O4'	2.19	0.42
15:O:78:MET:HB2	15:O:79:PRO:HD3	2.00	0.42
1:A:1894:C:C2	1:A:1939:U:C4	3.07	0.42
5:E:49:ASP:HB3	5:E:52:ALA:HB2	2.01	0.42
30:4:1:MET:HG3	30:4:88:LEU:HD12	2.02	0.42
1:A:1375:A:C2'	1:A:1376:G:H5'	2.49	0.42
2:B:3057:A:C8	6:F:141:VAL:HG21	2.55	0.42
1:A:1940:C:H4'	37:A:7704:HOH:O	2.19	0.42
1:A:2434:A:H2'	1:A:2435:U:C6	2.55	0.42
1:A:2289:G:C2	1:A:2309:C:N4	2.88	0.42
5:E:79:ARG:O	5:E:87:ARG:HG2	2.20	0.42
1:A:2438:G:H2'	1:A:2439:C:O4'	2.20	0.42
4:D:70:PRO:O	4:D:71:VAL:HG23	2.19	0.42
1:A:1516:C:H2'	1:A:1517:U:C6	2.55	0.42
10:J:109:ASP:HB2	37:J:8345:HOH:O	2.18	0.42
2:B:3035:C:H5''	37:B:4078:HOH:O	2.19	0.42
1:A:2028:U:H2'	1:A:2029:C:C6	2.54	0.42
11:K:131:THR:HB	11:K:134:GLU:HG3	2.00	0.42
30:4:70:ARG:HA	37:4:8572:HOH:O	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:775:G:OP1	28:2:16:HIS:CE1	2.67	0.42
19:S:39:THR:HB	19:S:42:GLU:CD	2.40	0.42
1:A:1771:U:O2'	27:1:23:ARG:NH2	2.51	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:319:A:H4'	1:A:338:C:C5	2.54	0.42
15:O:38:LYS:HD2	15:O:114:LYS:HE3	2.01	0.42
7:G:20:ILE:HD12	7:G:33:LEU:CD1	2.49	0.42
1:A:332:G:H4'	21:U:2:LYS:O	2.20	0.42
5:E:178:GLN:C	5:E:180:SER:N	2.71	0.42
1:A:553:G:C2'	1:A:554:G:H5'	2.50	0.42
1:A:2638:G:H5'	37:A:5293:HOH:O	2.19	0.42
26:Z:99:ALA:HB2	26:Z:233:TYR:CE2	2.54	0.42
37:A:9933:HOH:O	24:X:119:HIS:HE1	2.01	0.42
17:Q:38:GLU:OE1	17:Q:41:ARG:NH1	2.53	0.42
1:A:1314:U:H2'	37:A:6235:HOH:O	2.18	0.42
15:O:82:TYR:OH	15:O:176:ARG:NH1	2.53	0.42
2:B:3064:C:C2'	2:B:3065:A:H5'	2.50	0.42
1:A:1916:C:O2	1:A:1924:A:C2	2.72	0.42
1:A:1762:C:H2'	1:A:1763:C:C6	2.55	0.42
14:N:46:LEU:CD2	14:N:50:ARG:HG3	2.50	0.42
20:T:73:ASP:OD1	20:T:75:GLN:HB2	2.20	0.42
1:A:226:A:H1'	1:A:393:G:C5	2.54	0.42
1:A:1420:C:C2	1:A:1445:G:N2	2.87	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:2834:G:OP1	25:Y:39:LYS:HE2	2.20	0.42
1:A:216:A:O2'	1:A:217:C:H5'	2.20	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
14:N:74:ARG:CD	14:N:91:ILE:CD1	2.98	0.41
6:F:99:ASP:CB	6:F:103:ASN:HB2	2.50	0.41
1:A:960:G:N3	1:A:960:G:C2'	2.82	0.41
18:R:25:PRO:HA	18:R:26:PRO:HD3	1.90	0.41
1:A:1641:A:C8	1:A:1702:U:O4	2.73	0.41
15:O:140:GLN:O	15:O:143:ARG:HB2	2.19	0.41
1:A:111:C:O2'	1:A:112:G:H5'	2.20	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
3:C:125:ASN:ND2	37:C:8539:HOH:O	2.52	0.41
8:H:20:LEU:O	8:H:23:ALA:HB3	2.21	0.41
24:X:126:ASP:HB3	24:X:135:GLY:O	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:41:ARG:O	21:U:43:ASN:ND2	2.53	0.41
13:M:138:GLY:HA3	37:M:8558:HOH:O	2.20	0.41
29:3:31:GLU:O	37:3:2890:HOH:O	2.22	0.41
18:R:66:LYS:HB2	18:R:70:ALA:O	2.19	0.41
10:J:132:PHE:O	10:J:133:ILE:HD13	2.20	0.41
14:N:91:ILE:HA	37:N:8652:HOH:O	2.20	0.41
6:F:25:MET:SD	6:F:40:ILE:HD11	2.60	0.41
1:A:870:G:OP2	3:C:3:ARG:NH1	2.53	0.41
12:L:74:VAL:CG1	12:L:113:ILE:HG12	2.47	0.41
22:V:14:GLU:HA	22:V:15:PRO:HD2	1.89	0.41
1:A:401:C:H5''	14:N:96:ASN:HB3	2.02	0.41
1:A:2314:G:O2'	1:A:2315:C:H5'	2.20	0.41
25:Y:30:MET:HE3	25:Y:59:TRP:HE1	1.84	0.41
24:X:28:HIS:HD2	24:X:31:HIS:CE1	2.38	0.41
1:A:1902:G:N2	1:A:1936:C:C2	2.89	0.41
1:A:853:C:H2'	1:A:854:G:O4'	2.19	0.41
3:C:66:ARG:HB2	3:C:66:ARG:HH11	1.83	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
37:A:5770:HOH:O	13:M:34:GLY:HA2	2.20	0.41
1:A:154:C:H3'	14:N:188:ARG:NH1	2.35	0.41
14:N:125:ARG:NH1	37:N:8599:HOH:O	2.52	0.41
2:B:3056:A:C3'	2:B:3057:A:H5''	2.50	0.41
1:A:290:C:H1'	37:A:6465:HOH:O	2.20	0.41
1:A:1159:G:P	37:A:4662:HOH:O	2.79	0.41
25:Y:76:ARG:HA	25:Y:82:GLU:O	2.20	0.41
15:O:15:GLU:HB2	15:O:17:ARG:HG3	2.01	0.41
6:F:84:LEU:HD23	6:F:87:ALA:HB3	2.03	0.41
1:A:2004:U:H2'	1:A:2005:G:OP1	2.19	0.41
8:H:28:ALA:HB3	8:H:99:THR:HG23	2.02	0.41
1:A:1441:G:H1'	37:A:8236:HOH:O	2.19	0.41
1:A:1846:U:H5''	3:C:186:TRP:CZ2	2.55	0.41
4:D:7:ARG:HH11	4:D:7:ARG:CG	2.31	0.41
1:A:2325:C:H2'	1:A:2326:U:C6	2.55	0.41
3:C:81:GLN:N	3:C:92:ASN:ND2	2.67	0.41
1:A:1810:C:OP1	22:V:44:ARG:NE	2.31	0.41
1:A:314:G:N2	1:A:316:A:H3'	2.34	0.41
30:4:51:LYS:HG3	30:4:52:PHE:N	2.34	0.41
1:A:2481:G:C3'	1:A:2482:G:H5''	2.50	0.41
22:V:20:MET:HE2	22:V:30:HIS:NE2	2.35	0.41
1:A:1617:C:C4	1:A:1643:C:H4'	2.55	0.41
1:A:2684:A:H2'	1:A:2685:C:H6	1.84	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:849:C:C2'	1:A:850:U:H5'	2.51	0.41
1:A:64:G:H2'	1:A:65:C:O4'	2.21	0.41
4:D:84:LEU:HD13	4:D:84:LEU:O	2.19	0.41
4:D:102:THR:HG23	4:D:182:VAL:HG12	2.02	0.41
23:W:45:ARG:C	23:W:47:LYS:N	2.73	0.41
26:Z:145:LYS:O	26:Z:147:ARG:HG2	2.20	0.41
1:A:1531:U:O2	1:A:1661:A:C2	2.74	0.41
17:Q:109:ARG:NH1	17:Q:119:TYR:CE2	2.88	0.41
1:A:2785:C:H4'	1:A:2786:G:OP2	2.21	0.41
2:B:3078:G:O2'	2:B:3079:U:P	2.78	0.41
13:M:133:VAL:HB	37:M:8562:HOH:O	2.19	0.41
1:A:1494:A:C2	1:A:1495:C:C4	3.08	0.41
2:B:3007:G:OP1	15:O:23:ARG:NE	2.54	0.41
13:M:142:LEU:HG	13:M:146:GLY:HA3	2.02	0.41
1:A:2716:G:H1'	37:D:8543:HOH:O	2.20	0.41
1:A:1878:G:O2'	1:A:1879:U:OP2	2.37	0.41
14:N:94:LYS:CE	37:N:8653:HOH:O	2.68	0.41
10:J:75:SER:HB3	10:J:79:ALA:CB	2.49	0.41
1:A:1324:G:C2	1:A:1334:C:O2	2.74	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
3:C:125:ASN:CB	3:C:158:VAL:HG12	2.50	0.41
21:U:55:PHE:CD2	21:U:77:VAL:HG13	2.56	0.41
1:A:2053:G:OP1	19:S:138:SER:OG	2.32	0.41
18:R:16:ASN:HA	18:R:16:ASN:HD22	1.61	0.41
12:L:87:ARG:NE	37:L:4854:HOH:O	2.52	0.41
2:B:3078:G:O2'	2:B:3079:U:OP2	2.38	0.41
22:V:52:THR:HG22	22:V:54:THR:N	2.36	0.41
20:T:58:MET:SD	29:3:8:LYS:HE3	2.60	0.41
28:2:28:HIS:CE1	28:2:31:LYS:HE2	2.56	0.41
1:A:1081:A:C6	1:A:1082:A:N1	2.88	0.41
13:M:53:ARG:NH2	13:M:57:VAL:HG12	2.35	0.41
6:F:57:THR:HA	6:F:63:ILE:HA	2.01	0.41
6:F:174:VAL:HG11	37:F:2195:HOH:O	2.21	0.41
4:D:23:THR:HA	4:D:24:PRO:HD3	1.88	0.41
6:F:170:TYR:N	6:F:170:TYR:CD1	2.89	0.41
1:A:2246:U:N3	1:A:2256:G:C2	2.88	0.41
1:A:1333:U:H2'	1:A:1334:C:H6	1.82	0.41
1:A:622:G:P	26:Z:148:GLY:HA3	2.60	0.41
13:M:77:ALA:HB3	37:M:8532:HOH:O	2.20	0.41
1:A:24:G:C4	1:A:518:G:N2	2.88	0.41
13:M:107:LYS:CD	13:M:124:ASP:OD2	2.68	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:43:ASN:C	21:U:45:GLY:H	2.24	0.41
4:D:92:TYR:CD1	4:D:92:TYR:N	2.88	0.41
1:A:312:U:C2	1:A:320:G:N2	2.88	0.41
1:A:2334:C:O2'	1:A:2335:C:H5'	2.21	0.41
21:U:73:HIS:CD2	21:U:88:PRO:HG3	2.55	0.41
19:S:15:LYS:HE3	37:S:8580:HOH:O	2.20	0.41
1:A:1074:G:C2	1:A:1075:G:C8	3.08	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
19:S:104:PHE:CB	19:S:109:MET:HE1	2.48	0.41
15:O:113:SER:CB	37:O:8560:HOH:O	2.55	0.41
1:A:1014:A:H2'	1:A:1015:C:H5'	2.02	0.41
17:Q:58:SER:CB	37:Q:186:HOH:O	2.61	0.41
14:N:68:ARG:O	14:N:68:ARG:CG	2.67	0.41
1:A:12:U:C2'	1:A:13:G:H5'	2.50	0.41
4:D:223:ARG:HG3	4:D:232:TRP:C	2.41	0.41
1:A:1238:C:H4'	37:A:6381:HOH:O	2.20	0.41
4:D:156:LYS:HE3	37:D:8628:HOH:O	2.20	0.41
1:A:921:G:H4'	1:A:924:G:N1	2.36	0.41
7:G:95:VAL:O	7:G:126:ILE:HD13	2.20	0.41
1:A:816:G:C6	1:A:817:G:N1	2.88	0.41
1:A:1135:G:C6	1:A:1136:U:C4	3.08	0.41
13:M:73:VAL:HG21	13:M:116:HIS:CD2	2.56	0.41
1:A:2453:G:H5'	37:A:5057:HOH:O	2.21	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:171:C:OP2	14:N:84:LYS:HG3	2.21	0.41
1:A:1185:U:C5'	37:A:7822:HOH:O	2.65	0.41
22:V:6:CYS:HB2	22:V:32:CYS:HB3	2.03	0.41
1:A:2291:A:N9	1:A:2309:C:H5'	2.35	0.41
4:D:315:VAL:HG23	4:D:316:ARG:HG2	2.03	0.41
1:A:2430:A:H8	1:A:2430:A:O5'	2.03	0.41
15:O:154:LEU:CG	15:O:155:GLU:H	2.27	0.41
19:S:25:PHE:CE2	19:S:29:LYS:HE2	2.55	0.41
8:H:34:ASN:HB2	37:H:1111:HOH:O	2.21	0.41
5:E:43:LYS:NZ	37:E:8396:HOH:O	2.45	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
5:E:4:THR:N	37:E:8460:HOH:O	2.53	0.41
4:D:102:THR:CG2	4:D:182:VAL:HG12	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:65:ARG:HG2	3:C:65:ARG:HH11	1.86	0.41
1:A:2388:C:H2'	1:A:2389:U:O4'	2.20	0.41
1:A:2497:A:H2'	1:A:2498:C:O4'	2.21	0.41
27:1:39:CYS:O	27:1:42:CYS:O	2.39	0.41
10:J:83:PHE:HD1	10:J:134:ALA:HB2	1.86	0.41
1:A:2419:U:C1'	37:A:3284:HOH:O	2.68	0.41
4:D:255:GLY:O	4:D:257:THR:HG23	2.20	0.41
1:A:559:U:C6	1:A:559:U:H5'	2.44	0.41
1:A:1874:U:O4	3:C:117:LYS:HD2	2.21	0.41
7:G:7:ILE:HA	7:G:8:PRO:HD3	1.94	0.41
1:A:1380:U:P	37:A:8414:HOH:O	2.77	0.41
19:S:17:MET:HG2	19:S:144:GLU:HA	2.02	0.41
1:A:382:U:H5	1:A:406:G:C2	2.37	0.41
10:J:15:THR:HG22	10:J:90:PHE:O	2.20	0.41
1:A:661:G:C6	1:A:686:A:C2	3.09	0.41
1:A:1634:G:H2'	1:A:1635:U:C6	2.55	0.41
1:A:187:A:H3'	1:A:188:C:H6	1.85	0.41
22:V:49:LEU:CD1	37:V:3805:HOH:O	2.69	0.41
1:A:1652:C:O2	3:C:164:ARG:HD2	2.21	0.41
1:A:2904:U:H4'	25:Y:8:ARG:NH1	2.35	0.41
1:A:573:A:P	37:A:7403:HOH:O	2.78	0.41
30:4:15:ASN:ND2	37:4:8548:HOH:O	2.52	0.41
25:Y:26:ALA:O	25:Y:27:ASP:C	2.57	0.41
2:B:3036:C:C5	2:B:3037:C:C5	3.09	0.41
37:A:3881:HOH:O	17:Q:133:SER:HA	2.21	0.41
27:1:42:CYS:SG	27:1:44:PHE:CB	2.98	0.41
5:E:16:VAL:CG1	5:E:17:ASP:N	2.82	0.41
4:D:307:ARG:CG	4:D:307:ARG:NH1	2.84	0.41
14:N:165:SER:HB2	37:N:8550:HOH:O	2.21	0.41
4:D:140:LEU:HD13	4:D:175:LEU:HA	2.01	0.41
1:A:541:C:C2'	1:A:542:A:C5'	2.84	0.41
12:L:87:ARG:NH1	37:L:4066:HOH:O	2.53	0.41
14:N:115:LEU:C	14:N:115:LEU:HD13	2.41	0.41
11:K:42:GLU:O	11:K:131:THR:HG23	2.20	0.41
3:C:103:VAL:HA	3:C:104:PRO:HD3	1.87	0.41
3:C:192:VAL:CG1	3:C:207:GLN:HB3	2.50	0.41
19:S:9:ASP:HA	19:S:10:PRO:HD2	1.91	0.41
22:V:52:THR:CG2	22:V:54:THR:HB	2.51	0.41
14:N:184:ARG:CG	14:N:185:PRO:HA	2.50	0.41
1:A:2712:G:P	37:L:4183:HOH:O	2.79	0.41
1:A:1158:G:C2'	1:A:1159:G:H5'	2.51	0.41
10:J:139:ASP:HB2	37:J:8346:HOH:O	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:24:MET:HE2	14:N:28:MET:HE3	2.03	0.41
37:A:9778:HOH:O	27:1:34:LYS:HD3	2.21	0.41
1:A:2748:G:OP1	1:A:2749:U:C5'	2.67	0.41
15:O:175:LEU:HD12	15:O:175:LEU:HA	1.88	0.41
1:A:877:G:C5'	1:A:878:G:OP1	2.65	0.41
30:4:39:GLN:HA	30:4:42:ARG:CZ	2.51	0.41
1:A:821:U:H5''	37:A:3427:HOH:O	2.21	0.41
1:A:2719:A:C2	4:D:70:PRO:HG3	2.55	0.41
1:A:396:U:O2'	1:A:397:A:P	2.79	0.41
13:M:104:ASP:HB2	37:M:8581:HOH:O	2.20	0.41
1:A:308:U:C2	21:U:52:ARG:NH2	2.89	0.41
4:D:4:SER:O	4:D:5:ARG:HB2	2.21	0.41
24:X:119:HIS:CG	24:X:120:PRO:HD2	2.56	0.41
4:D:2:GLN:HB2	37:D:8634:HOH:O	2.20	0.41
1:A:2011:A:H4'	1:A:2012:U:O5'	2.21	0.41
22:V:28:THR:CG2	22:V:30:HIS:CE1	3.04	0.41
1:A:861:A:H2'	1:A:862:U:C6	2.55	0.41
1:A:1849:G:C6	1:A:1850:U:C5	3.09	0.41
6:F:58:VAL:CG1	6:F:59:GLY:N	2.83	0.41
1:A:101:C:H2'	1:A:102:A:H8	1.86	0.41
1:A:208:C:C2	1:A:232:A:C2	3.08	0.41
2:B:3034:A:H2'	2:B:3035:C:O4'	2.20	0.41
13:M:34:GLY:HA3	13:M:38:HIS:CE1	2.56	0.41
8:H:109:GLU:O	8:H:112:ALA:HB3	2.21	0.41
16:P:56:GLU:HB2	37:P:6111:HOH:O	2.20	0.41
5:E:33:LYS:HE2	37:E:8362:HOH:O	2.20	0.41
1:A:2383:G:N3	37:A:7062:HOH:O	2.37	0.41
1:A:684:G:H2'	1:A:685:C:C6	2.56	0.41
17:Q:101:GLN:NE2	17:Q:131:PHE:O	2.47	0.41
7:G:77:THR:OG1	7:G:78:GLU:N	2.52	0.41
29:3:9:LYS:O	29:3:12:ALA:HB3	2.21	0.41
30:4:54:LYS:HD3	37:4:8534:HOH:O	2.21	0.41
1:A:2378:U:H3'	30:4:8:ASN:O	2.20	0.41
5:E:115:LEU:HD12	5:E:115:LEU:HA	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
10:J:150:LYS:HE2	37:J:8377:HOH:O	2.21	0.41
14:N:71:SER:HB2	14:N:92:THR:HG22	2.03	0.41
1:A:2432:C:H1'	37:A:4455:HOH:O	2.21	0.41
24:X:52:VAL:HG22	24:X:53:ALA:H	1.85	0.41
14:N:184:ARG:HB2	14:N:184:ARG:NH1	2.36	0.41
9:I:71:LEU:C	9:I:73:ASP:H	2.24	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:558:C:H2'	1:A:559:U:H5''	1.96	0.41
13:M:142:LEU:HA	13:M:142:LEU:HD12	1.94	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
30:4:38:ARG:O	30:4:42:ARG:HB2	2.21	0.41
1:A:2664:A:OP1	1:A:2664:A:H8	2.04	0.41
24:X:66:LEU:HD23	24:X:66:LEU:HA	1.82	0.41
1:A:1969:A:N7	1:A:1970:G:C6	2.89	0.41
4:D:54:VAL:HB	37:D:8610:HOH:O	2.21	0.41
1:A:2372:A:H2'	1:A:2373:U:C6	2.56	0.41
1:A:535:G:C5	1:A:2063:U:C4	3.09	0.41
1:A:2717:C:OP1	4:D:207:LYS:HG3	2.21	0.40
1:A:820:G:O2'	1:A:856:G:H4'	2.21	0.40
1:A:2265:U:H2'	1:A:2266:A:H8	1.86	0.40
20:T:57:THR:C	20:T:59:ASP:N	2.74	0.40
28:2:15:THR:OG1	28:2:16:HIS:N	2.54	0.40
10:J:140:PRO:HA	10:J:142:VAL:HG12	2.02	0.40
1:A:1874:U:C2'	3:C:120:ARG:HG3	2.47	0.40
22:V:17:THR:CG2	22:V:18:GLY:N	2.84	0.40
4:D:85:ARG:HD2	4:D:163:GLU:OE1	2.21	0.40
6:F:77:ASP:HB3	6:F:78:GLU:H	1.61	0.40
25:Y:14:LEU:HD12	25:Y:67:PRO:O	2.21	0.40
1:A:1594:C:O2'	1:A:1607:A:H4'	2.21	0.40
8:H:48:VAL:HG23	8:H:74:PHE:HB2	2.02	0.40
22:V:47:ARG:CG	37:V:4381:HOH:O	2.67	0.40
15:O:139:TRP:HH2	15:O:176:ARG:HH11	1.68	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
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
1:A:1349:G:H5''	37:A:4166:HOH:O	2.21	0.40
30:4:24:LYS:HG2	35:4:8504:CL:CL	2.59	0.40
37:A:6632:HOH:O	17:Q:63:ARG:NH2	2.38	0.40
1:A:1007:A:H2'	10:J:19:TYR:CZ	2.57	0.40
21:U:71:VAL:CG1	21:U:90:PRO:HB3	2.23	0.40
5:E:5:ILE:HG12	37:E:8438:HOH:O	2.20	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
10:J:46:VAL:HG12	10:J:146:TRP:CZ3	2.54	0.40
1:A:1603:A:H5''	1:A:1605:G:H5'	2.02	0.40
1:A:1592:G:H2'	1:A:1593:C:C6	2.57	0.40
1:A:2896:A:C4	37:A:6460:HOH:O	2.71	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:797:A:N1	37:A:3783:HOH:O	2.37	0.40
1:A:2591:C:H2'	1:A:2592:G:O4'	2.22	0.40
7:G:107:PHE:CZ	7:G:108:LEU:HD13	2.55	0.40
30:4:25:VAL:HG22	30:4:68:LYS:CG	2.45	0.40
19:S:29:LYS:HD3	37:S:8534:HOH:O	2.20	0.40
1:A:902:G:N7	13:M:18:HIS:CD2	2.85	0.40
1:A:132:A:C6	1:A:133:U:C4	3.10	0.40
1:A:2588:G:C6	1:A:2589:U:O2	2.74	0.40
19:S:119:VAL:O	19:S:119:VAL:CG1	2.69	0.40
1:A:2910:A:H5''	37:A:4505:HOH:O	2.22	0.40
4:D:132:HIS:HE1	4:D:171:VAL:HG21	1.84	0.40
17:Q:10:ALA:CA	17:Q:13:VAL:HG12	2.52	0.40
1:A:2724:U:C4	1:A:2725:G:C6	3.09	0.40
3:C:48:ASP:HA	3:C:49:PRO:HD3	1.78	0.40
20:T:10:VAL:O	20:T:10:VAL:HG22	2.21	0.40
1:A:1055:G:OP2	10:J:94:ARG:NH1	2.54	0.40
1:A:1897:U:O2'	1:A:1898:G:H5'	2.21	0.40
1:A:1236:A:C8	11:K:63:ILE:HD11	2.56	0.40
19:S:84:ALA:O	19:S:88:PHE:HD1	2.04	0.40
30:4:30:GLN:NE2	37:4:8554:HOH:O	2.32	0.40
1:A:2126:C:C4	1:A:2127:U:C4	3.09	0.40
1:A:1592:G:O2'	1:A:1593:C:O4'	2.32	0.40
14:N:63:VAL:HG21	14:N:109:PHE:CZ	2.56	0.40
5:E:108:GLN:HA	37:E:8323:HOH:O	2.20	0.40
1:A:775:G:H1'	37:A:9703:HOH:O	2.22	0.40
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
1:A:2748:G:H1'	37:A:8442:HOH:O	2.21	0.40
8:H:104:ALA:O	8:H:108:LEU:HB3	2.21	0.40
1:A:1712:A:H2'	1:A:1713:G:O4'	2.21	0.40
1:A:1135:G:C2	1:A:1228:C:C2	3.09	0.40
1:A:2016:U:H6	1:A:2016:U:O5'	2.04	0.40
1:A:907:A:H4'	1:A:1328:A:C2	2.57	0.40
5:E:19:PRO:HG2	5:E:22:PHE:CE1	2.56	0.40
1:A:1761:U:H5'	17:Q:81:LYS:O	2.20	0.40
1:A:1512:G:N2	1:A:1513:C:H1'	2.36	0.40
1:A:749:C:O2'	1:A:750:A:H5'	2.21	0.40
1:A:209:G:C6	1:A:210:U:N3	2.90	0.40
1:A:763:C:H5''	37:A:9507:HOH:O	2.21	0.40
1:A:858:U:H2'	1:A:859:C:C6	2.56	0.40
1:A:581:G:O2'	1:A:582:C:H5'	2.21	0.40
1:A:1319:G:H1'	37:A:5058:HOH:O	2.20	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:15:GLU:HA	6:F:16:PRO:HD3	1.87	0.40
1:A:892:G:H5'	28:2:54:ALA:HB2	2.02	0.40
1:A:832:U:H2'	1:A:833:G:C8	2.56	0.40
1:A:2597:U:H2'	1:A:2598:U:H5'	2.03	0.40
27:1:39:CYS:HA	27:1:40:PRO:HD3	1.82	0.40
1:A:1943:C:C4'	3:C:212:PRO:HA	2.51	0.40
13:M:140:VAL:O	13:M:140:VAL:HG12	2.21	0.40
9:I:12:ILE:CB	37:I:4714:HOH:O	2.57	0.40
1:A:1189:A:N3	37:A:8151:HOH:O	2.54	0.40
12:L:65:ARG:O	12:L:66:ARG:HB2	2.22	0.40
1:A:2769:C:H2'	1:A:2770:G:C5'	2.51	0.40
15:O:73:ALA:HB1	15:O:74:PRO:CD	2.50	0.40
8:H:104:ALA:HA	37:H:6617:HOH:O	2.19	0.40
1:A:1805:G:H2'	1:A:1806:G:C8	2.55	0.40
1:A:2587:U:C2	1:A:2589:U:H5'	2.57	0.40
1:A:1314:U:C2	1:A:1316:G:C2	3.10	0.40
13:M:98:GLU:O	13:M:99:GLU:CB	2.69	0.40
1:A:1562:C:H42	1:A:2738:G:H1	1.70	0.40
1:A:35:U:H2'	1:A:36:C:H6	1.87	0.40
30:4:34:LYS:O	30:4:37:ASP:HB2	2.21	0.40
13:M:64:ILE:O	13:M:64:ILE:HG23	2.21	0.40
1:A:1252:A:H2'	1:A:1253:C:O4'	2.21	0.40
1:A:1865:A:H2'	1:A:1866:A:C8	2.56	0.40
1:A:390:G:OP1	30:4:46:ILE:N	2.32	0.40
23:W:12:THR:HG23	23:W:14:ALA:HB3	2.03	0.40
6:F:35:ALA:C	6:F:37:ALA:N	2.75	0.40
1:A:2505:G:C2'	1:A:2506:A:H5'	2.51	0.40
1:A:2469:A:H1'	37:A:3618:HOH:O	2.20	0.40
16:P:32:ARG:NH1	37:P:2336:HOH:O	2.55	0.40
1:A:2255:A:H2'	1:A:2256:G:O4'	2.21	0.40
3:C:1:GLY:HA2	3:C:197:VAL:HG23	2.03	0.40
1:A:2569:A:H2'	1:A:2570:G:O5'	2.21	0.40
1:A:940:G:C6	1:A:1027:G:C2	3.10	0.40
1:A:812:A:H2'	1:A:813:C:O4'	2.21	0.40
1:A:1052:G:C5	1:A:1063:G:C6	3.09	0.40
1:A:958:G:H2'	1:A:959:C:C6	2.57	0.40
1:A:702:G:C2	1:A:703:G:C8	3.09	0.40
1:A:1894:C:N4	1:A:1939:U:H2'	2.37	0.40
4:D:33:ASP:HB3	4:D:34:GLY:H	1.77	0.40
12:L:98:VAL:HG22	12:L:102:GLU:C	2.42	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%)	8	39
4	D	335/337 (99%)	302 (90%)	22 (7%)	11 (3%)	6	32
5	E	244/246 (99%)	222 (91%)	22 (9%)	0	100	100
6	F	134/176 (76%)	95 (71%)	27 (20%)	12 (9%)	1	5
7	G	170/177 (96%)	157 (92%)	12 (7%)	1 (1%)	33	81
8	H	117/119 (98%)	104 (89%)	10 (8%)	3 (3%)	8	39
9	I	25/348 (7%)	23 (92%)	1 (4%)	1 (4%)	5	25
10	J	152/167 (91%)	130 (86%)	17 (11%)	5 (3%)	6	32
11	K	140/145 (97%)	127 (91%)	8 (6%)	5 (4%)	5	29
12	L	130/132 (98%)	120 (92%)	8 (6%)	2 (2%)	15	58
13	M	141/164 (86%)	120 (85%)	20 (14%)	1 (1%)	30	78
14	N	192/194 (99%)	165 (86%)	24 (12%)	3 (2%)	14	56
15	O	184/186 (99%)	164 (89%)	12 (6%)	8 (4%)	4	23
16	P	113/115 (98%)	109 (96%)	4 (4%)	0	100	100
17	Q	141/148 (95%)	135 (96%)	5 (4%)	1 (1%)	30	78
18	R	93/95 (98%)	86 (92%)	3 (3%)	4 (4%)	4	23
19	S	148/154 (96%)	134 (90%)	13 (9%)	1 (1%)	30	78
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%)	6	33
24	X	152/154 (99%)	142 (93%)	8 (5%)	2 (1%)	18	62
25	Y	80/91 (88%)	71 (89%)	5 (6%)	4 (5%)	3	19
26	Z	140/240 (58%)	133 (95%)	7 (5%)	0	100	100
27	1	71/73 (97%)	61 (86%)	7 (10%)	3 (4%)	4	24
28	2	54/56 (96%)	52 (96%)	2 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
29	3	42/48 (88%)	41 (98%)	1 (2%)	0	100	100
30	4	90/92 (98%)	83 (92%)	5 (6%)	2 (2%)	10	45
All	All	3633/4235 (86%)	3265 (90%)	291 (8%)	77 (2%)	11	47

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
27	1	81	LYS

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Mol	Chain	Res	Type
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
25	Y	70	ILE

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Mol	Chain	Res	Type
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%)	20	59
4	D	282/282 (100%)	264 (94%)	18 (6%)	25	66
5	E	193/193 (100%)	178 (92%)	15 (8%)	18	55
6	F	117/147 (80%)	106 (91%)	11 (9%)	13	44
7	G	152/155 (98%)	148 (97%)	4 (3%)	59	91
8	H	92/92 (100%)	91 (99%)	1 (1%)	84	97
9	I	27/283 (10%)	27 (100%)	0	100	100
10	J	122/122 (100%)	111 (91%)	11 (9%)	14	47
11	K	118/121 (98%)	107 (91%)	11 (9%)	13	45
12	L	106/106 (100%)	102 (96%)	4 (4%)	44	85
13	M	112/126 (89%)	108 (96%)	4 (4%)	47	86
14	N	166/166 (100%)	158 (95%)	8 (5%)	35	79
15	O	149/149 (100%)	144 (97%)	5 (3%)	49	88
16	P	93/93 (100%)	91 (98%)	2 (2%)	64	93
17	Q	113/116 (97%)	109 (96%)	4 (4%)	48	87
18	R	79/79 (100%)	75 (95%)	4 (5%)	33	76
19	S	117/121 (97%)	113 (97%)	4 (3%)	49	88
20	T	71/73 (97%)	69 (97%)	2 (3%)	56	91
21	U	105/105 (100%)	102 (97%)	3 (3%)	55	90
22	V	44/52 (85%)	42 (96%)	2 (4%)	38	81
23	W	51/56 (91%)	51 (100%)	0	100	100
24	X	130/130 (100%)	121 (93%)	9 (7%)	22	62
25	Y	66/73 (90%)	61 (92%)	5 (8%)	19	57
26	Z	120/195 (62%)	110 (92%)	10 (8%)	16	52

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
27	1	56/56 (100%)	49 (88%)	7 (12%)	7	28
28	2	46/46 (100%)	46 (100%)	0	100	100
29	3	42/44 (96%)	41 (98%)	1 (2%)	61	92
30	4	79/79 (100%)	73 (92%)	6 (8%)	19	57
All	All	3027/3441 (88%)	2863 (95%)	164 (5%)	31	74

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
4	D	307	ARG
4	D	312	ARG
5	E	2	GLN

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Mol	Chain	Res	Type
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
10	J	150	LYS
10	J	166	ASN
11	K	46	ILE

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Mol	Chain	Res	Type
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
18	R	57	ASP
18	R	95	GLU
19	S	13	THR

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Mol	Chain	Res	Type
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
27	1	64	ILE
27	1	68	CYS
29	3	18	ASN

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Mol	Chain	Res	Type
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
10	J	74	ASN
10	J	80	ASN
10	J	91	HIS

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Mol	Chain	Res	Type
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
24	X	31	HIS
24	X	87	HIS
24	X	110	GLN

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Mol	Chain	Res	Type
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
1	A	71	G
1	A	87	C
1	A	88	G

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Mol	Chain	Res	Type
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
1	A	538	C
1	A	539	G
1	A	542	A

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Mol	Chain	Res	Type
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
1	A	961	A
1	A	1006	A
1	A	1008	C

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Mol	Chain	Res	Type
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
1	A	1474	C
1	A	1485	A
1	A	1505	U

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Mol	Chain	Res	Type
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
1	A	1978	A
1	A	1979	G
1	A	1980	U

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Mol	Chain	Res	Type
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
1	A	2541	U
1	A	2553	A
1	A	2564	G

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

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Mol	Chain	Res	Type
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
1	A	2649	A
1	A	2718	C
1	A	2761	A

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Mol	Chain	Res	Type
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 ⓘ

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

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	-	40,40,40	2.27	19 (47%)	53,55,55	2.17	16 (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	-	-	0/46/58/58	0/0/3/3

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	A	9403	VIR	C28-C29	-6.28	1.15	1.32
31	A	9403	VIR	C26-N25	3.86	1.40	1.34
31	A	9403	VIR	C10-N9	-3.72	1.26	1.36
31	A	9403	VIR	C4-N5	3.63	1.53	1.47
31	A	9403	VIR	C28-C26	3.46	1.55	1.48
31	A	9403	VIR	C34-C33	3.16	1.64	1.52
31	A	9403	VIR	C13-C14	-2.99	1.46	1.51
31	A	9403	VIR	C17-C19	-2.97	1.46	1.50
31	A	9403	VIR	C30-C32	2.88	1.61	1.54
31	A	9403	VIR	C16-C17	-2.81	1.50	1.54
31	A	9403	VIR	O36-C32	2.71	1.49	1.44
31	A	9403	VIR	C1-C37	-2.45	1.38	1.47
31	A	9403	VIR	C21-C20	2.37	1.55	1.51
31	A	9403	VIR	O15-C14	2.22	1.25	1.21
31	A	9403	VIR	C1-N5	2.18	1.42	1.39
31	A	9403	VIR	C13-C10	-2.15	1.44	1.49
31	A	9403	VIR	C24-N25	-2.13	1.41	1.46
31	A	9403	VIR	C12-C8	-2.08	1.33	1.37
31	A	9403	VIR	O38-C37	2.01	1.25	1.21

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	A	9403	VIR	O27-C26-C28	6.61	135.79	123.13
31	A	9403	VIR	C4-N5-C6	5.14	126.88	118.92
31	A	9403	VIR	C28-C26-N25	-5.02	103.44	114.66
31	A	9403	VIR	C8-N9-C10	-4.72	104.76	107.50
31	A	9403	VIR	C8-C6-N5	-3.69	110.64	118.82
31	A	9403	VIR	O11-C12-C8	-3.33	107.53	110.06
31	A	9403	VIR	O7-C6-N5	3.22	125.35	120.00
31	A	9403	VIR	C1-N5-C6	-2.63	119.14	124.14
31	A	9403	VIR	C4-N5-C1	-2.53	104.85	111.22
31	A	9403	VIR	C3-C2-C1	-2.52	108.63	111.69
31	A	9403	VIR	C17-C19-C20	2.45	130.21	127.10
31	A	9403	VIR	O36-C37-C1	2.42	114.56	110.75
31	A	9403	VIR	C24-N25-C26	-2.34	119.17	122.23
31	A	9403	VIR	O7-C6-C8	2.32	123.92	118.75
31	A	9403	VIR	C12-O11-C10	2.27	104.05	103.54
31	A	9403	VIR	C22-C20-C19	-2.08	112.77	119.60

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

EDS was not executed - this section will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.