



# Full wwPDB X-ray Structure Validation Report

Sep 15, 2014 – 05:54 PM EDT

PDB ID : 1VXL  
Title : Crystal Structure of tRNA Proline (CGG) Bound to Codon CCG-G on the Ribosome  
Authors : Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.  
Deposited on : 2013-07-22  
Resolution : 3.48 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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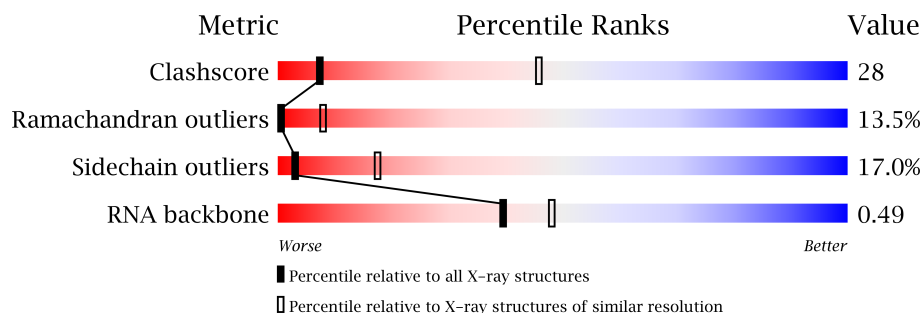
The following versions of software and data (see [references](#)) were used in the production of this report:

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 3.48 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	1001 (3.62-3.34)
Ramachandran outliers	78287	1001 (3.64-3.32)
Sidechain outliers	78261	1002 (3.64-3.32)
RNA backbone	1838	1006 (4.20-2.76)

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 34 unique types of molecules in this entry. The entry contains 92243 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	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			

- 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 L13.

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 L14.

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 L15.

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 L16.

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 L17.

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 L18.

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

- Molecule 15 is a protein called 50S ribosomal protein L19.

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

- Molecule 16 is a protein called 50S ribosomal protein L20.

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

- Molecule 17 is a protein called 50S ribosomal protein L21.

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

- Molecule 18 is a protein called 50S ribosomal protein L22.

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

- Molecule 19 is a protein called 50S ribosomal protein L23.

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

- Molecule 20 is a protein called 50S ribosomal protein L24.

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

- Molecule 21 is a protein called 50S ribosomal protein L25.

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 L27.

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 L28.

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 L29.

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 L30.

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 L31.

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	0	1	Total	Mg	0	0
			1	1		
33	D	1	Total	Mg	0	0
			1	1		
33	E	2	Total	Mg	0	0
			2	2		
33	B	2	Total	Mg	0	0
			2	2		
33	A	241	Total	Mg	0	0
			241	241		
33	5	1	Total	Mg	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	R	2	Total	Mg	0	0
			2	2		
33	F	1	Total	Mg	0	0
			1	1		

- Molecule 34 is ZINC ION (three-letter code: ZN) (formula: Zn).

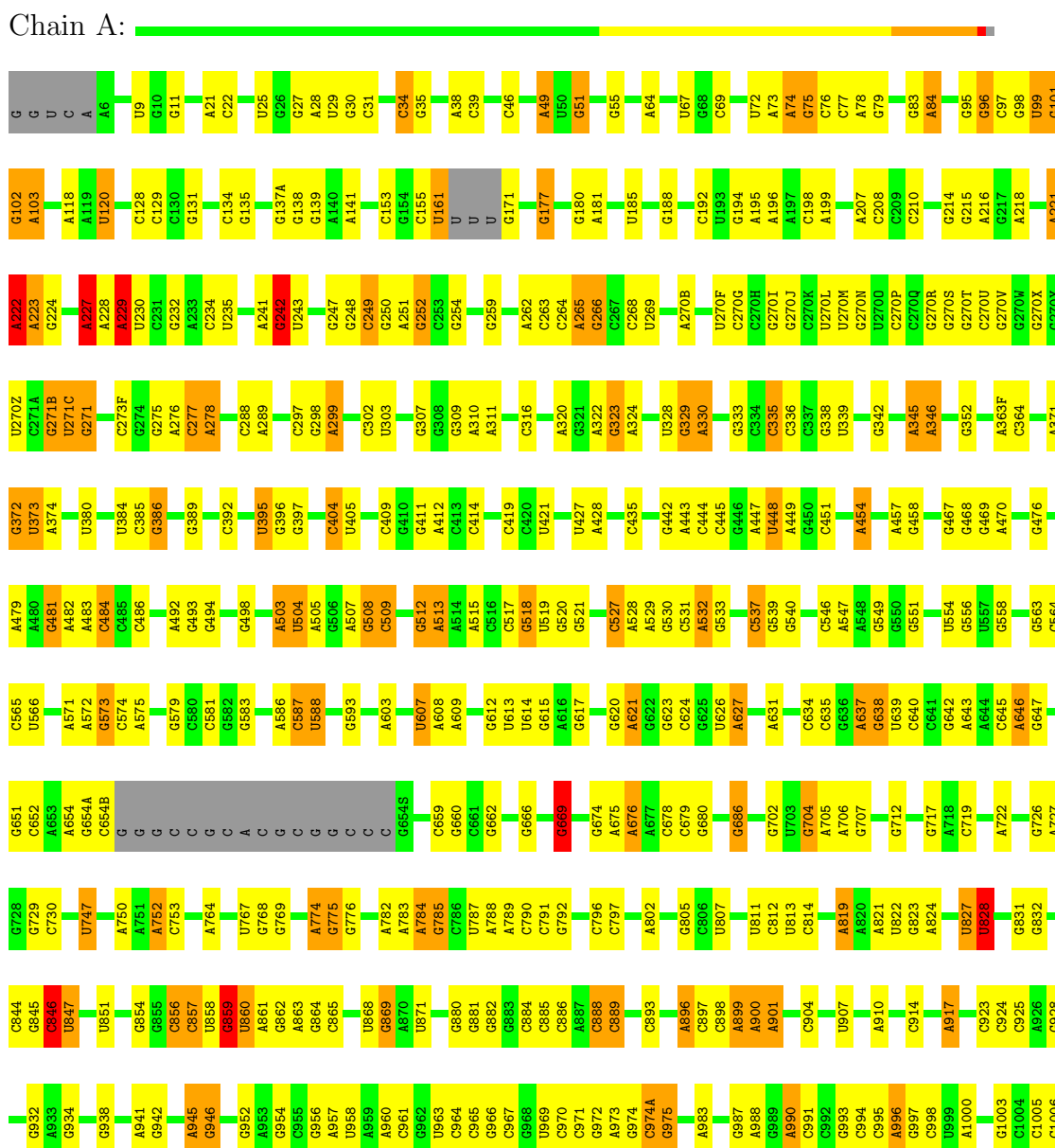
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	9	1	Total	Zn	0	0
			1	1		

### 3 Residue-property plots

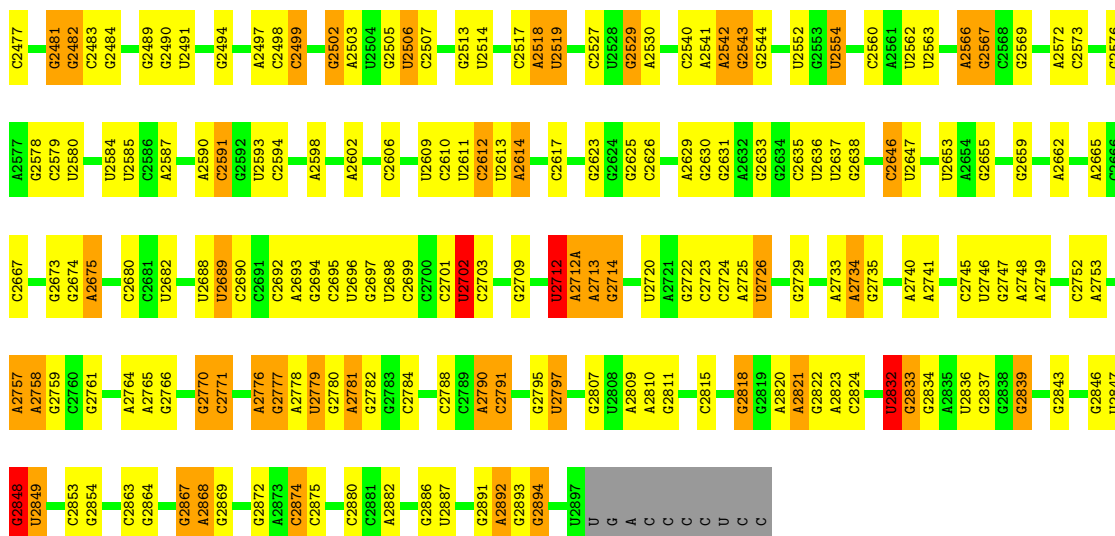
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according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

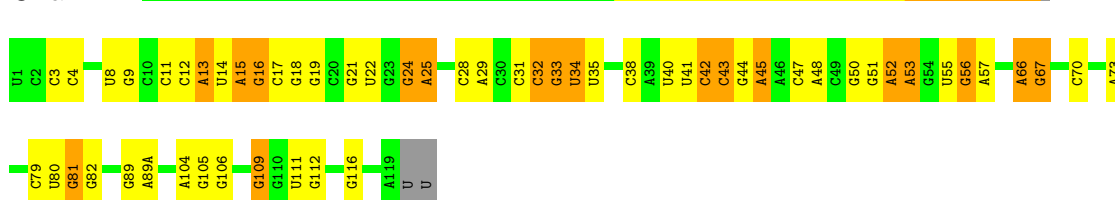


G2396	G2397	G2315	C2226	G2131	G2037	G1946	U1851	G1763	C1636	G1522	G1436	A1342	G1252	C1153	C1079	G1007
G2397	G2397	G2316	C2231	G2132	G2038	U1946	C1852	G1764	A1637	G1525	G1437	A1343	A1253	G1154	C1080	C1008
G2400	G2400	G2317	G2232	G2133	U2041	G1950	A1853	G1769	A1638	G1526	G1441	A1348	G1256	A1155	U1081	A1009
G2402	U2401	G2319	G2233	A2134	A2042	U1951	A1854	G1772	C1644	G1530	G1442	A1349	C1257	A1156	U1082	A1010
G2403	G2403	G2320	G2234	C2135	C2043	A1952	G1857	G1773	G1647	G1534	A1444A	U1352	C1161	G1162	A1084	U1012
G2404	G2321	G2321	G2235	G2146	A2051	A1953	G1858	A1773	G1648	U1535	C1445	A1353	G1169	G1085	A1085	C1013
G2406	G2323	G2323	G2239	G2147	G2052	G1954	G1859	C1774	G1649	C1537	C1449A	A1354	G1170	A1088	A1088	U1014
G2410	G2324	G2324	G2242	G2148	G2053	U1955	G1860	G1775	G1650	C1538	G1449A	A1355	G1171	G1089	G1089	G1015
G2411	G2326	G2326	U2243	G2149	A2054	U1963	U1864	G1777	G1651	G1539	U1454	A1358	G1173	U1090	U1090	U1019
A2412	A2327	U2244	U2244	U2150	C2055	C1967	C1870	U1778	A1652	G1542	U1455	A1359	A1174	G1091	A1021	A1021
G2428	A2328	G2151	U2245	G2151	G2056	G1968	A1871	A1780	G1653	G1543	G1455	A1364	U1175	G1092	G1092	G1022
G2430	G2329	G2154	G2246	G2154	A2059	A1969	A1872	C1781	A1654	A1543	G1459	A1365	G1176	G1093	U1023	U1023
G2431	G2330	G2155	G2247	G2155	A2060	A1970	A1878	C1782	A1655	A1544	A1460	A1366	G1177	U1094	G1024	G1024
G2432	G2331	G2156	G2250	G2156	G2061	A1971	A1887	A1783	C1656	A1545	A1461	A1368	C1178	A1095	G1025	U1026
G2433	G2332	G2157	G2251	G2157	A2062	A1972	C1882	A1784	C1657	G1547	G1466	G1371	C1179	A1096	U1027	U1027
G2434	G2333	A2158	G2252	A2158	C2063	C2064	G1883	A1785	C1658	C1548	G1467	U1372	A1278	U1101	A1028	A1028
G2435	G2334	C2161	G2253	C2161	C2065	C2065	A1884	A1786	G1667	C1549	C1467	A1182	C1181	G1102	A1029	A1029
U2423	A2335	G2162	U2257	G2162	U2068	U2068	A1885	A1787	A1668	C1549	C1468	G1183	C1182	A1103	G1030	G1030
A2425	A2425	G2165	G2258	G2165	G2069	G2069	C1886	C1790	A1669	C1559	A1469	A1379	C1184	C1104	G1031	G1031
G2429	U2344	G2166	A2268	G2166	G2070	A2071	C1887	A1791	G1674	G1566	A1471	G1380	A1286	U1105	A1032	A1032
U2430	G2345	U2187	G2271	U2187	A2072	G1988	A1889	U1794	C1675	A1567	A1472	A1384	U1288	G1107	U1033	U1033
G2431	G2346	G2168	U2272	G2168	C2072	G1989	A1890	C1795	A1676	A1567	G1473	U1394	C1291	G1110	G1039	G1039
A2432	G2347	A2169	G2273	A2169	C2073	C1990	G1892	U1796	A1677	A1568	C1474	A1395	U1292	G1111	C1041	C1041
G2433	G2348	A2170	G2274	A2170	U2074	C1991	C1893	C1797	A1678	A1569	G1475	U1397	G1190	G1112	G1042	G1042
G2434	G2349	A2171	A2275	A2171	U2075	U1993	C1894	U1798	U1688	C1577	C1476	C1398	C1304	U1113	C1043	C1043
G2435	G2350	U2172	G2276	U2172	G2083	G1998	C1895	G1799	U1689	U1578	A1477	U1405	C1306	G1122	A1048	A1048
G2436	G2351	C2173	G2277	C2173	G2084	G1998	G1896	C1800	A1689	U1579	U1482	U1399	C1306	G1125	A1049	A1049
G2437	G2352	A2174	G2278	A2174	U2096	G2004	G1899	G1801	A1690	U1580	U1483	U1406	C1306	G1126	A1050	A1050
G2438	G2353	C2175	U2096	C2175	U2096	C2005	C1902	A1812	A1691	C1588	G1491	C1407	G1309	G1127	G1065	G1065
G2439	G2354	A2176	U2102	A2176	C2103	C2006	G1903	G1813	A1701	C1589	G1492	C1407	U1312	A1128	A1067	A1067
G2440	G2355	C2188	G2104	C2188	G2104	G2009	G1904	G1814	G1725	C1590	C1493	C1411	U1313	A1129	G1068	G1068
G2441	G2356	U2189	C2105	U2189	C2106	G2010	C1905	G1815	G1726	U1591	C1496	C1412	U1314	U1130	G1069	G1069
G2442	G2357	G2190	G2106	G2190	G2106	U2011	G1906	G1816	A1727	G1592	U1497	G1413	C1314	G1131	U1060	U1060
G2443	G2358	G2191	G2107	G2191	G2107	G2012	G1907	G1817	G1728	C1593	U1498	G1414	C1315	G1132	U1061	U1061
G2444	G2359	G2192	C2111	G2192	C2111	A2013	A1913	G1818	A1729	G1594	U1499	G1415	C1316	G1133	G1062	G1062
G2445	G2360	A2198	G2112	A2198	G2113	A2014	A1914	G1819	G1730	G1595	C1502	A1419	C1317	G1134	U1063	U1063
U2448	U2449	C2205	A2114	C2205	A2114	A2015	A1915	U1820	U1731	G1596	U1499	U1420	C1318	G1135	U1064	U1064
U2450	A2451	C2206	G2115	C2206	G2116	A2019	A1916	G1821	A1732	G1597	C1503	U1421	C1319	G1136	U1065	U1065
A2451	G2452	C2207	G2116	C2207	G2117	A2020	A1917	G1822	G1733	G1598	U1504	G1422	C1320	G1137	U1066	U1066
G2452	C2452	C2208	A2117	C2208	A2117	C2021	C1920	G1823	G1734	G1599	C1505	G1423	U1321	C1138	A1067	A1067
G2453	G2453	C2209	U2118	C2209	U2118	U2022	U1923	G1824	G1735	C1608	C1506	G1424	C1322	U1141	G1068	G1068
G2454	G2454	G2210	A2119	G2210	A2119	G2023	C1924	G1825	G1736	A1609	C1507	G1425	C1323	U1142	A1069	A1069
G2455	G2455	G2211	G2120	G2211	G2121	G2024	A1927	G1826	G1737	A1610	C1508	G1426	C1324	A1142A	A1070	A1070
G2456	G2456	A2212	C2212	A2212	C2212	C2025	A1928	G1827	C1742	A1611	C1509	U1427	C1325	G1149	G1071	G1071
G2457	G2457	G2213	U2122	G2213	U2122	C2026	G1929	G1828	C1743	A1612	C1510	U1428	C1326	G1150	C1076	C1076
G2458	G2458	G2214	G2123	G2214	G2124	C2027	G1930	G1829	C1744	A1613	C1511	G1429	C1327	G1151	A1077	A1077
G2459	G2459	G2215	G2124	G2215	G2125	G2029	U1931	G1830	C1745	A1614	C1512	U1430	C1328	C1152	U1078	U1078
G2460	G2460	G2216	G2125	G2216	G2126	A2031	A1936	G1831	C1746	A1615	C1513	U1431	C1329	G1153	G1153	G1153
G2461	G2461	G2217	G2126	G2217	A2126	A2032	A1937	G1832	C1747	A1616	C1514	U1432	C1330	G1154	G1154	G1154
G2462	G2462	G2218	C2127	G2218	C2127	A2033	A1938	G1833	C1748	A1617	C1515	U1433	U1340	G1155	G1155	G1155
G2463	G2463	G2219	G2128	G2219	G2129	A2034	A1939	G1834	C1749	A1618	C1516	U1434	U1341	G1156	G1156	G1156
G2464	G2464	A2225	G2225	A2225	G2225	G2225	U1939	G1835	C1750	A1619	C1517	U1435	U1342	G1157	G1157	G1157
G2465	G2465	G2220	G2129	G2220	G2130	G2035	A1940	G1836	C1751	A1620	C1518	U1436	U1343	G1158	G1158	G1158
G2466	G2466	G2221	U2130	G2221	U2131	G2036	A1941	G1837	C1752	A1621	C1519	U1437	U1344	G1159	G1159	G1159
G2467	G2467	G2222	G2131	G2222	G2132	C2037	A1942	G1838	C1753	A1622	C1520	U1438	U1345	G1160	G1160	G1160
G2468	G2468	G2223	G2132	G2223	G2133	G2038	A1943	G1839	C1754	A1623	C1521	U1439	U1346	G1161	G1161	G1161
G2469	G2469	G2224	G2133	G2224	G2134	G2039	A1944	G1840	C1755	A1624	C1522	U1440	U1347	G1162	G1162	G1162
G2470	G2470	G2225	G2134	G2225	G2135	G2040	A1945	G1841	C1756	A1625	C1523	U1441	U1348	G1163	G1163	G1163
G2471	G2471	G2226	G2135	G2226	G2136	G2041	A1946	G1842	C1757	A1626	C1524	U1442	U1349	G1164	G1164	G1164
G2472	G2472	G2227	G2136	G2227	G2137	G2042	A1947	G1843	C1758	A1627	C1525	U1443	U1350	G1165	G1165	G1165
G2473	G2473	G2228	G2137	G2228	G2138	G2043	A1948	G1844	C1759	A1628	C1526	U1444	U1351	G1166	G1166	G1166
G2474	G2474	G2229	G2138	G2229	G2139	G2044	A1949	G1845	C1760	A1629	C1527	U1445	U1352	G1167	G1167	G1167
G2475	G2475	G2230	G2139	G2230	G2140	G2045	A1950	G1846	C1761	A1630	C1528	U1446	U1353	G1168	G1168	G1168
G2476	G2476	G2231	G2140	G2231	G2141	G2046	A1951	G1847	C1762	A1631	C1529	U1447	U1354	G1169	G1169	G1169
G2477	G2477	G2232	G2141	G2232	G2142	G2047	A1952	G1848	C1763	A1632	C1530	U1448	U1355	G1170	G1170	G1170
G2478	G2478	G2233	G2142	G2233	G2143	G2048	A1953	G1849	C1764	A1633	C1531	U1449	U1356	G1171	G1171	G1171
G2479	G2479	G2234	G2143	G2234	G2144	G2049	A1954	G1850	C1765	A1634	C1532	U1450	U1357	G1172	G1172	G1172
G2480	G2480	G2235	G2144	G2235	G2145	G2050	A1955	G1851	C1766	A1635	C1533	U1451	U1358	G1173	G1173	G1173
G2481	G2481	G2236	G2145	G2236	G2146	G2051	A1956	G1852	C1767	A1636	C1534	U1452	U1359	G1174	G1174	G1174
G2482	G2482	G2237	G2146	G2237	G2147	G2052	A1957	G1853	C1768	A1637	C1535	U1453	U1360	G1175	G1175	G1175
G2483	G2483	G2238	G2147	G2238	G2148	G2053	A1958	G1854	C1769	A1638	C1536	U1454	U1361	G1176	G1176	G1176
G2484	G2484	G2239	G2148	G2239	G2149	G2054	A1959	G1855	C1770	A1639	C1537	U1455	U1362	G1177	G1177	G1177
G2485	G2485	G2240	G2149	G2240	G2150	G2055	A1960	G1856	C1771	A1640	C1538	U1456	U1363	G1178	G1178	G1178
G2486	G2486	G2241	G2150	G2241	G2151	G2056	A1961	G1857	C1772	A1641	C1539	U1457	U1364	G1179	G1179	G1179
G2487	G2487	G2242	G2151	G2242	G2152	G2057	A1962	G1858	C1773	A1642	C1540	U1458	U1365	G1180	G1180	G1180
G2488	G2488	G2243	G2152	G2243	G2153	G2058	A1963	G1859	C1774	A1643	C1541	U1459	U1366	G1181	G1181	G1181
G2489	G2489	G2244	G2153	G2244	G2154	G2059	A1964	G1860	C1775	A1644	C1542	U1460	U1367	G1182	G	



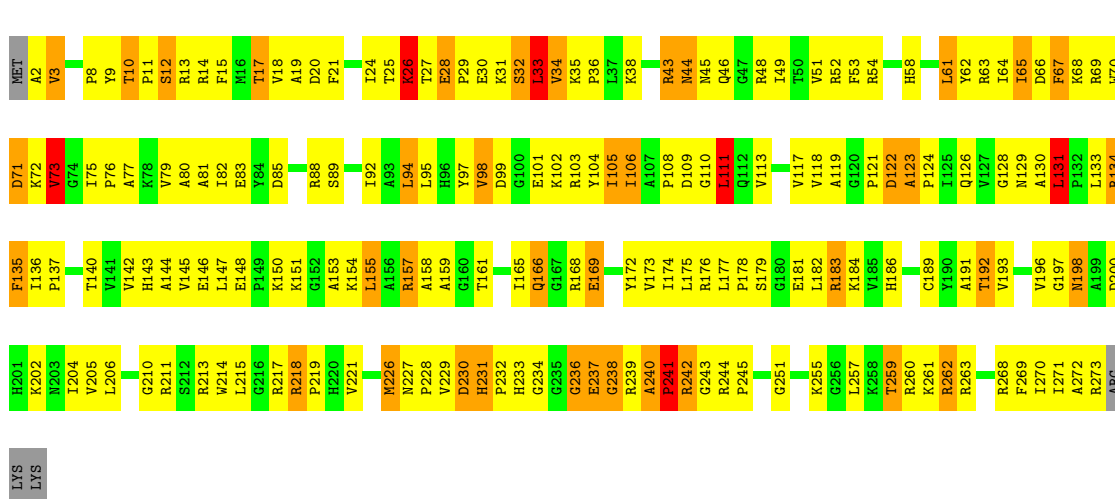
- Molecule 2: 5S rRNA

Chain B:



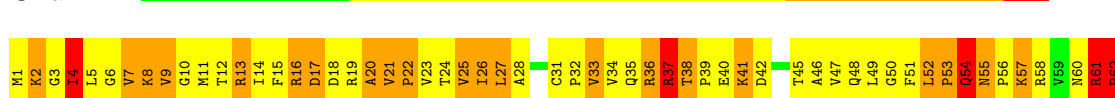
- Molecule 3: 50S ribosomal protein L2

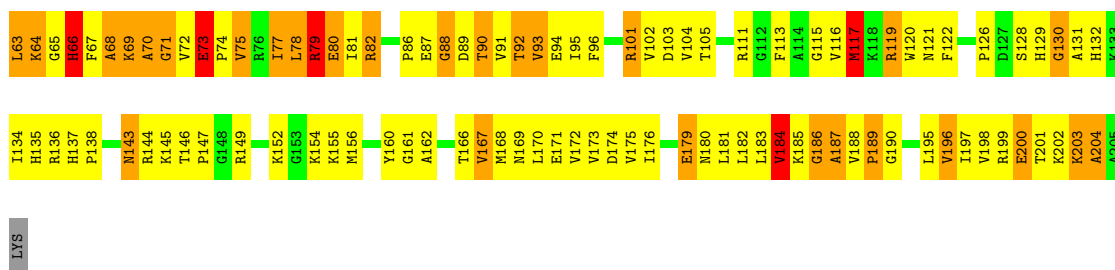
Chain D:



- Molecule 4: 50S ribosomal protein L3

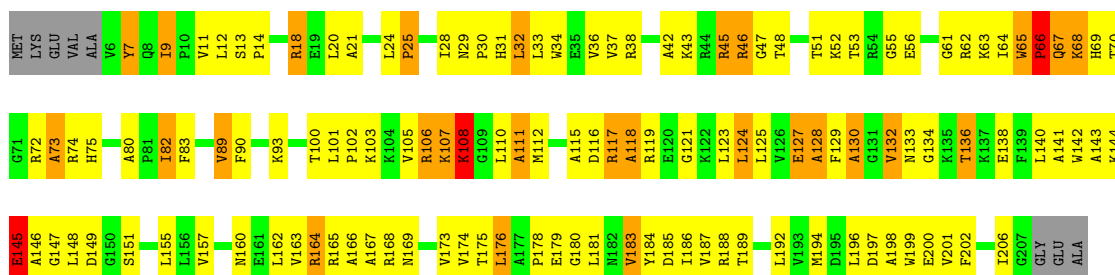
Chain E:





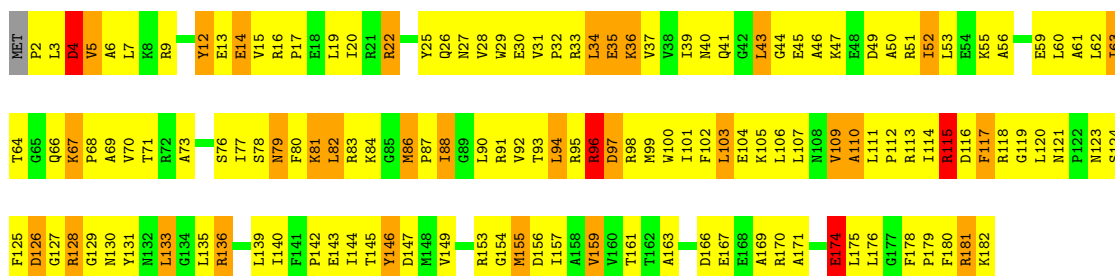
- Molecule 5: 50S ribosomal protein L4

Chain F:



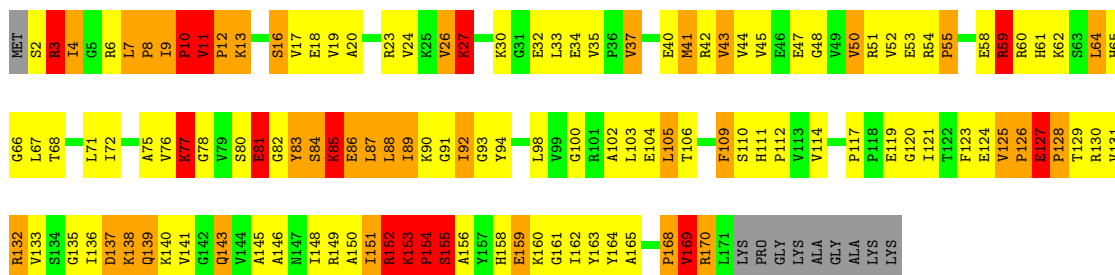
- Molecule 6: 50S ribosomal protein L5

Chain G:



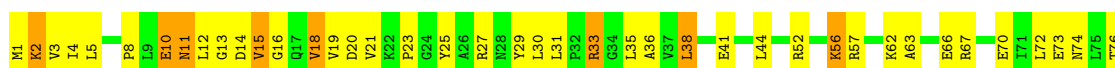
- Molecule 7: 50S ribosomal protein L6

Chain H:



- Molecule 8: 50S ribosomal protein L9

Chain I:





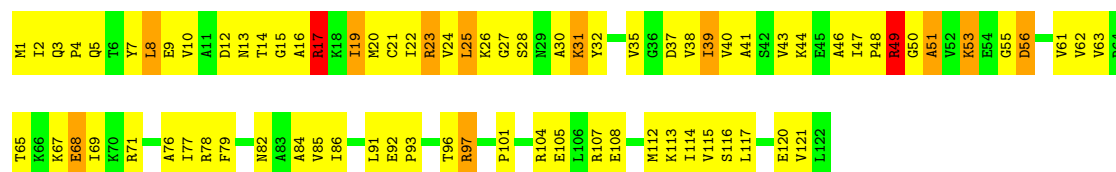
• Molecule 9: 50S ribosomal protein L13

Chain N:



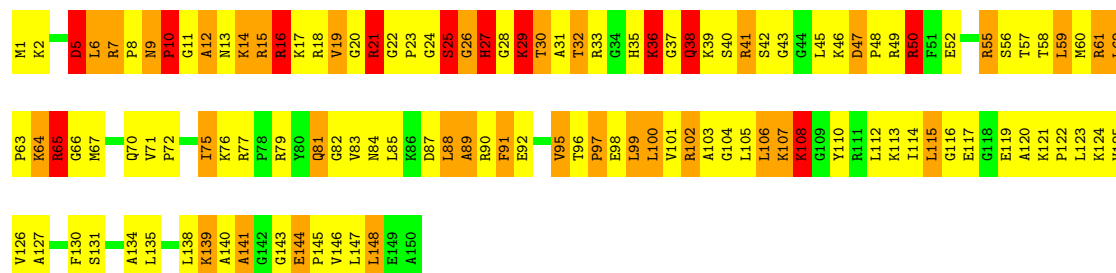
• Molecule 10: 50S ribosomal protein L14

Chain O:



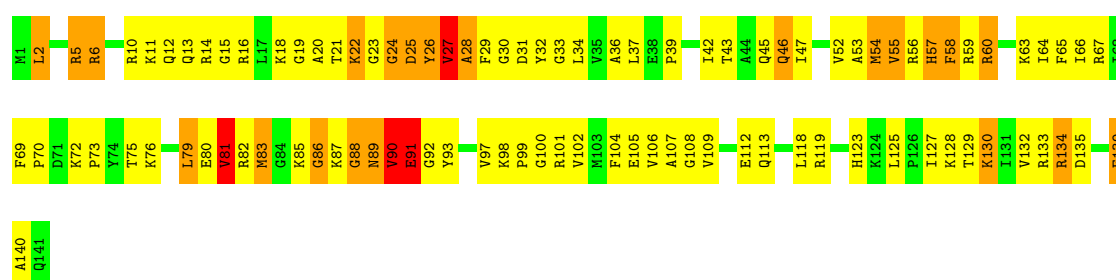
• Molecule 11: 50S ribosomal protein L15

Chain P:



• Molecule 12: 50S ribosomal protein L16

Chain Q:



• Molecule 13: 50S ribosomal protein L17

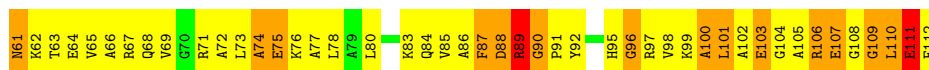
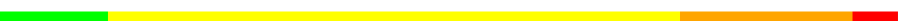
Chain R:





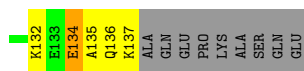
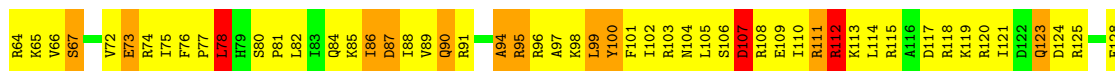
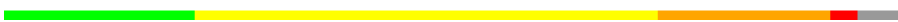
• Molecule 14: 50S ribosomal protein L18

Chain S:



• Molecule 15: 50S ribosomal protein L19

Chain T:



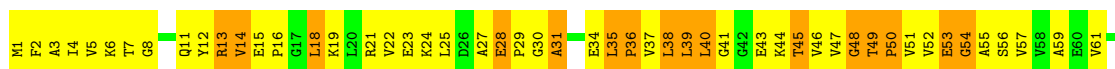
• Molecule 16: 50S ribosomal protein L20

Chain U:



• Molecule 17: 50S ribosomal protein L21

Chain V:



• Molecule 18: 50S ribosomal protein L22

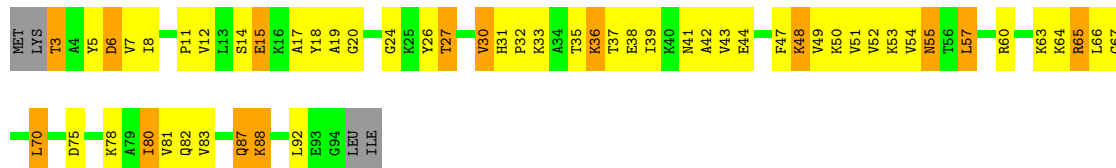
Chain W:





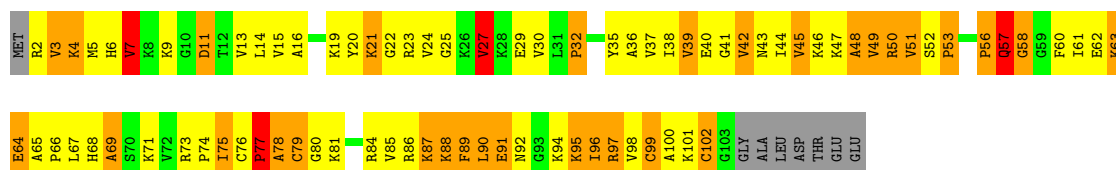
- Molecule 19: 50S ribosomal protein L23

Chain X:



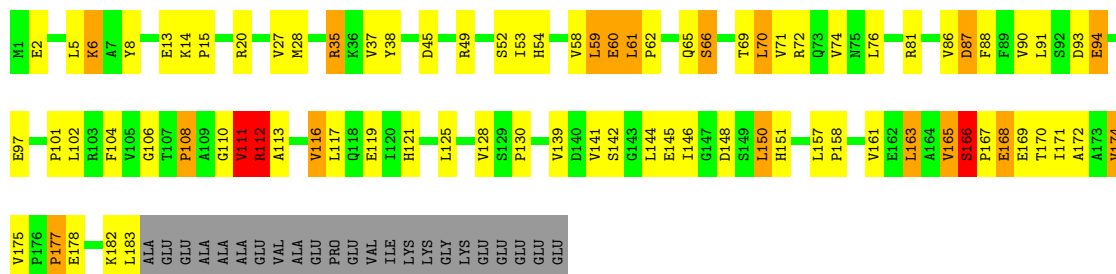
- Molecule 20: 50S ribosomal protein L24

Chain Y:



- Molecule 21: 50S ribosomal protein L25

Chain Z:



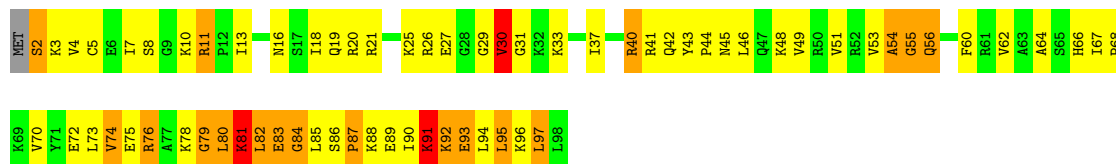
- Molecule 22: 50S ribosomal protein L27

Chain 0:



- Molecule 23: 50S ribosomal protein L28

Chain 1:



- Molecule 24: 50S ribosomal protein L29

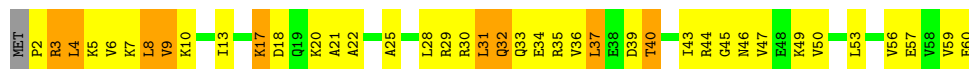
Chain 2:





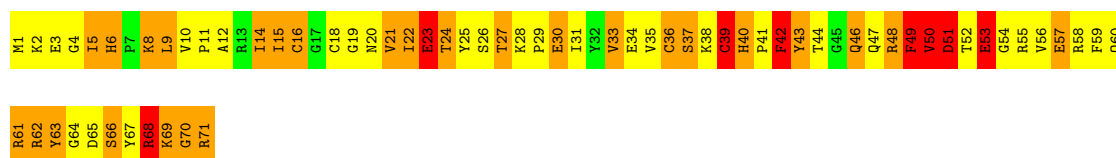
- Molecule 25: 50S ribosomal protein L30

Chain 3:



- Molecule 26: 50S ribosomal protein L31

Chain 4:



- Molecule 27: 50S ribosomal protein L32

Chain 5:



- Molecule 28: 50S ribosomal protein L33

Chain 6:



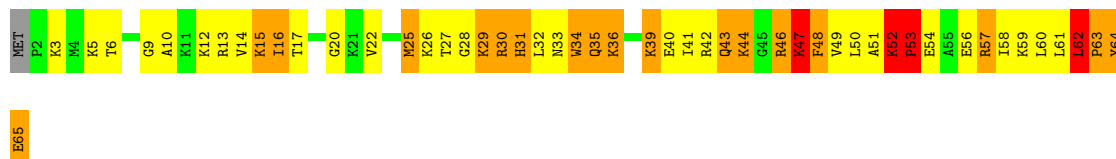
- Molecule 29: 50S ribosomal protein L34

Chain 7:



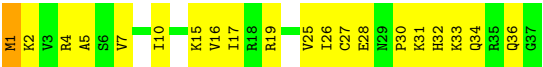
- Molecule 30: 50S ribosomal protein L35

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, $\alpha$ , $\beta$ , $\gamma$	208.25Å 448.40Å 624.58Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.97 – 3.48	Depositor
% Data completeness (in resolution range)	99.6 (34.97-3.48)	Depositor
$R_{merge}$	0.32	Depositor
$R_{sym}$	(Not available)	Depositor
Refinement program	PHENIX	Depositor
R, $R_{free}$	0.230 , 0.270	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	92243	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	89.0	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: ZN, 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	0.38	4/69521 (0.0%)	0.89	62/108529 (0.1%)
2	B	0.31	0/2878	0.82	1/4490 (0.0%)
3	D	0.59	2/2165 (0.1%)	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	3/1802 (0.2%)
8	I	0.32	0/1151	0.58	0/1558
9	N	0.46	0/1131	0.77	1/1525 (0.1%)
10	O	0.54	0/943	0.71	0/1269
11	P	0.50	0/1162	0.95	3/1544 (0.2%)
12	Q	0.54	0/1143	0.91	3/1527 (0.2%)
13	R	0.45	0/982	0.80	1/1312 (0.1%)
14	S	0.46	0/892	0.82	1/1187 (0.1%)
15	T	0.47	0/1155	0.73	2/1542 (0.1%)
16	U	0.48	0/982	0.78	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	0.29	0/1493	0.53	0/2026
22	0	0.30	0/657	0.54	1/874 (0.1%)
23	1	0.49	0/770	0.85	1/1022 (0.1%)
24	2	0.51	0/583	0.83	1/771 (0.1%)
25	3	0.47	0/474	0.72	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	0.43	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	0.35	0/310	0.60	0/407
32	a	0.80	0/40	1.78	1/60 (1.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
All	All	0.41	6/100183 (0.0%)	0.86	89/150284 (0.1%)

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1472	A	N9-C8	-11.04	1.28	1.37
3	D	236	GLY	C-N	8.56	1.53	1.34
1	A	1472	A	C8-N7	-8.20	1.25	1.31
1	A	1413	G	N9-C4	-7.25	1.32	1.38
3	D	241	PRO	N-CD	5.17	1.55	1.47
1	A	1473	G	C8-N7	-5.02	1.27	1.30

All (89) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1472	A	N7-C8-N9	12.07	119.84	113.80
4	E	21	VAL	C-N-CD	-10.06	98.47	120.60
12	Q	81	VAL	CB-CA-C	-8.62	95.02	111.40
1	A	1472	A	O4'-C1'-N9	8.54	115.03	108.20
1	A	1472	A	C6-N1-C2	-8.45	113.53	118.60
23	1	79	GLY	N-CA-C	-7.84	93.50	113.10
1	A	2506	U	N1-C2-O2	7.33	127.93	122.80
1	A	1413	G	N1-C6-O6	-7.31	115.51	119.90
1	A	1472	A	N1-C6-N6	-7.29	114.22	118.60
11	P	59	LEU	N-CA-C	-7.26	91.39	111.00
1	A	2506	U	C2-N1-C1'	7.22	126.36	117.70
12	Q	81	VAL	N-CA-C	7.03	129.97	111.00
1	A	2702	U	C2-N1-C1'	6.81	125.87	117.70
1	A	1413	G	C5-N7-C8	-6.71	100.94	104.30
1	A	2506	U	N3-C2-O2	-6.62	117.57	122.20
32	a	74	C	N1-C2-O2	6.56	122.83	118.90
3	D	131	LEU	CA-CB-CG	6.55	130.35	115.30
1	A	1130	U	P-O3'-C3'	6.53	127.54	119.70
1	A	2430	A	N1-C2-N3	6.50	132.55	129.30
1	A	1413	G	C6-N1-C2	-6.48	121.21	125.10
1	A	1472	A	N1-C2-N3	6.31	132.45	129.30
1	A	1899	G	N1-C2-N2	-6.24	110.58	116.20
1	A	242	G	P-O3'-C3'	6.20	127.14	119.70
1	A	1332	G	C6-C5-N7	-6.18	126.69	130.40
1	A	1899	G	N3-C2-N2	6.16	124.21	119.90
1	A	1980	G	P-O3'-C3'	6.06	126.97	119.70
13	R	9	LYS	N-CA-C	-6.03	94.71	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1332	G	C4-N9-C1'	6.03	134.34	126.50
1	A	1413	G	C5-C6-N1	6.00	114.50	111.50
1	A	2848	G	P-O3'-C3'	5.99	126.89	119.70
1	A	828	U	C2-N1-C1'	5.97	124.86	117.70
3	D	240	ALA	C-N-CD	5.94	140.88	128.40
1	A	2490	G	C4-N9-C1'	5.92	134.19	126.50
1	A	1799	G	P-O3'-C3'	5.90	126.78	119.70
7	H	125	VAL	C-N-CD	-5.87	107.69	120.60
1	A	1474	C	C2-N1-C1'	5.86	125.25	118.80
2	B	43	C	C2-N1-C1'	5.85	125.23	118.80
4	E	58	ARG	N-CA-C	-5.85	95.21	111.00
1	A	1474	C	C6-N1-C2	-5.80	117.98	120.30
1	A	2689	U	P-O3'-C3'	5.79	126.65	119.70
11	P	26	GLY	N-CA-C	-5.78	98.66	113.10
24	2	16	LEU	N-CA-C	-5.75	95.47	111.00
1	A	2702	U	C5-C6-N1	5.74	125.57	122.70
1	A	1473	G	N7-C8-N9	5.71	115.95	113.10
1	A	1332	G	N7-C8-N9	5.70	115.95	113.10
1	A	2832	U	P-O3'-C3'	5.58	126.39	119.70
1	A	2490	G	N7-C8-N9	5.57	115.89	113.10
1	A	1022	G	P-O3'-C3'	5.56	126.38	119.70
9	N	114	ARG	N-CA-C	-5.56	95.98	111.00
1	A	2614	A	C6-N1-C2	-5.56	115.26	118.60
26	4	39	CYS	N-CA-C	-5.54	96.04	111.00
1	A	1992	G	P-O3'-C3'	5.54	126.34	119.70
1	A	1653	G	P-O3'-C3'	5.53	126.33	119.70
1	A	752	A	P-O3'-C3'	5.53	126.33	119.70
1	A	2490	G	C8-N9-C4	-5.51	104.20	106.40
1	A	676	A	O4'-C1'-N9	5.50	112.60	108.20
3	D	251	GLY	N-CA-C	5.46	126.76	113.10
7	H	127	GLU	N-CA-C	-5.46	96.25	111.00
11	P	25	SER	N-CA-C	-5.45	96.29	111.00
1	A	229	A	OP2-P-O3'	5.45	117.18	105.20
1	A	227	A	P-O3'-C3'	5.44	126.22	119.70
1	A	1474	C	C5-C6-N1	5.41	123.71	121.00
1	A	222	A	P-O3'-C3'	5.41	126.19	119.70
1	A	1694	C	P-O3'-C3'	5.38	126.15	119.70
7	H	100	GLY	N-CA-C	-5.35	99.72	113.10
3	D	111	LEU	CA-CB-CG	5.33	127.55	115.30
1	A	404	C	P-O3'-C3'	5.32	126.09	119.70
1	A	783	A	C5-N7-C8	-5.30	101.25	103.90
1	A	1950	G	O4'-C1'-N9	5.28	112.43	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	846	C	P-O3'-C3'	5.28	126.03	119.70
30	8	36	LYS	N-CA-C	-5.27	96.77	111.00
1	A	669	G	C4-N9-C1'	5.26	133.34	126.50
1	A	1535	U	C2-N1-C1'	5.24	123.98	117.70
14	S	110	LEU	CA-CB-CG	5.24	127.34	115.30
1	A	2506	U	C6-N1-C1'	-5.23	113.88	121.20
12	Q	5	ARG	N-CA-C	-5.22	96.91	111.00
1	A	859	G	P-O3'-C3'	5.18	125.92	119.70
1	A	2712	U	N3-C2-O2	-5.18	118.58	122.20
1	A	1312	U	P-O3'-C3'	5.13	125.86	119.70
1	A	1473	G	O4'-C1'-N9	5.12	112.30	108.20
1	A	1644	C	C2-N1-C1'	5.07	124.38	118.80
1	A	1558	A	P-O3'-C3'	5.07	125.78	119.70
1	A	1396	U	N1-C2-O2	5.05	126.34	122.80
15	T	123	GLN	N-CA-C	-5.05	97.35	111.00
1	A	828	U	N3-C2-O2	-5.05	118.67	122.20
15	T	59	THR	N-CA-C	-5.04	97.40	111.00
1	A	229	A	P-O3'-C3'	5.03	125.73	119.70
22	0	7	LEU	CA-CB-CG	5.01	126.83	115.30
1	A	1012	U	P-O3'-C3'	5.01	125.71	119.70

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	62071	0	31288	876	1
2	B	2573	0	1306	66	0
3	D	2115	0	2195	306	0
4	E	1568	0	1634	272	0
5	F	1585	0	1632	173	0
6	G	1474	0	1535	206	1
7	H	1307	0	1382	225	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	I	1136	0	1223	40	0
9	N	1104	0	1180	197	0
10	O	933	0	996	119	0
11	P	1145	0	1228	246	0
12	Q	1122	0	1179	153	0
13	R	968	0	1033	113	0
14	S	882	0	943	162	0
15	T	1141	0	1202	148	0
16	U	964	0	1022	128	0
17	V	779	0	852	130	0
18	W	900	0	964	101	0
19	X	725	0	778	67	0
20	Y	785	0	878	161	0
21	Z	1461	0	1493	52	0
22	0	648	0	672	21	0
23	1	763	0	848	143	0
24	2	581	0	629	79	0
25	3	469	0	518	39	0
26	4	581	0	574	131	0
27	5	459	0	480	73	0
28	6	424	0	450	94	0
29	7	430	0	480	39	0
30	8	517	0	582	105	0
31	9	307	0	335	20	0
32	a	74	0	51	0	0
33	0	1	0	0	0	0
33	5	1	0	0	0	0
33	A	241	0	0	0	0
33	B	2	0	0	0	0
33	D	1	0	0	0	0
33	E	2	0	0	0	0
33	F	1	0	0	0	0
33	R	2	0	0	0	0
34	9	1	0	0	0	0
All	All	92243	0	61562	4238	1

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 (4238) 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	1.36	1.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
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
12:Q:59:ARG:O	12:Q:60:ARG:HD2	1.38	1.22
7:H:127:GLU:HG2	7:H:128:PRO:CD	1.70	1.20
7:H:127:GLU:CB	7:H:128:PRO:HD3	1.69	1.19
20:Y:95:LYS:HB3	20:Y:100:ALA:HA	1.20	1.17
7:H:132:ARG:HH11	7:H:132:ARG:HB2	1.10	1.16
11:P:50:ARG:HB3	11:P:50:ARG:HH21	1.13	1.14
1:A:1542:G:O6	1:A:1543:A:N6	1.80	1.14
23:1:82:LEU:HD12	23:1:82:LEU:C	1.66	1.13
23:1:82:LEU:CD1	23:1:83:GLU:O	1.97	1.12
16:U:8:VAL:HG23	16:U:11:ARG:HH21	1.14	1.11
5:F:101:LEU:HD12	5:F:102:PRO:HD2	1.21	1.11
3:D:44:ASN:HB2	3:D:48:ARG:O	1.50	1.11
23:1:82:LEU:HD12	23:1:83:GLU:N	1.66	1.10
4:E:179:GLU:HB3	4:E:181:LEU:HD23	1.32	1.10
7:H:86:GLU:HG3	7:H:165:ALA:H	1.06	1.10
20:Y:76:CYS:HB3	20:Y:96:ILE:HD13	1.17	1.10
11:P:19:VAL:HG22	11:P:20:GLY:H	1.15	1.08
3:D:131:LEU:HB2	3:D:136:ILE:HD11	1.35	1.07
11:P:126:VAL:HG12	11:P:147:LEU:HD21	1.30	1.07
7:H:152:ARG:HG3	7:H:153:LYS:HE2	1.34	1.07
26:4:71:ARG:HG3	26:4:71:ARG:HH11	1.13	1.07
4:E:50:GLY:HA2	4:E:77:ILE:HA	1.31	1.07
11:P:59:LEU:HA	11:P:61:ARG:NH2	1.69	1.06
4:E:21:VAL:HB	4:E:22:PRO:HB3	1.37	1.06
4:E:63:LEU:HD12	4:E:64:LYS:H	1.18	1.06
23:1:82:LEU:CD1	23:1:83:GLU:N	2.18	1.06
5:F:46:ARG:HH11	5:F:46:ARG:HG2	1.20	1.06
9:N:134:ARG:H	9:N:135:PRO:HD3	1.11	1.05
16:U:90:VAL:HG12	16:U:91:ASP:H	1.18	1.04
7:H:127:GLU:CB	7:H:128:PRO:CD	2.35	1.04
12:Q:59:ARG:O	12:Q:60:ARG:CD	2.05	1.04
13:R:67:LEU:HD13	13:R:76:VAL:HG21	1.39	1.04
14:S:106:ARG:HA	14:S:110:LEU:HD11	1.39	1.04
12:Q:81:VAL:O	12:Q:82:ARG:CD	2.06	1.03
14:S:83:LYS:O	14:S:109:GLY:HA3	1.56	1.03
3:D:35:LYS:HG2	3:D:64:ILE:N	1.72	1.03
30:8:52:LYS:H	30:8:53:PRO:CD	1.69	1.02
12:Q:80:GLU:O	12:Q:81:VAL:HG13	1.59	1.02
5:F:67:GLN:HG3	5:F:67:GLN:O	1.58	1.02
5:F:67:GLN:O	5:F:68:LYS:HB2	1.56	1.02

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:12:GLN:HG2	12:Q:73:PRO:HD2	1.42	1.02
7:H:153:LYS:HB3	7:H:154:PRO:HD2	1.07	1.02
10:O:53:LYS:H	10:O:53:LYS:HD2	1.23	1.02
5:F:185:ASP:HA	5:F:188:ARG:HD3	1.41	1.01
20:Y:97:ARG:HH21	20:Y:98:VAL:HB	1.25	1.00
14:S:26:LEU:HD12	14:S:39:ILE:HD11	1.40	1.00
17:V:49:THR:HB	17:V:50:PRO:HD2	1.39	1.00
3:D:227:ASN:HB3	3:D:228:PRO:HD2	1.44	1.00
26:4:56:VAL:HA	26:4:60:GLN:HB2	1.43	1.00
12:Q:65:PHE:O	12:Q:66:ILE:HG12	1.59	1.00
12:Q:81:VAL:O	12:Q:82:ARG:NE	1.94	1.00
24:2:50:ILE:HD12	24:2:51:ARG:N	1.76	1.00
1:A:2701:C:H3'	1:A:2702:U:H5''	1.44	1.00
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
7:H:77:LYS:HB3	7:H:77:LYS:HZ3	1.22	0.99
14:S:83:LYS:NZ	14:S:109:GLY:HA2	1.78	0.99
7:H:127:GLU:CG	7:H:128:PRO:CD	2.31	0.99
11:P:50:ARG:HH21	11:P:50:ARG:CB	1.76	0.98
18:W:86:LEU:HD12	18:W:87:PRO:HD2	1.45	0.98
11:P:105:LEU:O	11:P:106:LEU:HB2	1.61	0.98
6:G:13:GLU:O	6:G:14:GLU:HB2	1.60	0.98
12:Q:79:LEU:HD22	12:Q:79:LEU:O	1.64	0.98
3:D:44:ASN:HB3	3:D:49:ILE:HA	1.45	0.98
4:E:20:ALA:O	4:E:21:VAL:HG22	1.65	0.97
23:1:81:LYS:HZ3	23:1:81:LYS:HA	0.82	0.97
1:A:2015:A:H1'	27:5:2:ALA:HA	1.47	0.97
9:N:96:GLU:HG2	9:N:97:ARG:H	1.26	0.97
24:2:50:ILE:HD12	24:2:51:ARG:H	1.24	0.97
28:6:7:ILE:HG13	28:6:8:LYS:H	1.25	0.96
12:Q:79:LEU:HD13	12:Q:79:LEU:O	1.63	0.96
2:B:55:U:H4'	6:G:29:TRP:HE1	1.30	0.96
6:G:112:PRO:HB3	26:4:37:SER:HB2	1.47	0.96
28:6:47:THR:HG22	28:6:48:VAL:HG12	1.46	0.96
13:R:54:LEU:HD23	13:R:66:VAL:HG23	1.44	0.95
20:Y:84:ARG:HH12	20:Y:97:ARG:HB2	1.28	0.95
5:F:101:LEU:HD12	5:F:102:PRO:CD	1.96	0.95
7:H:86:GLU:HG3	7:H:165:ALA:N	1.79	0.95
24:2:13:ALA:HA	24:2:16:LEU:HD23	1.48	0.94
11:P:62:LEU:HD22	11:P:62:LEU:N	1.81	0.94
23:1:81:LYS:CA	23:1:81:LYS:CE	2.45	0.94
20:Y:51:VAL:HG13	20:Y:52:SER:H	1.31	0.94

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:2:ILE:HD11	10:O:82:ASN:HD22	1.33	0.94
3:D:28:GLU:HB2	3:D:29:PRO:CD	1.98	0.94
23:1:81:LYS:N	23:1:81:LYS:CE	2.30	0.94
28:6:41:PRO:HG2	28:6:45:LYS:H	1.29	0.94
3:D:108:PRO:HB3	3:D:143:HIS:HE1	1.32	0.94
15:T:62:THR:HG22	15:T:75:ILE:HG12	1.46	0.94
17:V:35:LEU:HD21	17:V:57:VAL:HG22	1.47	0.94
15:T:11:GLU:CD	15:T:11:GLU:H	1.71	0.94
19:X:57:LEU:CD1	19:X:78:LYS:HB2	1.98	0.94
27:5:56:LYS:H	27:5:56:LYS:HD2	1.30	0.93
4:E:78:LEU:HG	4:E:79:ARG:HE	1.31	0.93
9:N:134:ARG:H	9:N:135:PRO:CD	1.81	0.93
14:S:59:LYS:HG2	14:S:60:GLY:H	1.31	0.93
1:A:2729:G:HI'	4:E:187:ALA:HB2	1.51	0.93
11:P:1:MET:HE2	11:P:5:ASP:HB3	1.51	0.93
12:Q:59:ARG:O	12:Q:60:ARG:CG	2.17	0.93
17:V:99:ILE:HD13	17:V:99:ILE:H	1.32	0.93
27:5:58:LEU:HD13	27:5:60:VAL:HG12	1.48	0.93
7:H:127:GLU:HB3	7:H:128:PRO:CD	1.99	0.93
12:Q:34:LEU:HD11	12:Q:129:THR:HB	1.50	0.93
1:A:270(T):G:H5"	23:1:97:LEU:HD22	1.50	0.93
3:D:147:LEU:HD13	3:D:155:LEU:HD11	1.51	0.92
3:D:183:ARG:HH11	3:D:183:ARG:HG2	1.34	0.92
23:1:81:LYS:CA	23:1:81:LYS:NZ	2.31	0.92
5:F:103:LYS:HA	5:F:106:ARG:HG3	1.48	0.92
6:G:37:VAL:HG22	6:G:159:VAL:HA	1.52	0.92
1:A:270(R):G:N3	23:1:78:LYS:NZ	2.18	0.92
3:D:108:PRO:HB3	3:D:143:HIS:CE1	2.05	0.92
7:H:153:LYS:CB	7:H:154:PRO:HD2	1.97	0.92
23:1:81:LYS:CE	23:1:81:LYS:HA	2.00	0.91
17:V:24:LYS:HA	17:V:92:THR:HG23	1.52	0.91
13:R:33:ARG:NH2	27:5:55:ARG:HG2	1.84	0.91
6:G:101:ILE:HG13	6:G:102:PHE:N	1.86	0.91
7:H:77:LYS:NZ	7:H:77:LYS:HB3	1.82	0.91
4:E:14:ILE:HG12	4:E:15:PHE:H	1.33	0.91
5:F:7:TYR:HB3	5:F:21:ALA:HB1	1.53	0.91
3:D:10:THR:HG23	3:D:13:ARG:HB3	1.51	0.90
14:S:67:ARG:NH1	14:S:67:ARG:HB2	1.85	0.90
7:H:4:ILE:HG13	7:H:6:ARG:CZ	2.01	0.90
11:P:58:THR:O	11:P:61:ARG:NE	2.05	0.90
24:2:65:ASN:HB3	24:2:69:ARG:HH12	1.34	0.90
12:Q:59:ARG:O	12:Q:60:ARG:HG3	1.72	0.90

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:26:VAL:HG13	7:H:27:LYS:H	1.36	0.89
7:H:10:PRO:HD2	7:H:50:VAL:O	1.72	0.89
3:D:69:ARG:HH21	3:D:130:ALA:HB2	1.37	0.89
16:U:92:ARG:O	16:U:92:ARG:HG2	1.69	0.89
17:V:44:LYS:O	17:V:46:VAL:HG12	1.72	0.89
27:5:3:LYS:HE3	27:5:3:LYS:HA	1.54	0.89
1:A:518:G:H4'	18:W:18:ARG:HH12	1.38	0.89
20:Y:76:CYS:SG	20:Y:77:PRO:HD2	2.13	0.89
30:8:52:LYS:H	30:8:53:PRO:HD3	1.35	0.89
11:P:65:ARG:HH11	11:P:65:ARG:HG3	1.35	0.89
11:P:88:LEU:HD12	11:P:95:VAL:HG11	1.52	0.89
3:D:27:THR:HG23	3:D:28:GLU:H	1.38	0.88
23:1:80:LEU:O	23:1:81:LYS:HB2	1.71	0.88
20:Y:30:VAL:HG22	20:Y:37:VAL:HG12	1.53	0.88
6:G:88:ILE:O	6:G:88:ILE:HD13	1.72	0.88
11:P:106:LEU:O	11:P:107:LYS:HB2	1.71	0.88
4:E:63:LEU:HD12	4:E:64:LYS:N	1.88	0.88
9:N:22:THR:HG22	9:N:23:LEU:N	1.88	0.88
30:8:59:LYS:HB2	30:8:59:LYS:NZ	1.88	0.88
11:P:49:ARG:HD2	30:8:58:ILE:HG22	1.54	0.87
14:S:106:ARG:NH1	14:S:106:ARG:HB2	1.88	0.87
17:V:19:LYS:HD2	17:V:95:LEU:HD23	1.55	0.87
20:Y:38:ILE:HG22	20:Y:66:PRO:HA	1.54	0.87
27:5:40:LYS:HZ1	27:5:48:GLU:HB2	1.39	0.87
4:E:77:ILE:HD12	4:E:78:LEU:N	1.89	0.87
18:W:65:LEU:HD12	18:W:68:ARG:HH11	1.36	0.87
3:D:28:GLU:HB2	3:D:29:PRO:HD2	1.56	0.87
3:D:181:GLU:HA	3:D:272:ALA:HB3	1.57	0.87
1:A:247:G:O6	30:8:12:LYS:NZ	2.06	0.87
11:P:64:LYS:O	11:P:66:GLY:N	2.07	0.87
3:D:44:ASN:H	3:D:44:ASN:HD22	1.19	0.87
12:Q:64:ILE:HA	12:Q:106:VAL:HG12	1.54	0.87
23:1:92:LYS:HG3	23:1:96:LYS:HB2	1.57	0.86
14:S:106:ARG:HH11	14:S:106:ARG:HB2	1.39	0.86
6:G:116:ASP:O	6:G:117:PHE:HB3	1.72	0.86
11:P:75:ILE:H	11:P:75:ILE:HD13	1.39	0.86
5:F:82:ILE:HG13	5:F:82:ILE:O	1.73	0.86
5:F:29:ASN:H	5:F:112:MET:HE3	1.40	0.86
3:D:44:ASN:CB	3:D:49:ILE:HA	2.04	0.86
6:G:161:THR:HG22	6:G:163:ALA:H	1.39	0.86
1:A:571:A:O2'	17:V:78:LYS:NZ	2.09	0.86
20:Y:51:VAL:O	20:Y:56:PRO:HA	1.76	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:61:ARG:O	4:E:63:LEU:HG	1.77	0.85
16:U:92:ARG:HD2	17:V:11:GLN:NE2	1.90	0.85
23:1:82:LEU:HD13	23:1:83:GLU:O	1.74	0.85
1:A:1826:G:H4'	3:D:242:ARG:HH21	1.41	0.85
5:F:32:LEU:HD13	5:F:105:VAL:HG13	1.59	0.85
12:Q:75:THR:HA	12:Q:88:GLY:O	1.76	0.85
4:E:95:ILE:HD12	4:E:95:ILE:H	1.41	0.85
27:5:39:MET:O	27:5:40:LYS:HG3	1.77	0.85
4:E:81:ILE:O	4:E:82:ARG:HB2	1.75	0.85
7:H:127:GLU:HG2	7:H:128:PRO:HD3	0.86	0.85
16:U:64:ARG:HG2	16:U:64:ARG:HH21	1.42	0.85
6:G:67:LYS:HE2	26:4:6:HIS:NE2	1.92	0.85
3:D:17:THR:HG22	3:D:205:VAL:H	1.41	0.85
30:8:59:LYS:NZ	30:8:59:LYS:CB	2.40	0.84
1:A:819:A:OP2	1:A:1187:G:N2	2.09	0.84
11:P:18:ARG:O	11:P:19:VAL:HB	1.75	0.84
23:1:81:LYS:HZ3	23:1:81:LYS:CA	1.79	0.84
7:H:89:ILE:HD11	7:H:129:THR:HB	1.59	0.84
1:A:2056:G:N2	27:5:4:HIS:O	2.09	0.84
4:E:24:THR:HG21	4:E:188:VAL:HG11	1.59	0.84
11:P:62:LEU:CD2	30:8:25:MET:HB2	2.08	0.84
14:S:89:ARG:HD2	14:S:92:TYR:O	1.78	0.84
6:G:98:ARG:HA	6:G:101:ILE:HG12	1.59	0.84
10:O:26:LYS:HB2	10:O:30:ALA:HB2	1.59	0.84
1:A:674:G:H1'	5:F:74:ARG:HD3	1.58	0.84
14:S:83:LYS:HG2	14:S:109:GLY:CA	2.07	0.84
15:T:111:ARG:O	15:T:112:ARG:HG3	1.76	0.84
17:V:49:THR:HB	17:V:50:PRO:CD	2.07	0.84
7:H:54:ARG:NH1	7:H:62:LYS:HG2	1.92	0.84
3:D:35:LYS:HG2	3:D:64:ILE:H	1.40	0.84
23:1:82:LEU:HD11	23:1:83:GLU:O	1.75	0.83
15:T:24:PRO:HA	15:T:49:VAL:HG13	1.59	0.83
20:Y:81:LYS:HD3	20:Y:97:ARG:HE	1.43	0.83
27:5:40:LYS:HD3	27:5:46:CYS:HB3	1.60	0.83
7:H:105:LEU:H	7:H:105:LEU:HD13	1.42	0.83
1:A:338:G:OP1	20:Y:4:LYS:NZ	2.10	0.83
13:R:117:VAL:HG22	13:R:118:GLU:H	1.43	0.83
4:E:35:GLN:HG2	4:E:37:ARG:HE	1.44	0.83
9:N:133:GLN:HB2	9:N:135:PRO:HD3	1.59	0.83
20:Y:57:GLN:NE2	20:Y:58:GLY:H	1.76	0.83
15:T:3:ARG:HG3	15:T:7:ILE:HG12	1.60	0.83
11:P:65:ARG:NH1	11:P:65:ARG:HG3	1.90	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:36:CYS:O	26:4:39:CYS:HB2	1.79	0.83
9:N:131:GLN:NE2	9:N:132:ALA:H	1.75	0.83
15:T:53:ARG:O	15:T:59:THR:HG23	1.78	0.83
17:V:66:ARG:NH1	17:V:88:ARG:HD3	1.94	0.83
5:F:53:THR:HG23	5:F:56:GLU:OE1	1.77	0.83
14:S:88:ASP:O	14:S:89:ARG:HB3	1.78	0.83
11:P:101:VAL:HG23	11:P:107:LYS:H	1.41	0.82
4:E:15:PHE:CE1	4:E:20:ALA:HB2	2.14	0.82
12:Q:30:GLY:HA2	12:Q:107:ALA:HB2	1.60	0.82
14:S:106:ARG:HA	14:S:110:LEU:CD1	2.08	0.82
28:6:27:LYS:NZ	28:6:27:LYS:HB2	1.93	0.82
1:A:2314:C:OP1	6:G:91:ARG:NH1	2.10	0.82
1:A:2502:G:H5"	1:A:2503:A:H5"	1.62	0.82
3:D:35:LYS:NZ	3:D:104:TYR:HB2	1.93	0.82
4:E:7:VAL:HG23	4:E:8:LYS:H	1.44	0.82
26:4:33:VAL:HG12	26:4:34:GLU:H	1.44	0.82
16:U:88:ILE:H	16:U:88:ILE:HD13	1.44	0.82
6:G:179:PRO:HG3	26:4:38:LYS:NZ	1.95	0.82
9:N:22:THR:HG22	9:N:23:LEU:H	1.44	0.82
1:A:2068:U:H3	1:A:2430:A:H2	1.24	0.81
5:F:155:LEU:HD13	5:F:174:VAL:HG13	1.62	0.81
7:H:132:ARG:NH1	7:H:132:ARG:HB2	1.94	0.81
12:Q:83:MET:HB2	22:0:7:LEU:HD12	1.59	0.81
24:2:16:LEU:HG	24:2:16:LEU:O	1.78	0.81
30:8:52:LYS:N	30:8:53:PRO:CD	2.43	0.81
7:H:152:ARG:O	7:H:153:LYS:HB2	1.80	0.81
7:H:153:LYS:HG2	7:H:162:ILE:HG13	1.61	0.81
7:H:8:PRO:C	7:H:9:ILE:HG12	2.00	0.81
11:P:126:VAL:HG22	11:P:145:PRO:HG2	1.60	0.81
12:Q:90:VAL:HG13	12:Q:91:GLU:N	1.95	0.81
10:O:53:LYS:N	10:O:53:LYS:HD2	1.96	0.81
15:T:102:ILE:HA	15:T:105:LEU:HD21	1.62	0.81
1:A:631:A:OP2	30:8:46:ARG:NH2	2.13	0.81
1:A:141:A:H8	1:A:1595:G:H21	1.27	0.81
3:D:27:THR:HG23	3:D:28:GLU:N	1.96	0.81
6:G:67:LYS:HE2	26:4:6:HIS:CE1	2.14	0.81
7:H:26:VAL:HG13	7:H:27:LYS:N	1.96	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
29:7:48:LYS:HG2	29:7:49:ARG:H	1.46	0.81
4:E:3:GLY:O	4:E:4:ILE:HB	1.81	0.81
11:P:39:LYS:HA	11:P:45:LEU:CD1	2.10	0.81

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:106:ARG:CA	14:S:110:LEU:HD21	2.11	0.81
14:S:36:TYR:HD2	14:S:52:SER:HB3	1.46	0.81
15:T:39:ARG:HG2	15:T:40:THR:H	1.46	0.81
15:T:62:THR:CG2	15:T:75:ILE:HG12	2.11	0.81
1:A:2245:U:H5'	1:A:2246:G:H5'	1.63	0.80
1:A:957:A:H5'	12:Q:76:LYS:HD2	1.62	0.80
6:G:47:LYS:HD3	6:G:81:LYS:HB2	1.63	0.80
20:Y:76:CYS:HB3	20:Y:96:ILE:CD1	2.07	0.80
27:5:4:HIS:HB3	27:5:5:PRO:CD	2.11	0.80
4:E:116:VAL:HG21	4:E:122:PHE:CD2	2.16	0.80
4:E:52:LEU:HB2	4:E:75:VAL:HG23	1.62	0.80
7:H:13:LYS:HE2	7:H:13:LYS:HA	1.61	0.80
20:Y:6:HIS:O	20:Y:7:VAL:HG13	1.82	0.80
14:S:19:LYS:O	14:S:20:ARG:HB3	1.80	0.80
4:E:50:GLY:CA	4:E:77:ILE:HA	2.10	0.80
4:E:201:THR:CG2	4:E:203:LYS:HB3	2.12	0.80
3:D:27:THR:HG21	3:D:83:GLU:HB3	1.64	0.80
11:P:47:ASP:OD2	11:P:49:ARG:HG2	1.82	0.80
3:D:121:PRO:HB3	3:D:135:PHE:HE1	1.46	0.80
5:F:198:ALA:HA	5:F:201:VAL:HG12	1.62	0.80
17:V:99:ILE:N	17:V:99:ILE:HD13	1.95	0.80
3:D:25:THR:HG22	3:D:82:ILE:H	1.47	0.79
3:D:34:VAL:O	3:D:34:VAL:HG13	1.80	0.79
5:F:145:GLU:HG3	5:F:145:GLU:O	1.81	0.79
5:F:11:VAL:HB	5:F:18:ARG:HG3	1.64	0.79
10:O:14:THR:HG21	10:O:86:ILE:HB	1.62	0.79
1:A:1454:U:OP1	13:R:77:ARG:NH1	2.15	0.79
1:A:1019:U:H3	1:A:1142(A):A:H62	1.29	0.79
3:D:25:THR:CG2	3:D:82:ILE:H	1.93	0.79
4:E:111:ARG:HE	4:E:160:TYR:HE1	1.31	0.79
6:G:61:ALA:HB2	6:G:68:PRO:CD	2.12	0.79
6:G:77:ILE:HD13	6:G:82:LEU:HD12	1.64	0.79
7:H:10:PRO:O	7:H:11:VAL:HG13	1.80	0.79
3:D:54:ARG:HG3	3:D:54:ARG:NH1	1.98	0.79
7:H:126:PRO:CG	7:H:127:GLU:H	1.96	0.79
11:P:14:LYS:O	11:P:16:ARG:HG2	1.83	0.79
12:Q:81:VAL:O	12:Q:82:ARG:CG	2.31	0.79
15:T:102:ILE:HA	15:T:105:LEU:CD2	2.13	0.79
4:E:137:HIS:HB3	4:E:138:PRO:HD2	1.65	0.79
11:P:59:LEU:HA	11:P:61:ARG:HH21	1.44	0.79
7:H:86:GLU:CG	7:H:165:ALA:H	1.94	0.79
10:O:31:LYS:HG3	10:O:32:TYR:CE2	2.17	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:97:PRO:O	11:P:98:GLU:HB3	1.83	0.79
3:D:68:LYS:HB2	3:D:70:TRP:CH2	2.17	0.79
9:N:71:ILE:HG21	9:N:84:LYS:HB3	1.65	0.79
16:U:105:VAL:HG22	17:V:44:LYS:HD2	1.65	0.79
6:G:145:THR:HG23	26:4:28:LYS:HZ1	1.48	0.78
30:8:59:LYS:HZ3	30:8:59:LYS:CB	1.96	0.78
9:N:43:THR:HB	9:N:46:VAL:HG12	1.63	0.78
9:N:62:VAL:HG12	9:N:66:LYS:HD2	1.65	0.78
23:1:11:ARG:NH1	23:1:11:ARG:HB3	1.98	0.78
12:Q:80:GLU:O	12:Q:81:VAL:CG1	2.30	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:HH11	1.49	0.78
5:F:20:LEU:HD12	5:F:21:ALA:H	1.48	0.78
6:G:61:ALA:HB2	6:G:68:PRO:HD3	1.65	0.78
11:P:138:LEU:C	11:P:140:ALA:H	1.85	0.78
12:Q:119:ARG:HG2	12:Q:119:ARG:HH11	1.48	0.78
25:3:56:VAL:HG12	25:3:57:GLU:H	1.48	0.78
1:A:1454:U:H5'	13:R:63:ARG:HE	1.48	0.78
12:Q:20:ALA:HB1	12:Q:99:PRO:HB2	1.65	0.78
16:U:90:VAL:HG12	16:U:91:ASP:N	1.97	0.78
7:H:153:LYS:CG	7:H:162:ILE:H	1.96	0.78
10:O:47:ILE:HD12	10:O:48:PRO:HD2	1.66	0.78
20:Y:86:ARG:HB2	20:Y:95:LYS:HD2	1.64	0.78
3:D:94:LEU:HD22	3:D:95:LEU:N	1.98	0.78
11:P:19:VAL:HG22	11:P:20:GLY:N	1.97	0.78
3:D:142:VAL:HG23	3:D:193:VAL:HA	1.66	0.78
4:E:24:THR:HG21	4:E:188:VAL:CG1	2.13	0.78
5:F:29:ASN:H	5:F:112:MET:CE	1.97	0.78
11:P:75:ILE:N	11:P:75:ILE:HD13	1.99	0.78
14:S:106:ARG:HA	14:S:110:LEU:HD21	1.64	0.78
4:E:4:ILE:HD12	4:E:28:ALA:HB1	1.66	0.77
16:U:66:ASN:O	16:U:70:ARG:HB2	1.84	0.77
28:6:15:GLU:CD	28:6:41:PRO:HB3	2.04	0.77
1:A:2580:U:H4'	4:E:130:GLY:HA3	1.66	0.77
3:D:25:THR:O	3:D:27:THR:N	2.18	0.77
3:D:35:LYS:HZ1	3:D:104:TYR:HB2	1.49	0.77
6:G:127:GLY:HA2	6:G:166:ASP:CG	2.05	0.77
6:G:128:ARG:HH21	6:G:128:ARG:HG3	1.48	0.77
3:D:17:THR:CG2	3:D:205:VAL:H	1.96	0.77
11:P:62:LEU:N	11:P:62:LEU:CD2	2.46	0.77
7:H:150:ALA:O	7:H:152:ARG:N	2.14	0.77
11:P:114:ILE:HD11	11:P:130:PHE:CE1	2.19	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:84:ASN:ND2	11:P:116:GLY:HA3	1.99	0.77
15:T:43:GLN:HG2	15:T:44:ASP:N	1.99	0.77
18:W:65:LEU:CD1	18:W:68:ARG:HH11	1.97	0.77
20:Y:97:ARG:HH21	20:Y:98:VAL:CB	1.98	0.77
26:4:22:ILE:O	26:4:24:THR:HG23	1.84	0.77
1:A:993:G:OP1	16:U:50:ARG:NH2	2.18	0.77
23:1:86:SER:N	23:1:87:PRO:CD	2.48	0.77
3:D:146:GLU:HB2	3:D:189:CYS:HB3	1.67	0.77
1:A:2404:C:O3'	11:P:77:ARG:NH2	2.17	0.77
14:S:60:GLY:O	14:S:61:ASN:HB3	1.84	0.77
10:O:97:ARG:H	10:O:117:LEU:HD22	1.48	0.77
12:Q:66:ILE:HG13	12:Q:67:ARG:N	1.99	0.77
23:1:13:ILE:HD11	23:1:42:GLN:OE1	1.84	0.77
7:H:153:LYS:HA	7:H:153:LYS:NZ	1.99	0.77
20:Y:44:ILE:HG13	20:Y:45:VAL:N	2.00	0.77
20:Y:79:CYS:SG	20:Y:80:GLY:N	2.57	0.77
26:4:58:ARG:O	26:4:63:TYR:HB2	1.84	0.77
26:4:1:MET:HB2	26:4:6:HIS:NE2	2.00	0.77
1:A:1252:G:N3	16:U:33:ARG:HD2	2.00	0.76
1:A:2111:C:N3	1:A:2118:U:O2'	2.18	0.76
1:A:2810:A:O3'	4:E:61:ARG:HG3	1.85	0.76
3:D:44:ASN:N	3:D:44:ASN:HD22	1.79	0.76
5:F:183:VAL:O	5:F:187:VAL:HG23	1.85	0.76
20:Y:97:ARG:NH2	20:Y:98:VAL:HB	2.00	0.76
13:R:33:ARG:HH22	27:5:55:ARG:HG2	1.51	0.76
1:A:1803:A:H4'	3:D:259:THR:CG2	2.15	0.76
6:G:127:GLY:O	6:G:128:ARG:HG2	1.85	0.76
12:Q:90:VAL:HG13	12:Q:91:GLU:H	1.49	0.76
12:Q:20:ALA:CB	12:Q:99:PRO:HD2	2.14	0.76
16:U:88:ILE:HG22	16:U:90:VAL:HG23	1.67	0.76
30:8:59:LYS:HB2	30:8:59:LYS:HZ2	1.49	0.76
25:3:35:ARG:HB3	25:3:37:LEU:HD21	1.66	0.76
28:6:34:LEU:HD13	28:6:34:LEU:H	1.50	0.76
3:D:34:VAL:HG21	3:D:103:ARG:HA	1.66	0.76
6:G:101:ILE:HG13	6:G:102:PHE:H	1.49	0.76
20:Y:81:LYS:HD3	20:Y:97:ARG:NE	2.00	0.76
31:9:1:MET:HB3	31:9:4:ARG:NH1	2.01	0.76
3:D:153:ALA:O	3:D:154:LYS:HG3	1.85	0.76
3:D:69:ARG:HH21	3:D:130:ALA:CB	1.99	0.76
23:1:56:GLN:N	23:1:56:GLN:NE2	2.34	0.76
26:4:34:GLU:HG3	26:4:35:VAL:H	1.51	0.76
6:G:76:SER:OG	6:G:83:ARG:HA	1.85	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:169:VAL:HG22	7:H:170:ARG:H	1.48	0.76
1:A:958:U:OP2	12:Q:14:ARG:NH1	2.18	0.76
1:A:2324:C:H5''	1:A:2325:G:H5''	1.68	0.75
10:O:104:ARG:HG2	10:O:104:ARG:HH11	1.50	0.75
13:R:74:LYS:O	13:R:75:LEU:HB3	1.84	0.75
16:U:52:ARG:HG2	16:U:52:ARG:HH11	1.50	0.75
27:5:40:LYS:CD	27:5:46:CYS:HB3	2.15	0.75
27:5:47:PRO:O	27:5:48:GLU:HG3	1.86	0.75
5:F:129:PHE:HA	5:F:142:TRP:NE1	2.02	0.75
1:A:1689:A:H62	1:A:1698:A:H2	1.32	0.75
7:H:152:ARG:HG3	7:H:153:LYS:CE	2.14	0.75
11:P:62:LEU:HD21	30:8:25:MET:HB2	1.69	0.75
2:B:56:G:OP1	6:G:27:ASN:ND2	2.20	0.75
6:G:3:LEU:HD12	6:G:4:ASP:H	1.52	0.75
6:G:142:PRO:HB2	26:4:31:ILE:HD13	1.68	0.75
20:Y:94:LYS:O	20:Y:101:LYS:HB3	1.85	0.75
17:V:15:GLU:O	17:V:18:LEU:HB2	1.86	0.75
17:V:47:VAL:HG13	17:V:48:GLY:H	1.49	0.75
7:H:150:ALA:C	7:H:152:ARG:H	1.88	0.75
20:Y:90:LEU:N	20:Y:90:LEU:HD22	2.02	0.75
23:1:3:LYS:HD3	23:1:43:TYR:HD2	1.52	0.75
7:H:153:LYS:HG2	7:H:162:ILE:H	1.52	0.75
1:A:637:A:H2'	11:P:117:GLU:OE2	1.87	0.75
1:A:2115:G:N2	1:A:2165:G:N7	2.31	0.75
4:E:63:LEU:CD1	4:E:65:GLY:H	1.99	0.75
6:G:97:ASP:H	6:G:100:TRP:HD1	1.31	0.75
13:R:73:VAL:O	13:R:76:VAL:HG12	1.87	0.75
4:E:36:ARG:HH21	4:E:88:GLY:HA2	1.51	0.74
14:S:62:LYS:HB3	14:S:97:ARG:HD3	1.69	0.74
18:W:40:ASN:O	18:W:41:LYS:HG2	1.86	0.74
9:N:96:GLU:CG	9:N:97:ARG:H	2.00	0.74
16:U:92:ARG:HH11	16:U:95:LEU:CD1	2.00	0.74
18:W:18:ARG:HG3	18:W:76:VAL:CG1	2.15	0.74
23:1:26:ARG:HD2	23:1:26:ARG:O	1.86	0.74
1:A:2701:C:H3'	1:A:2702:U:C5'	2.16	0.74
15:T:111:ARG:O	15:T:113:LYS:N	2.17	0.74
19:X:57:LEU:HD11	19:X:78:LYS:HB2	1.68	0.74
5:F:136:THR:HG22	5:F:166:ALA:O	1.87	0.74
17:V:52:VAL:HG21	17:V:55:ALA:HB3	1.68	0.74
5:F:7:TYR:HB3	5:F:21:ALA:CB	2.16	0.74
10:O:26:LYS:HB2	10:O:30:ALA:CB	2.18	0.74
24:2:47:ASN:HD22	24:2:47:ASN:H	1.33	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:3:29:ARG:HH11	25:3:29:ARG:HB2	1.52	0.74
26:4:71:ARG:NH1	26:4:71:ARG:HG3	1.90	0.74
1:A:579:G:O2'	1:A:2019:A:OP1	2.06	0.74
4:E:201:THR:HG22	4:E:203:LYS:HB3	1.70	0.74
14:S:83:LYS:HZ2	14:S:109:GLY:HA2	1.49	0.74
3:D:77:ALA:CB	3:D:97:TYR:HA	2.18	0.74
15:T:50:ILE:HD12	15:T:102:ILE:HD11	1.68	0.74
2:B:55:U:C4'	6:G:29:TRP:HE1	2.01	0.74
1:A:1190:G:OP1	11:P:30:THR:OG1	2.03	0.74
17:V:35:LEU:H	17:V:35:LEU:HD22	1.51	0.74
20:Y:95:LYS:HB3	20:Y:100:ALA:CA	2.10	0.74
23:1:80:LEU:O	23:1:81:LYS:CB	2.35	0.74
1:A:1021:A:OP2	9:N:65:LYS:NZ	2.20	0.74
5:F:29:ASN:HB3	5:F:112:MET:HE1	1.68	0.74
10:O:47:ILE:CD1	10:O:48:PRO:HD2	2.16	0.74
11:P:62:LEU:HD22	11:P:62:LEU:H	1.53	0.74
18:W:73:ALA:HB3	18:W:106:ILE:HG12	1.68	0.74
18:W:70:TYR:H	18:W:70:TYR:HD2	1.36	0.74
20:Y:52:SER:OG	20:Y:53:PRO:HD3	1.88	0.74
23:1:76:ARG:HG2	23:1:76:ARG:HH11	1.53	0.73
27:5:2:ALA:O	27:5:3:LYS:HB2	1.88	0.73
9:N:58:ASP:H	9:N:60:ILE:HD11	1.53	0.73
11:P:50:ARG:HB3	11:P:50:ARG:NH2	1.98	0.73
12:Q:79:LEU:CD1	12:Q:79:LEU:O	2.35	0.73
14:S:36:TYR:CD2	14:S:52:SER:HB3	2.23	0.73
17:V:51:VAL:HG12	17:V:52:VAL:H	1.52	0.73
4:E:61:ARG:HB2	4:E:62:PRO:HD3	1.69	0.73
4:E:77:ILE:HD12	4:E:78:LEU:H	1.52	0.73
1:A:2131:G:H4'	1:A:2132:U:H4'	1.70	0.73
5:F:9:ILE:HD11	5:F:125:LEU:HG	1.70	0.73
15:T:23:ARG:HB2	15:T:24:PRO:HD2	1.70	0.73
3:D:30:GLU:HG3	3:D:63:ARG:CZ	2.17	0.73
1:A:768:G:O2'	1:A:1379:A:N6	2.22	0.73
4:E:23:VAL:HG21	4:E:183:LEU:HD23	1.68	0.73
7:H:153:LYS:HG3	7:H:161:GLY:CA	2.18	0.73
9:N:96:GLU:HG2	9:N:97:ARG:N	2.01	0.73
16:U:64:ARG:CG	16:U:64:ARG:HH21	2.00	0.73
26:4:41:PRO:O	26:4:42:PHE:HB3	1.88	0.73
1:A:2781:A:H5''	1:A:2782:G:H5'	1.70	0.73
3:D:131:LEU:HB2	3:D:136:ILE:CD1	2.17	0.73
4:E:203:LYS:O	4:E:203:LYS:HD2	1.89	0.73
7:H:125:VAL:HA	7:H:126:PRO:HB3	1.68	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:84:SER:O	7:H:85:LYS:HB2	1.89	0.73
25:3:7:LYS:HB2	25:3:34:GLU:HG2	1.70	0.73
5:F:157:VAL:HB	5:F:194:MET:HB3	1.70	0.73
15:T:26:ASP:HB3	15:T:91:ARG:HA	1.69	0.73
16:U:34:LYS:HA	16:U:34:LYS:HE2	1.70	0.73
1:A:1803:A:H4'	3:D:259:THR:HG21	1.70	0.73
4:E:55:ASN:C	4:E:57:LYS:H	1.91	0.73
24:2:27:GLU:N	24:2:27:GLU:OE1	2.19	0.73
7:H:80:SER:O	7:H:81:GLU:HB2	1.89	0.73
12:Q:90:VAL:CG1	12:Q:91:GLU:H	2.02	0.73
5:F:101:LEU:CD1	5:F:102:PRO:HD2	2.11	0.72
7:H:54:ARG:HH12	7:H:62:LYS:HG2	1.54	0.72
1:A:2867:G:HO2'	1:A:2868:A:H8	1.36	0.72
1:A:704:G:H2'	1:A:726:G:H22	1.53	0.72
4:E:13:ARG:HA	4:E:22:PRO:HA	1.71	0.72
4:E:56:PRO:O	4:E:57:LYS:HB2	1.89	0.72
9:N:1:MET:HE1	16:U:95:LEU:HD21	1.71	0.72
6:G:146:TYR:O	6:G:149:VAL:HG22	1.88	0.72
27:5:40:LYS:CE	27:5:46:CYS:HB3	2.19	0.72
2:B:55:U:H4'	6:G:29:TRP:NE1	2.02	0.72
1:A:2745:C:O2	7:H:139:GLN:NE2	2.22	0.72
15:T:117:ASP:O	15:T:121:ILE:HG13	1.89	0.72
4:E:78:LEU:HG	4:E:79:ARG:NE	2.03	0.72
7:H:30:LYS:HD2	7:H:81:GLU:H	1.54	0.72
10:O:113:LYS:HG2	10:O:117:LEU:HD11	1.71	0.72
11:P:127:ALA:C	11:P:147:LEU:HD23	2.10	0.72
11:P:88:LEU:C	11:P:90:ARG:H	1.92	0.72
14:S:42:ASP:O	14:S:43:GLU:HB2	1.90	0.72
23:1:80:LEU:HB2	23:1:81:LYS:HE2	1.71	0.72
30:8:16:ILE:HD11	30:8:57:ARG:HG2	1.69	0.72
15:T:54:ARG:HH11	15:T:54:ARG:HG2	1.52	0.72
15:T:78:LEU:HD13	15:T:78:LEU:O	1.87	0.72
25:3:56:VAL:HG12	25:3:57:GLU:N	2.04	0.72
27:5:58:LEU:CD1	27:5:60:VAL:HG12	2.19	0.72
4:E:28:ALA:HB3	4:E:93:VAL:HG22	1.72	0.72
5:F:124:LEU:HD12	5:F:125:LEU:N	2.04	0.72
7:H:26:VAL:CG1	7:H:27:LYS:H	2.02	0.72
12:Q:79:LEU:C	12:Q:79:LEU:HD22	2.07	0.72
14:S:103:GLU:O	14:S:106:ARG:HG3	1.90	0.72
21:Z:150:LEU:HD21	21:Z:172:ALA:HB3	1.71	0.72
28:6:13:CYS:HA	28:6:50:ARG:O	1.89	0.72
30:8:61:LEU:O	30:8:62:LEU:HB2	1.88	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:29:LYS:HD2	11:P:30:THR:HG22	1.72	0.72
15:T:57:PHE:C	15:T:58:ASN:HD22	1.93	0.72
16:U:69:CYS:HB3	16:U:106:PHE:HZ	1.55	0.72
16:U:98:LEU:HD23	16:U:99:ALA:N	2.04	0.72
29:7:10:ARG:O	29:7:14:LYS:HB2	1.90	0.72
5:F:32:LEU:HD12	5:F:32:LEU:O	1.90	0.72
7:H:89:ILE:CD1	7:H:129:THR:HB	2.19	0.72
30:8:60:LEU:O	30:8:63:PRO:HD2	1.90	0.72
1:A:1080:C:N4	1:A:1088:A:OP2	2.23	0.72
7:H:152:ARG:O	7:H:153:LYS:HD2	1.90	0.72
11:P:114:ILE:HD13	11:P:125:VAL:HG21	1.72	0.72
12:Q:79:LEU:CD2	12:Q:79:LEU:O	2.36	0.72
13:R:117:VAL:HG22	13:R:118:GLU:N	2.05	0.72
16:U:66:ASN:HB2	16:U:76:TYR:HB2	1.72	0.72
20:Y:51:VAL:HG13	20:Y:52:SER:N	2.03	0.72
29:7:5:TRP:NE1	29:7:7:PRO:HG3	2.04	0.71
5:F:32:LEU:C	5:F:32:LEU:HD12	2.10	0.71
13:R:3:HIS:O	13:R:5:LYS:N	2.22	0.71
13:R:85:PRO:O	13:R:87:TYR:N	2.22	0.71
14:S:26:LEU:O	14:S:26:LEU:HD23	1.90	0.71
15:T:102:ILE:HB	15:T:110:ILE:CD1	2.19	0.71
24:2:29:LYS:HD3	24:2:57:ILE:HD13	1.71	0.71
1:A:1264:G:H5'	27:5:11:THR:HG21	1.71	0.71
1:A:2014:A:O2'	27:5:2:ALA:HB2	1.90	0.71
4:E:197:ILE:HD11	4:E:199:ARG:HH12	1.55	0.71
4:E:93:VAL:H	4:E:95:ILE:HD12	1.54	0.71
6:G:7:LEU:HD21	6:G:176:LEU:HD22	1.70	0.71
16:U:8:VAL:HG23	16:U:11:ARG:NH2	1.99	0.71
18:W:1:MET:HE2	18:W:2:GLU:H	1.55	0.71
1:A:2114:A:N6	1:A:2119:A:N7	2.39	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
14:S:83:LYS:HG2	14:S:109:GLY:N	2.04	0.71
1:A:1061:U:H5'	1:A:1070:A:H1'	1.71	0.71
3:D:244:ARG:HB2	3:D:245:PRO:HD2	1.71	0.71
11:P:49:ARG:HD2	30:8:58:ILE:CG2	2.20	0.71
14:S:67:ARG:O	14:S:71:ARG:HG3	1.89	0.71
4:E:21:VAL:HB	4:E:22:PRO:CB	2.18	0.71
17:V:39:LEU:O	17:V:40:LEU:HD23	1.90	0.71
19:X:12:VAL:HG12	19:X:27:THR:O	1.91	0.71
1:A:2667:C:H1'	7:H:109:PHE:HD2	1.56	0.71
1:A:83:G:N2	1:A:103:A:OP2	2.23	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:42:C:N4	6:G:91:ARG:HH21	1.87	0.71
9:N:1:MET:CE	16:U:95:LEU:HD21	2.21	0.71
26:4:29:PRO:O	26:4:30:GLU:HB2	1.89	0.71
28:6:25:LYS:HD2	30:8:34:TRP:HZ2	1.56	0.71
14:S:106:ARG:CA	14:S:110:LEU:HD11	2.19	0.71
4:E:14:ILE:HD11	15:T:14:TYR:OH	1.90	0.71
28:6:36:LEU:HD13	28:6:50:ARG:NH1	2.05	0.71
1:A:265:A:N6	1:A:427:U:O2'	2.23	0.71
5:F:178:PRO:HB2	5:F:201:VAL:HG11	1.73	0.71
7:H:125:VAL:HG12	7:H:126:PRO:HG3	1.70	0.71
1:A:2470:G:H5'	12:Q:56:ARG:HH22	1.56	0.71
30:8:58:ILE:HD13	30:8:61:LEU:HD11	1.72	0.71
30:8:60:LEU:C	30:8:63:PRO:HD2	2.11	0.71
1:A:2112:G:O6	1:A:2169:A:N6	2.24	0.71
3:D:263:ARG:HB2	3:D:263:ARG:NH1	2.05	0.71
11:P:83:VAL:CG1	11:P:112:LEU:HD21	2.21	0.71
14:S:83:LYS:C	14:S:109:GLY:HA3	2.10	0.71
1:A:1542:G:O6	1:A:1543:A:C6	2.43	0.71
1:A:2693:A:H2'	1:A:2694:G:H8	1.56	0.71
5:F:185:ASP:OD1	5:F:188:ARG:NH1	2.24	0.71
5:F:101:LEU:O	5:F:106:ARG:NH1	2.23	0.70
5:F:66:PRO:O	5:F:67:GLN:HB3	1.89	0.70
7:H:132:ARG:CB	7:H:132:ARG:HH11	1.97	0.70
24:2:41:ILE:C	24:2:41:ILE:HD12	2.10	0.70
30:8:29:LYS:HD3	30:8:44:LYS:HB2	1.71	0.70
3:D:43:ARG:HB3	3:D:54:ARG:HB2	1.73	0.70
11:P:58:THR:O	11:P:61:ARG:CZ	2.38	0.70
17:V:51:VAL:HG12	17:V:52:VAL:N	2.06	0.70
5:F:164:ARG:HG3	5:F:175:THR:OG1	1.92	0.70
20:Y:48:ALA:O	20:Y:49:VAL:C	2.30	0.70
23:1:80:LEU:C	23:1:81:LYS:HE2	2.10	0.70
24:2:7:ARG:HG3	24:2:7:ARG:HH11	1.55	0.70
27:5:40:LYS:HE2	27:5:47:PRO:HD2	1.73	0.70
1:A:2286:A:OP1	28:6:28:ARG:NE	2.24	0.70
28:6:29:ASN:OD1	28:6:30:THR:HG22	1.91	0.70
1:A:1483:G:O6	1:A:1506:C:N4	2.22	0.70
7:H:128:PRO:HD2	7:H:129:THR:H	1.55	0.70
7:H:154:PRO:O	7:H:155:SER:HB2	1.91	0.70
12:Q:32:TYR:CD1	12:Q:133:ARG:HA	2.27	0.70
20:Y:45:VAL:HG12	20:Y:60:PHE:CD1	2.27	0.70
1:A:1543:A:O2'	1:A:1544:C:H3'	1.91	0.70
1:A:1754:C:OP1	15:T:96:ARG:NH1	2.21	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1012:U:H3	9:N:25:ARG:HH11	1.40	0.70
9:N:89:LYS:O	9:N:93:THR:HG22	1.90	0.70
14:S:54:LEU:O	14:S:54:LEU:HD13	1.91	0.70
14:S:83:LYS:HZ1	14:S:109:GLY:HA2	1.56	0.70
1:A:583:G:H5"	16:U:10:ARG:HH12	1.55	0.70
5:F:65:TRP:HZ3	5:F:73:ALA:O	1.74	0.70
7:H:152:ARG:O	7:H:153:LYS:CB	2.39	0.70
7:H:154:PRO:HG2	7:H:162:ILE:O	1.92	0.70
20:Y:57:GLN:HE21	20:Y:58:GLY:H	1.37	0.70
23:1:7:ILE:CD1	23:1:70:VAL:HG22	2.21	0.70
1:A:2208:U:H1'	3:D:151:LYS:HE2	1.74	0.70
5:F:178:PRO:HG2	5:F:179:GLU:OE2	1.90	0.70
23:1:82:LEU:HD13	23:1:83:GLU:N	2.05	0.70
3:D:65:ILE:HD13	3:D:65:ILE:O	1.92	0.70
18:W:29:LEU:HD21	18:W:33:ARG:CZ	2.22	0.70
3:D:65:ILE:HD11	3:D:67:PHE:CD1	2.27	0.70
14:S:106:ARG:N	14:S:110:LEU:HD21	2.07	0.70
16:U:65:ILE:HG12	16:U:96:ALA:HB1	1.73	0.70
19:X:57:LEU:HD11	19:X:78:LYS:HD2	1.73	0.70
23:1:7:ILE:HD12	23:1:70:VAL:HG22	1.73	0.69
6:G:131:TYR:O	6:G:159:VAL:HG13	1.92	0.69
24:2:47:ASN:O	24:2:49:LYS:N	2.25	0.69
3:D:76:PRO:O	3:D:98:VAL:HG23	1.91	0.69
11:P:64:LYS:C	11:P:66:GLY:H	1.94	0.69
23:1:82:LEU:HD12	23:1:83:GLU:CA	2.21	0.69
7:H:103:LEU:HD12	7:H:131:VAL:HG21	1.73	0.69
7:H:59:ARG:HH11	7:H:59:ARG:HG3	1.56	0.69
9:N:46:VAL:O	9:N:47:ALA:HB3	1.92	0.69
23:1:74:VAL:O	23:1:74:VAL:HG12	1.93	0.69
1:A:2821:A:OP2	1:A:2822:G:OP2	2.11	0.69
4:E:103:ASP:OD1	4:E:201:THR:HA	1.92	0.69
5:F:103:LYS:HA	5:F:106:ARG:CG	2.21	0.69
11:P:126:VAL:CG1	11:P:147:LEU:HD21	2.16	0.69
11:P:20:GLY:HA2	11:P:27:HIS:O	1.92	0.69
12:Q:43:THR:OG1	12:Q:46:GLN:HB2	1.91	0.69
20:Y:2:ARG:HG2	20:Y:2:ARG:HH11	1.57	0.69
23:1:4:VAL:HG23	23:1:10:LYS:O	1.92	0.69
1:A:676:A:H8	1:A:2069:G:H21	1.41	0.69
7:H:4:ILE:HG13	7:H:6:ARG:NE	2.08	0.69
4:E:7:VAL:HG23	4:E:8:LYS:N	2.07	0.69
6:G:56:ALA:HB2	6:G:153:ARG:HE	1.57	0.69
9:N:120:LEU:HD11	9:N:122:VAL:HG23	1.74	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:63:VAL:HG13	10:O:84:ALA:HA	1.72	0.69
17:V:41:GLY:HA3	17:V:46:VAL:HG11	1.74	0.69
3:D:89:SER:HB2	3:D:159:ALA:HB2	1.75	0.69
4:E:65:GLY:HA2	4:E:70:ALA:CB	2.23	0.69
11:P:39:LYS:CA	11:P:45:LEU:HD11	2.23	0.69
23:1:81:LYS:HE2	23:1:81:LYS:CA	2.13	0.69
27:5:4:HIS:HB3	27:5:5:PRO:HD3	1.75	0.69
1:A:2219:G:OP1	3:D:172:TYR:OH	2.06	0.69
1:A:2023:G:H5'	1:A:2617:C:H4'	1.75	0.69
9:N:7:LYS:HD3	9:N:9:VAL:HA	1.75	0.69
11:P:64:LYS:HB2	30:8:25:MET:CG	2.22	0.69
20:Y:29:GLU:HB3	20:Y:38:ILE:HG12	1.74	0.69
23:1:53:VAL:HG22	23:1:74:VAL:HG13	1.74	0.69
27:5:40:LYS:HE2	27:5:47:PRO:CD	2.21	0.69
1:A:2344:U:C2	28:6:37:ARG:HD3	2.27	0.69
6:G:171:ALA:O	6:G:175:LEU:HG	1.93	0.69
14:S:52:SER:O	14:S:56:LEU:HD22	1.93	0.69
16:U:90:VAL:O	16:U:92:ARG:N	2.26	0.69
17:V:66:ARG:HH12	17:V:88:ARG:NH1	1.90	0.69
24:2:23:LYS:O	24:2:27:GLU:OE1	2.11	0.69
27:5:40:LYS:HG2	27:5:47:PRO:HD2	1.75	0.69
28:6:28:ARG:HB3	28:6:30:THR:H	1.56	0.69
3:D:35:LYS:HB3	3:D:63:ARG:HA	1.75	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
12:Q:80:GLU:HG3	12:Q:81:VAL:H	1.58	0.69
15:T:41:ARG:NH2	15:T:43:GLN:HB2	2.06	0.69
28:6:14:THR:HG21	28:6:19:ARG:HH21	1.58	0.69
11:P:61:ARG:HD2	11:P:61:ARG:H	1.58	0.69
17:V:22:VAL:HG12	17:V:23:GLU:N	2.06	0.69
23:1:80:LEU:C	23:1:81:LYS:HD2	2.12	0.68
1:A:2306:C:H3'	1:A:2307:G:H5''	1.75	0.68
1:A:2867:G:O2'	1:A:2868:A:H8	1.75	0.68
16:U:65:ILE:HD11	16:U:93:LYS:HA	1.74	0.68
18:W:6:ILE:HG12	18:W:104:THR:HG23	1.73	0.68
6:G:16:ARG:HH21	6:G:31:VAL:CG1	2.06	0.68
28:6:41:PRO:CG	28:6:45:LYS:H	2.05	0.68
11:P:62:LEU:HD23	30:8:25:MET:HB2	1.74	0.68
3:D:17:THR:HG22	3:D:205:VAL:N	2.08	0.68
10:O:8:LEU:HD22	10:O:8:LEU:N	2.08	0.68
28:6:7:ILE:HG13	28:6:8:LYS:N	2.06	0.68
5:F:185:ASP:HA	5:F:188:ARG:CD	2.20	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:83:GLU:HG2	23:1:84:GLY:N	2.09	0.68
6:G:112:PRO:CB	26:4:37:SER:HB2	2.22	0.68
9:N:134:ARG:N	9:N:135:PRO:HD3	1.97	0.68
11:P:15:ARG:O	11:P:16:ARG:C	2.32	0.68
11:P:26:GLY:O	11:P:28:GLY:N	2.27	0.68
26:4:15:ILE:HD13	26:4:15:ILE:N	2.09	0.68
1:A:1858:G:O2'	1:A:1884:A:N6	2.26	0.68
7:H:126:PRO:HB2	7:H:130:ARG:O	1.93	0.68
10:O:25:LEU:HB2	10:O:38:VAL:HG13	1.74	0.68
15:T:109:GLU:O	15:T:113:LYS:HB2	1.94	0.68
20:Y:40:GLU:HA	20:Y:64:GLU:OE1	1.94	0.68
23:1:64:ALA:HA	23:1:67:ILE:HG13	1.75	0.68
1:A:1187:G:H5''	17:V:81:TYR:CE2	2.28	0.68
1:A:1980:G:O2'	1:A:1982:C:OP2	2.10	0.68
1:A:2298:A:H62	1:A:2318:G:H8	1.42	0.68
3:D:17:THR:CG2	3:D:204:ILE:HA	2.23	0.68
1:A:2784:C:H5''	4:E:41:LYS:NZ	2.09	0.68
7:H:126:PRO:HG2	7:H:127:GLU:H	1.59	0.68
7:H:88:LEU:H	7:H:88:LEU:HD22	1.58	0.68
12:Q:12:GLN:CG	12:Q:73:PRO:HD2	2.21	0.68
13:R:29:LEU:HD23	13:R:79:LEU:HD12	1.75	0.68
14:S:100:ALA:HA	14:S:103:GLU:HG2	1.75	0.68
15:T:108:ARG:HA	15:T:111:ARG:CZ	2.23	0.68
17:V:18:LEU:O	17:V:95:LEU:HA	1.94	0.68
27:5:20:ARG:HA	27:5:23:HIS:ND1	2.09	0.68
12:Q:104:PHE:HE1	12:Q:125:LEU:HD11	1.58	0.68
15:T:50:ILE:HG22	15:T:62:THR:OG1	1.94	0.68
19:X:12:VAL:HG11	19:X:27:THR:OG1	1.93	0.68
23:1:20:ARG:HG2	23:1:20:ARG:HH11	1.58	0.68
5:F:67:GLN:O	5:F:67:GLN:CG	2.32	0.68
14:S:57:LYS:H	14:S:57:LYS:HD3	1.58	0.68
1:A:483:A:H4'	20:Y:49:VAL:HA	1.75	0.68
20:Y:49:VAL:O	20:Y:51:VAL:N	2.27	0.68
21:Z:70:LEU:HB2	21:Z:91:LEU:HD21	1.76	0.68
1:A:1012:U:O2'	1:A:1013:C:OP2	2.11	0.67
4:E:13:ARG:HH11	4:E:13:ARG:CB	2.07	0.67
5:F:184:TYR:O	5:F:188:ARG:HG3	1.93	0.67
12:Q:90:VAL:CG1	12:Q:91:GLU:N	2.57	0.67
28:6:48:VAL:HG13	28:6:49:HIS:H	1.59	0.67
4:E:116:VAL:O	4:E:117:MET:HB3	1.94	0.67
12:Q:133:ARG:O	12:Q:134:ARG:HB2	1.94	0.67
7:H:89:ILE:HG12	7:H:89:ILE:O	1.92	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:56:ASN:HD22	9:N:125:GLY:C	1.96	0.67
12:Q:104:PHE:CE1	12:Q:125:LEU:HD11	2.29	0.67
3:D:135:PHE:N	3:D:135:PHE:CD2	2.62	0.67
4:E:14:ILE:HG12	4:E:15:PHE:N	2.06	0.67
13:R:26:LYS:HE2	13:R:70:LEU:O	1.95	0.67
14:S:35:ILE:HD13	14:S:101:LEU:HD23	1.76	0.67
17:V:25:LEU:H	17:V:92:THR:HG21	1.60	0.67
10:O:13:ASN:ND2	10:O:96:THR:O	2.28	0.67
1:A:807:U:OP2	11:P:41:ARG:NH1	2.28	0.67
12:Q:20:ALA:HB1	12:Q:99:PRO:HD2	1.77	0.67
16:U:92:ARG:O	16:U:94:ASN:N	2.25	0.67
18:W:29:LEU:HD21	18:W:33:ARG:NE	2.08	0.67
1:A:2198:A:O2'	1:A:2199:A:O5'	2.13	0.67
4:E:10:GLY:H	4:E:25:VAL:HG23	1.60	0.67
28:6:43:CYS:SG	28:6:44:ARG:HD3	2.35	0.67
28:6:7:ILE:C	28:6:9:LEU:H	1.98	0.67
1:A:530:G:O2'	1:A:532:A:N7	2.27	0.67
7:H:126:PRO:CD	7:H:127:GLU:H	2.07	0.67
7:H:4:ILE:HG13	7:H:6:ARG:NH1	2.09	0.67
20:Y:61:ILE:CG2	20:Y:62:GLU:N	2.56	0.67
26:4:33:VAL:HG12	26:4:34:GLU:N	2.10	0.67
1:A:2420:C:H41	30:8:30:ARG:HD2	1.60	0.67
7:H:124:GLU:HB3	7:H:132:ARG:HD2	1.77	0.67
1:A:2746:U:H5''	7:H:138:LYS:HE2	1.77	0.67
11:P:90:ARG:NE	11:P:91:PHE:HD1	1.93	0.67
12:Q:32:TYR:HD1	12:Q:133:ARG:HA	1.60	0.67
12:Q:66:ILE:HG13	12:Q:67:ARG:H	1.57	0.67
12:Q:81:VAL:C	12:Q:82:ARG:HG2	2.14	0.67
14:S:107:GLU:H	14:S:110:LEU:HD11	1.60	0.67
21:Z:72:ARG:NH2	21:Z:97:GLU:O	2.28	0.67
24:2:47:ASN:ND2	24:2:47:ASN:H	1.92	0.67
4:E:16:ARG:HG3	4:E:16:ARG:O	1.93	0.67
7:H:125:VAL:CG1	7:H:126:PRO:HG3	2.25	0.67
12:Q:90:VAL:O	12:Q:92:GLY:N	2.25	0.67
1:A:2344:U:OP1	28:6:38:LYS:HD3	1.94	0.67
3:D:241:PRO:O	3:D:243:GLY:N	2.28	0.67
3:D:35:LYS:CG	3:D:64:ILE:N	2.56	0.67
11:P:122:PRO:HA	11:P:141:ALA:O	1.95	0.67
25:3:29:ARG:HB2	25:3:29:ARG:NH1	2.10	0.66
1:A:498:G:N3	20:Y:47:LYS:NZ	2.41	0.66
4:E:36:ARG:HH11	4:E:36:ARG:HB3	1.60	0.66
7:H:77:LYS:O	7:H:77:LYS:HG2	1.94	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:57:LEU:HD12	19:X:78:LYS:HB2	1.77	0.66
20:Y:21:LYS:HG3	20:Y:22:GLY:N	2.09	0.66
23:1:80:LEU:N	23:1:80:LEU:HD23	2.10	0.66
1:A:155:C:H42	1:A:171:G:H1	1.41	0.66
11:P:66:GLY:O	11:P:67:MET:HB3	1.94	0.66
20:Y:42:VAL:CG1	20:Y:65:ALA:HB3	2.25	0.66
1:A:1026:U:H4'	1:A:1027:A:OP1	1.96	0.66
1:A:2562:U:O2'	10:O:23:ARG:NH1	2.28	0.66
3:D:80:ALA:HB3	3:D:94:LEU:CD1	2.26	0.66
5:F:34:TRP:HA	11:P:6:LEU:HD12	1.77	0.66
10:O:86:ILE:HD12	10:O:86:ILE:H	1.60	0.66
14:S:67:ARG:CZ	14:S:67:ARG:HB2	2.24	0.66
26:4:37:SER:C	26:4:39:CYS:H	1.98	0.66
3:D:145:VAL:HG12	3:D:146:GLU:O	1.96	0.66
11:P:1:MET:CE	11:P:5:ASP:HB3	2.24	0.66
1:A:1000:A:OP2	1:A:1154:G:N1	2.19	0.66
7:H:168:PRO:O	7:H:169:VAL:HG12	1.96	0.66
10:O:14:THR:O	10:O:51:ALA:HB3	1.95	0.66
15:T:11:GLU:CD	15:T:11:GLU:N	2.47	0.66
17:V:44:LYS:O	17:V:46:VAL:N	2.28	0.66
20:Y:89:PHE:C	20:Y:90:LEU:HD13	2.15	0.66
20:Y:94:LYS:HE3	20:Y:101:LYS:NZ	2.11	0.66
23:1:51:VAL:HG11	23:1:74:VAL:HG21	1.75	0.66
23:1:86:SER:N	23:1:87:PRO:HD2	2.10	0.66
1:A:210:C:OP2	29:7:29:LYS:NZ	2.29	0.66
3:D:44:ASN:HB3	3:D:49:ILE:HG22	1.78	0.66
4:E:9:VAL:HB	4:E:25:VAL:HG23	1.75	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
12:Q:33:GLY:HA2	12:Q:105:GLU:HA	1.76	0.66
12:Q:88:GLY:C	12:Q:90:VAL:N	2.47	0.66
16:U:88:ILE:N	16:U:88:ILE:HD13	2.10	0.66
1:A:1820:U:C2	3:D:202:LYS:HB3	2.31	0.66
1:A:674:G:C1'	5:F:74:ARG:HD3	2.26	0.66
1:A:900:A:H3'	1:A:901:A:H8	1.60	0.66
3:D:68:LYS:HB2	3:D:70:TRP:CZ3	2.31	0.66
4:E:101:ARG:CZ	4:E:171:GLU:HB2	2.25	0.66
4:E:174:ASP:CG	4:E:175:VAL:H	1.98	0.66
4:E:26:ILE:HD13	4:E:27:LEU:N	2.10	0.66
14:S:88:ASP:OD2	14:S:90:GLY:N	2.28	0.66
15:T:50:ILE:CD1	15:T:102:ILE:HD11	2.25	0.66
20:Y:47:LYS:HG2	20:Y:60:PHE:CE1	2.31	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:75:ILE:HG12	20:Y:76:CYS:N	2.10	0.66
1:A:1930:G:H2'	1:A:1968:G:H1	1.59	0.66
1:A:414:C:O2	1:A:1864:U:O2'	2.14	0.66
3:D:35:LYS:CA	3:D:64:ILE:HG22	2.26	0.66
3:D:35:LYS:HZ1	3:D:65:ILE:HA	1.60	0.66
4:E:62:PRO:O	4:E:64:LYS:N	2.28	0.66
5:F:175:THR:O	5:F:176:LEU:HB2	1.96	0.66
9:N:58:ASP:H	9:N:60:ILE:CD1	2.08	0.66
20:Y:14:LEU:HD23	20:Y:15:VAL:N	2.10	0.66
26:4:16:CYS:SG	26:4:33:VAL:HB	2.35	0.66
30:8:30:ARG:O	30:8:31:HIS:HB2	1.96	0.66
3:D:121:PRO:HB3	3:D:135:PHE:CE1	2.29	0.66
11:P:61:ARG:NH2	30:8:13:ARG:HD2	2.10	0.66
1:A:2364:C:OP1	22:0:55:ARG:NH1	2.29	0.66
3:D:183:ARG:HH11	3:D:183:ARG:CG	2.07	0.66
14:S:106:ARG:HA	14:S:110:LEU:CD2	2.26	0.66
24:2:64:LEU:HD22	24:2:68:ARG:HD2	1.76	0.65
1:A:1251:C:OP1	16:U:10:ARG:HG3	1.96	0.65
1:A:2287:A:N6	1:A:2344:U:H3	1.94	0.65
2:B:52:A:H62	14:S:33:LYS:HG3	1.62	0.65
15:T:22:PHE:CD2	15:T:22:PHE:N	2.63	0.65
17:V:53:GLU:O	17:V:53:GLU:HG2	1.94	0.65
1:A:1398:C:OP1	19:X:53:LYS:NZ	2.28	0.65
20:Y:99:CYS:SG	20:Y:100:ALA:N	2.69	0.65
1:A:443:A:N7	5:F:45:ARG:HD2	2.11	0.65
3:D:237:GLU:N	3:D:237:GLU:OE1	2.29	0.65
8:I:4:ILE:HD11	8:I:44:LEU:HD12	1.78	0.65
17:V:76:LYS:HB2	17:V:81:TYR:HB3	1.79	0.65
19:X:65:ARG:N	19:X:65:ARG:HD3	2.12	0.65
20:Y:60:PHE:O	20:Y:61:ILE:HD12	1.96	0.65
1:A:2832:U:H4'	1:A:2833:G:H5''	1.78	0.65
3:D:27:THR:CG2	3:D:28:GLU:H	2.09	0.65
7:H:128:PRO:CD	7:H:129:THR:H	2.09	0.65
10:O:113:LYS:O	10:O:117:LEU:HD12	1.96	0.65
11:P:138:LEU:HD11	11:P:144:GLU:HG3	1.78	0.65
1:A:2818:G:OP2	13:R:42:LYS:NZ	2.28	0.65
18:W:25:ARG:NH1	18:W:25:ARG:HB2	2.11	0.65
1:A:2131:G:N2	1:A:2158:A:N7	2.44	0.65
4:E:28:ALA:O	4:E:93:VAL:HG23	1.95	0.65
8:I:104:GLN:O	8:I:105:HIS:ND1	2.29	0.65
12:Q:59:ARG:C	12:Q:60:ARG:HG3	2.17	0.65
17:V:43:GLU:HA	17:V:43:GLU:OE2	1.95	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:18:ARG:HG3	18:W:76:VAL:HG13	1.77	0.65
23:1:29:GLY:O	23:1:30:VAL:HG23	1.97	0.65
26:4:49:PHE:O	26:4:50:VAL:HG23	1.97	0.65
3:D:176:ARG:HG2	3:D:176:ARG:HH11	1.61	0.65
2:B:56:G:H5'	6:G:27:ASN:ND2	2.12	0.65
7:H:150:ALA:C	7:H:152:ARG:N	2.44	0.65
11:P:39:LYS:HA	11:P:45:LEU:HD13	1.79	0.65
16:U:90:VAL:CG1	16:U:91:ASP:H	2.00	0.65
20:Y:35:TYR:CE1	20:Y:69:ALA:HB3	2.31	0.65
23:1:11:ARG:HH11	23:1:11:ARG:HB3	1.61	0.65
27:5:40:LYS:NZ	27:5:48:GLU:HB2	2.10	0.65
4:E:37:ARG:HA	4:E:37:ARG:NE	2.11	0.65
10:O:12:ASP:OD1	10:O:14:THR:HG23	1.97	0.65
10:O:7:TYR:CE1	10:O:20:MET:HB2	2.32	0.65
23:1:56:GLN:N	23:1:56:GLN:HE21	1.93	0.65
1:A:77:C:O3'	24:2:14:ARG:NH2	2.30	0.65
26:4:36:CYS:O	26:4:37:SER:O	2.14	0.65
27:5:56:LYS:CD	27:5:56:LYS:H	2.07	0.65
3:D:122:ASP:CG	3:D:123:ALA:H	2.00	0.65
5:F:155:LEU:HD13	5:F:174:VAL:CG1	2.27	0.65
10:O:71:ARG:NH1	15:T:74:ARG:HH21	1.94	0.65
23:1:82:LEU:CD1	23:1:83:GLU:C	2.64	0.65
24:2:69:ARG:HB2	24:2:69:ARG:NH1	2.11	0.65
6:G:145:THR:HG23	26:4:28:LYS:NZ	2.11	0.65
3:D:172:TYR:HB3	3:D:184:LYS:HG2	1.77	0.65
11:P:6:LEU:O	11:P:7:ARG:HG2	1.97	0.65
16:U:74:LEU:HD23	16:U:114:LYS:HD3	1.78	0.65
28:6:27:LYS:HZ3	28:6:27:LYS:HB2	1.60	0.65
1:A:2419:U:H5'	28:6:23:THR:HG22	1.78	0.65
4:E:13:ARG:NH1	4:E:21:VAL:HG12	2.11	0.65
1:A:323:G:H2'	5:F:169:ASN:OD1	1.97	0.64
5:F:45:ARG:CG	5:F:45:ARG:HH11	2.10	0.64
7:H:51:ARG:HH11	7:H:51:ARG:HG3	1.61	0.64
11:P:97:PRO:HD3	11:P:126:VAL:O	1.97	0.64
27:5:40:LYS:HD3	27:5:46:CYS:CB	2.26	0.64
1:A:2372:G:H4'	28:6:46:HIS:CD2	2.32	0.64
4:E:104:VAL:HG11	4:E:188:VAL:CG2	2.27	0.64
1:A:2392:A:C8	11:P:60:MET:HG3	2.32	0.64
1:A:2438:U:O3'	1:A:2439:A:H3'	1.98	0.64
4:E:35:GLN:CG	4:E:37:ARG:HE	2.11	0.64
4:E:50:GLY:HA3	4:E:74:PRO:HG3	1.79	0.64
1:A:2637:U:H5''	4:E:82:ARG:HH21	1.62	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:83:ARG:HG3	6:G:86:MET:HE1	1.78	0.64
7:H:105:LEU:H	7:H:105:LEU:CD1	2.09	0.64
7:H:148:ILE:O	7:H:151:ILE:HG12	1.98	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HG2	1.97	0.64
15:T:11:GLU:N	15:T:11:GLU:OE1	2.27	0.64
16:U:65:ILE:HG12	16:U:96:ALA:CB	2.26	0.64
23:1:80:LEU:HD12	23:1:81:LYS:HE3	1.78	0.64
30:8:52:LYS:O	30:8:52:LYS:HG3	1.97	0.64
1:A:1059:G:O6	1:A:1079:C:N4	2.30	0.64
6:G:81:LYS:O	6:G:82:LEU:HB2	1.96	0.64
9:N:57:ALA:HA	9:N:60:ILE:HD11	1.77	0.64
26:4:71:ARG:CG	26:4:71:ARG:HH11	1.98	0.64
30:8:56:GLU:OE1	30:8:56:GLU:N	2.30	0.64
2:B:38:C:H42	2:B:44:G:H1	1.46	0.64
3:D:77:ALA:HB2	3:D:97:TYR:HA	1.77	0.64
9:N:15:LEU:HD12	9:N:136:GLU:HB2	1.79	0.64
18:W:86:LEU:HD12	18:W:87:PRO:CD	2.23	0.64
30:8:59:LYS:HZ3	30:8:59:LYS:HB3	1.62	0.64
3:D:182:LEU:H	3:D:272:ALA:HB3	1.62	0.64
6:G:82:LEU:HA	6:G:86:MET:SD	2.38	0.64
12:Q:10:ARG:O	12:Q:11:LYS:HB2	1.98	0.64
13:R:2:ARG:HG2	13:R:5:LYS:NZ	2.13	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
20:Y:56:PRO:HG2	20:Y:57:GLN:OE1	1.98	0.64
22:O:50:ASN:ND2	22:O:81:VAL:O	2.27	0.64
1:A:2393:A:H4'	11:P:61:ARG:O	1.98	0.64
19:X:11:PRO:HB3	19:X:92:LEU:HD21	1.78	0.64
12:Q:30:GLY:HA3	12:Q:106:VAL:O	1.98	0.64
23:1:91:LYS:HG3	23:1:92:LYS:H	1.63	0.64
1:A:2864:G:OP1	15:T:119:LYS:HD2	1.96	0.64
9:N:131:GLN:CD	9:N:132:ALA:H	2.01	0.64
21:Z:97:GLU:HB3	21:Z:125:LEU:HD11	1.79	0.64
6:G:114:ILE:CG2	6:G:117:PHE:HB2	2.28	0.64
7:H:92:ILE:HD12	7:H:92:ILE:H	1.63	0.64
11:P:105:LEU:O	11:P:106:LEU:CB	2.42	0.64
12:Q:23:GLY:HA3	12:Q:101:ARG:NH1	2.12	0.64
12:Q:104:PHE:O	12:Q:105:GLU:HB3	1.98	0.64
1:A:2576:G:O2'	1:A:2579:C:OP2	2.16	0.63
4:E:201:THR:HG21	4:E:203:LYS:HB3	1.80	0.63
10:O:86:ILE:HD12	10:O:86:ILE:N	2.13	0.63
11:P:98:GLU:O	11:P:101:VAL:HG12	1.98	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:63:LYS:O	19:X:64:LYS:HD2	1.98	0.63
2:B:32:C:OP2	6:G:96:ARG:NH2	2.26	0.63
7:H:117:PRO:HB3	7:H:123:PHE:CE1	2.33	0.63
9:N:43:THR:HB	9:N:46:VAL:CG1	2.27	0.63
11:P:113:LYS:HG2	11:P:115:LEU:HD23	1.79	0.63
13:R:28:LEU:HD21	13:R:114:VAL:HG12	1.79	0.63
18:W:74:ALA:O	18:W:75:TYR:HB3	1.98	0.63
1:A:1803:A:N6	1:A:1814:G:O2'	2.30	0.63
3:D:135:PHE:HD2	3:D:135:PHE:N	1.96	0.63
5:F:11:VAL:HG12	5:F:12:LEU:N	2.13	0.63
7:H:3:ARG:NE	7:H:3:ARG:HA	2.12	0.63
17:V:52:VAL:CG2	17:V:55:ALA:HB3	2.28	0.63
1:A:1496:A:H8	1:A:1577:C:HO2'	1.46	0.63
5:F:132:VAL:HG23	5:F:133:ASN:N	2.14	0.63
14:S:78:LEU:HD11	14:S:107:GLU:O	1.98	0.63
24:2:40:SER:C	24:2:42:GLY:H	2.00	0.63
3:D:147:LEU:CD1	3:D:155:LEU:HD11	2.26	0.63
3:D:18:VAL:HG12	3:D:19:ALA:O	1.99	0.63
9:N:39:ARG:HB3	9:N:41:ASP:OD1	1.99	0.63
9:N:61:ARG:HA	9:N:61:ARG:HE	1.64	0.63
19:X:18:TYR:C	19:X:20:GLY:H	2.02	0.63
24:2:42:GLY:O	24:2:44:LEU:N	2.30	0.63
5:F:28:ILE:HG22	5:F:112:MET:HB3	1.80	0.63
7:H:153:LYS:HG3	7:H:161:GLY:HA3	1.80	0.63
9:N:22:THR:CG2	9:N:23:LEU:N	2.61	0.63
11:P:112:LEU:HD11	11:P:114:ILE:HG23	1.81	0.63
12:Q:20:ALA:HB1	12:Q:99:PRO:CB	2.28	0.63
12:Q:66:ILE:CG1	12:Q:67:ARG:H	2.12	0.63
15:T:49:VAL:O	15:T:49:VAL:HG13	1.99	0.63
16:U:102:GLU:HG3	17:V:2:PHE:CE2	2.34	0.63
20:Y:95:LYS:CB	20:Y:100:ALA:HA	2.13	0.63
23:1:82:LEU:CD1	23:1:83:GLU:CA	2.76	0.63
1:A:2466:C:OP1	31:9:4:ARG:HB2	1.99	0.63
3:D:230:ASP:O	3:D:231:HIS:HB2	1.99	0.63
4:E:131:ALA:HB1	4:E:135:HIS:CE1	2.34	0.63
12:Q:81:VAL:O	12:Q:82:ARG:HD3	1.98	0.63
1:A:2277:G:H5'	12:Q:85:LYS:HG3	1.81	0.63
18:W:110:LYS:HG3	18:W:111:HIS:ND1	2.12	0.63
19:X:49:VAL:HG13	19:X:83:VAL:HG13	1.80	0.63
23:1:87:PRO:O	23:1:88:LYS:C	2.37	0.63
30:8:48:PHE:CD1	30:8:48:PHE:N	2.66	0.63
2:B:43:C:O5'	6:G:67:LYS:HE3	1.98	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:108:LYS:HD2	11:P:108:LYS:H	1.64	0.63
21:Z:108:PRO:HA	21:Z:142:SER:HA	1.80	0.63
23:1:76:ARG:H	23:1:76:ARG:HD2	1.64	0.63
24:2:65:ASN:HB3	24:2:69:ARG:NH1	2.10	0.63
1:A:2747:G:H21	1:A:2757:A:H62	1.46	0.63
1:A:660:G:O3'	5:F:38:ARG:NH2	2.32	0.63
3:D:133:LEU:HD21	3:D:191:ALA:CB	2.29	0.63
5:F:107:LYS:O	5:F:108:LYS:C	2.36	0.63
13:R:63:ARG:NH1	13:R:80:PHE:CD1	2.67	0.63
15:T:111:ARG:C	15:T:113:LYS:H	2.01	0.63
15:T:16:ARG:HE	15:T:19:LEU:HD21	1.63	0.63
15:T:60:THR:HG22	15:T:77:PRO:HA	1.80	0.63
16:U:34:LYS:HA	16:U:34:LYS:CE	2.29	0.63
24:2:46:GLN:OE1	24:2:46:GLN:HA	1.98	0.62
1:A:1678:G:H22	1:A:1989:G:H22	1.47	0.62
3:D:44:ASN:HB3	3:D:49:ILE:CA	2.27	0.62
5:F:119:ARG:HH11	5:F:119:ARG:HG2	1.64	0.62
7:H:136:ILE:HD12	7:H:136:ILE:H	1.64	0.62
10:O:8:LEU:HB2	10:O:19:ILE:HD11	1.81	0.62
13:R:117:VAL:O	13:R:118:GLU:HB3	1.99	0.62
20:Y:86:ARG:O	20:Y:92:ASN:HB2	1.97	0.62
28:6:13:CYS:HB2	28:6:22:ALA:HB3	1.81	0.62
1:A:1332:G:H21	1:A:1610:A:H8	1.47	0.62
1:A:1918:A:O2'	1:A:1920:C:N4	2.31	0.62
1:A:517:C:O2'	18:W:18:ARG:NH2	2.32	0.62
5:F:28:ILE:HD13	5:F:30:PRO:HD3	1.80	0.62
12:Q:20:ALA:HB1	12:Q:99:PRO:CD	2.29	0.62
15:T:24:PRO:O	15:T:94:ALA:HB2	2.00	0.62
1:A:565:C:OP1	17:V:82:ARG:NH2	2.32	0.62
1:A:2287:A:H62	1:A:2344:U:H3	1.47	0.62
6:G:94:LEU:N	6:G:94:LEU:HD23	2.14	0.62
14:S:48:LEU:N	14:S:48:LEU:HD12	2.14	0.62
15:T:96:ARG:NH1	15:T:96:ARG:HB2	2.14	0.62
24:2:40:SER:C	24:2:42:GLY:N	2.51	0.62
28:6:41:PRO:HG2	28:6:45:LYS:N	2.10	0.62
1:A:1286:A:O2'	1:A:1288:U:OP2	2.13	0.62
1:A:2784:C:H5''	4:E:41:LYS:HZ3	1.64	0.62
3:D:72:LYS:HG2	3:D:103:ARG:NH2	2.13	0.62
14:S:22:GLY:O	14:S:23:ARG:O	2.17	0.62
18:W:60:ASN:C	18:W:61:ASN:HD22	2.03	0.62
3:D:134:ARG:HD3	3:D:135:PHE:CE2	2.34	0.62
4:E:13:ARG:HH12	4:E:21:VAL:HG12	1.64	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:32:LEU:CD1	5:F:105:VAL:HG13	2.29	0.62
6:G:77:ILE:HD13	6:G:82:LEU:CD1	2.29	0.62
7:H:137:ASP:HB3	7:H:140:LYS:HB2	1.81	0.62
11:P:65:ARG:HH11	11:P:65:ARG:CG	2.06	0.62
19:X:31:HIS:CE1	19:X:33:LYS:HB2	2.34	0.62
23:1:18:ILE:HG12	23:1:37:ILE:HG12	1.81	0.62
1:A:392:C:H5"	1:A:409:C:H5"	1.82	0.62
4:E:35:GLN:CG	4:E:37:ARG:NE	2.62	0.62
9:N:87:LEU:HD23	9:N:87:LEU:O	1.99	0.62
9:N:96:GLU:O	9:N:98:VAL:N	2.33	0.62
11:P:83:VAL:HG12	11:P:112:LEU:HD21	1.81	0.62
11:P:61:ARG:CD	11:P:61:ARG:H	2.09	0.62
14:S:17:ARG:HG3	14:S:18:ILE:N	2.14	0.62
15:T:108:ARG:O	15:T:111:ARG:HG3	2.00	0.62
20:Y:87:LYS:O	20:Y:88:LYS:NZ	2.31	0.62
6:G:68:PRO:HB2	6:G:90:LEU:HD12	1.80	0.62
17:V:36:PRO:HA	17:V:56:SER:OG	1.99	0.62
24:2:69:ARG:CZ	24:2:69:ARG:HB2	2.30	0.62
3:D:137:PRO:HB2	3:D:140:THR:HG23	1.81	0.62
9:N:26:LEU:O	9:N:30:ILE:HG13	1.99	0.62
11:P:64:LYS:HB2	30:8:25:MET:HG3	1.80	0.62
12:Q:86:GLY:C	12:Q:88:GLY:H	2.03	0.62
15:T:57:PHE:CD2	15:T:58:ASN:N	2.66	0.62
23:1:91:LYS:HE3	23:1:91:LYS:HA	1.82	0.62
24:2:17:SER:HB2	24:2:18:PRO:CA	2.30	0.62
6:G:6:ALA:HB2	26:4:23:GLU:OE2	2.00	0.62
26:4:61:ARG:O	26:4:63:TYR:N	2.33	0.62
28:6:18:ARG:O	28:6:18:ARG:HD2	2.00	0.62
3:D:27:THR:O	3:D:29:PRO:HD2	1.99	0.62
3:D:70:TRP:CH2	3:D:150:LYS:HA	2.35	0.62
3:D:72:LYS:HE3	3:D:75:ILE:HD12	1.82	0.62
4:E:35:GLN:HG2	4:E:37:ARG:NE	2.14	0.62
5:F:129:PHE:O	5:F:130:ALA:HB3	2.00	0.62
6:G:9:ARG:HG2	6:G:13:GLU:OE1	2.00	0.62
14:S:26:LEU:HD22	14:S:87:PHE:HD1	1.64	0.62
15:T:22:PHE:HD2	15:T:22:PHE:N	1.97	0.62
28:6:44:ARG:O	28:6:45:LYS:HB2	2.00	0.62
1:A:1937:A:N7	1:A:1939:U:H2'	2.15	0.62
1:A:297:C:H5"	20:Y:85:VAL:HG21	1.82	0.62
6:G:111:LEU:HB2	6:G:112:PRO:HD3	1.82	0.62
10:O:78:ARG:HH21	15:T:103:ARG:NH2	1.98	0.62
11:P:114:ILE:HD11	11:P:130:PHE:CD1	2.34	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:26:LEU:HD12	14:S:39:ILE:CD1	2.23	0.62
20:Y:101:LYS:HE3	20:Y:102:CYS:SG	2.40	0.62
6:G:170:ARG:O	6:G:174:GLU:HB2	2.00	0.61
9:N:7:LYS:HD2	9:N:7:LYS:H	1.64	0.61
11:P:50:ARG:NH2	11:P:50:ARG:CB	2.57	0.61
14:S:100:ALA:HA	14:S:103:GLU:CG	2.30	0.61
15:T:31:SER:HA	15:T:44:ASP:OD2	2.00	0.61
3:D:133:LEU:HD21	3:D:191:ALA:HB2	1.82	0.61
3:D:237:GLU:OE1	3:D:237:GLU:CA	2.48	0.61
4:E:201:THR:HG22	4:E:203:LYS:N	2.07	0.61
10:O:97:ARG:N	10:O:117:LEU:HD22	2.15	0.61
26:4:23:GLU:O	26:4:25:TYR:N	2.33	0.61
26:4:71:ARG:CG	26:4:71:ARG:NH1	2.61	0.61
1:A:259:G:H21	1:A:621:A:H8	1.46	0.61
1:A:2633:G:H1'	4:E:62:PRO:HG2	1.81	0.61
6:G:112:PRO:HB3	26:4:37:SER:CB	2.26	0.61
7:H:152:ARG:O	7:H:153:LYS:CD	2.48	0.61
13:R:38:VAL:HB	13:R:39:PRO:HD3	1.81	0.61
16:U:92:ARG:HD3	16:U:94:ASN:HB3	1.82	0.61
23:1:80:LEU:O	23:1:81:LYS:HD2	2.01	0.61
25:3:29:ARG:HH11	25:3:29:ARG:CB	2.13	0.61
1:A:2815:C:H5'	27:5:29:THR:HG21	1.81	0.61
7:H:86:GLU:O	7:H:87:LEU:HB2	1.99	0.61
20:Y:48:ALA:HB2	20:Y:61:ILE:HD13	1.82	0.61
6:G:142:PRO:HB2	26:4:31:ILE:CD1	2.30	0.61
26:4:35:VAL:O	26:4:37:SER:N	2.26	0.61
28:6:25:LYS:HD2	30:8:34:TRP:CZ2	2.36	0.61
1:A:307:G:H21	1:A:330:A:H62	1.47	0.61
11:P:65:ARG:HE	30:8:15:LYS:HB2	1.64	0.61
14:S:88:ASP:O	14:S:89:ARG:CB	2.49	0.61
18:W:5:ALA:O	18:W:50:VAL:HG13	2.00	0.61
3:D:174:ILE:N	3:D:174:ILE:HD12	2.16	0.61
3:D:21:PHE:HB3	3:D:24:ILE:HG13	1.83	0.61
3:D:35:LYS:HA	3:D:64:ILE:HG22	1.82	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	2.30	0.61
18:W:82:LEU:HB2	18:W:98:LYS:HB2	1.82	0.61
19:X:66:LEU:O	19:X:66:LEU:HD23	2.01	0.61
21:Z:157:LEU:HD23	21:Z:161:VAL:HG12	1.82	0.61
30:8:29:LYS:HD3	30:8:44:LYS:CB	2.30	0.61
1:A:2404:C:H1'	11:P:67:MET:HE1	1.82	0.61
9:N:23:LEU:HD12	9:N:99:LEU:HD23	1.82	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:2:LEU:H	12:Q:2:LEU:HD23	1.65	0.61
10:O:104:ARG:CZ	15:T:34:VAL:HG11	2.29	0.61
17:V:46:VAL:O	17:V:46:VAL:HG13	2.01	0.61
28:6:41:PRO:HD2	28:6:46:HIS:N	2.16	0.61
1:A:1496:A:H8	1:A:1577:C:O2'	1.83	0.61
1:A:2122:U:H2'	1:A:2123:G:H8	1.65	0.61
5:F:63:LYS:HE2	5:F:67:GLN:HB3	1.83	0.61
9:N:6:PRO:HG3	9:N:41:ASP:HB2	1.83	0.61
9:N:7:LYS:CD	9:N:9:VAL:H	2.14	0.61
1:A:2432:A:C8	23:1:33:LYS:HE2	2.36	0.61
24:2:41:ILE:HD11	24:2:44:LEU:HG	1.82	0.61
25:3:5:LYS:HB2	25:3:36:VAL:HG12	1.82	0.61
25:3:59:VAL:HG12	25:3:60:GLU:N	2.16	0.61
3:D:35:LYS:HG2	3:D:64:ILE:CG2	2.31	0.61
16:U:69:CYS:HB3	16:U:106:PHE:CZ	2.36	0.61
1:A:2563:U:H4'	10:O:28:SER:HA	1.83	0.61
4:E:52:LEU:HB3	4:E:54:GLN:OE1	2.00	0.61
6:G:28:VAL:O	6:G:31:VAL:HG12	2.01	0.61
9:N:58:ASP:N	9:N:60:ILE:HD11	2.16	0.61
14:S:49:VAL:HG22	14:S:80:LEU:HD12	1.82	0.61
17:V:15:GLU:HG3	17:V:16:PRO:HD2	1.83	0.61
18:W:65:LEU:HD12	18:W:68:ARG:NH1	2.11	0.61
19:X:14:SER:O	19:X:17:ALA:N	2.34	0.61
27:5:52:TYR:O	27:5:53:ALA:HB3	2.01	0.60
1:A:608:A:OP1	5:F:100:THR:OG1	2.12	0.60
1:A:859:G:N2	1:A:917:A:OP2	2.25	0.60
12:Q:88:GLY:C	12:Q:90:VAL:H	2.02	0.60
13:R:52:ILE:O	13:R:55:ALA:HB3	2.01	0.60
18:W:28:SER:O	18:W:31:GLU:N	2.34	0.60
1:A:1348:G:H2'	1:A:1349:A:H5''	1.83	0.60
4:E:4:ILE:C	4:E:5:LEU:HD23	2.22	0.60
5:F:175:THR:O	5:F:176:LEU:CB	2.49	0.60
7:H:126:PRO:CD	7:H:127:GLU:N	2.64	0.60
7:H:44:VAL:O	7:H:44:VAL:HG22	2.01	0.60
11:P:96:THR:HG22	11:P:126:VAL:HB	1.83	0.60
16:U:96:ALA:C	16:U:98:LEU:H	2.03	0.60
17:V:35:LEU:HD23	17:V:35:LEU:O	2.01	0.60
1:A:2119:A:N6	1:A:2170:A:N7	2.49	0.60
3:D:263:ARG:HH11	3:D:263:ARG:CB	2.14	0.60
3:D:35:LYS:NZ	3:D:65:ILE:HA	2.15	0.60
4:E:104:VAL:HG11	4:E:188:VAL:HG23	1.82	0.60
6:G:94:LEU:HD23	6:G:94:LEU:H	1.64	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:91:LEU:HD22	10:O:91:LEU:N	2.16	0.60
12:Q:66:ILE:CG1	12:Q:67:ARG:N	2.64	0.60
12:Q:86:GLY:C	12:Q:88:GLY:N	2.52	0.60
17:V:66:ARG:HH12	17:V:88:ARG:HH11	1.49	0.60
23:1:80:LEU:C	23:1:81:LYS:CD	2.69	0.60
24:2:70:GLN:O	24:2:71:ASN:HB2	2.00	0.60
1:A:519:U:H2'	1:A:520:G:H8	1.65	0.60
10:O:104:ARG:NH1	10:O:104:ARG:HG2	2.14	0.60
12:Q:80:GLU:C	12:Q:81:VAL:HG13	2.22	0.60
19:X:43:VAL:CG1	19:X:51:VAL:HG21	2.31	0.60
22:O:68:GLU:HG2	22:O:80:HIS:HB2	1.83	0.60
23:1:73:LEU:C	23:1:75:GLU:H	2.03	0.60
4:E:51:PHE:O	4:E:52:LEU:C	2.38	0.60
6:G:50:ALA:O	6:G:53:LEU:HB3	2.01	0.60
6:G:64:THR:HG23	6:G:66:GLN:H	1.67	0.60
6:G:61:ALA:HB2	6:G:68:PRO:HD2	1.80	0.60
9:N:17:ASP:O	9:N:18:ALA:HB3	2.01	0.60
11:P:55:ARG:HD2	11:P:56:SER:O	2.01	0.60
12:Q:54:MET:O	12:Q:57:HIS:HB3	2.00	0.60
24:2:41:ILE:HG12	24:2:44:LEU:HD12	1.82	0.60
1:A:1203:G:O6	1:A:1204:A:N6	2.34	0.60
1:A:1332:G:N2	1:A:1609:A:O2'	2.35	0.60
1:A:2250:G:C6	12:Q:82:ARG:HD2	2.36	0.60
1:A:2848:G:O2'	1:A:2849:U:OP2	2.16	0.60
4:E:4:ILE:CD1	4:E:28:ALA:HB1	2.29	0.60
9:N:133:GLN:O	9:N:134:ARG:HB3	1.99	0.60
20:Y:44:ILE:HG13	20:Y:45:VAL:H	1.65	0.60
1:A:479:A:N3	1:A:481:G:H5''	2.17	0.60
5:F:34:TRP:CZ3	11:P:8:PRO:HB3	2.36	0.60
5:F:46:ARG:HH11	5:F:46:ARG:CG	2.04	0.60
8:I:52:ARG:HB2	8:I:56:LYS:HB3	1.83	0.60
9:N:99:LEU:O	9:N:103:VAL:HG23	2.02	0.60
19:X:15:GLU:N	19:X:15:GLU:OE1	2.34	0.60
20:Y:19:LYS:HG3	20:Y:19:LYS:O	2.01	0.60
24:2:32:LEU:HD11	24:2:54:LYS:HG3	1.84	0.60
1:A:1930:G:H2'	1:A:1968:G:N1	2.16	0.60
1:A:2271:G:H2'	1:A:2272:U:H6	1.67	0.60
1:A:2788:C:O2'	1:A:2809:A:N3	2.32	0.60
1:A:468:G:N7	29:7:39:ARG:NH2	2.50	0.60
4:E:53:PRO:HG2	4:E:54:GLN:NE2	2.16	0.60
7:H:117:PRO:HB3	7:H:123:PHE:CD1	2.37	0.60
1:A:298:G:O2'	1:A:322:A:N1	2.32	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:2:ALA:HB3	3:D:20:ASP:HB3	1.83	0.60
3:D:25:THR:HG21	3:D:81:ALA:CA	2.31	0.60
4:E:37:ARG:CA	4:E:37:ARG:NE	2.64	0.60
4:E:95:ILE:HD12	4:E:95:ILE:N	2.14	0.60
5:F:164:ARG:HH11	5:F:164:ARG:HG2	1.66	0.60
6:G:128:ARG:NH2	6:G:128:ARG:HG3	2.17	0.60
6:G:179:PRO:HG3	26:4:38:LYS:HZ2	1.66	0.60
6:G:44:GLY:HA2	6:G:88:ILE:CG1	2.30	0.60
7:H:30:LYS:CD	7:H:81:GLU:H	2.15	0.60
7:H:89:ILE:O	7:H:91:GLY:N	2.35	0.60
11:P:138:LEU:C	11:P:140:ALA:N	2.55	0.60
11:P:13:ASN:O	11:P:15:ARG:N	2.34	0.60
13:R:44:LEU:O	13:R:48:VAL:HG23	2.02	0.60
13:R:44:LEU:HD22	13:R:48:VAL:HG23	1.82	0.60
17:V:18:LEU:HB3	17:V:96:ILE:HG12	1.84	0.60
3:D:165:ILE:HA	3:D:175:LEU:HD23	1.83	0.60
3:D:35:LYS:HD3	3:D:63:ARG:CB	2.32	0.60
4:E:63:LEU:CD1	4:E:64:LYS:H	2.04	0.60
6:G:126:ASP:OD1	6:G:130:ASN:HB2	2.02	0.60
1:A:1142(A):A:H4'	9:N:25:ARG:HH22	1.66	0.60
13:R:75:LEU:HD13	13:R:75:LEU:C	2.22	0.60
14:S:99:LYS:O	14:S:102:ALA:N	2.34	0.60
15:T:34:VAL:HG12	15:T:36:GLU:HG2	1.83	0.60
16:U:76:TYR:CZ	16:U:80:ILE:HG13	2.37	0.60
1:A:1153:C:OP1	16:U:76:TYR:OH	2.20	0.59
4:E:116:VAL:O	4:E:117:MET:CB	2.49	0.59
7:H:153:LYS:HA	7:H:153:LYS:HZ2	1.67	0.59
11:P:27:HIS:ND1	11:P:27:HIS:N	2.49	0.59
13:R:92:GLY:H	13:R:94:TYR:HE2	1.49	0.59
17:V:35:LEU:HB2	17:V:37:VAL:HG23	1.84	0.59
20:Y:4:LYS:O	20:Y:5:MET:HB2	2.01	0.59
23:1:91:LYS:CG	23:1:92:LYS:H	2.15	0.59
1:A:1127:A:N1	1:A:2463:C:O2'	2.32	0.59
3:D:166:GLN:CA	3:D:166:GLN:HE21	2.14	0.59
3:D:236:GLY:C	3:D:237:GLU:OE1	2.39	0.59
4:E:131:ALA:HB1	4:E:135:HIS:HE1	1.65	0.59
4:E:68:ALA:O	4:E:69:LYS:HG3	2.02	0.59
11:P:95:VAL:HG13	11:P:100:LEU:HD21	1.83	0.59
15:T:107:ASP:O	15:T:110:ILE:HG22	2.02	0.59
30:8:22:VAL:CG2	30:8:53:PRO:HB2	2.32	0.59
1:A:1444(A):A:H4'	1:A:1460:A:O2'	2.02	0.59
2:B:42:C:C6	6:G:69:ALA:HB2	2.37	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:172:TYR:CD1	3:D:186:HIS:HA	2.37	0.59
3:D:35:LYS:HE3	3:D:64:ILE:C	2.21	0.59
4:E:61:ARG:HB2	4:E:62:PRO:CD	2.33	0.59
4:E:69:LYS:O	4:E:71:GLY:N	2.27	0.59
5:F:155:LEU:CD1	5:F:174:VAL:HG13	2.32	0.59
9:N:16:ILE:O	9:N:55:VAL:HG22	2.01	0.59
9:N:41:ASP:O	9:N:48:MET:HE3	2.01	0.59
12:Q:63:LYS:HE2	12:Q:65:PHE:CE1	2.37	0.59
12:Q:81:VAL:HG23	12:Q:82:ARG:H	1.67	0.59
14:S:11:LYS:HB2	14:S:91:PRO:HD3	1.84	0.59
16:U:58:ARG:HA	16:U:61:TRP:CE3	2.37	0.59
21:Z:94:GLU:HB2	21:Z:130:PRO:HD2	1.84	0.59
28:6:13:CYS:O	28:6:21:TYR:HA	2.01	0.59
30:8:22:VAL:HG21	30:8:53:PRO:HB2	1.82	0.59
1:A:1138:G:H21	9:N:106:MET:HE3	1.67	0.59
3:D:25:THR:HG21	3:D:81:ALA:HA	1.84	0.59
6:G:13:GLU:O	6:G:14:GLU:CB	2.44	0.59
7:H:4:ILE:N	7:H:4:ILE:HD13	2.18	0.59
8:I:133:HIS:HB2	8:I:134:PRO:HD2	1.84	0.59
11:P:106:LEU:O	11:P:107:LYS:CB	2.46	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD13	1.84	0.59
23:1:87:PRO:O	23:1:91:LYS:N	2.32	0.59
1:A:1899:G:H21	1:A:1902:C:N4	2.00	0.59
3:D:137:PRO:HB2	3:D:140:THR:CG2	2.33	0.59
9:N:78:TYR:CD1	9:N:78:TYR:N	2.70	0.59
11:P:79:ARG:HD3	11:P:110:TYR:HE1	1.67	0.59
14:S:89:ARG:O	14:S:90:GLY:O	2.19	0.59
18:W:36:LEU:HD11	18:W:47:VAL:HG12	1.83	0.59
1:A:1364:G:N7	23:1:2:SER:N	2.51	0.59
27:5:40:LYS:NZ	27:5:46:CYS:HB3	2.18	0.59
1:A:1342:A:OP1	19:X:36:LYS:NZ	2.34	0.59
1:A:864:G:H1'	1:A:914:C:H42	1.68	0.59
7:H:82:GLY:O	7:H:135:GLY:O	2.20	0.59
9:N:9:VAL:HG21	9:N:48:MET:HB3	1.85	0.59
11:P:37:GLY:HA2	11:P:41:ARG:HE	1.68	0.59
13:R:79:LEU:HD23	13:R:79:LEU:C	2.23	0.59
18:W:66:GLU:O	18:W:68:ARG:N	2.33	0.59
1:A:1857:G:O2'	1:A:1885:A:N6	2.35	0.59
3:D:12:SER:C	3:D:14:ARG:H	2.06	0.59
3:D:54:ARG:CG	3:D:54:ARG:HH11	2.14	0.59
4:E:116:VAL:CG2	4:E:122:PHE:CD2	2.86	0.59
4:E:36:ARG:H	4:E:37:ARG:HH21	1.49	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:52:ARG:HG2	16:U:52:ARG:NH1	2.17	0.59
26:4:63:TYR:C	26:4:65:ASP:H	2.05	0.59
1:A:2073:C:O2'	1:A:2598:A:O2'	2.18	0.59
1:A:898:C:H2'	1:A:899:A:H5'	1.85	0.59
5:F:123:LEU:HD12	5:F:124:LEU:N	2.17	0.59
9:N:18:ALA:HB3	9:N:55:VAL:O	2.03	0.59
11:P:71:VAL:HG13	11:P:72:PRO:HD3	1.85	0.59
20:Y:51:VAL:CG1	20:Y:52:SER:H	2.11	0.59
3:D:71:ASP:HB3	3:D:103:ARG:HH22	1.68	0.59
4:E:93:VAL:N	4:E:95:ILE:CD1	2.65	0.59
7:H:127:GLU:HG2	7:H:128:PRO:CG	2.33	0.59
14:S:42:ASP:C	14:S:44:LYS:H	2.06	0.59
15:T:36:GLU:HG3	15:T:41:ARG:HD3	1.85	0.59
24:2:64:LEU:CD2	24:2:68:ARG:HD2	2.33	0.59
1:A:242:G:C8	30:8:5:LYS:HG2	2.37	0.59
2:B:31:C:H42	2:B:51:G:H1	1.51	0.59
3:D:44:ASN:N	3:D:44:ASN:ND2	2.42	0.59
5:F:89:VAL:HG12	5:F:90:PHE:N	2.18	0.59
7:H:55:PRO:HG2	7:H:61:HIS:CE1	2.37	0.59
9:N:13:TRP:O	9:N:135:PRO:HD2	2.03	0.59
11:P:138:LEU:O	11:P:140:ALA:N	2.33	0.59
12:Q:63:LYS:HD2	21:Z:175:VAL:HG21	1.83	0.59
19:X:49:VAL:CG1	19:X:83:VAL:HG13	2.33	0.59
1:A:270(T):G:OP1	23:1:97:LEU:HD13	2.02	0.58
26:4:65:ASP:O	26:4:66:SER:CB	2.51	0.58
1:A:2839:G:H5'	13:R:46:GLY:HA2	1.84	0.58
3:D:92:ILE:HD12	3:D:104:TYR:CD2	2.38	0.58
4:E:72:VAL:O	4:E:73:GLU:O	2.21	0.58
7:H:92:ILE:HG22	7:H:93:GLY:N	2.18	0.58
8:I:3:VAL:HG12	8:I:38:LEU:HA	1.85	0.58
11:P:127:ALA:O	11:P:147:LEU:HD23	2.02	0.58
13:R:72:ASP:O	13:R:76:VAL:HB	2.03	0.58
14:S:88:ASP:CG	14:S:90:GLY:H	2.06	0.58
15:T:66:VAL:HG12	15:T:67:SER:H	1.67	0.58
17:V:1:MET:CE	17:V:43:GLU:HG2	2.32	0.58
26:4:12:ALA:CB	26:4:29:PRO:HA	2.33	0.58
26:4:42:PHE:CG	26:4:43:TYR:N	2.71	0.58
1:A:2224:G:OP1	3:D:268:ARG:HD3	2.02	0.58
1:A:2405:G:O2'	1:A:2411:A:N6	2.36	0.58
1:A:270(U):C:H2'	1:A:270(V):G:H8	1.68	0.58
4:E:93:VAL:N	4:E:95:ILE:HD12	2.17	0.58
1:A:2758:A:C4	7:H:67:LEU:HD21	2.38	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:78:THR:HG22	8:I:141:LYS:HD2	1.85	0.58
9:N:114:ARG:O	9:N:115:ARG:HB3	2.03	0.58
11:P:121:LYS:HG3	11:P:122:PRO:HD2	1.84	0.58
15:T:102:ILE:HB	15:T:110:ILE:HD11	1.84	0.58
17:V:41:GLY:H	17:V:46:VAL:HG13	1.66	0.58
24:2:17:SER:CB	24:2:18:PRO:HA	2.33	0.58
24:2:69:ARG:CB	24:2:69:ARG:NH1	2.67	0.58
1:A:1636:C:H2'	1:A:1637:A:C8	2.38	0.58
5:F:63:LYS:HE2	5:F:67:GLN:CB	2.32	0.58
20:Y:81:LYS:HD3	20:Y:97:ARG:CD	2.34	0.58
24:2:16:LEU:CG	24:2:16:LEU:O	2.49	0.58
24:2:16:LEU:O	24:2:17:SER:HB3	2.04	0.58
27:5:60:VAL:HG13	27:5:60:VAL:OXT	2.03	0.58
1:A:1266:G:C5	18:W:15:ARG:NH1	2.71	0.58
1:A:1449:A:HO2'	1:A:1530:G:H21	1.49	0.58
1:A:2295:C:OP1	14:S:10:ARG:HD2	2.03	0.58
1:A:270(R):G:H2'	1:A:270(S):G:C8	2.38	0.58
3:D:242:ARG:HD2	3:D:242:ARG:N	2.18	0.58
4:E:6:GLY:HA3	4:E:26:ILE:HD11	1.85	0.58
5:F:174:VAL:HG13	5:F:174:VAL:O	2.03	0.58
7:H:86:GLU:O	7:H:131:VAL:O	2.21	0.58
10:O:20:MET:O	10:O:41:ALA:HB1	2.04	0.58
16:U:92:ARG:NH1	16:U:95:LEU:CD1	2.65	0.58
26:4:15:ILE:HG22	26:4:19:GLY:O	2.03	0.58
26:4:48:ARG:NH1	26:4:52:THR:H	2.01	0.58
30:8:46:ARG:O	30:8:47:LYS:HB3	2.03	0.58
1:A:1266:G:O5'	18:W:15:ARG:NH2	2.37	0.58
1:A:389:G:H1	11:P:71:VAL:HG12	1.69	0.58
9:N:14:VAL:HG12	9:N:15:LEU:N	2.19	0.58
10:O:71:ARG:HH11	10:O:71:ARG:HG3	1.69	0.58
18:W:95:ILE:O	18:W:95:ILE:HD12	2.04	0.58
20:Y:96:ILE:CD1	20:Y:98:VAL:HG12	2.33	0.58
1:A:2723:C:H5''	13:R:1:MET:HG2	1.85	0.58
1:A:443:A:C5	5:F:45:ARG:HD2	2.38	0.58
5:F:160:ASN:OD1	5:F:162:LEU:HB2	2.04	0.58
6:G:16:ARG:NH2	6:G:31:VAL:HG11	2.17	0.58
7:H:159:GLU:O	7:H:160:LYS:HG2	2.02	0.58
1:A:2758:A:C5	7:H:67:LEU:HD21	2.39	0.58
10:O:7:TYR:HE1	10:O:20:MET:HE3	1.68	0.58
16:U:92:ARG:HH11	16:U:95:LEU:HD12	1.67	0.58
1:A:2116:G:N1	1:A:2162:G:OP1	2.36	0.58
3:D:35:LYS:CG	3:D:64:ILE:H	2.15	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:51:PHE:CD1	4:E:52:LEU:HG	2.38	0.58
7:H:4:ILE:HG13	7:H:6:ARG:CD	2.33	0.58
26:4:38:LYS:C	26:4:40:HIS:N	2.52	0.58
30:8:56:GLU:O	30:8:59:LYS:N	2.35	0.58
1:A:2693:A:H2'	1:A:2694:G:C8	2.36	0.58
5:F:11:VAL:HG11	5:F:18:ARG:HE	1.67	0.58
14:S:67:ARG:HB2	14:S:67:ARG:HH11	1.65	0.58
19:X:7:VAL:O	19:X:30:VAL:HG12	2.04	0.58
21:Z:111:VAL:HG22	21:Z:112:ARG:H	1.69	0.58
26:4:22:ILE:HG22	26:4:23:GLU:N	2.18	0.58
26:4:3:GLU:HG3	26:4:4:GLY:N	2.19	0.58
27:5:50:GLY:O	27:5:51:TYR:HB2	2.03	0.58
1:A:1224:G:OP2	17:V:66:ARG:NH2	2.37	0.58
3:D:27:THR:CG2	3:D:83:GLU:HB3	2.33	0.58
4:E:111:ARG:NE	4:E:160:TYR:HE1	2.01	0.58
9:N:101:HIS:ND1	9:N:101:HIS:C	2.56	0.58
13:R:117:VAL:CG2	13:R:118:GLU:H	2.15	0.58
1:A:64:A:C4	19:X:66:LEU:HD13	2.39	0.58
19:X:27:THR:HB	19:X:80:ILE:HB	1.84	0.58
20:Y:95:LYS:HD3	20:Y:95:LYS:H	1.68	0.58
24:2:15:LYS:H	24:2:67:LYS:NZ	2.02	0.58
26:4:27:THR:O	26:4:28:LYS:HB3	2.04	0.58
1:A:194:G:H2'	1:A:195:A:O4'	2.04	0.58
7:H:125:VAL:HG12	7:H:126:PRO:CG	2.34	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
16:U:24:TYR:HE1	16:U:39:LEU:HD23	1.69	0.58
26:4:15:ILE:HG22	26:4:20:ASN:HA	1.86	0.57
27:5:55:ARG:NH1	27:5:58:LEU:HD11	2.19	0.57
1:A:1049:C:H2'	1:A:1050:A:H5''	1.84	0.57
1:A:373:U:H2'	1:A:374:A:H8	1.69	0.57
3:D:147:LEU:HD13	3:D:155:LEU:CD1	2.29	0.57
3:D:25:THR:HG21	3:D:81:ALA:HB1	1.85	0.57
6:G:53:LEU:C	6:G:53:LEU:HD23	2.25	0.57
7:H:85:LYS:HA	7:H:86:GLU:OE1	2.04	0.57
11:P:59:LEU:HA	11:P:61:ARG:CZ	2.34	0.57
12:Q:90:VAL:C	12:Q:92:GLY:H	2.07	0.57
15:T:82:LEU:N	15:T:82:LEU:HD12	2.19	0.57
17:V:35:LEU:HD21	17:V:57:VAL:CG2	2.30	0.57
21:Z:58:VAL:O	21:Z:60:GLU:N	2.35	0.57
26:4:39:CYS:O	26:4:40:HIS:HB2	2.03	0.57
1:A:1636:C:H2'	1:A:1637:A:H8	1.68	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:35:LYS:HG2	3:D:64:ILE:CA	2.34	0.57
5:F:138:GLU:O	5:F:141:ALA:HB3	2.04	0.57
6:G:39:ILE:HG23	6:G:155:MET:HG3	1.86	0.57
7:H:125:VAL:HA	7:H:126:PRO:CB	2.29	0.57
7:H:84:SER:O	7:H:133:VAL:O	2.22	0.57
10:O:20:MET:HG2	10:O:21:CYS:N	2.19	0.57
14:S:106:ARG:O	14:S:107:GLU:HB2	2.04	0.57
14:S:95:HIS:CG	14:S:96:GLY:H	2.21	0.57
17:V:78:LYS:O	17:V:79:VAL:HB	2.04	0.57
18:W:80:PRO:O	18:W:100:THR:HG22	2.03	0.57
23:1:81:LYS:H	23:1:81:LYS:HE2	1.62	0.57
26:4:37:SER:HB3	26:4:42:PHE:CE1	2.38	0.57
1:A:2146:C:H4'	1:A:2147:G:C8	2.39	0.57
3:D:177:LEU:HD11	3:D:183:ARG:HB2	1.85	0.57
3:D:263:ARG:HH11	3:D:263:ARG:HB2	1.67	0.57
8:I:62:LYS:HE3	8:I:134:PRO:HG2	1.86	0.57
12:Q:55:VAL:HG22	12:Q:56:ARG:N	2.18	0.57
14:S:67:ARG:HH11	14:S:67:ARG:CB	2.18	0.57
28:6:6:ARG:O	28:6:8:LYS:HD2	2.05	0.57
1:A:1449:A:O2'	1:A:1530:G:N2	2.32	0.57
1:A:1509:C:H3'	1:A:1510:A:H5''	1.86	0.57
1:A:2749:A:H4'	7:H:62:LYS:HB3	1.85	0.57
4:E:51:PHE:HD1	4:E:52:LEU:HG	1.68	0.57
4:E:63:LEU:HD13	4:E:65:GLY:H	1.68	0.57
6:G:16:ARG:HB3	6:G:17:PRO:CD	2.33	0.57
6:G:63:ILE:HD11	6:G:102:PHE:HE2	1.69	0.57
7:H:4:ILE:H	7:H:4:ILE:HD13	1.69	0.57
9:N:35:ARG:O	9:N:37:LYS:N	2.37	0.57
10:O:40:VAL:HG12	10:O:41:ALA:N	2.19	0.57
12:Q:66:ILE:HA	12:Q:104:PHE:HA	1.85	0.57
13:R:63:ARG:HG3	13:R:63:ARG:HH11	1.68	0.57
14:S:26:LEU:CD2	14:S:87:PHE:HD1	2.17	0.57
9:N:42:TRP:O	16:U:64:ARG:NH2	2.35	0.57
16:U:92:ARG:C	16:U:94:ASN:H	2.05	0.57
23:1:86:SER:H	23:1:87:PRO:CD	2.16	0.57
24:2:15:LYS:H	24:2:67:LYS:CE	2.17	0.57
24:2:17:SER:HB2	24:2:18:PRO:HA	1.86	0.57
24:2:21:LEU:O	24:2:25:VAL:HG23	2.04	0.57
30:8:53:PRO:CD	30:8:54:GLU:H	2.15	0.57
31:9:25:VAL:HB	31:9:34:GLN:HB2	1.86	0.57
1:A:607:U:OP1	5:F:102:PRO:HA	2.05	0.57
6:G:39:ILE:CG2	6:G:155:MET:HG3	2.35	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:133:GLN:O	9:N:134:ARG:CB	2.53	0.57
14:S:103:GLU:O	14:S:106:ARG:CG	2.52	0.57
18:W:1:MET:HA	18:W:1:MET:HE3	1.86	0.57
25:3:22:ALA:O	25:3:25:ALA:HB3	2.04	0.57
30:8:33:ASN:O	30:8:34:TRP:C	2.42	0.57
1:A:1279:G:H4'	13:R:31:HIS:HD2	1.69	0.57
1:A:2839:G:H21	13:R:92:GLY:HA3	1.68	0.57
4:E:74:PRO:HG2	4:E:77:ILE:HG23	1.86	0.57
6:G:107:LEU:HD11	6:G:178:PHE:CE1	2.39	0.57
8:I:129:THR:HA	8:I:137:PRO:HA	1.87	0.57
9:N:40:PRO:HB3	16:U:68:ALA:HB2	1.86	0.57
1:A:857:C:OP2	22:0:77:ARG:NH2	2.37	0.57
1:A:1266:G:OP2	27:5:20:ARG:NE	2.37	0.57
1:A:78:A:H2'	1:A:79:G:H8	1.69	0.57
7:H:124:GLU:HB3	7:H:132:ARG:HG3	1.85	0.57
7:H:41:MET:HE1	7:H:64:LEU:HB3	1.86	0.57
8:I:30:LEU:HB3	8:I:36:ALA:HB3	1.85	0.57
9:N:131:GLN:CG	9:N:132:ALA:N	2.68	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	2.03	0.57
13:R:32:GLY:O	13:R:115:GLU:HA	2.04	0.57
16:U:96:ALA:O	16:U:100:VAL:HG23	2.05	0.57
19:X:36:LYS:HE3	19:X:54:VAL:O	2.04	0.57
23:1:70:VAL:O	23:1:74:VAL:HG23	2.05	0.57
25:3:31:LEU:O	25:3:32:GLN:HB2	2.04	0.57
28:6:48:VAL:HG13	28:6:49:HIS:N	2.20	0.57
1:A:2469:A:H5''	1:A:2470:G:C8	2.40	0.57
3:D:239:ARG:O	3:D:240:ALA:HB2	2.05	0.57
4:E:102:VAL:HG13	4:E:172:VAL:CG2	2.34	0.57
4:E:41:LYS:HA	4:E:41:LYS:HE2	1.86	0.57
7:H:126:PRO:CG	7:H:127:GLU:N	2.65	0.57
9:N:63:THR:HG22	9:N:66:LYS:NZ	2.20	0.57
23:1:89:GLU:O	23:1:93:GLU:HB2	2.05	0.57
1:A:1885:A:H5'	1:A:1886:C:OP2	2.05	0.57
1:A:2311:A:H1'	6:G:82:LEU:HD11	1.86	0.57
9:N:14:VAL:HG12	9:N:15:LEU:H	1.69	0.57
16:U:68:ALA:O	16:U:71:GLN:HB2	2.04	0.57
24:2:31:GLU:O	24:2:35:LEU:HG	2.05	0.57
31:9:1:MET:HB3	31:9:4:ARG:CZ	2.35	0.57
1:A:1043:C:N3	1:A:1112:G:N2	2.43	0.57
1:A:78:A:H2'	1:A:79:G:C8	2.40	0.57
1:A:1818:U:O2'	3:D:154:LYS:O	2.18	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:63:LEU:HD12	4:E:65:GLY:H	1.69	0.57
9:N:82:LEU:HD12	9:N:83:LYS:H	1.70	0.57
14:S:72:ALA:O	14:S:76:LYS:HG3	2.04	0.57
20:Y:89:PHE:O	20:Y:90:LEU:HD13	2.05	0.57
28:6:11:LEU:HD23	28:6:26:ASN:HB3	1.87	0.56
29:7:19:ARG:HH11	29:7:19:ARG:HG2	1.70	0.56
1:A:2394:C:OP1	11:P:63:PRO:HD2	2.05	0.56
1:A:2698:U:H2'	1:A:2699:C:C6	2.39	0.56
1:A:2712:U:HO2'	1:A:2712(A):A:H8	1.49	0.56
3:D:35:LYS:CE	3:D:104:TYR:HB2	2.35	0.56
7:H:3:ARG:HA	7:H:3:ARG:HE	1.69	0.56
9:N:112:LEU:O	9:N:114:ARG:O	2.23	0.56
16:U:79:PHE:C	16:U:79:PHE:CD2	2.78	0.56
1:A:2232:U:P	23:1:40:ARG:HH12	2.28	0.56
25:3:4:LEU:O	25:3:36:VAL:HA	2.04	0.56
29:7:13:ALA:O	29:7:17:GLY:HA3	2.05	0.56
1:A:1019:U:HO2'	1:A:1021:A:H2	1.52	0.56
1:A:299:A:H5'	20:Y:84:ARG:HH21	1.70	0.56
5:F:24:LEU:HB3	5:F:115:ALA:HB2	1.87	0.56
2:B:55:U:H5''	6:G:28:VAL:HG21	1.87	0.56
4:E:152:LYS:HG2	9:N:78:TYR:CE1	2.40	0.56
11:P:31:ALA:O	11:P:32:THR:HG23	2.05	0.56
13:R:70:LEU:HD13	13:R:75:LEU:HD11	1.88	0.56
17:V:38:LEU:HD23	17:V:39:LEU:N	2.19	0.56
24:2:51:ARG:HA	24:2:54:LYS:HB2	1.86	0.56
1:A:76:C:O2'	24:2:62:THR:HG21	2.05	0.56
26:4:64:GLY:C	26:4:66:SER:H	2.07	0.56
28:6:42:TRP:CD1	28:6:42:TRP:N	2.73	0.56
1:A:84:A:N1	1:A:98:G:O2'	2.30	0.56
3:D:236:GLY:O	3:D:237:GLU:OE1	2.23	0.56
4:E:183:LEU:HD12	4:E:183:LEU:N	2.20	0.56
4:E:78:LEU:HD23	4:E:79:ARG:HD2	1.86	0.56
5:F:192:LEU:HD21	5:F:194:MET:CE	2.35	0.56
1:A:2445:G:OP1	5:F:74:ARG:NH2	2.37	0.56
14:S:32:LEU:O	14:S:62:LYS:HE2	2.06	0.56
20:Y:97:ARG:HG2	20:Y:97:ARG:O	2.05	0.56
27:5:55:ARG:HD3	27:5:56:LYS:N	2.21	0.56
28:6:14:THR:O	28:6:49:HIS:HA	2.06	0.56
30:8:52:LYS:H	30:8:53:PRO:HD2	1.66	0.56
1:A:1264:G:H3'	1:A:1265:A:H5''	1.87	0.56
1:A:227:A:OP1	11:P:76:LYS:HE3	2.05	0.56
1:A:1638:C:O2	1:A:2698:U:O2'	2.23	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:483:A:H3'	1:A:484:C:H6	1.70	0.56
1:A:483:A:H4'	20:Y:49:VAL:HG13	1.86	0.56
5:F:198:ALA:CA	5:F:201:VAL:HG12	2.35	0.56
5:F:46:ARG:HG2	5:F:46:ARG:NH1	2.00	0.56
6:G:180:PHE:C	6:G:182:LYS:H	2.09	0.56
9:N:56:ASN:N	9:N:125:GLY:O	2.35	0.56
14:S:5:THR:HG23	14:S:8:GLU:OE2	2.05	0.56
18:W:65:LEU:O	18:W:66:GLU:C	2.43	0.56
23:1:53:VAL:HG12	23:1:54:ALA:N	2.21	0.56
26:4:48:ARG:HH12	26:4:52:THR:HG22	1.70	0.56
1:A:1794:U:H2'	1:A:1795:C:C6	2.41	0.56
1:A:2777:G:OP2	1:A:2781:A:O2'	2.20	0.56
4:E:174:ASP:CG	4:E:175:VAL:N	2.58	0.56
4:E:37:ARG:N	4:E:37:ARG:NE	2.54	0.56
4:E:69:LYS:C	4:E:71:GLY:H	2.09	0.56
5:F:32:LEU:HD13	5:F:105:VAL:CG1	2.33	0.56
6:G:41:GLN:HB3	6:G:43:LEU:HD13	1.87	0.56
7:H:77:LYS:CB	7:H:77:LYS:HZ3	2.03	0.56
10:O:19:ILE:O	10:O:19:ILE:HD13	2.06	0.56
11:P:65:ARG:HH21	30:8:15:LYS:CB	2.17	0.56
17:V:1:MET:HE2	17:V:43:GLU:HG2	1.87	0.56
26:4:48:ARG:O	26:4:50:VAL:N	2.38	0.56
31:9:2:LYS:HD2	31:9:33:LYS:O	2.04	0.56
1:A:1796:U:H2'	1:A:1797:C:H6	1.70	0.56
1:A:2636:U:OP1	4:E:79:ARG:HA	2.06	0.56
2:B:45:A:H1'	6:G:95:ARG:HH22	1.71	0.56
4:E:117:MET:HG3	4:E:117:MET:O	2.06	0.56
4:E:32:PRO:O	4:E:34:VAL:HG13	2.06	0.56
6:G:179:PRO:HG3	26:4:38:LYS:HZ1	1.67	0.56
11:P:14:LYS:O	11:P:16:ARG:N	2.39	0.56
12:Q:59:ARG:C	12:Q:60:ARG:CG	2.74	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
29:7:12:ARG:NH2	29:7:44:PRO:HB3	2.21	0.56
1:A:1287:A:N7	13:R:107:ASP:HB2	2.19	0.56
1:A:2208:U:O2'	3:D:151:LYS:HG2	2.05	0.56
14:S:5:THR:OG1	14:S:7:TYR:HB3	2.06	0.56
15:T:134:GLU:O	15:T:135:ALA:HB3	2.05	0.56
17:V:27:ALA:O	17:V:28:GLU:O	2.24	0.56
20:Y:95:LYS:O	20:Y:95:LYS:HE3	2.05	0.56
26:4:41:PRO:O	26:4:42:PHE:CB	2.54	0.56
30:8:50:LEU:HD12	30:8:51:ALA:H	1.70	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:80:ALA:HB3	3:D:94:LEU:HD13	1.88	0.56
5:F:9:ILE:HD11	5:F:125:LEU:CG	2.36	0.56
6:G:120:LEU:HB3	6:G:131:TYR:OH	2.05	0.56
10:O:107:ARG:O	10:O:112:MET:HE3	2.05	0.56
13:R:84:ALA:HB3	13:R:85:PRO:HD3	1.88	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
1:A:137(A):G:H1'	19:X:41:ASN:ND2	2.20	0.56
19:X:65:ARG:HD3	19:X:65:ARG:H	1.70	0.56
1:A:336:C:H5''	20:Y:6:HIS:CD2	2.41	0.56
24:2:50:ILE:CD1	24:2:51:ARG:N	2.61	0.56
25:3:59:VAL:CG1	25:3:60:GLU:N	2.69	0.56
1:A:483:A:H3'	1:A:484:C:C6	2.41	0.56
3:D:183:ARG:HD2	3:D:270:ILE:HG12	1.88	0.56
3:D:94:LEU:HD22	3:D:95:LEU:H	1.69	0.56
1:A:2680:C:H5'	4:E:189:PRO:HA	1.86	0.56
6:G:60:LEU:O	6:G:64:THR:HG22	2.05	0.56
7:H:153:LYS:CB	7:H:154:PRO:CD	2.69	0.56
12:Q:12:GLN:OE1	12:Q:72:LYS:HD2	2.06	0.56
30:8:30:ARG:O	30:8:31:HIS:CB	2.54	0.56
1:A:2372:G:H4'	28:6:46:HIS:NE2	2.21	0.56
2:B:42:C:H2'	2:B:43:C:O4'	2.05	0.56
3:D:221:VAL:HG22	3:D:226:MET:HE2	1.88	0.56
4:E:203:LYS:HE3	4:E:204:ALA:HB2	1.86	0.56
5:F:108:LYS:HZ3	5:F:108:LYS:HA	1.71	0.56
10:O:3:GLN:CB	10:O:4:PRO:HD2	2.35	0.56
16:U:105:VAL:HA	17:V:44:LYS:HE3	1.88	0.56
23:1:3:LYS:HD3	23:1:43:TYR:CD2	2.35	0.56
25:3:7:LYS:NZ	25:3:32:GLN:HE21	2.03	0.56
1:A:952:G:P	12:Q:16:ARG:HH12	2.28	0.56
3:D:69:ARG:C	3:D:71:ASP:H	2.08	0.56
7:H:59:ARG:HH11	7:H:59:ARG:CG	2.19	0.56
11:P:15:ARG:O	11:P:17:LYS:N	2.39	0.56
20:Y:62:GLU:O	20:Y:63:LYS:O	2.24	0.56
22:0:23:VAL:HG22	22:0:38:VAL:HG22	1.88	0.55
1:A:1983:C:H4'	1:A:2606:C:H4'	1.87	0.55
3:D:155:LEU:HD23	3:D:177:LEU:CD2	2.36	0.55
12:Q:37:LEU:HD21	12:Q:130:LYS:HE3	1.87	0.55
15:T:105:LEU:C	15:T:107:ASP:H	2.08	0.55
1:A:1543:A:HO2'	1:A:1544:C:H3'	1.71	0.55
1:A:2150:U:H2'	1:A:2151:G:C8	2.42	0.55
3:D:31:LYS:O	3:D:35:LYS:O	2.24	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:35:LYS:NZ	3:D:64:ILE:O	2.32	0.55
10:O:1:MET:HE2	10:O:67:LYS:HG2	1.88	0.55
11:P:13:ASN:C	11:P:15:ARG:N	2.54	0.55
16:U:83:LEU:HD12	16:U:113:ALA:HB2	1.86	0.55
18:W:14:PRO:HG2	18:W:78:GLU:OE2	2.07	0.55
1:A:2126:A:H4'	1:A:2127:G:O5'	2.06	0.55
2:B:33:G:P	6:G:2:PRO:HG3	2.47	0.55
4:E:4:ILE:HD13	4:E:5:LEU:H	1.71	0.55
10:O:79:PHE:HD2	15:T:72:VAL:HG22	1.72	0.55
11:P:39:LYS:CA	11:P:45:LEU:CD1	2.80	0.55
20:Y:95:LYS:NZ	20:Y:95:LYS:HB2	2.21	0.55
25:3:4:LEU:HD21	25:3:39:ASP:OD1	2.06	0.55
30:8:63:PRO:O	30:8:64:TYR:HB2	2.07	0.55
1:A:2006:C:O2'	1:A:2823:A:N3	2.38	0.55
3:D:69:ARG:HD3	3:D:105:ILE:HD11	1.87	0.55
3:D:36:PRO:HB2	3:D:61:LEU:HG	1.87	0.55
4:E:26:ILE:C	4:E:26:ILE:HD13	2.26	0.55
5:F:28:ILE:HD12	5:F:28:ILE:O	2.06	0.55
14:S:14:VAL:HG13	14:S:15:ARG:N	2.21	0.55
17:V:49:THR:CB	17:V:50:PRO:HD2	2.25	0.55
18:W:1:MET:C	18:W:64:MET:HE1	2.26	0.55
21:Z:35:ARG:HB3	21:Z:35:ARG:HH11	1.71	0.55
26:4:9:LEU:H	26:4:27:THR:HG22	1.71	0.55
28:6:20:ASN:CG	28:6:21:TYR:H	2.09	0.55
1:A:49:A:N7	1:A:120:U:H5	2.05	0.55
1:A:2250:G:C5	12:Q:82:ARG:HD2	2.42	0.55
1:A:307:G:N1	1:A:310:A:OP2	2.37	0.55
2:B:43:C:N4	2:B:45:A:N1	2.54	0.55
4:E:67:PHE:O	4:E:69:LYS:N	2.39	0.55
10:O:68:GLU:HA	10:O:78:ARG:HB3	1.89	0.55
11:P:115:LEU:HD12	11:P:116:GLY:N	2.21	0.55
4:E:14:ILE:HD11	15:T:14:TYR:CZ	2.42	0.55
16:U:104:GLN:OE1	16:U:104:GLN:N	2.35	0.55
17:V:52:VAL:O	17:V:54:GLY:N	2.39	0.55
18:W:88:ARG:HB3	18:W:92:ARG:HB3	1.88	0.55
20:Y:21:LYS:HG3	20:Y:22:GLY:H	1.69	0.55
26:4:65:ASP:O	26:4:66:SER:HB3	2.07	0.55
1:A:1826:G:H4'	3:D:242:ARG:NH2	2.17	0.55
1:A:2123:G:H2'	1:A:2124:G:H8	1.72	0.55
3:D:28:GLU:O	3:D:29:PRO:C	2.45	0.55
4:E:195:LEU:HD12	4:E:196:VAL:H	1.71	0.55
6:G:114:ILE:HD11	6:G:140:ILE:HD12	1.89	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:88:LEU:C	11:P:90:ARG:N	2.60	0.55
16:U:27:LEU:O	16:U:29:SER:N	2.40	0.55
20:Y:48:ALA:H	20:Y:60:PHE:HA	1.71	0.55
21:Z:104:PHE:HD1	21:Z:139:VAL:HB	1.71	0.55
1:A:270(R):G:H1'	23:1:78:LYS:HZ1	1.72	0.55
24:2:41:ILE:HD11	24:2:44:LEU:CG	2.36	0.55
1:A:1009:A:OP2	1:A:1010:A:OP2	2.24	0.55
1:A:1332:G:N2	1:A:1609:A:HO2'	2.04	0.55
1:A:623:G:H2'	1:A:624:C:C6	2.42	0.55
1:A:828:U:H4'	1:A:831:G:N1	2.22	0.55
3:D:118:VAL:HG22	3:D:119:ALA:H	1.72	0.55
3:D:2:ALA:O	3:D:3:VAL:HB	2.06	0.55
5:F:118:ALA:O	5:F:121:GLY:N	2.33	0.55
5:F:129:PHE:O	5:F:130:ALA:CB	2.55	0.55
6:G:7:LEU:HD12	6:G:104:GLU:HA	1.88	0.55
7:H:12:PRO:O	7:H:13:LYS:HB2	2.07	0.55
9:N:109:LYS:N	9:N:109:LYS:HD2	2.22	0.55
11:P:2:LYS:O	11:P:5:ASP:HB2	2.06	0.55
12:Q:25:ASP:N	12:Q:102:VAL:HG23	2.21	0.55
14:S:36:TYR:HD2	14:S:52:SER:CB	2.19	0.55
16:U:58:ARG:O	16:U:62:ILE:HG13	2.06	0.55
1:A:2030:A:H4'	1:A:2031:A:C8	2.41	0.55
2:B:11:C:H3'	2:B:12:C:C6	2.42	0.55
4:E:3:GLY:HA3	4:E:81:ILE:HD12	1.88	0.55
6:G:135:LEU:N	6:G:135:LEU:HD12	2.21	0.55
6:G:3:LEU:HD12	6:G:4:ASP:N	2.19	0.55
11:P:39:LYS:N	11:P:45:LEU:HD11	2.21	0.55
13:R:12:ARG:HH11	13:R:12:ARG:HG3	1.71	0.55
15:T:6:LEU:O	15:T:7:ILE:C	2.44	0.55
16:U:74:LEU:HD13	16:U:79:PHE:HB2	1.89	0.55
16:U:92:ARG:NH1	17:V:11:GLN:HB2	2.22	0.55
1:A:1416:G:H2'	1:A:1417:C:C6	2.42	0.55
1:A:181:A:H1'	1:A:435:C:H5'	1.88	0.55
5:F:147:GLY:O	5:F:148:LEU:HD23	2.07	0.55
16:U:73:GLY:O	16:U:74:LEU:HB3	2.07	0.55
17:V:29:PRO:HA	17:V:61:VAL:CG2	2.37	0.55
17:V:99:ILE:N	17:V:99:ILE:CD1	2.65	0.55
21:Z:166:SER:HB2	21:Z:168:GLU:N	2.22	0.55
1:A:2420:C:N4	30:8:30:ARG:HD2	2.21	0.55
1:A:2667:C:H1'	7:H:109:PHE:CD2	2.40	0.55
1:A:458:G:O2'	1:A:469:G:O6	2.20	0.55
7:H:128:PRO:CD	7:H:129:THR:N	2.70	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:106:LEU:O	11:P:107:LYS:HD3	2.07	0.55
14:S:13:ARG:HD2	14:S:13:ARG:O	2.06	0.55
15:T:107:ASP:O	15:T:111:ARG:NH1	2.39	0.55
24:2:47:ASN:ND2	24:2:47:ASN:N	2.54	0.54
1:A:1799:G:H4'	1:A:1800:C:O5'	2.07	0.54
1:A:643:A:N1	1:A:2369:A:O2'	2.40	0.54
3:D:43:ARG:CB	3:D:54:ARG:HB2	2.37	0.54
3:D:25:THR:HG21	3:D:81:ALA:CB	2.38	0.54
4:E:21:VAL:HG23	4:E:22:PRO:HD3	1.89	0.54
10:O:53:LYS:HD2	10:O:56:ASP:OD1	2.07	0.54
11:P:84:ASN:ND2	11:P:115:LEU:HD12	2.22	0.54
11:P:49:ARG:NE	30:8:59:LYS:HG2	2.22	0.54
11:P:59:LEU:HD23	11:P:59:LEU:O	2.06	0.54
14:S:74:ALA:HB1	14:S:107:GLU:HB3	1.89	0.54
16:U:6:THR:O	16:U:9:VAL:HG23	2.07	0.54
17:V:49:THR:CB	17:V:50:PRO:CD	2.83	0.54
18:W:25:ARG:CB	18:W:25:ARG:HH11	2.20	0.54
19:X:5:TYR:HE2	24:2:30:ARG:HH11	1.55	0.54
23:1:91:LYS:CE	23:1:91:LYS:HA	2.37	0.54
25:3:8:LEU:HD22	25:3:31:LEU:CD2	2.37	0.54
29:7:18:PHE:C	29:7:18:PHE:CD2	2.81	0.54
29:7:48:LYS:HG2	29:7:49:ARG:N	2.19	0.54
1:A:593:G:O3'	30:8:61:LEU:HD22	2.08	0.54
5:F:197:ASP:O	5:F:199:TRP:N	2.38	0.54
5:F:62:ARG:HB3	5:F:62:ARG:NH1	2.22	0.54
6:G:116:ASP:O	6:G:117:PHE:CB	2.50	0.54
7:H:8:PRO:O	7:H:9:ILE:HG23	2.08	0.54
9:N:44:PRO:HG2	9:N:45:ASN:H	1.71	0.54
11:P:24:GLY:O	11:P:25:SER:HB3	2.07	0.54
12:Q:58:PHE:O	12:Q:59:ARG:C	2.43	0.54
14:S:107:GLU:N	14:S:110:LEU:HD11	2.22	0.54
16:U:58:ARG:NH1	16:U:93:LYS:HE2	2.22	0.54
18:W:70:TYR:CD2	18:W:70:TYR:N	2.75	0.54
21:Z:110:GLY:HA2	21:Z:111:VAL:O	2.07	0.54
21:Z:150:LEU:HD23	21:Z:171:ILE:HG13	1.88	0.54
23:1:53:VAL:O	23:1:54:ALA:C	2.45	0.54
1:A:987:G:O2'	1:A:1000:A:N3	2.38	0.54
1:A:2311:A:C1'	6:G:82:LEU:HD11	2.37	0.54
5:F:197:ASP:O	5:F:198:ALA:HB3	2.06	0.54
18:W:80:PRO:O	18:W:100:THR:CG2	2.55	0.54
21:Z:163:LEU:HD12	21:Z:163:LEU:H	1.71	0.54
23:1:83:GLU:CG	23:1:84:GLY:N	2.71	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:37:SER:HB3	26:4:42:PHE:CD1	2.43	0.54
1:A:2692:C:O2	1:A:2847:U:O2'	2.25	0.54
4:E:186:GLY:O	4:E:188:VAL:N	2.40	0.54
5:F:67:GLN:O	5:F:68:LYS:CB	2.39	0.54
7:H:86:GLU:HG3	7:H:165:ALA:CB	2.38	0.54
8:I:88:ILE:HG12	8:I:122:GLU:H	1.71	0.54
12:Q:21:THR:O	12:Q:22:LYS:O	2.25	0.54
15:T:16:ARG:HG2	15:T:18:ASP:OD1	2.07	0.54
15:T:29:ARG:HH11	15:T:29:ARG:HB2	1.72	0.54
15:T:3:ARG:HG3	15:T:7:ILE:CG1	2.36	0.54
17:V:22:VAL:CG1	17:V:23:GLU:N	2.71	0.54
1:A:2009:G:OP1	18:W:41:LYS:HE2	2.07	0.54
20:Y:47:LYS:O	20:Y:49:VAL:HG23	2.07	0.54
23:1:60:PHE:HE2	23:1:91:LYS:HZ1	1.54	0.54
25:3:35:ARG:HB3	25:3:37:LEU:CD2	2.37	0.54
18:W:38:TYR:OH	27:5:47:PRO:HG3	2.08	0.54
11:P:65:ARG:HH21	30:8:15:LYS:HB2	1.72	0.54
30:8:32:LEU:O	30:8:36:LYS:HE3	2.07	0.54
1:A:1688:U:H1'	1:A:1701:A:C6	2.42	0.54
1:A:27:G:H22	1:A:512:G:H2'	1.71	0.54
3:D:233:HIS:N	3:D:233:HIS:CD2	2.75	0.54
12:Q:39:PRO:HB3	12:Q:99:PRO:HD3	1.90	0.54
15:T:123:GLN:O	15:T:125:ARG:N	2.40	0.54
18:W:9:TYR:H	18:W:102:HIS:CE1	2.26	0.54
18:W:20:VAL:C	18:W:22:ASP:H	2.10	0.54
20:Y:61:ILE:HG23	20:Y:62:GLU:H	1.71	0.54
20:Y:95:LYS:N	20:Y:95:LYS:HD3	2.23	0.54
24:2:31:GLU:HB2	24:2:53:LEU:HD11	1.89	0.54
6:G:111:LEU:HB2	26:4:38:LYS:HZ3	1.72	0.54
28:6:12:GLU:HG2	28:6:52:VAL:O	2.07	0.54
29:7:31:LEU:O	29:7:32:LYS:C	2.43	0.54
1:A:1178:C:H2'	1:A:1179:C:C6	2.42	0.54
1:A:2790:A:H2'	1:A:2791:C:H5''	1.90	0.54
3:D:227:ASN:HB3	3:D:228:PRO:CD	2.30	0.54
6:G:139:LEU:HD22	6:G:146:TYR:HD1	1.73	0.54
8:I:4:ILE:HG12	8:I:18:VAL:HG22	1.89	0.54
8:I:94:ALA:H	8:I:116:LEU:HD13	1.73	0.54
12:Q:80:GLU:OE1	22:0:7:LEU:HB3	2.08	0.54
27:5:55:ARG:HD3	27:5:56:LYS:H	1.73	0.54
1:A:1007:C:OP1	9:N:35:ARG:NH1	2.41	0.54
1:A:486:C:H4'	18:W:60:ASN:OD1	2.07	0.54
3:D:183:ARG:NH1	3:D:183:ARG:HG2	2.11	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:176:ILE:HG22	4:E:179:GLU:H	1.71	0.54
11:P:125:VAL:O	11:P:145:PRO:HD2	2.08	0.54
13:R:45:ARG:HA	13:R:95:THR:HG21	1.87	0.54
14:S:67:ARG:NH1	14:S:67:ARG:CB	2.64	0.54
21:Z:110:GLY:HA2	21:Z:111:VAL:C	2.27	0.54
28:6:17:LYS:O	28:6:18:ARG:HB2	2.08	0.54
1:A:1114:G:H2'	1:A:1115:G:H8	1.73	0.54
3:D:25:THR:CG2	3:D:81:ALA:HB1	2.38	0.54
4:E:101:ARG:HB3	4:E:201:THR:OG1	2.08	0.54
4:E:54:GLN:NE2	4:E:54:GLN:N	2.55	0.54
7:H:26:VAL:CG1	7:H:27:LYS:N	2.64	0.54
7:H:91:GLY:O	7:H:94:TYR:HB2	2.08	0.54
10:O:4:PRO:O	10:O:5:GLN:HB2	2.06	0.54
12:Q:60:ARG:HH12	12:Q:113:GLN:HE22	1.55	0.54
13:R:1:MET:O	13:R:2:ARG:HG3	2.08	0.54
15:T:14:TYR:H	15:T:14:TYR:HD1	1.56	0.54
9:N:42:TRP:CD1	16:U:63:VAL:HG11	2.42	0.54
16:U:95:LEU:HD12	17:V:11:GLN:HE21	1.72	0.54
20:Y:87:LYS:HB2	20:Y:87:LYS:NZ	2.23	0.54
20:Y:91:GLU:HG3	20:Y:92:ASN:H	1.72	0.54
26:4:51:ASP:OD1	26:4:51:ASP:O	2.25	0.54
1:A:1039:G:N2	1:A:1116:C:O2	2.39	0.54
1:A:2335:A:O2'	1:A:2336:A:H2'	2.08	0.54
1:A:2563:U:H1'	1:A:2566:A:N6	2.22	0.54
3:D:158:ALA:HB3	3:D:161:THR:HG21	1.89	0.54
3:D:227:ASN:CB	3:D:228:PRO:HD2	2.24	0.54
4:E:53:PRO:O	4:E:74:PRO:HA	2.07	0.54
8:I:1:MET:HG3	8:I:23:PRO:HB3	1.88	0.54
11:P:124:LYS:HA	11:P:143:GLY:O	2.08	0.54
14:S:111:GLU:HA	14:S:111:GLU:OE1	2.06	0.54
17:V:45:THR:O	17:V:45:THR:HG22	2.08	0.54
23:1:83:GLU:OE1	23:1:85:LEU:HD23	2.07	0.54
23:1:92:LYS:O	23:1:94:LEU:N	2.40	0.54
27:5:60:VAL:CG1	27:5:60:VAL:OXT	2.56	0.54
1:A:995:C:N4	9:N:2:LYS:HG3	2.23	0.54
4:E:51:PHE:O	4:E:74:PRO:HB3	2.08	0.54
5:F:179:GLU:H	5:F:179:GLU:CD	2.12	0.54
11:P:64:LYS:HG3	30:8:25:MET:SD	2.48	0.54
12:Q:81:VAL:C	12:Q:82:ARG:CG	2.76	0.54
13:R:53:HIS:HA	13:R:56:LYS:HD3	1.90	0.54
15:T:88:ILE:C	15:T:88:ILE:HD12	2.28	0.54
28:6:27:LYS:HB2	28:6:27:LYS:HZ2	1.71	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:7:10:ARG:NH1	29:7:14:LYS:HE3	2.23	0.53
1:A:155:C:N4	1:A:171:G:H1	2.05	0.53
1:A:767:U:H2'	1:A:768:G:H8	1.72	0.53
2:B:55:U:H2'	2:B:56:G:C8	2.43	0.53
7:H:153:LYS:CE	7:H:153:LYS:HA	2.37	0.53
9:N:137:LYS:HG3	9:N:138:LEU:N	2.23	0.53
13:R:38:VAL:HG22	13:R:112:ALA:HB2	1.90	0.53
14:S:18:ILE:C	14:S:19:LYS:O	2.44	0.53
16:U:24:TYR:O	16:U:29:SER:HB3	2.08	0.53
16:U:47:TYR:C	16:U:47:TYR:CD2	2.81	0.53
24:2:43:GLN:O	24:2:44:LEU:CG	2.54	0.53
1:A:1441:G:H2'	1:A:1442:G:H8	1.73	0.53
1:A:1288:U:O2'	1:A:1647:G:N2	2.41	0.53
1:A:520:G:H2'	1:A:521:G:H8	1.72	0.53
1:A:969:U:H2'	1:A:970:C:C6	2.43	0.53
3:D:124:PRO:HB2	3:D:126:GLN:NE2	2.22	0.53
3:D:211:ARG:HD2	3:D:214:TRP:CZ3	2.43	0.53
3:D:85:ASP:OD2	3:D:88:ARG:HG2	2.07	0.53
4:E:14:ILE:CG1	4:E:15:PHE:H	2.08	0.53
7:H:139:GLN:O	7:H:143:GLN:HB2	2.09	0.53
9:N:109:LYS:HD2	9:N:109:LYS:H	1.74	0.53
9:N:70:LYS:C	9:N:71:ILE:HD13	2.28	0.53
10:O:113:LYS:HG2	10:O:117:LEU:CD1	2.39	0.53
11:P:140:ALA:O	11:P:141:ALA:HB2	2.08	0.53
11:P:37:GLY:HA2	11:P:41:ARG:NE	2.24	0.53
10:O:78:ARG:O	15:T:73:GLU:HG3	2.08	0.53
17:V:7:THR:CG2	17:V:22:VAL:HG11	2.39	0.53
26:4:37:SER:C	26:4:39:CYS:N	2.62	0.53
27:5:44:THR:O	27:5:46:CYS:N	2.41	0.53
30:8:58:ILE:O	30:8:61:LEU:HG	2.08	0.53
1:A:263:C:H2'	1:A:264:C:O4'	2.07	0.53
3:D:25:THR:O	3:D:25:THR:HG23	2.07	0.53
5:F:53:THR:C	5:F:55:GLY:H	2.11	0.53
6:G:81:LYS:O	6:G:82:LEU:CB	2.56	0.53
10:O:49:ARG:HB3	10:O:49:ARG:NH1	2.23	0.53
11:P:112:LEU:HD13	11:P:112:LEU:C	2.29	0.53
1:A:996:A:H4'	16:U:92:ARG:HE	1.73	0.53
19:X:53:LYS:NZ	19:X:55:ASN:HD21	2.06	0.53
25:3:2:PRO:O	25:3:3:ARG:O	2.25	0.53
30:8:29:LYS:HB2	30:8:44:LYS:HG2	1.90	0.53
1:A:1012:U:O2	9:N:25:ARG:NH1	2.41	0.53
1:A:666:G:H4'	11:P:49:ARG:NH1	2.24	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:206:LEU:O	3:D:211:ARG:NH1	2.38	0.53
5:F:32:LEU:HD12	5:F:36:VAL:HG23	1.89	0.53
2:B:56:G:H5'	6:G:27:ASN:HD21	1.72	0.53
10:O:7:TYR:C	10:O:8:LEU:HD22	2.29	0.53
10:O:14:THR:HG21	10:O:86:ILE:HD13	1.90	0.53
11:P:37:GLY:C	11:P:41:ARG:HD3	2.29	0.53
17:V:66:ARG:HH11	17:V:66:ARG:CB	2.20	0.53
27:5:16:ARG:NH1	27:5:17:ASP:OD1	2.41	0.53
1:A:686:G:H21	1:A:788:A:H61	1.55	0.53
4:E:134:ILE:HD12	4:E:134:ILE:C	2.28	0.53
5:F:116:ASP:OD1	5:F:119:ARG:NH2	2.41	0.53
8:I:92:VAL:HG13	8:I:120:ILE:HG23	1.89	0.53
10:O:12:ASP:OD1	10:O:85:VAL:HG13	2.08	0.53
5:F:34:TRP:CH2	11:P:8:PRO:HB3	2.43	0.53
13:R:28:LEU:HD13	13:R:28:LEU:O	2.08	0.53
13:R:91:GLN:HG2	13:R:91:GLN:O	2.08	0.53
15:T:98:LYS:HB3	15:T:100:TYR:CE1	2.42	0.53
17:V:81:TYR:C	17:V:82:ARG:HG3	2.27	0.53
19:X:60:ARG:NH1	29:7:47:ARG:HH22	2.07	0.53
20:Y:44:ILE:CG1	20:Y:45:VAL:N	2.70	0.53
20:Y:84:ARG:NH1	20:Y:97:ARG:HB2	2.11	0.53
20:Y:97:ARG:NH2	20:Y:98:VAL:CB	2.65	0.53
26:4:15:ILE:HD13	26:4:15:ILE:H	1.74	0.53
28:6:11:LEU:CD1	28:6:51:GLU:HG3	2.39	0.53
1:A:1952:A:OP1	10:O:44:LYS:NZ	2.25	0.53
8:I:11:ASN:O	8:I:12:LEU:HB2	2.09	0.53
9:N:19:GLU:HA	9:N:59:LYS:HB2	1.91	0.53
9:N:78:TYR:HD1	9:N:78:TYR:N	2.07	0.53
12:Q:119:ARG:NH1	12:Q:119:ARG:HG2	2.20	0.53
14:S:10:ARG:O	14:S:14:VAL:HG12	2.09	0.53
15:T:105:LEU:O	15:T:107:ASP:N	2.41	0.53
18:W:43:GLY:O	18:W:44:ALA:C	2.46	0.53
19:X:36:LYS:HA	19:X:39:ILE:HD12	1.90	0.53
9:N:120:LEU:CD1	9:N:122:VAL:HG23	2.39	0.53
10:O:12:ASP:CG	10:O:14:THR:HG23	2.29	0.53
14:S:25:ARG:CB	14:S:25:ARG:HH11	2.22	0.53
2:B:48:A:H4'	14:S:95:HIS:HD2	1.74	0.53
20:Y:95:LYS:HA	20:Y:101:LYS:H	1.72	0.53
28:6:9:LEU:HD13	28:6:26:ASN:ND2	2.24	0.53
30:8:52:LYS:N	30:8:53:PRO:HD2	2.22	0.53
1:A:1190:G:H5'	11:P:32:THR:HA	1.91	0.53
1:A:784:A:N7	3:D:229:VAL:HG21	2.24	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:34:VAL:C	3:D:35:LYS:HG3	2.29	0.53
3:D:36:PRO:HA	3:D:62:TYR:O	2.09	0.53
4:E:14:ILE:HG23	4:E:15:PHE:N	2.22	0.53
5:F:129:PHE:O	5:F:142:TRP:CD1	2.62	0.53
6:G:125:PHE:C	6:G:127:GLY:H	2.12	0.53
16:U:86:ALA:HB1	16:U:88:ILE:HD11	1.90	0.53
17:V:48:GLY:O	17:V:49:THR:O	2.26	0.53
18:W:14:PRO:O	18:W:17:VAL:N	2.42	0.53
18:W:8:ARG:HG3	18:W:8:ARG:HH11	1.73	0.53
28:6:25:LYS:HE2	28:6:27:LYS:HE3	1.91	0.53
1:A:2543:G:H21	1:A:2646:C:H5''	1.73	0.53
3:D:43:ARG:NH1	3:D:44:ASN:OD1	2.42	0.53
4:E:20:ALA:O	4:E:21:VAL:CG2	2.48	0.53
7:H:126:PRO:HD2	7:H:127:GLU:H	1.72	0.53
7:H:40:GLU:O	7:H:41:MET:HB2	2.08	0.53
14:S:56:LEU:O	14:S:58:LEU:HD22	2.09	0.53
4:E:25:VAL:HG11	15:T:11:GLU:HG2	1.90	0.53
17:V:51:VAL:CG1	17:V:52:VAL:H	2.22	0.53
24:2:41:ILE:HD11	24:2:44:LEU:HB2	1.90	0.53
1:A:620:G:H4'	1:A:621:A:H5''	1.91	0.53
2:B:40:U:H1'	2:B:45:A:H61	1.73	0.53
3:D:155:LEU:N	3:D:155:LEU:CD1	2.71	0.53
3:D:34:VAL:O	3:D:34:VAL:CG1	2.50	0.53
3:D:25:THR:HG21	3:D:82:ILE:H	1.70	0.53
11:P:125:VAL:HG13	11:P:125:VAL:O	2.09	0.53
11:P:79:ARG:HD3	11:P:110:TYR:CE1	2.43	0.53
13:R:33:ARG:NH2	27:5:55:ARG:CG	2.66	0.53
25:3:9:VAL:HG12	25:3:32:GLN:HE22	1.74	0.52
26:4:47:GLN:O	26:4:48:ARG:HB2	2.07	0.52
26:4:54:GLY:O	26:4:71:ARG:HA	2.08	0.52
28:6:13:CYS:O	28:6:14:THR:HB	2.08	0.52
7:H:76:VAL:C	7:H:78:GLY:H	2.13	0.52
12:Q:76:LYS:O	12:Q:88:GLY:HA3	2.09	0.52
1:A:2713:A:OP1	13:R:14:SER:OG	2.27	0.52
15:T:55:ASN:O	15:T:57:PHE:O	2.26	0.52
1:A:2361:A:O5'	30:8:27:THR:OG1	2.25	0.52
1:A:1161:C:O2'	17:V:8:GLY:HA2	2.09	0.52
1:A:2022:U:O2'	1:A:2617:C:H5'	2.10	0.52
1:A:221:A:H4'	1:A:222:A:O5'	2.09	0.52
5:F:125:LEU:HA	5:F:194:MET:O	2.10	0.52
7:H:44:VAL:CG2	7:H:44:VAL:O	2.57	0.52
8:I:76:THR:OG1	8:I:139:GLN:OE1	2.18	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:12:ARG:NH1	9:N:50:ASP:OD2	2.41	0.52
9:N:94:HIS:O	9:N:95:PRO:O	2.27	0.52
1:A:2404:C:H1'	11:P:67:MET:CE	2.38	0.52
14:S:89:ARG:HH11	14:S:89:ARG:HG2	1.74	0.52
15:T:100:TYR:HB3	15:T:103:ARG:NH1	2.25	0.52
15:T:14:TYR:N	15:T:14:TYR:CD1	2.77	0.52
23:1:85:LEU:HA	23:1:87:PRO:HD2	1.92	0.52
26:4:49:PHE:N	26:4:49:PHE:CD1	2.76	0.52
27:5:55:ARG:HG3	27:5:57:VAL:H	1.74	0.52
1:A:1169:G:H1	1:A:1180:C:H42	1.56	0.52
1:A:2215:G:H2'	1:A:2216:G:H8	1.74	0.52
1:A:2725:A:O2'	1:A:2726:U:H5''	2.08	0.52
1:A:520:G:H2'	1:A:521:G:C8	2.45	0.52
1:A:586:A:H5'	5:F:89:VAL:HG21	1.91	0.52
4:E:61:ARG:O	4:E:63:LEU:N	2.42	0.52
4:E:7:VAL:O	4:E:196:VAL:HG13	2.09	0.52
5:F:140:LEU:O	5:F:143:ALA:HB3	2.09	0.52
7:H:12:PRO:HG3	7:H:48:GLY:O	2.09	0.52
1:A:1009:A:OP1	9:N:37:LYS:NZ	2.42	0.52
11:P:92:GLU:HA	11:P:123:LEU:CD2	2.39	0.52
12:Q:29:PHE:HB3	12:Q:65:PHE:CZ	2.44	0.52
15:T:110:ILE:HG23	15:T:111:ARG:N	2.24	0.52
23:1:4:VAL:HG22	23:1:5:CYS:N	2.25	0.52
25:3:21:ALA:O	25:3:25:ALA:N	2.41	0.52
25:3:56:VAL:CG1	25:3:57:GLU:H	2.19	0.52
1:A:137(A):G:H1'	19:X:41:ASN:HD22	1.75	0.52
1:A:309:G:N3	1:A:329:G:O2'	2.41	0.52
1:A:519:U:H2'	1:A:520:G:C8	2.45	0.52
3:D:77:ALA:HB2	3:D:97:TYR:CG	2.44	0.52
5:F:192:LEU:HD21	5:F:194:MET:HE2	1.91	0.52
9:N:112:LEU:HD23	9:N:112:LEU:C	2.30	0.52
9:N:7:LYS:HD3	9:N:9:VAL:CA	2.38	0.52
14:S:106:ARG:HA	14:S:110:LEU:CG	2.39	0.52
14:S:86:ALA:O	14:S:87:PHE:HB3	2.10	0.52
16:U:88:ILE:CD1	16:U:88:ILE:H	2.05	0.52
23:1:20:ARG:HG2	23:1:20:ARG:NH1	2.24	0.52
26:4:48:ARG:CZ	26:4:51:ASP:HA	2.40	0.52
1:A:2308:G:H22	1:A:2311:A:H2	1.56	0.52
1:A:2415:G:H4'	11:P:67:MET:N	2.25	0.52
3:D:134:ARG:HB2	3:D:135:PHE:HD2	1.75	0.52
3:D:210:GLY:O	3:D:213:ARG:N	2.43	0.52
6:G:16:ARG:HG2	6:G:16:ARG:HH11	1.74	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
26:4:63:TYR:C	26:4:65:ASP:N	2.61	0.52
1:A:2051:A:OP1	4:E:137:HIS:ND1	2.39	0.52
3:D:66:ASP:OD2	3:D:69:ARG:HG2	2.09	0.52
4:E:39:PRO:HG2	4:E:40:GLU:OE1	2.09	0.52
6:G:124:SER:HB2	6:G:131:TYR:CE1	2.44	0.52
7:H:121:ILE:HG12	7:H:135:GLY:HA3	1.91	0.52
9:N:114:ARG:C	9:N:116:LEU:H	2.13	0.52
13:R:56:LYS:C	13:R:58:GLY:N	2.62	0.52
14:S:83:LYS:O	14:S:109:GLY:CA	2.46	0.52
14:S:95:HIS:CG	14:S:96:GLY:N	2.77	0.52
17:V:34:GLU:O	17:V:36:PRO:HD3	2.10	0.52
17:V:41:GLY:HA3	17:V:46:VAL:CG1	2.38	0.52
25:3:6:VAL:HG12	25:3:56:VAL:HG22	1.91	0.52
26:4:54:GLY:HA2	26:4:57:GLU:HG2	1.92	0.52
29:7:38:GLY:O	29:7:39:ARG:C	2.48	0.52
1:A:103:A:OP2	1:A:103:A:H8	1.92	0.52
1:A:1047:G:H2'	1:A:1110:G:N1	2.24	0.52
1:A:2319:G:N7	14:S:3:ARG:HB3	2.25	0.52
2:B:43:C:C4	2:B:45:A:C6	2.98	0.52
3:D:133:LEU:HG	3:D:189:CYS:O	2.10	0.52
3:D:35:LYS:HG2	3:D:64:ILE:HG22	1.92	0.52
4:E:170:LEU:CD2	4:E:185:LYS:HB2	2.40	0.52
4:E:179:GLU:OE1	4:E:179:GLU:HA	2.10	0.52
4:E:54:GLN:NE2	4:E:54:GLN:H	2.08	0.52
4:E:55:ASN:C	4:E:57:LYS:N	2.62	0.52
7:H:24:VAL:O	7:H:24:VAL:HG23	2.10	0.52
7:H:4:ILE:O	7:H:6:ARG:N	2.43	0.52
15:T:23:ARG:HG2	15:T:120:ARG:HH12	1.75	0.52
15:T:16:ARG:HD3	15:T:19:LEU:HG	1.92	0.52
15:T:94:ALA:O	15:T:95:ARG:HB3	2.09	0.52
17:V:3:ALA:HB3	17:V:14:VAL:HG23	1.92	0.52
1:A:2331:G:H4'	22:0:43:THR:H	1.75	0.52
22:0:68:GLU:OE1	22:0:82:ARG:NH1	2.42	0.52
1:A:153:C:P	23:1:88:LYS:HE2	2.50	0.52
25:3:7:LYS:HE2	25:3:32:GLN:NE2	2.25	0.52
26:4:50:VAL:O	26:4:51:ASP:C	2.48	0.52
28:6:30:THR:O	28:6:30:THR:HG23	2.09	0.52
31:9:27:CYS:SG	31:9:28:GLU:N	2.83	0.52
1:A:796:C:H2'	1:A:797:C:C6	2.45	0.52
4:E:116:VAL:HG22	4:E:122:PHE:HB2	1.91	0.52
4:E:54:GLN:O	4:E:55:ASN:HB2	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:97:ASP:N	6:G:100:TRP:HD1	2.05	0.52
8:I:73:GLU:HG3	8:I:136:VAL:HG23	1.92	0.52
10:O:4:PRO:O	10:O:5:GLN:CB	2.58	0.52
11:P:13:ASN:O	11:P:14:LYS:C	2.49	0.52
16:U:92:ARG:NH2	16:U:94:ASN:HD22	2.07	0.52
23:1:76:ARG:NH1	23:1:76:ARG:HG2	2.19	0.52
24:2:9:GLN:O	24:2:12:GLU:HB3	2.10	0.52
1:A:2795:G:H3'	1:A:2797:U:C5'	2.40	0.52
1:A:704:G:H1'	1:A:727:A:N6	2.25	0.52
2:B:42:C:H42	6:G:91:ARG:HH21	1.57	0.52
3:D:174:ILE:N	3:D:174:ILE:CD1	2.73	0.52
3:D:35:LYS:HD3	3:D:63:ARG:CA	2.40	0.52
7:H:2:SER:O	7:H:3:ARG:C	2.47	0.52
9:N:57:ALA:O	9:N:58:ASP:HB3	2.09	0.52
11:P:147:LEU:O	11:P:148:LEU:CB	2.57	0.52
11:P:88:LEU:HD23	11:P:89:ALA:N	2.24	0.52
1:A:2637:U:H5''	4:E:82:ARG:NH2	2.24	0.52
5:F:108:LYS:O	5:F:112:MET:HG3	2.10	0.52
10:O:23:ARG:O	10:O:39:ILE:HB	2.10	0.52
13:R:41:ALA:O	13:R:43:GLU:N	2.43	0.52
16:U:107:ALA:O	16:U:111:GLU:OE1	2.28	0.52
16:U:39:LEU:O	16:U:40:PHE:C	2.48	0.52
18:W:28:SER:HB3	18:W:31:GLU:HB2	1.91	0.52
19:X:52:VAL:O	19:X:52:VAL:HG12	2.09	0.52
20:Y:91:GLU:HG3	20:Y:92:ASN:N	2.25	0.52
26:4:14:ILE:O	26:4:14:ILE:HG23	2.10	0.51
26:4:40:HIS:N	26:4:41:PRO:CD	2.73	0.51
1:A:923:C:H2'	1:A:924:C:C6	2.44	0.51
2:B:3:C:H2'	2:B:4:C:C6	2.45	0.51
4:E:105:THR:HB	4:E:197:ILE:HG12	1.92	0.51
6:G:97:ASP:O	6:G:101:ILE:HG23	2.10	0.51
7:H:126:PRO:HD2	7:H:127:GLU:N	2.25	0.51
9:N:16:ILE:HG22	9:N:17:ASP:N	2.26	0.51
10:O:2:ILE:HD12	10:O:2:ILE:N	2.24	0.51
11:P:31:ALA:C	11:P:32:THR:HG23	2.31	0.51
13:R:52:ILE:CG2	13:R:94:TYR:HD1	2.22	0.51
16:U:59:ARG:O	16:U:63:VAL:HG23	2.10	0.51
19:X:47:PHE:CD1	19:X:47:PHE:N	2.78	0.51
19:X:65:ARG:CD	19:X:65:ARG:H	2.23	0.51
20:Y:75:ILE:HD13	20:Y:75:ILE:C	2.30	0.51
25:3:17:LYS:HA	25:3:20:LYS:HD2	1.93	0.51
27:5:40:LYS:HD3	27:5:46:CYS:SG	2.50	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1204:A:O2'	1:A:1205:U:O5'	2.28	0.51
1:A:2439:A:C8	1:A:2439:A:H5'	2.44	0.51
1:A:2868:A:H2'	1:A:2869:G:C8	2.45	0.51
1:A:307:G:N2	1:A:309:G:H3'	2.25	0.51
5:F:162:LEU:HD23	5:F:165:ARG:NH2	2.25	0.51
6:G:34:LEU:HD13	6:G:34:LEU:C	2.30	0.51
7:H:55:PRO:HG2	7:H:61:HIS:ND1	2.26	0.51
9:N:108:PRO:O	9:N:113:GLY:HA3	2.10	0.51
10:O:24:VAL:HG21	10:O:32:TYR:O	2.10	0.51
10:O:79:PHE:CD2	15:T:72:VAL:HG22	2.44	0.51
15:T:42:ILE:HD12	15:T:42:ILE:N	2.24	0.51
20:Y:9:LYS:O	20:Y:9:LYS:HG2	2.10	0.51
12:Q:134:ARG:HH12	21:Z:119:GLU:HG3	1.76	0.51
24:2:15:LYS:H	24:2:67:LYS:HE2	1.73	0.51
25:3:49:LYS:O	25:3:49:LYS:HG2	2.10	0.51
26:4:36:CYS:O	26:4:39:CYS:CB	2.55	0.51
1:A:1090:U:H3	1:A:1102:C:H1'	1.74	0.51
1:A:1336:A:H2'	1:A:1337:G:C8	2.45	0.51
1:A:2734:A:H5'	1:A:2735:G:OP2	2.10	0.51
2:B:55:U:C5'	6:G:28:VAL:HG21	2.40	0.51
5:F:127:GLU:O	5:F:129:PHE:N	2.39	0.51
7:H:89:ILE:CG1	7:H:89:ILE:O	2.57	0.51
9:N:131:GLN:CG	9:N:132:ALA:H	2.20	0.51
9:N:12:ARG:NH1	9:N:50:ASP:OD1	2.43	0.51
10:O:43:VAL:HG23	10:O:56:ASP:O	2.10	0.51
11:P:112:LEU:HD11	11:P:114:ILE:CG2	2.40	0.51
11:P:112:LEU:HD22	11:P:113:LYS:N	2.26	0.51
12:Q:64:ILE:HA	12:Q:106:VAL:CG1	2.33	0.51
15:T:99:LEU:HB2	15:T:101:PHE:CE1	2.45	0.51
15:T:20:PRO:HD2	15:T:86:ILE:HG23	1.92	0.51
17:V:75:PHE:CD1	17:V:75:PHE:C	2.83	0.51
1:A:1062:G:H2'	1:A:1063:G:C8	2.46	0.51
1:A:2477:C:H41	31:9:10:ILE:HG23	1.76	0.51
4:E:105:THR:HG23	4:E:166:THR:OG1	2.10	0.51
4:E:64:LYS:C	4:E:66:HIS:H	2.12	0.51
6:G:114:ILE:CG2	6:G:115:ARG:N	2.73	0.51
12:Q:25:ASP:HA	12:Q:100:GLY:O	2.11	0.51
13:R:28:LEU:CD2	13:R:114:VAL:HG12	2.41	0.51
17:V:29:PRO:O	17:V:61:VAL:O	2.29	0.51
18:W:9:TYR:CD2	18:W:102:HIS:HE1	2.28	0.51
18:W:25:ARG:HH11	18:W:25:ARG:HB2	1.74	0.51
19:X:5:TYR:CE2	24:2:30:ARG:HG3	2.45	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:61:ILE:HG23	20:Y:62:GLU:N	2.24	0.51
23:1:8:SER:HB3	23:1:66:HIS:CE1	2.46	0.51
1:A:2527:C:H5''	31:9:30:PRO:HB2	1.91	0.51
1:A:1998:G:OP2	4:E:136:ARG:NH2	2.37	0.51
1:A:2406:U:N3	11:P:72:PRO:HB2	2.26	0.51
1:A:242:G:N2	1:A:254:G:H2'	2.25	0.51
1:A:2543:G:H2'	1:A:2544:G:C8	2.45	0.51
1:A:945:A:O2'	1:A:946:G:H4'	2.11	0.51
5:F:127:GLU:OE1	5:F:127:GLU:HA	2.07	0.51
5:F:198:ALA:C	5:F:200:GLU:N	2.62	0.51
5:F:32:LEU:O	5:F:36:VAL:HG23	2.11	0.51
6:G:44:GLY:CA	6:G:88:ILE:HD11	2.40	0.51
9:N:26:LEU:HG	9:N:30:ILE:HD11	1.93	0.51
11:P:112:LEU:HD22	11:P:113:LYS:H	1.75	0.51
13:R:117:VAL:CG2	13:R:118:GLU:N	2.74	0.51
14:S:87:PHE:O	14:S:88:ASP:O	2.29	0.51
17:V:38:LEU:HD13	17:V:55:ALA:HB3	1.91	0.51
18:W:7:ALA:HB2	18:W:50:VAL:CG2	2.39	0.51
20:Y:75:ILE:CG1	20:Y:76:CYS:N	2.73	0.51
23:1:94:LEU:O	23:1:95:LEU:HG	2.11	0.51
1:A:1309:G:H4'	29:7:7:PRO:HB2	1.92	0.51
30:8:10:ALA:O	30:8:14:VAL:HG12	2.11	0.51
1:A:1779:U:OP2	1:A:1784:A:N6	2.37	0.51
1:A:270(R):G:H2'	1:A:270(S):G:H8	1.73	0.51
2:B:43:C:N4	2:B:45:A:C6	2.79	0.51
2:B:45:A:H1'	6:G:95:ARG:NH2	2.25	0.51
3:D:67:PHE:CE1	3:D:157:ARG:NH2	2.79	0.51
3:D:259:THR:O	3:D:260:ARG:C	2.49	0.51
4:E:119:ARG:HD3	4:E:160:TYR:HB2	1.91	0.51
4:E:77:ILE:O	4:E:78:LEU:C	2.48	0.51
10:O:16:ALA:HA	10:O:46:ALA:HB2	1.92	0.51
15:T:34:VAL:CG1	15:T:36:GLU:HG2	2.39	0.51
20:Y:95:LYS:O	20:Y:96:ILE:O	2.28	0.51
21:Z:8:TYR:HB2	21:Z:38:TYR:CE2	2.46	0.51
26:4:61:ARG:C	26:4:63:TYR:H	2.14	0.51
1:A:2198:A:HO2'	1:A:2199:A:P	2.34	0.51
1:A:503:A:H4'	1:A:504:U:C5'	2.40	0.51
9:N:134:ARG:O	9:N:136:GLU:N	2.43	0.51
9:N:6:PRO:HG2	9:N:43:THR:OG1	2.11	0.51
17:V:5:VAL:HG22	17:V:14:VAL:HG22	1.93	0.51
18:W:20:VAL:C	18:W:22:ASP:N	2.60	0.51
23:1:87:PRO:O	23:1:91:LYS:HB2	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:12:ALA:HB1	26:4:30:GLU:H	1.76	0.51
28:6:9:LEU:HB3	28:6:26:ASN:O	2.11	0.51
29:7:36:GLN:HG2	29:7:36:GLN:O	2.10	0.51
1:A:1114:G:H2'	1:A:1115:G:C8	2.45	0.51
1:A:2188:C:H2'	1:A:2189:U:O4'	2.10	0.51
1:A:251:A:C5	1:A:252:G:H1'	2.46	0.51
3:D:76:PRO:HA	3:D:118:VAL:HG23	1.93	0.51
4:E:7:VAL:HG11	15:T:1:MET:HE3	1.93	0.51
5:F:65:TRP:HZ2	5:F:72:ARG:NH2	2.08	0.51
7:H:6:ARG:C	7:H:8:PRO:HD2	2.30	0.51
9:N:112:LEU:HD23	9:N:113:GLY:N	2.26	0.51
10:O:113:LYS:O	10:O:116:SER:HB3	2.11	0.51
10:O:35:VAL:O	10:O:35:VAL:HG23	2.11	0.51
14:S:89:ARG:O	14:S:89:ARG:HD2	2.11	0.51
23:1:92:LYS:C	23:1:94:LEU:N	2.62	0.51
24:2:36:ARG:O	24:2:40:SER:HB2	2.11	0.51
30:8:61:LEU:O	30:8:62:LEU:CB	2.57	0.51
1:A:1827:C:O2'	1:A:1970:A:N3	2.38	0.51
1:A:859:G:O2'	1:A:860:U:O2	2.21	0.51
6:G:51:ARG:HB3	6:G:51:ARG:HH11	1.76	0.51
7:H:131:VAL:CG1	7:H:132:ARG:N	2.74	0.51
12:Q:36:ALA:HB1	12:Q:127:ILE:HD12	1.93	0.51
1:A:1614:A:H62	18:W:93:ALA:HB2	1.76	0.51
20:Y:46:LYS:HE3	20:Y:63:LYS:HB3	1.93	0.51
26:4:42:PHE:O	26:4:44:THR:N	2.44	0.51
1:A:1007:C:O3'	9:N:108:PRO:HB3	2.10	0.51
1:A:551:G:H5'	1:A:1220:A:H1'	1.93	0.51
1:A:1903:G:OP2	3:D:241:PRO:HB2	2.11	0.51
1:A:1814:G:H4'	3:D:51:VAL:HG21	1.93	0.51
3:D:94:LEU:HD13	3:D:94:LEU:C	2.31	0.51
4:E:37:ARG:N	4:E:37:ARG:HE	2.09	0.51
10:O:15:GLY:O	10:O:46:ALA:HB1	2.10	0.51
10:O:23:ARG:HG2	10:O:23:ARG:HH11	1.76	0.51
13:R:1:MET:O	13:R:2:ARG:CB	2.59	0.51
16:U:112:ARG:HG2	16:U:112:ARG:HH11	1.76	0.51
1:A:1149:G:H2'	1:A:1150:C:C6	2.46	0.50
1:A:1291:C:H2'	1:A:1292:U:C6	2.46	0.50
1:A:185:U:H4'	1:A:218:A:H4'	1.93	0.50
1:A:2224:G:H4'	1:A:2226:C:C2	2.46	0.50
4:E:137:HIS:HB3	4:E:138:PRO:CD	2.37	0.50
9:N:7:LYS:HD3	9:N:9:VAL:N	2.25	0.50
10:O:20:MET:HG2	10:O:21:CYS:O	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:2:ILE:CD1	10:O:82:ASN:HD22	2.14	0.50
17:V:14:VAL:HA	17:V:18:LEU:HD12	1.92	0.50
17:V:35:LEU:CD2	17:V:57:VAL:HG22	2.32	0.50
23:1:4:VAL:HG23	23:1:10:LYS:C	2.32	0.50
23:1:91:LYS:CA	23:1:91:LYS:HE3	2.40	0.50
27:5:37:LYS:O	27:5:37:LYS:HD2	2.12	0.50
1:A:1543:A:O2'	1:A:1544:C:O5'	2.30	0.50
3:D:30:GLU:HG3	3:D:63:ARG:NH2	2.25	0.50
7:H:152:ARG:C	7:H:153:LYS:HE2	2.32	0.50
7:H:72:ILE:O	7:H:75:ALA:HB3	2.11	0.50
10:O:47:ILE:CG1	10:O:48:PRO:HD2	2.41	0.50
11:P:95:VAL:HG13	11:P:100:LEU:CD2	2.40	0.50
14:S:83:LYS:HG2	14:S:109:GLY:H	1.76	0.50
15:T:57:PHE:CG	15:T:58:ASN:N	2.79	0.50
18:W:88:ARG:HB3	18:W:92:ARG:CB	2.41	0.50
20:Y:44:ILE:CG1	20:Y:45:VAL:H	2.25	0.50
1:A:1427:A:H4'	1:A:1428:C:O5'	2.11	0.50
1:A:2116:G:H1	1:A:2162:G:P	2.34	0.50
1:A:2466:C:H5'	31:9:5:ALA:HB3	1.93	0.50
1:A:74:A:H4'	1:A:75:G:O5'	2.11	0.50
6:G:92:VAL:O	6:G:92:VAL:HG13	2.12	0.50
7:H:153:LYS:HG3	7:H:161:GLY:HA2	1.91	0.50
11:P:104:GLY:C	11:P:105:LEU:HD12	2.31	0.50
11:P:101:VAL:HA	11:P:105:LEU:O	2.10	0.50
12:Q:133:ARG:HG2	12:Q:134:ARG:N	2.26	0.50
14:S:35:ILE:CD1	14:S:101:LEU:HD23	2.41	0.50
15:T:54:ARG:NH1	15:T:54:ARG:HG2	2.23	0.50
20:Y:2:ARG:HG2	20:Y:2:ARG:NH1	2.22	0.50
20:Y:74:PRO:O	20:Y:80:GLY:HA2	2.10	0.50
1:A:2150:U:H2'	1:A:2151:G:H8	1.75	0.50
1:A:2283:C:P	28:6:5:VAL:HG13	2.52	0.50
1:A:2646:C:H2'	1:A:2647:U:O4'	2.12	0.50
4:E:37:ARG:H	4:E:37:ARG:HE	1.59	0.50
5:F:108:LYS:HA	5:F:108:LYS:NZ	2.27	0.50
5:F:45:ARG:CG	5:F:45:ARG:NH1	2.71	0.50
7:H:151:ILE:C	7:H:152:ARG:O	2.49	0.50
7:H:169:VAL:HG13	7:H:170:ARG:N	2.26	0.50
10:O:24:VAL:O	10:O:24:VAL:HG13	2.11	0.50
14:S:62:LYS:HB3	14:S:97:ARG:CD	2.39	0.50
27:5:48:GLU:HA	27:5:59:GLU:HG2	1.94	0.50
30:8:56:GLU:O	30:8:57:ARG:C	2.50	0.50
1:A:1470:G:N2	1:A:1522:G:OP2	2.44	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1694:C:O2'	1:A:1695:G:OP2	2.25	0.50
4:E:176:ILE:HG22	4:E:176:ILE:O	2.10	0.50
4:E:203:LYS:HE3	4:E:204:ALA:CB	2.40	0.50
4:E:61:ARG:CB	4:E:62:PRO:HD3	2.41	0.50
6:G:43:LEU:O	6:G:88:ILE:HG12	2.12	0.50
13:R:70:LEU:O	13:R:72:ASP:N	2.42	0.50
15:T:51:ARG:HG3	15:T:98:LYS:HG3	1.93	0.50
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ1	1.76	0.50
21:Z:110:GLY:N	21:Z:111:VAL:HG12	2.27	0.50
26:4:1:MET:HG3	26:4:1:MET:O	2.12	0.50
1:A:2377:A:H4'	14:S:111:GLU:O	2.12	0.50
1:A:372:G:H5''	23:1:66:HIS:CD2	2.47	0.50
3:D:35:LYS:HD2	3:D:104:TYR:CD1	2.45	0.50
3:D:237:GLU:OE1	3:D:237:GLU:HA	2.12	0.50
4:E:119:ARG:HD3	4:E:160:TYR:CD2	2.46	0.50
6:G:109:VAL:O	6:G:113:ARG:HG3	2.10	0.50
7:H:143:GLN:HE21	7:H:143:GLN:C	2.15	0.50
9:N:137:LYS:HG3	9:N:138:LEU:H	1.77	0.50
9:N:46:VAL:O	9:N:47:ALA:CB	2.57	0.50
9:N:87:LEU:C	9:N:87:LEU:HD23	2.32	0.50
10:O:107:ARG:HA	10:O:112:MET:HE1	1.94	0.50
11:P:114:ILE:HD13	11:P:125:VAL:CG2	2.41	0.50
12:Q:108:GLY:O	12:Q:109:VAL:HG23	2.12	0.50
12:Q:2:LEU:N	12:Q:2:LEU:HD23	2.27	0.50
14:S:26:LEU:CD2	14:S:87:PHE:CD1	2.95	0.50
16:U:92:ARG:NH1	16:U:95:LEU:HD11	2.26	0.50
20:Y:48:ALA:HB2	20:Y:61:ILE:CD1	2.41	0.50
20:Y:88:LYS:HA	20:Y:88:LYS:NZ	2.27	0.50
27:5:50:GLY:O	27:5:51:TYR:CB	2.59	0.50
28:6:9:LEU:HD13	28:6:26:ASN:HD22	1.77	0.50
28:6:34:LEU:HD23	28:6:36:LEU:HD22	1.92	0.50
28:6:41:PRO:HD2	28:6:46:HIS:H	1.77	0.50
31:9:7:VAL:HG12	31:9:25:VAL:HG21	1.94	0.50
1:A:2010:G:H5''	18:W:42:ARG:HB2	1.93	0.50
1:A:827:U:H1'	1:A:2246:G:O2'	2.12	0.50
1:A:2469:A:H5'	1:A:2470:G:OP2	2.12	0.50
3:D:2:ALA:CB	3:D:20:ASP:CB	2.90	0.50
3:D:28:GLU:OE1	3:D:29:PRO:HD2	2.11	0.50
3:D:32:SER:O	3:D:33:LEU:CB	2.60	0.50
4:E:2:LYS:HG2	4:E:95:ILE:CG2	2.42	0.50
7:H:133:VAL:HG12	7:H:141:VAL:HG13	1.93	0.50
7:H:16:SER:O	7:H:17:VAL:HG23	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:96:ARG:NH2	13:R:117:VAL:HG23	2.27	0.50
15:T:23:ARG:CB	15:T:24:PRO:HD2	2.40	0.50
18:W:22:ASP:HA	18:W:25:ARG:HH12	1.75	0.50
20:Y:16:ALA:O	20:Y:21:LYS:HD3	2.11	0.50
23:1:80:LEU:HB2	23:1:81:LYS:CE	2.41	0.50
24:2:16:LEU:O	24:2:17:SER:CB	2.56	0.50
1:A:1105:U:H2'	1:A:1106:G:H8	1.77	0.50
1:A:1578:U:H2'	1:A:1579:A:H5'	1.93	0.50
1:A:2154:G:H2'	1:A:2155:G:C8	2.47	0.50
1:A:384:U:H2'	1:A:385:C:H6	1.77	0.50
1:A:863:A:H2'	1:A:864:G:C8	2.47	0.50
6:G:111:LEU:N	6:G:112:PRO:CD	2.75	0.50
7:H:103:LEU:CD1	7:H:131:VAL:HG21	2.41	0.50
11:P:61:ARG:HH21	30:8:13:ARG:HD2	1.77	0.50
11:P:6:LEU:N	11:P:6:LEU:CD2	2.75	0.50
13:R:92:GLY:N	13:R:94:TYR:HE2	2.10	0.50
14:S:60:GLY:O	14:S:61:ASN:CB	2.55	0.50
15:T:38:ASN:O	15:T:39:ARG:O	2.30	0.50
1:A:1790:C:H5''	1:A:1791:A:OP1	2.12	0.50
1:A:2695:C:H2'	1:A:2696:U:C6	2.47	0.50
1:A:2712:U:OP1	1:A:2714:G:H4'	2.12	0.50
1:A:288:C:H2'	1:A:289:A:H8	1.77	0.50
3:D:218:ARG:HB3	3:D:219:PRO:HD2	1.94	0.50
3:D:35:LYS:HE2	3:D:104:TYR:HB2	1.94	0.50
5:F:11:VAL:CG1	5:F:12:LEU:N	2.75	0.50
7:H:19:VAL:HG13	7:H:43:VAL:HG23	1.93	0.50
1:A:1006:C:H1'	9:N:106:MET:HE3	1.94	0.50
12:Q:80:GLU:HG3	12:Q:81:VAL:N	2.27	0.50
14:S:83:LYS:HG2	14:S:109:GLY:HA2	1.90	0.50
10:O:104:ARG:NE	15:T:34:VAL:HG11	2.26	0.50
20:Y:90:LEU:H	20:Y:90:LEU:HD22	1.73	0.50
26:4:10:VAL:HG23	26:4:11:PRO:HD2	1.93	0.49
28:6:20:ASN:O	28:6:21:TYR:CB	2.59	0.49
29:7:12:ARG:NH1	29:7:12:ARG:HG3	2.27	0.49
29:7:46:VAL:HG12	29:7:47:ARG:N	2.27	0.49
1:A:2031:A:N3	1:A:2455:G:O2'	2.41	0.49
1:A:784:A:O2'	1:A:785:G:H5''	2.11	0.49
3:D:72:LYS:O	3:D:73:VAL:C	2.50	0.49
1:A:2635:C:OP1	4:E:78:LEU:HD12	2.11	0.49
6:G:103:LEU:HD21	6:G:178:PHE:CZ	2.47	0.49
7:H:153:LYS:O	7:H:154:PRO:O	2.30	0.49
1:A:1006:C:H1'	9:N:106:MET:CE	2.41	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:114:ILE:HD11	11:P:130:PHE:HE1	1.69	0.49
17:V:41:GLY:N	17:V:46:VAL:HG13	2.26	0.49
18:W:29:LEU:O	18:W:29:LEU:HD23	2.13	0.49
25:3:7:LYS:CB	25:3:34:GLU:HG2	2.41	0.49
26:4:23:GLU:C	26:4:24:THR:HG1	2.16	0.49
1:A:513:A:H5'	1:A:1216:G:O2'	2.12	0.49
2:B:80:U:O2'	2:B:81:G:H5''	2.12	0.49
3:D:123:ALA:HB3	3:D:131:LEU:HG	1.94	0.49
4:E:61:ARG:O	4:E:62:PRO:C	2.51	0.49
7:H:128:PRO:HD2	7:H:129:THR:N	2.25	0.49
9:N:73:THR:HG22	9:N:82:LEU:HD11	1.93	0.49
1:A:389:G:H1	11:P:70:GLN:HB3	1.77	0.49
19:X:70:LEU:CD2	19:X:70:LEU:N	2.71	0.49
20:Y:81:LYS:HD3	20:Y:97:ARG:HD3	1.94	0.49
21:Z:45:ASP:OD1	21:Z:49:ARG:NE	2.38	0.49
23:1:83:GLU:CD	23:1:85:LEU:H	2.15	0.49
1:A:928:G:O2'	25:3:43:ILE:HD11	2.12	0.49
26:4:57:GLU:O	26:4:61:ARG:O	2.30	0.49
26:4:9:LEU:H	26:4:27:THR:CG2	2.25	0.49
1:A:1869:G:H5'	1:A:1870:C:OP2	2.12	0.49
1:A:900:A:H3'	1:A:901:A:C8	2.44	0.49
3:D:10:THR:HG23	3:D:13:ARG:CB	2.34	0.49
3:D:35:LYS:CG	3:D:64:ILE:HG22	2.42	0.49
4:E:23:VAL:HG12	4:E:173:VAL:HG21	1.94	0.49
6:G:83:ARG:HH11	6:G:83:ARG:HG2	1.76	0.49
7:H:19:VAL:HG13	7:H:43:VAL:CG2	2.41	0.49
9:N:42:TRP:HA	9:N:48:MET:CE	2.42	0.49
11:P:147:LEU:O	11:P:148:LEU:HB2	2.11	0.49
1:A:2392:A:H8	11:P:60:MET:HG3	1.72	0.49
13:R:118:GLU:OXT	13:R:118:GLU:HG3	2.11	0.49
19:X:18:TYR:C	19:X:20:GLY:N	2.64	0.49
26:4:22:ILE:H	26:4:22:ILE:HD12	1.77	0.49
1:A:1152:C:H2'	1:A:1153:C:H6	1.77	0.49
1:A:1426:G:OP2	1:A:1427:A:O2'	2.27	0.49
1:A:270(F):U:H2'	1:A:270(G):C:C6	2.47	0.49
1:A:270(S):G:H1'	23:1:78:LYS:HD2	1.94	0.49
1:A:2776:A:H3'	1:A:2776:A:OP1	2.12	0.49
1:A:686:G:N2	1:A:788:A:H61	2.10	0.49
3:D:25:THR:O	3:D:27:THR:HG22	2.12	0.49
6:G:49:ASP:OD1	6:G:51:ARG:HG3	2.12	0.49
7:H:120:GLY:HA3	7:H:140:LYS:NZ	2.28	0.49
7:H:23:ARG:HD2	7:H:34:GLU:OE2	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:8:PRO:HD3	8:I:15:VAL:HG13	1.94	0.49
11:P:49:ARG:HE	30:8:59:LYS:HG2	1.76	0.49
13:R:67:LEU:HD13	13:R:76:VAL:CG2	2.27	0.49
16:U:79:PHE:HE2	16:U:83:LEU:HD22	1.78	0.49
17:V:76:LYS:HG3	17:V:81:TYR:CD1	2.48	0.49
20:Y:77:PRO:O	20:Y:78:ALA:HB2	2.11	0.49
23:1:67:ILE:N	23:1:68:PRO:CD	2.76	0.49
24:2:41:ILE:HD11	24:2:44:LEU:CB	2.42	0.49
26:4:42:PHE:O	26:4:44:THR:O	2.31	0.49
28:6:37:ARG:HA	28:6:37:ARG:HE	1.77	0.49
1:A:1091:G:N2	1:A:1101:U:H1'	2.27	0.49
1:A:1113:U:OP1	7:H:2:SER:N	2.45	0.49
1:A:1794:U:H2'	1:A:1795:C:H6	1.76	0.49
1:A:957:A:N1	1:A:2458:G:H4'	2.27	0.49
1:A:975:G:H1'	1:A:990:A:C2	2.46	0.49
4:E:119:ARG:HD3	4:E:160:TYR:HD2	1.78	0.49
5:F:196:LEU:C	5:F:197:ASP:O	2.50	0.49
7:H:103:LEU:H	7:H:103:LEU:HD23	1.77	0.49
10:O:105:GLU:O	10:O:108:GLU:HB2	2.12	0.49
10:O:69:ILE:O	10:O:76:ALA:HA	2.12	0.49
12:Q:132:VAL:HG12	12:Q:133:ARG:N	2.27	0.49
13:R:18:LEU:HD13	13:R:18:LEU:C	2.33	0.49
13:R:2:ARG:HG2	13:R:5:LYS:HZ2	1.75	0.49
2:B:29:A:OP2	14:S:32:LEU:HG	2.12	0.49
17:V:7:THR:HG23	17:V:22:VAL:HG11	1.94	0.49
17:V:91:TYR:HD1	17:V:91:TYR:C	2.16	0.49
20:Y:35:TYR:CD1	20:Y:69:ALA:HB3	2.48	0.49
23:1:40:ARG:NH2	23:1:42:GLN:HG2	2.27	0.49
24:2:33:MET:O	24:2:37:PHE:HD1	1.95	0.49
27:5:20:ARG:C	27:5:22:HIS:H	2.14	0.49
29:7:9:ARG:HH12	29:7:47:ARG:HG3	1.76	0.49
1:A:2114:A:N6	1:A:2119:A:H62	2.11	0.49
1:A:2232:U:OP1	23:1:40:ARG:NH1	2.45	0.49
1:A:229:A:OP1	1:A:229:A:H4'	2.11	0.49
1:A:2306:C:H2'	1:A:2307:G:N2	2.27	0.49
3:D:182:LEU:H	3:D:272:ALA:CB	2.25	0.49
4:E:179:GLU:O	4:E:180:ASN:HB2	2.13	0.49
4:E:55:ASN:O	4:E:57:LYS:N	2.45	0.49
6:G:107:LEU:HD11	6:G:178:PHE:CD1	2.48	0.49
9:N:120:LEU:HD11	9:N:122:VAL:CG2	2.42	0.49
10:O:8:LEU:CD2	10:O:8:LEU:N	2.76	0.49
12:Q:29:PHE:N	12:Q:105:GLU:OE2	2.41	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:18:ILE:O	14:S:19:LYS:O	2.31	0.49
16:U:92:ARG:CD	16:U:94:ASN:HB3	2.42	0.49
1:A:25:U:H5''	18:W:80:PRO:HD3	1.94	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
6:G:113:ARG:HD2	26:4:33:VAL:CG1	2.43	0.49
28:6:7:ILE:C	28:6:9:LEU:N	2.65	0.49
30:8:33:ASN:O	30:8:35:GLN:N	2.46	0.49
1:A:1085:A:O2'	1:A:1086:A:OP1	2.25	0.49
1:A:1549:C:O2'	1:A:1733:G:N2	2.45	0.49
1:A:2284:C:C5	28:6:27:LYS:HE2	2.48	0.49
1:A:277:C:H4'	1:A:278:A:OP2	2.11	0.49
1:A:323:G:HO2'	1:A:1205:U:H3	1.60	0.49
1:A:821:A:H2'	1:A:946:G:H5''	1.94	0.49
4:E:95:ILE:CD1	4:E:95:ILE:H	2.18	0.49
7:H:54:ARG:HD3	7:H:65:HIS:ND1	2.27	0.49
7:H:98:LEU:HD12	7:H:102:ALA:O	2.13	0.49
9:N:30:ILE:O	9:N:34:LEU:HD23	2.13	0.49
9:N:95:PRO:O	9:N:97:ARG:N	2.46	0.49
11:P:101:VAL:CG1	11:P:102:ARG:N	2.75	0.49
11:P:64:LYS:C	11:P:66:GLY:N	2.56	0.49
12:Q:23:GLY:O	12:Q:24:GLY:O	2.30	0.49
13:R:71:GLN:HA	13:R:71:GLN:HE21	1.77	0.49
15:T:16:ARG:NE	15:T:19:LEU:HD21	2.28	0.49
18:W:30:GLU:O	18:W:34:ASN:ND2	2.46	0.49
26:4:10:VAL:CG2	26:4:11:PRO:HD2	2.43	0.49
6:G:6:ALA:H	26:4:23:GLU:CG	2.25	0.49
1:A:222:A:HO2'	1:A:223:A:P	2.36	0.49
1:A:2416:C:H5''	11:P:64:LYS:HE3	1.93	0.49
1:A:2843:G:H1	1:A:2874:C:H42	1.59	0.49
1:A:507:A:H5''	1:A:508:G:H5'	1.94	0.49
2:B:28:C:OP2	14:S:33:LYS:HE3	2.13	0.49
3:D:2:ALA:CB	3:D:20:ASP:HB3	2.42	0.49
1:A:1695:G:H1'	3:D:8:PRO:O	2.12	0.49
1:A:2052:G:H4'	4:E:143:ASN:O	2.13	0.49
6:G:114:ILE:HG21	6:G:117:PHE:HB2	1.93	0.49
6:G:35:GLU:CD	6:G:35:GLU:C	2.71	0.49
7:H:12:PRO:HD3	7:H:48:GLY:O	2.13	0.49
7:H:124:GLU:HB3	7:H:132:ARG:CG	2.42	0.49
7:H:24:VAL:HG21	7:H:72:ILE:HG12	1.94	0.49
1:A:1138:G:H21	9:N:106:MET:CE	2.26	0.49
11:P:47:ASP:OD1	11:P:49:ARG:NH1	2.46	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2275:C:O2	12:Q:83:MET:HG3	2.11	0.49
14:S:99:LYS:O	14:S:101:LEU:N	2.45	0.49
15:T:94:ALA:O	15:T:95:ARG:CB	2.61	0.49
23:1:19:GLN:HA	23:1:19:GLN:OE1	2.12	0.49
23:1:81:LYS:O	23:1:82:LEU:O	2.30	0.49
26:4:68:ARG:HD3	26:4:69:LYS:HG2	1.93	0.49
1:A:1262:A:N3	27:5:10:LYS:HE3	2.28	0.49
27:5:2:ALA:O	27:5:3:LYS:CB	2.60	0.49
27:5:48:GLU:HA	27:5:59:GLU:CG	2.43	0.49
28:6:44:ARG:O	28:6:45:LYS:CB	2.60	0.49
1:A:1506:C:H3'	1:A:1507:A:H5''	1.95	0.49
1:A:2572:A:N3	4:E:144:ARG:NH2	2.61	0.49
2:B:111:U:H2'	2:B:112:G:H8	1.78	0.49
4:E:46:ALA:HB1	4:E:80:GLU:HB2	1.94	0.49
6:G:143:GLU:HA	26:4:28:LYS:HD3	1.95	0.49
7:H:137:ASP:CB	7:H:140:LYS:HB2	2.43	0.49
9:N:73:THR:CG2	9:N:82:LEU:HD11	2.43	0.49
10:O:55:GLY:O	10:O:56:ASP:C	2.50	0.49
12:Q:86:GLY:O	12:Q:88:GLY:N	2.46	0.49
15:T:111:ARG:O	15:T:112:ARG:CG	2.55	0.49
15:T:16:ARG:HD3	15:T:19:LEU:CG	2.43	0.49
20:Y:19:LYS:CG	20:Y:19:LYS:O	2.60	0.49
20:Y:95:LYS:N	20:Y:95:LYS:CD	2.76	0.49
23:1:25:LYS:C	23:1:27:GLU:H	2.16	0.49
27:5:45:VAL:O	27:5:45:VAL:HG12	2.13	0.49
27:5:52:TYR:O	27:5:53:ALA:CB	2.60	0.49
28:6:20:ASN:CG	28:6:21:TYR:N	2.66	0.49
28:6:27:LYS:NZ	28:6:27:LYS:CB	2.73	0.49
28:6:8:LYS:O	28:6:27:LYS:HA	2.13	0.49
28:6:7:ILE:O	28:6:9:LEU:N	2.46	0.49
1:A:249:C:O2	30:8:12:LYS:HE3	2.13	0.49
30:8:41:ILE:HG13	30:8:42:ARG:N	2.28	0.49
3:D:233:HIS:H	3:D:233:HIS:CD2	2.29	0.49
4:E:38:THR:O	4:E:42:ASP:HB2	2.13	0.49
5:F:129:PHE:CD2	5:F:163:VAL:HG21	2.48	0.49
5:F:45:ARG:HG2	5:F:45:ARG:NH1	2.28	0.49
2:B:33:G:O5'	6:G:2:PRO:HG3	2.12	0.49
11:P:36:LYS:HB2	11:P:40:SER:HB3	1.94	0.49
12:Q:31:ASP:O	12:Q:32:TYR:CG	2.66	0.49
13:R:44:LEU:HD22	13:R:48:VAL:CG2	2.42	0.49
13:R:52:ILE:CG2	13:R:94:TYR:CD1	2.96	0.49
10:O:107:ARG:NH1	15:T:36:GLU:OE1	2.46	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:29:PRO:O	17:V:61:VAL:HG22	2.12	0.49
17:V:79:VAL:HG22	17:V:79:VAL:O	2.12	0.49
19:X:44:GLU:OE1	19:X:50:LYS:HD2	2.13	0.49
20:Y:101:LYS:O	20:Y:102:CYS:SG	2.66	0.49
24:2:69:ARG:HH11	24:2:69:ARG:HB3	1.78	0.48
26:4:47:GLN:O	26:4:48:ARG:CB	2.61	0.48
30:8:58:ILE:O	30:8:61:LEU:HD12	2.13	0.48
1:A:1022:G:H22	1:A:1142(A):A:H2	1.61	0.48
1:A:2351:G:HO2'	1:A:2352:A:H8	1.60	0.48
1:A:608:A:H2'	1:A:609:A:C8	2.48	0.48
2:B:12:C:H2'	22:0:73:GLY:HA3	1.95	0.48
6:G:115:ARG:HG2	6:G:115:ARG:NH1	2.27	0.48
6:G:77:ILE:O	6:G:81:LYS:O	2.31	0.48
7:H:123:PHE:O	7:H:125:VAL:HG23	2.13	0.48
1:A:2562:U:H1'	10:O:23:ARG:NH1	2.29	0.48
11:P:30:THR:O	11:P:33:ARG:HB2	2.12	0.48
12:Q:112:GLU:CD	12:Q:112:GLU:H	2.17	0.48
14:S:48:LEU:N	14:S:48:LEU:CD1	2.76	0.48
17:V:18:LEU:HB3	17:V:96:ILE:CG1	2.43	0.48
19:X:11:PRO:HB3	19:X:92:LEU:CD2	2.43	0.48
20:Y:5:MET:HE1	20:Y:32:PRO:HB3	1.94	0.48
20:Y:6:HIS:O	20:Y:7:VAL:CG1	2.59	0.48
20:Y:81:LYS:HZ2	20:Y:98:VAL:CG1	2.25	0.48
21:Z:45:ASP:O	21:Z:49:ARG:HG2	2.13	0.48
23:1:93:GLU:O	23:1:97:LEU:HD11	2.12	0.48
1:A:2064:C:H2'	1:A:2065:C:C6	2.48	0.48
1:A:242:G:H5''	30:8:3:LYS:HE3	1.95	0.48
1:A:593:G:O2'	30:8:61:LEU:HD13	2.13	0.48
1:A:704:G:C2'	1:A:726:G:H22	2.25	0.48
5:F:155:LEU:HD23	5:F:186:ILE:HA	1.95	0.48
6:G:36:LYS:HA	6:G:95:ARG:HG2	1.95	0.48
7:H:10:PRO:C	7:H:11:VAL:HG22	2.34	0.48
7:H:42:ARG:O	7:H:52:VAL:HA	2.13	0.48
8:I:116:LEU:O	8:I:118:LYS:N	2.45	0.48
8:I:93:THR:O	8:I:97:ILE:HG12	2.11	0.48
13:R:42:LYS:HA	13:R:45:ARG:HD2	1.95	0.48
14:S:11:LYS:HG2	14:S:11:LYS:O	2.12	0.48
17:V:22:VAL:HG12	17:V:23:GLU:H	1.76	0.48
17:V:35:LEU:HD22	17:V:57:VAL:O	2.13	0.48
17:V:91:TYR:C	17:V:91:TYR:CD1	2.87	0.48
18:W:36:LEU:CD1	18:W:47:VAL:HG12	2.43	0.48
18:W:51:LEU:HD23	18:W:105:VAL:HG11	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:35:THR:O	19:X:37:THR:N	2.46	0.48
24:2:69:ARG:HH11	24:2:69:ARG:CB	2.24	0.48
1:A:128:C:H2'	1:A:129:C:H6	1.78	0.48
1:A:2630:G:O4'	1:A:2894:G:H1'	2.13	0.48
6:G:115:ARG:HG2	6:G:115:ARG:HH11	1.77	0.48
11:P:35:HIS:O	11:P:36:LYS:O	2.31	0.48
11:P:52:GLU:OE2	11:P:57:THR:HA	2.13	0.48
13:R:70:LEU:C	13:R:72:ASP:H	2.16	0.48
14:S:33:LYS:HB3	14:S:34:HIS:CD2	2.48	0.48
20:Y:47:LYS:C	20:Y:49:VAL:H	2.16	0.48
21:Z:54:HIS:NE2	21:Z:101:PRO:HG3	2.28	0.48
22:0:40:GLN:OE1	22:0:45:PHE:N	2.46	0.48
27:5:56:LYS:N	27:5:56:LYS:HD2	2.13	0.48
28:6:14:THR:OG1	28:6:19:ARG:NE	2.40	0.48
30:8:35:GLN:HA	30:8:35:GLN:OE1	2.12	0.48
30:8:56:GLU:O	30:8:58:ILE:N	2.47	0.48
1:A:2271:G:H2'	1:A:2272:U:C6	2.48	0.48
1:A:2325:G:H8	1:A:2325:G:O5'	1.95	0.48
1:A:2630:G:N3	1:A:2894:G:N2	2.61	0.48
1:A:518:G:H4'	18:W:18:ARG:NH1	2.17	0.48
2:B:13:A:O2'	2:B:14:U:H3'	2.13	0.48
2:B:24:G:H5''	2:B:25:A:OP1	2.14	0.48
4:E:78:LEU:CD2	4:E:79:ARG:HD2	2.44	0.48
6:G:125:PHE:HB3	6:G:166:ASP:HB2	1.95	0.48
7:H:104:GLU:HG3	7:H:114:VAL:HG22	1.96	0.48
9:N:12:ARG:NH1	9:N:50:ASP:CG	2.67	0.48
9:N:95:PRO:O	9:N:96:GLU:C	2.51	0.48
15:T:132:LYS:O	15:T:136:GLN:HG3	2.14	0.48
17:V:6:LYS:HD3	17:V:11:GLN:HG2	1.96	0.48
28:6:27:LYS:O	28:6:28:ARG:HG2	2.13	0.48
29:7:12:ARG:HH11	29:7:12:ARG:HG3	1.78	0.48
1:A:1818:U:H2'	3:D:157:ARG:HG3	1.96	0.48
1:A:2517:C:N3	1:A:2542:A:N6	2.60	0.48
1:A:2892:A:H2'	1:A:2893:G:O4'	2.12	0.48
1:A:395:U:H2'	1:A:396:G:N7	2.28	0.48
1:A:706:A:H2'	1:A:707:G:O4'	2.13	0.48
1:A:845:G:OP2	1:A:845:G:H8	1.96	0.48
3:D:35:LYS:HD2	3:D:104:TYR:CE1	2.49	0.48
5:F:128:ALA:O	5:F:129:PHE:HB2	2.13	0.48
5:F:198:ALA:O	5:F:201:VAL:HG12	2.13	0.48
9:N:10:GLU:HA	9:N:11:PRO:HD3	1.73	0.48
12:Q:87:LYS:O	12:Q:89:ASN:N	2.43	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:44:ILE:O	20:Y:62:GLU:O	2.32	0.48
26:4:42:PHE:O	26:4:43:TYR:C	2.51	0.48
1:A:1839:G:C8	1:A:1927:A:H1'	2.49	0.48
1:A:34:C:H41	1:A:447:A:H61	1.60	0.48
4:E:77:ILE:CD1	4:E:78:LEU:N	2.70	0.48
5:F:107:LYS:O	5:F:110:LEU:N	2.47	0.48
5:F:155:LEU:HA	5:F:174:VAL:HG12	1.95	0.48
6:G:16:ARG:HB3	6:G:17:PRO:HD3	1.94	0.48
11:P:101:VAL:C	11:P:103:ALA:H	2.17	0.48
11:P:112:LEU:HD12	11:P:127:ALA:CB	2.44	0.48
11:P:144:GLU:OE1	11:P:144:GLU:O	2.31	0.48
12:Q:34:LEU:HD23	12:Q:104:PHE:HD1	1.77	0.48
13:R:61:HIS:O	13:R:65:LEU:HD13	2.14	0.48
14:S:46:VAL:HG12	14:S:47:THR:N	2.28	0.48
14:S:59:LYS:HG2	14:S:60:GLY:N	2.13	0.48
1:A:96:G:H4'	24:2:48:HIS:NE2	2.29	0.48
1:A:2335:A:O2'	1:A:2336:A:O5'	2.31	0.48
1:A:847:U:H3	1:A:934:G:N2	2.10	0.48
3:D:130:ALA:C	3:D:131:LEU:HD12	2.33	0.48
3:D:198:ASN:C	3:D:198:ASN:HD22	2.17	0.48
3:D:48:ARG:HG3	3:D:48:ARG:HH11	1.78	0.48
3:D:65:ILE:C	3:D:65:ILE:HD13	2.32	0.48
6:G:136:ARG:O	6:G:154:GLY:CA	2.62	0.48
7:H:7:LEU:N	7:H:8:PRO:CD	2.77	0.48
11:P:138:LEU:HD11	11:P:144:GLU:CG	2.42	0.48
11:P:14:LYS:O	11:P:15:ARG:C	2.51	0.48
11:P:71:VAL:HG13	11:P:72:PRO:CD	2.43	0.48
12:Q:19:GLY:O	12:Q:98:LYS:HD3	2.14	0.48
15:T:57:PHE:O	15:T:59:THR:N	2.46	0.48
20:Y:57:GLN:O	20:Y:58:GLY:O	2.32	0.48
23:1:56:GLN:H	23:1:56:GLN:NE2	2.10	0.48
26:4:60:GLN:O	26:4:63:TYR:HB3	2.13	0.48
27:5:49:CYS:SG	27:5:58:LEU:HB2	2.53	0.48
1:A:1678:G:H22	1:A:1989:G:N2	2.10	0.48
1:A:1637:A:H5'	1:A:1760:A:O2'	2.14	0.48
1:A:1930:G:O2'	1:A:1931:U:O5'	2.32	0.48
1:A:270(U):C:H2'	1:A:270(V):G:C8	2.49	0.48
1:A:51:G:OP2	1:A:51:G:H8	1.97	0.48
3:D:25:THR:O	3:D:26:LYS:C	2.52	0.48
4:E:61:ARG:CB	4:E:62:PRO:CD	2.90	0.48
4:E:93:VAL:H	4:E:95:ILE:CD1	2.23	0.48
5:F:34:TRP:HD1	11:P:6:LEU:HB3	1.79	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:51:THR:O	5:F:93:LYS:NZ	2.38	0.48
6:G:3:LEU:HD21	26:4:25:TYR:CE1	2.48	0.48
9:N:18:ALA:O	9:N:19:GLU:C	2.52	0.48
9:N:34:LEU:O	9:N:49:GLY:HA3	2.13	0.48
12:Q:21:THR:HB	12:Q:22:LYS:H	1.42	0.48
14:S:55:ALA:O	14:S:56:LEU:HB3	2.13	0.48
20:Y:11:ASP:HB2	20:Y:27:VAL:HG11	1.94	0.48
30:8:43:GLN:C	30:8:44:LYS:HD2	2.34	0.48
1:A:1359:A:OP2	1:A:1371:G:N2	2.36	0.48
1:A:1384:A:H1'	1:A:1405:U:O4'	2.14	0.48
1:A:2405:G:H1'	1:A:2412:A:N6	2.29	0.48
3:D:130:ALA:HA	3:D:192:THR:HA	1.96	0.48
9:N:75:TYR:C	9:N:76:SER:O	2.52	0.48
9:N:82:LEU:HD12	9:N:83:LYS:N	2.27	0.48
1:A:2467:C:H4'	12:Q:123:HIS:CD2	2.49	0.48
13:R:107:ASP:C	13:R:107:ASP:OD2	2.52	0.48
13:R:63:ARG:NH1	13:R:63:ARG:HG3	2.29	0.48
15:T:135:ALA:C	15:T:137:LYS:H	2.16	0.48
16:U:79:PHE:HE2	16:U:83:LEU:CD2	2.26	0.48
1:A:128:C:H2'	1:A:129:C:C6	2.49	0.48
1:A:2327:A:H2'	1:A:2328:A:C8	2.48	0.48
1:A:2853:C:H2'	1:A:2854:G:C8	2.49	0.48
1:A:335:C:H4'	20:Y:73:ARG:CZ	2.44	0.48
1:A:345:A:H1'	1:A:346:A:N7	2.29	0.48
1:A:774:A:H2	1:A:787:U:HO2'	1.59	0.48
1:A:965:C:H4'	1:A:2273:A:H1'	1.95	0.48
2:B:16:G:H2'	2:B:17:C:C6	2.49	0.48
4:E:93:VAL:C	4:E:95:ILE:H	2.17	0.48
6:G:106:LEU:HA	6:G:110:ALA:HB3	1.95	0.48
6:G:12:TYR:O	6:G:16:ARG:HB3	2.14	0.48
2:B:42:C:O2	6:G:92:VAL:HA	2.14	0.48
7:H:131:VAL:HG12	7:H:132:ARG:N	2.29	0.48
1:A:1138:G:O3'	9:N:101:HIS:HE1	1.97	0.48
10:O:8:LEU:HB2	10:O:19:ILE:CD1	2.43	0.48
12:Q:42:ILE:HD12	12:Q:42:ILE:N	2.29	0.48
14:S:56:LEU:C	14:S:56:LEU:HD23	2.34	0.48
17:V:35:LEU:O	17:V:37:VAL:N	2.47	0.48
1:A:336:C:HO2'	20:Y:35:TYR:HH	1.59	0.48
23:1:8:SER:OG	23:1:10:LYS:HG3	2.13	0.47
1:A:270(S):G:C1'	23:1:78:LYS:HD2	2.43	0.47
30:8:53:PRO:CD	30:8:54:GLU:N	2.77	0.47
1:A:1043:C:H42	1:A:1112:G:H1	1.62	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2688:U:H5	1:A:2720:U:OP2	1.95	0.47
1:A:824:A:H1'	1:A:2358:G:N7	2.29	0.47
3:D:35:LYS:CG	3:D:64:ILE:CG2	2.92	0.47
4:E:120:TRP:O	4:E:121:ASN:HB2	2.14	0.47
4:E:64:LYS:C	4:E:66:HIS:N	2.68	0.47
5:F:53:THR:C	5:F:55:GLY:N	2.67	0.47
9:N:113:GLY:O	9:N:116:LEU:HB2	2.14	0.47
9:N:56:ASN:ND2	9:N:125:GLY:C	2.66	0.47
9:N:57:ALA:O	9:N:58:ASP:CB	2.61	0.47
18:W:32:ALA:O	18:W:33:ARG:C	2.52	0.47
18:W:66:GLU:O	18:W:69:LEU:HG	2.14	0.47
20:Y:56:PRO:O	20:Y:58:GLY:N	2.47	0.47
26:4:50:VAL:O	26:4:50:VAL:CG1	2.63	0.47
27:5:57:VAL:HG13	27:5:57:VAL:O	2.14	0.47
1:A:2134:A:H62	1:A:2157:G:H1'	1.80	0.47
7:H:124:GLU:HB3	7:H:132:ARG:CD	2.44	0.47
7:H:154:PRO:CG	7:H:162:ILE:O	2.61	0.47
7:H:45:VAL:O	7:H:45:VAL:HG13	2.14	0.47
9:N:131:GLN:HE21	9:N:132:ALA:H	1.58	0.47
9:N:137:LYS:CG	9:N:138:LEU:N	2.78	0.47
9:N:67:LEU:O	9:N:88:GLU:HG3	2.14	0.47
11:P:47:ASP:OD1	11:P:50:ARG:NH2	2.47	0.47
11:P:75:ILE:CD1	11:P:75:ILE:H	2.14	0.47
12:Q:57:HIS:ND1	12:Q:58:PHE:N	2.62	0.47
13:R:10:LEU:O	13:R:12:ARG:HG3	2.14	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
17:V:66:ARG:NH1	17:V:88:ARG:NH1	2.61	0.47
20:Y:81:LYS:NZ	20:Y:98:VAL:HB	2.29	0.47
23:1:29:GLY:C	23:1:30:VAL:CG2	2.82	0.47
23:1:7:ILE:HD12	23:1:62:VAL:HG11	1.96	0.47
26:4:36:CYS:O	26:4:37:SER:C	2.52	0.47
1:A:242:G:C5'	30:8:3:LYS:HE3	2.44	0.47
1:A:2029:G:H2'	1:A:2031:A:OP2	2.13	0.47
1:A:2343:C:H2'	1:A:2344:U:C6	2.49	0.47
3:D:134:ARG:HB2	3:D:135:PHE:CD2	2.49	0.47
3:D:145:VAL:O	3:D:153:ALA:HA	2.15	0.47
4:E:129:HIS:O	4:E:130:GLY:C	2.53	0.47
4:E:174:ASP:O	4:E:182:LEU:HD12	2.14	0.47
7:H:67:LEU:O	7:H:71:LEU:HB2	2.14	0.47
7:H:82:GLY:O	7:H:83:TYR:O	2.32	0.47
9:N:68:GLU:HG2	9:N:88:GLU:CD	2.33	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:97:ARG:HA	9:N:100:GLU:HB3	1.97	0.47
11:P:126:VAL:HA	11:P:145:PRO:HD2	1.95	0.47
11:P:6:LEU:O	11:P:7:ARG:O	2.31	0.47
13:R:41:ALA:C	13:R:43:GLU:N	2.68	0.47
16:U:107:ALA:O	16:U:110:VAL:HB	2.14	0.47
16:U:92:ARG:CZ	16:U:94:ASN:HD22	2.28	0.47
17:V:16:PRO:HA	17:V:96:ILE:O	2.14	0.47
17:V:2:PHE:CD2	17:V:13:ARG:NH2	2.83	0.47
17:V:4:ILE:HA	17:V:12:TYR:O	2.14	0.47
20:Y:75:ILE:HG12	20:Y:76:CYS:H	1.79	0.47
20:Y:97:ARG:HG2	20:Y:97:ARG:NH1	2.28	0.47
26:4:55:ARG:C	26:4:59:PHE:HB3	2.35	0.47
1:A:1264:G:H5'	27:5:11:THR:CG2	2.42	0.47
28:6:8:LYS:O	28:6:27:LYS:HG2	2.14	0.47
1:A:634:C:H2'	1:A:635:C:C6	2.49	0.47
1:A:669:G:N3	1:A:669:G:H2'	2.30	0.47
3:D:72:LYS:CG	3:D:103:ARG:NH2	2.77	0.47
4:E:56:PRO:O	4:E:57:LYS:CB	2.61	0.47
6:G:106:LEU:HA	6:G:110:ALA:CB	2.44	0.47
6:G:13:GLU:HG3	6:G:13:GLU:O	2.14	0.47
9:N:118:LYS:O	9:N:120:LEU:N	2.43	0.47
9:N:4:TYR:OH	9:N:7:LYS:NZ	2.46	0.47
11:P:19:VAL:CG2	11:P:20:GLY:H	1.98	0.47
12:Q:66:ILE:H	12:Q:104:PHE:HA	1.79	0.47
14:S:40:ILE:HG22	14:S:41:ASP:N	2.28	0.47
15:T:96:ARG:NH1	15:T:96:ARG:CB	2.77	0.47
19:X:6:ASP:OD1	24:2:29:LYS:NZ	2.47	0.47
23:1:94:LEU:O	23:1:95:LEU:CB	2.62	0.47
1:A:1113:U:H2'	1:A:1114:G:C8	2.49	0.47
1:A:1486:A:H2'	1:A:1487:G:C8	2.49	0.47
1:A:1795:C:O2	3:D:255:LYS:HE2	2.14	0.47
1:A:2198:A:C2	8:I:29:TYR:HB2	2.49	0.47
4:E:195:LEU:HD12	4:E:196:VAL:N	2.29	0.47
4:E:3:GLY:HA3	4:E:81:ILE:HG21	1.97	0.47
6:G:5:VAL:HG22	26:4:25:TYR:CE2	2.50	0.47
14:S:25:ARG:HH12	14:S:42:ASP:CG	2.16	0.47
17:V:38:LEU:HD23	17:V:39:LEU:H	1.79	0.47
17:V:21:ARG:HD2	17:V:91:TYR:CZ	2.49	0.47
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ3	1.77	0.47
20:Y:19:LYS:HE3	20:Y:20:TYR:CE1	2.49	0.47
20:Y:39:VAL:O	20:Y:40:GLU:OE2	2.32	0.47
31:9:1:MET:SD	31:9:31:LYS:O	2.73	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1509:C:H2'	1:A:1511:A:C8	2.50	0.47
1:A:2638:G:OP2	4:E:82:ARG:NH2	2.48	0.47
1:A:27:G:HO2'	1:A:28:A:H8	1.62	0.47
1:A:247:G:H4'	1:A:386:G:C5	2.49	0.47
2:B:3:C:H2'	2:B:4:C:H6	1.79	0.47
5:F:162:LEU:HD23	5:F:165:ARG:HH21	1.80	0.47
9:N:137:LYS:CG	9:N:138:LEU:H	2.27	0.47
11:P:147:LEU:HD22	11:P:147:LEU:N	2.29	0.47
1:A:389:G:N1	11:P:70:GLN:HB3	2.30	0.47
13:R:117:VAL:O	13:R:118:GLU:CB	2.62	0.47
14:S:108:GLY:O	14:S:110:LEU:N	2.48	0.47
17:V:2:PHE:CD1	17:V:2:PHE:C	2.88	0.47
28:6:20:ASN:ND2	28:6:42:TRP:CZ2	2.82	0.47
30:8:44:LYS:HD2	30:8:44:LYS:N	2.30	0.47
1:A:1486:A:H2'	1:A:1487:G:H8	1.79	0.47
1:A:180:G:N1	1:A:214:G:O6	2.47	0.47
1:A:2836:U:H2'	1:A:2837:G:C8	2.50	0.47
4:E:197:ILE:CD1	4:E:199:ARG:HH12	2.26	0.47
5:F:184:TYR:CD2	5:F:188:ARG:HD2	2.50	0.47
9:N:57:ALA:CA	9:N:60:ILE:HD11	2.44	0.47
10:O:120:GLU:OE1	15:T:67:SER:OG	2.25	0.47
10:O:37:ASP:O	10:O:62:VAL:HG23	2.15	0.47
13:R:74:LYS:O	13:R:76:VAL:N	2.45	0.47
20:Y:61:ILE:HG22	20:Y:62:GLU:N	2.28	0.47
26:4:8:LYS:O	26:4:9:LEU:CB	2.62	0.47
31:9:19:ARG:NH2	31:9:26:ILE:HD11	2.29	0.47
1:A:1153:C:H2'	1:A:1154:G:O4'	2.15	0.47
1:A:31:C:O2'	1:A:1238:G:H5'	2.15	0.47
1:A:528:A:H2	1:A:2043:C:O5'	1.98	0.47
1:A:2122:U:H2'	1:A:2123:G:C8	2.48	0.47
1:A:2257:U:H2'	1:A:2258:C:C6	2.49	0.47
1:A:2722:G:H4'	13:R:4:LEU:HB2	1.96	0.47
3:D:165:ILE:C	3:D:166:GLN:HE21	2.18	0.47
4:E:65:GLY:HA2	4:E:70:ALA:HB3	1.95	0.47
6:G:56:ALA:HB2	6:G:153:ARG:NE	2.28	0.47
11:P:12:ALA:C	11:P:14:LYS:H	2.17	0.47
11:P:37:GLY:O	11:P:41:ARG:HD3	2.15	0.47
12:Q:34:LEU:HD11	12:Q:129:THR:CB	2.35	0.47
17:V:36:PRO:HA	17:V:56:SER:CB	2.44	0.47
1:A:153:C:OP2	23:1:88:LYS:HE2	2.15	0.47
26:4:3:GLU:HG3	26:4:4:GLY:H	1.79	0.47
1:A:2638:G:P	4:E:82:ARG:HH22	2.37	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:482:A:H4'	20:Y:47:LYS:HD2	1.97	0.47
1:A:769:G:H5'	1:A:1379:A:H61	1.79	0.47
4:E:17:ASP:OD2	4:E:17:ASP:N	2.46	0.47
4:E:63:LEU:O	4:E:64:LYS:CB	2.62	0.47
10:O:53:LYS:CD	10:O:56:ASP:OD1	2.63	0.47
24:2:17:SER:CB	24:2:18:PRO:CA	2.92	0.47
1:A:1991:U:H2'	1:A:1992:G:H5''	1.97	0.47
1:A:2625:G:H2'	1:A:2626:C:O4'	2.15	0.47
1:A:587:C:OP2	11:P:21:ARG:NH2	2.48	0.47
3:D:102:LYS:O	3:D:103:ARG:HG3	2.15	0.47
9:N:134:ARG:N	9:N:135:PRO:CD	2.58	0.47
1:A:389:G:H22	11:P:72:PRO:HD3	1.80	0.47
11:P:98:GLU:HG2	11:P:99:LEU:N	2.30	0.47
16:U:8:VAL:O	16:U:9:VAL:C	2.53	0.47
19:X:26:TYR:HB3	19:X:92:LEU:HD12	1.97	0.47
21:Z:27:VAL:HG13	21:Z:87:ASP:HB3	1.97	0.47
27:5:20:ARG:C	27:5:22:HIS:N	2.68	0.47
28:6:48:VAL:O	28:6:49:HIS:HB2	2.15	0.47
29:7:25:PRO:HA	29:7:28:ARG:CZ	2.45	0.47
1:A:1327:C:O3'	13:R:105:ARG:NH2	2.48	0.47
1:A:1796:U:H2'	1:A:1797:C:C6	2.49	0.47
1:A:1872:A:H5'	1:A:1878:G:OP2	2.15	0.47
1:A:868:U:H2'	1:A:869:G:O4'	2.15	0.47
3:D:205:VAL:O	3:D:206:LEU:C	2.52	0.47
3:D:231:HIS:ND1	3:D:232:PRO:HD2	2.30	0.47
5:F:31:HIS:O	5:F:34:TRP:HB3	2.15	0.47
5:F:65:TRP:CH2	5:F:72:ARG:HB3	2.50	0.47
6:G:16:ARG:NH2	6:G:28:VAL:O	2.48	0.47
6:G:44:GLY:HA2	6:G:88:ILE:HG12	1.97	0.47
8:I:98:ALA:HB2	8:I:111:PRO:HB3	1.96	0.47
13:R:56:LYS:C	13:R:58:GLY:H	2.18	0.47
14:S:52:SER:O	14:S:56:LEU:CD2	2.60	0.47
14:S:61:ASN:O	14:S:65:VAL:HG23	2.15	0.47
10:O:104:ARG:HD3	15:T:36:GLU:OE2	2.15	0.47
21:Z:151:HIS:HA	21:Z:170:THR:HA	1.95	0.47
26:4:53:GLU:O	26:4:57:GLU:HG3	2.14	0.46
29:7:2:LYS:HG2	29:7:3:ARG:N	2.31	0.46
1:A:1028:A:N6	1:A:1125:G:H2'	2.30	0.46
1:A:1181:C:H2'	1:A:1182:A:C8	2.50	0.46
1:A:2612:C:C4	1:A:2613:U:H5	2.32	0.46
1:A:262:A:H2'	1:A:263:C:O4'	2.15	0.46
1:A:747:U:C4	1:A:2613:U:C4	3.02	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:862:G:H2'	1:A:863:A:O4'	2.15	0.46
1:A:871:U:H4'	12:Q:69:PHE:CE2	2.50	0.46
3:D:18:VAL:CG1	3:D:19:ALA:N	2.78	0.46
4:E:87:GLU:O	4:E:89:ASP:N	2.48	0.46
6:G:98:ARG:CA	6:G:101:ILE:HG12	2.40	0.46
7:H:18:GLU:HA	7:H:18:GLU:OE2	2.15	0.46
7:H:41:MET:HG3	7:H:54:ARG:HA	1.96	0.46
8:I:41:GLU:HA	8:I:44:LEU:HB2	1.97	0.46
9:N:9:VAL:HG21	9:N:48:MET:CB	2.45	0.46
15:T:57:PHE:O	15:T:58:ASN:C	2.53	0.46
20:Y:68:HIS:O	20:Y:71:LYS:HB2	2.15	0.46
23:1:49:VAL:HG12	23:1:51:VAL:CG2	2.45	0.46
23:1:76:ARG:N	23:1:76:ARG:HD2	2.29	0.46
24:2:15:LYS:H	24:2:67:LYS:HZ3	1.63	0.46
24:2:7:ARG:NH1	24:2:7:ARG:HG3	2.25	0.46
30:8:29:LYS:HE3	30:8:41:ILE:O	2.15	0.46
1:A:1657:C:H2'	1:A:1658:C:H6	1.79	0.46
1:A:2290:G:H1	1:A:2342:C:H42	1.63	0.46
1:A:2566:A:H4'	1:A:2567:G:O5'	2.14	0.46
1:A:38:A:H2'	1:A:39:C:C6	2.50	0.46
3:D:183:ARG:NH1	3:D:183:ARG:CG	2.69	0.46
3:D:27:THR:O	3:D:29:PRO:CD	2.62	0.46
1:A:588:U:H1'	5:F:90:PHE:CD1	2.50	0.46
7:H:127:GLU:OE2	7:H:130:ARG:NH2	2.47	0.46
8:I:5:LEU:HD11	8:I:19:VAL:HG12	1.96	0.46
13:R:78:LYS:O	13:R:78:LYS:HG2	2.15	0.46
13:R:56:LYS:HE2	13:R:94:TYR:OH	2.15	0.46
2:B:48:A:H4'	14:S:95:HIS:CD2	2.49	0.46
9:N:1:MET:HE3	16:U:95:LEU:HD21	1.97	0.46
25:3:56:VAL:CG1	25:3:57:GLU:N	2.74	0.46
27:5:43:HIS:ND1	27:5:43:HIS:N	2.63	0.46
1:A:858:U:O2	1:A:2268:A:H2'	2.15	0.46
1:A:2696:U:H2'	1:A:2697:G:C8	2.50	0.46
1:A:583:G:H5''	16:U:10:ARG:NH1	2.28	0.46
1:A:612:G:H2'	1:A:613:U:O2	2.16	0.46
1:A:99:U:H4'	1:A:101:G:O5'	2.16	0.46
3:D:35:LYS:HD3	3:D:63:ARG:HB3	1.96	0.46
2:B:42:C:O4'	6:G:69:ALA:HB2	2.15	0.46
6:G:95:ARG:O	6:G:96:ARG:C	2.54	0.46
7:H:153:LYS:HG3	7:H:162:ILE:H	1.78	0.46
7:H:9:ILE:O	7:H:10:PRO:O	2.33	0.46
10:O:112:MET:O	10:O:115:VAL:CG2	2.64	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:23:PRO:HG2	11:P:23:PRO:O	2.15	0.46
14:S:26:LEU:HD22	14:S:87:PHE:CD1	2.46	0.46
14:S:28:VAL:HG11	14:S:98:VAL:HG12	1.97	0.46
15:T:29:ARG:NH1	15:T:46:GLU:OE1	2.48	0.46
17:V:30:GLY:O	17:V:31:ALA:O	2.34	0.46
19:X:12:VAL:O	19:X:12:VAL:HG13	2.15	0.46
20:Y:15:VAL:O	20:Y:21:LYS:HA	2.15	0.46
23:1:79:GLY:N	23:1:80:LEU:HD23	2.30	0.46
1:A:265:A:O2'	1:A:266:G:H4'	2.16	0.46
2:B:11:C:H3'	2:B:12:C:H6	1.80	0.46
3:D:27:THR:CG2	3:D:28:GLU:N	2.66	0.46
4:E:47:VAL:O	4:E:48:GLN:C	2.51	0.46
4:E:54:GLN:HE21	4:E:54:GLN:CA	2.27	0.46
7:H:4:ILE:H	7:H:4:ILE:CD1	2.25	0.46
9:N:46:VAL:HG13	9:N:47:ALA:N	2.30	0.46
11:P:81:GLN:HB3	11:P:110:TYR:HB3	1.97	0.46
12:Q:133:ARG:CG	12:Q:134:ARG:N	2.78	0.46
13:R:85:PRO:C	13:R:87:TYR:H	2.19	0.46
14:S:13:ARG:O	14:S:14:VAL:HB	2.15	0.46
15:T:36:GLU:O	15:T:37:GLY:C	2.53	0.46
18:W:4:LYS:HA	18:W:106:ILE:HA	1.97	0.46
19:X:24:GLY:O	19:X:82:GLN:HA	2.16	0.46
20:Y:35:TYR:O	20:Y:35:TYR:CD1	2.69	0.46
1:A:299:A:C5'	20:Y:84:ARG:HH21	2.28	0.46
21:Z:74:VAL:HG13	21:Z:86:VAL:HG22	1.97	0.46
1:A:2331:G:H4'	22:0:43:THR:N	2.31	0.46
23:1:83:GLU:OE1	23:1:85:LEU:HB2	2.15	0.46
25:3:18:ASP:O	25:3:21:ALA:N	2.49	0.46
28:6:18:ARG:O	28:6:19:ARG:O	2.33	0.46
30:8:52:LYS:O	30:8:52:LYS:CG	2.64	0.46
1:A:2283:C:H2'	1:A:2284:C:O4'	2.15	0.46
1:A:476:G:N1	1:A:479:A:OP2	2.46	0.46
3:D:61:LEU:HB3	3:D:63:ARG:NH1	2.31	0.46
4:E:188:VAL:HG13	4:E:188:VAL:O	2.15	0.46
5:F:132:VAL:O	5:F:133:ASN:C	2.52	0.46
7:H:86:GLU:O	7:H:132:ARG:HA	2.15	0.46
13:R:29:LEU:N	13:R:29:LEU:CD1	2.79	0.46
13:R:75:LEU:HA	13:R:78:LYS:HB3	1.97	0.46
14:S:56:LEU:O	14:S:57:LYS:C	2.53	0.46
14:S:66:ALA:HA	14:S:69:VAL:HG12	1.96	0.46
1:A:896:A:C2	21:Z:146:ILE:HD11	2.50	0.46
25:3:59:VAL:CG1	25:3:60:GLU:H	2.28	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:15:ILE:HG22	26:4:20:ASN:CA	2.45	0.46
26:4:50:VAL:O	26:4:50:VAL:HG13	2.15	0.46
1:A:1169:G:H1	1:A:1180:C:N4	2.12	0.46
1:A:2074:U:H2'	1:A:2075:U:C6	2.51	0.46
1:A:642:G:H21	1:A:646:A:H2	1.62	0.46
3:D:117:VAL:CG2	3:D:128:GLY:C	2.84	0.46
3:D:69:ARG:C	3:D:71:ASP:N	2.69	0.46
4:E:103:ASP:OD2	4:E:168:MET:HG2	2.15	0.46
4:E:20:ALA:C	4:E:21:VAL:HG13	2.35	0.46
4:E:89:ASP:O	4:E:90:THR:O	2.33	0.46
4:E:33:VAL:HG12	4:E:90:THR:H	1.81	0.46
11:P:45:LEU:CD1	11:P:45:LEU:N	2.79	0.46
11:P:6:LEU:N	11:P:6:LEU:HD22	2.31	0.46
11:P:90:ARG:HB3	11:P:91:PHE:H	1.60	0.46
12:Q:109:VAL:HG13	12:Q:113:GLN:OE1	2.16	0.46
12:Q:66:ILE:O	12:Q:104:PHE:N	2.49	0.46
1:A:2292:C:P	14:S:17:ARG:HH22	2.39	0.46
15:T:118:ARG:NH2	15:T:121:ILE:HD12	2.31	0.46
15:T:51:ARG:CG	15:T:98:LYS:HG3	2.44	0.46
15:T:96:ARG:CB	15:T:96:ARG:HH11	2.29	0.46
17:V:47:VAL:O	17:V:48:GLY:O	2.34	0.46
19:X:8:ILE:CD1	19:X:42:ALA:HB1	2.46	0.46
22:0:41:ARG:NE	22:0:41:ARG:HA	2.31	0.46
26:4:38:LYS:C	26:4:40:HIS:H	2.07	0.46
1:A:2233:U:H2'	1:A:2234:G:C8	2.51	0.46
1:A:2349:G:OP2	30:8:42:ARG:HD3	2.15	0.46
3:D:136:ILE:N	3:D:136:ILE:HD12	2.30	0.46
4:E:50:GLY:CA	4:E:74:PRO:HG3	2.46	0.46
6:G:104:GLU:OE1	26:4:23:GLU:HB3	2.15	0.46
6:G:111:LEU:HD22	6:G:120:LEU:HD21	1.96	0.46
6:G:37:VAL:HG22	6:G:159:VAL:CA	2.34	0.46
7:H:59:ARG:CG	7:H:59:ARG:NH1	2.79	0.46
9:N:30:ILE:O	9:N:34:LEU:CD2	2.64	0.46
10:O:86:ILE:CD1	10:O:86:ILE:H	2.28	0.46
11:P:1:MET:O	11:P:2:LYS:HG3	2.16	0.46
15:T:58:ASN:HD22	15:T:58:ASN:N	2.10	0.46
19:X:35:THR:HG23	19:X:35:THR:O	2.16	0.46
19:X:43:VAL:HG11	19:X:51:VAL:HG21	1.97	0.46
20:Y:56:PRO:O	20:Y:57:GLN:C	2.53	0.46
21:Z:104:PHE:CD1	21:Z:139:VAL:HB	2.50	0.46
23:1:60:PHE:CE2	23:1:91:LYS:NZ	2.84	0.46
27:5:41:PRO:HA	27:5:42:PRO:HD3	1.82	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1085:A:HO2'	1:A:1086:A:P	2.39	0.46
1:A:1936:A:H61	1:A:1963:U:H3	1.64	0.46
1:A:467:G:OP2	29:7:34:ARG:NH1	2.46	0.46
1:A:508:G:HO2'	1:A:509:C:P	2.38	0.46
2:B:50:G:OP1	14:S:63:THR:HG23	2.16	0.46
4:E:7:VAL:HG11	15:T:1:MET:CE	2.45	0.46
6:G:14:GLU:O	6:G:17:PRO:HG2	2.15	0.46
6:G:88:ILE:CD1	6:G:88:ILE:O	2.54	0.46
9:N:112:LEU:O	9:N:116:LEU:HG	2.16	0.46
9:N:36:GLY:O	9:N:42:TRP:HE3	1.98	0.46
9:N:73:THR:HA	9:N:83:LYS:O	2.15	0.46
10:O:101:PRO:HA	10:O:120:GLU:O	2.16	0.46
11:P:85:LEU:HD23	11:P:88:LEU:HD22	1.97	0.46
12:Q:23:GLY:O	12:Q:24:GLY:C	2.54	0.46
16:U:98:LEU:HD23	16:U:98:LEU:C	2.35	0.46
28:6:7:ILE:O	28:6:8:LYS:HG2	2.16	0.46
1:A:2119:A:C2	1:A:2171:A:H1'	2.51	0.46
1:A:2518:A:H4'	1:A:2519:U:OP1	2.16	0.46
4:E:172:VAL:HG13	4:E:182:LEU:HD11	1.98	0.46
4:E:47:VAL:HG23	4:E:47:VAL:O	2.16	0.46
4:E:61:ARG:O	4:E:63:LEU:CG	2.57	0.46
6:G:14:GLU:O	6:G:17:PRO:HD2	2.16	0.46
6:G:135:LEU:HD11	6:G:157:ILE:HD12	1.98	0.46
6:G:52:ILE:HG22	6:G:52:ILE:O	2.15	0.46
7:H:4:ILE:HG13	7:H:6:ARG:HD3	1.97	0.46
7:H:88:LEU:HD22	7:H:163:TYR:O	2.16	0.46
8:I:133:HIS:HB2	8:I:134:PRO:CD	2.46	0.46
10:O:7:TYR:CD1	10:O:20:MET:HB2	2.50	0.46
11:P:21:ARG:HB3	11:P:22:GLY:H	1.65	0.46
13:R:1:MET:O	13:R:2:ARG:HB2	2.15	0.46
14:S:24:LEU:HB2	14:S:85:VAL:HG12	1.98	0.46
16:U:27:LEU:HD12	16:U:31:SER:HB3	1.98	0.46
1:A:994:C:H3'	16:U:54:LYS:HE3	1.98	0.46
16:U:69:CYS:O	16:U:74:LEU:HD12	2.16	0.46
28:6:15:GLU:OE2	28:6:44:ARG:NH1	2.49	0.46
30:8:40:GLU:C	30:8:42:ARG:N	2.68	0.46
1:A:1356:G:C6	1:A:1357:U:C4	3.04	0.46
1:A:1851:U:H3	1:A:1891:G:H1	1.64	0.46
1:A:21:A:H2'	1:A:22:C:C6	2.50	0.46
1:A:844:C:H2'	1:A:845:G:O4'	2.16	0.46
3:D:211:ARG:HH11	3:D:211:ARG:HG2	1.80	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:95:ILE:O	4:E:95:ILE:HG22	2.16	0.46
1:A:2313:C:H4'	6:G:40:ASN:OD1	2.16	0.46
6:G:76:SER:CB	6:G:83:ARG:HA	2.46	0.46
7:H:13:LYS:CA	7:H:13:LYS:HE2	2.40	0.46
7:H:37:VAL:HG11	7:H:68:THR:HG23	1.99	0.46
8:I:135:GLU:HB2	8:I:136:VAL:H	1.65	0.46
9:N:17:ASP:O	9:N:55:VAL:O	2.34	0.46
11:P:46:LYS:O	11:P:48:PRO:N	2.48	0.46
12:Q:26:TYR:O	12:Q:27:VAL:O	2.34	0.46
1:A:1278:A:O3'	13:R:34:ILE:HG23	2.16	0.46
14:S:89:ARG:O	14:S:90:GLY:C	2.54	0.46
23:1:80:LEU:C	23:1:81:LYS:CE	2.77	0.45
23:1:85:LEU:HD22	23:1:85:LEU:N	2.31	0.45
25:3:7:LYS:HE2	25:3:32:GLN:HA	1.98	0.45
1:A:1019:U:O2'	1:A:1021:A:H2	1.98	0.45
1:A:1543:A:H2	1:A:1545:A:C5	2.33	0.45
1:A:2498:C:O2'	1:A:2499:C:H5'	2.17	0.45
1:A:389:G:N1	11:P:71:VAL:HG12	2.30	0.45
1:A:896:A:H2	21:Z:146:ILE:HD11	1.82	0.45
1:A:987:G:H2'	1:A:988:A:O4'	2.16	0.45
2:B:38:C:N4	2:B:44:G:H1	2.13	0.45
3:D:80:ALA:O	3:D:113:VAL:HG13	2.16	0.45
4:E:15:PHE:CD1	4:E:20:ALA:HB2	2.50	0.45
7:H:137:ASP:HB2	7:H:140:LYS:HE3	1.98	0.45
10:O:61:VAL:O	10:O:84:ALA:HB1	2.16	0.45
11:P:115:LEU:CD1	11:P:116:GLY:N	2.78	0.45
12:Q:104:PHE:O	12:Q:105:GLU:CB	2.65	0.45
14:S:109:GLY:O	14:S:110:LEU:HB2	2.16	0.45
16:U:106:PHE:O	16:U:109:LEU:HB2	2.15	0.45
19:X:53:LYS:HZ2	19:X:55:ASN:HD21	1.65	0.45
20:Y:90:LEU:CD2	20:Y:90:LEU:N	2.73	0.45
25:3:43:ILE:O	25:3:47:VAL:HG23	2.15	0.45
25:3:60:GLU:HG2	25:3:60:GLU:O	2.16	0.45
26:4:56:VAL:HA	26:4:60:GLN:CB	2.28	0.45
31:9:25:VAL:HG11	31:9:34:GLN:HE21	1.80	0.45
1:A:1728:G:H5'	1:A:1729:A:OP2	2.16	0.45
1:A:566:U:OP1	11:P:29:LYS:HE2	2.16	0.45
2:B:52:A:O2'	2:B:53:A:N7	2.41	0.45
3:D:105:ILE:HG23	3:D:106:ILE:O	2.15	0.45
6:G:121:ASN:C	6:G:123:ASN:H	2.20	0.45
7:H:151:ILE:O	7:H:152:ARG:O	2.34	0.45
7:H:89:ILE:H	7:H:89:ILE:HD13	1.81	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:129:PRO:C	9:N:131:GLN:H	2.20	0.45
10:O:104:ARG:HG2	10:O:121:VAL:HG12	1.97	0.45
12:Q:30:GLY:CA	12:Q:107:ALA:HB2	2.39	0.45
12:Q:63:LYS:HE2	12:Q:65:PHE:CZ	2.51	0.45
12:Q:85:LYS:HD3	12:Q:86:GLY:H	1.81	0.45
12:Q:87:LYS:HG2	12:Q:87:LYS:O	2.15	0.45
15:T:24:PRO:HD3	15:T:52:ILE:HD12	1.98	0.45
16:U:57:PHE:O	16:U:59:ARG:N	2.50	0.45
16:U:79:PHE:CE2	16:U:83:LEU:HD13	2.52	0.45
18:W:28:SER:C	18:W:30:GLU:N	2.70	0.45
19:X:35:THR:O	19:X:36:LYS:C	2.55	0.45
20:Y:47:LYS:O	20:Y:49:VAL:N	2.48	0.45
27:5:54:GLY:O	27:5:55:ARG:C	2.54	0.45
1:A:1047:G:H2'	1:A:1110:G:H1	1.81	0.45
1:A:942:G:O2'	1:A:1189:A:N3	2.40	0.45
1:A:1534:G:H2'	1:A:1534:G:N3	2.32	0.45
1:A:2012:G:H4'	18:W:96:ILE:HD11	1.98	0.45
1:A:207:A:H2'	1:A:208:C:O4'	2.15	0.45
1:A:2350:C:H5	30:8:42:ARG:NH1	2.15	0.45
1:A:2354:G:O2'	22:0:36:ILE:HG23	2.16	0.45
1:A:270(B):A:N7	1:A:270(X):G:N2	2.63	0.45
1:A:270(T):G:H5''	23:1:97:LEU:CD2	2.32	0.45
1:A:831:G:H2'	1:A:832:G:O4'	2.17	0.45
3:D:145:VAL:HB	3:D:155:LEU:HB2	1.99	0.45
3:D:198:ASN:C	3:D:198:ASN:ND2	2.69	0.45
4:E:21:VAL:HG23	4:E:22:PRO:CD	2.46	0.45
9:N:22:THR:O	9:N:60:ILE:HG22	2.16	0.45
12:Q:81:VAL:HG23	12:Q:82:ARG:N	2.32	0.45
15:T:36:GLU:CG	15:T:41:ARG:HD3	2.46	0.45
16:U:92:ARG:C	16:U:94:ASN:N	2.69	0.45
18:W:34:ASN:O	18:W:35:ILE:C	2.55	0.45
18:W:40:ASN:C	18:W:41:LYS:HG2	2.36	0.45
20:Y:75:ILE:HA	20:Y:80:GLY:HA2	1.99	0.45
20:Y:81:LYS:CD	20:Y:97:ARG:HE	2.20	0.45
1:A:2015:A:N3	27:5:2:ALA:N	2.65	0.45
28:6:20:ASN:O	28:6:21:TYR:HB2	2.15	0.45
1:A:1354:A:OP1	3:D:38:LYS:HE2	2.17	0.45
2:B:15:A:H5'	2:B:16:G:C8	2.51	0.45
3:D:148:GLU:HB2	3:D:151:LYS:HD2	1.98	0.45
3:D:166:GLN:CA	3:D:166:GLN:NE2	2.78	0.45
3:D:2:ALA:HB1	3:D:20:ASP:CB	2.46	0.45
3:D:31:LYS:C	3:D:32:SER:O	2.54	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:1:MET:HA	4:E:200:GLU:OE2	2.16	0.45
1:A:451:C:H4'	5:F:52:LYS:NZ	2.32	0.45
7:H:94:TYR:CD1	7:H:94:TYR:N	2.82	0.45
11:P:31:ALA:C	11:P:32:THR:CG2	2.85	0.45
12:Q:5:ARG:O	12:Q:6:ARG:O	2.35	0.45
14:S:5:THR:OG1	14:S:8:GLU:HG3	2.17	0.45
14:S:74:ALA:O	14:S:75:GLU:C	2.54	0.45
15:T:6:LEU:O	15:T:10:VAL:HG23	2.16	0.45
20:Y:36:ALA:HB1	20:Y:67:LEU:O	2.16	0.45
27:5:16:ARG:O	27:5:20:ARG:HG3	2.16	0.45
30:8:48:PHE:HD1	30:8:48:PHE:N	2.14	0.45
1:A:2054:A:H5''	1:A:2055:C:O5'	2.15	0.45
1:A:492:A:H2'	1:A:493:G:O4'	2.16	0.45
1:A:888:C:O2'	1:A:889:C:H4'	2.15	0.45
3:D:65:ILE:HD11	3:D:67:PHE:CE1	2.51	0.45
4:E:22:PRO:CG	4:E:22:PRO:O	2.63	0.45
6:G:14:GLU:HB3	6:G:15:VAL:H	1.56	0.45
6:G:51:ARG:NH2	6:G:52:ILE:HD11	2.32	0.45
7:H:106:THR:HG22	7:H:112:PRO:HB3	1.97	0.45
7:H:109:PHE:CE1	7:H:152:ARG:NH1	2.85	0.45
9:N:128:HIS:HB2	9:N:129:PRO:CD	2.46	0.45
9:N:5:VAL:O	9:N:5:VAL:HG13	2.16	0.45
10:O:47:ILE:HG13	10:O:48:PRO:HD2	1.99	0.45
11:P:92:GLU:HA	11:P:123:LEU:HD23	1.98	0.45
11:P:21:ARG:HA	11:P:21:ARG:HE	1.82	0.45
1:A:389:G:H22	11:P:72:PRO:CG	2.29	0.45
12:Q:93:TYR:CD1	12:Q:93:TYR:N	2.85	0.45
18:W:48:ALA:O	18:W:49:LYS:C	2.54	0.45
23:1:82:LEU:HD13	23:1:83:GLU:C	2.35	0.45
24:2:28:LYS:HB3	24:2:57:ILE:HG12	1.97	0.45
25:3:28:LEU:HA	25:3:33:GLN:OE1	2.16	0.45
27:5:15:ARG:HA	27:5:18:ALA:HB3	1.99	0.45
27:5:36:CYS:C	27:5:38:ALA:H	2.19	0.45
28:6:11:LEU:H	28:6:25:LYS:HA	1.81	0.45
1:A:1079:C:O4'	1:A:1088:A:N6	2.49	0.45
1:A:1152:C:H2'	1:A:1153:C:C6	2.51	0.45
1:A:49:A:H61	1:A:177:G:H2'	1.82	0.45
1:A:2124:G:C2	1:A:2125:G:H1'	2.52	0.45
1:A:2410:G:C2	1:A:2411:A:H1'	2.51	0.45
6:G:20:ILE:HD13	6:G:25:TYR:HB2	1.98	0.45
7:H:86:GLU:O	7:H:87:LEU:CB	2.64	0.45
9:N:35:ARG:HG3	9:N:35:ARG:O	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:96:GLU:O	9:N:99:LEU:N	2.34	0.45
10:O:40:VAL:CG1	10:O:41:ALA:N	2.80	0.45
11:P:62:LEU:H	11:P:62:LEU:CD2	2.19	0.45
11:P:81:GLN:CD	11:P:106:LEU:O	2.55	0.45
11:P:88:LEU:O	11:P:90:ARG:N	2.50	0.45
16:U:53:ARG:C	16:U:55:ARG:H	2.19	0.45
16:U:73:GLY:O	16:U:74:LEU:CB	2.63	0.45
16:U:76:TYR:C	16:U:76:TYR:CD2	2.90	0.45
1:A:997:G:OP1	16:U:93:LYS:HD3	2.17	0.45
21:Z:69:THR:HG22	21:Z:90:VAL:HG13	1.98	0.45
22:O:50:ASN:HB3	22:O:63:VAL:HG22	1.99	0.45
23:1:73:LEU:C	23:1:75:GLU:N	2.70	0.45
28:6:17:LYS:O	28:6:18:ARG:CB	2.64	0.45
30:8:16:ILE:CD1	30:8:57:ARG:HG2	2.42	0.45
1:A:1179:C:H2'	1:A:1180:C:O4'	2.17	0.45
1:A:1257:C:H5'	5:F:75:HIS:CE1	2.52	0.45
1:A:1309:G:OP1	29:7:9:ARG:HD3	2.16	0.45
1:A:1266:G:O2'	1:A:2012:G:O6	2.26	0.45
1:A:2174:C:H2'	1:A:2175:C:C6	2.52	0.45
1:A:2286:A:H2'	28:6:31:PRO:HG2	1.97	0.45
3:D:118:VAL:O	3:D:129:ASN:HA	2.16	0.45
3:D:14:ARG:HG3	3:D:15:PHE:N	2.31	0.45
3:D:213:ARG:HD2	3:D:213:ARG:HA	1.60	0.45
1:A:2591:C:OP2	3:D:238:GLY:HA3	2.17	0.45
3:D:36:PRO:HB3	3:D:62:TYR:O	2.16	0.45
4:E:2:LYS:O	4:E:199:ARG:HA	2.17	0.45
5:F:184:TYR:CE2	5:F:188:ARG:HD2	2.52	0.45
6:G:102:PHE:HA	6:G:105:LYS:HE3	1.98	0.45
6:G:36:LYS:O	6:G:37:VAL:HG23	2.15	0.45
11:P:144:GLU:N	11:P:144:GLU:OE1	2.48	0.45
12:Q:11:LYS:HE2	12:Q:87:LYS:HA	1.98	0.45
16:U:79:PHE:HD2	16:U:79:PHE:C	2.18	0.45
17:V:59:ALA:HB2	17:V:96:ILE:HD13	1.97	0.45
18:W:14:PRO:O	18:W:16:LYS:N	2.50	0.45
18:W:65:LEU:CD1	18:W:68:ARG:NH1	2.75	0.45
21:Z:102:LEU:HB3	21:Z:104:PHE:CE1	2.51	0.45
28:6:11:LEU:HD11	28:6:51:GLU:HG3	1.98	0.45
1:A:2344:U:N3	28:6:37:ARG:HD3	2.30	0.45
1:A:638:G:H2'	1:A:639:U:O4'	2.16	0.45
1:A:678:C:H2'	1:A:679:C:C6	2.52	0.45
3:D:109:ASP:HB2	3:D:197:GLY:CA	2.46	0.45
3:D:68:LYS:HD2	3:D:70:TRP:CZ2	2.52	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:92:ILE:HD12	3:D:104:TYR:HD2	1.81	0.45
9:N:57:ALA:HA	9:N:60:ILE:CD1	2.43	0.45
11:P:88:LEU:HD23	11:P:88:LEU:C	2.37	0.45
11:P:96:THR:HG22	11:P:126:VAL:CB	2.47	0.45
16:U:97:ASP:HA	16:U:100:VAL:CG2	2.47	0.45
19:X:47:PHE:O	19:X:48:LYS:C	2.55	0.45
20:Y:2:ARG:O	20:Y:3:VAL:C	2.55	0.45
20:Y:73:ARG:HB3	20:Y:73:ARG:HE	1.51	0.45
20:Y:84:ARG:HD3	20:Y:86:ARG:HH11	1.82	0.45
23:1:49:VAL:HG12	23:1:51:VAL:HG23	1.99	0.45
23:1:80:LEU:CB	23:1:81:LYS:HE2	2.44	0.45
1:A:1449:A:HO2'	1:A:1530:G:N2	2.11	0.45
1:A:1728:G:H3'	1:A:1729:A:H5''	1.98	0.45
1:A:1678:G:N2	1:A:1989:G:H22	2.13	0.45
3:D:198:ASN:O	3:D:198:ASN:ND2	2.50	0.45
3:D:44:ASN:HB2	3:D:49:ILE:HA	1.93	0.45
3:D:79:VAL:HG21	3:D:111:LEU:HD21	1.97	0.45
1:A:2635:C:H5''	4:E:78:LEU:HA	1.98	0.45
5:F:123:LEU:HD12	5:F:124:LEU:H	1.82	0.45
5:F:155:LEU:HA	5:F:174:VAL:CG1	2.46	0.45
9:N:118:LYS:C	9:N:120:LEU:H	2.21	0.45
11:P:115:LEU:CB	11:P:131:SER:HB2	2.47	0.45
13:R:17:ARG:O	13:R:20:LEU:HB3	2.17	0.45
17:V:5:VAL:HG13	17:V:14:VAL:HG21	1.98	0.45
17:V:69:LYS:HG3	17:V:87:HIS:O	2.17	0.45
17:V:61:VAL:HA	17:V:94:LEU:HD23	1.97	0.45
23:1:48:LYS:HA	23:1:60:PHE:O	2.17	0.45
23:1:60:PHE:HZ	23:1:90:ILE:HG21	1.82	0.45
30:8:36:LYS:HB3	30:8:40:GLU:HG2	1.99	0.45
30:8:9:GLY:O	30:8:13:ARG:HG2	2.16	0.45
1:A:1819:A:H4'	1:A:1820:U:O5'	2.16	0.45
1:A:1993:U:H4'	4:E:128:SER:OG	2.17	0.45
1:A:2477:C:H2'	31:9:1:MET:HG3	1.98	0.45
1:A:38:A:N3	5:F:48:THR:OG1	2.48	0.45
3:D:241:PRO:O	3:D:242:ARG:C	2.55	0.45
4:E:2:LYS:HG2	4:E:95:ILE:HG22	1.99	0.45
4:E:36:ARG:HH11	4:E:36:ARG:CB	2.28	0.45
4:E:77:ILE:O	4:E:78:LEU:O	2.35	0.45
5:F:119:ARG:HH11	5:F:119:ARG:CG	2.29	0.45
5:F:196:LEU:O	5:F:200:GLU:HG2	2.17	0.45
6:G:129:GLY:O	6:G:130:ASN:OD1	2.34	0.45
8:I:2:LYS:HA	8:I:20:ASP:HA	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:4:ILE:HG22	8:I:16:GLY:HA2	1.98	0.45
10:O:2:ILE:HD11	10:O:82:ASN:ND2	2.16	0.45
11:P:115:LEU:HA	11:P:134:ALA:CB	2.47	0.45
12:Q:90:VAL:C	12:Q:92:GLY:N	2.70	0.45
17:V:5:VAL:HG22	17:V:14:VAL:CG2	2.46	0.45
17:V:4:ILE:HG22	17:V:39:LEU:HD23	1.98	0.45
18:W:67:ASP:N	18:W:67:ASP:OD2	2.50	0.45
22:O:11:ARG:HG3	22:O:11:ARG:H	1.53	0.44
6:G:67:LYS:CE	26:4:6:HIS:NE2	2.74	0.44
28:6:9:LEU:CD1	28:6:26:ASN:ND2	2.80	0.44
29:7:24:THR:O	29:7:28:ARG:HG3	2.16	0.44
1:A:1340:U:OP2	19:X:78:LYS:NZ	2.45	0.44
1:A:1853:A:H2'	1:A:1854:A:C8	2.52	0.44
1:A:2590:A:H2'	1:A:2591:C:C6	2.52	0.44
1:A:29:U:H2'	1:A:30:G:C8	2.52	0.44
1:A:537:C:O2	9:N:45:ASN:ND2	2.50	0.44
1:A:675:A:OP1	5:F:63:LYS:NZ	2.48	0.44
2:B:16:G:H2'	2:B:17:C:H6	1.81	0.44
2:B:79:C:H2'	2:B:80:U:O4'	2.17	0.44
3:D:145:VAL:HG12	3:D:146:GLU:N	2.32	0.44
3:D:166:GLN:HA	3:D:166:GLN:NE2	2.32	0.44
3:D:176:ARG:HH11	3:D:176:ARG:CG	2.30	0.44
3:D:48:ARG:HG3	3:D:48:ARG:NH1	2.31	0.44
6:G:16:ARG:CZ	6:G:31:VAL:HG11	2.47	0.44
6:G:44:GLY:HA2	6:G:88:ILE:HD11	1.99	0.44
7:H:53:GLU:OE1	7:H:53:GLU:HA	2.16	0.44
1:A:558:G:P	9:N:111:PRO:HD2	2.56	0.44
10:O:19:ILE:HD13	10:O:19:ILE:H	1.82	0.44
10:O:78:ARG:HH21	15:T:103:ARG:HH22	1.64	0.44
12:Q:10:ARG:O	12:Q:11:LYS:CB	2.64	0.44
12:Q:119:ARG:CG	12:Q:119:ARG:HH11	2.25	0.44
13:R:10:LEU:O	13:R:11:ASN:C	2.55	0.44
16:U:86:ALA:CB	16:U:88:ILE:HD11	2.48	0.44
18:W:21:VAL:HG12	18:W:21:VAL:O	2.17	0.44
21:Z:60:GLU:HA	21:Z:66:SER:HA	1.99	0.44
27:5:56:LYS:O	27:5:58:LEU:N	2.50	0.44
30:8:15:LYS:C	30:8:15:LYS:HD3	2.37	0.44
30:8:17:THR:O	30:8:20:GLY:N	2.46	0.44
30:8:47:LYS:HD2	30:8:48:PHE:N	2.33	0.44
1:A:971:C:H2'	1:A:972:G:O4'	2.17	0.44
5:F:7:TYR:CD1	5:F:7:TYR:N	2.85	0.44
6:G:6:ALA:HB3	6:G:104:GLU:OE2	2.16	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:149:ARG:HA	7:H:162:ILE:HG21	1.99	0.44
7:H:7:LEU:HD12	7:H:7:LEU:C	2.37	0.44
10:O:22:ILE:HG12	10:O:41:ALA:HA	1.98	0.44
1:A:662:G:H5'	11:P:15:ARG:HA	1.97	0.44
1:A:2377:A:H2	14:S:18:ILE:HD11	1.83	0.44
18:W:74:ALA:O	18:W:75:TYR:CB	2.65	0.44
23:1:54:ALA:O	23:1:55:GLY:O	2.35	0.44
23:1:94:LEU:O	23:1:95:LEU:HB2	2.18	0.44
24:2:41:ILE:HD12	24:2:41:ILE:O	2.16	0.44
26:4:15:ILE:CD1	26:4:15:ILE:N	2.78	0.44
26:4:68:ARG:HH11	26:4:69:LYS:HG2	1.82	0.44
1:A:2014:A:HO2'	27:5:2:ALA:HB2	1.80	0.44
1:A:1005:C:O2'	9:N:28:THR:HG21	2.16	0.44
1:A:1058:G:N2	1:A:1080:C:O2	2.42	0.44
1:A:1106:G:H2'	1:A:1107:G:H8	1.83	0.44
1:A:2328:A:H2'	1:A:2329:G:C8	2.52	0.44
1:A:2329:G:H2'	1:A:2330:G:C8	2.51	0.44
1:A:2723:C:OP1	13:R:3:HIS:HD2	2.00	0.44
1:A:298:G:H5''	1:A:299:A:OP1	2.17	0.44
1:A:639:U:H2'	1:A:640:C:C6	2.52	0.44
1:A:861:A:H2'	1:A:862:G:O4'	2.18	0.44
3:D:143:HIS:HD2	3:D:144:ALA:HB2	1.83	0.44
4:E:101:ARG:HD2	4:E:171:GLU:HA	1.98	0.44
7:H:51:ARG:NH1	7:H:51:ARG:HG3	2.30	0.44
9:N:36:GLY:O	9:N:42:TRP:CE3	2.69	0.44
11:P:75:ILE:HG12	11:P:77:ARG:HH12	1.82	0.44
14:S:78:LEU:HD21	14:S:108:GLY:CA	2.47	0.44
14:S:3:ARG:O	14:S:4:LEU:O	2.35	0.44
10:O:104:ARG:NH2	15:T:34:VAL:HG11	2.32	0.44
15:T:49:VAL:CG1	15:T:49:VAL:O	2.64	0.44
16:U:66:ASN:CB	16:U:76:TYR:HB2	2.44	0.44
18:W:29:LEU:HD11	18:W:55:ALA:HB2	1.98	0.44
19:X:70:LEU:HD23	19:X:70:LEU:H	1.77	0.44
23:1:10:LYS:HD2	23:1:66:HIS:HE1	1.82	0.44
26:4:15:ILE:CG2	26:4:20:ASN:ND2	2.81	0.44
29:7:32:LYS:O	29:7:33:ARG:C	2.56	0.44
1:A:1588:C:H2'	1:A:1589:C:C6	2.52	0.44
1:A:1593:G:H3'	1:A:1594:G:H8	1.83	0.44
1:A:2206:C:H2'	1:A:2207:C:H6	1.83	0.44
1:A:2875:C:H4'	15:T:5:ALA:HB2	1.99	0.44
1:A:1491:G:O2'	3:D:101:GLU:HB2	2.18	0.44
3:D:155:LEU:HD12	3:D:155:LEU:N	2.32	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:4:ILE:HG12	4:E:91:VAL:HG11	1.99	0.44
5:F:132:VAL:HG23	5:F:133:ASN:H	1.82	0.44
5:F:174:VAL:CG1	5:F:174:VAL:O	2.65	0.44
5:F:117:ARG:NH2	5:F:189:THR:O	2.50	0.44
7:H:84:SER:OG	7:H:85:LYS:N	2.51	0.44
9:N:120:LEU:C	9:N:120:LEU:HD13	2.37	0.44
9:N:67:LEU:HA	9:N:87:LEU:HD13	2.00	0.44
15:T:135:ALA:C	15:T:137:LYS:N	2.71	0.44
17:V:61:VAL:HG22	17:V:61:VAL:O	2.16	0.44
20:Y:88:LYS:HB3	20:Y:90:LEU:CD2	2.48	0.44
20:Y:95:LYS:HB2	20:Y:99:CYS:O	2.18	0.44
1:A:1274:A:N3	1:A:1297:C:H1'	2.33	0.44
1:A:2313:C:H2'	1:A:2314:C:C6	2.53	0.44
2:B:70:C:H42	2:B:106:G:H1	1.66	0.44
3:D:30:GLU:CD	3:D:63:ARG:HE	2.21	0.44
4:E:143:ASN:ND2	4:E:143:ASN:N	2.65	0.44
9:N:57:ALA:O	9:N:124:ALA:HA	2.18	0.44
9:N:20:GLY:HA2	9:N:61:ARG:HD2	1.99	0.44
9:N:7:LYS:HD3	9:N:9:VAL:H	1.81	0.44
11:P:45:LEU:N	11:P:45:LEU:HD12	2.32	0.44
17:V:35:LEU:N	17:V:35:LEU:HD22	2.23	0.44
18:W:88:ARG:HG2	18:W:88:ARG:HH11	1.82	0.44
19:X:87:GLN:HE21	19:X:87:GLN:HB2	1.55	0.44
21:Z:165:VAL:HG11	21:Z:169:GLU:HB2	1.98	0.44
21:Z:61:LEU:HB2	21:Z:65:GLN:HB2	2.00	0.44
1:A:2396:G:H1'	23:1:30:VAL:HG13	1.99	0.44
25:3:50:VAL:HB	25:3:53:LEU:HD12	2.00	0.44
27:5:52:TYR:N	27:5:52:TYR:CD1	2.85	0.44
1:A:2469:A:H4'	1:A:2469:A:OP1	2.17	0.44
1:A:954:G:OP1	12:Q:15:GLY:N	2.41	0.44
3:D:12:SER:C	3:D:14:ARG:N	2.70	0.44
3:D:30:GLU:HG3	3:D:63:ARG:NE	2.32	0.44
3:D:52:ARG:HB2	3:D:53:PHE:CD2	2.53	0.44
3:D:95:LEU:HD12	3:D:95:LEU:O	2.17	0.44
2:B:43:C:O2	6:G:93:THR:HB	2.17	0.44
9:N:96:GLU:CG	9:N:97:ARG:N	2.72	0.44
10:O:77:ILE:O	10:O:77:ILE:HG23	2.17	0.44
11:P:101:VAL:HA	11:P:106:LEU:HB2	1.99	0.44
11:P:81:GLN:HG3	11:P:82:GLY:N	2.33	0.44
13:R:79:LEU:HD23	13:R:79:LEU:O	2.16	0.44
16:U:52:ARG:NH1	16:U:52:ARG:CG	2.76	0.44
21:Z:157:LEU:HA	21:Z:158:PRO:HD2	1.72	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:8:SER:CB	23:1:66:HIS:CE1	3.01	0.44
24:2:4:SER:OG	24:2:5:GLU:OE2	2.26	0.44
27:5:3:LYS:O	27:5:4:HIS:C	2.56	0.44
28:6:34:LEU:O	28:6:36:LEU:HD22	2.17	0.44
29:7:48:LYS:CG	29:7:49:ARG:H	2.23	0.44
1:A:242:G:O3'	30:8:6:THR:HG23	2.18	0.44
1:A:103:A:OP2	1:A:103:A:C8	2.70	0.44
1:A:1651:G:H2'	1:A:1652:A:O4'	2.18	0.44
1:A:1655:A:O3'	4:E:115:GLY:HA3	2.17	0.44
1:A:2168:G:H2'	1:A:2168:G:N3	2.33	0.44
1:A:2740:A:C6	1:A:2741:A:C6	3.06	0.44
3:D:12:SER:O	3:D:14:ARG:N	2.51	0.44
5:F:65:TRP:CZ2	5:F:72:ARG:NH2	2.86	0.44
6:G:129:GLY:HA2	6:G:169:ALA:HB2	1.99	0.44
8:I:99:GLU:OE2	8:I:103:ARG:NH2	2.28	0.44
10:O:91:LEU:N	10:O:91:LEU:CD2	2.80	0.44
11:P:83:VAL:HG11	11:P:112:LEU:HD21	1.97	0.44
13:R:3:HIS:C	13:R:5:LYS:H	2.17	0.44
20:Y:97:ARG:HH11	20:Y:97:ARG:HG2	1.82	0.44
26:4:33:VAL:CG1	26:4:34:GLU:H	2.22	0.44
26:4:39:CYS:HB3	26:4:41:PRO:HD2	2.00	0.44
1:A:2041:U:H2'	1:A:2042:A:C8	2.52	0.44
1:A:330:A:H2	1:A:1210:A:H2'	1.82	0.44
1:A:856:C:O2'	1:A:857:C:OP1	2.32	0.44
3:D:11:PRO:O	3:D:12:SER:CB	2.65	0.44
3:D:155:LEU:HD23	3:D:177:LEU:HD21	2.00	0.44
3:D:237:GLU:HB3	3:D:238:GLY:H	1.49	0.44
3:D:25:THR:O	3:D:25:THR:CG2	2.65	0.44
3:D:44:ASN:H	3:D:44:ASN:ND2	1.97	0.44
3:D:45:ASN:CG	3:D:46:GLN:N	2.68	0.44
4:E:11:MET:O	4:E:12:THR:HB	2.18	0.44
4:E:13:ARG:HH11	4:E:13:ARG:HB3	1.82	0.44
1:A:2572:A:N7	4:E:145:LYS:HB2	2.33	0.44
4:E:199:ARG:HH11	4:E:199:ARG:HG3	1.82	0.44
2:B:55:U:HO2'	6:G:29:TRP:HE1	1.64	0.44
6:G:67:LYS:N	6:G:67:LYS:HD2	2.33	0.44
7:H:119:GLU:CD	7:H:120:GLY:H	2.22	0.44
9:N:114:ARG:O	9:N:115:ARG:CB	2.65	0.44
10:O:104:ARG:NH1	15:T:36:GLU:CD	2.71	0.44
13:R:12:ARG:NH1	13:R:12:ARG:HG3	2.32	0.44
13:R:33:ARG:HA	13:R:114:VAL:O	2.18	0.44
13:R:41:ALA:C	13:R:43:GLU:H	2.21	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:79:PHE:CE2	16:U:83:LEU:CD1	3.00	0.44
17:V:72:VAL:HG13	17:V:85:LYS:HB3	2.00	0.44
19:X:14:SER:HB2	19:X:15:GLU:OE1	2.18	0.44
20:Y:15:VAL:HB	20:Y:20:TYR:O	2.17	0.44
26:4:48:ARG:C	26:4:49:PHE:HD1	2.22	0.44
30:8:40:GLU:O	30:8:43:GLN:N	2.50	0.44
1:A:1093:G:OP1	7:H:170:ARG:HD2	2.18	0.44
1:A:1210:A:H4'	1:A:1211:U:O5'	2.18	0.44
1:A:1594:G:H2'	1:A:1595:G:C8	2.53	0.44
1:A:2242:G:H2'	1:A:2243:U:O4'	2.18	0.44
1:A:2271:G:OP1	22:0:18:ALA:HB1	2.18	0.44
1:A:2292:C:H2'	1:A:2293:C:C6	2.52	0.44
1:A:2863:C:H2'	1:A:2864:G:C8	2.53	0.44
1:A:712:G:H1	1:A:719:C:H42	1.66	0.44
1:A:898:C:C2'	1:A:899:A:H5'	2.46	0.44
2:B:89:G:H2'	2:B:89(A):A:C8	2.53	0.44
3:D:10:THR:O	3:D:11:PRO:C	2.56	0.44
3:D:206:LEU:HA	3:D:206:LEU:HD23	1.49	0.44
4:E:52:LEU:HB2	4:E:75:VAL:CG2	2.40	0.44
7:H:109:PHE:C	7:H:111:HIS:H	2.21	0.44
7:H:125:VAL:CG1	7:H:126:PRO:CG	2.94	0.44
10:O:63:VAL:O	10:O:63:VAL:HG23	2.18	0.44
12:Q:34:LEU:HB2	12:Q:118:LEU:HD22	1.99	0.44
14:S:78:LEU:HD21	14:S:108:GLY:HA2	1.99	0.44
14:S:110:LEU:HA	14:S:112:PHE:CE1	2.52	0.44
14:S:38:GLN:CG	14:S:47:THR:HG21	2.48	0.44
14:S:86:ALA:O	14:S:87:PHE:CB	2.65	0.44
15:T:105:LEU:C	15:T:107:ASP:OD1	2.56	0.44
15:T:114:LEU:HA	15:T:114:LEU:HD23	1.74	0.44
18:W:14:PRO:HB3	18:W:18:ARG:HE	1.83	0.44
19:X:3:THR:HA	19:X:6:ASP:OD2	2.18	0.44
23:1:80:LEU:O	23:1:81:LYS:CD	2.65	0.43
26:4:39:CYS:O	26:4:40:HIS:CB	2.66	0.43
26:4:42:PHE:C	26:4:42:PHE:CD1	2.90	0.43
28:6:15:GLU:HB3	28:6:16:CYS:H	1.46	0.43
28:6:11:LEU:HD12	28:6:51:GLU:HG3	2.00	0.43
28:6:7:ILE:HG23	28:6:8:LYS:N	2.32	0.43
30:8:58:ILE:O	30:8:61:LEU:CG	2.66	0.43
1:A:2477:C:H2'	31:9:1:MET:CG	2.48	0.43
1:A:1116:C:H2'	1:A:1117:G:H8	1.82	0.43
1:A:271(C):U:H4'	1:A:271:G:OP2	2.17	0.43
1:A:507:A:C5'	1:A:508:G:H5'	2.48	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:102:LYS:O	3:D:103:ARG:CG	2.66	0.43
1:A:2729:G:C1'	4:E:187:ALA:HB2	2.36	0.43
4:E:3:GLY:CA	4:E:81:ILE:HG21	2.48	0.43
5:F:24:LEU:HD12	5:F:24:LEU:N	2.33	0.43
12:Q:27:VAL:HG13	12:Q:28:ALA:N	2.32	0.43
15:T:111:ARG:C	15:T:113:LYS:N	2.64	0.43
15:T:29:ARG:HA	15:T:45:PHE:O	2.17	0.43
15:T:99:LEU:CD1	15:T:99:LEU:O	2.65	0.43
18:W:70:TYR:HD2	18:W:70:TYR:N	2.06	0.43
20:Y:11:ASP:HB2	20:Y:27:VAL:CG1	2.46	0.43
20:Y:25:GLY:HA3	20:Y:39:VAL:CG1	2.47	0.43
20:Y:48:ALA:CB	20:Y:61:ILE:HD13	2.45	0.43
22:O:41:ARG:HE	22:O:41:ARG:HA	1.82	0.43
28:6:20:ASN:O	28:6:21:TYR:CG	2.71	0.43
1:A:1422:G:C6	1:A:1423:G:C5	3.06	0.43
1:A:1313:U:H2'	1:A:1610:A:C2	2.53	0.43
1:A:1871:A:H2'	1:A:1872:A:C8	2.53	0.43
2:B:34:U:O4	2:B:44:G:H2'	2.17	0.43
2:B:44:G:O2'	2:B:48:A:N6	2.51	0.43
3:D:227:ASN:CB	3:D:228:PRO:CD	2.93	0.43
4:E:31:CYS:HB3	4:E:49:LEU:HG	2.01	0.43
4:E:51:PHE:CD1	4:E:52:LEU:N	2.76	0.43
5:F:167:ALA:HB1	5:F:173:VAL:HG11	1.99	0.43
7:H:136:ILE:HD12	7:H:136:ILE:N	2.31	0.43
9:N:30:ILE:HG22	9:N:34:LEU:CD2	2.48	0.43
10:O:97:ARG:HA	10:O:117:LEU:HD22	2.00	0.43
11:P:75:ILE:HG12	11:P:77:ARG:NH1	2.32	0.43
17:V:66:ARG:NH1	17:V:88:ARG:CD	2.74	0.43
19:X:31:HIS:HA	19:X:32:PRO:HD3	1.88	0.43
19:X:7:VAL:O	19:X:30:VAL:CG1	2.67	0.43
20:Y:95:LYS:HA	20:Y:101:LYS:N	2.33	0.43
23:1:53:VAL:CG1	23:1:54:ALA:N	2.81	0.43
23:1:92:LYS:O	23:1:93:GLU:C	2.56	0.43
29:7:5:TRP:CD1	29:7:7:PRO:HG3	2.53	0.43
30:8:58:ILE:O	30:8:61:LEU:CD1	2.67	0.43
1:A:1278:A:OP1	13:R:36:THR:HG22	2.18	0.43
1:A:134:C:H2'	1:A:135:G:H8	1.84	0.43
1:A:1394:U:C4	1:A:1395:A:C6	3.06	0.43
1:A:1598:C:H2'	1:A:1599:C:H6	1.82	0.43
1:A:2593:U:H2'	1:A:2594:C:C6	2.52	0.43
1:A:2659:G:N2	1:A:2662:A:OP2	2.52	0.43
1:A:512:G:O2'	1:A:513:A:P	2.76	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:750:A:OP1	1:A:1615:C:N4	2.50	0.43
4:E:16:ARG:O	4:E:18:ASP:O	2.36	0.43
4:E:36:ARG:NH1	4:E:36:ARG:HB3	2.30	0.43
5:F:101:LEU:HD12	5:F:102:PRO:N	2.33	0.43
5:F:149:ASP:OD2	5:F:151:SER:HB3	2.17	0.43
6:G:139:LEU:HA	6:G:144:ILE:HG21	2.00	0.43
6:G:19:LEU:HA	6:G:22:ARG:HB2	1.99	0.43
6:G:83:ARG:HG3	6:G:86:MET:CE	2.46	0.43
7:H:137:ASP:OD1	7:H:138:LYS:N	2.51	0.43
11:P:101:VAL:HG13	11:P:102:ARG:N	2.33	0.43
11:P:81:GLN:HB2	11:P:81:GLN:HE21	1.59	0.43
13:R:81:ASP:OD2	13:R:81:ASP:N	2.50	0.43
17:V:25:LEU:H	17:V:92:THR:CG2	2.28	0.43
17:V:15:GLU:O	17:V:96:ILE:HB	2.19	0.43
19:X:14:SER:O	19:X:15:GLU:C	2.57	0.43
20:Y:88:LYS:HA	20:Y:88:LYS:HZ2	1.83	0.43
26:4:49:PHE:HD1	26:4:49:PHE:N	2.17	0.43
1:A:2753:A:O2'	31:9:15:LYS:NZ	2.52	0.43
1:A:1184:G:C6	1:A:1185:C:C4	3.06	0.43
1:A:2405:G:O2'	1:A:2406:U:P	2.76	0.43
1:A:302:C:H2'	1:A:303:U:H6	1.83	0.43
1:A:662:G:H5''	11:P:15:ARG:O	2.18	0.43
2:B:116:G:H4'	14:S:54:LEU:HD13	2.00	0.43
2:B:28:C:H2'	2:B:29:A:C8	2.54	0.43
2:B:44:G:H1'	2:B:47:C:H42	1.84	0.43
2:B:66:A:HO2'	2:B:67:G:P	2.41	0.43
3:D:69:ARG:NH2	3:D:130:ALA:HB2	2.19	0.43
4:E:69:LYS:C	4:E:71:GLY:N	2.71	0.43
4:E:52:LEU:O	4:E:74:PRO:HA	2.18	0.43
5:F:144:LYS:C	5:F:146:ALA:H	2.21	0.43
5:F:201:VAL:HG13	5:F:202:PHE:N	2.33	0.43
5:F:63:LYS:CE	5:F:67:GLN:HB2	2.49	0.43
6:G:131:TYR:HE2	6:G:133:LEU:HD22	1.84	0.43
6:G:59:GLU:O	6:G:62:LEU:HB3	2.18	0.43
7:H:92:ILE:CD1	7:H:160:LYS:HD3	2.48	0.43
9:N:103:VAL:O	9:N:104:LYS:C	2.56	0.43
1:A:2882:A:OP1	13:R:96:ARG:NH1	2.52	0.43
16:U:88:ILE:HG22	16:U:90:VAL:CG2	2.44	0.43
26:4:68:ARG:O	26:4:69:LYS:HB2	2.17	0.43
1:A:137(A):G:H2'	1:A:139:G:N7	2.32	0.43
1:A:2250:G:C4	12:Q:82:ARG:HG3	2.54	0.43
1:A:2322:A:H2'	1:A:2323:G:O4'	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:104:A:H2'	2:B:105:G:O4'	2.18	0.43
3:D:17:THR:HG22	3:D:204:ILE:HA	1.98	0.43
8:I:93:THR:HG22	8:I:119:PRO:HB3	2.00	0.43
1:A:1139:G:P	9:N:101:HIS:CE1	3.12	0.43
11:P:107:LYS:HB2	11:P:110:TYR:HD2	1.83	0.43
11:P:70:GLN:OE1	11:P:70:GLN:N	2.51	0.43
14:S:110:LEU:HD23	14:S:112:PHE:CE2	2.53	0.43
14:S:14:VAL:CG1	14:S:15:ARG:N	2.81	0.43
14:S:56:LEU:O	14:S:57:LYS:O	2.36	0.43
14:S:57:LYS:O	14:S:58:LEU:HB3	2.18	0.43
15:T:89:VAL:O	15:T:90:GLN:HB2	2.19	0.43
16:U:64:ARG:NH2	16:U:64:ARG:CG	2.70	0.43
16:U:95:LEU:HD13	17:V:4:ILE:HD12	1.98	0.43
20:Y:6:HIS:N	20:Y:6:HIS:ND1	2.66	0.43
20:Y:81:LYS:HZ2	20:Y:98:VAL:HB	1.83	0.43
12:Q:108:GLY:HA3	21:Z:116:VAL:HG11	1.99	0.43
21:Z:52:SER:OG	21:Z:52:SER:O	2.31	0.43
30:8:40:GLU:O	30:8:41:ILE:C	2.56	0.43
31:9:7:VAL:HG21	31:9:36:GLN:HB2	2.00	0.43
1:A:1041:C:H2'	1:A:1042:G:C8	2.53	0.43
1:A:1772:G:N2	1:A:1774:C:H5'	2.34	0.43
1:A:1882:C:H5'	1:A:1883:G:OP2	2.19	0.43
1:A:2587:A:H8	1:A:2587:A:O5'	2.01	0.43
1:A:2712:U:O2'	1:A:2712(A):A:C8	2.68	0.43
1:A:2839:G:H5'	13:R:46:GLY:CA	2.49	0.43
1:A:288:C:H2'	1:A:289:A:C8	2.52	0.43
1:A:448:U:O4	1:A:583:G:H1'	2.19	0.43
1:A:646:A:H2'	1:A:647:G:O4'	2.18	0.43
1:A:822:U:H2'	1:A:823:G:C8	2.53	0.43
3:D:177:LEU:O	3:D:179:SER:N	2.51	0.43
4:E:120:TRP:CE3	4:E:155:LYS:HD3	2.53	0.43
4:E:51:PHE:O	4:E:74:PRO:CB	2.67	0.43
5:F:62:ARG:CB	5:F:62:ARG:NH1	2.82	0.43
7:H:35:VAL:CG2	7:H:75:ALA:HB2	2.48	0.43
10:O:51:ALA:O	10:O:53:LYS:HE3	2.19	0.43
13:R:54:LEU:O	13:R:62:ALA:HB1	2.19	0.43
15:T:105:LEU:O	15:T:105:LEU:HG	2.19	0.43
15:T:6:LEU:HD12	15:T:9:LEU:HD12	2.00	0.43
1:A:2331:G:O4'	22:0:42:GLY:HA3	2.18	0.43
23:1:44:PRO:O	23:1:46:LEU:N	2.51	0.43
1:A:2056:G:H2'	1:A:2056:G:N3	2.33	0.43
1:A:859:G:O2'	1:A:860:U:P	2.77	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:966:G:C6	1:A:967:C:N4	2.87	0.43
6:G:25:TYR:CZ	6:G:32:PRO:HD3	2.54	0.43
6:G:51:ARG:HB3	6:G:51:ARG:NH1	2.33	0.43
8:I:29:TYR:HD2	8:I:30:LEU:HD23	1.82	0.43
9:N:1:MET:HG3	9:N:1:MET:O	2.19	0.43
9:N:61:ARG:HA	9:N:61:ARG:NE	2.33	0.43
9:N:96:GLU:O	9:N:97:ARG:C	2.57	0.43
11:P:135:LEU:HD13	11:P:139:LYS:HE3	2.01	0.43
15:T:107:ASP:OD2	15:T:109:GLU:HB2	2.18	0.43
15:T:64:ARG:HH11	15:T:64:ARG:HG2	1.83	0.43
26:4:59:PHE:CE1	26:4:70:GLY:N	2.87	0.43
29:7:19:ARG:HG2	29:7:19:ARG:NH1	2.33	0.43
1:A:1657:C:H2'	1:A:1658:C:C6	2.53	0.43
1:A:2552:U:H2'	1:A:2554:U:OP2	2.19	0.43
1:A:2811:G:H8	1:A:2811:G:OP2	2.01	0.43
2:B:15:A:H1'	2:B:109:G:C4	2.54	0.43
3:D:44:ASN:HB3	3:D:49:ILE:CG2	2.47	0.43
3:D:44:ASN:CB	3:D:49:ILE:HG22	2.46	0.43
3:D:76:PRO:O	3:D:98:VAL:CG2	2.65	0.43
4:E:203:LYS:HD2	4:E:203:LYS:C	2.39	0.43
5:F:20:LEU:HD12	5:F:21:ALA:N	2.25	0.43
7:H:6:ARG:CG	7:H:7:LEU:N	2.81	0.43
9:N:42:TRP:HA	9:N:48:MET:HE1	1.99	0.43
11:P:120:ALA:HB1	11:P:138:LEU:CB	2.48	0.43
1:A:389:G:H22	11:P:72:PRO:CD	2.32	0.43
14:S:105:ALA:C	14:S:110:LEU:HD21	2.38	0.43
18:W:19:LEU:O	18:W:22:ASP:HB2	2.19	0.43
20:Y:95:LYS:HZ1	20:Y:95:LYS:HB2	1.82	0.43
21:Z:5:LEU:HB3	21:Z:59:LEU:HD23	2.01	0.43
29:7:17:GLY:O	29:7:20:ALA:HB3	2.18	0.43
30:8:28:GLY:O	30:8:29:LYS:O	2.36	0.43
1:A:1181:C:H2'	1:A:1182:A:H8	1.83	0.43
1:A:155:C:H5'	1:A:161:U:OP2	2.19	0.43
1:A:2540:C:H2'	1:A:2541:A:O4'	2.17	0.43
1:A:2832:U:O2'	1:A:2833:G:P	2.77	0.43
4:E:18:ASP:O	4:E:19:ARG:C	2.56	0.43
4:E:48:GLN:HB3	4:E:48:GLN:HE21	1.55	0.43
5:F:176:LEU:HD11	5:F:180:GLY:O	2.19	0.43
5:F:64:ILE:HG23	5:F:65:TRP:CD1	2.54	0.43
6:G:4:ASP:O	6:G:5:VAL:HB	2.19	0.43
9:N:90:MET:O	9:N:91:LEU:C	2.57	0.43
10:O:17:ARG:HH11	10:O:17:ARG:HG2	1.84	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:61:VAL:O	10:O:61:VAL:HG13	2.18	0.43
11:P:13:ASN:C	11:P:15:ARG:H	2.21	0.43
11:P:52:GLU:OE2	11:P:58:THR:N	2.52	0.43
13:R:10:LEU:O	13:R:12:ARG:N	2.52	0.43
13:R:48:VAL:O	13:R:49:ASP:C	2.57	0.43
14:S:110:LEU:HA	14:S:112:PHE:CZ	2.53	0.43
17:V:72:VAL:O	17:V:72:VAL:HG13	2.19	0.43
18:W:111:HIS:CG	18:W:112:GLY:H	2.37	0.43
18:W:28:SER:O	18:W:30:GLU:N	2.50	0.43
23:1:13:ILE:CG1	23:1:42:GLN:HB2	2.49	0.43
26:4:43:TYR:O	26:4:46:GLN:HA	2.19	0.43
26:4:48:ARG:NH1	26:4:51:ASP:HA	2.34	0.43
1:A:631:A:P	30:8:46:ARG:HH21	2.40	0.43
1:A:1278:A:H2'	1:A:1279:G:C8	2.54	0.43
1:A:1430:C:H2'	1:A:1431:U:H6	1.83	0.43
1:A:1889:A:N1	1:A:2234:G:H1'	2.34	0.43
1:A:2252:G:H2'	1:A:2253:G:O4'	2.19	0.43
1:A:443:A:H1'	1:A:1201:C:O4'	2.19	0.43
1:A:974(A):C:H4'	1:A:975:G:O5'	2.18	0.43
5:F:183:VAL:O	5:F:184:TYR:C	2.57	0.43
6:G:31:VAL:O	6:G:31:VAL:HG13	2.18	0.43
7:H:16:SER:OG	7:H:17:VAL:N	2.50	0.43
7:H:53:GLU:CD	7:H:54:ARG:H	2.21	0.43
11:P:19:VAL:HG22	11:P:21:ARG:H	1.83	0.43
11:P:49:ARG:HH11	11:P:49:ARG:HG2	1.84	0.43
14:S:52:SER:HB2	14:S:55:ALA:CB	2.49	0.43
24:2:62:THR:O	24:2:65:ASN:HB2	2.19	0.42
26:4:22:ILE:CG2	26:4:23:GLU:N	2.81	0.42
28:6:50:ARG:HG2	28:6:50:ARG:HH11	1.84	0.42
1:A:1024:G:C6	1:A:1025:G:C6	3.06	0.42
1:A:1045:A:N3	1:A:1047:G:N2	2.67	0.42
1:A:1510:A:O2'	1:A:1511:A:N7	2.51	0.42
1:A:2377:A:H2'	1:A:2378:A:C8	2.54	0.42
1:A:2481:G:O2'	1:A:2482:G:P	2.77	0.42
1:A:2779:U:O2'	1:A:2781:A:N7	2.52	0.42
1:A:572:A:H5''	1:A:573:G:OP2	2.19	0.42
3:D:71:ASP:CB	3:D:103:ARG:HH22	2.32	0.42
3:D:108:PRO:HG2	3:D:111:LEU:HB2	2.01	0.42
4:E:188:VAL:HA	4:E:189:PRO:HD2	1.79	0.42
4:E:25:VAL:HG21	15:T:8:LYS:HG3	2.00	0.42
4:E:54:GLN:CD	4:E:54:GLN:N	2.73	0.42
9:N:63:THR:HG23	9:N:66:LYS:HE3	2.00	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:87:LEU:C	9:N:87:LEU:CD2	2.86	0.42
10:O:31:LYS:O	10:O:32:TYR:HD2	2.02	0.42
11:P:112:LEU:CD1	11:P:114:ILE:HG23	2.47	0.42
1:A:811:U:O2'	11:P:21:ARG:HG3	2.19	0.42
13:R:2:ARG:HG2	13:R:5:LYS:HZ1	1.82	0.42
13:R:51:LEU:HD13	13:R:66:VAL:HG22	2.01	0.42
16:U:27:LEU:O	16:U:30:LYS:N	2.41	0.42
16:U:98:LEU:O	16:U:102:GLU:N	2.49	0.42
21:Z:177:PRO:HB2	21:Z:178:GLU:H	1.64	0.42
27:5:3:LYS:CE	27:5:3:LYS:HA	2.36	0.42
28:6:33:LYS:C	28:6:35:GLU:H	2.22	0.42
28:6:7:ILE:O	28:6:8:LYS:CG	2.68	0.42
29:7:47:ARG:HB2	29:7:48:LYS:H	1.64	0.42
1:A:1538:G:H2'	1:A:1539:G:H8	1.83	0.42
3:D:134:ARG:HG3	3:D:134:ARG:H	1.55	0.42
3:D:17:THR:HG21	3:D:204:ILE:HA	1.99	0.42
4:E:155:LYS:O	4:E:156:MET:HG3	2.19	0.42
4:E:23:VAL:HG12	4:E:184:VAL:O	2.19	0.42
6:G:114:ILE:O	6:G:116:ASP:N	2.51	0.42
6:G:145:THR:O	6:G:146:TYR:HB3	2.19	0.42
9:N:10:GLU:OE2	9:N:11:PRO:CD	2.67	0.42
9:N:15:LEU:HD13	9:N:15:LEU:C	2.40	0.42
9:N:7:LYS:HD2	9:N:7:LYS:N	2.29	0.42
10:O:2:ILE:CD1	10:O:2:ILE:N	2.82	0.42
11:P:114:ILE:CD1	11:P:130:PHE:CE1	2.98	0.42
13:R:44:LEU:HD23	13:R:44:LEU:HA	1.79	0.42
18:W:88:ARG:CB	18:W:92:ARG:HB3	2.47	0.42
24:2:59:ARG:O	24:2:62:THR:HG23	2.18	0.42
24:2:6:VAL:O	24:2:7:ARG:C	2.57	0.42
1:A:1022:G:O2'	1:A:1023:U:OP2	2.26	0.42
1:A:195:A:H61	1:A:198:C:H3'	1.84	0.42
1:A:2758:A:H2'	1:A:2759:G:O4'	2.19	0.42
3:D:33:LEU:O	3:D:35:LYS:N	2.52	0.42
6:G:41:GLN:NE2	6:G:154:GLY:O	2.52	0.42
9:N:30:ILE:HG22	9:N:34:LEU:HD21	2.01	0.42
14:S:29:PHE:HD2	14:S:92:TYR:HH	1.66	0.42
14:S:95:HIS:O	14:S:96:GLY:C	2.57	0.42
15:T:24:PRO:HA	15:T:49:VAL:CG1	2.39	0.42
15:T:50:ILE:HD11	15:T:102:ILE:HG12	2.01	0.42
16:U:91:ASP:O	16:U:95:LEU:N	2.43	0.42
17:V:44:LYS:HB3	17:V:45:THR:H	1.56	0.42
1:A:1615:C:C2	18:W:87:PRO:HG3	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:8:ARG:NH1	18:W:8:ARG:HG3	2.34	0.42
20:Y:42:VAL:HG11	20:Y:65:ALA:HB3	2.02	0.42
1:A:851:U:O2'	25:3:45:GLY:HA3	2.20	0.42
1:A:1268:A:H2'	1:A:1269:A:O4'	2.20	0.42
1:A:1535:U:N3	1:A:1537:C:H1'	2.35	0.42
1:A:1893:C:H2'	1:A:1894:C:O4'	2.19	0.42
1:A:1930:G:HO2'	1:A:1931:U:P	2.42	0.42
1:A:2415:G:H4'	11:P:66:GLY:C	2.39	0.42
1:A:307:G:H22	1:A:310:A:P	2.42	0.42
1:A:445:C:H5''	16:U:3:ARG:HB2	2.00	0.42
3:D:14:ARG:CG	3:D:15:PHE:N	2.83	0.42
3:D:43:ARG:CZ	3:D:49:ILE:HG21	2.49	0.42
4:E:24:THR:HB	4:E:184:VAL:HG23	2.01	0.42
4:E:3:GLY:HA3	4:E:81:ILE:CD1	2.48	0.42
4:E:35:GLN:HB3	4:E:48:GLN:HB2	2.01	0.42
7:H:120:GLY:O	7:H:136:ILE:HD12	2.19	0.42
7:H:58:GLU:O	7:H:60:ARG:N	2.53	0.42
8:I:113:ARG:HG3	8:I:131:LYS:NZ	2.34	0.42
9:N:26:LEU:HG	9:N:30:ILE:CD1	2.49	0.42
13:R:10:LEU:C	13:R:12:ARG:N	2.72	0.42
13:R:29:LEU:HD11	13:R:48:VAL:CG1	2.50	0.42
16:U:92:ARG:NH2	17:V:11:GLN:O	2.53	0.42
22:0:72:ARG:HB3	22:0:75:LEU:HB2	2.01	0.42
25:3:46:ASN:O	25:3:50:VAL:HG22	2.20	0.42
26:4:54:GLY:HA2	26:4:57:GLU:CG	2.50	0.42
27:5:20:ARG:HA	27:5:23:HIS:CE1	2.54	0.42
1:A:1061:U:H3'	1:A:1062:G:H5''	2.01	0.42
1:A:1497:U:H5''	1:A:1498:C:H5	1.85	0.42
1:A:1860:G:H1	1:A:1882:C:H42	1.67	0.42
1:A:2154:G:H2'	1:A:2155:G:H8	1.82	0.42
1:A:2293:C:H2'	1:A:2294:C:H6	1.84	0.42
1:A:234:C:H2'	1:A:235:U:C6	2.53	0.42
1:A:530:G:HO2'	1:A:2021:C:HO2'	1.60	0.42
1:A:924:C:H2'	1:A:925:C:C6	2.54	0.42
4:E:101:ARG:C	4:E:201:THR:OG1	2.58	0.42
4:E:104:VAL:CG1	4:E:188:VAL:HG23	2.49	0.42
4:E:28:ALA:HB3	4:E:93:VAL:CG2	2.46	0.42
6:G:109:VAL:C	6:G:112:PRO:HD2	2.40	0.42
6:G:121:ASN:HA	6:G:181:ARG:NH2	2.34	0.42
6:G:27:ASN:HB3	6:G:30:GLU:OE2	2.20	0.42
6:G:55:LYS:O	6:G:59:GLU:HB2	2.19	0.42
6:G:63:ILE:HG12	6:G:64:THR:N	2.33	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:136:ILE:O	7:H:137:ASP:O	2.38	0.42
7:H:89:ILE:H	7:H:89:ILE:CD1	2.32	0.42
1:A:1007:C:H5''	9:N:35:ARG:NH1	2.35	0.42
1:A:832:G:P	11:P:38:GLN:HB3	2.60	0.42
15:T:80:SER:HA	15:T:81:PRO:HD3	1.73	0.42
16:U:79:PHE:CD2	16:U:83:LEU:HD13	2.54	0.42
16:U:91:ASP:OD2	16:U:96:ALA:HB2	2.19	0.42
23:1:72:GLU:O	23:1:75:GLU:HB2	2.20	0.42
25:3:37:LEU:HD12	25:3:43:ILE:CG2	2.50	0.42
1:A:1923:U:H2'	1:A:1924:C:C6	2.54	0.42
1:A:2073:C:HO2'	1:A:2598:A:HO2'	1.51	0.42
1:A:2636:U:OP1	4:E:79:ARG:HG3	2.19	0.42
3:D:182:LEU:N	3:D:272:ALA:HB3	2.32	0.42
3:D:33:LEU:HB3	3:D:34:VAL:H	1.48	0.42
4:E:121:ASN:O	4:E:122:PHE:C	2.57	0.42
4:E:143:ASN:HB2	4:E:147:PRO:HD2	2.00	0.42
5:F:132:VAL:CG2	5:F:133:ASN:N	2.80	0.42
5:F:164:ARG:NH1	5:F:164:ARG:HG2	2.34	0.42
7:H:125:VAL:HG12	7:H:126:PRO:CD	2.49	0.42
7:H:26:VAL:CG1	7:H:33:LEU:HB2	2.50	0.42
8:I:21:VAL:HG21	8:I:25:TYR:HD1	1.83	0.42
9:N:75:TYR:HA	9:N:82:LEU:HA	2.01	0.42
11:P:119:GLU:HA	11:P:119:GLU:OE1	2.19	0.42
11:P:115:LEU:HB3	11:P:131:SER:HB2	2.02	0.42
11:P:37:GLY:O	11:P:38:GLN:C	2.58	0.42
1:A:1162:G:H1'	17:V:23:GLU:OE2	2.19	0.42
18:W:71:VAL:HA	18:W:107:LEU:HD12	2.02	0.42
18:W:81:ALA:C	18:W:82:LEU:HD12	2.40	0.42
21:Z:111:VAL:HG13	21:Z:112:ARG:N	2.34	0.42
1:A:380:U:O3'	23:1:16:ASN:HB2	2.20	0.42
1:A:1365:A:OP2	23:1:3:LYS:HB2	2.19	0.42
23:1:60:PHE:HE2	23:1:91:LYS:NZ	2.16	0.42
23:1:74:VAL:O	23:1:74:VAL:CG1	2.64	0.42
1:A:1042:G:H2'	1:A:1043:C:C6	2.55	0.42
1:A:565:C:H4'	1:A:1253:A:C6	2.55	0.42
1:A:2316:C:H2'	1:A:2317:C:C6	2.54	0.42
1:A:2405:G:O2'	1:A:2406:U:OP2	2.33	0.42
9:N:43:THR:HA	9:N:44:PRO:HD2	1.92	0.42
10:O:1:MET:HG2	10:O:67:LYS:HG2	2.01	0.42
10:O:50:GLY:O	10:O:51:ALA:C	2.57	0.42
10:O:97:ARG:CA	10:O:117:LEU:HD22	2.50	0.42
11:P:107:LYS:O	11:P:108:LYS:C	2.57	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:118:LEU:HA	12:Q:118:LEU:HD23	1.87	0.42
12:Q:27:VAL:HG11	12:Q:134:ARG:HG3	2.00	0.42
13:R:55:ALA:HA	13:R:80:PHE:CE2	2.55	0.42
14:S:102:ALA:C	14:S:104:GLY:N	2.73	0.42
15:T:110:ILE:CG2	15:T:111:ARG:N	2.82	0.42
15:T:134:GLU:OE1	15:T:135:ALA:N	2.53	0.42
15:T:3:ARG:O	15:T:4:GLY:C	2.58	0.42
1:A:1228:G:OP1	16:U:13:LYS:HG2	2.20	0.42
18:W:14:PRO:O	18:W:15:ARG:C	2.58	0.42
19:X:54:VAL:C	19:X:55:ASN:HD22	2.23	0.42
20:Y:60:PHE:CD2	20:Y:60:PHE:N	2.87	0.42
28:6:19:ARG:HD2	28:6:19:ARG:HA	1.76	0.42
30:8:56:GLU:C	30:8:58:ILE:N	2.73	0.42
1:A:1032:A:H4'	31:9:16:VAL:HG11	2.01	0.42
1:A:1487:G:H1	1:A:1502:C:H42	1.67	0.42
1:A:1578:U:C2'	1:A:1579:A:H5'	2.49	0.42
1:A:2489:G:N2	1:A:2491:U:O4	2.44	0.42
1:A:813:U:H2'	1:A:814:C:C6	2.55	0.42
2:B:41:U:N3	6:G:70:VAL:HG23	2.34	0.42
3:D:9:TYR:CZ	3:D:13:ARG:HD3	2.54	0.42
3:D:158:ALA:HB3	3:D:161:THR:CG2	2.49	0.42
3:D:165:ILE:O	3:D:166:GLN:NE2	2.53	0.42
3:D:168:ARG:O	3:D:169:GLU:HB2	2.19	0.42
3:D:196:VAL:O	3:D:196:VAL:CG1	2.68	0.42
4:E:10:GLY:HA3	15:T:8:LYS:HD3	2.02	0.42
4:E:117:MET:HA	4:E:122:PHE:N	2.35	0.42
4:E:128:SER:O	4:E:129:HIS:HB2	2.19	0.42
4:E:137:HIS:CB	4:E:138:PRO:HD2	2.42	0.42
5:F:198:ALA:HA	5:F:201:VAL:CG1	2.41	0.42
5:F:63:LYS:HE2	5:F:67:GLN:HB2	2.01	0.42
6:G:16:ARG:NE	6:G:31:VAL:HG11	2.34	0.42
6:G:51:ARG:CB	6:G:51:ARG:NH1	2.83	0.42
9:N:62:VAL:HG12	9:N:66:LYS:HB2	2.01	0.42
11:P:98:GLU:O	11:P:99:LEU:C	2.57	0.42
14:S:51:ALA:HB3	14:S:73:LEU:HD23	2.01	0.42
14:S:83:LYS:HE3	14:S:84:GLN:HG3	2.02	0.42
16:U:97:ASP:HA	16:U:100:VAL:HG23	2.02	0.42
16:U:99:ALA:HA	16:U:106:PHE:HB2	2.01	0.42
17:V:59:ALA:HA	17:V:95:LEU:O	2.19	0.42
20:Y:20:TYR:CE1	20:Y:42:VAL:HA	2.55	0.42
24:2:50:ILE:HG13	24:2:50:ILE:H	1.64	0.42
25:3:37:LEU:HD23	25:3:37:LEU:N	2.35	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:2:LYS:HA	26:4:2:LYS:HD2	1.61	0.42
27:5:56:LYS:O	27:5:57:VAL:C	2.57	0.42
31:9:2:LYS:HD2	31:9:2:LYS:HA	1.93	0.42
1:A:1988:C:H2'	1:A:1989:G:O4'	2.20	0.42
1:A:224:G:O6	1:A:419:C:O2'	2.36	0.42
1:A:1638:C:O3'	1:A:2709:G:N2	2.53	0.42
1:A:302:C:H2'	1:A:303:U:C6	2.55	0.42
4:E:144:ARG:HB3	4:E:145:LYS:H	1.58	0.42
5:F:192:LEU:HD21	5:F:194:MET:HE3	2.02	0.42
6:G:34:LEU:HD11	6:G:99:MET:CE	2.49	0.42
6:G:99:MET:O	6:G:103:LEU:HB2	2.20	0.42
7:H:169:VAL:HG22	7:H:170:ARG:N	2.26	0.42
8:I:128:LEU:HD13	8:I:128:LEU:HA	1.81	0.42
9:N:131:GLN:HE21	9:N:131:GLN:HB3	1.57	0.42
10:O:31:LYS:HD3	10:O:31:LYS:HA	1.92	0.42
12:Q:65:PHE:O	12:Q:66:ILE:CG1	2.48	0.42
14:S:99:LYS:C	14:S:101:LEU:N	2.72	0.42
10:O:71:ARG:HH11	15:T:74:ARG:HH21	1.65	0.42
15:T:89:VAL:O	15:T:90:GLN:CB	2.67	0.42
15:T:96:ARG:CZ	15:T:96:ARG:HB2	2.49	0.42
16:U:39:LEU:O	16:U:42:ALA:N	2.53	0.42
16:U:43:GLY:HA3	17:V:73:SER:OG	2.19	0.42
19:X:60:ARG:HA	19:X:75:ASP:OD2	2.20	0.42
23:1:76:ARG:H	23:1:76:ARG:CD	2.29	0.42
23:1:81:LYS:N	23:1:81:LYS:CD	2.83	0.42
26:4:26:SER:C	26:4:27:THR:O	2.58	0.42
26:4:61:ARG:C	26:4:63:TYR:N	2.73	0.42
26:4:68:ARG:HB2	26:4:69:LYS:H	1.35	0.42
29:7:9:ARG:NH1	29:7:47:ARG:HG3	2.35	0.42
1:A:1022:G:C6	1:A:1140:C:C4	3.08	0.42
1:A:1889:A:H2'	1:A:1890:A:C8	2.55	0.42
1:A:2103:C:H2'	1:A:2104:G:C8	2.55	0.42
1:A:30:G:H2'	1:A:31:C:C6	2.55	0.42
1:A:373:U:H2'	1:A:374:A:C8	2.53	0.42
1:A:564:C:H2'	1:A:565:C:O4'	2.19	0.42
3:D:110:GLY:O	3:D:111:LEU:C	2.59	0.42
4:E:176:ILE:HD12	4:E:176:ILE:N	2.35	0.42
5:F:118:ALA:HA	5:F:123:LEU:HB3	2.02	0.42
5:F:42:ALA:O	5:F:45:ARG:HB2	2.18	0.42
5:F:61:GLY:O	5:F:62:ARG:C	2.58	0.42
6:G:78:SER:O	6:G:80:PHE:N	2.53	0.42
1:A:2653:U:O2'	7:H:110:SER:HB2	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:128:PRO:CG	7:H:129:THR:H	2.33	0.42
7:H:66:GLY:O	7:H:67:LEU:C	2.58	0.42
7:H:86:GLU:CD	7:H:86:GLU:H	2.16	0.42
9:N:114:ARG:C	9:N:116:LEU:N	2.74	0.42
9:N:27:ALA:O	9:N:28:THR:C	2.57	0.42
10:O:16:ALA:HA	10:O:46:ALA:CB	2.50	0.42
11:P:144:GLU:HA	11:P:145:PRO:HD3	1.76	0.42
5:F:34:TRP:CA	11:P:6:LEU:HD12	2.46	0.42
14:S:99:LYS:HE2	14:S:103:GLU:OE2	2.20	0.42
14:S:83:LYS:HE3	14:S:84:GLN:CG	2.50	0.42
17:V:35:LEU:HB2	17:V:37:VAL:CG2	2.49	0.42
17:V:21:ARG:HD2	17:V:91:TYR:CE2	2.55	0.42
21:Z:28:MET:SD	21:Z:37:VAL:HG11	2.60	0.42
21:Z:71:VAL:HB	21:Z:88:PHE:CE2	2.55	0.42
26:4:38:LYS:HG3	26:4:44:THR:OG1	2.20	0.41
27:5:40:LYS:HE2	27:5:47:PRO:HG2	2.02	0.41
28:6:25:LYS:HE2	28:6:27:LYS:CD	2.49	0.41
28:6:41:PRO:HG3	28:6:44:ARG:HB2	2.01	0.41
29:7:25:PRO:HA	29:7:28:ARG:NH2	2.35	0.41
30:8:16:ILE:HD11	30:8:57:ARG:CG	2.44	0.41
1:A:1086:A:H3'	1:A:1086:A:N3	2.35	0.41
1:A:1266:G:O4'	18:W:15:ARG:NH2	2.49	0.41
1:A:134:C:H2'	1:A:135:G:C8	2.55	0.41
1:A:1466:G:H5'	1:A:1467:C:OP1	2.20	0.41
1:A:1667:G:O2'	1:A:1669:A:N6	2.53	0.41
1:A:2584:U:H2'	1:A:2585:U:H2'	2.01	0.41
1:A:2886:G:H2'	1:A:2887:U:H6	1.85	0.41
2:B:33:G:OP2	6:G:2:PRO:HD3	2.20	0.41
3:D:35:LYS:HB3	3:D:36:PRO:HA	2.00	0.41
4:E:7:VAL:CG2	4:E:8:LYS:H	2.11	0.41
4:E:94:GLU:C	4:E:96:PHE:N	2.73	0.41
6:G:22:ARG:HH22	6:G:175:LEU:HD21	1.85	0.41
6:G:60:LEU:C	6:G:60:LEU:HD23	2.41	0.41
6:G:73:ALA:O	6:G:84:LYS:O	2.38	0.41
7:H:146:ALA:HA	7:H:164:TYR:OH	2.21	0.41
8:I:29:TYR:O	8:I:33:ARG:HB2	2.19	0.41
9:N:63:THR:HG22	9:N:66:LYS:HZ1	1.84	0.41
10:O:86:ILE:N	10:O:86:ILE:CD1	2.83	0.41
11:P:125:VAL:C	11:P:145:PRO:HD2	2.39	0.41
15:T:39:ARG:CG	15:T:40:THR:H	2.22	0.41
16:U:35:ALA:O	16:U:39:LEU:HG	2.19	0.41
19:X:87:GLN:C	19:X:88:LYS:HG3	2.40	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:146:ILE:HA	21:Z:174:VAL:HB	2.01	0.41
23:1:29:GLY:O	23:1:31:GLY:N	2.49	0.41
24:2:41:ILE:C	24:2:41:ILE:CD1	2.81	0.41
24:2:61:LEU:HD23	24:2:64:LEU:HD12	2.03	0.41
19:X:60:ARG:HH12	29:7:47:ARG:HH22	1.67	0.41
1:A:1101:U:H2'	1:A:1102:C:C6	2.55	0.41
1:A:1474:C:H3'	1:A:1475:G:H8	1.86	0.41
1:A:1729:A:H2'	1:A:1730:U:H5''	2.02	0.41
1:A:1777:U:H2'	1:A:1778:U:H6	1.85	0.41
1:A:2306:C:H2'	1:A:2307:G:H21	1.85	0.41
1:A:2790:A:C2	1:A:2791:C:H2'	2.55	0.41
4:E:13:ARG:HB2	4:E:13:ARG:HH11	1.81	0.41
4:E:152:LYS:HG2	9:N:78:TYR:CD1	2.55	0.41
4:E:111:ARG:NE	4:E:160:TYR:CE1	2.76	0.41
4:E:35:GLN:HG3	4:E:37:ARG:NH2	2.35	0.41
5:F:53:THR:O	5:F:55:GLY:N	2.53	0.41
8:I:63:ALA:HA	8:I:66:GLU:HG2	2.02	0.41
12:Q:20:ALA:HA	12:Q:98:LYS:HB3	2.02	0.41
14:S:49:VAL:HG21	14:S:77:ALA:HA	2.02	0.41
14:S:53:SER:HA	14:S:56:LEU:CD2	2.50	0.41
14:S:30:ARG:NH2	14:S:92:TYR:HD1	2.17	0.41
17:V:81:TYR:C	17:V:82:ARG:CG	2.89	0.41
18:W:19:LEU:HA	18:W:19:LEU:HD12	1.79	0.41
19:X:57:LEU:H	19:X:57:LEU:HD12	1.85	0.41
20:Y:91:GLU:CG	20:Y:92:ASN:N	2.83	0.41
26:4:64:GLY:C	26:4:66:SER:N	2.73	0.41
1:A:747:U:N1	27:5:2:ALA:HB3	2.35	0.41
27:5:40:LYS:HE2	27:5:47:PRO:CG	2.49	0.41
1:A:1227:A:OP1	17:V:84:LYS:NZ	2.44	0.41
1:A:1676:A:H2'	1:A:1677:A:O4'	2.20	0.41
1:A:2037:G:C6	1:A:2038:G:C6	3.08	0.41
1:A:2070:G:H2'	1:A:2071:A:O4'	2.20	0.41
1:A:2216:G:C4	1:A:2217:G:C8	3.09	0.41
1:A:2631:G:N3	1:A:2810:A:H2	2.18	0.41
1:A:626:U:H5''	1:A:627:A:H5'	2.01	0.41
1:A:900:A:H5'	1:A:901:A:OP2	2.19	0.41
1:A:997:G:H2'	1:A:998:C:H6	1.84	0.41
3:D:13:ARG:O	3:D:13:ARG:HG2	2.20	0.41
7:H:105:LEU:N	7:H:105:LEU:CD1	2.81	0.41
8:I:74:ASN:OD1	8:I:74:ASN:N	2.52	0.41
11:P:18:ARG:HD2	11:P:27:HIS:CD2	2.56	0.41
11:P:64:LYS:HG3	30:8:25:MET:CE	2.50	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:16:PRO:HB3	17:V:97:LYS:O	2.20	0.41
1:A:1468:C:H2'	1:A:1469:A:C8	2.55	0.41
1:A:1593:G:H2'	1:A:1594:G:C8	2.55	0.41
1:A:2513:G:C2	1:A:2514:U:C2	3.08	0.41
1:A:2529:G:H5''	1:A:2530:A:H5''	2.01	0.41
1:A:297:C:H5''	20:Y:85:VAL:CG2	2.49	0.41
3:D:269:PHE:CD2	3:D:269:PHE:N	2.88	0.41
3:D:2:ALA:O	3:D:3:VAL:CB	2.68	0.41
1:A:1568:G:P	3:D:63:ARG:HH12	2.42	0.41
3:D:75:ILE:HG21	3:D:99:ASP:HB2	2.02	0.41
6:G:135:LEU:CD1	6:G:135:LEU:N	2.84	0.41
6:G:53:LEU:CD1	6:G:87:PRO:HB2	2.51	0.41
8:I:129:THR:HG22	8:I:137:PRO:HB3	2.02	0.41
9:N:21:LYS:O	9:N:22:THR:O	2.39	0.41
9:N:62:VAL:CG1	9:N:66:LYS:HB2	2.51	0.41
12:Q:34:LEU:HD23	12:Q:104:PHE:CD1	2.55	0.41
1:A:2250:G:C2	12:Q:82:ARG:HB3	2.55	0.41
13:R:28:LEU:C	13:R:28:LEU:HD13	2.40	0.41
4:E:25:VAL:CG1	15:T:11:GLU:HG2	2.50	0.41
15:T:134:GLU:O	15:T:135:ALA:CB	2.69	0.41
16:U:83:LEU:HG	16:U:88:ILE:HG13	2.03	0.41
17:V:38:LEU:CD2	17:V:39:LEU:N	2.82	0.41
17:V:38:LEU:CD1	17:V:55:ALA:CB	2.99	0.41
18:W:17:VAL:O	18:W:18:ARG:C	2.57	0.41
21:Z:117:LEU:HD11	21:Z:172:ALA:HB1	2.02	0.41
28:6:6:ARG:NE	28:6:6:ARG:HA	2.36	0.41
1:A:1045:A:O2'	1:A:1046:A:OP2	2.36	0.41
1:A:1142(A):A:H4'	9:N:25:ARG:NH2	2.33	0.41
1:A:1777:U:H2'	1:A:1778:U:C6	2.55	0.41
1:A:2030:A:H4'	1:A:2031:A:H8	1.84	0.41
1:A:2318:G:H1	14:S:2:ALA:N	2.19	0.41
2:B:43:C:N4	2:B:45:A:C2	2.88	0.41
3:D:158:ALA:O	3:D:196:VAL:HG11	2.21	0.41
3:D:68:LYS:O	3:D:68:LYS:HG3	2.20	0.41
4:E:179:GLU:CB	4:E:181:LEU:HD23	2.24	0.41
5:F:111:ALA:O	5:F:112:MET:C	2.59	0.41
7:H:86:GLU:HG3	7:H:165:ALA:CA	2.49	0.41
8:I:88:ILE:HG12	8:I:122:GLU:N	2.35	0.41
9:N:52:VAL:CG1	9:N:53:VAL:N	2.82	0.41
13:R:28:LEU:HD12	13:R:29:LEU:HD12	2.01	0.41
17:V:38:LEU:CD1	17:V:55:ALA:HB1	2.50	0.41
18:W:55:ALA:O	18:W:58:ALA:HB3	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:747:U:O2'	18:W:88:ARG:HG3	2.21	0.41
23:1:94:LEU:HD23	23:1:94:LEU:HA	1.82	0.41
1:A:98:G:OP1	24:2:4:SER:HB2	2.21	0.41
26:4:14:ILE:HA	26:4:31:ILE:O	2.21	0.41
26:4:4:GLY:O	26:4:5:ILE:C	2.59	0.41
28:6:8:LYS:O	28:6:9:LEU:HB2	2.20	0.41
30:8:26:LYS:HD3	30:8:26:LYS:HA	1.86	0.41
1:A:2351:G:O6	30:8:39:LYS:HG2	2.21	0.41
1:A:1430:C:H2'	1:A:1431:U:C6	2.56	0.41
1:A:1436:G:H1'	1:A:1477:A:O2'	2.19	0.41
1:A:2308:G:N2	1:A:2311:A:H2	2.17	0.41
1:A:2770:G:H5''	1:A:2771:C:OP2	2.20	0.41
1:A:298:G:N2	1:A:339:U:OP2	2.35	0.41
1:A:397:G:H1'	1:A:2231:C:O2'	2.20	0.41
1:A:35:G:H1'	1:A:454:A:C4	2.56	0.41
1:A:956:G:N2	1:A:960:A:OP2	2.53	0.41
3:D:134:ARG:HD3	3:D:135:PHE:HE2	1.82	0.41
1:A:1812:A:O2'	3:D:45:ASN:HB2	2.20	0.41
4:E:197:ILE:HD11	4:E:199:ARG:NH1	2.30	0.41
4:E:93:VAL:HG21	4:E:180:ASN:HA	2.03	0.41
5:F:183:VAL:HG22	5:F:184:TYR:N	2.35	0.41
6:G:117:PHE:CE1	6:G:119:GLY:CA	3.03	0.41
6:G:44:GLY:C	6:G:46:ALA:N	2.73	0.41
6:G:77:ILE:H	6:G:82:LEU:HB2	1.84	0.41
7:H:137:ASP:HB2	7:H:140:LYS:CE	2.51	0.41
7:H:45:VAL:O	7:H:45:VAL:CG1	2.68	0.41
9:N:133:GLN:C	9:N:134:ARG:HG2	2.41	0.41
10:O:10:VAL:HG21	10:O:16:ALA:HB3	2.03	0.41
10:O:48:PRO:O	10:O:50:GLY:N	2.53	0.41
1:A:631:A:H4'	11:P:65:ARG:HA	2.03	0.41
1:A:2470:G:OP1	12:Q:59:ARG:NH1	2.53	0.41
14:S:42:ASP:C	14:S:44:LYS:N	2.72	0.41
14:S:64:GLU:O	14:S:68:GLN:HG3	2.20	0.41
15:T:76:PHE:HA	15:T:77:PRO:HD3	1.75	0.41
16:U:91:ASP:OD2	16:U:96:ALA:CA	2.69	0.41
17:V:22:VAL:CG1	17:V:23:GLU:H	2.32	0.41
17:V:61:VAL:CG2	17:V:61:VAL:O	2.68	0.41
18:W:1:MET:HG3	18:W:2:GLU:N	2.36	0.41
20:Y:2:ARG:O	20:Y:3:VAL:O	2.38	0.41
20:Y:86:ARG:HD2	20:Y:86:ARG:HA	1.91	0.41
24:2:41:ILE:HD12	24:2:43:GLN:N	2.35	0.41
26:4:12:ALA:HB1	26:4:30:GLU:N	2.35	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2025:C:H2'	1:A:2026:C:C6	2.56	0.41
1:A:2376:A:H2'	1:A:2377:A:O4'	2.21	0.41
1:A:2391:G:OP2	30:8:32:LEU:HD13	2.21	0.41
1:A:372:G:O2'	1:A:373:U:P	2.78	0.41
1:A:512:G:HO2'	1:A:513:A:P	2.43	0.41
3:D:177:LEU:C	3:D:179:SER:H	2.23	0.41
4:E:167:VAL:CG1	4:E:189:PRO:HD3	2.50	0.41
5:F:46:ARG:CG	5:F:46:ARG:NH1	2.72	0.41
6:G:47:LYS:HB2	6:G:47:LYS:HE3	1.80	0.41
11:P:55:ARG:HG2	11:P:55:ARG:NH2	2.36	0.41
13:R:1:MET:SD	13:R:1:MET:N	2.75	0.41
13:R:47:PHE:O	13:R:51:LEU:HD23	2.21	0.41
15:T:28:VAL:HG23	15:T:87:ASP:O	2.21	0.41
16:U:33:ARG:O	16:U:37:GLU:HB2	2.21	0.41
16:U:6:THR:HG21	16:U:10:ARG:CZ	2.50	0.41
16:U:76:TYR:O	16:U:80:ILE:HG12	2.21	0.41
17:V:67:GLY:O	17:V:68:LYS:C	2.59	0.41
18:W:14:PRO:C	18:W:18:ARG:HD2	2.41	0.41
18:W:29:LEU:C	18:W:29:LEU:HD23	2.41	0.41
18:W:96:ILE:O	18:W:96:ILE:CG2	2.68	0.41
20:Y:13:VAL:O	20:Y:24:VAL:HA	2.20	0.41
23:1:18:ILE:O	23:1:18:ILE:HG22	2.21	0.41
24:2:18:PRO:C	24:2:20:GLU:N	2.73	0.41
30:8:14:VAL:CG1	30:8:60:LEU:HD11	2.51	0.41
1:A:1140:C:P	9:N:66:LYS:HZ3	2.44	0.41
1:A:945:A:C4	1:A:2448:A:C2	3.08	0.41
1:A:2867:G:O2'	1:A:2868:A:O5'	2.39	0.41
3:D:197:GLY:O	3:D:198:ASN:HB3	2.21	0.41
6:G:61:ALA:CB	6:G:67:LYS:HA	2.50	0.41
9:N:133:GLN:CB	9:N:135:PRO:HD3	2.42	0.41
10:O:2:ILE:HG12	10:O:8:LEU:HD11	2.02	0.41
12:Q:139:GLU:CG	12:Q:140:ALA:N	2.84	0.41
12:Q:20:ALA:HB1	12:Q:99:PRO:CG	2.51	0.41
12:Q:27:VAL:HG22	12:Q:105:GLU:CD	2.41	0.41
18:W:50:VAL:O	18:W:53:SER:N	2.50	0.41
19:X:83:VAL:CG1	19:X:87:GLN:HB2	2.50	0.41
20:Y:97:ARG:HH21	20:Y:98:VAL:CG2	2.33	0.41
21:Z:14:LYS:HA	21:Z:15:PRO:HD3	1.92	0.41
22:0:10:THR:HG22	22:0:12:ASN:N	2.36	0.41
24:2:65:ASN:O	24:2:66:GLU:C	2.59	0.41
1:A:1248:G:C4	16:U:3:ARG:HG3	2.56	0.41
1:A:1454:U:H5'	13:R:63:ARG:NE	2.24	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1799:G:H5'	1:A:1819:A:H61	1.85	0.41
1:A:1803:A:N1	1:A:1822:G:O2'	2.41	0.41
1:A:2206:C:H2'	1:A:2207:C:C6	2.56	0.41
1:A:2734:A:H3'	1:A:2735:G:H8	1.86	0.41
1:A:2822:G:O2'	1:A:2824:C:OP2	2.29	0.41
1:A:271(B):G:H2'	1:A:421:U:OP2	2.21	0.41
1:A:774:A:H2	1:A:787:U:O2'	2.04	0.41
2:B:40:U:H1'	2:B:45:A:N6	2.36	0.41
3:D:263:ARG:CB	3:D:263:ARG:NH1	2.75	0.41
4:E:4:ILE:HG22	4:E:198:VAL:HB	2.02	0.41
6:G:95:ARG:HA	6:G:99:MET:HB3	2.03	0.41
9:N:58:ASP:HB3	9:N:95:PRO:HB3	2.02	0.41
11:P:9:ASN:HB2	11:P:10:PRO:HD2	2.03	0.41
13:R:94:TYR:N	13:R:94:TYR:CD2	2.87	0.41
14:S:15:ARG:O	14:S:19:LYS:HD3	2.20	0.41
14:S:66:ALA:HA	14:S:69:VAL:CG1	2.51	0.41
15:T:39:ARG:HG2	15:T:40:THR:N	2.25	0.41
15:T:84:GLN:HG2	15:T:85:LYS:N	2.36	0.41
16:U:83:LEU:CD1	16:U:113:ALA:HB2	2.50	0.41
24:2:48:HIS:O	24:2:49:LYS:C	2.57	0.41
6:G:143:GLU:C	26:4:28:LYS:HZ2	2.24	0.41
1:A:458:G:O2'	29:7:39:ARG:HD3	2.20	0.41
30:8:3:LYS:HB3	30:8:3:LYS:HE2	1.82	0.41
30:8:64:TYR:HB3	30:8:65:GLU:H	1.40	0.41
1:A:1071:G:H22	1:A:1091:G:H8	1.68	0.41
1:A:1756:G:H4'	1:A:1758:G:O4'	2.21	0.41
1:A:2286:A:H3'	28:6:31:PRO:CG	2.51	0.41
1:A:270(I):G:H2'	1:A:270(J):G:C8	2.56	0.41
1:A:328:U:H4'	20:Y:68:HIS:CD2	2.56	0.41
1:A:515:A:H1'	1:A:581:C:H1'	2.03	0.41
1:A:846:C:C2	1:A:847:U:H5	2.39	0.41
3:D:145:VAL:CG1	3:D:146:GLU:N	2.83	0.41
3:D:154:LYS:C	3:D:155:LEU:HD12	2.41	0.41
3:D:147:LEU:CD1	3:D:155:LEU:HD21	2.51	0.41
4:E:147:PRO:HB2	4:E:149:ARG:HG2	2.03	0.41
4:E:51:PHE:CG	4:E:52:LEU:N	2.89	0.41
7:H:145:ALA:O	7:H:148:ILE:HB	2.21	0.41
9:N:10:GLU:OE2	9:N:11:PRO:HD2	2.21	0.41
9:N:137:LYS:HA	9:N:137:LYS:HD2	1.88	0.41
9:N:56:ASN:ND2	9:N:126:PRO:N	2.69	0.41
9:N:23:LEU:CD1	9:N:99:LEU:HD23	2.51	0.41
11:P:65:ARG:C	11:P:66:GLY:O	2.59	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:139:GLU:HG2	12:Q:140:ALA:N	2.36	0.41
13:R:55:ALA:O	13:R:58:GLY:HA3	2.21	0.41
16:U:27:LEU:C	16:U:29:SER:N	2.74	0.41
16:U:57:PHE:O	16:U:60:LEU:N	2.54	0.41
18:W:14:PRO:HG3	18:W:101:SER:OG	2.21	0.41
20:Y:43:ASN:OD1	20:Y:43:ASN:O	2.39	0.41
26:4:42:PHE:CZ	26:4:43:TYR:HB3	2.57	0.41
26:4:63:TYR:O	26:4:65:ASP:N	2.54	0.41
29:7:24:THR:HB	29:7:25:PRO:HD2	2.03	0.41
1:A:1417:C:H2'	1:A:1418:G:O4'	2.20	0.41
1:A:1608:A:H1'	1:A:1610:A:OP2	2.20	0.41
1:A:1953:A:H5''	1:A:1954:G:OP2	2.20	0.41
1:A:222:A:H1'	1:A:223:A:OP1	2.21	0.41
1:A:2572:A:C2	4:E:144:ARG:NH2	2.89	0.41
1:A:679:C:H2'	1:A:680:G:C8	2.56	0.41
1:A:774:A:HO2'	1:A:775:G:P	2.43	0.41
1:A:963:U:H2'	1:A:964:C:C6	2.55	0.41
3:D:31:LYS:O	3:D:32:SER:O	2.39	0.41
5:F:13:SER:OG	5:F:14:PRO:HD2	2.21	0.41
5:F:36:VAL:HG11	5:F:183:VAL:HG11	2.03	0.41
6:G:7:LEU:CD2	6:G:176:LEU:HD22	2.45	0.41
6:G:67:LYS:NZ	26:4:6:HIS:CD2	2.89	0.41
6:G:95:ARG:CA	6:G:99:MET:HB3	2.50	0.41
10:O:31:LYS:C	10:O:32:TYR:CD2	2.94	0.41
11:P:101:VAL:HG23	11:P:106:LEU:HB3	2.03	0.41
11:P:66:GLY:O	11:P:67:MET:CB	2.63	0.41
11:P:84:ASN:HB2	11:P:87:ASP:OD2	2.21	0.41
1:A:1030:G:OP2	12:Q:128:LYS:HE2	2.21	0.41
12:Q:39:PRO:HA	12:Q:97:VAL:O	2.21	0.41
12:Q:52:VAL:O	12:Q:53:ALA:C	2.59	0.41
14:S:42:ASP:O	14:S:43:GLU:CB	2.62	0.41
14:S:6:ALA:O	14:S:10:ARG:HD3	2.21	0.41
20:Y:87:LYS:HZ2	20:Y:87:LYS:HB2	1.85	0.41
21:Z:53:ILE:HG22	21:Z:71:VAL:HG22	2.02	0.41
26:4:26:SER:O	26:4:27:THR:O	2.39	0.40
29:7:5:TRP:HE1	29:7:7:PRO:HG3	1.85	0.40
1:A:1062:G:N3	1:A:1077:A:N6	2.69	0.40
1:A:1208:C:C4	1:A:1209:G:N7	2.89	0.40
1:A:1300:U:H4'	1:A:1301:A:H5''	2.04	0.40
1:A:1355:G:C4	1:A:1356:G:C8	3.09	0.40
1:A:1459:G:H2'	1:A:1460:A:H5''	2.02	0.40
1:A:1543:A:H1'	1:A:1545:A:O4'	2.20	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1870:C:H2'	1:A:1871:A:O4'	2.21	0.40
1:A:2776:A:H4'	1:A:2777:G:O5'	2.22	0.40
1:A:67:U:H3	1:A:74:A:H2	1.67	0.40
1:A:686:G:O6	29:7:12:ARG:HG3	2.21	0.40
1:A:83:G:H1	1:A:102:G:H1'	1.87	0.40
3:D:272:ALA:HB1	3:D:273:ARG:H	1.58	0.40
5:F:128:ALA:O	5:F:129:PHE:CB	2.67	0.40
8:I:8:PRO:HG3	8:I:14:ASP:HB2	2.03	0.40
10:O:20:MET:O	10:O:41:ALA:CB	2.67	0.40
12:Q:66:ILE:O	12:Q:67:ARG:HB2	2.22	0.40
13:R:22:ARG:O	13:R:26:LYS:HG3	2.21	0.40
14:S:106:ARG:CZ	14:S:106:ARG:HB2	2.49	0.40
20:Y:49:VAL:O	20:Y:50:ARG:C	2.59	0.40
21:Z:144:LEU:HG	21:Z:150:LEU:HD12	2.03	0.40
21:Z:166:SER:H	21:Z:167:PRO:HA	1.86	0.40
23:1:85:LEU:CD2	23:1:85:LEU:N	2.84	0.40
23:1:96:LYS:HG2	23:1:96:LYS:O	2.21	0.40
24:2:32:LEU:HD23	24:2:32:LEU:O	2.22	0.40
30:8:32:LEU:HD23	30:8:32:LEU:HA	1.94	0.40
30:8:53:PRO:HD2	30:8:54:GLU:H	1.84	0.40
30:8:53:PRO:CG	30:8:54:GLU:N	2.84	0.40
31:9:10:ILE:HD12	31:9:32:HIS:CG	2.56	0.40
1:A:1930:G:O2'	1:A:1931:U:P	2.79	0.40
1:A:2102:U:H2'	1:A:2103:C:C6	2.56	0.40
1:A:2105:C:H2'	1:A:2106:G:H8	1.86	0.40
1:A:2123:G:H2'	1:A:2124:G:C8	2.53	0.40
1:A:2674:G:H2'	1:A:2675:A:C8	2.57	0.40
1:A:320:A:H4'	1:A:322:A:C8	2.56	0.40
2:B:44:G:H1'	2:B:47:C:N4	2.35	0.40
4:E:161:GLY:O	4:E:162:ALA:HB3	2.21	0.40
4:E:62:PRO:O	4:E:63:LEU:C	2.59	0.40
5:F:144:LYS:C	5:F:146:ALA:N	2.75	0.40
5:F:62:ARG:HB3	5:F:62:ARG:CZ	2.51	0.40
5:F:68:LYS:O	5:F:69:HIS:HB2	2.21	0.40
5:F:80:ALA:O	5:F:83:PHE:HB2	2.20	0.40
12:Q:108:GLY:CA	21:Z:116:VAL:HG11	2.51	0.40
12:Q:76:LYS:HB3	12:Q:90:VAL:CG1	2.51	0.40
14:S:100:ALA:CA	14:S:103:GLU:HG2	2.49	0.40
17:V:38:LEU:O	17:V:51:VAL:HA	2.21	0.40
17:V:55:ALA:O	17:V:56:SER:OG	2.31	0.40
18:W:14:PRO:C	18:W:16:LYS:N	2.73	0.40
20:Y:57:GLN:O	20:Y:58:GLY:C	2.60	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:111:VAL:O	21:Z:113:ALA:N	2.54	0.40
21:Z:5:LEU:O	21:Z:6:LYS:HB2	2.21	0.40
23:1:82:LEU:HD13	23:1:83:GLU:CA	2.49	0.40
24:2:11:GLU:HA	24:2:14:ARG:HD2	2.03	0.40
26:4:21:VAL:O	26:4:22:ILE:O	2.40	0.40
28:6:37:ARG:O	28:6:48:VAL:O	2.39	0.40
28:6:7:ILE:CG1	28:6:8:LYS:N	2.75	0.40
30:8:40:GLU:O	30:8:42:ARG:N	2.54	0.40
1:A:102:G:H4'	1:A:103:A:O5'	2.20	0.40
1:A:1291:C:H5'	1:A:1536:A:H5'	2.03	0.40
1:A:2853:C:H2'	1:A:2854:G:H8	1.86	0.40
1:A:527:C:H5'	1:A:2779:U:C4	2.57	0.40
1:A:95:G:HO2'	24:2:48:HIS:CE1	2.32	0.40
3:D:117:VAL:HG22	3:D:118:VAL:N	2.35	0.40
3:D:228:PRO:HD3	3:D:234:GLY:O	2.21	0.40
4:E:119:ARG:HG2	4:E:160:TYR:HB2	2.04	0.40
6:G:114:ILE:HG22	6:G:117:PHE:HB2	2.01	0.40
9:N:28:THR:O	9:N:29:LYS:C	2.59	0.40
10:O:47:ILE:HD12	10:O:48:PRO:CD	2.43	0.40
10:O:92:GLU:O	10:O:93:PRO:C	2.58	0.40
11:P:65:ARG:HH21	30:8:15:LYS:HB3	1.85	0.40
13:R:14:SER:HB2	13:R:15:SER:H	1.72	0.40
14:S:12:PHE:HA	14:S:12:PHE:HD2	1.80	0.40
14:S:24:LEU:N	14:S:24:LEU:HD22	2.36	0.40
15:T:10:VAL:O	15:T:11:GLU:C	2.59	0.40
18:W:100:THR:HG23	18:W:100:THR:O	2.22	0.40
18:W:1:MET:CE	18:W:2:GLU:H	2.31	0.40
19:X:60:ARG:HH22	29:7:47:ARG:HH12	1.68	0.40
20:Y:95:LYS:HA	20:Y:101:LYS:CB	2.51	0.40
24:2:53:LEU:O	24:2:57:ILE:HG13	2.21	0.40
28:6:24:GLU:HB3	28:6:25:LYS:H	1.56	0.40
28:6:50:ARG:NH1	28:6:50:ARG:HG2	2.37	0.40
28:6:36:LEU:CD1	28:6:50:ARG:NH1	2.82	0.40
1:A:1357:U:H2'	1:A:1358:G:O4'	2.21	0.40
1:A:1649:G:C6	1:A:2009:G:C6	3.10	0.40
1:A:1754:C:H5'	15:T:101:PHE:CE2	2.57	0.40
1:A:729:G:H2'	1:A:1775:U:H1'	2.03	0.40
1:A:192:C:O2'	1:A:802:A:N3	2.49	0.40
3:D:92:ILE:CD1	3:D:104:TYR:CD2	3.05	0.40
3:D:72:LYS:HG3	3:D:97:TYR:CE2	2.56	0.40
6:G:41:GLN:HB3	6:G:43:LEU:CD1	2.51	0.40
7:H:26:VAL:HG12	7:H:33:LEU:HB2	2.03	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:101:HIS:ND1	9:N:102:ALA:N	2.69	0.40
11:P:19:VAL:HG22	11:P:21:ARG:N	2.36	0.40
11:P:65:ARG:O	11:P:66:GLY:C	2.60	0.40
13:R:34:ILE:HG22	13:R:35:THR:N	2.35	0.40
14:S:20:ARG:HE	14:S:21:THR:HA	1.87	0.40
14:S:52:SER:HB2	14:S:55:ALA:HB3	2.03	0.40
14:S:89:ARG:NH1	14:S:89:ARG:HG2	2.36	0.40
14:S:92:TYR:HB2	14:S:98:VAL:HG11	2.02	0.40
15:T:54:ARG:HA	15:T:59:THR:HG23	2.02	0.40
1:A:328:U:H4'	20:Y:68:HIS:CE1	2.56	0.40
20:Y:90:LEU:HB2	20:Y:91:GLU:H	1.53	0.40
21:Z:35:ARG:O	21:Z:37:VAL:HG13	2.22	0.40
23:1:86:SER:O	23:1:89:GLU:HB2	2.21	0.40
28:6:36:LEU:HD23	28:6:36:LEU:N	2.37	0.40
1:A:2093:G:H21	1:A:2198:A:H62	1.70	0.40
1:A:2481:G:H4'	1:A:2482:G:H5'	2.03	0.40
1:A:271(C):U:HO2'	1:A:271:G:P	2.44	0.40
1:A:69:C:O2	1:A:73:A:O2'	2.33	0.40
1:A:957:A:H5'	12:Q:76:LYS:CD	2.43	0.40
1:A:990:A:H1'	1:A:1156:A:N3	2.36	0.40
2:B:17:C:H2'	2:B:18:G:O4'	2.22	0.40
4:E:92:THR:HB	4:E:93:VAL:H	1.57	0.40
5:F:33:LEU:O	5:F:37:VAL:HG23	2.21	0.40
6:G:78:SER:O	6:G:79:ASN:C	2.59	0.40
7:H:146:ALA:HB2	7:H:164:TYR:OH	2.20	0.40
7:H:20:ALA:HB3	7:H:23:ARG:HG2	2.03	0.40
7:H:52:VAL:HG21	7:H:68:THR:HG22	2.03	0.40
9:N:75:TYR:O	9:N:76:SER:O	2.40	0.40
11:P:2:LYS:O	11:P:5:ASP:CB	2.70	0.40
13:R:84:ALA:O	13:R:85:PRO:C	2.59	0.40
14:S:83:LYS:CE	14:S:109:GLY:HA2	2.47	0.40
15:T:23:ARG:O	15:T:49:VAL:HG11	2.21	0.40
15:T:20:PRO:HG2	15:T:86:ILE:O	2.21	0.40
16:U:15:LYS:O	16:U:16:LYS:C	2.60	0.40
16:U:62:ILE:HG23	16:U:76:TYR:CE1	2.57	0.40
17:V:95:LEU:C	17:V:95:LEU:HD13	2.42	0.40
20:Y:5:MET:CE	20:Y:32:PRO:HB3	2.51	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1413:G:O2'	6:G:9:ARG:NH2[1_655]	2.08	0.12

## 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%)	203 (75%)	48 (18%)	19 (7%)	2	25
4	E	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0	2
5	F	200/210 (95%)	144 (72%)	36 (18%)	20 (10%)	1	14
6	G	179/182 (98%)	119 (66%)	39 (22%)	21 (12%)	1	11
7	H	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0	1
8	I	144/148 (97%)	102 (71%)	29 (20%)	13 (9%)	1	17
9	N	136/140 (97%)	84 (62%)	30 (22%)	22 (16%)	0	5
10	O	120/122 (98%)	90 (75%)	21 (18%)	9 (8%)	2	23
11	P	148/150 (99%)	97 (66%)	19 (13%)	32 (22%)	0	1
12	Q	139/141 (99%)	95 (68%)	30 (22%)	14 (10%)	1	14
13	R	116/118 (98%)	83 (72%)	19 (16%)	14 (12%)	1	10
14	S	109/112 (97%)	62 (57%)	28 (26%)	19 (17%)	0	4
15	T	135/146 (92%)	83 (62%)	32 (24%)	20 (15%)	0	6
16	U	115/118 (98%)	86 (75%)	20 (17%)	9 (8%)	1	21
17	V	99/101 (98%)	73 (74%)	16 (16%)	10 (10%)	1	14
18	W	111/113 (98%)	75 (68%)	22 (20%)	14 (13%)	0	10
19	X	90/96 (94%)	77 (86%)	8 (9%)	5 (6%)	3	33
20	Y	100/110 (91%)	58 (58%)	16 (16%)	26 (26%)	0	1
21	Z	181/206 (88%)	126 (70%)	40 (22%)	15 (8%)	1	20

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	0	80/85 (94%)	68 (85%)	9 (11%)	3 (4%)	5	46
23	1	95/98 (97%)	64 (67%)	20 (21%)	11 (12%)	1	11
24	2	67/72 (93%)	46 (69%)	12 (18%)	9 (13%)	0	8
25	3	57/60 (95%)	45 (79%)	9 (16%)	3 (5%)	3	34
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	1
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	28
30	8	62/65 (95%)	36 (58%)	15 (24%)	11 (18%)	0	3
31	9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	3379/3526 (96%)	2269 (67%)	653 (19%)	457 (14%)	0	8

All (457) 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

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Mol	Chain	Res	Type
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
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	115	ALA
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	4	LYS
20	Y	23	ARG
20	Y	48	ALA
20	Y	49	VAL
20	Y	50	ARG
20	Y	53	PRO
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	111	VAL
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	13	GLY
8	I	117	GLU
8	I	133	HIS
8	I	145	VAL
9	N	23	LEU
9	N	76	SER
10	O	51	ALA
10	O	56	ASP
10	O	68	GLU

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Mol	Chain	Res	Type
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
12	Q	57	HIS
13	R	11	ASN
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	41	GLY
20	Y	56	PRO
20	Y	57	GLN
20	Y	91	GLU
20	Y	99	CYS
21	Z	108	PRO
21	Z	177	PRO
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

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Mol	Chain	Res	Type
27	5	55	ARG
29	7	39	ARG
3	D	111	LEU
3	D	242	ARG
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	118	LYS
9	N	45	ASN
9	N	130	HIS
9	N	132	ALA
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	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	61	ASN
14	S	74	ALA
14	S	75	GLU
15	T	78	LEU

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Mol	Chain	Res	Type
15	T	112	ARG
16	U	46	ALA
16	U	58	ARG
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	102	CYS
21	Z	59	LEU
21	Z	112	ARG
21	Z	116	VAL
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
3	D	238	GLY
4	E	66	HIS
4	E	126	PRO
5	F	43	LYS
5	F	130	ALA
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	72	LEU
9	N	96	GLU

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Mol	Chain	Res	Type
9	N	127	ASP
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	95	ARG
16	U	74	LEU
18	W	14	PRO
18	W	48	ALA
21	Z	61	LEU
21	Z	166	SER
22	0	3	HIS
22	0	18	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
5	F	136	THR
6	G	181	ARG
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

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Mol	Chain	Res	Type
11	P	50	ARG
11	P	97	PRO
11	P	108	LYS
13	R	85	PRO
16	U	91	ASP
18	W	32	ALA
20	Y	7	VAL
21	Z	13	GLU
21	Z	62	PRO
25	3	13	ILE
26	4	30	GLU
26	4	33	VAL
27	5	42	PRO
28	6	35	GLU
30	8	64	TYR
3	D	178	PRO
6	G	109	VAL
7	H	7	LEU
7	H	26	VAL
8	I	18	VAL
8	I	102	SER
8	I	122	GLU
15	T	38	ASN
18	W	11	ARG
18	W	33	ARG
19	X	19	ALA
21	Z	66	SER
26	4	69	LYS
26	4	70	GLY
27	5	57	VAL
29	7	44	PRO
4	E	86	PRO
4	E	184	VAL
12	Q	86	GLY
13	R	32	GLY
17	V	36	PRO
18	W	35	ILE
21	Z	141	VAL
22	0	8	GLY
3	D	241	PRO
20	Y	27	VAL
20	Y	32	PRO

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Mol	Chain	Res	Type
21	Z	106	GLY
27	5	46	CYS
3	D	34	VAL
6	G	52	ILE
8	I	15	VAL
10	O	114	ILE
20	Y	51	VAL
21	Z	165	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	16
4	E	165/166 (99%)	128 (78%)	37 (22%)	1	7
5	F	161/166 (97%)	140 (87%)	21 (13%)	6	32
6	G	155/156 (99%)	130 (84%)	25 (16%)	3	21
7	H	142/148 (96%)	114 (80%)	28 (20%)	2	11
8	I	122/124 (98%)	98 (80%)	24 (20%)	2	11
9	N	117/119 (98%)	98 (84%)	19 (16%)	3	20
10	O	100/100 (100%)	90 (90%)	10 (10%)	11	48
11	P	116/116 (100%)	89 (77%)	27 (23%)	1	6
12	Q	111/111 (100%)	93 (84%)	18 (16%)	3	20
13	R	101/101 (100%)	84 (83%)	17 (17%)	3	18
14	S	87/88 (99%)	74 (85%)	13 (15%)	4	25
15	T	120/127 (94%)	97 (81%)	23 (19%)	2	11
16	U	93/94 (99%)	80 (86%)	13 (14%)	5	28

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	V	82/82 (100%)	71 (87%)	11 (13%)	6	30
18	W	92/92 (100%)	77 (84%)	15 (16%)	3	20
19	X	74/78 (95%)	63 (85%)	11 (15%)	4	25
20	Y	85/91 (93%)	70 (82%)	15 (18%)	3	15
21	Z	162/179 (90%)	139 (86%)	23 (14%)	5	27
22	0	65/67 (97%)	61 (94%)	4 (6%)	26	72
23	1	82/83 (99%)	67 (82%)	15 (18%)	2	13
24	2	64/67 (96%)	57 (89%)	7 (11%)	9	42
25	3	51/52 (98%)	40 (78%)	11 (22%)	1	8
26	4	63/63 (100%)	44 (70%)	19 (30%)	0	4
27	5	51/52 (98%)	39 (76%)	12 (24%)	1	6
28	6	48/52 (92%)	38 (79%)	10 (21%)	2	9
29	7	42/42 (100%)	39 (93%)	3 (7%)	21	67
30	8	54/55 (98%)	39 (72%)	15 (28%)	0	4
31	9	34/34 (100%)	32 (94%)	2 (6%)	28	74
All	All	2853/2923 (98%)	2368 (83%)	485 (17%)	3	17

All (485) 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

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Mol	Chain	Res	Type
3	D	135	PHE
3	D	155	LEU
3	D	157	ARG
3	D	166	GLN
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	79	ARG

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Mol	Chain	Res	Type
4	E	80	GLU
4	E	101	ARG
4	E	113	PHE
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

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Mol	Chain	Res	Type
6	G	43	LEU
6	G	45	GLU
6	G	63	ILE
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

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Mol	Chain	Res	Type
7	H	153	LYS
7	H	154	PRO
7	H	155	SER
7	H	158	HIS
7	H	169	VAL
8	I	2	LYS
8	I	10	GLU
8	I	27	ARG
8	I	31	LEU
8	I	33	ARG
8	I	35	LEU
8	I	38	LEU
8	I	56	LYS
8	I	57	ARG
8	I	67	ARG
8	I	70	GLU
8	I	85	GLU
8	I	86	THR
8	I	88	ILE
8	I	93	THR
8	I	101	LEU
8	I	105	HIS
8	I	113	ARG
8	I	118	LYS
8	I	130	TYR
8	I	135	GLU
8	I	139	GLN
8	I	142	VAL
8	I	145	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

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Mol	Chain	Res	Type
9	N	109	LYS
9	N	112	LEU
9	N	120	LEU
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

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Mol	Chain	Res	Type
11	P	146	VAL
12	Q	2	LEU
12	Q	25	ASP
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	58	PHE
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

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Mol	Chain	Res	Type
14	S	56	LEU
14	S	57	LYS
14	S	89	ARG
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

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Mol	Chain	Res	Type
16	U	117	GLN
17	V	13	ARG
17	V	14	VAL
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

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Mol	Chain	Res	Type
20	Y	57	GLN
20	Y	64	GLU
20	Y	75	ILE
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	20	ARG
21	Z	35	ARG
21	Z	60	GLU
21	Z	70	LEU
21	Z	76	LEU
21	Z	81	ARG
21	Z	87	ASP
21	Z	93	ASP
21	Z	94	GLU
21	Z	111	VAL
21	Z	112	ARG
21	Z	121	HIS
21	Z	128	VAL
21	Z	145	GLU
21	Z	148	ASP
21	Z	150	LEU
21	Z	163	LEU
21	Z	166	SER
21	Z	168	GLU
21	Z	174	VAL
21	Z	182	LYS
21	Z	183	LEU
22	0	7	LEU
22	0	11	ARG
22	0	36	ILE
22	0	74	ARG
23	1	2	SER
23	1	11	ARG
23	1	21	ARG
23	1	30	VAL

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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 (27) 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
7	H	143	GLN
7	H	147	ASN
9	N	56	ASN
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

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2879/2916 (98%)	620 (21%)	66 (2%)
2	B	119/122 (97%)	24 (20%)	2 (1%)
32	a	1/3 (33%)	0	0
All	All	2999/3041 (98%)	644 (21%)	68 (2%)

All (644) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	U
1	A	11	G
1	A	34	C
1	A	46	C
1	A	49	A
1	A	51	G
1	A	55	G
1	A	72	U
1	A	74	A
1	A	75	G
1	A	84	A
1	A	96	G
1	A	97	C
1	A	101	G
1	A	102	G
1	A	103	A
1	A	118	A
1	A	120	U
1	A	131	G
1	A	138	G
1	A	161	U
1	A	177	G
1	A	188	G
1	A	196	A
1	A	199	A
1	A	215	G
1	A	216	A
1	A	221	A
1	A	222	A
1	A	223	A
1	A	228	A
1	A	229	A
1	A	230	U
1	A	232	G
1	A	241	A

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Mol	Chain	Res	Type
1	A	242	G
1	A	243	U
1	A	248	G
1	A	249	C
1	A	250	G
1	A	252	G
1	A	265	A
1	A	266	G
1	A	268	C
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	270(Z)	U
1	A	271(B)	G
1	A	271(C)	U
1	A	271	G
1	A	273(F)	C
1	A	275	G
1	A	276	A
1	A	277	C
1	A	278	A
1	A	299	A
1	A	311	A
1	A	316	C
1	A	323	G
1	A	324	A
1	A	329	G
1	A	330	A
1	A	333	G
1	A	335	C
1	A	342	G
1	A	346	A
1	A	352	G
1	A	363(F)	A
1	A	364	C
1	A	371	A
1	A	372	G
1	A	373	U
1	A	386	G
1	A	395	U

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Mol	Chain	Res	Type
1	A	405	U
1	A	411	G
1	A	412	A
1	A	428	A
1	A	442	G
1	A	444	C
1	A	448	U
1	A	449	A
1	A	454	A
1	A	457	A
1	A	470	A
1	A	481	G
1	A	484	C
1	A	494	G
1	A	503	A
1	A	504	U
1	A	505	A
1	A	509	C
1	A	512	G
1	A	513	A
1	A	518	G
1	A	527	C
1	A	529	A
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	554	U
1	A	556	G
1	A	563	G
1	A	573	G
1	A	574	C
1	A	575	A
1	A	588	U
1	A	603	A
1	A	607	U
1	A	614	U

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Mol	Chain	Res	Type
1	A	615	G
1	A	617	G
1	A	621	A
1	A	627	A
1	A	637	A
1	A	638	G
1	A	645	C
1	A	646	A
1	A	651	G
1	A	652	C
1	A	654	A
1	A	654(A)	G
1	A	654(B)	C
1	A	659	C
1	A	669	G
1	A	686	G
1	A	702	G
1	A	705	A
1	A	717	G
1	A	722	A
1	A	730	C
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	819	A
1	A	827	U
1	A	828	U
1	A	846	C
1	A	847	U
1	A	854	G
1	A	856	C

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Mol	Chain	Res	Type
1	A	857	C
1	A	859	G
1	A	860	U
1	A	865	C
1	A	869	G
1	A	880	G
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	893	C
1	A	896	A
1	A	897	C
1	A	899	A
1	A	900	A
1	A	901	A
1	A	904	C
1	A	907	U
1	A	910	A
1	A	917	A
1	A	932	G
1	A	938	G
1	A	941	A
1	A	945	A
1	A	946	G
1	A	961	C
1	A	973	A
1	A	974	G
1	A	974(A)	C
1	A	975	G
1	A	983	A
1	A	990	A
1	A	991	C
1	A	996	A
1	A	1003	G
1	A	1011	G
1	A	1012	U
1	A	1013	C
1	A	1015	G

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Mol	Chain	Res	Type
1	A	1020	A
1	A	1023	U
1	A	1025	G
1	A	1026	U
1	A	1027	A
1	A	1033	U
1	A	1044	G
1	A	1045	A
1	A	1046	A
1	A	1050	A
1	A	1055	G
1	A	1057	A
1	A	1059	G
1	A	1060	U
1	A	1061	U
1	A	1065	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	1080	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	1091	G
1	A	1093	G
1	A	1095	A
1	A	1096	A
1	A	1104	C
1	A	1105	U
1	A	1110	G
1	A	1111	A
1	A	1112	G

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Mol	Chain	Res	Type
1	A	1122	G
1	A	1128	A
1	A	1129	A
1	A	1131	G
1	A	1135	C
1	A	1136	G
1	A	1142	U
1	A	1142(A)	A
1	A	1151	G
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	1186	G
1	A	1195	G
1	A	1204	A
1	A	1205	U
1	A	1206	G
1	A	1210	A
1	A	1211	U
1	A	1220	A
1	A	1236	G
1	A	1238	G
1	A	1248	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	1300	U
1	A	1301	A
1	A	1304	C
1	A	1306	C
1	A	1309	G
1	A	1312	U
1	A	1313	U
1	A	1314	C

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Mol	Chain	Res	Type
1	A	1319	G
1	A	1321	A
1	A	1329	U
1	A	1332	G
1	A	1349	A
1	A	1352	U
1	A	1365	A
1	A	1368	G
1	A	1372	U
1	A	1379	A
1	A	1380	G
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1391	U
1	A	1395	A
1	A	1396	U
1	A	1407	C
1	A	1411	C
1	A	1413	G
1	A	1416	G
1	A	1419	A
1	A	1420	U
1	A	1421	G
1	A	1428	C
1	A	1444(A)	A
1	A	1445	C
1	A	1449	A
1	A	1449(A)	G
1	A	1455	G
1	A	1460	A
1	A	1461	G
1	A	1467	C
1	A	1471	A
1	A	1473	G
1	A	1474	C
1	A	1482	U
1	A	1483	G
1	A	1485	G
1	A	1491	G
1	A	1493	C
1	A	1497	U

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Mol	Chain	Res	Type
1	A	1504	C
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	1514	U
1	A	1522	G
1	A	1525	G
1	A	1534	G
1	A	1535	U
1	A	1536	A
1	A	1537	C
1	A	1538	G
1	A	1543	A
1	A	1544	C
1	A	1545	A
1	A	1547	C
1	A	1558	A
1	A	1559	G
1	A	1566	A
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	1591	G
1	A	1598	C
1	A	1608	A
1	A	1609	A
1	A	1610	A
1	A	1616	A
1	A	1617	C
1	A	1618	A
1	A	1648	C
1	A	1654	A
1	A	1667	G
1	A	1668	A
1	A	1669	A
1	A	1674	G

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Mol	Chain	Res	Type
1	A	1694	C
1	A	1695	G
1	A	1725	G
1	A	1729	A
1	A	1730	U
1	A	1731	G
1	A	1733	G
1	A	1742	C
1	A	1743	G
1	A	1754	C
1	A	1756	G
1	A	1763	G
1	A	1764	G
1	A	1769	G
1	A	1773	A
1	A	1780	A
1	A	1782	C
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	1820	U
1	A	1829	A
1	A	1835	G
1	A	1847	A
1	A	1848	A
1	A	1858	G
1	A	1860	G
1	A	1869	G
1	A	1870	C
1	A	1872	A
1	A	1878	G
1	A	1882	C
1	A	1888	G
1	A	1889	A
1	A	1896	G
1	A	1903	G
1	A	1905	C
1	A	1906	G
1	A	1913	A

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Mol	Chain	Res	Type
1	A	1929	G
1	A	1930	G
1	A	1931	U
1	A	1937	A
1	A	1938	A
1	A	1939	U
1	A	1946	U
1	A	1955	U
1	A	1963	U
1	A	1967	C
1	A	1969	A
1	A	1970	A
1	A	1971	A
1	A	1972	A
1	A	1981	A
1	A	1982	C
1	A	1991	U
1	A	1992	G
1	A	1993	U
1	A	2004	G
1	A	2021	C
1	A	2023	G
1	A	2031	A
1	A	2032	G
1	A	2033	A
1	A	2043	C
1	A	2051	A
1	A	2052	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	2069	G
1	A	2093	G
1	A	2096	U
1	A	2111	C
1	A	2113	U
1	A	2114	A
1	A	2115	G
1	A	2116	G

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Mol	Chain	Res	Type
1	A	2117	A
1	A	2118	U
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
1	A	2136	C
1	A	2146	C
1	A	2148	G
1	A	2158	A
1	A	2161	C
1	A	2166	G
1	A	2168	G
1	A	2169	A
1	A	2173	A
1	A	2176	A
1	A	2190	G
1	A	2192	G
1	A	2198	A
1	A	2199	A
1	A	2210	G
1	A	2211	G
1	A	2212	A
1	A	2213	U
1	A	2215	G
1	A	2225	A
1	A	2235	G
1	A	2239	G
1	A	2243	U
1	A	2275	C
1	A	2283	C
1	A	2287	A
1	A	2288	A
1	A	2305	A
1	A	2307	G
1	A	2308	G
1	A	2310	A
1	A	2311	A
1	A	2314	C

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Mol	Chain	Res	Type
1	A	2319	G
1	A	2320	A
1	A	2321	G
1	A	2325	G
1	A	2326	C
1	A	2334	G
1	A	2342	C
1	A	2345	G
1	A	2346	A
1	A	2347	C
1	A	2358	G
1	A	2372	G
1	A	2382	G
1	A	2383	G
1	A	2385	C
1	A	2394	C
1	A	2397	G
1	A	2400	G
1	A	2402	C
1	A	2403	C
1	A	2406	U
1	A	2410	G
1	A	2423	U
1	A	2425	A
1	A	2429	G
1	A	2430	A
1	A	2434	A
1	A	2435	A
1	A	2439	A
1	A	2440	C
1	A	2441	C
1	A	2445	G
1	A	2448	A
1	A	2450	A
1	A	2452	C
1	A	2469	A
1	A	2470	G
1	A	2475	C
1	A	2476	A
1	A	2481	G
1	A	2482	G
1	A	2483	C

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Mol	Chain	Res	Type
1	A	2484	G
1	A	2494	G
1	A	2497	A
1	A	2499	C
1	A	2502	G
1	A	2505	G
1	A	2506	U
1	A	2507	C
1	A	2519	U
1	A	2529	G
1	A	2542	A
1	A	2543	G
1	A	2554	U
1	A	2560	C
1	A	2566	A
1	A	2567	G
1	A	2569	G
1	A	2573	C
1	A	2578	G
1	A	2591	C
1	A	2602	A
1	A	2609	U
1	A	2610	C
1	A	2611	U
1	A	2612	C
1	A	2614	A
1	A	2623	G
1	A	2629	A
1	A	2646	C
1	A	2655	G
1	A	2665	A
1	A	2673	G
1	A	2675	A
1	A	2682	U
1	A	2689	U
1	A	2690	C
1	A	2702	U
1	A	2703	C
1	A	2712	U
1	A	2712(A)	A
1	A	2713	A
1	A	2714	G

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Mol	Chain	Res	Type
1	A	2724	C
1	A	2726	U
1	A	2733	A
1	A	2734	A
1	A	2748	A
1	A	2752	C
1	A	2757	A
1	A	2758	A
1	A	2761	G
1	A	2764	A
1	A	2765	A
1	A	2766	G
1	A	2770	G
1	A	2771	C
1	A	2777	G
1	A	2778	A
1	A	2779	U
1	A	2780	G
1	A	2781	A
1	A	2790	A
1	A	2791	C
1	A	2797	U
1	A	2807	G
1	A	2818	G
1	A	2820	A
1	A	2821	A
1	A	2833	G
1	A	2834	G
1	A	2839	G
1	A	2846	G
1	A	2849	U
1	A	2867	G
1	A	2868	A
1	A	2872	G
1	A	2874	C
1	A	2880	C
1	A	2891	G
1	A	2892	A
1	A	2894	G
2	B	8	U
2	B	9	G
2	B	13	A

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Mol	Chain	Res	Type
2	B	15	A
2	B	16	G
2	B	19	G
2	B	21	G
2	B	22	U
2	B	25	A
2	B	32	C
2	B	33	G
2	B	34	U
2	B	35	U
2	B	42	C
2	B	45	A
2	B	52	A
2	B	53	A
2	B	56	G
2	B	57	A
2	B	67	G
2	B	73	A
2	B	81	G
2	B	82	G
2	B	109	G

All (68) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	74	A
1	A	99	U
1	A	102	G
1	A	221	A
1	A	222	A
1	A	227	A
1	A	229	A
1	A	242	G
1	A	271(B)	G
1	A	271(C)	U
1	A	277	C
1	A	345	A
1	A	372	G
1	A	404	C
1	A	503	A
1	A	508	G
1	A	512	G

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Mol	Chain	Res	Type
1	A	587	C
1	A	637	A
1	A	704	G
1	A	752	A
1	A	774	A
1	A	846	C
1	A	856	C
1	A	859	G
1	A	974(A)	C
1	A	1012	U
1	A	1022	G
1	A	1026	U
1	A	1045	A
1	A	1078	U
1	A	1085	A
1	A	1130	U
1	A	1141	U
1	A	1178	C
1	A	1204	A
1	A	1210	A
1	A	1312	U
1	A	1427	A
1	A	1543	A
1	A	1558	A
1	A	1653	G
1	A	1694	C
1	A	1786	A
1	A	1799	G
1	A	1819	A
1	A	1929	G
1	A	1930	G
1	A	1980	G
1	A	1992	G
1	A	2060	A
1	A	2126	A
1	A	2198	A
1	A	2405	G
1	A	2439	A
1	A	2481	G
1	A	2518	A
1	A	2566	A
1	A	2610	C

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Mol	Chain	Res	Type
1	A	2689	U
1	A	2712	U
1	A	2776	A
1	A	2778	A
1	A	2832	U
1	A	2848	G
1	A	2867	G
2	B	24	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	2.43	9 (23%)	54,57,60	2.62	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	9.22	1.41	1.23
32	a	76	PPU	C9-N6	-5.44	1.32	1.45
32	a	76	PPU	C-N3'	5.38	1.46	1.34
32	a	76	PPU	C10-N6	-5.10	1.32	1.45
32	a	76	PPU	C4-N9	-3.13	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	a	76	PPU	C8-N9	-3.07	1.32	1.36
32	a	76	PPU	O4'-C1'	2.92	1.44	1.41
32	a	76	PPU	C6-C5	-2.47	1.40	1.44
32	a	76	PPU	C5-N7	-2.03	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	-8.56	121.36	128.89
32	a	76	PPU	C3'-N3'-C	-8.11	110.27	123.19
32	a	76	PPU	C5-C4-N3	-6.34	119.80	125.98
32	a	76	PPU	C2'-C1'-N9	-5.43	98.56	113.35
32	a	76	PPU	C2'-C3'-N3'	5.20	125.14	113.08
32	a	76	PPU	C2-N1-C6	4.76	121.82	111.52
32	a	76	PPU	C4'-O4'-C1'	-3.99	105.33	109.72
32	a	76	PPU	N3-C4-N9	3.94	132.15	125.39
32	a	76	PPU	C4-C5-N7	-3.58	105.95	109.41
32	a	76	PPU	CM-OC-CZ	-3.21	110.07	117.54
32	a	76	PPU	C4'-C3'-N3'	-2.67	107.95	113.56
32	a	76	PPU	C2-N3-C4	2.65	120.90	113.27
32	a	76	PPU	O4'-C1'-N9	-2.65	102.34	108.10
32	a	76	PPU	CA-C-N3'	2.07	121.77	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 252 ligands modelled in this entry, 252 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.