



# Full wwPDB X-ray Structure Validation Report

Sep 16, 2014 – 02:51 AM EDT

PDB ID : 1VXT  
Title : Crystal Structure of tRNA Proline (CGG) Bound to Codon CCC-G on the Ribosome  
Authors : Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.  
Deposited on : 2013-07-23  
Resolution : 3.14 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

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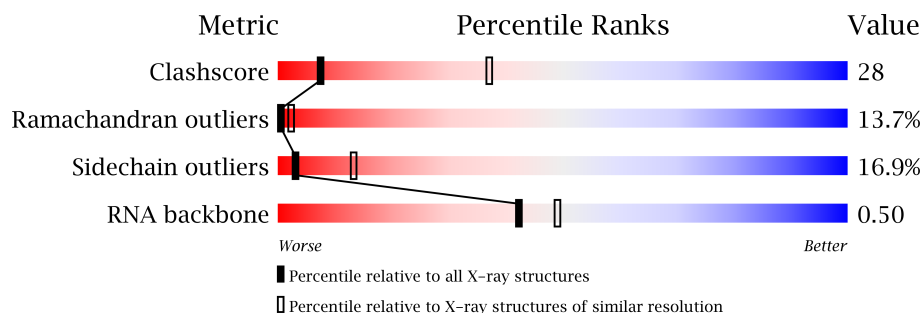
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.16 November 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) : stable23489

# 1 Overall quality at a glance

The reported resolution of this entry is 3.14 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	1656 (3.20-3.08)
Ramachandran outliers	78287	1614 (3.20-3.08)
Sidechain outliers	78261	1613 (3.20-3.08)
RNA backbone	1838	1002 (3.66-2.62)

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  $\geq 3$ , 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	2916	
2	B	122	
3	D	276	
4	E	206	
5	F	210	
6	G	182	
7	H	180	
8	I	148	
9	N	140	
10	O	122	
11	P	150	
12	Q	141	
13	R	118	
14	S	112	

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Mol	Chain	Length	Quality of chain
15	T	146	
16	U	118	
17	V	101	
18	W	113	
19	X	96	
20	Y	110	
21	Z	206	
22	0	85	
23	1	98	
24	2	72	
25	3	60	
26	4	71	
27	5	60	
28	6	54	
29	7	49	
30	8	65	
31	9	37	
32	a	3	

## 2 Entry composition

There are 33 unique types of molecules in this entry. The entry contains 92286 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 rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2883	Total	C	N	O	P	0	0	0
			62091	27636	11613	19960	2882			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

- Molecule 3 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	D	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			

- Molecule 4 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	E	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			

- Molecule 5 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	F	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

- Molecule 6 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	G	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

- Molecule 7 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	H	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

- Molecule 8 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	I	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

- Molecule 9 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	N	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 10 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	O	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	P	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			

- Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	Q	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 13 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	R	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 14 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	S	111	Total	C	N	O			
			882	556	176	150	0	0	0

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
15	T	137	Total	C	N	O	S		
			1141	710	234	196	1	0	0

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
16	U	117	Total	C	N	O	S		
			964	610	202	151	1	0	0

- Molecule 17 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	V	101	Total	C	N	O	S		
			779	501	142	135	1	0	0

- Molecule 18 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	W	113	Total	C	N	O	S		
			900	566	177	155	2	0	0

- Molecule 19 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	X	92	Total	C	N	O			
			725	471	131	123		0	0

- Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	Y	102	Total	C	N	O	S		
			785	505	150	125	5	0	0

- Molecule 21 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	Z	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

- Molecule 22 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

- Molecule 24 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			

- Molecule 25 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
25	3	59	Total	C	N	O	0	0	0
			469	298	90	81			

- Molecule 26 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			

- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 32 is a RNA chain called tRNA acceptor end mimic.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	a	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	P	1	Total	Mg	0	0
			1	1		
33	0	1	Total	Mg	0	0
			1	1		
33	Q	1	Total	Mg	0	0
			1	1		
33	E	2	Total	Mg	0	0
			2	2		
33	B	3	Total	Mg	0	0
			3	3		
33	7	1	Total	Mg	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	A	265	Total 265	Mg 265	0	0
33	5	1	Total 1	Mg 1	0	0

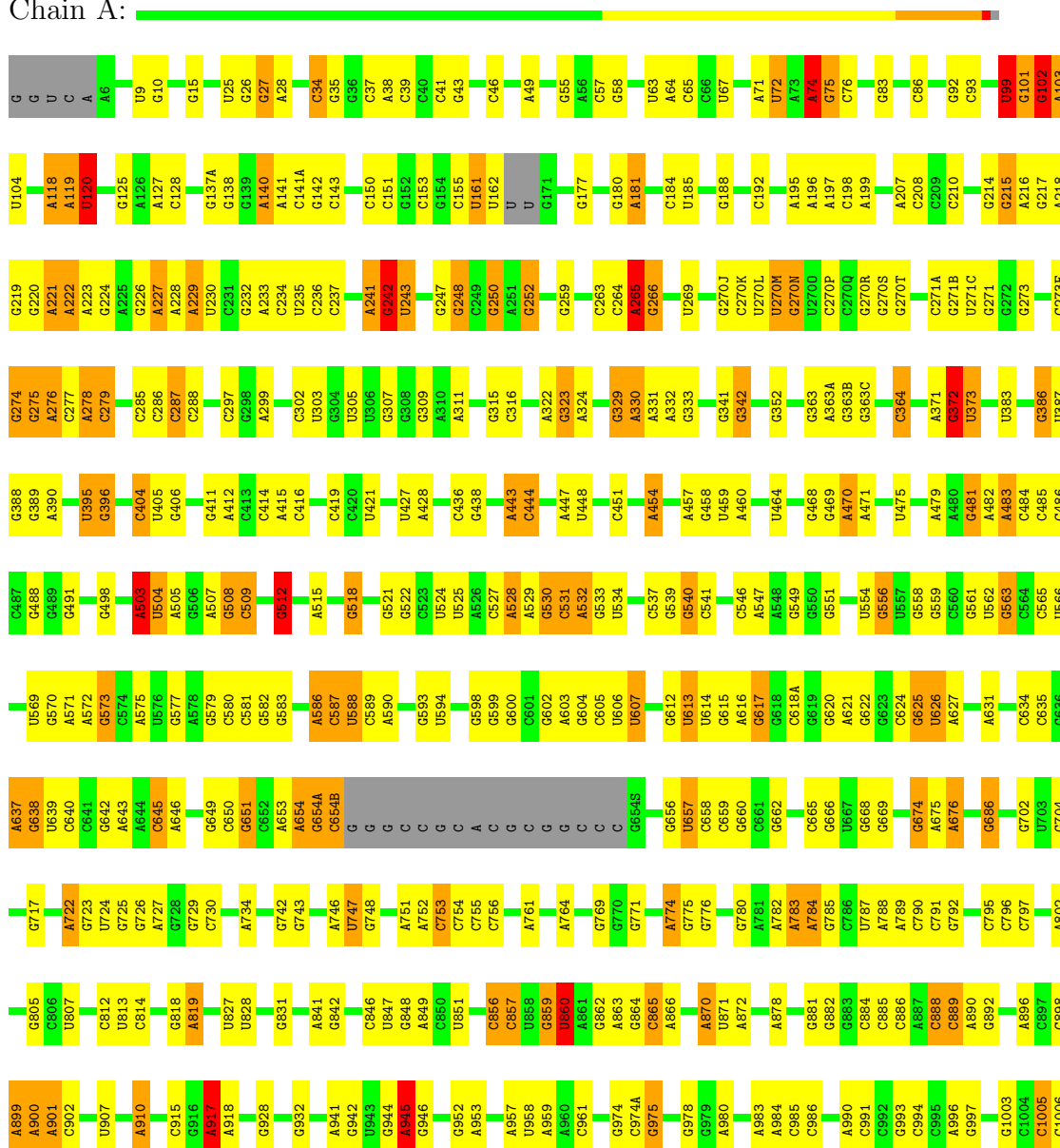
### 3 Residue-property plots

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.

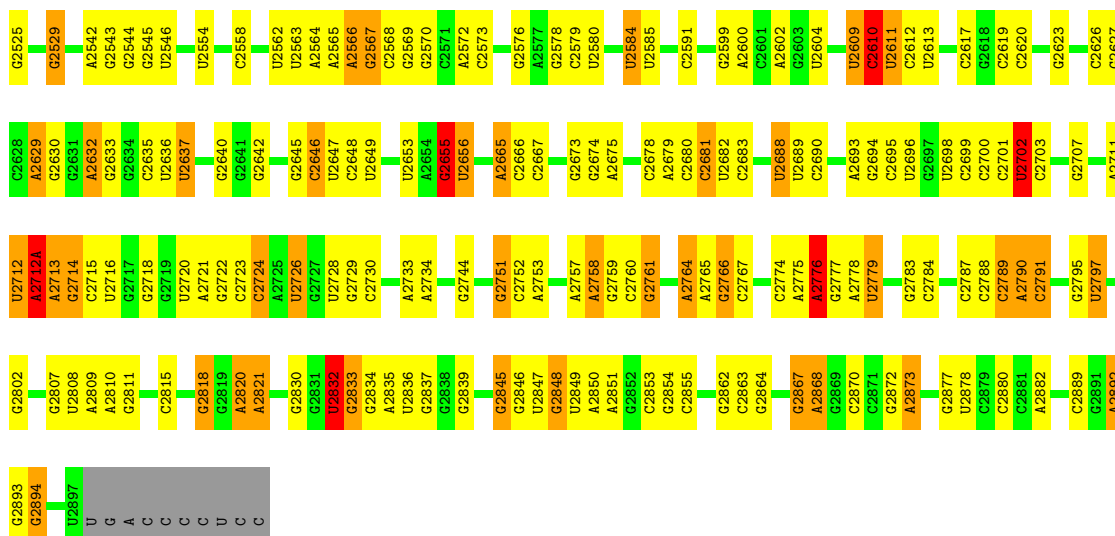
Note EDS was not executed.

#### • Molecule 1: 23S rRNA

Chain A:

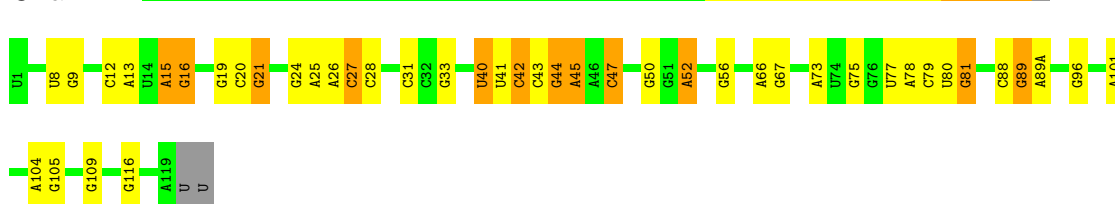


A2425	A2346	G2238	G2131	G2035	G1835	G1752	G1648	A1536	G1368	A1269	A1174	A1086	C1007
C2347	C2347	U2243	U2132	C2036	G1835	G1753	G1653	C1537	G1369	G1270	U1175	G1087	A1010
U2348	U2348	U2243	U2132	G2037	G1842	C1754	A1654	G1538	G1370	G1271	A1176	A1088	A1011
C2349	C2349	U2244	U2133	C2038	U1955	A1755	A1654	G1538	G1371	A1272	C1177	G1089	C1011
C2350	C2350	U2245	U2134	C2039	G1844	G1756	G1657	G1542	A1373	U1273	C1178	U1090	U1012
U2357	U2357	U2246	C2136	A2042	C1844	A1759	C1658	A1544	A1379	G1279	C1179	G1093	C1013
A2360	A2360	G2250	C2146	C2043	G1845	A1762	U1659	C1544	A1384	G1280	C1180	U1094	U1014
A2361	A2361	C2049	G2147	A2051	A1847	G1763	G1667	A1545A	A1385	G1281	G1187	U1095	G1015
C2364	C2364	A2051	C2148	U1963	A1848	G1764	A1669	C1546	A1386	U1282	U1188	A1096	A1020
C2365	C2365	U1963	U2150	G1964	G1858	G1764	A1669	C1547	C1387	A1287	G1190	U1097	A1021
G2369	G2369	C1965	G2151	C1965	A1859	G1769	G1674	C1550	C1388	G1291	G1195	G1099	G1022
G2370	G2370	A1966	G2152	A1966	U1859	G1770	C1675	C1551	G1389	U1292	C1196	U1101	U1023
A2372	A2372	C1967	C2157	C2056	U1864	G1771	C1676	A1554	U1391	C1293	C1200	C1102	G1024
C2373	C2373	G1968	A2158	A2057	G1869	G1772	A1677	C1474	U1396	G1293	C1201	A1103	G1025
U2448	U2448	C1870	A2159	A2058	C1870	A1773	G1678	A1477	U1397	A1301	C1201	C1104	U1026
A2450	A2450	A1871	C2160	A2060	A1872	U1778	G1681	G1478	U1399	A1302	C1202	U1105	A1027
A2376	A2376	A1872	C2161	A2061	G1878	U1779	G1681	G1479	U1399	A1302	C1202	G1106	A1028
A2377	A2377	A1873	C2162	A2062	G1878	U1780	G1681	G1480	U1399	A1302	C1202	C1106	A1029
A2378	A2378	A1874	C2163	A2063	C1882	C1781	U1688	U1482	U1397	A1308	A1204	C1109	G1030
G2379	G2379	C1883	C2164	C2064	G1883	C1782	U1689	G1483	C1398	G1309	G1206	G1110	U1033
G2382	G2382	A1884	C2165	C2065	A1884	A1783	U1693	G1484	C1399	A1301	A1210	A1111	A1045
C2383	C2383	G1888	C2166	C2066	G1888	A1784	C1694	G1485	G1400	U1313	A1211	U1113	A1046
G2384	G2384	A1889	C2167	C2067	A1889	A1785	C1695	A1490	G1401	C1314	G1212	G1114	G1047
C2385	C2385	G1890	C2168	C2068	G1890	A1786	G1696	G1491	C1402	G1319	C1212	G1122	A1048
A2373	A2373	G1891	C2169	C2069	G1891	A1787	G1697	G1492	C1403	G1320	C1218	G1125	C1049
A2374	A2374	G1892	C2170	C2070	G1892	C1790	A1698	C1493	U1405	A1321	C1218	G1126	A1050
U2390	U2390	A1893	C2171	C2071	G1893	C1791	A1699	A1496	C1406	A1322	G1219	G1126	A1051
G2391	G2391	C1894	C2172	C2072	G1894	A1791	U1700	U1497	C1407	A1322	A1220	A1126	A1052
C2392	C2392	C1902	C2173	C2073	C1895	U1794	A1701	C1585	C1408	U1329	C1221	U1130	A1054
C2393	C2393	G1903	C2174	C2074	A1896	C1795	G1702	A1586	C1411	C1330	C1225	G1131	G1055
C2394	C2394	G1904	C2175	C2075	A1897	U1796	G1703	A1587	C1412	C1331	C1225	G1132	G1056
C2395	C2395	G1905	C2176	C2076	G1906	U1797	G1704	C1588	C1413	G1332	C1225	G1133	A1057
C2396	C2396	G1906	C2177	C2077	G1907	U1798	G1705	C1589	C1414	C1333	G1228	C1135	G1058
U2401	U2401	A1913	C2178	C2078	A1913	G1799	U1706	C1592	C1415	G1334	G1228	C1136	G1059
C2402	C2402	U1915	C2179	C2079	U1915	C1800	G1707	A1507	C1416	U1335	G1238	G1137	U1060
C2403	C2403	A1916	C2180	C2080	U1916	C1801	C1708	A1508	C1417	U1336	G1239	G1138	U1061
C2404	C2404	U1917	C2181	C2081	A1917	G1802	U1709	C1509	C1418	G1337	U1240	U1141	G1062
G2405	G2405	U1918	C2182	C2082	U1918	C1803	C1710	A1510	C1419	G1338	A1241	U1142	G1063
U2406	U2406	U1919	C2183	C2083	U1919	A1803	C1711	A1511	G1421	U1339	A1241	U1142	U1066
G2407	G2407	U1920	C2184	C2084	U1920	A1804	C1712	G1512	C1422	U1340	G1244	A1142A	A1067
C2408	C2408	U1921	C2185	C2085	U1921	A1805	G1713	C1513	A1427	U1341	G1244	A1142A	G1068
C2409	C2409	U1922	C2186	C2086	A1922	U1812	G1714	U1514	C1428	G1348	G1250	G1153	A1069
C2410	C2410	U1923	C2187	C2087	A1923	G1813	G1715	U1515	G1429	G1349	G1251	G1154	A1070
C2411	C2411	U1924	C2188	C2088	A1924	G1814	G1716	C1516	C1430	A1349	G1252	A1155	G1071
C2412	C2412	U1925	C2189	C2089	A1925	G1815	G1717	U1517	U1431	A1350	A1253	C1161	C1076
C2413	C2413	U1926	C2190	C2090	A1926	U1816	G1718	G1518	A1434	U1352	G1256	G1162	A1077
C2414	C2414	U1927	C2191	C2091	A1927	G1817	G1719	U1519	A1441	A1353	C1257	G1163	U1078
C2415	C2415	U1928	C2192	C2092	A1928	U1818	G1720	A1520	G1442	A1354	G1257	G1164	C1079
C2416	C2416	U1929	C2193	C2093	A1929	G1819	G1721	A1521	A1443	A1355	G1258	U1165	G1080
C2417	C2417	U1930	C2194	C2094	A1930	U1820	G1722	G1522	A1444	A1356	G1259	C1166	U1081
C2418	C2418	U1931	C2195	C2095	A1931	G1821	G1723	A1523	A1445	A1357	G1260	G1167	U1082
C2419	C2419	U1932	C2196	C2096	A1932	U1822	G1724	A1524	A1446	A1358	G1261	G1168	U1083
C2420	C2420	U1933	C2197	C2097	A1933	U1823	G1725	A1525	A1447	A1359	G1262	G1169	A1084
C2421	C2421	U1934	C2198	C2098	A1934	U1824	G1726	A1526	A1448	A1360	G1263	G1170	U1085
C2422	C2422	U1935	C2199	C2099	A1935	U1825	G1727	A1527	A1449	A1361	G1264	G1171	A1086
C2423	C2423	U1936	C2200	C2100	A1936	U1826	G1728	A1528	A1450	A1362	G1265	G1172	A1087
C2424	C2424	U1937	C2201	C2101	A1937	U1827	G1729	A1529	A1451	A1363	G1266	G1173	A1088
C2425	C2425	U1938	C2202	C2102	A1938	U1828	G1730	A1530	A1452	A1364	G1267	G1174	A1089
C2426	C2426	U1939	C2203	C2103	A1939	U1829	G1731	A1531	A1453	A1365	G1268	G1175	A1090
C2427	C2427	U1940	C2204	C2104	A1940	U1830	G1732	A1532	A1454	A1366	G1269	G1176	A1091
C2428	C2428	U1941	C2205	C2105	A1941	U1831	G1733	A1533	A1455	A1367	G1270	G1177	A1092
C2429	C2429	U1942	C2206	C2106	A1942	U1832	G1734	A1534	A1456	A1368	G1271	G1178	A1093
C2430	C2430	U1943	C2207	C2107	A1943	U1833	G1735	A1535	A1457	A1369	G1272	G1179	A1094
C2431	C2431	U1944	C2208	C2108	A1944	U1834	G1736	A1536	A1458	A1370	G1273	G1180	A1095
C2432	C2432	U1945	C2209	C2109	A1945	U1835	G1737	A1537	A1459	A1371	G1274	G1181	A1096
C2433	C2433	U1946	C2210	C2110	A1946	U1836	G1738	A1538	A1460	A1372	G1275	G1182	A1097
C2434	C2434	U1947	C2211	C2111	A1947	U1837	G1739	A1539	A1461	A1373	G1276	G1183	A1098
C2435	C2435	U1948	C2212	C2112	A1948	U1838	G1740	A1540	A1462	A1374	G1277	G1184	A1099
C2436	C2436	U1949	C2213	C2113	A1949	U1839	G1741	A1541	A1463	A1375	G1278	G1185	A1100
C2437	C2437	U1950	C2214	C2114	A1950	U1840	G1742	A1542	A1464	A1376	G1279	G1186	A1101
C2438	C2438	U1951	C2215	C2115	A1951	U1841	G1743	A1543	A1465	A1377	G1280	G1187	A1102
C2439	C2439	U1952	C2216	C2116	A1952	U1842	G1744	A1544	A1466	A1378	G1281	G1188	A1103
C2440	C2440	U1953	C2217	C2117	A1953	U1843	G1745	A1545	A1467	A1379	G1282	G1189	A1104
C2441	C2441	U1954	C2218	C2118	A1954	U1844	G1746	A1546	A1468	A1380	G1283	G1190	A1105
C2442	C2442	U1955	C2219	C2119	A1955	U1845	G1747	A1547	A1469	A1381	G1284	G1191	A1106
C2443	C2443	U1956	C2220	C2120	A1956	U1846	G1748	A1548	A1470	A1382	G1285	G1192	A1107
C2444	C2444	U1957	C2221	C2121	A1957	U1847	G1749	A1549	A1471	A1383	G1286	G1193	A1108
C2445	C2445	U1958	C2222	C2122	A1958	U1848	G1750	A1550	A1472	A1384	G1287	G1194	A1109
C2446	C2446	U1959	C2223	C2123	A1959	U1849	G1751	A1551	A1473	A1385	G1288	G1195	A1110
C2447	C2447	U1960	C2224	C2124	A1960	U1850	G1752	A1552	A1474	A1386	G1289	G1196	A1111
C2448	C2448	U1961	C2225	C2125	A1961	U1851	G1753	A1553	A1475	A1387	G1290	G1197	A1112
C2449	C2449	U1962	C2226	C2126	A1962	U1852	G1754	A1554	A1476	A1388	G1291	G1198	A1113
C2450	C2450	U1963	C2227	C2127	A1963	U1853	G1755	A1555	A1477	A1389	G1292	G1199	A1114
C2451	C2451	U1964	C2228	C2128	A1964	U1854	G1756	A1556	A1478	A1390	G1293	G1200	A1115
C2452	C2452	U1965	C2229	C2129	A1965	U1855	G1757	A1557	A1479	A1391	G1294	G1201	A1116
C2453	C2453	U1966	C2230	C2130	A1966	U1856	G1758	A1558	A1480	A1392	G1295	G1202	A1117
C2454	C2454	U1967	C2231	C2131	A1967	U1857	G1759	A1559	A1481	A1393	G1296	G1203	A1118
C2455	C2455	U1968	C2232	C2132	A1968	U1858	G1760	A1560	A1482	A1394	G1297	G1204	A1119
C2456	C2456	U1969	C2233	C2133	A1969	U1859	G1761	A1561	A1483	A1395	G1298	G1205	A1120
C2457	C2457	U1970	C2234	C2134	A1970	U1860	G1762	A1562	A1484	A1396	G1299	G1206	A1121
C2458	C2458	U1971	C2235	C2135	A1971	U1861	G1763	A1563	A1485	A1397	G1300	G1207	A1122
C2459	C2459	U1972	C2236	C2136	A1972	U1862	G1764	A1564	A1486	A1398	G1301	G1208	A112



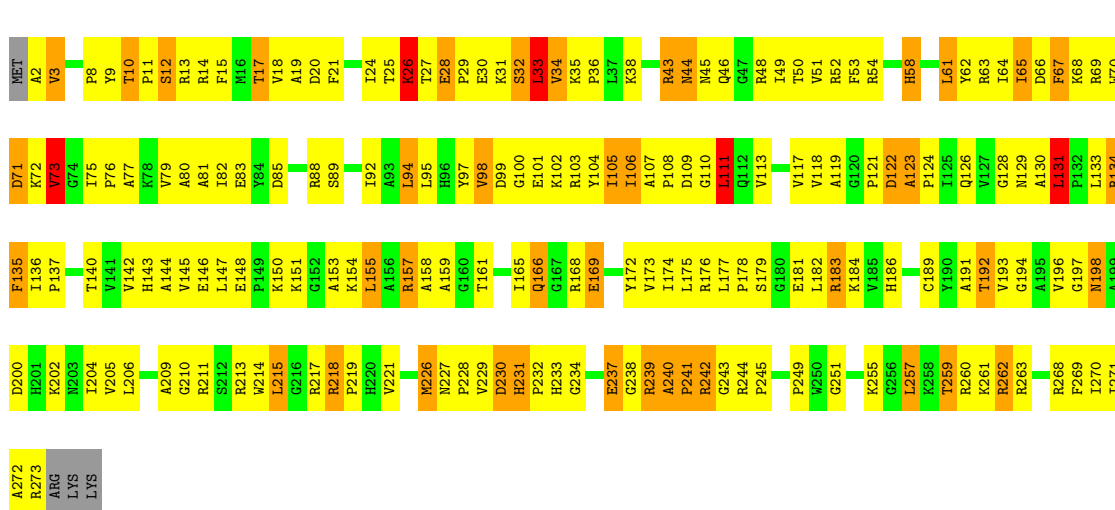
- Molecule 2: 5S rRNA

Chain B:



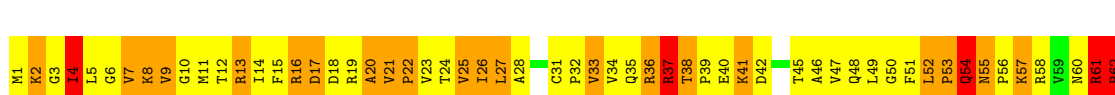
- Molecule 3: 50S ribosomal protein L2

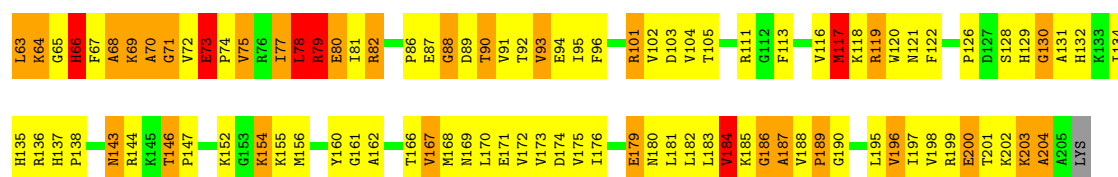
Chain D:



- Molecule 4: 50S ribosomal protein L3

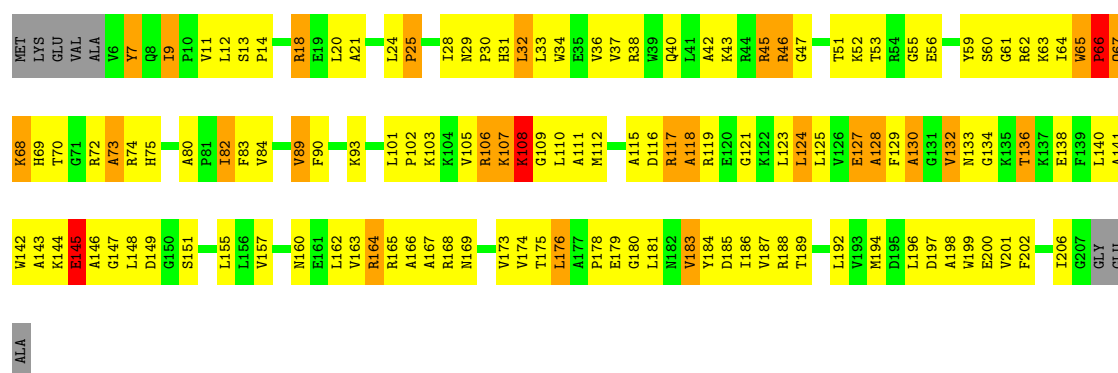
Chain E:





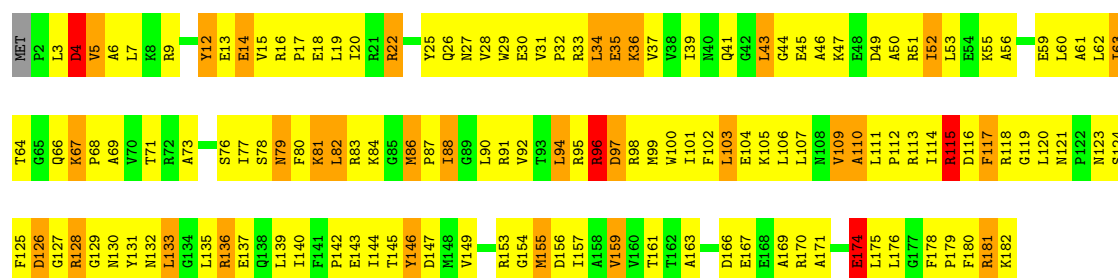
• Molecule 5: 50S ribosomal protein L4

Chain F:



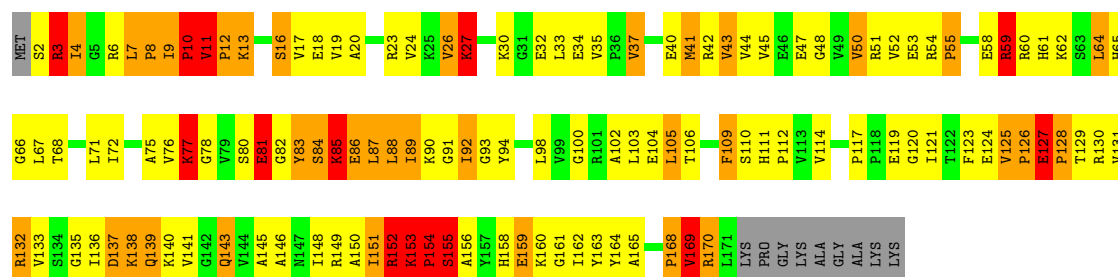
• Molecule 6: 50S ribosomal protein L5

Chain G:



• Molecule 7: 50S ribosomal protein L6

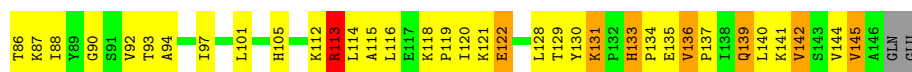
Chain H:



• Molecule 8: 50S ribosomal protein L9

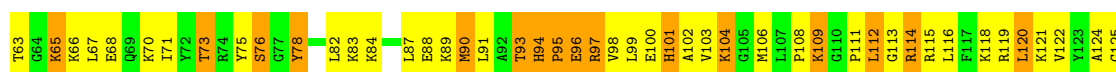
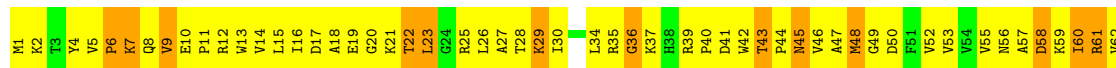
Chain I:





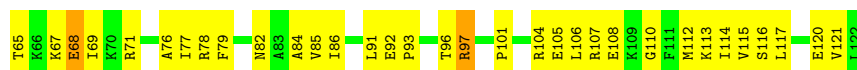
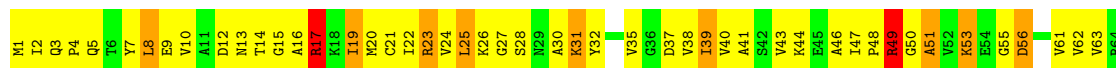
- Molecule 9: 50S ribosomal protein L11

Chain N:



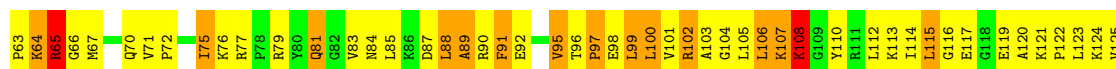
- Molecule 10: 50S ribosomal protein L13

Chain O:



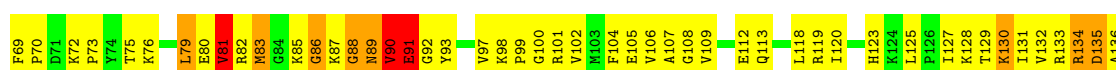
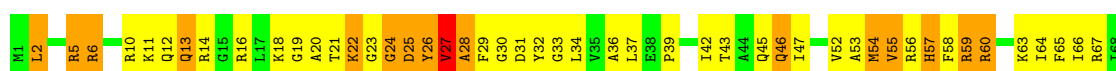
- Molecule 11: 50S ribosomal protein L14

Chain P:



- Molecule 12: 50S ribosomal protein L15

Chain Q:



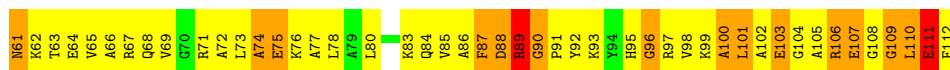
- Molecule 13: 50S ribosomal protein L16

Chain R:



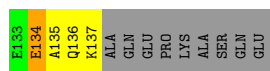
• Molecule 14: 50S ribosomal protein L17

Chain S:



• Molecule 15: 50S ribosomal protein L18

Chain T:



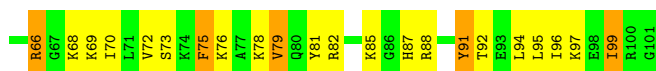
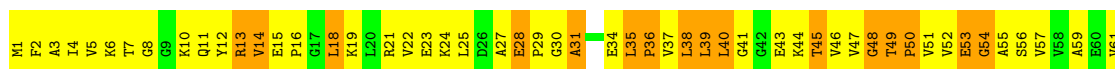
• Molecule 16: 50S ribosomal protein L19

Chain U:



• Molecule 17: 50S ribosomal protein L20

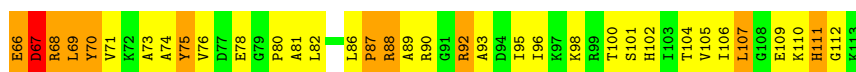
Chain V:



• Molecule 18: 50S ribosomal protein L21

Chain W:





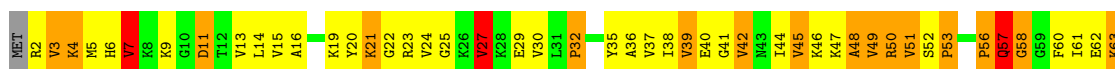
• Molecule 19: 50S ribosomal protein L22

Chain X:



• Molecule 20: 50S ribosomal protein L23

Chain Y:



• Molecule 21: 50S ribosomal protein L24

Chain Z:



• Molecule 22: 50S ribosomal protein L25

Chain 0:



• Molecule 23: 50S ribosomal protein L27

Chain 1:



• Molecule 24: 50S ribosomal protein L28

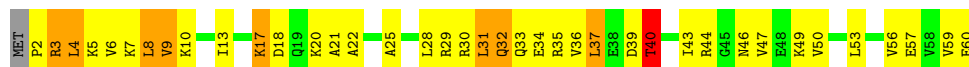
Chain 2:





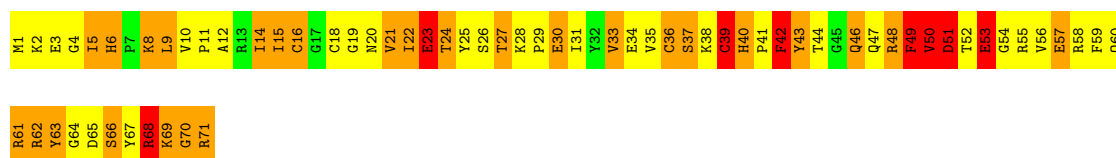
- Molecule 25: 50S ribosomal protein L29

Chain 3:



- Molecule 26: 50S ribosomal protein L30

Chain 4:



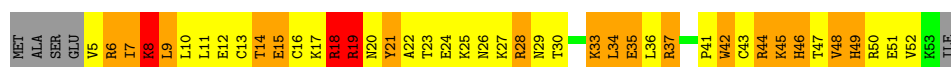
- Molecule 27: 50S ribosomal protein L32

Chain 5:



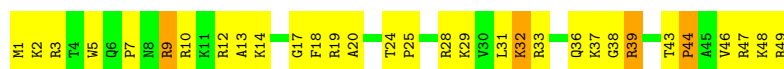
- Molecule 28: 50S ribosomal protein L33

Chain 6:



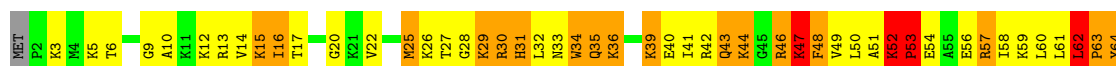
- Molecule 29: 50S ribosomal protein L34

Chain 7:



- Molecule 30: 50S ribosomal protein L35

Chain 8:



- Molecule 31: 50S ribosomal protein L36

Chain 9:





- Molecule 32: tRNA acceptor end mimic

Chain a:



## 4 Data and refinement statistics

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

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	209.21Å 448.45Å 619.86Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	189.60 – 3.14	Depositor
% Data completeness (in resolution range)	99.6 (189.60-3.14)	Depositor
$R_{merge}$	0.27	Depositor
$R_{sym}$	(Not available)	Depositor
Refinement program	PHENIX (phenix.refine: 1.8.2_1309)	Depositor
R, $R_{free}$	0.230 , 0.262	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	92286	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	57.0	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, PPU

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	0.43	1/69543 (0.0%)	0.92	116/108563 (0.1%)
2	B	0.36	0/2878	0.88	1/4490 (0.0%)
3	D	0.56	0/2165	0.90	4/2919 (0.1%)
4	E	0.52	0/1601	0.91	2/2160 (0.1%)
5	F	0.50	0/1620	0.76	0/2194
6	G	0.40	0/1499	0.66	0/2016
7	H	0.45	0/1332	0.85	4/1802 (0.2%)
8	I	0.27	0/1151	0.58	0/1558
9	N	0.46	0/1131	0.78	1/1525 (0.1%)
10	O	0.53	0/943	0.71	0/1269
11	P	0.50	0/1162	0.95	3/1544 (0.2%)
12	Q	0.54	0/1143	0.89	3/1527 (0.2%)
13	R	0.45	0/982	0.80	1/1312 (0.1%)
14	S	0.45	0/892	0.83	1/1187 (0.1%)
15	T	0.46	0/1155	0.73	2/1542 (0.1%)
16	U	0.48	0/982	0.77	0/1306
17	V	0.47	0/790	0.82	0/1057
18	W	0.45	0/911	0.75	0/1220
19	X	0.56	0/739	0.77	0/993
20	Y	0.52	0/798	0.80	0/1064
21	Z	0.28	0/1493	0.54	0/2026
22	0	0.34	0/657	0.53	0/874
23	1	0.49	0/770	0.85	1/1022 (0.1%)
24	2	0.50	0/583	0.83	1/771 (0.1%)
25	3	0.43	0/474	0.71	0/635
26	4	0.38	0/594	0.78	1/795 (0.1%)
27	5	0.51	0/473	0.74	0/639
28	6	0.42	0/431	0.76	0/575
29	7	0.56	0/438	0.76	0/575
30	8	0.62	0/525	0.93	1/691 (0.1%)
31	9	0.37	0/310	0.61	0/407
32	a	0.77	0/40	1.81	1/60 (1.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
All	All	0.44	1/100205 (0.0%)	0.89	143/150318 (0.1%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	774	A	N9-C4	-5.56	1.34	1.37

All (143) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2506	U	N3-C2-O2	-10.56	114.81	122.20
4	E	21	VAL	C-N-CD	-10.11	98.35	120.60
1	A	528	A	N1-C2-N3	8.94	133.77	129.30
12	Q	81	VAL	CB-CA-C	-8.70	94.88	111.40
1	A	528	A	C2-N3-C4	-8.67	106.27	110.60
1	A	1899	G	N3-C2-N2	8.52	125.86	119.90
1	A	1929	G	C4-C5-N7	8.43	114.17	110.80
1	A	1899	G	N1-C2-N2	-8.24	108.79	116.20
1	A	2506	U	N1-C2-O2	7.95	128.36	122.80
23	1	79	GLY	N-CA-C	-7.80	93.60	113.10
1	A	1396	U	N1-C2-O2	7.72	128.20	122.80
1	A	761	A	N1-C6-N6	7.67	123.20	118.60
1	A	265	A	O4'-C1'-N9	7.55	114.24	108.20
1	A	774	A	C2-N3-C4	-7.36	106.92	110.60
11	P	59	LEU	N-CA-C	-7.27	91.36	111.00
1	A	1929	G	C5-C6-O6	-7.22	124.27	128.60
1	A	1396	U	N3-C2-O2	-7.16	117.19	122.20
1	A	2712(A)	A	N7-C8-N9	7.08	117.34	113.80
1	A	1950	G	C4-N9-C1'	7.06	135.68	126.50
12	Q	81	VAL	N-CA-C	7.04	130.01	111.00
1	A	654	A	C8-N9-C4	-7.03	102.99	105.80
1	A	1130	U	P-O3'-C3'	6.81	127.87	119.70
1	A	654(B)	C	C6-N1-C2	-6.77	117.59	120.30
32	a	74	C	N1-C2-O2	6.74	122.94	118.90
3	D	131	LEU	CA-CB-CG	6.55	130.36	115.30
1	A	676	A	C2-N3-C4	-6.50	107.35	110.60
1	A	1396	U	C2-N1-C1'	6.48	125.47	117.70
1	A	774	A	N3-C4-C5	6.47	131.33	126.80
1	A	1313	U	C2-N1-C1'	6.41	125.39	117.70
1	A	1021	A	C2-N3-C4	-6.41	107.40	110.60
1	A	1950	G	O4'-C1'-N9	6.40	113.32	108.20
1	A	74	A	P-O3'-C3'	6.37	127.35	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2031	A	O4'-C1'-N9	6.36	113.29	108.20
1	A	654(A)	G	O5'-P-OP2	-6.36	99.98	105.70
1	A	2430	A	N1-C2-N3	6.35	132.48	129.30
1	A	676	A	C5-N7-C8	-6.32	100.74	103.90
1	A	1786	A	N7-C8-N9	6.26	116.93	113.80
1	A	1929	G	C6-C5-N7	-6.24	126.66	130.40
1	A	1929	G	OP1-P-O3'	6.24	118.92	105.20
1	A	1929	G	N9-C4-C5	-6.22	102.91	105.40
1	A	1332	G	C6-C5-N7	-6.12	126.73	130.40
13	R	9	LYS	N-CA-C	-6.01	94.76	111.00
1	A	1313	U	C5-C6-N1	6.01	125.71	122.70
3	D	240	ALA	C-N-CD	6.01	141.03	128.40
1	A	242	G	P-O3'-C3'	5.97	126.86	119.70
1	A	774	A	N3-C4-N9	-5.96	122.64	127.40
1	A	783	A	N7-C8-N9	5.92	116.76	113.80
1	A	1786	A	C5-N7-C8	-5.90	100.95	103.90
7	H	125	VAL	C-N-CD	-5.89	107.64	120.60
1	A	530	G	N1-C6-O6	-5.89	116.37	119.90
1	A	761	A	C5-C6-N6	-5.88	119.00	123.70
1	A	783	A	C5-N7-C8	-5.83	100.98	103.90
1	A	1992	G	P-O3'-C3'	5.83	126.70	119.70
1	A	2702	U	C2-N1-C1'	5.83	124.70	117.70
4	E	58	ARG	N-CA-C	-5.82	95.29	111.00
11	P	26	GLY	N-CA-C	-5.81	98.57	113.10
1	A	676	A	O4'-C1'-N9	5.78	112.83	108.20
1	A	1929	G	N1-C6-O6	5.77	123.36	119.90
24	2	16	LEU	N-CA-C	-5.77	95.42	111.00
1	A	1204	A	O4'-C1'-N9	5.74	112.79	108.20
1	A	2430	A	C2-N3-C4	-5.69	107.76	110.60
1	A	860	U	N3-C2-O2	-5.68	118.22	122.20
1	A	1970	A	O5'-P-OP2	-5.68	100.59	105.70
1	A	2832	U	P-O3'-C3'	5.67	126.51	119.70
1	A	1528	A	N7-C8-N9	5.67	116.63	113.80
1	A	1950	G	C8-N9-C1'	-5.64	119.66	127.00
1	A	530	G	N3-C2-N2	5.64	123.85	119.90
1	A	783	A	C8-N9-C4	-5.63	103.55	105.80
1	A	120	U	N3-C2-O2	-5.59	118.29	122.20
1	A	654	A	N7-C8-N9	5.59	116.60	113.80
1	A	2688	U	N3-C2-O2	-5.56	118.31	122.20
26	4	39	CYS	N-CA-C	-5.55	96.01	111.00
1	A	1950	G	N3-C2-N2	5.55	123.78	119.90
1	A	1332	G	C4-C5-N7	5.54	113.02	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2335	A	O4'-C1'-N9	5.53	112.62	108.20
1	A	2584	U	N3-C2-O2	-5.51	118.34	122.20
9	N	114	ARG	N-CA-C	-5.51	96.13	111.00
1	A	1314	C	C2-N1-C1'	5.50	124.85	118.80
1	A	99	U	P-O3'-C3'	5.48	126.28	119.70
1	A	1955	U	P-O3'-C3'	5.48	126.27	119.70
1	A	74	A	C2-N3-C4	-5.48	107.86	110.60
7	H	127	GLU	N-CA-C	-5.47	96.24	111.00
1	A	654(B)	C	C5-C6-N1	5.46	123.73	121.00
3	D	251	GLY	N-CA-C	5.45	126.73	113.10
1	A	2439	A	P-O3'-C3'	5.45	126.24	119.70
1	A	945	A	C6-C5-N7	-5.44	128.49	132.30
1	A	1558	A	P-O3'-C3'	5.44	126.22	119.70
1	A	140	A	N7-C8-N9	5.43	116.51	113.80
1	A	674	G	N9-C4-C5	-5.42	103.23	105.40
1	A	2655	G	P-O3'-C3'	5.41	126.20	119.70
11	P	25	SER	N-CA-C	-5.41	96.38	111.00
1	A	503	A	P-O3'-C3'	5.38	126.15	119.70
1	A	2681	C	P-O3'-C3'	5.38	126.15	119.70
1	A	860	U	C4-C5-C6	5.38	122.92	119.70
3	D	111	LEU	CA-CB-CG	5.37	127.65	115.30
7	H	100	GLY	N-CA-C	-5.36	99.69	113.10
1	A	1936	A	N9-C4-C5	-5.36	103.66	105.80
1	A	654	A	N9-C4-C5	5.34	107.94	105.80
1	A	512	G	O4'-C1'-N9	5.31	112.45	108.20
30	8	36	LYS	N-CA-C	-5.31	96.67	111.00
1	A	2318	G	O4'-C1'-N9	5.30	112.44	108.20
1	A	945	A	C4-C5-N7	5.30	113.35	110.70
1	A	859	G	P-O3'-C3'	5.28	126.04	119.70
1	A	2610	C	P-O3'-C3'	5.28	126.04	119.70
1	A	2439	A	C8-N9-C4	-5.28	103.69	105.80
1	A	2307	G	O4'-C1'-N9	5.28	112.42	108.20
1	A	1950	G	N7-C8-N9	5.26	115.73	113.10
1	A	917	A	C2-N3-C4	-5.26	107.97	110.60
1	A	1950	G	C6-C5-N7	-5.25	127.25	130.40
1	A	372	G	O4'-C1'-N9	5.22	112.38	108.20
1	A	945	A	N1-C6-N6	5.22	121.73	118.60
12	Q	5	ARG	N-CA-C	-5.22	96.90	111.00
1	A	2506	U	C2-N1-C1'	5.22	123.96	117.70
1	A	383	U	O4'-C1'-N1	5.21	112.37	108.20
14	S	110	LEU	CA-CB-CG	5.18	127.22	115.30
1	A	1022	G	P-O3'-C3'	5.18	125.91	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2751	G	C8-N9-C4	-5.17	104.33	106.40
1	A	2712(A)	A	C8-N9-C4	-5.15	103.74	105.80
1	A	2726	U	O4'-C1'-N1	5.15	112.32	108.20
1	A	860	U	C2-N1-C1'	5.14	123.87	117.70
1	A	1012	U	OP2-P-O3'	5.14	116.51	105.20
1	A	404	C	P-O3'-C3'	5.13	125.86	119.70
1	A	676	A	N7-C8-N9	5.12	116.36	113.80
1	A	2481	G	P-O3'-C3'	5.12	125.84	119.70
1	A	1899	G	C6-C5-N7	-5.11	127.33	130.40
1	A	2420	C	O5'-P-OP1	-5.09	101.12	105.70
15	T	123	GLN	N-CA-C	-5.09	97.25	111.00
2	B	81	G	O4'-C1'-N9	5.08	112.26	108.20
1	A	1535	U	C2-N1-C1'	5.07	123.79	117.70
1	A	102	G	P-O3'-C3'	5.07	125.79	119.70
1	A	856	C	C6-N1-C2	-5.07	118.27	120.30
1	A	1005	C	N1-C2-O2	5.07	121.94	118.90
1	A	2776	A	P-O3'-C3'	5.07	125.78	119.70
1	A	2751	G	N7-C8-N9	5.06	115.63	113.10
15	T	59	THR	N-CA-C	-5.05	97.35	111.00
1	A	2405	G	P-O3'-C3'	5.04	125.75	119.70
1	A	120	U	C4-C5-C6	5.04	122.72	119.70
1	A	1929	G	C5-N7-C8	-5.04	101.78	104.30
1	A	2126	A	P-O3'-C3'	5.04	125.75	119.70
1	A	1528	A	O4'-C1'-N9	5.04	112.23	108.20
1	A	2640	G	C8-N9-C4	-5.04	104.39	106.40
1	A	654	A	C4-C5-C6	5.01	119.51	117.00
7	H	127	GLU	C-N-CD	-5.01	109.58	120.60

There are no chirality outliers.

There are no planarity outliers.

## 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	62091	0	31296	921	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	2573	0	1306	26	0
3	D	2115	0	2195	319	0
4	E	1568	0	1634	265	0
5	F	1585	0	1632	180	0
6	G	1474	0	1535	187	0
7	H	1307	0	1382	221	0
8	I	1136	0	1223	40	0
9	N	1104	0	1180	183	0
10	O	933	0	996	122	0
11	P	1145	0	1228	245	0
12	Q	1122	0	1179	158	0
13	R	968	0	1033	113	0
14	S	882	0	943	159	0
15	T	1141	0	1202	148	0
16	U	964	0	1022	137	0
17	V	779	0	852	136	3
18	W	900	0	964	100	0
19	X	725	0	778	74	0
20	Y	785	0	878	151	0
21	Z	1461	0	1493	57	0
22	0	648	0	672	28	0
23	1	763	0	848	142	0
24	2	581	0	629	77	0
25	3	469	0	518	41	0
26	4	581	0	574	132	0
27	5	459	0	480	75	3
28	6	424	0	450	89	0
29	7	430	0	480	44	0
30	8	517	0	582	103	0
31	9	307	0	338	18	0
32	a	74	0	51	0	0
33	0	1	0	0	0	0
33	5	1	0	0	0	0
33	7	1	0	0	0	0
33	A	265	0	0	0	0
33	B	3	0	0	0	0
33	E	2	0	0	0	0
33	P	1	0	0	0	0
33	Q	1	0	0	0	0
All	All	92286	0	61573	4232	3

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 28.

All (4232) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:127:GLU:CG	7:H:128:PRO:HD3	1.35	1.52
23:1:81:LYS:NZ	23:1:81:LYS:HA	1.42	1.34
23:1:81:LYS:HE2	23:1:81:LYS:N	1.50	1.26
7:H:127:GLU:HG2	7:H:128:PRO:CD	1.69	1.21
7:H:127:GLU:CB	7:H:128:PRO:HD3	1.69	1.20
23:1:82:LEU:HD12	23:1:82:LEU:C	1.66	1.16
20:Y:95:LYS:HB3	20:Y:100:ALA:HA	1.20	1.16
20:Y:76:CYS:HB3	20:Y:96:ILE:HD13	1.17	1.16
11:P:50:ARG:HB3	11:P:50:ARG:HH21	1.13	1.12
23:1:82:LEU:CD1	23:1:83:GLU:O	1.97	1.12
4:E:179:GLU:HB3	4:E:181:LEU:HD23	1.31	1.12
16:U:8:VAL:HG23	16:U:11:ARG:HH21	1.14	1.11
3:D:44:ASN:HB2	3:D:48:ARG:O	1.51	1.11
23:1:82:LEU:HD12	23:1:83:GLU:N	1.66	1.11
7:H:132:ARG:HH11	7:H:132:ARG:HB2	1.10	1.11
5:F:101:LEU:HD12	5:F:102:PRO:HD2	1.21	1.10
4:E:50:GLY:HA2	4:E:77:ILE:HA	1.31	1.10
7:H:152:ARG:HG3	7:H:153:LYS:HE2	1.33	1.08
9:N:134:ARG:H	9:N:135:PRO:HD3	1.11	1.08
3:D:131:LEU:HB2	3:D:136:ILE:HD11	1.35	1.08
7:H:86:GLU:HG3	7:H:165:ALA:H	1.05	1.08
23:1:81:LYS:HZ3	23:1:81:LYS:CA	1.65	1.07
11:P:126:VAL:HG12	11:P:147:LEU:HD21	1.30	1.07
23:1:82:LEU:CD1	23:1:83:GLU:N	2.18	1.06
26:4:71:ARG:HG3	26:4:71:ARG:HH11	1.13	1.06
30:8:52:LYS:H	30:8:53:PRO:CD	1.69	1.06
7:H:153:LYS:HB3	7:H:154:PRO:HD2	1.07	1.06
11:P:59:LEU:HA	11:P:61:ARG:NH2	1.69	1.06
4:E:63:LEU:HD12	4:E:64:LYS:H	1.18	1.05
11:P:19:VAL:HG22	11:P:20:GLY:H	1.15	1.05
4:E:21:VAL:HB	4:E:22:PRO:HB3	1.37	1.05
17:V:49:THR:HB	17:V:50:PRO:HD2	1.39	1.04
1:A:518:G:H4'	18:W:18:ARG:HH12	1.14	1.04
1:A:2701:C:H3'	1:A:2702:U:H5''	1.38	1.04
16:U:90:VAL:HG12	16:U:91:ASP:H	1.18	1.04
7:H:127:GLU:CG	7:H:128:PRO:CD	2.31	1.03
14:S:83:LYS:O	14:S:109:GLY:HA3	1.57	1.03
7:H:127:GLU:CB	7:H:128:PRO:CD	2.35	1.03
14:S:106:ARG:HA	14:S:110:LEU:HD11	1.39	1.03
10:O:53:LYS:H	10:O:53:LYS:HD2	1.23	1.02
3:D:35:LYS:HG2	3:D:64:ILE:N	1.73	1.02
12:Q:81:VAL:O	12:Q:82:ARG:CD	2.06	1.02

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:65:PHE:O	12:Q:66:ILE:HG12	1.59	1.02
5:F:67:GLN:O	5:F:68:LYS:HB2	1.56	1.02
12:Q:12:GLN:HG2	12:Q:73:PRO:HD2	1.42	1.02
5:F:46:ARG:HH11	5:F:46:ARG:HG2	1.20	1.02
6:G:13:GLU:O	6:G:14:GLU:HB2	1.60	1.01
20:Y:97:ARG:HH21	20:Y:98:VAL:HB	1.26	1.01
5:F:67:GLN:HG3	5:F:67:GLN:O	1.58	1.01
9:N:96:GLU:HG2	9:N:97:ARG:H	1.26	1.00
13:R:67:LEU:HD13	13:R:76:VAL:HG21	1.39	1.00
28:6:7:ILE:HG13	28:6:8:LYS:H	1.25	1.00
12:Q:80:GLU:O	12:Q:81:VAL:HG13	1.59	1.00
13:R:54:LEU:HD23	13:R:66:VAL:HG23	1.44	1.00
5:F:185:ASP:HA	5:F:188:ARG:HD3	1.41	1.00
1:A:270(T):G:H5''	23:1:97:LEU:HD22	1.41	0.99
14:S:26:LEU:HD12	14:S:39:ILE:HD11	1.40	0.99
7:H:153:LYS:HB3	7:H:154:PRO:CD	1.92	0.99
4:E:201:THR:HG22	4:E:203:LYS:H	1.26	0.99
24:2:50:ILE:HD12	24:2:51:ARG:N	1.76	0.99
11:P:105:LEU:O	11:P:106:LEU:HB2	1.60	0.99
12:Q:81:VAL:O	12:Q:82:ARG:NE	1.94	0.99
11:P:50:ARG:HH21	11:P:50:ARG:CB	1.76	0.98
7:H:86:GLU:HG3	7:H:165:ALA:N	1.79	0.98
12:Q:79:LEU:HD13	12:Q:79:LEU:O	1.63	0.97
24:2:50:ILE:HD12	24:2:51:ARG:H	1.24	0.97
15:T:62:THR:HG22	15:T:75:ILE:HG12	1.46	0.97
28:6:41:PRO:HG2	28:6:45:LYS:H	1.30	0.97
3:D:44:ASN:HB3	3:D:49:ILE:HA	1.45	0.97
12:Q:79:LEU:HD22	12:Q:79:LEU:O	1.64	0.97
14:S:83:LYS:NZ	14:S:109:GLY:HA2	1.78	0.97
18:W:86:LEU:HD12	18:W:87:PRO:HD2	1.45	0.96
27:5:58:LEU:HD13	27:5:60:VAL:HG12	1.48	0.96
1:A:674:G:H1'	5:F:74:ARG:HD3	1.46	0.96
20:Y:84:ARG:HH12	20:Y:97:ARG:HB2	1.28	0.96
6:G:112:PRO:HB3	26:4:37:SER:HB2	1.47	0.96
1:A:1359:A:N6	1:A:1372:U:O4	1.99	0.96
1:A:1454:U:H5'	13:R:63:ARG:HE	1.25	0.96
27:5:56:LYS:H	27:5:56:LYS:HD2	1.30	0.96
4:E:20:ALA:O	4:E:21:VAL:HG22	1.65	0.96
5:F:101:LEU:HD12	5:F:102:PRO:CD	1.96	0.95
5:F:103:LYS:HA	5:F:106:ARG:HG3	1.48	0.95
26:4:56:VAL:HA	26:4:60:GLN:HB2	1.44	0.95
3:D:227:ASN:HB3	3:D:228:PRO:HD2	1.44	0.95

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:62:LEU:HD22	11:P:62:LEU:N	1.82	0.95
23:1:81:LYS:N	23:1:81:LYS:CE	2.30	0.95
17:V:99:ILE:HD13	17:V:99:ILE:H	1.32	0.95
23:1:81:LYS:CA	23:1:81:LYS:CE	2.45	0.94
24:2:13:ALA:HA	24:2:16:LEU:HD23	1.48	0.94
4:E:78:LEU:HG	4:E:79:ARG:HE	1.30	0.94
7:H:153:LYS:CB	7:H:154:PRO:HD2	1.98	0.94
20:Y:51:VAL:HG13	20:Y:52:SER:H	1.31	0.94
17:V:35:LEU:HD21	17:V:57:VAL:HG22	1.47	0.94
3:D:28:GLU:HB2	3:D:29:PRO:CD	1.98	0.94
7:H:77:LYS:NZ	7:H:77:LYS:HB3	1.82	0.94
7:H:77:LYS:HB3	7:H:77:LYS:HZ3	1.31	0.93
7:H:127:GLU:HB3	7:H:128:PRO:CD	1.99	0.93
15:T:11:GLU:CD	15:T:11:GLU:H	1.71	0.93
28:6:47:THR:HG22	28:6:48:VAL:HG12	1.45	0.93
9:N:134:ARG:H	9:N:135:PRO:CD	1.81	0.93
3:D:108:PRO:HB3	3:D:143:HIS:CE1	2.05	0.93
3:D:108:PRO:HB3	3:D:143:HIS:HE1	1.32	0.93
19:X:57:LEU:CD1	19:X:78:LYS:HB2	1.98	0.93
13:R:33:ARG:NH2	27:5:55:ARG:HG2	1.84	0.92
1:A:676:A:H8	1:A:2069:G:H21	1.13	0.92
11:P:65:ARG:HH11	11:P:65:ARG:HG3	1.35	0.92
4:E:14:ILE:HG12	4:E:15:PHE:H	1.33	0.92
1:A:2712:U:HO2'	1:A:2712(A):A:H8	0.94	0.92
14:S:59:LYS:HG2	14:S:60:GLY:H	1.31	0.92
1:A:2015:A:H1'	27:5:2:ALA:HA	1.51	0.92
14:S:67:ARG:HB2	14:S:67:ARG:NH1	1.85	0.91
23:1:81:LYS:CE	23:1:81:LYS:HA	2.00	0.91
12:Q:34:LEU:HD11	12:Q:129:THR:HB	1.50	0.91
16:U:92:ARG:O	16:U:92:ARG:HG2	1.69	0.91
20:Y:30:VAL:HG22	20:Y:37:VAL:HG12	1.53	0.91
6:G:37:VAL:HG22	6:G:159:VAL:HA	1.52	0.91
3:D:10:THR:HG23	3:D:13:ARG:HB3	1.51	0.91
23:1:80:LEU:O	23:1:81:LYS:HB2	1.71	0.91
1:A:483:A:H4'	20:Y:49:VAL:HA	1.52	0.91
11:P:1:MET:HE2	11:P:5:ASP:HB3	1.51	0.91
1:A:242:G:H5'	30:8:62:LEU:HD22	1.53	0.90
10:O:2:ILE:HD11	10:O:82:ASN:HD22	1.33	0.90
20:Y:38:ILE:HG22	20:Y:66:PRO:HA	1.54	0.90
17:V:24:LYS:HA	17:V:92:THR:HG23	1.52	0.90
11:P:106:LEU:O	11:P:107:LYS:HB2	1.71	0.90
17:V:44:LYS:O	17:V:46:VAL:HG12	1.72	0.90

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:3:LYS:HE3	27:5:3:LYS:HA	1.54	0.90
7:H:26:VAL:HG13	7:H:27:LYS:H	1.35	0.90
24:2:65:ASN:HB3	24:2:69:ARG:HH12	1.34	0.90
7:H:4:ILE:HG13	7:H:6:ARG:CZ	2.01	0.90
3:D:147:LEU:HD13	3:D:155:LEU:HD11	1.51	0.90
18:W:65:LEU:HD12	18:W:68:ARG:HH11	1.36	0.90
3:D:69:ARG:HH21	3:D:130:ALA:HB2	1.37	0.89
30:8:52:LYS:H	30:8:53:PRO:HD3	1.35	0.89
3:D:44:ASN:H	3:D:44:ASN:HD22	1.19	0.89
3:D:183:ARG:HH11	3:D:183:ARG:HG2	1.34	0.89
6:G:116:ASP:O	6:G:117:PHE:HB3	1.72	0.89
11:P:88:LEU:HD12	11:P:95:VAL:HG11	1.52	0.89
30:8:59:LYS:HB2	30:8:59:LYS:NZ	1.88	0.89
11:P:58:THR:O	11:P:61:ARG:NE	2.05	0.89
4:E:63:LEU:HD12	4:E:64:LYS:N	1.88	0.89
6:G:88:ILE:O	6:G:88:ILE:HD13	1.72	0.89
7:H:10:PRO:HD2	7:H:50:VAL:O	1.72	0.89
27:5:40:LYS:HZ1	27:5:48:GLU:HB2	1.37	0.88
11:P:64:LYS:O	11:P:66:GLY:N	2.06	0.88
20:Y:76:CYS:SG	20:Y:77:PRO:HD2	2.13	0.88
9:N:22:THR:HG22	9:N:23:LEU:N	1.88	0.88
5:F:29:ASN:H	5:F:112:MET:HE3	1.38	0.88
14:S:106:ARG:NH1	14:S:106:ARG:HB2	1.88	0.88
1:A:1021:A:OP2	9:N:65:LYS:NZ	2.06	0.88
11:P:49:ARG:HD2	30:8:58:ILE:HG22	1.54	0.88
23:1:82:LEU:HD13	23:1:83:GLU:O	1.74	0.87
3:D:44:ASN:CB	3:D:49:ILE:HA	2.04	0.87
4:E:77:ILE:HD12	4:E:78:LEU:N	1.89	0.87
3:D:27:THR:HG23	3:D:28:GLU:H	1.38	0.87
12:Q:64:ILE:HA	12:Q:106:VAL:HG12	1.54	0.87
23:1:82:LEU:HD11	23:1:83:GLU:O	1.75	0.87
3:D:181:GLU:HA	3:D:272:ALA:HB3	1.57	0.87
1:A:67:U:H3	1:A:74:A:H2	1.20	0.87
6:G:145:THR:HG23	26:4:28:LYS:HZ1	1.38	0.86
11:P:18:ARG:O	11:P:19:VAL:HB	1.75	0.86
6:G:161:THR:HG22	6:G:163:ALA:H	1.39	0.86
6:G:101:ILE:HG13	6:G:102:PHE:N	1.86	0.86
16:U:92:ARG:HD2	17:V:11:GLN:NE2	1.90	0.86
5:F:7:TYR:HB3	5:F:21:ALA:HB1	1.53	0.86
7:H:127:GLU:HG2	7:H:128:PRO:HD3	0.86	0.86
3:D:35:LYS:HG2	3:D:64:ILE:H	1.41	0.86
17:V:19:LYS:HD2	17:V:95:LEU:HD23	1.55	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:106:ARG:HH11	14:S:106:ARG:HB2	1.39	0.85
12:Q:75:THR:HA	12:Q:88:GLY:O	1.76	0.85
21:Z:151:HIS:HB3	21:Z:170:THR:HA	1.59	0.85
11:P:101:VAL:HG23	11:P:107:LYS:H	1.41	0.85
11:P:75:ILE:H	11:P:75:ILE:HD13	1.39	0.85
15:T:111:ARG:O	15:T:112:ARG:HG3	1.76	0.85
20:Y:51:VAL:O	20:Y:56:PRO:HA	1.76	0.85
6:G:67:LYS:HE2	26:4:6:HIS:NE2	1.92	0.85
30:8:59:LYS:NZ	30:8:59:LYS:CB	2.39	0.85
7:H:89:ILE:HD11	7:H:129:THR:HB	1.59	0.85
3:D:28:GLU:HB2	3:D:29:PRO:HD2	1.56	0.85
5:F:82:ILE:HG13	5:F:82:ILE:O	1.73	0.85
14:S:83:LYS:HG2	14:S:109:GLY:CA	2.07	0.84
3:D:17:THR:HG22	3:D:205:VAL:H	1.41	0.84
6:G:98:ARG:HA	6:G:101:ILE:HG12	1.59	0.84
17:V:49:THR:HB	17:V:50:PRO:CD	2.07	0.84
4:E:95:ILE:HD12	4:E:95:ILE:H	1.42	0.84
14:S:106:ARG:HA	14:S:110:LEU:CD1	2.07	0.84
10:O:26:LYS:HB2	10:O:30:ALA:HB2	1.59	0.84
4:E:81:ILE:O	4:E:82:ARG:HB2	1.76	0.84
7:H:54:ARG:NH1	7:H:62:LYS:HG2	1.92	0.84
20:Y:57:GLN:NE2	20:Y:58:GLY:H	1.76	0.84
4:E:61:ARG:O	4:E:63:LEU:HG	1.77	0.84
5:F:53:THR:HG23	5:F:56:GLU:OE1	1.77	0.84
11:P:62:LEU:CD2	30:8:25:MET:HB2	2.08	0.84
12:Q:30:GLY:HA2	12:Q:107:ALA:HB2	1.60	0.84
27:5:40:LYS:HD3	27:5:46:CYS:HB3	1.60	0.84
14:S:89:ARG:HD2	14:S:92:TYR:O	1.78	0.84
15:T:3:ARG:HG3	15:T:7:ILE:HG12	1.60	0.84
2:B:42:C:N4	6:G:91:ARG:HH21	1.76	0.83
13:R:117:VAL:HG22	13:R:118:GLU:H	1.43	0.83
23:1:92:LYS:HG3	23:1:96:LYS:HB2	1.58	0.83
5:F:32:LEU:HD13	5:F:105:VAL:HG13	1.59	0.83
28:6:27:LYS:NZ	28:6:27:LYS:HB2	1.94	0.83
7:H:13:LYS:HE2	7:H:13:LYS:HA	1.61	0.83
27:5:39:MET:O	27:5:40:LYS:HG3	1.77	0.83
11:P:126:VAL:HG22	11:P:145:PRO:HG2	1.61	0.83
11:P:59:LEU:HA	11:P:61:ARG:HH21	1.44	0.83
4:E:7:VAL:HG23	4:E:8:LYS:H	1.44	0.83
9:N:131:GLN:NE2	9:N:132:ALA:H	1.75	0.83
1:A:270(R):G:N3	23:1:78:LYS:NZ	2.26	0.83
9:N:133:GLN:HB2	9:N:135:PRO:HD3	1.59	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:53:ARG:O	15:T:59:THR:HG23	1.78	0.83
3:D:25:THR:CG2	3:D:82:ILE:H	1.93	0.82
7:H:105:LEU:H	7:H:105:LEU:HD13	1.42	0.82
15:T:24:PRO:HA	15:T:49:VAL:HG13	1.59	0.82
1:A:2068:U:H3	1:A:2430:A:H2	1.25	0.82
4:E:15:PHE:CE1	4:E:20:ALA:HB2	2.14	0.82
12:Q:81:VAL:HG23	22:0:7:LEU:HD21	1.61	0.82
16:U:64:ARG:HG2	16:U:64:ARG:HH21	1.42	0.82
1:A:631:A:OP2	30:8:46:ARG:NH2	2.11	0.82
20:Y:81:LYS:HD3	20:Y:97:ARG:HE	1.43	0.82
7:H:153:LYS:HG2	7:H:162:ILE:HG13	1.61	0.82
16:U:88:ILE:H	16:U:88:ILE:HD13	1.44	0.82
24:2:16:LEU:HG	24:2:16:LEU:O	1.78	0.82
1:A:265:A:N6	1:A:427:U:O2'	2.13	0.82
15:T:102:ILE:HA	15:T:105:LEU:HD21	1.62	0.82
26:4:36:CYS:O	26:4:39:CYS:HB2	1.80	0.82
3:D:35:LYS:NZ	3:D:104:TYR:HB2	1.93	0.82
9:N:22:THR:HG22	9:N:23:LEU:H	1.45	0.82
14:S:19:LYS:O	14:S:20:ARG:HB3	1.80	0.82
10:O:14:THR:HG21	10:O:86:ILE:HB	1.62	0.82
26:4:71:ARG:NH1	26:4:71:ARG:HG3	1.90	0.81
6:G:179:PRO:HG3	26:4:38:LYS:NZ	1.95	0.81
11:P:39:LYS:HA	11:P:45:LEU:CD1	2.10	0.81
14:S:88:ASP:O	14:S:89:ARG:HB3	1.78	0.81
4:E:24:THR:HG21	4:E:188:VAL:HG11	1.59	0.81
6:G:67:LYS:HE2	26:4:6:HIS:CE1	2.14	0.81
7:H:10:PRO:O	7:H:11:VAL:HG13	1.80	0.81
17:V:66:ARG:NH1	17:V:88:ARG:HD3	1.94	0.81
1:A:518:G:H4'	18:W:18:ARG:NH1	1.92	0.81
12:Q:90:VAL:HG13	12:Q:91:GLU:N	1.95	0.81
6:G:47:LYS:HD3	6:G:81:LYS:HB2	1.63	0.81
29:7:48:LYS:HG2	29:7:49:ARG:H	1.46	0.81
9:N:35:ARG:HG3	9:N:37:LYS:HG3	1.63	0.81
24:2:43:GLN:O	24:2:44:LEU:HG	1.81	0.81
4:E:50:GLY:CA	4:E:77:ILE:HA	2.10	0.81
14:S:36:TYR:HD2	14:S:52:SER:HB3	1.46	0.81
4:E:116:VAL:HG21	4:E:122:PHE:CD2	2.16	0.81
9:N:43:THR:HB	9:N:46:VAL:HG12	1.63	0.81
15:T:39:ARG:HG2	15:T:40:THR:H	1.46	0.81
1:A:2056:G:N2	27:5:4:HIS:O	2.13	0.80
5:F:155:LEU:HD13	5:F:174:VAL:HG13	1.62	0.80
20:Y:6:HIS:O	20:Y:7:VAL:HG13	1.81	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2562:U:O2'	10:O:23:ARG:NH1	2.14	0.80
3:D:27:THR:HG23	3:D:28:GLU:N	1.96	0.80
20:Y:76:CYS:HB3	20:Y:96:ILE:CD1	2.07	0.80
30:8:52:LYS:N	30:8:53:PRO:CD	2.43	0.80
4:E:52:LEU:HB2	4:E:75:VAL:HG23	1.61	0.80
7:H:8:PRO:C	7:H:9:ILE:HG12	2.00	0.80
12:Q:80:GLU:O	12:Q:81:VAL:CG1	2.30	0.80
26:4:33:VAL:HG12	26:4:34:GLU:H	1.44	0.80
10:O:31:LYS:HG3	10:O:32:TYR:CE2	2.17	0.80
27:5:4:HIS:HB3	27:5:5:PRO:CD	2.11	0.80
4:E:3:GLY:O	4:E:4:ILE:HB	1.81	0.80
5:F:198:ALA:HA	5:F:201:VAL:HG12	1.62	0.80
14:S:106:ARG:CA	14:S:110:LEU:HD21	2.10	0.80
4:E:201:THR:CG2	4:E:203:LYS:HB3	2.12	0.80
4:E:35:GLN:HG2	4:E:37:ARG:HE	1.44	0.80
7:H:152:ARG:O	7:H:153:LYS:HB2	1.80	0.80
3:D:121:PRO:HB3	3:D:135:PHE:HE1	1.46	0.80
6:G:61:ALA:HB2	6:G:68:PRO:CD	2.12	0.80
17:V:99:ILE:N	17:V:99:ILE:HD13	1.95	0.80
3:D:68:LYS:HB2	3:D:70:TRP:CH2	2.17	0.79
3:D:34:VAL:O	3:D:34:VAL:HG13	1.81	0.79
7:H:126:PRO:CG	7:H:127:GLU:H	1.95	0.79
7:H:169:VAL:HG22	7:H:170:ARG:H	1.48	0.79
15:T:62:THR:CG2	15:T:75:ILE:HG12	2.11	0.79
12:Q:81:VAL:O	12:Q:82:ARG:CG	2.31	0.79
16:U:105:VAL:HG22	17:V:44:LYS:HD2	1.65	0.79
1:A:138:G:N2	19:X:44:GLU:OE2	2.12	0.79
15:T:102:ILE:HA	15:T:105:LEU:CD2	2.13	0.79
25:3:56:VAL:HG12	25:3:57:GLU:H	1.48	0.79
3:D:17:THR:CG2	3:D:205:VAL:H	1.96	0.79
4:E:24:THR:HG21	4:E:188:VAL:CG1	2.13	0.79
11:P:14:LYS:O	11:P:16:ARG:HG2	1.83	0.79
1:A:2729:G:H1'	4:E:187:ALA:HB2	1.63	0.79
7:H:26:VAL:HG13	7:H:27:LYS:N	1.96	0.79
20:Y:86:ARG:HB2	20:Y:95:LYS:HD2	1.64	0.79
1:A:1490:A:O2'	3:D:99:ASP:OD2	2.00	0.79
6:G:77:ILE:HD13	6:G:82:LEU:HD12	1.65	0.79
7:H:153:LYS:CG	7:H:162:ILE:H	1.96	0.79
11:P:65:ARG:NH1	11:P:65:ARG:HG3	1.90	0.79
23:1:11:ARG:NH1	23:1:11:ARG:HB3	1.98	0.79
7:H:150:ALA:O	7:H:152:ARG:N	2.14	0.79
11:P:47:ASP:OD2	11:P:49:ARG:HG2	1.82	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:90:VAL:HG12	16:U:91:ASP:N	1.98	0.78
26:4:58:ARG:O	26:4:63:TYR:HB2	1.84	0.78
10:O:53:LYS:N	10:O:53:LYS:HD2	1.96	0.78
3:D:27:THR:HG21	3:D:83:GLU:HB3	1.63	0.78
12:Q:59:ARG:H	12:Q:59:ARG:HD3	1.48	0.78
6:G:128:ARG:HH21	6:G:128:ARG:HG3	1.48	0.78
10:O:97:ARG:H	10:O:117:LEU:HD22	1.48	0.78
19:X:70:LEU:HD23	19:X:70:LEU:N	1.99	0.78
3:D:54:ARG:HG3	3:D:54:ARG:NH1	1.98	0.78
3:D:94:LEU:HD22	3:D:95:LEU:N	1.98	0.78
4:E:137:HIS:HB3	4:E:138:PRO:HD2	1.64	0.78
11:P:19:VAL:HG22	11:P:20:GLY:N	1.97	0.78
17:V:47:VAL:HG13	17:V:48:GLY:H	1.49	0.78
1:A:602:G:HO2'	1:A:604:G:HO2'	1.31	0.78
4:E:4:ILE:HD12	4:E:28:ALA:HB1	1.66	0.78
5:F:145:GLU:HG3	5:F:145:GLU:O	1.81	0.78
3:D:34:VAL:HG21	3:D:103:ARG:HA	1.66	0.78
1:A:890:A:HO2'	1:A:892:G:H8	1.30	0.78
6:G:97:ASP:H	6:G:100:TRP:HD1	1.31	0.78
1:A:1021:A:N6	1:A:1141:U:O2	2.17	0.77
3:D:25:THR:HG22	3:D:82:ILE:H	1.46	0.77
7:H:132:ARG:NH1	7:H:132:ARG:HB2	1.94	0.77
10:O:47:ILE:HD12	10:O:48:PRO:HD2	1.66	0.77
1:A:637:A:H2'	11:P:117:GLU:OE2	1.84	0.77
16:U:66:ASN:O	16:U:70:ARG:HB2	1.84	0.77
1:A:958:U:OP2	12:Q:14:ARG:NH1	2.16	0.77
7:H:152:ARG:HG3	7:H:153:LYS:CE	2.13	0.77
1:A:2404:C:H1'	11:P:67:MET:HE1	1.66	0.77
6:G:127:GLY:HA2	6:G:166:ASP:CG	2.05	0.77
11:P:84:ASN:ND2	11:P:116:GLY:HA3	1.99	0.77
14:S:106:ARG:HA	14:S:110:LEU:HD21	1.64	0.77
1:A:1728:G:N1	1:A:1730:U:OP2	2.17	0.77
5:F:11:VAL:HB	5:F:18:ARG:HG3	1.64	0.77
9:N:71:ILE:HG21	9:N:84:LYS:HB3	1.65	0.77
13:R:74:LYS:O	13:R:75:LEU:HB3	1.84	0.77
3:D:44:ASN:N	3:D:44:ASN:HD22	1.79	0.77
23:1:13:ILE:HD11	23:1:42:GLN:OE1	1.84	0.77
5:F:20:LEU:HD12	5:F:21:ALA:H	1.49	0.77
20:Y:79:CYS:SG	20:Y:80:GLY:N	2.57	0.77
26:4:22:ILE:O	26:4:24:THR:HG23	1.84	0.77
30:8:59:LYS:HZ3	30:8:59:LYS:CB	1.96	0.77
18:W:65:LEU:CD1	18:W:68:ARG:HH11	1.97	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:15:GLU:CD	28:6:41:PRO:HB3	2.05	0.77
1:A:674:G:C1'	5:F:74:ARG:HD3	2.14	0.77
1:A:1190:G:OP1	11:P:30:THR:OG1	2.02	0.77
25:3:35:ARG:HB3	25:3:37:LEU:HD21	1.66	0.77
27:5:40:LYS:CD	27:5:46:CYS:HB3	2.15	0.77
1:A:259:G:H21	1:A:621:A:H8	1.31	0.77
5:F:183:VAL:O	5:F:187:VAL:HG23	1.85	0.77
12:Q:20:ALA:CB	12:Q:99:PRO:HD2	2.14	0.77
26:4:1:MET:HB2	26:4:6:HIS:NE2	2.00	0.77
3:D:153:ALA:O	3:D:154:LYS:HG3	1.85	0.77
3:D:25:THR:O	3:D:27:THR:N	2.17	0.77
12:Q:119:ARG:HG2	12:Q:119:ARG:HH11	1.48	0.77
24:2:47:ASN:HD22	24:2:47:ASN:H	1.33	0.76
12:Q:59:ARG:H	12:Q:59:ARG:CD	1.99	0.76
18:W:18:ARG:HG3	18:W:76:VAL:CG1	2.16	0.76
7:H:153:LYS:HA	7:H:153:LYS:NZ	2.00	0.76
9:N:62:VAL:HG12	9:N:66:LYS:HD2	1.65	0.76
11:P:114:ILE:HD11	11:P:130:PHE:CE1	2.19	0.76
12:Q:20:ALA:HB1	12:Q:99:PRO:HB2	1.65	0.76
14:S:60:GLY:O	14:S:61:ASN:HB3	1.83	0.76
4:E:111:ARG:HE	4:E:160:TYR:HE1	1.31	0.76
12:Q:66:ILE:HG13	12:Q:67:ARG:N	1.99	0.76
20:Y:94:LYS:O	20:Y:101:LYS:HB3	1.85	0.76
6:G:142:PRO:HB2	26:4:31:ILE:HD13	1.68	0.76
5:F:29:ASN:H	5:F:112:MET:CE	1.97	0.76
10:O:104:ARG:HG2	10:O:104:ARG:HH11	1.50	0.76
11:P:138:LEU:C	11:P:140:ALA:H	1.85	0.76
6:G:127:GLY:O	6:G:128:ARG:HG2	1.85	0.76
18:W:73:ALA:HB3	18:W:106:ILE:HG12	1.68	0.76
20:Y:81:LYS:HD3	20:Y:97:ARG:NE	2.00	0.76
6:G:61:ALA:HB2	6:G:68:PRO:HD3	1.65	0.76
6:G:76:SER:OG	6:G:83:ARG:HA	1.85	0.76
12:Q:90:VAL:HG13	12:Q:91:GLU:H	1.49	0.76
7:H:125:VAL:HA	7:H:126:PRO:HB3	1.68	0.76
20:Y:95:LYS:HB3	20:Y:100:ALA:CA	2.10	0.76
1:A:1142(A):A:H4'	9:N:25:ARG:HH22	1.48	0.76
15:T:111:ARG:O	15:T:113:LYS:N	2.17	0.76
23:1:86:SER:N	23:1:87:PRO:CD	2.48	0.76
26:4:34:GLU:HG3	26:4:35:VAL:H	1.51	0.76
28:6:34:LEU:H	28:6:34:LEU:HD13	1.50	0.76
3:D:69:ARG:HH21	3:D:130:ALA:CB	1.99	0.76
5:F:101:LEU:CD1	5:F:102:PRO:HD2	2.11	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:23:VAL:HG21	4:E:183:LEU:HD23	1.68	0.75
4:E:36:ARG:HH21	4:E:88:GLY:HA2	1.51	0.75
6:G:101:ILE:HG13	6:G:102:PHE:H	1.48	0.75
11:P:62:LEU:N	11:P:62:LEU:CD2	2.46	0.75
11:P:97:PRO:O	11:P:98:GLU:HB3	1.83	0.75
15:T:50:ILE:HD12	15:T:102:ILE:HD11	1.68	0.75
30:8:59:LYS:HB2	30:8:59:LYS:HZ2	1.49	0.75
4:E:63:LEU:CD1	4:E:65:GLY:H	2.00	0.75
23:1:81:LYS:CA	23:1:81:LYS:NZ	2.30	0.75
6:G:3:LEU:HD12	6:G:4:ASP:H	1.52	0.75
10:O:47:ILE:CD1	10:O:48:PRO:HD2	2.16	0.75
17:V:52:VAL:HG21	17:V:55:ALA:HB3	1.68	0.75
20:Y:44:ILE:HG13	20:Y:45:VAL:N	2.00	0.75
11:P:62:LEU:HD21	30:8:25:MET:HB2	1.69	0.75
31:9:1:MET:HB3	31:9:4:ARG:NH1	2.01	0.75
16:U:88:ILE:HG22	16:U:90:VAL:HG23	1.68	0.75
1:A:1496:A:H8	1:A:1577:C:HO2'	1.34	0.75
3:D:142:VAL:HG23	3:D:193:VAL:HA	1.67	0.75
16:U:92:ARG:HH11	16:U:95:LEU:CD1	2.00	0.75
20:Y:97:ARG:HH21	20:Y:98:VAL:CB	1.98	0.75
23:1:56:GLN:N	23:1:56:GLN:NE2	2.34	0.75
1:A:1803:A:H4'	3:D:259:THR:CG2	2.16	0.75
5:F:29:ASN:HB3	5:F:112:MET:HE1	1.69	0.75
13:R:33:ARG:HH22	27:5:55:ARG:HG2	1.51	0.75
17:V:35:LEU:H	17:V:35:LEU:HD22	1.51	0.75
19:X:57:LEU:HD11	19:X:78:LYS:HB2	1.68	0.75
23:1:80:LEU:O	23:1:81:LYS:CB	2.35	0.75
1:A:571:A:O2'	17:V:78:LYS:NZ	2.19	0.75
3:D:146:GLU:HB2	3:D:189:CYS:HB3	1.67	0.75
15:T:43:GLN:HG2	15:T:44:ASP:N	1.99	0.75
1:A:74:A:H4'	1:A:75:G:O5'	1.87	0.75
7:H:150:ALA:C	7:H:152:ARG:H	1.88	0.75
11:P:75:ILE:N	11:P:75:ILE:HD13	2.00	0.75
17:V:51:VAL:HG12	17:V:52:VAL:H	1.52	0.75
20:Y:90:LEU:N	20:Y:90:LEU:HD22	2.02	0.75
1:A:2419:U:H5'	28:6:23:THR:HG22	1.69	0.74
5:F:7:TYR:HB3	5:F:21:ALA:CB	2.16	0.74
13:R:73:VAL:O	13:R:76:VAL:HG12	1.87	0.74
18:W:40:ASN:O	18:W:41:LYS:HG2	1.86	0.74
20:Y:97:ARG:NH2	20:Y:98:VAL:HB	2.01	0.74
27:5:47:PRO:O	27:5:48:GLU:HG3	1.86	0.74
4:E:61:ARG:HB2	4:E:62:PRO:HD3	1.69	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:78:LEU:HD13	15:T:78:LEU:O	1.87	0.74
16:U:52:ARG:HG2	16:U:52:ARG:HH11	1.51	0.74
20:Y:51:VAL:HG13	20:Y:52:SER:N	2.03	0.74
1:A:2563:U:H4'	10:O:28:SER:HA	1.69	0.74
3:D:54:ARG:HG3	3:D:54:ARG:HH11	1.49	0.74
3:D:30:GLU:HG3	3:D:63:ARG:CZ	2.17	0.74
21:Z:103:ARG:HB2	21:Z:138:GLU:HG2	1.69	0.74
23:1:26:ARG:HD2	23:1:26:ARG:O	1.86	0.74
25:3:7:LYS:HB2	25:3:34:GLU:HG2	1.69	0.74
1:A:1826:G:H4'	3:D:242:ARG:HH21	1.50	0.74
9:N:96:GLU:HG2	9:N:97:ARG:N	2.01	0.74
12:Q:79:LEU:CD2	12:Q:79:LEU:O	2.36	0.74
14:S:36:TYR:CD2	14:S:52:SER:HB3	2.23	0.74
15:T:26:ASP:HB3	15:T:91:ARG:HA	1.69	0.74
5:F:129:PHE:HA	5:F:142:TRP:NE1	2.02	0.74
1:A:1279:G:H4'	13:R:31:HIS:HD2	1.52	0.74
1:A:1403:C:H5''	1:A:1471:A:H1'	1.70	0.74
1:A:583:G:H5''	16:U:10:ARG:HH12	1.53	0.74
5:F:136:THR:HG22	5:F:166:ALA:O	1.87	0.74
7:H:153:LYS:HG2	7:H:162:ILE:H	1.52	0.74
16:U:64:ARG:CG	16:U:64:ARG:HH21	2.00	0.74
15:T:54:ARG:HH11	15:T:54:ARG:HG2	1.52	0.74
25:3:29:ARG:HH11	25:3:29:ARG:HB2	1.53	0.74
1:A:1689:A:H62	1:A:1698:A:H2	1.35	0.74
17:V:15:GLU:O	17:V:18:LEU:HB2	1.86	0.74
4:E:78:LEU:HG	4:E:79:ARG:NE	2.03	0.74
9:N:1:MET:HE1	16:U:95:LEU:HD21	1.70	0.73
26:4:41:PRO:O	26:4:42:PHE:HB3	1.87	0.73
3:D:131:LEU:HB2	3:D:136:ILE:CD1	2.17	0.73
1:A:1509:C:H3'	1:A:1510:A:H5''	1.70	0.73
1:A:1903:G:OP2	3:D:241:PRO:HB2	1.88	0.73
7:H:153:LYS:HG3	7:H:161:GLY:CA	2.18	0.73
15:T:102:ILE:HB	15:T:110:ILE:CD1	2.19	0.73
10:O:26:LYS:HB2	10:O:30:ALA:CB	2.18	0.73
24:2:29:LYS:HD3	24:2:57:ILE:HD13	1.71	0.73
1:A:1454:U:OP1	13:R:77:ARG:NH1	2.22	0.73
1:A:2343:C:O2'	1:A:2373:G:O2'	2.06	0.73
14:S:62:LYS:HB3	14:S:97:ARG:HD3	1.68	0.73
26:4:29:PRO:O	26:4:30:GLU:HB2	1.89	0.73
1:A:2298:A:H62	1:A:2318:G:H8	1.36	0.73
27:5:40:LYS:CE	27:5:46:CYS:HB3	2.19	0.73
30:8:61:LEU:O	30:8:62:LEU:HB2	1.88	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:203:LYS:O	4:E:203:LYS:HD2	1.88	0.73
9:N:58:ASP:H	9:N:60:ILE:HD11	1.53	0.73
12:Q:79:LEU:O	12:Q:79:LEU:CD1	2.35	0.73
4:E:77:ILE:HD12	4:E:78:LEU:H	1.52	0.73
28:6:13:CYS:HA	28:6:50:ARG:O	1.89	0.73
30:8:16:ILE:HD11	30:8:57:ARG:HG2	1.69	0.73
1:A:1803:A:H4'	3:D:259:THR:HG21	1.70	0.73
6:G:7:LEU:HD21	6:G:176:LEU:HD22	1.70	0.73
13:R:3:HIS:O	13:R:5:LYS:N	2.22	0.73
1:A:2392:A:H2	1:A:2424:C:H42	1.37	0.72
3:D:77:ALA:CB	3:D:97:TYR:HA	2.18	0.72
11:P:126:VAL:CG1	11:P:147:LEU:HD21	2.17	0.72
12:Q:79:LEU:C	12:Q:79:LEU:HD22	2.07	0.72
14:S:83:LYS:HZ2	14:S:109:GLY:HA2	1.53	0.72
27:5:58:LEU:CD1	27:5:60:VAL:HG12	2.19	0.72
4:E:55:ASN:C	4:E:57:LYS:H	1.91	0.72
25:3:56:VAL:HG12	25:3:57:GLU:N	2.04	0.72
1:A:2810:A:O3'	4:E:61:ARG:HG3	1.90	0.72
6:G:146:TYR:O	6:G:149:VAL:HG22	1.89	0.72
7:H:125:VAL:HG12	7:H:126:PRO:HG3	1.71	0.72
7:H:152:ARG:O	7:H:153:LYS:HD2	1.90	0.72
9:N:89:LYS:O	9:N:93:THR:HG22	1.90	0.72
11:P:88:LEU:C	11:P:90:ARG:H	1.92	0.72
13:R:117:VAL:HG22	13:R:118:GLU:N	2.05	0.72
14:S:26:LEU:O	14:S:26:LEU:HD23	1.90	0.72
16:U:98:LEU:HD23	16:U:99:ALA:N	2.04	0.72
3:D:35:LYS:HZ1	3:D:65:ILE:HA	1.52	0.72
12:Q:90:VAL:CG1	12:Q:91:GLU:H	2.02	0.72
13:R:85:PRO:O	13:R:87:TYR:N	2.22	0.72
20:Y:52:SER:OG	20:Y:53:PRO:HD3	1.88	0.72
24:2:27:GLU:N	24:2:27:GLU:OE1	2.19	0.72
30:8:29:LYS:HD3	30:8:44:LYS:HB2	1.71	0.72
8:I:144:VAL:HG13	8:I:145:VAL:HG13	1.71	0.72
14:S:83:LYS:C	14:S:109:GLY:HA3	2.10	0.72
16:U:34:LYS:HA	16:U:34:LYS:HE2	1.69	0.72
17:V:39:LEU:O	17:V:40:LEU:HD23	1.90	0.72
1:A:1798:U:H5''	3:D:259:THR:HG22	1.71	0.72
4:E:201:THR:HG22	4:E:203:LYS:HB3	1.69	0.72
4:E:21:VAL:HB	4:E:22:PRO:CB	2.18	0.72
5:F:124:LEU:HD12	5:F:125:LEU:N	2.04	0.72
7:H:132:ARG:CB	7:H:132:ARG:HH11	1.97	0.72
23:1:3:LYS:HD3	23:1:43:TYR:HD2	1.52	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:80:LEU:HB2	23:1:81:LYS:HE2	1.71	0.72
7:H:54:ARG:HH12	7:H:62:LYS:HG2	1.54	0.72
15:T:117:ASP:O	15:T:121:ILE:HG13	1.89	0.72
4:E:14:ILE:HD11	15:T:14:TYR:OH	1.90	0.72
29:7:10:ARG:O	29:7:14:LYS:HB2	1.89	0.72
1:A:780:G:H21	1:A:783:A:H62	1.36	0.72
5:F:32:LEU:HD12	5:F:32:LEU:O	1.90	0.72
1:A:2131:G:H4'	1:A:2132:U:H4'	1.72	0.72
4:E:13:ARG:HA	4:E:22:PRO:HA	1.71	0.72
4:E:197:ILE:HD11	4:E:199:ARG:HH12	1.55	0.72
5:F:157:VAL:HB	5:F:194:MET:HB3	1.70	0.72
7:H:30:LYS:HD2	7:H:81:GLU:H	1.54	0.72
11:P:127:ALA:C	11:P:147:LEU:HD23	2.10	0.72
20:Y:57:GLN:HE21	20:Y:58:GLY:H	1.37	0.72
23:1:76:ARG:HG2	23:1:76:ARG:HH11	1.53	0.72
30:8:60:LEU:C	30:8:63:PRO:HD2	2.11	0.72
5:F:32:LEU:C	5:F:32:LEU:HD12	2.10	0.72
7:H:128:PRO:HD2	7:H:129:THR:H	1.55	0.72
7:H:26:VAL:CG1	7:H:27:LYS:H	2.02	0.72
14:S:83:LYS:HG2	14:S:109:GLY:N	2.04	0.72
18:W:70:TYR:H	18:W:70:TYR:HD2	1.37	0.72
23:1:80:LEU:C	23:1:81:LYS:HE2	2.10	0.71
27:5:2:ALA:O	27:5:3:LYS:HB2	1.88	0.71
1:A:1754:C:OP1	15:T:96:ARG:NH1	2.21	0.71
4:E:56:PRO:O	4:E:57:LYS:HB2	1.89	0.71
7:H:84:SER:O	7:H:85:LYS:HB2	1.89	0.71
14:S:103:GLU:O	14:S:106:ARG:HG3	1.90	0.71
1:A:482:A:O2'	20:Y:47:LYS:NZ	2.22	0.71
1:A:2245:U:H5'	1:A:2246:G:H5'	1.70	0.71
5:F:9:ILE:HD11	5:F:125:LEU:HG	1.70	0.71
14:S:67:ARG:O	14:S:71:ARG:HG3	1.89	0.71
16:U:69:CYS:HB3	16:U:106:PHE:HZ	1.55	0.71
28:6:28:ARG:HB3	28:6:30:THR:H	1.55	0.71
29:7:5:TRP:NE1	29:7:7:PRO:HG3	2.04	0.71
30:8:58:ILE:HD13	30:8:61:LEU:HD11	1.72	0.71
1:A:2014:A:O2'	27:5:2:ALA:HB2	1.91	0.71
5:F:185:ASP:OD1	5:F:188:ARG:NH1	2.23	0.71
10:O:3:GLN:HB2	10:O:4:PRO:HD2	1.72	0.71
11:P:85:LEU:HA	11:P:88:LEU:HD22	1.71	0.71
24:2:41:ILE:C	24:2:41:ILE:HD12	2.10	0.71
30:8:60:LEU:O	30:8:63:PRO:HD2	1.90	0.71
5:F:185:ASP:HA	5:F:188:ARG:CD	2.20	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:58:THR:O	11:P:61:ARG:CZ	2.38	0.71
28:6:36:LEU:HD13	28:6:50:ARG:NH1	2.05	0.71
3:D:263:ARG:HB2	3:D:263:ARG:NH1	2.06	0.71
9:N:1:MET:CE	16:U:95:LEU:HD21	2.21	0.71
19:X:12:VAL:HG12	19:X:27:THR:O	1.90	0.71
1:A:528:A:C2	1:A:2042:A:H2'	2.25	0.71
11:P:49:ARG:HD2	30:8:58:ILE:CG2	2.20	0.71
15:T:23:ARG:HB2	15:T:24:PRO:HD2	1.71	0.71
24:2:7:ARG:HG3	24:2:7:ARG:HH11	1.55	0.71
27:5:40:LYS:HE2	27:5:47:PRO:HD2	1.73	0.71
28:6:29:ASN:OD1	28:6:30:THR:HG22	1.91	0.71
4:E:93:VAL:H	4:E:95:ILE:HD12	1.54	0.71
14:S:83:LYS:HZ1	14:S:109:GLY:HA2	1.52	0.71
18:W:6:ILE:HG12	18:W:104:THR:HG23	1.73	0.71
1:A:1479:G:N7	1:A:1510:A:N6	2.39	0.70
1:A:2287:A:H62	1:A:2344:U:H3	1.39	0.70
7:H:59:ARG:HH11	7:H:59:ARG:HG3	1.56	0.70
7:H:80:SER:O	7:H:81:GLU:HB2	1.89	0.70
3:D:244:ARG:HB2	3:D:245:PRO:HD2	1.71	0.70
5:F:66:PRO:O	5:F:67:GLN:HB3	1.90	0.70
11:P:20:GLY:HA2	11:P:27:HIS:O	1.91	0.70
23:1:81:LYS:HE2	23:1:81:LYS:CA	2.13	0.70
4:E:28:ALA:HB3	4:E:93:VAL:HG22	1.72	0.70
5:F:178:PRO:HG2	5:F:179:GLU:OE2	1.90	0.70
10:O:113:LYS:HG2	10:O:117:LEU:HD11	1.71	0.70
23:1:80:LEU:C	23:1:81:LYS:HD2	2.12	0.70
1:A:1113:U:OP1	7:H:2:SER:N	2.24	0.70
1:A:1187:G:H5''	17:V:81:TYR:CE2	2.26	0.70
7:H:103:LEU:HD12	7:H:131:VAL:HG21	1.73	0.70
7:H:152:ARG:O	7:H:153:LYS:CB	2.39	0.70
16:U:65:ILE:HG12	16:U:96:ALA:HB1	1.73	0.70
17:V:22:VAL:HG12	17:V:23:GLU:N	2.06	0.70
28:6:25:LYS:HD2	30:8:34:TRP:HZ2	1.56	0.70
1:A:49:A:N7	1:A:120:U:H5	1.89	0.70
4:E:14:ILE:HG12	4:E:15:PHE:N	2.07	0.70
5:F:101:LEU:O	5:F:106:ARG:NH1	2.23	0.70
2:B:45:A:O4'	6:G:95:ARG:NH1	2.25	0.70
7:H:89:ILE:CD1	7:H:129:THR:HB	2.20	0.70
15:T:41:ARG:NH2	15:T:43:GLN:HB2	2.06	0.70
23:1:7:ILE:CD1	23:1:70:VAL:HG22	2.21	0.70
7:H:86:GLU:CG	7:H:165:ALA:H	1.94	0.70
1:A:2467:C:H4'	12:Q:123:HIS:CD2	2.27	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:32:TYR:CD1	12:Q:133:ARG:HA	2.27	0.70
16:U:66:ASN:HB2	16:U:76:TYR:HB2	1.72	0.70
18:W:29:LEU:HD21	18:W:33:ARG:CZ	2.22	0.70
3:D:43:ARG:HB3	3:D:54:ARG:HB2	1.73	0.70
4:E:103:ASP:OD1	4:E:201:THR:HA	1.92	0.70
5:F:164:ARG:HG3	5:F:175:THR:OG1	1.92	0.70
14:S:42:ASP:O	14:S:43:GLU:HB2	1.90	0.70
27:5:40:LYS:HE2	27:5:47:PRO:CD	2.21	0.70
5:F:178:PRO:HB2	5:F:201:VAL:HG11	1.73	0.70
7:H:154:PRO:HG2	7:H:162:ILE:O	1.92	0.70
10:O:63:VAL:HG13	10:O:84:ALA:HA	1.73	0.70
15:T:57:PHE:C	15:T:58:ASN:HD22	1.93	0.70
23:1:82:LEU:HD12	23:1:83:GLU:CA	2.21	0.70
1:A:1019:U:H3	1:A:1142(A):A:H62	1.38	0.70
23:1:7:ILE:HD12	23:1:70:VAL:HG22	1.73	0.70
1:A:2701:C:H3'	1:A:2702:U:C5'	2.17	0.70
3:D:65:ILE:HD13	3:D:65:ILE:O	1.91	0.70
6:G:131:TYR:O	6:G:159:VAL:HG13	1.92	0.70
12:Q:43:THR:OG1	12:Q:46:GLN:HB2	1.91	0.70
22:0:12:ASN:HA	22:0:14:ARG:HH21	1.56	0.69
11:P:83:VAL:CG1	11:P:112:LEU:HD21	2.21	0.69
11:P:114:ILE:HD13	11:P:125:VAL:HG21	1.72	0.69
11:P:64:LYS:C	11:P:66:GLY:H	1.94	0.69
14:S:54:LEU:O	14:S:54:LEU:HD13	1.91	0.69
17:V:51:VAL:HG12	17:V:52:VAL:N	2.06	0.69
17:V:41:GLY:HA3	17:V:46:VAL:HG11	1.74	0.69
19:X:57:LEU:HD11	19:X:78:LYS:HD2	1.73	0.69
23:1:53:VAL:HG22	23:1:74:VAL:HG13	1.74	0.69
24:2:47:ASN:O	24:2:49:LYS:N	2.25	0.69
1:A:1794:U:H2'	1:A:1795:C:H6	1.57	0.69
11:P:64:LYS:HB2	30:8:25:MET:CG	2.22	0.69
10:O:8:LEU:HD22	10:O:8:LEU:N	2.07	0.69
18:W:86:LEU:HD12	18:W:87:PRO:CD	2.23	0.69
3:D:65:ILE:HD11	3:D:67:PHE:CD1	2.27	0.69
5:F:65:TRP:HZ3	5:F:73:ALA:O	1.74	0.69
11:P:50:ARG:HB3	11:P:50:ARG:NH2	1.98	0.69
17:V:66:ARG:HH12	17:V:88:ARG:NH1	1.90	0.69
23:1:64:ALA:HA	23:1:67:ILE:HG13	1.75	0.69
27:5:40:LYS:HG2	27:5:47:PRO:HD2	1.75	0.69
4:E:7:VAL:HG23	4:E:8:LYS:N	2.06	0.69
7:H:89:ILE:HG12	7:H:89:ILE:O	1.92	0.69
11:P:61:ARG:HD2	11:P:61:ARG:H	1.58	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:14:THR:HG21	28:6:19:ARG:HH21	1.58	0.69
1:A:704:G:H2'	1:A:726:G:H22	1.57	0.69
3:D:89:SER:HB2	3:D:159:ALA:HB2	1.75	0.69
7:H:150:ALA:C	7:H:152:ARG:N	2.44	0.69
7:H:154:PRO:O	7:H:155:SER:HB2	1.91	0.69
9:N:120:LEU:HD11	9:N:122:VAL:HG23	1.74	0.69
9:N:56:ASN:HD22	9:N:125:GLY:C	1.96	0.69
14:S:106:ARG:N	14:S:110:LEU:HD21	2.07	0.69
20:Y:45:VAL:HG12	20:Y:60:PHE:CD1	2.27	0.69
23:1:82:LEU:HD13	23:1:83:GLU:N	2.05	0.69
3:D:76:PRO:O	3:D:98:VAL:HG23	1.91	0.69
6:G:28:VAL:HG23	6:G:29:TRP:CD1	2.28	0.69
9:N:68:GLU:HG2	9:N:88:GLU:OE1	1.92	0.69
22:0:27:GLU:HG3	22:0:68:GLU:HA	1.74	0.69
1:A:957:A:H5'	12:Q:76:LYS:HD2	1.75	0.69
3:D:17:THR:HG22	3:D:205:VAL:N	2.08	0.69
5:F:67:GLN:O	5:F:68:LYS:CB	2.39	0.69
9:N:7:LYS:HD3	9:N:9:VAL:HA	1.75	0.69
11:P:29:LYS:HD2	11:P:30:THR:HG22	1.72	0.69
11:P:62:LEU:HD22	11:P:62:LEU:H	1.53	0.69
11:P:62:LEU:HD23	30:8:25:MET:HB2	1.74	0.69
6:G:16:ARG:HH21	6:G:31:VAL:CG1	2.05	0.69
13:R:29:LEU:HD23	13:R:79:LEU:HD12	1.75	0.69
19:X:12:VAL:HG11	19:X:27:THR:OG1	1.93	0.69
1:A:2632:A:HO2'	1:A:2811:G:HO2'	1.35	0.69
3:D:17:THR:CG2	3:D:204:ILE:HA	2.23	0.69
1:A:2404:C:H1'	11:P:67:MET:CE	2.22	0.69
16:U:65:ILE:HD11	16:U:93:LYS:HA	1.74	0.69
16:U:8:VAL:HG23	16:U:11:ARG:NH2	1.99	0.69
3:D:35:LYS:HB3	3:D:63:ARG:HA	1.75	0.68
21:Z:60:GLU:HA	21:Z:66:SER:HA	1.75	0.68
1:A:2789:C:H1'	1:A:2892:A:H2	1.58	0.68
1:A:482:A:H4'	20:Y:47:LYS:HD2	1.74	0.68
4:E:65:GLY:HA2	4:E:70:ALA:CB	2.23	0.68
6:G:56:ALA:HB2	6:G:153:ARG:HE	1.57	0.68
14:S:106:ARG:CA	14:S:110:LEU:HD11	2.19	0.68
14:S:57:LYS:H	14:S:57:LYS:HD3	1.58	0.68
20:Y:2:ARG:HG2	20:Y:2:ARG:HH11	1.57	0.68
28:6:41:PRO:CG	28:6:45:LYS:H	2.05	0.68
1:A:2723:C:H5''	13:R:1:MET:HG2	1.75	0.68
14:S:100:ALA:HA	14:S:103:GLU:HG2	1.75	0.68
20:Y:61:ILE:CG2	20:Y:62:GLU:N	2.56	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:784:A:N7	3:D:229:VAL:HG21	2.09	0.68
8:I:73:GLU:HG3	8:I:136:VAL:HG23	1.76	0.68
15:T:109:GLU:O	15:T:113:LYS:HB2	1.94	0.68
20:Y:29:GLU:HB3	20:Y:38:ILE:HG12	1.74	0.68
20:Y:48:ALA:O	20:Y:49:VAL:C	2.30	0.68
1:A:857:C:OP2	22:O:77:ARG:NH2	2.26	0.68
6:G:112:PRO:CB	26:4:37:SER:HB2	2.22	0.68
7:H:126:PRO:HB2	7:H:130:ARG:O	1.93	0.68
18:W:29:LEU:HD21	18:W:33:ARG:NE	2.08	0.68
24:2:23:LYS:O	24:2:27:GLU:OE1	2.11	0.68
1:A:1252:G:N3	16:U:33:ARG:HD2	2.08	0.68
4:E:16:ARG:HG3	4:E:16:ARG:O	1.92	0.68
7:H:4:ILE:HG13	7:H:6:ARG:NE	2.08	0.68
9:N:46:VAL:O	9:N:47:ALA:HB3	1.92	0.68
17:V:18:LEU:O	17:V:95:LEU:HA	1.94	0.68
18:W:1:MET:HE2	18:W:2:GLU:H	1.58	0.68
21:Z:145:GLU:HG3	21:Z:146:ILE:HG12	1.76	0.68
27:5:20:ARG:HA	27:5:23:HIS:ND1	2.08	0.68
7:H:126:PRO:CD	7:H:127:GLU:H	2.07	0.68
7:H:126:PRO:HG2	7:H:127:GLU:H	1.58	0.68
12:Q:80:GLU:HG3	12:Q:81:VAL:H	1.58	0.68
20:Y:40:GLU:HA	20:Y:64:GLU:OE1	1.94	0.68
23:1:4:VAL:HG23	23:1:10:LYS:O	1.93	0.68
1:A:2864:G:OP1	15:T:119:LYS:HD2	1.93	0.68
3:D:241:PRO:O	3:D:243:GLY:N	2.27	0.68
4:E:9:VAL:HB	4:E:25:VAL:HG23	1.76	0.68
6:G:171:ALA:O	6:G:175:LEU:HG	1.93	0.68
7:H:4:ILE:HG13	7:H:6:ARG:NH1	2.09	0.68
11:P:39:LYS:CA	11:P:45:LEU:HD11	2.23	0.68
15:T:50:ILE:HG22	15:T:62:THR:OG1	1.94	0.68
1:A:64:A:C4	19:X:66:LEU:HD13	2.29	0.68
23:1:20:ARG:HG2	23:1:20:ARG:HH11	1.58	0.68
23:1:74:VAL:O	23:1:74:VAL:HG12	1.93	0.68
24:2:64:LEU:HD22	24:2:68:ARG:HD2	1.76	0.68
9:N:96:GLU:CG	9:N:97:ARG:H	2.00	0.68
12:Q:66:ILE:HG13	12:Q:67:ARG:H	1.58	0.68
26:4:15:ILE:HD13	26:4:15:ILE:N	2.09	0.68
3:D:35:LYS:HZ1	3:D:104:TYR:HB2	1.56	0.68
12:Q:133:ARG:O	12:Q:134:ARG:HB2	1.94	0.68
10:O:14:THR:O	10:O:51:ALA:HB3	1.94	0.67
11:P:15:ARG:O	11:P:16:ARG:C	2.32	0.67
12:Q:90:VAL:CG1	12:Q:91:GLU:N	2.57	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:35:ILE:HD13	14:S:101:LEU:HD23	1.76	0.67
20:Y:21:LYS:HG3	20:Y:22:GLY:N	2.09	0.67
21:Z:182:LYS:HG3	21:Z:183:LEU:HD23	1.75	0.67
7:H:77:LYS:O	7:H:77:LYS:HG2	1.94	0.67
11:P:65:ARG:HH11	11:P:65:ARG:CG	2.06	0.67
12:Q:12:GLN:CG	12:Q:73:PRO:HD2	2.21	0.67
1:A:2277:G:H5'	12:Q:85:LYS:HG3	1.75	0.67
3:D:44:ASN:N	3:D:44:ASN:ND2	2.42	0.67
4:E:116:VAL:O	4:E:117:MET:HB3	1.94	0.67
14:S:26:LEU:HD12	14:S:39:ILE:CD1	2.23	0.67
15:T:50:ILE:CD1	15:T:102:ILE:HD11	2.25	0.67
23:1:51:VAL:HG11	23:1:74:VAL:HG21	1.76	0.67
1:A:1899:G:H21	1:A:1902:C:N4	1.92	0.67
8:I:92:VAL:HG13	8:I:120:ILE:HG23	1.75	0.67
10:O:25:LEU:HB2	10:O:38:VAL:HG13	1.74	0.67
11:P:26:GLY:O	11:P:28:GLY:N	2.26	0.67
12:Q:104:PHE:CE1	12:Q:125:LEU:HD11	2.29	0.67
12:Q:33:GLY:HA2	12:Q:105:GLU:HA	1.76	0.67
12:Q:90:VAL:O	12:Q:92:GLY:N	2.25	0.67
14:S:52:SER:O	14:S:56:LEU:HD22	1.93	0.67
14:S:67:ARG:CZ	14:S:67:ARG:HB2	2.24	0.67
27:5:4:HIS:HB3	27:5:5:PRO:HD3	1.75	0.67
1:A:2250:G:C6	12:Q:82:ARG:HD2	2.29	0.67
20:Y:14:LEU:HD23	20:Y:15:VAL:N	2.10	0.67
20:Y:49:VAL:O	20:Y:51:VAL:N	2.27	0.67
26:4:33:VAL:HG12	26:4:34:GLU:N	2.10	0.67
28:6:48:VAL:HG13	28:6:49:HIS:H	1.60	0.67
1:A:1980:G:O2'	1:A:1982:C:OP2	2.12	0.67
4:E:26:ILE:HD13	4:E:27:LEU:N	2.10	0.67
15:T:108:ARG:HA	15:T:111:ARG:CZ	2.24	0.67
1:A:2580:U:H4'	4:E:130:GLY:HA3	1.75	0.67
1:A:2610:C:H4'	1:A:2611:U:OP2	1.93	0.67
4:E:13:ARG:HH11	4:E:13:ARG:CB	2.07	0.67
17:V:25:LEU:H	17:V:92:THR:HG21	1.60	0.67
23:1:86:SER:N	23:1:87:PRO:HD2	2.10	0.67
25:3:29:ARG:HB2	25:3:29:ARG:NH1	2.10	0.67
2:B:15:A:H5'	2:B:16:G:C8	2.30	0.67
4:E:62:PRO:O	4:E:64:LYS:N	2.28	0.67
5:F:184:TYR:O	5:F:188:ARG:HG3	1.94	0.67
5:F:34:TRP:HA	11:P:6:LEU:HD12	1.77	0.67
12:Q:81:VAL:C	12:Q:82:ARG:HG2	2.15	0.67
16:U:90:VAL:O	16:U:92:ARG:N	2.26	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:19:ARG:NH1	21:Z:84:GLU:O	2.24	0.67
26:4:16:CYS:SG	26:4:33:VAL:HB	2.35	0.67
1:A:1434:A:H61	1:A:1558:A:N6	1.91	0.67
1:A:2306:C:H3'	1:A:2307:G:H5''	1.77	0.67
7:H:88:LEU:H	7:H:88:LEU:HD22	1.59	0.67
12:Q:104:PHE:HE1	12:Q:125:LEU:HD11	1.58	0.67
17:V:44:LYS:O	17:V:46:VAL:N	2.28	0.67
23:1:83:GLU:HG2	23:1:84:GLY:N	2.09	0.67
3:D:35:LYS:CA	3:D:64:ILE:HG22	2.25	0.67
5:F:103:LYS:HA	5:F:106:ARG:CG	2.21	0.67
11:P:122:PRO:HA	11:P:141:ALA:O	1.95	0.67
28:6:43:CYS:SG	28:6:44:ARG:HD3	2.35	0.66
1:A:2680:C:H5'	4:E:189:PRO:HA	1.76	0.66
5:F:46:ARG:HH11	5:F:46:ARG:CG	2.04	0.66
9:N:57:ALA:HA	9:N:60:ILE:HD11	1.78	0.66
10:O:13:ASN:ND2	10:O:96:THR:O	2.28	0.66
11:P:61:ARG:CD	11:P:61:ARG:H	2.09	0.66
12:Q:88:GLY:C	12:Q:90:VAL:N	2.47	0.66
17:V:53:GLU:O	17:V:53:GLU:HG2	1.94	0.66
1:A:518:G:C4'	18:W:18:ARG:HH12	1.99	0.66
24:2:65:ASN:HB3	24:2:69:ARG:NH1	2.10	0.66
8:I:3:VAL:HG12	8:I:38:LEU:HA	1.77	0.66
12:Q:32:TYR:HD1	12:Q:133:ARG:HA	1.60	0.66
20:Y:60:PHE:O	20:Y:61:ILE:HD12	1.95	0.66
20:Y:75:ILE:HG12	20:Y:76:CYS:N	2.10	0.66
23:1:56:GLN:N	23:1:56:GLN:HE21	1.93	0.66
27:5:56:LYS:CD	27:5:56:LYS:H	2.07	0.66
4:E:28:ALA:O	4:E:93:VAL:HG23	1.96	0.66
16:U:88:ILE:N	16:U:88:ILE:HD13	2.10	0.66
18:W:18:ARG:HG3	18:W:76:VAL:HG13	1.77	0.66
20:Y:89:PHE:C	20:Y:90:LEU:HD13	2.15	0.66
6:G:179:PRO:HG3	26:4:38:LYS:HZ2	1.59	0.66
9:N:58:ASP:H	9:N:60:ILE:CD1	2.09	0.66
1:A:2713:A:OP1	13:R:14:SER:OG	2.13	0.66
14:S:106:ARG:HA	14:S:110:LEU:CD2	2.25	0.66
11:P:66:GLY:O	11:P:67:MET:HB3	1.94	0.66
24:2:47:ASN:ND2	24:2:47:ASN:H	1.92	0.66
27:5:40:LYS:NZ	27:5:48:GLU:HB2	2.10	0.66
1:A:498:G:N3	20:Y:47:LYS:NZ	2.35	0.66
3:D:172:TYR:HB3	3:D:184:LYS:HG2	1.77	0.66
3:D:68:LYS:HB2	3:D:70:TRP:CZ3	2.31	0.66
4:E:174:ASP:CG	4:E:175:VAL:H	1.98	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:71:ARG:CG	26:4:71:ARG:HH11	1.98	0.66
30:8:30:ARG:O	30:8:31:HIS:HB2	1.96	0.66
1:A:860:U:H5	1:A:917:A:C2	2.13	0.66
3:D:135:PHE:N	3:D:135:PHE:CD2	2.62	0.66
4:E:37:ARG:HA	4:E:37:ARG:NE	2.11	0.66
6:G:136:ARG:O	6:G:154:GLY:HA3	1.95	0.66
11:P:81:GLN:NE2	11:P:106:LEU:O	2.29	0.66
19:X:11:PRO:HB3	19:X:92:LEU:HD21	1.78	0.66
23:1:11:ARG:HH11	23:1:11:ARG:HB3	1.61	0.66
9:N:134:ARG:N	9:N:135:PRO:HD3	1.97	0.66
11:P:61:ARG:NH2	30:8:13:ARG:HD2	2.10	0.66
12:Q:20:ALA:HB1	12:Q:99:PRO:HD2	1.77	0.66
16:U:65:ILE:HG12	16:U:96:ALA:CB	2.26	0.66
23:1:80:LEU:N	23:1:80:LEU:HD23	2.10	0.66
1:A:1454:U:H5'	13:R:63:ARG:NE	2.07	0.66
1:A:593:G:O3'	30:8:61:LEU:HD22	1.95	0.66
6:G:145:THR:HG23	26:4:28:LYS:NZ	2.11	0.66
7:H:125:VAL:CG1	7:H:126:PRO:HG3	2.25	0.66
14:S:107:GLU:H	14:S:110:LEU:HD11	1.60	0.66
28:6:7:ILE:C	28:6:9:LEU:H	1.98	0.66
3:D:183:ARG:HH11	3:D:183:ARG:CG	2.07	0.66
14:S:88:ASP:OD2	14:S:90:GLY:N	2.28	0.66
20:Y:47:LYS:HG2	20:Y:60:PHE:CE1	2.31	0.66
1:A:2815:C:H5'	27:5:29:THR:HG21	1.76	0.65
3:D:121:PRO:HB3	3:D:135:PHE:CE1	2.30	0.65
10:O:113:LYS:O	10:O:117:LEU:HD12	1.96	0.65
18:W:65:LEU:HD12	18:W:68:ARG:NH1	2.10	0.65
20:Y:35:TYR:CE1	20:Y:69:ALA:HB3	2.31	0.65
20:Y:94:LYS:HE3	20:Y:101:LYS:NZ	2.11	0.65
4:E:13:ARG:NH1	4:E:21:VAL:HG12	2.11	0.65
7:H:124:GLU:HB3	7:H:132:ARG:HD2	1.77	0.65
10:O:71:ARG:NH1	15:T:74:ARG:HH21	1.94	0.65
13:R:26:LYS:HE2	13:R:70:LEU:O	1.95	0.65
4:E:101:ARG:CZ	4:E:171:GLU:HB2	2.26	0.65
7:H:168:PRO:O	7:H:169:VAL:HG12	1.96	0.65
11:P:90:ARG:NE	11:P:91:PHE:HD1	1.93	0.65
19:X:65:ARG:N	19:X:65:ARG:HD3	2.12	0.65
21:Z:58:VAL:O	21:Z:60:GLU:N	2.29	0.65
3:D:27:THR:CG2	3:D:28:GLU:H	2.08	0.65
3:D:80:ALA:HB3	3:D:94:LEU:CD1	2.26	0.65
4:E:36:ARG:HH11	4:E:36:ARG:HB3	1.60	0.65
10:O:86:ILE:HD12	10:O:86:ILE:H	1.61	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:42:VAL:CG1	20:Y:65:ALA:HB3	2.26	0.65
21:Z:97:GLU:HB3	21:Z:125:LEU:HD11	1.78	0.65
1:A:1021:A:H8	1:A:1022:G:H5''	1.61	0.65
3:D:145:VAL:HG12	3:D:146:GLU:O	1.96	0.65
11:P:39:LYS:HA	11:P:45:LEU:HD13	1.79	0.65
1:A:2393:A:H4'	11:P:61:ARG:O	1.96	0.65
24:2:42:GLY:O	24:2:44:LEU:N	2.30	0.65
4:E:201:THR:HG22	4:E:203:LYS:N	2.07	0.65
30:8:52:LYS:O	30:8:52:LYS:HG3	1.97	0.65
1:A:227:A:OP1	11:P:76:LYS:HE3	1.97	0.65
11:P:113:LYS:HG2	11:P:115:LEU:HD23	1.79	0.65
21:Z:94:GLU:HB2	21:Z:130:PRO:HD2	1.78	0.65
24:2:69:ARG:HB2	24:2:69:ARG:NH1	2.11	0.65
4:E:10:GLY:H	4:E:25:VAL:HG23	1.60	0.65
11:P:6:LEU:O	11:P:7:ARG:HG2	1.97	0.65
30:8:56:GLU:OE1	30:8:56:GLU:N	2.30	0.65
1:A:2394:C:OP1	11:P:63:PRO:HD2	1.96	0.65
3:D:176:ARG:HG2	3:D:176:ARG:HH11	1.61	0.65
9:N:43:THR:HB	9:N:46:VAL:CG1	2.27	0.65
11:P:97:PRO:HD3	11:P:126:VAL:O	1.97	0.65
15:T:11:GLU:OE1	15:T:11:GLU:N	2.27	0.65
16:U:74:LEU:HD23	16:U:114:LYS:HD3	1.78	0.65
20:Y:99:CYS:SG	20:Y:100:ALA:N	2.69	0.65
23:1:82:LEU:CD1	23:1:83:GLU:C	2.64	0.65
1:A:210:C:OP2	29:7:29:LYS:NZ	2.30	0.65
1:A:2415:G:H4'	11:P:67:MET:N	2.12	0.65
1:A:530:G:O2'	1:A:532:A:N7	2.30	0.65
11:P:138:LEU:HD11	11:P:144:GLU:HG3	1.78	0.65
12:Q:23:GLY:HA3	12:Q:101:ARG:NH1	2.12	0.65
15:T:22:PHE:CD2	15:T:22:PHE:N	2.63	0.65
17:V:43:GLU:HA	17:V:43:GLU:OE2	1.95	0.65
18:W:25:ARG:NH1	18:W:25:ARG:HB2	2.11	0.65
1:A:1138:G:H21	9:N:106:MET:HE3	1.61	0.64
1:A:2392:A:C8	11:P:60:MET:HG3	2.31	0.64
3:D:44:ASN:HB3	3:D:49:ILE:HG22	1.78	0.64
3:D:77:ALA:HB2	3:D:97:TYR:HA	1.77	0.64
8:I:129:THR:HA	8:I:137:PRO:HA	1.80	0.64
16:U:102:GLU:HG3	17:V:2:PHE:HE2	1.62	0.64
18:W:59:VAL:HG12	18:W:60:ASN:N	2.11	0.64
1:A:1190:G:H5'	11:P:32:THR:HA	1.79	0.64
5:F:175:THR:O	5:F:176:LEU:HB2	1.95	0.64
7:H:105:LEU:CD1	7:H:105:LEU:H	2.09	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:128:PRO:CD	7:H:129:THR:H	2.09	0.64
11:P:98:GLU:O	11:P:101:VAL:HG12	1.98	0.64
13:R:28:LEU:HD21	13:R:114:VAL:HG12	1.80	0.64
24:2:40:SER:C	24:2:42:GLY:H	2.01	0.64
26:4:36:CYS:O	26:4:37:SER:O	2.14	0.64
26:4:37:SER:C	26:4:39:CYS:H	1.99	0.64
27:5:40:LYS:HD3	27:5:46:CYS:CB	2.26	0.64
8:I:5:LEU:HD21	8:I:12:LEU:HB3	1.79	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HG2	1.97	0.64
15:T:11:GLU:CD	15:T:11:GLU:N	2.47	0.64
26:4:35:VAL:O	26:4:37:SER:N	2.26	0.64
1:A:1530:G:O6	1:A:1542:G:N2	2.30	0.64
1:A:675:A:OP1	5:F:63:LYS:NZ	2.30	0.64
6:G:114:ILE:CG2	6:G:117:PHE:HB2	2.27	0.64
7:H:117:PRO:HB3	7:H:123:PHE:CE1	2.33	0.64
9:N:15:LEU:HD12	9:N:136:GLU:HB2	1.79	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HD3	1.97	0.64
17:V:76:LYS:HB2	17:V:81:TYR:HB3	1.79	0.64
4:E:69:LYS:O	4:E:71:GLY:N	2.27	0.64
5:F:11:VAL:HG12	5:F:12:LEU:N	2.13	0.64
5:F:155:LEU:HD13	5:F:174:VAL:CG1	2.27	0.64
6:G:81:LYS:O	6:G:82:LEU:HB2	1.96	0.64
6:G:82:LEU:HA	6:G:86:MET:SD	2.38	0.64
10:O:12:ASP:OD1	10:O:14:THR:HG23	1.97	0.64
1:A:2392:A:H8	11:P:60:MET:HG3	1.60	0.64
14:S:78:LEU:HD11	14:S:107:GLU:O	1.98	0.64
20:Y:56:PRO:HG2	20:Y:57:GLN:OE1	1.98	0.64
20:Y:86:ARG:O	20:Y:92:ASN:HB2	1.97	0.64
23:1:29:GLY:O	23:1:30:VAL:HG23	1.97	0.64
1:A:259:G:N2	1:A:621:A:H8	1.95	0.64
4:E:104:VAL:HG11	4:E:188:VAL:CG2	2.27	0.64
5:F:45:ARG:CG	5:F:45:ARG:HH11	2.09	0.64
5:F:46:ARG:HG2	5:F:46:ARG:NH1	2.00	0.64
7:H:51:ARG:HH11	7:H:51:ARG:HG3	1.61	0.64
23:1:80:LEU:HD12	23:1:81:LYS:HE3	1.78	0.64
1:A:1796:U:H2'	1:A:1797:C:C6	2.32	0.64
1:A:242:G:H5'	30:8:62:LEU:CD2	2.27	0.64
7:H:92:ILE:HD12	7:H:92:ILE:H	1.63	0.64
17:V:36:PRO:HA	17:V:56:SER:OG	1.98	0.64
26:4:49:PHE:O	26:4:50:VAL:HG23	1.97	0.64
3:D:122:ASP:CG	3:D:123:ALA:H	2.00	0.64
7:H:148:ILE:O	7:H:151:ILE:HG12	1.97	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:3:ARG:NE	7:H:3:ARG:HA	2.12	0.64
10:O:7:TYR:CE1	10:O:20:MET:HB2	2.32	0.64
8:I:130:TYR:HB3	8:I:136:VAL:HG13	1.79	0.64
8:I:129:THR:HG22	8:I:137:PRO:HB3	1.80	0.64
13:R:2:ARG:HG2	13:R:5:LYS:NZ	2.13	0.64
23:1:82:LEU:CD1	23:1:83:GLU:CA	2.76	0.64
1:A:270(T):G:OP1	23:1:97:LEU:HD13	1.98	0.64
1:A:2114:A:N6	1:A:2119:A:N7	2.45	0.64
1:A:620:G:H4'	1:A:621:A:C5'	2.28	0.64
30:8:48:PHE:CD1	30:8:48:PHE:N	2.66	0.63
3:D:135:PHE:HD2	3:D:135:PHE:N	1.96	0.63
4:E:14:ILE:CG1	4:E:15:PHE:H	2.08	0.63
14:S:26:LEU:HD22	14:S:87:PHE:HD1	1.63	0.63
16:U:92:ARG:O	16:U:94:ASN:N	2.25	0.63
19:X:57:LEU:HD12	19:X:78:LYS:HB2	1.77	0.63
21:Z:182:LYS:HG3	21:Z:183:LEU:HA	1.80	0.63
3:D:18:VAL:HG12	3:D:19:ALA:O	1.99	0.63
1:A:1814:G:H4'	3:D:51:VAL:HG21	1.79	0.63
9:N:39:ARG:HB3	9:N:41:ASP:OD1	1.98	0.63
10:O:104:ARG:NH1	10:O:104:ARG:HG2	2.14	0.63
15:T:111:ARG:C	15:T:113:LYS:H	2.01	0.63
18:W:110:LYS:HG3	18:W:111:HIS:ND1	2.12	0.63
23:1:91:LYS:HG3	23:1:92:LYS:H	1.62	0.63
1:A:2335:A:O2'	1:A:2336:A:O5'	2.15	0.63
4:E:201:THR:HG21	4:E:203:LYS:HB3	1.80	0.63
5:F:67:GLN:O	5:F:67:GLN:CG	2.32	0.63
12:Q:104:PHE:O	12:Q:105:GLU:HB3	1.98	0.63
13:R:117:VAL:O	13:R:118:GLU:HB3	1.99	0.63
3:D:230:ASP:O	3:D:231:HIS:HB2	1.98	0.63
4:E:50:GLY:HA3	4:E:74:PRO:HG3	1.79	0.63
1:A:588:U:H1'	5:F:90:PHE:CD1	2.34	0.63
9:N:131:GLN:CD	9:N:132:ALA:H	2.01	0.63
11:P:106:LEU:O	11:P:107:LYS:CB	2.46	0.63
19:X:18:TYR:C	19:X:20:GLY:H	2.02	0.63
1:A:1077:A:H5'	1:A:1078:U:H5''	1.80	0.63
1:A:242:G:C8	30:8:5:LYS:HG2	2.33	0.63
1:A:1030:G:OP2	12:Q:128:LYS:HE2	1.98	0.63
15:T:60:THR:HG22	15:T:77:PRO:HA	1.80	0.63
24:2:40:SER:C	24:2:42:GLY:N	2.51	0.63
24:2:46:GLN:OE1	24:2:46:GLN:HA	1.97	0.63
1:A:1291:C:H5'	1:A:1536:A:H5'	1.81	0.63
1:A:443:A:C5	5:F:45:ARG:HD2	2.32	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:666:G:H4'	11:P:49:ARG:NH1	2.14	0.63
6:G:68:PRO:HB2	6:G:90:LEU:HD12	1.80	0.63
1:A:1348:G:H2'	1:A:1349:A:H5''	1.80	0.63
3:D:72:LYS:HG2	3:D:103:ARG:NH2	2.13	0.63
6:G:61:ALA:HB2	6:G:68:PRO:HD2	1.81	0.63
9:N:61:ARG:HA	9:N:61:ARG:HE	1.63	0.63
9:N:7:LYS:HD2	9:N:7:LYS:H	1.64	0.63
10:O:86:ILE:N	10:O:86:ILE:HD12	2.13	0.63
11:P:83:VAL:HG12	11:P:112:LEU:HD21	1.81	0.63
12:Q:30:GLY:HA3	12:Q:106:VAL:O	1.98	0.63
12:Q:20:ALA:HB1	12:Q:99:PRO:CB	2.28	0.63
1:A:1006:C:H1'	9:N:106:MET:HE3	1.81	0.63
11:P:114:ILE:HD11	11:P:130:PHE:CD1	2.34	0.63
15:T:16:ARG:HE	15:T:19:LEU:HD21	1.62	0.63
30:8:59:LYS:HZ3	30:8:59:LYS:HB3	1.62	0.63
4:E:35:GLN:CG	4:E:37:ARG:NE	2.62	0.63
7:H:153:LYS:HG3	7:H:161:GLY:HA3	1.80	0.63
7:H:86:GLU:O	7:H:87:LEU:HB2	1.99	0.63
11:P:64:LYS:HB2	30:8:25:MET:HG3	1.81	0.63
12:Q:10:ARG:O	12:Q:11:LYS:HB2	1.98	0.63
14:S:22:GLY:O	14:S:23:ARG:O	2.17	0.63
15:T:49:VAL:O	15:T:49:VAL:HG13	1.99	0.63
19:X:31:HIS:CE1	19:X:33:LYS:HB2	2.34	0.63
20:Y:87:LYS:O	20:Y:88:LYS:NZ	2.32	0.63
23:1:18:ILE:HG12	23:1:37:ILE:HG12	1.81	0.62
1:A:1068:G:O2'	1:A:1096:A:N3	2.32	0.62
1:A:562:U:O2'	1:A:572:A:O4'	2.14	0.62
4:E:13:ARG:HH12	4:E:21:VAL:HG12	1.64	0.62
4:E:4:ILE:CD1	4:E:28:ALA:HB1	2.29	0.62
5:F:129:PHE:O	5:F:130:ALA:HB3	1.99	0.62
9:N:87:LEU:HD23	9:N:87:LEU:O	1.99	0.62
18:W:74:ALA:O	18:W:75:TYR:HB3	1.98	0.62
1:A:297:C:H5''	20:Y:85:VAL:HG21	1.80	0.62
5:F:132:VAL:HG23	5:F:133:ASN:N	2.14	0.62
19:X:49:VAL:HG13	19:X:83:VAL:HG13	1.80	0.62
1:A:2485:G:OP1	12:Q:46:GLN:NE2	2.32	0.62
1:A:2311:A:C8	6:G:82:LEU:HD11	2.34	0.62
11:P:1:MET:CE	11:P:5:ASP:HB3	2.25	0.62
13:R:63:ARG:NH1	13:R:80:PHE:CD1	2.67	0.62
15:T:22:PHE:HD2	15:T:22:PHE:N	1.97	0.62
16:U:34:LYS:HA	16:U:34:LYS:CE	2.29	0.62
6:G:94:LEU:HD23	6:G:94:LEU:H	1.64	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:136:ILE:HD12	7:H:136:ILE:H	1.64	0.62
11:P:105:LEU:O	11:P:106:LEU:CB	2.42	0.62
14:S:48:LEU:N	14:S:48:LEU:HD12	2.14	0.62
17:V:52:VAL:CG2	17:V:55:ALA:HB3	2.28	0.62
24:2:41:ILE:HG12	24:2:44:LEU:HD12	1.82	0.62
28:6:44:ARG:O	28:6:45:LYS:HB2	2.00	0.62
3:D:35:LYS:HA	3:D:64:ILE:HG22	1.81	0.62
5:F:107:LYS:O	5:F:108:LYS:C	2.36	0.62
9:N:26:LEU:O	9:N:30:ILE:HG13	1.99	0.62
15:T:96:ARG:NH1	15:T:96:ARG:HB2	2.14	0.62
19:X:63:LYS:O	19:X:64:LYS:HD2	1.99	0.62
24:2:69:ARG:CZ	24:2:69:ARG:HB2	2.29	0.62
28:6:27:LYS:HZ3	28:6:27:LYS:HB2	1.65	0.62
1:A:2723:C:O3'	13:R:1:MET:HE2	1.99	0.62
3:D:133:LEU:HD21	3:D:191:ALA:CB	2.29	0.62
9:N:133:GLN:O	9:N:134:ARG:HB3	1.99	0.62
11:P:65:ARG:HE	30:8:15:LYS:HB2	1.65	0.62
15:T:108:ARG:O	15:T:111:ARG:HG3	1.99	0.62
20:Y:48:ALA:HB2	20:Y:61:ILE:HD13	1.82	0.62
1:A:928:G:O2'	25:3:43:ILE:HD11	1.99	0.62
1:A:2219:G:OP1	3:D:172:TYR:OH	2.17	0.62
1:A:443:A:N7	5:F:45:ARG:HD2	2.15	0.62
4:E:131:ALA:HB1	4:E:135:HIS:CE1	2.34	0.62
5:F:28:ILE:HD13	5:F:30:PRO:HD3	1.80	0.62
6:G:94:LEU:N	6:G:94:LEU:HD23	2.14	0.62
11:P:112:LEU:HD11	11:P:114:ILE:HG23	1.80	0.62
14:S:100:ALA:HA	14:S:103:GLU:CG	2.30	0.62
23:1:91:LYS:HE3	23:1:91:LYS:HA	1.82	0.62
26:4:61:ARG:O	26:4:63:TYR:N	2.33	0.62
28:6:13:CYS:HB2	28:6:22:ALA:HB3	1.81	0.62
6:G:112:PRO:HB3	26:4:37:SER:CB	2.25	0.62
10:O:104:ARG:CZ	15:T:34:VAL:HG11	2.29	0.62
24:2:70:GLN:O	24:2:71:ASN:HB2	2.00	0.62
6:G:170:ARG:O	6:G:174:GLU:HB2	2.00	0.62
8:I:21:VAL:HG21	8:I:25:TYR:HD1	1.63	0.62
11:P:50:ARG:NH2	11:P:50:ARG:CB	2.58	0.62
23:1:87:PRO:O	23:1:88:LYS:C	2.37	0.62
24:2:17:SER:HB2	24:2:18:PRO:CA	2.30	0.62
3:D:134:ARG:HD3	3:D:135:PHE:CE2	2.35	0.62
3:D:182:LEU:H	3:D:272:ALA:HB3	1.63	0.62
4:E:51:PHE:O	4:E:52:LEU:C	2.38	0.62
5:F:28:ILE:HG22	5:F:112:MET:HB3	1.80	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:60:ASN:C	18:W:61:ASN:HD22	2.03	0.62
23:1:76:ARG:H	23:1:76:ARG:HD2	1.64	0.61
6:G:142:PRO:HB2	26:4:31:ILE:CD1	2.30	0.61
4:E:104:VAL:HG11	4:E:188:VAL:HG23	1.82	0.61
11:P:108:LYS:HD2	11:P:108:LYS:H	1.64	0.61
16:U:102:GLU:HG3	17:V:2:PHE:CE2	2.34	0.61
23:1:73:LEU:C	23:1:75:GLU:H	2.03	0.61
1:A:1026:U:H4'	1:A:1027:A:OP1	2.00	0.61
1:A:898:C:H2'	1:A:899:A:H5'	1.81	0.61
2:B:75:G:H5''	21:Z:36:LYS:HE2	1.82	0.61
5:F:32:LEU:CD1	5:F:105:VAL:HG13	2.29	0.61
14:S:17:ARG:HG3	14:S:18:ILE:N	2.14	0.61
15:T:31:SER:HA	15:T:44:ASP:OD2	2.00	0.61
12:Q:54:MET:O	12:Q:57:HIS:HB3	2.00	0.61
12:Q:88:GLY:C	12:Q:90:VAL:H	2.02	0.61
12:Q:86:GLY:C	12:Q:88:GLY:N	2.52	0.61
16:U:88:ILE:CD1	16:U:88:ILE:H	2.05	0.61
18:W:5:ALA:O	18:W:50:VAL:HG13	2.00	0.61
20:Y:44:ILE:HG13	20:Y:45:VAL:H	1.64	0.61
6:G:6:ALA:HB2	26:4:23:GLU:OE2	1.99	0.61
26:4:23:GLU:O	26:4:25:TYR:N	2.33	0.61
1:A:2335:A:O2'	1:A:2336:A:H2'	2.00	0.61
1:A:2850:A:N7	1:A:2868:A:O2'	2.30	0.61
3:D:227:ASN:CB	3:D:228:PRO:HD2	2.24	0.61
3:D:27:THR:O	3:D:29:PRO:HD2	1.99	0.61
7:H:6:ARG:HG3	7:H:7:LEU:N	2.15	0.61
9:N:62:VAL:CG1	9:N:66:LYS:HD2	2.29	0.61
12:Q:66:ILE:CG1	12:Q:67:ARG:H	2.12	0.61
15:T:24:PRO:O	15:T:94:ALA:HB2	2.00	0.61
19:X:15:GLU:N	19:X:15:GLU:OE1	2.34	0.61
1:A:127:A:H5''	1:A:128:C:C6	2.36	0.61
7:H:152:ARG:O	7:H:153:LYS:CD	2.48	0.61
10:O:8:LEU:HB2	10:O:19:ILE:HD11	1.81	0.61
12:Q:2:LEU:H	12:Q:2:LEU:HD23	1.65	0.61
28:6:18:ARG:O	28:6:18:ARG:HD2	2.00	0.61
1:A:2529:G:O6	31:9:31:LYS:NZ	2.34	0.61
3:D:137:PRO:HB2	3:D:140:THR:HG23	1.81	0.61
3:D:133:LEU:HD21	3:D:191:ALA:HB2	1.82	0.61
3:D:25:THR:HG21	3:D:81:ALA:CA	2.31	0.61
3:D:70:TRP:CH2	3:D:150:LYS:HA	2.35	0.61
4:E:35:GLN:HG2	4:E:37:ARG:NE	2.14	0.61
4:E:95:ILE:HD12	4:E:95:ILE:N	2.15	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:77:ILE:HD13	6:G:82:LEU:CD1	2.29	0.61
9:N:96:GLU:O	9:N:98:VAL:N	2.33	0.61
14:S:49:VAL:HG22	14:S:80:LEU:HD12	1.83	0.61
17:V:46:VAL:O	17:V:46:VAL:HG13	2.01	0.61
25:3:5:LYS:HB2	25:3:36:VAL:HG12	1.82	0.61
30:8:22:VAL:HG21	30:8:53:PRO:HB2	1.83	0.61
1:A:2361:A:O5'	30:8:27:THR:OG1	2.17	0.61
30:8:29:LYS:HD3	30:8:44:LYS:CB	2.30	0.61
5:F:164:ARG:HH11	5:F:164:ARG:HG2	1.66	0.61
7:H:137:ASP:HB3	7:H:140:LYS:HB2	1.81	0.61
10:O:78:ARG:HH21	15:T:103:ARG:NH2	1.98	0.61
13:R:44:LEU:HD22	13:R:48:VAL:HG23	1.82	0.61
18:W:28:SER:O	18:W:31:GLU:N	2.34	0.61
20:Y:19:LYS:HG3	20:Y:19:LYS:O	2.01	0.61
24:2:41:ILE:HD11	24:2:44:LEU:HG	1.83	0.61
1:A:662:G:H5''	11:P:15:ARG:O	2.00	0.61
3:D:147:LEU:CD1	3:D:155:LEU:HD11	2.26	0.61
3:D:35:LYS:HE3	3:D:64:ILE:C	2.21	0.61
4:E:52:LEU:HB3	4:E:54:GLN:OE1	2.00	0.61
5:F:119:ARG:HH11	5:F:119:ARG:HG2	1.64	0.61
9:N:7:LYS:CD	9:N:9:VAL:H	2.14	0.61
10:O:91:LEU:HD22	10:O:91:LEU:N	2.16	0.61
11:P:96:THR:HG22	11:P:126:VAL:HB	1.82	0.61
12:Q:20:ALA:HB1	12:Q:99:PRO:CD	2.30	0.61
18:W:1:MET:HA	18:W:1:MET:HE3	1.83	0.61
1:A:247:G:H4'	1:A:386:G:C5	2.35	0.61
1:A:468:G:N7	29:7:39:ARG:NH2	2.49	0.61
3:D:2:ALA:HB3	3:D:20:ASP:HB3	1.83	0.61
4:E:35:GLN:CG	4:E:37:ARG:HE	2.11	0.61
6:G:44:GLY:HA2	6:G:88:ILE:CG1	2.31	0.61
13:R:38:VAL:HB	13:R:39:PRO:HD3	1.81	0.61
19:X:14:SER:O	19:X:17:ALA:N	2.34	0.61
19:X:66:LEU:HD23	19:X:66:LEU:O	2.01	0.61
25:3:59:VAL:HG12	25:3:60:GLU:N	2.16	0.61
28:6:7:ILE:HG13	28:6:8:LYS:N	2.06	0.61
1:A:1057:A:H62	1:A:1086:A:H2'	1.66	0.61
1:A:1820:U:C2	3:D:202:LYS:HB3	2.35	0.61
3:D:54:ARG:CG	3:D:54:ARG:HH11	2.14	0.61
4:E:131:ALA:HB1	4:E:135:HIS:HE1	1.65	0.61
8:I:27:ARG:HD3	23:1:71:TYR:HE1	1.66	0.61
9:N:17:ASP:O	9:N:18:ALA:HB3	2.01	0.61
11:P:27:HIS:ND1	11:P:27:HIS:N	2.49	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:89:ARG:O	14:S:90:GLY:O	2.19	0.61
28:6:41:PRO:HD2	28:6:46:HIS:N	2.16	0.60
1:A:2212:A:H1'	1:A:2215:G:C5	2.37	0.60
1:A:503:A:H4'	1:A:504:U:H5'	1.83	0.60
18:W:82:LEU:HB2	18:W:98:LYS:HB2	1.82	0.60
1:A:1019:U:HO2'	1:A:1021:A:H2	1.49	0.60
4:E:53:PRO:HG2	4:E:54:GLN:NE2	2.16	0.60
12:Q:66:ILE:CG1	12:Q:67:ARG:N	2.64	0.60
15:T:34:VAL:HG12	15:T:36:GLU:HG2	1.83	0.60
17:V:41:GLY:H	17:V:46:VAL:HG13	1.66	0.60
1:A:2068:U:N3	1:A:2430:A:H2	1.97	0.60
1:A:551:G:H5'	1:A:1220:A:H1'	1.82	0.60
3:D:35:LYS:NZ	3:D:65:ILE:HA	2.15	0.60
3:D:35:LYS:HG2	3:D:64:ILE:CG2	2.31	0.60
4:E:63:LEU:CD1	4:E:64:LYS:H	2.04	0.60
9:N:99:LEU:O	9:N:103:VAL:HG23	2.02	0.60
11:P:13:ASN:O	11:P:15:ARG:N	2.34	0.60
14:S:99:LYS:O	14:S:102:ALA:N	2.34	0.60
16:U:90:VAL:CG1	16:U:91:ASP:H	2.00	0.60
20:Y:101:LYS:HE3	20:Y:102:CYS:SG	2.40	0.60
23:1:3:LYS:HD3	23:1:43:TYR:CD2	2.35	0.60
27:5:52:TYR:O	27:5:53:ALA:HB3	2.01	0.60
28:6:13:CYS:O	28:6:21:TYR:HA	2.02	0.60
1:A:1210:A:H8	1:A:1210:A:H5'	1.67	0.60
1:A:586:A:H5'	5:F:89:VAL:HG21	1.84	0.60
3:D:263:ARG:HH11	3:D:263:ARG:CB	2.15	0.60
4:E:37:ARG:CA	4:E:37:ARG:NE	2.64	0.60
5:F:34:TRP:CZ3	11:P:8:PRO:HB3	2.37	0.60
6:G:28:VAL:O	6:G:31:VAL:HG12	2.01	0.60
7:H:44:VAL:O	7:H:44:VAL:HG22	2.01	0.60
9:N:16:ILE:O	9:N:55:VAL:HG22	2.01	0.60
1:A:994:C:H3'	16:U:54:LYS:HE3	1.83	0.60
23:1:80:LEU:O	23:1:81:LYS:HD2	2.00	0.60
1:A:2306:C:H2'	1:A:2307:G:H21	1.66	0.60
1:A:389:G:H1	11:P:71:VAL:HG12	1.64	0.60
5:F:175:THR:O	5:F:176:LEU:CB	2.48	0.60
13:R:52:ILE:O	13:R:55:ALA:HB3	2.01	0.60
16:U:69:CYS:HB3	16:U:106:PHE:CZ	2.36	0.60
3:D:166:GLN:CA	3:D:166:GLN:HE21	2.14	0.60
3:D:72:LYS:HE3	3:D:75:ILE:HD12	1.82	0.60
14:S:11:LYS:HB2	14:S:91:PRO:HD3	1.84	0.60
17:V:35:LEU:HD23	17:V:35:LEU:O	2.01	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:36:LEU:HD11	18:W:47:VAL:HG12	1.83	0.60
1:A:1952:A:OP1	10:O:44:LYS:NZ	2.19	0.60
3:D:35:LYS:NZ	3:D:64:ILE:O	2.32	0.60
1:A:1812:A:O2'	3:D:45:ASN:HB2	2.00	0.60
3:D:25:THR:HG21	3:D:81:ALA:HA	1.84	0.60
1:A:558:G:P	9:N:111:PRO:HD2	2.42	0.60
9:N:23:LEU:HD12	9:N:99:LEU:HD23	1.82	0.60
17:V:99:ILE:N	17:V:99:ILE:CD1	2.65	0.60
19:X:43:VAL:CG1	19:X:51:VAL:HG21	2.31	0.60
30:8:53:PRO:CD	30:8:54:GLU:H	2.15	0.60
2:B:40:U:O2'	2:B:45:A:N6	2.31	0.60
3:D:147:LEU:HD13	3:D:155:LEU:CD1	2.29	0.60
3:D:21:PHE:HB3	3:D:24:ILE:HG13	1.83	0.60
3:D:35:LYS:HD3	3:D:63:ARG:CB	2.32	0.60
4:E:93:VAL:N	4:E:95:ILE:HD12	2.17	0.60
10:O:97:ARG:N	10:O:117:LEU:HD22	2.15	0.60
10:O:7:TYR:HE1	10:O:20:MET:HE3	1.67	0.60
12:Q:63:LYS:HE2	12:Q:65:PHE:CE1	2.37	0.60
16:U:92:ARG:NH1	16:U:95:LEU:CD1	2.65	0.60
23:1:80:LEU:C	23:1:81:LYS:CD	2.69	0.60
1:A:1049:C:H2'	1:A:1050:A:H5"	1.84	0.60
4:E:93:VAL:N	4:E:95:ILE:CD1	2.65	0.60
6:G:9:ARG:HG2	6:G:13:GLU:OE1	2.01	0.60
13:R:75:LEU:HD13	13:R:75:LEU:C	2.22	0.60
21:Z:80:ARG:HH21	21:Z:82:ARG:HH22	1.49	0.60
1:A:566:U:OP1	11:P:29:LYS:HE2	2.01	0.60
3:D:35:LYS:CG	3:D:64:ILE:N	2.56	0.60
4:E:68:ALA:O	4:E:69:LYS:HG3	2.02	0.60
6:G:111:LEU:HB2	6:G:112:PRO:HD3	1.82	0.60
6:G:50:ALA:O	6:G:53:LEU:HB3	2.01	0.60
11:P:79:ARG:HD3	11:P:110:TYR:HE1	1.67	0.60
11:P:138:LEU:C	11:P:140:ALA:N	2.55	0.60
16:U:96:ALA:C	16:U:98:LEU:H	2.04	0.60
17:V:66:ARG:HH12	17:V:88:ARG:HH11	1.49	0.60
28:6:25:LYS:HD2	30:8:34:TRP:CZ2	2.36	0.59
30:8:22:VAL:CG2	30:8:53:PRO:HB2	2.32	0.59
1:A:2168:G:N2	1:A:2170:A:N7	2.50	0.59
5:F:63:LYS:HE2	5:F:67:GLN:HB3	1.83	0.59
7:H:30:LYS:CD	7:H:81:GLU:H	2.15	0.59
14:S:59:LYS:HG2	14:S:60:GLY:N	2.13	0.59
15:T:107:ASP:O	15:T:110:ILE:HG22	2.02	0.59
16:U:92:ARG:HD3	16:U:94:ASN:HB3	1.82	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:1:MET:CE	17:V:43:GLU:HG2	2.32	0.59
20:Y:96:ILE:CD1	20:Y:98:VAL:HG12	2.32	0.59
21:Z:144:LEU:HD11	21:Z:149:SER:HA	1.83	0.59
23:1:81:LYS:HZ3	23:1:81:LYS:HA	0.70	0.59
3:D:172:TYR:CD1	3:D:186:HIS:HA	2.37	0.59
9:N:18:ALA:HB3	9:N:55:VAL:O	2.02	0.59
11:P:121:LYS:HG3	11:P:122:PRO:HD2	1.84	0.59
12:Q:80:GLU:C	12:Q:81:VAL:HG13	2.22	0.59
12:Q:86:GLY:C	12:Q:88:GLY:H	2.03	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD13	1.84	0.59
30:8:56:GLU:O	30:8:59:LYS:N	2.35	0.59
1:A:2469:A:H5''	1:A:2470:G:C8	2.37	0.59
4:E:116:VAL:O	4:E:117:MET:CB	2.49	0.59
4:E:51:PHE:HD1	4:E:52:LEU:HG	1.67	0.59
5:F:123:LEU:HD12	5:F:124:LEU:N	2.17	0.59
11:P:127:ALA:O	11:P:147:LEU:HD23	2.02	0.59
11:P:55:ARG:HD2	11:P:56:SER:O	2.01	0.59
1:A:2292:C:P	14:S:17:ARG:HH22	2.26	0.59
15:T:57:PHE:CD2	15:T:58:ASN:N	2.66	0.59
16:U:76:TYR:CZ	16:U:80:ILE:HG13	2.37	0.59
17:V:35:LEU:HB2	17:V:37:VAL:HG23	1.85	0.59
20:Y:4:LYS:O	20:Y:5:MET:HB2	2.01	0.59
28:6:41:PRO:HG2	28:6:45:LYS:N	2.10	0.59
3:D:174:ILE:N	3:D:174:ILE:HD12	2.16	0.59
5:F:11:VAL:HG11	5:F:18:ARG:HE	1.67	0.59
7:H:4:ILE:N	7:H:4:ILE:HD13	2.17	0.59
9:N:42:TRP:O	16:U:64:ARG:NH2	2.35	0.59
22:0:50:ASN:HB3	22:0:63:VAL:HG22	1.83	0.59
1:A:2031:A:N3	1:A:2455:G:O2'	2.31	0.59
1:A:2287:A:N6	1:A:2344:U:H3	2.00	0.59
7:H:86:GLU:O	7:H:131:VAL:O	2.20	0.59
13:R:92:GLY:H	13:R:94:TYR:HE2	1.49	0.59
16:U:58:ARG:HA	16:U:61:TRP:CE3	2.37	0.59
25:3:29:ARG:HH11	25:3:29:ARG:CB	2.13	0.59
26:4:22:ILE:HG22	26:4:23:GLU:N	2.18	0.59
1:A:1939:U:OP1	1:A:2604:U:O2'	2.18	0.59
3:D:12:SER:C	3:D:14:ARG:H	2.06	0.59
6:G:16:ARG:NH2	6:G:31:VAL:HG11	2.17	0.59
7:H:159:GLU:O	7:H:160:LYS:HG2	2.03	0.59
7:H:55:PRO:HG2	7:H:61:HIS:CE1	2.37	0.59
9:N:41:ASP:O	9:N:48:MET:HE3	2.02	0.59
9:N:6:PRO:HG3	9:N:41:ASP:HB2	1.83	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:95:VAL:HG13	11:P:100:LEU:HD21	1.84	0.59
11:P:39:LYS:CA	11:P:45:LEU:CD1	2.80	0.59
16:U:92:ARG:HH11	16:U:95:LEU:HD12	1.67	0.59
17:V:15:GLU:HG3	17:V:16:PRO:HD2	1.83	0.59
20:Y:95:LYS:HD3	20:Y:95:LYS:H	1.67	0.59
26:4:48:ARG:NH1	26:4:52:THR:H	2.01	0.59
1:A:1430:C:H2'	1:A:1431:U:C6	2.38	0.59
1:A:2469:A:H5''	1:A:2470:G:H8	1.68	0.59
1:A:2723:C:OP1	13:R:3:HIS:HD2	1.86	0.59
3:D:27:THR:CG2	3:D:83:GLU:HB3	2.33	0.59
7:H:82:GLY:O	7:H:135:GLY:O	2.20	0.59
8:I:40:THR:O	8:I:44:LEU:HB2	2.03	0.59
8:I:5:LEU:HD11	8:I:19:VAL:HG12	1.84	0.59
9:N:58:ASP:N	9:N:60:ILE:HD11	2.16	0.59
9:N:78:TYR:CD1	9:N:78:TYR:N	2.70	0.59
10:O:107:ARG:O	10:O:112:MET:HE3	2.02	0.59
13:R:72:ASP:O	13:R:76:VAL:HB	2.03	0.59
14:S:88:ASP:O	14:S:89:ARG:CB	2.48	0.59
19:X:49:VAL:CG1	19:X:83:VAL:HG13	2.33	0.59
24:2:64:LEU:CD2	24:2:68:ARG:HD2	2.33	0.59
26:4:15:ILE:HG22	26:4:19:GLY:O	2.03	0.59
1:A:1341:U:OP2	1:A:1394:U:O2'	2.15	0.59
7:H:124:GLU:HB3	7:H:132:ARG:HG3	1.85	0.59
12:Q:81:VAL:HG23	12:Q:82:ARG:H	1.67	0.59
26:4:3:GLU:HG3	26:4:4:GLY:N	2.18	0.59
27:5:40:LYS:NZ	27:5:46:CYS:HB3	2.18	0.59
1:A:2111:C:N3	1:A:2118:U:O2'	2.36	0.59
1:A:888:C:H3'	1:A:889:C:H4'	1.85	0.59
3:D:177:LEU:HD11	3:D:183:ARG:HB2	1.85	0.59
4:E:4:ILE:C	4:E:5:LEU:HD23	2.22	0.59
1:A:1667:G:O2'	1:A:1669:A:N6	2.35	0.59
3:D:137:PRO:HB2	3:D:140:THR:CG2	2.33	0.59
4:E:36:ARG:H	4:E:37:ARG:HH21	1.49	0.59
5:F:174:VAL:HG13	5:F:174:VAL:O	2.03	0.59
6:G:126:ASP:OD1	6:G:130:ASN:HB2	2.02	0.59
7:H:126:PRO:CD	7:H:127:GLU:N	2.64	0.59
11:P:138:LEU:O	11:P:140:ALA:N	2.33	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD11	1.84	0.59
15:T:66:VAL:HG12	15:T:67:SER:H	1.67	0.59
17:V:18:LEU:HB3	17:V:96:ILE:HG12	1.84	0.59
17:V:49:THR:CB	17:V:50:PRO:HD2	2.25	0.59
24:2:32:LEU:HD11	24:2:54:LYS:HG3	1.84	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:39:CYS:O	26:4:40:HIS:HB2	2.03	0.58
3:D:27:THR:CG2	3:D:28:GLU:N	2.66	0.58
4:E:61:ARG:HB2	4:E:62:PRO:CD	2.33	0.58
5:F:63:LYS:HE2	5:F:67:GLN:CB	2.32	0.58
6:G:16:ARG:HB3	6:G:17:PRO:CD	2.33	0.58
7:H:4:ILE:HG13	7:H:6:ARG:CD	2.33	0.58
11:P:37:GLY:HA2	11:P:41:ARG:HE	1.68	0.58
13:R:44:LEU:O	13:R:48:VAL:HG23	2.02	0.58
13:R:63:ARG:HG3	13:R:63:ARG:HH11	1.68	0.58
26:4:63:TYR:C	26:4:65:ASP:H	2.05	0.58
7:H:89:ILE:O	7:H:91:GLY:N	2.35	0.58
7:H:92:ILE:HG22	7:H:93:GLY:N	2.18	0.58
15:T:36:GLU:HG3	15:T:41:ARG:HD3	1.85	0.58
27:5:50:GLY:O	27:5:51:TYR:HB2	2.02	0.58
1:A:1309:G:H4'	29:7:7:PRO:HB2	1.84	0.58
11:P:65:ARG:HH21	30:8:15:LYS:CB	2.17	0.58
12:Q:63:LYS:HD2	21:Z:175:VAL:HG21	1.85	0.58
24:2:51:ARG:HA	24:2:54:LYS:HB2	1.86	0.58
28:6:27:LYS:HB2	28:6:27:LYS:HZ2	1.66	0.58
1:A:2506:U:O2	1:A:2506:U:H2'	2.01	0.58
7:H:126:PRO:CG	7:H:127:GLU:N	2.65	0.58
8:I:62:LYS:HE3	8:I:134:PRO:HG2	1.85	0.58
12:Q:66:ILE:HA	12:Q:104:PHE:HA	1.85	0.58
13:R:2:ARG:HG2	13:R:5:LYS:HZ1	1.68	0.58
18:W:80:PRO:O	18:W:100:THR:HG22	2.04	0.58
26:4:65:ASP:O	26:4:66:SER:CB	2.51	0.58
1:A:1094:U:O2'	1:A:1096:A:OP1	2.16	0.58
3:D:165:ILE:HA	3:D:175:LEU:HD23	1.83	0.58
3:D:44:ASN:HB3	3:D:49:ILE:CA	2.27	0.58
6:G:64:THR:HG23	6:G:66:GLN:H	1.67	0.58
7:H:117:PRO:HB3	7:H:123:PHE:CD1	2.37	0.58
9:N:9:VAL:HG21	9:N:48:MET:HB3	1.85	0.58
10:O:40:VAL:HG12	10:O:41:ALA:N	2.19	0.58
12:Q:55:VAL:HG22	12:Q:56:ARG:N	2.18	0.58
12:Q:79:LEU:HD12	22:0:5:LYS:HD3	1.86	0.58
17:V:38:LEU:HD23	17:V:39:LEU:N	2.19	0.58
1:A:565:C:OP1	17:V:82:ARG:NH2	2.37	0.58
18:W:66:GLU:O	18:W:68:ARG:N	2.33	0.58
24:2:17:SER:CB	24:2:18:PRO:HA	2.33	0.58
1:A:1264:G:H5'	27:5:11:THR:HG21	1.85	0.58
4:E:78:LEU:HD23	4:E:79:ARG:HD2	1.86	0.58
11:P:13:ASN:C	11:P:15:ARG:N	2.54	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:71:VAL:HG13	11:P:72:PRO:HD3	1.85	0.58
14:S:88:ASP:CG	14:S:90:GLY:H	2.06	0.58
19:X:7:VAL:O	19:X:30:VAL:HG12	2.04	0.58
20:Y:51:VAL:CG1	20:Y:52:SER:H	2.11	0.58
3:D:242:ARG:HD2	3:D:242:ARG:N	2.18	0.58
4:E:51:PHE:CD1	4:E:52:LEU:HG	2.38	0.58
5:F:89:VAL:HG12	5:F:90:PHE:N	2.18	0.58
7:H:85:LYS:HA	7:H:86:GLU:OE1	2.03	0.58
11:P:71:VAL:CG1	11:P:72:PRO:HD3	2.33	0.58
12:Q:47:ILE:CD1	12:Q:70:PRO:HD3	2.34	0.58
12:Q:90:VAL:C	12:Q:92:GLY:H	2.07	0.58
14:S:42:ASP:C	14:S:44:LYS:H	2.06	0.58
19:X:36:LYS:HE3	19:X:54:VAL:O	2.04	0.58
20:Y:81:LYS:HD3	20:Y:97:ARG:CD	2.33	0.58
21:Z:72:ARG:NH2	21:Z:97:GLU:O	2.27	0.58
24:2:69:ARG:CB	24:2:69:ARG:NH1	2.67	0.58
25:3:22:ALA:O	25:3:25:ALA:HB3	2.04	0.58
1:A:1266:G:O4'	18:W:15:ARG:NH2	2.36	0.58
1:A:1728:G:H8	1:A:1732:A:H62	1.51	0.58
1:A:307:G:H21	1:A:330:A:H62	1.51	0.58
4:E:111:ARG:NE	4:E:160:TYR:HE1	2.01	0.58
5:F:138:GLU:O	5:F:141:ALA:HB3	2.03	0.58
9:N:13:TRP:O	9:N:135:PRO:HD2	2.03	0.58
18:W:95:ILE:O	18:W:95:ILE:HD12	2.04	0.58
24:2:15:LYS:H	24:2:67:LYS:CE	2.17	0.58
26:4:12:ALA:CB	26:4:29:PRO:HA	2.34	0.58
27:5:60:VAL:HG13	27:5:60:VAL:OXT	2.03	0.58
1:A:1007:C:O3'	9:N:108:PRO:HB3	2.03	0.58
1:A:1338:G:N7	19:X:62:LYS:NZ	2.46	0.58
1:A:2401:U:H2'	1:A:2402:C:H5''	1.85	0.58
7:H:4:ILE:HD13	7:H:4:ILE:H	1.68	0.58
21:Z:126:VAL:HG12	21:Z:163:LEU:HA	1.86	0.58
4:E:72:VAL:O	4:E:73:GLU:O	2.21	0.58
5:F:160:ASN:OD1	5:F:162:LEU:HB2	2.04	0.58
6:G:39:ILE:HG23	6:G:155:MET:HG3	1.86	0.58
13:R:117:VAL:CG2	13:R:118:GLU:H	2.15	0.58
14:S:67:ARG:NH1	14:S:67:ARG:CB	2.64	0.58
19:X:27:THR:HB	19:X:80:ILE:HB	1.84	0.58
24:2:21:LEU:O	24:2:25:VAL:HG23	2.04	0.57
1:A:1103:A:H5'	1:A:1104:C:H5	1.69	0.57
1:A:1859:A:N6	1:A:1883:G:O2'	2.37	0.57
3:D:71:ASP:HB3	3:D:103:ARG:HH22	1.68	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:63:LEU:HD13	4:E:65:GLY:H	1.68	0.57
7:H:127:GLU:HG2	7:H:128:PRO:CG	2.32	0.57
9:N:35:ARG:O	9:N:37:LYS:N	2.37	0.57
15:T:82:LEU:HD12	15:T:82:LEU:N	2.19	0.57
17:V:78:LYS:O	17:V:79:VAL:HB	2.03	0.57
1:A:2233:U:H2'	1:A:2234:G:C8	2.39	0.57
4:E:203:LYS:HE3	4:E:204:ALA:HB2	1.86	0.57
4:E:6:GLY:HA3	4:E:26:ILE:HD11	1.85	0.57
14:S:95:HIS:CG	14:S:96:GLY:H	2.21	0.57
16:U:92:ARG:C	16:U:94:ASN:H	2.05	0.57
22:O:10:THR:HG22	22:O:12:ASN:H	1.70	0.57
25:3:4:LEU:O	25:3:36:VAL:HA	2.04	0.57
1:A:747:U:C4	27:5:2:ALA:N	2.73	0.57
3:D:35:LYS:HG2	3:D:64:ILE:CA	2.34	0.57
4:E:63:LEU:HD12	4:E:65:GLY:H	1.69	0.57
6:G:63:ILE:HD11	6:G:102:PHE:HE2	1.69	0.57
9:N:114:ARG:O	9:N:115:ARG:HB3	2.03	0.57
9:N:14:VAL:HG12	9:N:15:LEU:H	1.69	0.57
10:O:71:ARG:HH11	10:O:71:ARG:HG3	1.69	0.57
16:U:24:TYR:HE1	16:U:39:LEU:HD23	1.70	0.57
23:1:86:SER:H	23:1:87:PRO:CD	2.16	0.57
26:4:37:SER:HB3	26:4:42:PHE:CE1	2.38	0.57
1:A:1799:G:O2'	3:D:270:ILE:HD11	2.04	0.57
1:A:2477:C:H2'	31:9:1:MET:HG3	1.86	0.57
1:A:2698:U:H2'	1:A:2699:C:C6	2.39	0.57
1:A:593:G:O2'	30:8:61:LEU:HD13	2.04	0.57
1:A:993:G:OP1	16:U:50:ARG:NH2	2.35	0.57
1:A:1695:G:H1'	3:D:8:PRO:O	2.04	0.57
4:E:116:VAL:CG2	4:E:122:PHE:CD2	2.86	0.57
4:E:41:LYS:HA	4:E:41:LYS:HE2	1.86	0.57
5:F:192:LEU:HD21	5:F:194:MET:CE	2.35	0.57
9:N:14:VAL:HG12	9:N:15:LEU:N	2.18	0.57
4:E:152:LYS:HG2	9:N:78:TYR:CE1	2.39	0.57
10:O:20:MET:O	10:O:41:ALA:HB1	2.04	0.57
13:R:32:GLY:O	13:R:115:GLU:HA	2.04	0.57
13:R:79:LEU:HD23	13:R:79:LEU:C	2.23	0.57
24:2:16:LEU:O	24:2:17:SER:HB3	2.04	0.57
27:5:55:ARG:NH1	27:5:58:LEU:HD11	2.19	0.57
1:A:2600:A:N7	3:D:237:GLU:OE2	2.38	0.57
1:A:704:G:H2'	1:A:726:G:N2	2.18	0.57
9:N:133:GLN:O	9:N:134:ARG:CB	2.53	0.57
14:S:106:ARG:O	14:S:107:GLU:HB2	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:26:LEU:CD2	14:S:87:PHE:HD1	2.17	0.57
21:Z:52:SER:OG	21:Z:52:SER:O	2.17	0.57
21:Z:89:PHE:HE1	21:Z:96:VAL:HG21	1.69	0.57
1:A:2396:G:H4'	23:1:30:VAL:HA	1.87	0.57
30:8:46:ARG:O	30:8:47:LYS:HB3	2.03	0.57
4:E:7:VAL:HG11	15:T:1:MET:HE3	1.85	0.57
6:G:53:LEU:C	6:G:53:LEU:HD23	2.25	0.57
7:H:3:ARG:HA	7:H:3:ARG:HE	1.69	0.57
14:S:5:THR:HG23	14:S:8:GLU:OE2	2.05	0.57
16:U:52:ARG:HG2	16:U:52:ARG:NH1	2.18	0.57
21:Z:181:GLU:HG2	21:Z:183:LEU:HG	1.85	0.57
26:4:42:PHE:CG	26:4:43:TYR:N	2.72	0.57
2:B:50:G:OP1	14:S:63:THR:HG23	2.04	0.57
4:E:102:VAL:HG13	4:E:172:VAL:CG2	2.34	0.57
6:G:107:LEU:HD11	6:G:178:PHE:CE1	2.40	0.57
9:N:63:THR:HG22	9:N:66:LYS:NZ	2.20	0.57
14:S:67:ARG:HH11	14:S:67:ARG:CB	2.17	0.57
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ3	1.69	0.57
23:1:70:VAL:O	23:1:74:VAL:HG23	2.04	0.57
25:3:31:LEU:O	25:3:32:GLN:HB2	2.04	0.57
29:7:31:LEU:O	29:7:32:LYS:C	2.43	0.57
3:D:34:VAL:O	3:D:34:VAL:CG1	2.51	0.57
3:D:25:THR:HG21	3:D:82:ILE:H	1.70	0.57
5:F:32:LEU:HD13	5:F:105:VAL:CG1	2.33	0.57
14:S:72:ALA:O	14:S:76:LYS:HG3	2.04	0.57
20:Y:21:LYS:HG3	20:Y:22:GLY:H	1.69	0.57
20:Y:97:ARG:HG2	20:Y:97:ARG:O	2.05	0.57
1:A:1688:U:O2	1:A:1700:A:H5''	2.05	0.57
1:A:221:A:H4'	1:A:222:A:O5'	2.05	0.57
3:D:25:THR:HG21	3:D:81:ALA:HB1	1.86	0.57
3:D:36:PRO:HB2	3:D:61:LEU:HG	1.87	0.57
3:D:69:ARG:C	3:D:71:ASP:H	2.08	0.57
9:N:7:LYS:HG2	9:N:8:GLN:N	2.20	0.57
10:O:96:THR:O	10:O:97:ARG:HB3	2.04	0.57
11:P:64:LYS:C	11:P:66:GLY:N	2.56	0.57
13:R:45:ARG:HA	13:R:95:THR:HG21	1.87	0.57
16:U:79:PHE:C	16:U:79:PHE:CD2	2.78	0.57
30:8:33:ASN:O	30:8:34:TRP:C	2.42	0.57
5:F:118:ALA:O	5:F:121:GLY:N	2.33	0.57
6:G:60:LEU:O	6:G:64:THR:HG22	2.05	0.57
11:P:59:LEU:HA	11:P:61:ARG:CZ	2.34	0.57
26:4:27:THR:O	26:4:28:LYS:HB3	2.04	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:14:THR:O	28:6:49:HIS:HA	2.05	0.56
29:7:48:LYS:HG2	29:7:49:ARG:N	2.19	0.56
1:A:2438:U:O3'	1:A:2439:A:H3'	2.04	0.56
7:H:84:SER:O	7:H:133:VAL:O	2.22	0.56
15:T:105:LEU:C	15:T:107:ASP:H	2.08	0.56
24:2:17:SER:HB2	24:2:18:PRO:HA	1.86	0.56
25:3:7:LYS:NZ	25:3:32:GLN:HE21	2.03	0.56
26:4:15:ILE:HG22	26:4:20:ASN:HA	1.86	0.56
1:A:1204:A:H1'	1:A:1206:G:C8	2.40	0.56
1:A:910:A:C5	12:Q:13:GLN:HG3	2.41	0.56
3:D:92:ILE:HD12	3:D:104:TYR:CD2	2.39	0.56
3:D:69:ARG:HD3	3:D:105:ILE:HD11	1.87	0.56
7:H:77:LYS:CB	7:H:77:LYS:HZ3	2.11	0.56
16:U:83:LEU:HD12	16:U:113:ALA:HB2	1.86	0.56
1:A:83:G:N2	1:A:103:A:OP2	2.31	0.56
1:A:263:C:H2'	1:A:264:C:O4'	2.04	0.56
1:A:593:G:H2'	1:A:594:U:C6	2.41	0.56
4:E:69:LYS:C	4:E:71:GLY:H	2.08	0.56
6:G:39:ILE:CG2	6:G:155:MET:HG3	2.35	0.56
9:N:82:LEU:HD12	9:N:83:LYS:H	1.70	0.56
12:Q:37:LEU:HD21	12:Q:130:LYS:HE3	1.87	0.56
15:T:134:GLU:O	15:T:135:ALA:HB3	2.05	0.56
16:U:68:ALA:O	16:U:71:GLN:HB2	2.05	0.56
17:V:76:LYS:O	17:V:79:VAL:HG12	2.05	0.56
19:X:35:THR:HG22	19:X:38:GLU:OE1	2.05	0.56
23:1:89:GLU:O	23:1:93:GLU:HB2	2.05	0.56
24:2:31:GLU:O	24:2:35:LEU:HG	2.05	0.56
26:4:38:LYS:C	26:4:40:HIS:N	2.52	0.56
31:9:2:LYS:HD2	31:9:33:LYS:O	2.05	0.56
1:A:1932:A:H2'	1:A:1933:G:O4'	2.05	0.56
3:D:183:ARG:HD2	3:D:270:ILE:HG12	1.88	0.56
7:H:125:VAL:HG12	7:H:126:PRO:CG	2.34	0.56
7:H:41:MET:HE1	7:H:64:LEU:HB3	1.87	0.56
9:N:56:ASN:N	9:N:125:GLY:O	2.35	0.56
14:S:103:GLU:O	14:S:106:ARG:CG	2.52	0.56
14:S:32:LEU:O	14:S:62:LYS:HE2	2.05	0.56
1:A:1364:G:N7	23:1:2:SER:N	2.52	0.56
31:9:25:VAL:HB	31:9:34:GLN:HB2	1.87	0.56
1:A:99:U:H4'	1:A:101:G:C5'	2.35	0.56
1:A:1796:U:H2'	1:A:1797:C:H6	1.70	0.56
1:A:330:A:HO2'	1:A:331:A:H8	1.53	0.56
3:D:2:ALA:O	3:D:3:VAL:HB	2.06	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:32:PRO:O	4:E:34:VAL:HG13	2.06	0.56
10:O:3:GLN:CB	10:O:4:PRO:HD2	2.35	0.56
11:P:115:LEU:HD12	11:P:116:GLY:N	2.21	0.56
12:Q:79:LEU:CG	12:Q:79:LEU:O	2.52	0.56
15:T:26:ASP:CB	15:T:91:ARG:HA	2.36	0.56
16:U:104:GLN:OE1	16:U:104:GLN:N	2.35	0.56
23:1:76:ARG:NH1	23:1:76:ARG:HG2	2.20	0.56
26:4:64:GLY:C	26:4:66:SER:H	2.08	0.56
4:E:37:ARG:N	4:E:37:ARG:NE	2.54	0.56
4:E:74:PRO:HG2	4:E:77:ILE:HG23	1.87	0.56
14:S:14:VAL:HG13	14:S:15:ARG:N	2.21	0.56
1:A:559:G:H22	16:U:49:HIS:CE1	2.24	0.56
29:7:12:ARG:NH2	29:7:44:PRO:HB3	2.21	0.56
30:8:50:LEU:HD12	30:8:51:ALA:H	1.70	0.56
1:A:395:U:H2'	1:A:396:G:N7	2.21	0.56
3:D:35:LYS:CE	3:D:104:TYR:HB2	2.35	0.56
1:A:451:C:H4'	5:F:52:LYS:NZ	2.21	0.56
9:N:112:LEU:O	9:N:114:ARG:O	2.23	0.56
9:N:40:PRO:HB3	16:U:68:ALA:HB2	1.86	0.56
24:2:41:ILE:HD11	24:2:44:LEU:CG	2.36	0.56
28:6:11:LEU:HD23	28:6:26:ASN:HB3	1.87	0.56
28:6:6:ARG:O	28:6:8:LYS:HD2	2.05	0.56
29:7:13:ALA:O	29:7:17:GLY:HA3	2.05	0.56
1:A:2469:A:H2	1:A:2481:G:H21	1.54	0.56
1:A:2636:U:OP1	4:E:79:ARG:HA	2.06	0.56
1:A:2787:C:HO2'	1:A:2810:A:HO2'	1.53	0.56
4:E:183:LEU:HD12	4:E:183:LEU:N	2.20	0.56
5:F:197:ASP:O	5:F:199:TRP:N	2.38	0.56
6:G:128:ARG:NH2	6:G:128:ARG:HG3	2.17	0.56
11:P:19:VAL:CG2	11:P:20:GLY:H	1.98	0.56
11:P:59:LEU:HD23	11:P:59:LEU:O	2.06	0.56
26:4:48:ARG:O	26:4:50:VAL:N	2.38	0.56
1:A:1600:C:H4'	29:7:49:ARG:HE	1.69	0.56
3:D:239:ARG:O	3:D:240:ALA:HB2	2.05	0.56
4:E:195:LEU:HD12	4:E:196:VAL:H	1.71	0.56
20:Y:95:LYS:O	20:Y:95:LYS:HE3	2.06	0.56
26:4:41:PRO:O	26:4:42:PHE:CB	2.54	0.56
1:A:1287:A:N7	13:R:107:ASP:HB2	2.20	0.56
5:F:155:LEU:CD1	5:F:174:VAL:HG13	2.32	0.56
14:S:5:THR:OG1	14:S:7:TYR:HB3	2.06	0.56
16:U:96:ALA:O	16:U:100:VAL:HG23	2.05	0.56
25:3:59:VAL:CG1	25:3:60:GLU:N	2.69	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:48:VAL:HG13	28:6:49:HIS:N	2.20	0.56
1:A:2291:U:H2'	1:A:2292:C:C6	2.40	0.56
4:E:117:MET:HG3	4:E:117:MET:O	2.06	0.56
11:P:14:LYS:O	11:P:16:ARG:N	2.39	0.56
24:2:43:GLN:O	24:2:44:LEU:CG	2.54	0.55
25:3:4:LEU:HD21	25:3:39:ASP:OD1	2.06	0.55
5:F:198:ALA:CA	5:F:201:VAL:HG12	2.34	0.55
6:G:120:LEU:HB3	6:G:131:TYR:OH	2.05	0.55
6:G:135:LEU:N	6:G:135:LEU:HD12	2.21	0.55
11:P:15:ARG:O	11:P:17:LYS:N	2.39	0.55
16:U:105:VAL:HA	17:V:44:LYS:HE3	1.88	0.55
20:Y:48:ALA:H	20:Y:60:PHE:HA	1.71	0.55
20:Y:62:GLU:O	20:Y:63:LYS:O	2.24	0.55
21:Z:125:LEU:HG	21:Z:164:ALA:HB3	1.87	0.55
23:1:91:LYS:CG	23:1:92:LYS:H	2.15	0.55
24:2:15:LYS:H	24:2:67:LYS:NZ	2.02	0.55
25:3:35:ARG:HB3	25:3:37:LEU:CD2	2.37	0.55
25:3:8:LEU:HD22	25:3:31:LEU:CD2	2.37	0.55
1:A:1464:C:HO2'	1:A:1528:A:H8	1.53	0.55
1:A:565:C:H2'	1:A:566:U:O4'	2.06	0.55
1:A:612:G:H2'	1:A:613:U:O2	2.06	0.55
4:E:174:ASP:CG	4:E:175:VAL:N	2.58	0.55
9:N:101:HIS:CD2	9:N:101:HIS:C	2.79	0.55
12:Q:12:GLN:OE1	12:Q:72:LYS:HD2	2.06	0.55
18:W:1:MET:C	18:W:64:MET:HE1	2.27	0.55
18:W:20:VAL:C	18:W:22:ASP:N	2.60	0.55
20:Y:84:ARG:NH1	20:Y:97:ARG:HB2	2.11	0.55
21:Z:121:HIS:ND1	21:Z:123:ASP:O	2.39	0.55
1:A:278:A:O2'	1:A:279:C:O4'	2.25	0.55
1:A:67:U:N3	1:A:74:A:H2	1.98	0.55
3:D:221:VAL:HG22	3:D:226:MET:HE2	1.88	0.55
6:G:180:PHE:C	6:G:182:LYS:H	2.09	0.55
11:P:39:LYS:N	11:P:45:LEU:HD11	2.21	0.55
12:Q:25:ASP:N	12:Q:102:VAL:HG23	2.22	0.55
14:S:59:LYS:CG	14:S:60:GLY:H	2.11	0.55
15:T:107:ASP:O	15:T:111:ARG:NH1	2.39	0.55
16:U:73:GLY:O	16:U:74:LEU:HB3	2.07	0.55
20:Y:89:PHE:O	20:Y:90:LEU:HD13	2.05	0.55
1:A:76:C:O2'	24:2:62:THR:HG21	2.06	0.55
1:A:1903:G:OP1	3:D:241:PRO:HG2	2.07	0.55
9:N:131:GLN:CG	9:N:132:ALA:N	2.68	0.55
11:P:31:ALA:O	11:P:32:THR:HG23	2.05	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:807:U:OP2	11:P:41:ARG:NH1	2.39	0.55
16:U:92:ARG:NH1	17:V:11:GLN:HB2	2.22	0.55
18:W:14:PRO:HG2	18:W:78:GLU:OE2	2.07	0.55
18:W:65:LEU:O	18:W:66:GLU:C	2.43	0.55
28:6:42:TRP:CD1	28:6:42:TRP:N	2.74	0.55
1:A:1062:G:H2'	1:A:1063:G:C8	2.42	0.55
1:A:848:G:H2'	1:A:849:A:C8	2.42	0.55
3:D:43:ARG:CB	3:D:54:ARG:HB2	2.37	0.55
4:E:3:GLY:HA3	4:E:81:ILE:HD12	1.88	0.55
12:Q:64:ILE:HA	12:Q:106:VAL:CG1	2.33	0.55
13:R:84:ALA:HB3	13:R:85:PRO:HD3	1.88	0.55
17:V:29:PRO:HA	17:V:61:VAL:CG2	2.37	0.55
1:A:2009:G:OP1	18:W:41:LYS:HE2	2.07	0.55
20:Y:61:ILE:HG23	20:Y:62:GLU:H	1.71	0.55
1:A:1416:G:H2'	1:A:1417:C:C6	2.41	0.55
1:A:851:U:H1'	25:3:46:ASN:HD21	1.71	0.55
4:E:20:ALA:O	4:E:21:VAL:CG2	2.49	0.55
4:E:26:ILE:C	4:E:26:ILE:HD13	2.26	0.55
4:E:4:ILE:HD13	4:E:5:LEU:H	1.71	0.55
9:N:44:PRO:HG2	9:N:45:ASN:H	1.71	0.55
11:P:49:ARG:NE	30:8:59:LYS:HG2	2.22	0.55
14:S:111:GLU:HA	14:S:111:GLU:OE1	2.07	0.55
20:Y:91:GLU:HG3	20:Y:92:ASN:H	1.72	0.55
1:A:607:U:OP1	5:F:102:PRO:HA	2.06	0.55
3:D:94:LEU:HD22	3:D:95:LEU:H	1.69	0.55
5:F:28:ILE:HD12	5:F:28:ILE:O	2.06	0.55
9:N:109:LYS:N	9:N:109:LYS:HD2	2.22	0.55
10:O:4:PRO:O	10:O:5:GLN:HB2	2.06	0.55
10:O:79:PHE:HD2	15:T:72:VAL:HG22	1.72	0.55
14:S:107:GLU:N	14:S:110:LEU:HD11	2.22	0.55
16:U:6:THR:O	16:U:9:VAL:HG23	2.07	0.55
18:W:20:VAL:C	18:W:22:ASP:H	2.10	0.55
26:4:9:LEU:H	26:4:27:THR:HG22	1.71	0.55
27:5:55:ARG:HD3	27:5:56:LYS:N	2.21	0.55
29:7:19:ARG:HH11	29:7:19:ARG:HG2	1.71	0.55
1:A:1309:G:OP1	29:7:9:ARG:HD3	2.06	0.55
1:A:2656:U:H3	1:A:2665:A:H2	1.55	0.55
4:E:21:VAL:HG23	4:E:22:PRO:HD3	1.89	0.55
4:E:53:PRO:O	4:E:74:PRO:HA	2.07	0.55
4:E:67:PHE:O	4:E:69:LYS:N	2.39	0.55
5:F:24:LEU:HB3	5:F:115:ALA:HB2	1.87	0.55
1:A:617:G:OP1	5:F:40:GLN:NE2	2.39	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2445:G:OP1	5:F:74:ARG:NH2	2.40	0.55
15:T:123:GLN:O	15:T:125:ARG:N	2.40	0.55
15:T:16:ARG:HG2	15:T:18:ASP:OD1	2.06	0.55
16:U:58:ARG:O	16:U:62:ILE:HG13	2.06	0.55
18:W:88:ARG:HB3	18:W:92:ARG:HB3	1.88	0.55
20:Y:95:LYS:HA	20:Y:101:LYS:H	1.72	0.55
24:2:31:GLU:HB2	24:2:53:LEU:HD11	1.89	0.55
26:4:51:ASP:OD1	26:4:51:ASP:O	2.25	0.55
26:4:48:ARG:HH12	26:4:52:THR:HG22	1.71	0.55
26:4:71:ARG:CG	26:4:71:ARG:NH1	2.61	0.55
1:A:207:A:H2'	1:A:208:C:O4'	2.06	0.55
1:A:2349:G:OP2	30:8:42:ARG:HD3	2.07	0.55
1:A:2724:C:OP1	4:E:118:LYS:NZ	2.34	0.55
1:A:389:G:N1	11:P:71:VAL:HG12	2.21	0.55
10:O:19:ILE:O	10:O:19:ILE:HD13	2.06	0.55
10:O:20:MET:HG2	10:O:21:CYS:N	2.20	0.55
12:Q:21:THR:O	12:Q:22:LYS:O	2.25	0.55
14:S:18:ILE:C	14:S:19:LYS:O	2.44	0.55
15:T:29:ARG:HH11	15:T:29:ARG:HB2	1.72	0.55
18:W:25:ARG:CB	18:W:25:ARG:HH11	2.20	0.55
20:Y:95:LYS:CB	20:Y:100:ALA:HA	2.13	0.55
23:1:83:GLU:OE1	23:1:85:LEU:HD23	2.07	0.55
28:6:20:ASN:CG	28:6:21:TYR:H	2.09	0.55
1:A:1354:A:OP1	3:D:38:LYS:HE2	2.07	0.55
1:A:242:G:H5''	30:8:3:LYS:HE3	1.89	0.55
1:A:2811:G:O6	1:A:2889:C:N4	2.29	0.55
4:E:54:GLN:NE2	4:E:54:GLN:N	2.55	0.55
5:F:32:LEU:HD12	5:F:36:VAL:HG23	1.89	0.55
6:G:114:ILE:HD11	6:G:140:ILE:HD12	1.89	0.55
11:P:2:LYS:O	11:P:5:ASP:HB2	2.06	0.55
11:P:88:LEU:C	11:P:90:ARG:N	2.60	0.55
14:S:36:TYR:HD2	14:S:52:SER:CB	2.18	0.55
22:0:22:GLY:N	22:0:39:ARG:O	2.35	0.54
30:8:30:ARG:O	30:8:31:HIS:CB	2.55	0.54
1:A:1359:A:N6	1:A:1372:U:C4	2.74	0.54
1:A:2250:G:C5	12:Q:82:ARG:HD2	2.42	0.54
1:A:587:C:OP2	11:P:21:ARG:NH2	2.40	0.54
4:E:176:ILE:HG22	4:E:179:GLU:H	1.72	0.54
6:G:41:GLN:HB3	6:G:43:LEU:HD13	1.87	0.54
8:I:21:VAL:HG22	8:I:22:LYS:H	1.71	0.54
13:R:12:ARG:HH11	13:R:12:ARG:HG3	1.71	0.54
17:V:49:THR:CB	17:V:50:PRO:CD	2.83	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:65:ARG:H	19:X:65:ARG:HD3	1.70	0.54
20:Y:95:LYS:N	20:Y:95:LYS:HD3	2.23	0.54
23:1:53:VAL:O	23:1:54:ALA:C	2.45	0.54
1:A:26:G:H1'	1:A:515:A:H61	1.72	0.54
3:D:31:LYS:O	3:D:35:LYS:O	2.24	0.54
7:H:26:VAL:CG1	7:H:27:LYS:N	2.63	0.54
10:O:53:LYS:HD2	10:O:56:ASP:OD1	2.08	0.54
11:P:106:LEU:O	11:P:107:LYS:HD3	2.07	0.54
15:T:98:LYS:HB3	15:T:100:TYR:CE1	2.43	0.54
15:T:6:LEU:O	15:T:7:ILE:C	2.44	0.54
16:U:27:LEU:O	16:U:29:SER:N	2.40	0.54
16:U:58:ARG:NH1	16:U:93:LYS:HE2	2.22	0.54
16:U:95:LEU:HD12	17:V:11:GLN:HE21	1.72	0.54
18:W:9:TYR:H	18:W:102:HIS:CE1	2.25	0.54
20:Y:2:ARG:HG2	20:Y:2:ARG:NH1	2.22	0.54
23:1:92:LYS:O	23:1:94:LEU:N	2.41	0.54
27:5:55:ARG:HD3	27:5:56:LYS:H	1.73	0.54
11:P:65:ARG:HH21	30:8:15:LYS:HB2	1.72	0.54
1:A:573:G:N1	1:A:2031:A:OP2	2.26	0.54
7:H:86:GLU:HG3	7:H:165:ALA:CB	2.38	0.54
8:I:33:ARG:HB3	8:I:35:LEU:HG	1.89	0.54
9:N:42:TRP:CD1	16:U:63:VAL:HG11	2.42	0.54
17:V:52:VAL:O	17:V:54:GLY:N	2.39	0.54
20:Y:97:ARG:NH2	20:Y:98:VAL:CB	2.65	0.54
26:4:47:GLN:O	26:4:48:ARG:HB2	2.07	0.54
29:7:18:PHE:C	29:7:18:PHE:CD2	2.81	0.54
1:A:2757:A:OP1	31:9:19:ARG:HA	2.07	0.54
3:D:155:LEU:HD23	3:D:177:LEU:CD2	2.36	0.54
4:E:14:ILE:HG23	4:E:15:PHE:N	2.22	0.54
5:F:129:PHE:O	5:F:130:ALA:CB	2.55	0.54
7:H:8:PRO:O	7:H:9:ILE:HG23	2.08	0.54
1:A:2415:G:O3'	11:P:66:GLY:HA3	2.07	0.54
13:R:28:LEU:HD13	13:R:28:LEU:O	2.08	0.54
17:V:27:ALA:O	17:V:28:GLU:O	2.24	0.54
20:Y:95:LYS:NZ	20:Y:95:LYS:HB2	2.21	0.54
23:1:53:VAL:HG12	23:1:54:ALA:N	2.21	0.54
30:8:32:LEU:O	30:8:36:LYS:HE3	2.07	0.54
1:A:2543:G:H2'	1:A:2544:G:C8	2.43	0.54
6:G:7:LEU:HD12	6:G:104:GLU:HA	1.88	0.54
6:G:3:LEU:HD12	6:G:4:ASP:N	2.19	0.54
6:G:83:ARG:HG3	6:G:86:MET:HE1	1.89	0.54
7:H:153:LYS:CE	7:H:153:LYS:HA	2.38	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:140:ALA:O	11:P:141:ALA:HB2	2.08	0.54
18:W:80:PRO:O	18:W:100:THR:CG2	2.55	0.54
20:Y:47:LYS:O	20:Y:49:VAL:HG23	2.07	0.54
27:5:44:THR:O	27:5:46:CYS:N	2.41	0.54
28:6:17:LYS:O	28:6:18:ARG:HB2	2.08	0.54
1:A:1061:U:H3'	1:A:1062:G:H5''	1.90	0.54
1:A:2466:C:H5'	31:9:5:ALA:HB3	1.90	0.54
3:D:118:VAL:HG22	3:D:119:ALA:H	1.72	0.54
3:D:206:LEU:O	3:D:211:ARG:NH1	2.38	0.54
3:D:211:ARG:HD2	3:D:214:TRP:CZ3	2.43	0.54
5:F:62:ARG:HB3	5:F:62:ARG:NH1	2.22	0.54
11:P:114:ILE:HD11	11:P:130:PHE:HE1	1.70	0.54
11:P:24:GLY:O	11:P:25:SER:HB3	2.06	0.54
25:3:2:PRO:O	25:3:3:ARG:O	2.25	0.54
1:A:1085:A:O2'	1:A:1086:A:OP1	2.22	0.54
1:A:1678:G:H22	1:A:1989:G:H22	1.55	0.54
1:A:1899:G:H21	1:A:1902:C:H41	1.53	0.54
1:A:264:C:C2'	1:A:265:A:H5''	2.37	0.54
1:A:265:A:O2'	1:A:266:G:H4'	2.08	0.54
1:A:469:G:O6	29:7:37:LYS:HE2	2.07	0.54
1:A:747:U:N3	27:5:2:ALA:N	2.56	0.54
3:D:124:PRO:HB2	3:D:126:GLN:NE2	2.22	0.54
3:D:183:ARG:NH1	3:D:183:ARG:HG2	2.12	0.54
3:D:25:THR:O	3:D:25:THR:HG23	2.07	0.54
4:E:134:ILE:HD12	4:E:134:ILE:C	2.28	0.54
5:F:127:GLU:O	5:F:129:PHE:N	2.39	0.54
7:H:126:PRO:HD2	7:H:127:GLU:H	1.72	0.54
9:N:7:LYS:HD3	9:N:9:VAL:CA	2.38	0.54
11:P:124:LYS:HA	11:P:143:GLY:O	2.08	0.54
14:S:13:ARG:HD2	14:S:13:ARG:O	2.06	0.54
16:U:24:TYR:O	16:U:29:SER:HB3	2.08	0.54
16:U:86:ALA:HB1	16:U:88:ILE:HD11	1.90	0.54
12:Q:60:ARG:HH11	21:Z:113:ALA:HB3	1.73	0.54
25:3:56:VAL:CG1	25:3:57:GLU:H	2.20	0.54
26:4:65:ASP:O	26:4:66:SER:HB3	2.07	0.54
1:A:2327:A:H2'	1:A:2328:A:C8	2.43	0.54
4:E:51:PHE:O	4:E:74:PRO:HB3	2.08	0.54
6:G:81:LYS:O	6:G:82:LEU:CB	2.56	0.54
10:O:68:GLU:HA	10:O:78:ARG:HB3	1.88	0.54
11:P:112:LEU:HD13	11:P:112:LEU:C	2.29	0.54
12:Q:39:PRO:HB3	12:Q:99:PRO:HD3	1.90	0.54
13:R:38:VAL:HG22	13:R:112:ALA:HB2	1.90	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2683:C:OP1	15:T:53:ARG:NH2	2.40	0.54
17:V:66:ARG:HH11	17:V:66:ARG:CB	2.20	0.54
24:2:41:ILE:HD11	24:2:44:LEU:HB2	1.90	0.54
28:6:12:GLU:HG2	28:6:52:VAL:O	2.07	0.54
31:9:1:MET:HB3	31:9:4:ARG:CZ	2.37	0.54
1:A:2642:G:H4'	9:N:78:TYR:CE2	2.43	0.54
1:A:918:A:N3	2:B:80:U:O2'	2.35	0.54
3:D:158:ALA:HB3	3:D:161:THR:HG21	1.90	0.54
4:E:186:GLY:O	4:E:188:VAL:N	2.40	0.54
10:O:49:ARG:HB3	10:O:49:ARG:NH1	2.23	0.54
11:P:37:GLY:C	11:P:41:ARG:HD3	2.29	0.54
13:R:91:GLN:HG2	13:R:91:GLN:O	2.08	0.54
4:E:25:VAL:HG11	15:T:11:GLU:HG2	1.90	0.54
15:T:55:ASN:O	15:T:57:PHE:O	2.26	0.54
10:O:78:ARG:O	15:T:73:GLU:HG3	2.08	0.54
1:A:813:U:H2'	1:A:814:C:C6	2.43	0.54
3:D:28:GLU:O	3:D:29:PRO:C	2.45	0.54
3:D:34:VAL:C	3:D:35:LYS:HG3	2.28	0.54
3:D:80:ALA:HB3	3:D:94:LEU:HD13	1.88	0.54
5:F:53:THR:C	5:F:55:GLY:H	2.11	0.54
7:H:91:GLY:O	7:H:94:TYR:HB2	2.08	0.54
10:O:1:MET:HE2	10:O:67:LYS:HG2	1.89	0.54
11:P:84:ASN:ND2	11:P:115:LEU:HD12	2.22	0.54
11:P:92:GLU:HA	11:P:123:LEU:CD2	2.38	0.54
17:V:45:THR:O	17:V:45:THR:HG22	2.08	0.54
20:Y:87:LYS:HB2	20:Y:87:LYS:NZ	2.23	0.54
24:2:47:ASN:ND2	24:2:47:ASN:N	2.54	0.53
26:4:63:TYR:C	26:4:65:ASP:N	2.61	0.53
1:A:229:A:OP1	1:A:229:A:H4'	2.07	0.53
1:A:2567:G:H2'	1:A:2568:C:C6	2.43	0.53
3:D:85:ASP:OD2	3:D:88:ARG:HG2	2.07	0.53
4:E:101:ARG:HB3	4:E:201:THR:OG1	2.08	0.53
4:E:14:ILE:HD11	15:T:14:TYR:CZ	2.42	0.53
15:T:88:ILE:C	15:T:88:ILE:HD12	2.29	0.53
19:X:5:TYR:HE2	24:2:30:ARG:HH11	1.56	0.53
23:1:87:PRO:O	23:1:91:LYS:N	2.31	0.53
27:5:16:ARG:NH1	27:5:17:ASP:OD1	2.41	0.53
28:6:11:LEU:CD1	28:6:51:GLU:HG3	2.39	0.53
28:6:13:CYS:O	28:6:14:THR:HB	2.08	0.53
29:7:10:ARG:NH1	29:7:14:LYS:HE3	2.23	0.53
1:A:1678:G:N2	1:A:1989:G:H22	2.06	0.53
1:A:746:A:C5	1:A:2611:U:H5''	2.43	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:147:GLY:O	5:F:148:LEU:HD23	2.08	0.53
5:F:197:ASP:O	5:F:198:ALA:HB3	2.06	0.53
7:H:12:PRO:O	7:H:13:LYS:HB2	2.07	0.53
8:I:4:ILE:HG12	8:I:18:VAL:HG22	1.90	0.53
9:N:70:LYS:C	9:N:71:ILE:HD13	2.28	0.53
10:O:12:ASP:OD1	10:O:85:VAL:HG13	2.08	0.53
10:O:12:ASP:CG	10:O:14:THR:HG23	2.29	0.53
15:T:105:LEU:O	15:T:107:ASP:N	2.41	0.53
16:U:74:LEU:HD13	16:U:79:PHE:HB2	1.89	0.53
20:Y:5:MET:HE1	20:Y:32:PRO:HB3	1.91	0.53
23:1:91:LYS:CE	23:1:91:LYS:HA	2.38	0.53
30:8:63:PRO:O	30:8:64:TYR:HB2	2.07	0.53
1:A:1998:G:OP2	4:E:136:ARG:NH2	2.37	0.53
1:A:540:G:H5'	1:A:541:C:OP2	2.09	0.53
1:A:2633:G:H1'	4:E:62:PRO:HG2	1.90	0.53
6:G:139:LEU:HD22	6:G:146:TYR:HD1	1.73	0.53
10:O:7:TYR:C	10:O:8:LEU:HD22	2.29	0.53
13:R:70:LEU:HD13	13:R:75:LEU:HD11	1.88	0.53
14:S:74:ALA:HB1	14:S:107:GLU:HB3	1.89	0.53
15:T:110:ILE:HG23	15:T:111:ARG:N	2.24	0.53
16:U:47:TYR:C	16:U:47:TYR:CD2	2.81	0.53
17:V:81:TYR:C	17:V:82:ARG:HG3	2.27	0.53
24:2:16:LEU:CG	24:2:16:LEU:O	2.49	0.53
26:4:37:SER:C	26:4:39:CYS:N	2.62	0.53
1:A:2224:G:OP1	3:D:268:ARG:HD3	2.09	0.53
1:A:307:G:H21	1:A:330:A:N6	2.07	0.53
3:D:35:LYS:CG	3:D:64:ILE:H	2.15	0.53
5:F:179:GLU:H	5:F:179:GLU:CD	2.11	0.53
7:H:59:ARG:HH11	7:H:59:ARG:CG	2.20	0.53
17:V:22:VAL:CG1	17:V:23:GLU:N	2.71	0.53
18:W:28:SER:HB3	18:W:31:GLU:HB2	1.91	0.53
20:Y:90:LEU:H	20:Y:90:LEU:HD22	1.73	0.53
21:Z:124:ILE:HG22	21:Z:126:VAL:HG13	1.90	0.53
1:A:2466:C:OP1	31:9:4:ARG:HB2	2.08	0.53
1:A:1417:C:H2'	1:A:1418:G:O4'	2.09	0.53
1:A:1600:C:OP1	19:X:58:HIS:NE2	2.33	0.53
1:A:1769:G:O2'	1:A:1958:C:OP1	2.24	0.53
1:A:2286:A:H4'	1:A:2287:A:O4'	2.07	0.53
1:A:2758:A:C4	7:H:67:LEU:HD21	2.44	0.53
9:N:137:LYS:HG3	9:N:138:LEU:N	2.23	0.53
11:P:88:LEU:HD23	11:P:89:ALA:N	2.24	0.53
17:V:41:GLY:HA3	17:V:46:VAL:CG1	2.38	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:49:PHE:N	26:4:49:PHE:CD1	2.77	0.53
30:8:58:ILE:O	30:8:61:LEU:HG	2.08	0.53
1:A:1404:C:O2'	1:A:1405:U:H5'	2.08	0.53
1:A:2059:A:H5'	1:A:2060:A:OP2	2.09	0.53
3:D:25:THR:HG21	3:D:81:ALA:CB	2.38	0.53
9:N:134:ARG:N	9:N:135:PRO:CD	2.58	0.53
11:P:79:ARG:HD3	11:P:110:TYR:CE1	2.43	0.53
12:Q:76:LYS:O	12:Q:88:GLY:HA3	2.09	0.53
13:R:67:LEU:HD13	13:R:76:VAL:CG2	2.27	0.53
22:0:11:ARG:O	22:0:14:ARG:NH2	2.42	0.53
23:1:20:ARG:HG2	23:1:20:ARG:NH1	2.24	0.53
26:4:37:SER:HB3	26:4:42:PHE:CD1	2.43	0.53
27:5:60:VAL:CG1	27:5:60:VAL:OXT	2.56	0.53
1:A:1448:G:H5'	1:A:1543:A:OP1	2.08	0.53
3:D:25:THR:CG2	3:D:81:ALA:HB1	2.38	0.53
3:D:77:ALA:HB2	3:D:97:TYR:CG	2.44	0.53
6:G:125:PHE:C	6:G:127:GLY:H	2.12	0.53
7:H:40:GLU:O	7:H:41:MET:HB2	2.09	0.53
10:O:2:ILE:HD12	10:O:2:ILE:N	2.24	0.53
17:V:48:GLY:O	17:V:49:THR:O	2.26	0.53
18:W:43:GLY:O	18:W:44:ALA:C	2.46	0.53
19:X:60:ARG:NH1	29:7:47:ARG:HH22	2.07	0.53
26:4:56:VAL:HA	26:4:60:GLN:CB	2.28	0.53
28:6:9:LEU:HD13	28:6:26:ASN:ND2	2.24	0.53
4:E:64:LYS:C	4:E:66:HIS:H	2.12	0.53
5:F:116:ASP:OD1	5:F:119:ARG:NH2	2.41	0.53
7:H:125:VAL:HA	7:H:126:PRO:CB	2.29	0.53
7:H:12:PRO:HG3	7:H:48:GLY:O	2.09	0.53
9:N:19:GLU:HA	9:N:59:LYS:HB2	1.91	0.53
9:N:22:THR:CG2	9:N:23:LEU:N	2.61	0.53
11:P:125:VAL:O	11:P:145:PRO:HD2	2.08	0.53
11:P:64:LYS:HG3	30:8:25:MET:SD	2.48	0.53
13:R:1:MET:O	13:R:2:ARG:HG3	2.08	0.53
14:S:10:ARG:O	14:S:14:VAL:HG12	2.09	0.53
16:U:39:LEU:O	16:U:40:PHE:C	2.48	0.53
1:A:25:U:H5''	18:W:80:PRO:HD3	1.90	0.53
1:A:2776:A:H3'	1:A:2776:A:OP1	2.08	0.53
1:A:747:U:N1	27:5:2:ALA:HB3	2.24	0.53
1:A:900:A:H5'	1:A:901:A:OP2	2.09	0.53
2:B:12:C:O2'	22:0:74:ARG:HG3	2.08	0.53
3:D:263:ARG:HH11	3:D:263:ARG:HB2	1.68	0.53
4:E:119:ARG:HD3	4:E:160:TYR:HB2	1.91	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:128:PRO:CD	7:H:129:THR:N	2.71	0.53
7:H:139:GLN:O	7:H:143:GLN:HB2	2.09	0.53
11:P:125:VAL:HG13	11:P:125:VAL:O	2.09	0.53
1:A:2250:G:C2	12:Q:82:ARG:HB3	2.43	0.53
15:T:34:VAL:CG1	15:T:36:GLU:HG2	2.39	0.53
15:T:3:ARG:HG3	15:T:7:ILE:CG1	2.36	0.53
17:V:7:THR:CG2	17:V:22:VAL:HG11	2.39	0.53
19:X:53:LYS:NZ	19:X:55:ASN:HD21	2.06	0.53
1:A:2015:A:N3	27:5:2:ALA:N	2.57	0.53
28:6:7:ILE:CG1	28:6:8:LYS:H	2.07	0.53
1:A:248:G:H5'	1:A:250:G:N7	2.24	0.53
3:D:233:HIS:N	3:D:233:HIS:CD2	2.75	0.53
5:F:9:ILE:HD11	5:F:125:LEU:CG	2.36	0.53
9:N:109:LYS:HD2	9:N:109:LYS:H	1.73	0.53
11:P:147:LEU:O	11:P:148:LEU:CB	2.57	0.53
14:S:56:LEU:O	14:S:58:LEU:HD22	2.09	0.53
16:U:92:ARG:NH2	16:U:94:ASN:HD22	2.07	0.53
17:V:38:LEU:HD13	17:V:55:ALA:HB3	1.91	0.53
25:3:6:VAL:HG12	25:3:56:VAL:HG22	1.92	0.52
6:G:111:LEU:HB2	26:4:38:LYS:HZ3	1.72	0.52
28:6:25:LYS:HE2	28:6:27:LYS:HE3	1.91	0.52
1:A:247:G:O6	30:8:12:LYS:NZ	2.25	0.52
1:A:534:U:H5'	16:U:42:ALA:HB1	1.92	0.52
3:D:35:LYS:HD3	3:D:63:ARG:CA	2.39	0.52
4:E:7:VAL:O	4:E:196:VAL:HG13	2.09	0.52
5:F:129:PHE:O	5:F:142:TRP:CD1	2.62	0.52
7:H:44:VAL:CG2	7:H:44:VAL:O	2.57	0.52
7:H:76:VAL:C	7:H:78:GLY:H	2.13	0.52
8:I:1:MET:HG3	8:I:23:PRO:HB3	1.90	0.52
9:N:131:GLN:CG	9:N:132:ALA:H	2.20	0.52
5:F:34:TRP:CH2	11:P:8:PRO:HB3	2.43	0.52
13:R:70:LEU:O	13:R:72:ASP:N	2.43	0.52
18:W:7:ALA:HB2	18:W:50:VAL:CG2	2.40	0.52
26:4:54:GLY:O	26:4:71:ARG:HA	2.08	0.52
18:W:38:TYR:OH	27:5:47:PRO:HG3	2.08	0.52
1:A:1441:G:H2'	1:A:1442:G:H8	1.74	0.52
1:A:2277:G:OP2	22:0:10:THR:HG21	2.10	0.52
1:A:2693:A:H2'	1:A:2694:G:H8	1.74	0.52
1:A:620:G:H4'	1:A:621:A:H5''	1.91	0.52
3:D:155:LEU:N	3:D:155:LEU:CD1	2.71	0.52
4:E:39:PRO:HG2	4:E:40:GLU:OE1	2.09	0.52
4:E:7:VAL:CG2	4:E:8:LYS:H	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:140:LEU:O	5:F:143:ALA:HB3	2.09	0.52
7:H:2:SER:O	7:H:3:ARG:C	2.47	0.52
7:H:89:ILE:CG1	7:H:89:ILE:O	2.57	0.52
12:Q:29:PHE:HB3	12:Q:65:PHE:CZ	2.44	0.52
13:R:56:LYS:C	13:R:58:GLY:N	2.62	0.52
15:T:94:ALA:O	15:T:95:ARG:HB3	2.09	0.52
26:4:15:ILE:HD13	26:4:15:ILE:H	1.73	0.52
1:A:747:U:C2	27:5:2:ALA:HB3	2.45	0.52
28:6:14:THR:OG1	28:6:19:ARG:NE	2.41	0.52
1:A:1681:G:OP2	1:A:1681:G:H8	1.93	0.52
1:A:1795:C:O2	3:D:255:LYS:HE2	2.08	0.52
1:A:1797:C:C2'	1:A:1798:U:H5'	2.39	0.52
1:A:2126:A:H4'	1:A:2127:G:O5'	2.09	0.52
1:A:860:U:H5	1:A:917:A:H2	1.56	0.52
6:G:16:ARG:HG2	6:G:16:ARG:HH11	1.74	0.52
6:G:179:PRO:HG3	26:4:38:LYS:HZ1	1.74	0.52
11:P:37:GLY:HA2	11:P:41:ARG:NE	2.23	0.52
1:A:1252:G:O4'	16:U:33:ARG:HD3	2.10	0.52
18:W:8:ARG:HG3	18:W:8:ARG:HH11	1.73	0.52
20:Y:61:ILE:HG23	20:Y:62:GLU:N	2.24	0.52
23:1:4:VAL:HG22	23:1:5:CYS:N	2.25	0.52
26:4:40:HIS:N	26:4:41:PRO:CD	2.73	0.52
1:A:774:A:H2	1:A:787:U:HO2'	1.56	0.52
3:D:66:ASP:OD2	3:D:69:ARG:HG2	2.09	0.52
4:E:137:HIS:HB3	4:E:138:PRO:CD	2.37	0.52
7:H:121:ILE:HG12	7:H:135:GLY:HA3	1.91	0.52
9:N:57:ALA:O	9:N:58:ASP:HB3	2.09	0.52
13:R:52:ILE:CG2	13:R:94:TYR:HD1	2.22	0.52
13:R:53:HIS:HA	13:R:56:LYS:HD3	1.90	0.52
14:S:25:ARG:CB	14:S:25:ARG:HH11	2.22	0.52
17:V:35:LEU:HD21	17:V:57:VAL:CG2	2.30	0.52
18:W:25:ARG:HH11	18:W:25:ARG:HB2	1.74	0.52
24:2:50:ILE:CD1	24:2:51:ARG:N	2.61	0.52
24:2:7:ARG:NH1	24:2:7:ARG:HG3	2.25	0.52
30:8:61:LEU:O	30:8:62:LEU:CB	2.57	0.52
1:A:1203:G:H3'	1:A:1204:A:H5''	1.92	0.52
1:A:1251:C:OP1	16:U:10:ARG:HG3	2.09	0.52
1:A:2372:G:H4'	28:6:46:HIS:NE2	2.25	0.52
2:B:52:A:H62	14:S:33:LYS:HG3	1.75	0.52
3:D:36:PRO:HA	3:D:62:TYR:O	2.09	0.52
5:F:162:LEU:HD23	5:F:165:ARG:NH2	2.25	0.52
6:G:124:SER:HB2	6:G:131:TYR:CE1	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:103:VAL:O	9:N:106:MET:N	2.42	0.52
9:N:114:ARG:C	9:N:116:LEU:H	2.13	0.52
10:O:79:PHE:CD2	15:T:72:VAL:HG22	2.45	0.52
14:S:62:LYS:HB3	14:S:97:ARG:CD	2.39	0.52
15:T:100:TYR:HB3	15:T:103:ARG:NH1	2.25	0.52
17:V:34:GLU:O	17:V:36:PRO:HD3	2.10	0.52
25:3:9:VAL:HG12	25:3:32:GLN:HE22	1.74	0.52
28:6:30:THR:O	28:6:30:THR:HG23	2.09	0.52
1:A:1169:G:H1	1:A:1180:C:H42	1.57	0.52
1:A:1681:G:O2'	1:A:1762:A:O2'	2.16	0.52
3:D:174:ILE:N	3:D:174:ILE:CD1	2.73	0.52
7:H:24:VAL:O	7:H:24:VAL:HG23	2.09	0.52
8:I:83:ALA:O	8:I:85:GLU:N	2.43	0.52
12:Q:81:VAL:C	12:Q:82:ARG:CG	2.76	0.52
15:T:42:ILE:HD12	15:T:42:ILE:N	2.25	0.52
18:W:9:TYR:CD2	18:W:102:HIS:HE1	2.28	0.52
20:Y:91:GLU:HG3	20:Y:92:ASN:N	2.25	0.52
26:4:48:ARG:CZ	26:4:51:ASP:HA	2.40	0.52
1:A:2753:A:O2'	31:9:15:LYS:NZ	2.43	0.52
1:A:878:A:N6	1:A:899:A:O2'	2.42	0.52
3:D:133:LEU:HG	3:D:189:CYS:O	2.10	0.52
4:E:176:ILE:HG22	4:E:176:ILE:O	2.10	0.52
9:N:112:LEU:HD23	9:N:112:LEU:C	2.30	0.52
9:N:12:ARG:NH1	9:N:50:ASP:OD1	2.43	0.52
9:N:7:LYS:HD3	9:N:9:VAL:N	2.25	0.52
10:O:2:ILE:CD1	10:O:82:ASN:HD22	2.14	0.52
14:S:106:ARG:HA	14:S:110:LEU:CG	2.39	0.52
14:S:67:ARG:HB2	14:S:67:ARG:HH11	1.65	0.52
15:T:99:LEU:HB2	15:T:101:PHE:CE1	2.45	0.52
15:T:23:ARG:HG2	15:T:120:ARG:HH12	1.75	0.52
23:1:83:GLU:CG	23:1:84:GLY:N	2.71	0.52
29:7:38:GLY:O	29:7:39:ARG:C	2.48	0.52
3:D:35:LYS:HG2	3:D:64:ILE:HG22	1.92	0.52
5:F:108:LYS:O	5:F:112:MET:HG3	2.10	0.52
10:O:113:LYS:HG2	10:O:117:LEU:CD1	2.38	0.52
10:O:43:VAL:HG23	10:O:56:ASP:O	2.10	0.52
14:S:89:ARG:HH11	14:S:89:ARG:HG2	1.74	0.52
27:5:55:ARG:HG3	27:5:57:VAL:H	1.74	0.52
1:A:2096:U:H3	1:A:2193:G:H1	1.57	0.52
1:A:2645:G:H3'	1:A:2646:C:H5'	1.92	0.52
1:A:583:G:OP2	16:U:10:ARG:NH1	2.43	0.52
2:B:89:G:C6	2:B:89(A):A:C6	2.98	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:43:ARG:NH1	3:D:44:ASN:OD1	2.42	0.52
4:E:170:LEU:CD2	4:E:185:LYS:HB2	2.40	0.52
4:E:55:ASN:C	4:E:57:LYS:N	2.62	0.52
4:E:61:ARG:O	4:E:63:LEU:N	2.42	0.52
15:T:16:ARG:HD3	15:T:19:LEU:HG	1.92	0.52
16:U:107:ALA:O	16:U:111:GLU:OE1	2.28	0.52
16:U:59:ARG:O	16:U:63:VAL:HG23	2.10	0.52
23:1:91:LYS:CA	23:1:91:LYS:HE3	2.40	0.52
28:6:34:LEU:HD23	28:6:36:LEU:HD22	1.92	0.52
1:A:2250:G:C4	12:Q:82:ARG:HG3	2.45	0.52
1:A:524:U:H2'	1:A:525:U:C6	2.45	0.52
6:G:34:LEU:HD13	6:G:34:LEU:C	2.30	0.52
7:H:153:LYS:HG3	7:H:161:GLY:HA2	1.91	0.52
10:O:14:THR:HG21	10:O:86:ILE:HD13	1.91	0.52
1:A:2818:G:OP2	13:R:42:LYS:NZ	2.41	0.52
13:R:41:ALA:O	13:R:43:GLU:N	2.43	0.52
15:T:111:ARG:O	15:T:112:ARG:CG	2.55	0.52
19:X:52:VAL:O	19:X:52:VAL:HG12	2.09	0.52
20:Y:9:LYS:O	20:Y:9:LYS:HG2	2.10	0.52
25:3:49:LYS:O	25:3:49:LYS:HG2	2.10	0.51
26:4:14:ILE:O	26:4:14:ILE:HG23	2.10	0.51
26:4:68:ARG:HD3	26:4:69:LYS:HG2	1.92	0.51
1:A:1020:A:N1	1:A:1141:U:H2'	2.25	0.51
1:A:1265:A:OP1	1:A:1265:A:H8	1.92	0.51
1:A:2832:U:O2'	1:A:2833:G:OP2	2.24	0.51
5:F:125:LEU:HA	5:F:194:MET:O	2.10	0.51
9:N:94:HIS:O	9:N:95:PRO:O	2.28	0.51
1:A:2562:U:H1'	10:O:23:ARG:NH1	2.25	0.51
10:O:16:ALA:HA	10:O:46:ALA:HB2	1.92	0.51
11:P:112:LEU:HD22	11:P:113:LYS:H	1.74	0.51
12:Q:119:ARG:NH1	12:Q:119:ARG:HG2	2.20	0.51
1:A:1200:C:H1'	16:U:2:PRO:HG2	1.92	0.51
1:A:64:A:C5	19:X:66:LEU:HD13	2.45	0.51
20:Y:101:LYS:O	20:Y:102:CYS:SG	2.66	0.51
20:Y:74:PRO:O	20:Y:80:GLY:HA2	2.10	0.51
24:2:15:LYS:H	24:2:67:LYS:HE2	1.73	0.51
1:A:1929:G:H4'	1:A:1930:G:OP1	2.09	0.51
1:A:819:A:OP2	1:A:1187:G:N2	2.40	0.51
3:D:67:PHE:CE1	3:D:157:ARG:NH2	2.79	0.51
4:E:54:GLN:O	4:E:55:ASN:HB2	2.09	0.51
4:E:77:ILE:O	4:E:78:LEU:C	2.47	0.51
6:G:97:ASP:O	6:G:101:ILE:HG23	2.10	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:6:ARG:C	7:H:8:PRO:HD2	2.30	0.51
9:N:134:ARG:O	9:N:136:GLU:N	2.43	0.51
10:O:23:ARG:O	10:O:39:ILE:HB	2.09	0.51
17:V:14:VAL:HA	17:V:18:LEU:HD12	1.93	0.51
18:W:14:PRO:O	18:W:17:VAL:N	2.42	0.51
27:5:40:LYS:HD3	27:5:46:CYS:SG	2.50	0.51
1:A:1728:G:H3'	1:A:1729:A:H5''	1.92	0.51
1:A:1778:U:H2'	1:A:1784:A:N6	2.25	0.51
1:A:363(A):A:H2'	1:A:363(B):G:H8	1.76	0.51
1:A:414:C:O2	1:A:1864:U:O2'	2.27	0.51
3:D:30:GLU:HG3	3:D:63:ARG:NH2	2.26	0.51
4:E:203:LYS:HE3	4:E:204:ALA:CB	2.40	0.51
4:E:95:ILE:CD1	4:E:95:ILE:H	2.19	0.51
6:G:44:GLY:CA	6:G:88:ILE:HD11	2.40	0.51
9:N:12:ARG:NH1	9:N:50:ASP:OD2	2.40	0.51
11:P:112:LEU:HD11	11:P:114:ILE:CG2	2.40	0.51
17:V:35:LEU:CD2	17:V:57:VAL:HG22	2.32	0.51
17:V:75:PHE:C	17:V:75:PHE:CD1	2.83	0.51
20:Y:75:ILE:HD13	20:Y:75:ILE:C	2.31	0.51
26:4:50:VAL:O	26:4:51:ASP:C	2.48	0.51
30:8:29:LYS:HB2	30:8:44:LYS:HG2	1.90	0.51
1:A:1093:G:OP1	7:H:170:ARG:HD2	2.10	0.51
1:A:1055:G:H1	1:A:1104:C:H42	1.58	0.51
3:D:35:LYS:HD2	3:D:104:TYR:CD1	2.45	0.51
3:D:259:THR:O	3:D:260:ARG:C	2.49	0.51
5:F:65:TRP:HZ2	5:F:72:ARG:NH2	2.09	0.51
6:G:37:VAL:HG22	6:G:159:VAL:CA	2.34	0.51
9:N:120:LEU:CD1	9:N:122:VAL:HG23	2.38	0.51
26:4:42:PHE:O	26:4:44:THR:N	2.44	0.51
30:8:52:LYS:N	30:8:53:PRO:HD2	2.22	0.51
1:A:2619:C:H1'	4:E:156:MET:HE1	1.93	0.51
8:I:56:LYS:HE3	8:I:57:ARG:HG2	1.91	0.51
10:O:4:PRO:O	10:O:5:GLN:CB	2.58	0.51
11:P:101:VAL:HA	11:P:105:LEU:O	2.10	0.51
23:1:92:LYS:C	23:1:94:LEU:N	2.63	0.51
1:A:625:G:OP1	30:8:64:TYR:HD1	1.94	0.51
1:A:2064:C:H2'	1:A:2065:C:C6	2.45	0.51
1:A:2295:C:OP1	14:S:10:ARG:HD2	2.11	0.51
3:D:94:LEU:HD13	3:D:94:LEU:C	2.30	0.51
4:E:51:PHE:CD1	4:E:52:LEU:N	2.76	0.51
6:G:114:ILE:CG2	6:G:115:ARG:N	2.73	0.51
8:I:88:ILE:HG12	8:I:122:GLU:N	2.25	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:70:TYR:HD2	18:W:70:TYR:N	2.06	0.51
19:X:36:LYS:HA	19:X:39:ILE:HD12	1.90	0.51
20:Y:77:PRO:O	20:Y:78:ALA:HB2	2.10	0.51
27:5:20:ARG:C	27:5:22:HIS:H	2.14	0.51
1:A:1429:G:H2'	1:A:1430:C:C6	2.46	0.51
1:A:2563:U:H1'	1:A:2566:A:N6	2.26	0.51
3:D:134:ARG:HB2	3:D:135:PHE:HD2	1.75	0.51
3:D:210:GLY:O	3:D:213:ARG:N	2.43	0.51
6:G:109:VAL:O	6:G:113:ARG:HG3	2.10	0.51
7:H:72:ILE:O	7:H:75:ALA:HB3	2.11	0.51
9:N:108:PRO:O	9:N:113:GLY:HA3	2.10	0.51
13:R:118:GLU:OXT	13:R:118:GLU:HG3	2.11	0.51
15:T:14:TYR:H	15:T:14:TYR:HD1	1.56	0.51
15:T:14:TYR:N	15:T:14:TYR:CD1	2.78	0.51
17:V:1:MET:HE2	17:V:43:GLU:HG2	1.92	0.51
19:X:5:TYR:CE2	24:2:30:ARG:HG3	2.45	0.51
21:Z:10:ARG:NH2	21:Z:26:GLY:O	2.44	0.51
12:Q:80:GLU:OE1	22:0:7:LEU:HG	2.11	0.51
25:3:56:VAL:CG1	25:3:57:GLU:N	2.74	0.51
26:4:54:GLY:HA2	26:4:57:GLU:HG2	1.92	0.51
1:A:102:G:OP2	24:2:7:ARG:NH2	2.44	0.51
1:A:270(T):G:H5''	23:1:97:LEU:CD2	2.28	0.51
1:A:1759:A:H1'	1:A:2711:A:C2	2.46	0.51
1:A:287:C:H2'	1:A:288:C:C6	2.45	0.51
1:A:309:G:N3	1:A:329:G:O2'	2.42	0.51
7:H:19:VAL:HG13	7:H:43:VAL:CG2	2.41	0.51
7:H:55:PRO:HG2	7:H:61:HIS:ND1	2.26	0.51
1:A:558:G:OP1	9:N:111:PRO:HD2	2.11	0.51
11:P:31:ALA:C	11:P:32:THR:HG23	2.31	0.51
11:P:95:VAL:HG13	11:P:100:LEU:CD2	2.41	0.51
12:Q:58:PHE:O	12:Q:58:PHE:HD1	1.94	0.51
17:V:41:GLY:N	17:V:46:VAL:HG13	2.26	0.51
19:X:18:TYR:C	19:X:20:GLY:N	2.64	0.51
19:X:47:PHE:CD1	19:X:47:PHE:N	2.78	0.51
19:X:65:ARG:H	19:X:65:ARG:CD	2.23	0.51
24:2:36:ARG:O	24:2:40:SER:HB2	2.10	0.51
26:4:12:ALA:HB1	26:4:30:GLU:H	1.76	0.51
27:5:56:LYS:N	27:5:56:LYS:HD2	2.13	0.51
28:6:20:ASN:O	28:6:21:TYR:CB	2.59	0.51
1:A:1103:A:H5'	1:A:1104:C:C5	2.46	0.51
1:A:1264:G:H3'	1:A:1265:A:H5''	1.92	0.51
1:A:2022:U:O2'	1:A:2617:C:H5'	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2414:G:H21	11:P:67:MET:HE1	1.76	0.51
3:D:28:GLU:OE1	3:D:29:PRO:HD2	2.11	0.51
4:E:37:ARG:N	4:E:37:ARG:HE	2.09	0.51
4:E:54:GLN:NE2	4:E:54:GLN:H	2.08	0.51
5:F:192:LEU:HD21	5:F:194:MET:HE2	1.92	0.51
5:F:198:ALA:C	5:F:200:GLU:N	2.62	0.51
6:G:51:ARG:HB3	6:G:51:ARG:HH11	1.76	0.51
9:N:16:ILE:HG22	9:N:17:ASP:N	2.26	0.51
10:O:24:VAL:O	10:O:24:VAL:HG13	2.11	0.51
10:O:24:VAL:HG21	10:O:32:TYR:O	2.11	0.51
11:P:49:ARG:HE	30:8:59:LYS:HG2	1.76	0.51
12:Q:133:ARG:HG2	12:Q:134:ARG:N	2.26	0.51
14:S:95:HIS:CG	14:S:96:GLY:N	2.77	0.51
20:Y:95:LYS:O	20:Y:96:ILE:O	2.28	0.51
1:A:2331:G:H4'	22:0:43:THR:H	1.77	0.51
1:A:1844:C:H2'	1:A:1845:G:H8	1.74	0.51
1:A:2031:A:C6	1:A:2498:C:H1'	2.46	0.51
7:H:103:LEU:CD1	7:H:131:VAL:HG21	2.41	0.51
7:H:4:ILE:O	7:H:6:ARG:N	2.43	0.51
9:N:118:LYS:O	9:N:120:LEU:N	2.43	0.51
12:Q:25:ASP:HA	12:Q:100:GLY:O	2.11	0.51
13:R:92:GLY:N	13:R:94:TYR:HE2	2.09	0.51
14:S:83:LYS:HG2	14:S:109:GLY:H	1.76	0.51
14:S:86:ALA:O	14:S:87:PHE:HB3	2.09	0.51
15:T:20:PRO:HD2	15:T:86:ILE:HG23	1.92	0.51
15:T:51:ARG:HG3	15:T:98:LYS:HG3	1.93	0.51
17:V:5:VAL:HG22	17:V:14:VAL:HG22	1.93	0.51
23:1:83:GLU:CD	23:1:85:LEU:H	2.15	0.50
23:1:85:LEU:HA	23:1:87:PRO:HD2	1.91	0.50
25:3:7:LYS:HE2	25:3:32:GLN:NE2	2.25	0.50
1:A:102:G:H4'	1:A:103:A:O5'	2.09	0.50
4:E:116:VAL:HG22	4:E:122:PHE:HB2	1.91	0.50
5:F:108:LYS:HA	5:F:108:LYS:NZ	2.27	0.50
9:N:26:LEU:HG	9:N:30:ILE:HD11	1.93	0.50
9:N:73:THR:HG22	9:N:82:LEU:HD11	1.93	0.50
9:N:78:TYR:HD1	9:N:78:TYR:N	2.07	0.50
10:O:113:LYS:O	10:O:116:SER:HB3	2.11	0.50
11:P:114:ILE:HD13	11:P:125:VAL:CG2	2.41	0.50
11:P:13:ASN:O	11:P:14:LYS:C	2.49	0.50
11:P:62:LEU:H	11:P:62:LEU:CD2	2.19	0.50
14:S:83:LYS:HG2	14:S:109:GLY:HA2	1.90	0.50
23:1:80:LEU:HB2	23:1:81:LYS:CE	2.41	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:10:VAL:HG23	26:4:11:PRO:HD2	1.93	0.50
29:7:36:GLN:HG2	29:7:36:GLN:O	2.09	0.50
1:A:2832:U:H4'	1:A:2833:G:C5'	2.41	0.50
1:A:2853:C:H2'	1:A:2854:G:C8	2.46	0.50
4:E:105:THR:HG23	4:E:166:THR:OG1	2.10	0.50
5:F:32:LEU:O	5:F:36:VAL:HG23	2.11	0.50
14:S:87:PHE:O	14:S:88:ASP:O	2.29	0.50
18:W:22:ASP:HA	18:W:25:ARG:HH12	1.75	0.50
26:4:61:ARG:C	26:4:63:TYR:H	2.14	0.50
1:A:2208:U:H1'	3:D:151:LYS:HE2	1.93	0.50
1:A:2645:G:N2	1:A:2767:C:OP2	2.44	0.50
1:A:27:G:H22	1:A:512:G:H2'	1.76	0.50
1:A:639:U:H2'	1:A:640:C:C6	2.45	0.50
7:H:126:PRO:HD2	7:H:127:GLU:N	2.26	0.50
7:H:152:ARG:C	7:H:153:LYS:HE2	2.32	0.50
9:N:112:LEU:HD23	9:N:113:GLY:N	2.26	0.50
10:O:23:ARG:HG2	10:O:23:ARG:HH11	1.76	0.50
14:S:26:LEU:CD2	14:S:87:PHE:CD1	2.94	0.50
14:S:89:ARG:O	14:S:89:ARG:HD2	2.11	0.50
16:U:112:ARG:HG2	16:U:112:ARG:HH11	1.76	0.50
20:Y:46:LYS:HE3	20:Y:63:LYS:HB3	1.93	0.50
20:Y:75:ILE:CG1	20:Y:76:CYS:N	2.73	0.50
23:1:94:LEU:O	23:1:95:LEU:HG	2.11	0.50
28:6:9:LEU:HB3	28:6:26:ASN:O	2.11	0.50
1:A:83:G:N1	1:A:102:G:H1'	2.27	0.50
1:A:1142(A):A:H4'	9:N:25:ARG:NH2	2.23	0.50
1:A:1204:A:O2'	1:A:1205:U:O5'	2.30	0.50
1:A:1332:G:H21	1:A:1610:A:H8	1.54	0.50
1:A:1728:G:H5'	1:A:1729:A:OP2	2.11	0.50
1:A:1826:G:H4'	3:D:242:ARG:NH2	2.23	0.50
1:A:1937:A:N7	1:A:1939:U:H2'	2.26	0.50
1:A:2636:U:H2'	1:A:2637:U:H6	1.76	0.50
1:A:2839:G:H21	13:R:92:GLY:HA3	1.76	0.50
1:A:2882:A:OP1	13:R:96:ARG:NH1	2.45	0.50
1:A:443:A:H1'	1:A:1201:C:O4'	2.11	0.50
3:D:10:THR:HG23	3:D:13:ARG:CB	2.34	0.50
7:H:131:VAL:CG1	7:H:132:ARG:N	2.74	0.50
7:H:133:VAL:HG12	7:H:141:VAL:HG13	1.93	0.50
7:H:143:GLN:HE21	7:H:143:GLN:C	2.15	0.50
7:H:169:VAL:HG13	7:H:170:ARG:N	2.26	0.50
15:T:57:PHE:CG	15:T:58:ASN:N	2.79	0.50
23:1:4:VAL:HG23	23:1:10:LYS:C	2.32	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:87:PRO:O	23:1:91:LYS:HB2	2.10	0.50
24:2:41:ILE:HD11	24:2:44:LEU:CB	2.42	0.50
25:3:17:LYS:HA	25:3:20:LYS:HD2	1.92	0.50
6:G:6:ALA:H	26:4:23:GLU:CG	2.25	0.50
26:4:57:GLU:O	26:4:61:ARG:O	2.30	0.50
1:A:1204:A:H2	1:A:1241:A:N1	2.09	0.50
1:A:1914:C:H2'	1:A:1915:U:O4'	2.12	0.50
1:A:528:A:O2'	1:A:529:A:H5'	2.11	0.50
10:O:35:VAL:HG23	10:O:35:VAL:O	2.11	0.50
12:Q:132:VAL:HG12	12:Q:133:ARG:N	2.27	0.50
17:V:51:VAL:CG1	17:V:52:VAL:H	2.22	0.50
17:V:29:PRO:O	17:V:61:VAL:O	2.29	0.50
18:W:70:TYR:CD2	18:W:70:TYR:N	2.75	0.50
1:A:1081:U:H3'	1:A:1082:U:H4'	1.93	0.50
1:A:1496:A:H8	1:A:1577:C:O2'	1.93	0.50
3:D:182:LEU:H	3:D:272:ALA:CB	2.25	0.50
3:D:233:HIS:H	3:D:233:HIS:CD2	2.29	0.50
6:G:111:LEU:N	6:G:112:PRO:CD	2.75	0.50
6:G:43:LEU:O	6:G:88:ILE:HG12	2.12	0.50
8:I:79:ILE:HB	8:I:142:VAL:HA	1.93	0.50
9:N:87:LEU:C	9:N:87:LEU:HD23	2.32	0.50
10:O:15:GLY:O	10:O:46:ALA:HB1	2.10	0.50
11:P:104:GLY:C	11:P:105:LEU:HD12	2.31	0.50
11:P:147:LEU:O	11:P:148:LEU:HB2	2.11	0.50
14:S:26:LEU:HD22	14:S:87:PHE:CD1	2.46	0.50
29:7:9:ARG:HH12	29:7:47:ARG:HG3	1.76	0.50
1:A:1916:A:H2'	1:A:1917:U:O4'	2.12	0.50
4:E:105:THR:HB	4:E:197:ILE:HG12	1.93	0.50
4:E:2:LYS:HG2	4:E:95:ILE:CG2	2.42	0.50
6:G:16:ARG:HB3	6:G:17:PRO:HD3	1.94	0.50
6:G:35:GLU:CD	6:G:35:GLU:C	2.71	0.50
11:P:138:LEU:HD11	11:P:144:GLU:CG	2.42	0.50
12:Q:36:ALA:HB1	12:Q:127:ILE:HD12	1.93	0.50
1:A:2377:A:H2	14:S:18:ILE:HD11	1.77	0.50
20:Y:48:ALA:HB2	20:Y:61:ILE:CD1	2.41	0.50
21:Z:152:ALA:O	21:Z:154:ASP:N	2.41	0.50
25:3:7:LYS:CB	25:3:34:GLU:HG2	2.41	0.50
27:5:37:LYS:O	27:5:37:LYS:HD2	2.12	0.50
29:7:46:VAL:HG12	29:7:47:ARG:N	2.27	0.50
1:A:1228:G:OP2	16:U:16:LYS:NZ	2.22	0.50
1:A:747:U:C4	1:A:2613:U:C4	3.00	0.50
1:A:796:C:H2'	1:A:797:C:C6	2.46	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:35:LYS:HE2	3:D:104:TYR:HB2	1.94	0.50
6:G:103:LEU:HD21	6:G:178:PHE:CZ	2.47	0.50
7:H:24:VAL:HG21	7:H:72:ILE:HG12	1.94	0.50
10:O:105:GLU:O	10:O:108:GLU:HB2	2.12	0.50
12:Q:108:GLY:O	12:Q:109:VAL:HG23	2.12	0.50
14:S:35:ILE:CD1	14:S:101:LEU:HD23	2.41	0.50
16:U:92:ARG:CD	16:U:94:ASN:HB3	2.42	0.50
17:V:51:VAL:CG1	17:V:52:VAL:N	2.75	0.50
24:2:69:ARG:HH11	24:2:69:ARG:CB	2.25	0.50
24:2:9:GLN:O	24:2:12:GLU:HB3	2.10	0.50
26:4:22:ILE:H	26:4:22:ILE:HD12	1.77	0.50
27:5:50:GLY:O	27:5:51:TYR:CB	2.59	0.50
29:7:12:ARG:NH1	29:7:12:ARG:HG3	2.27	0.50
1:A:1048:A:P	1:A:1110:G:H22	2.34	0.50
1:A:1500:G:H21	3:D:100:GLY:HA3	1.77	0.50
1:A:2688:U:H5	1:A:2720:U:OP2	1.95	0.50
1:A:483:A:H3'	1:A:484:C:H6	1.77	0.50
1:A:83:G:H1	1:A:102:G:H1'	1.77	0.50
1:A:86:C:H4'	1:A:104:U:H1'	1.94	0.50
1:A:900:A:H3'	1:A:901:A:H8	1.77	0.50
3:D:218:ARG:HB3	3:D:219:PRO:HD2	1.94	0.50
3:D:65:ILE:C	3:D:65:ILE:HD13	2.32	0.50
4:E:46:ALA:HB1	4:E:80:GLU:HB2	1.94	0.50
6:G:49:ASP:OD1	6:G:51:ARG:HG3	2.12	0.50
7:H:16:SER:O	7:H:17:VAL:HG23	2.12	0.50
11:P:112:LEU:HD22	11:P:113:LYS:N	2.25	0.50
13:R:28:LEU:CD2	13:R:114:VAL:HG12	2.41	0.50
10:O:104:ARG:NE	15:T:34:VAL:HG11	2.26	0.50
20:Y:16:ALA:O	20:Y:21:LYS:HD3	2.11	0.50
20:Y:19:LYS:CG	20:Y:19:LYS:O	2.60	0.50
23:1:93:GLU:O	23:1:97:LEU:HD11	2.12	0.49
25:3:21:ALA:O	25:3:25:ALA:N	2.41	0.49
26:4:9:LEU:H	26:4:27:THR:CG2	2.25	0.49
1:A:1125:G:OP2	1:A:1126:A:O2'	2.20	0.49
1:A:1537:C:H2'	1:A:1538:G:C8	2.47	0.49
1:A:2728:U:H2'	1:A:2729:G:C8	2.47	0.49
1:A:363(B):G:H2'	1:A:363(C):G:H8	1.77	0.49
3:D:76:PRO:HA	3:D:118:VAL:HG23	1.93	0.49
5:F:11:VAL:CG1	5:F:12:LEU:N	2.75	0.49
6:G:114:ILE:HG21	6:G:117:PHE:HB2	1.93	0.49
6:G:83:ARG:HH11	6:G:83:ARG:HG2	1.76	0.49
8:I:115:ALA:HB3	8:I:128:LEU:HD12	1.94	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:137:LYS:HG3	9:N:138:LEU:H	1.77	0.49
11:P:36:LYS:HB2	11:P:40:SER:HB3	1.94	0.49
14:S:52:SER:O	14:S:56:LEU:CD2	2.60	0.49
23:1:8:SER:HB3	23:1:66:HIS:CE1	2.46	0.49
23:1:67:ILE:N	23:1:68:PRO:CD	2.76	0.49
23:1:81:LYS:O	23:1:82:LEU:O	2.30	0.49
28:6:44:ARG:O	28:6:45:LYS:CB	2.60	0.49
30:8:10:ALA:O	30:8:14:VAL:HG12	2.11	0.49
30:8:56:GLU:O	30:8:57:ARG:C	2.50	0.49
1:A:2074:U:H2'	1:A:2075:U:C6	2.47	0.49
1:A:753:C:H6	1:A:753:C:O5'	1.94	0.49
1:A:780:G:N2	1:A:783:A:H62	2.07	0.49
3:D:2:ALA:CB	3:D:20:ASP:HB3	2.42	0.49
1:A:2591:C:OP2	3:D:238:GLY:HA3	2.11	0.49
4:E:37:ARG:H	4:E:37:ARG:HE	1.59	0.49
9:N:6:PRO:HG2	9:N:43:THR:OG1	2.11	0.49
9:N:82:LEU:HD12	9:N:83:LYS:N	2.27	0.49
10:O:55:GLY:O	10:O:56:ASP:C	2.50	0.49
20:Y:44:ILE:CG1	20:Y:45:VAL:H	2.24	0.49
20:Y:88:LYS:HA	20:Y:88:LYS:NZ	2.27	0.49
20:Y:81:LYS:CD	20:Y:97:ARG:HE	2.20	0.49
23:1:19:GLN:HA	23:1:19:GLN:OE1	2.12	0.49
26:4:36:CYS:O	26:4:39:CYS:CB	2.55	0.49
1:A:1165:U:H2'	1:A:1166:C:C6	2.47	0.49
1:A:140:A:H8	1:A:1408:C:HO2'	1.56	0.49
1:A:241:A:H4'	1:A:242:G:OP1	2.12	0.49
1:A:975:G:H1'	1:A:990:A:C2	2.47	0.49
1:A:1693:U:H1'	3:D:14:ARG:NH2	2.27	0.49
3:D:2:ALA:CB	3:D:20:ASP:CB	2.90	0.49
4:E:61:ARG:CB	4:E:62:PRO:CD	2.90	0.49
1:A:588:U:C2	5:F:90:PHE:CE1	3.00	0.49
9:N:73:THR:CG2	9:N:82:LEU:HD11	2.43	0.49
10:O:47:ILE:CG1	10:O:48:PRO:HD2	2.42	0.49
10:O:69:ILE:O	10:O:76:ALA:HA	2.12	0.49
12:Q:29:PHE:N	12:Q:105:GLU:OE2	2.41	0.49
12:Q:2:LEU:N	12:Q:2:LEU:HD23	2.27	0.49
13:R:18:LEU:HD13	13:R:18:LEU:C	2.33	0.49
17:V:91:TYR:HD1	17:V:91:TYR:C	2.16	0.49
18:W:29:LEU:O	18:W:29:LEU:HD23	2.13	0.49
28:6:7:ILE:C	28:6:9:LEU:N	2.65	0.49
7:H:103:LEU:H	7:H:103:LEU:HD23	1.77	0.49
7:H:19:VAL:HG13	7:H:43:VAL:HG23	1.93	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:68:GLU:HG2	9:N:88:GLU:CD	2.33	0.49
14:S:60:GLY:O	14:S:61:ASN:CB	2.55	0.49
1:A:1228:G:OP1	16:U:13:LYS:HG2	2.12	0.49
17:V:3:ALA:HB3	17:V:14:VAL:HG23	1.92	0.49
23:1:40:ARG:NH2	23:1:42:GLN:HG2	2.27	0.49
23:1:60:PHE:HE2	23:1:91:LYS:HZ1	1.58	0.49
26:4:1:MET:HG3	26:4:1:MET:O	2.12	0.49
1:A:1550:C:H2'	1:A:1551:C:H6	1.77	0.49
1:A:1697:G:OP2	1:A:1698:A:O2'	2.17	0.49
1:A:2396:G:OP1	23:1:25:LYS:NZ	2.33	0.49
1:A:2712:U:O2'	1:A:2712(A):A:P	2.71	0.49
2:B:77:U:P	21:Z:19:ARG:HH22	2.36	0.49
3:D:227:ASN:HB3	3:D:228:PRO:CD	2.30	0.49
3:D:35:LYS:CG	3:D:64:ILE:HG22	2.42	0.49
3:D:72:LYS:O	3:D:73:VAL:C	2.51	0.49
4:E:17:ASP:OD2	4:E:17:ASP:N	2.46	0.49
6:G:107:LEU:HD11	6:G:178:PHE:CD1	2.48	0.49
7:H:153:LYS:HA	7:H:153:LYS:HZ3	1.75	0.49
7:H:153:LYS:O	7:H:154:PRO:O	2.29	0.49
8:I:133:HIS:HB2	8:I:134:PRO:HD2	1.95	0.49
9:N:46:VAL:O	9:N:47:ALA:CB	2.57	0.49
9:N:95:PRO:O	9:N:97:ARG:N	2.46	0.49
14:S:99:LYS:O	14:S:101:LEU:N	2.45	0.49
15:T:39:ARG:CG	15:T:40:THR:H	2.22	0.49
15:T:57:PHE:O	15:T:59:THR:N	2.46	0.49
16:U:81:HIS:CE1	16:U:117:GLN:HG3	2.48	0.49
16:U:92:ARG:NH1	16:U:95:LEU:HD11	2.27	0.49
17:V:29:PRO:O	17:V:61:VAL:HG22	2.12	0.49
18:W:51:LEU:HD23	18:W:105:VAL:HG11	1.95	0.49
21:Z:5:LEU:HB3	21:Z:59:LEU:HA	1.94	0.49
23:1:80:LEU:C	23:1:81:LYS:CE	2.77	0.49
26:4:42:PHE:O	26:4:43:TYR:C	2.51	0.49
26:4:47:GLN:O	26:4:48:ARG:CB	2.60	0.49
30:8:16:ILE:CD1	30:8:57:ARG:HG2	2.42	0.49
1:A:1371:G:HO2'	1:A:1372:U:H5	1.58	0.49
1:A:1798:U:H5''	3:D:259:THR:CG2	2.42	0.49
1:A:2853:C:H2'	1:A:2854:G:H8	1.77	0.49
1:A:49:A:N7	1:A:120:U:C5	2.76	0.49
2:B:42:C:N4	6:G:91:ARG:NH2	2.55	0.49
3:D:130:ALA:C	3:D:131:LEU:HD12	2.33	0.49
4:E:179:GLU:O	4:E:180:ASN:HB2	2.12	0.49
5:F:51:THR:O	5:F:93:LYS:NZ	2.38	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:151:ILE:C	7:H:152:ARG:O	2.49	0.49
10:O:20:MET:HG2	10:O:21:CYS:O	2.11	0.49
15:T:38:ASN:O	15:T:39:ARG:O	2.30	0.49
20:Y:61:ILE:HG22	20:Y:62:GLU:N	2.27	0.49
27:5:2:ALA:O	27:5:3:LYS:CB	2.60	0.49
28:6:20:ASN:CG	28:6:21:TYR:N	2.66	0.49
30:8:58:ILE:O	30:8:61:LEU:HD12	2.13	0.49
1:A:1007:C:OP1	9:N:35:ARG:NH1	2.45	0.49
1:A:1164:G:H2'	1:A:1165:U:C6	2.47	0.49
1:A:1689:A:N6	1:A:1698:A:H2	2.08	0.49
1:A:2795:G:H3'	1:A:2797:U:C5'	2.43	0.49
1:A:531:C:OP1	1:A:561:G:N1	2.45	0.49
1:A:704:G:H1'	1:A:727:A:H61	1.78	0.49
3:D:123:ALA:HB3	3:D:131:LEU:HG	1.94	0.49
4:E:179:GLU:OE1	4:E:179:GLU:HA	2.10	0.49
6:G:143:GLU:HA	26:4:28:LYS:HD3	1.95	0.49
7:H:98:LEU:HD12	7:H:102:ALA:O	2.13	0.49
8:I:93:THR:HG22	8:I:119:PRO:HB3	1.94	0.49
11:P:30:THR:O	11:P:33:ARG:HB2	2.12	0.49
1:A:389:G:H1	11:P:70:GLN:HB3	1.78	0.49
13:R:1:MET:O	13:R:2:ARG:CB	2.60	0.49
14:S:25:ARG:HH12	14:S:42:ASP:CG	2.16	0.49
17:V:79:VAL:HG22	17:V:79:VAL:O	2.12	0.49
19:X:51:VAL:HG13	19:X:81:VAL:HG23	1.93	0.49
20:Y:84:ARG:HD3	20:Y:86:ARG:NH1	2.28	0.49
31:9:7:VAL:HG12	31:9:25:VAL:HG21	1.94	0.49
1:A:1178:C:H2'	1:A:1179:C:C6	2.47	0.49
1:A:2722:G:H4'	13:R:4:LEU:HB2	1.94	0.49
4:E:61:ARG:O	4:E:62:PRO:C	2.51	0.49
1:A:322:A:OP2	5:F:169:ASN:HB2	2.13	0.49
6:G:115:ARG:HG2	6:G:115:ARG:HH11	1.77	0.49
7:H:124:GLU:HB3	7:H:132:ARG:CG	2.43	0.49
17:V:91:TYR:C	17:V:91:TYR:CD1	2.86	0.49
20:Y:95:LYS:N	20:Y:95:LYS:CD	2.76	0.49
28:6:9:LEU:HD13	28:6:26:ASN:HD22	1.76	0.49
28:6:37:ARG:HA	28:6:37:ARG:HE	1.77	0.49
1:A:1336:A:H2'	1:A:1337:G:H8	1.77	0.49
1:A:1434:A:H61	1:A:1558:A:H62	1.60	0.49
1:A:2212:A:H1'	1:A:2215:G:C4	2.47	0.49
1:A:2298:A:H2'	1:A:2299:G:O4'	2.13	0.49
1:A:277:C:H3'	1:A:278:A:C5'	2.43	0.49
1:A:2790:A:H2'	1:A:2791:C:H5"	1.94	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:606:U:H4'	1:A:658:C:H4'	1.94	0.49
6:G:3:LEU:HD21	26:4:25:TYR:CE1	2.48	0.49
6:G:77:ILE:O	6:G:81:LYS:O	2.31	0.49
9:N:56:ASN:ND2	9:N:125:GLY:C	2.65	0.49
11:P:14:LYS:O	11:P:15:ARG:C	2.51	0.49
11:P:47:ASP:OD1	11:P:49:ARG:NH1	2.46	0.49
13:R:96:ARG:NH2	13:R:117:VAL:HG23	2.27	0.49
14:S:11:LYS:HG2	14:S:11:LYS:O	2.12	0.49
16:U:64:ARG:NH2	16:U:64:ARG:CG	2.70	0.49
26:4:53:GLU:O	26:4:57:GLU:HG3	2.13	0.49
1:A:1797:C:H2'	1:A:1798:U:H5'	1.94	0.49
1:A:2151:G:H2'	1:A:2152:G:H8	1.78	0.49
1:A:2319:G:N7	14:S:3:ARG:HB3	2.28	0.49
4:E:119:ARG:HD3	4:E:160:TYR:CD2	2.47	0.49
7:H:153:LYS:CB	7:H:154:PRO:CD	2.69	0.49
9:N:4:TYR:OH	9:N:7:LYS:NZ	2.46	0.49
11:P:101:VAL:CG1	11:P:102:ARG:N	2.75	0.49
11:P:52:GLU:OE2	11:P:57:THR:HA	2.13	0.49
12:Q:23:GLY:O	12:Q:24:GLY:O	2.30	0.49
12:Q:86:GLY:O	12:Q:88:GLY:N	2.46	0.49
13:R:33:ARG:NH2	27:5:55:ARG:CG	2.66	0.49
13:R:71:GLN:HA	13:R:71:GLN:HE21	1.77	0.49
17:V:76:LYS:HG3	17:V:81:TYR:CD1	2.48	0.49
18:W:88:ARG:HB3	18:W:92:ARG:CB	2.42	0.49
20:Y:81:LYS:HD3	20:Y:97:ARG:HD3	1.94	0.49
21:Z:5:LEU:HD11	21:Z:39:VAL:HB	1.95	0.49
6:G:113:ARG:HD2	26:4:33:VAL:CG1	2.43	0.48
27:5:49:CYS:SG	27:5:58:LEU:HB2	2.53	0.48
28:6:7:ILE:O	28:6:9:LEU:N	2.46	0.48
30:8:33:ASN:O	30:8:35:GLN:N	2.46	0.48
30:8:52:LYS:H	30:8:53:PRO:HD2	1.66	0.48
1:A:226:G:O2'	1:A:227:A:O5'	2.25	0.48
1:A:589:C:H2'	1:A:590:A:C8	2.48	0.48
1:A:660:G:O3'	5:F:38:ARG:NH2	2.46	0.48
3:D:198:ASN:C	3:D:198:ASN:HD22	2.16	0.48
3:D:25:THR:O	3:D:27:THR:HG22	2.12	0.48
7:H:54:ARG:HD3	7:H:65:HIS:ND1	2.27	0.48
11:P:144:GLU:O	11:P:144:GLU:OE1	2.31	0.48
11:P:6:LEU:O	11:P:7:ARG:O	2.31	0.48
12:Q:34:LEU:HD23	12:Q:104:PHE:HD1	1.77	0.48
14:S:48:LEU:N	14:S:48:LEU:CD1	2.76	0.48
17:V:35:LEU:HD22	17:V:57:VAL:O	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:7:THR:HG23	17:V:22:VAL:HG11	1.94	0.48
20:Y:97:ARG:HG2	20:Y:97:ARG:NH1	2.28	0.48
22:O:23:VAL:HG22	22:O:38:VAL:HG22	1.94	0.48
1:A:2232:U:P	23:1:40:ARG:HH12	2.36	0.48
24:2:16:LEU:O	24:2:17:SER:CB	2.56	0.48
30:8:35:GLN:HA	30:8:35:GLN:OE1	2.13	0.48
1:A:1657:C:H2'	1:A:1658:C:C6	2.47	0.48
1:A:1786:A:H1'	1:A:1938:A:N6	2.28	0.48
1:A:1782:C:H1'	1:A:2609:U:H5''	1.94	0.48
1:A:486:C:H4'	18:W:60:ASN:OD1	2.13	0.48
1:A:620:G:H4'	1:A:621:A:H5'	1.94	0.48
1:A:860:U:C5	1:A:917:A:H2	2.31	0.48
1:A:2635:C:H5''	4:E:78:LEU:HA	1.93	0.48
6:G:115:ARG:HG2	6:G:115:ARG:NH1	2.26	0.48
1:A:2310:A:N6	6:G:79:ASN:HB2	2.27	0.48
6:G:92:VAL:O	6:G:92:VAL:HG13	2.12	0.48
7:H:137:ASP:CB	7:H:140:LYS:HB2	2.43	0.48
7:H:13:LYS:CA	7:H:13:LYS:HE2	2.40	0.48
12:Q:112:GLU:CD	12:Q:112:GLU:H	2.17	0.48
13:R:52:ILE:CG2	13:R:94:TYR:CD1	2.95	0.48
15:T:58:ASN:HD22	15:T:58:ASN:N	2.10	0.48
17:V:18:LEU:HB3	17:V:96:ILE:CG1	2.43	0.48
1:A:1262:A:N3	27:5:10:LYS:HE3	2.29	0.48
28:6:27:LYS:O	28:6:28:ARG:HG2	2.13	0.48
1:A:1196:C:HO2'	1:A:1228:G:HO2'	1.55	0.48
1:A:2636:U:OP1	4:E:79:ARG:HG3	2.13	0.48
1:A:2820:A:O2'	1:A:2821:A:OP1	2.28	0.48
1:A:372:G:O2'	1:A:373:U:P	2.71	0.48
1:A:1824:G:O3'	3:D:249:PRO:HD3	2.14	0.48
3:D:44:ASN:H	3:D:44:ASN:ND2	1.97	0.48
3:D:48:ARG:HG3	3:D:48:ARG:HH11	1.78	0.48
1:A:618(A):C:OP2	5:F:103:LYS:HE2	2.12	0.48
7:H:23:ARG:HD2	7:H:34:GLU:OE2	2.12	0.48
7:H:42:ARG:O	7:H:52:VAL:HA	2.13	0.48
11:P:6:LEU:N	11:P:6:LEU:CD2	2.75	0.48
14:S:33:LYS:HB3	14:S:34:HIS:CD2	2.48	0.48
14:S:55:ALA:O	14:S:56:LEU:HB3	2.14	0.48
16:U:91:ASP:O	16:U:95:LEU:N	2.42	0.48
1:A:1225:C:O2'	17:V:85:LYS:HA	2.13	0.48
20:Y:47:LYS:C	20:Y:49:VAL:H	2.16	0.48
23:1:56:GLN:H	23:1:56:GLN:NE2	2.10	0.48
27:5:48:GLU:HA	27:5:59:GLU:HG2	1.94	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:52:TYR:O	27:5:53:ALA:CB	2.61	0.48
29:7:48:LYS:CG	29:7:49:ARG:H	2.23	0.48
1:A:1336:A:H2'	1:A:1337:G:C8	2.49	0.48
1:A:1972:A:H2'	1:A:1973:G:H8	1.78	0.48
1:A:2406:U:C2	11:P:72:PRO:HB2	2.49	0.48
1:A:2420:C:OP1	30:8:34:TRP:HB2	2.13	0.48
1:A:415:A:H2'	1:A:416:C:C6	2.48	0.48
4:E:47:VAL:O	4:E:48:GLN:C	2.52	0.48
5:F:107:LYS:O	5:F:110:LEU:N	2.47	0.48
5:F:155:LEU:HD23	5:F:186:ILE:HA	1.95	0.48
5:F:198:ALA:O	5:F:201:VAL:HG12	2.13	0.48
7:H:12:PRO:HD3	7:H:48:GLY:O	2.13	0.48
9:N:30:ILE:O	9:N:34:LEU:HD23	2.13	0.48
15:T:135:ALA:C	15:T:137:LYS:H	2.16	0.48
15:T:16:ARG:HD3	15:T:19:LEU:CG	2.43	0.48
20:Y:11:ASP:HB2	20:Y:27:VAL:HG11	1.94	0.48
20:Y:35:TYR:CD1	20:Y:69:ALA:HB3	2.48	0.48
21:Z:69:THR:HG22	21:Z:90:VAL:HG22	1.96	0.48
1:A:181:A:H5''	29:7:36:GLN:NE2	2.28	0.48
1:A:2712:U:OP1	1:A:2714:G:H4'	2.13	0.48
1:A:676:A:H8	1:A:2069:G:N2	1.96	0.48
4:E:38:THR:O	4:E:42:ASP:HB2	2.13	0.48
5:F:128:ALA:O	5:F:129:PHE:HB2	2.13	0.48
11:P:71:VAL:HG13	11:P:72:PRO:CD	2.43	0.48
16:U:52:ARG:NH1	16:U:52:ARG:CG	2.76	0.48
1:A:1162:G:H1'	17:V:23:GLU:OE2	2.14	0.48
1:A:1365:A:OP2	23:1:3:LYS:HB2	2.13	0.48
24:2:33:MET:O	24:2:37:PHE:HD1	1.95	0.48
26:4:10:VAL:CG2	26:4:11:PRO:HD2	2.43	0.48
26:4:42:PHE:O	26:4:44:THR:O	2.31	0.48
1:A:2283:C:P	28:6:5:VAL:HG13	2.54	0.48
1:A:570:G:H2'	1:A:2030:A:C5	2.48	0.48
3:D:35:LYS:HD2	3:D:104:TYR:CE1	2.49	0.48
4:E:174:ASP:O	4:E:182:LEU:HD12	2.14	0.48
7:H:82:GLY:O	7:H:83:TYR:O	2.32	0.48
7:H:7:LEU:N	7:H:8:PRO:CD	2.77	0.48
8:I:13:GLY:HA3	8:I:17:GLN:OE1	2.14	0.48
8:I:23:PRO:O	8:I:27:ARG:HG2	2.14	0.48
9:N:42:TRP:HA	9:N:48:MET:CE	2.42	0.48
12:Q:31:ASP:O	12:Q:32:TYR:CG	2.66	0.48
14:S:18:ILE:O	14:S:19:LYS:O	2.30	0.48
24:2:69:ARG:HH11	24:2:69:ARG:HB3	1.79	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1535:U:H5''	1:A:1537:C:C4	2.49	0.48
1:A:2306:C:H2'	1:A:2307:G:N2	2.29	0.48
1:A:218:A:C2	1:A:235:U:H4'	2.49	0.48
1:A:2854:G:H2'	1:A:2855:C:C6	2.48	0.48
3:D:25:THR:O	3:D:26:LYS:C	2.52	0.48
4:E:23:VAL:HG12	4:E:173:VAL:HG21	1.94	0.48
6:G:125:PHE:HB3	6:G:166:ASP:HB2	1.95	0.48
7:H:124:GLU:HB3	7:H:132:ARG:CD	2.44	0.48
8:I:97:ILE:HD12	8:I:140:LEU:HD11	1.95	0.48
9:N:34:LEU:O	9:N:49:GLY:HA3	2.13	0.48
9:N:95:PRO:O	9:N:96:GLU:C	2.51	0.48
11:P:101:VAL:C	11:P:103:ALA:H	2.17	0.48
12:Q:19:GLY:O	12:Q:98:LYS:HD3	2.14	0.48
13:R:107:ASP:C	13:R:107:ASP:OD2	2.52	0.48
15:T:96:ARG:NH1	15:T:96:ARG:CB	2.77	0.48
19:X:44:GLU:OE1	19:X:50:LYS:HD2	2.13	0.48
21:Z:10:ARG:HH21	21:Z:26:GLY:H	1.61	0.48
23:1:8:SER:OG	23:1:10:LYS:HG3	2.14	0.48
23:1:76:ARG:N	23:1:76:ARG:HD2	2.29	0.48
26:4:36:CYS:O	26:4:37:SER:C	2.52	0.48
26:4:8:LYS:O	26:4:9:LEU:CB	2.62	0.48
1:A:1264:G:H5'	27:5:11:THR:CG2	2.44	0.48
28:6:41:PRO:HD2	28:6:46:HIS:H	1.77	0.48
28:6:8:LYS:O	28:6:27:LYS:HA	2.13	0.48
1:A:942:G:O2'	1:A:1189:A:N3	2.41	0.48
1:A:1588:C:H2'	1:A:1589:C:H6	1.79	0.48
1:A:2151:G:H2'	1:A:2152:G:C8	2.48	0.48
1:A:2760:C:H2'	1:A:2761:G:H5''	1.94	0.48
1:A:2867:G:O2'	1:A:2868:A:P	2.72	0.48
1:A:459:U:H2'	1:A:460:A:C8	2.48	0.48
3:D:130:ALA:HA	3:D:192:THR:HA	1.95	0.48
3:D:35:LYS:CG	3:D:64:ILE:CG2	2.92	0.48
4:E:55:ASN:O	4:E:57:LYS:N	2.44	0.48
4:E:93:VAL:C	4:E:95:ILE:H	2.17	0.48
5:F:129:PHE:CD2	5:F:163:VAL:HG21	2.48	0.48
5:F:34:TRP:HD1	11:P:6:LEU:HB3	1.79	0.48
5:F:45:ARG:HG2	5:F:45:ARG:NH1	2.28	0.48
7:H:10:PRO:C	7:H:11:VAL:HG22	2.34	0.48
7:H:120:GLY:HA3	7:H:140:LYS:NZ	2.27	0.48
11:P:35:HIS:O	11:P:36:LYS:O	2.31	0.48
12:Q:42:ILE:HD12	12:Q:42:ILE:N	2.29	0.48
13:R:42:LYS:HA	13:R:45:ARG:HD2	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:44:LEU:HD22	13:R:48:VAL:CG2	2.42	0.48
14:S:56:LEU:C	14:S:56:LEU:HD23	2.34	0.48
14:S:66:ALA:HA	14:S:69:VAL:HG12	1.96	0.48
22:0:68:GLU:HG2	22:0:80:HIS:HB2	1.95	0.48
29:7:12:ARG:HH11	29:7:12:ARG:HG3	1.79	0.48
1:A:1266:G:C5	18:W:15:ARG:NH1	2.82	0.48
1:A:2051:A:H5'	1:A:2578:G:O4'	2.13	0.48
1:A:2870:C:C5'	13:R:65:LEU:HD21	2.44	0.48
1:A:862:G:H2'	1:A:863:A:O4'	2.14	0.48
4:E:119:ARG:HD3	4:E:160:TYR:HD2	1.78	0.48
4:E:15:PHE:CD1	4:E:20:ALA:HB2	2.49	0.48
4:E:64:LYS:C	4:E:66:HIS:N	2.67	0.48
7:H:41:MET:HG3	7:H:54:ARG:HA	1.96	0.48
9:N:137:LYS:CG	9:N:138:LEU:H	2.27	0.48
15:T:16:ARG:NE	15:T:19:LEU:HD21	2.27	0.48
15:T:94:ALA:O	15:T:95:ARG:CB	2.61	0.48
16:U:79:PHE:HE2	16:U:83:LEU:CD2	2.27	0.48
17:V:21:ARG:HD2	17:V:91:TYR:CZ	2.49	0.48
19:X:6:ASP:OD1	24:2:29:LYS:NZ	2.47	0.48
22:0:68:GLU:OE1	22:0:82:ARG:NH1	2.47	0.48
1:A:2067:G:O2'	1:A:2069:G:H5''	2.14	0.48
1:A:2364:C:H2'	1:A:2365:G:O4'	2.14	0.48
1:A:2389:G:H5''	1:A:2390:U:O4'	2.14	0.48
1:A:507:A:C5'	1:A:508:G:H5'	2.43	0.48
2:B:24:G:H1'	2:B:27:C:N4	2.29	0.48
3:D:27:THR:O	3:D:29:PRO:CD	2.62	0.48
4:E:77:ILE:CD1	4:E:78:LEU:N	2.70	0.48
6:G:97:ASP:N	6:G:100:TRP:HD1	2.05	0.48
1:A:2724:C:OP1	13:R:1:MET:HE3	2.14	0.48
10:O:107:ARG:NH1	15:T:36:GLU:OE1	2.46	0.48
17:V:38:LEU:HD23	17:V:39:LEU:H	1.79	0.48
19:X:11:PRO:HB3	19:X:92:LEU:CD2	2.43	0.48
20:Y:81:LYS:HZ2	20:Y:98:VAL:CG1	2.27	0.48
23:1:94:LEU:O	23:1:95:LEU:CB	2.62	0.47
29:7:25:PRO:HA	29:7:28:ARG:CZ	2.44	0.47
30:8:53:PRO:CD	30:8:54:GLU:N	2.77	0.47
1:A:185:U:H4'	1:A:218:A:H4'	1.96	0.47
3:D:33:LEU:HB3	3:D:34:VAL:H	1.49	0.47
6:G:111:LEU:HD22	6:G:120:LEU:HD21	1.96	0.47
7:H:127:GLU:HB3	7:H:128:PRO:HD2	1.92	0.47
7:H:45:VAL:O	7:H:45:VAL:HG13	2.14	0.47
1:A:1006:C:H1'	9:N:106:MET:CE	2.43	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:75:TYR:C	9:N:76:SER:O	2.52	0.47
10:O:8:LEU:HB2	10:O:19:ILE:CD1	2.43	0.47
12:Q:135:ASP:OD2	21:Z:49:ARG:NH1	2.46	0.47
12:Q:60:ARG:HB2	12:Q:60:ARG:NH2	2.28	0.47
13:R:70:LEU:C	13:R:72:ASP:H	2.16	0.47
20:Y:57:GLN:O	20:Y:58:GLY:O	2.32	0.47
21:Z:15:PRO:O	21:Z:19:ARG:HB2	2.13	0.47
23:1:25:LYS:C	23:1:27:GLU:H	2.17	0.47
26:4:38:LYS:C	26:4:40:HIS:H	2.07	0.47
26:4:60:GLN:O	26:4:63:TYR:HB3	2.14	0.47
28:6:20:ASN:ND2	28:6:42:TRP:CZ2	2.82	0.47
30:8:41:ILE:HG13	30:8:42:ARG:N	2.28	0.47
30:8:56:GLU:O	30:8:58:ILE:N	2.47	0.47
1:A:1637:A:H4'	1:A:2711:A:O2'	2.14	0.47
1:A:769:G:H5'	1:A:1379:A:N6	2.29	0.47
5:F:132:VAL:O	5:F:133:ASN:C	2.52	0.47
5:F:196:LEU:C	5:F:197:ASP:O	2.50	0.47
6:G:83:ARG:HB2	6:G:86:MET:HE3	1.97	0.47
9:N:18:ALA:O	9:N:19:GLU:C	2.53	0.47
11:P:47:ASP:OD1	11:P:50:ARG:NH2	2.47	0.47
13:R:10:LEU:O	13:R:12:ARG:HG3	2.14	0.47
13:R:117:VAL:O	13:R:118:GLU:CB	2.62	0.47
13:R:63:ARG:NH1	13:R:63:ARG:HG3	2.29	0.47
15:T:132:LYS:O	15:T:136:GLN:HG3	2.13	0.47
16:U:79:PHE:HE2	16:U:83:LEU:HD22	1.78	0.47
18:W:30:GLU:O	18:W:34:ASN:ND2	2.46	0.47
1:A:137(A):G:H1'	19:X:41:ASN:ND2	2.28	0.47
1:A:1045:A:N3	1:A:1047:G:N2	2.62	0.47
1:A:1993:U:H4'	4:E:128:SER:OG	2.14	0.47
1:A:2415:G:H4'	11:P:66:GLY:C	2.35	0.47
1:A:2645:G:C3'	1:A:2646:C:H5'	2.44	0.47
1:A:64:A:O3'	19:X:71:GLY:HA3	2.14	0.47
1:A:704:G:H1'	1:A:727:A:N6	2.29	0.47
1:A:754:C:H2'	1:A:755:C:C6	2.49	0.47
4:E:61:ARG:CB	4:E:62:PRO:HD3	2.41	0.47
5:F:155:LEU:HA	5:F:174:VAL:HG12	1.95	0.47
7:H:123:PHE:O	7:H:125:VAL:HG23	2.13	0.47
9:N:120:LEU:HD11	9:N:122:VAL:CG2	2.42	0.47
9:N:12:ARG:NH1	9:N:50:ASP:CG	2.67	0.47
9:N:57:ALA:O	9:N:58:ASP:CB	2.62	0.47
11:P:112:LEU:HD12	11:P:127:ALA:CB	2.44	0.47
11:P:147:LEU:HD22	11:P:147:LEU:N	2.29	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:389:G:N1	11:P:70:GLN:HB3	2.28	0.47
13:R:41:ALA:C	13:R:43:GLU:N	2.68	0.47
13:R:56:LYS:HE2	13:R:94:TYR:OH	2.14	0.47
14:S:40:ILE:HG22	14:S:41:ASP:N	2.28	0.47
17:V:2:PHE:CD2	17:V:13:ARG:NH2	2.83	0.47
17:V:36:PRO:HA	17:V:56:SER:CB	2.44	0.47
17:V:35:LEU:O	17:V:37:VAL:N	2.47	0.47
18:W:32:ALA:O	18:W:33:ARG:C	2.52	0.47
23:1:7:ILE:HD12	23:1:62:VAL:HG11	1.96	0.47
24:2:17:SER:CB	24:2:18:PRO:CA	2.92	0.47
31:9:27:CYS:SG	31:9:28:GLU:N	2.87	0.47
1:A:1292:U:H2'	1:A:1293:C:C6	2.48	0.47
1:A:141:A:C8	1:A:1408:C:H1'	2.49	0.47
1:A:10:G:N2	1:A:2802:G:OP1	2.48	0.47
2:B:27:C:H5'	2:B:28:C:OP2	2.15	0.47
4:E:52:LEU:HB2	4:E:75:VAL:CG2	2.40	0.47
4:E:65:GLY:HA2	4:E:70:ALA:HB3	1.95	0.47
5:F:53:THR:C	5:F:55:GLY:N	2.68	0.47
6:G:12:TYR:O	6:G:16:ARG:HB3	2.15	0.47
6:G:5:VAL:HG22	26:4:25:TYR:CE2	2.50	0.47
9:N:137:LYS:CG	9:N:138:LEU:N	2.77	0.47
9:N:9:VAL:HG21	9:N:48:MET:CB	2.45	0.47
9:N:57:ALA:HA	9:N:60:ILE:CD1	2.43	0.47
9:N:67:LEU:O	9:N:88:GLU:HG3	2.14	0.47
11:P:61:ARG:HH21	30:8:13:ARG:HD2	1.77	0.47
15:T:36:GLU:O	15:T:37:GLY:C	2.53	0.47
17:V:59:ALA:HB2	17:V:96:ILE:HD13	1.97	0.47
20:Y:44:ILE:CG1	20:Y:45:VAL:N	2.70	0.47
27:5:48:GLU:HA	27:5:59:GLU:CG	2.43	0.47
1:A:2564:A:C2	1:A:2647:U:H4'	2.50	0.47
1:A:2566:A:H4'	1:A:2567:G:O5'	2.13	0.47
4:E:56:PRO:O	4:E:57:LYS:CB	2.61	0.47
7:H:127:GLU:OE2	7:H:130:ARG:NH2	2.48	0.47
7:H:154:PRO:CG	7:H:162:ILE:O	2.61	0.47
12:Q:59:ARG:CD	12:Q:59:ARG:N	2.72	0.47
14:S:56:LEU:O	14:S:57:LYS:C	2.53	0.47
16:U:106:PHE:O	16:U:109:LEU:HB2	2.15	0.47
16:U:92:ARG:CZ	16:U:94:ASN:HD22	2.27	0.47
17:V:36:PRO:HA	17:V:56:SER:HG	1.79	0.47
19:X:35:THR:O	19:X:37:THR:N	2.47	0.47
20:Y:19:LYS:HE3	20:Y:20:TYR:CE1	2.49	0.47
23:1:29:GLY:C	23:1:30:VAL:CG2	2.82	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:8:43:GLN:C	30:8:44:LYS:HD2	2.34	0.47
1:A:1045:A:O2'	1:A:1046:A:OP2	2.31	0.47
1:A:1385:G:H1'	1:A:1386:C:C6	2.49	0.47
3:D:134:ARG:HB2	3:D:135:PHE:CD2	2.49	0.47
3:D:35:LYS:HD3	3:D:63:ARG:HB3	1.96	0.47
6:G:88:ILE:CD1	6:G:88:ILE:O	2.54	0.47
7:H:131:VAL:HG12	7:H:132:ARG:N	2.29	0.47
13:R:1:MET:SD	13:R:1:MET:N	2.75	0.47
15:T:29:ARG:NH1	15:T:46:GLU:OE1	2.48	0.47
26:4:50:VAL:O	26:4:50:VAL:CG1	2.62	0.47
1:A:458:G:O2'	29:7:39:ARG:HD3	2.14	0.47
1:A:1937:A:C8	1:A:1939:U:H2'	2.50	0.47
1:A:278:A:H2'	1:A:279:C:C6	2.50	0.47
3:D:32:SER:O	3:D:33:LEU:CB	2.60	0.47
4:E:36:ARG:HH11	4:E:36:ARG:CB	2.28	0.47
4:E:78:LEU:CD2	4:E:79:ARG:HD2	2.43	0.47
4:E:89:ASP:O	4:E:90:THR:O	2.33	0.47
6:G:106:LEU:HA	6:G:110:ALA:CB	2.44	0.47
6:G:16:ARG:NH2	6:G:28:VAL:O	2.48	0.47
7:H:67:LEU:O	7:H:71:LEU:HB2	2.15	0.47
1:A:389:G:H22	11:P:72:PRO:CG	2.27	0.47
14:S:46:VAL:HG12	14:S:47:THR:N	2.28	0.47
10:O:104:ARG:HD3	15:T:36:GLU:OE2	2.15	0.47
15:T:51:ARG:CG	15:T:98:LYS:HG3	2.44	0.47
19:X:43:VAL:HG11	19:X:51:VAL:HG21	1.97	0.47
20:Y:39:VAL:O	20:Y:40:GLU:OE2	2.32	0.47
26:4:33:VAL:CG1	26:4:34:GLU:H	2.22	0.47
26:4:50:VAL:O	26:4:50:VAL:HG13	2.15	0.47
1:A:99:U:O2'	1:A:101:G:OP2	2.30	0.47
3:D:72:LYS:CG	3:D:103:ARG:NH2	2.76	0.47
4:E:22:PRO:CG	4:E:22:PRO:O	2.63	0.47
6:G:14:GLU:O	6:G:17:PRO:HG2	2.15	0.47
9:N:57:ALA:CA	9:N:60:ILE:HD11	2.44	0.47
11:P:81:GLN:HB3	11:P:110:TYR:HB3	1.97	0.47
11:P:115:LEU:CD1	11:P:116:GLY:N	2.78	0.47
11:P:126:VAL:HA	11:P:145:PRO:HD2	1.95	0.47
1:A:870:A:OP1	12:Q:6:ARG:NH2	2.47	0.47
12:Q:80:GLU:HG3	12:Q:81:VAL:N	2.27	0.47
2:B:52:A:N6	14:S:33:LYS:HG3	2.29	0.47
16:U:91:ASP:O	16:U:92:ARG:C	2.53	0.47
17:V:48:GLY:O	17:V:49:THR:C	2.52	0.47
18:W:66:GLU:O	18:W:69:LEU:HG	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:53:LYS:HZ2	19:X:55:ASN:HD21	1.62	0.47
23:1:81:LYS:H	23:1:81:LYS:HE2	1.62	0.47
1:A:1340:U:OP2	19:X:78:LYS:NZ	2.48	0.47
1:A:27:G:HO2'	1:A:28:A:H8	1.59	0.47
3:D:205:VAL:O	3:D:206:LEU:C	2.52	0.47
5:F:127:GLU:OE1	5:F:127:GLU:HA	2.07	0.47
8:I:113:ARG:HB3	8:I:131:LYS:HD3	1.97	0.47
9:N:73:THR:HA	9:N:83:LYS:O	2.15	0.47
1:A:2839:G:H5''	13:R:46:GLY:HA2	1.97	0.47
16:U:66:ASN:CB	16:U:76:TYR:HB2	2.44	0.47
17:V:4:ILE:HA	17:V:12:TYR:O	2.14	0.47
20:Y:81:LYS:NZ	20:Y:98:VAL:HB	2.30	0.47
23:1:83:GLU:OE1	23:1:85:LEU:HB2	2.15	0.47
26:4:55:ARG:C	26:4:59:PHE:HB3	2.35	0.47
27:5:57:VAL:HG13	27:5:57:VAL:O	2.14	0.47
1:A:2420:C:H41	30:8:30:ARG:HD2	1.79	0.47
3:D:136:ILE:N	3:D:136:ILE:HD12	2.30	0.47
3:D:145:VAL:O	3:D:153:ALA:HA	2.14	0.47
3:D:231:HIS:ND1	3:D:232:PRO:HD2	2.30	0.47
4:E:120:TRP:O	4:E:121:ASN:HB2	2.14	0.47
1:A:2636:U:OP2	4:E:79:ARG:NH1	2.47	0.47
6:G:106:LEU:HA	6:G:110:ALA:HB3	1.95	0.47
6:G:36:LYS:HA	6:G:95:ARG:HG2	1.95	0.47
8:I:8:PRO:HG3	8:I:14:ASP:HB2	1.97	0.47
10:O:37:ASP:O	10:O:62:VAL:HG23	2.14	0.47
16:U:107:ALA:O	16:U:110:VAL:HB	2.14	0.47
16:U:27:LEU:O	16:U:30:LYS:N	2.41	0.47
18:W:4:LYS:HA	18:W:106:ILE:HA	1.97	0.47
20:Y:56:PRO:O	20:Y:57:GLN:C	2.53	0.47
20:Y:56:PRO:O	20:Y:58:GLY:N	2.48	0.47
20:Y:44:ILE:O	20:Y:62:GLU:O	2.32	0.47
27:5:45:VAL:O	27:5:45:VAL:HG12	2.13	0.47
28:6:20:ASN:O	28:6:21:TYR:HB2	2.15	0.47
30:8:9:GLY:O	30:8:13:ARG:HG2	2.15	0.47
1:A:1268:A:H2'	1:A:1269:A:O4'	2.15	0.47
1:A:1506:C:H3'	1:A:1507:A:H5''	1.96	0.47
1:A:2469:A:H2	1:A:2481:G:N2	2.13	0.47
4:E:101:ARG:HD2	4:E:171:GLU:HA	1.97	0.47
4:E:103:ASP:OD2	4:E:168:MET:HG2	2.15	0.47
5:F:162:LEU:HD23	5:F:165:ARG:HH21	1.79	0.47
6:G:52:ILE:O	6:G:52:ILE:HG22	2.15	0.47
7:H:104:GLU:HG3	7:H:114:VAL:HG22	1.96	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:86:GLU:O	7:H:132:ARG:HA	2.15	0.47
7:H:18:GLU:HA	7:H:18:GLU:OE2	2.15	0.47
9:N:35:ARG:HG3	9:N:35:ARG:O	2.15	0.47
10:O:53:LYS:CD	10:O:56:ASP:OD1	2.63	0.47
13:R:61:HIS:O	13:R:65:LEU:HD13	2.14	0.47
1:A:2432:A:C8	23:1:33:LYS:HE2	2.50	0.46
26:4:15:ILE:HG22	26:4:20:ASN:CA	2.45	0.46
28:6:8:LYS:O	28:6:27:LYS:HG2	2.15	0.46
1:A:1217:C:OP1	16:U:15:LYS:NZ	2.39	0.46
1:A:415:A:H2'	1:A:416:C:H6	1.79	0.46
1:A:2729:G:C1'	4:E:187:ALA:HB2	2.38	0.46
4:E:61:ARG:O	4:E:63:LEU:CG	2.57	0.46
6:G:104:GLU:OE1	26:4:23:GLU:HB3	2.15	0.46
6:G:135:LEU:HD11	6:G:157:ILE:HD12	1.98	0.46
1:A:2653:U:O2'	7:H:110:SER:HB2	2.14	0.46
7:H:89:ILE:H	7:H:89:ILE:HD13	1.80	0.46
7:H:9:ILE:O	7:H:10:PRO:O	2.33	0.46
9:N:46:VAL:HG13	9:N:47:ALA:N	2.31	0.46
11:P:46:LYS:O	11:P:48:PRO:N	2.48	0.46
12:Q:34:LEU:HD11	12:Q:129:THR:CB	2.35	0.46
13:R:56:LYS:C	13:R:58:GLY:H	2.18	0.46
14:S:24:LEU:HB2	14:S:85:VAL:HG12	1.97	0.46
17:V:6:LYS:HD3	17:V:11:GLN:HG2	1.96	0.46
21:Z:128:VAL:HB	21:Z:161:VAL:HG13	1.96	0.46
1:A:1771:C:H1'	1:A:1786:A:C8	2.50	0.46
1:A:1888:G:H5'	1:A:1889:A:OP1	2.16	0.46
1:A:224:G:O6	1:A:419:C:O2'	2.33	0.46
1:A:458:G:O2'	1:A:469:G:O6	2.20	0.46
1:A:860:U:C5	1:A:917:A:C2	2.98	0.46
3:D:198:ASN:C	3:D:198:ASN:ND2	2.69	0.46
4:E:188:VAL:HG13	4:E:188:VAL:O	2.15	0.46
4:E:20:ALA:C	4:E:21:VAL:HG13	2.35	0.46
1:A:443:A:H3'	5:F:45:ARG:HH12	1.79	0.46
6:G:13:GLU:HG3	6:G:13:GLU:O	2.14	0.46
6:G:20:ILE:HD13	6:G:25:TYR:HB2	1.98	0.46
11:P:37:GLY:O	11:P:41:ARG:HD3	2.15	0.46
12:Q:87:LYS:O	12:Q:89:ASN:N	2.43	0.46
13:R:1:MET:O	13:R:2:ARG:HB2	2.15	0.46
14:S:28:VAL:HG11	14:S:98:VAL:HG12	1.97	0.46
19:X:26:TYR:HB3	19:X:92:LEU:HD12	1.97	0.46
20:Y:68:HIS:O	20:Y:71:LYS:HB2	2.14	0.46
23:1:76:ARG:CD	23:1:76:ARG:H	2.29	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2283:C:OP1	28:6:5:VAL:HG13	2.15	0.46
30:8:29:LYS:HE3	30:8:41:ILE:O	2.15	0.46
30:8:40:GLU:C	30:8:42:ARG:N	2.68	0.46
1:A:1059:G:H3'	1:A:1060:U:H5''	1.96	0.46
1:A:2636:U:H2'	1:A:2637:U:C6	2.51	0.46
1:A:2695:C:H2'	1:A:2696:U:C6	2.51	0.46
1:A:479:A:N3	1:A:481:G:H5''	2.31	0.46
1:A:755:C:H2'	1:A:756:C:C6	2.51	0.46
1:A:192:C:O2'	1:A:802:A:N3	2.41	0.46
1:A:814:C:H41	11:P:25:SER:HA	1.81	0.46
5:F:108:LYS:HZ3	5:F:108:LYS:HA	1.79	0.46
5:F:46:ARG:CG	5:F:46:ARG:NH1	2.71	0.46
6:G:116:ASP:O	6:G:117:PHE:CB	2.51	0.46
7:H:94:TYR:CD1	7:H:94:TYR:N	2.82	0.46
8:I:31:LEU:HD21	8:I:38:LEU:HG	1.97	0.46
10:O:104:ARG:HG2	10:O:121:VAL:HG12	1.97	0.46
10:O:61:VAL:O	10:O:84:ALA:HB1	2.16	0.46
12:Q:109:VAL:HG13	12:Q:113:GLN:OE1	2.16	0.46
15:T:111:ARG:C	15:T:113:LYS:N	2.64	0.46
16:U:8:VAL:O	16:U:9:VAL:C	2.53	0.46
16:U:98:LEU:HD23	16:U:98:LEU:C	2.36	0.46
17:V:2:PHE:CD1	17:V:2:PHE:C	2.88	0.46
17:V:5:VAL:HG13	17:V:14:VAL:HG21	1.98	0.46
18:W:36:LEU:CD1	18:W:47:VAL:HG12	2.44	0.46
19:X:12:VAL:HG13	19:X:12:VAL:O	2.15	0.46
24:2:4:SER:OG	24:2:5:GLU:OE2	2.26	0.46
28:6:15:GLU:HB3	28:6:16:CYS:H	1.46	0.46
31:9:19:ARG:NH2	31:9:26:ILE:HD11	2.31	0.46
1:A:275:G:H21	1:A:276:A:H62	1.62	0.46
1:A:443:A:H5''	1:A:444:C:OP1	2.15	0.46
1:A:459:U:H2'	1:A:460:A:H8	1.81	0.46
3:D:117:VAL:CG2	3:D:128:GLY:C	2.84	0.46
3:D:165:ILE:C	3:D:166:GLN:HE21	2.18	0.46
5:F:184:TYR:CD2	5:F:188:ARG:HD2	2.50	0.46
6:G:102:PHE:HA	6:G:105:LYS:HE3	1.98	0.46
6:G:36:LYS:O	6:G:37:VAL:HG23	2.15	0.46
7:H:4:ILE:HG13	7:H:6:ARG:HD3	1.97	0.46
8:I:76:THR:OG1	8:I:139:GLN:OE1	2.32	0.46
10:O:7:TYR:CD1	10:O:20:MET:HB2	2.50	0.46
11:P:144:GLU:N	11:P:144:GLU:OE1	2.48	0.46
13:R:78:LYS:O	13:R:78:LYS:HG2	2.15	0.46
13:R:79:LEU:HD23	13:R:79:LEU:O	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:6:LEU:O	15:T:10:VAL:HG23	2.16	0.46
16:U:73:GLY:O	16:U:74:LEU:CB	2.63	0.46
25:3:28:LEU:HA	25:3:33:GLN:OE1	2.16	0.46
27:5:36:CYS:C	27:5:38:ALA:H	2.19	0.46
27:5:54:GLY:O	27:5:55:ARG:C	2.53	0.46
1:A:1021:A:C8	1:A:1022:G:H5''	2.47	0.46
1:A:1028:A:N6	1:A:1125:G:H2'	2.30	0.46
1:A:220:G:O2'	1:A:233:A:N3	2.39	0.46
1:A:2405:G:O2'	1:A:2411:A:N6	2.49	0.46
1:A:273(F):C:H2'	1:A:274:G:H5''	1.97	0.46
3:D:102:LYS:O	3:D:103:ARG:HG3	2.15	0.46
3:D:183:ARG:NH1	3:D:183:ARG:CG	2.69	0.46
3:D:18:VAL:CG1	3:D:19:ALA:N	2.78	0.46
3:D:211:ARG:HH11	3:D:211:ARG:HG2	1.80	0.46
3:D:61:LEU:HB3	3:D:63:ARG:NH1	2.31	0.46
4:E:54:GLN:HE21	4:E:54:GLN:CA	2.27	0.46
4:E:63:LEU:O	4:E:64:LYS:CB	2.62	0.46
4:E:3:GLY:HA3	4:E:81:ILE:HG21	1.97	0.46
7:H:106:THR:HG22	7:H:112:PRO:HB3	1.97	0.46
7:H:53:GLU:OE1	7:H:53:GLU:HA	2.16	0.46
7:H:86:GLU:O	7:H:87:LEU:CB	2.64	0.46
9:N:131:GLN:HE21	9:N:132:ALA:H	1.58	0.46
9:N:36:GLY:O	9:N:42:TRP:HE3	1.98	0.46
11:P:12:ALA:C	11:P:14:LYS:H	2.17	0.46
11:P:144:GLU:HA	11:P:145:PRO:HD3	1.76	0.46
11:P:1:MET:O	11:P:2:LYS:HG3	2.16	0.46
13:R:75:LEU:HA	13:R:78:LYS:HB3	1.97	0.46
14:S:13:ARG:O	14:S:14:VAL:HB	2.15	0.46
14:S:61:ASN:O	14:S:65:VAL:HG23	2.15	0.46
15:T:118:ARG:NH2	15:T:121:ILE:HD12	2.31	0.46
15:T:96:ARG:CB	15:T:96:ARG:HH11	2.29	0.46
19:X:65:ARG:N	19:X:65:ARG:CD	2.79	0.46
1:A:483:A:C4'	20:Y:49:VAL:HA	2.36	0.46
30:8:44:LYS:HD2	30:8:44:LYS:N	2.30	0.46
30:8:48:PHE:HD1	30:8:48:PHE:N	2.14	0.46
1:A:1188:U:O2'	1:A:1189:A:H5'	2.16	0.46
1:A:2159:G:H2'	1:A:2160:G:C8	2.51	0.46
1:A:2572:A:C8	4:E:144:ARG:HB3	2.51	0.46
1:A:527:C:OP2	1:A:2779:U:H5	1.98	0.46
3:D:148:GLU:HB2	3:D:151:LYS:HD2	1.98	0.46
3:D:48:ARG:HG3	3:D:48:ARG:NH1	2.31	0.46
3:D:35:LYS:HE3	3:D:65:ILE:N	2.31	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:21:VAL:HG23	4:E:22:PRO:CD	2.46	0.46
7:H:151:ILE:O	7:H:152:ARG:O	2.34	0.46
9:N:30:ILE:O	9:N:34:LEU:CD2	2.64	0.46
9:N:97:ARG:HA	9:N:100:GLU:HB3	1.97	0.46
10:O:101:PRO:HA	10:O:120:GLU:O	2.16	0.46
11:P:23:PRO:HG2	11:P:23:PRO:O	2.15	0.46
12:Q:63:LYS:HE2	12:Q:65:PHE:CZ	2.51	0.46
12:Q:66:ILE:H	12:Q:104:PHE:HA	1.79	0.46
17:V:16:PRO:HA	17:V:96:ILE:O	2.14	0.46
17:V:22:VAL:HG12	17:V:23:GLU:H	1.76	0.46
17:V:61:VAL:HA	17:V:94:LEU:HD23	1.97	0.46
18:W:48:ALA:O	18:W:49:LYS:C	2.53	0.46
25:3:43:ILE:O	25:3:47:VAL:HG23	2.16	0.46
27:5:20:ARG:C	27:5:22:HIS:N	2.68	0.46
1:A:1597:A:H5''	1:A:1598:C:OP1	2.16	0.46
1:A:2086:U:H2'	1:A:2087:G:C8	2.51	0.46
1:A:286:C:H2'	1:A:287:C:C6	2.50	0.46
1:A:330:A:O2'	1:A:331:A:H8	1.98	0.46
3:D:105:ILE:HG23	3:D:106:ILE:O	2.15	0.46
3:D:206:LEU:HD23	3:D:206:LEU:HA	1.49	0.46
3:D:79:VAL:HG21	3:D:111:LEU:HD21	1.98	0.46
4:E:129:HIS:O	4:E:130:GLY:C	2.53	0.46
4:E:137:HIS:CB	4:E:138:PRO:HD2	2.42	0.46
4:E:195:LEU:HD12	4:E:196:VAL:N	2.29	0.46
4:E:7:VAL:HG11	15:T:1:MET:CE	2.45	0.46
7:H:88:LEU:HD22	7:H:163:TYR:O	2.16	0.46
9:N:128:HIS:HB2	9:N:129:PRO:CD	2.46	0.46
10:O:8:LEU:CD2	10:O:8:LEU:N	2.76	0.46
11:P:36:LYS:HG3	11:P:36:LYS:HZ3	1.39	0.46
11:P:85:LEU:HD23	11:P:88:LEU:HD22	1.97	0.46
1:A:142:G:O3'	19:X:35:THR:HG21	2.15	0.46
20:Y:15:VAL:O	20:Y:21:LYS:HA	2.16	0.46
1:A:1930:G:HO2'	1:A:1931:U:P	2.39	0.46
1:A:2271:G:OP1	22:0:18:ALA:HB1	2.15	0.46
4:E:111:ARG:NE	4:E:160:TYR:CE1	2.76	0.46
4:E:87:GLU:O	4:E:89:ASP:N	2.48	0.46
6:G:14:GLU:O	6:G:17:PRO:HD2	2.16	0.46
6:G:95:ARG:O	6:G:96:ARG:C	2.54	0.46
1:A:2468:G:H5''	12:Q:120:ILE:HD12	1.97	0.46
12:Q:87:LYS:HG2	12:Q:87:LYS:O	2.15	0.46
14:S:74:ALA:O	14:S:75:GLU:C	2.54	0.46
16:U:69:CYS:O	16:U:74:LEU:HD12	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:28:SER:C	18:W:30:GLU:N	2.69	0.46
19:X:35:THR:HG23	19:X:35:THR:O	2.16	0.46
20:Y:11:ASP:HB2	20:Y:27:VAL:CG1	2.46	0.46
12:Q:136:ALA:HB1	21:Z:52:SER:HB2	1.98	0.46
23:1:80:LEU:CB	23:1:81:LYS:HE2	2.43	0.46
25:3:59:VAL:CG1	25:3:60:GLU:H	2.29	0.46
28:6:45:LYS:HA	28:6:45:LYS:HD3	1.79	0.46
28:6:11:LEU:HD11	28:6:51:GLU:HG3	1.98	0.46
1:A:1300:U:H4'	1:A:1301:A:H5''	1.98	0.46
1:A:184:C:H2'	1:A:185:U:C6	2.51	0.46
1:A:2168:G:H2'	1:A:2168:G:N3	2.31	0.46
1:A:2491:U:O2'	1:A:2570:G:OP1	2.25	0.46
1:A:372:G:H5''	23:1:66:HIS:CD2	2.50	0.46
1:A:470:A:H2'	1:A:471:A:O4'	2.16	0.46
1:A:587:C:H4'	1:A:588:U:O5'	2.16	0.46
3:D:14:ARG:HG3	3:D:15:PHE:N	2.31	0.46
3:D:2:ALA:HB1	3:D:20:ASP:CB	2.46	0.46
3:D:36:PRO:HB3	3:D:62:TYR:O	2.16	0.46
9:N:36:GLY:O	9:N:42:TRP:CE3	2.69	0.46
12:Q:11:LYS:HE2	12:Q:87:LYS:HA	1.98	0.46
23:1:79:GLY:N	23:1:80:LEU:HD23	2.30	0.46
25:3:18:ASP:O	25:3:21:ALA:N	2.49	0.46
26:4:3:GLU:HG3	26:4:4:GLY:H	1.79	0.46
27:5:43:HIS:ND1	27:5:43:HIS:N	2.63	0.46
1:A:195:A:N7	1:A:197:A:OP1	2.49	0.46
1:A:2030:A:H4'	1:A:2031:A:H8	1.81	0.46
1:A:34:C:H5	1:A:454:A:H1'	1.80	0.46
1:A:521:G:H2'	1:A:522:G:H8	1.81	0.46
6:G:6:ALA:HB3	6:G:104:GLU:OE2	2.16	0.46
6:G:129:GLY:O	6:G:130:ASN:OD1	2.34	0.46
11:P:98:GLU:HG2	11:P:99:LEU:N	2.30	0.46
13:R:3:HIS:C	13:R:5:LYS:H	2.17	0.46
14:S:108:GLY:O	14:S:110:LEU:N	2.48	0.46
15:T:107:ASP:HB2	15:T:108:ARG:H	1.48	0.46
15:T:54:ARG:NH1	15:T:54:ARG:HG2	2.23	0.46
20:Y:35:TYR:O	20:Y:35:TYR:CD1	2.69	0.46
23:1:49:VAL:HG12	23:1:51:VAL:CG2	2.45	0.45
25:3:7:LYS:HE2	25:3:32:GLN:HA	1.98	0.45
27:5:16:ARG:O	27:5:20:ARG:HG3	2.16	0.45
28:6:17:LYS:O	28:6:18:ARG:CB	2.64	0.45
31:9:1:MET:SD	31:9:31:LYS:O	2.74	0.45
1:A:2035:G:H4'	1:A:2036:C:OP2	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2636:U:H1'	1:A:2783:G:N2	2.32	0.45
1:A:1659:U:O2'	1:A:2712(A):A:N1	2.39	0.45
1:A:222:A:H3'	1:A:421:U:H5''	1.98	0.45
1:A:484:C:H2'	1:A:485:C:C6	2.52	0.45
3:D:11:PRO:O	3:D:12:SER:CB	2.65	0.45
5:F:31:HIS:O	5:F:34:TRP:HB3	2.15	0.45
5:F:65:TRP:CH2	5:F:72:ARG:HB3	2.50	0.45
6:G:14:GLU:HB3	6:G:15:VAL:H	1.56	0.45
6:G:76:SER:CB	6:G:83:ARG:HA	2.47	0.45
7:H:51:ARG:NH1	7:H:51:ARG:HG3	2.30	0.45
8:I:9:LEU:O	8:I:10:GLU:HG3	2.17	0.45
10:O:86:ILE:CD1	10:O:86:ILE:H	2.28	0.45
11:P:115:LEU:HA	11:P:134:ALA:CB	2.46	0.45
12:Q:85:LYS:HD3	12:Q:86:GLY:H	1.80	0.45
16:U:92:ARG:C	16:U:94:ASN:N	2.69	0.45
19:X:8:ILE:CD1	19:X:42:ALA:HB1	2.46	0.45
20:Y:48:ALA:CB	20:Y:61:ILE:HD13	2.45	0.45
26:4:42:PHE:C	26:4:42:PHE:CD1	2.90	0.45
31:9:25:VAL:HG11	31:9:34:GLN:HE21	1.81	0.45
1:A:1331:A:H2'	1:A:1333:C:C5	2.51	0.45
1:A:141:A:H8	1:A:1408:C:H1'	1.82	0.45
1:A:2695:C:H2'	1:A:2696:U:H6	1.81	0.45
1:A:2774:C:H2'	1:A:2775:A:O4'	2.16	0.45
1:A:598:G:H2'	1:A:599:G:O4'	2.15	0.45
1:A:898:C:C2'	1:A:899:A:H5'	2.45	0.45
3:D:118:VAL:O	3:D:129:ASN:HA	2.16	0.45
3:D:241:PRO:O	3:D:242:ARG:C	2.53	0.45
4:E:77:ILE:O	4:E:78:LEU:O	2.35	0.45
5:F:7:TYR:CD1	5:F:7:TYR:N	2.84	0.45
7:H:128:PRO:HD2	7:H:129:THR:N	2.25	0.45
7:H:109:PHE:CE1	7:H:152:ARG:NH1	2.84	0.45
9:N:113:GLY:O	9:N:116:LEU:HB2	2.14	0.45
9:N:120:LEU:HD13	9:N:120:LEU:C	2.37	0.45
13:R:85:PRO:C	13:R:87:TYR:H	2.18	0.45
14:S:109:GLY:O	14:S:110:LEU:HB2	2.16	0.45
17:V:5:VAL:HG22	17:V:14:VAL:CG2	2.46	0.45
17:V:47:VAL:O	17:V:48:GLY:O	2.34	0.45
19:X:24:GLY:O	19:X:82:GLN:HA	2.15	0.45
21:Z:149:SER:HB2	21:Z:172:ALA:O	2.16	0.45
28:6:11:LEU:H	28:6:25:LYS:HA	1.81	0.45
31:9:1:MET:HE2	31:9:10:ILE:HD13	1.98	0.45
1:A:1019:U:O2'	1:A:1021:A:H2	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2032:G:H21	4:E:146:THR:HG23	1.82	0.45
1:A:2308:G:N2	1:A:2311:A:H2	2.15	0.45
1:A:2505:G:O6	1:A:2576:G:H2'	2.16	0.45
1:A:264:C:H2'	1:A:265:A:H5''	1.97	0.45
1:A:302:C:H2'	1:A:303:U:C6	2.50	0.45
3:D:65:ILE:HD11	3:D:67:PHE:CE1	2.51	0.45
4:E:1:MET:HA	4:E:200:GLU:OE2	2.16	0.45
5:F:167:ALA:HB1	5:F:173:VAL:HG11	1.98	0.45
6:G:44:GLY:HA2	6:G:88:ILE:HG12	1.97	0.45
10:O:112:MET:O	10:O:115:VAL:CG2	2.64	0.45
16:U:95:LEU:HD13	17:V:4:ILE:HD12	1.98	0.45
18:W:40:ASN:C	18:W:41:LYS:HG2	2.36	0.45
22:O:27:GLU:HB2	22:O:69:PHE:HD1	1.81	0.45
23:1:60:PHE:CE2	23:1:91:LYS:NZ	2.84	0.45
29:7:24:THR:O	29:7:28:ARG:HG3	2.16	0.45
1:A:1794:U:H2'	1:A:1795:C:C6	2.45	0.45
1:A:180:G:N2	1:A:215:G:O6	2.50	0.45
1:A:2115:G:N2	1:A:2165:G:N7	2.55	0.45
1:A:273:G:H1	1:A:364:C:H42	1.64	0.45
1:A:579:G:H2'	1:A:580:C:C6	2.51	0.45
3:D:69:ARG:C	3:D:71:ASP:N	2.69	0.45
1:A:2784:C:H5''	4:E:41:LYS:NZ	2.32	0.45
4:E:47:VAL:HG23	4:E:47:VAL:O	2.16	0.45
4:E:51:PHE:HD1	4:E:52:LEU:H	1.59	0.45
5:F:117:ARG:NH2	5:F:189:THR:O	2.50	0.45
7:H:16:SER:OG	7:H:17:VAL:N	2.50	0.45
13:R:10:LEU:O	13:R:11:ASN:C	2.55	0.45
14:S:5:THR:OG1	14:S:8:GLU:HG3	2.17	0.45
14:S:5:THR:HG1	14:S:7:TYR:HB3	1.80	0.45
17:V:4:ILE:HG22	17:V:39:LEU:HD23	1.98	0.45
20:Y:2:ARG:O	20:Y:3:VAL:C	2.55	0.45
21:Z:141:VAL:HG23	21:Z:144:LEU:HB2	1.98	0.45
12:Q:132:VAL:HG11	21:Z:81:ARG:CZ	2.47	0.45
23:1:54:ALA:O	23:1:55:GLY:O	2.35	0.45
23:1:85:LEU:HD22	23:1:85:LEU:N	2.31	0.45
1:A:2286:A:OP1	28:6:28:ARG:NE	2.50	0.45
28:6:9:LEU:CD1	28:6:26:ASN:ND2	2.80	0.45
1:A:1105:U:H2'	1:A:1106:G:H8	1.81	0.45
1:A:2788:C:O2'	1:A:2809:A:N3	2.43	0.45
1:A:34:C:N4	1:A:447:A:H61	2.14	0.45
1:A:580:C:H2'	1:A:581:C:C6	2.51	0.45
2:B:104:A:H5'	21:Z:72:ARG:HD3	1.96	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:109:ASP:HB2	3:D:197:GLY:CA	2.46	0.45
3:D:198:ASN:O	3:D:198:ASN:ND2	2.50	0.45
4:E:13:ARG:HH11	4:E:13:ARG:HB3	1.82	0.45
4:E:33:VAL:HG12	4:E:90:THR:H	1.81	0.45
4:E:95:ILE:O	4:E:95:ILE:HG22	2.16	0.45
5:F:196:LEU:O	5:F:200:GLU:HG2	2.17	0.45
8:I:81:VAL:HG21	8:I:88:ILE:HD12	1.98	0.45
9:N:114:ARG:O	9:N:115:ARG:CB	2.65	0.45
9:N:10:GLU:HA	9:N:11:PRO:HD3	1.73	0.45
12:Q:104:PHE:O	12:Q:105:GLU:CB	2.65	0.45
12:Q:26:TYR:O	12:Q:27:VAL:O	2.34	0.45
14:S:78:LEU:HD21	14:S:108:GLY:HA2	1.99	0.45
16:U:27:LEU:HD12	16:U:31:SER:HB3	1.98	0.45
17:V:30:GLY:O	17:V:31:ALA:O	2.34	0.45
21:Z:128:VAL:HG22	21:Z:129:SER:H	1.82	0.45
22:O:19:LYS:HA	22:O:19:LYS:HD3	1.54	0.45
1:A:2087:G:C2'	1:A:2088:G:H5'	2.47	0.45
1:A:2105:C:H2'	1:A:2106:G:H8	1.82	0.45
1:A:2114:A:N6	1:A:2119:A:H62	2.15	0.45
1:A:2467:C:N4	1:A:2468:G:O6	2.50	0.45
1:A:2579:C:H2'	1:A:2580:U:O4'	2.16	0.45
1:A:2655:G:O2'	1:A:2656:U:OP2	2.34	0.45
1:A:38:A:H2'	1:A:39:C:C6	2.51	0.45
1:A:530:G:C5	1:A:2022:U:H5''	2.51	0.45
1:A:1797:C:H4'	3:D:257:LEU:O	2.17	0.45
3:D:68:LYS:HD2	3:D:70:TRP:CZ2	2.52	0.45
4:E:2:LYS:O	4:E:199:ARG:HA	2.17	0.45
5:F:155:LEU:HA	5:F:174:VAL:CG1	2.46	0.45
6:G:51:ARG:NH2	6:G:52:ILE:HD11	2.32	0.45
12:Q:23:GLY:O	12:Q:24:GLY:C	2.54	0.45
18:W:21:VAL:HG12	18:W:21:VAL:O	2.17	0.45
18:W:88:ARG:CB	18:W:92:ARG:HB3	2.47	0.45
19:X:47:PHE:O	19:X:48:LYS:C	2.55	0.45
1:A:64:A:H1'	19:X:66:LEU:HB2	1.98	0.45
20:Y:75:ILE:HA	20:Y:80:GLY:HA2	1.99	0.45
20:Y:97:ARG:HH11	20:Y:97:ARG:HG2	1.82	0.45
24:2:28:LYS:HB3	24:2:57:ILE:HG12	1.98	0.45
28:6:48:VAL:O	28:6:49:HIS:HB2	2.15	0.45
30:8:52:LYS:O	30:8:52:LYS:CG	2.64	0.45
1:A:1101:U:H2'	1:A:1102:C:C6	2.52	0.45
1:A:1210:A:H5''	1:A:1212:G:O4'	2.17	0.45
1:A:1508:A:O2'	1:A:1509:C:O4'	2.32	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2377:A:H4'	14:S:111:GLU:O	2.17	0.45
1:A:2439:A:C8	1:A:2439:A:H5'	2.51	0.45
1:A:2023:G:H5'	1:A:2617:C:H4'	1.98	0.45
1:A:26:G:H1'	1:A:515:A:N6	2.31	0.45
1:A:71:A:H5''	1:A:72:U:H3'	1.98	0.45
1:A:871:U:H4'	12:Q:69:PHE:CE2	2.52	0.45
3:D:25:THR:O	3:D:25:THR:CG2	2.65	0.45
3:D:92:ILE:HD12	3:D:104:TYR:HD2	1.82	0.45
4:E:199:ARG:HH11	4:E:199:ARG:HG3	1.82	0.45
1:A:451:C:H4'	5:F:52:LYS:HZ2	1.82	0.45
7:H:7:LEU:HD12	7:H:7:LEU:C	2.37	0.45
8:I:88:ILE:HG12	8:I:122:GLU:H	1.82	0.45
9:N:20:GLY:HA2	9:N:61:ARG:HD2	1.99	0.45
10:O:22:ILE:HG12	10:O:41:ALA:HA	1.98	0.45
12:Q:30:GLY:CA	12:Q:107:ALA:HB2	2.39	0.45
12:Q:34:LEU:HB2	12:Q:118:LEU:HD22	1.99	0.45
13:R:29:LEU:N	13:R:29:LEU:CD1	2.79	0.45
15:T:24:PRO:HD3	15:T:52:ILE:HD12	1.98	0.45
16:U:79:PHE:CE2	16:U:83:LEU:HD13	2.51	0.45
1:A:153:C:P	23:1:88:LYS:HE2	2.57	0.45
26:4:68:ARG:O	26:4:69:LYS:HB2	2.17	0.45
28:6:15:GLU:OE2	28:6:44:ARG:NH1	2.49	0.45
1:A:2723:C:O3'	13:R:1:MET:CE	2.65	0.45
1:A:363(B):G:H2'	1:A:363(C):G:C8	2.51	0.45
1:A:436:C:H2'	1:A:438:G:H8	1.81	0.45
1:A:508:G:HO2'	1:A:509:C:P	2.40	0.45
4:E:4:ILE:HG12	4:E:91:VAL:HG11	1.99	0.45
9:N:5:VAL:O	9:N:5:VAL:HG13	2.16	0.45
9:N:7:LYS:HD3	9:N:9:VAL:H	1.80	0.45
10:O:97:ARG:H	10:O:117:LEU:CD2	2.24	0.45
1:A:1250:G:OP2	11:P:21:ARG:HD3	2.16	0.45
11:P:21:ARG:HA	11:P:21:ARG:HE	1.82	0.45
11:P:45:LEU:CD1	11:P:45:LEU:N	2.79	0.45
11:P:88:LEU:HD23	11:P:88:LEU:C	2.37	0.45
12:Q:65:PHE:O	12:Q:66:ILE:CG1	2.48	0.45
15:T:57:PHE:O	15:T:58:ASN:C	2.53	0.45
16:U:76:TYR:C	16:U:76:TYR:CD2	2.90	0.45
28:6:18:ARG:O	28:6:19:ARG:O	2.33	0.45
28:6:7:ILE:HG23	28:6:8:LYS:N	2.32	0.45
1:A:1535:U:N3	1:A:1537:C:H1'	2.32	0.45
1:A:1607:C:H4'	1:A:1608:A:O5'	2.17	0.45
1:A:195:A:OP1	11:P:46:LYS:HE2	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:582:G:OP1	16:U:14:HIS:ND1	2.41	0.45
1:A:795:C:H2'	1:A:796:C:C6	2.52	0.45
3:D:226:MET:HG2	3:D:226:MET:H	1.53	0.45
1:A:2635:C:OP1	4:E:78:LEU:HD12	2.16	0.45
6:G:121:ASN:C	6:G:123:ASN:H	2.20	0.45
8:I:79:ILE:N	8:I:141:LYS:O	2.50	0.45
9:N:22:THR:O	9:N:60:ILE:HG22	2.16	0.45
10:O:53:LYS:CD	10:O:53:LYS:N	2.69	0.45
11:P:81:GLN:CD	11:P:106:LEU:O	2.55	0.45
12:Q:58:PHE:O	12:Q:58:PHE:CD1	2.70	0.45
12:Q:5:ARG:O	12:Q:6:ARG:O	2.35	0.45
12:Q:93:TYR:CD1	12:Q:93:TYR:N	2.85	0.45
13:R:12:ARG:NH1	13:R:12:ARG:HG3	2.32	0.45
13:R:17:ARG:O	13:R:20:LEU:HB3	2.17	0.45
15:T:23:ARG:CB	15:T:24:PRO:HD2	2.40	0.45
10:O:104:ARG:NH2	15:T:34:VAL:HG11	2.32	0.45
18:W:14:PRO:O	18:W:16:LYS:N	2.50	0.45
20:Y:25:GLY:HA3	20:Y:39:VAL:CG1	2.47	0.45
28:6:7:ILE:O	28:6:8:LYS:HG2	2.17	0.45
29:7:2:LYS:HG2	29:7:3:ARG:N	2.31	0.45
30:8:36:LYS:HB3	30:8:40:GLU:HG2	1.99	0.45
1:A:1020:A:N6	1:A:1141:U:O2'	2.50	0.45
1:A:1771:C:O2'	1:A:1786:A:H8	2.00	0.45
1:A:1992:G:H5'	1:A:1994:C:H41	1.82	0.45
1:A:2346:A:H5''	1:A:2383:G:H1'	1.99	0.45
1:A:2693:A:H2'	1:A:2694:G:C8	2.52	0.45
1:A:686:G:N2	1:A:788:A:H61	2.13	0.45
3:D:145:VAL:HG12	3:D:146:GLU:N	2.32	0.45
3:D:45:ASN:CG	3:D:46:GLN:N	2.68	0.45
4:E:18:ASP:O	4:E:19:ARG:C	2.56	0.45
6:G:83:ARG:HG3	6:G:86:MET:CE	2.46	0.45
11:P:112:LEU:CD1	11:P:114:ILE:HG23	2.47	0.45
11:P:92:GLU:HA	11:P:123:LEU:HD23	1.99	0.45
12:Q:133:ARG:CG	12:Q:134:ARG:N	2.78	0.45
14:S:3:ARG:O	14:S:4:LEU:O	2.35	0.45
17:V:61:VAL:HG22	17:V:61:VAL:O	2.16	0.45
17:V:69:LYS:HG3	17:V:87:HIS:O	2.17	0.45
21:Z:100:VAL:HA	21:Z:101:PRO:HD3	1.87	0.45
1:A:1400:G:H2'	1:A:1401:G:C8	2.52	0.44
1:A:528:A:H2	1:A:2043:C:C5'	2.30	0.44
1:A:870:A:H5''	12:Q:6:ARG:O	2.16	0.44
2:B:20:C:H2'	2:B:21:G:O4'	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:166:GLN:CA	3:D:166:GLN:NE2	2.78	0.44
3:D:52:ARG:HB2	3:D:53:PHE:CD2	2.52	0.44
5:F:144:LYS:C	5:F:146:ALA:H	2.21	0.44
8:I:94:ALA:HB2	8:I:116:LEU:HD13	1.99	0.44
10:O:19:ILE:HD13	10:O:19:ILE:H	1.83	0.44
11:P:75:ILE:HG12	11:P:77:ARG:HH12	1.82	0.44
11:P:75:ILE:HG12	11:P:77:ARG:NH1	2.32	0.44
12:Q:66:ILE:O	12:Q:104:PHE:N	2.49	0.44
14:S:78:LEU:HD21	14:S:108:GLY:CA	2.47	0.44
14:S:83:LYS:CE	14:S:109:GLY:HA2	2.47	0.44
14:S:89:ARG:O	14:S:90:GLY:C	2.55	0.44
15:T:36:GLU:CG	15:T:41:ARG:HD3	2.46	0.44
24:2:41:ILE:HD12	24:2:41:ILE:O	2.16	0.44
26:4:15:ILE:CG2	26:4:20:ASN:ND2	2.81	0.44
27:5:56:LYS:O	27:5:58:LEU:N	2.50	0.44
1:A:414:C:H2'	1:A:415:A:C8	2.52	0.44
2:B:42:C:C6	6:G:69:ALA:HB2	2.52	0.44
3:D:166:GLN:HA	3:D:166:GLN:NE2	2.32	0.44
3:D:177:LEU:O	3:D:179:SER:N	2.51	0.44
6:G:129:GLY:HA2	6:G:169:ALA:HB2	1.99	0.44
6:G:16:ARG:CZ	6:G:31:VAL:HG11	2.47	0.44
7:H:137:ASP:HB2	7:H:140:LYS:HE3	1.98	0.44
9:N:112:LEU:O	9:N:116:LEU:HG	2.16	0.44
10:O:104:ARG:NH1	15:T:36:GLU:CD	2.71	0.44
10:O:120:GLU:OE1	15:T:67:SER:OG	2.24	0.44
23:1:60:PHE:HE2	23:1:91:LYS:NZ	2.16	0.44
23:1:10:LYS:HD2	23:1:66:HIS:HE1	1.82	0.44
25:3:60:GLU:HG2	25:3:60:GLU:O	2.16	0.44
26:4:33:VAL:CG1	26:4:34:GLU:N	2.80	0.44
30:8:47:LYS:HD2	30:8:48:PHE:N	2.33	0.44
1:A:1301:A:O2'	1:A:1302:A:H3'	2.17	0.44
1:A:2715:C:H2'	1:A:2716:U:H6	1.82	0.44
1:A:28:A:N6	1:A:512:G:H1'	2.32	0.44
3:D:80:ALA:O	3:D:113:VAL:HG13	2.16	0.44
4:E:50:GLY:CA	4:E:74:PRO:HG3	2.46	0.44
5:F:149:ASP:OD2	5:F:151:SER:HB3	2.17	0.44
6:G:63:ILE:HG12	6:G:64:THR:N	2.33	0.44
9:N:109:LYS:H	9:N:109:LYS:CD	2.26	0.44
10:O:97:ARG:HA	10:O:117:LEU:HD22	1.99	0.44
10:O:40:VAL:CG1	10:O:41:ALA:N	2.80	0.44
1:A:2009:G:H1'	13:R:107:ASP:O	2.18	0.44
15:T:135:ALA:C	15:T:137:LYS:N	2.71	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:53:ARG:C	16:U:55:ARG:H	2.20	0.44
16:U:57:PHE:O	16:U:59:ARG:N	2.50	0.44
18:W:28:SER:O	18:W:30:GLU:N	2.51	0.44
23:1:48:LYS:HA	23:1:60:PHE:O	2.17	0.44
30:8:15:LYS:C	30:8:15:LYS:HD3	2.37	0.44
1:A:1153:C:OP1	16:U:76:TYR:OH	2.34	0.44
1:A:2182:G:H2'	1:A:2183:C:C6	2.52	0.44
1:A:2243:U:H2'	1:A:2244:U:C6	2.51	0.44
1:A:2630:G:O4'	1:A:2894:G:H1'	2.18	0.44
1:A:888:C:H3'	1:A:889:C:C4'	2.46	0.44
2:B:44:G:H1'	2:B:47:C:N4	2.32	0.44
5:F:201:VAL:HG13	5:F:202:PHE:N	2.33	0.44
6:G:19:LEU:HA	6:G:22:ARG:HB2	1.99	0.44
11:P:45:LEU:N	11:P:45:LEU:HD12	2.32	0.44
11:P:6:LEU:N	11:P:6:LEU:HD22	2.31	0.44
1:A:389:G:H22	11:P:72:PRO:CD	2.29	0.44
1:A:389:G:H22	11:P:72:PRO:HD3	1.81	0.44
1:A:2495:G:H5''	12:Q:81:VAL:CG1	2.47	0.44
14:S:56:LEU:O	14:S:57:LYS:O	2.36	0.44
22:0:36:ILE:HD11	22:0:39:ARG:HG2	2.00	0.44
1:A:155:C:H5'	1:A:161:U:OP2	2.18	0.44
1:A:1844:C:OP1	3:D:257:LEU:HD23	2.18	0.44
1:A:658:C:H2'	1:A:659:C:C6	2.52	0.44
1:A:910:A:N1	1:A:2277:G:H1'	2.32	0.44
2:B:78:A:H2'	2:B:79:C:O4'	2.18	0.44
3:D:12:SER:C	3:D:14:ARG:N	2.70	0.44
4:E:172:VAL:HG13	4:E:182:LEU:HD11	1.98	0.44
1:A:443:A:H3'	5:F:45:ARG:NH1	2.33	0.44
8:I:90:GLY:O	8:I:121:LYS:HE2	2.17	0.44
9:N:63:THR:HG23	9:N:66:LYS:HE3	2.00	0.44
11:P:115:LEU:CB	11:P:131:SER:HB2	2.47	0.44
11:P:31:ALA:C	11:P:32:THR:CG2	2.85	0.44
12:Q:60:ARG:HB2	12:Q:60:ARG:HH21	1.82	0.44
15:T:80:SER:HA	15:T:81:PRO:HD3	1.73	0.44
26:4:23:GLU:O	26:4:24:THR:OG1	2.34	0.44
26:4:39:CYS:HB3	26:4:41:PRO:HD2	2.00	0.44
1:A:2335:A:HO2'	1:A:2336:A:C5'	2.30	0.44
3:D:145:VAL:HB	3:D:155:LEU:HB2	1.99	0.44
3:D:155:LEU:HD12	3:D:155:LEU:N	2.32	0.44
5:F:184:TYR:CE2	5:F:188:ARG:HD2	2.52	0.44
5:F:24:LEU:HD12	5:F:24:LEU:N	2.33	0.44
7:H:153:LYS:HG3	7:H:162:ILE:H	1.78	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:6:ARG:CG	7:H:7:LEU:N	2.81	0.44
11:P:107:LYS:HB2	11:P:110:TYR:HD2	1.83	0.44
14:S:110:LEU:HA	14:S:112:PHE:CZ	2.53	0.44
17:V:72:VAL:HG13	17:V:85:LYS:HB3	2.00	0.44
19:X:35:THR:O	19:X:36:LYS:C	2.55	0.44
20:Y:36:ALA:HB1	20:Y:67:LEU:O	2.16	0.44
28:6:34:LEU:O	28:6:36:LEU:HD22	2.17	0.44
1:A:1586:A:H3'	1:A:1587:A:H8	1.83	0.44
1:A:1930:G:H2'	1:A:1968:G:N1	2.33	0.44
1:A:234:C:H2'	1:A:235:U:H6	1.82	0.44
1:A:2372:G:HO2'	28:6:46:HIS:CE1	2.28	0.44
1:A:2545:G:H2'	1:A:2546:U:O4'	2.18	0.44
1:A:483:A:H3'	1:A:484:C:C6	2.53	0.44
1:A:600:G:N2	1:A:605:C:O3'	2.51	0.44
3:D:44:ASN:CB	3:D:49:ILE:HG22	2.46	0.44
4:E:120:TRP:CE3	4:E:155:LYS:HD3	2.53	0.44
4:E:2:LYS:HG2	4:E:95:ILE:HG22	1.99	0.44
6:G:51:ARG:HB3	6:G:51:ARG:NH1	2.33	0.44
1:A:1006:C:H5'	9:N:28:THR:HG23	2.00	0.44
10:O:47:ILE:HG13	10:O:48:PRO:HD2	1.99	0.44
11:P:13:ASN:C	11:P:15:ARG:H	2.21	0.44
11:P:88:LEU:O	11:P:90:ARG:N	2.50	0.44
12:Q:27:VAL:HG13	12:Q:28:ALA:N	2.32	0.44
13:R:41:ALA:C	13:R:43:GLU:H	2.21	0.44
14:S:110:LEU:HA	14:S:112:PHE:CE1	2.53	0.44
16:U:79:PHE:CE2	16:U:83:LEU:CD1	3.00	0.44
16:U:86:ALA:CB	16:U:88:ILE:HD11	2.48	0.44
16:U:97:ASP:HA	16:U:100:VAL:CG2	2.47	0.44
18:W:14:PRO:HB3	18:W:18:ARG:HE	1.83	0.44
18:W:67:ASP:N	18:W:67:ASP:OD2	2.50	0.44
23:1:49:VAL:HG12	23:1:51:VAL:HG23	1.99	0.44
26:4:39:CYS:O	26:4:40:HIS:CB	2.66	0.44
6:G:67:LYS:CE	26:4:6:HIS:NE2	2.74	0.44
1:A:1026:U:H1'	1:A:1027:A:O5'	2.18	0.44
1:A:1448:G:O2'	1:A:1529:A:N1	2.36	0.44
1:A:2032:G:OP2	1:A:2454:G:O2'	2.29	0.44
1:A:2469:A:H5'	1:A:2470:G:OP2	2.17	0.44
1:A:2567:G:H2'	1:A:2568:C:H6	1.81	0.44
3:D:143:HIS:HD2	3:D:144:ALA:HB2	1.82	0.44
3:D:17:THR:HG21	3:D:204:ILE:HA	1.99	0.44
1:A:729:G:N7	3:D:209:ALA:HB3	2.33	0.44
3:D:213:ARG:HD2	3:D:213:ARG:HA	1.60	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:44:ASN:HB2	3:D:49:ILE:HA	1.93	0.44
3:D:30:GLU:HG3	3:D:63:ARG:NE	2.32	0.44
5:F:65:TRP:CZ2	5:F:72:ARG:NH2	2.86	0.44
6:G:16:ARG:NH2	6:G:31:VAL:CG1	2.75	0.44
1:A:2311:A:N9	6:G:82:LEU:HD11	2.33	0.44
7:H:109:PHE:C	7:H:111:HIS:H	2.21	0.44
9:N:67:LEU:HA	9:N:87:LEU:HD13	2.00	0.44
10:O:77:ILE:O	10:O:77:ILE:HG23	2.17	0.44
12:Q:81:VAL:HG23	12:Q:82:ARG:N	2.32	0.44
15:T:99:LEU:CD1	15:T:99:LEU:O	2.65	0.44
18:W:88:ARG:HG2	18:W:88:ARG:HH11	1.82	0.44
1:A:150:C:H2'	1:A:151:C:C6	2.53	0.44
1:A:2699:C:H2'	1:A:2700:C:O4'	2.18	0.44
1:A:464:U:H4'	29:7:5:TRP:CZ3	2.53	0.44
3:D:102:LYS:O	3:D:103:ARG:CG	2.66	0.44
3:D:272:ALA:HB1	3:D:273:ARG:H	1.58	0.44
5:F:174:VAL:CG1	5:F:174:VAL:O	2.65	0.44
5:F:42:ALA:O	5:F:45:ARG:HB2	2.18	0.44
7:H:37:VAL:HG11	7:H:68:THR:HG23	1.98	0.44
8:I:144:VAL:HG22	8:I:145:VAL:H	1.83	0.44
9:N:129:PRO:C	9:N:131:GLN:H	2.20	0.44
11:P:19:VAL:HG22	11:P:21:ARG:H	1.83	0.44
12:Q:21:THR:HB	12:Q:22:LYS:H	1.42	0.44
14:S:14:VAL:CG1	14:S:15:ARG:N	2.81	0.44
14:S:83:LYS:O	14:S:109:GLY:CA	2.46	0.44
20:Y:15:VAL:HB	20:Y:20:TYR:O	2.17	0.44
20:Y:88:LYS:HB3	20:Y:90:LEU:CD2	2.48	0.44
22:O:36:ILE:HG12	22:O:37:LEU:N	2.32	0.43
23:1:82:LEU:HD12	23:1:82:LEU:O	2.10	0.43
26:4:68:ARG:HH11	26:4:69:LYS:HG2	1.82	0.43
28:6:19:ARG:HD2	28:6:19:ARG:HA	1.77	0.43
1:A:1677:A:H2'	1:A:1678:G:O4'	2.18	0.43
1:A:1858:G:O2'	1:A:1884:A:N6	2.51	0.43
1:A:2667:C:H1'	7:H:109:PHE:HD2	1.83	0.43
1:A:2845:G:O2'	1:A:2846:G:H5'	2.18	0.43
1:A:396:G:O3'	23:1:44:PRO:HA	2.17	0.43
1:A:742:G:H2'	1:A:743:G:H8	1.82	0.43
1:A:795:C:H2'	1:A:796:C:H6	1.83	0.43
4:E:48:GLN:HB3	4:E:48:GLN:HE21	1.55	0.43
7:H:137:ASP:OD1	7:H:138:LYS:N	2.51	0.43
10:O:91:LEU:N	10:O:91:LEU:CD2	2.80	0.43
11:P:70:GLN:OE1	11:P:70:GLN:N	2.51	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:38:GLN:CG	14:S:47:THR:HG21	2.48	0.43
15:T:29:ARG:HA	15:T:45:PHE:O	2.17	0.43
19:X:3:THR:HA	19:X:6:ASP:OD2	2.18	0.43
26:4:2:LYS:HA	26:4:2:LYS:HD2	1.61	0.43
26:4:59:PHE:CE1	26:4:70:GLY:N	2.87	0.43
28:6:11:LEU:HD12	28:6:51:GLU:HG3	2.00	0.43
1:A:2422:A:N7	30:8:31:HIS:HE1	2.16	0.43
30:8:40:GLU:O	30:8:43:GLN:N	2.50	0.43
30:8:58:ILE:O	30:8:61:LEU:CG	2.66	0.43
1:A:1022:G:H22	1:A:1142(A):A:H2	1.61	0.43
1:A:1239:G:H2'	1:A:1240:U:O4'	2.17	0.43
1:A:1532:C:H2'	1:A:1533:C:O4'	2.18	0.43
1:A:1717:G:H1	1:A:1742:C:H42	1.66	0.43
1:A:1790:C:H5''	1:A:1791:A:OP1	2.17	0.43
1:A:2105:C:H2'	1:A:2106:G:C8	2.53	0.43
1:A:2648:C:H2'	1:A:2649:U:C6	2.53	0.43
1:A:436:C:H2'	1:A:438:G:C8	2.53	0.43
1:A:612:G:O2'	1:A:616:A:N1	2.37	0.43
3:D:10:THR:O	3:D:11:PRO:C	2.56	0.43
3:D:11:PRO:O	3:D:12:SER:OG	2.30	0.43
3:D:35:LYS:HB3	3:D:36:PRO:HA	2.00	0.43
3:D:95:LEU:HD12	3:D:95:LEU:O	2.17	0.43
6:G:44:GLY:HA2	6:G:88:ILE:HD11	1.99	0.43
7:H:136:ILE:HD12	7:H:136:ILE:N	2.31	0.43
13:R:33:ARG:HA	13:R:114:VAL:O	2.18	0.43
13:R:74:LYS:O	13:R:76:VAL:N	2.45	0.43
14:S:57:LYS:O	14:S:58:LEU:HB3	2.18	0.43
14:S:86:ALA:O	14:S:87:PHE:CB	2.65	0.43
15:T:114:LEU:HA	15:T:114:LEU:HD23	1.74	0.43
17:V:66:ARG:NH1	17:V:88:ARG:CD	2.74	0.43
19:X:14:SER:HB2	19:X:15:GLU:OE1	2.18	0.43
20:Y:75:ILE:HG12	20:Y:76:CYS:H	1.79	0.43
20:Y:95:LYS:HB2	20:Y:99:CYS:O	2.17	0.43
23:1:60:PHE:HZ	23:1:90:ILE:HG21	1.82	0.43
30:8:58:ILE:O	30:8:61:LEU:CD1	2.67	0.43
1:A:1078:U:HO2'	1:A:1088:A:H2	1.60	0.43
1:A:1520:U:H2'	1:A:1521:G:O4'	2.18	0.43
1:A:1820:U:H4'	1:A:1821:A:OP2	2.19	0.43
1:A:2012:G:H4'	18:W:96:ILE:HD11	1.99	0.43
4:E:3:GLY:HA3	4:E:81:ILE:CD1	2.48	0.43
4:E:69:LYS:C	4:E:71:GLY:N	2.71	0.43
6:G:136:ARG:O	6:G:154:GLY:CA	2.62	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:31:VAL:O	6:G:31:VAL:HG13	2.18	0.43
7:H:149:ARG:HA	7:H:162:ILE:HG21	1.99	0.43
7:H:53:GLU:CD	7:H:54:ARG:H	2.21	0.43
9:N:103:VAL:O	9:N:104:LYS:C	2.56	0.43
9:N:87:LEU:C	9:N:87:LEU:CD2	2.87	0.43
11:P:101:VAL:HA	11:P:106:LEU:HB2	1.99	0.43
15:T:105:LEU:C	15:T:107:ASP:OD1	2.56	0.43
15:T:107:ASP:OD2	15:T:109:GLU:HB2	2.19	0.43
15:T:49:VAL:CG1	15:T:49:VAL:O	2.64	0.43
17:V:1:MET:HE1	17:V:43:GLU:HG2	2.00	0.43
17:V:66:ARG:NH1	17:V:88:ARG:NH1	2.61	0.43
18:W:111:HIS:CG	18:W:112:GLY:H	2.37	0.43
18:W:29:LEU:HD11	18:W:55:ALA:HB2	1.98	0.43
18:W:50:VAL:O	18:W:53:SER:N	2.50	0.43
23:1:94:LEU:O	23:1:95:LEU:HB2	2.17	0.43
26:4:48:ARG:NH1	26:4:51:ASP:HA	2.34	0.43
28:6:20:ASN:O	28:6:21:TYR:CG	2.71	0.43
29:7:19:ARG:HG2	29:7:19:ARG:NH1	2.34	0.43
29:7:17:GLY:O	29:7:20:ALA:HB3	2.18	0.43
1:A:1309:G:P	29:7:9:ARG:HD3	2.58	0.43
1:A:1368:G:C2	1:A:1369:G:C8	3.07	0.43
1:A:1478:G:H2'	1:A:1479:G:H8	1.83	0.43
1:A:2377:A:C2	14:S:18:ILE:HD11	2.54	0.43
1:A:2471:C:H5'	1:A:2472:G:OP2	2.19	0.43
1:A:2611:U:OP2	1:A:2611:U:H6	2.01	0.43
1:A:2712:U:O2'	1:A:2712(A):A:OP1	2.37	0.43
1:A:952:G:P	12:Q:16:ARG:HH12	2.41	0.43
2:B:40:U:HO2'	2:B:43:C:H5	1.66	0.43
1:A:1820:U:O2	3:D:202:LYS:HB3	2.18	0.43
3:D:43:ARG:CZ	3:D:49:ILE:HG21	2.49	0.43
4:E:11:MET:O	4:E:12:THR:HB	2.18	0.43
1:A:2572:A:C4	4:E:144:ARG:NH2	2.86	0.43
7:H:35:VAL:CG2	7:H:75:ALA:HB2	2.48	0.43
9:N:131:GLN:HE21	9:N:131:GLN:HB3	1.57	0.43
9:N:17:ASP:O	9:N:55:VAL:O	2.34	0.43
10:O:61:VAL:O	10:O:61:VAL:HG13	2.18	0.43
11:P:96:THR:HG22	11:P:126:VAL:CB	2.47	0.43
13:R:48:VAL:O	13:R:49:ASP:C	2.57	0.43
14:S:110:LEU:HD23	14:S:112:PHE:CE2	2.54	0.43
16:U:79:PHE:HD2	16:U:79:PHE:C	2.18	0.43
18:W:34:ASN:O	18:W:35:ILE:C	2.55	0.43
23:1:92:LYS:O	23:1:93:GLU:C	2.56	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:59:ARG:O	24:2:62:THR:HG23	2.18	0.43
27:5:15:ARG:HA	27:5:18:ALA:HB3	1.99	0.43
27:5:40:LYS:HZ1	27:5:48:GLU:CB	2.20	0.43
1:A:142:G:H2'	1:A:143:C:C6	2.53	0.43
1:A:270(R):G:H2'	1:A:270(S):G:C8	2.53	0.43
1:A:841:A:H2'	1:A:842:G:C8	2.54	0.43
2:B:12:C:H2'	22:0:73:GLY:HA3	2.00	0.43
3:D:44:ASN:HB3	3:D:49:ILE:CG2	2.47	0.43
4:E:143:ASN:ND2	4:E:143:ASN:N	2.65	0.43
4:E:3:GLY:CA	4:E:81:ILE:HG21	2.49	0.43
5:F:192:LEU:HD21	5:F:194:MET:HE3	2.00	0.43
6:G:114:ILE:O	6:G:116:ASP:N	2.51	0.43
6:G:67:LYS:HD2	6:G:67:LYS:N	2.33	0.43
7:H:92:ILE:CD1	7:H:160:LYS:HD3	2.48	0.43
10:O:51:ALA:O	10:O:53:LYS:HE3	2.19	0.43
10:O:63:VAL:O	10:O:63:VAL:HG23	2.17	0.43
16:U:99:ALA:HA	16:U:106:PHE:HB2	2.01	0.43
17:V:35:LEU:N	17:V:35:LEU:HD22	2.23	0.43
19:X:70:LEU:HD23	19:X:70:LEU:H	1.78	0.43
23:1:44:PRO:O	23:1:46:LEU:N	2.51	0.43
26:4:48:ARG:C	26:4:49:PHE:HD1	2.22	0.43
1:A:2150:U:H2'	1:A:2151:G:C8	2.54	0.43
1:A:236:C:H2'	1:A:237:C:C6	2.54	0.43
1:A:2729:G:H2'	1:A:2730:C:C6	2.53	0.43
1:A:483:A:H4'	20:Y:49:VAL:CA	2.37	0.43
1:A:722:A:H3'	1:A:723:G:H8	1.83	0.43
3:D:181:GLU:HA	3:D:272:ALA:CB	2.38	0.43
3:D:30:GLU:CD	3:D:63:ARG:HE	2.21	0.43
4:E:155:LYS:O	4:E:156:MET:HG3	2.19	0.43
4:E:16:ARG:O	4:E:18:ASP:O	2.36	0.43
4:E:25:VAL:HG21	15:T:8:LYS:HG3	2.00	0.43
4:E:51:PHE:O	4:E:74:PRO:CB	2.67	0.43
1:A:323:G:H2'	5:F:169:ASN:OD1	2.18	0.43
6:G:145:THR:O	6:G:146:TYR:HB3	2.19	0.43
14:S:42:ASP:C	14:S:44:LYS:N	2.72	0.43
15:T:64:ARG:HG2	15:T:64:ARG:HH11	1.84	0.43
24:2:62:THR:O	24:2:65:ASN:HB2	2.18	0.43
26:4:15:ILE:CD1	26:4:15:ILE:N	2.78	0.43
26:4:43:TYR:O	26:4:46:GLN:HA	2.19	0.43
29:7:32:LYS:O	29:7:33:ARG:C	2.56	0.43
1:A:1102:C:H2'	1:A:1103:A:H5''	2.00	0.43
1:A:1842:G:H2'	1:A:1843:C:C6	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:195:A:H2'	1:A:198:C:N4	2.33	0.43
1:A:2210:G:N3	1:A:2210:G:H2'	2.33	0.43
1:A:583:G:H5''	16:U:10:ARG:NH1	2.29	0.43
1:A:984:A:H5''	1:A:985:C:H5	1.83	0.43
6:G:131:TYR:HE2	6:G:133:LEU:HD22	1.83	0.43
9:N:118:LYS:C	9:N:120:LEU:H	2.20	0.43
9:N:26:LEU:HG	9:N:30:ILE:CD1	2.49	0.43
9:N:30:ILE:HG22	9:N:34:LEU:CD2	2.48	0.43
9:N:90:MET:O	9:N:91:LEU:C	2.57	0.43
13:R:54:LEU:O	13:R:62:ALA:HB1	2.19	0.43
13:R:51:LEU:HD13	13:R:66:VAL:HG22	2.01	0.43
14:S:30:ARG:NH2	14:S:92:TYR:HD1	2.17	0.43
15:T:89:VAL:O	15:T:90:GLN:HB2	2.19	0.43
1:A:994:C:O2	17:V:10:LYS:HE2	2.19	0.43
16:U:43:GLY:HA3	17:V:73:SER:OG	2.19	0.43
20:Y:6:HIS:N	20:Y:6:HIS:ND1	2.66	0.43
20:Y:84:ARG:HD3	20:Y:86:ARG:HH11	1.83	0.43
21:Z:30:ASN:OD1	21:Z:33:LEU:N	2.49	0.43
12:Q:81:VAL:CG2	22:O:7:LEU:HD21	2.39	0.43
23:1:29:GLY:O	23:1:31:GLY:N	2.49	0.43
25:3:50:VAL:HB	25:3:53:LEU:HD12	2.00	0.43
27:5:40:LYS:HE2	27:5:47:PRO:CG	2.49	0.43
1:A:1161:C:O2'	17:V:8:GLY:HA2	2.19	0.43
1:A:1728:G:H8	1:A:1732:A:N6	2.16	0.43
1:A:1751:C:H2'	1:A:1752:C:H6	1.83	0.43
1:A:1930:G:H2'	1:A:1968:G:C6	2.54	0.43
1:A:2131:G:N2	1:A:2158:A:N7	2.66	0.43
1:A:2285:C:H5	28:6:27:LYS:HE2	1.83	0.43
1:A:2414:G:H21	11:P:67:MET:CE	2.31	0.43
1:A:241:A:H5'	1:A:243:U:O4'	2.19	0.43
1:A:559:G:N2	16:U:49:HIS:CE1	2.86	0.43
4:E:13:ARG:HB2	4:E:13:ARG:HH11	1.81	0.43
4:E:179:GLU:CB	4:E:181:LEU:HD23	2.23	0.43
1:A:675:A:H4'	5:F:67:GLN:OE1	2.19	0.43
7:H:120:GLY:O	7:H:136:ILE:HD12	2.19	0.43
1:A:2469:A:O2'	12:Q:56:ARG:HG2	2.18	0.43
1:A:2275:C:O2	12:Q:83:MET:HG3	2.19	0.43
15:T:19:LEU:HA	15:T:20:PRO:HD3	1.88	0.43
15:T:89:VAL:O	15:T:90:GLN:CB	2.67	0.43
21:Z:112:ARG:O	21:Z:114:GLY:N	2.51	0.43
22:O:41:ARG:NE	22:O:41:ARG:HA	2.34	0.43
27:5:3:LYS:O	27:5:4:HIS:C	2.56	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:56:LYS:O	27:5:57:VAL:C	2.57	0.43
29:7:5:TRP:CD1	29:7:7:PRO:HG3	2.53	0.43
1:A:140:A:C8	1:A:1408:C:O2'	2.70	0.43
1:A:2629:A:O2'	1:A:2630:G:H5''	2.19	0.43
3:D:17:THR:HG22	3:D:204:ILE:HA	1.98	0.43
4:E:23:VAL:HG12	4:E:184:VAL:O	2.19	0.43
5:F:45:ARG:HH11	5:F:45:ARG:HG2	1.82	0.43
6:G:56:ALA:HB2	6:G:153:ARG:NE	2.28	0.43
7:H:125:VAL:CG1	7:H:126:PRO:CG	2.94	0.43
9:N:57:ALA:O	9:N:124:ALA:HA	2.18	0.43
12:Q:57:HIS:ND1	12:Q:58:PHE:N	2.67	0.43
10:O:78:ARG:HH21	15:T:103:ARG:HH22	1.64	0.43
20:Y:47:LYS:O	20:Y:49:VAL:N	2.48	0.43
23:1:8:SER:CB	23:1:66:HIS:CE1	3.01	0.43
1:A:1889:A:N1	1:A:2234:G:H1'	2.34	0.43
1:A:217:G:H2'	1:A:218:A:O4'	2.19	0.43
1:A:2492:U:H2'	1:A:2493:U:C6	2.54	0.43
1:A:2507:C:H2'	1:A:2508:G:O4'	2.18	0.43
1:A:634:C:H2'	1:A:635:C:C6	2.54	0.43
4:E:52:LEU:O	4:E:74:PRO:HA	2.19	0.43
6:G:139:LEU:HA	6:G:144:ILE:HG21	2.00	0.43
6:G:25:TYR:CZ	6:G:32:PRO:HD3	2.54	0.43
6:G:59:GLU:O	6:G:62:LEU:HB3	2.18	0.43
7:H:125:VAL:HG12	7:H:126:PRO:CD	2.49	0.43
11:P:101:VAL:HG13	11:P:102:ARG:N	2.33	0.43
13:R:81:ASP:OD2	13:R:81:ASP:N	2.51	0.43
13:R:94:TYR:N	13:R:94:TYR:CD2	2.87	0.43
14:S:105:ALA:C	14:S:110:LEU:HD21	2.38	0.43
18:W:65:LEU:CD1	18:W:68:ARG:NH1	2.75	0.43
21:Z:102:LEU:HG	21:Z:123:ASP:HA	2.01	0.43
23:1:53:VAL:CG1	23:1:54:ALA:N	2.81	0.42
23:1:73:LEU:C	23:1:75:GLU:N	2.70	0.42
28:6:33:LYS:C	28:6:35:GLU:H	2.22	0.42
1:A:1087:G:C5	1:A:1089:G:H1'	2.54	0.42
1:A:1251:C:P	16:U:10:ARG:HG3	2.59	0.42
1:A:2836:U:H2'	1:A:2837:G:C8	2.54	0.42
1:A:92:G:H2'	1:A:93:C:C6	2.54	0.42
3:D:31:LYS:C	3:D:32:SER:O	2.54	0.42
5:F:63:LYS:CE	5:F:67:GLN:HB2	2.49	0.42
6:G:16:ARG:NE	6:G:31:VAL:HG11	2.34	0.42
6:G:34:LEU:HD11	6:G:99:MET:CE	2.49	0.42
9:N:62:VAL:HG12	9:N:66:LYS:HB2	2.01	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:107:LYS:O	11:P:108:LYS:C	2.58	0.42
12:Q:25:ASP:H	12:Q:102:VAL:HG23	1.84	0.42
13:R:10:LEU:O	13:R:12:ARG:N	2.52	0.42
17:V:38:LEU:CD2	17:V:39:LEU:N	2.82	0.42
1:A:1322:A:OP1	18:W:11:ARG:HG3	2.19	0.42
20:Y:97:ARG:HH21	20:Y:98:VAL:CG2	2.32	0.42
21:Z:74:VAL:HG13	21:Z:86:VAL:HG22	2.00	0.42
24:2:6:VAL:O	24:2:7:ARG:C	2.57	0.42
25:3:46:ASN:O	25:3:50:VAL:HG22	2.19	0.42
29:7:47:ARG:HB2	29:7:48:LYS:H	1.64	0.42
1:A:242:G:C5'	30:8:3:LYS:HE3	2.49	0.42
30:8:53:PRO:HD2	30:8:54:GLU:H	1.84	0.42
1:A:1204:A:H1'	1:A:1206:G:C4	2.54	0.42
1:A:1319:G:C6	1:A:1320:C:N4	2.87	0.42
1:A:2283:C:H2'	1:A:2284:C:O4'	2.19	0.42
1:A:27:G:O2'	1:A:28:A:C8	2.72	0.42
1:A:978:G:C2	1:A:986:C:C2	3.07	0.42
3:D:33:LEU:O	3:D:35:LYS:N	2.52	0.42
4:E:203:LYS:HD2	4:E:203:LYS:C	2.39	0.42
6:G:121:ASN:HA	6:G:181:ARG:NH2	2.34	0.42
9:N:43:THR:HA	9:N:44:PRO:HD2	1.92	0.42
11:P:120:ALA:HB1	11:P:138:LEU:CB	2.49	0.42
12:Q:60:ARG:NH1	21:Z:114:GLY:N	2.67	0.42
14:S:64:GLU:O	14:S:68:GLN:HG3	2.19	0.42
23:1:13:ILE:CG1	23:1:42:GLN:HB2	2.49	0.42
23:1:72:GLU:O	23:1:75:GLU:HB2	2.19	0.42
24:2:48:HIS:O	24:2:49:LYS:C	2.57	0.42
28:6:50:ARG:HH11	28:6:50:ARG:HG2	1.84	0.42
1:A:1109:C:O2'	1:A:1110:G:OP1	2.33	0.42
1:A:1113:U:H2'	1:A:1114:G:C8	2.54	0.42
1:A:330:A:H2	1:A:1210:A:O2'	2.02	0.42
1:A:1533:C:H42	1:A:1538:G:H1	1.66	0.42
1:A:2133:G:H2'	1:A:2157:G:N2	2.33	0.42
1:A:2409:G:H2'	1:A:2410:G:O4'	2.18	0.42
1:A:2584:U:H2'	1:A:2585:U:C6	2.54	0.42
1:A:2655:G:O2'	1:A:2656:U:P	2.76	0.42
1:A:952:G:C6	1:A:953:A:N7	2.87	0.42
3:D:108:PRO:HG2	3:D:111:LEU:HB2	2.01	0.42
6:G:114:ILE:HG22	6:G:117:PHE:HB2	2.01	0.42
6:G:7:LEU:CD2	6:G:176:LEU:HD22	2.45	0.42
6:G:77:ILE:H	6:G:82:LEU:HB2	1.84	0.42
9:N:15:LEU:C	9:N:15:LEU:HD13	2.39	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:52:GLU:OE2	11:P:58:THR:N	2.52	0.42
11:P:81:GLN:HB2	11:P:81:GLN:HE21	1.59	0.42
12:Q:20:ALA:HA	12:Q:98:LYS:HB3	2.02	0.42
14:S:99:LYS:C	14:S:101:LEU:N	2.72	0.42
15:T:110:ILE:CG2	15:T:111:ARG:N	2.82	0.42
18:W:19:LEU:O	18:W:22:ASP:HB2	2.19	0.42
21:Z:150:LEU:HB2	21:Z:154:ASP:OD1	2.19	0.42
21:Z:20:ARG:O	21:Z:20:ARG:HD3	2.18	0.42
24:2:27:GLU:H	24:2:27:GLU:CD	2.17	0.42
26:4:23:GLU:C	26:4:24:THR:HG1	2.22	0.42
1:A:1257:C:H5'	5:F:75:HIS:CE1	2.54	0.42
1:A:1354:A:H2'	1:A:1355:G:O4'	2.19	0.42
1:A:1359:A:H61	1:A:1372:U:H3	1.67	0.42
1:A:1742:C:H5'	1:A:1743:G:OP2	2.19	0.42
1:A:2418:A:H2'	1:A:2419:U:C6	2.54	0.42
1:A:784:A:C5	3:D:229:VAL:HG21	2.55	0.42
4:E:197:ILE:CD1	4:E:199:ARG:HH12	2.26	0.42
4:E:28:ALA:HB3	4:E:93:VAL:CG2	2.47	0.42
4:E:94:GLU:C	4:E:96:PHE:N	2.73	0.42
5:F:128:ALA:O	5:F:129:PHE:CB	2.67	0.42
6:G:73:ALA:O	6:G:84:LYS:O	2.38	0.42
7:H:26:VAL:CG1	7:H:33:LEU:HB2	2.50	0.42
10:O:1:MET:HG2	10:O:67:LYS:HG2	2.01	0.42
11:P:119:GLU:HA	11:P:119:GLU:OE1	2.18	0.42
11:P:98:GLU:O	11:P:99:LEU:C	2.57	0.42
14:S:15:ARG:O	14:S:19:LYS:HD3	2.20	0.42
15:T:96:ARG:CZ	15:T:96:ARG:HB2	2.49	0.42
16:U:91:ASP:OD2	16:U:96:ALA:HB2	2.19	0.42
1:A:1398:C:OP1	19:X:53:LYS:NZ	2.52	0.42
20:Y:60:PHE:CD2	20:Y:60:PHE:N	2.87	0.42
21:Z:169:GLU:HG2	21:Z:170:THR:N	2.34	0.42
27:5:20:ARG:HA	27:5:23:HIS:CE1	2.54	0.42
28:6:24:GLU:HB3	28:6:25:LYS:H	1.56	0.42
28:6:25:LYS:HE2	28:6:27:LYS:CD	2.49	0.42
28:6:36:LEU:HD13	28:6:50:ARG:HH12	1.81	0.42
1:A:1069:A:H4'	1:A:1070:A:H5''	2.01	0.42
1:A:270(J):G:H2'	1:A:270(K):C:O4'	2.19	0.42
1:A:2729:G:H2'	1:A:2730:C:H6	1.85	0.42
1:A:771:G:OP1	29:7:10:ARG:NH1	2.53	0.42
1:A:1491:G:O2'	3:D:101:GLU:HB2	2.19	0.42
3:D:177:LEU:C	3:D:179:SER:H	2.23	0.42
3:D:155:LEU:HD23	3:D:177:LEU:HD21	2.00	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:75:ILE:HG21	3:D:99:ASP:HB2	2.02	0.42
4:E:117:MET:HA	4:E:122:PHE:N	2.35	0.42
4:E:104:VAL:CG1	4:E:188:VAL:HG23	2.49	0.42
6:G:109:VAL:C	6:G:112:PRO:HD2	2.40	0.42
6:G:117:PHE:CE1	6:G:119:GLY:CA	3.03	0.42
11:P:125:VAL:C	11:P:145:PRO:HD2	2.39	0.42
11:P:37:GLY:O	11:P:38:GLN:C	2.58	0.42
11:P:64:LYS:HG3	30:8:25:MET:CE	2.50	0.42
13:R:10:LEU:C	13:R:12:ARG:N	2.72	0.42
15:T:54:ARG:HA	15:T:59:THR:HG23	2.02	0.42
17:V:38:LEU:CD1	17:V:55:ALA:HB1	2.50	0.42
1:A:1188:U:H4'	17:V:79:VAL:CG2	2.49	0.42
18:W:81:ALA:C	18:W:82:LEU:HD12	2.40	0.42
26:4:12:ALA:HB1	26:4:30:GLU:N	2.35	0.42
30:8:28:GLY:O	30:8:29:LYS:O	2.37	0.42
1:A:1332:G:H5'	1:A:1332:G:C8	2.54	0.42
1:A:2789:C:H1'	1:A:2892:A:C2	2.47	0.42
1:A:656:G:H2'	1:A:657:U:O4'	2.19	0.42
3:D:71:ASP:CB	3:D:103:ARG:HH22	2.32	0.42
3:D:2:ALA:O	3:D:3:VAL:CB	2.68	0.42
4:E:176:ILE:N	4:E:176:ILE:HD12	2.35	0.42
5:F:11:VAL:HG12	5:F:12:LEU:H	1.84	0.42
5:F:62:ARG:CB	5:F:62:ARG:NH1	2.82	0.42
6:G:4:ASP:O	6:G:5:VAL:HB	2.19	0.42
2:B:42:C:H42	6:G:91:ARG:HH21	1.62	0.42
7:H:119:GLU:CD	7:H:120:GLY:H	2.22	0.42
7:H:136:ILE:O	7:H:137:ASP:O	2.38	0.42
7:H:58:GLU:O	7:H:60:ARG:N	2.53	0.42
7:H:89:ILE:CD1	7:H:89:ILE:H	2.32	0.42
1:A:626:U:O4	11:P:107:LYS:HE2	2.20	0.42
12:Q:27:VAL:HG11	12:Q:134:ARG:HG3	2.00	0.42
15:T:3:ARG:O	15:T:4:GLY:C	2.58	0.42
16:U:79:PHE:CD2	16:U:83:LEU:HD13	2.54	0.42
17:V:59:ALA:HA	17:V:95:LEU:O	2.19	0.42
20:Y:95:LYS:HA	20:Y:101:LYS:N	2.33	0.42
26:4:54:GLY:HA2	26:4:57:GLU:CG	2.50	0.42
29:7:12:ARG:HH21	29:7:44:PRO:HB3	1.85	0.42
1:A:37:C:H2'	1:A:38:A:C8	2.54	0.42
1:A:41:C:H2'	1:A:43:G:O4'	2.20	0.42
3:D:25:THR:HG23	3:D:27:THR:HB	2.02	0.42
4:E:143:ASN:HB2	4:E:147:PRO:HD2	2.00	0.42
4:E:152:LYS:HG2	9:N:78:TYR:CD1	2.55	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:31:CYS:HB3	4:E:49:LEU:HG	2.01	0.42
4:E:35:GLN:HB3	4:E:48:GLN:HB2	2.01	0.42
5:F:109:GLY:O	5:F:110:LEU:C	2.58	0.42
5:F:183:VAL:HG22	5:F:184:TYR:N	2.35	0.42
6:G:55:LYS:O	6:G:59:GLU:HB2	2.19	0.42
7:H:84:SER:O	7:H:85:LYS:CB	2.64	0.42
9:N:75:TYR:HA	9:N:82:LEU:HA	2.01	0.42
9:N:96:GLU:O	9:N:97:ARG:C	2.57	0.42
10:O:20:MET:O	10:O:41:ALA:CB	2.67	0.42
11:P:83:VAL:HG11	11:P:112:LEU:HD21	1.97	0.42
11:P:114:ILE:CD1	11:P:130:PHE:CE1	2.98	0.42
14:S:52:SER:HB2	14:S:55:ALA:CB	2.49	0.42
17:V:55:ALA:O	17:V:56:SER:OG	2.31	0.42
19:X:87:GLN:C	19:X:88:LYS:HG3	2.40	0.42
20:Y:91:GLU:CG	20:Y:92:ASN:N	2.83	0.42
1:A:2331:G:O2'	22:0:43:THR:HG22	2.20	0.42
1:A:270(R):G:H1'	23:1:78:LYS:HZ1	1.85	0.42
27:5:40:LYS:HE2	27:5:47:PRO:HG2	2.02	0.42
28:6:7:ILE:O	28:6:8:LYS:CG	2.68	0.42
29:7:9:ARG:NH1	29:7:47:ARG:HG3	2.35	0.42
31:9:17:ILE:CG2	31:9:18:ARG:N	2.82	0.42
1:A:1394:U:H4'	1:A:1603:A:H4'	2.02	0.42
1:A:1709:U:H2'	1:A:1710:C:C6	2.54	0.42
1:A:2126:A:H1'	1:A:2127:G:OP2	2.20	0.42
1:A:2406:U:N3	11:P:72:PRO:HB2	2.33	0.42
1:A:2505:G:O2'	1:A:2506:U:H5'	2.19	0.42
1:A:612:G:N3	1:A:613:U:O2	2.53	0.42
1:A:724:U:H2'	1:A:725:G:O4'	2.20	0.42
3:D:158:ALA:HB3	3:D:161:THR:CG2	2.49	0.42
3:D:196:VAL:O	3:D:196:VAL:CG1	2.68	0.42
3:D:263:ARG:CB	3:D:263:ARG:NH1	2.75	0.42
1:A:1813:G:H1'	3:D:50:THR:OG1	2.20	0.42
4:E:128:SER:O	4:E:129:HIS:HB2	2.19	0.42
5:F:123:LEU:HD12	5:F:124:LEU:H	1.82	0.42
6:G:99:MET:O	6:G:103:LEU:HB2	2.20	0.42
8:I:93:THR:O	8:I:97:ILE:HG12	2.19	0.42
11:P:115:LEU:HB3	11:P:131:SER:HB2	2.02	0.42
11:P:135:LEU:HD13	11:P:139:LYS:HE3	2.01	0.42
12:Q:20:ALA:HB2	12:Q:99:PRO:HD2	1.99	0.42
15:T:24:PRO:HA	15:T:49:VAL:CG1	2.39	0.42
15:T:6:LEU:HD12	15:T:9:LEU:HD12	2.01	0.42
17:V:25:LEU:H	17:V:92:THR:CG2	2.29	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:56:GLN:HB2	23:1:57:GLU:H	1.48	0.42
25:3:7:LYS:HG2	25:3:7:LYS:O	2.19	0.42
29:7:25:PRO:HA	29:7:28:ARG:NH2	2.35	0.42
19:X:60:ARG:HH12	29:7:47:ARG:HH22	1.67	0.42
1:A:1308:A:H2'	1:A:1309:G:O4'	2.19	0.42
1:A:1467:C:C5	1:A:1546:C:H2'	2.55	0.42
1:A:195:A:C8	1:A:197:A:OP1	2.72	0.42
1:A:563:G:C6	1:A:2018:G:C5	3.08	0.42
1:A:219:G:N3	1:A:234:C:O2'	2.49	0.42
1:A:2626:C:H2'	1:A:2627:G:C8	2.54	0.42
3:D:12:SER:O	3:D:14:ARG:N	2.51	0.42
5:F:132:VAL:HG23	5:F:133:ASN:H	1.83	0.42
7:H:105:LEU:N	7:H:105:LEU:CD1	2.81	0.42
7:H:77:LYS:HZ2	7:H:77:LYS:HB3	1.78	0.42
7:H:84:SER:OG	7:H:85:LYS:N	2.51	0.42
8:I:11:ASN:O	8:I:12:LEU:HB2	2.19	0.42
9:N:10:GLU:OE2	9:N:11:PRO:CD	2.68	0.42
9:N:30:ILE:HG22	9:N:34:LEU:HD21	2.01	0.42
10:O:50:GLY:O	10:O:51:ALA:C	2.57	0.42
11:P:49:ARG:HH11	11:P:49:ARG:HG2	1.84	0.42
11:P:65:ARG:HH21	30:8:15:LYS:HB3	1.84	0.42
13:R:28:LEU:HD12	13:R:29:LEU:HD12	2.02	0.42
13:R:34:ILE:HG22	13:R:35:THR:N	2.35	0.42
1:A:1454:U:P	13:R:77:ARG:NH1	2.93	0.42
14:S:49:VAL:HG21	14:S:77:ALA:HA	2.02	0.42
14:S:95:HIS:O	14:S:96:GLY:C	2.58	0.42
4:E:25:VAL:CG1	15:T:11:GLU:HG2	2.50	0.42
15:T:50:ILE:HD11	15:T:102:ILE:HG12	2.01	0.42
16:U:27:LEU:C	16:U:29:SER:N	2.74	0.42
16:U:6:THR:HG21	16:U:10:ARG:CZ	2.50	0.42
17:V:15:GLU:O	17:V:96:ILE:HB	2.19	0.42
18:W:96:ILE:O	18:W:96:ILE:CG2	2.68	0.42
20:Y:20:TYR:CE1	20:Y:42:VAL:HA	2.55	0.42
20:Y:51:VAL:CG1	20:Y:52:SER:N	2.74	0.42
28:6:41:PRO:HG3	28:6:44:ARG:HB2	2.01	0.42
1:A:1085:A:HO2'	1:A:1086:A:P	2.40	0.42
1:A:1055:G:O2'	1:A:1085:A:N1	2.35	0.42
1:A:234:C:H2'	1:A:235:U:C6	2.55	0.42
1:A:665:C:H2'	1:A:666:G:H8	1.85	0.42
2:B:116:G:H4'	14:S:54:LEU:HD13	2.01	0.42
3:D:165:ILE:O	3:D:166:GLN:NE2	2.53	0.42
3:D:215:LEU:H	3:D:215:LEU:HG	1.59	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:36:ARG:NH1	4:E:36:ARG:HB3	2.31	0.42
5:F:101:LEU:HD12	5:F:102:PRO:N	2.33	0.42
5:F:20:LEU:HD12	5:F:21:ALA:N	2.26	0.42
6:G:27:ASN:HB3	6:G:30:GLU:OE2	2.20	0.42
9:N:52:VAL:CG1	9:N:53:VAL:N	2.82	0.42
10:O:2:ILE:HG12	10:O:8:LEU:HD11	2.02	0.42
10:O:2:ILE:CD1	10:O:2:ILE:N	2.82	0.42
1:A:2818:G:P	13:R:42:LYS:HZ3	2.43	0.42
14:S:51:ALA:HB3	14:S:73:LEU:HD23	2.01	0.42
15:T:105:LEU:O	15:T:105:LEU:HG	2.18	0.42
16:U:35:ALA:O	16:U:39:LEU:HG	2.19	0.42
18:W:74:ALA:O	18:W:75:TYR:CB	2.65	0.42
19:X:14:SER:O	19:X:15:GLU:C	2.57	0.42
20:Y:90:LEU:HB2	20:Y:91:GLU:H	1.53	0.42
30:8:40:GLU:O	30:8:41:ILE:C	2.56	0.41
1:A:1093:G:H4'	7:H:170:ARG:NH2	2.34	0.41
1:A:1372:U:H2'	1:A:1373:A:H5'	2.01	0.41
1:A:2210:G:H5'	1:A:2211:G:C5	2.55	0.41
1:A:2336:A:H61	22:0:43:THR:CG2	2.33	0.41
1:A:2378:A:C5	1:A:2379:G:H1'	2.55	0.41
1:A:270(M):U:H1'	1:A:270(N):G:C6	2.55	0.41
1:A:643:A:N1	1:A:2369:A:O2'	2.46	0.41
3:D:110:GLY:O	3:D:111:LEU:C	2.58	0.41
4:E:10:GLY:HA3	15:T:8:LYS:HD3	2.02	0.41
5:F:183:VAL:O	5:F:184:TYR:C	2.57	0.41
5:F:53:THR:O	5:F:55:GLY:N	2.53	0.41
6:G:41:GLN:NE2	6:G:154:GLY:O	2.52	0.41
6:G:78:SER:O	6:G:80:PHE:N	2.53	0.41
9:N:58:ASP:HB3	9:N:95:PRO:HB3	2.02	0.41
10:O:17:ARG:HH11	10:O:17:ARG:HG2	1.84	0.41
10:O:97:ARG:CA	10:O:117:LEU:HD22	2.50	0.41
11:P:39:LYS:HA	11:P:45:LEU:HD11	1.83	0.41
12:Q:34:LEU:HD23	12:Q:104:PHE:CD1	2.55	0.41
12:Q:64:ILE:HG13	21:Z:178:GLU:OE1	2.20	0.41
13:R:28:LEU:C	13:R:28:LEU:HD13	2.40	0.41
13:R:85:PRO:C	13:R:87:TYR:N	2.73	0.41
14:S:26:LEU:HB3	14:S:87:PHE:HA	2.02	0.41
18:W:25:ARG:CB	18:W:25:ARG:NH1	2.79	0.41
18:W:73:ALA:HB3	18:W:106:ILE:CG1	2.46	0.41
23:1:80:LEU:O	23:1:81:LYS:CD	2.65	0.41
27:5:39:MET:C	27:5:40:LYS:HG3	2.39	0.41
30:8:25:MET:HB3	30:8:26:LYS:H	1.69	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1021:A:H61	1:A:1142(A):A:H61	1.67	0.41
1:A:1386:C:H2'	1:A:1387:C:C6	2.55	0.41
1:A:1363:C:O2'	1:A:1809:A:N3	2.43	0.41
1:A:2308:G:N1	1:A:2311:A:C2	2.88	0.41
1:A:2439:A:O2'	1:A:2440:C:OP2	2.32	0.41
3:D:109:ASP:HB2	3:D:197:GLY:HA2	2.03	0.41
3:D:9:TYR:CZ	3:D:13:ARG:HD3	2.54	0.41
3:D:145:VAL:O	3:D:154:LYS:N	2.48	0.41
3:D:14:ARG:CG	3:D:15:PHE:N	2.83	0.41
4:E:167:VAL:CG1	4:E:189:PRO:HD3	2.50	0.41
4:E:4:ILE:HG22	4:E:198:VAL:HB	2.02	0.41
5:F:80:ALA:O	5:F:83:PHE:HB2	2.20	0.41
7:H:169:VAL:HG22	7:H:170:ARG:N	2.26	0.41
9:N:1:MET:HG3	9:N:1:MET:O	2.19	0.41
12:Q:118:LEU:HD13	12:Q:131:ILE:HG23	2.02	0.41
14:S:92:TYR:HB2	14:S:98:VAL:HG11	2.02	0.41
15:T:76:PHE:HA	15:T:77:PRO:HD3	1.75	0.41
16:U:57:PHE:C	16:U:59:ARG:N	2.74	0.41
17:V:16:PRO:HB3	17:V:97:LYS:O	2.20	0.41
17:V:35:LEU:HB2	17:V:37:VAL:CG2	2.49	0.41
17:V:47:VAL:HG13	17:V:48:GLY:N	2.27	0.41
17:V:72:VAL:O	17:V:72:VAL:HG13	2.19	0.41
17:V:81:TYR:C	17:V:82:ARG:CG	2.89	0.41
18:W:1:MET:HG3	18:W:2:GLU:N	2.36	0.41
19:X:60:ARG:HH22	29:7:47:ARG:HH12	1.68	0.41
25:3:39:ASP:O	25:3:40:THR:C	2.59	0.41
1:A:1348:G:C2'	1:A:1349:A:H5''	2.49	0.41
1:A:1454:U:O2'	1:A:1455:G:N7	2.46	0.41
1:A:1545(A):A:H2'	1:A:1546:C:O4'	2.20	0.41
1:A:341:G:H2'	1:A:342:G:O4'	2.20	0.41
1:A:638:G:C5	1:A:651:G:C2	3.09	0.41
4:E:9:VAL:HB	4:E:10:GLY:H	1.70	0.41
5:F:176:LEU:HD11	5:F:180:GLY:O	2.19	0.41
5:F:64:ILE:HG23	5:F:65:TRP:CD1	2.54	0.41
6:G:47:LYS:HB2	6:G:47:LYS:HE3	1.80	0.41
9:N:109:LYS:N	9:N:109:LYS:CD	2.83	0.41
10:O:31:LYS:O	10:O:32:TYR:HD2	2.03	0.41
10:O:92:GLU:O	10:O:93:PRO:C	2.58	0.41
5:F:34:TRP:CA	11:P:6:LEU:HD12	2.47	0.41
15:T:134:GLU:OE1	15:T:135:ALA:N	2.53	0.41
16:U:83:LEU:HG	16:U:88:ILE:HG13	2.02	0.41
18:W:17:VAL:O	18:W:18:ARG:C	2.57	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:8:ARG:NH1	18:W:8:ARG:HG3	2.34	0.41
19:X:57:LEU:H	19:X:57:LEU:HD12	1.85	0.41
19:X:7:VAL:O	19:X:30:VAL:CG1	2.67	0.41
25:3:37:LEU:N	25:3:37:LEU:HD23	2.35	0.41
30:8:26:LYS:HD3	30:8:26:LYS:HA	1.86	0.41
1:A:1329:U:H5''	1:A:1330:C:H5	1.85	0.41
1:A:1478:G:O2'	1:A:1479:G:H5'	2.19	0.41
1:A:1266:G:O2'	1:A:2012:G:O6	2.32	0.41
1:A:2057:A:H2'	1:A:2058:A:O4'	2.20	0.41
1:A:2758:A:C2	1:A:2759:G:H1'	2.55	0.41
1:A:2862:G:H2'	1:A:2863:C:H6	1.84	0.41
1:A:27:G:O2'	1:A:28:A:H8	2.02	0.41
1:A:742:G:H2'	1:A:743:G:C8	2.55	0.41
3:D:145:VAL:CG1	3:D:146:GLU:N	2.84	0.41
3:D:269:PHE:CD2	3:D:269:PHE:N	2.88	0.41
4:E:35:GLN:HG3	4:E:37:ARG:NH2	2.35	0.41
4:E:54:GLN:CD	4:E:54:GLN:N	2.73	0.41
6:G:51:ARG:CB	6:G:51:ARG:NH1	2.83	0.41
9:N:114:ARG:C	9:N:116:LEU:N	2.74	0.41
9:N:21:LYS:O	9:N:22:THR:O	2.39	0.41
9:N:28:THR:O	9:N:29:LYS:C	2.59	0.41
9:N:42:TRP:HA	9:N:48:MET:HE1	2.02	0.41
10:O:107:ARG:HA	10:O:112:MET:HE1	2.01	0.41
10:O:31:LYS:HD3	10:O:31:LYS:HA	1.92	0.41
14:S:83:LYS:HE3	14:S:84:GLN:CG	2.49	0.41
16:U:97:ASP:HA	16:U:100:VAL:HG23	2.01	0.41
16:U:92:ARG:NH2	17:V:11:GLN:O	2.53	0.41
20:Y:6:HIS:O	20:Y:7:VAL:CG1	2.59	0.41
22:O:30:VAL:HG22	22:O:66:VAL:HG12	2.02	0.41
26:4:38:LYS:HG3	26:4:44:THR:OG1	2.20	0.41
26:4:61:ARG:C	26:4:63:TYR:N	2.73	0.41
1:A:1221:C:OP1	17:V:68:LYS:HE2	2.20	0.41
1:A:1550:C:H2'	1:A:1551:C:C6	2.55	0.41
1:A:1570:A:H2'	1:A:1571:A:C8	2.55	0.41
1:A:1579:A:H2'	1:A:1580:A:C8	2.55	0.41
1:A:1676:A:H2'	1:A:1677:A:O4'	2.20	0.41
1:A:1870:C:H2'	1:A:1871:A:O4'	2.20	0.41
1:A:2850:A:C2	1:A:2851:A:C4	3.09	0.41
1:A:99:U:H4'	1:A:101:G:H5'	2.03	0.41
3:D:158:ALA:O	3:D:196:VAL:HG11	2.21	0.41
3:D:182:LEU:N	3:D:272:ALA:HB3	2.32	0.41
6:G:60:LEU:C	6:G:60:LEU:HD23	2.41	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:146:ALA:HB2	7:H:164:TYR:OH	2.21	0.41
7:H:86:GLU:HG3	7:H:165:ALA:CA	2.49	0.41
9:N:9:VAL:HB	9:N:10:GLU:H	1.70	0.41
9:N:27:ALA:O	9:N:28:THR:C	2.57	0.41
12:Q:27:VAL:HG22	12:Q:105:GLU:CD	2.41	0.41
17:V:21:ARG:HD2	17:V:91:TYR:CE2	2.55	0.41
18:W:14:PRO:C	18:W:16:LYS:N	2.73	0.41
20:Y:95:LYS:CD	20:Y:95:LYS:H	2.33	0.41
21:Z:6:LYS:NZ	21:Z:43:GLU:HG3	2.36	0.41
24:2:61:LEU:HA	24:2:61:LEU:HD23	1.85	0.41
25:3:37:LEU:HD12	25:3:43:ILE:CG2	2.50	0.41
26:4:4:GLY:O	26:4:5:ILE:C	2.59	0.41
30:8:14:VAL:CG1	30:8:60:LEU:HD11	2.50	0.41
1:A:242:G:O3'	30:8:6:THR:HG23	2.21	0.41
1:A:1279:G:H2'	1:A:1280:G:O4'	2.21	0.41
1:A:1608:A:H1'	1:A:1610:A:OP2	2.20	0.41
1:A:1965:C:H3'	1:A:1966:A:H2'	2.03	0.41
1:A:2328:A:H2'	1:A:2329:G:C8	2.56	0.41
1:A:748:G:C8	18:W:89:ALA:HB1	2.55	0.41
1:A:944:G:H5''	1:A:945:A:O5'	2.20	0.41
2:B:12:C:O4'	2:B:15:A:N6	2.53	0.41
3:D:168:ARG:O	3:D:169:GLU:HB2	2.19	0.41
4:E:63:LEU:CD1	4:E:64:LYS:N	2.71	0.41
5:F:129:PHE:O	5:F:142:TRP:HD1	2.04	0.41
10:O:71:ARG:HH11	15:T:74:ARG:HH21	1.65	0.41
16:U:39:LEU:O	16:U:42:ALA:N	2.53	0.41
18:W:14:PRO:C	18:W:18:ARG:HD2	2.41	0.41
1:A:1335:U:OP1	19:X:65:ARG:NE	2.54	0.41
20:Y:95:LYS:HZ1	20:Y:95:LYS:HB2	1.86	0.41
21:Z:77:ASP:OD2	21:Z:80:ARG:HD3	2.21	0.41
23:1:82:LEU:HD13	23:1:83:GLU:C	2.36	0.41
23:1:86:SER:O	23:1:89:GLU:HB2	2.21	0.41
28:6:8:LYS:O	28:6:9:LEU:HB2	2.20	0.41
30:8:56:GLU:C	30:8:58:ILE:N	2.73	0.41
1:A:1693:U:H1'	3:D:14:ARG:HH22	1.85	0.41
1:A:2360:A:H2'	1:A:2361:A:O4'	2.21	0.41
1:A:26:G:C6	1:A:27:G:N1	2.89	0.41
1:A:581:C:H2'	1:A:582:G:C8	2.55	0.41
4:E:161:GLY:O	4:E:162:ALA:HB3	2.20	0.41
4:E:24:THR:HB	4:E:184:VAL:HG23	2.02	0.41
6:G:44:GLY:C	6:G:46:ALA:N	2.73	0.41
6:G:67:LYS:NZ	26:4:6:HIS:CD2	2.89	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:59:ARG:CG	7:H:59:ARG:NH1	2.79	0.41
10:O:48:PRO:O	10:O:50:GLY:N	2.54	0.41
13:R:55:ALA:HA	13:R:80:PHE:CE2	2.55	0.41
14:S:66:ALA:HA	14:S:69:VAL:CG1	2.51	0.41
15:T:28:VAL:HG23	15:T:87:ASP:O	2.21	0.41
17:V:22:VAL:CG1	17:V:23:GLU:H	2.32	0.41
18:W:14:PRO:HG3	18:W:101:SER:OG	2.21	0.41
18:W:29:LEU:C	18:W:29:LEU:HD23	2.41	0.41
18:W:68:ARG:O	18:W:110:LYS:N	2.46	0.41
19:X:60:ARG:HA	19:X:75:ASP:OD2	2.20	0.41
1:A:65:C:P	19:X:71:GLY:HA3	2.61	0.41
19:X:83:VAL:CG1	19:X:87:GLN:HB2	2.50	0.41
24:2:41:ILE:C	24:2:41:ILE:CD1	2.81	0.41
27:5:41:PRO:HA	27:5:42:PRO:HD3	1.82	0.41
28:6:27:LYS:NZ	28:6:27:LYS:CB	2.73	0.41
29:7:24:THR:HB	29:7:25:PRO:HD2	2.03	0.41
1:A:1071:G:O5'	1:A:1071:G:H8	2.04	0.41
1:A:1418:G:H8	1:A:1418:G:O5'	2.03	0.41
1:A:1952:A:C6	1:A:1953:A:N1	2.89	0.41
1:A:2025:C:H2'	1:A:2026:C:C6	2.55	0.41
1:A:2563:U:H2'	1:A:2565:A:OP2	2.20	0.41
1:A:475:U:C4	1:A:481:G:O6	2.74	0.41
1:A:521:G:H2'	1:A:522:G:C8	2.55	0.41
1:A:554:U:HO2'	1:A:556:G:H8	1.68	0.41
1:A:642:G:N2	1:A:645:C:OP2	2.53	0.41
3:D:117:VAL:HG22	3:D:118:VAL:N	2.35	0.41
3:D:154:LYS:C	3:D:155:LEU:HD12	2.41	0.41
3:D:197:GLY:O	3:D:198:ASN:HB3	2.21	0.41
4:E:36:ARG:O	4:E:37:ARG:C	2.59	0.41
5:F:68:LYS:O	5:F:69:HIS:HB2	2.21	0.41
6:G:78:SER:O	6:G:79:ASN:C	2.59	0.41
6:G:95:ARG:CA	6:G:99:MET:HB3	2.50	0.41
9:N:62:VAL:CG1	9:N:66:LYS:HB2	2.50	0.41
10:O:10:VAL:HG21	10:O:16:ALA:HB3	2.03	0.41
11:P:101:VAL:HG23	11:P:106:LEU:HB3	2.03	0.41
12:Q:90:VAL:C	12:Q:92:GLY:N	2.71	0.41
14:S:93:LYS:HE3	14:S:93:LYS:HB2	1.93	0.41
16:U:91:ASP:OD2	16:U:96:ALA:CA	2.69	0.41
17:V:38:LEU:O	17:V:51:VAL:HA	2.21	0.41
18:W:55:ALA:O	18:W:58:ALA:HB3	2.21	0.41
20:Y:2:ARG:O	20:Y:3:VAL:O	2.38	0.41
20:Y:49:VAL:O	20:Y:50:ARG:C	2.59	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:26:SER:C	26:4:27:THR:O	2.58	0.41
31:9:2:LYS:HD2	31:9:2:LYS:HA	1.96	0.41
1:A:118:A:C8	1:A:119:A:C8	3.08	0.41
1:A:1321:A:H2'	1:A:1322:A:O4'	2.21	0.41
1:A:1991:U:H2'	1:A:1992:G:H5''	2.02	0.41
1:A:2159:G:H2'	1:A:2160:G:H8	1.85	0.41
1:A:315:G:H2'	1:A:316:C:C6	2.56	0.41
1:A:515:A:H1'	1:A:581:C:H1'	2.03	0.41
2:B:15:A:H5'	2:B:16:G:H8	1.80	0.41
4:E:62:PRO:O	4:E:63:LEU:C	2.59	0.41
11:P:101:VAL:O	11:P:103:ALA:N	2.53	0.41
11:P:18:ARG:HD2	11:P:27:HIS:CD2	2.55	0.41
13:R:29:LEU:HD11	13:R:48:VAL:CG1	2.50	0.41
13:R:55:ALA:O	13:R:58:GLY:HA3	2.21	0.41
14:S:53:SER:HA	14:S:56:LEU:CD2	2.50	0.41
18:W:71:VAL:HA	18:W:107:LEU:HD12	2.02	0.41
19:X:31:HIS:HA	19:X:32:PRO:HD3	1.88	0.41
20:Y:13:VAL:O	20:Y:24:VAL:HA	2.20	0.41
21:Z:91:LEU:HB3	21:Z:130:PRO:HB3	2.02	0.41
24:2:11:GLU:HA	24:2:14:ARG:HD2	2.02	0.41
24:2:18:PRO:C	24:2:20:GLU:N	2.73	0.41
24:2:41:ILE:HD12	24:2:43:GLN:N	2.35	0.41
24:2:53:LEU:O	24:2:57:ILE:HG13	2.21	0.41
30:8:17:THR:O	30:8:20:GLY:N	2.46	0.41
1:A:1155:A:O3'	16:U:55:ARG:NH1	2.54	0.41
1:A:2295:C:P	14:S:10:ARG:HD2	2.60	0.41
1:A:2303:G:O2'	6:G:132:ASN:ND2	2.45	0.41
1:A:2764:A:N6	1:A:2766:G:C2	2.89	0.41
1:A:2790:A:O2'	1:A:2893:G:N3	2.50	0.41
1:A:569:U:C4	1:A:570:G:C6	3.08	0.41
1:A:864:G:C6	1:A:865:C:N4	2.89	0.41
3:D:134:ARG:HG3	3:D:134:ARG:H	1.55	0.41
4:E:101:ARG:C	4:E:201:THR:OG1	2.58	0.41
1:A:1257:C:O2'	5:F:84:VAL:HG12	2.21	0.41
6:G:18:GLU:HA	6:G:18:GLU:OE2	2.21	0.41
6:G:22:ARG:HH22	6:G:175:LEU:HD21	1.85	0.41
6:G:53:LEU:CD1	6:G:87:PRO:HB2	2.51	0.41
7:H:137:ASP:HB2	7:H:140:LYS:CE	2.51	0.41
7:H:146:ALA:HA	7:H:164:TYR:OH	2.20	0.41
9:N:101:HIS:HD2	9:N:102:ALA:N	2.19	0.41
11:P:12:ALA:C	11:P:14:LYS:N	2.73	0.41
1:A:2296:U:H2'	14:S:9:ARG:NH1	2.36	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:5:LYS:C	16:U:7:GLY:N	2.74	0.41
16:U:57:PHE:O	16:U:60:LEU:N	2.54	0.41
16:U:92:ARG:CG	16:U:92:ARG:O	2.54	0.41
17:V:38:LEU:CD1	17:V:55:ALA:CB	2.99	0.41
18:W:14:PRO:O	18:W:15:ARG:C	2.58	0.41
19:X:54:VAL:C	19:X:55:ASN:HD22	2.23	0.41
21:Z:97:GLU:HG3	21:Z:127:LYS:NZ	2.35	0.41
23:1:91:LYS:HG3	23:1:92:LYS:N	2.32	0.41
23:1:94:LEU:HD23	23:1:94:LEU:HA	1.82	0.41
26:4:60:GLN:HB3	26:4:61:ARG:H	1.56	0.41
26:4:63:TYR:O	26:4:65:ASP:N	2.54	0.41
26:4:64:GLY:C	26:4:66:SER:N	2.73	0.41
28:6:6:ARG:NE	28:6:6:ARG:HA	2.36	0.41
30:8:40:GLU:O	30:8:42:ARG:N	2.54	0.41
1:A:1844:C:H2'	1:A:1845:G:C8	2.54	0.41
1:A:1847:A:H5'	1:A:1848:A:OP2	2.21	0.41
1:A:2037:G:C6	1:A:2038:G:C6	3.09	0.41
1:A:2404:C:H1'	11:P:67:MET:HE2	2.02	0.41
1:A:2848:G:O2'	1:A:2867:G:N2	2.50	0.41
1:A:458:G:C8	29:7:37:LYS:HE3	2.56	0.41
1:A:49:A:H61	1:A:177:G:H2'	1.86	0.41
3:D:147:LEU:CD1	3:D:155:LEU:HD21	2.51	0.41
3:D:228:PRO:HD3	3:D:234:GLY:O	2.21	0.41
3:D:68:LYS:O	3:D:68:LYS:HG3	2.20	0.41
5:F:13:SER:OG	5:F:14:PRO:HD2	2.21	0.41
5:F:198:ALA:HA	5:F:201:VAL:CG1	2.41	0.41
7:H:145:ALA:O	7:H:148:ILE:HB	2.21	0.41
7:H:45:VAL:O	7:H:45:VAL:CG1	2.69	0.41
10:O:106:LEU:HD23	10:O:106:LEU:HA	1.89	0.41
13:R:61:HIS:CE1	13:R:65:LEU:HD11	2.56	0.41
14:S:20:ARG:HE	14:S:21:THR:HA	1.86	0.41
14:S:89:ARG:NH1	14:S:89:ARG:HG2	2.36	0.41
15:T:39:ARG:HG2	15:T:40:THR:N	2.25	0.41
9:N:1:MET:HE3	16:U:95:LEU:HD21	1.98	0.41
18:W:66:GLU:HG2	18:W:67:ASP:N	2.36	0.41
20:Y:97:ARG:NH2	20:Y:98:VAL:CG2	2.84	0.41
20:Y:98:VAL:O	20:Y:99:CYS:HB3	2.21	0.41
21:Z:152:ALA:HB2	21:Z:168:GLU:HA	2.03	0.41
24:2:65:ASN:O	24:2:66:GLU:C	2.59	0.40
28:6:50:ARG:NH1	28:6:50:ARG:HG2	2.36	0.40
1:A:1534:G:H2'	1:A:1534:G:N3	2.36	0.40
1:A:1667:G:H2'	1:A:1991:U:O4	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2392:A:H2'	1:A:2393:A:O4'	2.20	0.40
1:A:2678:C:H2'	1:A:2679:A:O4'	2.20	0.40
1:A:414:C:H1'	1:A:1864:U:O2'	2.21	0.40
1:A:483:A:H4'	20:Y:49:VAL:HG13	2.03	0.40
1:A:857:C:H1'	22:0:26:TYR:CE2	2.56	0.40
3:D:31:LYS:O	3:D:32:SER:O	2.39	0.40
4:E:119:ARG:HG2	4:E:160:TYR:HB2	2.03	0.40
4:E:93:VAL:H	4:E:95:ILE:CD1	2.22	0.40
5:F:118:ALA:HA	5:F:123:LEU:HB3	2.02	0.40
5:F:62:ARG:HB3	5:F:62:ARG:CZ	2.51	0.40
7:H:20:ALA:HB3	7:H:23:ARG:HG2	2.03	0.40
10:O:16:ALA:HA	10:O:46:ALA:CB	2.50	0.40
10:O:86:ILE:N	10:O:86:ILE:CD1	2.83	0.40
1:A:252:G:OP2	11:P:50:ARG:NH1	2.54	0.40
1:A:2416:C:H5''	11:P:64:LYS:HE3	2.03	0.40
11:P:85:LEU:HA	11:P:85:LEU:HD23	1.92	0.40
11:P:84:ASN:HB2	11:P:87:ASP:OD2	2.22	0.40
12:Q:139:GLU:CG	12:Q:140:ALA:N	2.84	0.40
15:T:10:VAL:O	15:T:11:GLU:C	2.60	0.40
15:T:29:ARG:NH1	15:T:29:ARG:HB2	2.36	0.40
16:U:30:LYS:HD3	16:U:30:LYS:HA	1.84	0.40
16:U:57:PHE:O	16:U:58:ARG:C	2.59	0.40
16:U:76:TYR:O	16:U:80:ILE:HG12	2.21	0.40
23:1:85:LEU:CD2	23:1:85:LEU:N	2.84	0.40
6:G:112:PRO:CA	26:4:37:SER:HB2	2.51	0.40
30:8:64:TYR:HB3	30:8:65:GLU:H	1.40	0.40
1:A:1141:U:H1'	1:A:1142(A):A:C6	2.57	0.40
1:A:1707:G:C5	1:A:1756:G:C6	3.09	0.40
1:A:2376:A:N1	14:S:87:PHE:CD2	2.90	0.40
1:A:2619:C:O2'	1:A:2620:C:H5'	2.21	0.40
1:A:2715:C:H2'	1:A:2716:U:C6	2.56	0.40
3:D:107:ALA:HA	3:D:108:PRO:HD2	2.01	0.40
3:D:13:ARG:O	3:D:13:ARG:HG2	2.20	0.40
5:F:59:TYR:HB3	5:F:60:SER:H	1.70	0.40
6:G:61:ALA:CB	6:G:67:LYS:HA	2.51	0.40
7:H:66:GLY:O	7:H:67:LEU:C	2.58	0.40
9:N:10:GLU:OE2	9:N:11:PRO:HD2	2.21	0.40
10:O:110:GLY:HA2	10:O:112:MET:HE2	2.03	0.40
10:O:13:ASN:HD21	10:O:97:ARG:HB3	1.87	0.40
12:Q:20:ALA:HB1	12:Q:99:PRO:CG	2.51	0.40
12:Q:52:VAL:O	12:Q:53:ALA:C	2.59	0.40
1:A:2870:C:H5'	13:R:65:LEU:HD21	2.03	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:102:ALA:C	14:S:104:GLY:N	2.73	0.40
15:T:20:PRO:HG2	15:T:86:ILE:O	2.21	0.40
17:V:70:ILE:O	17:V:70:ILE:HG22	2.21	0.40
1:A:483:A:H5'	20:Y:49:VAL:HG13	2.03	0.40
20:Y:42:VAL:HG21	20:Y:67:LEU:CD1	2.52	0.40
21:Z:182:LYS:CG	21:Z:183:LEU:HA	2.50	0.40
24:2:15:LYS:H	24:2:67:LYS:HZ3	1.70	0.40
24:2:37:PHE:O	24:2:40:SER:HB3	2.22	0.40
26:4:21:VAL:O	26:4:22:ILE:O	2.40	0.40
26:4:42:PHE:CZ	26:4:43:TYR:HB3	2.57	0.40
30:8:32:LEU:HD23	30:8:32:LEU:HA	1.94	0.40
30:8:39:LYS:O	30:8:39:LYS:HD2	2.22	0.40
1:A:141(A):C:H2'	1:A:142:G:O4'	2.21	0.40
1:A:1427:A:H4'	1:A:1428:C:O4'	2.21	0.40
1:A:1705:G:C6	1:A:1706:U:C4	3.09	0.40
1:A:2688:U:C5	1:A:2720:U:OP2	2.74	0.40
1:A:2867:G:O2'	1:A:2868:A:H8	2.04	0.40
1:A:2877:G:H2'	1:A:2878:U:O4'	2.21	0.40
1:A:388:G:C6	1:A:390:A:C2	3.10	0.40
1:A:57:C:H2'	1:A:58:G:O4'	2.21	0.40
4:E:93:VAL:HG21	4:E:180:ASN:HA	2.03	0.40
5:F:36:VAL:HG11	5:F:183:VAL:HG11	2.04	0.40
7:H:26:VAL:HG12	7:H:33:LEU:HB2	2.03	0.40
9:N:7:LYS:CG	9:N:8:GLN:N	2.81	0.40
15:T:50:ILE:CG2	15:T:62:THR:OG1	2.68	0.40
1:A:997:G:OP1	16:U:93:LYS:HD3	2.21	0.40
17:V:24:LYS:CA	17:V:92:THR:HG23	2.39	0.40
1:A:64:A:N9	19:X:66:LEU:HD13	2.37	0.40
20:Y:97:ARG:O	20:Y:97:ARG:CG	2.69	0.40
21:Z:45:ASP:O	21:Z:49:ARG:HG2	2.22	0.40
23:1:96:LYS:O	23:1:96:LYS:HG2	2.21	0.40
26:4:49:PHE:N	26:4:49:PHE:HD1	2.17	0.40
26:4:52:THR:O	26:4:53:GLU:CB	2.69	0.40
1:A:1263:U:O2'	27:5:11:THR:HG23	2.22	0.40
1:A:1454:U:O2	13:R:64:ARG:NH1	2.49	0.40
1:A:2164:C:H2'	1:A:2165:G:O4'	2.20	0.40
1:A:2455:G:H2'	1:A:2456:C:C6	2.57	0.40
1:A:2674:G:H2'	1:A:2675:A:C8	2.57	0.40
1:A:287:C:O2'	1:A:288:C:O4'	2.33	0.40
3:D:230:ASP:OD2	3:D:230:ASP:N	2.54	0.40
1:A:2227:A:H5''	3:D:263:ARG:NH1	2.36	0.40
3:D:72:LYS:HG2	3:D:103:ARG:HH22	1.85	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:124:LEU:HD12	5:F:125:LEU:O	2.22	0.40
5:F:198:ALA:C	5:F:200:GLU:H	2.25	0.40
10:O:47:ILE:HD12	10:O:48:PRO:CD	2.43	0.40
12:Q:39:PRO:HA	12:Q:97:VAL:O	2.21	0.40
14:S:99:LYS:HE2	14:S:103:GLU:OE2	2.20	0.40
14:S:24:LEU:N	14:S:24:LEU:HD22	2.36	0.40
16:U:33:ARG:O	16:U:37:GLU:HB2	2.21	0.40
17:V:61:VAL:CG2	17:V:61:VAL:O	2.68	0.40
17:V:95:LEU:C	17:V:95:LEU:HD13	2.42	0.40
20:Y:95:LYS:HA	20:Y:101:LYS:CB	2.51	0.40
1:A:396:G:H1'	23:1:42:GLN:HB3	2.02	0.40
23:1:86:SER:O	23:1:89:GLU:N	2.54	0.40
24:2:18:PRO:C	24:2:20:GLU:H	2.24	0.40
26:4:51:ASP:CG	26:4:51:ASP:O	2.60	0.40
1:A:2001:A:H2'	1:A:2002:G:C8	2.56	0.40
1:A:2308:G:H22	1:A:2311:A:H2	1.68	0.40
1:A:2646:C:H2'	1:A:2647:U:O4'	2.22	0.40
1:A:2721:A:H1'	1:A:2873:A:O2'	2.22	0.40
1:A:488:G:N2	1:A:491:G:H5''	2.37	0.40
3:D:142:VAL:HA	3:D:194:GLY:H	1.86	0.40
1:A:1567:A:H4'	3:D:58:HIS:CE1	2.56	0.40
3:D:35:LYS:CE	3:D:64:ILE:C	2.89	0.40
4:E:154:LYS:C	4:E:154:LYS:HD3	2.42	0.40
5:F:33:LEU:O	5:F:37:VAL:HG23	2.21	0.40
5:F:61:GLY:O	5:F:62:ARG:C	2.57	0.40
6:G:137:GLU:OE2	6:G:139:LEU:HD11	2.22	0.40
7:H:128:PRO:CG	7:H:129:THR:H	2.33	0.40
9:N:53:VAL:HG22	9:N:121:LYS:HB2	2.04	0.40
12:Q:139:GLU:HG2	12:Q:140:ALA:N	2.36	0.40
14:S:59:LYS:CG	14:S:60:GLY:N	2.80	0.40
1:A:751:A:H5'	18:W:90:ARG:HA	2.03	0.40
21:Z:5:LEU:HD21	21:Z:44:PHE:HA	2.03	0.40

All (3) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:51:VAL:N	27:5:60:VAL:O[4.445]	1.70	0.50
17:V:50:PRO:CG	27:5:60:VAL:O[4.445]	2.14	0.06
17:V:50:PRO:C	27:5:60:VAL:O[4.445]	2.18	0.02

## 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	D	270/276 (98%)	204 (76%)	47 (17%)	19 (7%)	2	14
4	E	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0	0
5	F	200/210 (95%)	144 (72%)	36 (18%)	20 (10%)	1	6
6	G	179/182 (98%)	119 (66%)	39 (22%)	21 (12%)	1	4
7	H	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0	0
8	I	144/148 (97%)	103 (72%)	25 (17%)	16 (11%)	1	5
9	N	136/140 (97%)	84 (62%)	30 (22%)	22 (16%)	0	1
10	O	120/122 (98%)	90 (75%)	21 (18%)	9 (8%)	2	12
11	P	148/150 (99%)	97 (66%)	19 (13%)	32 (22%)	0	0
12	Q	139/141 (99%)	97 (70%)	28 (20%)	14 (10%)	1	6
13	R	116/118 (98%)	82 (71%)	20 (17%)	14 (12%)	1	4
14	S	109/112 (97%)	62 (57%)	28 (26%)	19 (17%)	0	0
15	T	135/146 (92%)	83 (62%)	32 (24%)	20 (15%)	0	2
16	U	115/118 (98%)	86 (75%)	20 (17%)	9 (8%)	1	11
17	V	99/101 (98%)	73 (74%)	16 (16%)	10 (10%)	1	6
18	W	111/113 (98%)	75 (68%)	22 (20%)	14 (13%)	0	3
19	X	90/96 (94%)	77 (86%)	8 (9%)	5 (6%)	3	22
20	Y	100/110 (91%)	57 (57%)	17 (17%)	26 (26%)	0	0
21	Z	181/206 (88%)	135 (75%)	28 (16%)	18 (10%)	1	7
22	0	80/85 (94%)	72 (90%)	6 (8%)	2 (2%)	9	47
23	1	95/98 (97%)	64 (67%)	20 (21%)	11 (12%)	1	4
24	2	67/72 (93%)	47 (70%)	11 (16%)	9 (13%)	0	2
25	3	57/60 (95%)	45 (79%)	9 (16%)	3 (5%)	3	24
26	4	69/71 (97%)	23 (33%)	20 (29%)	26 (38%)	0	0
27	5	57/60 (95%)	33 (58%)	9 (16%)	15 (26%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	6	47/54 (87%)	15 (32%)	18 (38%)	14 (30%)	0	0
29	7	47/49 (96%)	37 (79%)	7 (15%)	3 (6%)	2	17
30	8	62/65 (95%)	36 (58%)	15 (24%)	11 (18%)	0	0
31	9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	3379/3526 (96%)	2285 (68%)	632 (19%)	462 (14%)	0	2

All (462) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	26	LYS
3	D	28	GLU
3	D	123	ALA
3	D	231	HIS
4	E	4	ILE
4	E	7	VAL
4	E	9	VAL
4	E	22	PRO
4	E	54	GLN
4	E	57	LYS
4	E	60	ASN
4	E	63	LEU
4	E	64	LYS
4	E	68	ALA
4	E	70	ALA
4	E	73	GLU
4	E	90	THR
4	E	92	THR
4	E	93	VAL
4	E	169	ASN
4	E	187	ALA
4	E	189	PRO
5	F	25	PRO
5	F	66	PRO
5	F	68	LYS
5	F	73	ALA
5	F	89	VAL
5	F	128	ALA
5	F	176	LEU
6	G	4	ASP
6	G	14	GLU
6	G	79	ASN

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Mol	Chain	Res	Type
6	G	86	MET
7	H	10	PRO
7	H	12	PRO
7	H	83	TYR
7	H	85	LYS
7	H	86	GLU
7	H	87	LEU
7	H	90	LYS
7	H	92	ILE
7	H	126	PRO
7	H	127	GLU
7	H	128	PRO
7	H	137	ASP
7	H	138	LYS
7	H	153	LYS
7	H	154	PRO
7	H	155	SER
7	H	169	VAL
8	I	10	GLU
8	I	133	HIS
8	I	145	VAL
9	N	6	PRO
9	N	9	VAL
9	N	22	THR
9	N	36	GLY
9	N	58	ASP
9	N	95	PRO
9	N	97	ARG
9	N	119	ARG
9	N	131	GLN
9	N	133	GLN
9	N	134	ARG
10	O	49	ARG
11	P	5	ASP
11	P	10	PRO
11	P	15	ARG
11	P	19	VAL
11	P	21	ARG
11	P	25	SER
11	P	27	HIS
11	P	36	LYS
11	P	38	GLN

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Mol	Chain	Res	Type
11	P	42	SER
11	P	65	ARG
11	P	95	VAL
11	P	106	LEU
11	P	107	LYS
11	P	141	ALA
11	P	148	LEU
12	Q	6	ARG
12	Q	18	LYS
12	Q	22	LYS
12	Q	27	VAL
12	Q	81	VAL
12	Q	90	VAL
12	Q	134	ARG
13	R	2	ARG
13	R	3	HIS
13	R	4	LEU
13	R	14	SER
13	R	58	GLY
13	R	86	ARG
13	R	117	VAL
14	S	4	LEU
14	S	12	PHE
14	S	14	VAL
14	S	23	ARG
14	S	56	LEU
14	S	57	LYS
14	S	88	ASP
14	S	89	ARG
14	S	90	GLY
14	S	107	GLU
15	T	2	ASN
15	T	3	ARG
15	T	39	ARG
15	T	55	ASN
15	T	58	ASN
15	T	90	GLN
15	T	94	ALA
15	T	97	ALA
15	T	106	SER
15	T	107	ASP
17	V	28	GLU

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Mol	Chain	Res	Type
17	V	31	ALA
17	V	45	THR
17	V	48	GLY
17	V	49	THR
17	V	50	PRO
17	V	53	GLU
17	V	79	VAL
18	W	59	VAL
18	W	67	ASP
18	W	75	TYR
18	W	111	HIS
19	X	36	LYS
20	Y	3	VAL
20	Y	23	ARG
20	Y	48	ALA
20	Y	49	VAL
20	Y	50	ARG
20	Y	58	GLY
20	Y	63	LYS
20	Y	77	PRO
20	Y	78	ALA
20	Y	96	ILE
21	Z	6	LYS
21	Z	146	ILE
21	Z	152	ALA
21	Z	159	PRO
21	Z	166	SER
23	1	30	VAL
23	1	54	ALA
23	1	81	LYS
23	1	82	LEU
23	1	95	LEU
24	2	16	LEU
24	2	43	GLN
24	2	47	ASN
24	2	48	HIS
24	2	71	ASN
25	3	3	ARG
26	4	5	ILE
26	4	14	ILE
26	4	16	CYS
26	4	22	ILE

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Mol	Chain	Res	Type
26	4	23	GLU
26	4	36	CYS
26	4	37	SER
26	4	40	HIS
26	4	42	PHE
26	4	43	TYR
26	4	49	PHE
26	4	50	VAL
26	4	51	ASP
26	4	53	GLU
26	4	62	ARG
26	4	66	SER
26	4	68	ARG
27	5	3	LYS
27	5	4	HIS
27	5	35	GLU
27	5	51	TYR
27	5	53	ALA
28	6	7	ILE
28	6	14	THR
28	6	15	GLU
28	6	19	ARG
28	6	21	TYR
28	6	33	LYS
28	6	45	LYS
28	6	48	VAL
30	8	29	LYS
30	8	31	HIS
30	8	34	TRP
30	8	52	LYS
30	8	62	LEU
3	D	3	VAL
3	D	32	SER
3	D	58	HIS
3	D	122	ASP
3	D	169	GLU
4	E	8	LYS
4	E	20	ALA
4	E	37	ARG
4	E	53	PRO
4	E	61	ARG
4	E	78	LEU

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Mol	Chain	Res	Type
4	E	88	GLY
4	E	186	GLY
4	E	190	GLY
4	E	204	ALA
5	F	18	ARG
5	F	107	LYS
5	F	108	LYS
5	F	111	ALA
5	F	132	VAL
5	F	134	GLY
5	F	168	ARG
6	G	36	LYS
6	G	81	LYS
6	G	82	LEU
6	G	96	ARG
6	G	110	ALA
6	G	126	ASP
6	G	136	ARG
7	H	3	ARG
7	H	8	PRO
7	H	55	PRO
7	H	59	ARG
7	H	84	SER
7	H	151	ILE
7	H	156	ALA
7	H	168	PRO
8	I	84	GLY
8	I	114	LEU
9	N	23	LEU
9	N	76	SER
10	O	51	ALA
10	O	56	ASP
10	O	68	GLU
11	P	6	LEU
11	P	11	GLY
11	P	12	ALA
11	P	16	ARG
12	Q	13	GLN
12	Q	24	GLY
12	Q	28	ALA
13	R	11	ASN
14	S	61	ASN

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Mol	Chain	Res	Type
14	S	87	PHE
14	S	96	GLY
14	S	100	ALA
14	S	109	GLY
14	S	111	GLU
15	T	4	GLY
15	T	36	GLU
15	T	43	GLN
15	T	67	SER
15	T	124	ASP
16	U	9	VAL
16	U	28	ARG
16	U	73	GLY
16	U	90	VAL
18	W	63	ASP
18	W	66	GLU
19	X	67	GLY
20	Y	4	LYS
20	Y	41	GLY
20	Y	53	PRO
20	Y	56	PRO
20	Y	57	GLN
20	Y	99	CYS
21	Z	53	ILE
21	Z	59	LEU
21	Z	81	ARG
21	Z	113	ALA
22	0	18	ALA
23	1	45	ASN
23	1	55	GLY
23	1	84	GLY
24	2	24	LEU
24	2	44	LEU
24	2	70	GLN
26	4	9	LEU
26	4	24	THR
27	5	43	HIS
27	5	55	ARG
29	7	39	ARG
3	D	111	LEU
3	D	239	ARG
3	D	242	ARG

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Mol	Chain	Res	Type
3	D	262	ARG
4	E	62	PRO
4	E	69	LYS
4	E	71	GLY
4	E	82	ARG
4	E	117	MET
4	E	130	GLY
4	E	132	HIS
6	G	5	VAL
6	G	115	ARG
6	G	128	ARG
6	G	174	GLU
7	H	50	VAL
7	H	81	GLU
7	H	152	ARG
8	I	11	ASN
8	I	72	LEU
8	I	87	LYS
8	I	113	ARG
8	I	118	LYS
9	N	45	ASN
9	N	130	HIS
9	N	135	PRO
11	P	7	ARG
11	P	14	LYS
11	P	43	GLY
11	P	89	ALA
11	P	102	ARG
11	P	115	LEU
12	Q	57	HIS
12	Q	88	GLY
12	Q	91	GLU
13	R	42	LYS
13	R	45	ARG
13	R	71	GLN
13	R	107	ASP
14	S	19	LYS
14	S	74	ALA
14	S	75	GLU
15	T	112	ARG
16	U	46	ALA
16	U	58	ARG

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Mol	Chain	Res	Type
16	U	93	LYS
17	V	54	GLY
18	W	68	ARG
18	W	93	ALA
19	X	48	LYS
19	X	87	GLN
20	Y	21	LYS
20	Y	39	VAL
20	Y	42	VAL
20	Y	69	ALA
20	Y	91	GLU
20	Y	102	CYS
21	Z	13	GLU
21	Z	92	SER
21	Z	181	GLU
22	0	15	ASP
23	1	74	VAL
23	1	91	LYS
23	1	93	GLU
26	4	27	THR
26	4	46	GLN
28	6	18	ARG
29	7	32	LYS
30	8	46	ARG
30	8	47	LYS
3	D	12	SER
3	D	73	VAL
4	E	66	HIS
4	E	126	PRO
5	F	43	LYS
5	F	130	ALA
5	F	136	THR
5	F	145	GLU
6	G	12	TYR
6	G	117	PHE
6	G	146	TYR
7	H	13	LYS
7	H	109	PHE
7	H	159	GLU
8	I	12	LEU
8	I	122	GLU
9	N	96	GLU

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Mol	Chain	Res	Type
9	N	127	ASP
9	N	132	ALA
10	O	17	ARG
10	O	97	ARG
11	P	29	LYS
11	P	47	ASP
11	P	139	LYS
15	T	37	GLY
15	T	78	LEU
15	T	95	ARG
16	U	74	LEU
18	W	14	PRO
18	W	48	ALA
26	4	8	LYS
27	5	14	ALA
27	5	37	LYS
27	5	45	VAL
27	5	48	GLU
28	6	8	LYS
28	6	9	LEU
28	6	10	LEU
28	6	49	HIS
30	8	25	MET
30	8	53	PRO
30	8	57	ARG
3	D	33	LEU
4	E	79	ARG
5	F	47	GLY
5	F	118	ALA
7	H	11	VAL
7	H	27	LYS
7	H	47	GLU
7	H	77	LYS
7	H	170	ARG
9	N	29	LYS
9	N	104	LYS
9	N	128	HIS
10	O	25	LEU
11	P	50	ARG
11	P	97	PRO
11	P	108	LYS
13	R	85	PRO

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Mol	Chain	Res	Type
16	U	91	ASP
18	W	32	ALA
19	X	19	ALA
20	Y	7	VAL
21	Z	7	ALA
21	Z	61	LEU
21	Z	143	GLY
21	Z	153	SER
25	3	13	ILE
26	4	30	GLU
26	4	33	VAL
26	4	70	GLY
27	5	42	PRO
28	6	35	GLU
29	7	44	PRO
30	8	64	TYR
3	D	178	PRO
3	D	241	PRO
6	G	109	VAL
6	G	181	ARG
7	H	7	LEU
7	H	26	VAL
8	I	13	GLY
15	T	38	ASN
17	V	36	PRO
18	W	11	ARG
18	W	33	ARG
21	Z	177	PRO
26	4	69	LYS
27	5	57	VAL
4	E	86	PRO
4	E	184	VAL
8	I	15	VAL
8	I	18	VAL
8	I	71	ILE
12	Q	86	GLY
13	R	32	GLY
18	W	35	ILE
6	G	52	ILE
20	Y	27	VAL
20	Y	32	PRO
21	Z	160	GLY

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Mol	Chain	Res	Type
27	5	46	CYS
3	D	34	VAL
10	O	114	ILE
20	Y	51	VAL
27	5	34	PRO
4	E	52	LEU
4	E	55	ASN
10	O	27	GLY
25	3	40	THR
24	2	18	PRO

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	D	214/218 (98%)	177 (83%)	37 (17%)	3	13
4	E	165/166 (99%)	127 (77%)	38 (23%)	1	5
5	F	161/166 (97%)	140 (87%)	21 (13%)	6	26
6	G	155/156 (99%)	130 (84%)	25 (16%)	3	15
7	H	142/148 (96%)	114 (80%)	28 (20%)	2	9
8	I	122/124 (98%)	98 (80%)	24 (20%)	2	9
9	N	117/119 (98%)	98 (84%)	19 (16%)	3	15
10	O	100/100 (100%)	90 (90%)	10 (10%)	11	41
11	P	116/116 (100%)	89 (77%)	27 (23%)	1	5
12	Q	111/111 (100%)	93 (84%)	18 (16%)	3	15
13	R	101/101 (100%)	84 (83%)	17 (17%)	3	13
14	S	87/88 (99%)	74 (85%)	13 (15%)	4	19
15	T	120/127 (94%)	97 (81%)	23 (19%)	2	10
16	U	93/94 (99%)	80 (86%)	13 (14%)	5	23
17	V	82/82 (100%)	71 (87%)	11 (13%)	6	25
18	W	92/92 (100%)	77 (84%)	15 (16%)	3	15
19	X	74/78 (95%)	63 (85%)	11 (15%)	4	19

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	Y	85/91 (93%)	70 (82%)	15 (18%)	3	12
21	Z	162/179 (90%)	142 (88%)	20 (12%)	7	29
22	0	65/67 (97%)	63 (97%)	2 (3%)	52	88
23	1	82/83 (99%)	67 (82%)	15 (18%)	2	11
24	2	64/67 (96%)	57 (89%)	7 (11%)	9	37
25	3	51/52 (98%)	40 (78%)	11 (22%)	1	7
26	4	63/63 (100%)	44 (70%)	19 (30%)	0	1
27	5	51/52 (98%)	39 (76%)	12 (24%)	1	5
28	6	48/52 (92%)	38 (79%)	10 (21%)	2	8
29	7	42/42 (100%)	39 (93%)	3 (7%)	21	64
30	8	54/55 (98%)	39 (72%)	15 (28%)	0	1
31	9	34/34 (100%)	32 (94%)	2 (6%)	28	72
All	All	2853/2923 (98%)	2372 (83%)	481 (17%)	3	13

All (481) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	10	THR
3	D	17	THR
3	D	26	LYS
3	D	33	LEU
3	D	43	ARG
3	D	44	ASN
3	D	61	LEU
3	D	65	ILE
3	D	67	PHE
3	D	71	ASP
3	D	73	VAL
3	D	94	LEU
3	D	98	VAL
3	D	105	ILE
3	D	106	ILE
3	D	131	LEU
3	D	134	ARG
3	D	135	PHE
3	D	155	LEU
3	D	157	ARG
3	D	166	GLN

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Mol	Chain	Res	Type
3	D	173	VAL
3	D	183	ARG
3	D	192	THR
3	D	198	ASN
3	D	200	ASP
3	D	215	LEU
3	D	217	ARG
3	D	218	ARG
3	D	226	MET
3	D	230	ASP
3	D	237	GLU
3	D	257	LEU
3	D	259	THR
3	D	261	LYS
3	D	262	ARG
3	D	271	ILE
4	E	2	LYS
4	E	4	ILE
4	E	13	ARG
4	E	16	ARG
4	E	17	ASP
4	E	25	VAL
4	E	26	ILE
4	E	27	LEU
4	E	33	VAL
4	E	36	ARG
4	E	37	ARG
4	E	38	THR
4	E	41	LYS
4	E	45	THR
4	E	54	GLN
4	E	61	ARG
4	E	62	PRO
4	E	66	HIS
4	E	73	GLU
4	E	75	VAL
4	E	77	ILE
4	E	78	LEU
4	E	79	ARG
4	E	80	GLU
4	E	101	ARG
4	E	113	PHE

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Mol	Chain	Res	Type
4	E	117	MET
4	E	119	ARG
4	E	143	ASN
4	E	146	THR
4	E	154	LYS
4	E	167	VAL
4	E	179	GLU
4	E	184	VAL
4	E	196	VAL
4	E	200	GLU
4	E	202	LYS
4	E	203	LYS
5	F	7	TYR
5	F	9	ILE
5	F	25	PRO
5	F	32	LEU
5	F	45	ARG
5	F	46	ARG
5	F	65	TRP
5	F	66	PRO
5	F	67	GLN
5	F	70	THR
5	F	82	ILE
5	F	106	ARG
5	F	108	LYS
5	F	117	ARG
5	F	124	LEU
5	F	127	GLU
5	F	145	GLU
5	F	164	ARG
5	F	181	LEU
5	F	183	VAL
5	F	206	ILE
6	G	4	ASP
6	G	22	ARG
6	G	26	GLN
6	G	33	ARG
6	G	34	LEU
6	G	35	GLU
6	G	43	LEU
6	G	45	GLU
6	G	63	ILE

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Mol	Chain	Res	Type
6	G	67	LYS
6	G	71	THR
6	G	88	ILE
6	G	94	LEU
6	G	96	ARG
6	G	97	ASP
6	G	103	LEU
6	G	115	ARG
6	G	118	ARG
6	G	133	LEU
6	G	147	ASP
6	G	155	MET
6	G	156	ASP
6	G	159	VAL
6	G	167	GLU
6	G	174	GLU
7	H	3	ARG
7	H	4	ILE
7	H	9	ILE
7	H	10	PRO
7	H	11	VAL
7	H	16	SER
7	H	27	LYS
7	H	32	GLU
7	H	37	VAL
7	H	41	MET
7	H	43	VAL
7	H	59	ARG
7	H	64	LEU
7	H	77	LYS
7	H	81	GLU
7	H	85	LYS
7	H	88	LEU
7	H	89	ILE
7	H	105	LEU
7	H	132	ARG
7	H	139	GLN
7	H	143	GLN
7	H	152	ARG
7	H	153	LYS
7	H	154	PRO
7	H	155	SER

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Mol	Chain	Res	Type
7	H	158	HIS
7	H	169	VAL
8	I	1	MET
8	I	2	LYS
8	I	9	LEU
8	I	12	LEU
8	I	25	TYR
8	I	27	ARG
8	I	33	ARG
8	I	38	LEU
8	I	40	THR
8	I	56	LYS
8	I	67	ARG
8	I	70	GLU
8	I	81	VAL
8	I	85	GLU
8	I	86	THR
8	I	101	LEU
8	I	105	HIS
8	I	112	LYS
8	I	113	ARG
8	I	131	LYS
8	I	135	GLU
8	I	136	VAL
8	I	139	GLN
8	I	142	VAL
9	N	2	LYS
9	N	7	LYS
9	N	43	THR
9	N	48	MET
9	N	60	ILE
9	N	61	ARG
9	N	65	LYS
9	N	73	THR
9	N	78	TYR
9	N	90	MET
9	N	93	THR
9	N	94	HIS
9	N	101	HIS
9	N	109	LYS
9	N	112	LEU
9	N	120	LEU

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Mol	Chain	Res	Type
9	N	127	ASP
9	N	131	GLN
9	N	136	GLU
10	O	8	LEU
10	O	9	GLU
10	O	17	ARG
10	O	19	ILE
10	O	23	ARG
10	O	31	LYS
10	O	39	ILE
10	O	49	ARG
10	O	53	LYS
10	O	65	THR
11	P	5	ASP
11	P	9	ASN
11	P	10	PRO
11	P	16	ARG
11	P	21	ARG
11	P	27	HIS
11	P	29	LYS
11	P	30	THR
11	P	32	THR
11	P	36	LYS
11	P	38	GLN
11	P	41	ARG
11	P	50	ARG
11	P	55	ARG
11	P	61	ARG
11	P	62	LEU
11	P	64	LYS
11	P	65	ARG
11	P	75	ILE
11	P	81	GLN
11	P	88	LEU
11	P	91	PHE
11	P	99	LEU
11	P	100	LEU
11	P	108	LYS
11	P	144	GLU
11	P	146	VAL
12	Q	2	LEU
12	Q	25	ASP

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Mol	Chain	Res	Type
12	Q	26	TYR
12	Q	27	VAL
12	Q	45	GLN
12	Q	46	GLN
12	Q	54	MET
12	Q	55	VAL
12	Q	59	ARG
12	Q	60	ARG
12	Q	79	LEU
12	Q	83	MET
12	Q	89	ASN
12	Q	90	VAL
12	Q	91	GLU
12	Q	130	LYS
12	Q	135	ASP
12	Q	139	GLU
13	R	14	SER
13	R	31	HIS
13	R	37	THR
13	R	44	LEU
13	R	51	LEU
13	R	57	ARG
13	R	66	VAL
13	R	67	LEU
13	R	71	GLN
13	R	75	LEU
13	R	76	VAL
13	R	81	ASP
13	R	95	THR
13	R	104	ARG
13	R	105	ARG
13	R	107	ASP
13	R	113	LEU
14	S	4	LEU
14	S	12	PHE
14	S	17	ARG
14	S	18	ILE
14	S	20	ARG
14	S	44	LYS
14	S	56	LEU
14	S	57	LYS
14	S	89	ARG

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Mol	Chain	Res	Type
14	S	101	LEU
14	S	103	GLU
14	S	106	ARG
14	S	111	GLU
15	T	2	ASN
15	T	14	TYR
15	T	22	PHE
15	T	23	ARG
15	T	26	ASP
15	T	27	THR
15	T	42	ILE
15	T	51	ARG
15	T	58	ASN
15	T	65	LYS
15	T	73	GLU
15	T	78	LEU
15	T	86	ILE
15	T	87	ASP
15	T	99	LEU
15	T	100	TYR
15	T	104	ASN
15	T	107	ASP
15	T	111	ARG
15	T	112	ARG
15	T	115	ARG
15	T	128	GLU
15	T	134	GLU
16	U	5	LYS
16	U	9	VAL
16	U	31	SER
16	U	52	ARG
16	U	74	LEU
16	U	76	TYR
16	U	79	PHE
16	U	88	ILE
16	U	92	ARG
16	U	98	LEU
16	U	108	GLU
16	U	114	LYS
16	U	117	GLN
17	V	13	ARG
17	V	14	VAL

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Mol	Chain	Res	Type
17	V	18	LEU
17	V	35	LEU
17	V	38	LEU
17	V	39	LEU
17	V	40	LEU
17	V	66	ARG
17	V	75	PHE
17	V	91	TYR
17	V	99	ILE
18	W	11	ARG
18	W	14	PRO
18	W	16	LYS
18	W	18	ARG
18	W	19	LEU
18	W	20	VAL
18	W	63	ASP
18	W	67	ASP
18	W	69	LEU
18	W	70	TYR
18	W	87	PRO
18	W	88	ARG
18	W	92	ARG
18	W	107	LEU
18	W	109	GLU
19	X	3	THR
19	X	6	ASP
19	X	15	GLU
19	X	27	THR
19	X	30	VAL
19	X	55	ASN
19	X	57	LEU
19	X	65	ARG
19	X	70	LEU
19	X	80	ILE
19	X	88	LYS
20	Y	7	VAL
20	Y	11	ASP
20	Y	27	VAL
20	Y	45	VAL
20	Y	57	GLN
20	Y	64	GLU
20	Y	75	ILE

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Mol	Chain	Res	Type
20	Y	77	PRO
20	Y	79	CYS
20	Y	87	LYS
20	Y	88	LYS
20	Y	89	PHE
20	Y	90	LEU
20	Y	95	LYS
20	Y	97	ARG
21	Z	2	GLU
21	Z	4	ARG
21	Z	19	ARG
21	Z	20	ARG
21	Z	41	LEU
21	Z	53	ILE
21	Z	60	GLU
21	Z	70	LEU
21	Z	71	VAL
21	Z	76	LEU
21	Z	81	ARG
21	Z	87	ASP
21	Z	94	GLU
21	Z	123	ASP
21	Z	140	ASP
21	Z	144	LEU
21	Z	150	LEU
21	Z	151	HIS
21	Z	181	GLU
21	Z	182	LYS
22	0	36	ILE
22	0	74	ARG
23	1	2	SER
23	1	11	ARG
23	1	21	ARG
23	1	30	VAL
23	1	40	ARG
23	1	41	ARG
23	1	56	GLN
23	1	76	ARG
23	1	80	LEU
23	1	81	LYS
23	1	83	GLU
23	1	87	PRO

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Mol	Chain	Res	Type
23	1	91	LYS
23	1	92	LYS
23	1	97	LEU
24	2	7	ARG
24	2	9	GLN
24	2	16	LEU
24	2	24	LEU
24	2	53	LEU
24	2	62	THR
24	2	64	LEU
25	3	4	LEU
25	3	8	LEU
25	3	9	VAL
25	3	10	LYS
25	3	17	LYS
25	3	30	ARG
25	3	31	LEU
25	3	32	GLN
25	3	37	LEU
25	3	40	THR
25	3	44	ARG
26	4	6	HIS
26	4	15	ILE
26	4	18	CYS
26	4	21	VAL
26	4	23	GLU
26	4	39	CYS
26	4	42	PHE
26	4	48	ARG
26	4	49	PHE
26	4	50	VAL
26	4	51	ASP
26	4	53	GLU
26	4	57	GLU
26	4	61	ARG
26	4	62	ARG
26	4	63	TYR
26	4	67	TYR
26	4	68	ARG
26	4	71	ARG
27	5	3	LYS
27	5	4	HIS

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Mol	Chain	Res	Type
27	5	6	VAL
27	5	11	THR
27	5	19	ARG
27	5	25	LEU
27	5	36	CYS
27	5	37	LYS
27	5	43	HIS
27	5	52	TYR
27	5	56	LYS
27	5	58	LEU
28	6	6	ARG
28	6	8	LYS
28	6	18	ARG
28	6	19	ARG
28	6	28	ARG
28	6	34	LEU
28	6	37	ARG
28	6	42	TRP
28	6	44	ARG
28	6	46	HIS
29	7	1	MET
29	7	9	ARG
29	7	43	THR
30	8	15	LYS
30	8	16	ILE
30	8	30	ARG
30	8	35	GLN
30	8	39	LYS
30	8	43	GLN
30	8	44	LYS
30	8	47	LYS
30	8	48	PHE
30	8	49	VAL
30	8	52	LYS
30	8	53	PRO
30	8	62	LEU
30	8	63	PRO
30	8	65	GLU
31	9	1	MET
31	9	17	ILE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	44	ASN
3	D	143	HIS
3	D	166	GLN
3	D	198	ASN
4	E	48	GLN
4	E	135	HIS
5	F	169	ASN
7	H	143	GLN
7	H	147	ASN
9	N	56	ASN
9	N	101	HIS
9	N	131	GLN
10	O	5	GLN
10	O	82	ASN
11	P	81	GLN
11	P	84	ASN
13	R	3	HIS
15	T	55	ASN
15	T	58	ASN
16	U	94	ASN
17	V	11	GLN
18	W	61	ASN
19	X	55	ASN
19	X	87	GLN
20	Y	57	GLN
23	1	56	GLN
24	2	9	GLN
24	2	47	ASN
25	3	19	GLN
25	3	32	GLN
30	8	31	HIS
31	9	32	HIS

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2880/2916 (98%)	612 (21%)	64 (2%)
2	B	119/122 (97%)	29 (24%)	1 (0%)
32	a	1/3 (33%)	0	0
All	All	3000/3041 (98%)	641 (21%)	65 (2%)

All (641) RNA backbone outliers are listed below:



Mol	Chain	Res	Type
1	A	9	U
1	A	15	G
1	A	27	G
1	A	34	C
1	A	35	G
1	A	46	C
1	A	55	G
1	A	63	U
1	A	72	U
1	A	74	A
1	A	75	G
1	A	99	U
1	A	101	G
1	A	102	G
1	A	103	A
1	A	118	A
1	A	119	A
1	A	120	U
1	A	125	G
1	A	161	U
1	A	162	U
1	A	181	A
1	A	188	G
1	A	196	A
1	A	199	A
1	A	214	G
1	A	215	G
1	A	216	A
1	A	221	A
1	A	222	A
1	A	223	A
1	A	227	A
1	A	228	A
1	A	229	A
1	A	230	U
1	A	232	G
1	A	242	G
1	A	243	U
1	A	248	G
1	A	250	G
1	A	252	G
1	A	265	A
1	A	266	G

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Mol	Chain	Res	Type
1	A	269	U
1	A	270(L)	U
1	A	270(M)	U
1	A	270(N)	G
1	A	270(P)	C
1	A	271(A)	C
1	A	271(B)	G
1	A	271(C)	U
1	A	271	G
1	A	274	G
1	A	275	G
1	A	276	A
1	A	278	A
1	A	279	C
1	A	285	C
1	A	287	C
1	A	299	A
1	A	305	U
1	A	311	A
1	A	323	G
1	A	324	A
1	A	329	G
1	A	330	A
1	A	332	A
1	A	333	G
1	A	342	G
1	A	352	G
1	A	363	G
1	A	364	C
1	A	371	A
1	A	372	G
1	A	373	U
1	A	386	G
1	A	387	U
1	A	395	U
1	A	396	G
1	A	405	U
1	A	406	G
1	A	411	G
1	A	412	A
1	A	428	A
1	A	443	A

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Mol	Chain	Res	Type
1	A	444	C
1	A	448	U
1	A	454	A
1	A	457	A
1	A	470	A
1	A	481	G
1	A	483	A
1	A	503	A
1	A	504	U
1	A	505	A
1	A	509	C
1	A	512	G
1	A	518	G
1	A	531	C
1	A	532	A
1	A	533	G
1	A	537	C
1	A	539	G
1	A	540	G
1	A	546	C
1	A	547	A
1	A	549	G
1	A	556	G
1	A	563	G
1	A	573	G
1	A	575	A
1	A	577	G
1	A	586	A
1	A	587	C
1	A	588	U
1	A	603	A
1	A	607	U
1	A	613	U
1	A	614	U
1	A	615	G
1	A	617	G
1	A	622	G
1	A	624	C
1	A	625	G
1	A	626	U
1	A	627	A
1	A	637	A

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Mol	Chain	Res	Type
1	A	638	G
1	A	645	C
1	A	646	A
1	A	649	G
1	A	650	C
1	A	651	G
1	A	654	A
1	A	654(A)	G
1	A	654(B)	C
1	A	657	U
1	A	668	G
1	A	669	G
1	A	686	G
1	A	702	G
1	A	717	G
1	A	722	A
1	A	730	C
1	A	734	A
1	A	747	U
1	A	753	C
1	A	764	A
1	A	775	G
1	A	776	G
1	A	782	A
1	A	784	A
1	A	785	G
1	A	789	A
1	A	790	C
1	A	791	C
1	A	792	G
1	A	805	G
1	A	812	C
1	A	818	G
1	A	819	A
1	A	827	U
1	A	828	U
1	A	831	G
1	A	847	U
1	A	856	C
1	A	857	C
1	A	859	G
1	A	860	U

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Mol	Chain	Res	Type
1	A	865	C
1	A	866	A
1	A	870	A
1	A	872	A
1	A	881	G
1	A	882	G
1	A	884	C
1	A	885	C
1	A	886	C
1	A	888	C
1	A	889	C
1	A	896	A
1	A	899	A
1	A	900	A
1	A	901	A
1	A	902	C
1	A	907	U
1	A	910	A
1	A	915	C
1	A	917	A
1	A	932	G
1	A	941	A
1	A	945	A
1	A	946	G
1	A	959	A
1	A	961	C
1	A	974	G
1	A	974(A)	C
1	A	975	G
1	A	980	A
1	A	983	A
1	A	991	C
1	A	996	A
1	A	1003	G
1	A	1005	C
1	A	1010	A
1	A	1011	G
1	A	1012	U
1	A	1013	C
1	A	1014	U
1	A	1016	G
1	A	1020	A

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Mol	Chain	Res	Type
1	A	1022	G
1	A	1023	U
1	A	1025	G
1	A	1026	U
1	A	1027	A
1	A	1033	U
1	A	1045	A
1	A	1046	A
1	A	1050	A
1	A	1054	A
1	A	1055	G
1	A	1057	A
1	A	1059	G
1	A	1060	U
1	A	1061	U
1	A	1066	U
1	A	1067	A
1	A	1068	G
1	A	1070	A
1	A	1071	G
1	A	1076	C
1	A	1077	A
1	A	1078	U
1	A	1079	C
1	A	1082	U
1	A	1083	U
1	A	1084	A
1	A	1085	A
1	A	1086	A
1	A	1088	A
1	A	1090	U
1	A	1095	A
1	A	1096	A
1	A	1097	U
1	A	1099	G
1	A	1103	A
1	A	1104	C
1	A	1105	U
1	A	1110	G
1	A	1111	A
1	A	1122	G
1	A	1130	U

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Mol	Chain	Res	Type
1	A	1131	G
1	A	1135	C
1	A	1136	G
1	A	1142	U
1	A	1142(A)	A
1	A	1170	G
1	A	1173	G
1	A	1174	A
1	A	1175	U
1	A	1176	G
1	A	1178	C
1	A	1179	C
1	A	1180	C
1	A	1195	G
1	A	1204	A
1	A	1205	U
1	A	1211	U
1	A	1219	G
1	A	1220	A
1	A	1238	G
1	A	1244	G
1	A	1253	A
1	A	1256	G
1	A	1265	A
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1282	U
1	A	1300	U
1	A	1301	A
1	A	1302	A
1	A	1321	A
1	A	1329	U
1	A	1349	A
1	A	1352	U
1	A	1365	A
1	A	1368	G
1	A	1379	A
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1389	G

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Mol	Chain	Res	Type
1	A	1391	U
1	A	1395	A
1	A	1407	C
1	A	1411	C
1	A	1415	U
1	A	1416	G
1	A	1419	A
1	A	1420	U
1	A	1421	G
1	A	1428	C
1	A	1429	G
1	A	1444(A)	A
1	A	1448	G
1	A	1449	A
1	A	1449(A)	G
1	A	1455	G
1	A	1458	C
1	A	1459	G
1	A	1460	A
1	A	1461	G
1	A	1467	C
1	A	1471	A
1	A	1474	C
1	A	1477	A
1	A	1482	U
1	A	1483	G
1	A	1485	G
1	A	1493	C
1	A	1497	U
1	A	1505	C
1	A	1506	C
1	A	1507	A
1	A	1508	A
1	A	1510	A
1	A	1511	A
1	A	1513	C
1	A	1514	U
1	A	1515	C
1	A	1520	U
1	A	1522	G
1	A	1534	G
1	A	1535	U

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Mol	Chain	Res	Type
1	A	1536	A
1	A	1537	C
1	A	1543	A
1	A	1544	C
1	A	1545	A
1	A	1547	C
1	A	1554	A
1	A	1558	A
1	A	1559	G
1	A	1569	A
1	A	1578	U
1	A	1579	A
1	A	1581	G
1	A	1585	C
1	A	1586	A
1	A	1592	C
1	A	1597	A
1	A	1598	C
1	A	1608	A
1	A	1609	A
1	A	1617	C
1	A	1618	A
1	A	1640	C
1	A	1647	G
1	A	1648	C
1	A	1654	A
1	A	1667	G
1	A	1668	A
1	A	1669	A
1	A	1674	G
1	A	1695	G
1	A	1698	A
1	A	1699	G
1	A	1700	A
1	A	1701	A
1	A	1703	G
1	A	1725	G
1	A	1729	A
1	A	1731	G
1	A	1733	G
1	A	1734	C
1	A	1742	C

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Mol	Chain	Res	Type
1	A	1743	G
1	A	1750	G
1	A	1754	C
1	A	1756	G
1	A	1762	A
1	A	1763	G
1	A	1764	G
1	A	1769	G
1	A	1773	A
1	A	1780	A
1	A	1787	A
1	A	1791	A
1	A	1799	G
1	A	1800	C
1	A	1801	G
1	A	1816	G
1	A	1819	A
1	A	1820	U
1	A	1829	A
1	A	1835	G
1	A	1847	A
1	A	1848	A
1	A	1858	G
1	A	1869	G
1	A	1872	A
1	A	1878	G
1	A	1882	C
1	A	1884	A
1	A	1889	A
1	A	1896	G
1	A	1903	G
1	A	1906	G
1	A	1913	A
1	A	1923	U
1	A	1927	A
1	A	1930	G
1	A	1931	U
1	A	1939	U
1	A	1955	U
1	A	1956	U
1	A	1960	A
1	A	1963	U

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Mol	Chain	Res	Type
1	A	1967	C
1	A	1969	A
1	A	1970	A
1	A	1971	A
1	A	1972	A
1	A	1982	C
1	A	1991	U
1	A	1992	G
1	A	1993	U
1	A	2020	A
1	A	2023	G
1	A	2031	A
1	A	2033	A
1	A	2039	C
1	A	2043	C
1	A	2049	G
1	A	2055	C
1	A	2056	G
1	A	2059	A
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2063	C
1	A	2069	G
1	A	2088	G
1	A	2093	G
1	A	2099	U
1	A	2100	G
1	A	2111	C
1	A	2113	U
1	A	2114	A
1	A	2115	G
1	A	2116	G
1	A	2117	A
1	A	2119	A
1	A	2120	G
1	A	2126	A
1	A	2127	G
1	A	2128	C
1	A	2131	G
1	A	2132	U
1	A	2133	G

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Mol	Chain	Res	Type
1	A	2136	C
1	A	2146	C
1	A	2148	G
1	A	2158	A
1	A	2166	G
1	A	2168	G
1	A	2173	A
1	A	2176	A
1	A	2190	G
1	A	2192	G
1	A	2193	G
1	A	2198	A
1	A	2210	G
1	A	2211	G
1	A	2212	A
1	A	2215	G
1	A	2225	A
1	A	2238	G
1	A	2243	U
1	A	2246	G
1	A	2275	C
1	A	2283	C
1	A	2287	A
1	A	2288	A
1	A	2294	C
1	A	2307	G
1	A	2308	G
1	A	2311	A
1	A	2319	G
1	A	2320	A
1	A	2325	G
1	A	2334	G
1	A	2335	A
1	A	2336	A
1	A	2345	G
1	A	2346	A
1	A	2347	C
1	A	2350	C
1	A	2357	U
1	A	2372	G
1	A	2377	A
1	A	2382	G

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Mol	Chain	Res	Type
1	A	2383	G
1	A	2385	C
1	A	2394	C
1	A	2402	C
1	A	2403	C
1	A	2405	G
1	A	2406	U
1	A	2410	G
1	A	2423	U
1	A	2424	C
1	A	2425	A
1	A	2429	G
1	A	2430	A
1	A	2435	A
1	A	2439	A
1	A	2440	C
1	A	2441	C
1	A	2448	A
1	A	2450	A
1	A	2469	A
1	A	2470	G
1	A	2471	C
1	A	2474	C
1	A	2475	C
1	A	2476	A
1	A	2482	G
1	A	2494	G
1	A	2498	C
1	A	2502	G
1	A	2505	G
1	A	2506	U
1	A	2507	C
1	A	2518	A
1	A	2519	U
1	A	2525	G
1	A	2529	G
1	A	2542	A
1	A	2554	U
1	A	2558	C
1	A	2566	A
1	A	2567	G
1	A	2569	G

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Mol	Chain	Res	Type
1	A	2573	C
1	A	2599	G
1	A	2602	A
1	A	2609	U
1	A	2611	U
1	A	2612	C
1	A	2623	G
1	A	2629	A
1	A	2632	A
1	A	2637	U
1	A	2646	C
1	A	2655	G
1	A	2656	U
1	A	2665	A
1	A	2666	C
1	A	2673	G
1	A	2682	U
1	A	2689	U
1	A	2690	C
1	A	2702	U
1	A	2703	C
1	A	2707	G
1	A	2712	U
1	A	2712(A)	A
1	A	2713	A
1	A	2714	G
1	A	2718	G
1	A	2724	C
1	A	2726	U
1	A	2733	A
1	A	2734	A
1	A	2744	G
1	A	2752	C
1	A	2758	A
1	A	2761	G
1	A	2764	A
1	A	2765	A
1	A	2766	G
1	A	2777	G
1	A	2778	A
1	A	2779	U
1	A	2789	C

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Mol	Chain	Res	Type
1	A	2790	A
1	A	2791	C
1	A	2797	U
1	A	2807	G
1	A	2808	U
1	A	2818	G
1	A	2820	A
1	A	2821	A
1	A	2830	G
1	A	2833	G
1	A	2834	G
1	A	2835	A
1	A	2845	G
1	A	2847	U
1	A	2848	G
1	A	2849	U
1	A	2867	G
1	A	2868	A
1	A	2872	G
1	A	2873	A
1	A	2880	C
1	A	2892	A
1	A	2894	G
2	B	8	U
2	B	9	G
2	B	13	A
2	B	15	A
2	B	16	G
2	B	19	G
2	B	21	G
2	B	25	A
2	B	26	A
2	B	27	C
2	B	31	C
2	B	33	G
2	B	40	U
2	B	41	U
2	B	42	C
2	B	44	G
2	B	45	A
2	B	47	C
2	B	52	A

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Mol	Chain	Res	Type
2	B	56	G
2	B	67	G
2	B	73	A
2	B	81	G
2	B	88	C
2	B	89	G
2	B	96	G
2	B	101	A
2	B	105	G
2	B	109	G

All (65) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	74	A
1	A	99	U
1	A	102	G
1	A	196	A
1	A	221	A
1	A	222	A
1	A	227	A
1	A	229	A
1	A	241	A
1	A	242	G
1	A	271(B)	G
1	A	278	A
1	A	372	G
1	A	404	C
1	A	503	A
1	A	508	G
1	A	587	C
1	A	637	A
1	A	653	A
1	A	654	A
1	A	669	G
1	A	752	A
1	A	764	A
1	A	846	C
1	A	856	C
1	A	859	G
1	A	974(A)	C
1	A	1012	U

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Mol	Chain	Res	Type
1	A	1022	G
1	A	1026	U
1	A	1045	A
1	A	1078	U
1	A	1085	A
1	A	1109	C
1	A	1130	U
1	A	1141	U
1	A	1178	C
1	A	1204	A
1	A	1210	A
1	A	1558	A
1	A	1653	G
1	A	1694	C
1	A	1698	A
1	A	1799	G
1	A	1819	A
1	A	1929	G
1	A	1930	G
1	A	1955	U
1	A	1992	G
1	A	2126	A
1	A	2405	G
1	A	2439	A
1	A	2481	G
1	A	2506	U
1	A	2566	A
1	A	2610	C
1	A	2655	G
1	A	2681	C
1	A	2689	U
1	A	2712	U
1	A	2751	G
1	A	2776	A
1	A	2832	U
1	A	2867	G
2	B	66	A

## 5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

1 non-standard protein/DNA/RNA residue is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
32	PPU	a	76	1,32	38,40,41	2.42	9 (23%)	54,57,60	2.60	14 (25%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	PPU	a	76	1,32	-	0/26/43/44	0/4/4/4

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	a	76	PPU	O-C	9.16	1.41	1.23
32	a	76	PPU	C9-N6	-5.43	1.32	1.45
32	a	76	PPU	C-N3'	5.38	1.46	1.34
32	a	76	PPU	C10-N6	-5.13	1.32	1.45
32	a	76	PPU	C4-N9	-3.12	1.33	1.37
32	a	76	PPU	C8-N9	-3.00	1.32	1.36
32	a	76	PPU	O4'-C1'	2.85	1.44	1.41
32	a	76	PPU	C6-C5	-2.53	1.40	1.44
32	a	76	PPU	C5-N7	-2.00	1.32	1.39

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	a	76	PPU	N3-C2-N1	-8.51	121.40	128.89
32	a	76	PPU	C3'-N3'-C	-8.16	110.19	123.19
32	a	76	PPU	C5-C4-N3	-6.29	119.85	125.98
32	a	76	PPU	C2'-C1'-N9	-5.44	98.52	113.35
32	a	76	PPU	C2'-C3'-N3'	5.14	125.02	113.08
32	a	76	PPU	C2-N1-C6	4.73	121.76	111.52
32	a	76	PPU	C4'-O4'-C1'	-3.95	105.38	109.72
32	a	76	PPU	N3-C4-N9	3.85	132.00	125.39
32	a	76	PPU	C4-C5-N7	-3.52	106.01	109.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	a	76	PPU	CM-OC-CZ	-3.16	110.18	117.54
32	a	76	PPU	O4'-C1'-N9	-2.64	102.36	108.10
32	a	76	PPU	C2-N3-C4	2.62	120.81	113.27
32	a	76	PPU	C4'-C3'-N3'	-2.60	108.08	113.56
32	a	76	PPU	CA-C-N3'	2.05	121.71	115.94

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 5.5 Carbohydrates

There are no carbohydrates in this entry.

## 5.6 Ligand geometry

Of 275 ligands modelled in this entry, 275 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 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.